ABBREVIATIONS

AC	AIR CONDITIONING UNIT
ACC	AIR COOLED CONDENSER
ACCU	AIR COOLED CONDENSING UNIT
ACRCU	AIR COOLED RECIPROCATING CHILLER UNIT
ACW	AFTER COOLER WATER SUPPLY
ACWR	AFTER COOLER WATER RETURN
AD	ACCESS DOOR
AF	AFTER FILTER
AFCE	AIR FLOW CONTROL VALVE
AFM	AIR FLOW MEASURING DEVICE
AFW	AIR FOIL WHEEL
AHU	AIR HANDLING UNIT
AP	ACCESS PANEL
B	BOILER
BIW	BACKWARD INCLINED WHEEL
BDT	BLOW DOWN TANK
BG	BOTTOM GRILLE (WALL TYPE)
BR	BOTTOM REGISTER (WALL TYPE)
C	CONVERTER
CC	COOLING COIL
CCF	CENTRIFUGAL CEILING FAN
CCU	CENTRIFUGAL CHILLER UNIT
CD	CEILING DIFFUSER
CF	CENTRIFUGAL FAN
CG	CEILING GRILLE
CH	CHILLED WATER SUPPLY
CHR	CHILLED WATER RETURN
CHP	CHILLED WATER PUMP
CO	CLEAN OUT
COMP.	COMPRESSOR
CONV.	CONVECTOR
CR	CEILING REGISTER
CRAC	COMPUTER ROOM AIR CONDITIONER
CUH	CABINET UNIT HEATER
CW	COLD WATER
D	AUTOMATIC DAMPER
Db	DRY BULB TEMPERATURE
dB	DECIBELS
DD	DISCHARGE DAMPERS
Dp	DEWPOINT TEMPERATURE
DX	DIRECT EXPANSION
E/A	EXHAUST AIR
EC	EVAPORATIVE CONDENSER
ECC	ENGINEERING CONTROL CENTER
EDH	ELECTRIC COIL DUCT HEATER
EER	ENERGY EFFICIENCY RATIO
EF	EXHAUST FAN
EG	EMERGENCY GENERATOR
EGW	ETHYLENE GLYCOL-WATER SOLUTION (% GLYCOL BY VOLUME)
EMD	END OF MAIN DRIP (STEAM)
ERC	ENERGY RECOVERY COIL
ERP	ELECTRIC RADIANT CEILING PANEL
ET	EXPANSION TANK
EUH	ELECTRIC UNIT HEATER
EWC	EVAPORATIVE WATER COOLER
EX.	EXISTING
FC	FLEXIBLE CONNECTION
FCU	FAN COIL UNIT
FLR.	FLOOR
FOS	FUEL OIL SUPPLY
FOR	FUEL OIL RETURN
F.DPR.	FIRE DAMPER
FSD	FIRE SMOKE DAMPER
FS	FACTORY FABRICATED FAN SECTION
FTR	FIN TUBE RADIATION
GH	GRAVITY HOOD
HC	HEATING COIL
HD	HOOD
HDPE	HIGH DENSITY POLYETHYLENE
HX	HEAT EXCHANGER
HF	HEPA FILTER
HP	HORSEPOWER
HRP	HYDRONIC RADIANT CEILING PANEL
HV	HEATING AND VENTILATING UNIT
ICF	IN-LINE CENTRIFUGAL FAN
IEF	INDUSTRIAL EXHAUST FAN
IFB	INTEGRAL FACE AND BYPASS
IV	INLET VANES
LBS/HR	POUNDS PER HOUR
IU	INDUCTION UNIT
JW	JACKET ENGINE WATER SUPPLY
JWR	JACKET ENGINE WATER RETURN
LCD	LINEAR CEILING DIFFUSER
LTCP	LOCAL TEMPERATURE CONTROL PANEL
MB	MIXING BOX
MER	MECHANICAL ROOM
MAX.	MAXIMUM
MIN.	MINIMUM
LTHW	LOW TEMPERATURE HOT WATER SUPPLY
LTHWR	LOW TEMPERATURE HOT WATER RETURN
NA	NOT APPLICABLE
NOM.	NOMINAL
NIC	NOT IN CONTRACT
O/A	OUTDOOR AIR
P	PUMP
PD	PRESSURE DROP
PEF	PROPELLER TYPE EXHAUST FAN
PF	PRE-FILTER
PFW	PUMPED FEED WATER
PGW	PROPYLENE GLYCOL-WATER SOLUTION
PH	PREHEAT
POD	POWER OPERATED, OPPOSED BLADE DAMPER
PPD	POWER OPERATED, PARALLEL BLADE DAMPER
PRV	PRESSURE REDUCING VALVE
PSH	PRESSURE SWITCH HIGH
PSL	PRESSURE SWITCH LOW
R/A	RETURN AIR
RCU	RECIPROCATING CHILLER UNIT
RF	RETURN FAN
RH	REHEAT COIL
Rh	RELATIVE HUMIDITY
RV	POWER TYPE ROOF VENTILATOR
RRV	REFRIGERANT RELIEF VENT
S/A	SUPPLY AIR
SA	SOUND ATTENUATING UNIT
SCD	SMOKE CONTROL DAMPER
SCR	SILICON CONTROLLED RECTIFIER
SD.	SMOKE DAMPER
Sp. Gr.	SPECIFIC GRAVITY
SMTHWP	SECONDARY MEDIUM TEMPERATURE HOT WATER PUMP
SP	STATIC PRESSURE
SPS	STATIC PRESSURE SENSOR
SWBP	SOFT WATER BOOSTER PUMP
SW	SOFT WATER
TG	TOP GRILLE (WALL TYPE)
TR	TOP REGISTER (WALL TYPE)
TWU	THRU WALL UNIT
TX	TOILET EXHAUST
UC	UNIT COOLER
UH	UNIT HEATER
URV	UPBLAST POWER TYPE ROOF VENTILATOR
UV	UNIT VENTILATOR
V	VALVE
VAF	VANE AXIAL FAN
VCC	VOLUMETRIC CONTROL CENTER
VD	VOLUME DAMPER (MANUAL OPPOSED BLADE)
VE	VOLUME EXTRACTOR
VFD	VARIABLE FREQUENCY DRIVE
V1	VIBRATION ISOLATOR
VIV	VARIABLE INLET VANES
VP	VACUUM PUMP
VR	VACUUM STEAM CONDENSATE RETURN
VSMC	VARIABLE SPEED MOTOR CONTROLLER
Wb	WET BULB TEMPERATURE
WEF	WALL TYPE EXHAUST FAN
WF	WATER FILTER
WMS	WIRE MESH SCREEN
WFMD	WATER FLOW MEASURING DEVICE
WP	WORK POINT

GENERAL SYMBOLS

- DIRECTION OF PIPE PITCH (DOWN)
- DIRECTION OF FLOW
- ANCHOR
- REDUCER OR INCREASER
- ECCENTRIC REDUCER
- TOP CONNECTION, 45° OR 90°
- BOTTOM CONNECTION, 45° OR 90°
- SIDE CONNECTION
- CAPPED OUTLET
- RISE OR DROP IN PIPE
- UNION
- ORIFICE UNION
- BLAST THERMOSTATIC TRAP
- INVERTED BUCKET TRAP SET INCLUDING PIPING ACCESSORIES
- FLOAT & THERMOSTATIC TRAP SET INCLUDING PIPING ACCESSORIES
- THERMOSTATIC TRAP
- STRAINER
- THERMOMETER
- PRESSURE GAGE
- WATER FLOW MEASURING DEVICE
- EXISTING PIPE TO BE REMOVED
- FLEXIBLE CONNECTOR
- DUPLEX STRAINER
- SIMPLEX STRAINER

PIPING SYMBOLS

HPS	HIGH PRESSURE STEAM
MPS	MEDIUM PRESSURE STEAM
LPS	LOW PRESSURE STEAM
HPR	HIGH PRESSURE GRAVITY CONDENSATE RETURN
MPR	MEDIUM PRESSURE GRAVITY CONDENSATE RETURN
LPR	LOW PRESSURE GRAVITY CONDENSATE RETURN
FWPD	FEEDWATER PUMP DISCHARGE
FWPS	FEEDWATER PUMP SUCTION
CTPD	CONDENSATE TRANSFER PUMP DISCHARGE
CTPS	CONDENSATE TRANSFER PUMP SUCTION
VR	VACUUM CONDENSATE RETURN
CPD	CONDENSATE PUMP DISCHARGE
R	PUMP RECIRCULATION
BO	BOILER BLOWDOWN
CBD	CONTINUOUS BLOWDOWN
BWS	BOILER WATER SAMPLE
FWS	FEEDWATER SAMPLE (FROM DEAERATOR)
CF	CHEMICAL FEED
V	VENT
OFL	OVERFLOW
D	DRAIN
G	NATURAL GAS MAIN FUEL
CW	COLD WATER (CITY WATER)
SW	SOFTENED WATER
EQ	EQUALIZER
ACW	AFTERCOOLER WATER SUPPLY
ACWR	AFTERCOOLER WATER RETURN
JW	JACKET WATER SUPPLY
JWR	JACKET WATER RETURN
– –	MAKE-UP WATER
D	DRAIN LINE
RRV	REFRIGERANT RELIEF VENT
MCA	MEDICAL COMPRESSED AIR
FP	FIRE PROTECTION
MV	MEDICAL VACUUM
IW	INDUSTRIAL WATER
FCW	FILTERED COLD WATER
SCW	SOFTENED COLD WATER
DCW	DOMESTIC COLD WATER
V	VENT LINE
FOS	FUEL OIL SUPPLY
FOR	FUEL OIL RETURN
CA	COMPRESSED AIR
CWTT	CONDENSER WATER TO TOWER
CWFT	CONDENSER WATER FROM TOWER
CH	CHILLED WATER SUPPLY
CHR	CHILLED WATER RETURN
CTBP	COOLING TOWER BYPASS

VALVE SYMBOLS

- GATE VALVE
- GLOBE VALVE
- GATE VALVE WITH 3/4 " HOSE ADAPTER
- CHECK VALVE
- ANGLE GLOBE VALVE
- BUTTERFLY VALVE
- BALL VALVE
- PLUG VALVE
- BALANCING VALVE
- CIRCUIT SETTER
- STRAIGHT-THRU MODULATING CONTROL VALVE
- STRAIGHT-THRU TWO POSITION CONTROL VALVE
- THREE-WAY MODULATING CONTROL VALVE
- AUTOMATIC FLOW CONTROL VALVE
- SAFETY OR PRESSURE RELIEF VALVE
- PRESSURE REDUCING VALVE
- MANUAL AIR VENT
- TEST PLUG (PRESSURE/TEMPERATURE)
- FLOW SWITCH

DRAWING SYMBOLS

- 2 / H4 — DETAIL NUMBER / DRAWING NUMBER WHERE DRAWN
- A / H7 — SECTION LETTER / DRAWING NUMBER WHERE SHOWN
- 2-SF / 1 — BUILDING NO. WHERE EQUIPMENT IS LOCATED. / EQUIPMENT ABBREVIATION / TYPICAL UNIT NO.
- POINT OF CONNECTION BETWEEN NEW AND EXISTING WORK
- LIMIT OF DEMOLITION
- TU-1-1 — ITEM (TERMINAL UNIT SHOWN) / ITEM NUMBER (TERMINAL UNIT NO.1) / SERVED BY SUPPLY FAN NO.1

CONTROLS SYMBOLS

AFM	AIR FLOW MEASURING DEVICE	MONITORS AIR FLOW RATE TRANSMITS TRANSMITS VELOCITY PRESSURE TO DCP
ΔP	DIFFERENTIAL PRESSURE SENSOR	TRANSMITS DIFFERENTIAL PRESSURE TO DCP TO INDICATE FILTER CONDITIONS AND STATUS
DCP	DISTRIBUTED CONTROL PANEL (DIRECT DIGITAL CONTROL PANEL)	CONTROLS OPERATION OF AIR HANDLING UNITS IN ACCORDANCE WITH THE SEQUENCE OF OPERATION.
D-1	OUTSIDE AIR DAMPER, 2-POSITION	OPENS WHEN SUPPLY FAN STARTS AND CLOSES WHEN SUPPLY FAN STOPS.
D-2	RETURN AIR DAMPER, MODULATING	VARIES RETURN AIR FLOW IN RESPONSE TO SUPPLY AIR
D-3	RELIEF AIR DAMPER, MODULATING	VARIES RELIEF AIR FLOW IN RESPONSE TO DCP.
ECC	ENGINEERING CONTROL CENTER	WORK STATION FOR MONITORING OF SYSTEMS OPERATIONS, CONNECTED TO ECC.
F SD	DUCT SMOKE DETECTORS (FURNISHED AND WIRED TO FIRE ALARM PANEL BY ELECTRICAL)	PROVIDE SMOKE SIGNAL TO DCP.
	PRESSURE GAUGE	FILTER CONDITION INDICATOR (LOCAL)
SPS-1	STATIC PRESSURE SENSOR (SEE FLOOR PLANS FOR LOCATION)	SENSES AND TRANSMITS DUCT STATIC PRESSURE TO DCP.
SPS-2	HIGH LIMIT STATIC PRESSURE SENSOR	SENSES AND TRANSMITS DUCT STATIC PRESSURE NEAR AHU TO DCP.
T-1	SUPPLY AIR TEMPERATURE SENSOR	SENSES AND TRANSMITS SUPPLY AIR DRY BULB TEMPERATURE TO DCP FOR CONTROL AND INDICATION.
T-2	OUTSIDE AIR TEMPERATURE SENSOR	SENSES AND TRANSMITS OUTSIDE AIR DRY BULB TEMPERATURE TO DCP FOR CONTROL AND INDICATION.
T-4	RETURN AIR TEMPERATURE SENSOR	SENSES AND TRANSMITS RETURN AIR DRY BULB TEMPERATURE TO DCP FOR INDICATION ONLY.
T-5	MIXED AIR TEMPERATURE SENSOR	SENSES AND TRANSMITS MIXED AIR DRY BULB TEMPERATURE TO DCP FOR INDICATION ONLY.
T-6	LEAVING COOLING COIL AIR TEMPERATURE SENSOR	SENSES AND TRANSMIT COOLING COIL DRY BULB TEMPERATURE TO DCP
T-7	CHILLED WATER SUPPLY TEMPERATURE SENSOR	SENSES AND TRANSMITS CHILLED WATER TEMPERATURE TO DCP
T-8	CHILLED WATER RETURN TEMPERATURE SENSOR	SENSES AND TRANSMITS CHILLED WATER TEMPERATURE TO DCP
T-9	DISCHARGE AIR TEMPERATURE SENSOR	SENSES AND TRANSMITS SUPPLY AIR DRY BULB TEMPERATURE TO DCP FOR CONTROL AND INDICATION.
T-10	SPACE TEMPERATURE SENSOR	SENSES AND TRANSMITS SPACE TEMPERATURE TO DCP FOR CONTROL AND INDICATION.
T-11	CONDENSER WATER RETURN TEMPERATURE SENSOR	SENSES AND TRANSMITS CONDENSER WATER TEMPERATURE TO DCP
T-12	CONDENSER WATER SUPPLY TEMPERATURE SENSOR	SENSES AND TRANSMITS CONDENSER WATER TEMPERATURE TO DCP
V-1	CHILLED WATER CONTROL VALVE, 3-WAY MODULATING TYPE	VARIES CHILLED WATER FLOW TO COOLING COIL IN RESPONSE TO DCP.
V-2	CHILLED WATER CONTROL VALVE, MODULATING TYPE	VARIES CHILLED WATER FLOW
VPS	VELOCITY PRESSURE SENSOR	SENSES AND TRANSMITS VELOCITY PRESSURE TO DCP.
VSMC	VARIABLE SPEED MOTOR CONTROLLER WITH MOTOR STARTER	CONTROLS SUPPLY AND RETURN FANS MOTOR SPEED IN RESPOND TO DCP

AI	ANALOG INPUT
AO	ANALOG OUTPUT
DI	DIGITAL INPUT
DO	DIGITAL OUTPUT
SS	START/STOP
CA	COMMON ALARM
FC	FREQUENCY CONTROL
FBK	FEEDBACK
OPN	OPEN
MOV	MOTOR OPERATED VALVE
CLO	CLOSE
ALM	ALARM
CS	CURRENT SENSOR
CSP	XXX
PT	PRESSURE TRANSMITTER
PSH	PRESSURE SENSOR HIGH
PSL	PRESSURE SENSOR LOW
VS	VIBRATION SWITCH
R	REFRIGERANT SENSOR
T H	ROOM CONTROI THERMOSTAT. HUMIDISTAT

- CIRCUIT SWITCH
- T-8 — SENSOR IN WELL
- CR — CURRENT SENSING RELAY
- VFD — VARIABLE FREQUENCY DRIVE
- FAN
- PUMP
- M — DAMPER
- SD — DUCT SMOKE DETECTOR

DUCTWORK SYMBOLS

- FC — FLEXIBLE CONNECTION
- VANED ELBOW (PROVIDE ALL SQUARE OR OR RECTANGULAR ELBOWS WITH VANES EVEN IF SYMBOL IS MISSING)
- VANED ELBOW (SHORT RADIUS)
- STANDARD RADIUS ELBOW
- 10x8 — NEW DUCT (WIDTH X DEPTH)
- LOUVER (LOUVER SPECIFIED IN ARCHITECTURAL SECTION.)
- FLEXIBLE DUCTWORK (INSULATED)
- DUCT WITH SOUND LINING
- VD — MANUAL VOLUME DAMPER
- F. DPR — FIRE DAMPER
- BDD — BACK DRAFT DAMPER
- SUPPLY TOP REGISTER OR GRILLE (WALL TYPE)
- EXHAUST OR RETURN CEILING REGISTER OR GRILLE
- EXHAUST OR RETURN BOTTOM REGISTER OR GRILLE (WALL TYPE)
- EXHAUST OR RETURN REGISTER OR GRILLE (WALL TYPE)
- VANED ELBOW & AIR SPLIT TYPE DUCT TAKE-OFF
- R — INCLINED RISE, IN DIRECTION OF AIR FLOW
- D — INCLINED DROP, IN DIRECTION OF AIR FLOW
- SA — DUCT SOUND ATTENUATOR
- S. DPR / N — SMOKE DAMPER
- 2 1 — POINT OF CHANGE IN DUCT CONSTRUCTION BY STATIC PRESSURE CLASS. THE NUMBER ASSIGNS PRESSURE CLASS (IN. OF WATER) WHICH WILL ACCOMMODATE MAXIMUM OPERATING PRESSURE IN THE DUCT SUBSECTION. THE SYMBOL CONTINUES THE ASSIGNMENT UNTIL THE DUCT TERMINATES OR ANOTHER SYMBOL APPEARS. A "N" SUPERSCRIPT INDICATES NEGATIVE PRESSURE.
- STAINLESS STEEL DUCT
- OR — DOUBLE WALL CASING PANEL
- MANUAL SPLITTER DAMPER
- 45° SUPPLY — STANDARD BRANCH SUPPLY OR RETURN, NO SPLITTER (45° TAP)
- 45° RETURN
- DUCT MOUNTED COIL (HOT WATER OR STEAM COIL)
- DUCT MOUNTED COIL (ELECTRIC)
- DUCT FLEXIBLE CONNECTOR
- UP DN — SUPPLY DUCT (UP & DOWN)
- UP DN — EXHAUST DUCT (UP & DOWN)
- CEILING DIFFUSERS
- CONNECT NEW DUCT TO EXISTING DUCT
- LIMIT OF DEMOLITION

DRAWING LIST

H1 – MECHANICAL SYMBOLS, ABREVIATIONS AND DRAWING LIST
H2 – MECHANICAL DEMOLITION PLAN FIRST FLOOR
H3 – MECHANICAL PLAN – REMODEL FIRST FLOOR
H4 – MECHANICAL PLAN – REMODEL ROOF PLAN
H5 – MECHANICAL DETAILS
H6 – MECHANICAL SCHEDULES
H7 – CONTROL DIAGRAMS

NON-SPRINKLERED
CD2 SUBMISSION - ISSUED FOR CONSTRUCTION

No.	Description	Date

CONSULTANTS:

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2201 Dupont Drive, Suite 800
Irvine, CA 92612-7507
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Project Number: 152-022

Seals and Signatures

ARCHITECT/ENGINEERS:

LEO A DALY
PLANNING ARCHITECTURE ENGINEERING INTERIORS
550 South Hope Street, 27th Floor
Los Angeles, California 90071, USA
213-629-0100 F213-629-0070 EST. 1915

Drawing Title: **MECHANICAL SYMBOLS, ABREVIATIONS AND DRAWING LIST**

Approved: Project Director

Project Title: VA Los Angeles National Cemetery, Phase 1A

Location: Los Angeles National Cemetery, 950 South Sepulveda Boulevard, Los Angeles, California 90049

Date: 06-10-2016 | Checked: KA | Drawn: RM

VA Project Number: 898CM2032

Building Number: 1001

Drawing Number: H1

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Department of Veterans Affairs

VA FORM 08-6231

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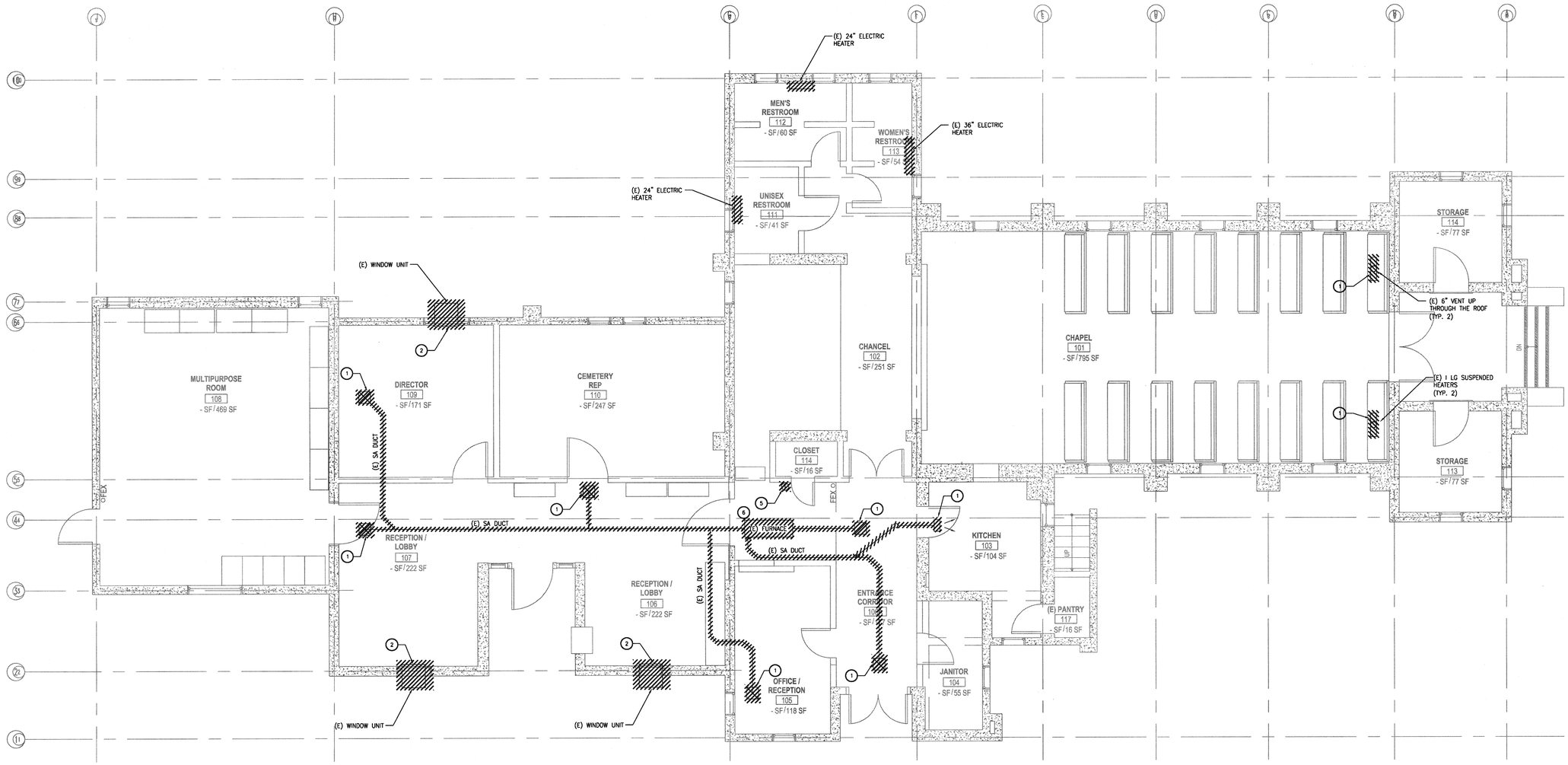

GENERAL NOTES

1. FIELD VERIFY ALL EXISTING MECHANICAL CONDITIONS PRIOR TO SUBMITTING SUBMITTALS, BIDS OR START OF ANY WORK.
2. REFER TO ARCHITECTURAL DWG'S FOR COMPLETE SCOPE INCLUDING THESE DOCUMENTS FOR EXTENT OF WORK.

DEMOLITION NOTES

1. DISCONNECT AND REMOVE EXISTING UNIT HEATER, FLUE VENT,SUPPORTS, PIPING AND ACCESSORIES.
2. DISCONNECT AND REMOVE EXISTING WINDOW MOUNTED AIR CONDITIONING UNIT, SUPPORTS, PIPING AND ACESSORIES.
3. EXISTING ELECTRIC BASEBOARD HEATER REMOVE AND REPLACE WITH NEW EQUIVILANT CAPACITY HEATERS.
4. DISCONNECT AND REMOVE EXISTING MECHANICAL SYSTEM, DUCTWORK, REGISTERS, DIFFUSERS, SUPPORTS AND ACCESSORIES INCLUDING EXISTING FAU UNIT.
5. DISCONNECT AND REMOVE EXISTING THERMOSTAT
6. REMOVE EXISTING FORCED AIR UNIT UNIT.

F1 **MECHANICAL DEMOLITION PLAN - FIRST FLOOR**
SCALE: 1/4" = 1'-0"

TRUE NORTH

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Los Angeles, California 90071, USA
213-629-0100 F213-629-0070 EST. 1915

Drawing Title: **MECHANICAL DEMOLITION PLAN FIRST FLOOR**

Approved Project Director

Project Title: VA Los Angeles National Cemetery, Phase 1A

Location: Los Angeles National Cemetery, 950 South Sepulveda Boulevard, Los Angeles, California 90049

Date: 06-10-2016 | Checked: RM | Drawn: RL

VA Project Number: 898CM2032
Building Number: 1001
Drawing Number: H2
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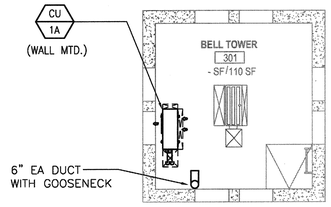
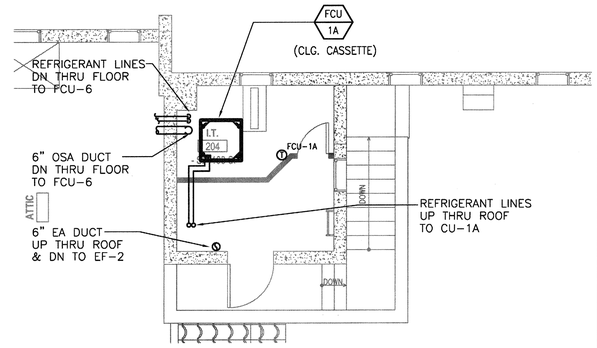
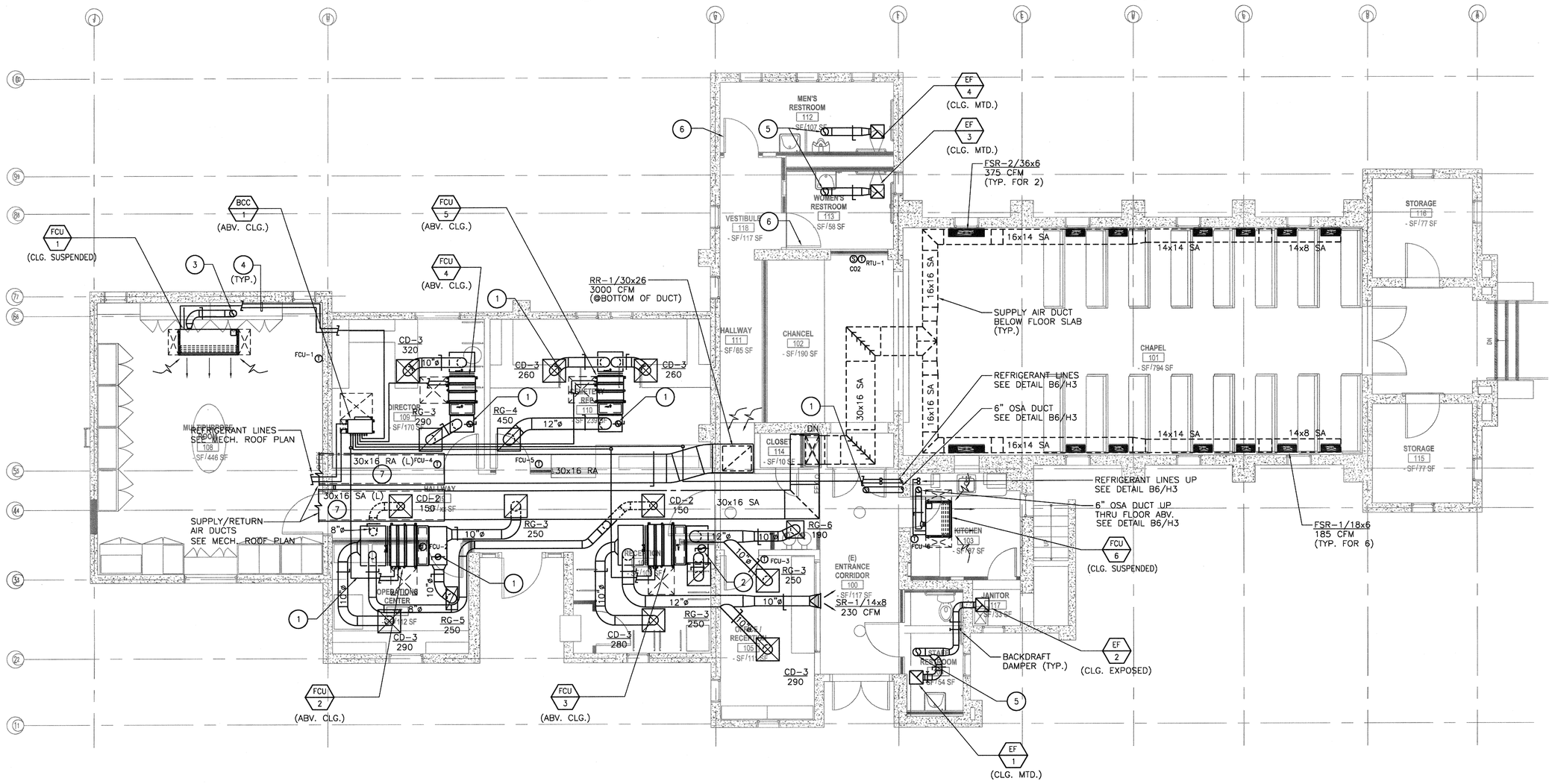


B3 MECHANICAL PLAN - BELL TOWER
SCALE: 1/4" = 1'-0"



B6 MECHANICAL PLAN - TOWER STORAGE/I.T. ROOM
SCALE: 1/4" = 1'-0"



F1 MECHANICAL PLAN - REMODEL FIRST FLOOR
SCALE: 1/4" = 1'-0"

GENERAL NOTES

1. FIELD VERIFY ALL EXISTING PLUMBING CONDITIONS PRIOR TO SUBMITTING SUBMITTALS, BIDS OR START OF ANY WORK.
2. REFER TO ARCHITECTURAL DWG'S FOR COMPLETE SCOPE INCLUDING THESE DOCUMENTS FOR EXTENT OF WORK.
3. CONTRACTOR TO X-RAY (E)CONCRETE WALL AND FLOOR SLAB PRIOR TO ANY PIPE, CONDUIT OR DUCT PENETRATION. NO EXISTING WALL REINFORCEMENTS TO BE CUT.

PLAN NOTES

1. 6"ø OSA DUCT UP THRU ROOF.
2. 7"ø OSA DUCT UP THRU ROOF.
3. 8"ø OSA DUCT UP THRU ROOF.
4. REFRIGERANT LINES TO FAN COIL UNITS. SIZE PER MANUFACTURER'S RECOMMENDATIONS.
5. 8"ø EA DUCT UP THRU ROOF.
6. PROVIDE 12x12 DOOR LOUVER.
7. PROVIDE 15 FEET MIN. OF 1" THICK INTERNAL ACOUSTICAL LINING.

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EST. 1915

Drawing Title: MECHANICAL PLAN - REMODEL FIRST FLOOR

Approved: Project Director

Project Title: VA Los Angeles National Cemetery, Phase 1A

Location: Los Angeles National Cemetery, 950 South Sepulveda Boulevard, Los Angeles, California 90049

Date: 06-10-2016 | Checked | Drawn

VA Project Number: 898CM2032

Building Number: 1001

Drawing Number: H3

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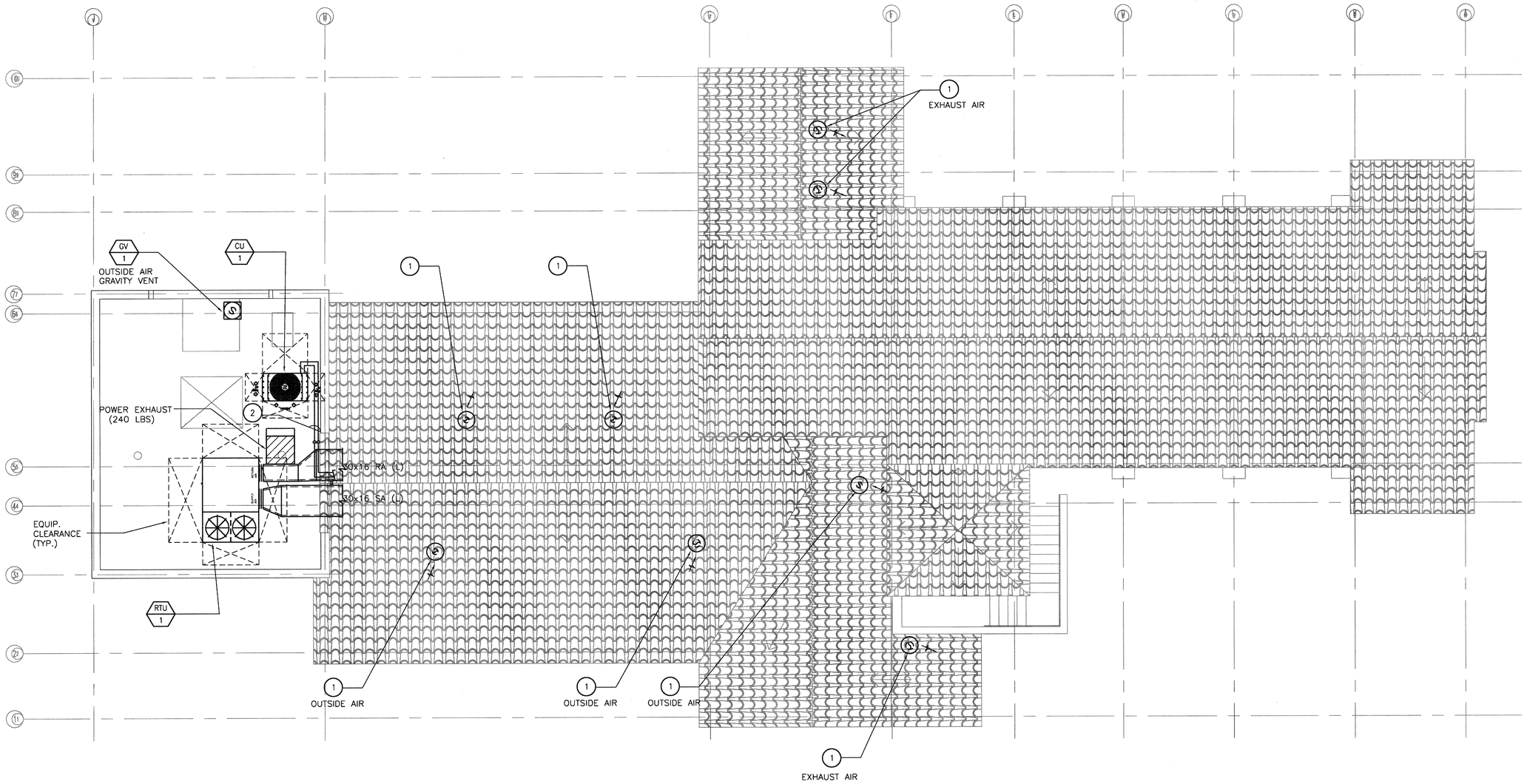
one eighth inch = one foot | one quarter inch = one foot | three eighths inch = one foot | one half inch = one foot | three quarters inch = one foot | one inch = one foot | one and one half inches = one foot | three inches = one foot



GENERAL NOTES

1. FIELD VERIFY ALL EXISTING MECHANICAL CONDITIONS PRIOR TO SUBMITTING SUBMITTALS, BIDS OR START OF ANY WORK.
2. REFER TO ARCHITECTURAL DWG'S FOR COMPLETE SCOPE INCLUDING THESE DOCUMENTS FOR EXTENT OF WORK.

PLAN NOTES

1. GALVANIZED SHEETMETAL RAIN CAP.
2. REFRIGERANT PIPING. SIZE PER MANUFACTURER'S RECOMMENDATIONS.

F1 **MECHANICAL - OVERALL ROOF PLAN**
SCALE: 1/4" = 1'-0"

TRUE NORTH

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CD2 SUBMISSION - ISSUED FOR CONSTRUCTION

No.	Description	Date

CONSULTANTS:

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213-629-0100 F213-629-0070 EST. 1915

Drawing Title: **MECHANICAL - OVERALL ROOF PLAN**

Approved: Project Director

Project Title: VA Los Angeles National Cemetery, Phase 1A

Location: Los Angeles National Cemetery, 950 South Sepulveda Boulevard, Los Angeles, California 90049

Date: 06-10-2016 | Checked | Drawn

VA Project Number: 898CM2032

Building Number: 1001

Drawing Number: H4

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VA FORM 08-6231

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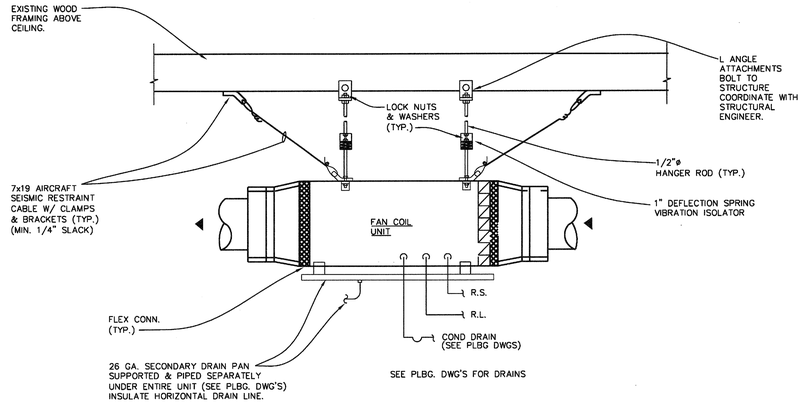
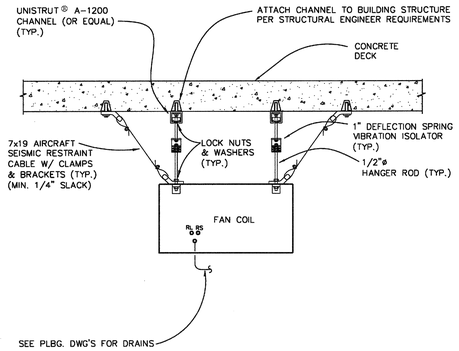


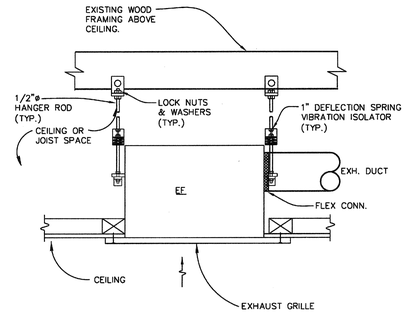
B1 FAN COIL UNIT SUPPORT DETAIL

NTS



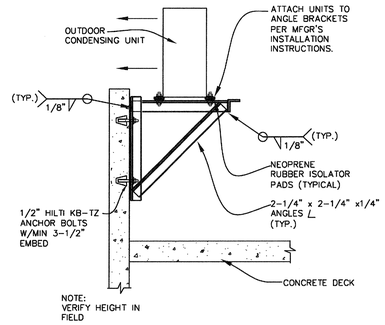
B4 FAN COIL UNIT SUPPORT DETAIL

NTS



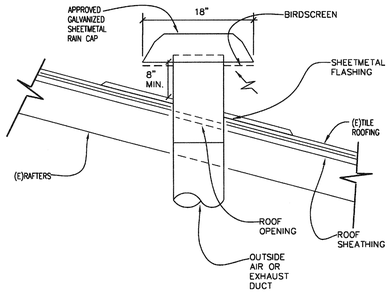
B6 CEILING EXHAUST FAN DETAIL

NTS



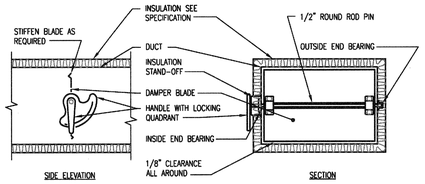
B8 STACKED CONDENSING UNIT DETAIL

NTS



D1 RAIN CAP DETAIL

NTS

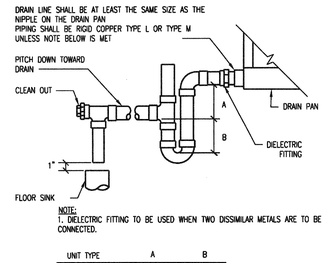


NOTE:

1. DELETE INSULATION STAND-OFF ON DUCTWORK WITHOUT EXTERIOR INSULATION.
2. DETAIL SHOWS SINGLE BLADE DAMPER. DAMPER INSTALLATION SHALL BE SIMILAR FOR MULTI-BLADE DAMPERS & ROUND DAMPERS.

D4 VOLUME DAMPER DETAIL

NTS



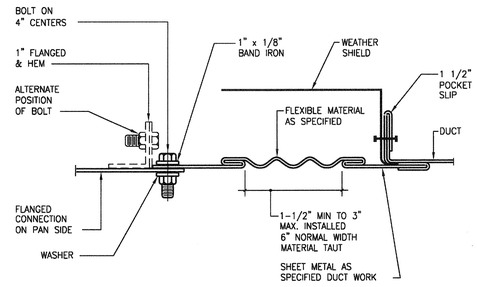
NOTE:
1. DIELECTRIC FITTING TO BE USED WHEN TWO DISSIMILAR METALS ARE TO BE CONNECTED.

UNIT TYPE	A	B
DRAW THRU	2" PLUS X	X
BLOW THRU	1" MINIMUM	2X

WHERE X = STATIC PRESSURE IN PAN

D8 CONDENSATE DRAIN TRAP DETAIL

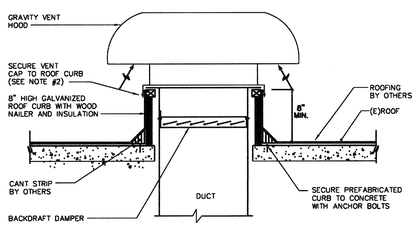
NTS



NOTE:
1. PROVIDE WEATHER SHIELD OVER FLEXIBLE DUCT CONNECTION.

D8 RECTANGULAR FLEXIBLE CONNECTION

NTS

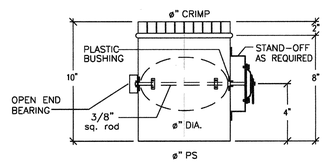


NOTES

1. PROVIDE LEVELING STRIP UNDER ROOF CURB IF REQUIRED – BY OTHERS
2. ATTACH VENT TO CURB WITH #10 SHEET METAL SCREWS AT 24" OC MAXIMUM SPACING. MINIMUM TWO (2) SCREWS PER SIDE.

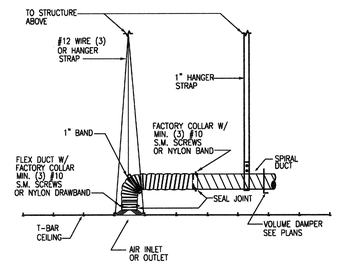
F1 GRAVITY VENT DETAIL

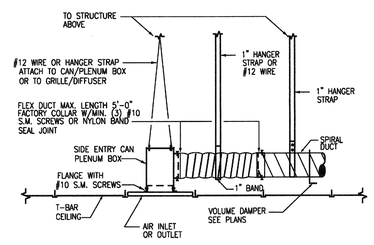
NTS



F4 ROUND VOLUME DAMPER DETAIL

NTS





F8 AIR DEVICE CONNECTION DETAIL

NTS

NON-SPRINKLERED
CD2 SUBMISSION - ISSUED FOR CONSTRUCTION

No.	Description	Date

CONSULTANTS:

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TEL: 949.475.5550
www.mazzetti.com
Project Number: 152-022

Seals and Signatures

ARCHITECT/ENGINEERS:

LEO A DALY
PLANNING ARCHITECTURE ENGINEERING INTERIORS
550 South Hope Street, 27th Floor
Los Angeles, California 90071, USA
213-629-0100 F213-629-0070 EST. 1915

Drawing Title: **MECHANICAL DETAILS**

Approved Project Director

Project Title: VA Los Angeles National Cemetery, Phase 1A

Location: Los Angeles National Cemetery, 950 South Sepulveda Boulevard, Los Angeles, California 90049

Date: 06-10-2016 | Checked: RM | Drawn: RL

VA Project Number: 898CM2032

Building Number: 1001

Drawing Number: H5

Dwg. of

Office of Construction and Facilities Management

Department of Veterans Affairs

VA FORM 08-6231

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FAN COIL & CONDENSING UNIT SCHEDULE (HEATING & COOLING)

MARK NO. (FCU –)	AREA SERVED	QTY	INDOOR UNIT LOCATION	TOTAL COOLING CAPACITY (MBH)	SENSIBLE COOLING CAPACITY (MBH)	HEATING OUTPUT (MBH)	INDOOR FAN DATA CFM	SPEED	ESP (IN)	MOTOR DATA MCA	V	PH	MOCP	OSA	WT. (LBS)	FILTER SP (IN) CLEAN	MERV No.
FCU/1	MILTIPURPOSE ROOM	1	CEILING SUSPENDED	36.0	26.0	40.0	1050	HIGH	–	1.22	208/230	1	15	120	100	0.10	8
FCU/2	OFFICE 102 HALLWAY 119	1	ABOVE CEILING	18.0	14.5	20.0	600	HIGH	0.60	0.64	208/230	1	15	90	80	0.10	11
FCU/3	OFFICE 105,106 CORR 100	1	ABOVE CEILING	27.0	22.0	30.0	880	HIGH	0.60	2.10	208/230	1	15	110	120	0.10	11
FCU/4	OFFICE 109	1	ABOVE CEILING	12.0	9.0	13.5	320	HIGH	0.60	0.64	208/230	1	15	50	80	0.10	11
FCU/5	OFFICE 110	1	ABOVE CEILING	18.0	14.5	20.0	600	HIGH	0.60	0.64	208/230	1	15	70	80	0.10	11
FCU/6	KITCHEN ROOM	1	CEILING SUSPENDED	15.0	12.0	17.0	350	LOW	–	0.44	208/230	1	15	30	60	0.10	8

MARK NO. (CU –)	OUTDOOR CONDENSING UNIT TONNAGE	EER/ IEER	CONDENSING TEMP (F)	NO FANS	MCA	MAX. FUSE SIZE	MAX. STARTING CURRENT AMPS	V	PH	WT. (LBS)	REFRIGERANT TYPE	REMARKS
CU-1	8 TONS	12.0/24.1	95	1	33	50	–	208	3	550	R410A	(1-OUTDOOR UNIT MODULE) SEE NOTES 1 THRU 12 (DESIGN BASED ON MITSUBISHI VRF SYSTEM) (INDOOR UNITS: MODEL PEFY-xx-NMAUE3 & PCFY-xx-NKMU-ER1) (OUTDOOR UNIT: MODEL PURY-xx-TLMU-A)

NOTES:
1. CONDENSING UNIT SHALL BE MOUNTED ON A NEW STRUCTURAL GALV. STEEL BASE AND ISOLATE WITH 1" THICK NEOPRENE PAD ISOLATORS W/STEEL TOP PLATE AS STANDARD.
2. PROVIDE TEMPERATURE SENSING THERMOSTAT AND CENTRALIZED PROGRAMMAGLE CONTROLLER.
3. PROVIDE UNISTRUT SUPPORT W/SPRING ISOLATORS AT FOUR CORNERS FOR FAN COIL UNIT.
4. PROVIDE UNIT W/SECONDARY DRAIN PAN AND OVERFLOW DRAIN PIPE TO A VISIBLE LOCATION..
5. PROVIDE BRANCH SELECTOR BOX AS INDICATED IN THE FLOOR PLAN.
6. PROVIDE DUCT SMOKE DETECTOR (DSD). DSD WILL BE FURNISHED BY THE ELECTRICAL SECTION AND INSTALLED BY THE MECHANICAL SECTION. UPON DETECTION OF SMOKE THE FAN COIL UNIT SHALL SHUT DOWN.
7. THIS CONTRACTOR SHALL PROVIDE ALL CONTROL WIRING & CONDUIT INTERCONNECTING FANCOIL UNITS, CONDENSING UNIT, THERMOSTATS, CENTRAL CONTROLLER AND BACNET INTERFACE CONTROLLER.
8. PROVIDE SUCTION & LIQUID REFRIGERANT LINES BETWEEN FANCOIL UNIT, AND CONDENSING UNIT. SIZE PER MANUFACTURER RECOMMENDATIONS.
9. PROVIDE INTERNAL CONDENSATE PUMP (EACH FAN COIL).
10. PROVIDE FILTER BOX WITH AIR FILTERS.
12. DESING IS BASED ON MITSUBISHI VRF SYSTEM.

FAN COIL & CONDENSING UNIT SCHEDULE (COOLING ONLY - DATA ROOM)

MARK NO. (FCU –)	AREA SERVED	QTY	INDOOR UNIT LOCATION	TOTAL COOLING CAPACITY (MBH)	SENSIBLE COOLING CAPACITY (MBH)	HEATING OUTPUT (MBH)	INDOOR FAN DATA CFM	SPEED	ESP (IN)	MOTOR DATA MCA	V	PH	MOCP	OSA	WT. (LBS)	FILTER SP (IN) CLEAN	TYPE
FCU/1A	I.T. ROOM 204	1	CEILING MOUNTED	12.0	9.5	–	–	HIGH	–	2.3	208/230	1	15	–	–	–	–

MARK NO. (CU –)	OUTDOOR CONDENSING UNIT TONNAGE	EER	CONDENSING TEMP (F)	NO FANS	MCA	MAX. FUSE SIZE	V	PH	WT. (LBS)	REFRIGERANT TYPE	REMARKS
CU/1A	1 TON		95	–	16.5	–	208	1	100	R410A	SEE NOTES 1 THRU 7

NOTES:
1. CONDENSING UNITS SHALL BE MOUNTED ON A NEW GALV. ANGLE STEEL BRACKETS AND ISOLATE WITH 1"THICK NEOPRENE PAD ISOLATORS W/STEEL TOP PLATE AS STANDARD.
2. PROVIDE TEMPERATURE SENSING THERMOSTAT AND CENTRALIZED PROGRAMMAGLE CONTROLLER
3. PROVIDE UNISTRUT SUPPORT W/SPRING ISOLATORS AT FOUR CORNERS FOR FAN COIL UNIT.
4. PROVIDE AIR FILTERS.
5. THIS CONTRACTOR SHALL PROVIDE ALL CONTROL WIRING & CONDUIT INTERCONNECTING FANCOIL UNITS, CONDENSING UNIT, THERMOSTATS AND CENTRAL CONTROLLER.
6. PROVIDE SUCTION & LIQUID REFRIGERANT LINES BETWEEN FANCOIL UNIT, AND CONDENSING UNIT. SIZE PER MANUFACTURER RECOMMENDATIONS.
7. PROVIDE INTEGRAL CONDENSATE PUMP.
12. DESING IS BASED ON MITSUBISHI (INDOOR UNIT: MODEL PLA-xx-BA4) (OUTDOOR UNIT: MODEL PUY-xx-NHA4)

BC CONTROLLER SCHEDULE

SYMBOL	SERVICE	LOCATION	ELECTRICAL MCA	VOLTS	PH	HZ	OPERATING WEIGHT (LBS.)	REMARKS
BCC-1	FCU'S	ABV. CLG.	0.68	208/230	1	60	90	SEE NOTES 1, 2 & 3

NOTES:
1. CONDENSATE PUMP.
2. PORT CONNECTOR WITH SHUT-OFF VALVES.
3. DESING IS BASED ON MITSUBISHI VRF SYSTEM.

EXHAUST FAN SCHEDULE

SYMBOL	SERVICE	LOCATION	TYPE	FAN CFM	ESP (IN WG)	RPM	DRIVE	MOTOR WATTS	POWER (V-PH-HZ)	RPM	OP WT (LBS)	REMARKS
EF-1	TOILET EXHAUST	CEILING	CEILING FAN	75	0.625	1450	DIRECT	44	120/1/60	1075	40	1 2 3 4 (DESIGN BASED ON COOK MODEL GC148)
EF-2	JANITOR'S EXHAUST	CEILING	CEILING FAN	75	0.625	1450	DIRECT	44	120/1/60	1075	40	1 2 3 4 (DESIGN BASED ON COOK MODEL GC148)
EF-3	TOILET EXHAUST	CEILING	CEILING FAN	100	0.625	1450	DIRECT	84	120/1/60	1100	40	1 2 3 4 (DESIGN BASED ON COOK MODEL GC186)
EF-4	TOILET EXHAUST	CEILING	CEILING FAN	150	0.625	1450	DIRECT	84	120/1/60	1100	40	1 2 3 4 (DESIGN BASED ON COOK MODEL GC186)

NOTES:
1. DELUXE ALUMINUM GRILLE.
2. HANGING VIBRATION ISOLATOR KIT.
3. PROVIDE BACKDRAFT DAMPER.
4. PROVIDE WITH "ON-OFF" SWITCH.

ROOFTOP UNIT (HEATPUMP TYPE) SCHEDULE

SYMBOL	TYPE	SERVICE	LOCATION	COOLING CAPACITY MBH TOTAL	SENSIBLE	E.A.T. °F D.B.	W.B.	AMBIENT TEMP. (°F)	UNIT EER	HEATING (MBH)	FAN TOTAL UNIT CFM	EXTER S.P. (IN WG)	MOTOR (BHP)	MOTOR (HP)	FILTERS MERV NO.	QTY	DIM. (IN (LxWxT)	UNIT ELECTRICAL DATA V	PH	HZ	MCA	MOCP	POWER EXH. FAN V	PH	HZ	FLA	HP	MINIMUM OUT DOOR AIR (CFM)	UNIT OPER. WEIGHT (LBS) (6)	REMARKS
RTU 1	HORIZONTAL	CHAPEL	ROOF	94.5	68.7	79.2	65.3	91	11.2	88.0	3000	1.2	–	–	8	–	–	208	3	60	40.2	50	208	3	60	5.6	–	750	1100	1 2 3 4 5 6 7 8 9 10 11

1. BELT DRIVE MOTOR.
2. PROVIDE FILTERS WITH CLOGGED FILTER SWITCH.
3. ANCHOR ROOFTOP UNIT TO STRUCTURAL STEEL FRAME.
4. UNIT SHALL BE PROVIDED WITH "CO2 SENSOR AND TEMPERATURE SENSOR"
5. UNIT SHALL BE PROVIDED WITH ECONOMIZER & POWER EXHAUST (240 LBS)
6. UNIT OPERATING WEIGHT DOES NOT INCLUDE WEIGHT OF POWER EXHAUST.
7. PROVIDE PHENOLIC COATING ON CONDENSER FINS COILS.
8. UNIT SHALL BE PROVIDED WITH INTEGRAL DISCONNECT SWITCH.
9. UNIT SHALL BE PROVIDED WITH VFD AND BY-PASS.
10. DESIGN IS BASED ON YORK MODEL "XPO90"
11. UNIT SHALL BE MOUNTED ON A NEW STRUCTURAL GALV. STEEL BASE AND ISOLATE WITH 1"THICK NEOPRENE PAD ISOLATORS W/STEEL TOP PLATE AS STANDARD.

VENT SCHEDULE

UNIT NO.	SERVICE	THROAT SIZE (IN.)	CFM	MAXIMUM S.P. DROP (IN W.G.)	OPER. WT. LBS.	NOTES
GV-1	OUTSIDE AIR	8"ø	–	0.05	50	1 (DESIGN BASED ON COOK MODEL PR8)

1. PROVIDE BIRDSCREEN AND ROOFCURB

HVAC DESIGN DATA

DESIGN CONDITIONS	SUMMER TEMP °F	TEMP [°C]	WET BULB TEMP °F	WET BULB TEMP [°C]	% HUMIDITY	WINTER TEMP °F	TEMP [°C]	DEWPOINT TEMP °F	DEWPOINT TEMP [°C]	% HUMIDITY	LOWEST AVERAGE ANNUAL DEWPOINT °F	[°C]
OUTDOOR DESIGN CONDITIONS	91.0	[33]	67.3	[19]		44	[7]		[ ]	NA		[ ]
INDOOR AREA DESIGN CONDITIONS												
OFFICES	75	[24]	62	[17]	50	70	[21]	37	[3]	30		
CONFERENCE ROOMS	75	[24]	62	[17]	50	70	[21]	37	[3]	30		

NEW GRILLE/DIFFUSER SCHEDULE

MARK NO.	DESIGNATION	CFM RANGE	FRAME SIZE (IN)	NECK SIZE (IN)	MAX. N.C. LEVEL	REMARKS
CD-1		0-100	24X24	6x6	30	
CD-2		101-200	24X24	8x8	30	
CD-3		201-350	24X24	10x10	30	
CD-4		351-500	24X24	12x12	30	
CD-5		0-200	12X12	6x6	30	
RG-1		0-100	24X24	6"ø	30	
RG-2		101-200	24X24	8"ø	30	
RG-3		201-350	24X24	10"ø	30	
RG-4		351-500	24X24	12"ø	30	
RG-5		0-300	24X12	10"ø	30	
RG-6		0-300	16x16	12x12	30	
EG-1		0-200	24X24	8"ø	30	
EG-2		201-500	24X24	12"ø	30	
EG-3		501-1200	24X24	16"ø	30	
EG-4		0-200	12X12	8"ø	30	
FSR-1		0-200	20X8	18X6	30	1
FSR-2		201-400	38X8	36X6	30	1
SR-1		0-250	16X10	14x8	30	2
RR-1		3000	32X28	30x26	30	3

1. FLOOR MOUNTED LINEAR BAR, STEEL, 0° DEFLECTION, 7/32" BARS PENCIL PROOF, HEAVY DUTY FRAME, REMOVABLE CORES FOR EASY ACCESS AND OPPOSED BLADE DAMPER.
2. SIDEWALL SUPPLY REGISTER 3/4" SPACING; DOUBLE DEFLECTION; SHORT FRONT BLADES.
3. RETURN REGISTER 3/4" SPACING; 0 DEFLECTION; LONG FRONT BLADES.

LOW PRESSURE DUCT SIZING SCHEDULE

CFM	DUCT SIZE (IN.)
0 TO 100	6"ø
101 TO 200	8"ø
251 TO 350	10X8 OR 10"ø
351 TO 500	10X10 OR 12"ø
501 TO 650	12X10 OR 12"ø
651 TO 950	14X12 OR 14"ø
951 TO 1200	16X12
1201 TO 1450	18X12
1451 TO 1600	20X12
1601 TO 1800	24X12

NOTES:
1. FOR MISSING DUCT SIZES ONLY.

NON-SPRINKLERED
CD2 SUBMISSION - ISSUED FOR CONSTRUCTION

No.	Description	Date

CONSULTANTS:

MAZZETTI
2201 Dupont Drive, Suite 800
Irvine, CA 92612-7507
TEL: 949.475.5550
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Project Number: 152-022

Seals and Signatures

ARCHITECT/ENGINEERS:

LEO A DALY
PLANNING ARCHITECTURE ENGINEERING INTERIORS
550 South Hope Street, 27th Floor
Los Angeles, California 90071, USA
213-629-0100 F213-629-0070 EST. 1915

Drawing Title: **MECHANICAL SCHEDULES**

Approved Project Director

Project Title: VA Los Angeles National Cemetery, Phase 1A

Location: Los Angeles National Cemetery, 950 South Sepulveda Boulevard, Los Angeles, California 90049

Date: 06-10-2016 | Checked: KA | Drawn: RM

VA Project Number: 898CM2032
Building Number: 1001
Drawing Number: H6
Dwg. of

Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231

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ROOFTOP UNIT – SEQUENCE OF OPERATIONS

UNIT CONTROL:
THE ROOFTOP UNIT SHALL BE STARTED BASED ON OCCUPANCY SCHEDULE. THE SUPPLY FAN SPEED SHALL MODULATE FROM THE MINIMUM SPEED TO MAXIMUM COOLING SPEED AS THE COOLING COMMAND INCREASES AND FROM THE MINIMUM SEED TO MAXIMUM HEATING SPEED AS THE HEATING COMMAND INCREASES. WHEN THE SUPPLY FAN STATUS INDICATED THE FAN STARTED, THE CONTROL SEQUENCE SHALL BE ENABLED. UPON A LOSS OF AIRFLOW THE SUPPLY FAN SHALL ATTEMPT TO AUTOMATICALLY RESTART UNTIL POSITIVE STATUS IS RECEIVED.

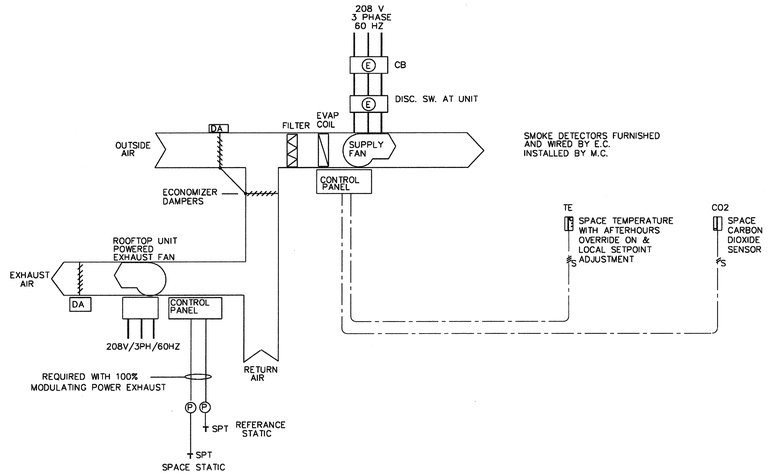
FOR UNITS CONTAINING POWER EXHAUST FANS, THE EXHAUST FAN SHALL BE CONTROLLED ECONOMIZER CONTROLLER OPERATION, AND SHALL RUN WHEN THE DAMPERS OPEN PAST THE 0–100% ADJUSTABLE SET POINT ON THE ECONOMIZER CONTROL.

WHEN THE OUTDOOR AIR TEMPERATURE IS COOLER THAN THE ECONOMIZER SETPOINT, THE ECONOMIZER SHALL ACT AS THE INITIAL STAGE OF COOLING, WORKING IN SEQUENCE WITH THE COOLING COIL

THE UNIT SHALL CONTROL TO MAINTAIN THE LOCALLY ADJUSTABLE ZONE TEMPERATURE SETPOINT AS SENSED BY THE ZONE TEMPERATURE SENSOR. THE UNIT SHALL INCREMENTALLY RESET THE SUPPLY AIR TEMPERATURE, AS LOAD INCREASES OR DECREASES (VIA OWN INTERNAL CONTROLS).

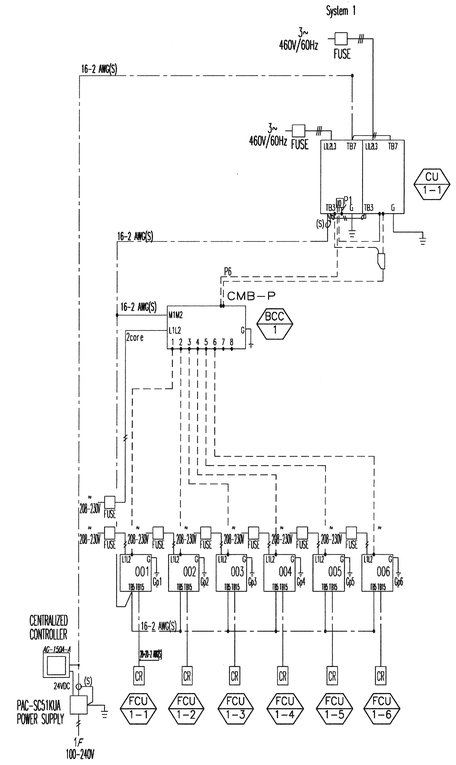
COOLING AND HEATING COIL SHALL SEQUENCE TO MAINTAIN THE ZONE TEMPERATURE SETPOINT.

Demand Control Ventilation – A carbon dioxide sensor located in the space will override the outside air damper open if the CO2 in the space exceeds IT'S SETPOINT.



C1 ROOFTOP UNIT SCHEMATIC CONTROLS DIAGRAM (SINGLE ZONE UNIT)
NTS

DIAGRAM SYMBOL LEGEND	
DISPLAY	DESCRIPTION
—//—	POWER WIRE (BY ELEC. CONTRACTOR)
— – —	CONTROL WIRE (BY MECH. CONTRACTOR)
– – – –	REF. PIPE (BY MECH. CONTRACTOR)



MITSUBISHI SYSTEM SCHEMATIC CONTROL DIAGRAM

VRF SYSTEM:
THE VARIABLE REFRIGERANT FLOW (VRF) SYSTEM SHALL BE CAPABLE OF PROVIDING SIMULTANEOUS HEATING AND COOLING IN DIFFERENT ZONES. EACH VRF SYSTEM SHALL CONSIST OF AN OUTDOOR UNIT HEAT PUMP WITH INVERTER DRIVEN COMPRESSOR AND CONDENSER, BRANCH CIRCUIT (BC) CONTROLLER, MULTIPLE INDOOR UNIT FAN COIL UNITS, LOCAL REMOTE CONTROLLERS, CENTRAL CONTROLLERS, AND SOFTWARE AS REQUIRED. THE VRF SYSTEM SHALL AUTOMATICALLY PERMIT FAN COILS IN DIFFERENT ZONES TO OPERATE IN EITHER HEATING OR COOLING MODE SIMULTANEOUSLY BY PROVIDING HEAT RECOVERY BETWEEN THOSE ZONES VIA THE BC CONTROLLER. EACH FAN COIL SHALL BE CAPABLE OF VARYING REFRIGERANT FLOW TO PROVIDE ADEQUATE HVAC ZONE CONTROL.

START/STOP CONTROL:
IN RESPONSE TO A TIME OF DAY SCHEDULE DEFINED AND CONTROLLED BY THE DISTRICT'S BMS SYSTEM, FAN COILS SHALL TRANSITION BETWEEN UNOCCUPIED AND OCCUPIED SETTINGS. DURING UNOCCUPIED PERIODS, FAN COILS SHALL NOT OPERATE. DURING OCCUPIED PERIODS, FAN COILS SHALL OPERATE IN FAN, HEATING, COOLING, OR AUTO MODES BASED ON THE COMMAND FROM LOCAL REMOTE CONTROLLERS, ON–SITE CENTRAL CONTROLLERS, OR DISTRICT BUILDING MANAGEMENT SYSTEM (BMS).

ZONE TEMPERATURE CONTROL:
1. COOLING MODE: IN COOLING MODE, THE BC CONTROLLER VALVES ARE POSITIONED TO DIVERT COLD LIQUID REFRIGERANT TO FAN COILS. THIS FLOW RATE SHALL BE AUTOMATICALLY CONTROLLED BY MODULATING THE FAN COIL LINEAR EXPANSION VALVE (LEV) TO MATCH THE COOLING LOAD DEMAND. IF THE TEMPERATURE IN THE SPACE AS MEASURED BY THE LOCAL REMOTE CONTROLLER RISES ABOVE THE SPACE COOLING TEMPERATURE SET POINT, THE FAN COIL SHALL OPERATE IN COOLING MODE. IF THE TEMPERATURE IN THE SPACE IS BELOW THE COOLING TEMPERATURE SET POINT, THE FAN COIL LEV WILL CLOSE DOWN AND RESTRICT REFRIGERANT FLOW, AND THE SUPPLY FAN SHALL CONTINUE TO RUN.

2. HEATING MODE: IN HEATING MODE, THE BRANCH CIRCUIT CONTROLLER VALVES ARE POSITIONED TO DIVERT HOT REFRIGERANT GAS TO FAN COILS THIS FLOW RATE SHALL BE AUTOMATICALLY CONTROLLED BY MODULATING THE FAN COIL LINEAR EXPANSION VALVE (LEV) TO MATCH THE HEATING LOAD DEMAND. IF THE TEMPERATURE IN THE SPACE AS MEASURED BY THE LOCAL REMOTE CONTROLLER FALLS BELOW THE SPACE HEATING TEMPERATURE SET POINT, THE FAN COIL SHALL OPERATE IN HEATING MODE. IF THE TEMPERATURE IN THE SPACE IS ABOVE THE HEATING TEMPERATURE SET POINT, THE FAN COIL LEV WILL CLOSE DOWN AND RESTRICT REFRIGERANT FLOW, AND THE SUPPLY FAN SHALL CONTINUE TO RUN.

3. AUTO MODE (AUTOMATIC CHANGEOVER MODE): IN AUTO MODE, THE INDOOR UNIT WILL AUTOMATICALLY SWITCH BETWEEN AUTO–HEATING AND AUTO–COOLING TO MAINTAIN THE SPACE SET POINT TEMPERATURE. THE SWITCH BETWEEN AUTO–HEATING AND AUTO–COOLING WILL OCCUR WHEN THE SPACE TEMPERATURE RISES OR FALLS 3°F RELATIVE TO THE SPACE SET POINT TEMPERATURE. THE BRANCH CIRCUIT CONTROLLER VALVES ARE POSITIONED TO DIVERT HOT OR COLD REFRIGERANT GAS TO FAN COILS BASED ON THE MODE OF THE INDOOR UNIT. THE REFRIGERANT FLOW RATE SHALL BE AUTOMATICALLY CONTROLLED BY MODULATING THE FAN COIL LINEAR EXPANSION VALVE (LEV) TO MATCH THE HEATING OR COOLING LOAD DEMAND.

CONTROLS:
FAN COIL OPERATION SHALL BE CONTROLLED THROUGH ON–SITE LOCAL REMOTE CONTROLLERS AND/OR CENTRAL CONTROLLER(S) AND REMOTELY FROM THE DISTRICT'S BMS VIA BACNET® COMMUNICATION PROTOCOL.

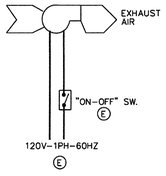
OPERATIONAL MODE, SET POINT TEMPERATURE, FAN SPEED, ON–OFF CONTROL, AND SCHEDULE SHALL BE CONTROLLED BY ON–SITE LOCAL REMOTE CONTROLLERS AND/OR CENTRAL CONTROLLER(S) AND REMOTELY VIA BMS BACNET® CONTROL. THE BMS OPERATION AND MONITORING POINTS INCLUDE, BUT ARE NOT LIMITED TO, ON/OFF, OPERATION MODE, FAN SPEED, PROHIBIT REMOTE CONTROLLER ALARM STATE, ERROR CODE, AND ERROR ADDRESS.
A TEMPERATURE LIMIT SET POINT RANGE FOR EACH ZONE SHALL BE DEFINED AND CONTROLLED BY THE BMS.

NOTES:

FAN COIL UNITS & OUTDOOR UNITS SHALL USE CONTROLS PROVIDED BY MITSUBISHI ELECTRIC TO PERFORM FUNCTIONS NECESSARY TO OPERATE THE SYSTEM.

INDOOR UNIT SHALL BE CONTROLLED BY THE TEMPERATURE SENSOR IN THE ROOM. 72 F (ADJ.) FOR COOLING AND 75 F (ADJ.) FOR HEATING.

E6 SCHEMATIC CONTROLS DIAGRAM
NTS



EXHAUST FAN – SEQUENCE OF OPERATION

FAN SHALL BE CONTROLLED BY "ON–OFF" SWITCH.

F6 EXHAUST FAN CONTROL DIAGRAM
NTS

NON-SPRINKLERED
CD2 SUBMISSION - ISSUED FOR CONSTRUCTION

No.	Description	Date

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213–629–0100 F213–629–0070 EST. 1915

Drawing Title: **CONTROLS DIAGRAMS**

Approved Project Director

Project Title: VA Los Angeles National Cemetery, Phase 1A

Location: Los Angeles National Cemetery, 950 South Sepulveda Boulevard, Los Angeles, California 90049

Date: 06-10-2016 | Checked: RM | Drawn: RL

VA Project Number: 898CM2032
Building Number: 1001
Drawing Number: H7
Dwg. of

Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231

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ELECTRICAL SYMBOLS - DIAGRAM

- DELTA CONNECTION
- MOTOR, SINGLE-PHASE
- MOTOR, THREE-PHASE
- TRANSFORMER
- WYE CONNECTION
- EARTH GROUND
- JUNCTION BOX
- PB — PULL BOX
- FUSE WITH RATING
- MOLDED CASE CIRCUIT BREAKER
- SWITCH AND FUSE UNIT
- FUSED DRAWOUT POTENTIAL TRANSFORMER
- DISCONNECT SWITCH, FUSED
- DISCONNECT SWITCH, UNFUSED
- STARTER, COMBINATION WITH DISCONNECT SWITCH
- STARTER OR MOTOR CONTROLLER
- TC — TIME CLOCK

ELECTRICAL SYMBOLS - LIGHTING PLAN

- $/ — SWITCH (# SUBSCRIPT AS INDICATED BELOW):
  BLANK = SINGLE POLE — 2 = DOUBLE POLE
  3 = THREE-WAY — 4 = FOUR-WAY
  D = DIMMER OPERATED — K = KEY
  LV= LOW VOLTAGE LIGHT — P = WITH PILOT
  LM= LOW VOLTAGE MASTER CONTROL — RC= REMOTE
  PB= PUSH BUTTON STATION PROOF — WP= WEATHER
  T = TIMER OPERATED — Mo= OCCUPANCY SENSOR
- A — RECESSED DOWNLIGHT FIXTURE, LETTER INDICATES TYPE.
- E — LIGHT FIXTURE, RECESSED LED, 610x610mm (2'x2'); LETTER INDICATES TYPE.

ELECTRICAL SYMBOLS - POWER PLAN

- DISCONNECT SWITCH, FUSED
- DISCONNECT SWITCH, UNFUSED
- STARTER, COMBINATION WITH DISCONNECT SWITCH
- STARTER OR MOTOR CONTROLLER
- VFD — VARIABLE FREQUENCY DRIVE
- TC — TIME CLOCK
- POTHEAD
- STRESS CONE
- R — RECTIFIER, CATHODIC PROTECTION SANITARY
- VENTILATOR OR FAN COIL UNIT OUTLET
- CONDUIT TERMINATED 152mm (6") AFF IN STANDARD BOX FOR EXTENSION TO EQUIPMENT AS DIRECTED.
- CONDUIT TERMINATED W/COUPLING (FLUSH W/FINISHED FLOOR) FOR EXTENSION TO EQUIPMENT AS DIRECTED.
- $/ — SWITCH (# SUBSCRIPT AS INDICATED BELOW):
  M = MANUAL MOTOR STARTING OPERATED — K = KEY
  MP= MOTOR SNAP WITH PILOT LIGHT MASTER — LM= LOW VOLTAGE
  (THERMAL TYPE) CONTACT — MC= MOMENTARY
  WP= WEATHER PROOF LIGHT — P = WITH PILOT

ELECTRICAL SYMBOLS - POWER PLAN

- M — MOTOR
- WH — ELECTRIC WATER HEATER
- T — TRANSFORMER, PLAN
- WYE CONNECTION
- EARTH GROUND
- JUNCTION BOX
- BRANCH CIRCUIT HOMERUN. LINES INDICATE NUMBER OF CIRCUITS, NEUTRAL, AND SWITCH LEG CONDUCTORS. ONE SEPARATE GREEN GROUNDING CONDUCTOR SHALL BE PROVIDED FOR EACH HOMERUN; NOT SHOWN
- PB — PULL BOX
- RC — RIGID CONDUIT LINE = RC
- DB — DIRECT BURIAL CABLE = DB
- P — POWER DUCT = P
- S — SUBSTATION
- HVS — HI VOLTAGE SWITCH ON CONCRETE PAD
- LVS — LOW VOLTAGE SWITCH ON CONCRETE PAD
- P T — DUAL POWER AND TELECOMMUNICATIONS MANHOLE
- B B — BUSWAY
- FLOOR OUTLET, DATA COMMUNICATION
- D — OUTLET, DATA COMMUNICATION
- PUSH BUTTON
- DP# — DISTRIBUTION PANEL
- LIGHTING PANEL
- PANELBOARD CABINET, FLUSH MOUNTED
- PANELBOARD CABINET, SURFACE MOUNTED
- C — RECEPTACLE, CLOCK HANGER
- RECEPTACLE, DUPLEX
- RECEPTACLE, DUPLEX ON EMERGENCY POWER
- GFI — RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER
- RECEPTACLE, QUADRAPLEX
- RECEPTACLE, SINGLE
- S — RECEPTACLE, SINGLE WITH SWITCH
- RECEPTACLE, SPECIAL PURPOSE
  A = 120V, 20A, 1 PHASE, 1-POLE, 3W, NEMA 5-20R.
  B = 208V, 20A, 1 PHASE, 2-POLE, 3W, NEMA 6-20R.
  C = 120V, 30A, 1 PHASE, 1-POLE, 3W, NEMA 5-30R.
  D = 208V, 30A, 1 PHASE, 2-POLE, 3W, NEMA 6-30R.
  E = 208V, 60A, 3 PHASE, 3-POLE, 4W, NEMA 14-60R.
  F = 208V, 30A, 3 PHASE, 3-POLE 4W, NEMA 15-30R.
  G = 208V, 50A, 3 PHASE, 3 POLE, 4W, NEMA 15-30R.
  H = 208V, 60A, 3 PHASE, 3 POLE, 4W, NEMA 15-60R.
- S — RECEPTACLE, SWITCHED DUPLEX
- DROP CORD, SINGLE CONVENIENCE OUTLET, 3-WIRE, GROUNDING TYPE, 20A, W/#12 CONDUCTORS IN FLEXIBLE CORD (CENTER LINE OF OUTLET: 6'-6" [1981mm] AFF. MINIMUM).
- 3-GANG COMPARTMENT BOX IN FLOOR FOR TELEPHONE, DATA & RECEPTACLE.
- ELECTRICAL STRIP MOLD (OUTLETS ON 2'-0" [610mm] CENTERS OR AS DESIGNATED ON DRAWINGS), MTD 3'-6" [1067mm] AFF OR AS INDICATED.
- R 50 — RELAY; LETTER INDICATES RELAY TYPE
  50 = INSTANTANEOUS OVERCURRENT OR RATE-OF-RISE
  51 = AC-TIME OVERCURRENT
  67 = AC-DIRECTIONAL OVERCURRENT
  86 = LOCK OUT

ELECTRICAL ABBREVIATIONS

1PH	SINGLE-PHASE
1P	SINGLE POLE
2/C	TWO-CONDUCTOR
3/C	THREE-CONDUCTOR
3PH	THREE-PHASE
4/C	FOUR-CONDUCTOR
4W	FOUR-WIRE
A/C UNIT	AIR CONDITIONING UNIT
A/E	ARCHITECT/ENGINEER
AAP	ALARM ANNUNCIATOR PANEL
AC	ALTERNATING CURRENT OR ARMORED CABLE
ACC	ACCESSIBLE
ADDL	ADDITIONAL
AF	AMPERE FRAME OR AMP FUSE
AFC	ABOVE FINISHED COUNTER, AUTOMATIC FREQUENCY CONTROL, OR AVAILABLE FAULT CURRENT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AIC	AMPERE INTERRUPTING CAPACITY
ALT	ALTERNATE
AMP	AMPERE
ARCH	ARCHITECT
ASC	AMPS SHORT CIRCUIT
AT	AMPERE TRIP
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
AV	AUDIO VISUAL
BAT	BATTERY
BC	BARE COPPER
BD	BOARD
BFF	BELOW FINISH FLOOR
BIL	BASIC INSULATION LEVEL
BLDG	BUILDING
BPIP	BOILER PLANT INSTRUMENTATION PANEL
BRKR	BREAKER
BYP	BY PASS
C	CONDUIT
CAB	CABINET
CAP	CAPACITY
CATV	COMMUNITY ANTENNA TELEVISION
CCTV	CLOSED CIRCUIT TELEVISION
CF	CONTRACTOR FURNISHED
CF/CI	CONTRACTOR FURNISHED/CONTRACTOR INSTALLED
CF/OI	CONTRACTOR FURNISHED/OWNER INSTALLED
CFE	CONTRACTOR FURNISHED EQUIPMENT
CHW	CHILLED WATER
CHWP	CHILLED WATER PUMP
CKT	CIRCUIT
CKT BRKR	CIRCUIT BREAKER
CLF	CURRENT LIMITING FUSE
CLG	CEILING
CMU	CONCRETE MASONRY UNIT
COAX	COAX CABLE
COMM	COMMUNICATION
COMPT	COMPARTMENT
CONC	CONCRETE
CONT	CONTINUE
CONTR	CONTRACTOR
COORD	COORDINATE
CPT	CONTROL POWER TRANSFORMER
CRI	COLOR RENDERING INDEX
CT	CURRENT TRANSFORMER
CTV	CABLE TELEVISION
CU	COPPER
CU FT	CUBIC FEET
CUR	CURRENT
DC	DIRECT CURRENT
DEMO	DEMOLITION
DIAG	DIAGRAM
DISC	DISCONNECT
DISTR	DISTRIBUTION
DISTR PNL	DISTRIBUTION PANEL
DMR SW	DIMMER SWITCH
DN	DOWN
DPDT	DOUBLE POLE, DOUBLE THROW
DPST	DOUBLE POLE, SINGLE THROW
DS	DISCONNECT SWITCH
DWG	DRAWING
ELEC	ELECTRIC OR ELECTRICAL
EMCP	EMERGENCY MONITORING CONTROL PANEL
EMER	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
ENCL	ENCLOSURE
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
EXIST	EXISTING
(E)	EXISTING
(ER)	EXISTING TO REMAIN
FA	FIRE ALARM
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FABL	FIRE ALARM BELL
FABX	FIRE ALARM BOX
FACP	FIRE ALARM CONTROL PANEL
FC	FOOTCANDLE
FI	FILM ILLUMINATOR
FIXT	FIXTURE
FLA	FULL LOAD AMPS
FLEX	FLEXIBLE METALLIC CONDUIT
FLUOR	FLUORESCENT
FP	FIRE PROTECTION
FT	FEET OR FOOT
FU SW	FUSED SWITCH
G OR GND	GROUND OR GENERATOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
HID	HIGH INTENSITY DISCHARGE
HOA	HAND-OFF-AUTOMATIC
HP	HORSEPOWER
HT	HEIGHT
HZ	HERTZ
IESNA	ILLUMINATION ENGINEERING SOCIETY OF NORTH AMERICA
IMC	INTERMEDIATE METAL CONDUIT
J-BOX	JUNCTION BOX
kV	KILOVOLT
kVA	KILOVOLT AMPERE
kVAH	KILOVOLT AMPERE PER HOUR
kVAR	KILOVOLT AMPERE REACTIVE
kW	KILOWATT
kWH	KILOWATT HOUR
kWHM	KILOWATT HOUR METER
LED	LIGHT EMITTING DIODE
LF	LINEAR FEET (FOOT)
LPS	LOW PRESSURE SODIUM
LRA	LOCKED ROTOR AMPS
LT	LIGHT
LTG	LIGHTING
LTG PNL	LIGHTING PANEL
LTNG	LIGHTNING
LV	LOW VOLTAGE
MATV	MASTER ANTENNA TELEVISION SYSTEM
MAX	MAXIMUM
MC	METAL-CLAD
MCA	MINIMUM CIRCUIT AMPS
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MDP	MAIN DISTRIBUTION PANEL
MECH	MECHANICAL
MH	MANHOLE
MIN	MINIMUM
MOCP	MAXIMUM OVERCURRENT PROTECTION
MLO	MAIN LUGS ONLY
MT	MOUNT
MTD	MOUNTED
MTG	MOUNTING
NA	NOT APPLICABLE
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NEUT	NEUTRAL
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
PA	PUBLIC ADDRESS
PB	PANELBOARD, PULL BOX, OR PUSHBUTTON
PCB	POLYCHLORINATED BIPHENYL
PEC	PHOTOELECTRIC CELL
PED	PEDESTAL
PEND	PENDANT
PF	POWER FACTOR
PH	PHASE
PNL	PANEL
PVC	POLYVINYL CHLORIDE (PLASTIC)
PWR	POWER
RCP	REFLECTED CEILING PLAN
REC	RECESSED
RECPT	RECEPTACLE
RGS	RIGID GALVANIZED STEEL
RM	ROOM
RMS	ROOT MEAN SQUARE
REQD	REQUIRED
SCC	SHORT CIRCUIT CAPACITY
SES	SERVICE ENTRANCE SECTION
SD	SMOKE DETECTOR
SF	SQUARE FOOT (FEET)
SHT	SHEET
SI	INTERNATIONAL SYSTEM OF UNITS
SPEC	SPECIFICATION
SPST	SINGLE POLE, SINGLE THROW
SURF	SURFACE
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
TEL	TELEPHONE
TP	TWISTED PAIR
TPS	TWISTED PAIR SHIELDED
TTB	TELEPHONE TERMINAL BOARD
TV	TELEVISION
TYP	TYPICAL
UFD	UNDERFLOOR DUCT
UGND	UNDERGROUND
UL	UNDERWRITERS LABORATORY
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
UTIL	UTILITY
V	VOLT
VA	VOLT AMPERE
VAR	VOLT AMPERE REACTIVE
VFD	VARIABLE FREQUENCY DRIVE
VOLT	VOLTAGE
W	WATT
WH	WATER HEATER
WP	WEATHERPROOF
XFMR	TRANSFORMER

SYMBOLS	VOICE AND DATA SYMBOLS	BACKBOX	MTG. HT.	POWER
	UNIVERSAL CABLING STANDARD OUTLET, TYPICAL OUTLET CONFIGURATION IS (2) CATEGORY 6 CABLES NO DISTINCTION BETWEEN VOICE AND DATA	G	18" AFF	N/A
(#)	VOICE/DATA OUTLET (#) = NUMBER OF CAT 6 CABLES OTHER THAN STANDARD OUTLET CONFIGURATION	G	18" AFF	N/A
(#)	VOICE/DATA OUTLET MOUNTED ABOVE COUNTER (#) = NUMBER OF CAT 6 CABLES OTHER THAN STANDARD OUTLET CONFIGURATION	G	6" AFC	N/A
AP G	WIRELESS ACCESS POINT, (2) CAT 6 CABLES IN SURFACE MOUNT HOUSING. LETTER "G" DENOTES GUEST.	N/A	ABOVE CEILING	120VAC
(#)	VOICE/DATA FLOOR OUTLET (#) = NUMBER OF CAT 6 CABLES OTHER THAN STANDARD OUTLET CONFIGURATION	PER ELEC. SPEC.	FLOOR	N/A
PM	PATIENT MONITORING OUTLET, (1) CAT 6 CABLE	G	18" AFF	N/A
TMP	TEMPERATURE MONITORING OUTLET, (1) CAT 6 CABLE			
TC	TIME CLOCK OUTLET, (1) CAT 6 CABLE			
W	WALL TELEPHONE OUTLET, (1) CAT 6 CABLE	G	48" AFF	N/A
ATM	DEDICATED ATM MODEM CONNECTION, (1) CAT 6 CABLE			
EV	ELEVATOR EQUIPMENT ROOM PHONE INTERFACE, (2) CAT 6 CABLES ROUTED TO CONTROL PANEL IN CONDUIT.	N/A	COORD. WITH ELEVATOR VENDOR	N/A
DS	DIGITAL SIGNAGE, (1) CAT 6 CABLE	PER MFG. SPEC.	PER VENDOR DETAIL	SPEC.

SYMBOLS	PATHWAY SYMBOLS
	LOW-VOLTAGE SYSTEMS CORRIDOR CABLE TRAY
	LADDER STYLE RACK TRAY IN TELECOM ROOMS
CT	LOW-VOLTAGE SYSTEMS CABLE TRAY ROUTE, 18"X6"D, TYPICAL UON
J	J-HOOK PRIMARY PATHWAY ROUTE
	FIREWALL PENETRATION/SLEEVE (SEE NOTES FOR SIZES)
	EZ-PATH SLEEVE
	CONDUIT INSTALLED CONCEALED ABOVE CEILINGS OR IN WALLS IN FINISHED AREAS OR EXPOSED IN UNFINISHED AREAS
	CONDUIT INSTALLED BELOW FINISHED FLOOR OR BELOW GRADE
	INDICATES CONDUIT TURNING UP
	INDICATES CONDUIT TURNING DOWN
	CONDUIT STUBBED OUT WITH BUSHING
	CONDUIT STUBBED OUT AND CAPPED

ELECTRICAL DRAWING LIST

E1 TITLE PAGE, SYMBOLS, LEGEND, GENERAL NOTES & ABBREV.
E2 ELECTRICAL – SITE PLAN
E3 LIGHTING PLAN – DEMOLITION FIRST FLOOR
E4 POWER PLAN – DEMOLITION FIRST FLOOR
E5 LIGHTING PLAN – REMODEL FIRST FLOOR
E6 POWER PLAN – REMODEL FIRST FLOOR, IT ROOM AND PARTIAL ROOF
E7 TECHNOLOGY – IT ROOM ELEVATION
E8 TECHNOLOGY – MULTIPURPOSE ROOM ELEVATION
E9 LIGHT FIXTURE, PANEL SCHEDULE AND SINGLE LINE DIAGRAM

NON-SPRINKLERED
CD2 SUBMISSION - ISSUED FOR CONSTRUCTION

No.	Description	Date

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Project Number: 152-022

Seals and Signatures

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213-629-0100 F213-629-0070 EST. 1915

Drawing Title: **TITTLE PAGE, SYMBOLS, LEGEND, GEN. NOTES & ABBREV.**

Approved Project Director

Project Title: VA Los Angeles National Cemetery, Phase 1A

VA Project Number: 898CM2032

Building Number: 1001

Location: Los Angeles National Cemetery, 950 South Sepulveda Boulevard, Los Angeles, California 90049

Date: 06-10-2016 | Checked: JP | Drawn: ST

Drawing Number: E1

Dwg. of

Office of Construction and Facilities Management

Department of Veterans Affairs

VA FORM 08-6231

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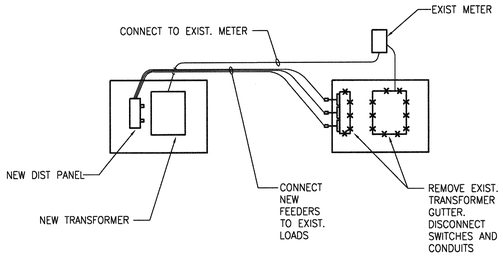
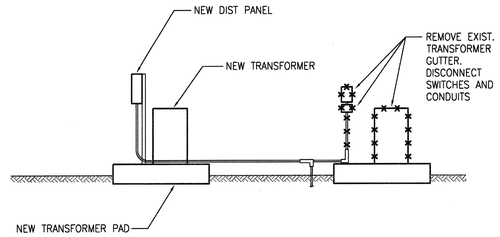
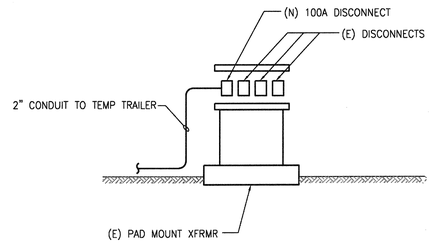


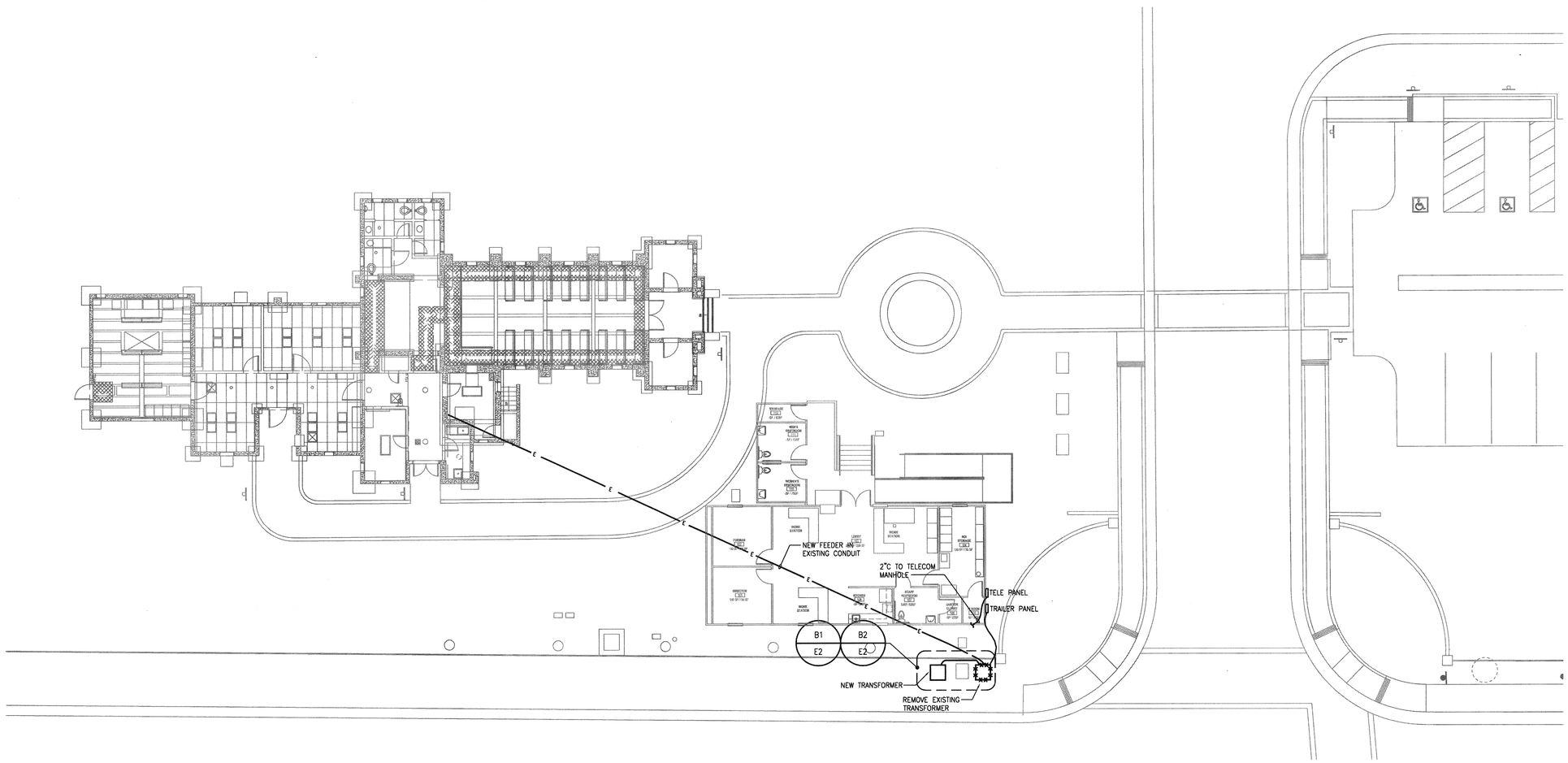
B1 / E2 **PAD MOUNT TRANSFORMER DETAIL - PLAN VIEW**
SCALE: NTS



B3 / E2 **PAD MOUNT TRANSFORMER DETAIL - ELEVATION**
SCALE: NTS



B5 / E2 **PAD MOUNT TRANSFORMER DETAIL - FRONT VIEW**
SCALE: NTS



F1 / E2 **ELECTRICAL SITE PLAN**
SCALE: 1"=10'-0"

GENERAL NOTES

KEY NOTES

TRUE NORTH
N

NON-SPRINKLERED
CD2 SUBMISSION - ISSUED FOR CONSTRUCTION

No.	Description	Date

CONSULTANTS:

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Project Number: 152-022

Seals and Signatures

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213-629-0100 F213-629-0070 EST. 1915

Drawing Title: **ELECTRICAL SITE PLAN**

Approved Project Director

Project Title: VA Los Angeles National Cemetery, Phase 1A

Location: Los Angeles National Cemetery, 950 South Sepulveda Boulevard, Los Angeles, California 90049

Date: 06-10-2016 | Checked: JP | Drawn: ST

VA Project Number: 898CM2032
Building Number: 1001
Drawing Number: E2
Dwg. of

Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231

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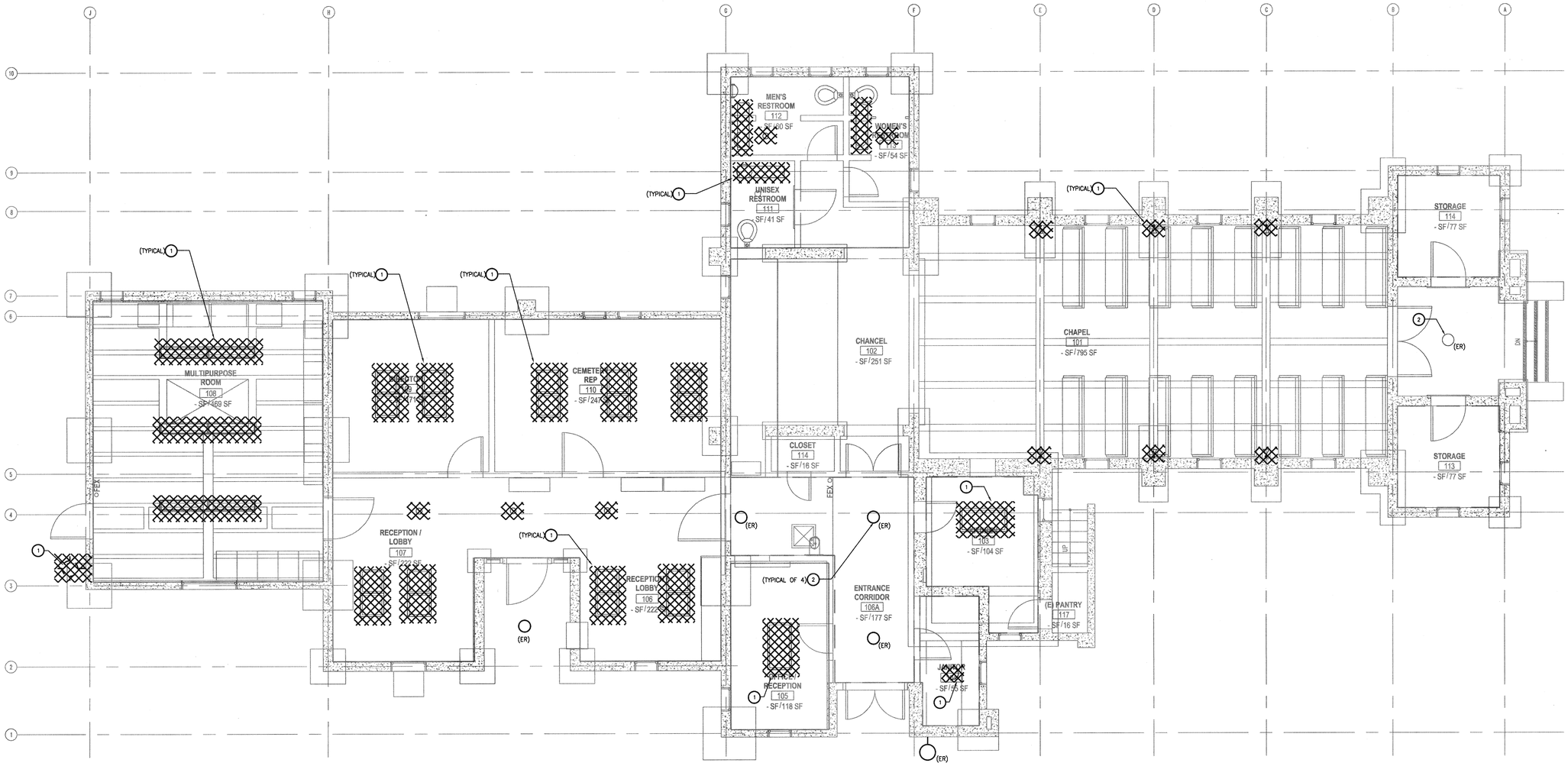

F1 / E3 **LIGHTING PLAN - DEMOLITION FIRST FLOOR**

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

GENERAL NOTES

1. REMOVE EXISTING LIGHT FIXTURES INDICATED TO BE REMOVED. REMOVE SURFACE RACEWAYS, MAINTAIN ALL CONCEALED CONDUITS.

KEY NOTES

1. REMOVE EXISITING LIGHT FIXTURE, REMOVE EXPOSED CONDUIT AND WIRES, CONTRACTOR SHALL MAINTAIN EXISTING EMBEDDED AND CONCEALED CONDUIT AS MUCH AS POSIIBLE FOR REMODEL WORK.
2. WHERE INDICATED BY THIS NOTE CONTRACTOR SHALL KEEP EXISTING LIGHT FIXTURES. CLEAN FIXTURE LENS AND INSTALL NEW LED LAMPS.

TRUE NORTH

NON-SPRINKLERED
CD2 SUBMISSION - ISSUED FOR CONSTRUCTION

No.	Description	Date

CONSULTANTS:

MAZZETTI
2201 Dupont Drive, Suite 800
Irvine, CA 92612-7507
TEL: 949.475.5550
www.mazzetti.com
Project Number: 152-022

Seals and Signatures

ARCHITECT/ENGINEERS:

LEO A DALY
PLANNING ARCHITECTURE ENGINEERING INTERIORS
550 South Hope Street, 27th Floor
Los Angeles, California 90071, USA
213-629-0100 F213-629-0070 EST. 1915

Drawing Title: **LIGHTING PLAN - DEMOLITION FIRST FLOOR**

Approved Project Director

Project Title: VA Los Angeles National Cemetery, Phase 1A

Location: Los Angeles National Cemetery, 950 South Sepulveda Boulevard, Los Angeles, California 90049

Date: 06-10-2016 | Checked: JP | Drawn: ST

VA Project Number: 898CM2032

Building Number: 1001

Drawing Number: E3

Dwg. of

Office of Construction and Facilities Management

Department of Veterans Affairs

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