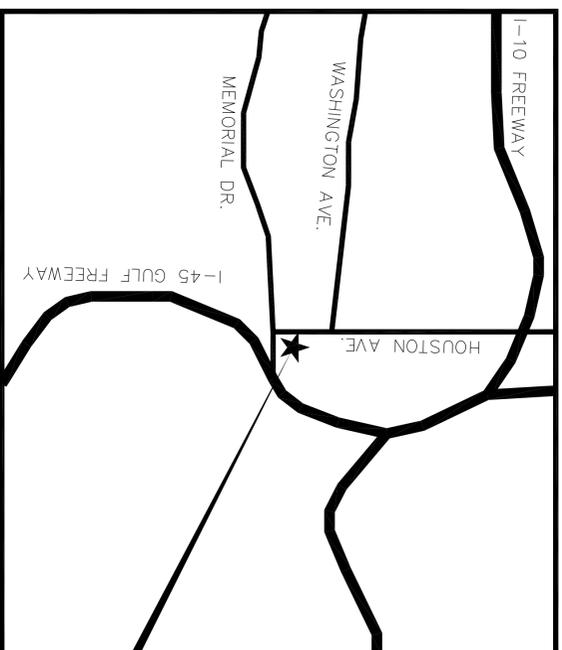


CITY OF HOUSTON

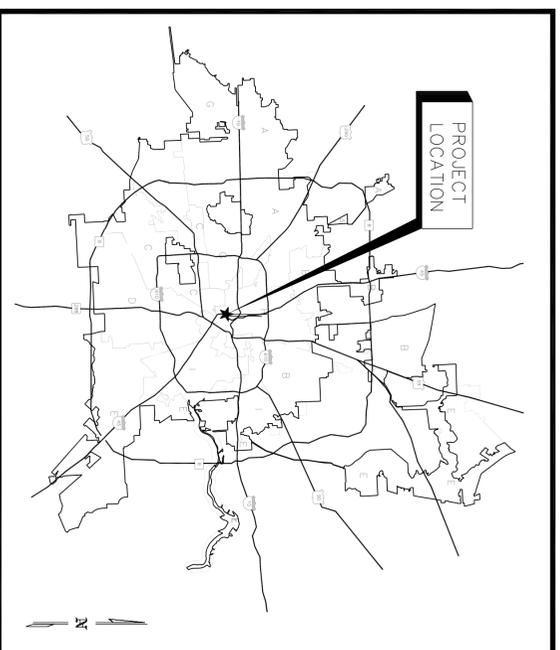
EMERGENCY GENERATOR RELOCATION

62 Reisner, Houston TX 77002

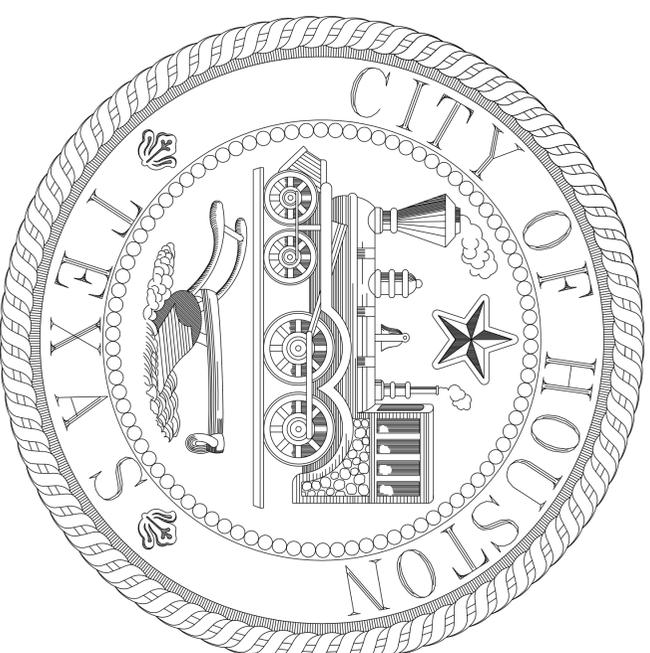


VICINITY MAP

PROJECT SITE



LOCATION MAP



MAYOR

ANNISE D. PARKER

CONTROLLER

RONALD C. GREEN

DISTRICT COUNCIL MEMBERS

BRENDA STARDIG DISTRICT A	JARVIS JOHNSON DISTRICT B	ANNE CLUTTERBUCK DISTRICT C
WANDA ADAMS DISTRICT D	MIKE SULLIVAN DISTRICT E	AL HOANG DISTRICT F
OLIVER PENNINGTON DISTRICT G	EDWARD GONZALEZ DISTRICT H	JAMES G. RODRIGUEZ DISTRICT I

AT-LARGE COUNCIL MEMBERS

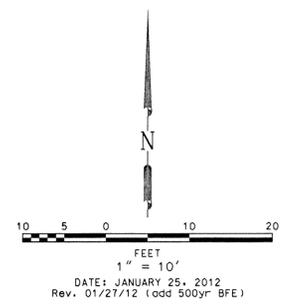
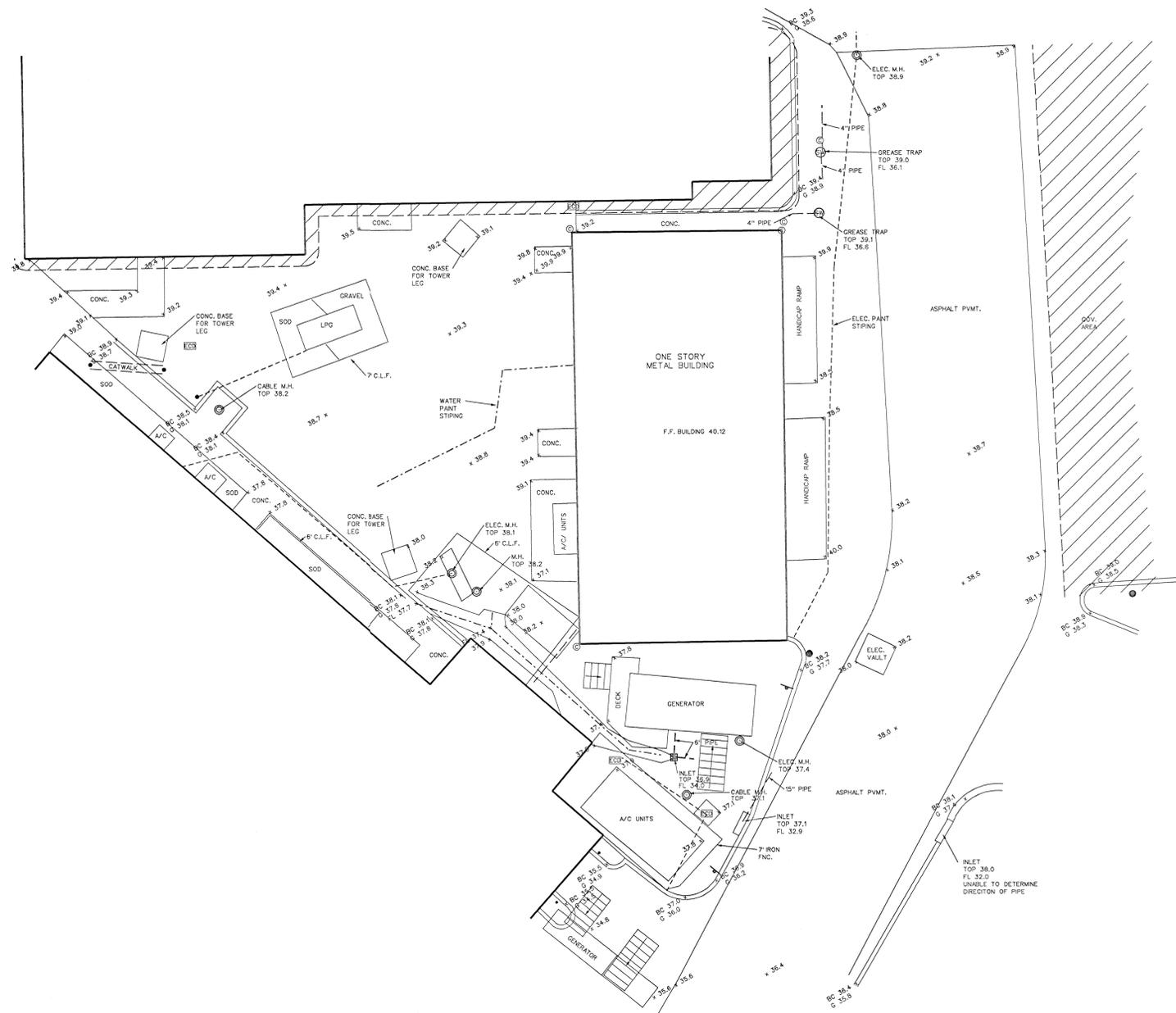
STEPHEN C. COSTELLO POSITION 1	SUE LOVELL POSITION 2
MELISSA NORIEGA POSITION 3	C.O. "BRAD" BRADFORD POSITION 4
JOLANDA "JO" JONES POSITION 5	

CONTRACTING AUTHORITY
FOR THE
CITY OF HOUSTON:

GENERAL SERVICES DEPARTMENT

ISSA Z. DADOUISH, P.E., DIRECTOR

CITY DWG. No: _____
SHEET No. 1 _____



DATE: JANUARY 25, 2012
 Rev. 01/27/12 (add 500yr BFE)

LEGEND

- R.O.W. RIGHT-OF-WAY
 - B.L. BUILDING LINE
 - U.E. UTILITY EASEMENT
 - A.E. AERIAL EASEMENT
 - D.E. DRAINAGE EASEMENT
 - P.A.E. PRIVATE ACCESS EASEMENT
 - P.U.E. PRIVATE UTILITY EASEMENT
 - FND. FOUND
 - I.R. IRON ROD
 - FNC. FENCE
 - WD. WOOD
 - C.L.F. CHAIN LINK FENCE
 - CONC. CONCRETE
 - S/W. SIDEWALK
 - GRATE INLET
 - CLEAN OUT
 - PROPERTY CORNER
 - FIRE HYDRANT
 - GUARD POST
 - GUY ANCHOR
 - AREA LIGHT
 - LIGHT POLE
 - SERVICE POLE
 - POWER POLE
 - ELECTRIC METER
 - GAS METER
 - WATER METER
 - MANHOLE
 - SEPTIC TANK
 - SAMPLE WELL
 - CABLE PEDESTAL
 - TELEPHONE PEDESTAL
 - PIPELINE MARKER
 - PIPELINE VENT
 - SIGN
 - ELECTRIC TRANSFORMER
 - WATER VALVE
 - SPRINKLER HEAD
- O.S. OFF PROPERTY
 O.S. ON PROPERTY

I, DAVID C. NEWELL, A REGISTERED PROFESSIONAL LAND SURVEYOR, DO HEREBY CERTIFY THAT THIS PLAT CORRECTLY REPRESENTS A TOPOGRAPHIC SURVEY MADE ON THE GROUND UNDER MY SUPERVISION AND CORRECTLY REPRESENTS THE FACTS FOUND AT THE TIME OF THIS TOPOGRAPHIC SURVEY.



(Signature)
 DAVID C. NEWELL
 REGISTERED PROFESSIONAL LAND SURVEYOR
 TEXAS REGISTRATION NO. 4085

- Notes:
1. The location of the subject tract on the FEMA Flood Insurance Rate Map, Community Panel No.480296-0690-L, dated June 18, 2007, lies within (Shaded) Zone "X", areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile, and areas protected by levees from 100-year flood. This statement is based on scaling the location of said survey on the above reference map. This information is to determine flood insurance rates only and is not intended to identify specific flooding conditions. Per FEMA Flood Study Profile W04P the 0.2% Annual Chance Flood (500 year) elevation is 42.5 feet.
 2. Bearings shown hereon are based on the Texas State Plane Coordinate System, South Central Zone 4204, NAD 83. All coordinates hereon were calculated using horizontal surface distances.
 3. Elevations are based on RM 210054, elevation is 40.07, N.A.V.D. 1988, 2001 adjustment.

PARTIAL TOPO
 OF
 CITY OF HOUSTON
 UPS BUILDING
 LOCATED IN EVANS ADDITION
 HOUSTON, HARRIS COUNTY,
 TEXAS

Civil Concepts, Inc.
 SURVEY & MAPPING
 CIVIL ENGINEERING
 3425 FEDERAL STREET, PASADENA, TEXAS 77504
 OFFICE: 713.947.6606 FAX: 713.947.6609

PROJECT 06-12

USER: \$USER\$
 DATE: \$DATE\$
 \$FILES\$
 TIME: \$TIME\$

ISSUE LOG

NO.	DATE	DESCRIPTION
1	04.13.2012	BID AND PERMIT

CONSULTANT(S):
Henderson Engineers Inc.
3535 Briarpark Dr., Suite 200
Houston, TX 77042
V: 713.763.7707
Contact: David Dady, PE

Architectural
Bravo/Architecture
4617 Monroe Blvd, Suite C230
Houston, TX 77006
V: 713.624.5858
F: 713.624.5868
B/A Project #: 11772
Contact: Greg Ryden, AIA

Structural
CJG Engineers
3200 Wilcrest Dr., Suite 305
Houston, TX 77042
V: 713.780.3345
Contact: Hunter Komegay, PE

SEAL(S):



PROJECT NAME:
City of Houston
Emergency Generator Relocation
62 Resner
Houston, TX 77002

CITY OF HOUSTON
GENERAL SERVICES
DEPARTMENT



REVIEWED:
DESIGNED:
PROJECT NUMBER:
SYMBOLIC IDENTIFIER:

DRAWN BY:
CHECKED BY:
SHEET TITLE:
**TEXAS ACCESSIBILITY
GUIDELINES**

SHEET NO.:
G.F.S. No.:
SCALE:
DATE:
CITY DWG. NO.:

G.021

4.30 - SIGNAGE

TAS SECTION 4.1.2(7), 4.1.3(16)(a) - WHERE APPLICABLE
A. Signs which designate permanent rooms and spaces shall comply with the requirements listed below for:
1. Raised and Braille Characters, and Pictograms
2. Finish and Contrast
Mounting Location and Height
TAS SECTIONS 4.1.2(7), 4.1.3(16)(b) - WHERE APPLICABLE
A. Signs which provide direction to, or information about, functional spaces of the building shall comply with the requirements listed below for:
1. Character Proportion
2. Character Height
3. Finish and Contrast
Exception: Building directions, menus, and all other signs which are temporary are not required to comply.
TAS SECTION 4.1.2(7) - WHERE APPLICABLE
A. Element and spaces of accessible facilities which shall be identified by the International Symbol of Access are:
1. Parking spaces designated as reserved for persons with disabilities.
2. Accessible passenger loading zones.
3. Accessible entrances when not all are accessible (accessible entrances shall have directional signage to indicate route to nearest accessible entrance).
4. Accessible toilet and bathing facilities when not all are accessible.

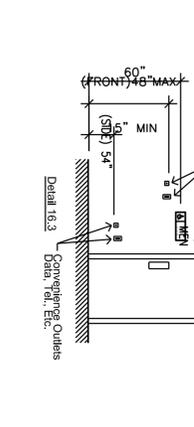
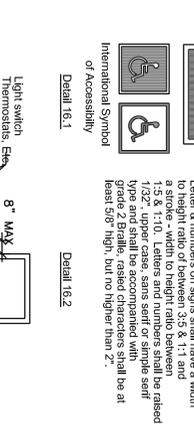
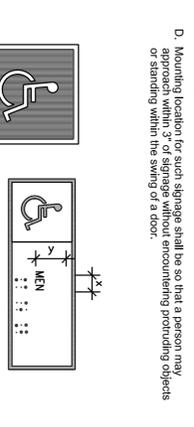
TAS SECTION 4.30.2 - CHARACTER PROPORTION (REFERENCE DETAIL 16.2)
A. Letters and numbers on signs shall have a width-to-height ratio between 3:5 and 1:1, and a stroke-width-to-height ratio between 1:3 and 1:10.
TAS SECTION 4.30.3 - OVERHEAD SIGNS
A. Characters and numbers on overhead signs shall be sized according to the following distance from which they are to be read:
1. For signs higher than 80" above the finished floor, character size shall be 3" minimum.
2. The minimum height is measured using an upper case X.
3. Lower case letters are permitted.

TAS SECTION 4.30.4 - RAISED AND BRAILLE CHARACTERS AND PICTOGRAMS
A. Letter and numerals shall be raised 1/32", upper case sans serif and shall be accompanied by grade 2 Braille.
1. Raised character height: 5/8" minimum, 2" high maximum
2. Pictograms shall be accompanied by the equivalent verbal description placed directly below the pictogram.
3. The border dimension of the pictogram shall be 6" minimum
TAS SECTION 4.30.5 - FINISH AND CONTRAST
A. The character and background of the signs shall be eggshell, matte, or semi-gloss. The background shall be a light color, and the characters shall be a dark background or dark characters on a light background.
TAS SECTION 4.30.6 - MOUNTING LOCATION AND HEIGHT (REFERENCE DETAIL 16.3)
A. Where permanent identification is provided for rooms and spaces, signs shall be installed on the wall adjacent to the latch side of the door.
B. Where there is no wall space to the latch side of the door, finishing at double-door doors, signs shall be placed on the nearest adjacent wall or ceiling.
C. Mounting height shall be 60" above the finished floor to the centerline of the sign.
D. Mounting location for such signage shall be so that a person may approach within 3" of signage without encountering protruding objects or standing within the swing of a door.

TAS SECTION 4.30.7 - FINISH AND MOUNTING LOCATION AND HEIGHT (REFERENCE DETAIL 16.3)
A. If provided, audible alarms shall produce a sound that exceeds the prevailing equivalent sound level in the room or space by at least 15 dba or exceeds any maximum sound level with a duration of 60 seconds by 5 dba, whichever is louder.
B. Sound levels for alarm signals shall not exceed 120 dba.
TAS SECTION 4.26.3 - VISUAL ALARMS
A. Visual alarm signal appliances shall be integrated into the building or facility alarm system. If single station audible alarms are provided then single station visual alarm signals shall be provided.
Visual Alarm appliances shall have the following features:
1. The lamp shall be a xenon strobe type or equivalent.
2. The color shall be clear or nominal white (i.e. unfiltered or clear filtered white light).
3. The maximum pulse duration shall be two-thirds of one second with a maximum duty cycle of 40%. (The pulse duration is defined as the time interval between initial and final points of 10% of max signal)
4. The intensity shall be a minimum of 75 candela.
5. The flash rate shall be a minimum of 1 Hz and a maximum of 3 Hz
6. The appliance shall be placed 80" above the highest floor level within the space or 6" below the ceiling, whichever is lower.
7. In general, no sign in any room or space shall be more than 50' from the signal (measured in a horizontal plane).
8. In large rooms and spaces exceeding 100' across, without obstructions or above the finished floor, such as auditoriums, devices may be placed around the perimeter, spaced a maximum 100' apart, in lieu of suspending appliances from the ceiling.
9. No place in common corridors or hallways shall be more than 50' from the signal.

TAS SECTION 4.26.2 - CLEAR FLOOR SPACE (REFERENCE DETAIL 14.2)
A. Hardware for accessible storage facilities shall be operable with one hand and shall not require sight grasping, pinching, or twisting of the wrist.
B. The force required to activate the hardware shall be no greater than 5 lbf

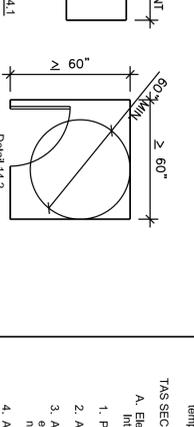
TAS SECTION 4.26.1 - DEPTH (REFERENCE DETAIL 14.1)
A. Storage areas may be 36" in depth or less. If more than 36" in depth then they must allow 60" diameter or clear floor space for turning.
TAS SECTION 4.25.3 - HEIGHT (REFERENCE DETAIL 14.3 AND 14.4)
A. Where a forward reach is required, accessible storage spaces shall be 48" maximum and 15" minimum above the floor. If the forward reach over an obstruction (with knee space equal to or greater than reach distance) 20"-25" deep, the maximum height shall be 44"; if the obstruction is less than 20", maximum height shall be 48".
B. Where a side reach is provided, accessible storage spaces shall be 54" maximum and 9" minimum above the floor. Maximum height shall be 48" for side reach over an obstruction 34" maximum high and 24" maximum deep.
C. Clothes rods or shelves shall be a maximum 54" above floor where a side reach is required.
D. Where the distance from the wheelchair to the clothes rod or shelf exceeds 10" (as at closets with recessible doors) the following criteria shall be met:
1. Shelves: Reach: 21" maximum; height: 48" maximum, 9" minimum.
2. Clothes rods: reach 21" maximum; height: 48" maximum.
TAS SECTIONS 4.25.4, 4.27.4 - HARDWARE
A. Hardware for accessible storage facilities shall be operable with one hand and shall not require sight grasping, pinching, or twisting of the wrist.
B. The force required to activate the hardware shall be no greater than 5 lbf



4.29 - PUBLIC TELEPHONES

TAS SECTION 4.1.3(17)(a) - WHERE APPLICABLE
A. If public pay telephones, public closed circuit telephones, or other public telephones are provided, then they shall comply with this section in the quantities below:
1. If one or more single unit of a type of public telephone is provided on a floor, then at least one of those phones shall comply with this section.
2. If one bank (defined as two or more adjacent public telephones, often installed as a unit) of a type of telephone is provided on a floor, then at least one of the telephones at the bank shall comply with this section.
3. If two or more banks of a type of public telephone are provided on a floor, then at least one telephone per bank shall comply with this section. An accessible unit may be installed as a single unit on a floor, but all units in that bank shall meet the requirements for a forward reach telephone.
Additional public telephones may be installed at any height. Unless otherwise specified, accessible telephones may be either forward or side reach telephones.

TAS SECTION 4.1.3(17)(b) - WHERE APPLICABLE
A. All telephones required to be accessible shall be equipped with a volume control.
B. In addition, 25%, but never less than one, of all other public telephones shall be equipped with a volume control and shall be dispersed throughout the building, including areas that are not part of the building or facility.
C. Signage identifying the International Symbol of Access for Hearing Loss shall be provided at each telephone equipped with a volume control.
TAS SECTION 5.1.3 - MOUNTING HEIGHT (REFERENCE DETAIL 17.1)
A. The highest operable part of the telephones shall be 48" maximum above the finished floor. If a side reach is required, and 54" maximum where a side reach is required.
B. If the forward reach is over an obstruction (with knee space equal to or greater than reach distance) 20"-25" deep the maximum height shall be 44". If the obstruction is less than 20", maximum height shall be 48".
C. Maximum height shall be 48" for side reach over an obstruction, 34" maximum high and 24" maximum deep.

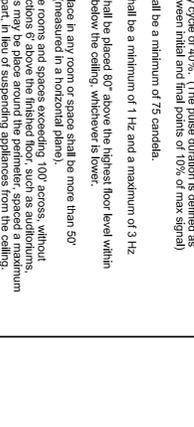
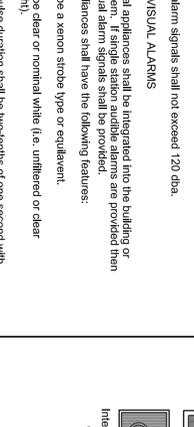
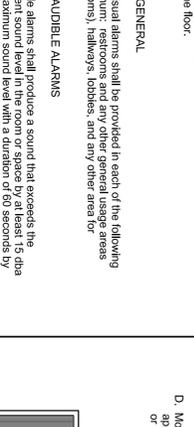


TAS SECTION 4.26.4 - SEATING AND TABLES
TAS SECTION 4.32.2 - SEATING
A. If seating spaces are provided in wheelchairs are provided at fixed tables or counters, clear floor space of 30" x 48" shall be provided. Floor space shall not overlap required knee space by more than 19".
TAS SECTION 4.32.3 - KNEE SPACE
B. If seating for people in wheelchairs is provided at fixed tables or counters, knee space at least 27" high, 30" wide and 19" deep shall be provided.
TAS SECTION 4.32.4 - HEIGHT OF TABLES OR COUNTER
C. The tops of accessible tables and counters shall be 28" minimum, and 34" maximum, above the finished floor.
TAS SECTIONS 4.34.3 - REACH RANGES
A. Forward approach only, controls with forward approach specified in 4.25.
B. Parallel approach, controls with unrestricted reach range from clear floor space at provision of letter machine surround per table as follows:

Reach Depth	Max. Height	Reach Depth	Max. Height	Reach Depth	Max. Height
10" or less	54"	15"	51"	20"	48 1/2"
11"	53 1/2"	16"	50 1/2"	21"	47 1/2"
12"	53"	17"	50"	22"	47"
13"	52 1/2"	18"	49 1/2"	23"	46 1/2"
14"	51 1/2"	19"	49"	24"	46"

Note: Above does not apply to drive up machines.

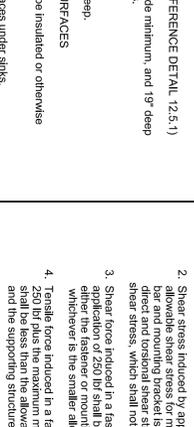
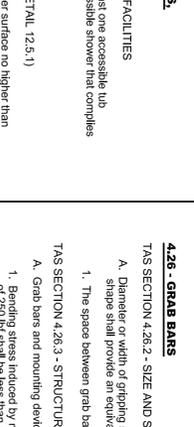
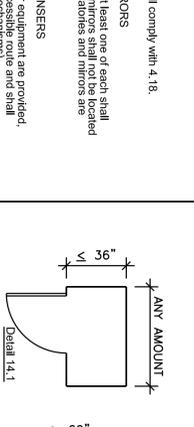
TAS SECTION 4.25.2 - CLEAR FLOOR SPACE (REFERENCE DETAIL 14.2)
A. Hardware for accessible storage facilities shall be operable with one hand and shall not require sight grasping, pinching, or twisting of the wrist.
B. The force required to activate the hardware shall be no greater than 5 lbf



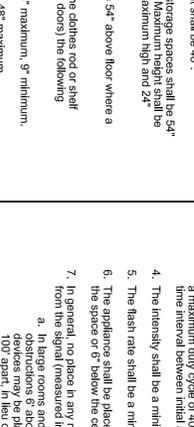
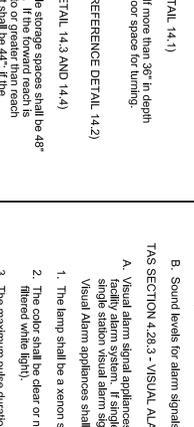
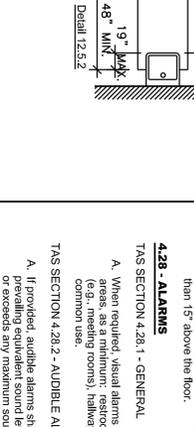
4.28 - GRAB BARS

TAS SECTION 4.26.2 - SIZE AND SPACING
A. Diameter or width of gripping surface shall be 1-1/4" to 1-1/2", or the shape shall provide an equivalent gripping surface.
TAS SECTION 4.26.3 - STRUCTURAL STRENGTH
A. Grab bars and mounting devices shall meet the following requirements:
1. Bending stress induced by maximum bending moment from application of 250 lbf shall be less than allowable bending stress for material used.
2. Shear stress induced by application of 250 lbf shall be less than allowable shear stress for material used. If connection between grab bar and mounting bracket is concealed, it shall be fully restrained, then minimum shear stress shall be provided underneath slits.
3. Shear force induced in a fastener or mounting device from load of either the fastener or mounting device or the supporting structure, whichever is the smaller allowable load.
4. Tensile force induced in a fastener by a fixed tension force of 250 lbf plus the maximum moment from the application of 250 lbf shall be less than the allowable withdrawal load between the fastener and the supporting structure.
5. Grab bars shall not create within their length:
A. Edges shall have a radius of 1/16" minimum.
B. Controls shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist.
C. Lever-operated, push-type, and electronically controlled mechanisms are examples of acceptable designs.
D. If self-closing valves are used the faucet shall remain open for at least 10 seconds.

TAS SECTION 4.26.4 - ELEVATING HAZARDS
A. Grab bars and adjacent wall surfaces shall be free of sharp or abrasive surfaces.
TAS SECTION 4.26.5 - ELEVATING HAZARDS
A. Controls shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist.
C. Lever-operated, push-type, and electronically controlled mechanisms are examples of acceptable designs.
D. If self-closing valves are used the faucet shall remain open for at least 10 seconds.



TAS SECTION 4.26.6 - BATHING AND SHOWER FACILITIES
A. If tubs and showers are provided, then at least one accessible tub shall comply with 4.20 or at least one accessible shower that complies with 4.21 shall be provided.
TAS SECTION 4.26.7 - SEAT
A. An in-tub seat or a seat at the head end of the tub shall be provided. Seats shall be mounted securely and shall not slip during use.
TAS SECTIONS 4.20.4 - GRAB BARS
A. Heights permitted:
1. Within tub seat:
Control walk, 24" long minimum, from outside wall.
33-36" above floor.
Back wall, 2 bars, 24" long minimum, 12" maximum from foot end, 15" maximum from head end, one 33-36" above floor, one 6" above the tub.
Head wall, 12" minimum, from outside wall, 33-36" above floor.
2. With Seat at Head of Tub:
Control walk, 24" long minimum, from outside wall.
33-36" above floor, 48" long minimum, 12" minimum from foot end, 15" maximum from head end, one 33-36" above floor, one 6" above the tub.
Head wall, none.
TAS SECTION 4.20.6 - SHOWER UNIT
A. A shower spray unit with a hose at least 60" long shall be provided.
TAS SECTION 4.21.2 - SIZE AND CLEARANCES
TAS SECTION 4.21.3 - SEAT
A. Seat is required in 36"x36" stalls, and shall have the following features:
1. Shall be 17"-19" above bathroom floor
2. Shall extend the full depth of the stall
3. Shall be located on the wall opposite control wall
4. Maximum space between wall and seat edge shall be 1-1/2"
5. Shall project 18" maximum into stall width, except at the rear
15" maximum of the stall, where the seat may project 23"
TAS SECTIONS 4.21.4 - GRAB BARS
A. Grab bars shall be mounted 33-36" above floor
TAS SECTIONS 4.21.5 - CONTROLS
A. All shower controls shall be located 36" minimum and 48" maximum above the floor.
TAS SECTION 4.21.6 - SHOWER UNIT
A. Shower spray unit with a hose at least 60" long that can be used both as a fixed shower head and as a hand held shower shall be provided. Forward reach:
TAS SECTIONS 4.21.7 - CURBS
A. If provided, curbs or transfer showers shall be no higher than 1/2" high. Right showers shall not have curbs



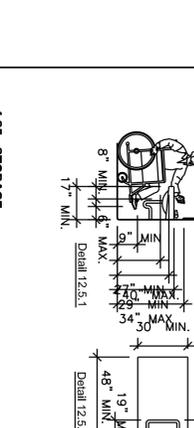
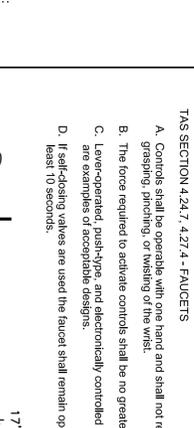
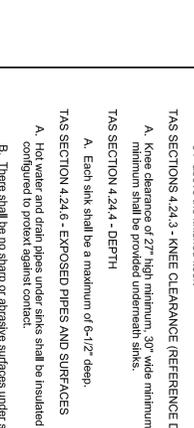
4.27 - TOILET ROOMS

TAS SECTION 4.22.2 - DOORS
A. All doors to accessible toilet rooms shall comply with 4.13. Doors shall not swing into clear floor space required for any fixture. Clear floor turning space may overlap door swings.
TAS SECTION 4.22.3 - CLEAR FLOOR SPACE
A. The accessible fixtures and controls required in 4.22.4, 4.22.5, 4.22.6, 4.22.7 shall be on an accessible route. An unobstructed turning space complying with 4.23 shall be provided within an accessible toilet room. The turning space may overlap, however, the only turning space provided shall not be located within a stall.
TAS SECTIONS 4.22.4 - WATER CLOSETS
A. If toilet stalls are provided, then at least one stall be a standard toilet stall complying with 4.17, where 6" or more stalls are provided. If a toilet stall is provided, then at least one of each shall comply with 4.19. Accessible lavatories and mirrors shall not be located within toilet stalls unless other accessible lavatories and mirrors are provided in the toilet room.
TAS SECTION 4.22.7 - CONTROLS AND DISPENSERS
A. Controls, dispensers, mechanical, or other equipment shall be provided in a manner that complies with 4.27 (Controls & Operating Mechanisms).

TAS SECTIONS 4.22.5 - URINALS
A. If urinals are provided, then at least one shall comply with 4.18.
TAS SECTIONS 4.22.6 - LAVATOIRES AND MIRRORS
A. If lavatories and mirrors are provided, then at least one of each shall comply with 4.19. Accessible lavatories and mirrors shall not be located within toilet stalls unless other accessible lavatories and mirrors are provided in the toilet room.
TAS SECTION 4.22.7 - CONTROLS AND DISPENSERS
A. Controls, dispensers, mechanical, or other equipment shall be provided in a manner that complies with 4.27 (Controls & Operating Mechanisms).

TAS SECTION 4.23.8 - BATHING AND SHOWER FACILITIES
A. If tubs and showers are provided, then at least one accessible tub shall comply with 4.20 or at least one accessible shower that complies with 4.21 shall be provided.
TAS SECTION 4.23.9 - KNEE CLEARANCE (REFERENCE DETAIL 12.5.1)
A. Knee clearance of 27" high minimum, 30" wide minimum, and 19" deep minimum shall be provided underneath slits.
TAS SECTION 4.24.4 - DEPTH
A. Each sink shall be a maximum of 6-1/2" deep.
TAS SECTION 4.24.6 - EXPOSED PIPES AND SURFACES
A. Hot water and drain pipes under slits shall be insulated or otherwise configured to protect against contact.
B. There shall be no sharp or abrasive surfaces under slits.
TAS SECTION 4.24.7.1 - FAUCETS
A. Controls shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist.
B. The force required to activate controls shall be no greater than 5 lbf.
C. Lever-operated, push-type, and electronically controlled mechanisms are examples of acceptable designs.
D. If self-closing valves are used the faucet shall remain open for at least 10 seconds.

TAS SECTION 4.24.7.2 - FAUCETS
A. Controls shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist.
B. The force required to activate controls shall be no greater than 5 lbf.
C. Lever-operated, push-type, and electronically controlled mechanisms are examples of acceptable designs.
D. If self-closing valves are used the faucet shall remain open for at least 10 seconds.



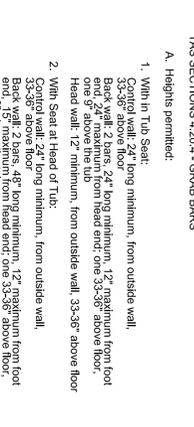
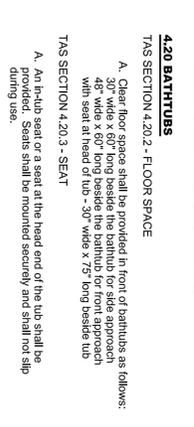
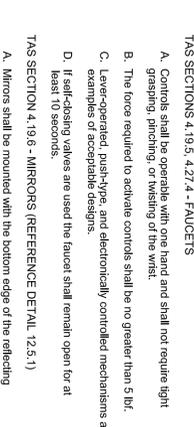
TAS SECTION 4.23.3 - HEIGHT (REFERENCE DETAIL 12.5.1 AND 12.5.2)
A. The accessible fixtures and controls required in 4.23.4, 4.23.5, 4.23.6, 4.23.7 shall be on an accessible route. An unobstructed turning space complying with 4.23 shall be provided within an accessible toilet room. The turning space may overlap, however, the only turning space provided shall not be located within a stall.
TAS SECTIONS 4.23.4 - WATER CLOSETS
A. If toilet stalls are provided, then at least one stall be a standard toilet stall complying with 4.17, where 6" or more stalls are provided. If a toilet stall is provided, then at least one of each shall comply with 4.19. Accessible lavatories and mirrors shall not be located within toilet stalls unless other accessible lavatories and mirrors are provided in the toilet room.
TAS SECTION 4.23.7 - CONTROLS AND DISPENSERS
A. Controls, dispensers, mechanical, or other equipment shall be provided in a manner that complies with 4.27 (Controls & Operating Mechanisms).

TAS SECTION 4.23.8 - BATHING AND SHOWER FACILITIES
A. If tubs and showers are provided, then at least one accessible tub shall comply with 4.20 or at least one accessible shower that complies with 4.21 shall be provided.
TAS SECTION 4.23.9 - KNEE CLEARANCE (REFERENCE DETAIL 12.5.1)
A. Knee clearance of 27" high minimum, 30" wide minimum, and 19" deep minimum shall be provided underneath slits.
TAS SECTION 4.24.4 - DEPTH
A. Each sink shall be a maximum of 6-1/2" deep.
TAS SECTION 4.24.6 - EXPOSED PIPES AND SURFACES
A. Hot water and drain pipes under slits shall be insulated or otherwise configured to protect against contact.
B. There shall be no sharp or abrasive surfaces under slits.
TAS SECTION 4.24.7.1 - FAUCETS
A. Controls shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist.
B. The force required to activate controls shall be no greater than 5 lbf.
C. Lever-operated, push-type, and electronically controlled mechanisms are examples of acceptable designs.
D. If self-closing valves are used the faucet shall remain open for at least 10 seconds.

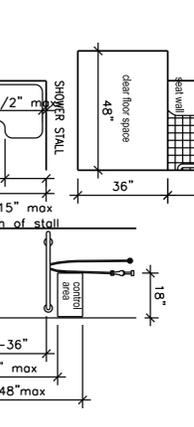
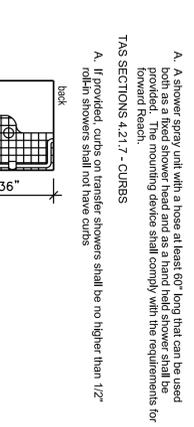
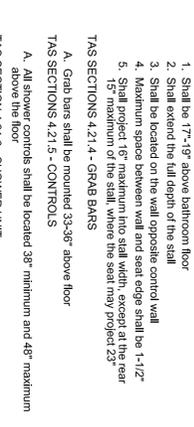
4.19 - LAVATORIES & MIRRORS

TAS SECTION 4.19.2 - HEIGHT & CLEARANCES (REFERENCE DETAIL 12.5.1 AND 12.5.2)
A. Lavatories shall be mounted with the rim or counter surface no higher than 34" above the finished floor.
1. Lavatories shall extend 17" minimum from the wall.
2. Clearance of 29" minimum shall be provided from the finished floor to bottom of apron.
3. Knee clearance of 27" minimum shall extend 9" minimum under the knee of the lavatory.
4. Top edge of 9" minimum shall be provided for the full depth of the lavatory.
TAS SECTION 4.19.4 - EXPOSED PIPES AND SURFACES
A. Hot water and drain pipes under lavatories shall be insulated or otherwise configured to protect against contact.
B. There shall be no sharp or abrasive surfaces under lavatories.
TAS SECTIONS 4.19.5, 4.27.4 - FAUCETS
A. Controls shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist.
B. The force required to activate controls shall be no greater than 5 lbf.
C. Lever-operated, push-type, and electronically controlled mechanisms are examples of acceptable designs.
D. If self-closing valves are used the faucet shall remain open for at least 10 seconds.
TAS SECTION 4.19.6 - MIRRORS (REFERENCE DETAIL 12.5.1)
A. Mirrors shall be mounted with the bottom edge of the reflecting surface 40" maximum above the finished floor.

TAS SECTION 4.19.2 - HEIGHT & CLEARANCES (REFERENCE DETAIL 12.5.1 AND 12.5.2)
A. Lavatories shall be mounted with the rim or counter surface no higher than 34" above the finished floor.
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A. Controls shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist.
B. The force required to activate controls shall be no greater than 5 lbf.
C. Lever-operated, push-type, and electronically controlled mechanisms are examples of acceptable designs.
D. If self-closing valves are used the faucet shall remain open for at least 10 seconds.
TAS SECTION 4.19.6 - MIRRORS (REFERENCE DETAIL 12.5.1)
A. Mirrors shall be mounted with the bottom edge of the reflecting surface 40" maximum above the finished floor.



TAS SECTION 4.21.2 - SIZE AND CLEARANCES
TAS SECTION 4.21.3 - SEAT
A. Seat is required in 36"x36" stalls, and shall have the following features:
1. Shall be 17"-19" above bathroom floor
2. Shall extend the full depth of the stall
3. Shall be located on the wall opposite control wall
4. Maximum space between wall and seat edge shall be 1-1/2"
5. Shall project 18" maximum into stall width, except at the rear
15" maximum of the stall, where the seat may project 23"
TAS SECTIONS 4.21.4 - GRAB BARS
A. Grab bars shall be mounted 33-36" above floor
TAS SECTIONS 4.21.5 - CONTROLS
A. All shower controls shall be located 36" minimum and 48" maximum above the floor.
TAS SECTION 4.21.6 - SHOWER UNIT
A. Shower spray unit with a hose at least 60" long that can be used both as a fixed shower head and as a hand held shower shall be provided. Forward reach:
TAS SECTIONS 4.21.7 - CURBS
A. If provided, curbs or transfer showers shall be no higher than 1/2" high. Right showers shall not have curbs



FINISH PLAN GENERAL NOTES	17
<p>FP1. Refer to General sheets for typical graphic, symbols, abbreviation index, and "Master Keynote" list.</p> <p>FP2. Refer to interior elevations for furred down heights U.N.O.</p> <p>FP3. Center lay-in acoustical ceiling system in each room with gypsum board ceiling. Noddy oriented if any, the blocking in partition is less than 6" in width. Secondary wall angles to support "shot" runs will not be accepted.</p> <p>FP4. In lay-in acoustical ceilings locate all MEP items not including supply/return or grilles, emergency lighting, sprinkler heads, etc. in center of the unless otherwise noted.</p> <p>FP5. In gypsum board ceilings locate all MEP emergency lighting, sprinkler heads in center of space and equal dist apart from each other unless otherwise noted.</p> <p>FP6. Coordinate all MEP ceiling and access panels not shown on the architectural construction documents with architect prior to installation.</p> <p>FP7. In exposed ceilings evenly space all fixtures at or below exposed structure or MEP ductwork. Coordinate with MEP to provide lighting around final MEP layout to avoid dark spots.</p>	<p>FP1. Refer to General sheets for typical graphic, symbols, abbreviation index, and "Master Keynote" list.</p> <p>FP2. All horizontal dimensions are provided on plans, and all vertical dimensions are provided on elevations and/or sections unless otherwise noted.</p> <p>FP3. Enlarged plans indicate interior building dimensions to face of partition material.</p> <p>FP4. Provide adequate blocking as required at every location where millwork, wall light fixtures, TV brackets, plumbing fixtures, etc., are to be mounted.</p> <p>FP5. There are items shown, i.e. outlets, switches, thermostats, on the MEP drawings that are not drawn on the architectural plans. Coordinate with Architect prior to construction. Coordinate all MEP access panels not shown on architectural construction documents with Architect prior to installation.</p> <p>FP6. All wood blocking to be Fire Resistant</p> <p>FP7. Coordinate location of floor/wall mounted receptacles with keeppace locations. re: Millwork/Casework, Elevations</p> <p>FP8. Receptacles mounted above counters/dockspaces are to be 42" AFF to centerline of coverplate and are installed horizontally</p>

FLOOR PLAN GENERAL NOTES	13
<p>FP1. Refer to General sheets for typical graphic, symbols, abbreviation index, and "Master Keynote" list.</p> <p>FP2. All horizontal dimensions are provided on plans, and all vertical dimensions are provided on elevations and/or sections U.N.O. All dimensions are to be tied to a column line. Contractor will immediately report any omission of dimensions not tied to a column to the Architect prior to start of construction.</p> <p>FP3. Overall plan indicates exterior building dimensions, room numbers and names, door designations, window designations, exterior elevation designations, exterior plan designations, sign information is indicated on referenced enlarged plans.</p> <p>FP4. Enlarged plans indicate interior building dimensions to face of partition material, interior plan detail designations, interior elevation designations, partition type designations, finish designations, and general building material.</p> <p>FP5. Provide adequate blocking as required of every location where millwork, wall light fixtures, TV brackets, plumbing fixtures, etc., are to be mounted.</p> <p>FP6. There are items shown, i.e. outlets, switches, thermostats, on the MEP drawings that are not drawn on the architectural plans. Coordinate with Architect prior to construction. Coordinate all MEP access panels not shown on architectural construction documents with Architect prior to installation.</p> <p>FP7. All wood blocking to be Fire Resistant</p> <p>FP8. Coordinate location of floor/wall mounted receptacles with keeppace locations. re: Millwork/Casework, Elevations</p> <p>FP9. Receptacles mounted above counters/dockspaces are to be 42" AFF to centerline of coverplate and are installed horizontally</p>	<p>FP1. Refer to General sheets for typical graphic, symbols, abbreviation index, and "Master Keynote" list.</p> <p>FP2. All horizontal dimensions are provided on plans, and all vertical dimensions are provided on elevations and/or sections U.N.O. All dimensions are to be tied to a column line. Contractor will immediately report any omission of dimensions not tied to a column to the Architect prior to start of construction.</p> <p>FP3. Overall plan indicates exterior building dimensions, room numbers and names, door designations, window designations, exterior elevation designations, exterior plan designations, sign information is indicated on referenced enlarged plans.</p> <p>FP4. Enlarged plans indicate interior building dimensions to face of partition material, interior plan detail designations, interior elevation designations, partition type designations, finish designations, and general building material.</p> <p>FP5. Provide adequate blocking as required of every location where millwork, wall light fixtures, TV brackets, plumbing fixtures, etc., are to be mounted.</p> <p>FP6. There are items shown, i.e. outlets, switches, thermostats, on the MEP drawings that are not drawn on the architectural plans. Coordinate with Architect prior to construction. Coordinate all MEP access panels not shown on architectural construction documents with Architect prior to installation.</p> <p>FP7. All wood blocking to be Fire Resistant</p> <p>FP8. Coordinate location of floor/wall mounted receptacles with keeppace locations. re: Millwork/Casework, Elevations</p> <p>FP9. Receptacles mounted above counters/dockspaces are to be 42" AFF to centerline of coverplate and are installed horizontally</p>

BLDG. / WALL SECTION GENERAL NOTES	15
<p>SP1. Provide adequate blocking as required at every location where millwork, wall light fixtures, TV brackets, plumbing fixtures, etc., are to be mounted. Items are required to resist 250 pound point load</p> <p>SP2. Refer to finish schedule and plans for all finishes unless noted otherwise.</p> <p>SP3. All custom millwork, if in scope of work, is shown in elevations and designed per designated details. Refer to interior elevations, millwork details, and related specifications divisions for additional information.</p> <p>SP4. All manufacturer casework, if in scope of work, is designated on enlarged floor plans. Refer to casework schedule and related specifications divisions for detailed information. Contractor is to follow the scheduled manufacturer's specifications, instructions, and recommendations unless directed otherwise by the contract manual.</p> <p>SP5. Equipment is designed on enlarged floor plans.</p>	<p>SP1. Provide adequate blocking as required at every location where millwork, wall light fixtures, TV brackets, plumbing fixtures, etc., are to be mounted. Items are required to resist 250 pound point load</p> <p>SP2. Refer to finish schedule and plans for all finishes unless noted otherwise.</p> <p>SP3. All custom millwork, if in scope of work, is shown in elevations and designed per designated details. Refer to interior elevations, millwork details, and related specifications divisions for additional information.</p> <p>SP4. All manufacturer casework, if in scope of work, is designated on enlarged floor plans. Refer to casework schedule and related specifications divisions for detailed information. Contractor is to follow the scheduled manufacturer's specifications, instructions, and recommendations unless directed otherwise by the contract manual.</p> <p>SP5. Equipment is designed on enlarged floor plans.</p>

RENOVATION GENERAL NOTES	16
<p>RN1. For all new wall portions that are placed as part of an existing wall, use same wall construction as existing and patch wall with some material to match existing. New and existing wall shall be of same origin.</p> <p>RN2. Unless noted otherwise all finishes are to match existing conditions.</p> <p>RN3. Unless noted otherwise all patching or renovated walls is to be from corner to corner and from floor to ceiling.</p> <p>RN4. Refer to demolition notes and plans for patching and repairing of existing construction.</p> <p>RN5. Existing finishes to be protected during construction.</p> <p>RN6. Refer to Demolition Plan for additional related notes.</p>	<p>RN1. For all new wall portions that are placed as part of an existing wall, use same wall construction as existing and patch wall with some material to match existing. New and existing wall shall be of same origin.</p> <p>RN2. Unless noted otherwise all finishes are to match existing conditions.</p> <p>RN3. Unless noted otherwise all patching or renovated walls is to be from corner to corner and from floor to ceiling.</p> <p>RN4. Refer to demolition notes and plans for patching and repairing of existing construction.</p> <p>RN5. Existing finishes to be protected during construction.</p> <p>RN6. Refer to Demolition Plan for additional related notes.</p>

DEMOLITION GENERAL NOTES	9
<p>DD1. Where door frames are to remain, repair frame-fill hinges and trim. Remove door from frame. Clean, sand smooth and paint frame to match existing door finishes.</p> <p>DD2. Remove floor slab as required for new fixtures. Patch and repair slab to match existing.</p>	<p>DD1. Where door frames are to remain, repair frame-fill hinges and trim. Remove door from frame. Clean, sand smooth and paint frame to match existing door finishes.</p> <p>DD2. Remove floor slab as required for new fixtures. Patch and repair slab to match existing.</p>

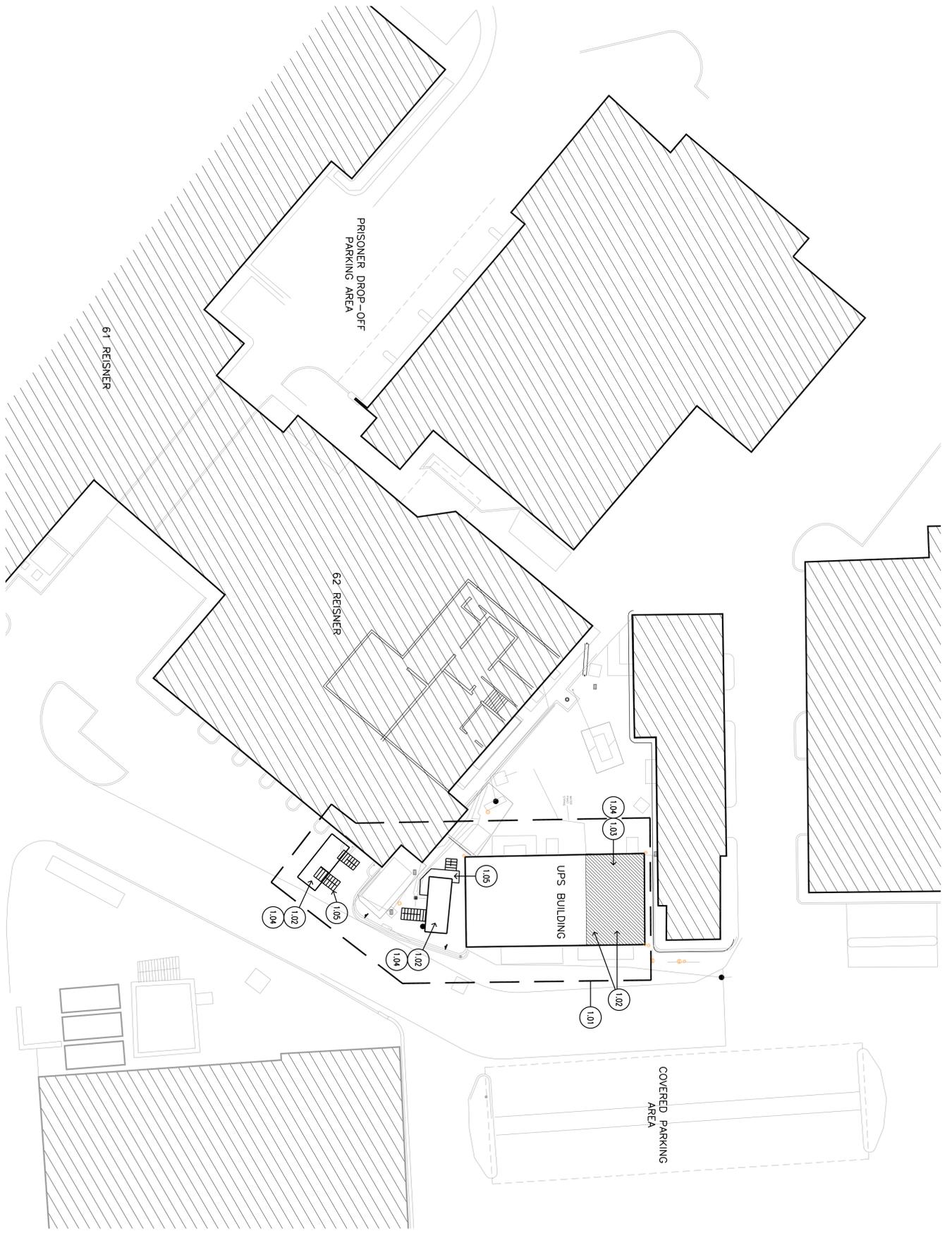
MASTER KEY NOTES	1
<p>1.01 Area of construction to be removed. Refer to within the existing building. Re: Mech/elec drawings for add'l info.</p> <p>1.02 Contractor to selectively demolish/partially remove existing metal building exterior wall and roof panels as required to relocate (2) existing generators to the interior of the building. Contractor to determine sequence of work requirements. Re: mechanical/electrical & structural for additional reqmts. Re: means, methods & construction scheduling to relocate existing generators from side yard locations to interior of the existing building under the parameters laid out in the construction drawings and per the Owner security requirements. The fuel storage tanks to be relocated by means and methods determined by the specifications of the existing generators and the associated fuel tanks.</p> <p>1.05 Existing wood deck and support planks of existing generator locations to be removed from site.</p>	<p>9.04 3-5/8" metal studs at 16" O.C. Maximum</p> <p>9.05 5/8" Type X gypsum board</p> <p>9.06 Existing/reinstated ceiling to be left bare from installation</p> <p>9.07 Metal building exterior wall structure for patched finish, paint, and install exterior walls as required for structural engineer.</p> <p>9.09 Paint exposed steel surfaces.</p>

ISSUE LOG		
NO.	DATE	DESCRIPTION
1	04.13.2012	BID AND PERMIT

CONSULTANT(S):	Handerson Engineers Inc. 3535 Briarpark Dr., Suite 200 Houston, TX 77042 V: 713.763.7707 Contact: David Darby, PE
Architectural	Brave/Architecture 4617 Montrose Blvd, Suite C230 Houston, TX 77006 V: 713.524.5858 F: 713.524.5868 B/A Project #: 11172 Contact: Greg Ryden, AIA
Structural	CJG Engineers 3200 Wilcrest Dr., Suite 305 Houston, TX 77042 V: 713.780.3345 Contact: Hunter Komegay, PE

SEAL(S):	
PROJECT NAME:	City of Houston Emergency Generator Relocation 62 Resner Houston, TX 77002
CITY OF HOUSTON	
GENERAL SERVICES DEPARTMENT	
REVIEWED:	
PROJECT NUMBER	SYMBOLIC IDENTIFIER
DATE:	
G.F.S. No:	
SCALE:	
DRAWN BY:	
CHECKED BY:	
SHEET TITLE:	GENERAL & KEYED NOTES
SHEET NO.:	G.050
CITY DWG. NO.:	

NOTE: Reference this sheet if key note is missing from any following sheets. Not all notes are used in this project



SITE PLAN 1" = 20' 6

KEY NOTES 2

Scope of Work Summary

1.01 Area of construction
 1.02 Generator to be modified, relocated to within the existing
 1.03 metal building. Ref: Mech/Elec drawings for add'l info.
 1.04 Contractor to determine means, methods & construction
 1.05 Existing wood deck and support planks of existing generator
 locations to be removed from site.

ISSUE LOG	
NO.	DESCRIPTION
1	BID AND PERMIT

CONSULTANT(S):
 MEP Henderson Engineers Inc.
 3535 Briarpark Dr., Suite 200
 Houston, TX 77042
 V: 713.763.7707
 Contact: David Darby, PE

Architectural Brava/Architecture
 4617 Montrose Blvd, Suite C230
 Houston, TX 77006
 V: 713.524.5858
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 B/A Project #: 11172
 Contact: Greg Ryden, AIA

Structural C/J Engineers
 3200 Wilcrest Dr., Suite 305
 Houston, TX 77042
 V: 713.780.3345
 Contact: Hunter Komegay, PE

SEAL(S):

PROJECT NAME:
 City of Houston
 Emergency Generator Relocation
 62 Reisner
 Houston, TX 77002

CITY OF HOUSTON
 GENERAL SERVICES
 DEPARTMENT

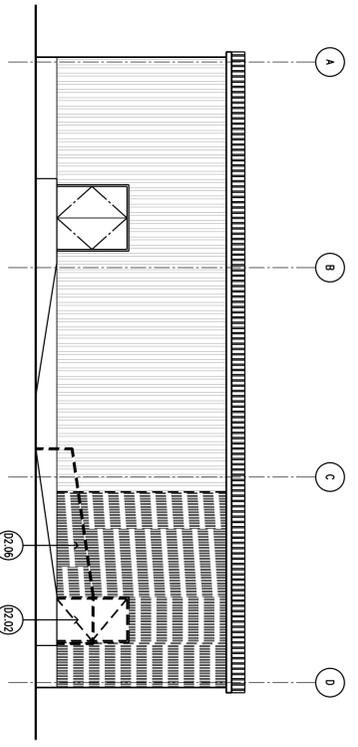
REVIEWED: _____
 PROJECT NUMBER: _____
 Sponsoring Department: _____

DATE: _____
 G.F.S. No: _____
 SCALE: AS NOTED
 DRAWN BY: _____
 CHECKED BY: _____
 SHEET TITLE:

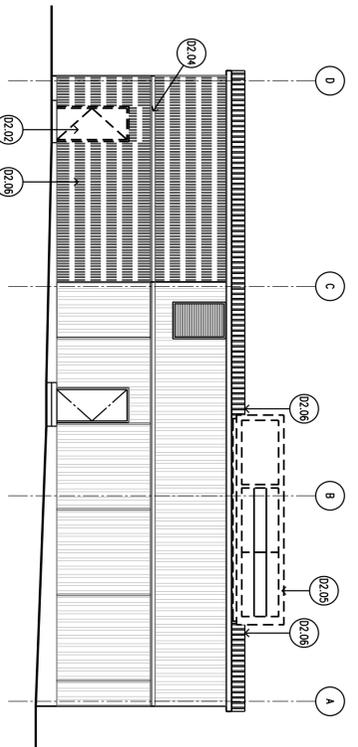
SITE PLAN

SHEET NO.: **A.010**

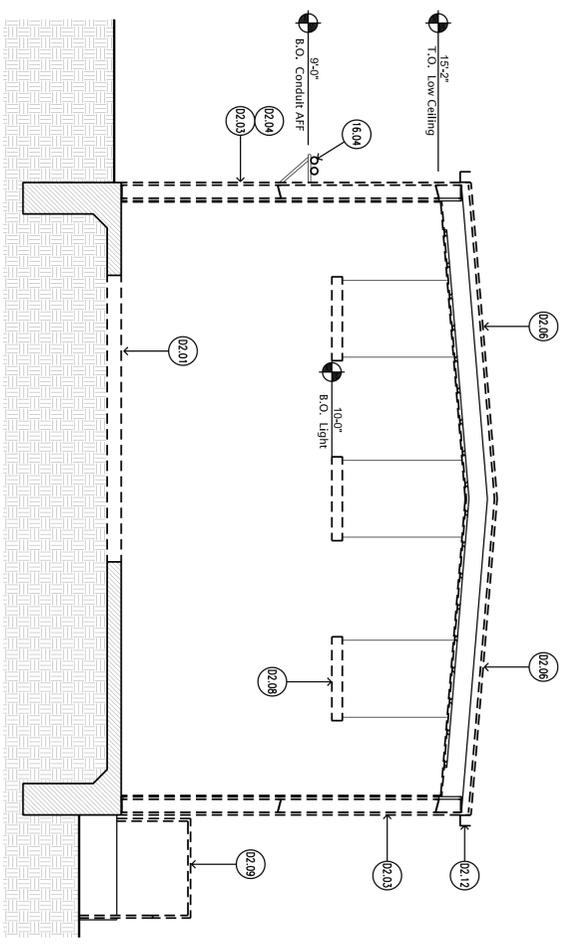
CITY DWG. NO.: _____



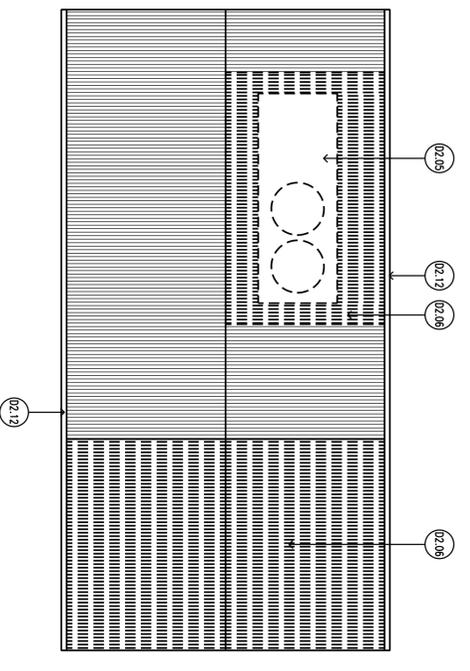
1/4" = 1'-0" 16 DEMO EAST ELEVATION



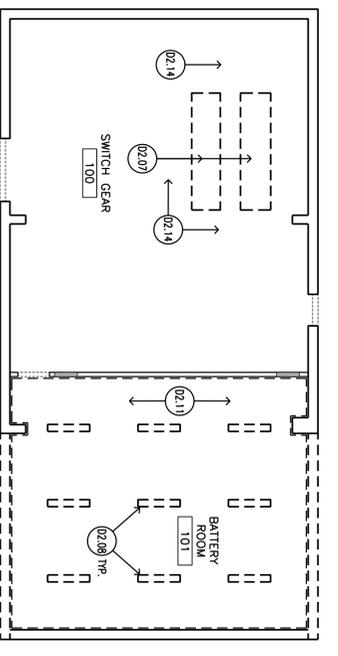
1/4" = 1'-0" 8 DEMO WEST ELEVATION



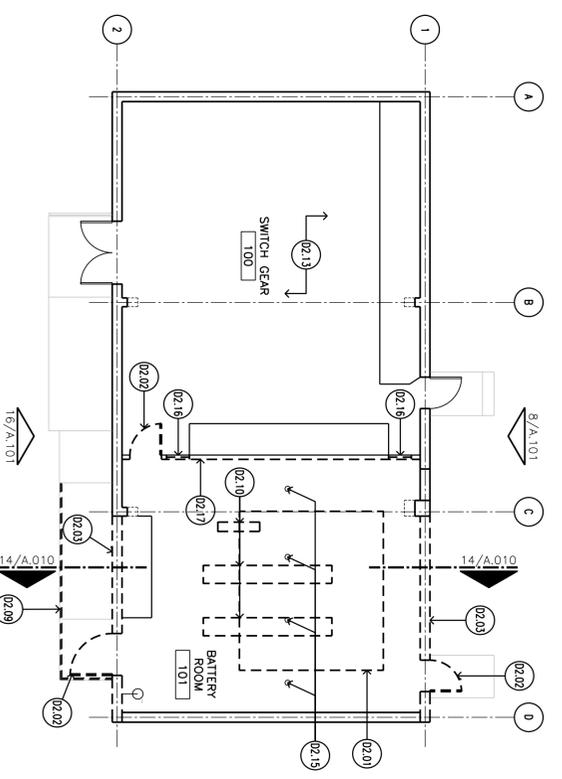
1/8" = 1'-0" 14 BUILDING SECTION



1/8" = 1'-0" 6 DEMO ROOF PLAN



1/8" = 1'-0" 13 DEMO FLOOR PLAN



1/8" = 1'-0" 5 KEY NOTES

- Demolition**
- D2.01 Area of limited slab removal. Re: Structural
 - D2.02 Remove existing door & frame in its entirety. Re: demo
 - D2.03 Contractor to remove existing metal panel & interior framing/gyp. bd. as required for new lowered openings, as well as installation of subgrade concrete work and installation of relocated generators. Re: demo elevations for general contractor to verify & determine the means and methods of metal building construction components and communicate existing construction to architect for verification of wall/bover installation.
 - D2.04 Prior to demo/removal of exterior wall panels, remove as required the unbraced bracing/supports of the overhead electrical canopy/provide temporary support during reconfiguration/installation of new bovers and exterior wall panels.
 - D2.05 Existing roof top unit to be removed in its entirety. Refer to MEP for additional information.
 - D2.06 Remove existing metal roof panels to nearest horizontal edge of base. Included in removal are the panels, the frame and ribs of the roof. Contractor to determine exact extent of removal required.
 - D2.07 Remove existing supply & return ducts to existing roof top ceiling as required adjacent to ducts to allow for duct supports for new interior painted gyp. board finish at ceiling.
 - D2.08 Remove/reinstall existing ceiling hung lighting. Eave to allow for clearance of generator installation.
 - D2.09 Remove/reinstall existing gonzonized battery racks, associated electrical panel and electrical conductors to relocate battery packs per maintenance schedule. Coordinate with Owner.
 - D2.10 Remove existing ceiling assembly as required for opening to allow for installation of generator through the roof.
 - D2.11 Provide removal of existing electrical switch gear per electrical drawing.
 - D2.12 Existing overhead electrical/mechanical equipment adjacent to area work required for removal of supply/return duct at RTU. Contractor to acknowledge work area parameters prior to demo.
 - D2.13 Provide removal of existing electrical switch gear per electrical drawing.
 - D2.14 Existing overhead electrical/mechanical equipment adjacent to area work required for removal of supply/return duct at RTU. Contractor to acknowledge work area parameters prior to demo.
 - D2.15 Remove existing floor drop. Re: MEP
 - D2.16 Remove existing interior wall louver.
 - D2.17 Remove existing gyp. bd. from existing stud partition.

ISSUE LOG		
NO.	DATE	DESCRIPTION
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CONSULTANT(S):
 Handerson Engineers Inc.
 3535 Briarpark Dr., Suite 200
 Houston, TX 77042
 V: 713.763.7707
 Contact: David Darby, PE

Architectural
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 4617 Montrose Blvd, Suite C230
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Structural
 C/JG Engineers
 3200 Wilcrest Dr., Suite 305
 Houston, TX 77042
 V: 713.780.3345
 Contact: Hunter Komegay, PE

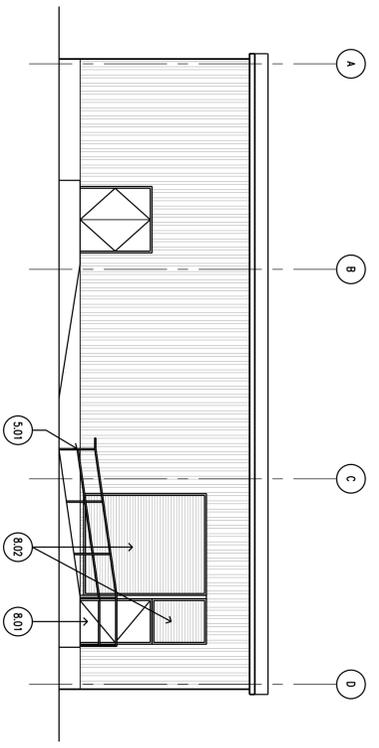
SEAL(S):


PROJECT NAME:
 City of Houston
 Emergency Generator Relocation
 62 Resner
 Houston, TX 77002

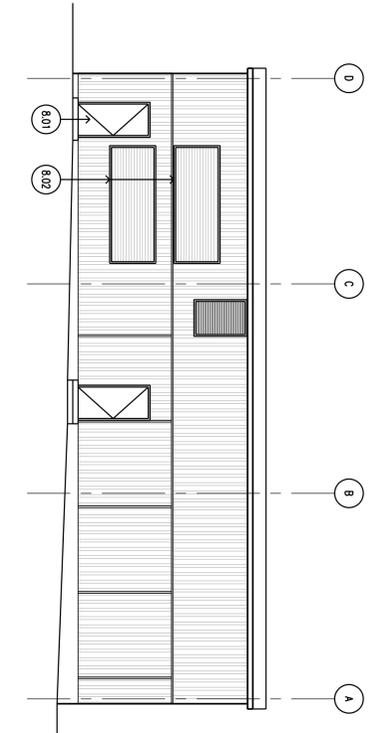
CITY OF HOUSTON
 GENERAL SERVICES
 DEPARTMENT

REVIEWED:
 PROJECT MANAGER
 DATE:
 G.F.S. No.:
 SCALE: AS NOTED
 DRAWN BY:
 CHECKED BY:

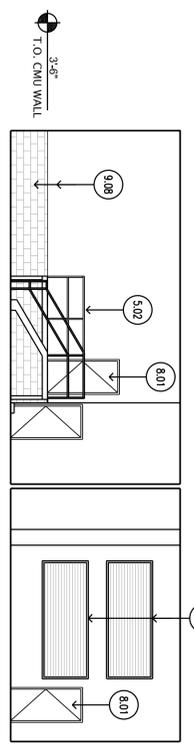
SHEET TITLE:
**DEMO PLAN,
 ELEVATION & SECTIONS**
 SHEET NO.:
A.101
 CITY DWG. NO.:



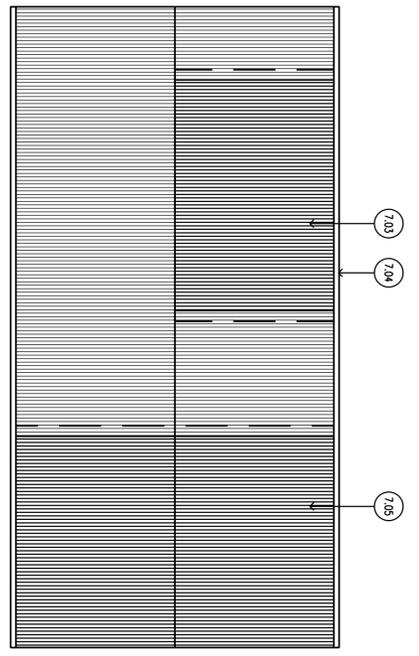
EAST ELEVATION 1/8" = 1' 16



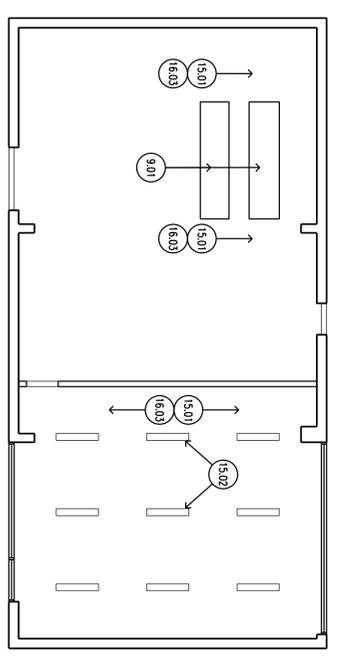
WEST ELEVATION 1/8" = 1' 8



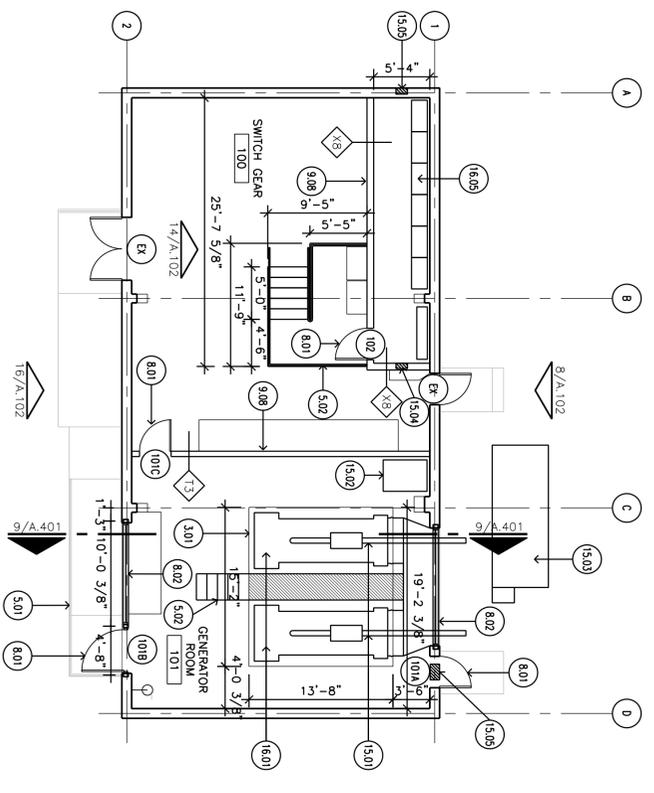
INTERIOR ELEVATION 1/4" = 1' 14



ROOF PLAN 1/8" = 1' 6



CEILING PLAN 1/4" = 1' 13



FLOOR PLAN 1/8" = 1' 5

- Concrete**
- 3.01 Location of concrete slab infill from demo'd slab location. Re: Structural
- 3.02 Location of new concrete generator pad. Re: Structural
- Melts**
- 5.01 Reinstall/new galvanized metal guardrail. Re: Structural
- 5.02 New galvanized guardrail, platform and stairs. Re: Structural
- Wood & Plastics**
- 6.01 Shim as required
- 6.02 Continuous 2x treated wood blocking
- 6.03 1/2" Plywood sheathing
- Thermal & Moisture Protection**
- 7.01 Full cavity thickness R-19 batt insulation
- 7.02 1/2" metal decker fastener metal panels. Verify insulation manufacturer's profile panel to be reinstalled. Panel is similar in configuration to the Berridge 36" wide "R" panel. Match color/finish based on manufacturer's standard color selections.
- 7.04 Existing gutter to remain. Tie-in new metal panel to eave as required
- 7.05 Reinstall salvaged roof panels.
- Doors & Windows**
- 8.01 New door and frame
- 8.02 New intake/exhaust louver. Re: MEP for opening requirements.
- 8.03 Threshold, set in full bed of bulb sealant
- Finishes**
- 9.01 3/8" gyp. bd on 1/2" hot channeis attached to existing overhead structure. Prep, prime, paint.
- 9.02 1-5/8" metal studs at 16" O.C. Maximum
- 9.03 2-1/2" metal studs at 16" O.C. Maximum
- 9.04 3-5/8" metal studs at 16" O.C. Maximum
- 9.05 5/8" Type X gypsum board
- 9.06 5/8" cementitious backing board
- 9.07 Existing/reinstalloed ceiling to be left bare from installation of generator. Prep steel structure for painted finish, point.
- 9.08 Existing/reinstalloed ceiling to be left bare from installation of generator. Prep steel structure for painted finish, point.
- 9.09 Install exterior walls as required for structural engineer. Point exposed steel surfaces.
- Specialties**
- 10.01 Colorized steel frame catwalk, stor and handrail.
- Mechanical**
- 15.01 Refer to MEP drawings for coordination and additional overhead mechanical requirements.
- 15.02 Relocated dry tank. re: Mechanical
- 15.03 Relocated fuel tank. re: Mechanical
- 15.04 Fire damper. re: Mechanical
- 15.05 Fan. re: Mechanical
- Electrical**
- 16.01 Relocated elevated generator. re: Electrical.
- 16.02 Relocated light fixtures. Install @ 13'-0" AFF. re: Electrical.
- 16.03 Refer to MEP drawings for coordination and add'l overhead electrical requirements.
- 16.04 Existing overhead electrical conduit to be broced/supported during demo of metal wall panels and and installation of new louver assembly. re: Electrical.
- 16.05 Relocated generator. re: Electrical.
- 16.06 ATS Equipment. re: Electrical.

ISSUE LOG	
NO.	DESCRIPTION
1	04.13.2012 BID AND PERMIT

CONSULTANT(S):
 MEP Henderson Engineers Inc.
 3535 Briarpark Dr., Suite 200
 Houston, TX 77042
 V: 713.783.7707
 Contact: David Darby, PE

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 B/A Project #: 11172
 Contact: Greg Ryden, AIA

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 V: 713.780.3345
 Contact: Hunter Komegay, PE



PROJECT NAME:
 City of Houston
 Emergency Generator Relocation
 62 Resner
 Houston, TX 77002

CITY OF HOUSTON
 GENERAL SERVICES
 DEPARTMENT

REVIEWED: _____
 PROJECT MANAGER _____
 Sponsoring Department

DATE: _____
 G.F.S. No: _____
 SCALE: AS NOTED
 DRAWN BY: _____
 CHECKED BY: _____

SHEET TITLE:
**FLOOR PLAN,
 ELEVATIONS,
 & SECTIONS**

SHEET NO.: _____
A.102

CITY DWG. NO.: _____

ISSUE LOG		
NO.	DATE	DESCRIPTION
1	04.13.2012	BID AND PERMIT

CONSULTANT(S):
 MEP Henderson Engineers Inc.
 3535 Briarpark Dr., Suite 200
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SEAL(S):


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 City of Houston
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 62 Resner
 Houston, TX 77002

CITY OF HOUSTON
 GENERAL SERVICES
 DEPARTMENT

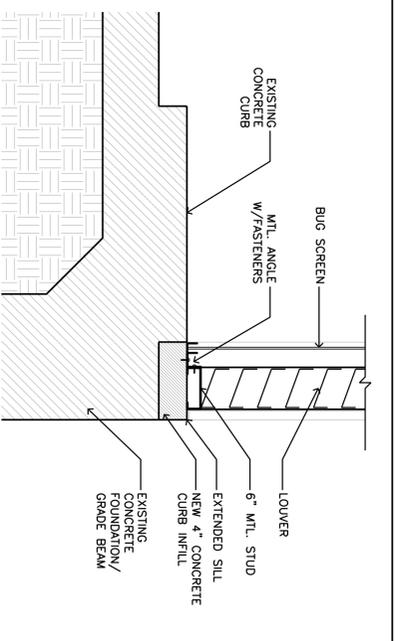
REVIEWED:
 PROJECT MANAGER: _____
 SPECIALIST: _____
 PROJECT NUMBER: _____

DATE: _____
 G.F.S. No.: _____
 SCALE: AS NOTED
 DRAWN BY: _____
 CHECKED BY: _____
 SHEET TITLE:
**BUILDING SECTION
 & SECTION DETAILS**

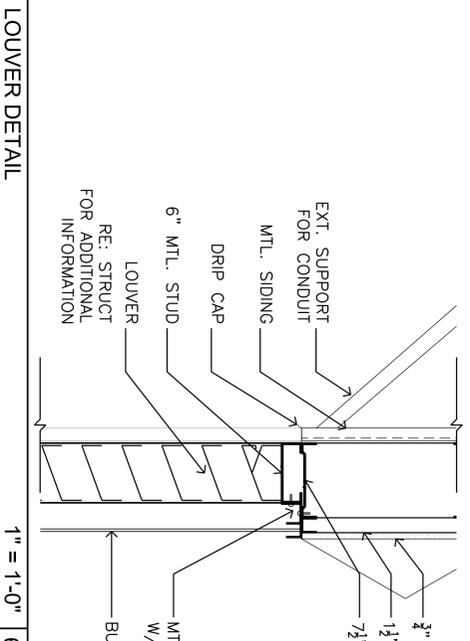
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A.401

CITY DWG. NO.: _____

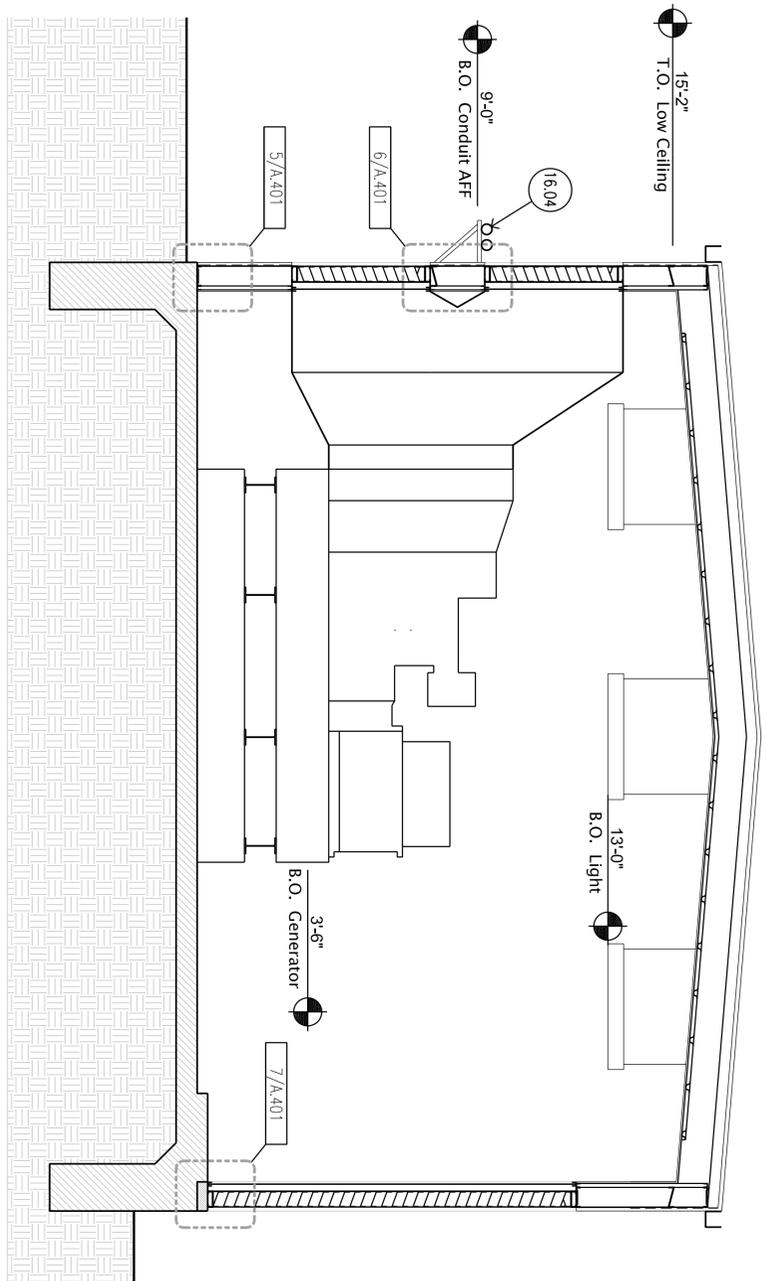
3.01	Concrete	Location of concrete slab in-fill from demo'd slab location. Re: Structural
3.02	Concrete	Location of new concrete generator pad. Re: Structural
5.01	Metals	Reinstalled/new galvanized metal guardrail. Re: Structural
5.02	Metals	New galvanized guardrail, platform and stairs. Re: Structural
6.01	Wood & Plastics	Shim as required
6.02	Wood & Plastics	Continuous 2x treated wood blocking
6.03	Wood & Plastics	3/4" Plywood sheathing
7.01	Thermal & Moisture Protection	Full cavity thickness R-19 batt insulation
7.02	Thermal & Moisture Protection	Sealant and blocker rod
7.03	Thermal & Moisture Protection	Install new exterior fastener metal panels. Verify manufacturer's profile panel to be reinstalled. Panel is similar in configuration to the Bertrage 35" wide R-Panel. Verify color/finish based on manufacturer's standard selections.
7.04	Thermal & Moisture Protection	Existing gutter to remain. Tie-in new metal panel to eave as required.
7.05	Thermal & Moisture Protection	Reinstall salvaged roof panels.
8.01	Doors & Windows	New door and frame
8.02	Doors & Windows	New intake/exhaust louver. Re: MEP for opening requirements.
8.03	Doors & Windows	Threshold, set in full bed of bulky sealant
9.01	Finishes	3/4" gyp. bd on 3/4" hot channels attached to existing overhead structure. Prep, prime, paint.
9.02	Finishes	1-5/8" metal studs at 16" O.C. Maximum
9.03	Finishes	2-1/2" metal studs at 16" O.C. Maximum
9.04	Finishes	3-5/8" metal studs at 16" O.C. Maximum
9.05	Finishes	5/8" Type X gypsum board
9.06	Finishes	2x2" ceiling joists
9.07	Finishes	2x2" ceiling joists with hole from installation of generator. Prep steel structure for painted finish, paint.
9.08	Finishes	New painted finish at partition.
9.09	Finishes	Paint exterior walls as required for structural engineer. Point exposed steel surfaces.
10.01	Specialties	Galvanized steel frame catwalk, stair and handrail.
15.01	Mechanical	Refer to MEP drawings for coordination and additional overhead mechanical requirements.
15.02	Mechanical	Relocated day tank, re: Mechanical
15.03	Mechanical	Relocated fuel tank, re: Mechanical
15.04	Mechanical	Fire damper, re: Mechanical
15.05	Mechanical	Fun. re: Mechanical
16.01	Electrical	Relocated, elevated generator, re: Electrical.
16.02	Electrical	Relocated light fixture. Install @ 13'-0" AFF. re: Electrical.
16.03	Electrical	Refer to MEP drawings for coordination and add'l overhead



WALL SECTION DETAIL 1" = 1'-0"



LOUVER DETAIL 1" = 1'-0"



BUILDING SECTION 3/8" = 1'-0"

LOUVER DETAIL 1" = 1'-0"

KEYED NOTES 1

ISSUE LOG

NO.	DATE	DESCRIPTION
1	04.13.2012	BID AND PERMIT

CONSULTANT(S):

Handerson Engineers Inc.
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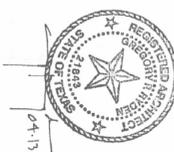
Architectural

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V: 713.524.5858
F: 713.524.5868
B/A Project #: 11172
Contact: Greg Ryden, AIA

Structural

CJG Engineers
3200 Wilcrest Dr., Suite 305
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SEAL(S):



PROJECT NAME:
City of Houston
Emergency Generator Relocation
62 Resner
Houston, TX 77002

CITY OF HOUSTON
GENERAL SERVICES
DEPARTMENT

REVIEWED BY: _____
PROJECT MANAGER: _____
DATE: _____
G.F.S. NO.: _____
SCALE: AS NOTED
DRAWN BY: _____
CHECKED BY: _____
SHEET TITLE:
**DOOR & HARDWARE
SCHEDULES &
PARTITION TYPES**
SHEET NO.:
A.820
CITY DWG. NO.: _____

DOOR & FRAME SCHEDULE

DOOR NO.	DOORS				FRAME		HDM GROUP	SIGN TYPE	REMARKS	
	TYPE	MATL	THK.	FIN.	SIZE	MATL				TYPE
101A	A	SC	1-3/4"	PL.1	3'-0"	8'-6"	PT.2	A	2	
101B	A	SC	1-3/4"	PL.1	3'-0"	8'-6"	PT.2	A	2	A
101C	A	SC	1-3/4"	PL.1	3'-0"	8'-6"	PT.2	A	3	
102	A	SC	1-3/4"	PL.1	3'-0"	8'-6"	PT.2	B opp	3	A
EX	EXIST	EXIST	EXIST	EXIST	EXIST	EXIST	EXIST	EXIST	PT.3	EXIST

DOOR & FRAME SCHEDULE

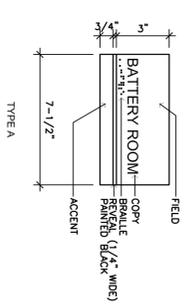
DOOR HARDWARE
HW SET: 1
DOOR: EX
REUSE EXISTING

HW SET: 2
DOORS: 101A & 101B
EACH TO HAVE:
3 EA HINGE 5881 4.5 X 4.5 NRP 530 NE
1 EA STOREROOM LOCK L9090L X MATCH EXISTING TRM 626 SCH
1 EA STOREROOM LOCK L9090L 803A/O3A (OR MATCH EXISTING TRM) X EE 626 SCH
1 EA SURFACE CLOSER SC1 SS/HO 689 FAL RECD LO 626 BES
1 EA KICK PLATE 9400 10" X 2" LW 626 NE
1 SET SEALS 50508 BRN NCP
1 EA DOOR SWEEP 101A OI NCP
1 EA THRESHOLD 896V AL NCP

HW SET: 3
DOOR: 101C & 102
EACH TO HAVE:
3 EA HINGE 5881 4.5 X 4.5 652 NE
1 EA STOREROOM LOCK L9090L 803A/O3A (OR MATCH EXISTING TRM) X EE 626 SCH
1 EA MORISE CYLINDER 1E74 X RECD CAM X RECD COLLAR X RECD LO 626 BES
1 EA DOOR STOP 50507 689 LAL
1 EA DOOR STOP 50507 689 LAL
3 EA SILENCER 8964 GRV NE

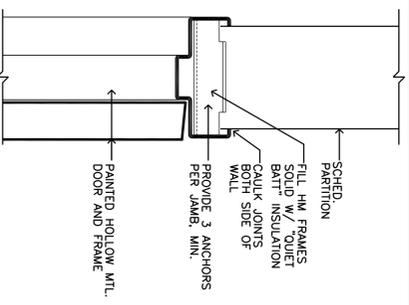
HARDWARE

INTERIOR SIGN TYPES



3

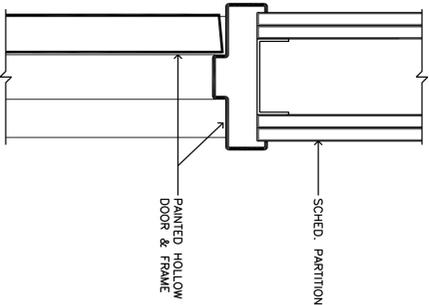
NOT USED



DOOR JAMB DETAIL

3" = 1'-0" 18

NOT USED



DOOR HEADER DETAIL

3" = 1'-0" 17

DOOR TYPES

13

FRAME TYPES

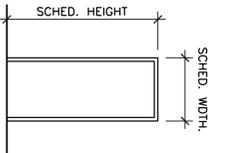
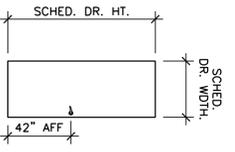
9

PARTITION DETAIL "T"

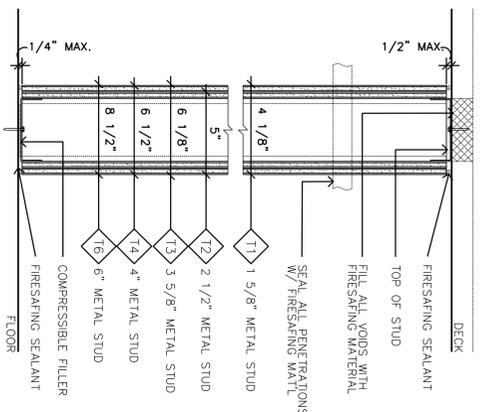
1-1/2" = 1'-0" 5

PARTITION DETAIL "X"

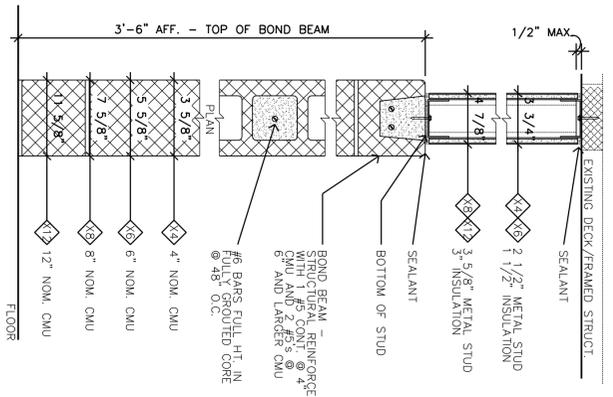
1-1/2" = 1'-0" 1



PARTITION TYPE	UNBRACED LIMITING HT.	FIRE RATING @ DESIGNATED PARTITIONS, REFER TO PLANS
T1	8'-3"	PARTITION FIRE RATING IS BASED ON UL DESIGN NO. U906. CONTRACTOR TO ADHERE TO UL DESIGN STANDARDS AT ALL TIMES.
T2	10'-9"	
T3	13'-6"	
T4	14'-3"	
T6	15'-0"	



PARTITION TYPE "T" (TWO (2) HOUR FIRE RATING)
25ga. METAL STUDS @ 16" O.C. WITH TWO (2) LAYER OF 5/8" THICK GYPSUM BOARD EACH SIDE.



PARTITION TYPE "X"
CONCRETE MASONRY UNIT WALL WITH HORIZONTAL JOINT REINFORCING AT 16" O.C. VERTICAL
25ga. METAL STUDS @ 16" O.C. WITH ONE (1) LAYER OF 5/8" THICK GYPSUM BOARD ONE SIDE.

GENERAL NOTES

THE STRUCTURAL DRAWINGS DEPICT THE STRUCTURE IN ITS FINAL CONSTRUCTED CONFIGURATION. NEITHER CONSTRUCTION MEANS AND METHODS NOR CONSTRUCTION SAFETY ARE PART OF THE STRUCTURAL ENGINEER'S EXPERTISE OR SCOPE OF WORK.

PRINCIPAL OPENINGS ARE SHOWN ON THE DRAWINGS. SEE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR OPENINGS, SLEEVES, CURBS, INSERTS, DEPRESSIONS, ETC., NOT SHOWN.

SHOP DRAWINGS SHALL BE NEW DRAWINGS PRODUCED BY THE CONTRACTOR. ILLEGIBLE REPRODUCTIONS OF THE DESIGN DRAWINGS WILL BE REJECTED. ELECTRONIC FILES MAY BE PURCHASED FROM THE ENGINEER OF RECORD FOR THE PURPOSE OF PREPARING SHOP DRAWINGS.

CRANES, CONCRETE TRUCKS AND ALL OTHER HEAVILY LOADED VEHICLES ARE NOT TO BE DRIVEN ACROSS GRADE BEAMS OR BUILDING SLABS.

ERECTION OF STRUCTURAL STEEL MAY NOT BEGIN UNTIL CONCRETE FOUNDATION HAS CURED FOR A MINIMUM OF THREE DAYS.

NOTE THAT THE GROUND FLOOR SLAB IS A GROUND SUPPORTED SLAB AT GRADE AS PER THE DESIGN RECOMMENDED IN THE SOIL REPORT. IT IS NOT A STRUCTURAL SLAB AND AS SUCH IT IS NOT DESIGNED FOR ANY EXTERNAL UPWARD OR DOWNWARD LOADS.

CONCRETE MIX DESIGNS FOR EACH CLASS OF CONCRETE WITH TEST DATA. CONCRETE ACCESSORIES (VAPOR RETARDER, REINFORCING SUPPORT CHAIRS, VOID FORMS, ETC.)

CONCRETE REINFORCING SHOP DRAWINGS

STRUCTURAL STEEL SHOP DRAWINGS

CONCRETE REINFORCING SHOP DRAWINGS

CONCRETE

- 1. ALL CONCRETE REINFORCING BARS SHALL CONFORM TO ASTM A615, GRADE 60, EXCEPT WHERE NOTED. NO. 3 BARS SHALL CONFORM TO ASTM A615, GRADE 40, DEFORMED BAR ANCHORS SHALL CONFORM TO ASTM A496, GR 70.

ALL CONCRETE ----- 3000 PSI (w/c = 0.50 MAX)

CONCRETE SUPPLIER SHALL BE AWARE OF CEMENTS THAT CAN CAUSE LATE ETTRINGITE FORMATION IN THE CEMENT PASTE AND BE PREPARED TO SHOW THAT THE CEMENTS USED WILL NOT CAUSE THIS PROBLEM.

- 3. ALL WELDED WIRE FABRIC SHALL BE SMOOTH ROUND WIRE IN FLAT SHEETS AND SHALL CONFORM TO ASTM A185.

- 4. CONCRETE PROTECTION FOR REINFORCEMENT SHALL BE AS FOLLOWS; SEE SEC. 7.7 ACI 318, LATEST EDITION FOR CONDITIONS NOT NOTED. PROVIDE CHAIR SUPPORTS (AZTECO CASTLE CHAIR, WHO SERIES "B" OR EQUAL) TO ADEQUATELY SUPPORT BARS FOR PROPER CLEARANCE AS RECOMMENDED BY THE AMERICAN CONCRETE INSTITUTE AND THE CONCRETE REINFORCING STEEL INSTITUTE. SLAB ON GRADE REINFORCEMENT SHALL BE SUPPORTED AT 45-INCH MAXIMUM INTERVALS OR EVERY THIRD BAR.

FOOTINGS ----- 3 IN. GRADE BEAMS ----- 3 IN. BOT., 2 IN. SIDE (3" EARTH FORMED), 2" IN. TOP SLAB ON GRADE ----- 1 IN. TOP

- 5. NO HORIZONTAL JOINTS WILL BE PERMITTED IN CONCRETE EXCEPT WHERE THEY NORMALLY OCCUR OR WHERE NOTED. VERTICAL JOINTS SHALL OCCUR AT CENTER SPANS OR AT LOCATIONS APPROVED BY THE STRUCTURAL ENGINEER.

- 6. DETAILING OF CONCRETE REINFORCEMENT AND ACCESSORIES SHALL BE IN ACCORDANCE WITH ACI PUBLICATION 315, LATEST EDITION. ALL HOOKED BARS SHOWN IN DETAILS SHALL HAVE STANDARD HOOKS UNLESS NOTED OTHERWISE.

- 7. REINFORCING BARS SHALL NOT BE WELDED WITHOUT APPROVAL OF THE STRUCTURAL ENGINEER.

- 8. UNLESS OTHERWISE NOTED CONTINUOUS BOTTOM REINFORCING BARS SHALL BE SPLICED AT SUPPORTS AND CONTINUOUS TOP REINFORCING BARS SHALL BE SPLICED AT MID-SPAN.

- 9. ALL CONTINUOUS REINFORCEMENT SHALL LAP 40 BAR DIAMETERS AT SPLICES. PROVIDE 1-#6x6-0" TOP AND BOTTOM (TWO 36" LEGS WITH 90 DEGREE BEND) AT EACH FACE OF GRADE BEAMS AT CORNERS AND INTERSECTIONS, AND AT 18" ON CENTER VERTICALLY AT WALLS.

- 10. CONDUITS ARE NOT ALLOWED IN SLABS, BEAMS, WALLS OR COLUMNS. ALL CONDUITS SHALL BE SUSPENDED FROM OR ATTACHED TO THE CONCRETE STRUCTURE.

- 11. ALL MIXING, TRANSPORTING, PLACING AND CURING OF CONCRETE SHALL BE DONE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE AMERICAN CONCRETE INSTITUTE, ACI 301, LATEST EDITION.

- 12. ALL BASE PLATES AND ANCHOR RODS SHALL BE PROTECTED WITH 3" (MIN.) OF CONCRETE. ANCHOR RODS SHALL BE FABRICATED FROM FULL BODIED STEEL RODS CONFORMING TO ASTM F1554, WASHERS CONFORMING TO ASTM F884 AND NUTS CONFORMING TO ASTM A194 OR A563 AND HAVING THE SAME DIAMETER AS THE BOLT DIAMETER AND USING CUT THREADS. ROLLED THREADS ARE NOT ACCEPTABLE. BOLTS SHALL BE SET USING RIGID TEMPLATES.

- 13. ALL STRUCTURAL STEEL DESIGN, DETAILING, FABRICATION AND ERECTION SHALL CONFORM TO ALLOWABLE STRENGTH DESIGN (ASD) ACCORDING TO THE 2005 AISC SPECIFICATION.

- 3. ALL WELDING SHALL CONFORM TO THE STANDARDS OF THE THIRTEENTH EDITION OF THE MANUAL OF STEEL CONSTRUCTION OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION, AND THE AMERICAN WELDING SOCIETY/AWS D1.1 STRUCTURAL WELDING CODE-STEEL. WELDING OF REINFORCING BARS SHALL COMPLY TO THE AMERICAN WELDING SOCIETY AWS D1.4. SHORT CIRCUIT TRANSFER FOR THE GAS METAL ARC WELDING PROCESS IS NOT PERMITTED.

- 4. ELECTRODES FOR ALL FIELD AND SHOP WELDING SHALL BE CLASS E70XX.

- 5. ALL STRUCTURAL STEEL ROLLED SHAPES SHALL CONFORM TO ASTM A992, AND ALL ANGLES, BARS, CHANNELS AND PLATES SHALL CONFORM TO ASTM A36. ALL SQUARE AND RECTANGULAR TUBES (Fy 46KSI) SHALL CONFORM TO ASTM A500 GRADE B AND ROUND PIPES (Fy 36KSI) SHALL CONFORM TO ASTM A53 GR. B. ALL COLD-FORMED GIRTS AND PURLINS SHALL CONFORM TO ASTM A575M GR. 55.

- 6. ALL STRUCTURAL STEEL DETAILS AND CONNECTIONS SHALL CONFORM TO STANDARDS OF THE AISC. DOUBLE CONNECTIONS THROUGH COLUMN WEBS, BEAMS THAT FRAME OVER THE TOP OF COLUMNS, AND BEAM TO BEAM CONNECTIONS SHALL HAVE A BEAM ERECTION SEAT OR A STAGGERED CONNECTION WITH AT LEAST ONE INSTALLED BOLT REMAINING IN PLACE TO SUPPORT THE FIRST BEAM WHILE THE SECOND BEAM IS BEING ERECTED.

- 7. CONNECTIONS NOT DETAILED ON THE DRAWINGS SHALL BE SELECTED FROM THE TABLES IN PART 10 OF THE THIRTEENTH EDITION OF THE MANUAL OF STEEL CONSTRUCTION OF THE AISC. TABLE 10-1 MAY BE USED FOR ALL-BOLTED DOUBLE ANGLE CONNECTIONS. TABLE 10-2 MAY BE USED FOR WELDED/BOLTED DOUBLE ANGLE CONNECTIONS. TABLE 10-3 MAY BE USED FOR ALL-WELDED DOUBLE ANGLE CONNECTIONS. BEAM REACTIONS USED SHALL BE ONE-HALF THE TOTAL ALLOWABLE UNIFORM LOAD GIVEN IN TABLE 3-6 THROUGH 3-9 IN PART 3 OF THE MANUAL OF STEEL CONSTRUCTION OF THE AISC. CONNECTIONS FOR COMPOSITE BEAMS SHALL HAVE THE STANDARD AISC CAPACITY INCREASED BY 35 PERCENT.

- 8. ALL MISCELLANEOUS WELDS (FIELD OR SHOP) SHALL BE MINIMUM SIZE FILLET ALL AROUND IN ACCORDANCE WITH AISC. WELDING OF CONTINUOUS MEMBERS SHALL BE A MINIMUM OF 2 INCHES OF 3/16 INCH FILLET STEEL WELDS AT 12 INCHES O.C., STAGGERED EACH SIDE, UNLESS OTHERWISE NOTED. COLUMN BASE PLATES, CAP PLATES AND STIFFENER PLATES SHALL BE WELDED ALL AROUND.

- 9. PROVIDE ALL NECESSARY HOLES IN MISCELLANEOUS STRUCTURAL STEEL MEMBERS OR ATTACHMENT OF NON-STRUCTURAL ITEMS (IE HOLES FOR WINDOW HANG ANCHORS), SEE ARCHITECTURAL DRAWINGS FOR REQUIREMENTS.

- 10. SPLICING OF STRUCTURAL STEEL MEMBERS WHERE NOT DETAILED IS PROHIBITED WITHOUT PRIOR APPROVAL OF THE STRUCTURAL ENGINEER.

- 11. ALL CONNECTION BOLTS FOR STRUCTURAL STEEL MEMBERS SHALL CONFORM TO ASTM A325 EXCEPT WHERE NOTED OTHERWISE. MINIMUM SIZE SHALL BE 3/4 INCH DIAMETER UNLESS NOTED OTHERWISE. BOLTS SHALL BE DIRECT TENSION INDICATING BOLTS CONFORMING TO ASTM F1852 WITH HARDENED WASHERS UNDER THE NUT AND SACRIFICIAL SPLINES. HEX NUTS SHALL CONFORM TO ASTM A563 AND WASHERS SHALL CONFORM TO ASTM F436.

STRUCTURAL STEEL CONT'D

- 12. SHOP BOLTED CONNECTIONS ARE PERMISSIBLE IF SUFFICIENT BOLT CLEARANCE IS AVAILABLE FOR TIGHTENING OF HIGH STRENGTH BOLTS. CLEARANCES SHALL BE IN ACCORDANCE WITH TABLE 7-16 AND 7-17 OF THE THIRTEENTH EDITION OF THE MANUAL OF STEEL CONSTRUCTION OF THE AISC. ALL STEEL MEMBERS AND ASSEMBLIES SHALL BE SHOP FABRICATED TO THE GREATEST EXTENT POSSIBLE. TRUSSES SHALL BE FULLY SHOP ASSEMBLED. FIELD SPLICES FOR SHIPPING SHALL ONLY BE AS APPROVED BY THE ENGINEER OF RECORD. THE STEEL FABRICATOR AND THE STEEL ERECTOR SHALL COORDINATE THE SHOP FABRICATION, SHIPPING AND ERECTION OF ALL STRUCTURAL MEMBERS AND ASSEMBLIES.

- 13. HEADED ANCHORS SHALL BE MANUFACTURED FROM COLD DRAWN WIRE CONFORMING TO ASTM A108, GR.50 WITH FLUXED ENDS. STUDS SHALL BE AUTOMATICALLY END WELDED WITH SUITABLE STUD WELDING EQUIPMENT IN ACCORDANCE WITH AWS D1.1. STUDS FOR EMBEDDED PLATES AND OTHER ANCHORS SHALL BE SHOP WELDED. STUDS FOR COMPOSITE BEAMS SHALL BE FIELD WELDED.

- 14. ALL STRUCTURAL STEEL WHICH IS OUTSIDE THE BUILDING ENVELOPE SHALL BE HOT DIPPED GALVANIZED, ZINC COATING SHALL MEET THE REQUIREMENTS OF ASTM 123-73, WITH A MINIMUM COATING CLASS OF 0860 AND SHALL BE APPLIED AFTER FABRICATION. ALL FIELD WELDS SHALL BE GROUND SMOOTH AND TOUCHED UP WITH ZINC RICH PAINT.

- 15. THE GENERAL CONTRACTOR AND HIS SUBCONTRACTOR'S SHALL COMPLY TO OSHA 29 CFR 1926 SUBPART R, SAFETY STANDARDS FOR STEEL ERECTION.

- 16. AS SCOPE AND PERFORMANCE DOCUMENTS, THE DRAWINGS AND SPECIFICATIONS DO NOT INDICATE OR DESCRIBE ALL OF THE WORK REQUIRED FOR THE PERFORMANCE AND COMPLETION OF THIS WORK. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE FABRICATION AND INSTALLATION OF ALL MISCELLANEOUS METAL ITEMS INDICATED, DESCRIBED, OR IMPLIED ON THE STRUCTURAL AND/OR THE ARCHITECTURAL DRAWINGS. MISCELLANEOUS STEEL ITEMS, WITHIN AN ASSEMBLY AND NOT ATTACHED TO THE STRUCTURE, ARE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND HIS SUBCONTRACTORS. WHETHER THEY ARE SHOWN OR NOT SHOWN ON THE ARCHITECTURAL OR STRUCTURAL DRAWINGS, SUCH ASSEMBLIES INCLUDE BUT ARE NOT LIMITED TO, EXTERIOR AND INTERIOR WALL ASSEMBLIES, CEILING ASSEMBLIES, PARTITION ASSEMBLIES, SHELF AND CABINET ASSEMBLIES AND ALL OTHER SIMILAR ASSEMBLIES. ANY MISCELLANEOUS METAL ITEMS INDICATED ON THE ARCHITECTURAL DRAWINGS AND NOT SHOWN ON STRUCTURAL DRAWINGS SHALL BE A MINIMUM OF L4x4x1/2", C7x9x8, 3/8" PLATE OR T54x4x3/8" UNLESS OTHERWISE APPROVED BY THE STRUCTURAL ENGINEER.

- 17. GROUT FOR POURING SHALL BE OF FLUID CONSISTENCY AND MIXED IN THE RATIO BY VOLUMES, 1 PART PORTLAND CEMENT, 2 1/4 PARTS MINIMUM TO 3 PARTS MAXIMUM DAMP LOOSE SAND, 1 PART MINIMUM TO 2 PARTS MAXIMUM PEA GRAVEL AND 0 TO 1/10 PART MAXIMUM HYDRATED LIME. MIX SHALL CONFORM TO ASTM C 478 WITH A 28-DAY COMPRESSIVE STRENGTH OF 2500 PSI. MAXIMUM GROUT HEIGHT SHALL BE 4'-0".

- 18. GROUT FOR PUMPING SHALL BE OF FLUID CONSISTENCY AND SHALL HAVE NOT LESS THAN 7 SACKS OF CEMENT IN EACH CUBIC YARD OF GROUT. THE MIX SHALL BE SUBMITTED FOR APPROVAL.

- 9. THE COMPRESSIVE STRENGTH OF THE MASONRY (f'm) SHALL BE 1800 PSI.

- 10. ALL CELLS WITH REINFORCING BARS SHALL BE GROUTED SOLID.

- 11. ALL CELLS SHOWN TO HAVE DRILLED EXPANSION ANCHORS, EMBEDDED HEADED STUDS OR OTHER EMBEDDED ANCHORS SHALL BE GROUTED SOLID.

- 12. HORIZONTAL JOINT REINFORCEMENT SPACED AT 16" O.C. MAX. VERTICALLY SHALL CONFORM TO ASTM A951 WITH A MINIMUM YIELD STRENGTH OF 70,000 PSI AND A MINIMUM SIZE OF 9 GAGE FOR SIDE RODS AND 9 GAGE FOR TRUSS RODS.

- 13. OPENINGS IN MASONRY WALLS SHALL HAVE EITHER MASONRY OR STEEL LINTELS AS DETAILED ON THE DRAWINGS. WHEN NO LINTEL IS DETAILED A MINIMUM OF 2-#4 BARS IN A SOLID GROUTED LINTEL BLOCK SHALL BE INSTALLED. THE BARS SHALL EXTEND A MINIMUM OF EIGHT INCHES BEYOND THE EDGE OF THE OPENING AND THE JAMB AT EACH SIDE OF THE OPENING SHALL BE GROUTED SOLID FOR A DISTANCE OF EIGHT INCHES WITH 1-#4 VERTICAL MINIMUM AT EACH JAMB. LAP BARS 2'-0" MIN. OR 40 BAR DIAMETERS AT SPLICES, INTERSECTIONS AND CORNERS. STEEL LINTELS SHALL BEAR 8" MINIMUM AT EACH END ON FLASHING ABOVE AND BELOW THE ANGLE. VERTICAL CONTROL JOINTS SHALL EXTEND UP FROM THE END OF THE STEEL LINTEL TO THE TOP OF THE LINTEL. FLASHING IS PROVIDED TOP AND BOTTOM OF LINTEL ANGLE WHERE ANGLE BEARS ON BRICK.

- 14. LINTEL BLOCKS SHALL BE "U" SHAPED UNITS WITH SOLID BOTTOMS AND ARE TO BE USED OVER WINDOW AND DOOR OPENINGS. BOND BEAM BLOCKS SHALL BE OPEN BOTTOM UNITS AND ARE TO BE USED AT THE TOPS OF WALLS AND AT THE MID-HEIGHT OF WALL OR AT 8'-0" ON CENTER VERTICALLY MAXIMUM UNLESS NOTED OTHERWISE ON THE DRAWINGS. PROVIDE 2-#4 BARS IN A SOLID GROUTED BOND BEAM UNLESS NOTED OTHERWISE. LINTEL BLOCKS SHALL NOT BE USED IN PLACE OF BOND BEAM BLOCKS.

- 15. ALL MASONRY TIES TO BACKUP STRUCTURE SHALL BE HOT DIP GALVANIZED. PROVIDE A HECKMANN NO. 315 ANCHOR WITH NO. 316 TRIANGULAR TIE ON COLUMNS AT 16" (15" AT KING SIZE BRICK) ON CENTER VERTICALLY AND A HECKMANN NO. 191 OR 192 ANCHOR ON EACH SIDE ALL BEAMS AT 16" ON CENTER HORIZONTALLY UNLESS NOTED OTHERWISE ON THE DRAWINGS. MASONRY TIES TO WALL STUDS SHALL BE A HECKMANN NO. 316 TRIANGULAR TIE WITH A HECKMANN NO. 315-C SOREN ON ANCHOR STRAP OR HECKMANN #77 WING NUT POS-1-TIE ANCHOR SPACED 16" (15" AT KING SIZE BRICK) ON CENTER HORIZONTALLY AND 16" ON CENTER VERTICALLY. AT ALL CORNERS AND INTERSECTIONS PROVIDE TWO VERTICAL ROWS OF ANCHORS SPACED 16" APART AND 16" ON CENTER VERTICALLY. TRIANGULAR TIES SHALL EXTEND 3/4" FROM FACE OF MASONRY. ANCHOR STRAPS SHALL BE ATTACHED TO METAL STUDS WITH TWO (2) #10-16x 1 1/2" CADMIUM PLATED HEX HEAD SHEET METAL SCREWS WITH NEOPRENE WASHER.

- 16. MASONRY WALLS SHALL HAVE VERTICAL CONTROL JOINTS AT APPROXIMATELY SIXTEEN (16) FEET ON CENTER AND FOUR (4) FEET MAXIMUM FROM CORNERS. COORDINATE TIE JOINTS WITH THE ARCHITECT. PROVIDE HECKMANN NO. 351 CONTROL JOINT ANCHORS AT 16" ON CENTER VERTICALLY AT BRICK MASONRY AND HECKMANN NO. 350 CONTROL JOINT ANCHORS AT 16" ON CENTER VERTICALLY AT CONCRETE MASONRY UNITS.

- 17. AT FREE VERTICAL EDGES OF WALLS PROVIDE 1-#5 VERTICAL IN GROUT FILLED END CORE, UNLESS NOTED OTHERWISE ON THE DRAWINGS.

- 18. PROVIDE A MINIMUM OF #4 AT 48" ON CENTER VERTICAL WALL REINFORCING AND DOWELS IN FULLY GROUTED CELLS AT ALL EXTERIOR AND INTERIOR WALLS UNLESS A GREATER REINFORCING IS SHOWN ON THE PLANS OR IN THE DETAILS. PROVIDE 1/2" DIAMETER DEFORMED BAR ANCHORS AT 48" ON CENTER WELDED TO STRUCTURAL MEMBERS SUPPORTING MASONRY ABOVE UNLESS NOTED OTHERWISE ON THE DRAWINGS.

- 19. PROVIDE HOHMANN AND BARNARD RB-8 (OR EQUAL) REBAR POSITIONERS AT EVERY THIRD COURSE AND AT SPLICE LOCATIONS.

- 20. ALL MASONRY DESIGN IS BASED CHAPTER 21 OF INTERNATIONAL BUILDING CODE, LATEST EDITION AND ACI 530, LATEST EDITION.

STRUCTURAL TESTING AND INSPECTIONS

EARTHWORK TESTING

- 1. DURING EARTHWORK OPERATIONS KEEP A COMPETENT TRAINED TECHNICIAN ASSIGNED TO THE PROJECT. SERVICES PROVIDED SHALL INCLUDE:

- C. VERIFY THAT THE SUBGRADE SHALL THEN BE SCARIFIED AND MOISTURE CONDITIONED TO A SIX (6) INCH DEPTH AND THEN RECOMPACTED TO BETWEEN (95 AND 100) PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE STANDARD PROCTOR DENSITY TEST (ASTM D998). THE MOISTURE CONTENT SHALL BE BETWEEN (OPTIMUM AND +3) PERCENT OF THE OPTIMUM MOISTURE CONTENT. PROVIDE A MINIMUM OF FOUR (4) FIELD DENSITY TESTS ON THE SUBGRADE OR ONE (1) FOR EVERY 2,500 SQUARE FEET WHICHEVER IS GREATER.

SPREAD FOOTINGS TESTING

- 1. DURING SPREAD FOOTING OPERATIONS KEEP A COMPETENT TRAINED TECHNICIAN ASSIGNED TO THE PROJECT. SERVICES PROVIDED SHALL INCLUDE:

- A. OBSERVING THE BOTTOM OF FOOTING FOR CLEANLINESS.
B. CHECKING FOOTING BOTTOM FOR PROPER BEARING MATERIAL.
C. NOTING DEPTH AND SIZE OF ALL FOOTINGS.
D. VERIFY QUANTITY, SIZE AND LOCATION OF REINFORCEMENT AND CLEAR COVER REQUIREMENTS.
E. CHECK FOR CAVING OF FOOTING WALLS.
F. CHECKING THAT THE PLASTER IS CONCENTRIC WITH THE FOOTING.
G. CHECKING THAT COLUMN OR GRADE BEAM DOWELS ARE LOCATED PROPERLY.

CONCRETE TESTING

- 1. CONCRETE MIX DESIGNS SHALL BE SUBMITTED FOR REVIEW INDICATING CONFORMANCE WITH ACI 318, LATEST EDITION, CHAPTER 5, SECTION 5.3.

- 2. SLUMP TESTS, CONFORMING TO ASTM C143, SHALL BE TAKEN AT THE POINT OF DISCHARGE AT THE SAME RATE AS NOTED BELOW IN NOTE NUMBER 5.

- 3. AIR CONTENT TESTS CONFORMING TO ASTM C173, VOLUMETRIC METHOD FOR LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE; ASTM C231 PRESSURE METHOD FOR NORMAL WEIGHT CONCRETE, SHALL BE TAKEN FOR EACH DAY'S POUR OF EACH TYPE OF AIR-ENTRAINED CONCRETE.

- 4. CONCRETE TEMPERATURE SHALL BE TESTED HOURLY WHEN AIR TEMPERATURE IS 40 DEG F (4 DEG C) AND BELOW, WHEN 80 DEG F (27 DEG C) AND ABOVE, AND EACH TIME A SET OF COMPRESSION TEST SPECIMENS IS MADE.

- 5. ONE SET OF FOUR COMPRESSION TEST SPECIMENS CONFORMING TO ASTM C31 SHALL BE MOULDED AND STORED FOR LABORATORY-CURED SPECIMENS. EACH COMPRESSION TESTS SHALL CONFORM TO ASTM C39 AND SHALL CONSIST OF ONE SET FOR EACH DAY'S POUR EXCEEDING 5 CU. YDS. PLUS ADDITIONAL SETS FOR EACH 50 CU. YDS. MORE THAN THE FIRST 25 CU. YDS OF EACH CONCRETE CLASS PLACED IN ANY ONE DAY. ONE SPECIMEN SHALL BE TESTED AT 7 DAYS, TWO SPECIMENS SHALL BE TESTED AT 28 DAYS, AND ONE SPECIMEN SHALL BE RETAINED FOR LATER TESTING AS REQUIRED.

- 6. VERIFY CONCRETE IS BEING CONSOLIDATED IN ACCORDANCE WITH THE RECOMMENDATIONS OF ACI 318 AND ACI 309R, LATEST EDITION.

- 7. VERIFY THAT POST INSTALLED ANCHORS ARE AS SPECIFIED AND THAT ANCHORS ARE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS AND REQUIREMENTS.

REINFORCING STEEL INSTALLATION

- 1. DURING CAST-IN-PLACE CONCRETE STRUCTURAL MEMBER REINFORCING PLACEMENT OPERATIONS, KEEP A COMPETENT TRAINED TECHNICIAN ASSIGNED TO THE PROJECT. INSPECT REINFORCING UTILIZING ACI 311.4R "GUIDE FOR CONCRETE INSPECTION" AS A GUIDE. SERVICES PROVIDED SHALL INCLUDE:

- A. VERIFY TYPE AND GRADE OF ALL REINFORCING STEEL.
B. VERIFY REBAR IS FREE OF OIL, DIRT, EXCESSIVE RUST AND FROM DAMAGE IN SHIPMENT TO SITE.
C. VERIFY REINFORCING IS ADEQUATELY TIED, CHAIRED AND SUPPORTED TO PREVENT DISPLACEMENT DURING CONCRETE PLACEMENT.
D. VERIFY MINIMUM AND MAXIMUM CLEAR DISTANCES BETWEEN BARS AND MINIMUM STRUCTURAL DISTANCE TO OUTSIDE OF CONCRETE.
E. VERIFY QUANTITY, SIZE AND LOCATION OF REINFORCEMENT.
F. VERIFY MINIMUM CONCRETE COVER IS MAINTAINED BETWEEN REBAR AND SURFACE OF CONCRETE.
G. VERIFY SIZE AND PLACEMENT OF REBAR, VERIFY LAP LENGTHS, LOCATIONS AND STAGGERS AND VERIFY BENDS FOR MINIMUM DIAMETER, SLOPE AND LENGTH. VERIFY HOOKED BAR LENGTHS AND LOCATIONS.

STRUCTURAL STEEL TESTING

- 1. CERTIFY WELDERS FOR THE WELD TYPES IN THE PROJECT AND CONDUCT INSPECTIONS AND TESTS AS REQUIRED, AS A MINIMUM, WELDERS SHALL BE AISC CERTIFIED. RECORD TYPES AND LOCATIONS OF DEFECTS FOUND IN WORK. RECORD WORK REQUIRED AND PERFORMED TO CORRECT DEFICIENCIES.

- 2. VISUALLY INSPECT 100% OF ALL FILLET WELDS.

- 3. VISUALLY INSPECT 100% OF ALL FULL PENETRATION WELDS, TEST 20% OF ALL FULL PENETRATION WELDS BY ONE OF THE FOLLOWING METHODS: LIQUID PENETRANT INSPECTION (ASTM E165), MAGNETIC PARTICLE INSPECTION (ASTM E709; PERFORMED ON THE ROOF PASS AND ON THE FINISHED WELD; CRACKS AND ZONES OF INCOMPLETE FUSION OR PENETRATION IS NOT ACCEPTABLE), RADIOGRAPHIC INSPECTION (ASTM E84 AND ASTM E142; MINIMUM QUALITY LEVEL OF "2-21"), OR ULTRASONIC INSPECTION (ASTM E164). IF FAILURE RATE IS 20% OR GREATER, TEST 100% OF WELDS AT CONTRACTOR'S EXPENSE UNTIL FAILURE RATE FALLS BELOW 20%.

- 4. ALL WELDS THAT FAIL SHALL BE REWELDED AND RETESTED UNTIL THEY PASS THE TEST. TEST TWO ADDITIONAL WELDS AT THE CONTRACTOR'S EXPENSE FOR EVERY WELD FAILURE.

- 5. VISUALLY INSPECT WELDS ON 100% OF ALL STUDS AND TEST 10% BY THE METHOD DESCRIBED BELOW IN COMPLIANCE WITH AWS D1.1. HEADED STUD SHALL BE TESTED BY ALTERNATELY BENDING 90 DEG. IN OPPOSITE DIRECTIONS FROM ITS ORIGINAL AXIS BY EITHER STRIKING THE STUDS WITH A HAMMER ON THE UNWELDED END OR PLACING A PIPE OR OTHER SUITABLE HOLLOW DEVICE OVER THE STUD AND MANUALLY OR MECHANICALLY BENDING THE STUD. IF FAILURE RATE IS 10% OR GREATER, TEST 100% OF STUDS AT CONTRACTOR'S EXPENSE UNTIL FAILURE RATE FALLS BELOW 10%. IF A VISUAL INSPECTION REVEALS ANY STUD THAT DOES NOT SHOW A FULL 90 DEG. FLASH (AS DEFINED IN AWS D1.1) OR ANY STUD THAT HAS BEEN REPAIRED BY WELDING, SUCH STUD SHALL BE BENT TO AN ANGLE OF APPROXIMATELY 15 DEG. FROM ITS ORIGINAL AXIS. THE DIRECTION OF BENDING FOR STUDS WITH LESS THAN 360 DEG. FLASH SHALL BE OPPOSITE TO THE MISSING PORTION OF FLASH.

- 6. BOLTS SHALL BE VISUALLY INSPECTED WHEN TWIST-OFF SPLINES ARE USED, OTHERWISE BOLTS SHALL BE SNUG TIGHT.

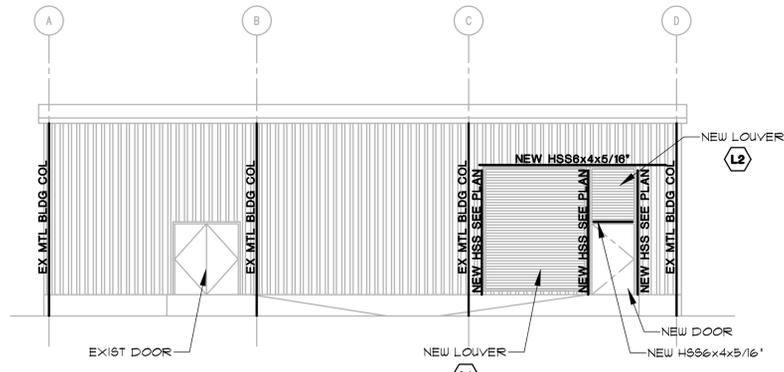
- 7. ALL FULL PENETRATION WELDS AT MOMENT CONNECTIONS REQUIRING TESTING SHALL BE TESTED AND CERTIFIED BY AN INDEPENDENT TESTING LABORATORY USING NON-DESTRUCTIVE TESTING METHODS. FOR SHOP WELDS, CERTIFICATION SHALL BE SUBMITTED PRIOR TO SHIPPING TO THE JOB SITE. FOR FIELD WELDS, CERTIFICATION SHALL BE SUBMITTED PRIOR FLOOR DECK INSTALLATION AND CONCRETE PLACEMENT AND PRIOR TO COVERING CONNECTIONS WITH FIREPROOFING OR ARCHITECTURAL FINISHES.

STRUCTURAL TESTING AND INSPECTIONS CONT'D

MASONRY TESTING

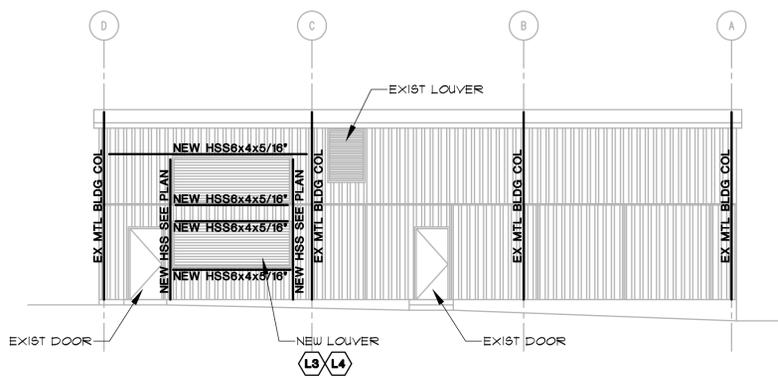
- 1. MASONRY TESTING SHALL CONSIST OF A QUALIFIED TESTING LABORATORY PROVIDING THE FOLLOWING SERVICES:

- A. VERIFY QUANTITY, SIZE AND SPACING OF REQUIRED REINFORCING SHOWN ON THE DRAWINGS.
B. OBSERVE THE INSTALLATION OF MASONRY UNITS.
C. INSPECTION OF GROUT SPACE, IMMEDIATELY PRIOR TO CLOSING OF CLEANOUTS AND PRIOR TO ALL GROUTING OPERATIONS. VERIFY THAT THE SPECIFIED CELLS HAVE BEEN FULLY GROUTED.
D. MONITOR THE PROPORTIONING, MIXING AND CONSISTENCY OF MORTAR AND AFTER THE STRUCTURAL ENGINEER'S TESTS ON EACH GROUT MIX IN ACCORDANCE WITH ASTM C1019. COMPRESSION TEST MASONRY PRISMS FOR EACH TYPE OF WALL CONSTRUCTION IN



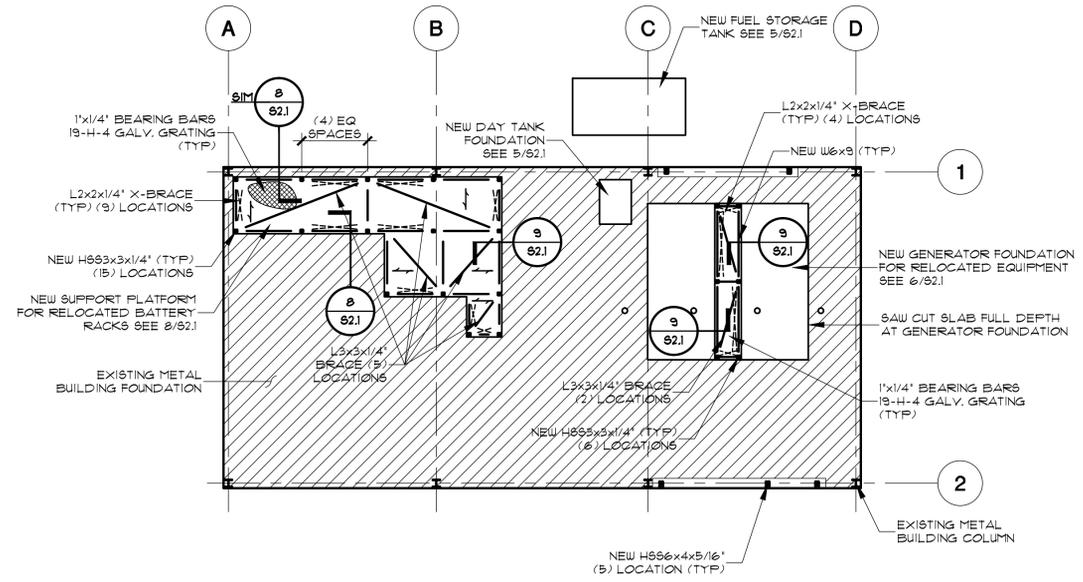
COORDINATE LOUVERS WITH MECHANICAL DRAWINGS AND SUPPLIER

2 EAST ELEVATION
SCALE: 3/4" = 1'-0"



COORDINATE LOUVERS WITH MECHANICAL DRAWINGS AND SUPPLIER

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



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

ISSUE LOG		
NO.	DATE	DESCRIPTION
	04.13.2012	BID AND PERMIT

CONSULTANT(S):
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 Texas Engineering
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PROJECT NAME:
 City of Houston
 Emergency Generator Relocation
 62 Riesner
 Houston, TX 77002



REVIEWED:
 PROGRAM MANAGER _____ SPONSORING DEPARTMENT _____
 PROJECT MANAGER _____
 DATE: 04/13/2012
 G.F.S. No: _____
 SCALE: AS NOTED
 DRAWN BY: JG
 CHECKED BY: HK

SHEET TITLE:
FOUNDATION PLAN & ELEVATIONS

SHEET NO.:
S1.1

MECHANICAL SYMBOLS

HVAC EQUIPMENT & DUCTWORK

NOTE: ALL DUCT DIMENSIONS SHOWN ON DRAWINGS ARE INSIDE DIMENSIONS. SEE SECTION 15250 OF THE SPECIFICATION FOR DUCTWORK TO RECEIVE INSULATION OR LINER.

	EXISTING DUCTWORK OR EQUIPMENT TO REMAIN
	EXISTING DUCTWORK OR EQUIPMENT TO BE REMOVED
	LINEAR SLOT DIFFUSER
	INSULATED FLEXIBLE DUCT (MAX. 5'-0" LONG)
	BRANCH DUCT WITH 45° RECTANGLE-ROUND BRANCH FITTING AND MANUAL VOLUME DAMPER
	ELBOW WITH TURNING VANES
	BRANCH DUCT WITH BELL-MOUTH FITTING & MANUAL VOLUME CONTROL DAMPER
	RETURN, EXHAUST, OR OUTSIDE AIR DUCT UP
	RETURN, EXHAUST, OR OUTSIDE AIR DUCT DOWN
	SUPPLY AIR DUCT UP
	SUPPLY AIR DUCT DOWN
	EQUIPMENT WITH FLEXIBLE DUCT CONNECTION
	10" CS-D-1 300 CFM NECK SIZE, TYPE, CFM OF SUPPLY DIFFUSER OR REGISTER
	24x24 CEG-1 800 CFM SIZE, TYPE, CFM OF EXHAUST GRILLE
	MANUAL VOLUME DAMPER
	SQUARE TO ROUND TRANSITION
	DUCT MOUNTED SMOKE DETECTOR (SD-SUPPLY/RD-RETURN)
	Ⓡ RISER DESIGNATION
	Ⓣ FIRE DAMPER
	ⓉⓈ FIRE SMOKE DAMPER
	Ⓢ SMOKE DAMPER
	ⓈⓈ VOLUME DAMPER
	ⓈⓈⓈ MOTORIZED DAMPER
	ⓈⓈⓈⓈ BACKDRAFT DAMPER
	ⓈⓈⓈⓈⓈ HUMIDISTAT
	ⓈⓈⓈⓈⓈⓈ THERMOSTAT

STANDARD MOUNTING HEIGHTS

MECHANICAL	(AFF. AFG, UNLESS NOTED OTHERWISE)
THERMOSTATS (USER ADJUSTABLE)(TOP OF DEVICE)	48"
CONTROLS (TOP OF DEVICE)	48"
PLUMBING	REFER TO THE ARCHITECTURAL DRAWINGS FOR PLUMBING FIXTURE MOUNTING HEIGHTS. UNO, INSTALL PLUMBING FIXTURES WITH THE MOUNTING HEIGHTS AS LISTED BELOW WITH FINAL APPROVAL BY THE ARCHITECT.
LAVATORY OR SINK	
STANDARD HEIGHT	34" FLOOR TO RIM
ADA ACCESSIBLE	31" FLOOR TO RIM
CHILD HEIGHT	24" FLOOR TO RIM
URINAL	
STANDARD HEIGHT	24" FLOOR TO RIM
ADA ACCESSIBLE	17" FLOOR TO RIM
CHILD HEIGHT	14" FLOOR TO RIM
WATER CLOSET	
STANDARD HEIGHT	15" FLOOR TO RIM
ADA ACCESSIBLE	17" TO 19" FLOOR TO TOP OF SEAT
CHILD HEIGHT	24" FLOOR TO RIM
WATER COOLER OR DRINKING FOUNTAIN	
STANDARD HEIGHT	41" FLOOR TO SPOUT
ADA ACCESSIBLE	36" FLOOR TO SPOUT
CHILD HEIGHT	30" FLOOR TO SPOUT
SHOWER VALVES	
STANDARD HEIGHT	48" MEN & 42" WOMEN
ADA ACCESSIBLE	FLOOR TO CENTERLINE
CHILD HEIGHT	38" MINIMUM TO 48" MAXIMUM
SHOWER VALVES	
STANDARD HEIGHT	48" MEN & 42" WOMEN
ADA ACCESSIBLE	FLOOR TO CENTERLINE
CHILD HEIGHT	6'-6" MEN & 6'-0" WOMEN
TUB VALVES	
STANDARD HEIGHT	32" FLOOR TO CENTERLINE
ADA ACCESSIBLE	CENTER BETWEEN GRAB BAR AND TUB RIM
CLINIC SERVICE SINKS	
SURGEON'S SCRUB-UP SINKS	35" FLOOR TO FRONT RIM
ICE MAKER OUTLET BOXES	24" FLOOR TO CENTER OF BOX
WASHING MACHINE OUTLET BOXES	42" FLOOR TO RIM
JANITOR'S SINK FAUCET FITTINGS	42" FLOOR TO CENTERLINE
HOSE BIBBS	36" AFF TO CENTERLINE
NON FREEZE HYDRANT	18" AFG TO CENTERLINE

PIPING

—	DOMESTIC COLD WATER
—SCW	SOFTENED COLD WATER (SCW)
—	DOMESTIC HOT WATER
—	DOMESTIC HOT WATER RECIRC.
—140"	140" DOMESTIC HOT WATER (140")
T	TRAP PRIMER LINE (T)
S	SOIL PIPING - ABOVE FLOOR (S)
S	SOIL PIPING - BELOW FLOOR (S)
W	WASTE PIPING - ABOVE FLOOR (W)
W	WASTE PIPING - BELOW FLOOR (W)
GW	GREASE WASTE - ABOVE FLOOR (GW)
GW	GREASE WASTE - BELOW FLOOR (GW)
ST	STORM DRAIN - ABOVE FLOOR (ST)
ST	STORM DRAIN - BELOW FLOOR (ST)
OST	OVERFLOW STORM DRAIN - ABOVE FLOOR (OST)
AW	ACID WASTE - ABOVE FLOOR (AW)
AW	ACID WASTE - BELOW FLOOR (AW)
AV	ACID VENT (AV)
V	VENT PIPING (V)
VBG	VENT BELOW GRADE (VBG)
VBF	VENT BELOW FLOOR (VBF)
ID	INDIRECT DRAIN (ID)
CDH	CONDENSATE DRAIN - HIGH EFFICIENCY RTU (CDH)
CD	CONDENSATE DRAIN (CD)
ACD	AUXILIARY CONDENSATE DRAIN (ACD)
SPD	SUMP OR SEWAGE PUMP DISCHARGE (SPD)
CA	COMPRESSED AIR (CA)
G	NATURAL GAS (G)
G	NATURAL GAS ON ROOF (G)
MPG	MEDIUM PRESSURE NATURAL GAS (MPG)
MPG	MEDIUM PRESSURE NATURAL GAS ON ROOF (MPG)
FOS	FUEL OIL SUPPLY (FOS)
FOR	FUEL OIL RETURN (FOR)
FOV	FUEL OIL VENT (FOV)
AI	MEDICAL AIR INTAKE (AI)
MA	MEDICAL AIR (MA)
MV	MEDICAL VACUUM (MV)
VE	MEDICAL VACUUM EXHAUST (VE)
EV	EVAUATION (EV)
CO	CARBON DIOXIDE (CO)
N	NITROGEN (N)
O	OXYGEN (O)
NO	NITROUS OXIDE (NO)
NPW	NON POTABLE WATER (NPW)
LPG	LIQUIFIED PETROLEUM GAS (LPG)
WS	WATER SERVICE (WS)
FP	FIRE PROTECTION (FP)
HPS	HIGH PRESSURE STEAM SUPPLY (HPS)
HPC	HIGH PRESSURE STEAM CONDENSATE (HPC)
MPS	MEDIUM PRESSURE STEAM SUPPLY (MPS)
MPC	MEDIUM PRESSURE STEAM CONDENSATE (MPC)
LPS	LOW PRESSURE STEAM SUPPLY (LPS)
LPC	LOW PRESSURE STEAM CONDENSATE (LPC)
PD	CONDENSATE PUMP DISCHARGE (PD)
HWS	HEATING HOT WATER SUPPLY (HWS)
HWR	HEATING HOT WATER RETURN (HWR)
CWS	CHILLED WATER SUPPLY (CWS)
CWR	CHILLED WATER RETURN (CWR)
HCS	HOT/CHILLED WATER SUPPLY (HCS)
HCR	HOT/CHILLED WATER RETURN (HCR)
	DIRECTION OF FLOW
CS	CONDENSER WATER SUPPLY (CS)
CR	CONDENSER WATER RETURN (CR)
HS	HEAT PUMP SUPPLY (HS)
HR	HEAT PUMP RETURN (HR)
RL	REFRIGERANT LIQUID (RL)
RD	REFRIGERANT DISCHARGE (HOT GAS) (RD)
RS	REFRIGERANT SUCTION (RS)
RDB	REFRIGERANT DISCHARGE BYPASS (RDB)
RV	REFRIGERANT VENT (RV)
	EXISTING PIPING TO BE REMOVED
	EXISTING PIPING TO REMAIN

ANNOTATION

	MECHANICAL OR FIRE PROTECTION PLAN CALLOUT
	PLUMBING PLAN NOTE CALLOUT
	TECHNOLOGY PLAN CALLOUT
	PLUMBING EQUIPMENT DESIGNATION. (CONTRACTOR FURNISHED AND INSTALLED). REFER TO PLUMBING FIXTURE OR EQUIPMENT SCHEDULES
	EQUIPMENT DESIGNATION (OWNER FURNISHED, CONTRACTOR INSTALLED)
	MECHANICAL EQUIPMENT DESIGNATION (CONTRACTOR FURNISHED AND INSTALLED UNLESS NOTED OTHERWISE)
	CONNECTION POINT OF NEW WORK TO EXISTING
	DETAIL REFERENCE UPPER NUMBER INDICATES DETAIL NUMBER LOWER NUMBER INDICATES SHEET NUMBER
	SECTION CUT DESIGNATION

FIRE SPRINKLERS

	UPRIGHT SPRINKLER
	PENDENT SPRINKLER
	CONCEALED SPRINKLER
	DRY PENDENT SPRINKLER
	DRY SIDEWALL SPRINKLER
	SIDEWALL SPRINKLER

ABBREVIATIONS

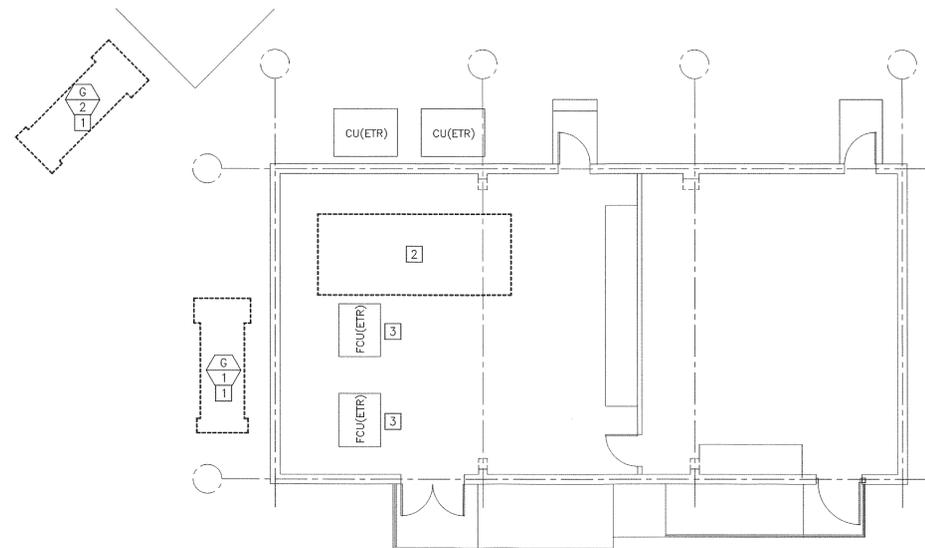
NOTE: THIS IS A MASTER LEGEND AND NOT ALL SYMBOLS, ABBREVIATIONS, ETC. ARE NECESSARILY USED ON THE DRAWINGS.

	SQUARE FLOOR DRAIN (FS), SIZE & TYPE
	ROUND FLOOR DRAIN (FD), SIZE & TYPE
	ROOF DRAIN (RD), SIZE & TYPE
	OXYGEN OUTLET
	NITROUS OXIDE OUTLET
	MEDICAL AIR OUTLET
	NITROGEN OUTLET
	MEDICAL VACUUM INLET
	BALL VALVE
	CONTROL VALVE
	THREE-WAY CONTROL VALVE
	SHUTOFF VALVE
	CHECK VALVE
	BALANCING VALVE WITH PRESSURE PORTS
	TRIPLE DUTY VALVE WITH PRESSURE PORTS
	WATER METER
	STRAINER
	STRAINER WITH BLOWOFF
	RELIEF/SAFETY VALVE
	SOLENOID VALVE
	PRESSURE REDUCING VALVE
	GAS PRESSURE REGULATOR
	THERMOSTATIC MIXING VALVE
	PIPE ANCHOR
	EXPANSION JOINT
	PIPE GUIDE
	PIPING SUPPORT
	F & T TRAP
	BUCKET TRAP
	THERMOSTATIC TRAP
	BACKFLOW PREVENTER
	PRESSURE GAUGE
	THERMOMETER
	PRESSURE AND TEMPERATURE TEST PLUG
	UNION
	FLANGE CONNECTION
	HOSE BIBB (HB)
	NONFREEZE WALL HYDRANT (NW)
	VACUUM RELIEF VALVE
	AUTOMATIC AIR VENT
	MANUAL AIR VENT
	CLEANOUT
	CAP
	WALL CLEANOUT (WCO)
	FLOOR CLEANOUT (FCO)
	EXTERIOR CLEANOUT (ECO)
	ELBOW UP
	ELBOW DOWN
	TEE UP
	TEE DOWN
	ELBOW UP WITH SHUT-OFF VALVE (SOV)
	ELBOW DOWN WITH SHUT-OFF VALVE (SOV)
	TEE UP WITH SHUT-OFF VALVE (SOV)
	TEE DOWN WITH SHUT-OFF VALVE (SOV)
	REDUCER
	WATER HAMMER ARRESTER (WHA) WITH PDI SIZES, (A, B, C, D, & E)
	RECIRCULATION PUMP
	P-TRAP
	GAS COCK
	TRAP PRIMER
	TRAP PRIMER WITH DISTRIBUTION UNIT
	FIRE DEPARTMENT CONNECTION
	FIRE PUMP TEST HEADER
	DUCTILE IRON
	DN DOWN
	DPOT DOUBLE-POLE
	DOUBLE-THROW TRANSFORMER
	DIFFERENTIAL PRESSURE INDICATOR
	DOUBLE-POLE, SINGLE-THROW SWITCH
	DOWNSPOUT
	DS DIRECT SILENCER
	DX DUCT EXPANSION
	(WC-1) TANK TYPE WATER CLOSET & TYPE
	(WC-1) WALL MOUNTED FLUSH VALVE WATER CLOSET & TYPE
	(WC-1) FLOOR MOUNTED FLUSH VALVE WATER CLOSET & TYPE
	(UR-1) URINAL & TYPE
	(LAV-1) WALL MOUNTED LAVATORY & TYPE
	(LAV-1) COUNTER TOP LAVATORY & TYPE
	(S-1) SINK & TYPE
	(B-1) BATHTUB & TYPE
	(SH-1) SHOWER & TYPE
	(DF-1) DRINKING FOUNTAIN & TYPE
	(JS-1) JANITORS SINK & TYPE
	(SH-1) SHOWER HEADS & TYPE
	(SH-1) SHOWER ENCLOSURE & TYPE

ABBREVIATIONS

(ALL ABBREVIATIONS SHOWN ARE NOT NECESSARILY USED ON THE DRAWINGS.)

A	AMPERES	FL	FLOOR LINE	PLD	PLUMBING DRAINAGE
A/C	AIR (COMPRESSED)	FLA	FULL LOAD AMPS	PLD	INSTITUTE
ACC	AIR COOLED CHILLER	FLR	FLOOR	PD	POWER DISTRIBUTION UNIT
ACCU	AIR COOLED CONDENSING UNIT	FLR	FLOOR	PH	PHASE
ADA	AMERICANS WITH DISABILITIES ACT	FNR	FURNACE	PH	PHASE
AF	AMPERE FUSE	FNR	FURNACE	PV	POST INDICATOR VALVE
AFD	ABOVE FINISHED CEILING	FNR	FURNACE	PV	PANEL
AFCI	ARC FAULT CIRCUIT INTERRUPTER	GE	GENERAL CONTRACTOR	PNLBD	PANELBOARD
AG	ABOVE FINISHED GRADE	GE	GROUNDING EQUALIZER	POE	POWER OVER ETHERNET
AHU	AIR HANDLING UNIT	GFCI	GROUND FAULT CIRCUIT INTERRUPTER	POTS	STANDARD ANALOG TELEPHONE LINE
AI	ANALOG INPUT	GFR	GROUND FAULT RELAY	PTS	PLAIN OLD TELEPHONE SERVICE
AIC	AMPERE INTERRUPTING CURRENT	GR	GROUND	PRV	PRESSURE REDUCING VALVE
AL	ALUMINUM	GND	GROUND	PSN	PUBLIC SWITCHED TELEPHONE NETWORK
AO	ANALOG OUTPUT	GRM	GALLONS PER MINUTE	PT	POTENTIAL TRANSFORMER
AP	ACCESS PANEL	GRS	GALVANIZED RIGID STEEL GYPSUM BOARD	PTP	PAN, TLT, ZOOM
AP	ACCESS POINT	GYP	GYP	PVC	POLYVINYL CHLORIDE
ATL	ACROSS-THE-LINE UNIT	H	HORIZONTAL	QTY	QUANTITY
ATS	AUTOMATIC TRANSFER SWITCH	IC	INTERMEDIATE	R	RETURN AIR
AV	AUDIO VISUAL	IC	CROSS-CONNECT	RA	RETURN AIR
AWG	AMERICAN WIRE GAUGE	IE	ISOLATED ELEVATION	RC	ROOM CRIBERIA
B	BOILER	IG	ISOLATED GROUND	RCF	REINFORCED CONCRETE PIPE
BAS	BUILDING AUTOMATION SYSTEM	IMC	INTERMEDIATE METAL CONDUIT	RCPT	RECEPTACLE
BD	BACKDRAFT DAMPER	IN WC	INCHES OF WATER COLUMN	RD	ROOF DRAIN
BD	BLOWDOWN	IP	INTERNET PROTOCOL	RD	RETURN DUCT
BD	BUILDING DISTRIBUTOR	ISC	SHORT CIRCUIT CURRENT	RF	REVISION
BDF	BUILDING DISTRIBUTION FRAME	ISDN	INTEGRATED SERVICES DIGITAL NETWORK	RFV	RETURN FAN
BFF	BELOW FINISHED FLOOR	ISP	INTERNET SERVICE PROVIDER	RH	RELATIVE HUMIDITY
BFG	BELOW FINISHED GRADE	ISP	INSIDE PLANT CABLE	RH	RECEPTACLE
BFP	BOILER FEED PUMP	J	JUNCTION	RH	RECEPTACLE
BI	BINARY INPUT	J-BOX	JUNCTION BOX	RLA	RUNNING LOAD AMPS
BKR	BREAKER	J-BOX	JUNCTION BOX	RMC	RIGID METAL CONDUIT
BO	BINARY OUTPUT	KB	1000 CIRCULAR MILS	RP	REVOLUTIONS PER MINUTE
BOD	BOTTOM OF DUCT	K	KIRK KEY	RTU	ROOFTOP UNIT
BOP	BOTTOM OF PIPE	K	KILOVOLT	RU	RACK UNIT
BOS	BOTTOM OF STRUCTURE	KV	KILOVOLT-AMPS	S	SUPPLY AIR
BTU	BRITISH THERMAL UNIT	KVA	KILOVOLT-AMPS	SA	SA
C	CONDUIT	KVAR	KILOVOLT-AMPS REACTIVE	SATV	SYNCHRONOUS OPTICAL NETWORK
CAT	CATEGORY	KW	KILOWATT	SD	SMOKE DUCT DETECTOR
CATV	CABLE TELEVISION SYSTEM	KWH	KILOWATT-HOUR	SD	SUPPLY DUCT
CD	CARD	L	LOUVER	SEER	SEASONAL ENERGY EFFICIENCY RATIO
CD	CAMPUS DISTRIBUTOR	LAN	LOCAL AREA NETWORK	SF	SQUARE FEET
CT	CURRENT TRANSFORMER	LAT	LEAVING AIR TEMPERATURE	SF	SUPPLY FAN
CCTV	CLOSED CIRCUIT TELEVISION CHILLER	LCC	LIMITED COMBUSTIBLE CABLE	SPDT	SINGLE-POLE, DOUBLE-THROW
CH	CHILLER	LDB	LEAVING DRY BULB	SPST	SINGLE-POLE, SINGLE-THROW
CFM	CUBIC FEET PER MINUTE	LEC	LOCAL EXCHANGE CARRIER	SP	STATIC PRESSURE
CKT	CIRCUIT	LED	LIGHT-EMITTING DIODE	SS	SUMP PUMP
CMR	COMMUNICATIONS RISER	LF	LINEAR FEET	SS	STAINLESS STEEL
CABLE	COMMUNICATIONS RISER	LP	LOW PRESSURE	SS	SANITARY SEWER
CABLE	COMMUNICATIONS RISER	LRA	LOCKED ROTOR AMPS	SS	SOIL STACK
CP	CONDENSATE PUMP	LWB	LEAVING WET BULB	ST	SHUNT TRIP
CPT	CONTROL POWER	LWT	LEAVING WATER TEMPERATURE	STC	SOUND TRANSMISSION CLASS
CPVC	CHLORINATED POLYVINYL CHLORIDE	M	MULTIMODE	STM	STEAM
CRAC	COMPUTER ROOM AIR CONDITIONING UNIT	M-M	METROPOLITAN AREA NETWORK	SWBD	SWITCHBOARD
CRU	COMPUTER ROOM UNIT	M			

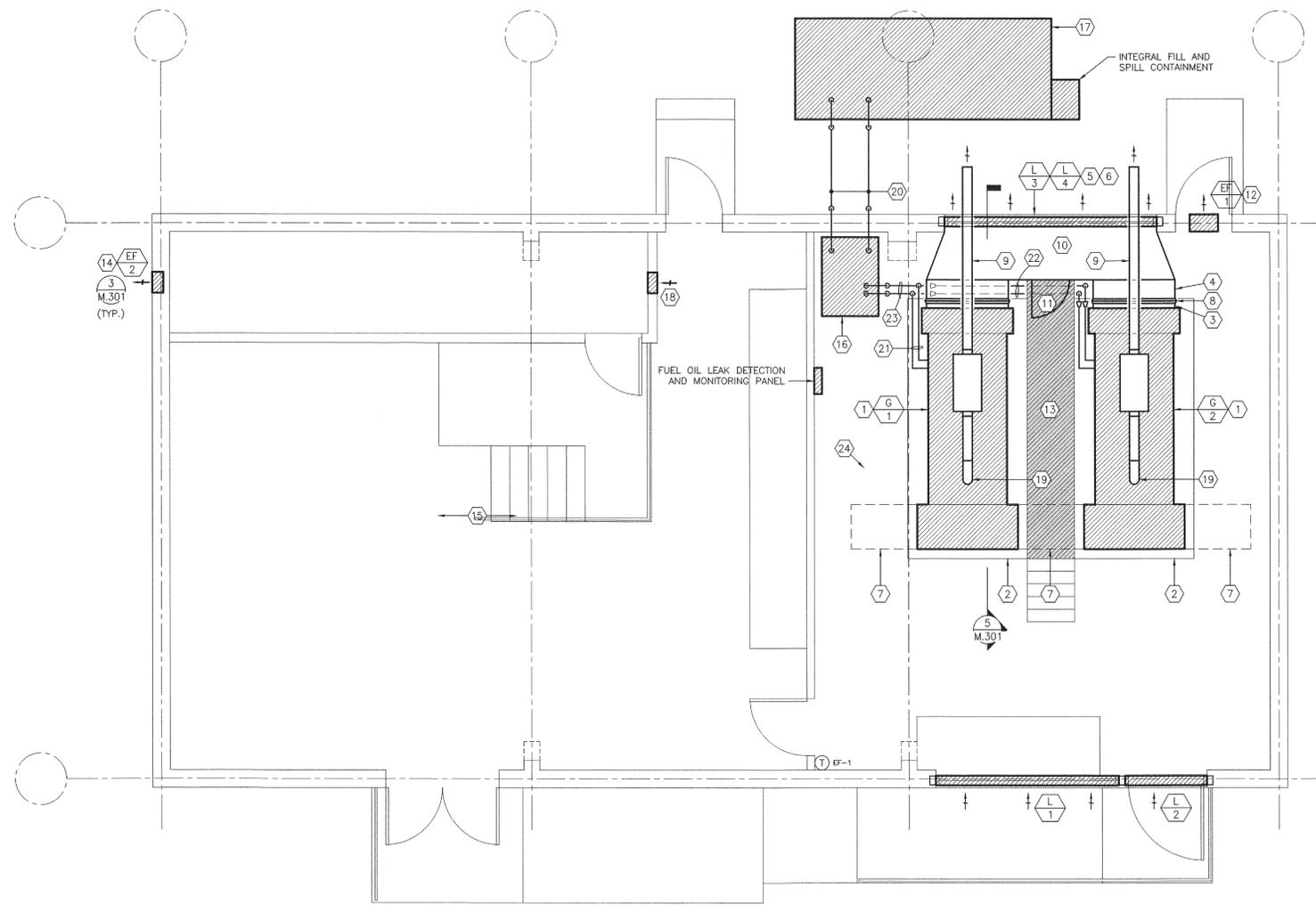


MECHANICAL PLAN NOTES:

- 1 DISASSEMBLE WEATHER ENCLOSURE, DRAIN ALL FUEL FROM BLADDER TANK, AND BORE LARGE HOLES IN TANK TO PREVENT FUTURE STORAGE OF FUEL INSIDE BUILDING. RELOCATE GENERATOR TO LOCATION SHOWN IN 2/M.101.
- 2 REMOVE ABANDONED RTU AND PATCH ROOF. RE: ARCH.
- 3 EXISTING FCU TO REMAIN. RELOCATE AND EXTEND REFRIGERANT PIPING AS NECESSARY TO ACCOMMODATE NEW BATTERY ENCLOSURE.

CONTRACTOR TO COORDINATE SPECIFIC PHASING OF INSTALLATION TO PROVIDE AS LITTLE DOWNTIME AS POSSIBLE. PERFORM AS MUCH FRONT END INSTALLATION WORK AS POSSIBLE, THEN HAVE TEMPORARY GENERATOR PROVIDED BY GSD DELIVERED AND GET FULLY OPERATIONAL. DECOMMISSION FIRST GENERATOR AND RELOCATE PER PLANS. WITH TEMPORARY GENERATOR STILL IN OPERATION, DECOMMISSION SECOND GENERATOR AND RELOCATE. DISCONNECT AND RETURN TEMPORARY GENERATOR ONCE ALL FUNCTIONAL TESTING HAS BEEN PERFORMED ON PERMANENT INSTALLATION OF GENERATORS AND ALL APPURTENANCES.

1 MECHANICAL DEMOLITION PLAN
1/8"=1'-0"



2 MECHANICAL FLOOR PLAN
SCALE: 1/4"=1'-0"

MECHANICAL PLAN NOTES:

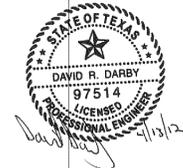
- 1 RELOCATE GENERATOR TO LOCATION SHOWN. BOTTOM OF GENERATOR TO BE 3'-6" AFF. RE: STRUCTURAL FOR SUPPORT AND ANCHORING DETAILS.
- 2 PROVIDE CONCRETE EQUIPMENT BASE 6" LARGER THAN GENERATOR FOOTPRINT. RE: STRUCTURAL FOR PAD DETAILS.
- 3 PROVIDE 3 INCH LONG DUCT TO MATCH HEAT EXCHANGER DISCHARGE DIMENSION (APPROXIMATELY 52x52). PROVIDE WITH FLANGE FOR CONNECTION TO HEAT EXCHANGER. TYPICAL FOR BOTH GENERATORS.
- 4 GALVANIZED DUCT TO DISCHARGE PLENUM. APPROXIMATE SIZE IS 52x46. TYPICAL FOR BOTH GENERATORS.
- 5 DISCHARGE LOUVER AND BIRD SCREEN. BOTTOM OF L-3 AT 3'-0" AFF. BOTTOM OF L-4 AT 9'-2" AFF.
- 6 MAINTAIN 25 FEET SEPARATION BETWEEN DISCHARGE AND NEAREST OUTSIDE AIR INTAKE. REPORT ANY DISCREPANCY TO ENGINEER.
- 7 MAINTAIN 42 INCHES CLEAR (PER NEC).
- 8 PROVIDE FLEXIBLE CONNECTION RATED FOR 250° F. TYPICAL FOR BOTH GENERATORS.
- 9 BLACK-IRON EXHAUST PIPE THROUGH WALL. PROVIDE INSULATION ON EXHAUST PIPE AND PROVIDE DRAIN AT LOW POINT. SUPPORT EXHAUST PIPE FROM STRUCTURE ABOVE. BOP=13'-10". RE: 4/M.302.
- 10 PROVIDE HIGH TEMPERATURE GALVANIZED SHEET METAL PLENUM ENCOMPASSING BOTH DISCHARGE LOUVERS AND SEAL AIRTIGHT. SLOPE BOTTOM OF PLENUM DOWN TOWARDS BOTTOM OF LOWER LOUVER. PROVIDE SHEET METAL CAP FOR INTERMEDIATE SECTION OF WALL ON INTERIOR OF PLENUM.
- 11 PROVIDE 30" HINGED ACCESS DOOR IN PLENUM WITH DOUBLE LATCH CLOSURE ASSEMBLY.
- 12 MOUNT BOTTOM OF SIDEWALL PROPELLER FAN AT 13'-6" AFF. FAN TO BE ENERGIZED UPON SPACE TEMPERATURE REACHING 95 DEGREES. PROVIDE CONTROL RELAY TO DISABLE FAN UPON EITHER GENERATOR'S START SEQUENCE BEING ENABLED.
- 13 SUPPORT STEEL SERVICE PLATFORM FROM GENERATOR STRUCTURE. PROVIDE STAIRS AND HANDRAILS PER CODE. RE: STRUCTURAL AND ARCHITECTURAL PLANS FOR DETAILS.
- 14 MOUNT BOTTOM OF SIDEWALL PROPELLER FAN AT 14'-4" AFF. FAN TO RUN CONTINUOUSLY. PROVIDE AUDIBLE AND VISUAL ALARM UPON FAN FAILURE.
- 15 EXISTING HVAC UNITS TO REMAIN IN OPERATION IN UPS ROOM. ENSURE ALL UNITS ARE OPERATING CORRECTLY AND CLEAN OF ANY CONSTRUCTION DEBRIS.
- 16 PROVIDE 200 GALLON DAY TANK WITH DUPLEX PUMPS AND ASSOCIATED ACCESSORIES. TOTAL PUMPING CAPACITY REQUIRED IS 10 GPM AT FULL LOAD. PROVIDE A 7 GPM PRIMARY PUMP AND A 4 GPM SECONDARY PUMP, BOTH WITH HIGH LIFT GEAR AND 480/3 PHASE MOTOR. COORDINATE HP REQUIREMENTS WITH ELEC PRIOR TO INSTALLATION. BASIS OF DESIGN: E&CA MODEL DT200ULD, OR EQUIVALENT MEETING ALL AHJ REQUIREMENTS. ANCHOR TO HOUSEKEEPING PAD WITH UPLIFT PROTECTION. RE: STRUCTURAL FOR PAD AND DETAILS. RE: 5/M.302 FOR ALL ACCESSORIES AND PIPING SCHEMATIC.
- 17 PROVIDE 2,000 GALLON UL-2085 RATED DIESEL STORAGE TANK WITH ALL ACCESSORIES SPECIFIED. BASIS OF DESIGN IS GENERAL INDUSTRIES, 2,000 GALLON THERMALLY INSULATED RECTANGULAR (FIREGUARD) STORAGE TANK. ANCHOR TO HOUSEKEEPING PAD WITH UPLIFT PROTECTION. RE: STRUCTURAL. MAINTAIN MINIMUM 25' SEPARATION FROM ADJACENT MULTI-STORY BUILDING AND 5' MINIMUM FROM SINGLE STORY STRUCTURES MADE OF NON-COMBUSTIBLE MATERIALS. RE: 1 & 2 M.302 FOR ALL ACCESSORIES AND PIPING SCHEMATIC.
- 18 PROVIDE 12x12 FIRE DAMPER 1'-0" AFF OF BATTERY ROOM. RE: 4/M.301.
- 19 RECONNECT EXHAUST MANIFOLD AND DUAL FLEXIBLE CONNECTOR TO GEN SET.
- 20 2" TRANSFER SUPPLY AND RETURN PIPE FROM STORAGE TANK TO DAY TANK. SLOPE PIPE DOWN TOWARDS STORAGE TANK. PROVIDE TRANSITIONS TO TANK CONNECTIONS AS REQUIRED. RE: SHEET M.302 FOR SCHEMATICS AND ACCESSORIES. RE: 3/M.302 FOR SUPPORT DETAIL.
- 21 ROUTE 3/4" FUEL OIL SUPPLY AND RETURN LINES ABOVE GENERATOR STRUCTURE. TYPICAL BOTH GENERATORS. RE: SHEET M.302 FOR SCHEMATICS AND ACCESSORIES.
- 22 ROUTE 1" FUEL OIL SUPPLY AND RETURN LINES BENEATH RADIATOR DISCHARGE PLENUMS.
- 23 1-1/4" FUEL OIL SUPPLY AND RETURN AIR LINES.
- 24 REMOVE FLOOR DRAIN BODY AND CAP PIPE WITH LIQUID TYPE CONSTRUCTION. PATCH SLAB TO LEAVE SMOOTH AND LEVEL SURFACE. TYPICAL ALL EXISTING FLOOR DRAINS IN GENERATOR ROOM.

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SEAL(S):



PROJECT NAME:
City of Houston
Emergency Generator Relocation
62 Riesner
Houston, TX 77002



CITY OF HOUSTON
GENERAL SERVICES
DEPARTMENT

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PROJECT MANAGER _____

DATE: _____

G.F.S. No.: _____

SCALE: NONE

DRAWN BY: RS

CHECKED BY: DD

SHEET TITLE:

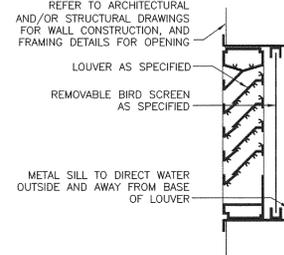
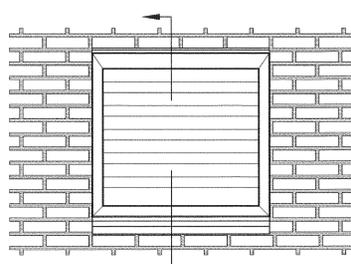
**MECHANICAL FLOOR
PLANS**

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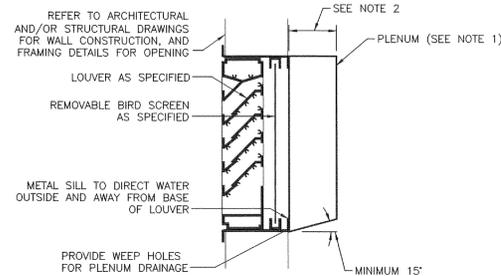
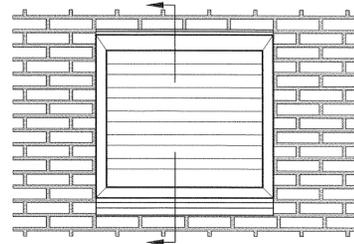
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CITY DWG. NO.:

CAD FILE:



**1 INTAKE LOUVER
INSTALLATION DETAIL
NO SCALE**



**2 EXHAUST LOUVER
INSTALLATION DETAIL
NO SCALE**

FAN SCHEDULE

MARK	SERVICE (EA, RA, SA)	MANUFACTURER	MOUNTING	MODEL	CFM	ESP (IN)	DRIVE (BELT/DIRECT)	MIN. HP	FAN RPM	VFD (Y/N)	ELECTRICAL			NOTES
											V/PH	DISC. TYPE	STARTER TYPE	
EF-1	EA	GREENHECK	SIWALL	SE1-12-432-D	700	0.4	DIRECT	1/7	1,550	N	115/60	NF	ATL	A, B
EF-2	EA	GREENHECK	SIWALL	SE1-8-440-G	150	0.2	DIRECT	1/50	1,350	N	115/60	NF	ATL	A

MODEL NUMBERS SHALL NOT BE CONSIDERED COMPLETE AND MATERIAL SHALL NOT BE ORDERED BY MANUFACTURER AND MODEL NUMBERS ONLY. REVIEW THE COMPLETE DESCRIPTION, NOTES AND SPECIFICATIONS TO DETERMINE THE EXACT MATERIAL AND ACCESSORIES TO BE ORDERED. THE MANUFACTURERS LISTED ARE THE BASIS FOR THE DESIGN.

NOTES:

- A. DIVISION 16 CONTRACTOR TO FURNISH DISCONNECT SWITCH.
- B. PROVIDE MANUFACTURERS ROOM MOUNTED ADJUSTABLE DIAL THERMOSTAT.

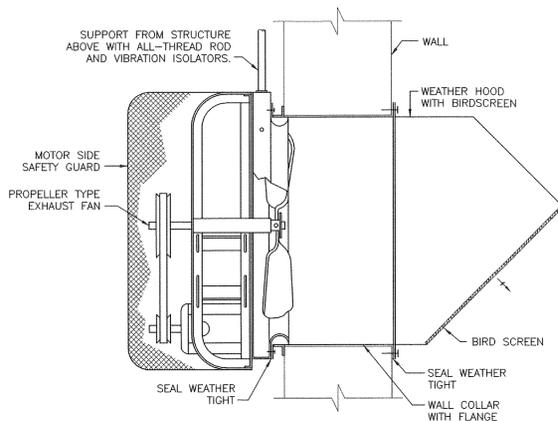
LOUVER SCHEDULE

MARK	SERVICE	MANUFACTURER	MODEL	SIZE (W" x H")	CFM	MIN. FREE AREA (SF)	MAX. VEL. (FPM)	MAX. P.D. (IN. W.C.)	NOTES
L-1	INTAKE	GREENHECK	EHH-601	116" x 154"	50,980	64.6	850	0.15	A - C
L-2	INTAKE	GREENHECK	EHH-601	52" x 66"	9,700	11.6	850	0.15	A - C
L-3	EXHAUST	GREENHECK	FSJ-602	134" x 52"	32,980	22.6	1,380	0.3	A - C
L-4	EXHAUST	GREENHECK	FSJ-602	134" x 46"	27,700	19.3	1,380	0.3	A - C

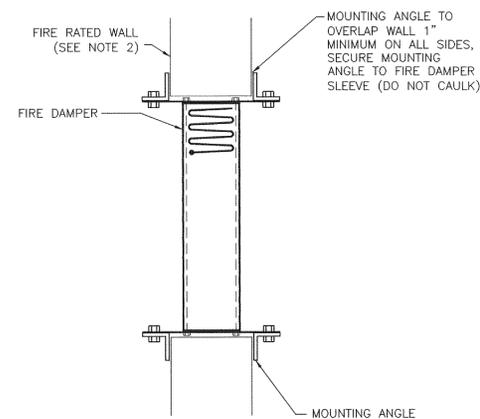
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NOTES:

- A. PROVIDE 1/2" ALUMINUM BIRD SCREEN.
- B. PROVIDE ANODIZED FINISH. COLOR AS SELECTED BY ARCHITECT.
- C. FRAME TYPE SHALL MATCH WALL CONSTRUCTION, COORDINATE WITH ARCHITECT.

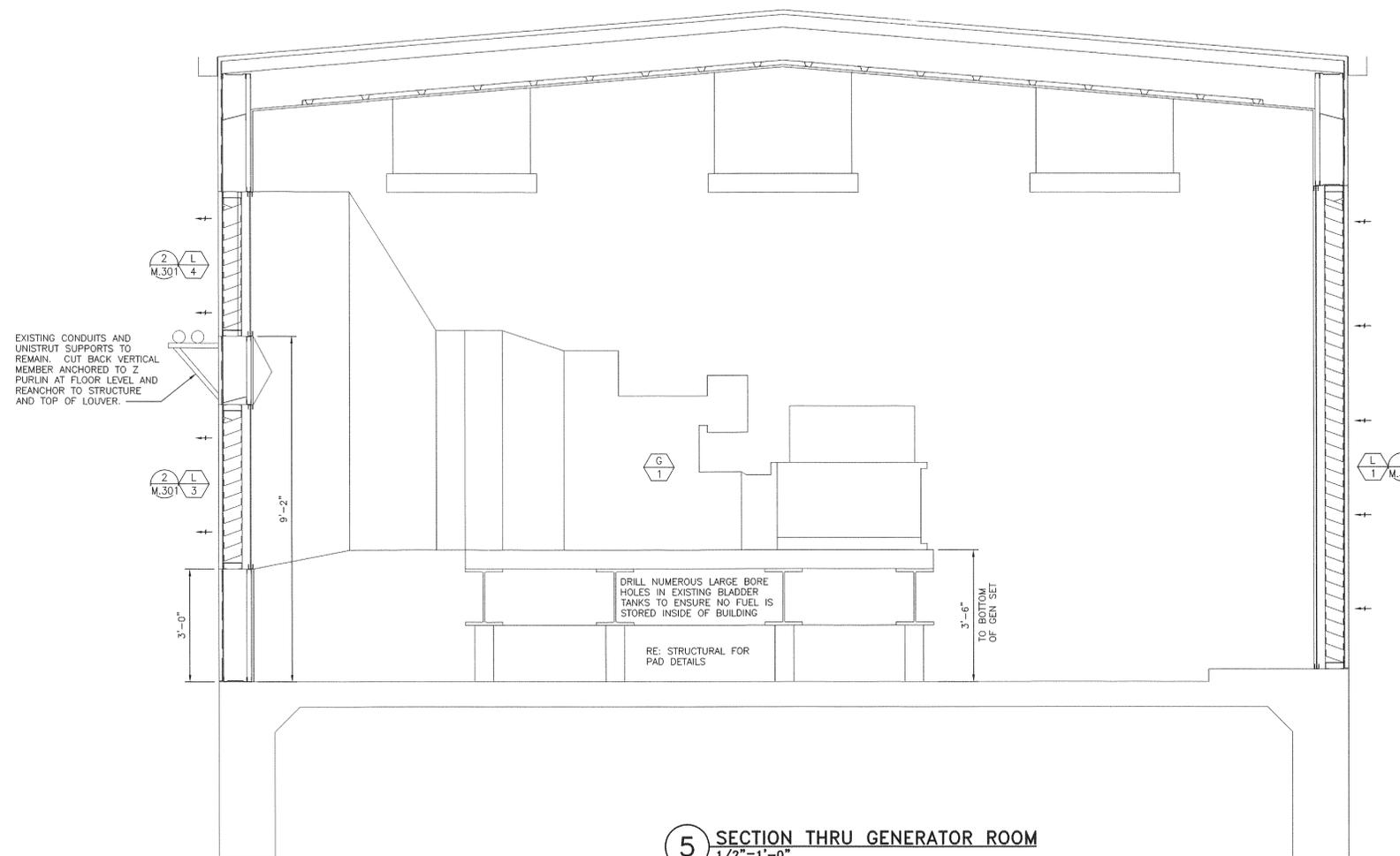


**3 SIDE WALL PROPELLER EXHAUST FAN
WITH WEATHER PROOF HOOD DETAIL
NO SCALE**



- NOTES:
- 1. INSTALL FIRE DAMPER PER MANUFACTURER'S RECOMMENDATION AND NFPA STANDARDS.
 - 2. MAKE WALL OPENING 1/8" PER FOOT LARGER THAN DAMPER DIMENSIONS WITH 1/4" MINIMUM REQUIRED, MAXIMUM 1".

**4 CURTAIN TYPE RECTANGULAR
FIRE DAMPER DETAIL
NO SCALE**



**5 SECTION THRU GENERATOR ROOM
1/2"=1'-0"**

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CITY OF HOUSTON
GENERAL SERVICES
DEPARTMENT

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PROJECT MANAGER _____

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G.F.S. No.: _____
SCALE: NONE
DRAWN BY: RS
CHECKED BY: DD

SHEET TITLE:
**MECHANICAL
SCHEDULES & DETAILS**

SHEET NO.:
M.301

CITY DWG. NO.:

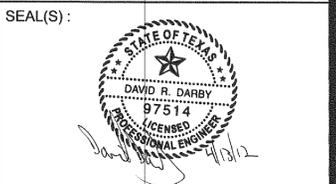
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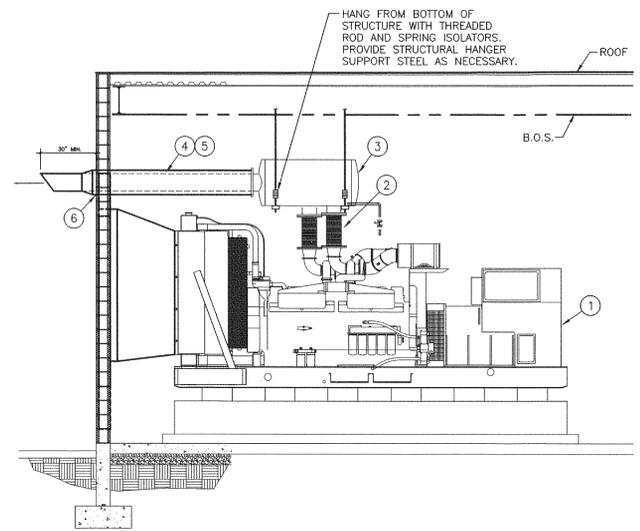
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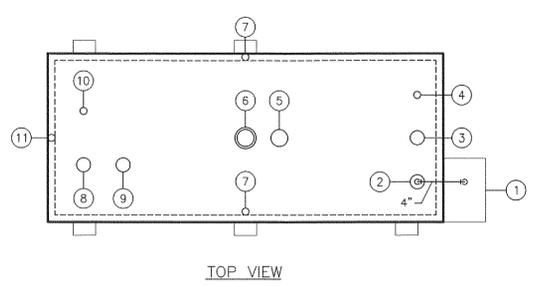
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M.302

CITY DWG. NO.:



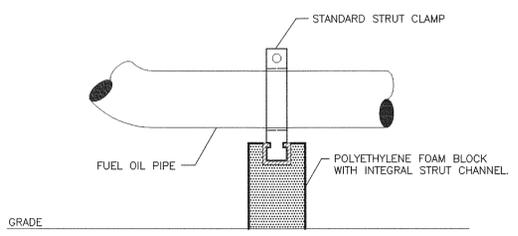
- KEY NOTES:**
- EXISTING GENERATOR SET AND SILENCERS TO BE RELOCATED. COORDINATE ADDITIONAL PIPING REQUIRED TO PIPE THRU WALL WITH EXISTING PIPE SIZE. COORDINATE INSTALLATION OF PIPING AND SILENCERS WITH OWNER, AND LOCAL CODES AND ORDINANCES.
 - EXISTING STAINLESS STEEL FLEXIBLE CONNECTION TO BE RELOCATED. FLEXIBLE CONNECTION IS FOR EXPANSION/COMPENSATION/VIBRATION ISOLATION AND SHALL NOT BE USED FOR PIPING MISALIGNMENT COMPENSATION. FLEXIBLE CONNECTION, MANIFOLDS, AND TURBOCHARGER HOUSINGS SHALL NOT BE INSULATED.
 - EXISTING EXHAUST SILENCER TO BE RELOCATED. SUSPEND SILENCER, SO THAT BOTTOM BOTTOM OF DISCHARGE PIPE IS AT 13'-10" ABOVE FINISHED FLOOR, WITH THREADED ROD AND SPRING ISOLATORS. INSULATE SILENCERS WITH CALCIUM SILICATE INSULATION AND ALUMINUM JACKET PER SPECIFICATION.
 - PROVIDE SCHEDULE 40 BLACK IRON PIPE, SIZE TO MATCH SILENCER CONNECTION, TO TERMINATION POINT. PROVIDE BIRD SCREEN AT OUTLET. INSULATE PIPING WITH CALCIUM SILICATE INSULATION PER SPECIFICATION.
 - SLOPE EXHAUST PIPING A MINIMUM OF 1/8" PER LINEAL FOOT WITH THE HIGH POINT AT EXTERIOR DISCHARGE BACK TOWARDS SILENCER AND CONDENSATE DRAIN CONNECTION.
 - EXTERIOR EXHAUST PIPING SHALL HAVE STAINLESS STEEL JACKETING AND FLASHING PER SPECIFICATIONS.

4 GENERATOR EXHAUST DETAIL
 SCALE: 1/8"=1'-0"

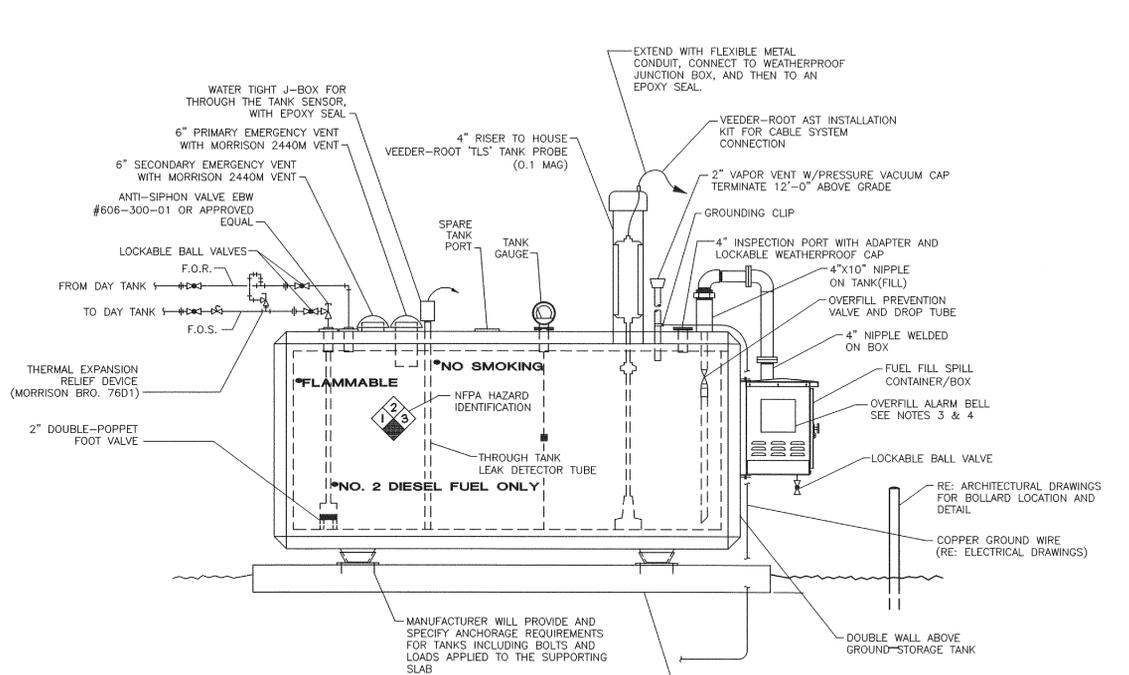


- KEY NOTES:**
- FILL SPILL CONTAINER/BOX
 - 4" FILL CONNECTION
 - 4" MECHANICAL GAUGE
 - 2" MANUAL GAUGE (STICK)
 - 6" PRIMARY EMERGENCY VENT WITH MORRISON 2440M VENT
 - 6" SECONDARY EMERGENCY VENT WITH MORRISON 2440M VENT
 - 2" LIGHT WEIGHT CONCRETE FILL PORT
 - 4" SUPPLY
 - 4" RETURN
 - 2" NORMAL VENT
 - 2" INTERSTITIAL MONITOR/LEAK DETECTOR TUBE

2 ABOVE GROUND STORAGE TANK PIPING CONNECTION DETAIL
 NOT TO SCALE



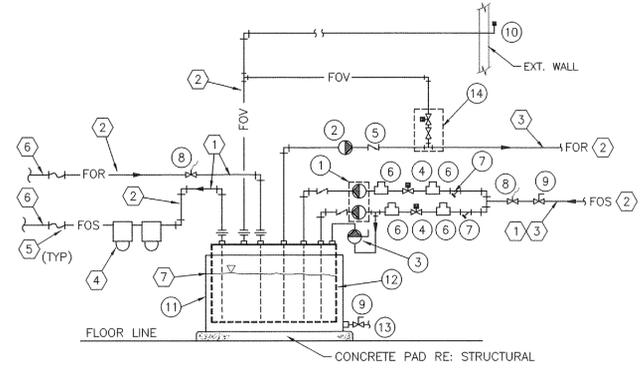
3 ERICO PIPE PIER SUPPORT SYSTEM
 NO SCALE



- NOTES:**
- PROVIDE SIGNAGE ON FUEL TANK INDICATING WARNINGS
 - CONTRACTOR SHALL COORDINATE EXACT NUMBER AND SIZE OF OPENINGS TO PROVIDE SPECIFIED CONNECTIONS AND SPARE OPENINGS.
 - OVERFILL ALARM BELL SHALL SOUND WHEN FUEL LEVEL REACHES 90%.
 - OVERFILL PREVENTION VALVE SHALL CLOSE AUTOMATICALLY WHEN FUEL LEVEL REACHES 95%.

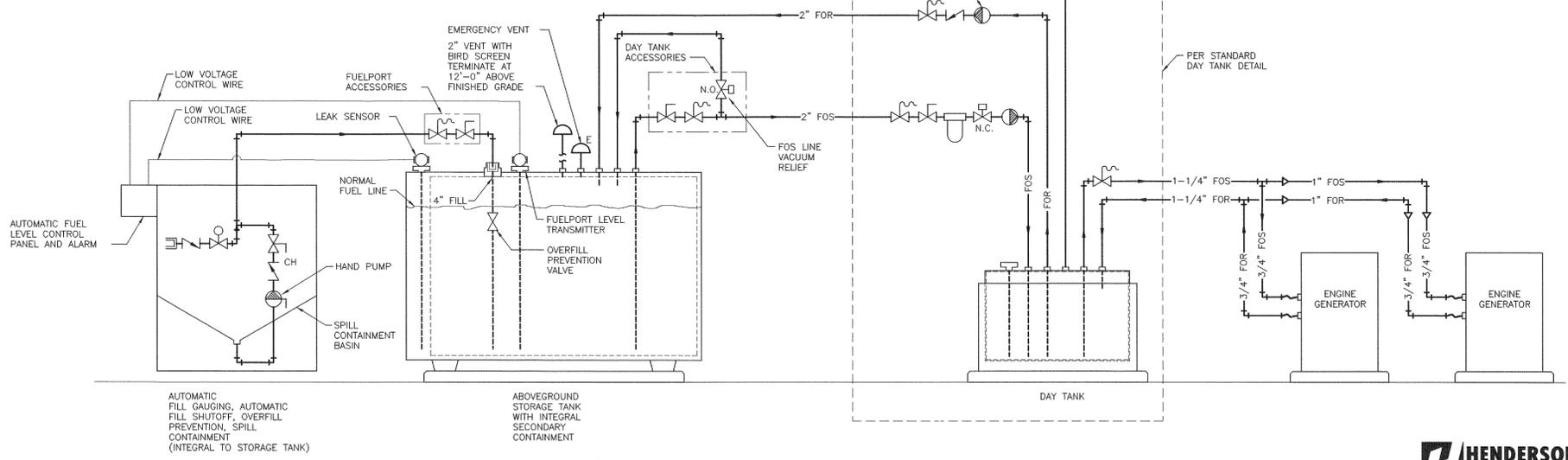
1 ABOVE GROUND FUEL OIL STORAGE TANK
 NO SCALE

SYMBOLS LEDGEND	
	HAND SHUT-OFF VALVE, BRONZE, 600 PSI
	HAND SHUT-OFF VALVE, CARBON STEEL, FIRE RATED
	ELECTRICALLY OPERATED SHUT-OFF VALVE
	SOLENOID VALVE (N.O. OR N.C.)
	AUTOMATIC CLOSURE, FUSIBLE LEAK, FIRE RATED VALVE
	CHECK VALVE
	QUICK DISCONNECT COUPLING
	PUMP, MOTOR DRIVEN
	PUMP, HAND OPERATED
	STRAINER
	EMERGENCY VENT
	VENT



- KEY NOTES:**
- SLOPE FILL, SUPPLY, AND RETURN PIPES BACK TOWARDS DAY TANK
 - PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR
 - FUEL LINE TO/FROM FUEL STORAGE TANK
 - FUEL FILTERS BY MECHANICAL CONTRACTOR
 - FLEXIBLE FUEL LINE CONNECTION AT GENERATOR BY MECHANICAL CONTRACTOR
 - FUEL LINES TO GENERATOR, SIZE PER MANUFACTURER RECOMMENDATIONS
 - NORMAL FUEL LEVEL SHALL BE BELOW FUEL INJECTOR PORTS
- COMPONENTS PROVIDED WITH DAY TANK:**
- DUPLEX FILL PUMP (AC)
 - OVERFLOW - RETURN PUMP (DC)
 - AUXILIARY HAND PUMP
 - NORMALLY CLOSED SOLENOID VALVE
 - CHECK VALVE
 - PRIMING TEE
 - FUEL STRAINER (100 MESH)
 - AUTOMATIC CLOSING FUSIBLE LINK 165' F FIRE RATED VALVE
 - BRONZE, MANUAL SHUT OFF VALVE
 - VENT CAP
 - DAY TANK
 - RUPTURE BASIN
 - RUPTURE BASIN DRAIN
 - SIPHON BREAK SOLENOID VALVE

5 DIESEL DAY TANK FUEL OIL PIPING
 NOT TO SCALE



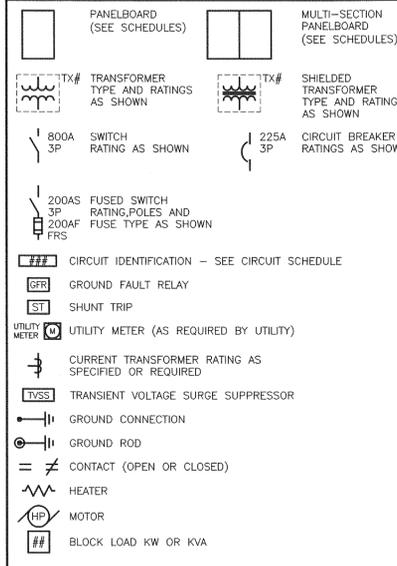
6 TYPICAL ABOVE GROUND TANK DETAIL
 NO SCALE

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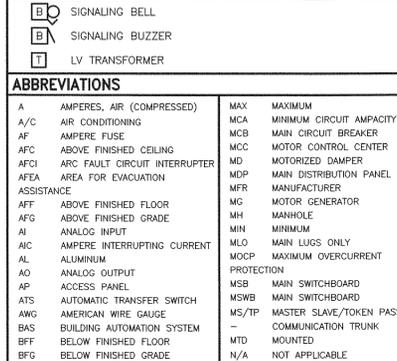
ELECTRICAL SYMBOLS

NOTE: THIS IS A MASTER LEGEND AND NOT ALL SYMBOLS, ABBREVIATIONS, ETC. ARE NECESSARILY USED ON THE DRAWINGS.

ELECTRICAL ONE-LINE & RISER



CIRCUITING & WIRING



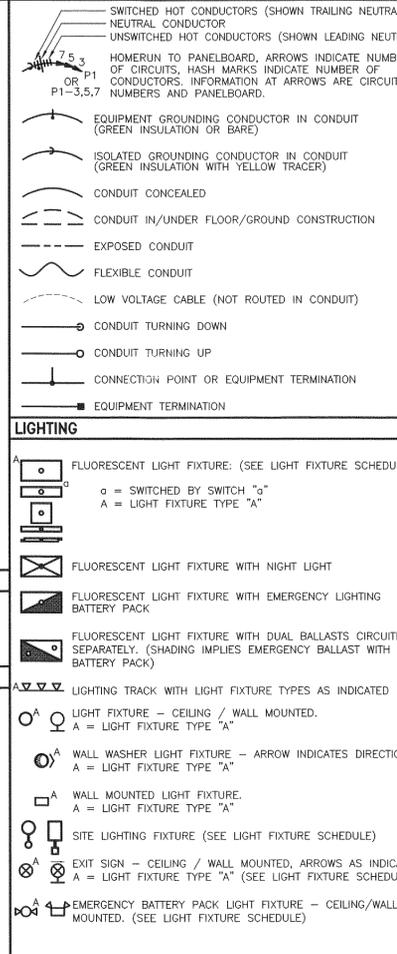
SIGNALING



ABBREVIATIONS

A	AMPERES, AIR (COMPRESSED)	MAX	MAXIMUM
A/C	AIR CONDITIONING	MCA	MINIMUM CIRCUIT AMPACITY
AF	AMPERE FUSE	MCB	MAIN CIRCUIT BREAKER
AFC	ABOVE FINISHED CEILING	MCC	MOTOR CONTROL CENTER
AFCI	ARC FAULT CIRCUIT INTERRUPTER	MD	MOTORIZED DAMPER
AFA	AREA FOR EVACUATION ASSISTANCE	MDP	MAIN DISTRIBUTION PANEL
AFT	ABOVE FINISHED FLOOR	MFR	MANUFACTURER
AFG	ABOVE FINISHED GRADE	MG	MOTOR GENERATOR
AI	ANALOG INPUT	MH	MANHOLE
AL	AMPERE INTERRUPTING CURRENT	MIN	MINIMUM
ALC	ALUMINUM	MLO	MAIN LUGS ONLY
AO	ANALOG OUTPUT	MOSP	MAXIMUM OVERCURRENT PROTECTION
AP	ACCESS PANEL	MSB	MAIN SWITCHBOARD
ATS	AUTOMATIC TRANSFER SWITCH	MSWB	MASTER SLAVE/TOKEN PASSING
AWG	AMERICAN WIRE GAUGE	MTD	MOUNTED
BAS	BUILDING AUTOMATION SYSTEM	N/A	NOT APPLICABLE
BFF	BELOW FINISHED FLOOR	N/C	NORMALLY CLOSED
BFG	BELOW FINISHED GRADE	NIC	NOT IN CONTRACT
BI	BINARY INPUT	NL	NIGHT LIGHT
BKR	BREAKER	N/O	NORMALLY OPEN
BO	BINARY OUTPUT	OC	ON CENTER
C	CONDUIT	OS	OCCUPANCY SENSOR
CD	CANDELA	PDU	POWER DISTRIBUTION UNIT
CT	CURRENT TRANSFORMER	PH, #	PHASE
CATV	CABLE TELEVISION SYSTEM	PIV	PIST INDICATOR VALVE
CCTV	CLOSED CIRCUIT TELEVISION	PHL	PANEL
CKT	CIRCUIT	PNLED	PANELBOARD
CPT	CONTROL POWER TRANSFORMER	PROVIDE	FURNISH AND INSTALL
CU	COPPER, CONDENSING UNIT	PT	POTENTIAL TRANSFORMER
CVD	CUMULATIVE VOLTAGE DROP	PTZ	PAN, TILT, ZOOM
DDC	DIRECT DIGITAL CONTROL	QTY	QUANTITY
DI	DIGITAL INPUT, DUCTILE IRON	RCPT	RECEPTACLE
DN	DOWN	RLA	RUNNING LOAD AMPS
DPDT	DOUBLE-POLE, DOUBLE-THROW	RTU	ROOFTOP UNIT
DPST	DOUBLE-POLE, SINGLE-THROW	SD	SMOKE DETECTOR, SUPPLY DUCT
EM	EMERGENCY	SF	SQUARE FEET, SUPPLY FAN
EPO	EMERGENCY POWER OFF	SPDT	SINGLE-POLE, DOUBLE-THROW
ETR	EXISTING TO REMAIN	SPST	SINGLE-POLE, SINGLE-THROW
FACP	FIRE ALARM CONTROL PANEL	SS	STAINLESS STEEL, SANITARY
FBO	FURNISHED BY OTHERS/OWNER	SEWER	SEWER, SOIL STACK
FCA	FAULT CURRENT AMPS	ST	SHUNT TRIP, STEAM TRAP
FF	FINISHED FLOOR	SWBD	SWITCHBOARD
FLA	FULL LOAD AMPS	TL	TWISTLOCK
FLR	FLOOR	TR	TAMPER RESISTANT
FVNR	FULL-VOLTAGE, NON-REVERSING	TX	TRANSFORMER
GC	GENERAL CONTRACTOR	TYP	TYPICAL
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	U/F	UNDER FLOOR
GFI	GROUND FAULT RELAY	U/G	UNDERGROUND
GND	GROUND	UH	UNIT HEATER
GRS	GALVANIZED RIGID STEEL	U/S	UNDERSLAB
HOA	HAND-OFF-AUTOMATIC	UL	UNDERWRITERS LABORATORIES
IG	ISOLATED GROUND	UNO	UNLESS NOTED OTHERWISE
ISC	SHORT CIRCUIT CURRENT	UPS	UNINTERRUPTIBLE POWER SUPPLY
JB	JUNCTION BOX	V	VOLTS
J-BOX	JUNCTION BOX	VAC	VOLTS ALTERNATING CURRENT
kmil	1000 CIRCULAR MILS	VD	VOLTAGE DROP
KK	KIRK KEY	VOC	VOLTS DIRECT CURRENT
KV	KILOVOLT	VFD	VARIABLE FREQUENCY DRIVE
KVA	KILOVOLT-AMPS	W	WIRE
KVAR	KILOVOLT-AMPS REACTIVE	WP	WEATHER PROOF COVER
KW	KILOWATT	WR	WEATHER RESISTANT
KWH	KILOWATT-HOUR	XP	EXPLOSION-PROOF
LF	LINEAR FEET		
MATV	MASTER ANTENNA TELEVISION SYSTEM		

WIRING DEVICES & OUTLETS

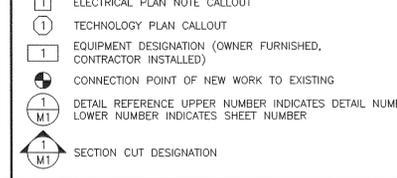


STANDARD MOUNTING HEIGHTS

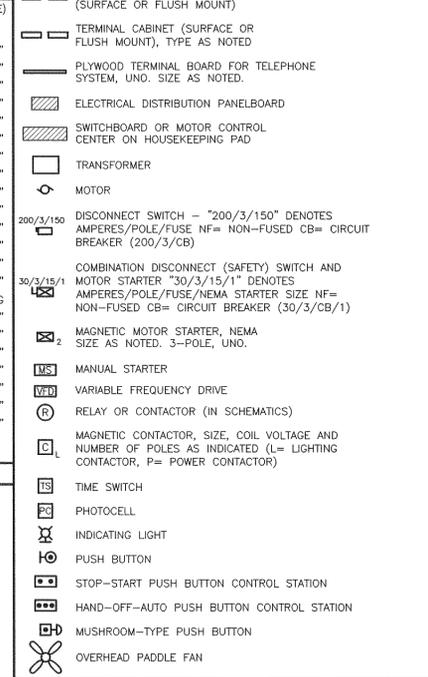
(AFF, AFG, UNLESS NOTED OTHERWISE)

ELECTRICAL	
ALARMS	48"
ANNUNCIATOR PANELS	48"
CLOCK OUTLETS (CENTERLINE)	84"
CONTROLS (CENTERLINE)	48"
EXIT SIGNS (WALL MOUNTED, BOTTOM)	80"
INTERCOM (AFA ONLY)	36"
INTERCOMS	48"
PANELS/PANELBOARDS (TOP)	72"
PHOTOCELLS	144"
RECEPTACLES (CENTERLINE)	18"
RECEPTACLES (EXTERIOR)	24"
RECEPTACLES (GARAGES)	26"
RECEPTACLES IN EQUIPMENT ROOMS	48"
REMOTE INDICATING LIGHT (EQUIPMENT ROOMS)	48"
REMOTE INDICATING LIGHT (FINISHED AREAS)	CEILING
SAFETY SWITCHES	48"
STARTERS	48"
SWITCHES (CENTERLINE)	48"
TELEPHONES (PUBLIC)	1 @ 48", 1 @ 36"
TELEPHONE, DATA OUTLETS (CENTERLINE)	18"
TELEPHONE TERMINAL BOARD (BOTTOM)	6"
TELEVISION OUTLETS	18"

ANNOTATION



POWER EQUIPMENT & DEVICES



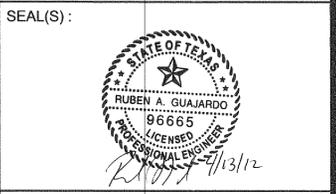
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NO.	DATE	DESCRIPTION
1	04.13.2012	BID AND PERMIT

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 Contact: Hunter Korpogay, PE



PROJECT NAME:
 City of Houston
 Emergency Generator Relocation
 62 Riesner
 Houston, TX 77002



REVIEWED:
 PROGRAM MANAGER _____ SPONSORING DEPARTMENT _____
 PROJECT MANAGER _____

DATE: _____
G.F.S. No.: _____
SCALE: 1/4" = 1'
DRAWN BY: RG
CHECKED BY: DD

SHEET TITLE:
SYMBOLS

SHEET NO.:
E.000
CITY DWG. NO.:



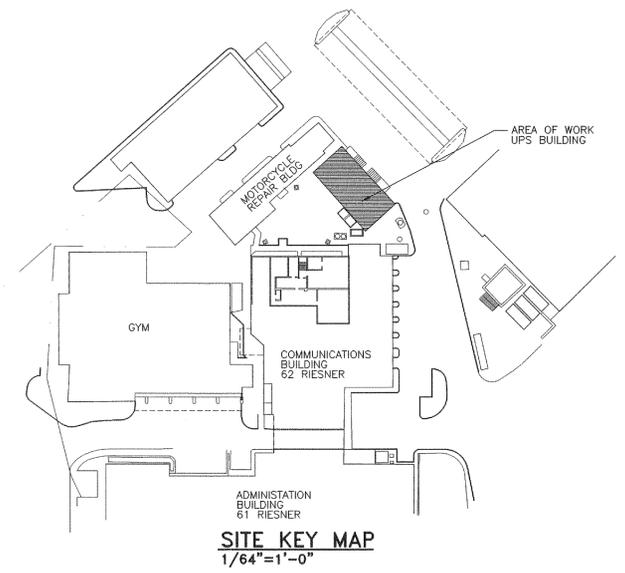
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GENERAL DEMO NOTES:

1. PRIOR TO SUBMITTING BID, VISIT THE JOB SITE AND BECOME FULLY ACQUAINTED WITH THE EXISTING CONDITIONS OF THE FACILITY. REVIEW THE GENERAL NOTES AND ALL OTHER TRADE DRAWINGS FOR ADDITIONAL REQUIREMENTS THAT MAY NOT BE CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY ARCHITECT, ENGINEER OR OWNER, AS SPECIFIED, OF ANY CONFLICTS OR DISCREPANCIES PRIOR TO SUBMITTING BID.
2. EXISTING CONDITIONS WERE TAKEN FROM ORIGINAL DRAWINGS AND SITE VISITS AND MAY NOT REFLECT EXACT "AS-BUILT" CONDITIONS. FIELD VERIFY ALL EXISTING CONDITIONS AND CAREFULLY COORDINATE NEW WORK AND DEMOLITION WITH ALL OTHER DISCIPLINES EXISTING CONDITIONS.
3. REMOVE ELECTRICAL ITEMS SHOWN AS DASHED LINE, CROSS-HATCHED, AND/OR NOTED TO BE REMOVED.
4. AVOID DAMAGING EXISTING SURFACES AND EQUIPMENT TO REMAIN DURING DEMOLITION. REPAIR DAMAGE CAUSED DURING WORK AT NO EXTRA COST TO THE OWNER.
5. AVOID DAMAGING EXISTING WIRING FOR INTERCOM, FIRE ALARM AND CLOCK SYSTEMS. REPAIR DAMAGE CAUSED DURING WORK AT NO EXTRA COST TO OWNER. SYSTEMS SHALL OPERATE AT NORMAL CAPACITY UPON COMPLETION OF WORK.
6. SEAL ALL PENETRATIONS THROUGH FLOORS, WALLS, CEILINGS, AND ROOF WHERE ELECTRICAL COMPONENTS ARE REMOVED AND WHERE THE EXISTING PENETRATION IS NOT USED FOR THE NEW INSTALLATION. REPAIR DAMAGED SURFACES TO MATCH ADJACENT AREAS.

ELECTRICAL DEMO NOTES:

- 1 EXISTING EQUIPMENT TO REMAIN.
- 2 REMOVE DE-ENERGIZED UPS EQUIPMENT TO ALLOW SPACE FOR RELOCATED UPS BATTERY ROOM.
- 3 GENERATOR TO BE RELOCATED INTO EXISTING BATTERY ROOM. SEE SHEET E.200 FOR NEW GENERATOR LOCATION.
- 4 REMOVE EXISTING UPS BATTERIES/BATTERY RACKS AND RELOCATE TO NEW BATTERY ROOM. SEE SHEET E.200 FOR NEW LOCATION.
- 5 REMOVE RECEPTACLE, CIRCUIT, CONDUIT AND ALL HARDWARE ASSOCIATED WITH RECEPTACLE.
- 6 REMOVE BUS DUCT AND SAVE TO REUSE FOR UPS BATTERY RELOCATION.
- 7 LEAVE JUNCTION BOX ABOVE UPS. TO BE REUSED FOR BATTERY RELOCATION.
- 8 REMOVE EXISTING EXHAUST FAN.

SEAL(S):



PROJECT NAME:
 City of Houston
 Emergency Generator Relocation
 62 Riesner
 Houston, TX 77002



CITY OF HOUSTON
 GENERAL SERVICES
 DEPARTMENT

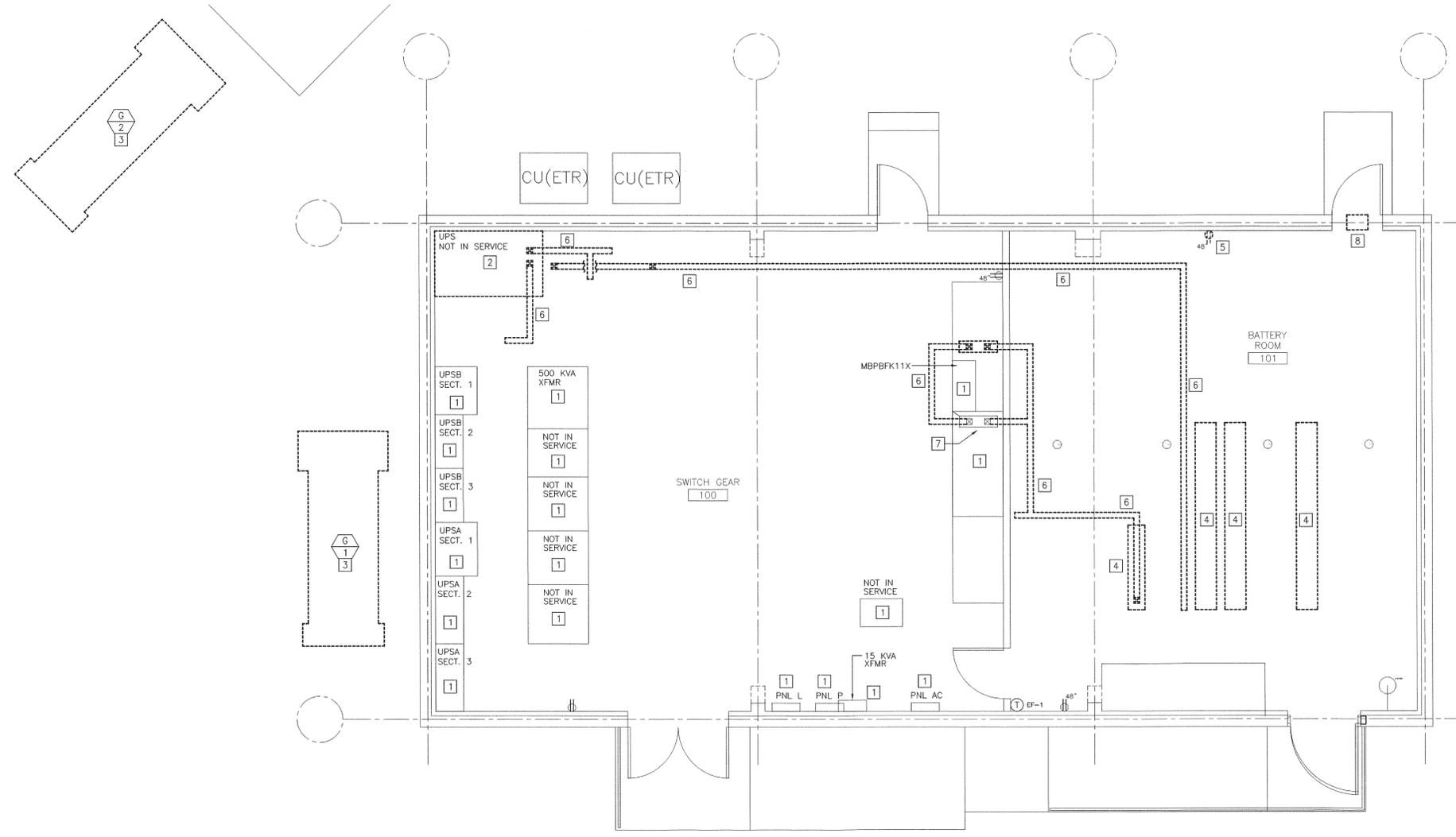
REVIEWED:
 PROGRAM MANAGER _____ SPONSORING DEPARTMENT _____
 PROJECT MANAGER _____

DATE: _____
 G.F.S. No: _____
 SCALE: 1/4" = 1'
 DRAWN BY: RG
 CHECKED BY: DD

SHEET TITLE:
**UPS BUILDING
 ELECTRICAL DEMO
 PLAN**

SHEET NO.:
E.100

CITY DWG. NO.:



**1 UPS BUILDING
 ELECTRICAL DEMOLITION PLAN**
 1/4"=1'-0"

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 TX CORPORATE NUMBER: F-001236
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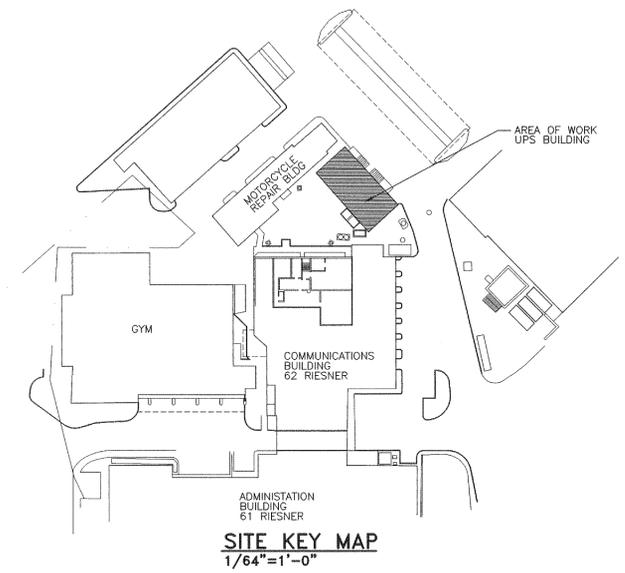
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 DAVID R. DARBET

ISSUE LOG		
NO.	DATE	DESCRIPTION
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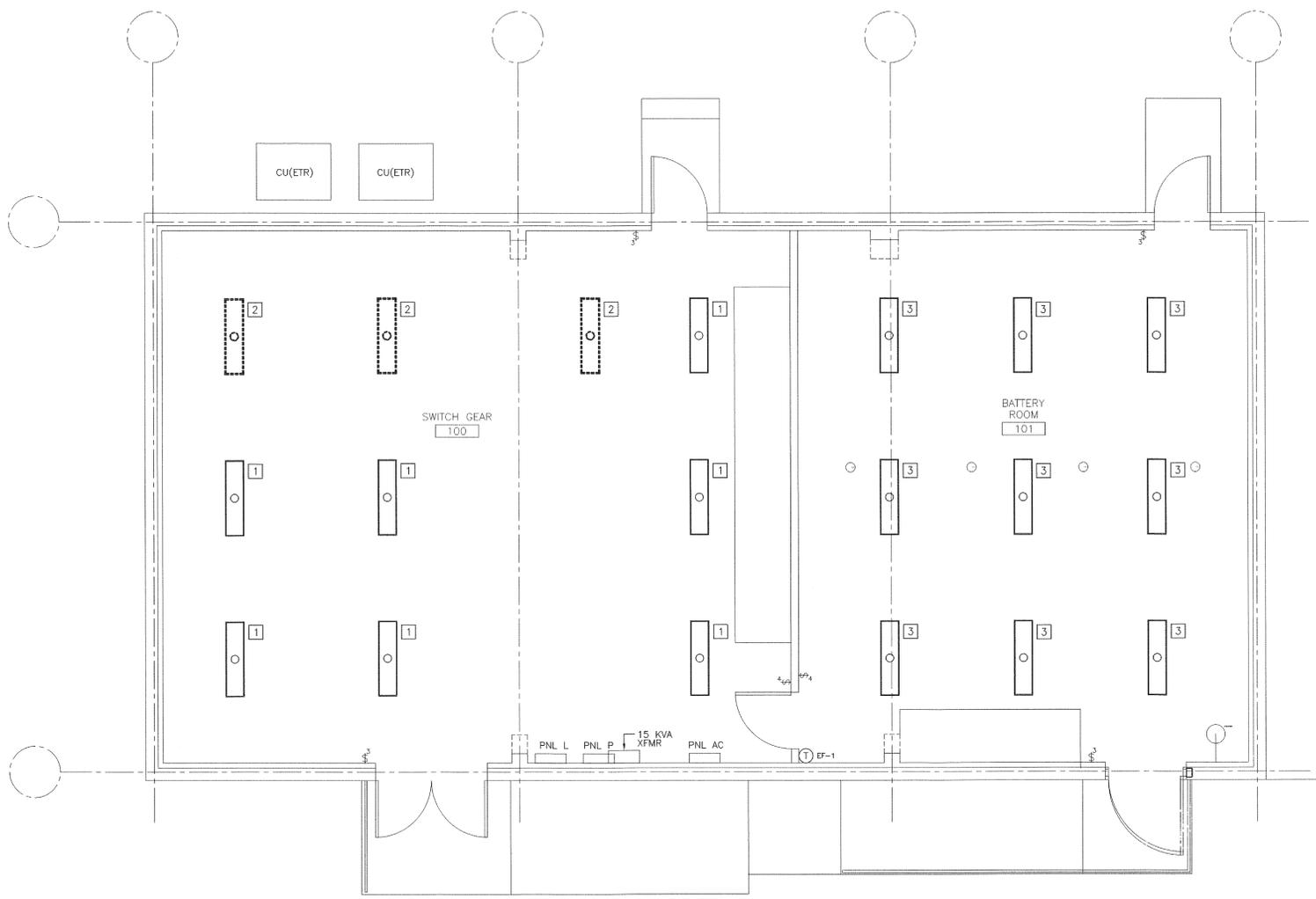
CONSULTANT(S):
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 V: 713.780.3345
 Contact: Hunter Kornegay, PE



- LIGHTING PLAN NOTES:**
- 1 LIGHT EXISTING TO REMAIN.
 - 2 REMOVE LIGHT TO ALLOW FOR NEW BATTERY ROOM.
 - 3 COORDINATE LIGHTING WITH INSTALLATION OF GENERATOR IN THIS ROOM LIGHTING MAY HAVE TO BE REMOVED AND STORED WHILE GENERATORS ARE BE LOCATED. TEMPORARY LIGHTING MAY BE REQUIRED DURING INSTALLATION OF GENERATORS.



1 UPS BUILDING LIGHTING DEMOLITION PLAN
 1/4"=1'-0"



PROJECT NAME :
 City of Houston
 Emergency Generator Relocation
 62 Riesner
 Houston, TX 77002



REVIEWED :

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PROJECT MANAGER _____

DATE : _____

G.F.S. No : _____

SCALE : 1/4" = 1'

DRAWN BY : RG

CHECKED BY : DD

SHEET TITLE :

UPS BUILDING LIGHTING DEMO PLAN

SHEET NO. :

E.110

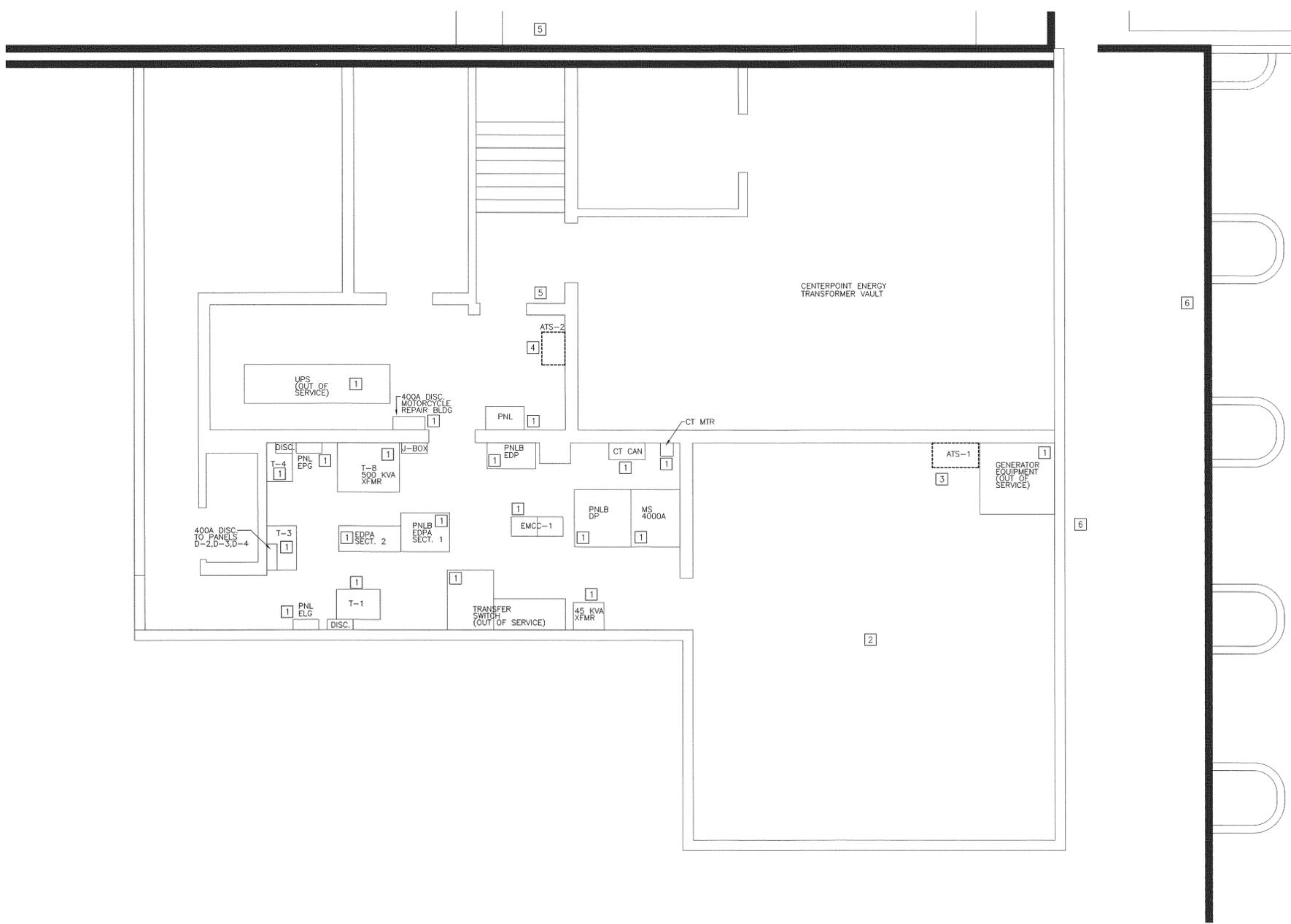
CITY DWG. NO. :

HENDERSON ENGINEERS

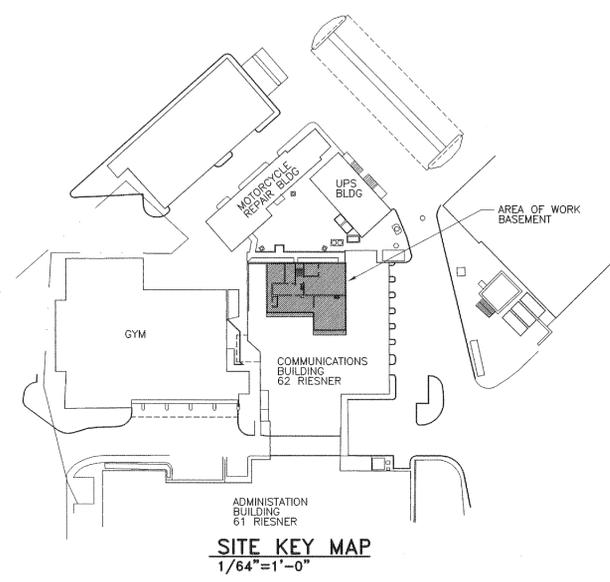
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TX CORPORATE NUMBER: F-001236
 EXPIRES 09/30/12

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 DAVID R. DARBY



1 BASEMENT COMMUNICATIONS BLDG ELECTRICAL DEMOLITION PLAN
1/4"=1'-0"



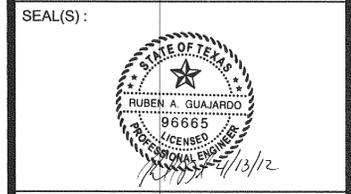
- ELECTRICAL PLAN NOTES:**
- 1 EXISTING EQUIPMENT TO REMAIN.
 - 2 ALL ABANDONED EQUIPMENT IN THIS ROOM SHALL REMAIN AS IS. REMOVAL OF THIS EQUIPMENT IS OUTSIDE OF THE SCOPE OF THIS PROJECT PER CITY OF HOUSTON GENERAL SERVICE DEPARTMENT. EXCEPT AS CALLED OUT IN PLANS.
 - 3 REMOVE EXISTING ATN-1 AND DEMO EQUIPMENT. SEE SHEET E-200 FOR LOCATION OF NEW 1200A ATN-1.
 - 4 REMOVE EXISTING ATN-2 AND DEMO EQUIPMENT. SEE SHEET E-200 FOR LOCATION OF NEW 1200A ATN-1.
 - 5 REMOVE EXISTING GENERATOR FEEDER (DLO CABLE) TO ATN-2. RESEAL OPENING MATCH EXISTING WALL FINISHES.
 - 6 REMOVE EXISTING GENERATOR FEEDER (DLO CABLE) TO ATN-1. RESEAL OPENING MATCH EXISTING WALL FINISHES.

ISSUE LOG		
NO.	DATE	DESCRIPTION
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PROJECT NAME:
 City of Houston
 Emergency Generator Relocation
 62 Riesner
 Houston, TX 77002



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PROJECT MANAGER _____

DATE: _____

G.F.S. No: _____

SCALE: 1/4" = 1'

DRAWN BY: RG

CHECKED BY: DD

SHEET TITLE:
BASEMENT COMMUNICATIONS BLDG ELECTRICAL DEMOLITION PLAN

SHEET NO.:
E.120

CITY DWG. NO.: _____

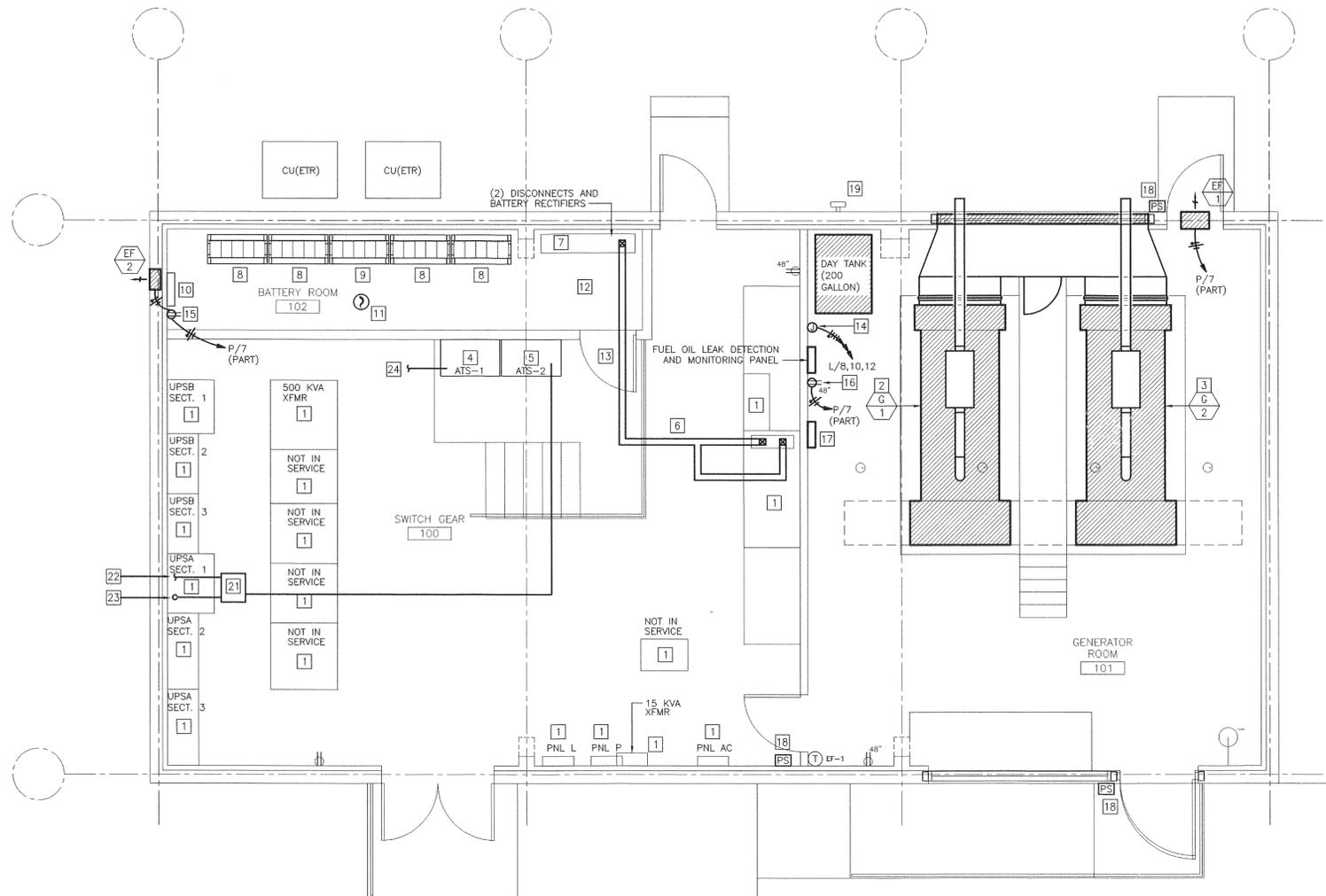
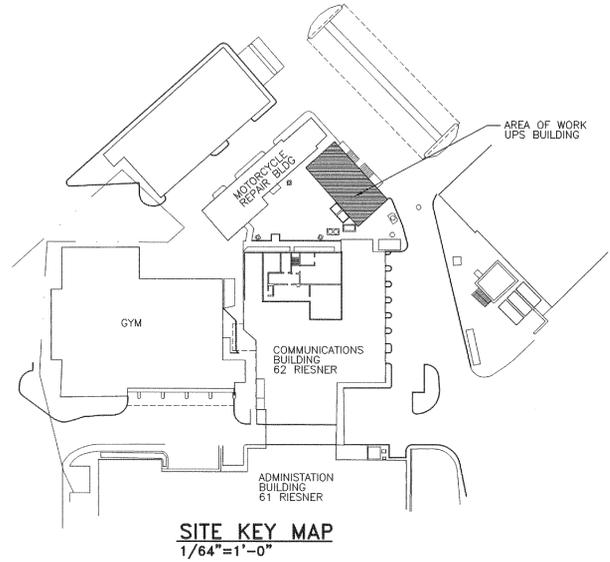
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 DAVID R. DARBY

CONTRACTOR TO COORDINATE SPECIFIC PHASING OF INSTALLATION TO PROVIDE AS LITTLE DOWNTIME AS POSSIBLE. PERFORM AS MUCH FRONT END INSTALLATION WORK AS POSSIBLE, THEN HAVE TEMPORARY GENERATOR PROVIDED BY GSD DELIVERED AND GET FULLY OPERATIONAL. DECOMMISSION FIRST GENERATOR AND RELOCATE PER PLANS. WITH TEMPORARY GENERATOR STILL IN OPERATION, DECOMMISSION SECOND GENERATOR AND RELOCATE. DISCONNECT AND RETURN TEMPORARY GENERATOR ONCE ALL FUNCTIONAL TESTING HAS BEEN PERFORMED ON PERMANENT INSTALLATION OF GENERATORS AND ALL APERTUNCES.

PANELBOARD: P		BUS AMPS: 100A		FAULT CURRENT: REFER TO ONE-LINE DIAGRAM		EQUIPMENT GROUND BUS						
MAIN SIZE/TYPE: MLO		AIC RATING: FCA +10% MINIMUM, FULLY RATED		SERVES: FIRST FLOOR		LOCATION: SWITCH GEAR ROOM, ROOM #100						
VOLTS/PHASE: 208Y/120V, 3PH, 4W		MOUNTING: SURFACE										
SECTION: 1												
CKT NO.	DESCRIPTION	VOLTAMPS/PHASE			WIRE			DESCRIPTION			CKT NO.	
1	GENERAL RECEPTACLES	720			12	20	1	1	20	12	720	2
3	PWR - EXHAUST FAN		500		12	20	1	1	20	12	540	4
5	PWR - BKR CONTROLS			500	12	20	1	1	20	12	500	6
7	PWR - EXHAUST FANS	627			12	20	1	1	20	12	1,376	8
9	PWR - EXHAUST FANS				20	1	2	20	12		1,000	10
11	SPARE				20	1						12
SUBTOTAL		1,347	500	500				2,096			1,540	500
TOTAL PHASE A - VA		3,443	LOAD	CONN. VA	DF	LOAD	CONN. VA	DF				
AMPS		29	COOLING		1.00	REFRIGERATION		1.00				
TOTAL PHASE B - VA		2,040	HEATING		0	SIGN/DISPLAY		1.25				
AMPS		17	LIGHTING		1.25	KITCHEN		1.00				
TOTAL PHASE C - VA		1,000	RECEPTACLES	1,980	1.0/0.5	EXISTING		1.00				
AMPS		8	MOTORS	1,803	1.00	LARGE MOTOR		1.25				
TOTAL PNLBD - VA		6,483	SUPP HEAT		1.00	SHOW WINDOW		1.25	TOTAL DEMAND			
AMPS		18	MISC EQUIP	2,700	1.00	LTG TRACK		1.00	6,483 VA			
PANELBOARD NOTES												
										LTG TRACK - TRACK LENGTH		
										SIGN/DISPLAY - SIGNAGE & DISPLAY CASE		

SEE SHEET E.210 FOR PANEL SCHEDULE L



- ELECTRICAL PLAN NOTES:**
- EXISTING EQUIPMENT TO REMAIN.
 - RELOCATE GENERATOR 1 INSIDE OF ELECTRICAL BUILDING.
 - RELOCATE GENERATOR 2 INSIDE OF ELECTRICAL BUILDING.
 - NEW LOCATION FOR ATs-1. REROUTE NORMAL POWER, GENERATOR POWER AND FEEDER FOR EDP TO THIS LOCATION. ATs-1 SHALL BE MOUNTED ON PLATFORM 3.5' AFF.
 - NEW LOCATION FOR ATs-2. RE-REROUTE NORMAL POWER, GENERATOR POWER AND FEEDER FOR EDP TO THIS LOCATION. ATs-2 SHALL BE MOUNTED ON PLATFORM 3.5' AFF.
 - REUSE EXISTING BUS DUCT TO CONNECT BATTERY TO UPS.
 - RELOCATED DISCONNECTS AND RECTIFIERS FOR BATTERIES.
 - PROVIDE NEW BATTERY RACK FOR RELOCATED BATTERIES. NEW RACK SHALL BE THREE TIER. EACH TIER SHALL HOLD 5 BATTERIES. PROVIDE SEISMIC PROTECTION AS REQUIRED BY IBC.
 - PROVIDE NEW BATTERY RACK FOR RELOCATED BATTERIES. NEW RACK SHALL BE FOUR TIER. EACH TIER SHALL HOLD 5 BATTERIES. PROVIDE SEISMIC PROTECTION AS REQUIRED BY IBC.
 - PROVIDE A MANAGEMENT SYSTEM TO PRECLUDE, DETECT AND CONTROL BATTERIES FROM THERMAL RUNAWAY.
 - PROVIDE SMOKE DETECTOR IN NEW BATTERY ROOM AND CONNECT TO EXITING FIRE ALARM SYSTEM.
 - PROVIDE METHOD AND MATERIALS TO HANDLE A 3% SPILL OF ONE BATTERY TO A pH BALANCE OF 7.0 TO 9.0. METHOD AND MATERIALS MUST HANDLE A SPILL OF 5.82 CUBIC INCHES.
 - PROVIDE SIGNAGE AT DOOR TO BATTERY ROOM ENTRANCE STATING:
 - THE ROOM CONTAINS ENERGIZED BATTERY SYSTEMS.
 - THE ROOM CONTAINS ENERGIZED ELECTRICAL CIRCUITS.
 - THE BATTERY ELECTROLYTE SOLUTIONS, WHERE PRESENT, ARE CORROSIVE LIQUIDS.
 - POWER FOR DAY TANK MOTORS. COORDINATE POWER REQUIREMENTS WITH TANK MANUFACTURE PRIOR TO ROUGH-IN.
 - POWER FOR BATTERY MANAGEMENT SYSTEM.
 - POWER FOR LEAK DETECTION SYSTEM.
 - PROVIDE APPROVED MANUAL EMERGENCY ALARM SYSTEM THAT WILL ALARM UPON MANUAL OPERATION OF INITIATING DEVICE. A LOCAL ALARM SHALL SOUND TO ALERT OCCUPANTS OF EMERGENCY SITUATION WITH HAZARDOUS MATERIAL. SYSTEM MUST BE MANUALLY RESET.
 - HAZARDOUS MATERIAL MANUAL ALARM INITIATING DEVICE.
 - HAZAROUS MATERIAL MANUAL ALARM DEVICE.
 - RELOCATE EXISTING GENERATOR BATTERY CHARGERS INTO GENERATOR ROOM AND ALL POWER ASSOCIATED WITH IT.
 - PROVIDE JUNCTION BOX TO REROUTE CIRCUIT FROM TRANSFER SWITCH TO UPSA.
 - TO ADMINISTRATION BUILDING VIA EXISTING CONDUITS TO PANELBOARD. EDPA.
 - ROUTE CIRCUIT DOWN TO FEED EQUIPMENT UPSA.
 - TO ADMINISTRATION BUILDING VIA EXISTING CONDUITS TO PANELBOARD. EDP.

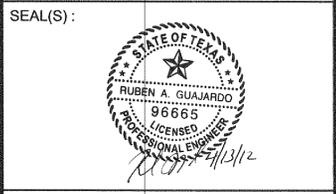
2 UPS BUILDING ELECTRICAL FLOOR PLAN
SCALE: 1/4"=1'-0"

ISSUE LOG		
NO.	DATE	DESCRIPTION
1	04.13.2012	BID AND PERMIT

CONSULTANT(S):
 MEP Henderson Engineers Inc.
 3535 Briarpark Dr, Suite 200
 Houston, TX 77042
 V: 713.783.7707
 Contact: David Darby, PE

Architectural Brave/Architecture
 4617 Montrose Blvd, Suite C230
 Houston, TX 77006
 V: 713.524.5858
 F: 713.524.5868
 B/A Project #: 11172
 Contact: Greg Ryden, AIA

Structural CJG Engineers
 3200 Wilcrest Dr, Suite 305
 Houston, TX 77042
 V: 713.780.3345
 Contact: Hunter Kornegay, PE



PROJECT NAME:
 City of Houston
 Emergency Generator Relocation
 62 Riesner
 Houston, TX 77002



REVIEWED:

PROGRAM MANAGER _____ SPONSORING DEPARTMENT _____

PROJECT MANAGER _____

DATE: _____
 G.F.S. No.: _____
 SCALE: 1/4" = 1'
 DRAWN BY: RG
 CHECKED BY: DD

SHEET TITLE:
 UPS BUILDING
 ELECTRICAL FLOOR
 PLAN

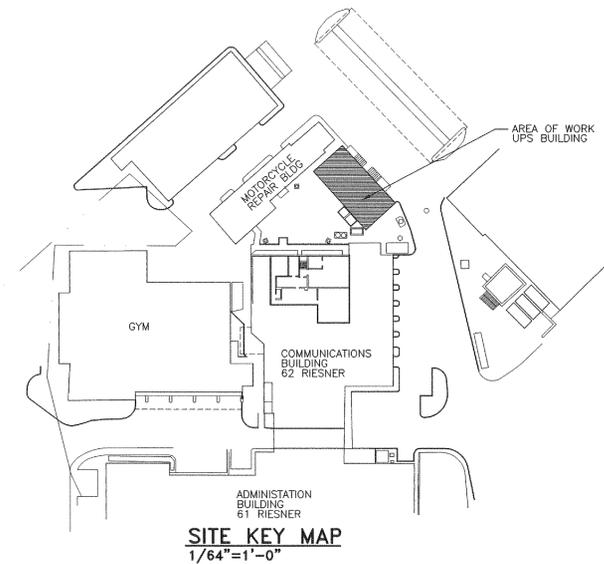
SHEET NO.: _____
E.200

CITY DWG. NO.: _____

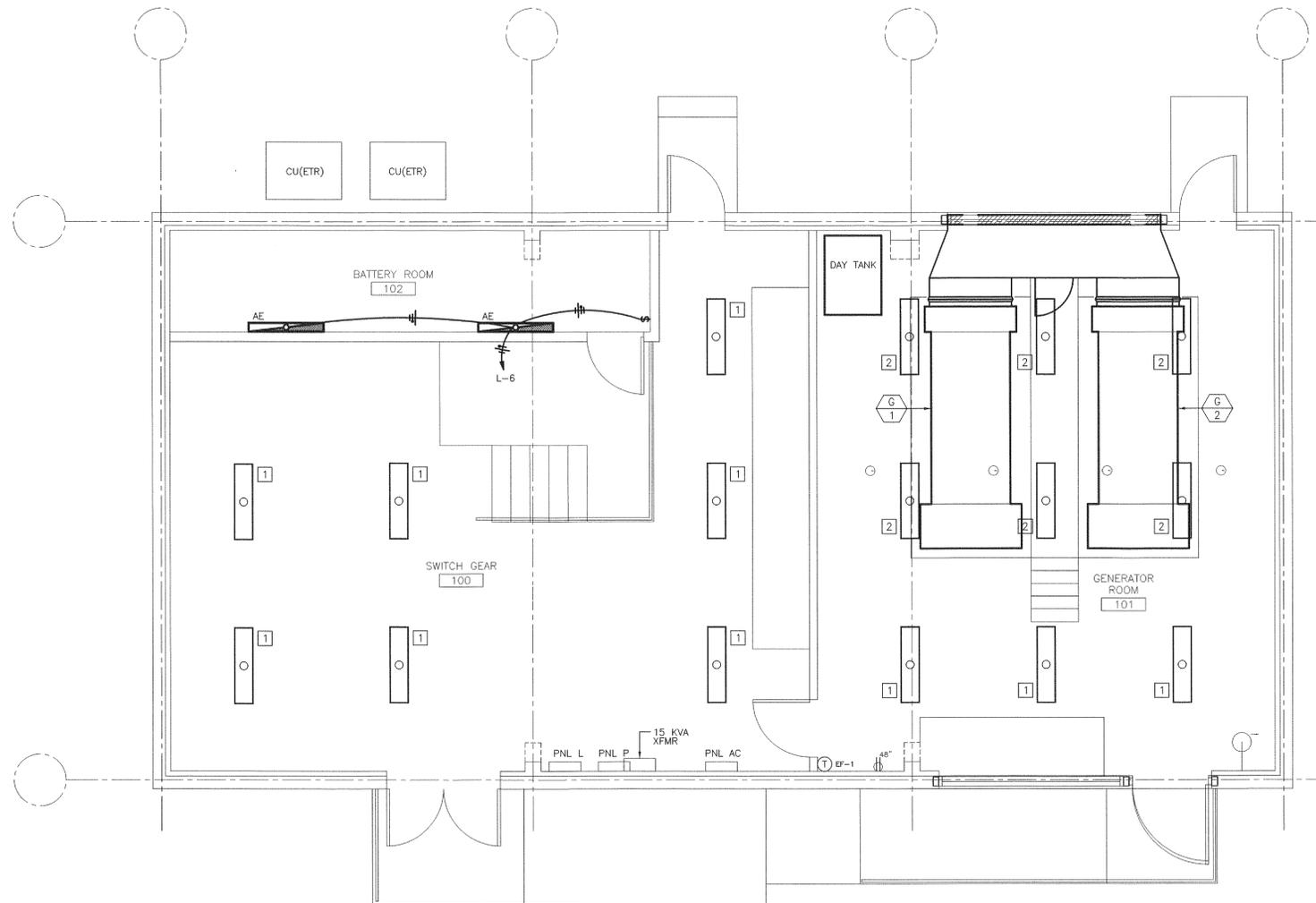


PANELBOARD: L (EXISTING)										EQUIPMENT GROUND BUS				
BUS AMPS: 100A										FAULT CURRENT: REFER TO ONE-LINE DIAGRAM				
MAIN SIZE/TYP: MLO										AIC RATING: FCA +10% MINIMUM, FULLY RATED				
VOLTS/PHASE: 480Y/277V, 3PH, 4W										SERVES: UPS BLDG				
SECTION: 1										MOUNTING: SURFACE				
										LOCATION: SWITCHGEAR ROOM				
CKT NO.	DESCRIPTION	VOLTAMPS/PHASE			WIRE NO.	BKR AMP	P	BKR AMP	WIRE NO.	VOLTAMPS/PHASE			DESCRIPTION	CKT NO.
		A	B	C						A	B	C		
1	LTG - GENERATOR ROOM	585			EX	20	1	1	20				SPARE	2
3	SPARE					20	1	1	20	EX		585	SWITCH GEAR ROOM	4
5	SPARE					20	1	1	20	12		122	LTG - BATTERY ROOM	6
7	LTG - OUTSIDE	300			EX	20	1				1,309			8
9	SPARE					20	1	3	15	12		1,309	PWR - DAY TANK MTRS	10
11	SPARE					20	1					1,309		12
SUBTOTAL		885									1,309	1,894	1,431	
TOTAL PHASE A - VA		2,194	LOAD		CONN. VA	DF	LOAD		CONN. VA	DF				
AMPS		8	COOLING			1.00	REFRIGERATION				1.00			
TOTAL PHASE B - VA		1,894	HEATING			0	SIGN/DISPLAY				1.25			
AMPS		7	LIGHTING		1,592	1.25	KITCHEN				1.00			
TOTAL PHASE C - VA		1,431	RECEPTACLES			1.0/5	EXISTING				1.00			
AMPS		5	MOTORS		3,927	1.00	LARGE MOTOR				1.25			
TOTAL PNLBD - VA		5,519	SUPP HEAT			1.00	SHOW WINDOW				1.25			
AMPS		7	MISC EQUIP			1.00	LTG TRACK				1.00			
											TOTAL DEMAND	5,917 VA	7 A	

PANELBOARD NOTES



- ELECTRICAL PLAN NOTES:**
- EXISTING LIGHTS TO REMAIN.
 - RAISE PENDANT LIGHTS IN GENERATOR ROOM TO ALLOW FOR GENERATOR CLEARANCE. ALLOW A MINIMUM OF 4" ABOVE GENERATOR. ALL LIGHTS IN THIS ROOM SHALL BE RAISED TO THE SAME LEVEL.

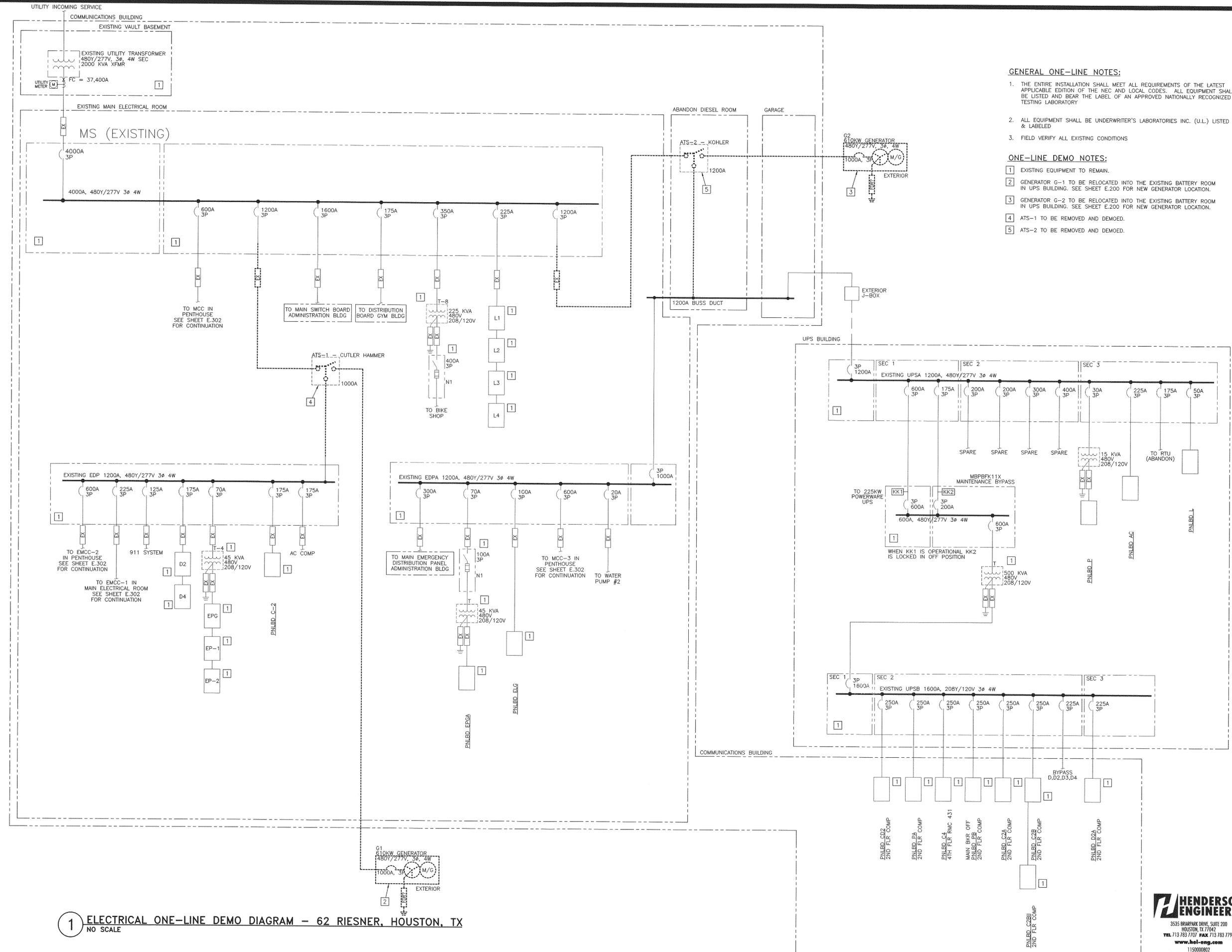


LIGHT FIXTURE SCHEDULE						
TYPE	MANUFACTURER/SERIES #	LAMP	VOLTAGE	WATTS	VA	DESCRIPTION
AE	METALUX #SSF SERIES OR EQUIVALENT BY COLUMBIA #CS SERIES OR EQUIVALENT BY DAYBRITE #T SERIES OR EQUIVALENT BY LITHONIA #C SERIES OR EQUIVALENT BY LSI MIDWEST #S SERIES OR EQUIVALENT BY WILLIAMS #76 SERIES	(2) 32W T8 80 CRI, 3500K 2950 LUMENS 20,000 HRS	277	59	61	1-LAMP 4'-0" PENDANT OR SURFACE MOUNTED T8 FLUORESCENT STRIP FIXTURE. 22 GAUGE DIE-FORMED STEEL HOUSING. FACTORY MOUNTED, PREWIRED SOCKETS. BAKED WHITE ENAMEL FINISH FOR ALL PARTS, PAINTED AFTER FABRICATION. HIGH POWER FACTOR ELECTRONIC BALLAST. UL LISTED FOR DRY AND DAMP LOCATIONS. EMERGENCY BALLAST CAPABLE OF OPERATING TWO LAMP AT 1400 INITIAL LUMENS IN EMERGENCY MODE FOR A MINIMUM OF 90 MINUTES, IOTA I-232 SERIES OR EQUIVALENT BY BODINE. BALLAST SHALL HAVE A MAINTENANCE-FREE NICKEL-CADMIUM BATTERY, CHARGER AND INTEGRAL INDICATING LIGHT AND TEST SWITCH. 14 GAUGE WIRE GUARD.

UPS BUILDING LIGHTING FLOOR PLAN
SCALE: 1/4"=1'-0"

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1150000802
TX. CORPORATE NUMBER: F-001236
EXPIRES 09/30/12

ISSUE LOG		
NO.	DATE	DESCRIPTION
1	04.13.2012	BID AND PERMIT
CONSULTANT(S):		
MEP	Henderson Engineers Inc. 3535 Briarpark Dr, Suite 200 Houston, TX 77042 V: 713.783.7707 Contact: David Darby, PE	
Architectural	Brave/Architecture 4617 Montrose Blvd, Suite C230 Houston, TX 77006 V: 713.524.5858 F: 713.524.5868 B/A Project #: 11172 Contact: Greg Ryden, AIA	
Structural	CJG Engineers 3200 Wilcrest Dr, Suite 305 Houston, TX 77042 V: 713.780.3345 Contact: Hunter Kornegay, PE	
SEAL(S):		
PROJECT NAME:		
City of Houston Emergency Generator Relocation 62 Riesner Houston, TX 77002		
CITY OF HOUSTON GENERAL SERVICES DEPARTMENT		
REVIEWED:		
PROGRAM MANAGER	SPONSORING DEPARTMENT	
PROJECT MANAGER		
DATE:		
G.F.S. No.:		
SCALE: 1/4" = 1'		
DRAWN BY: RG		
CHECKED BY: DD		
SHEET TITLE:		
UPS BUILDING LIGHTING FLOOR PLAN		
SHEET NO.:		
E.210		
CITY DWG. NO.:		

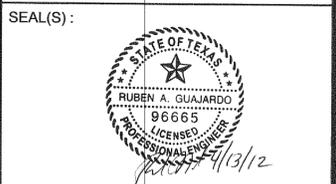


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 B/A Project #: 11172
 Contact: Greg Ryden, AIA

Structural CJG Engineers
 3200 Wilcrest Dr, Suite 305
 Houston, TX 77042
 V: 713.780.3345
 Contact: Hunter Komegay, PE



PROJECT NAME:
 City of Houston
 Emergency Generator Relocation
 62 Riesner
 Houston, TX 77002



REVIEWED:

PROGRAM MANAGER _____ SPONSORING DEPARTMENT _____

PROJECT MANAGER _____

DATE: _____

G.F.S. No: _____

SCALE: 1/4" = 1'

DRAWN BY: RG

CHECKED BY: DD

SHEET TITLE:
ONE-LINE DEMO PLAN

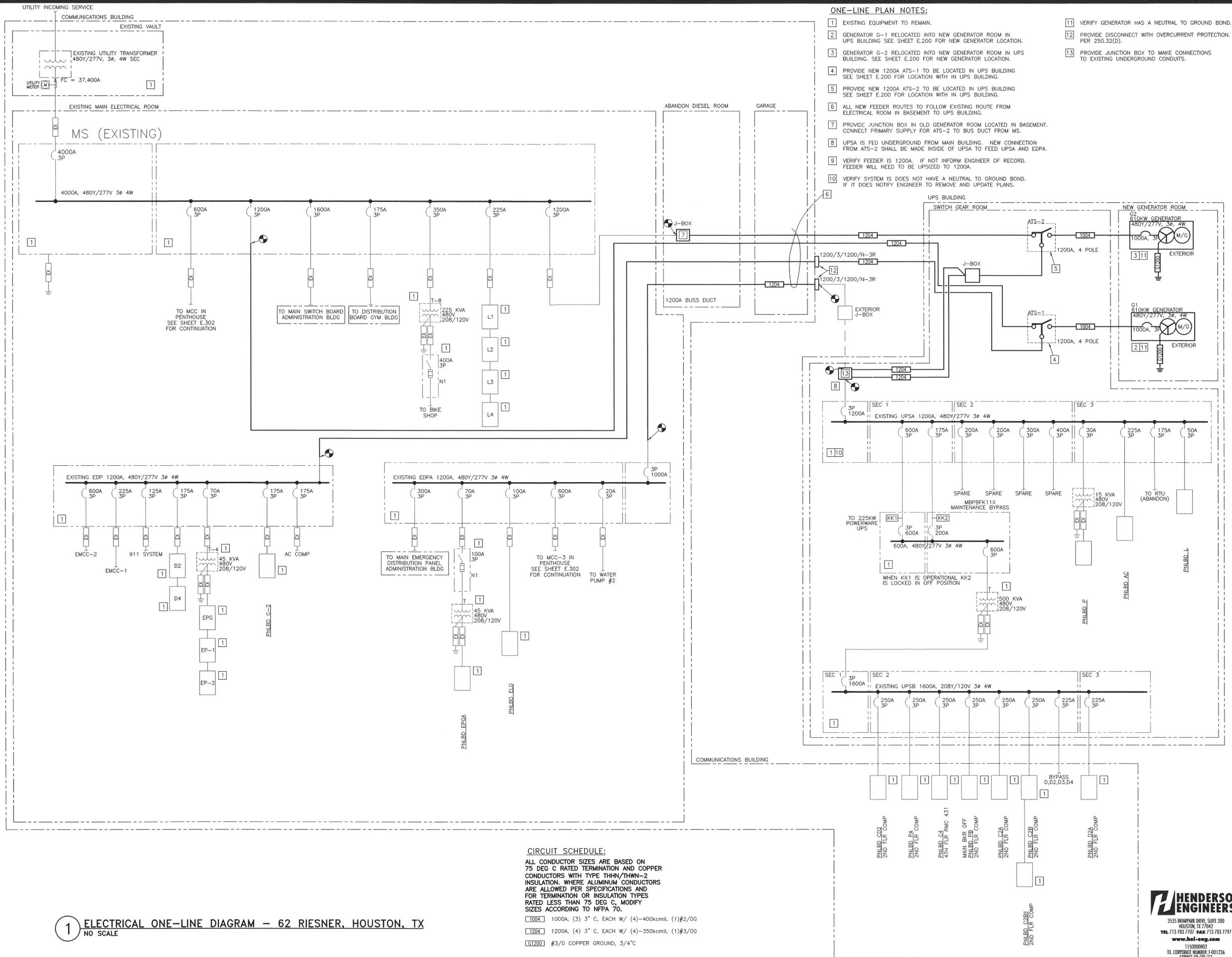
SHEET NO.:
E.300

CITY DWG. NO.: _____



1 ELECTRICAL ONE-LINE DEMO DIAGRAM - 62 RIESNER, HOUSTON, TX
 NO SCALE

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 THOMAS D. SIMMONS



ONE-LINE PLAN NOTES:

- 1 EXISTING EQUIPMENT TO REMAIN.
- 2 GENERATOR G-1 RELOCATED INTO NEW GENERATOR ROOM IN UPS BUILDING SEE SHEET E.200 FOR NEW GENERATOR LOCATION.
- 3 GENERATOR G-2 RELOCATED INTO NEW GENERATOR ROOM IN UPS BUILDING. SEE SHEET E.200 FOR NEW GENERATOR LOCATION.
- 4 PROVIDE NEW 1200A ATS-1 TO BE LOCATED IN UPS BUILDING SEE SHEET E.200 FOR LOCATION WITH IN UPS BUILDING.
- 5 PROVIDE NEW 1200A ATS-2 TO BE LOCATED IN UPS BUILDING SEE SHEET E.200 FOR LOCATION WITH IN UPS BUILDING.
- 6 ALL NEW FEEDER ROUTES TO FOLLOW EXISTING ROUTE FROM ELECTRICAL ROOM IN BASEMENT TO UPS BUILDING.
- 7 PROVIDE JUNCTION BOX IN OLD GENERATOR ROOM LOCATED IN BASEMENT. CONNECT PRIMARY SUPPLY FOR ATS-2 TO BUS DUCT FROM MS.
- 8 UPSA IS FED UNDERGROUND FROM MAIN BUILDING. NEW CONNECTION FROM ATS-2 SHALL BE MADE INSIDE OF UPSA TO FEED UPSA AND EDPA.
- 9 VERIFY FEEDER IS 1200A. IF NOT INFORM ENGINEER OF RECORD. FEEDER WILL NEED TO BE UPSIZED TO 1200A.
- 10 VERIFY SYSTEM IS DOES NOT HAVE A NEUTRAL TO GROUND BOND. IF IT DOES NOTIFY ENGINEER TO REMOVE AND UPDATE PLANS.
- 11 VERIFY GENERATOR HAS A NEUTRAL TO GROUND BOND.
- 12 PROVIDE DISCONNECT WITH OVERCURRENT PROTECTION. PER 250.32(D).
- 13 PROVIDE JUNCTION BOX TO MAKE CONNECTIONS TO EXISTING UNDERGROUND CONDUITS.

CIRCUIT SCHEDULE:

ALL CONDUCTOR SIZES ARE BASED ON 75 DEG C RATED TERMINATION AND COPPER CONDUCTORS WITH TYPE THHN/THWN-2 INSULATION. WHERE ALUMINUM CONDUCTORS ARE ALLOWED PER SPECIFICATIONS AND FOR TERMINATION OR INSULATION TYPES RATED LESS THAN 75 DEG C, MODIFY SIZES ACCORDING TO NFPA 70.

1004 1000A, (3) 3" C, EACH W/ (4)-400kcmil, (1)#2/0G

1204 1200A, (4) 3" C, EACH W/ (4)-350kcmil, (1)#3/0G

G1200 #3/0 COPPER GROUND, 3/4" C

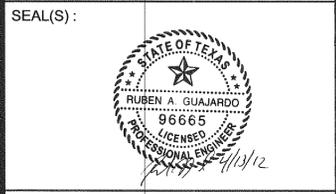
1 ELECTRICAL ONE-LINE DIAGRAM - 62 RIESNER, HOUSTON, TX
NO SCALE

ISSUE LOG		
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PROJECT NAME:
 City of Houston
 Emergency Generator Relocation
 62 Riesner
 Houston, TX 77002



REVIEWED:

PROGRAM MANAGER _____ SPONSORING DEPARTMENT _____

PROJECT MANAGER _____

DATE: _____

G.F.S. No: _____

SCALE: 1/4" = 1'

DRAWN BY: RG

CHECKED BY: DD

SHEET TITLE:
ONE-LINE PLAN

SHEET NO.:
E.301

CITY DWG. NO.:



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 THOMAS D. SIMMONS

ISSUE LOG

NO.	DATE	DESCRIPTION
1	04.13.2012	BID AND PERMIT

CONSULTANT(S):
 MEP Henderson Engineers Inc.
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SEAL(S):

PROJECT NAME:
 City of Houston
 Emergency Generator Relocation
 62 Riesner
 Houston, TX 77002

CITY OF HOUSTON
 GENERAL SERVICES
 DEPARTMENT

REVIEWED:

PROGRAM MANAGER _____ SPONSORING DEPARTMENT _____

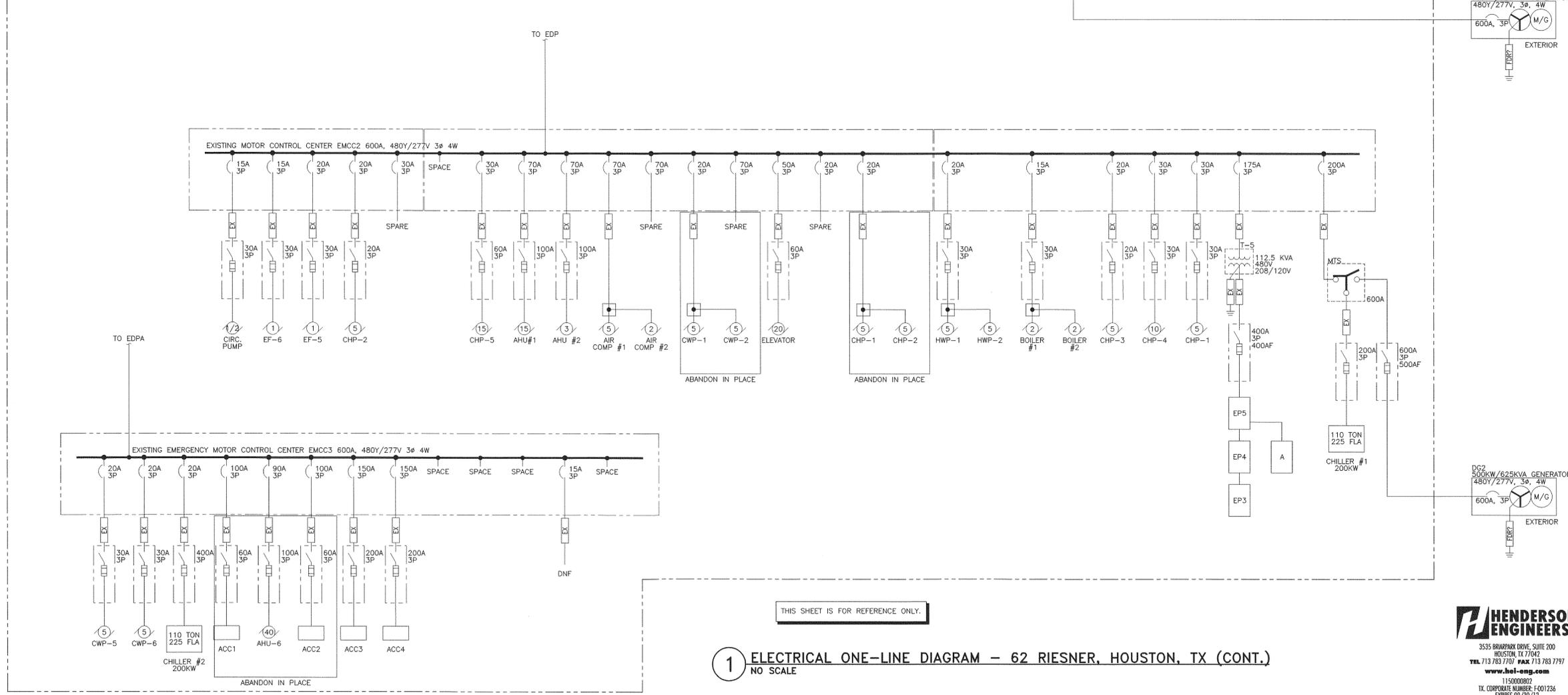
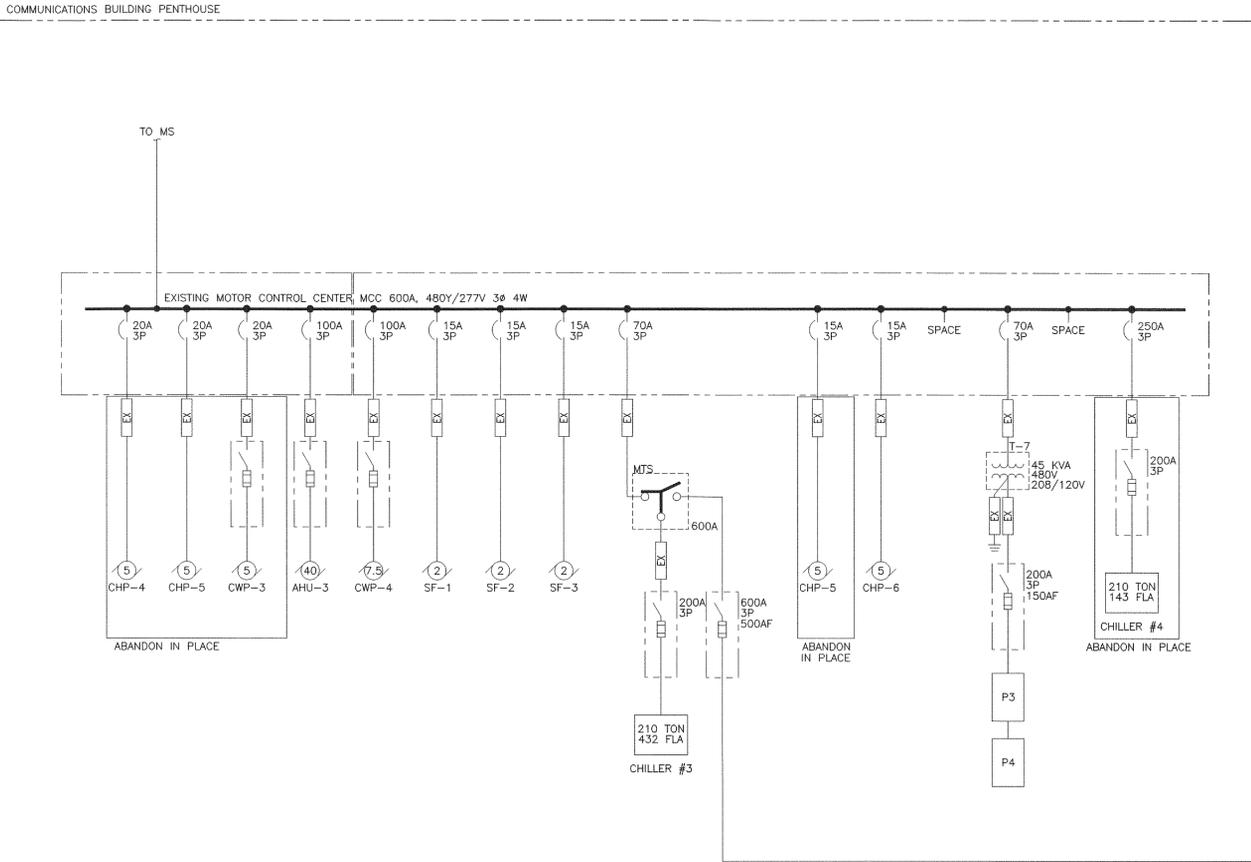
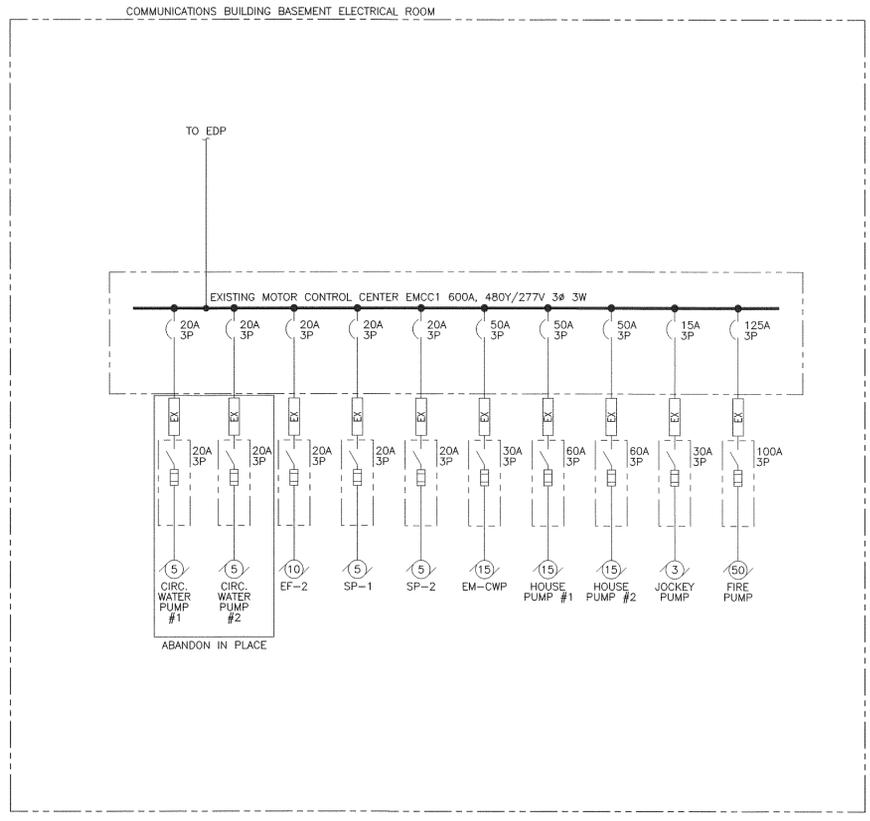
PROJECT MANAGER _____

DATE: _____
 G.F.S. No.: _____
 SCALE: 1/4" = 1'
 DRAWN BY: RG
 CHECKED BY: DD

SHEET TITLE:
**ONE-LINE PLAN
 CONTINUED**

SHEET NO.:
E.302

CITY DWG. NO.:



THIS SHEET IS FOR REFERENCE ONLY.

1 ELECTRICAL ONE-LINE DIAGRAM - 62 RIESNER, HOUSTON, TX (CONT.)
 NO SCALE

HENDERSON
 ENGINEERS

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 www.hel-eng.com
 1150000802
 TX. CORP. REG. NUMBER: F-001236
 EXPIRES 09/30/12

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 THOMAS D. SIMMONS