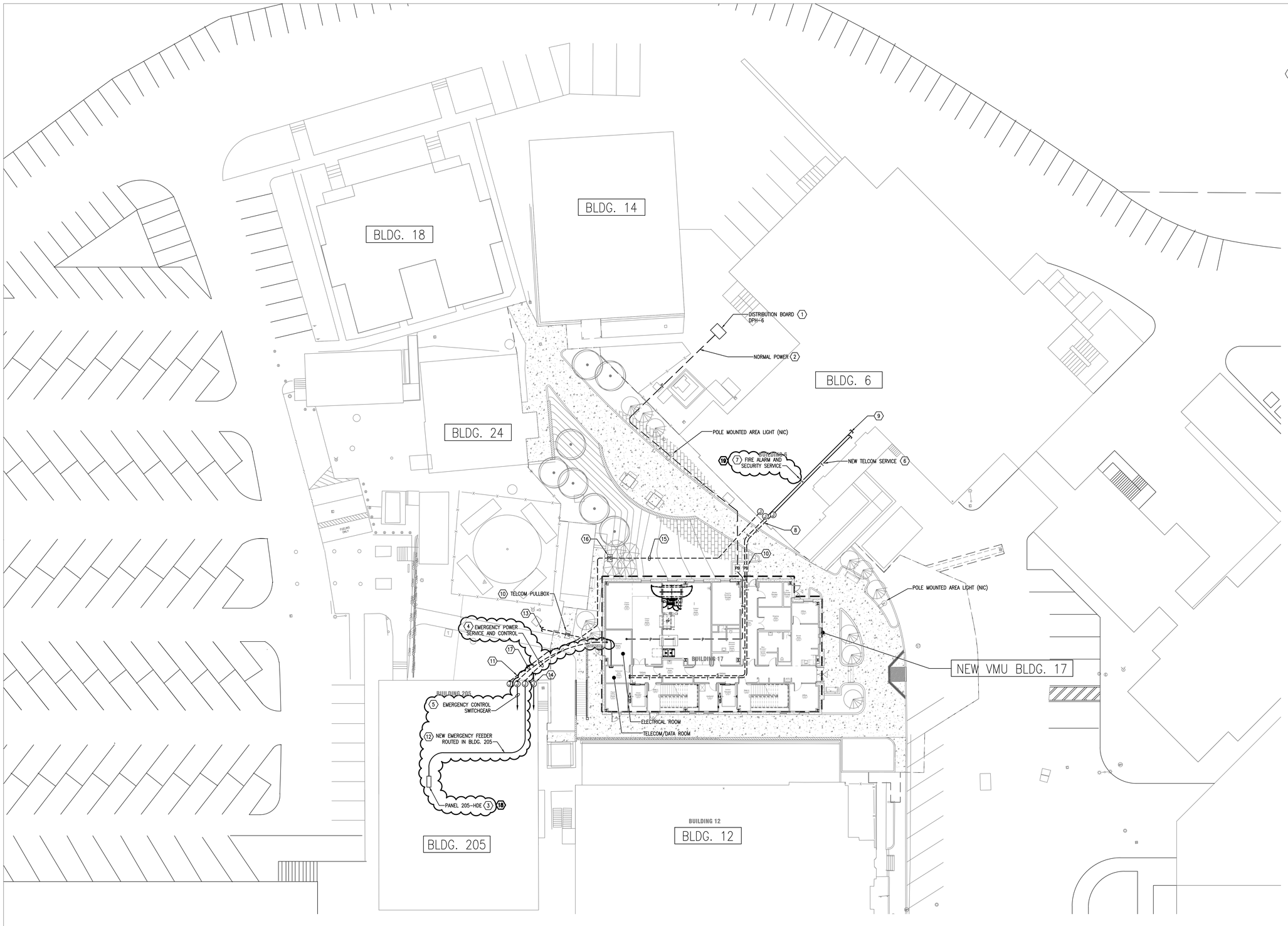


1 ELECTRICAL SITE PLAN
1/16" = 1'-0"

GENERAL NOTES:

A. EACH CONDUIT SHALL HAVE A SEPARATE GREEN INSULATED EQUIPMENT GROUNDING CONDUCTOR.
B. REFER TO POWER, COMMUNICATIONS, ELECTRONIC SAFETY AND SECURITY SINGLE LINE/RISER DIAGRAM FOR ADDITIONAL INFORMATION.

KEYED NOTES:

1. APPROXIMATE LOCATION OF NEW CAMPUS POWER DISTRIBUTION PANEL DPH-6.
2. PROVIDE (1) 4"C POWER AND (1) 4"C SPARE.
3. APPROXIMATE LOCATION OF EXISTING EMERGENCY PANEL 205-HDE.
4. PROVIDE (1) 3"C EMERGENCY POWER AND (1) 1"C FOR EMERGENCY SYSTEM CONTROL WIRING.
5. EXTEND 1"C TO PARALLELING SWITCHGEAR CONTROL EMERGENCY STATUS AND CONTROL PANEL. VERIFY EXACT REQUIREMENTS WITH EMERGENCY EQUIPMENT MANUFACTURER'S REPRESENTATIVE.
6. PROVIDE (2) 4"C TELCOM.
7. PROVIDE (1) 1"C FIRE ALARM AND (1) 1"C SECURITY.
8. VERIFY WITH COTR LOCATION CONDUIT ENTRY TO EXISTING BLDG 6 AND ROUTING. (TYPICAL)
9. VERIFY WITH COTR CONDUIT ROUTING TO EXISTING TELECOMMUNICATION ROOM. (TYPICAL)
10. VERIFY WITH COTR LOCATION OF NEW PULLBOXES. REFER TO TYPICAL UNDERGROUND PULLBOX DETAIL 5/E-503 FOR INSTALLATION. (TYPICAL)
11. VERIFY WITH COTR LOCATION CONDUIT ENTRY TO EXISTING BLDG 205. (TYPICAL)
12. VERIFY WITH COTR CONDUIT ROUTING. (TYPICAL)
13. PROVIDE (2) 4"C FOR FUTURE TELECOMMUNICATION SYSTEMS EXTENSION FROM THE TELECOM/DATA ROOM. STUBOUT CONDUIT BELOW GRADE TO LANDSCAPED AREA, CAP AND MARK ENDS.
14. 120/208V TEMPORARY POWER DURING CONSTRUCTION TO BE PROVIDED BY VA. COORDINATE WITH COTR.
15. PRIOR TO SITE EXCAVATION WORK, PROVIDE (1) 2"C AND (1) 3/4"C FROM BLDG. 205 TO BUILDING 6. CONTRACTOR SHALL FIELD VERIFY ROUTING. VERIFY ROUTING, BUILDING ENTRY POINTS, AND CONNECTIONS TO EXISTING EMERGENCY FEEDERS WITH COTR. PROVIDE NEW FEEDER CONDUCTORS AND CONNECT AS DIRECTED BY COTR.
16. VERIFY WITH COTR LOCATION OF NEW PULLBOX. REFER TO TYPICAL UNDERGROUND PULLBOX DETAIL-LANDSCAPE; DETAIL 6/E-501 FOR INSTALLATION.
17. NOT USED.
18. ALTERNATE DEDUCT #4: REMOVE EMERGENCY FEEDER FROM EXISTING EMERGENCY PANEL TO NEW VMU BLDG 17.
19. ALTERNATE DEDUCT #3: REMOVE 1" CONDUIT FOR FIRE ALARM.

Contract Documents Submission (CD3 - 100%)

FULLY SPRINKLERED

NO	REVISIONS	DATE

CONSULTANTS:

ARCHITECTURE/ INTERIOR DESIGN/ LABORATORY PLANNING/ ENVIRONMENTAL ASSESSMENT:
HDR Architecture, Inc.
560 Mission Street
Suite 900
San Francisco,CA 94105

MECHANICAL/ELECTRICAL/ PLUMBING:
HDR Architecture, Inc.
560 Mission Street
Suite 900
San Francisco,CA 94105

STRUCTURAL:
HDR Architecture, Inc.
560 Mission Street
Suite 900
San Francisco,CA 94105

CIVIL / SURVEYOR:
Sandis
936 E. Duane Avenue
Sunnyvale, CA 94085

GEOTECHNICAL/ ENVIRONMENTAL SERVICES:
Treadwell & Rollo
555 Montgomery St., Suite 1300
San Francisco, CA 94111

LANDSCAPE:
Merrill Morris Partners
246 Front Street
San Francisco, CA 94111

HISTORICAL ARCHITECTURE:
George Taylor Louden AIA
6330 Green Valley Circle #301
Culver City, CA 90230

FIRE PROTECTION:
The Fire Consultants Inc.
1276 Durant
Walnut Creek, CA 94596

COST ESTIMATING:
Davis Langdon
343 Sansome Street, Ste. 1050
San Francisco, CA 94104

CONSULTANT:

ARCHITECTS/ENGINEERS:

HDR

HDR Architecture, Inc.
560 MISSION STREET, SUITE 900
SAN FRANCISCO, CA 94105
PH:415-546-4200 FAX:415-546-4202

Drawing Title
ELECTRICAL SITE PLAN

Approved : Project Director

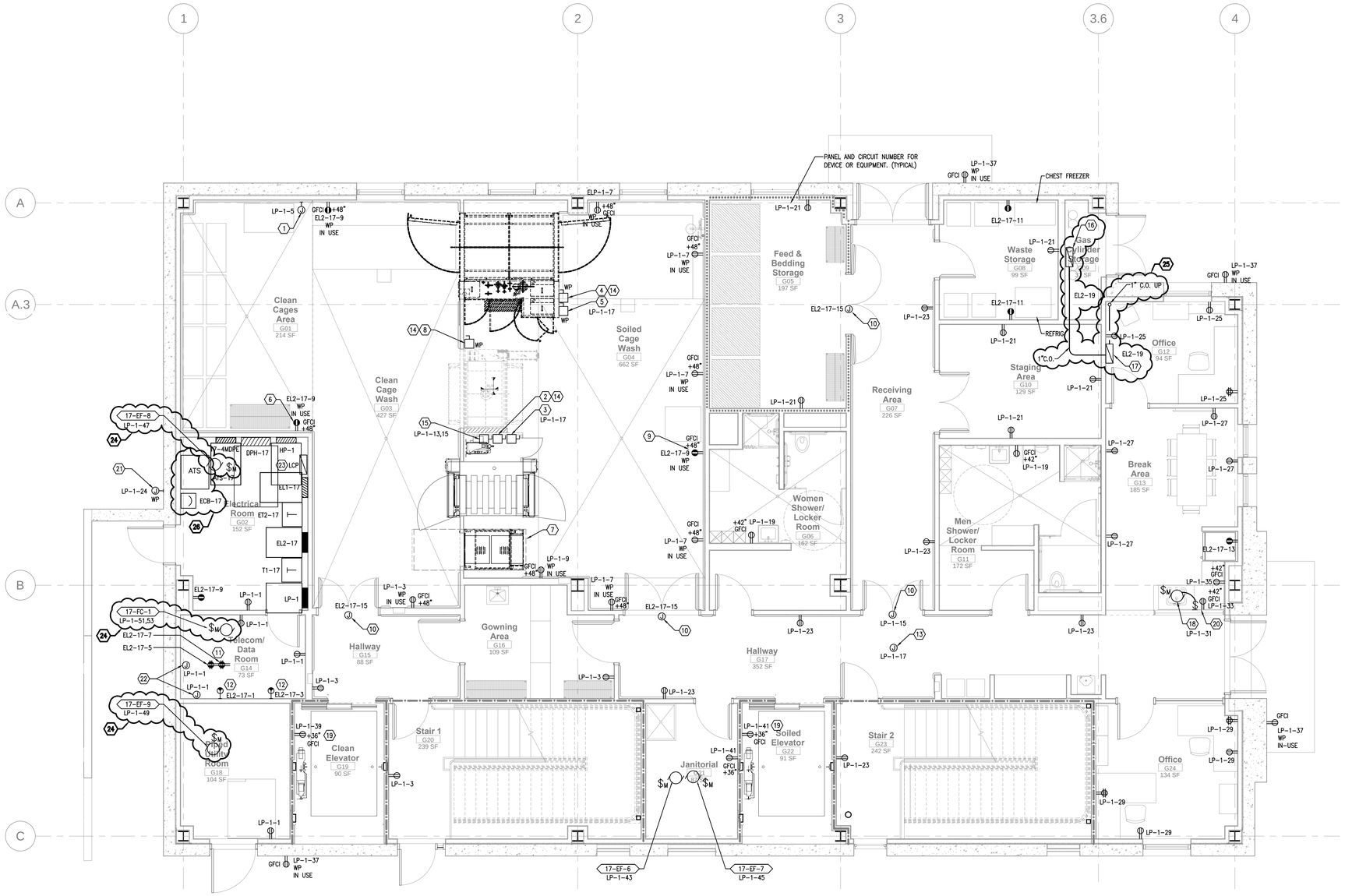
Project Title
VMU Replacement And Expansion Project

Location
San Francisco VA Medical Center
4150 Clement Street, San Francisco, CA 94121

Date: **04 March 2011** | Checked by: BW | Drawn: BW

Project Number: **662-10-608**
Building Number: **17**
Drawing number: ES-101

Office of Construction and Facilities Management
Department of Veterans Affairs



1 ELECTRICAL POWER GROUND FLOOR PLAN
1/4" = 1'-0"

GENERAL NOTES:

A. EACH BRANCH CIRCUIT HOMERUN SHALL HAVE NO MORE THAN THREE CIRCUITS. EACH BRANCH CIRCUIT SHALL HAVE A SEPARATE NEUTRAL CONDUCTOR PER PHASE. EACH HOMERUN SHALL HAVE A SEPARATE GREEN INSULATED EQUIPMENT GROUNDING CONDUCTOR.

KEYED NOTES:

1. BEDDING DISPENSER, 115V, 15A.
2. STEAM STERILIZER, 480V, 3PH, 6.6A.
3. STEAM STERILIZER, 115V, 1PH, 12A.
4. CAGE AND RACK WASHER, 480V, 3PH, 13.5KW, 25A.
5. CAGE AND RACK WASHER, 115V, 10A.
6. FUTURE BOTTLE FILLER, 115V, 120VA.
7. MISTING TUNNEL, 115V. CORD CONNECT TO 20A WALL RECEPTACLE.
8. CABINET WASHER, 480V, 3PH, 6.5KW.
9. BEDDING DISPOSAL STATION. 115V, 120VA. CORD CONNECT TO 20A WALL RECEPTACLE.
10. PROVIDE 120V POWER FOR AUTOMATIC DOOR OPENER. REFER TO SHEET EC-10G FOR PUSH PLATE ACTUATOR LOCATIONS.
11. PROVIDE RECEPTACLE MOUNTED ON DATA RACKS. REFER TO SHEET EC-10G.
12. PROVIDE NEMA TYPE L5-30R RECEPTACLE FOR VA PROVIDED UPS UNITS. VERIFY FINAL ELECTRICAL REQUIREMENTS WITH VA PRIOR TO ROUGH-IN.
13. PROVIDE J-BOX IN ACCESSIBLE CEILING SPACE WITH 120V DEDICATED CIRCUIT FOR GROUND FLOOR ELECTRIC DOOR HARDWARE POWER. COORDINATE LOCATION WITH ACCESS CONTROL SYSTEM INSTALLER.
14. SEE SINGLE LINE DIAGRAM, SHEET E-701, FOR POWER CONNECTION.
15. STERILIZER PUMP CW1, 208V, 1PH, 13A.
16. GAS REGULATOR PANEL BY DIVISION 22. PROVIDE 120V CONNECTION AND 1"C WITH PULLSTRING TO CO2 ALARM PANEL.
17. CO2 REMOTE ALARM PANEL, BY DIVISION 22. PROVIDE 120V CONNECTION AND 1"C WITH PULLSTRING UP TO PENTHOUSE.
18. CONNECT GARBAGE DISPOSAL BELOW SINK, 120V, 9.5A. PROVIDE TOGGLE SWITCH ABOVE COUNTER FOR CONTROL AND MOTOR RATED TOGGLE DISCONNECT SWITCH BELOW COUNTER.
19. SEE TYPICAL ELEVATOR ELECTRICAL DETAIL 1/E-502 FOR REFERENCE.
20. HORIZONTALLY MOUNT SWITCH AND RECEPTACLE ABOVE BACKSPLASH.
21. PROVIDE ELECTRICAL CONNECTION FOR IRRIGATION CONTROLLER. VERIFY LOCATION WITH LANDSCAPING CONTRACTOR.
22. PROVIDE CONNECTION TO HVAC MOTORIZED DAMPER. COORDINATE LOCATION WITH MECHANICAL CONTRACTOR.
23. LIGHTING CONTROL PANEL. WATTSTOPPER, COMPLETE "LIC" SYSTEM WITH "WIN" CONTROL SOFTWARE OR APPROVED EQUAL. SYSTEM SHALL CONTROL DIURINAL CYCLE FOR ANIMALS IN THE HOLDING AREA AS WELL AS OTHER LOW VOLTAGE LIGHTING CONTROL APPLICATIONS. REFER TO LIGHTING PLANS.
24. ALTERNATE DEDUCT #2: REMOVE CIRCUIT, CONDUIT, AND CONDUCTORS. RETAIN CIRCUIT BREAKER AS SPARE.
25. ALTERNATE DEDUCT #1: REMOVE CIRCUIT. RETAIN JUNCTION BOXES AND CONDUIT.
26. ALTERNATE DEDUCT #4: REMOVE ATS, CIRCUIT BREAKER, AND ALL ASSOCIATED CONDUIT AND WIRE.

Contract Documents Submission (CD3 - 100%)

FULLY SPRINKLERED

NO	REVISIONS	DATE

CONSULTANTS:

ARCHITECTURE/ INTERIOR DESIGN/ LABORATORY PLANNING/ ENVIRONMENTAL ASSESSMENT:
HDR Architecture, Inc.
560 Mission Street
Suite 900
San Francisco,CA 94105

MECHANICAL/ELECTRICAL/ PLUMBING:
HDR Architecture, Inc.
560 Mission Street
Suite 900
San Francisco,CA 94105

STRUCTURAL:
HDR Architecture, Inc.
560 Mission Street
Suite 900
San Francisco,CA 94105

CIVIL / SURVEYOR:
Sandis
936 E. Duane Avenue
Sunnyvale, CA 94085

LANDSCAPE:
Merrill Morris Partners
249 Front Street
San Francisco, CA 94111

FIRE PROTECTION:
The Fire Consultants Inc.
1276 Durant
Walnut Creek, CA 94596

GEOTECHNICAL/ ENVIRONMENTAL SERVICES:
Treadwell & Rollo
555 Montgomery St., Suite 1300
San Francisco, CA 94111

HISTORICAL ARCHITECTURE:
George Taylor Louden AIA
6330 Green Valley Circle #301
Culver City, CA 90230

COST ESTIMATING:
Davis Langdon
343 Sansome Street, Ste. 1050
San Francisco, CA 94104

CONSULTANT:

ARCHITECTS/ENGINEERS:

HDR

HDR Architecture, Inc.
560 MISSION STREET, SUITE 900
SAN FRANCISCO, CA 94105
PH:415-546-4200 FAX:415-546-4202

Drawing Title
ELECTRICAL POWER GROUND FLOOR PLAN

Approved : Project Director

Project Title
VMU Replacement And Expansion Project

Location
San Francisco VA Medical Center
4150 Clement Street, San Francisco, CA 94121

Date: **04 March 2011** | Checked by: BW | Drawn: RM

Project Number: **662-10-608**
Building Number: **17**
Drawing number: EP-10G

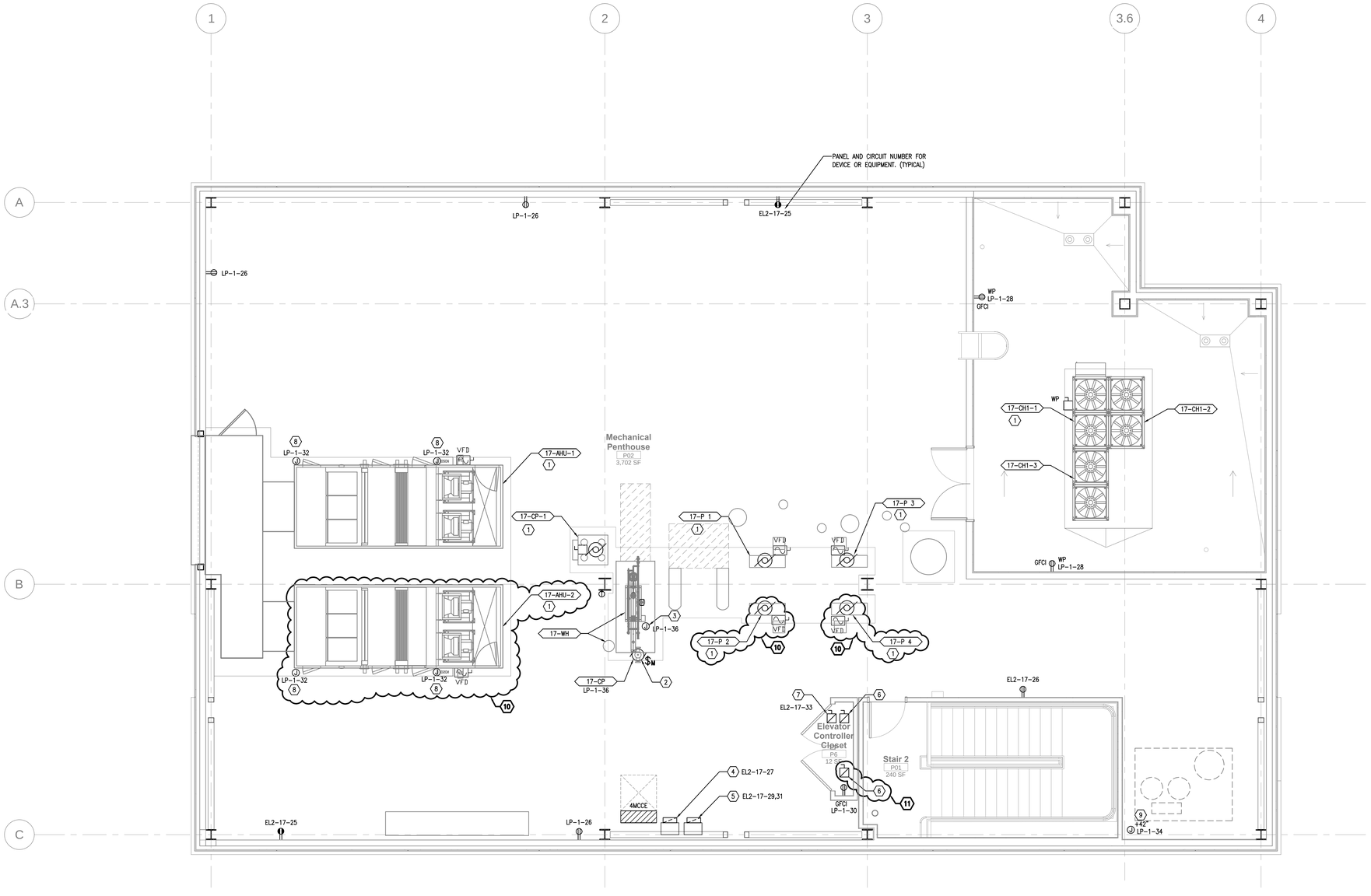
Office of Construction and Facilities Management
Department of Veterans Affairs

GENERAL NOTES:

A. EACH BRANCH CIRCUIT HOMERUN SHALL HAVE NO MORE THAN THREE CIRCUITS. EACH BRANCH CIRCUIT SHALL HAVE A SEPARATE NEUTRAL CONDUCTOR PER PHASE. EACH HOMERUN SHALL HAVE A SEPARATE GREEN INSULATED EQUIPMENT GROUNDING CONDUCTOR.

KEYED NOTES:

1. REFER TO SINGLE LINE DIAGRAM, SHEET E-701 FOR ELECTRICAL CONNECTION. COORDINATE WITH DIVISION 23 FOR CONNECTION OF VFD(S) AND DISCONNECTS PROVIDED BY DIVISION 23 CONTRACTOR.
2. PROVIDE 120V POWER TO FRACTIONAL HP CIRCULATION PUMP.
3. PROVIDE 120V CONNECTION FOR STEAM WATER HEATER CONTROL.
4. DDC PANEL BY DIVISION 23. PROVIDE 120V CONNECTION.
5. MECHANICAL CONTROLS, LOW VOLTAGE TRANSFORMER PANEL. PROVIDE 120 CONNECTION.
6. ELEVATOR DISCONNECT MODULE. SEE SINGLE LINE DIAGRAM, SHEET E-701 FOR POWER CONNECTION. SEE TYPICAL ELEVATOR ELECTRICAL DETAIL 1/E-502 FOR REFERENCE.
7. ELEVATOR CAB LIGHT DISCONNECT MOUNTED BELOW POWER DISCONNECT MODULE. SEE TYPICAL ELEVATOR ELECTRICAL DETAIL 1/E-502 FOR REFERENCE.
8. PROVIDE 120V POWER FOR HVAC ACCESSORY EQUIPMENT. COORDINATE LOCATION WITH MECHANICAL CONTRACTOR.
9. PROVIDE 120V POWER FOR FUTURE WATER SOFTENER.
10. ALTERNATE DEDUCT #3: REMOVE CIRCUIT, CONDUIT, AND JUNCTION BOXES. RETAIN CIRCUIT BREAKER AS SPARE.
11. ALTERNATE DEDUCT #5: REMOVE FUSED DISCONNECT, CONDUIT, AND JUNCTION BOXES. RETAIN CIRCUIT BREAKER AS SPARE.



1 ELECTRICAL POWER PENTHOUSE PLAN
1/4" = 1'-0"

N

Contract Documents Submission (CD3 - 100%)

FULLY SPRINKLERED

NO	REVISIONS	DATE

CONSULTANTS:

ARCHITECTURE/ INTERIOR DESIGN/ LABORATORY PLANNING/ ENVIRONMENTAL ASSESSMENT:
HDR Architecture, Inc.
560 Mission Street
Suite 900
San Francisco,CA 94105

MECHANICAL/ELECTRICAL/ PLUMBING:
HDR Architecture, Inc.
560 Mission Street
Suite 900
San Francisco,CA 94105

STRUCTURAL:
HDR Architecture, Inc.
560 Mission Street
Suite 900
San Francisco,CA 94105

CIVIL / SURVEYOR:
Sandis
936 E. Duane Avenue
Sunnyvale, CA 94085

GEOTECHNICAL/ ENVIRONMENTAL SERVICES:
Treadwell & Rollo
555 Montgomery St., Suite 1300
San Francisco, CA 94111

LANDSCAPE:
Merrill Morris Partners
249 Front Street
San Francisco, CA 94111

HISTORICAL ARCHITECTURE:
George Taylor Louden AIA
6330 Green Valley Circle #301
Culver City, CA 90230

FIRE PROTECTION:
The Fire Consultants Inc.
1276 Durant
Walnut Creek, CA 94596

COST ESTIMATING:
Davis Langdon
343 Sansome Street, Ste. 1050
San Francisco, CA 94104

CONSULTANT:

ARCHITECTS/ENGINEERS:

HDR

HDR Architecture, Inc.
560 MISSION STREET, SUITE 900
SAN FRANCISCO, CA 94105
PH:415-546-4200 FAX:415-546-4202

Drawing Title
ELECTRICAL POWER PENTHOUSE PLAN

Approved : Project Director

Project Title
VMU Replacement And Expansion Project

Location
San Francisco VA Medical Center
4150 Clement Street, San Francisco, CA 94121

Date	Checked by	Drawn
04 March 2011	BW	RM

Project Number
662-10-608

Building Number
17

Drawing number
EP-10P

Office of Construction and Facilities Management

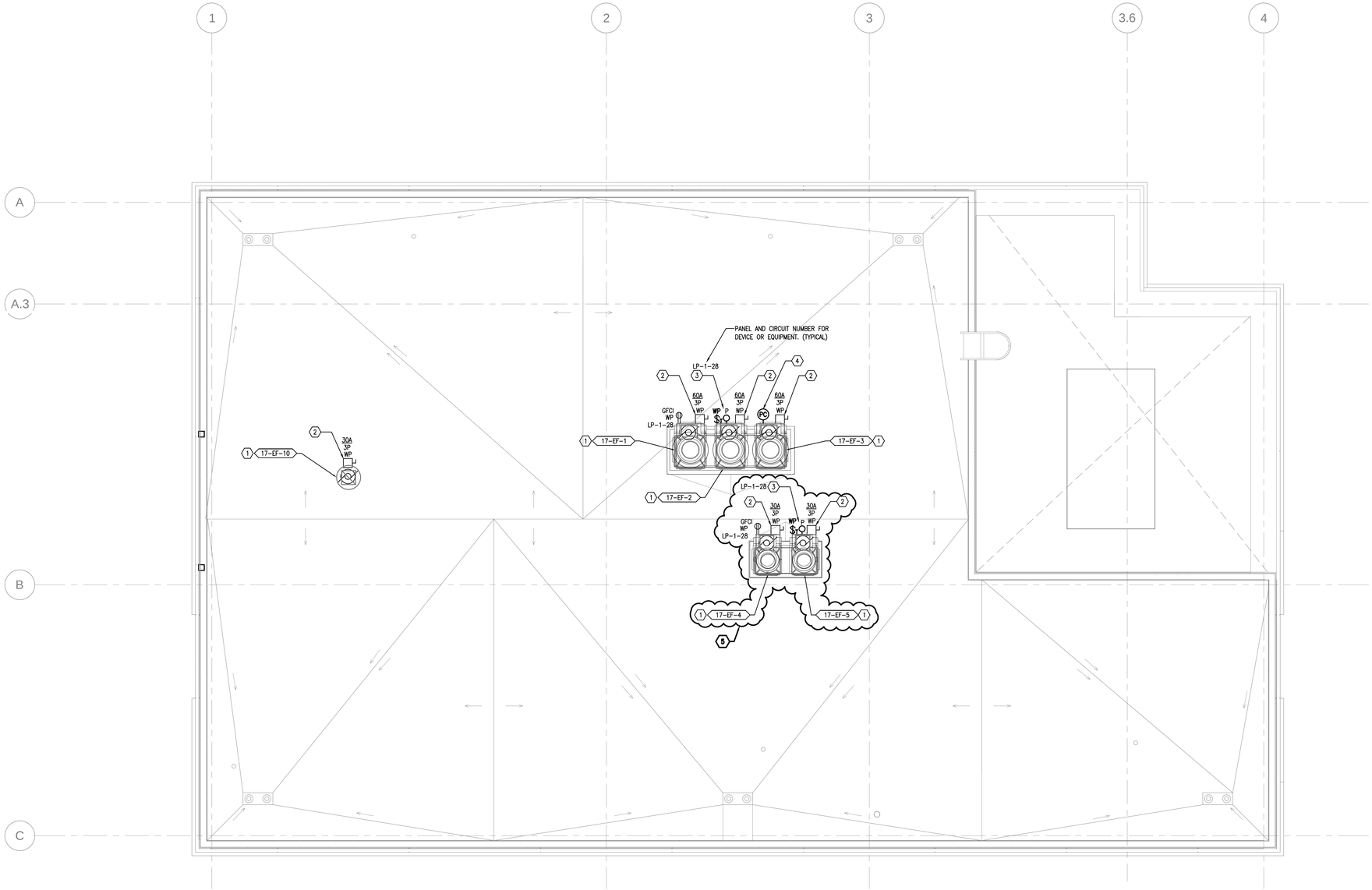
Department of Veterans Affairs

GENERAL NOTES:

A. EACH BRANCH CIRCUIT HOMERUN SHALL HAVE NO MORE THAN THREE CIRCUITS. EACH BRANCH CIRCUIT SHALL HAVE A SEPARATE NEUTRAL CONDUCTOR PER PHASE. EACH HOMERUN SHALL HAVE A SEPARATE GREEN INSULATED EQUIPMENT GROUNDING CONDUCTOR.

KEYED NOTES:

1. REFER TO SINGLE LINE DIAGRAM, SHEET E-701 FOR ELECTRICAL CONNECTION.
2. PROVIDE HEAVY DUTY NEMA 3R DISCONNECT SWITCH.
3. PROVIDE UTILITY LIGHT MOUNTED ON EF STACK AT +7'-0", COORDINATE LOCATION WITH MECHANICAL CONTRACTOR. PROVIDE WP TIMER SWITCH FOR CONTROL.
4. PROVIDE PHOTOCELL AT +7'-0" FOR OUTDOOR LIGHTING CONTROL. PROVIDE CONDUIT AND CONTROL WIRING TO LIGHTING CONTROL PANEL LCP IN THE ELECTRICAL ROOM.
5. ALTERNATE DEDUCT #3: REMOVE CIRCUIT, CONDUIT, AND JUNCTION BOXES. RETAIN CIRCUIT BREAKER AS SPARE.



1 ELECTRICAL POWER ROOF PLAN
1/4" = 1'-0"

N

Contract Documents Submission (CD3 - 100%)

FULLY SPRINKLERED

NO	REVISIONS	DATE

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ARCHITECTURE/ INTERIOR DESIGN/ LABORATORY PLANNING/ ENVIRONMENTAL ASSESSMENT:
HDR Architecture, Inc.
560 Mission Street
Suite 900
San Francisco,CA 94105

MECHANICAL/ELECTRICAL/ PLUMBING:
HDR Architecture, Inc.
560 Mission Street
Suite 900
San Francisco,CA 94105

STRUCTURAL:
HDR Architecture, Inc.
560 Mission Street
Suite 900
San Francisco,CA 94105

CIVIL / SURVEYOR:
Sandis
936 E. Duane Avenue
Sunnyvale, CA 94085

GEOTECHNICAL/ ENVIRONMENTAL SERVICES:
Treadwell & Rollo
555 Montgomery St., Suite 1300
San Francisco, CA 94111

LANDSCAPE:
Merrill Morris Partners
249 Front Street
San Francisco, CA 94111

HISTORICAL ARCHITECTURE:
George Taylor Louden AIA
6330 Green Valley Circle #301
Culver City, CA 90230

FIRE PROTECTION:
The Fire Consultants Inc.
1276 Durant
Walnut Creek, CA 94596

COST ESTIMATING:
Davis Langdon
343 Sansome Street, Ste. 1050
San Francisco, CA 94104

CONSULTANT:

ARCHITECTS/ENGINEERS:

HDR

HDR Architecture, Inc.
560 MISSION STREET, SUITE 900
SAN FRANCISCO, CA 94105
PH:415-546-4200 FAX:415-546-4202

Drawing Title
ELECTRICAL POWER ROOF PLAN

Approved : Project Director

Project Title
VMU Replacement And Expansion Project

Location
San Francisco VA Medical Center
4150 Clement Street, San Francisco, CA 94121

Date	Checked by	Drawn
04 March 2011	BW	RM

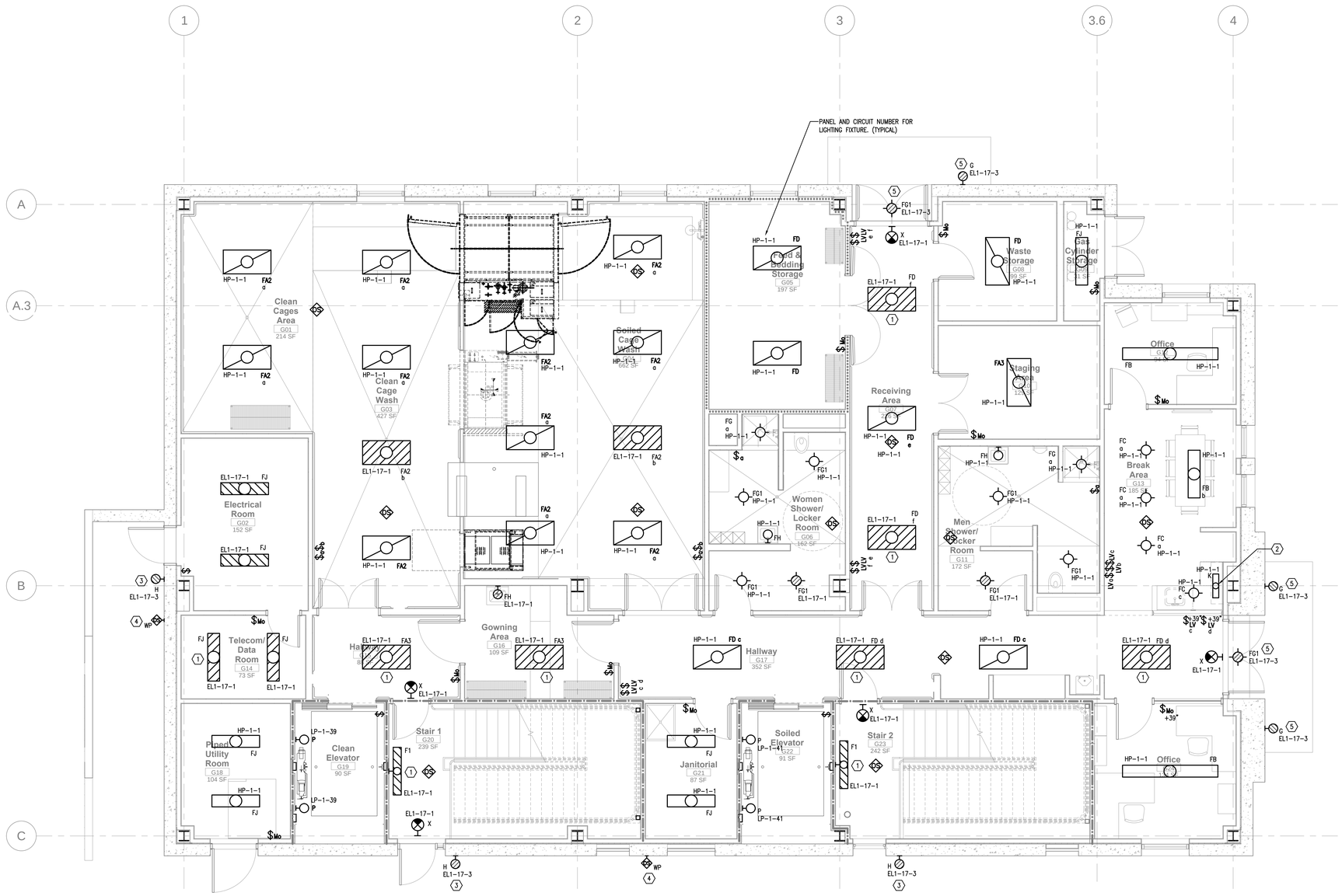
Project Number
662-10-608

Building Number
17

Drawing number
EP-10R

Office of Construction and Facilities Management

Department of Veterans Affairs



1 ELECTRICAL LIGHTING GROUND FLOOR PLAN
1/4" = 1'-0"

GENERAL NOTES:

A. ALL FINAL LOCATIONS AND ARRANGEMENTS OF LIGHTING FIXTURES SHALL BE OBTAINED FROM THE ARCHITECTURAL REFLECTED CEILING PLAN.
B. EACH BRANCH CIRCUIT HOMERUN SHALL HAVE NO MORE THAN THREE CIRCUITS. EACH BRANCH CIRCUIT SHALL HAVE A SEPARATE NEUTRAL CONDUCTOR PER PHASE. EACH BRANCH CIRCUIT HOMERUN SHALL HAVE A SEPARATE GREEN INSULATED EQUIPMENT GROUNDING CONDUCTOR.
C. REFER TO TYPICAL LIGHTING FIXTURE MOUNTING DETAILS SHEET E-501.
D. ALTERNATE DEDUCT #1: ALL LIGHT FIXTURES ARE TO BE FURNISHED BY THE OWNER.

KEYED NOTES:

1. PROVIDE WITH HIGH OUTPUT BATTERY BALLAST WITH 90 MINUTE OPERATION, 1100 LUMEN OUTPUT. BODINE OR EQUAL.
2. CONNECT UNDERCABINET LIGHT TO LOCAL UNSWITCHED 120V RECEPTACLE CIRCUIT.
3. TYPE 'H' LIGHTS TO BE CONTROLLED BY DAYLIGHT, MOTION SENSOR. LIGHTS SHALL BE ENABLED WHEN DAYLIGHT IS ABSENT AND MOTION IS DETECTED. LIGHT SHALL TIME OFF AFTER 15 MINUTES.
4. COMBINATION INFRARED AND DAY LIGHT SENSOR FOR CONTROL OF TYPE 'H' LIGHTS.
5. LIGHTS TO BE CONTROLLED VIA THE LIGHTING CONTROL PANEL. LIGHTS SHALL TURN ON AT DUSK AND TURN OFF AT DAWN OR TIME SELECTED BY THE VA.

Contract Documents Submission (CD3 - 100%)

FULLY SPRINKLERED

NO	REVISIONS	DATE

CONSULTANTS:

ARCHITECTURE/ INTERIOR DESIGN/ LABORATORY PLANNING/ ENVIRONMENTAL ASSESSMENT:
HDR Architecture, Inc.
560 Mission Street
Suite 900
San Francisco,CA 94105

MECHANICAL/ELECTRICAL/ PLUMBING:
HDR Architecture, Inc.
560 Mission Street
Suite 900
San Francisco,CA 94105

STRUCTURAL:
HDR Architecture, Inc.
560 Mission Street
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San Francisco,CA 94105

CIVIL / SURVEYOR:
Sandis
936 E. Duane Avenue
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555 Montgomery St., Suite 1300
San Francisco, CA 94111

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Merrill Morris Partners
249 Front Street
San Francisco, CA 94111

HISTORICAL ARCHITECTURE:
George Taylor Louden AIA
6330 Green Valley Circle #301
Culver City, CA 90230

FIRE PROTECTION:
The Fire Consultants Inc.
1278 Durant
Walnut Creek, CA 94596

COST ESTIMATING:
Davis Langdon
343 Sansome Street, Ste. 1050
San Francisco, CA 94104

CONSULTANT:

ARCHITECTS/ENGINEERS:

HDR

HDR Architecture, Inc.
560 MISSION STREET, SUITE 900
SAN FRANCISCO, CA 94105
PH:415-546-4200 FAX:415-546-4202

Drawing Title
ELECTRICAL LIGHTING GROUND FLOOR PLAN

Approved : Project Director

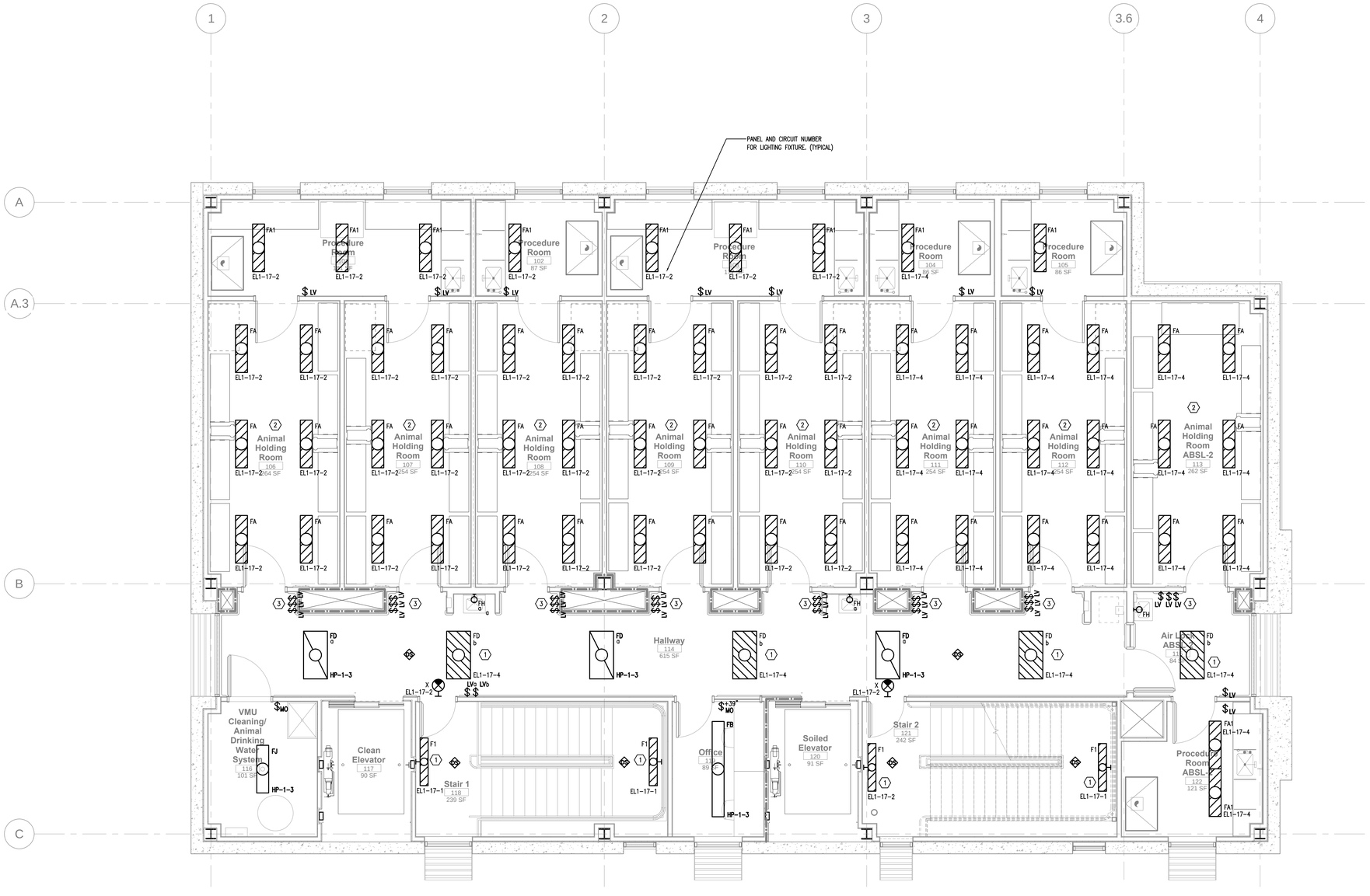
Project Title
VMU Replacement And Expansion Project

Location
San Francisco VA Medical Center
4150 Clement Street, San Francisco, CA 94121

Date: **04 March 2011** | Checked by: BW | Drawn: RM

Project Number: **662-10-608**
Building Number: **17**
Drawing number: EL-10G

Office of Construction and Facilities Management
Department of Veterans Affairs



1 ELECTRICAL LIGHTING FIRST FLOOR PLAN
1/4" = 1'-0"

GENERAL NOTES:

A. ALL FINAL LOCATIONS AND ARRANGEMENTS OF LIGHTING FIXTURES SHALL BE OBTAINED FROM THE ARCHITECTURAL REFLECTED CEILING PLAN.
B. EACH BRANCH CIRCUIT HOMERUN SHALL HAVE NO MORE THAN THREE CIRCUITS. EACH BRANCH CIRCUIT SHALL HAVE A SEPARATE NEUTRAL CONDUCTOR PER PHASE. EACH BRANCH CIRCUIT HOMERUN SHALL HAVE A SEPARATE GREEN INSULATED EQUIPMENT GROUNDING CONDUCTOR.
C. REFER TO TYPICAL LIGHTING FIXTURE MOUNTING DETAILS SHEET E-501.
D. ALTERNATE DEDUCT #2: ALL LIGHT FIXTURES ARE TO BE FURNISHED BY THE OWNER.

KEYED NOTES:

1. PROVIDE WITH HIGH OUTPUT BATTERY BALLAST WITH 90 MINUTES OPERATION, 1100 LUMEN OUTPUT. BODINE OR EQUAL.
2. TYPE FA LIGHTS IN HOLDING ROOMS TO BE CONTROLLED VIA LIGHTING CONTROL PANEL FOR ANIMAL DIURNAL CYCLE. REFER TO SPECIFICATION SECTION 20 09 23, LIGHTING CONTROLS.
3. ANIMAL HOLDING ROOM LV SWITCHES. PROVIDE BLACK SWITCH FOR DIURNAL CYCLE OVERRIDE, WHITE SWITCH FOR INSPECTION LIGHTING, AND RED SWITCH FOR RED LIGHT INSPECTION.
4. ALTERNATE DEDUCT #1: REMOVE LIGHTING CONTROLS FOR EACH ANIMAL HOLDING ROOM AND PROVIDE ASTRONOMICAL DIGITAL TIME SWITCH TO CONTROL WHITE LIGHT WITH MANUAL OVERRIDE. REMOVE RED LIGHT FUNCTION AND REMOVE DIURNAL CYCLE LIGHTING CONTROL SOFTWARE. WATTSTOPPER WIN CONTROL, FROM SPECIFICATION SECTION 260923.

Contract Documents Submission (CD3 - 100%)

FULLY SPRINKLERED

NO	REVISIONS	DATE

CONSULTANTS:

ARCHITECTURE/ INTERIOR DESIGN/ LABORATORY PLANNING/ ENVIRONMENTAL ASSESSMENT:
HDR Architecture, Inc.
560 Mission Street
Suite 900
San Francisco,CA 94105

MECHANICAL/ELECTRICAL/ PLUMBING:
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Suite 900
San Francisco,CA 94105

STRUCTURAL:
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Suite 900
San Francisco,CA 94105

CIVIL / SURVEYOR:
Sandis
936 E. Duane Avenue
Sunnyvale, CA 94085

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George Taylor Louden AIA
6330 Green Valley Circle #301
Culver City, CA 90230

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The Fire Consultants Inc.
1276 Durant
Walnut Creek, CA 94596

COST ESTIMATING:
Davis Langdon
343 Sansome Street, Ste. 1050
San Francisco, CA 94104

CONSULTANT:

ARCHITECTS/ENGINEERS:

HDR

HDR Architecture, Inc.
560 MISSION STREET, SUITE 900
SAN FRANCISCO, CA 94105
PH:415-546-4200 FAX:415-546-4202

Drawing Title
ELECTRICAL LIGHTING FIRST FLOOR PLAN

Approved : Project Director

Project Title
VMU Replacement And Expansion Project

Location
San Francisco VA Medical Center
4150 Clement Street, San Francisco, CA 94121

Date: **04 March 2011** | Checked by: BW | Drawn: RM

Project Number: **662-10-608**
Building Number: **17**
Drawing number: EL-101

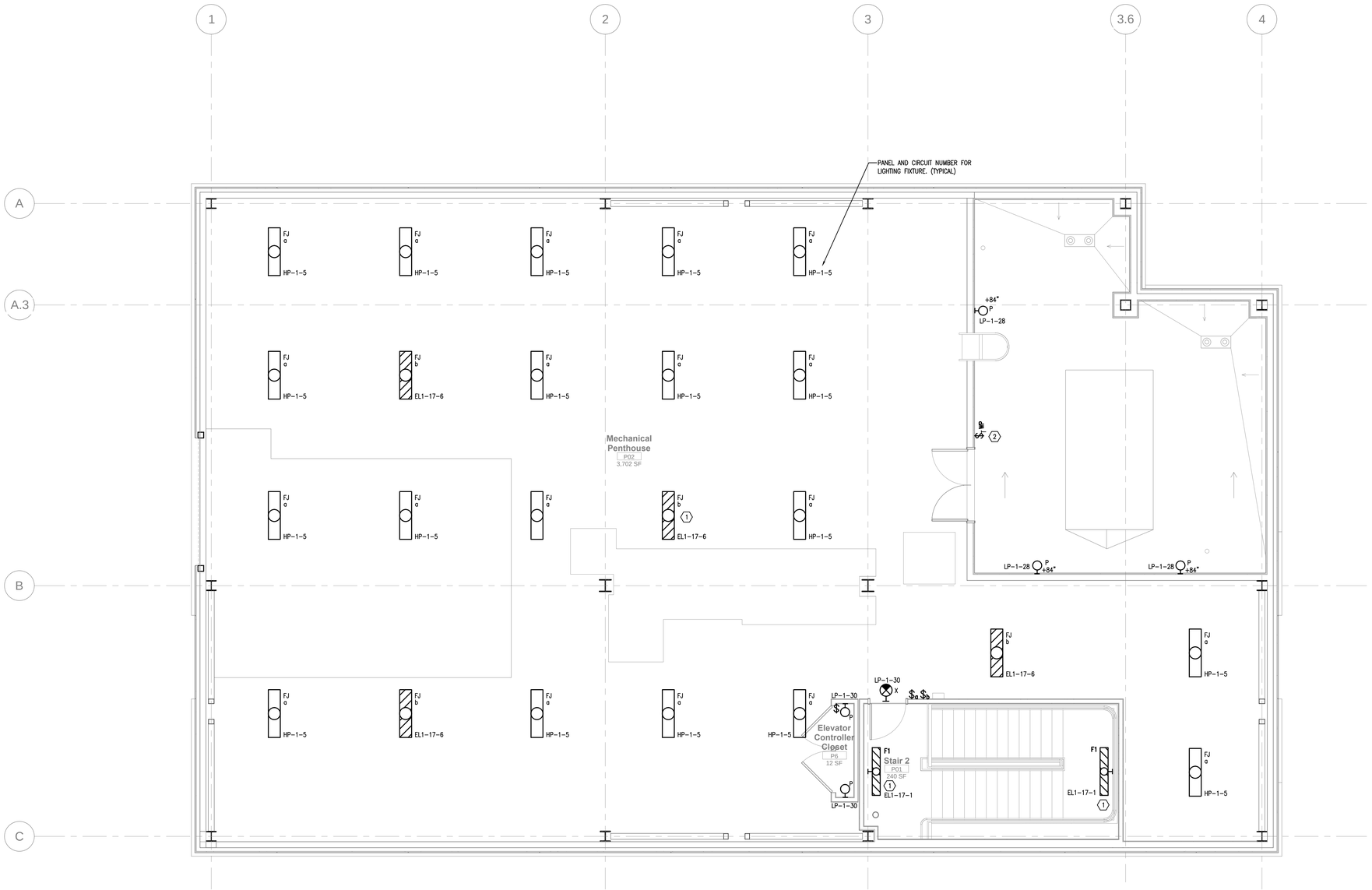
Office of Construction and Facilities Management
Department of Veterans Affairs

GENERAL NOTES:

A. ALL FINAL LOCATIONS AND ARRANGEMENTS OF LIGHTING FIXTURES SHALL BE OBTAINED FROM THE ARCHITECTURAL REFLECTED CEILING PLAN.
B. EACH BRANCH CIRCUIT HOMERUN SHALL HAVE NO MORE THAN THREE CIRCUITS. EACH BRANCH CIRCUIT SHALL HAVE A SEPARATE NEUTRAL CONDUCTOR PER PHASE. EACH BRANCH CIRCUIT HOMERUN SHALL HAVE A SEPARATE GREEN INSULATED EQUIPMENT GROUNDING CONDUCTOR.
C. REFER TO DETAIL LIGHTING FIXTURE MOUNTING DETAILS SHEET E-501.
D. ALTERNATE DEDUCT #1: ALL LIGHT FIXTURES ARE TO BE FURNISHED BY THE OWNER.

KEYED NOTES:

1. PROVIDE WITH HIGH OUTPUT BATTERY BALLAST WITH 90 MINUTES OPERATION, 1100 LUMEN OUTPUT. BODINE OR EQUAL.
2. PROVIDE WP TIMED SWITCH FOR CONTROL OF OUTDOOR TYPE 'P' LIGHTS. LIGHTS SHALL TIME OFF AFTER 60 MINUTES.



1 ELECTRICAL LIGHTING PENTHOUSE PLAN
1/4" = 1'-0"

N

Contract Documents Submission (CD3 - 100%)

FULLY SPRINKLERED

NO	REVISIONS	DATE

CONSULTANTS:

ARCHITECTURE/ INTERIOR DESIGN/ LABORATORY PLANNING/ ENVIRONMENTAL ASSESSMENT:
HDR Architecture, Inc.
560 Mission Street
Suite 900
San Francisco,CA 94105

MECHANICAL/ELECTRICAL/ PLUMBING:
HDR Architecture, Inc.
560 Mission Street
Suite 900
San Francisco,CA 94105

STRUCTURAL:
HDR Architecture, Inc.
560 Mission Street
Suite 900
San Francisco,CA 94105

CIVIL / SURVEYOR:
Sandis
936 E. Duane Avenue
Sunnyvale, CA 94085

GEOTECHNICAL/ ENVIRONMENTAL SERVICES:
Treadwell & Rollo
555 Montgomery St., Suite 1300
San Francisco, CA 94111

LANDSCAPE:
Merrill Morris Partners
246 Front Street
San Francisco, CA 94111

HISTORICAL ARCHITECTURE:
George Taylor Louden AIA
6330 Green Valley Circle #301
Culver City, CA 90230

FIRE PROTECTION:
The Fire Consultants Inc.
1276 Durant
Walnut Creek, CA 94596

COST ESTIMATING:
Davis Langdon
343 Sansome Street, Ste. 1050
San Francisco, CA 94104

CONSULTANT:

ARCHITECTS/ENGINEERS:

HDR

HDR Architecture, Inc.
560 MISSION STREET, SUITE 900
SAN FRANCISCO, CA 94105
PH:415-546-4200 FAX:415-546-4202

Drawing Title
ELECTRICAL LIGHTING PENTHOUSE PLAN

Approved : Project Director

Project Title
VMU Replacement And Expansion Project

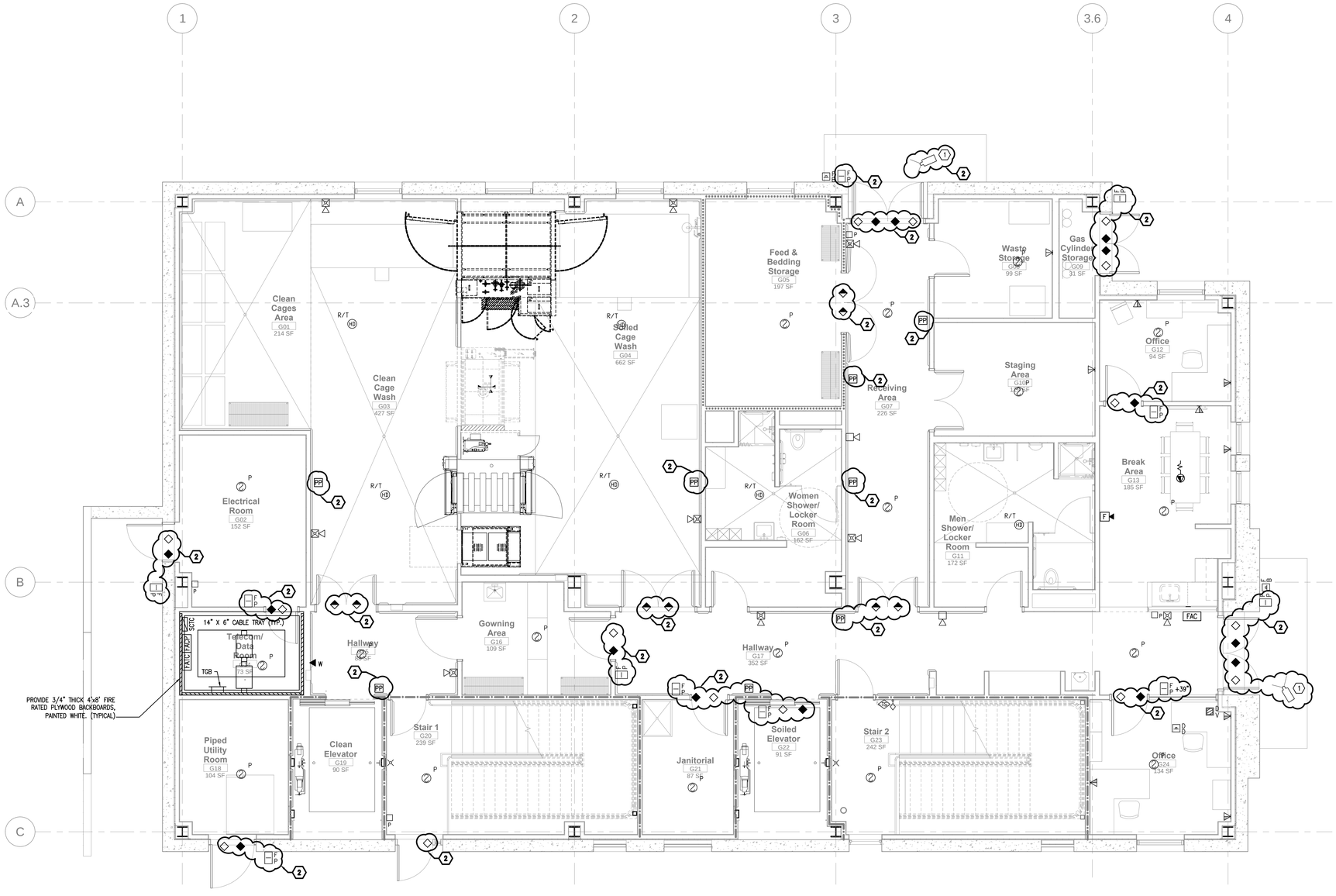
Location
San Francisco VA Medical Center
4150 Clement Street, San Francisco, CA 94121

Date: **04 March 2011**
Checked by: BW
Drawn: RM

Project Number: **662-10-608**
Building Number: **17**
Drawing number: EL-10P

Office of Construction and Facilities Management

Department of Veterans Affairs



1 ELECTRICAL COMMUNICATION AND SIGNAL GROUND FLOOR PLAN
1/4" = 1'-0"

GENERAL NOTES:

A. COORDINATE FINAL LOCATION OF DEVICES WITH THE ARCHITECTURAL REFLECTED CEILING PLANS AND ARCHITECTURAL ELEVATIONS.
B. SEE TYPICAL ACCESS CONTROL DETAILS 1,2, & 3 ON SHEET E-503 FOR REFERENCE. VERIFY EXACT INSTALLATION REQUIREMENTS WITH SYTEMS MANUFACTURER.
C. REFER TO TYPICAL TELECOMMUNICATIONS SYSTEMS DETAILS SHEET E-504 FOR SYSTEMS DEVICE INFORMATION AND INFRASTRUCTURE INSTALLATION.
D. ALL VOICA AND DATA CABLE WILL CONFORM TO THE EXISTING SFVAMC'S COLOR CODE.
   a) WHITE – DATA CABLES, CAT 6E
   b) GREY – VOICE CABLES, CAT 5E
   c) ORANGE – MULTIMODE FIBER OPTIC CABLE
   d) YELLOW – SINGLE MODE FIBER OPTIC CABLE

KEYED NOTES:

1. SECURITY SYSTEM CAMERA SHALL BE PROVIDED BY THE VA AND INSTALLED BY THE ELECTRICAL CONTRACTOR. MOUNT TO UNDERSIDE OF CANOPY, VERIFY EXACT LOCATION AND AIMING ANGLE WITH VA COTR.
2. ALTERNATE DEDUCT #2: REMOVE SYSTEM DEVICES. RETAIN ALL CONDUIT AND JUNCTION BOXES.

Contract Documents Submission (CD3 - 100%)

FULLY SPRINKLERED

NO	REVISIONS	DATE

CONSULTANTS:

ARCHITECTURE/ INTERIOR DESIGN/ LABORATORY PLANNING/ ENVIRONMENTAL ASSESSMENT:
HDR Architecture, Inc.
560 Mission Street
Suite 900
San Francisco,CA 94105

MECHANICAL/ELECTRICAL/ PLUMBING:
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560 Mission Street
Suite 900
San Francisco,CA 94105

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560 Mission Street
Suite 900
San Francisco,CA 94105

CIVIL / SURVEYOR:
Sandis
936 E. Duane Avenue
Sunnyvale, CA 94085

GEOTECHNICAL/ ENVIRONMENTAL SERVICES:
Treadwell & Rollo
555 Montgomery St., Suite 1300
San Francisco, CA 94111

LANDSCAPE:
Merrill Morris Partners
249 Front Street
San Francisco, CA 94111

HISTORICAL ARCHITECTURE:
George Taylor Louden AIA
6330 Green Valley Circle #301
Culver City, CA 90230

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The Fire Consultants Inc.
1276 Durant
Walnut Creek, CA 94596

COST ESTIMATING:
Davis Langdon
343 Sansome Street, Ste. 1050
San Francisco, CA 94104

CONSULTANT:

ARCHITECTS/ENGINEERS:

HDR

HDR Architecture, Inc.
560 MISSION STREET, SUITE 900
SAN FRANCISCO, CA 94105
PH:415-546-4200 FAX:415-546-4202

Drawing Title
ELECTRICAL COMMUNICATION & SIGNAL GROUND FLOOR PLAN

Approved : Project Director

Project Title
VMU Replacement And Expansion Project

Location **San Francisco VA Medical Center 4150 Clement Street, San Francisco, CA 94121**

Date **04 March 2011** | Checked by BW | Drawn HC

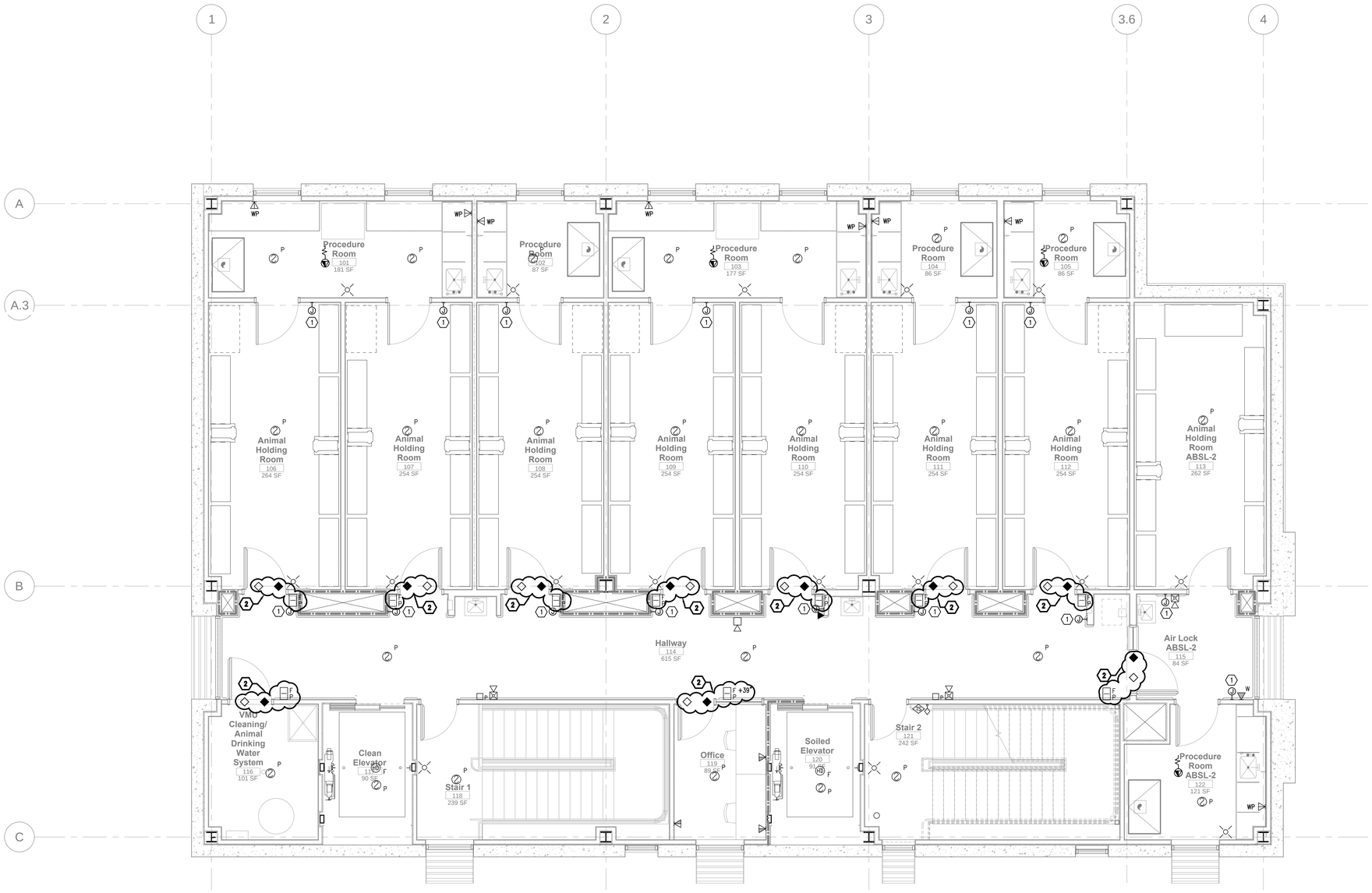
Project Number **662-10-608**

Building Number **17**

Drawing number **EC-10G**

Office of Construction and Facilities Management

Department of Veterans Affairs



1 ELECTRICAL COMMUNICATION AND SIGNAL FIRST FLOOR PLAN
1/4" = 1'-0"

GENERAL NOTES:

A. COORDINATE FINAL LOCATION OF DEVICES WITH THE ARCHITECTURAL REFLECTED CEILING PLANS AND ARCHITECTURAL ELEVATIONS.
B. SEE TYPICAL ACCESS CONTROL DETAILS 1,2, & 3 ON SHEET E-503 FOR REFERENCE. VERIFY EXACT INSTALLATION REQUIREMENTS WITH SYTEMS MANUFACTURER.
C. REFER TO TYPICAL TELECOMMUNICATIONS SYSTEMS DETAILS SHEET E-504 FOR SYSTEMS DEVICE INFORMATION AND INFRASTRUCTURE INSTALLATION.
D. ALL VOICA AND DATA CABLE WILL CONFORM TO THE EXISTING SFVAMC'S COLOR CODE:
   a) WHITE – DATA CABLES, CAT 6E
   b) GREY – VOICE CABLES, CAT 5E
   c) ORANGE – MULTIMODE FIBER OPTIC CABLE
   d) YELLOW – SINGLE MODE FIBER OPTIC CABLE

⬡ KEYED NOTES:

1. PROVIDE BACKBOX AND 1"C. TO ACCESSIBLE CEILING SPACE FOR DIFFERENTIAL PRESSURE MONITOR BY OTHERS. VERIFY MOUNTING HEIGHT OF +48" WITH ARCHITECT.
2. ALTERNATE DEDUCT #2: REMOVE SYSTEM DEVICES. RETAIN ALL CONDUIT AND JUNCTION BOXES.

Contract Documents Submission (CD3 - 100%)

FULLY SPRINKLERED

NO	REVISIONS	DATE

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San Francisco,CA 94105

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CIVIL / SURVEYOR:
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936 E. Duane Avenue
Sunnyvale, CA 94085

GEOTECHNICAL/ ENVIRONMENTAL SERVICES:
Treadwell & Rollo
555 Montgomery St., Suite 1300
San Francisco, CA 94111

LANDSCAPE:
Merrill Morris Partners
249 Front Street
San Francisco, CA 94111

HISTORICAL ARCHITECTURE:
George Taylor Louden AIA
6330 Green Valley Circle #301
Culver City, CA 90230

FIRE PROTECTION:
The Fire Consultants Inc.
1278 Durant
Walnut Creek, CA 94596

COST ESTIMATING:
Davis Langdon
343 Sansome Street, Ste. 1050
San Francisco, CA 94104

CONSULTANT:

ARCHITECTS/ENGINEERS:

HDR

HDR Architecture, Inc.
560 MISSION STREET, SUITE 900
SAN FRANCISCO, CA 94105
PH:415-546-4200 FAX:415-546-4202

Drawing Title
ELECTRICAL COMMUNICATION & SIGNAL FIRST FLOOR PLAN

Approved : Project Director

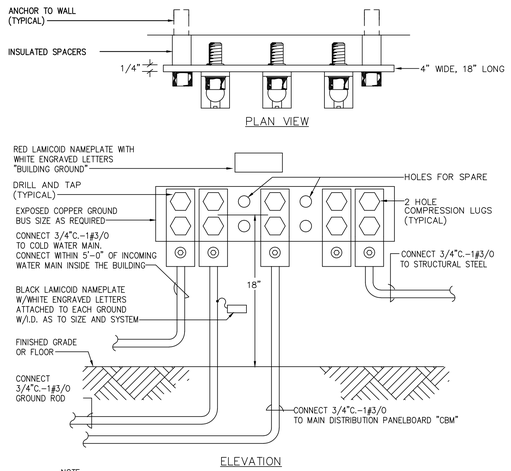
Project Title
VMU Replacement And Expansion Project

Location
San Francisco VA Medical Center
4150 Clement Street, San Francisco, CA 94121

Date: **04 March 2011**
Checked by: BW
Drawn: HC

Project Number: **662-10-608**
Building Number: **17**
Drawing number: EC-101

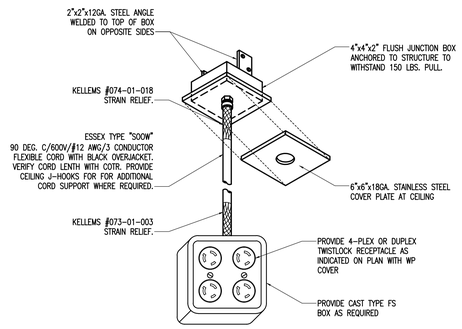
Office of Construction and Facilities Management
Department of Veterans Affairs



NOTE:

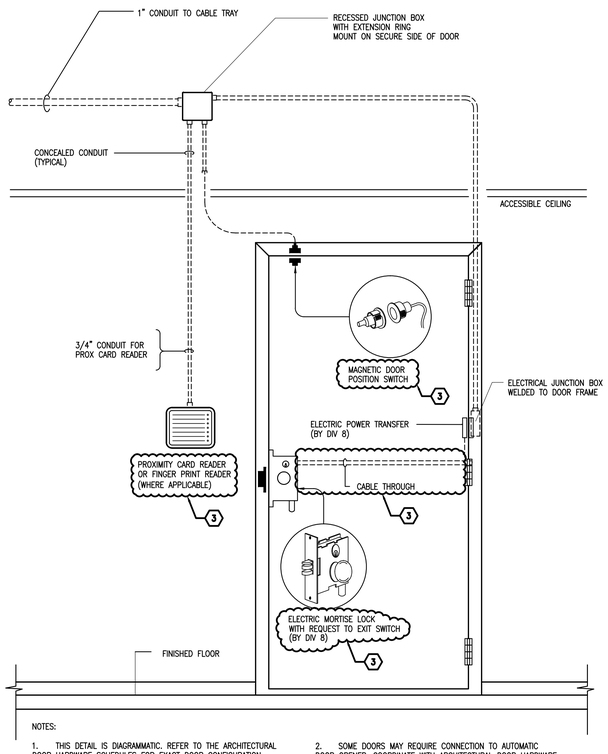
1. ALL CONDUCTORS EXPOSED ABOVE FINISHED FLOOR TERMINATING ON GROUND BUS SHALL BE PROTECTED BY SCHEDULE 80 PVC CONDUIT TO 6" ABOVE FLOOR.

4 GROUND BUS DETAIL
N.T.S.



*SPECIFIER:
SELECT PROPER RECEPTACLE(S).

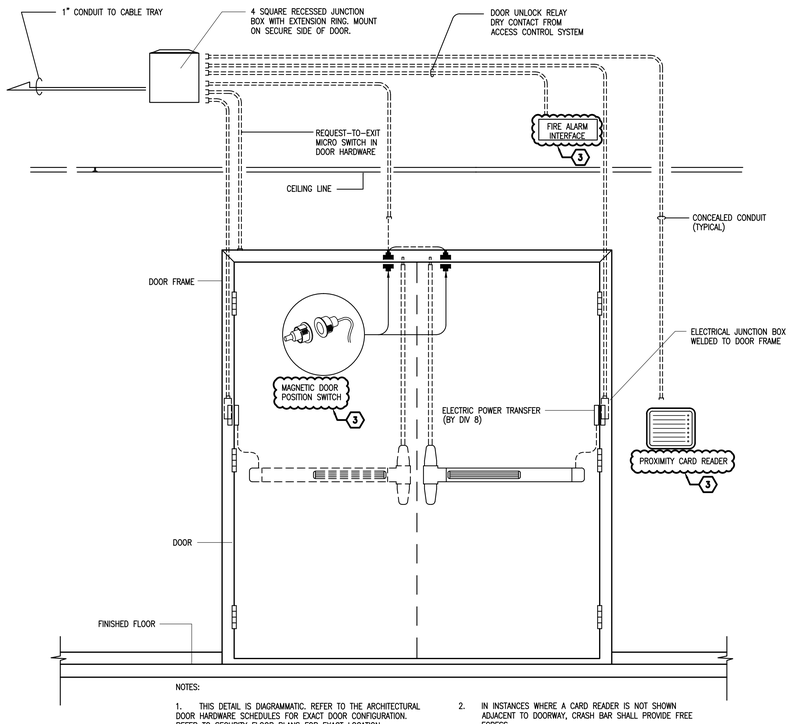
5 TYPICAL TWIST DROP CORD DETAIL
N.T.S.



NOTES:

1. THIS DETAIL IS DIAGRAMMATIC. REFER TO THE ARCHITECTURAL DOOR HARDWARE SCHEDULES FOR EXACT DOOR CONFIGURATION. REFER TO SECURITY FLOOR PLANS FOR EXACT LOCATION.
2. SOME DOORS MAY REQUIRE CONNECTION TO AUTOMATIC DOOR OPENER. COORDINATE WITH ARCHITECTURAL DOOR HARDWARE SCHEDULE.
3. ALTERNATE DEDUCT #2: REMOVE SYSTEM DEVICES. RETAIN CONDUIT AND BACKBOXES FOR DEVICES.

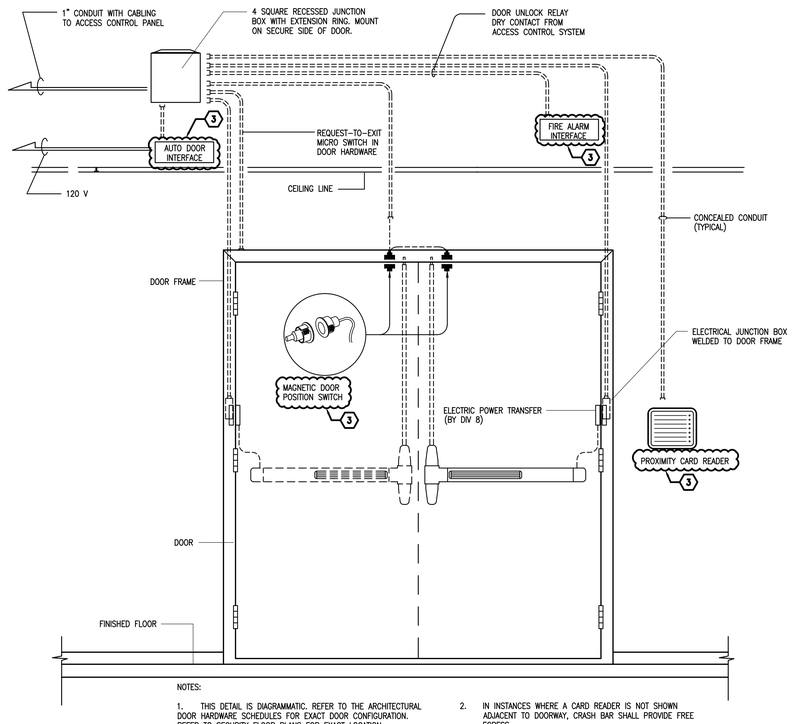
1 TYPICAL SINGLE DOOR WITH ACCESS CONTROL
NTS



NOTES:

1. THIS DETAIL IS DIAGRAMMATIC. REFER TO THE ARCHITECTURAL DOOR HARDWARE SCHEDULES FOR EXACT DOOR CONFIGURATION. REFER TO SECURITY FLOOR PLANS FOR EXACT LOCATION.
2. IN INSTANCES WHERE A CARD READER IS NOT SHOWN ADJACENT TO DOORWAY, CRASH BAR SHALL PROVIDE FREE EGRESS.
3. ALTERNATE DEDUCT #2: REMOVE SYSTEM DEVICES. RETAIN CONDUIT AND BACKBOXES FOR DEVICES.

2 TYPICAL DOUBLE DOOR WITH ACCESS CONTROL
NTS



NOTES:

1. THIS DETAIL IS DIAGRAMMATIC. REFER TO THE ARCHITECTURAL DOOR HARDWARE SCHEDULES FOR EXACT DOOR CONFIGURATION. REFER TO SECURITY FLOOR PLANS FOR EXACT LOCATION.
2. IN INSTANCES WHERE A CARD READER IS NOT SHOWN ADJACENT TO DOORWAY, CRASH BAR SHALL PROVIDE FREE EGRESS.
3. ALTERNATE DEDUCT #2: REMOVE SYSTEM DEVICES. RETAIN CONDUIT AND BACKBOXES FOR DEVICES.

3 TYPICAL AUTO DOOR WITH ACCESS CONTROL
NTS

Contract Documents Submission (CD3 - 100%)

NO	REVISIONS	DATE

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560 Mission Street
Suite 900
San Francisco,CA 94105

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936 E. Duane Avenue
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Davis Langdon
343 Sansome Street, Ste. 1050
San Francisco, CA 94104

CONSULTANT:

ARCHITECTS/ENGINEERS:

HDR

HDR Architecture, Inc.
560 MISSION STREET, SUITE 900
SAN FRANCISCO, CA 94105
PH:415-546-4200 FAX:415-546-4202

Drawing Title
ELECTRICAL DETAILS

Approved : Project Director

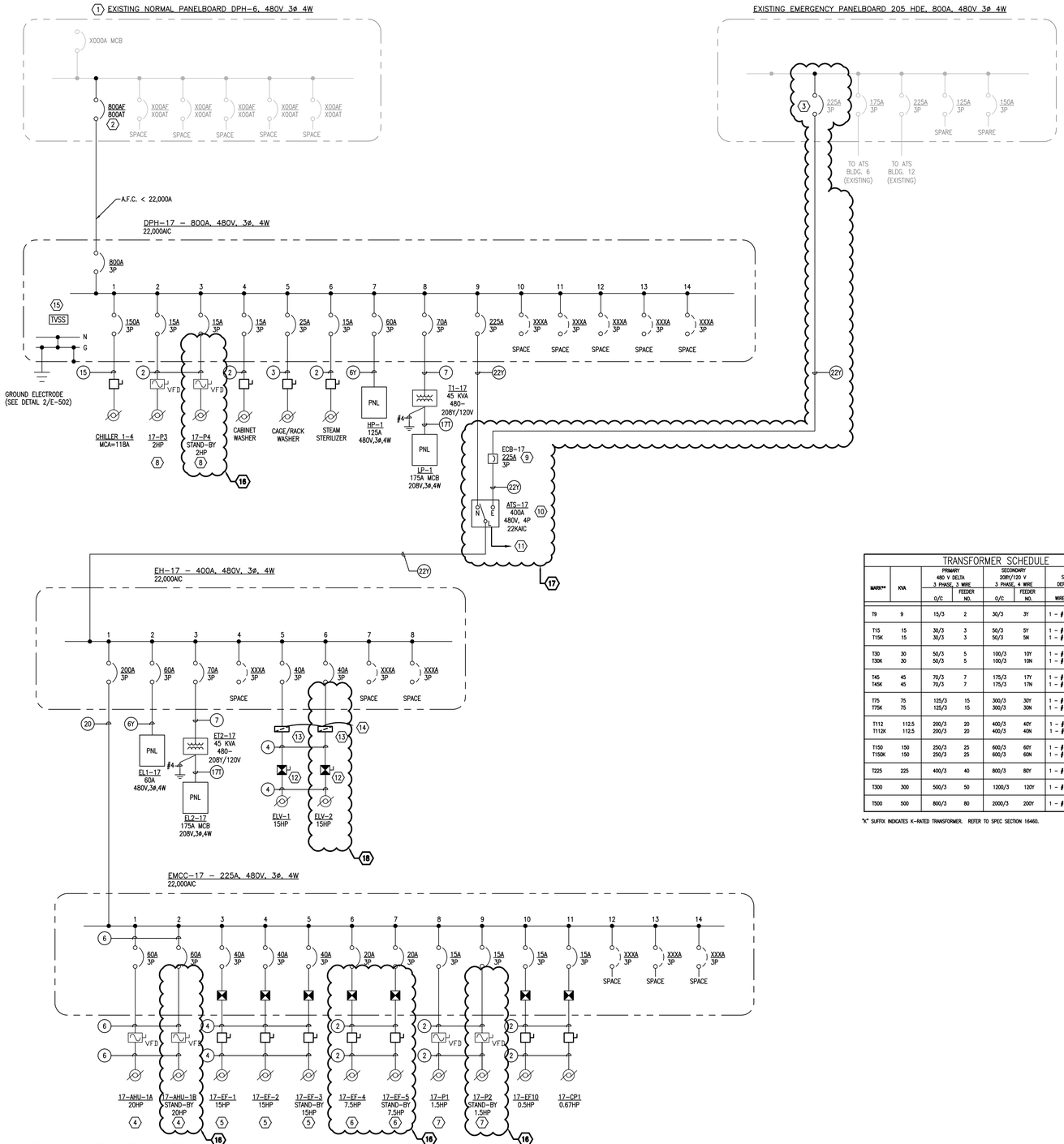
Project Title
VMU Replacement And Expansion Project

Location: **San Francisco VA Medical Center, 4150 Clement Street, San Francisco, CA 94121**

Date: **04 March 2011** | Checked by: BW | Drawn: RM

Project Number: **662-10-608**
Building Number: **17**
Drawing number: **E-503**

Office of Construction and Facilities Management
Department of Veterans Affairs



1 SINGLE LINE DIAGRAM
NTS

TRANSFORMER SCHEDULE

MARK**	KVA	PRIMARY 480 V DELTA 3 PHASE, 3 WIRE O/C	PRIMARY FEEDER NO.	SECONDARY 208Y/120 V 3 PHASE, 4 WIRE O/C	SECONDARY FEEDER NO.	SEPARATELY DERIVED GROUND WIRE	SEPARATELY DERIVED GROUND CONDUIT SIZE
T9	9	15/3	2	30/3	3Y	1 – # 8	1"
T15 T15K	15 15	30/3 30/3	3 3	50/3 50/3	5Y 5N	1 – # 8 1 – # 8	1" 1"
T30 T30K	30 30	50/3 50/3	5 5	100/3 100/3	10Y 10N	1 – # 8 1 – # 8	1" 1"
T45 T45K	45 45	70/3 70/3	7 7	175/3 175/3	17Y 17N	1 – # 4 1 – # 4	1" 1"
T75 T75K	75 75	125/3 125/3	15 15	300/3 300/3	30Y 30N	1 – # 2 1 – # 2	1" 1"
T112 T112K	112.5 112.5	200/3 200/3	20 20	400/3 400/3	40Y 40N	1 – # 1/0 1 – # 1/0	1" 1"
T150 T150K	150 150	250/3 250/3	25 25	600/3 600/3	60Y 60N	1 – # 2/0 1 – # 2/0	1" 1"
T225	225	400/3	40	800/3	80Y	1 – # 2/0	1"
T300	300	500/3	50	1200/3	120Y	1 – # 3/0	1-1/4"
T500	500	800/3	80	2000/3	200Y	1 – # 3/0	1-/14"

"K" SUFFIX INDICATES K-RATED TRANSFORMER. REFER TO SPEC SECTION 16460.

FEEDER SCHEDULE

MARK	AMPACITY	NO. OF SETS	CONDUCTOR SIZES (AWG or MCM) PHASE	NEUTRAL	EQ GND	ISO GND	CONDUIT SIZE
2 2Y 2N	20 20 20	1 1 1	3 - # 12 3 - # 12 3 - # 12	- 1 - # 12 1 - # 8	1 - # 12 1 - # 12 1 - # 12	- - 1 - # 12	1/2" 1/2" 3/4"
3 3Y 3N	30 30 30	1 1 1	3 - # 10 3 - # 10 3 - # 10	- 1 - # 10 1 - # 6	1 - # 10 1 - # 10 1 - # 10	- - 1 - # 10	3/4" 3/4" 3/4"
4 4Y 4N	40 40 40	1 1 1	3 - # 8 3 - # 8 3 - # 8	- 1 - # 8 1 - # 4	1 - # 10 1 - # 10 1 - # 10	- - 1 - # 10	3/4" 1" 1"
5 5Y 5N	50 50 50	1 1 1	3 - # 6 3 - # 6 3 - # 6	- 1 - # 6 1 - # 3	1 - # 10 1 - # 10 1 - # 10	- - 1 - # 10	1" 1" 1-1/4"
7 7Y 7N	70 70 70	1 1 1	3 - # 4 3 - # 4 3 - # 4	- 1 - # 4 1 - # 1	1 - # 8 1 - # 8 1 - # 8	- - 1 - # 8	1-1/4" 1-1/4" 1-1/2"
8 8Y 8N	80 80 80	1 1 1	3 - # 3 3 - # 3 3 - # 3	- 1 - # 3 1 - # 1/0	1 - # 8 1 - # 8 1 - # 8	- - 1 - # 8	1-1/4" 1-1/4" 1-1/2"
9 9Y 9N	90 90 90	1 1 1	3 - # 2 3 - # 2 3 - # 2	- 1 - # 2 1 - # 2/0	1 - # 8 1 - # 8 1 - # 8	- - 1 - # 8	1-1/4" 1-1/2" 2"
10 10Y 10N	100 100 100	1 1 1	3 - # 1 3 - # 1 3 - # 1	- 1 - # 1 1 - # 3/0	1 - # 8 1 - # 8 1 - # 8	- - 1 - # 8	1-1/2" 2" 2"
11 11Y 11N	110 110 110	1 1 1	3 - # 1 3 - # 1 3 - # 1	- 1 - # 1 1 - # 3/0	1 - #6 1 - #6 1 - #6	- - 1 - #6	1-1/2" 2" 2"
12 12Y 12N	125 125 125	1 1 1	3 - # 1/0 3 - # 1/0 3 - # 1/0	- 1 - # 1/0 2 - # 250	1 - #6 1 - #6 1 - #6	- - 1 - #6	1-1/2" 2" 2"
15 15Y 15N	150 150 150	1 1 1	3 - # 1/0 3 - # 1/0 3 - # 1/0	- 1 - # 1/0 2 - # 1/0	1 - #6 1 - #6 1 - #6	- - 1 - #6	2" 2" 2-1/2"
17 17Y 17N	175 175 175	1 1 1	3 - # 2/0 3 - # 2/0 3 - # 2/0	- 1 - # 2/0 2 - # 2/0	1 - #6 1 - #6 1 - #6	- - 1 - #6	2" 2" 2-1/2"
20 20Y 20N	200 200 200	1 1 1	3 - # 3/0 3 - # 3/0 3 - # 3/0	- 1 - # 3/0 2 - # 3/0	1 - #6 1 - #6 1 - #6	- - 1 - #6	2" 2-1/2" 3"
22 22Y 22N	225 225 225	1 1 1	3 - # 4/0 3 - # 4/0 3 - # 4/0	- 1 - # 4/0 2 - # 4/0	1 - # 4 1 - # 4 1 - # 4	- - 1 - # 4	2-1/2" 2-1/2" 3"
25 25Y 25N	250 250 250	1 1 1	3 - 250 3 - 250 3 - 250	- 1 - 250 2 - 250	1 - # 4 1 - # 4 1 - # 4	- - 1 - # 4	2-1/2" 3" 3-1/2"
30 30Y 30N	300 300 300	1 1 1	3 - 350 3 - 350 3 - 350	- 1 - 350 2 - 350	1 - # 4 1 - # 4 1 - # 4	- - 1 - # 4	3" 3" 4"
40 40Y 40N	400 400 400	1 1 1	3 - 500 3 - 500 3 - 500	- 1 - 500 2 - 500	1 - # 3 1 - # 3 1 - # 3	- - 1 - # 3	3-1/2" 3-1/2" 4"
50 50Y 50N	500 500 500	2 2 2	3 - 250 3 - 250 3 - 250	- 1 - 250 2 - 250	1 - # 2 1 - # 2 1 - # 2	- - 1 - # 2	2-1/2" 3" 3-1/2"
60 60Y	600 600	2 2	3 - 350 3 - 350	- 1 - 350	1 - # 1 1 - # 1	- -	3" 3"
80 80Y	800 800	2 2	3 - 500 3 - 500	- 1 - 500	1 - # 1/0 1 - # 1/0	- -	3-1/2" 3-1/2"
100 100Y	1000 1000	3 3	3 - 400 3 - 400	- 1 - 400	1 - # 2/0 1 - # 2/0	- -	3" 3-1/2"
120 120Y	1200 1200	4 4	3 - 350 3 - 350	- 1 - 350	1 - # 3/0 1 - # 3/0	- -	3" 3"
160 160Y	1600 1600	5 5	3 - 400 3 - 400	- 1 - 400	1 - # 4/0 1 - # 4/0	- -	3" 3-1/2"
200 200Y	2000 2000	6 6	3 - 400 3 - 400	- 1 - 400	1 - 250 1 - 250	- -	3" 3-1/2"
250 250Y	2500 2500	7 7	3 - 500 3 - 500	- 1 - 500	1 - 350 1 - 350	- -	3-1/2" 4"
300 300Y	3000 3000	8 8	3 - 500 3 - 500	- 1 - 500	1 - 400 1 - 400	- -	3-1/2" 4"
400 400Y	4000 4000	11 11	3 - 500 3 - 500	- 1 - 500	1 - 500 1 - 500	- -	3-1/2" 4"

KEYED NOTES:

1. PANEL DPH-6 IS A NEW DISTRIBUTOIN PANEL TO BE INSTALLED UNDER SEPARATE CONTRACT PRIOR TO THE CONSTRUCTION OF THE VIVARIUM.
2. 800A, 3P CIRCUIT BREAKER TO BE PROVIDED UNDER SEPARATE CONTRACT FOR NEW VIVARIUM FEEDER.
3. PROVIDE NEW 225A, 3P CIRCUIT BREAKER IN EXISTING PANEL 205 HDE LOCATED IN CUP. MATCH EXISTING BREAKER TYPE AND AIC RATING.
4. AHU-1B IS STAND-BY. AHU-1A AND AHU-1B ARE INTERLOCKED TO NOT RUN CONCURRENTLY.
5. EF-3 IS STAND-BY. EF-3 IS INTERLOCKED WITH EF-1 & EF-2, NOT TO RUN IF EITHER EF-1 OR EF-2 ARE RUNNING.
6. EF-5 IS STAND-BY. EF-4 IS AND EF-5 ARE INTERLOCKED NOT TO RUN CONCURRENTLY.
7. HWP-2 IS STAND-BY. HWP-1 AND HWP-2 ARE INTERLOCKED TO NOT RUN CONCURRENTLY.
8. CWP-2 IS STAND-BY. CWP-1 AND CWP-2 ARE INTERLOCKED TO NOT RUN CONCURRENTLY.
9. SERVICE RATED ENCLOSED CIRCUIT BREAKER. PROVIDE SIGNAGE INDICATING EMERGENCY SOURCE DISCONNECT PER NEC 230.70.
10. OPEN-TRANSITION ATS WITH BYPASS ISOLATION. SYSTEM SHALL HAVE REMOTE MONITORING STATION IN BUILDING 205. PROVIDE ASCO 7000 SERIES ATS #7ATB-B3-400-N5XC-5LL-18B-18G-27-31Z-72E-85S-125, WITH ASCO MODEL 5310 REMOTE ANNUNCIATOR, OR APPROVED EQUAL.
11. 1°C WITH CONTROL WIRING TO PARALLELING SWGR STATUS AND CONTROL PANEL LOCATED IN POWER PLANT BLDG. 205. VERIFY EXACT REQUIREMENTS WITH EQUIPMENT MANUFACTURER.
12. PROVIDE ELEVATOR FUSED DISCONNECT MODULE WITH INTEGRAL SHUNT TRIP, COOPER BUSSMAN OR EQUAL. PROVIDE WITH THREE (3) 25A FUSES PER MANUFACTURER'S RECOMMENDATIONS.
13. ELEVATOR GROUP CONTROLLER PROVIDED BY OTHERS. UNDER EMERGENCY POWER OPERATION CONDITION, ONLY ONE ELEVATOR WILL OPERATE AT ANY GIVEN TIME.
14. 3/4°C. TO ATS. PROVIDE CONTROL CONDUCTORS AS REQUIRED.
15. PROVIDE TRANSIENT VOLTAGE SURGE SUPPRESSION PROTECTION. SEE SPECIAL SECTION 26 43 13.
16. ALTERNATE DEDUCT #3: REMOVE CIRCUIT, CONDUIT, AND JUNCTION BOXES. RETAIN CIRCUIT BREAKER AS SPARE.
17. ALTERNATE DEDUCT #4: REMOVE EMERGENCY FEEDER FROM EXISTING EMERGENCY PANELBOARD, CIRCUIT BREAKER, AND ATS. FEED PANELBOARD EH-17 FROM DISTRIBUTION BOARD DPH-17.
18. ALTERNATE DEDUCT #5: REMOVE FUSED DISCONNECT, CONDUIT, AND JUNCTION BOXES. RETAIN CIRCUIT BREAKER AS SPARE.

Contract Documents Submission (CD3 - 100%)

NO	REVISIONS	DATE

CONSULTANTS:

ARCHITECTURE/ INTERIOR DESIGN/ LABORATORY PLANNING/ ENVIRONMENTAL ASSESSMENT:
HDR Architecture, Inc.
560 Mission Street
Suite 900
San Francisco,CA 94105

MECHANICAL/ELECTRICAL/ PLUMBING:
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Sandis
936 E. Duane Avenue
Sunnyvale, CA 94085

GEOTECHNICAL/ ENVIRONMENTAL SERVICES:
Treadwell & Rollo
555 Montgomery St., Suite 1300
San Francisco, CA 94111

LANDSCAPE:
Merrill Morris Partners
249 Front Street
San Francisco, CA 94111

HISTORICAL ARCHITECTURE:
George Taylor Louden AIA
6330 Green Valley Circle #301
Culver City, CA 90230

FIRE PROTECTION:
The Fire Consultants Inc.
1276 Durant
Walnut Creek, CA 94596

COST ESTIMATING:
Davis Langdon
343 Sansome Street, Ste. 1050
San Francisco, CA 94104

CONSULTANT:

ARCHITECTS/ENGINEERS:

HDR

HDR Architecture, Inc.
560 MISSION STREET, SUITE 900
SAN FRANCISCO, CA 94105
PH:415-546-4200 FAX:415-546-4202

Drawing Title
ELECTRICAL SINGLE LINE DIAGRAM AND FEEDER SCHEDULE

Approved : Project Director

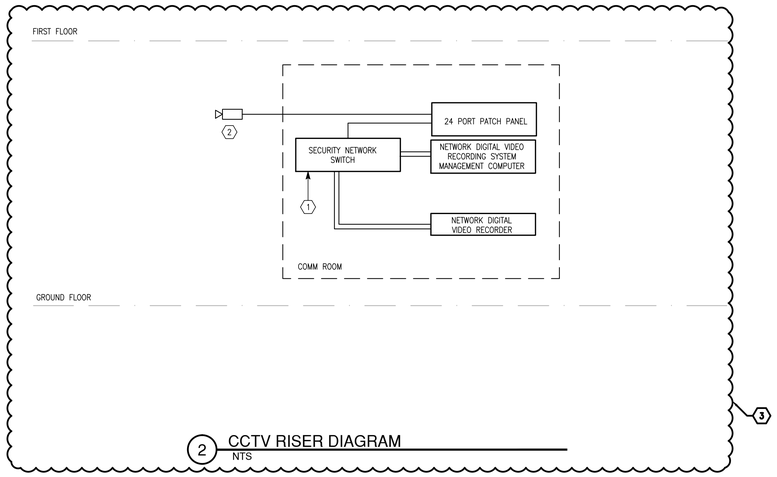
Project Title
VMU Replacement And Expansion Project

Location
San Francisco VA Medical Center
4150 Clement Street, San Francisco, CA 94121

Date: **04 March 2011** | Checked by: BW | Drawn: RM

Project Number: **662-10-608**
Building Number: **17**
Drawing number: E-701

Office of Construction and Facilities Management
Department of Veterans Affairs



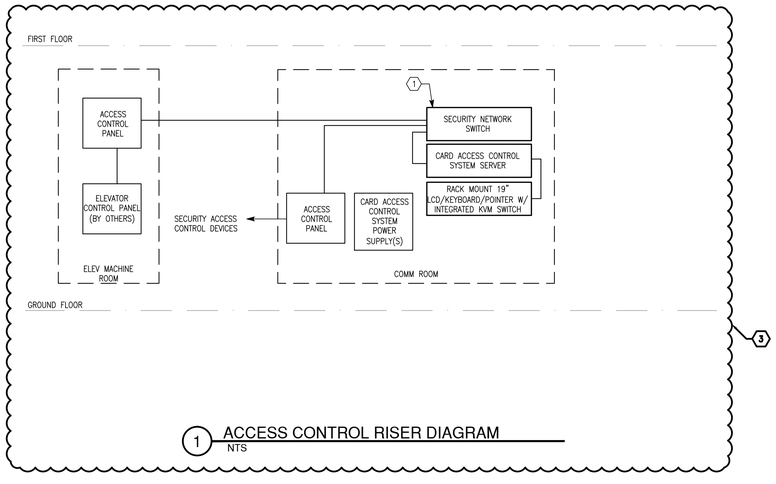
2 CCTV RISER DIAGRAM
NTS

GENERAL NOTES:

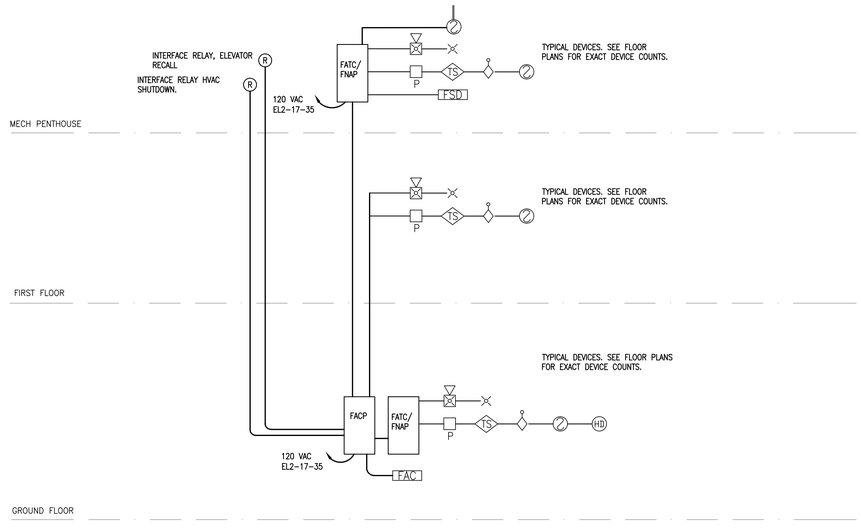
A. SINGLE LINE DIAGRAM IS DIAGRAMMATIC IN NATURE. CONTRACTOR TO SUPPLY ALL NECESSARY EQUIPMENT FOR A COMPLETE AND OPERATIONAL SYSTEM.
B. REFER TO FLOOR PLANS FOR EXACT NUMBER OF DEVICES FOR ACCESS CONTROL SYSTEM. PROVIDE CORRECT NUMBER OF FIELD DEVICES & REMOTE INPUT MODULES FOR A COMPLETE AND OPERATIONAL SYSTEM.
C. REFER TO FLOOR PLANS FOR EXACT CAMERA LOCATION

KEYED NOTES:

1. SECURITY NETWORK SWITCH FOR ACCESS CONTROL SYSTEM & CCTV SYSTEM.
2. SEE FLOOR PLANS FOR DEVICE NUMBER AND LOCATIONS.
3. ALTERNATE DEDUCT #2: REMOVE SYSTEM.



1 ACCESS CONTROL RISER DIAGRAM
NTS



3 FIRE ALARM RISER DIAGRAM
NTS

Contract Documents Submission (CD3 - 100%)

NO	REVISIONS	DATE

CONSULTANTS:

ARCHITECTURE/ INTERIOR DESIGN/ LABORATORY PLANNING/ ENVIRONMENTAL ASSESSMENT:
HDR Architecture, Inc.
560 Mission Street
Suite 900
San Francisco,CA 94105

MECHANICAL/ELECTRICAL/ PLUMBING:
HDR Architecture, Inc.
560 Mission Street
Suite 900
San Francisco,CA 94105

STRUCTURAL:
HDR Architecture, Inc.
560 Mission Street
Suite 900
San Francisco,CA 94105

CIVIL / SURVEYOR:
Sandis
936 E. Duane Avenue
Sunnyvale, CA 94085

GEOTECHNICAL/ ENVIRONMENTAL SERVICES:
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555 Montgomery St., Suite 1300
San Francisco, CA 94111

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1278 Durant
Walnut Creek, CA 94596

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Davis Langdon
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San Francisco, CA 94104

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ARCHITECTS/ENGINEERS:

HDR

HDR Architecture, Inc.
560 MISSION STREET, SUITE 900
SAN FRANCISCO, CA 94105
PH:415-546-4200 FAX:415-546-4202

Drawing Title
ELECTRICAL
SINGLE LINE DIAGRAMS

Approved : Project Director

Project Title
VMU Replacement And Expansion Project

Location **San Francisco VA Medical Center 4150 Clement Street, San Francisco, CA 94121**

Date **04 March 2011** | Checked by BW | Drawn HC

Project Number **662-10-608**

Building Number **17**

Drawing number E-702

Office of Construction and Facilities Management

Department of Veterans Affairs