# BID AND CONTRACT DOCUMENTS 3 of 3

## FOR

## PROJECT No. MC08430011869

## CARDIAC CATHETERIZATION LABORATORY

## Riverside University Health System Medical Center
## 26520 Cactus Ave, Moreno Valley, CA 92555

Los Angeles Corporate
555 First Street
San Fernando, CA 91340
T 818 898 1521
F 818 361 9208

# RIVERSIDE UNIVERSITY HEALTH SYSTEM

(PROJECT NO. MC08430011869, HCAI NO. S231455-33-00)

## CATHETERIZATION LABORATORY SUITE

# COUNTY OF RIVERSIDE, STATE OF CALIFORNIA
# APPENDIX

A CONTRACT DOCUMENTS

B BID PACKAGES

- 00-GENERAL REQUIREMENTS (ALL PACKAGES)
- 01 INTERIOR WORK
- 03 CONCRETE, STEEL, METAL DECK, MISC IRON
- 06 ROOFING
- 16 ELECTRICAL AND LOW VOLTAGE

C LOGISTICS

C SCHEDULE

D TIO

E PHILIPS CATH LAB EQUIPMENT

F ROUND 1 RFI RESPONSE

G ROUND 1 ADDENDUM 2

# RIVERSIDE UNIVERSITY HEALTH SYSTEM

(PROJECT NO. MC08430011869, HCAi NO. S231455-33-00)

## MEDICAL CENTER CARDIAC CATHETERIZATION LABORATORY SUITE

# COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

## APPENDIX "A"
## CONTRACT DOCUMENT LISTING

Bernards

Printed on Thu Jul 31, 2025 at 07:13 am PDT

Job #: 1867-MS RUHS-Medical Center Cardiac Catheterization Laboratory Suite
26520 Cactus Avenue
Moreno Valley, California 92555

## Phase 1 and 2 - Current Drawings

| Drawing No. | Drawing Title | Revision | Drawing Date | Received Date | Set |
|---|---|---|---|---|---|
| **General** | | | | | |
| GI001 | GENERAL PROJECT INFORMATION | BC2Approved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| GI002 | SYMBOLS, SHEET INDEX, ABBREVIATION | BC2Approved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| GI003 | ACCESSIBILITY NOTES AND DIAGRAMS | BC2Approved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| GI004 | ADA TOILET FIXTURE AND SHOWER STANDARDS | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| GI101 | EXISTING LIFE SAFETY PLANS | BC2Approved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| GI102 | LIFE SAFETY PLAN | 01 | 04/30/2025 | 05/12/2025 | Addendum 1 (04/25/25) |
| GI200 | SHEET NUMBER | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| **Demolition** | | | | | |
| AD101 | PHASING PLAN - LEVEL 1 - DEMO - PHASE 1 (not used) | 2 | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| AD102 | PHASING PLAN - LEVEL 1 - DEMO - PHASE 2 (not used) | 1 | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| AD111 | PARTIAL FLOOR PLAN - LEVEL 1 - DEMO | BC2Approved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| AD112 | PARTIAL FLOOR PLAN - LEVEL 2 & 3 - DEMO | BC2Approved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| AD121 | PARTIAL REFLECTED CEILING PLAN - LEVEL 1 - DEMO | 01 | 04/30/2025 | 05/12/2025 | Addendum 1 (04/25/25) |
| AD151 | PHASING PLAN - LEVEL 1 - FLOOR PLAN - DEMO | 01 | 04/30/2025 | 05/12/2025 | Addendum 1 (04/25/25) |
| AD152 | PHASING PLAN - LEVEL 1 - REFLECTED CEILING PLAN - DEMO | 01 | 04/30/2025 | 05/12/2025 | Addendum 1 (04/25/25) |
| **Structural** | | | | | |
| S001 | GENERAL NOTES 1 | BC2Approved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| S002 | GENERAL NOTES 2 | BC2Approved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| S003 | TYPICAL DETAILS | 01 | 04/30/2025 | 05/12/2025 | Addendum 1 (04/25/25) |
| S111 | LEVEL 1 - PARTIAL FRAMING & FLOOR PLAN | BC2Approved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| S112 | LEVEL 2 - PARTIAL FRAMING PLAN | BC2Approved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| S113 | PARTIAL THIRD LEVEL FRAMNG PLAN | BC2Approved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| S211 | ENLARGED PLANS | BC2Approved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| S501 | DETAILS | BC2Approved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| S502 | DETAILS | BC2Approved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| S503 | ANCHORAGE DETAILS | BC2Approved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| S504 | ANCHORAGE DETAILS | BC2Approved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| S505 | ANCHORAGE DETAILS | BC2Approved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| S506 | ANCHORAGE DETAILS | BC2Approved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| S507 | ANCHORAGE DETAILS | BC2Approved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| S508 | ANCHORAGE DETAILS | BC2Approved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| S509 | SECTIONS AND DETAILS | BC2Approved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |

| Drawing No. | Drawing Title | Revision | Drawing Date | Received Date | Set |
|---|---|---|---|---|---|
| **Architectural** | | | | | |
| AE110 | PARTIAL FLOOR PLAN - LEVEL LOWER -EXISTING CONDITION | BC2Approved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| AE111 | PARTIAL FLOOR PLAN - LEVEL 1 - REMODEL | 01 | 04/30/2025 | 05/12/2025 | Addendum 1 (04/25/25) |
| AE112 | PARTIAL FLOOR PLAN - LEVEL 2 - REMODEL AND PARTIAL ROOF PLAN | 2 | 07/28/2025 | 07/31/2025 | Addendum 2 (07/28/25) |
| AE121 | PARTIAL REFLECTED CEILING PLAN - LEVEL 1 - REMODEL | 01 | 04/30/2025 | 05/12/2025 | Addendum 1 (04/25/25) |
| AE131 | IMAGING EQUIPMENT ENLARGED PLAN - CATH LAB | BC2Approved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| AE132 | IMAGING EQUIPMENT ENLARGED REFLECTED CEILING PLAN - CATH LAB | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| AE141 | SHIELDING PLAN - LEVEL 1 - CATH LABS | BC2Approved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| AE151 | PHASING PLAN - LEVEL 1 - FLOOR PLAN - REMODEL | 01 | 04/30/2025 | 05/12/2025 | Addendum 1 (04/25/25) |
| AE152 | PHASING PLAN - LEVEL 1 - REFLECTED CEILING PLAN - REMODEL | 01 | 04/30/2025 | 05/12/2025 | Addendum 1 (04/25/25) |
| AE221 | ENLARGED REMODEL CEILING PLAN | BC2Approved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| AE301 | PARTIAL BUILDING SECTION @ CATH LAB - EAST/WEST | 01 | 04/30/2025 | 05/12/2025 | Addendum 1 (04/25/25) |
| AE302 | PARTIAL BUILDING SECTION @ CATH LAB - NORTH/SOUTH | BC2Approved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| AE401 | ENLARGED PLANS & ELEVATIONS - WAITING/OFFICE, STAFF LOUNGE AND LOCKERS | BC2Approved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| AE402 | ENLARGED PLANS & ELEVATIONS - CATH LAB, CONTROL AND EQUIP RM | BC2Approved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| AE403 | ENLARGED PLANS & ELEVATIONS - PRE/POST PROCEDURE AREA | BC2Approved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| AE404 | ENLARGED PLANS & ELEVATIONS - HYPERBARIC CHAMBER | BC2Approved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| AE511 | PARTITION TYPES | 01 | 04/30/2025 | 05/12/2025 | Addendum 1 (04/25/25) |
| AE512 | DETAILS - PARTITIONS | BC2Approved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| AE513 | DETAILS - PARTITIONS | BC2Approved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| AE514 | DETAILS - PARTITIONS | BC2Approved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| AE515 | DETAILS - PARTITIONS | BC2Approved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| AE516 | DETAILS - PARTITION | BC2Approved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| AE517 | DETAILS - PARTITION | BC2Approved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| AE518 | DETAILS - CEILINGS | BC2Approved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| AE519 | DETAILS - CEILINGS | BC2Approved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| AE519.A | CEILING DETAILS | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| AE520 | DETAILS - CEILINGS | BC2Approved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| AE531 | UL DETAILS | BC2Approved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| AE532 | UL DETAILS | BC2Approved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| AE533 | UL DETAILS | BC2Approved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| AE534 | UL DETAILS | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| AE535 | UL DETAILS | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| AE536 | UL DETAILS | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| AE541 | DETAILS - MISCELLANEOUS | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| AE551 | DETAILS - DOOR AND WINDOW | 01 | 04/30/2025 | 05/12/2025 | Addendum 1 (04/25/25) |
| AE552 | DETAILS - DOORS | 2 | 07/28/2025 | 07/31/2025 | Addendum 2 (07/28/25) |

Bernards

Job #: 1867-MS RUHS-Medical Center Cardiac Catheterization Laboratory Suite
26520 Cactus Avenue
Moreno Valley, California 92555

| Drawing No. | Drawing Title | Revision | Drawing Date | Received Date | Set |
|---|---|---|---|---|---|
| AE561 | DETAILS - CASEWORK SECTIONS | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| AE562 | DETAILS - CASEWORK SECTIONS | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| AE601 | DOOR SCHEDULE, DOOR TYPES, AND FRAMES | 2 | 07/28/2025 | 07/31/2025 | Addendum 2 (07/28/25) |
| AE602 | CASEWORK ELEVATION TYPES | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| EC 97911-281 | 2000T Terrace Doors | 0 | 07/28/2025 | 07/31/2025 | Addendum 2 (07/28/25) |
| Notes | Addendum 2 | 0 | 07/28/2025 | 07/31/2025 | Addendum 2 (07/28/25) |
| OSH-FD-303A R04.35 | Testing, Inspection, and Observation | 0 | 05/08/2024 | 05/16/2024 | TIO RUHS S231455-33-00 (05/08/24) |
| **Interior** | | | | | |
| IE101 | FLOOR FINISH PLAN | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| IE102 | WALL FINISH PLAN | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| IE131 | FURNITURE PLAN - ZONE A | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| IE132 | FURNITURE PLAN - ZONE B | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| IE133 | FURNITURE PLAN - ZONE C | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| IE601 | FINISH SCHEDULE AND SCHEDULE FOR FINISHES | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| **Equipment** | | | | | |
| EQ001 | ABBREVIATIONS, GENERAL NOTES. AND MOUNTING HEIGHTS | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| EQ101A | EQUIPMENT PLAN - AREA A | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| EQ101B | EQUIPMENT PLAN - AREA B | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| EQ401 | CATH LAB ENLARGED EQUIPMENT PLAN | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| EQ701 | MEDICAL EQUIPMENT SCHEDULE | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| EQ702 | MEDICAL EQUIPMENT SCHEDULE | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| **Plumbing** | | | | | |
| PI001 | PLUMBING LEAD SHEET | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| PE100 | LOWER LEVEL - PLUMBING PLAN - A | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| PE101 | SHEET 619.00 NAME BIOMEDICAL F0064 979.05 ELEC. EQUIP. | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| PE111 | LEVEL 1 - PLUMBING PLAN | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| PE113 | LEVEL 3 - PLUMBING ROOF PLAN | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| PE151 | LEVEL 1 - PLUMBING PHASING PLAN | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| PE201 | PLUMBING ENLARGED PLAN | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| PE202 | PLUMBING ENLARGED PLAN | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| PE501 | PLUMBING DETAILS | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| PE601 | PLUMBING SCHEDULES | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| PD110 | LOWER LEVEL - PLUMBING DEMOLITION PLAN | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| PD111 | LEVEL 1 - PLUMBING DEMOLITION PLAN | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| PD151 | LEVEL 1 - PLUMBING DEMOLITION PHASING PLAN | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| **Mechanical** | | | | | |

| Drawing No. | Drawing Title | Revision | Drawing Date | Received Date | Set |
|---|---|---|---|---|---|
| MI001 | MECHANICAL LEAD SHEET | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| ME101 | LEVEL 1 - ZONE PLAN | https://bernards.egnyte.com/navigate/file/c6c14d1f-96f2-47f1-911a-50721bf6246b | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| ME211 | MECHANICAL ENLARGED PLAN REMODEL PHASE 1 - LEVEL 1 - NORTH | 01 | 04/30/2025 | 05/12/2025 | Addendum 1 (04/25/25) |
| ME212 | MECHANICAL ENLARGED PLAN REMODEL PHASE 1 - LEVEL 1 - SOUTH | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| ME213 | MECHANICAL ENLARGED PLAN - LEVEL 3 - ROOF | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| ME214 | MECHANICAL ENLARGED PLAN REMODEL PHASE 2 - LEVEL 1 | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| ME311 | MECHANICAL ENLARGED PLAN - SECTION VIEWS | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| ME501 | MECHANICAL DETAILS | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| ME502 | MECHANICAL DETAILS | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| ME503 | MECHANICAL DETAILS | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| ME601 | MECHANICAL AIR BALANCE | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| ME602 | MECHANICAL CONTROLS | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| ME603 | MECHANICAL CONTROLS | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| ME604 | MECHANICAL SCHEDULES | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| MD111 | LEVEL 1 - MECHANICAL DEMOLITION PHASE 1 PLAN - BYPASS DUCTWORK & WORK OUTSIDE OF REMODEL SHOWN | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| MD112 | MECHANICAL DEMOLITION PHASE 2 PLAN | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| MD211 | LEVEL 2 - MECHANICAL DEMOLITION PLAN - BYPASS DUCTWORK & PHASE 1 NEW MECHANICAL PLAN BC2 | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| ME210 | MECHANICAL ENLARGED PLAN REMODEL - LOWER LEVEL | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| **Electrical** | | | | | |
| EI001 | ELECTRICAL LEAD SHEET | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| EI002 | ELECTRICAL TELECOMM LEAD SHEET | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| EI003 | ELECTRICAL TELECOMM RESPONSIBILITY MATRIX | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| EE100 | BUILDING OVERALL ELEC FLOOR PLANS | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| EE111 | PHASING PLAN - LEVEL 1 - ELECTRICAL POWER & FIRE ALARM PLAN - REMODEL | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| EE112 | PHASING PLAN - LEVEL 1 - ELECTRICAL LIGHTING PLAN - REMODEL | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| EE113 | PHASING PLAN - LEVEL 1 - ELECTRICAL TELECOMM PLAN - REMODEL | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| EE114 | ROOF - ELECTRICAL POWER PLAN | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| EE201 | ELECTRICAL TELECOMM ENLARGED PLANS | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| EE202 | ELECTRICAL TELECOMM ENLARGED PLANS | 01 | 04/30/2025 | 05/12/2025 | Addendum 1 (04/25/25) |
| EE203 | ELECTRICAL TELECOMM ENLARGED PLANS | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| EE501 | ELECTRICAL DETAILS | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| EE502 | ELECTRICAL TELECOMM DETAILS | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| EE503 | ELECTRICAL TELECOMM DETAILS | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| EE504 | ELECTRICAL TELECOMM DETAILS | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| EE505 | ELECTRICAL TELECOMM DETAILS | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| EE601 | ELECTRICAL DIAGRAMS | 01 | 04/30/2025 | 05/12/2025 | Addendum 1 (04/25/25) |

| Drawing No. | Drawing Title | Revision | Drawing Date | Received Date | Set |
|---|---|---|---|---|---|
| EE602 | ELECTRICAL TELECOMM RISER DIAGRAM | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| EE603 | ELECTRICAL TELECOMM RISER DIAGRAM & SCHEDULE | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| EE604 | ELECTRICAL PANEL SCHEDULES | 01 | 04/30/2025 | 05/12/2025 | Addendum 1 (04/25/25) |
| EE605 | ELECTRICAL PANEL SCHEDULES | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| EE606 | ELECTRICAL SCHEDULES | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| ED151 | PHASING PLAN - LVL 1 - ELEC POWER PLAN - DEMO | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| ED152 | PHASING PLAN - LVL 1 - ELEC LIGHTING PLAN - DEMO | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| EE112A | PHASING PLAN - LEVEL 1 - ELECTRICAL LIGHTING EGRESS PLAN - REMODEL | BC2HCAiApproved | 08/16/2024 | 08/22/2024 | HCAi Approved (08/16/24) |
| **Reference (Philips Cath Lab)** | | | | | |
| R1 A0L | CATH LAB 1 - PHILIPS - EQUIPMENT LEGEND | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R1 A0N | CATH LAB 1 - PHILIPS - GENERAL NOTES | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R1 A01 | CATH LAB 1 - PHILIPS - SITE LAYOUT | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R1 A02 | CATH LAB 1 - PHILIPS - EQUIPMENT LAYOUT | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R1 A03 | CATH LAB 1 - PHILIPS - ELEVATION VIEW | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R1 AD1 | CATH LAB 1 - PHILIPS - TRANSPORT DETAILS | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R1 AD2 | CATH LAB 1 - PHILIPS - EQUIPMENT DETAILS | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R1 AD3 | CATH LAB 1 - PHILIPS - EQUIPMENT DETAILS | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R1 AD4 | CATH LAB 1 - PHILIPS - EQUIPMENT DETAILS | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R1 AD5 | CATH LAB 1 - PHILIPS - EQUIPMENT DETAILS | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R1 AD6 | CATH LAB 1 - PHILIPS - EQUIPMENT DETAILS | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R1 AD7 | CATH LAB 1 - PHILIPS - EQUIPMENT DETAILS | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R1 C01 | CATH LAB 1 - PHILIPS - COVER SHEET | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R1 CHK | CATH LAB 1 - PHILIPS - CHECKLIST | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R1 E0N | CATH LAB 1 - PHILIPS - ELECTRICAL NOTES | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R1 E01 | CATH LAB 1 - PHILIPS - ELECTRICAL LAYOUT | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R1 E02 | CATH LAB 1 - PHILIPS - RACEWAY & CONDUIT INFO | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - |

| Drawing No. | Drawing Title | Revision | Drawing Date | Received Date | Set |
|---|---|---|---|---|---|
| | | | | | Provisional (05/27/22) |
| R1 E03 | CATH LAB 1 - PHILIPS - RACEWAY & CONDUIT INFO | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R1 E04 | CATH LAB 1 - PHILIPS - RACEWAY & CONDUIT INFO | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R1 ED1 | CATH LAB 1 - PHILIPS - ELECTRICAL DETAILS | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R1 ED2 | CATH LAB 1 - PHILIPS - ELECTRICAL DETAILS | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R1 ED3 | CATH LAB 1 - PHILIPS - ELECTRICAL DETAILS | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R1 ED4 | CATH LAB 1 - PHILIPS - ELECTRICAL DETAILS | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R1 EL1 | CATH LAB 1 - PHILIPS - ELECTRICAL LEGEND | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R1 EL2 | CATH LAB 1 - PHILIPS - ELECTRICAL LEGEND | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R1 N01 | CATH LAB 1 - PHILIPS - REMOVE SERVICE NETWORK | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R1 N02 | CATH LAB 1 - PHILIPS - REMOVE SERVICE NETWORK | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R1 S0L | CATH LAB 1 - PHILIPS - SUPPORT LEGEND | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R1 S0N | CATH LAB 1 - PHILIPS - SUPPORT NOTES | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R1 S01 | CATH LAB 1 - PHILIPS - SUPPORT LAYOUT, FLOOR & WALL | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R1 S02 | CATH LAB 1 - PHILIPS - SUPPORT, LAYOUT, CEILING | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R1 S03 | CATH LAB 1 - PHILIPS - SUPPORT ALYOUT, CEILING | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R1 SD1 | CATH LAB 1 - PHILIPS - SUPPORT DETAILS | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R1 SD2 | CATH LAB 1 - PHILIPS - SUPPORT DETAILS | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R1 SD3 | CATH LAB 1 - PHILIPS - SUPPORT DETAILS | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R2 A0L | CATH LAB 2 - PHILIPS - EQUIPMENT LEGEND | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R2 A0N | CATH LAB 2 - PHILIPS - GENERAL NOTES | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R2 A01 | CATH LAB 2 - PHILIPS - SITE LAYOUT | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R2 A02 | CATH LAB 2 - PHILIPS - EQUIPMENT LAYOUT | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - |

| Drawing No. | Drawing Title | Revision | Drawing Date | Received Date | Set |
|---|---|---|---|---|---|
| | | | | | Provisional (05/27/22) |
| R2 A03 | CATH LAB 2 - PHILIPS - ELEVATION VIEW | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R2 AD1 | CATH LAB 2 - PHILIPS - TRANSPORT DETAILS | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R2 AD2 | CATH LAB 2 - PHILIPS - EQUIPMENT DETAILS | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R2 AD3 | CATH LAB 2 - PHILIPS - EQUIPMENT DETAILS | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R2 AD4 | CATH LAB 2 - PHILIPS - EQUIPMENT DETAILS | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R2 AD5 | CATH LAB 2 - PHILIPS - EQUIPMENT DETAILS | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R2 AD6 | CATH LAB 2 - PHILIPS - EQUIPMENT DETAILS | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R2 AD7 | CATH LAB 2 - PHILIPS - EQUIPMENT DETAILS | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R2 CHK | CATH LAB 2 - PHILIPS - CHECKLIST | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R2 CO1 | CATH LAB 2 - PHILIPS - COVER SHEET | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R2 E0N | CATH LAB 2 - PHILIPS - ELECTRICAL NOTES | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R2 E01 | CATH LAB 2 - PHILIPS - ELECTRICAL LAYOUT | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R2 E02 | CATH LAB 2 - PHILIPS - RACEWAY & COUNDUIT INFO | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R2 E03 | CATH LAB 2 - PHILIPS - RACEWAY & CONDUIT INFOR | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R2 E04 | CATH LAB 2 - PHILIPS - RACEWAY & CONDUIT INFO | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R2 ED1 | CATH LAB 2 - PHILIPS - ELECTRICAL DETAILS | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R2 ED2 | CATH LAB 2 - PHILIPS - ELECTRICAL DETAILS | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R2 ED3 | CATH LAB 2 - PHILIPS - ELECTRICAL DETAILS | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R2 ED4 | CATH LAB 2 - PHILIPS - ELECTRICAL DETAILS | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R2 EL1 | CATH LAB 2 - PHILIPS - ELECTRICAL LEGEND | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R2 EL2 | CATH LAB 2 - PHILIPS - ELECTICAL LEGEND | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R2 N01 | CATH LAB 2 - PHILIPS - REVOE SERVICE NETWORK | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - |

Bernards

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Job #: 1867-MS RUHS-Medical Center Cardiac Catheterization Laboratory Suite
26520 Cactus Avenue
Moreno Valley, California 92555

| Drawing No. | Drawing Title | Revision | Drawing Date | Received Date | Set |
|---|---|---|---|---|---|
| | | | | | Provisional (05/27/22) |
| R2 N02 | CATH LAB 2 - PHILIPS - REMOVE SERVICE NETWORK | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R2 S0L | CATH LAB 2 - PHILIPS - SUPPORT LEGEND | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R2 S0N | CATH LAB 2 - PHILIPS - SUPPORT NOTES | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R2 S01 | CATH LAB 2 - PHILIPS - SUPPORT LAYOUT, FLOOR & WALL | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R2 S02 | CATH LAB 2 - PHILIPS - SUPPORT LAYOUT, CEILING | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R2 S03 | CATH LAB 2 - PHILIPS - SUPPORT LAYOUT, CEILING | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R2 SD1 | CATH LAB 2 - PHILIPS - SUUPPORT DETAILS | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R2 SD2 | CATH LAB 2 - PHILIPS - SUPPORT DETAILS | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |
| R2 SD3 | CATH LAB 2 - PHILIPS - SUPPORT DETAILS | 1 | 05/27/2022 | 05/08/2024 | Cathlab#01 - Phillips - Provisional (05/27/22) |

## Current Specifications

| Number | Description | Revision | Issued Date | Received Date | Set |
|---|---|---|---|---|---|
| **1 - Unknown** | | | | | |
| 1 | Default Section | 0 | 08/16/24 | 08/22/24 | TIO |
| **01 - General Requirements** | | | | | |
| 00 01 07 | Seals Page | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 047-100 | Project Manual | 2 | 04/30/25 | 05/12/25 | Addendum 1 |
| 000110 | Table of Contents | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| **02 - Demolition** | | | | | |
| 02 | Existing Conditions | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 02 41 20 | SELECTIVE BUILDING DEMOLITION | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| **03 - Concrete** | | | | | |
| 03 | Concrete | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 03 10 00 | CONCRETE FORMWORK | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 03 20 00 | CONCRETE REINFORCING | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 03 25 00 | CONCRETE ANCHORS IN CURED CONCRETE | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 03 30 00 | CAST-IN-PLACE CONCRETE | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 03 54 16 | HYDRAULIC CEMENT UNDERLAYMENT | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 03 60 00 | GROUT AND DRY PACK | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| **04 - Masonry** | | | | | |
| **05 - Metals** | | | | | |
| 05 | METALS | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 05 12 00 | STRUCTURAL STEEL | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 05 40 00 | COLD-FORMED METAL FRAMING | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 05 50 00 | METAL FABRICATIONS | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 05 50 10 | INTERIOR METAL FABRICATIONS | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| **06 - Wood, Plastics, and Composites** | | | | | |
| 06 | WOOD, PLASTI CS, AND COMPOSITES | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 06 10 53 | MISCELLANEOUS ROUGH CARPENTRY | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 06 41 19 | PLASTIC LAMINATE-CLAD WOOD CASEWORK | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| **07 - Thermal and Moisture Protection** | | | | | |
| 07 | THERMAL AND MOISTURE PROTECTI ON | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 07 01 56 | MEMBRANE ROOFING MODIFICATIONS | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 07 41 13 | METAL ROOF PANELS | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 07 84 00 | FIRESTOPPING | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |

| Number | Description | Revision | Issued Date | Received Date | Set |
|---|---|---|---|---|---|
| 07 92 10 | INTERIOR JOINT SEALANTS | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| **08 - Openings** | | | | | |
| 08 | OPENI NGS | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 08 12 13 | STANDARD HOLLOW METAL FRAMES | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 08 13 13 | STANDARD HOLLOW METAL DOORS | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 08 14 24 | PLASTIC LAMINATE-FACED WOOD DOORS | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 08 17 13 | INTEGRATED DOOR ASSEMBLIES | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 08 31 16 | ACCESS PANELS | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 08 42 43 | ICU-CCU ENTRANCES | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 08 71 00 | DOOR HARDWARE | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 08 71 13 | AUTOMATIC DOOR OPERATORS | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 08 81 10 | INTERIOR GLASS GLAZING | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 08 83 13 | MIRRORED GLASS | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| **09 - Finishes** | | | | | |
| 09 | FINISHES | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 09 05 16 | PREPARATION OF CONCRETE SUBSTRATES FOR FINISH FLOORING | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 09 22 16 | LIGHTGAGE METAL FRAMING | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 09 22 26 | METAL SUSPENSION SYSTEMS | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 09 28 15 | GMF GYPSUM TILE BACKING BOARD | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 09 29 00 | GYPSUM BOARD | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 09 51 13 | ACOUSTICAL PANEL CEILINGS | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 09 65 13 | RESILIENT BASE AND ACCESSORIES | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 09 65 16 | RESILIENT SHEET FLOORING | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 09 65 23 | SECTION 09 65 23 – RESILIENT PLANK FLOORING | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 09 81 33 | ACOUSTICAL INSULATION, SEALANTS, AND ACCESSORIES | 0 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 09 91 00 | Painting | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 09 96 13 | Abrasion-Resistant Coatings | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 09 97 23 | Concrete and Masonry Coatings | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| **10 - Specialties** | | | | | |
| 10 | SPECIALTIES | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 10 11 16 | Markerboards | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 10 14 13 | REGULATORY SIGNAGE | 0 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 10 21 33 | CUBICLE CURTAINS AND TRACK | 0 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 10 26 00 | Wall and Door Protection | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 10 28 13 | Toilet Accessories | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 10 28 14 | COMMERCIAL SHOWER ACCESSORIES | 0 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 10 44 00 | Fire Protection Specialties | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |

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|---|---|---|---|---|---|
| 10 51 13 | Metal Lockers | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| **11 - Equipment** | | | | | |
| 11 | EQUIPMENT | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 11 31 10 | KITCHENETTE APPLIANCES | 0 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| **12 - Furnishings** | | | | | |
| 12 | FURNISHINGS | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 12 24 13 | Roller Window Shades | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 12 36 63 | SOLID SURFACE MATERIAL COUNTERTOPS | 0 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| **13 - Special Construction** | | | | | |
| 13 | SPECIAL CONSTRUCTION | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 13 49 13 | Integrated X-Ray Shielding Assemblies | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| **22 - Plumbing** | | | | | |
| 22 | PLUMBING | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 22 05 00 | Common Work Results for Plumbing | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 22 05 10 | PLUMBING DEMOLITION AND ALTERATIONS | 0 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 22 05 19 | Meters and Gages for Plumbing Piping | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 22 05 23 | General-Duty Valves for Plumbing Piping | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 22 05 29 | Hangers and Supports for Plumbing Piping and Equipment | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 22 05 49 | SEISMIC RESTRAINT FOR PLUMBING PIPING AND EQUIPMENT | 0 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 22 05 53 | Identification for Plumbing Piping and Equipment | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 22 07 00 | Plumbing Insulation | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 22 08 00 | Commissioning of Plumbing | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 22 11 16 | Domestic Water Piping | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 22 11 19 | Domestic Water Piping Specialties | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 22 13 16 | Sanitary Waste and Vent Piping | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 22 13 19 | Sanitary Waste Piping Specialties | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 22 40 00 | Plumbing Fixtures | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 22 63 13 | Gas Piping for Laboratory and Healthcare Facilities | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 22 64 00 | MEDICAL GAS ALARMS | 0 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| **23 - Heating, Ventilating, and Air Conditioning (HVAC)** | | | | | |
| 23 | HEATING, VENTILATING, AND AIR CONDITIONING | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 23 05 00 | Common Work Results for HVAC | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 23 05 10 | HVAC DEMOLITION AND ALTERATIONS | 0 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 23 05 13 | Common Motor Requirements for HVAC Equipment | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 23 05 23 | General-Duty Valves for HVAC Piping | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 23 05 29 | Hangers and Supports for HVAC Piping and Equipment | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 23 05 49 | SEISMIC RESTRAINT FOR HVAC | 0 | 08/16/24 | 08/22/24 | Specification HACi Approved |

| Number | Description | Revision | Issued Date | Received Date | Set |
|---|---|---|---|---|---|
| 23 05 50 | VIBRATION CONTROLS FOR HVAC | 0 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 23 05 53 | Identification for HVAC Piping and Equipment | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 23 05 93 | Testing, Adjusting, and Balancing for HVAC | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 23 07 00 | HVAC Insulation | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 23 08 00 | Commissioning of HVAC | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 23 09 00 | Instrumentation and Control for HVAC | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 23 09 93 | Sequence of Operations for HVAC Controls | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 23 21 13 | Hydronic Piping | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 23 21 17 | HYDRONIC PIPING SPECIALTIES | 0 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 23 21 24 | CONDENSATE PIPING AND PUMPS | 0 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 23 22 13 | Steam and Condensate Heating Piping | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 23 23 00 | Refrigerant Piping | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 23 29 23 | VARIABLE FREQUENCE DRIVES | 0 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 23 31 13 | Metal Ducts | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 23 33 00 | Air Duct Accessories | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 23 34 00 | HVAC Fans | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 23 36 16 | Variable-Air-Volume Units | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 23 37 13 | Diffusers, Registers, and Grilles | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 23 41 00 | Particulate Air Filtration | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 23 73 14 | MODULAR OUTDOOR AIR HANDLING UNITS | 0 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 23 81 29 | Variable Refrigerant Flow HVAC Systems | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 23 84 13 | Humidifiers | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| **26 - Electrical** | | | | | |
| 26 | Electrical | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 26 05 00 | Common Work Results for Electrical | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 26 05 10 | SELECTIVE ELECTRICAL DEMOLITION | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 26 05 19 | Low-Voltage Electrical Power Conductors and Cables | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 26 05 26 | Grounding and Bonding for Electrical Systems | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 26 05 29 | Hangers and Supports for Electrical Systems | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 26 05 33 | Raceway and Boxes for Electrical Systems | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 26 05 44 | SLEEVES AND SLEEVE SEALS FOR ELECTRICAL RACEWAYS AND CABLING | 0 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 26 05 49 | SEISMIC RESTRAINT FOR ELECTRICAL SYSTEMS | 0 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 26 05 53 | Identification for Electrical Systems | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 26 05 73 | Overcurrent Protective Device Coordination Study | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 26 09 23 | Lighting Control Devices | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 26 22 00 | Low-Voltage Transformers | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 26 24 16 | Panelboards | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |

| Number | Description | Revision | Issued Date | Received Date | Set |
|---|---|---|---|---|---|
| 26 24 17 | ISOLATION PANELBOARDS | 0 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 26 27 26 | Wiring Devices | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 26 28 13 | Fuses | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 26 28 16 | Enclosed Switches and Circuit Breakers | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 26 31 11 | DIGITAL, ADDRESSABLE FIRE-ALARM SYSTEM | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 26 43 13 | Surge Protective Devices for Low-Voltage Electrical Power Circuits | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 26 51 00 | Interior Lighting | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| **27 - Communications** | | | | | |
| 27 | COMMUNICATIONS | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 27 05 00 | Common Work Results for Communications | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 27 05 10 | SELECTIVE ELECTRICAL DEMOLITION | 0 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 27 05 26 | Grounding and Bonding for Communications Systems | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 27 05 28 | Pathways for Communications Systems | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 27 11 00 | Communications Equipment Room Fittings | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 27 15 00 | Communications Horizontal Cabling | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 27 52 23 | Nurse Call/Code Blue Systems | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| **28 - Electronic Safety and Security** | | | | | |
| 28 | ELECTRONIC SAFETY AND SECURITY | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 28 05 00 | Common Work Results for Electronic Safety and Security | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 28 05 13 | Conductors and Cables for Electronic Safety and Security | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 28 05 28 | Pathways for Electronic Safety and Security | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| 28 13 00 | Access Control | 1 | 08/16/24 | 08/22/24 | Specification HACi Approved |
| **TIO_S231455-33-00_BC1 - Testing, Inspection, and Observation Program** | | | | | |
| TIO | Testing, Inspection, and Observation Program | 0 | | | TIO |

# RIVERSIDE UNIVERSITY HEALTH SYSTEM

(PROJECT NO. MC08430011869, HCAi NO. S231455-33-00)

## MEDICAL CENTER CARDIAC CATHETERIZATION LABORATORY SUITE

# COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

## APPENDIX "B"
## BID PACKAGES

# BID PACKAGE 00
# GENERAL REQUIREMENTS

## 1.01 SECTION INCLUDES

1.02 Work covered by Contract Documents
1.03 Related work by others under separate bid packages
1.04 Contractors use of premises
1.05 Contractors duties
1.06 Alternates

## 1.02 WORK COVERED BY CONTRACT DOCUMENTS

A. Work Included

The work to be performed by the Contractor shall conform to all of the Contract Documents including, but not limited to, the requirements of Division 0 and Division 1 (including Bid Package 00), as well as the Instructions to Bidders, General Conditions, Supplementary Conditions, Special Conditions, if any, Project Specifications, all Drawings contained within the Contract Documents and other related documents and shall include the furnishing of all supervision, labor, services, materials, installation, cartage, hoisting, supplies, insurance, equipment, scaffolding, tools, and other facilities of every kind and description required for the prompt and efficient execution of the work described herein and to perform the work necessary or incidental to complete the Project, including installation of all items furnished within this Bid Package, in strict accordance with the Contract Documents and more particularly, though not exclusively, specified in:

| Specification Section | Description |
|---|---|
| TIO | Testing, Inspection, and Observation Program |
| Division 1 | General Requirements* |

B. General Requirements

Provide and install work that shall include, but not be limited to, the following:

1. Equipment, trucking, dump/disposal fees and recycling as required, for the removal from site of all demolition items, waste, debris, materials and misc. generated by the execution of Contractors work. Contractor shall adhere to all requirements of waste disposal as indicated in the Project Documents. Coordinate location of waste bins/containers with all other Contractors and Construction Manager
2. Contractor shall be responsible for securing and protecting their material and equipment to prevent against theft.
3. Contractor shall provide necessary railings, delineation, barricades and safety devices related to work, in compliance with all local, state and federal inspection agencies, including temporary shoring and structural bracing. Contractor shall remove all temporary items when no longer required.
4. Necessary patching and temporary weather protection, as required to protect work to remain, even if it is temporary.

5. Protect-in-place, as needed, including but not limited to; all benchmarks, walks, streets, driveways, adjacent buildings/structures, furnishings, conduits, drains, sewers, pipes, to remain, and equipment within and/or surrounding the new construction.
6. Level 1 floor has a limited loading capacity, care is to be taken when considering installation methods. Loads should be limited to less than 2000 pounds. Equipment loading must be reviewed and approved by the SEOR prior to commencement of work. Contractor to provide loading diagram/plan and weight calculations.
7. Contractor's trucks leaving the site shall take every reasonable precaution so as to not track or drop construction debris or miscellaneous trash onto offsite roads, haul routes, and contractor parking areas. Any dirt, rocks or construction materials, and miscellaneous debris that may be tracked or dropped shall be cleaned up immediately at the Contractor's expense.
8. Daily clean up of all work areas of Contractor is required. Refuse/Debris created by the work of Contractor shall be removed from the site on a daily basis.
9. Traffic control including flag persons, equipment and steel plates as required for Contractor's work. Flag persons shall be trained per Cal OSHA requirements prior to working in that capacity.
10. Obtain and comply with all AQMD permits and OSHA safety requirements for work of Contractor. Contractor shall pay all fines and fees from OSHA or AQMD associated with the work of this contract.
11. Dust control while onsite for work operations shall be performed by Contractor. Site shall be sufficiently wetted by Contractor at the end of each workday.
12. Responsible for providing water as required for their operations. This includes water trucks, adapters, hoses, labor and protection. Include disconnection and removal upon completion of this work.
13. Verify via pot-holing and/or non-destructive investigation the exact location of all utilities and structures that may be encountered during construction and related to specific scope and/or work. Coordinate with Contract Documents and Owner's As-Builds prior to performing pot-holing/investigation.
14. Saw cutting and removal as necessary to perform work.
15. Responsible for survey and layout requirements specific to work. Provide all intermediate line and grade control as necessary to properly execute and complete the work. Initial benchmarks are provided by Owner.
16. Comply with Erosion Control Plan requirements by providing Best Management Practices for work related to Contractor, including containment and secondary containment requirements. Provide replacement and re-installation of Erosion Control Plan elements if affected by work of Contractor. Provide a Responsible Person (RP) for BMP implementation and coordination with onsite Erosion Control Plan. Compliance with all regulations shall be the sole responsibility of this Contractor and its subcontractors. This Contractor and its subcontractors are responsible for making necessary corrections within the time frame indicated on the report produced by Owner SWPPP consultant.
17. Prior to commencing work, Contractor shall walk the site with Construction Manager to establish existing conditions. Contractor shall remedy any damage related to work for any existing conditions required to remain. In reviewing the site, Contractor shall include all items required to perform this scope of work, whether specifically shown in the Contract Documents or not.
18. Contractor shall submit a detailed construction schedule to the Construction Manager within ten (10) days of the Notice to Proceed, based on the summary project schedule provided in the

RFP. The schedule shall include all activities necessary to complete the work, along with defined milestones and phasing. No individual activity shall exceed fifteen (15) days in duration unless approved by the Construction Manager, including allowances for long-lead fabrication items. The proposed schedule shall identify interfaces with work performed by others, including required predecessor activities and appropriate logic ties. Prime Contractors shall account for shared work areas and recognize that they will not have exclusive control over most locations. Contractor acknowledges that not all proposed durations, logic, or details may be incorporated. The Construction Manager will coordinate with all Prime Contractors during schedule development process. The Construction Manager will review and integrate each Prime Contractor's schedule information into a draft CPM master schedule in accordance with the project requirements. Clarifications and adjustments may be required during the schedule development process and communicated to all Prime Contractors. The draft schedule will be distributed to all Prime Contractors and RUHS. A mandatory coordination meeting will be held within seven (7) days to review and reconcile any revisions. In the event of conflicts, the Construction Manager will propose resolutions for review and acceptance by affected parties, without unreasonable objection. Following incorporation of final revisions, a final draft schedule will be issued for review. Prime Contractors shall have three (3) days to provide comments or acceptance. The Construction Manager will address any final comments and issue the completed Construction Schedule as a no-cost change order for execution by all Prime Contractors. Ongoing coordination between Prime Contractors and the Construction Manager shall be continuous on day-to-day basis. On a monthly basis, each prime contractor will provide updated status information to the Construction Manager who will issue an updated schedule to all Prime Contractors. In the event of a change to the work or revision to the schedule due to field conditions, minor modifications may be made to the schedule without causing a delay to the schedule. These changes will be incorporated into the schedule by the Construction Manager and issued with the monthly update. If there is a change that impacts the schedule logic or duration, each Prime Contractor can submit a Time Impact Analysis as a change order request to the Construction Manager for consideration as outlined in the contract documents.

19. Subcategories within scope of work do not limit scope of work to only subcategory heading.
20. Contractor to include multiple mobilizations and/or phasing as required to meet contract schedule milestones, Project Document phasing, occupied area work zone limitations (i.e. limited area and time access; after hours; shortened work hours) and typical occupied Acute Care Hospital authority having jurisdiction requirements.
21. Project phasing and sequencing order maybe changed at any time .
22. Coordinate with other bid packages as required to perform scope of work.
23. Provide temporary power cords as required to install scope of work. Provide, install and maintain temporary task lighting as required to provide quality work throughout.
24. Provide all hoisting, shoring and scaffolding as required for your work unless otherwise noted.
25. Responsible for scheduling inspections of all governing jurisdictions for the work of this category in a timely manner that does not impact the construction schedule.
26. Responsible for all layout, engineering, elevations, and layout coordination with other bid packages. Layout all work for this category from established control lines. Upon completion of the work, provide as-builts that tie all site improvements to property lines and/or building corners and meet the requirements of the Contract Documents. As-built drawings are to be updated weekly. Coordinate with soils report for all underground work that may require shielding in trenches.
27. Provide a minimum of seventy-two (72) hour notice for utility shut-downs and include plan for the duration and impacts of utility shut-down. If necessary, provide additional personnel for fire watch or to adhere to requirements of AHJ.

28. Contractor shall adhere and provide necessary labor to adequately execute Interim Life Safety Measures (ILSM) as required by RUHS, Hospital and/or AHJ regulations and requirements. (i.e. fire watch, hot work permits, access permits, fire drills, JCAHO, NFPA, safety surveys, etc.)
29. Contractor shall provide all specialized Infection Control (ICRA) materials, labor and equipment to complete their scope of work. Including but not limited to short-term containments, HEPA carts, single scope of work containments, and specialized access.
30. Contractor shall adhere and provide adequate coverage to follow RUHS Security procedures, including but not limited badging, background checks, medical testing, vaccinations, and reporting.
31. Re-inspection costs for failed inspections to be the responsibility of the Contractor.
32. Whether or not the technical specifications reference General Contractor, the definition of the General Contractor where General Contractor is used throughout the technical specifications, it is to be defined as the Prime Contractor providing services for their specific Bid Package, as appropriate for the project, and not limited to the use of the General Contractor language contained in Project Documents.

## 1.03 RELATED WORK BY OTHERS

N/A

## 1.04 CONTRACTOR'S USE OF PREMISES

A. Contractor shall have use of the premises for the execution of the work as indicated in the Contract Documents.

B. Parking shall be at the discretion of the Owner and Construction Manager and as available. A loading/unloading area will be designated to facilitate delivery of equipment and tools. Prior scheduling of large deliveries with the Construction Manager is required.

C. Assume full responsibility for the protection and safekeeping of products under this Contract.

D. Move any stored products, materials, or equipment under Contractor's control that interferes with the operations of the school site or other bid packages.

E. All signs and services required by AQMD for grading and/or site demolition operations.

F. Coordinate the use of premises under the direction of the Construction Manager.

## 1.05 CONTRACTOR'S DUTIES

A. Attend job conference meetings or such special meetings as requested by the Construction Manager.

B. Promptly submit written notice to the Construction Manager of any observed variance in Contract Documents from legal requirements. Appropriate modifications to Contract Documents will be issued by the Architect to make any necessary changes.

C. Enforce strict discipline and good order among employees. Do not employ unfit persons and persons not skilled in assigned tasks to perform any work.

D. Make thorough examination of the site and access to the site to determine all existing conditions affecting the work.

E. Maintain a clean and orderly work environment on a daily basis and promptly remove all excess materials at the completion of each activity. Promptly remove all trash and debris resulting from the work performed under this Bid Package.

F. Contractor must provide and submit Safety Data Sheets (SDS) to the Construction Manager for all materials prior to arrival to the Project site. Contractor is responsible for separately maintaining an on-site copy of SDS, instruction regarding SDS and maintaining all stored materials on site in strict accordance with SDS and other governing codes and regulations.

G. Contractor shall provide task lighting as required to facilitate the work of this Bid Package in a timely manner and in accordance with the Master Construction Schedule. Provide sufficient task lighting to facilitate work of good quality. Temporary lighting for building access purposes will be provided by others in accordance with the latest CALOSHA Safety Orders.

H. Contractor shall designate a foreman or supervisor for this Project and shall equip said person with a cell phone. Each cell phone shall be used from 6:30am to 7:00pm Monday through Friday and Saturday, if needed and during all other hours work is being executed for direction, coordination and communication as needed for the duration of the Project.

I. As-built drawings shall be maintained daily and recorded weekly at the Construction Manager's job site office and be approved by the Project Architect or Construction Manager.

J. Coordinate the work of this Bid Package with that of all Contractors. Resolve conflicts with other Contractors prior to commencing installations. Re-routing to avoid conflicts and interference in the field will be performed at no additional cost to the Owner.

K. This Contractor shall provide satisfactory proof to the Construction Manager that a Contract has been issued to any Subcontractor listed by the Contractor or vendor in his bid within 30 days of Notice to Proceed. Delivery dates shall be included for materials and equipment within the contract.

L. Submit Daily Reports. Reports to include the following:

i. Sign in/out Sheet with columns for Name, Time in and out, Classification, Injuries during the shift. Foreman and or Superintendent on the top of the sheet

ii. Who is on site.

iii. Does everyone have Proper PPE

iv. Copy of Tailboard or Safety notes

v. What Area you are working in

vi. Work installed that day

1. Base scope or CO, Provide COR #

vii. Any Alarms set off

viii. Pre and Post Work Photos

ix. Issues on site

1. Safety
2. Existing Conditions that may need to be remedied.
3. Access
4. Weather
5. Document Conflicts
6. Coordination issues

x. Any other Trade of Sub working in your area

xi. List any contact with any site/customer personnel

xii. What work permits were required

1. Hot Work
2. Access
3. ICRA

xiii. Written Weekly Schedule updates while onsite, three week look ahead

xiv. Provide notifications of Potential Delays; materials, manpower, production, access etc.

M. Change Order work will require T&M tickets regardless of the terms (T&M, Lump Sum Cost Plus)

N. Scope includes all necessary badging requirements, immunizations and background checks

O. The lead responsible person (Foreman, Super, etc.) will be on site at all times during your construction activities including for your subcontractors. The lead person will provide access to the current project documents (RFIs, Drawings, Spec, Submittals etc..)

P. All critical work activities including crane lifts, electrical hot work will require a competent person and safety professional.

Q. Provide a person onsite for third party inspections.

## 1.06 ALTERNATES

A. Items noted as alternates shall govern only if specifically included within the Agreement.

## 1.07 ALLOWANCES

A. N/A.

**END OF SECTION**

**BID PACKAGE 01**
**INTERIOR WORK**

## 1.01 SECTION INCLUDES

1.02 Work covered by Contract Documents
1.03 Related work by others under separate bid packages
1.04 Contractors use of premises
1.05 Contractors duties
1.06 Alternates
1.07 Allowances

## 1.02 WORK COVERED BY CONTRACT DOCUMENTS

A. Work Included

The work to be performed by the Contractor shall conform to all of the Contract Documents including, but not limited to, the requirements of Division 0 and Division 1 (including Bid Package 00), as well as the Instructions to Bidders, General Conditions, Supplementary Conditions, Special Conditions, if any, Project Specifications, all Drawings contained within the Contract Documents and other related documents and shall include the furnishing of all supervision, labor, services, materials, installation, cartage, hoisting, supplies, insurance, equipment, scaffolding, tools, and other facilities of every kind and description required for the prompt and efficient execution of the work described herein and to perform the work necessary or incidental to complete the Project, including installation of all items furnished within this Bid Package, in strict accordance with the Contract Documents and more particularly, though not exclusively, specified in:

| Specification Section | Description |
|---|---|
| 05 40 00 | Cold-Formed Metal Framing |
| 05 50 00 | Metal Fabrications |
| 05 50 10 | Interior Metal Fabrications |
| 06 10 53 | Miscellaneous Rough Carpentry |
| 06 41 19 | Plastic Laminate-Clad Wood Casework |
| 07 92 10 | Interior Joint Sealants |
| 08 12 13 | Standard Hollow Metal Frames |
| 08 13 13 | Standard Hollow Metal Doors |
| 08 14 24 | Plastic Laminate-faced Wood Doors |
| 08 17 13 | Integrated Door Assemblies |
| 08 31 16 | Access Panels |
| 08 42 43 | ICU-CCU Entrances |
| 08 71 00 | Door Hardware |
| 08 71 13 | Automatic Door Operators |
| 08 81 10 | Interior Glass Glazing |
| 08 83 13 | Mirrored Glass |
| 09 22 16 | Light Gauge Metal Framing |
| 09 22 26 | Metal Suspension Systems |
| 09 28 15 | GMF Gypsum Tile Backing Board |
| 09 29 00 | Gypsum Board |
| 09 51 13 | Acoustical Panel Ceilings |
| 09 81 33 | Acoustical Insulation, Sealants, and Accessories |

| | |
|---|---|
| 09 91 00 | Painting |
| 10 11 16 | Markerboards |
| 10 14 13 | Regulatory Signage |
| 10 21 33 | Cubicle Curtains and Track |
| 10 26 00 | Wall Protection |
| 10 28 13 | Commercial Toilet Accessories |
| 10 28 14 | Commercial Shower Accessories |
| 10 44 00 | Fire Protection Specialties |
| 10 51 13 | Metal Lockers |
| 11 31 10 | Kitchenette Appliances |
| 12 24 13 | Roller Window Shades |
| 12 36 63 | Solid Surface Material Countertops |
| 13 49 13 | Integrated X-Ray Shielding Assemblies |
| TIO | Testing, Inspection, and Observation Program |
| Division 1 | General Requirements* |

B. Scope Outline

Scope of work consists of the project area and adjacent areas within the lower level, 1st level, and 2nd level. Include in bid all work necessary to address new scope including work on nights and weekends. Scope of work shall be coordinated within all disciplines including structural, mechanical, electrical, plumbing, low voltage, medical gas, fire alarm, fire sprinkler and equipment vendor requirements. Review all drawings to obtain complete scope of work. General contractor to coordinate work among multiple disciplines.

Provide all labor, material and equipment to perform the following per the Contract Documents and as specified below:

1. General Requirements

   1) Provide and maintain all temporary fencing as shown on Appendix C – Logistics Plan. Include necessary moves as required to meet project schedule requirements

   2) Provide a 40-yard dumpster for the duration of the project with a total of 36 change outs.

   3) Provide (7) 10# construction fire extinguishers with stands for the duration of the project. These will be for general site use not trade scope specific activities. Complete monthly inspections and service as required by AHJ.

   4) Provide and service two times per week (3) temporary toilets with secondary containment pans and (2) hand wash stations for project use. Location of temporary toilets as per Appendix C – Logistics Plan.

   5) Provide and install temporary black water tank with weekly service for Construction Manager's temp office trailer.

   6) Provide and install temporary potable water holding tank and/or temp water line with any necessary pumps to Construction Manager's temp office trailer.

   7) Provide 400 hours for general labor to be used at the Construction Manager's direction.

   8) Provide the following signs to be mounted to the construction site fencing and temp walls at all entrances:

"Danger Construction Site. Authorized Persons Only"
"Caution: Hard Hats, Safety Glasses, Safety Shoes required in this area at all times"
"Construction Personnel Only"
Signs shall be black letters 3" to 4" tall, on a plain white background

2. Millwork

1) Contractor to provide and install all cabinets, casework, shelving, built-in island casework, countertops, metal trim, vents and grommets including anchorage as indicated in the contract documents.

2) Contractor to provide and install all etched signage in the casework.

3) Provide backing location requirements for work within this Bid Package. Information must be submitted in writing no later than the commencement of the framing stage.

4) Provide and install trim, spacers, shims, scribe, bracing, fillers and caulk at all walls for a neat professional installation.

5) Provide and install all bent plate or fire treated lumber for casework anchorage as indicated in the contract documents. Provide and install steel angles as required for countertop support as per contract documents.

6) Contractor to coordinate with other trades that may be running within the casework to accommodate routing of utilities.

7) Hoisting of all materials. Contractor shall deliver and stock materials per sequencing of rooms or areas as directed by Construction Manager. Material shall be fabricated to allow for stocking through doorways and/or opening that will exist at the time of jobsite delivery.

8) Contractor agrees to provide appropriate storage facilities to temporarily house the casework for this project. Upon delivery, contractor shall inventory, offload and store the casework components in the temporary storage facilities. During the time of delivery, contractor shall notify Construction Manager in writing of any shortages in materials furnished, as well as any defects or blemishes contained in the finished products. Contractor agrees to progressively stage and install the stored casework components in a work sequence as requested by Construction Manager.

9) Plumbing and electrical fixtures for casework shall be provided and installed by others. All openings and holes in casework and tops for plumbing fixtures by this contractor. Coordinate requirements with associated trades.

10) Provide and install all required casework hardware as indicated on the contract documents.

11) Provide and install all wood framing for casework as indicated in the contract documents.

12) Provide and install all plywood beneath countertops.

13) Provide and install all laminate, solid surface, applied wood paneling, solid wood panels, and solid polymer caps as indicated in the contract documents.

14) Provide and install accessible counters at sink areas as indicated in the contract documents.

15) Provide and install all wood paneling / architectural woodwork at walls, ceilings, wall caps and soffits as noted on the contract documents. This bid package shall also include the staining / finishing as noted on the contract documents of wood installed by this bid package.

16) Provide protective measures for installed casework upon completion.

17) Provide for keying of all casework as noted on the contract documents.

3. Doors and Hardware

1) Contractor shall furnish and install hollow metal door and window frames.
2) Contractor to furnish and install wood and hollow metal doors, door hardware and accessories.
3) Contractor shall furnish and install all louvers specified in wood or hollow metal doors.
4) Contractor shall provide and perform field welding/assembly of oversized hollow metal frames. Contractor shall provide and perform all preparation and spot framing of field welded joints. Including recertification as required.
5) Contractor shall furnish and install all door hardware, including but not limited to panic, exit devices, mortise and cylinder locksets, key cabinet, hinges, closers, kick plates, door stops, weather stripping, thresholds, smoke seals, astrigals, stainless steel tread plates, and pulls. Coordinate access control installation with BP-16 Electrical.
6) Contractor shall undercut doors to accommodate the various types of floor finishes and HVAC requirements.
7) Contractor shall prepare hollow metal doors and frames for the security sensors, including predrilling the wire and screw holes.
8) All finish hardware (including door seals, door mutes and silencers) shall not be installed until doors and frames are completely finished/painted (except as directed in writing by Construction Manager). Contractor shall remove and reinstall hardware if installed before finishing/painting.
9) Contractor shall furnish and install the temporary locksets to be utilized during the construction phase.
10) Contractor shall furnish permanent lock cylinders and keys as specified.
11) Contractor shall be responsible for receiving, offloading, storage, and coordinating with installing contractor for door and window frames, distribution of doors, and hardware from storage area to door openings.
12) Contractor shall include all minor fittings, adjusting and/or shimming of hollow metal doors to openings if required by field conditions.
13) Contractor shall adjust and lubricate finish hardware to ensure proper operation.
14) Contractor shall adjust seals, finish hardware, and doors after HVAC systems are balanced. Provide a written report to Construction Manager noting any deficiencies with door and hardware operation. Maintain proper adjustment throughout warranty period.
15) Contractor includes finish touch-up of minor nicks and scratches that may occur after installation.
16) Contractor shall provide operation and maintenance instructions for all doors and finish hardware.
17) Contractor shall furnish and install door-mounted louvers, and door mounted devices.
18) Contractor shall furnish and install all necessary shielding (lead lining) for doors per Contract Documents.
19) Contractor shall coordinate all glass and glazing requirements that are not included as part of the hollow metal door with Glazing Contractor.

20) Contractor to provide and install all door thresholds shown on door schedule and door hardware specification. Contractor to coordinate with Flooring and Tile Contractor to provide AHJ acceptable transitions.
21) Provide door/frame prep and hardware interface electrified door hardware to be coordinated with Bid Package for Electrical.
22) Contractor shall coordinate with Contract Documents and field conditions regarding wall thickness and associated throat thickness.
23) Contractor shall provide temporary infill of openings, if doors are not installed prior to inclement weather.
24) Contractor shall provide and install all mineral wool required around the door frames.

4. Glass and Glazing

1) Contractor shall furnish and install all aluminum window and door assemblies including but not limited to frames, aluminum framed entrances and storefronts, aluminum windows, flat glass, spandrel glass, metal panels integral to system, tempered and laminated glass, fire-protection-rated glazing, lead lined/shielded glazing, insulation integral to system, gasketing systems and accessories as depicted in the Contract Documents.

2) Contractor shall furnish and install all glass and glazing for hollow metal and wood doors and hollow metal window frames. Provide rated and/or shielded glazing as required per Contract Documents.

3) Contractor shall provide all aluminum materials in finishes approved by the Architect and/or in accordance with the Contract Documents. Contractor shall coordinate finishes with adjacent, similarly finished materials.

4) Provide and install aluminum sun shades as shown on Contract Documents. This includes all drilling of steel for attachment.

5) Contractor shall furnish and install all required inserts, anchors, shims and blocking as required to properly install and/or attach Contractor's work to all other building components. Contractor includes all drilling, tapping, welding, fasteners, and other items as required for a complete and operable system.

6) Contractor shall furnish and install all caulking and joint sealants at all windows and Aluminum Doors as required for a watertight system and appearance. Include caulking between all contract work and adjacent dissimilar materials on both interior and exterior side of systems. Caulking materials shall be compatible with all building materials and per approved contractual specifications.

7) Contractor to provide and install all isolation strips as shown on the Contract Documents.

8) Contractor shall furnish and install all finish hardware, include thresholds, for aluminum door and window assemblies as specified in the Contract Documents. Contractor is responsible for keying per Owner keying schedule.

9) Contractor shall provide and install handicap door operators at storefront doors complete. This includes provision of the power booster, controls circuits and all work beyond power booster.

10) Contractor shall furnish and install all factory-finished aluminum break metal, miscellaneous trims, drywall receivers, sill flashings, bent flashings, and reveal flashings at aluminum door and window assemblies, as required for a complete and finished system installation.

11) Contractor shall furnish and install glazing with Solar Control Low E Coatings as specified in the Contract Documents.

12) Unless steel supports for the storefronts and curtain walls are specifically shown on the drawings, this contractor has full responsibility for the structural support of their own systems. Provide steel in metal panel sections, mullions or elsewhere as needed.

13) Contractor shall coordinate frame throats with Contract Documents for wall thickness.

14) Contractor shall provide temporary infill (plywood, minimum) for long lead items (glass or frames)

15) Contractor shall clean all glazing at the completion of work, including removal of all labels, stickers and packing materials. (All installation-related debris and material shall be removed daily.)

16) Prior to ordering materials, Contractor shall verify dimensions in the field, and ensure that all specified finish hardware is fully compatible both in function and in physical dimensions and offsets of hardware with the aluminum door and frame systems being provided.

17) Prior to installation, Contractor and Construction Manager shall fully inspect all glazing for any deficiencies in material.

18) Contractor shall clearly identify with labels each type of glass. Labels shall remain in place until glass is installed, one exception, labels shall be removed immediately from sealed insulating glass units.

19) Contractor shall provide full coordination of all work to be installed per the Contract Documents. Coordinate dimensions, layout, sub framing, and work by other trades to ensure proper fit and finish.

20) Contractor shall provide details and engineered calculations for various components as required by Contract Documents.

21) Contractor shall field verify all openings prior to fabrication.

22) Contractor shall isolate all aluminum materials properly from all other building components.

23) Contractor's shop drawings shall provide sufficient detailed information to locate and install all backing and support members that are provided by other trades for use by this Contractor. Failure of Contractor to indicate all backing requirements on Contractor's shop drawings will result in this Contractor being fully responsible to provide the omitted backing.

24) Contractor shall fully coordinate support systems of Contractor's work with Architect and Structural Engineer. Additionally, Contractor shall coordinate structural details with installing trades as necessary.

25) Contractor shall provide all delivery, storage and handling of the glass and glazing in accordance with manufacturer's recommendations. All glass and glazing shall be stored to avoid water and direct sunlight.

5. Metal Stud Framing

1) Contractor shall furnish and install all cold formed metal framing and light gauge metal framing systems in strict conformance to the Contract Documents.

2) Contractor shall receive, distribute and install hollow metal frames.

3) Contractor shall furnish and install all expansion bolts/anchors and epoxy bolts/anchors for framing system anchoring into existing concrete/masonry.

4) Contractor shall furnish and install all anchor bolts for light gauge metal framing embedded in new concrete or masonry work. Provide quantity survey and layout as required. Contractor will verify layout prior to material installation.

5) Contractor shall furnish and install all framing accessories as applicable to this Contract's scope of work, e.g., straps, bent plates, clips, "stickers", shims, angle fasteners, hold downs, as shown on plans and required to attach/support light-gauge framing to building structure. Framing accessories shall be installed as required to provide "true and straight" work especially where this contract work is attached to other building components, e.g., structural steel, metal deck edge form, concrete, masonry, and pre-cast. Particular attention shall be paid to openings for windows, doors, and close tolerance conditions.

6) Contractor shall furnish and install all wires, hangers, and straps to support work included in this contract. All work and suspension systems to comply with code requirements.

7) Contractor shall furnish and install all framing and suspending structural systems in order to install work under obstruction, e.g. under plenum mounted equipment, and ductwork.

8) Contractor shall furnish and install all seismic bracing and supports as required at all walls and suspended drywall ceilings.

9) Contractor shall furnish and install blocking/backing as shown on Contract Documents. Contractor shall also include backing for toilet partitions.

10) Contractor shall furnish and install slip track at all areas required per Contract Documents.

11) Contractor shall furnish and install all wall end caps.

12) Contractor shall install steel counter supports provided by others.

13) Contractor shall furnish and install all light-gauge structural parapet roof, soffit ceilings and floor joist systems as noted on the structural drawings. Provide and install all attachment hardware, bolts, nuts, and washers as required to install same to the building structure. Custom size, drill and cope components as required to fit structural steel and ensure a level floor surface and properly pitched roof surface. Provide flat plate on top of joists at all areas where metal deck does not land squarely on joists. Frame out and support all penetrations.

14) Contractor shall furnish and install all hat channels, furring, backing behind expansion joints, sheet metal items and other items requiring same.

15) Contractor shall furnish and install all draft stops per the Contract Documents.

16) Contractor shall furnish and install all framing /drywall work at opening penetrations required for other trades and equipment, e.g., ducts, fire dampers, pipes, conduits, lights, elevator rail brackets, doors, frames, and J-boxes.

17) Contractor shall furnish and install light-gauge framing and drywall soffits under stair assemblies as required by the Contract Documents. Include all necessary attachment angles to the structural steel stair framing.

18) Contractor shall furnish and install light-gauge framing and drywall under elevator trusses and shaft walls. Provide all necessary components to attach work to elevator trusses, walls and ceilings.

19) Contractor shall furnish and install all light-gauge framing supports/backing for attachment of aluminum soffit/fascia/storefront systems (by others) to the structure per contract documents.

20) Contractor shall furnish and install all rated enclosures, soffits, shafts, and penetrations for plumbing, electrical, HVAC ducting/piping, elevator and other items as required by the Contract Documents.

21) Contractor shall furnish and install all fire/smoke-rated construction and shall maintain continuous required ratings at all areas including, intersections of dissimilar construction, e.g., metal decking and concrete, steel. Include fire-safing, fire barrier sealants, and drywall/taping compound as required by the Contract Documents and by code requirements.

22) Contractor shall furnish and install all steel plates located at the underside of metal decking for top track anchorage. Include any/all compression seals and fire-safing at these areas.

23) Contractor shall furnish and install all new walls, and ceilings areas to be constructed from metal studs. All notes referring to nailer sills, headers, backing are to be installed using metal studs and/or accessories.

24) Contractor shall furnish and install all metal studs and final drywall configurations will match adjacent surfaces and be true and flush with adjacent new construction. This may require custom stud sizes and/or shimming/furring as required.

25) Constructing the elevator shaft in a code approved manner. This includes extending drywall and furring over exposed steel beams (if applicable). All surfaces shall be flush and/or sloped as required. Furr out at sill angles and door operators. Include all patching as required around penetrations in shaft, e.g., elevator guide rails, J-boxes, conduit, and pipe. Fully coordinating the framing requirements in the shaft and at the hall entrances with the Elevator Contractor.

26) Installing, maintaining and removal of temporary handrails in the interior stair shafts. Temporary handrails shall be installed immediately after wall framing in each stairwell is complete. Temporary rails must meet OSHA requirements and may be constructed out of light-gauge framing materials. Rails shall be removed prior to installation of drywall.

27) Contractor shall furnish and install all miscellaneous steel gussets, anchors, and supports for framing systems.

28) Contractor shall furnish and install all welding as applicable to this scope of work. Welders shall be certified as required by all governing authorities having jurisdictions.

29) Contractor shall furnish all power for welding equipment.

30) All fire watch for contractor's work. A properly trained and equipped tradesman will perform the fire watch. When welding, provide all fire control measures, e.g., fire blankets and ventilation as required.

31) Contractor shall furnish and install all backing plates and support members for all handrails, stair rails, equipment, toilet partitions/accessories, fixtures, cabinets, shelving, white boards, TV brackets (including welded studs), curtain track, OFCI/OFVI/OFOI equipment, casework, and tack boards as shown on the drawings, details, and as required by the Contract Documents.

32) Repair existing fire rated walls within scope as required to maintain rating, typ.

33) Provide sister studs where new backing plates are required at existing walls which are not 16ga studs, typ.

34) Where fire rated walls need to be repaired, upgrade head of wall and fire penetrations to meet details in the Project Documents

35) See sheet AE151 for phasing plans and sheet AE152 for phasing ceiling plans. Coordinate all work within all disciplines. Contractor shall included multiple phasing and installs for out of sequence work installation.

36) All walls requiring shielding shall have lead shielding extend to a height shown on Contract Documents. Lead batten strips, disks and patches shall cover all joints and intrusions into walls, ceiling or floors including j-boxes or other reasons.

37) All doors and windows contained in a wall shall have a lead equivalent shielding thickness equal to or greater than prescribed for that wall.

38) For all boxes to be installed along rated walls, provide 5-sided box detail per Project Documents.

39) All interior partitions not tagged shall be min. 4" 16-gauge metal studs.

40) Furnish and Install Access Panels as required by Contract Documents.

6. Insulation, Drywall, Interior Caulking, Wall Protection

1) Contractor shall furnish and install all thermal and acoustical insulation as generally shown and/or specified to satisfy the project requirements and to meet the requirements of the building code.

2) Contractor shall furnish and install all sound insulation at all penetrations and utility boxes as required to maintain sound-rated assemblies.

3) Contractor shall furnish and install all foil-faced insulation as shown and or specified in the Contract Documents.

4) Contractor shall provide fireproofing as required including, caulking, cementitious fireproofing and firestopping, per the Contract Documents and project requirements. Include selective patching of cementitious fireproofing at new steel members, thickness to meet or exceed existing thickness.

5) Contractor shall furnish and install all acoustical treatments at mechanical and generator rooms.

6) Contractor shall furnish and install all fasteners including but not limited to, self-tapping screws, bolts, nuts, and washers for work of this Bid Package.

7) Contractor shall provide all patching/drywall work at opening penetrations required for other bid packages and equipment, e.g., ducts, fire dampers, pipes, conduits, lights, window shades, j-boxes, access doors and panels.

8) Contractor shall patch, if necessary, all fire rated enclosures, soffits and shafts for plumbing, electrical, HVAC ducting/piping and other items as required.

9) All fire/smoke-rated construction shall maintain continuous required ratings at all areas including penetrations, intersections of dissimilar construction, e.g., drywall and wood framing, concrete, steel. Include fire safing, fire barrier sealants, and drywall/taping compound as required and by code requirements.

10) Contractor to apply all identification for rated wall assemblies as required by Contract Documents.

11) All final drywall configurations will match adjacent surfaces and be true and flush with adjacent construction. This may require shimming/furring as required.

12) Contractor shall provide construction power for tools and task lighting from designated sources as per Owner's approval or via self-supplied generator.

13) Contractor shall furnish and install all interior gypsum board and finishing as required by the Contract Documents. Provide fire-rated, moisture resistant, and abuse resistant board/compounds where required by code and the Contract Documents. Include all trims, accessories, casings, corner/edge trims, reveals, and moldings. Provide moisture resistant gypsum board at all early drywall areas.

14) Contractor shall furnish and install all exterior-rated gypsum sheathing board under exterior surfaces and plaster surfaces.

15) Contractor shall verify and coordinate dimensions for alcoves, walls and opening dimensions for equipment furnished by others, e.g., toilet accessories, fire extinguisher cabinets, and Owner/Contractor equipment. Particular attention to code-mandated exiting clearance and handicap clearance dimensions is required, e.g., restrooms, drinking fountain alcoves, hallways, and stairways. All work shall fully comply with current handicap codes (even if contrary to the Contract Documents and submittal approvals). Contractor shall request specific written direction from the Construction Manager before proceeding with any work that is non-compliant.

16) Contractor shall furnish and install all cementitious backer board and/or GMF Gypsum Tile backing board.

17) Where furring or framing systems are scheduled to be attached to the surface that is rough, uneven, and not true or level, Contractor shall provide shimming, building out and adjustments to the framing system as required to compensate for the uneven substrate.

18) Contractor shall furnish and install all aluminum trims/reveals/moldings.

19) Contractor shall furnish and install necessary trim, molds, reveals, shadow molds, and f-stops.

20) Finish taping behind all equipment/fixtures as is consistent with the taping requirements of the area in question, i.e., do not merely fire tape behind these areas.

21) Contractor shall provide early drywall at all framing when directed by Construction Manager as required to commence acoustical ceiling grid installation or metal duct installation. This may or may not be in sequence with drywall production work but will be performed as necessary for other adjacent installations. Taping may not be in place prior to the start of acoustical grid installation due to schedule requirements. If this is the case, provide all protection of acoustical ceiling as necessary.

22) Contractor shall furnish and install acoustical sealants as required by the Contract Documents at sound and/or rated construction.

23) Contractor shall furnish and install all sealants (elastomeric, solvent-released, and acoustical) and caulking as required, except at ceramic tile and/or flooring. Scope of work includes preparation, backer rod materials, and sealant for joints as shown. Contractor shall anticipate that joints of a specific width and depth may vary due to differing construction tolerances.

24) Caulking and sealants of all gypsum board to dissimilar materials, break metal attachments, hollow metal door and window frames per the Contract Documents.

25) Contractor shall furnish and install all Wall Protection including but not limited to FRP, Acrovyn, corner guards, etc.. Provide all necessary accessories and appurtenances to provide a complete install.

26) Provide 120 hours of labor to use at the Construction Manager's direction for patching damaged drywall damaged by unknown others.

27) Contractor to caulk around all boxes for sound and vapor

28) Furnish and install mineral wool and/or firestopping (stuff and spray) at top of walls as required per Contract Documents.

7. Lath, Plaster, Sheathing, Siding and Exterior Caulking and Sealing

1) Contractor shall furnish and install all site, exterior and interior plaster systems as required by the Contract Documents. Include all lathing, flashing paper, flexible flashing, lathing accessories, e.g., weep screeds, weep holes, plaster grounds, corner/edge trims, casings, control joints, reveal moldings, and venting at soffits, as required by the Contract Documents and for a complete job.

2) Contractor shall furnish and install all vertical stress relief for lathing systems as required by the Contract Documents.

3) Contractor shall furnish and install all building sheathing and rigid insulation.

4) Contractor shall furnish and install all flexible exterior weatherproofing, weather resistive barriers, vapor retarders, self-adhered sheet waterproofing, ice and water shield, flexible flashings, and air barriers as per Contract Documents and where work required of this Bid Package is installed. Contractor shall be responsible for a complete weather tight exterior for systems provided within this scope of work.

5) Contractor shall furnish and install all plaster and lath accessories as applicable to this scope of work, as shown in the Contract Documents and required to attach to the building structure. Plaster and Lath accessories shall be installed as required to provide "true and straight" work especially where this contract work is attached to other building components, e.g., structural steel, wood structure, metal deck edge form, concrete, masonry, and pre-cast. Particular attention shall be paid to openings for windows, doors, and close tolerance conditions.

6) Contractor shall provide and install all access panels and access doors indicated on the Contract Documents to be located in plaster ceilings or walls. Access panels not shown but required to access the work of other trades shall be provided and installed by those trades. Contractor shall coordinate plaster and drywall openings for these required access doors and panels with each trade.

7) All moisture control shall be maintained at all areas including penetrations, intersections of dissimilar construction, as required by the Contract Documents.

8) Contractor shall provide and install all caulking and sealants of all plaster to dissimilar materials, break metal attachments, hollow metal door and window frames per the Contract Documents.

9) Contractor shall coordinate caulking and sealants with other bid packages. Contractor shall provide all caulking within components provided within this bid package.

10) Contractor shall protect the roofing membrane and/or waterproof deck coating systems with temporary plywood protection during the installation of the work installed under this scope of work.

11) Contractor shall provide all wash out and dumpsters required for plaster related work.

8. Radiation Protection

1) Provide and install shielding at all walls shown on Contract Documents. Walls shall have lead shielding in thickness and extend to a height as shown on Contract Documents. Lead batten strips, disks and patches shall cover all joints and intrusions into walls, ceiling or floors including j-boxes or other reasons.

2) All doors and windows contained in a wall shall have a lead equivalent shielding thickness equal to or greater than prescribed for that wall.

3) For all boxes to be installed along rated walls, provide 5-sided box per detail.

4) Contractor shall coordinate inspections with third parties and/or AHJ to ensure all installation criteria and requirements are met. Adjust and/or correct/add shielding as required per testing reports.

9. Acoustical Panel Ceilings

1) Contractor shall furnish and install all acoustical panels, exposed grid suspension systems, wire hangers, wire attachments, fasteners, main runners, joint clips, cross tees, seismic requirements (bars, struts, compression posts, and clips), and wall angle moldings as noted in the Contract Documents. Scope shall include all soffit details, deck connections, compression struts.
2) Contractor shall furnish and install hanger wire(s) for light fixtures and HVAC registers / grilles.
3) Contractor shall comply with fire test response characteristics testing as noted in the Contract Documents.
4) Contractor shall coordinate all acoustical ceiling work with other bid packages, including but not limited, to building insulation, drywall, light fixtures, HVAC components, control systems (security, fire alarm and access), speakers, access panels, electrical systems and sprinklers.
5) Contractor shall supply device tiles prior to installing general field ceiling tiles. Allowing for final overhead inspections and coordination with other trade Contractors.
6) Contractor shall abide by project conditions and handle all acoustical ceiling units diligently to avoid chipping edges or damaging units in any way.
7) Contractor shall provide all required warranties, maintenance and added stock as noted in the Contract Documents.
8) All suspension systems and panels shall be in accordance with manufacturer's instructions in compliance with ASTM C 636.
9) Contractor shall replace any damaged and/or broken panels. All exposed surfaces of acoustical ceilings including trim, edge moldings and suspension members must be clean.
10) Contractor shall fully coordinate the layout of all acoustical ceiling, main runner locations, etc. with the other bid packages. Contractor shall coordinate layout and conflicts with other bid packages prior to the "framing stage" and/or "overhead MEP Rough-in stage" of construction.
11) Contractor to provide adequate attic stock of ceiling components per Contract Documents. At a min. 5% of each type of component rounded up to the closest box/package/unit.
12) Contractor to provide for removal and replacement of all ACT ceilings at Lower Level work areas as shown on AE110. At a minimum Contractor shall include 750sf of replacement acoustical ceiling to match existing.

10. Paint

1) All exposed conduit and backboxes to be painted to match structure. Confirm exact color with architect prior to installation.

2) Paint inside duct with bitumastic to 4' above grill.

3) Contractor shall furnish and paint all exterior concrete, exterior Portland cement (stucco), cementitious substrates, wood, aluminum, and steel (primed and galvanized metal) per the Contract Documents. All painting and material finishing required for the exterior areas of the building and site work as defined by the Contract Documents.

4) Contractor shall prime and paint all new exposed steel columns, beams and diagonal braces, joists, and metal decking as required per the specified color provided in the Contract Documents.

5) Contractor shall furnish and paint all interior concrete, steel, galvanized metal, aluminum (not anodized or otherwise coated), wood, gypsum board, access panels and plaster per the Contract Documents.

6) Contractor shall furnish and install all vinyl wall coverings per the Contract Documents.

7) Contractor shall furnish and install all adhesives, primers, sealers, wall liners, and metal primer as specified in the Contract Documents.

8) Contractor shall furnish and install all vinyl coated fabric coated tackable wall coverings per the Contract Documents.

9) Contractor shall furnish and apply all special coatings at both exterior and interior at specified locations as noted in the Contract Documents.

10) Contractor shall comply with all fire test response characteristics testing as noted in the Contract Documents.

11) Contractor shall coordinate with framing, dry wall and plaster Contractors for caulking and sealing of all joints in the interior and exterior perimeters noted in the Contract Documents.

12) Contractor shall properly clean, prep and prime all surfaces before applying finishes.

13) Contractor shall touch-up paint and finish of new areas as required due to normal damage, splatters and marring caused by the process of the construction work.

14) Contractor shall mask, protect and cover surfaces and items that do not receive paint, including but not limited to, fire-rating labels, exposed concrete/masonry, and fixtures, equipment.

15) Contractor shall remove all debris, empty paint/solvent cans and rags from the building and site area on a daily basis.

16) Contractor shall furnish, utilize, and remove self-contained paint washout facilities/containers for all work related to this scope of work.

17) Contractor shall inspect all surfaces of building components (which are installed by others) prior to start of any work. Application of Contractor's work shall constitute acceptance.

18) Contractor shall coordinate with the Construction Manager prior to proceeding with any work in each room or areas i.e., finish painting in high-traffic areas, e.g., stairwells, corridors, entry and exit areas.

19) Contractor to provide caulking as required for sealing.

20) Provide 60 hours of touch up painting to be used at the Construction Manager's written direction.

11. Visual Display Surfaces

1) Contractor shall furnish as noted and install all visual display surfaces, fastening devices, framing and trim finishes, accessories, including all necessary trim sections.
2) Contractor shall unload and distribute all visual display boards and materials to designated location(s).
3) Contractor shall identify and coordinate all required backing and support locations
4) Contractor shall coordinate and align all visual display board joints with other building components.
5) Prior to installation, Contractor shall fully inspect all visual display boards components for any deficiencies in material.
6) Contractor shall clean all visual display boards prior to completion.
7) Contractor shall remove all protective coverings from visual display boards prior to final acceptance by the Owner.

12. Signage

1) Contractor shall furnish and/or install all signage assembly per Contract Documents.
2) Contractor shall submit color, texture, and sign material indicated samples for each type and variety of signage.
3) Contractor shall furnish and/or install all ADA Signage as shown or called out in Contract Documents, required by the Local Codes and as may be required.
4) Contractor shall provide and install signs and posts for parking lot signage, including post footings and sleeves.
5) In some locations, the required signage may require fastening on non-standard surfaces and/or assemblies. In such cases, Contractor shall identify each such condition and recommend to Construction Manager proposed fastening systems for review and approval by Owner and Project Architect. All costs associated with such approval processes and alternative fastening systems shall be included in this Bid Package.

13. Toilet Compartments and Building Accessories

1) Contractor shall furnish and install all toilet partitions and compartments, urinal screens, and all accessories including grab bars, toilet paper holders, toilet paper/napkin disposal receptacles, waste receptacles, shower seats, shower accessories, utility rack, seat cover dispensers, mirrors, hand dryers, soap dispensers, mirrors, custodial accessories, and all other accessories.
2) Do not start installation until floor protection is in place. Repair or replace floor protection upon completion of work.
3) Contractor shall provide and install all cubicle curtains, tracks and privacy screening as shown on Contract Documents.
4) Contractor shall provide and install all metal lockers per Contract Documents.

5) All toilet partitions shall be from the specified manufacturer and with the specified finish and color. All exposed toilet partition items shall be of the same finish and color, unless otherwise noted. Contractor shall provide doors for handicap partition walls and provide framework assemblies to allow all doors to fit in the drywall partitions. Contractor shall coordinate partition supports and backing with Bid Package for Framing, Drywall and Plaster.

6) All toilet accessories shall be as specified without substitutions. Include all items as shown in all Contract Documents and as required by code. Coordinate all backing requirements with Framing and Drywall trades.

7) Contractor shall furnish and install all anchors, fasteners, trim, hardware, caulking, and sealants as required.

8) Contractor shall perform all final adjustments to partition doors and hardware prior to final acceptance as directed by Construction Manager/Owner/Architect.

9) Installation of toilet compartment and building accessories – toilet compartments shall be ADA and Code compliant as indicated on drawings.

10) Contractor shall perform final cleaning of all toilet compartments and building accessories, upon completion of installation.

14. Operable Partitions – Folding Panels

1) Contractor shall furnish and install operable acoustical panel partitions. Work shall include all partitions, supports and support hardware, drilling of holes in structural members for support system, and all accessories, trim and specified finishes items.

2) Contractor shall fully coordinate the partition support system with the Bid Package 03 Structural Steel, Metal Deck and Misc. Metals for a complete installation. Field measure all openings and clear distances prior to fabrication.

3) Contractor shall fabricate panels, based on the actual on-site dimensions, providing the sound barrier between two rooms.

4) Contractor shall conceal fasteners.

5) Contractor shall fully test partitions prior to completion.

6) Contractor shall fully adjust and final clean all related work prior to final acceptance.

15. Fire Extinguishers and Cabinets

1) Contractor shall furnish, assemble, and install all fire extinguisher cabinets and accessories.

2) Contractor shall furnish and install all fire extinguishers and accessories.

3) Contractor shall coordinate fire extinguisher cabinet locations and the necessary rough-in/blocking/trim out requirements for installation .

4) Contractor shall protect all work that is part of this scope.

5) Contractor shall install the final fire extinguishers into/onto the cabinets/brackets at the direction of the Contract and the authority having jurisdiction. Until that time construction fire protection shall be the responsibility of each contractor to comply with the specified fire protection requirements and the authority having jurisdiction.

6) Contractor shall provide final clean of fire extinguishers and cabinets, upon completion of installation.

16. Shade Systems / Roller Shades

    1) Contractor shall furnish and install all recessed windows shade system / roller shades and accessories.

    2) All screws, clips, fasteners, mounting hardware and shims required for a complete and finished installation. Trim pieces to be installed to hide mounting hardware.

    3) Contractor shall adjust the recessed windows shade systems / roller shades to operate smoothly, easily, safely, and free of binding or malfunctioning throughout the entire operational range.

    4) Contractor shall field measure each window opening to ensure a proper fit. Recessed windows shade systems / roller shades conform to the shape of each opening and seal each opening with no more than 1/8" clearance at the sides and ¼ inch at the bottom in fully closed position.

    5) Recessed windows shade system / roller shade operators shall be positioned to ensure accessibility, ease of operation and convenience.

    6) Each shade system / roller shade shall be tested by Contractor in full open and closed positions to ensure proper operation and clearance.

    7) Contractor shall provide final clean of all shade systems / roller shades, upon completion of installation.

17. Final Cleaning

    1) Performing all final cleaning services for all surfaces in the building to the condition expected in a normal commercial building cleaning and maintenance program. All materials used shall be compatible with the finishes. Contractor shall accept all work prior to completion.

    2) Clean all surfaces including the mechanical equipment. All equipment should be free of dust and visible debris at final acceptance.

    3) Power-washing exterior of building. Work shall include all exterior site concrete, stairwells, and walkways.

18. Owner and Installer Contractor(s) Responsibilities:

    1) Owner-Furnished/Contractor Installed ("OFCI"): Furnished by the Owner; installed by the Installer Contractor.

        a. Owner and Installer Contractor(s) will coordinate deliveries of materials and equipment to coincide with the construction schedule.

        b. Owner will furnish specified materials and equipment delivered to the site. Owner/vendor's representative shall be present on site at the time of delivery to comply with the contract requirements and Specifications.

        c. The Owner furnishing specified materials and equipment is responsible to provide manufacturer guarantees as required by the Contract to the Installer Contractor.

2) The Installer Contractor shall:

a. Review, verify and accept the approved manufacturer's Submittal/Shop Drawings for all materials and equipment required to be installed by the Installer Contractor and furnished by the Owner. Any discrepancies, including but not limited to possible space conflicts, should be brought to the attention of the Project Manager and/or Program Manager, if applicable.

b. Coordinate timely delivery. Installer Contractor shall receive materials and equipment at Site when delivered and give written receipt at time of delivery, noting visible defects or omissions; if such declaration is not given, the Installer Contractor shall assume responsibility for such defects and omissions.

c. Store materials and equipment until ready for installation and protect from loss and damage. Installer Contractor is responsible for providing adequate storage space.

d. Coordinate with other bid package contractors and field measurement to ensure complete installation.

e. Uncrate, assemble, and set in place.

f. Provide adequate supports.

g. Install materials and recommendations, instructions, and Shop Drawings, supply labor and material required, and make mechanical, plumbing, and electrical connections required to operate equipment.

h. Be certified by equipment manufacturer for installation of the specific equipment supplied by the Owner.

i. Provide anchorage and/or bracing as required for seismic restraint per Title 24, UBC Standard 27-11 and all other applicable codes.

j. Provide the contract-required warranty and guarantee for all work, materials, equipment, and installation upon its completion and acceptance by the Owner. Guarantee includes all costs associated with the removal, shipping to and from the Site, and re-installation of any equipment found to be defective.

a. Manufacturer's printed descriptions, specifications, and instructions shall govern the Work unless specifically indicated or specified otherwise.

3) Upon completion of installation, clean equipment items in accordance with manufacturer's recommendations, and protect from damage until final acceptance of the Work by the Owner.

19. ICRA

1) Installation of ICRA

2) ICRA maintenance

3) Removal of the ICRA

## 1.03 RELATED WORK BY OTHERS UNDER SEPARATE BID PACKAGES

A. The following specific work items listed below will be provided by others:

1. See scope of other bid packages.

## 1.04 CONTRACTOR'S USE OF PREMISES

A. Contractor shall have use of the premises for the execution of the work as indicated in the Contract Documents.

B. Parking shall be at the discretion of the Owner and Construction Manager and as available. A loading/unloading area will be designated to facilitate delivery of equipment and tools. Prior scheduling of large deliveries with the Construction Manager is required.

C. Assume full responsibility for the protection and safekeeping of products under this Contract.

D. Move any stored products, materials, or equipment under Contractor's control that interferes with the operations of the school site or other bid packages.

E. All signs and services required by AQMD for grading and/or site demolition operations.

F. Coordinate the use of premises under the direction of the Construction Manager.

## 1.05 CONTRACTOR'S DUTIES

A. Attend job conference meetings or such special meetings as requested by the Construction Manager.

B. Promptly submit written notice to the Construction Manager of any observed variance in Contract Documents from legal requirements. Appropriate modifications to Contract Documents will be issued by the Architect to make any necessary changes.

C. Enforce strict discipline and good order among employees. Do not employ unfit persons and persons not skilled in assigned tasks to perform any work.

D. Make thorough examination of the site and access to the site to determine all existing conditions affecting the work.

E. Maintain a clean and orderly work environment on a daily basis and promptly remove all excess materials at the completion of each activity. Promptly remove all trash and debris resulting from the work performed under this Bid Package.

F. Contractor must provide and submit Safety Data Sheets (SDS) to the Construction Manager for all materials prior to arrival to the Project site. Contractor is responsible for separately maintaining an on-site copy of SDS, instruction regarding SDS and maintaining all stored materials on site in strict accordance with SDS and other governing codes and regulations.

G. Contractor shall provide task lighting as required to facilitate the work of this Bid Package in a timely manner and in accordance with the Master Construction Schedule. Provide sufficient task lighting to facilitate work of good quality. Temporary lighting for building access purposes will be provided by others in accordance with the latest CALOSHA Safety Orders.

H. Contractor shall designate a foreman or supervisor for this Project and shall equip said person with a cell phone. Each cell phone shall be used from 6:30am to 7:00pm Monday through Friday and Saturday, if needed and during all other hours work is being executed for direction, coordination and communication as needed for the duration of the Project.

I. As-built drawings shall be maintained daily and recorded weekly at the Construction Manager's job site office and be approved by the Project Architect or Construction Manager.

J. Coordinate the work of this Bid Package with that of all Contractors. Resolve conflicts with other Contractors prior to commencing installations. Re-routing to avoid conflicts and interference in the field will be performed at no additional cost to the Owner.

K. This Contractor shall provide satisfactory proof to the Construction Manager that a Contract has been issued to any Subcontractor listed by the Contractor or vendor in his bid within 30 days of Notice to Proceed. Delivery dates shall be included for materials and equipment within the contract.

## 1.06 ALTERNATES

A. Not used

## 1.07 ALLOWANCES

| | | | |
|---|---|---|---|
| A. | ALLOWANCE BC-01 | Misc Specialties | $5,000 |
| B. | ALLOWANCE BC-07 | Doors | $15,000 |
| C. | ALLOWANCE BC-08 | Glazing | $10,000 |
| D. | ALLOWANCE BC-09 | Patching | $20,000 |
| E. | ALLOWANCE BC-10 | ACT | $10,000 |
| F. | ALLOWANCE BC-11 | Touch up Painting | $5,000 |
| G. | ALLOWANCE BC-12 | Flooring | $10,000 |

**END OF SECTION**

**BID PACKAGE 03**
**CONCRETE, STRUCTURAL STEEL, METAL DECK, AND MISC. METALS**

## 1.01 SECTION INCLUDES

1.02 Work covered by Contract Documents
1.03 Related work by others under separate bid packages
1.04 Contractors use of premises
1.05 Contractors duties
1.06 Alternates
1.07 Allowances

## 1.02 WORK COVERED BY CONTRACT DOCUMENTS

A. Work Included

The work to be performed by the Contractor shall conform to all of the Contract Documents including, but not limited to, the requirements of Division 0 and Division 1 (including Bid Package 00), as well as the Instructions to Bidders, General Conditions, Supplementary Conditions, Special Conditions, if any, Project Specifications, all Drawings contained within the Contract Documents and other related documents and shall include the furnishing of all supervision, labor, services, materials, installation, cartage, hoisting, supplies, insurance, equipment, scaffolding, tools, and other facilities of every kind and description required for the prompt and efficient execution of the work described herein and to perform the work necessary or incidental to complete the Project, including installation of all items furnished within this Bid Package, in strict accordance with the Contract Documents and more particularly, though not exclusively, specified in:

| Specification Section | Description |
|---|---|
| 03 10 00 | Concrete Formwork |
| 03 20 00 | Concrete Reinforcing |
| 03 25 00 | Concrete Anchors in Cured Concrete |
| 03 30 00 | Cast-In-Place Concrete |
| 03 54 16 | Hydraulic Cement Underlayment |
| 03 60 00 | Grout and Dry Pack |
| 07 92 10 | Interior Joint Sealants |
| 05 12 00 | Structural Steel |
| 05 40 00 | Cold-Formed Metal Framing |
| 05 50 00 | Metal Fabrications |
| 05 50 10 | Interior Metal Fabrications |
| 23 05 29 | Hangers and Supports for HVAC Piping And Equipment* |
| TIO | Testing, Inspection, and Observation Program |
| Division 1 | General Requirements* |

* As applicable to work within this Bid Package.

B. Scope Description

Provide all labor, material and equipment to perform the following per the Contract Documents and as specified below:

1. Site and Building Concrete

1) Contractor shall furnish and install all cast-in-place concrete (interior and exterior areas) including but not limited to structural foundations, footings, stairs, structural concrete filled decks, pads, infills, retaining walls, site walls, planters, light pole bases, curbs, swales, gutters, ramps, detectable warnings/truncated domes, pedestrian concrete pavement, concrete seat walls and housekeeping pads. Contractor to coordinate with M.E.P. trades for pad sizes prior to placement.

2) Contractor shall furnish and install concrete equipment pads, depressions, seat walls and curbing for all electrical, mechanical, and plumbing items. Contractor shall verify the quantity, size, and location with each respective bid package. Provide and install foam infill as required per Contract Documents.

3) Contractor to provide and install all pre-cast concrete.

4) Contractor to provide and install all stair nosings and treads.

5) Contractor shall include the furnishing, staging, and installation of all associated reinforcing steel. Said work shall reference all Contract Documents for locations and requirements. . Construction-joint slip dowels and smooth round bar as required. (Contractor shall include greasing and wrapping, if required.). Contractor to provide all vertical dowel rebar into masonry by others. Coordinate with masonry contractor for layout of masonry wall dowels from footing to wall.

6) Contractor shall coordinate all shop fabrication/field inspection. Contractor shall become completely familiar with the Owner's Third Party testing and inspection requirements as well as the material sourcing requirements, which include the coordination of mill certificates, labeling, tagging, and stamping of reinforcing steel during the fabrication process, shipment to jobsite, and placement. No unidentified reinforcing steel shall be used by the Contractor. All reinforcing steel shall have mill certifications and be properly identified (e.g., source, heat or melt number). Contractor shall provide adequate access for Inspectors to all elements of work. Means of all such access include ladders, lifts, and scaffolds. All costs for re-inspection of any work as a result of previous failed inspection shall be the responsibility of this Contractor. All Third Party Testing and inspection shall be by the Owner.

7) Contractor shall be responsible for all layout under this Bid Package. Owner will provide a Surveyor who will survey building corners, grid lines and benchmarks (elevations), with agreeable frequency and offsets. Contractor is responsible for protection of provided points and responsible for providing finish elevations.

8) Contractor shall perform final cleaning of areas prior to and after all concrete pours/placement.

9) Contractor shall plug miscellaneous holes in elevated areas to ensure minimal concrete leakage.

10) Contractor shall clean up any concrete leakage through formed surfaces and elevated areas immediately.

11) Contractor shall furnish and install sand, aggregate base course, gravel and/or vapor barriers required beneath Contractor's work as shown.

12) Contractor shall furnish and apply all curing/hardener/sealer compounds. Contractor shall verify and assure that all compounds are fully compatible with future flooring/finish applications. Provide required finish sealer where concrete is on exposed finish floor.

13) Contractor to provide and install finish sealer where concrete is shown as exposed per the Contract Documents.

14) All cold joints, construction joints, expansion joints, saw-cut joints, and pre-formed joint fillers as required by job conditions and as shown. If applicable, include Styrofoam and separation materials at special conditions. Reference typical details throughout the Contract Documents. All saw cut joints shall be square and true, using good equipment with sharp blades to accomplish cuts without spalling, and shall be completed the day immediately following the pour.

15) Contractor shall furnish and install all joint sealants of all concrete paving expansion joints, including caulking to building perimeters, vertical surfaces, warning grooves, truncated domes and new to existing concrete paving. Removal of filler material or "zip strip" to proper depth prior to sealant installation is included. Scope of work includes preparation, backer rod materials, and sealant for joints as shown. Contractor shall anticipate that joints of a specific width and depth may vary due to differing construction tolerances.

16) Install all embeds, inserts, anchor bolts, sleeves, reglets, and handrail/guard rail sleeves that are furnished by others and cast into Contractor's work. Contractor shall provide templates and racks to maintain alignment and plumb, as required to secure items during pouring operations. Contractor's providing embeds will include layout drawings for this contractor's use in placement.

17) Installing all required slab depressions and proper sloping of structural slabs for architectural concrete topping slabs, ceramic/quarry tile, special flooring, cast stone, thresholds, drains and equipment. Contractor shall verify all dimensions and specific requirements with the respective bid packages. If a discrepancy occurs between the Contract Documents and/or finish schedule, Contractor shall immediately notify Construction Manager in writing.

18) All concrete textures and finishing of all concrete work including sub slabs shall be compatible with all other building components and finishes, e.g., waterproofing, tile flooring, flooring, adhesives, and paint.

19) Contractor shall furnish and provide drilling and grouting/epoxy for rebar dowels, as required

20) Grouting and/or dry packing of all base plates as shown and/or specified. Solid grouting of all hollow metal frames as shown and/or specified. (Install Styrofoam block outs at locations where hardware will be installed, e.g., hinges, strike, closer.)

21) Contractor shall fill/repair Grout/Concrete all areas from Demo and removal of Equipment.

22) Additional saw cutting of control joints, above or on the sides of drain lines placed in concrete slabs. All such saw cutting shall be performed after securing the approval from the Architect and/or Owner.

23) Protection of all in-slab and/or below-slab embeds during and after concrete placement. This specifically includes, but is not limited to, Walker duct, floor boxes, and floor drains

24) Contractor shall ensure concrete fill around sleeves and penetrations below and around foundations, retaining walls, and curb areas, as required.

25) Contractor shall provide block outs for all building materials/components/utilities as required. Include patching/infill of block outs, as required. Coordinate the sizes and locations with respective bid package.

26) Contractor shall provide and maintain rebar fall / impalement protection in accordance with local jurisdictional safety requirements.

27) Contractor shall remove from site all spoils generated by the scope of this Bid Package.

2. Structural Steel and Metal Deck

1) Contractor shall furnish and install all embedded anchor bolts, fasteners, inserts, steel templates, embeds for steel columns, structural steel, and miscellaneous steel attaching to concrete and masonry work. A separate template shall be provided for each base plate and configured bolt pattern location, clearly marked and identified for placement by others. Coordinate and layout all embedded items for installation by Bid Package for Concrete.

2) Contractor shall prepare shop drawings for installation locations of embeds installed into masonry. Contractor to deliver embeds to site and unload for installation by others. Contractor to verify installation locations prior to fabrication of steel.

3) Contractor shall furnish and install all bolts, fasteners, nuts, washers, inserts, and other miscellaneous items, as required to attach and install all items included in this contract to steel and all other dissimilar materials.

4) Contractor shall furnish and install all continuous and individual steel plates and angles with welded studs for embedment into concrete. Coordinate lengths and provide lengths as required.

5) Contractor shall furnish and install all structural and miscellaneous steel items, for the complete installation and erection comprised of wide flange beams, girders and columns, tube steel columns and braces, plates, clips, steel pipe, bent plates, channels, angle iron, steel rods, Unistrut, slot metal channel framing, railings and checker plate. Include all required bolts, fasteners, inserts, and sleeves, for the execution of this work. Coordinate work with other trades requiring steel to be fabricated to receive attachments. (i.e. operable partitions, aluminum window system).

6) Contractor shall furnish and install all steel structural steel members. Contractor shall maximize shop fabrication efforts, in order to reduce the amount of field welding.

7) Contractor to provide shop priming/coating/galvanizing per Contract Documents for all steel.

8) Contractor shall verify all dimensions of work and fully comply with all applicable codes. Field measurements of all locations shall be performed prior to fabrication. Contractor shall provide all layouts as indicated on the Contract Documents.

9) Contractor shall furnish and install all metal decking as per the Contract Documents.

10) Contractor shall demo, scrape, and clean existing fireproofing from existing steel to allow installation and welding of new steel members. Coordinate work with BP-01 Interior and Roofing Work to allow timely installation of fireproofing patch work by others.

11) Contractor shall furnish and install all structural steel plates, bent plate, angles, and tube steel at edge condition that support and close metal decking.

12) Contractor shall furnish and install all loose angles as required for deck supports at columns and reinforcing at underside of metal deck openings as shown on the Contract Documents.

13) Contractor shall include offsite storage of materials until required on the jobsite.

14) Contractor shall provide metal deck “cut outs” and support at structural steel moment and braced connection plates that interfere with the elevation of metal deck.

15) Contractor shall deliver all metal decking and accessories to the jobsite as directed and shall be rigged and hoisted into place by the Contractor. Distribution of decking on structure is the responsibility of this Contractor. Contractor shall tack all deck in place immediately after spreading the deck.

16) Contractor shall provide touch-up of prime painting and/or galvanizing as shown and/or specified in the Construction Documents.

17) Contractor to furnish to jobsite all anchor bolts / embeds embedded in work. Include shop drawings detailing location of embeds.

18) Contractor shall clean all welds and removal of ferrule type materials associated with installation.

19) Contractor shall coordinate all shop fabrication/field inspection. Contractor shall become completely familiar with the Owner's Third Party testing and inspection requirements as well as the material sourcing requirements, which include the coordination of mill certificates, labeling, tagging, and stamping of steel during the fabrication process, shipment to jobsite, and erection. No unidentified steel shall be used by the Contractor. All steel shall have mill certifications and be properly identified (e.g., source, heat or melt number). Contractor shall provide adequate access for Inspectors to all elements of work. Means of all such access include ladders, lifts, and scaffolds. All costs for re-inspection of any work as a result of previous failed inspection shall be the responsibility of this Contractor. All Third Party Testing and inspection shall be by the Owner.

20) Contractor shall verify and accept elevations and placement of anchor bolts and embedded items prior to each erection sequence of work. Contractor shall survey all work and notify Construction Manager immediately of any problems so that such problems can be corrected.

21) Contractor shall furnish and install safety cables (2 strand minimum) and all required miscellaneous steel (e.g., steel plates, angle iron posts) to support cables in all areas. Safety cable and toe board installation shall comply with OSHA and local codes. Cables shall be installed by the Contractor around the entire perimeter of the building (floors and roof) and at all interior openings, e.g., duct shafts/penetrations, elevator shafts, stairways, and/or areas where metal decking cannot be installed due to erection/sequence. Safety cables shall also be installed on stair flights and landings. Contractor shall coordinate this work with the Owner and other affected trades for layout and method of attachment prior to start of work. Removal of all safety cables, toe boards, and associated materials related to the Project shall be the responsibility of this Contractor. The Contractor shall notify and obtain approval from the Construction Manager prior to removing any materials. Posts to be located in areas where they will not be exposed in finished areas when removed. Provide location submittal for approval prior to installation.

22) Temporary safety cables shall be installed by this Contractor in a manner that allows the cable to be removed in isolated sections so that other trade work may continue, e.g., separate cables for each bay - column to column. If required, modify and re-route cables to allow access and safety for other trades.

23) Contractor shall remove cables and miscellaneous steel in phases as required by construction sequencing and Owner. All miscellaneous iron that penetrates the concrete shall be cut off by the Contractor below the surface of the concrete. All exposed steel (at areas of post removals) shall be ground flush and filled as necessary for appearance by this Contractor.

24) Contractor shall protect all floor and roof openings during erection per OSHA and local requirements. Contractor shall immediately replace all opening protection removed for installation of work.

25) All items furnished only to the jobsite shall be off-loaded and stored by Contractor, at a location designated by the Construction Manager and Owner.

26) Contractor shall provide construction power for welding and task lighting from designated sources as per Owners approval, and/or Contractor supplied generator or alternate power source. Contractor shall provide proper ventilation (i.e., fans, smoke eaters, air scrubbers, etc.) in the areas that work is being performed.

27) Contractor shall field measure all miscellaneous steel items that install into embedded sleeves, inserts, and bolts, before fabrication.

28) Contractor shall shop fabricate any structural steel systems in the largest possible sections for delivery and installation in the field to reduce field fit-up and alignment issues. Contractor shall grind smooth, fill all field connections, and ensure that all rails and supports are free from sharp edges. All welds shall be prepared in accordance with the Contract Document requirements and be visually acceptable.

29) Contractor shall verify that all work, including steel stair framing, shall dimensionally comply with all applicable building codes. Proper vertical and horizontal distance and clearance in stairs shall be coordinated before fabrication and erection. Contractor shall maintain proper clearances between stair framing and wall construction so that fire ratings can be maintained, e.g., multiple layers of drywall and/or fireproofing material if applicable to this project.

30) Immediately after all steel work is complete, Contractor shall clean all exposed steel to be painted from oils, scale, piece marks, and other elements detrimental to applying finish paint. Contractor shall coordinate with Bid Package 01 Interior and Roof Work for painting of steel as specified in the Contract Documents. All exposed steel to be painted shall be treated as architecturally exposed structural steel.

3. Miscellaneous Metals

1) Contractor shall furnish, fabricate and install all railings, guard rails, decorative metal, ornamental gates, fencing, ladders, safety cages, bollards, steel downspouts, steel framing and supports, counter supports, posts, OFCI/OFVI/OFOI anchorage items, hardware, accessories, and fittings and perform all required welding and certifications. All such work shall be cleaned, ground smooth, and touched up with the specified paint/coating for an acceptable appearance.

2) All railings (guard and hand), decorative metal, and fencing shall be true, plumb and aligned with adjacent sections.

3) Contractor shall furnish and install all metal pan stairs.

4) Contractor shall coordinate equipment and material layout with other bid packages and/or Owner/Vendors. All conflicts shall be brought immediately to the attention of the Construction Manager.

5) Contractor shall furnish and install all fencing, guard railing, and hand railing hardware as noted in the Contract Documents.

6) Contractor shall furnish and install all specified finishes to ladders, safety cages, bollards, downspouts, steel framing and supports, posts, handrails, guardrails, decorative metal panels, and fittings as required in the Contract Documents.

7) Contractor shall verify that all work, including railings and fencing, shall dimensionally comply with all applicable building codes. Proper vertical and horizontal distance and

clearance in stairs shall be detailed and verified by Contractor before fabrication and erection. Contractor shall maintain proper clearances between stair framing and wall construction so that fire ratings can be maintained, e.g., multiple layers of drywall and/or fireproofing material if applicable to this project.

8) Any priming and/or painting and/or coating material shall be of color selected and approved by the Architect.

9) Prior to ordering materials, Contractor shall verify dimensions in the field and ensure that all specified hardware is fully compatible both in function and in physical dimensions and offsets of hardware with the fencing and railing systems being provided.

10) Prior to installation, Contractor shall fully inspect all decorative and non-decorative metals, fencing and railing components for any deficiencies in material.

11) Contractor shall be responsible for all fencing and railing related coring. All coring shall comply with the necessary specification and code requirements. All coring shall be in accordance with the Contract Documents and shall be coordinated with other bid packages.

12) Contractor shall be responsible for all grouting associated with work of this Bid Package.

13) Contractor shall participate in Project Building Information Modeling coordination per the requirements below.

## C. PROJECT BUILDING INFORMATION MODELING (BIM) GUIDELINES

### 1. INTRODUCTION

1) A Building Information Model (BIM) will be developed by the Construction Manager and the Prime Contractors (Structural, Mechanical, Electrical, Plumbing and Fire Protection). The BIM will integrate architectural, structural, mechanical, electrical, plumbing and fire protection systems and components into a virtual model to improve trade coordination, streamline the construction process, and accurately reflect final as-built conditions.

### 2. MODELING REQUIREMENTS

1) Each Prime Contractor shall produce a trade-specific 3-D model which contains solid 3-D geometry (not lines or wire frames) that represents the actual dimensions of the building elements that will be installed on the project.

2) The following trades are required to produce a 3-D model:

- Structural Steel
- Plumbing
- Fire Sprinkler
- Electrical
- HVAC

3) Roofing and Acoustical Ceiling Tile will have to provide information and coordinate with the trades listed above.

4) Building systems will be organized as separate models linked to a common elevation, origin and benchmark for efficient and accurate coordination purposes. Each floor

shall be created as a separate level in the authoring software, and all trades shall reference a shared and documented insertion point and methodology for developing these files.

5) BIM Level of development (LOD) requirement.

i. LOD 400 per the AIA BIM Protocol (E202) will be required. Model detail shall include, but not limited to, all system fittings, equipment, valves, flanges, insulation, hangers, braces, maintenance access areas, and code-enforced clearance requirements. Structural elements such as foundations, pits, slabs, decks, beams, columns, connector plates, gusset plates and braces shall be modeled. Prime Contractors are encouraged to also include any and all objects that would facilitate the coordination with other applicable trades. A trade-specific LOD chart will be distributed by the Construction Manager at the beginning of the coordination process.

6) Layer names of model objects shall be logical, accurate and consistent throughout the BIM.

7) Two-dimensional shop drawings, submittal drawings, and as-built drawings shall be extracted from the Project BIM, formatted and submitted to the Design Team in compliance with the Contract Documents by each respective prime contractor.

3. TECHNOLOGY PLATFORM AND SOFTWARE

1) It is the responsibility of the Prime Contractor to have or obtain the proper hardware and software needed to successfully complete the BIM 3-D coordination process.

2) The choice of 3-D modeling software is open, but any software utilized must be able to export to a .DWG file format. Parametric modeling programs with direct. NWC/.NWD export options are preferred.

3) Prime Contractors are encouraged to have Navisworks Manage to conduct in-house clash detection and coordination prior to coordination meetings.

4. QUALIFICATIONS OF BIM PERSONNEL

1) It is the responsibility of the Prime Contractor to have or obtain trained personnel to successfully participate in the BIM 3-D modeling and coordination process. Personnel participating in the modeling and coordination efforts must be proficient in the use of all hardware and software required and must have field application/installation knowledge and experience necessary to make coordination decisions for their scope of work.

2) The Prime Contractor assigned personnel will be required to have access to an email account and the internet for file sharing and participation in web-based coordination meetings.

5. PARTICIPATION REQUIREMENTS

1) Each Prime Contractor is required to actively participate in on-site and web-based BIM coordination meetings. Coordination meetings must be attended by each Prime Contractor's Qualified BIM Personnel throughout the duration of the project, the majority of which will be web-based. Field personnel are also encouraged to attend these coordination meetings for constructability input.

2) The purpose of the BIM coordination meetings will be to identify, track and document interferences and clashes between the trades that require Construction Manager's facilitation and/or changes in contract document design. Prime Contractors shall conduct proactive model review and clash detection and coordination with other trades between meetings and arrive to meetings prepared with a list of unresolvable items to discuss.

3) Coordination software will be utilized to assemble the various models and provide a report of coordination and/or design issues, usually within 24 hours of the meeting. The report will be reviewed by the team members and agreed upon solutions shall be implemented into the 3-D models in a timely fashion by the respective trade. Implementation includes re-modeling, re-analyzing, and re-distributing the updated BIM. This process will be repeated until all coordination issues are resolved.

4) A detailed coordination schedule will be developed and distributed by the Construction Manager at the beginning of the BIM coordination process.

6. BIM WORK PLAN

1) At the commencement of the BIM coordination process, a BIM Work Plan will be issued by the Construction Manager which will include:

a. Project sequence and schedule for initial delivery of each model

b. Schedule for updating of each model and preservation of versions of each model

c. File formats used for project submittal and file exchange

d. Compliance with Folder Structure, File Naming, Object naming conventions

e. Utilization of Web Site and FTP Sites

f. Trade-specific LOD requirements

g. Model origin (common 0,0,0 location)

h. Coordination report format

i. Model sign-off procedure

j. Field validation

k. As-built model creation

l. Final BIM deliverable

## *1.03* 1.03 RELATED WORK BY OTHERS UNDER SEPARATE BID PACKAGES

A. The following specific work items listed below will be provided by others:

## 1.04 CONTRACTOR'S USE OF PREMISES

A. Contractor shall have use of the premises for the execution of the work as indicated in the Contract Documents.
B. Parking shall be at the discretion of the Owner and Construction Manager and as available. A loading/unloading area will be designated to facilitate delivery of equipment and tools. Prior scheduling of large deliveries with the Construction Manager is required.
C. Assume full responsibility for the protection and safekeeping of products under this Contract.
D. Move any stored products, materials, or equipment under Contractor's control that interferes with the operations of the school site or other bid packages.
E. All signs and services required by AQMD for grading and/or site demolition operations.
F. Coordinate the use of premises under the direction of the Construction Manager.

## 1.05 CONTRACTOR'S DUTIES

A. Attend job conference meetings or such special meetings as requested by the Construction Manager.
B. Promptly submit written notice to the Construction Manager of any observed variance in Contract Documents from legal requirements. Appropriate modifications to Contract Documents will be issued by the Architect to make any necessary changes.
C. Enforce strict discipline and good order among employees. Do not employ unfit persons and persons not skilled in assigned tasks to perform any work.
D. Make thorough examination of the site and access to the site to determine all existing conditions affecting the work.
E. Maintain a clean and orderly work environment on a daily basis and promptly remove all excess materials at the completion of each activity. Promptly remove all trash and debris resulting from the work performed under this Bid Package.
F. Contractor must provide and submit Safety Data Sheets (SDS) to the Construction Manager for all materials prior to arrival to the Project site. Contractor is responsible for separately maintaining an on-site copy of SDS, instruction regarding SDS and maintaining all stored materials on site in strict accordance with SDS and other governing codes and regulations.
G. Contractor shall provide task lighting as required to facilitate the work of this Bid Package in a timely manner and in accordance with the Master Construction Schedule. Provide sufficient task lighting to facilitate work of good quality. Temporary lighting for building access purposes will be provided by others in accordance with the latest CALOSHA Safety Orders.
H. Contractor shall designate a foreman or supervisor for this Project and shall equip said person with a cell phone. Each cell phone shall be used from 6:30am to 7:00pm Monday through Friday and Saturday, if needed and during all other hours work is being executed for direction, coordination and communication as needed for the duration of the Project.
I. As-built drawings shall be maintained daily and recorded weekly at the Construction Manager's job site office and be approved by the Project Architect or Construction Manager.
J. Coordinate the work of this Bid Package with that of all Contractors. Resolve conflicts with other Contractors prior to commencing installations. Re-routing to avoid conflicts and interference in the field will be performed at no additional cost to the Owner.
K. This Contractor shall provide satisfactory proof to the Construction Manager that a Contract has been issued to any Subcontractor listed by the Contractor or vendor in his bid within 30 days of Notice to Proceed. Delivery dates shall be included for materials and equipment within the contract.

## 1.06 ALTERNATES

A. Items noted as alternates shall govern only if specifically included within the Agreement.

## 1.07 1.07 ALLOWANCES

| | | | |
|---|---|---|---|
| A. | ALLOWANCE BC-03 | Concrete and Curb Repair | $30,000 |
| B. | ALLOWANCE BC-04 | Structural Steel | $40,000 |
| C. | ALLOWANCE BC-05 | Crane Rental Allowance | $80,000 |

**END OF SECTION**

**BID PACKAGE 06**
**ROOFING**

## 1.01 SECTION INCLUDES

1.02 Work covered by Contract Documents
1.03 Related work by others under separate bid packages
1.04 Contractors use of premises
1.05 Contractors duties
1.06 Alternates
1.07 Allowances

## 1.02 WORK COVERED BY CONTRACT DOCUMENTS

A. Work Included

The work to be performed by the Contractor shall conform to all of the Contract Documents including, but not limited to, the requirements of Division 0 and Division 1 (including Bid Package 00), as well as the Instructions to Bidders, General Conditions, Supplementary Conditions, Special Conditions, if any, Project Specifications, all Drawings contained within the Contract Documents and other related documents and shall include the furnishing of all supervision, labor, services, materials, installation, cartage, hoisting, supplies, insurance, equipment, scaffolding, tools, and other facilities of every kind and description required for the prompt and efficient execution of the work described herein and to perform the work necessary or incidental to complete the Project, including installation of all items furnished within this Bid Package, in strict accordance with the Contract Documents and more particularly, though not exclusively, specified in:

| Specification Section | Description |
|---|---|
| 07 01 56 | Membrane Roofing Modifications |
| 07 41 13 | Metal Roof Panels |
| 07 84 00 | Firestopping |
| 07 92 10 | Interior Joint Sealants |
| Division 1 | General Requirements* |

B. Scope Outline

Scope of work consists of the project area and adjacent areas within the lower level, 1st level, and 2nd level. Include in bid all work necessary to address new scope including work on nights and weekends. Scope of work shall be coordinated within all disciplines including structural, mechanical, electrical, plumbing, low voltage, medical gas, fire alarm, fire sprinkler and equipment vendor requirements. Review all drawings to obtain complete scope of work. General contractor to coordinate work among multiple disciplines.

Provide all labor, material and equipment to perform the following per the Contract Documents and as specified below:

1. Roofing
    1) Contractor shall furnish and install roofing system. Install the specified ballasted roof system in accordance with both the Contract Documents and the manufacturer's requirements. Where a conflict exists, the more stringent requirement shall apply. Install products as recommended to receive the specified guarantees and warranties.

2) Contractor shall furnish and install air/vapor barrier as indicated on the contract documents.

3) Contractor shall furnish and install roof insulation, rigid metal deck insulation, substrate boards, cant boards/strips, crickets, curbs, caulking, adhesives, mechanical anchors, and sealants, wood blocking and nailers as required for a complete roofing system.

4) Contractor shall furnish and install all expansion control as shown in the contract documents.

5) Inspecting and accepting all substrate surfaces and building components prior to application of roof systems. Contractor shall timely notify Contractor in writing of all problems requiring corrective action. Upon Contractor acceptance of substrate surfaces and building components, Contractor shall install roofing system. If ponding or other unacceptable conditions are discovered after the application is complete, Contractor shall correct the problem at no additional cost.

6) Contractor shall provide all seal and flashing of all roof penetrations as approved by roof system manufacturer to seal and flash all penetrations as required. Penetrations may include electrical conduits, plumbing/mechanical pipes and/or structural supports. Install pitch pans and roof jacks (furnished by others) as required. Contractor shall include filling and sealing of all pitch pans and roof jacks as required by the manufacturer. (Reference the architectural, structural, mechanical, plumbing, and electrical plans for general locations of roof penetrations.)

7) Contractor shall clean off the roof deck of loose dirt/dust prior to start of work. Contractor shall clean all roof/overflow drain assemblies after work is complete.

8) Contractor shall furnish and install the number of plies of roof membrane as required by the Contract Documents and properly sealed over the top of each roof equipment pad or platform as required to make each location watertight.

9) Contractor shall perform specified tests on roof areas at the completion of work. Contractor shall correct any “ponding” or leaks prior to acceptance.

10) Contractor shall furnish and install flashing, including flexible lead flashing, at all roof and overflow drains, as shown and/or specified and as required by the roofing manufacturer.

11) Contractor shall furnish and install roof walk pads, as shown and/or specified and as required by the roofing manufacturer.

12) Providing adequate protection to all areas of work prior to and during construction to ensure proper installation.

13) Contractor shall include all fees as applicable to apply for and provide complete roofing warranties per the Contract Document requirements.

2. Sheet Metal

1) Contractor shall furnish and install all sheet metal (galvanized, stainless steel and aluminum-zinc alloy-coated steel) items including all but not limited to formed metal wall panels, column covers, sheet metal at exterior wall base continuous flashing, roof flashing, counter flashings, saddle flashings, door drip flashing, sill pans at door headers and windows, counter and flexible flashings, self adhered flexible flashing, cap flashings for all mechanical equipment at roof, duct penetration flashings, coping caps, break metal and aluminum support brackets at hollow metal frames, roof screens, backer rods, expansion/seismic joint assemblies, composite wall panels, hanging gutters, downspouts, break metal, and parapet caps as required in the Contract Documents.

2) Contractor shall furnish and install all through-wall overflow scuppers.

3) Contractor shall furnish and install all clips, cleats, fasteners, adhesives, mastic, solder, caulking, and sealants for this scope of work, as required for weatherproofing and appearance. Include caulking between all work and adjacent, dissimilar materials for both interior and exterior items. Caulking materials shall be compatible with all building materials as noted in the Contract Documents.

4) Contractor shall furnish and install all sheet metal covers, edge metal/gravel stop for rooftop mechanical equipment pads.

5) Contractor shall furnish and install all formed metal wall panels at the mechanical screen.

6) Contractor shall furnish and install all 2x wood nailers at roof for contractor's work and equipment supports receiving roofing and/or sheet metal.

7) Contractor shall furnish and install flashing at thresholds sill pans.

8) Contractor to furnish and install all sealant work related to metal flashings.

9) Contractor shall furnish and install all sealant, shims, furring, cant strips, stiffeners, and clips as required properly supporting, sloping, and attaching flashing assemblies to parapet framing. Properly flash and seal around cap flashing penetrations. Provide factory finished materials as required.

10) Contractor shall perform specified tests on roof areas at the completion of work. Contractor shall correct any "ponding" or leaks prior to acceptance.

11) Contractor shall furnish and install all flashings within the enclosure system.

12) Contractor shall furnish and install all sill pan and flexible flashing at floor and deck areas as specified in the Contract Documents.

13) Contractor shall furnish and install all fixed-formed metal louvers, screens, and accessories for a complete installation per the Contract Documents.

14) Provide adequate protection to all areas of work prior to and during construction to ensure proper installation.

## 1.03 RELATED WORK BY OTHERS UNDER SEPARATE BID PACKAGES

A. The following specific work items listed below will be provided by others:

1. See scope of other bid packages.

## 1.04 CONTRACTOR'S USE OF PREMISES

A. Contractor shall have use of the premises for the execution of the work as indicated in the Contract Documents.

B. Parking shall be at the discretion of the Owner and Construction Manager and as available. A loading/unloading area will be designated to facilitate delivery of equipment and tools. Prior scheduling of large deliveries with the Construction Manager is required.

C. Assume full responsibility for the protection and safekeeping of products under this Contract.

D. Move any stored products, materials, or equipment under Contractor's control that interferes with the operations of the school site or other bid packages.

E. All signs and services required by AQMD for grading and/or site demolition operations.

F. Coordinate the use of premises under the direction of the Construction Manager.

## 1.05 CONTRACTOR'S DUTIES

A. Attend job conference meetings or such special meetings as requested by the Construction Manager.

B. Promptly submit written notice to the Construction Manager of any observed variance in Contract Documents from legal requirements. Appropriate modifications to Contract Documents will be issued by the Architect to make any necessary changes.

C. Enforce strict discipline and good order among employees. Do not employ unfit persons and persons not skilled in assigned tasks to perform any work.

D. Make thorough examination of the site and access to the site to determine all existing conditions affecting the work.

E. Maintain a clean and orderly work environment on a daily basis and promptly remove all excess materials at the completion of each activity. Promptly remove all trash and debris resulting from the work performed under this Bid Package.

F. Contractor must provide and submit Safety Data Sheets (SDS) to the Construction Manager for all materials prior to arrival to the Project site. Contractor is responsible for separately maintaining an on-site copy of SDS, instruction regarding SDS and maintaining all stored materials on site in strict accordance with SDS and other governing codes and regulations.

G. Contractor shall provide task lighting as required to facilitate the work of this Bid Package in a timely manner and in accordance with the Master Construction Schedule. Provide sufficient task lighting to facilitate work of good quality. Temporary lighting for building access purposes will be provided by others in accordance with the latest CALOSHA Safety Orders.

H. Contractor shall designate a foreman or supervisor for this Project and shall equip said person with a cell phone. Each cell phone shall be used from 6:30am to 7:00pm Monday through Friday and Saturday, if needed and during all other hours work is being executed for direction, coordination and communication as needed for the duration of the Project.

I. As-built drawings shall be maintained daily and recorded weekly at the Construction Manager's job site office and be approved by the Project Architect or Construction Manager.

J. Coordinate the work of this Bid Package with that of all Contractors. Resolve conflicts with other Contractors prior to commencing installations. Re-routing to avoid conflicts and interference in the field will be performed at no additional cost to the Owner.

K. This Contractor shall provide satisfactory proof to the Construction Manager that a Contract has been issued to any Subcontractor listed by the Contractor or vendor in his bid within 30 days of Notice to Proceed. Delivery dates shall be included for materials and equipment within the contract.

## 1.06 ALTERNATES

A. Not Used

## 1.07 ALLOWANCES

| | | |
|---|---|---|
| A. ALLOWANCE BC-06 | Roofing & Sheet Metal | $15,000 |

**END OF SECTION**

# BID PACKAGE 16
# ELECTRICAL AND LOW VOLTAGE

## 1.01 SECTION INCLUDES

1.02 Work covered by Contract Documents
1.03 Related work by others under separate bid packages
1.04 Contractors use of premises
1.05 Contractors duties
1.06 Alternates
1.07 Allowances

## 1.02 WORK COVERED BY CONTRACT DOCUMENTS

A. Work Included

The work to be performed by the Contractor shall conform to all of the Contract Documents including, but not limited to, the requirements of Division 0 and Division 1 (including Bid Package 00), as well as the Instructions to Bidders, General Conditions, Supplementary Conditions, Special Conditions, if any, Project Specifications, all Drawings contained within the Contract Documents and other related documents and shall include the furnishing of all supervision, labor, services, materials, installation, cartage, hoisting, supplies, insurance, equipment, scaffolding, tools, and other facilities of every kind and description required for the prompt and efficient execution of the work described herein and to perform the work necessary or incidental to complete the Project, including installation of all items furnished within this Bid Package, in strict accordance with the Contract Documents and more particularly, though not exclusively, specified in:

| Specification Section | Description |
|---|---|
| 08 17 13 | Integrated Door Assemblies |
| 08 31 16 | Access Panels |
| 08 42 43 | ICU-CCU Entrances |
| 08 71 13 | Automatic Door Operators |
| 22 64 00 | Medical Gas Alarms |
| 26 05 00 | Common Work Results for Electrical |
| 26 05 10 | Selective Electrical Demolition |
| 26 05 19 | Low-Voltage Electrical Power Conductors and Cables |
| 26 05 26 | Grounding And Bonding for Electrical Systems |
| 26 05 29 | Hangers And Supports for Electrical Systems |
| 26 05 33 | Raceway And Boxes for Electrical Systems |
| 26 05 44 | Sleeves and Sleeve Seals for Electrical |
| 26 05 53 | Identification For Electrical Systems |
| 26 05 73 | Overcurrent Protective Device Coordination Study |
| 26 09 23 | Lighting Control Devices |
| 26 22 00 | Low-Voltage Transformers |
| 26 24 16 | Panelboards |
| 26 24 17 | Isolation Panelboards |
| 26 27 26 | Wiring Devices |
| 26 28 13 | Fuses |
| 26 28 16 | Enclosed Switches and Circuit Breakers |
| 26 31 11 | Digital Addressable Fire Alarm System |

| | |
|---|---|
| 26 43 13 | Surge Protective Devices for Low-Voltage Electrical Power Circuits |
| 26 51 00 | Interior Lighting |
| 27 05 00 | Common Work Results for Communications |
| 27 05 10 | Selective Communications Demolition |
| 27 05 26 | Grounding And Bonding for Communications Systems |
| 27 05 28 | Pathways For Communications Systems |
| 27 11 00 | Communications Equipment Room Fittings |
| 27 15 00 | Communications Horizontal Cabling |
| 27 52 23 | Nurse Call/Code Blue Systems |
| 28 05 00 | Common Work Results for Electronic Safety and Security |
| 28 05 13 | Conductors And Cables for Electronic Safety and Security |
| 28 05 28 | Pathways For Electronic Safety and Security |
| 28 13 00 | Access Control |
| TIO | Testing, Inspection, and Observation Program |
| Division 1 | General Requirements* |

* As applicable to work within this Bid Package.

B. Electrical

Provide all labor, material and equipment to perform the following per the Contract Documents and as specified below:

1. Contractor will provide all necessary Safe Off. Including but not limited to LOTO, conductor/conduit separation from energized equipment/panels/switchgear, coordination with Demolition Contractor during selective demolition and beyond, interim wiring and programming to maintain existing systems that pass through construction area, general investigation of bid scoping systems within and adjacent to construction space, etc.
2. Scope to include Nurse Call/Code Blue, Access Controls, Security, Fire Alarm and Telecom./Communications.
3. Provide, install and maintain temporary power and lighting for construction. Provide spider boxes(min. of one per 1000sf) and sufficient number of power distribution cords for construction of the site work. Provide and install temporary power as required with not less than 100 amp at 120/208 volt, 3 phase, 4 wire plus ground. Coordinate location of power poles to be in landscape area, avoiding hardscape locations. Coordinate location of panels and power spider boxes with the Construction Manager. Provide duplex outlets with weatherproof GFI protected 20 amp grounded outlets at 1- duplex per 500 square feet. Outlets grouped in clusters of no more than six. Outlets must be accessible to all areas and cords no longer than 50'. Provide temporary lighting throughout building. Temporary lighting needs to be on separate circuit from temporary power. Monthly electrical bill will be paid by Owner. Contractor shall provide and install site temporary lighting on temporary power poles and additional temporary light poles as required to light up the site at night. Contractor shall support interior temp power and lighting cords overhead via non-conductive supports. Contractor shall make all attempts to keep cabling off the ground. Contractor shall remove temporary power and lighting as directed by Construction Manager, with the expectation it will be used the full duration of the project timeline.
4. Contractor shall supply and install temporary power for Construction Manager site trailer office. This shall include at a minimum, 200amp service at 120/208 volt. Location is

estimated to be at the site laydown area shown on the Logistics Plan. Contractor shall be responsible for all utility permits, connections, overheard wiring and supports/poles.

5. Contractor shall furnish and install all electrical work/devices/terminations (conduits, wiring, conductors, raceways, wiremold, outlet and junction boxes, pull boxes, vaults, wiring devices, switches, disconnects, distribution boards, etc.) within the building and site, including, but not limited to, electrical power, lighting (normal and emergency), support and seismic bracing systems, design-build fire alarm and nurse call/code blue systems, site feeder/signal services, Theatrical lighting systems, lighting control, exit signs, as required by the Contract Documents.
6. Contractor shall furnish and install all electrical services, conduit systems and connections for low voltage systems that may be furnished and installed by others. Reference the contract documents for requirements and scope responsibilities. Include connections of line voltage wiring to each equipment item and control device as required and include pull strings for an operational system.
7. Contractor shall provide all required equipment to off load, lift, rig, and install all electrical equipment as noted in the Contract Documents.
8. Contractor shall ensure that all electrical distribution including but not limited to, breakers, disconnects, switchboards, panel boards, and Motor Control Centers have a code (National, State and Local) compliant lockout tag-out capability. Contractors responsible for lockout/Tag out of panels during construction.
9. Contractor shall furnish and install all pull/splice boxes, transformer pad, frames, covers, grounding devices, and all other accessories required by the Contract Documents.
10. Contractor shall include all coring and saw cutting and patching required for Contractors Work. Contractor shall notify the Construction Manager and Owner prior to any saw cutting and/or coring.
11. Contractor shall furnish and install all electrical grounding systems as required for systems and services as shown and/or specified. Additionally, Contractor shall fully coordinate the primary grounding system with all other Contractors.
12. Contractor shall furnish and install all racks, panel supports, mounts, and all other types of supports required for all electrical/signal/communication/data/CCTV/Monitors and similar systems, which are shown and required by the Contract Documents. Rack systems shall include necessary seismic restraints and anchorage. Including installation and/or coordination of OFCI/OFVI/OFOI equipment.
13. Contractor shall furnish and install all plywood backboards in electrical and data rooms.
14. Contractor shall participate in trade coordination meetings, preparation of coordination and shop drawings, and the coordination of installations with products and materials provided by other crafts. These coordination drawings shall include areas where limited space availability necessitates maximum utilization of space for the efficient installation of different components and the identification of any areas of potential conflict.
15. Contractor shall furnish and install all electrical line voltage rough in, interconnects and final connections to new HVAC and Plumbing equipment items as per the Contract Documents. Contractor shall coordinate all line voltage work with HVAC and Plumbing Bid Packages. Contractor shall provide and install step down device as required by Project Documents.
16. Contractor shall furnish and install all electrical/data/control rough-in and final connections to equipment items/work which may be furnished by others, unless otherwise noted, such as but not limited to: projection screens/projectors, monitors/TVs, drinking fountains, flush valves, kitchen equipment, gas/solenoid valve(s), med-gas system components, fire suppression system, condensate pump(s), electrical items that are within casework and millwork elements, HVAC and Plumbing power requirements to new or relocated units as required by the Contract Documents, code requirements, and specific requirements by the equipment manufacturer. Reference the specific equipment specifications for requirements in other sections of the Contract Documents.

17. Contractor shall furnish and install all necessary conduit, wiring, and connections required for the fire sprinkler tamper switches, bells and supervisory systems. Coordinate this work with Fire Sprinkler System.
18. Contractor shall furnish and install power (line/low voltage as applicable), power supplies, signal control, transformers, circuiting, wiring, and all connections to electrified door hardware and related components that are listed in the finish hardware specification section and/or as otherwise required by the Contract Documents. Coordinate all rough-in locations with the hollow metal and finish hardware suppliers.
19. Contractor shall furnish and install all interior and exterior lighting and power, site pole lighting, custom lighting, signage, security cameras, conduits, and circuiting as noted in the Contract Documents. Light pole bases shall be furnished with anchorage bolts accompanied with a bolt template attached for each location. Contractor shall coordinate the locations and placement requirements for anchor bolts and templates with the Bid Package for Concrete, Rebar and Grading. Contractor shall coordinate grout under light pole base plates as required. Contractor to grout under each light pole.
20. Contractor shall furnish and install wood nailers for electrical supports and curbs.
21. Contractor shall furnish and install all electrically illuminated and/or self-illuminated exit signage and "low level" exit signage as required by the Contract Documents.
22. Contractor shall furnish and install a complete fire alarm system and fire alarm system with emergency voice/alarm communication per the Contract Documents. Contractor shall coordinate, interface, and incorporate all HVAC equipment shut down requirements into the fire alarm design with the HVAC Contractor. Contractor shall coordinate, interface all door device requirements into the fire alarm design. The fire alarm design shall comply with all National, State, and local codes and shall be the Contractors responsibility to submit for review, approval, and permit with all Authorities Having Jurisdiction. The fire alarm points of connection to equipment provided by other trades will be no more than 12” away from the point of connection.
23. Contractor shall furnish and install pitch pans/ roof jacks for all conduit penetrations on the roof. Contractor shall coordinate all roof penetrations with the appropriate prime trade for locations of penetrations to their equipment. Roof penetrations shall not interfere with the operation or servicing of equipment, i.e., conduit shall not be located in front of equipment access doors.
24. Contractor shall provide and install any necessary sleeves, block-outs or coring necessary to complete work.
25. Contractor shall include all fire-rated caulking and packing materials required to encase conduits/sleeves at points of penetration through fire-rated and smoke-rated construction. Include all hangers, supports, angles, sleeves, access doors required for a complete installation.
26. Contractor shall validate all electrical/communication/data/control system installations based on the Contract Documents.
27. Contractor shall properly coordinate the locations and spatial/dimensional requirements (including specific dimensions shown on the plans) of all Contractors’ work, items with all other trade work items so that conflicts are avoided. Contractor shall verify that all work items will fit within the designed wall cavities, ceiling spaces, and furred areas before any affected building elements are constructed, e.g., foundations, slab on grade and elevated decks.
28. Contractor shall furnish and install all necessary angles, clamps, hangers, channels, unistrut, supports, wires, cables, threaded rod, miscellaneous steel, isolation devices, seismic anchorage, slack wires, and backing for Contractor’s work. All work shall comply with applicable Codes and Contract Document requirements.
29. Contractor has reviewed all of the Contract Documents and acknowledges that each specific prime contractor is responsible to furnish and install each of the specified/shown components, conduit systems, equipment items, and low/line voltage wiring are clearly

defined between the Divisions 21, 22, 23, 26, 27 and 28 so that all items required by the Contract Documents are furnished and installed.

30. Contractor to wire all fire sprinkler valve supervisory devices and water flow switches.
31. Contractor shall fully coordinate with the HVAC, fire sprinkler Contractors with regards to the smoke/fire dampers and duct/mechanical equipment smoke detection systems, including locations of detection devices and installation of LED indicators denoting locations of dampers (as applicable).
32. Contractor shall protect the roofing membrane and/or waterproof deck coating systems with temporary plywood protection during the installation of the electrical work in such areas, as required.
33. Contractor shall furnish and install sleepers sitting on walk pad material (or other types of proper support) if applicable, under conduits and similar items that run horizontally on the roof membrane. This type of support shall be installed in the absence of a specific detail.
34. Contractor shall ensure that the locations, configuration, sizes, and height of roof penetrations shall be fully compatible with the type of roof system and manufacturer's warranty. Bid Package 01, Interior and Roofing Work shall approve all such items prior to installation. The design, proper sequence, and installation of jacks/flashings shall be coordinated with the installation of the roofing system. The height of all penetrations shall be a minimum of 8" above the highest point of the finished roof surface.
35. Contractor shall install pull ropes in all spare or empty conduits and conduit systems that are installed under this scope of work to be used by other bid packages.
36. Contractor shall include the furnishing and installation of all electrical and similar related work items as may be referenced throughout the Contract Documents by typical notations, such as, "by Electrical Contractor", "by Contractor", "by General Contractor", "E", "Fire Alarm Contractor" and similar that may be noted on the Contract Documents.
37. Contractor shall ensure that all fixtures, equipment and work, including installation, shall fully comply with current Codes (even if contrary to the Contract Documents and submittal approvals by the Engineer). Contractor shall request specific written direction from Construction Manager before proceeding with any work that is non-compliant.
38. Contractor shall furnish and coordinate all electrical fixture/equipment templates for cutouts in cabinetry and all other building components, as applicable.
39. All light fixture lenses shall be protected by plastic wrapping during the construction period, and plastic wrapping shall be removed at the completion of the project or as directed by Contractor. Contractor shall also perform the final cleaning of all equipment, light fixtures, and fixture lenses at a time directed by Construction Manager.
40. Contractor shall perform all specified labeling, stenciling, tagging, and identification of all equipment, panels, conduit systems, devices, receptacles, and fixtures, which are included in this scope of work, prior to fire alarm testing and/or final inspection.
41. Contractor shall provide and install all power supplies, raceways, supports, back boxes, wiring and devices for audio/visual, communications, voice/data systems, network systems, video surveillance, access control and intrusion detection systems.
42. Contractor to provide all nodes and/or devices shown and or necessary but not shown for a complete access control system. Contractor to coordinate with door contractor for access control related requirements.
43. Contractor shall furnish and install all access doors that are required for electrical equipment, components, and systems. The proper type and finish of architectural access doors shall be in accordance with the provisions of the Contract Documents and Building Code. Contractor shall coordinate all opening sizes with the respective bid packages, e.g., framing and acoustic ceiling. Installation of access doors shall be by this Contractor.
44. Contractor shall furnish and install grounding of static dissipative flooring.
45. Provide and install power connections to irrigation controllers. Include conduit and wire. Provide raceway for low voltage connection.
46. Provide Electrical Coordination study as required.
47. Contractor to install all Owner Furnished Equipment that ties into contractor's work.

48. Contractor shall design, furnish and install all anchorage for equipment over 400 lbs. if not already shown in Project Documents.

## PROJECT BUILDING INFORMATION MODELING (BIM) GUIDELINES

### 1. INTRODUCTION

1.1 A Building Information Model (BIM) will be developed by the Construction Manager and the Prime Contractors (Structural, Mechanical, Electrical, Plumbing and Fire Protection). The BIM will integrate architectural, structural, mechanical, electrical, plumbing and fire protection systems and components into a virtual model to improve trade coordination, streamline the construction process, and accurately reflect final as-built conditions.

### 2. MODELING REQUIREMENTS

2.1 Each Prime Contractor shall produce a trade-specific 3-D model which contains solid 3-D geometry (not lines or wire frames) that represents the actual dimensions of the building elements that will be installed on the project.

2.2 The following trades are required to produce a 3-D model:

- Structural Steel
- Plumbing
- Fire Sprinkler
- Electrical
- HVAC

2.3 Roofing and Acoustical Ceiling Tile will have to provide information and coordinate with the trades listed above.

2.4 Building systems will be organized as separate models linked to a common elevation, origin and benchmark for efficient and accurate coordination purposes. Each floor shall be created as a separate level in the authoring software, and all trades shall reference a shared and documented insertion point and methodology for developing these files.

2.5 BIM Level of development (LOD) requirement.

LOD 400 per the AIA BIM Protocol (E202) will be required. Model detail shall include, but not limited to, all system fittings, equipment, valves, flanges, insulation, hangers, braces, maintenance access areas, and code-enforced clearance requirements. Structural elements such as foundations, pits, slabs, decks, beams, columns, connector plates, gusset plates and braces shall be modeled. Prime Contractors are encouraged to also include any and all objects that would facilitate the coordination with other applicable trades. A trade-specific LOD chart will be distributed by the Construction Manager at the beginning of the coordination process.

2.6 Layer names of model objects shall be logical, accurate and consistent throughout the BIM.

2.7 Two-dimensional shop drawings, submittal drawings, and as-built drawings shall be extracted from the Project BIM, formatted and submitted to the Design Team in compliance with the Contract Documents by each respective prime contractor.

### 3. TECHNOLOGY PLATFORM AND SOFTWARE

3.1 It is the responsibility of the Prime Contractor to have or obtain the proper hardware and software needed to successfully complete the BIM 3-D coordination process.

3.2 The choice of 3-D modeling software is open, but any software utilized must be able to export to a .DWG file format. Parametric modeling programs with direct .NWC/.NWD export options are preferred.

3.3 Prime Contractors are encouraged to have Navisworks Manage to conduct in-house clash detection and coordination prior to coordination meetings.

4. QUALIFICATIONS OF BIM PERSONNEL

4.1 It is the responsibility of the Prime Contractor to have or obtain trained personnel to successfully participate in the BIM 3-D modeling and coordination process. Personnel participating in the modeling and coordination efforts must be proficient in the use of all hardware and software required and must have field application/installation knowledge and experience necessary to make coordination decisions for their scope of work.

4.2 The Prime Contractor assigned personnel will be required to have access to an email account and the internet for file sharing and participation in web-based coordination meetings.

5. PARTICIPATION REQUIREMENTS

5.1 Each Prime Contractor is required to actively participate in on-site and web-based BIM coordination meetings. Coordination meetings must be attended by each Prime Contractor's Qualified BIM Personnel throughout the duration of the project, the majority of which will be web-based. Field personnel are also encouraged to attend these coordination meetings for constructability input.

5.2 The purpose of the BIM coordination meetings will be to identify, track and document interferences and clashes between the trades that require Construction Manager's facilitation and/or changes in contract document design. Prime Contractors shall conduct proactive model review and clash detection and coordination with other trades between meetings and arrive to meetings prepared with a list of unresolvable items to discuss.

5.3 Coordination software will be utilized to assemble the various models and provide a report of coordination and/or design issues, usually within 24 hours of the meeting. The report will be reviewed by the team members and agreed upon solutions shall be implemented into the 3-D models in a timely fashion by the respective trade. Implementation includes re-modeling, re-analyzing, and re-distributing the updated BIM. This process will be repeated until all coordination issues are resolved.

5.4 A detailed coordination schedule will be developed and distributed by the Construction Manager at the beginning of the BIM coordination process.

6. BIM WORK PLAN

6.1 At the commencement of the BIM coordination process, a BIM Work Plan will be issued by the Construction Manager which will include:

a. Project sequence and schedule for initial delivery of each model

b. Schedule for updating of each model and preservation of versions of each model

c. File formats used for project submittal and file exchange

d. Compliance with Folder Structure, File Naming, Object naming conventions

e. Utilization of Web Site and FTP Sites

f. Trade-specific LOD requirements

g. Model origin (common 0,0,0 location)

h. Coordination report format

i. Model sign-off procedure

j. Field validation

k. As-built model creation

l. Final BIM deliverable

## 1.03 RELATED WORK BY OTHERS UNDER SEPARATE BID PACKAGES

A. The following specific work items listed below will be provided by others:

1. None.

## 1.04 CONTRACTOR'S USE OF PREMISES

A. Contractor shall have use of the premises for the execution of the work as indicated in the Contract Documents.
B. Parking shall be at the discretion of the Owner and Construction Manager and as available. A loading/unloading area will be designated to facilitate delivery of equipment and tools. Prior scheduling of large deliveries with the Construction Manager is required.
C. Assume full responsibility for the protection and safekeeping of products under this Contract.
D. Move any stored products, materials, or equipment under Contractor's control that interferes with the operations of the school site or other bid packages.
E. All signs and services required by AQMD for grading and/or site demolition operations.
F. Coordinate the use of premises under the direction of the Construction Manager.

## 1.05 CONTRACTOR'S DUTIES

A. Attend job conference meetings or such special meetings as requested by the Construction Manager.
B. Promptly submit written notice to the Construction Manager of any observed variance in Contract Documents from legal requirements. Appropriate modifications to Contract Documents will be issued by the Architect to make any necessary changes.
C. Enforce strict discipline and good order among employees. Do not employ unfit persons and persons not skilled in assigned tasks to perform any work.
D. Make thorough examination of the site and access to the site to determine all existing conditions affecting the work.
E. Maintain a clean and orderly work environment on a daily basis and promptly remove all excess materials at the completion of each activity. Promptly remove all trash and debris resulting from the work performed under this Bid Package.
F. Contractor must provide and submit Material Safety Data Sheets (MSDS) to the Construction Manager for all materials prior to arrival to the Project site. Contractor is responsible for separately maintaining an on-site copy of MSDS, instructions regarding MSDS and maintaining all stored materials on site in strict accordance with MSDS and other governing codes and regulations.
G. Contractor shall provide task lighting as required to facilitate the work of this Bid Package in a timely manner and in accordance with the Master Construction Schedule. Provide sufficient task lighting to facilitate work of good quality. Temporary lighting for building access purposes will be provided by others in accordance with the latest CALOSHA Safety Orders.
H. Contractor shall designate a foreman or supervisor for this Project and shall equip said person with a cell phone. Each cell phone shall be used from 6:30am to 7:00pm Monday through Friday and Saturday, if needed and during all other hours work is being executed for direction, coordination and communication as needed for the duration of the Project.
I. As-built drawings shall be maintained daily and recorded weekly at the Construction Manager's job site office and be approved by the Project Architect or Construction Manager.
J. Coordinate the work of this Bid Package with that of all Contractors. Resolve conflicts with other Contractors prior to commencing installations. Re-routing to avoid conflicts and interference in the field will be performed at no additional cost to the Owner.

K. This Contractor shall provide satisfactory proof to the Construction Manager that a Contract has been issued to any Subcontractor listed by the Contractor or vendor in his bid within 30 days of Notice to Proceed. Delivery dates shall be included for materials and equipment within the contract.

## 1.06 ALTERNATES

A. Items noted as alternates shall govern only if specifically included within the Agreement.

## 1.07 ALLOWANCES

| | | |
|---|---|---|
| A. ALLOWANCE BC-16 | Electrical | $30,000 |
| B. ALLOWANCE BC-17 | Low Voltage | $7,500 |

**END OF SECTION**

# RIVERSIDE UNIVERSITY HEALTH SYSTEM

(PROJECT NO. MC08430011869, HCAi NO. S231455-33-00)

## CATHETERIZATION LABORATORY SUITE

# COUNTY OF RIVERSIDE, STATE OF CALIFORNIA

## Appendix C Logistics

Notes
First and Last Parking Spaces to be blocked off near lay down area.
Contractors to park in designated area.
If no spaces is available, contractors to park in available spaces around parking lots.



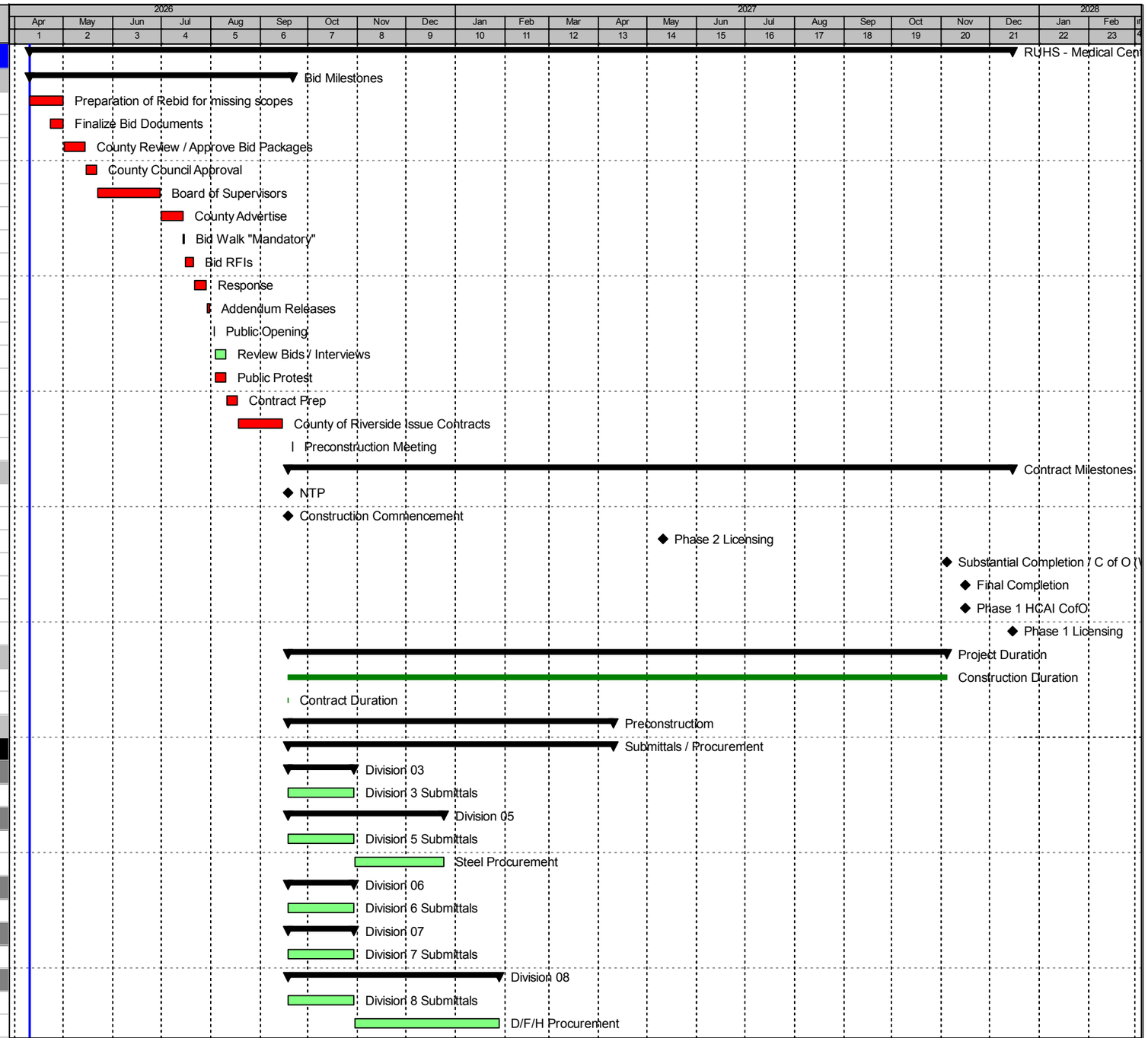
# RIVERSIDE UNIVERSITY HEALTH SYSTEM

(PROJECT NO. MC08430011869, HCAi NO. S231455-33-00)

## CATHETERIZATION LABORATORY SUITE

# COUNTY OF RIVERSIDE, STATE OF CALIFORNIA
# APPENDIX C Schedule

| Activity ID | Activity Name | Original Duration | Start | Finish |
|---|---|---|---|---|
| **RUHS - Medical Center Cardiac Catheterization Labo** | | 439 | 04/10/26 | 12/15/27 |
| **Bid Milestones** | | 117 | 04/10/26 | 09/21/26 |
| BID-R-0250 | Preparation of Rebid for missing scopes | 15 | 04/10/26 | 04/30/26 |
| BID-R-0260 | Finalize Bid Documents | 6 | 04/23/26 | 04/30/26 |
| BID-R-0270 | County Review / Approve Bid Packages | 10 | 05/01/26 | 05/14/26 |
| BID-R-0280 | County Council Approval | 5 | 05/15/26 | 05/21/26 |
| BID-R-0290 | Board of Supervisors | 27 | 05/22/26 | 06/30/26 |
| BID-R-0300 | County Advertise | 10 | 07/01/26 | 07/14/26 |
| BID-R-0310 | Bid Walk "Mandatory" | 1 | 07/15/26 | 07/15/26 |
| BID-R-0320 | Bid RFIs | 4 | 07/16/26 | 07/21/26 |
| BID-R-0330 | Response | 6 | 07/22/26 | 07/29/26 |
| BID-R-0340 | Addendum Releases | 2 | 07/30/26 | 07/31/26 |
| BID-R-0350 | Public Opening | 1 | 08/03/26 | 08/03/26 |
| BID-R-0360 | Review Bids / Interviews | 5 | 08/04/26 | 08/10/26 |
| BID-R-0370 | Public Protest | 5 | 08/04/26 | 08/10/26 |
| BID-0-0300 | Contract Prep | 5 | 08/11/26 | 08/17/26 |
| BID-0-0200 | County of Riverside Issue Contracts | 19 | 08/18/26 | 09/14/26 |
| BID-0-0210 | Preconstruction Meeting | 1 | 09/21/26 | 09/21/26 |
| **Contract Milestones** | | 313 | 09/18/26 | 12/15/27 |
| CM-CS-0001 | NTP | 0 | 09/18/26 | |
| CM-CS-0002 | Construction Commencement | 0 | 09/18/26 | |
| CM-CS-0026 | Phase 2 Licensing | 0 | | 05/10/27 |
| CM-CS-0005 | Substantial Completion / C of O (Work Days) | 0 | | 11/04/27 |
| CM-CS-0006 | Final Completion | 0 | | 11/15/27 |
| CM-CS-0036 | Phase 1 HCAI CofO | 0 | | 11/15/27 |
| CM-CS-0016 | Phase 1 Licensing | 0 | | 12/15/27 |
| **Project Duration** | | 413 | 09/18/26 | 11/04/27 |
| MS-0150 | Construction Duration | 413 | 09/18/26 | 11/04/27 |
| MS-0160 | Contract Duration | 0 | 09/18/26 | 09/18/26 |
| **Preconstructiom** | | 146 | 09/18/26 | 04/09/27 |
| **Submittals / Procurement** | | 146 | 09/18/26 | 04/09/27 |
| **Division 03** | | 30 | 09/18/26 | 10/29/26 |
| SUB-63 | Division 3 Submittals | 30 | 09/18/26 | 10/29/26 |
| **Division 05** | | 70 | 09/18/26 | 12/24/26 |
| SUB-57 | Division 5 Submittals | 30 | 09/18/26 | 10/29/26 |
| SUB-67 | Steel Procurement | 40 | 10/30/26 | 12/24/26 |
| **Division 06** | | 30 | 09/18/26 | 10/29/26 |
| SUB-45 | Division 6 Submittals | 30 | 09/18/26 | 10/29/26 |
| **Division 07** | | 30 | 09/18/26 | 10/29/26 |
| SUB-100 | Division 7 Submittals | 30 | 09/18/26 | 10/29/26 |
| **Division 08** | | 90 | 09/18/26 | 01/28/27 |
| SUB-54 | Division 8 Submittals | 30 | 09/18/26 | 10/29/26 |
| SUB-56 | D/F/H Procurement | 60 | 10/30/26 | 01/28/27 |





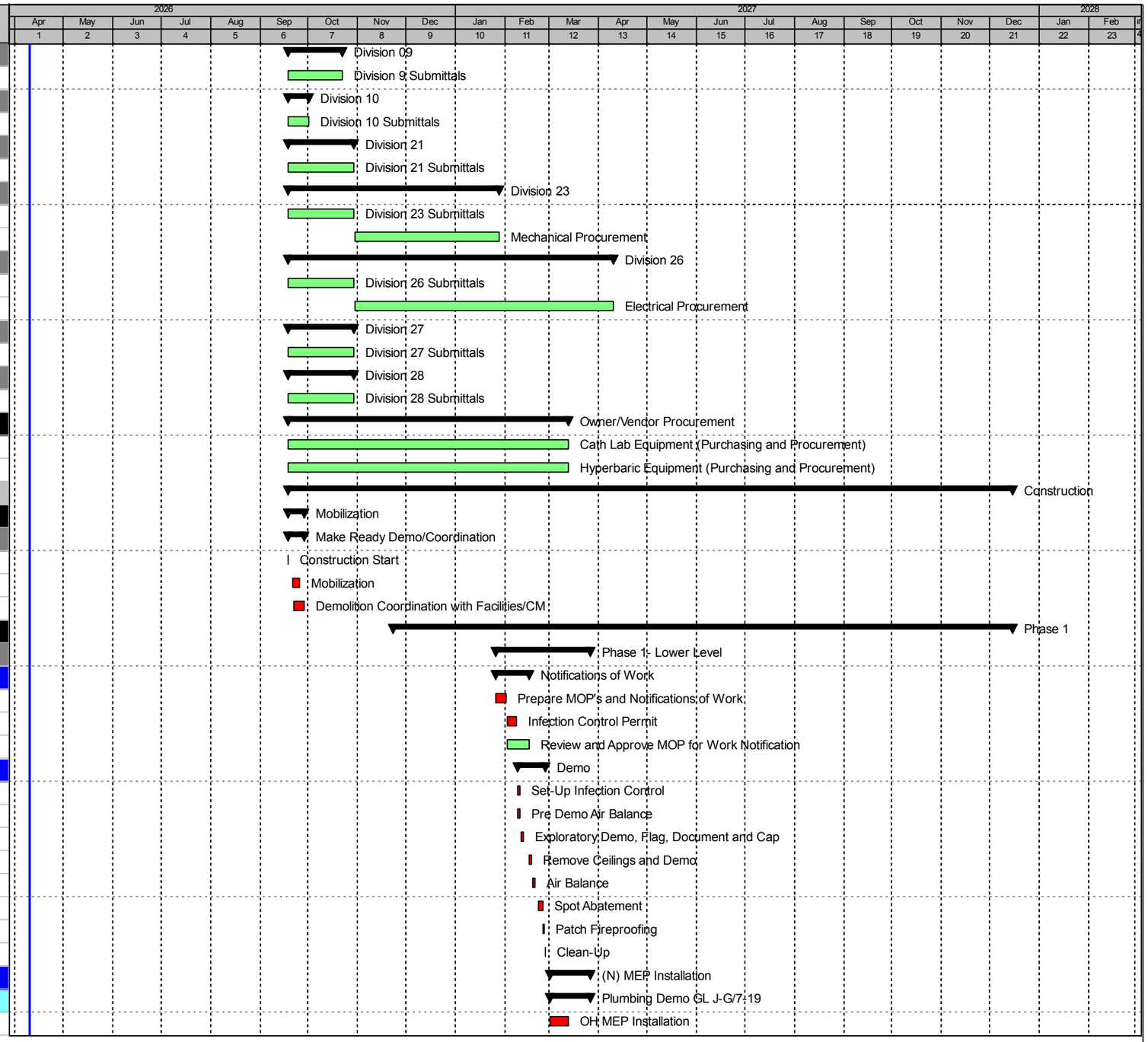

Actual Work
Remaining Work
Critical Remaining Work
Actual Level of Effort
Remaining Level of Effort

**RUHS - Medical Center Cardiac Catheterization Laboratory Suite**

Riverside University HEALTH SYSTEM

BERNARDS

| Activity ID | Activity Name | Original Duration | Start | Finish |
|---|---|---|---|---|
| **Division 09** | | 25 | 09/18/26 | 10/22/26 |
| SUB-70 | Division 9 Submittals | 25 | 09/18/26 | 10/22/26 |
| **Division 10** | | 10 | 09/18/26 | 10/01/26 |
| SUB-92 | Division 10 Submittals | 10 | 09/18/26 | 10/01/26 |
| **Division 21** | | 30 | 09/18/26 | 10/29/26 |
| SUB-50 | Division 21 Submittals | 30 | 09/18/26 | 10/29/26 |
| **Division 23** | | 90 | 09/18/26 | 01/28/27 |
| SUB-104 | Division 23 Submittals | 30 | 09/18/26 | 10/29/26 |
| SUB-105 | Mechanical Procurement | 60 | 10/30/26 | 01/28/27 |
| **Division 26** | | 140 | 09/18/26 | 04/09/27 |
| SUB-108 | Division 26 Submittals | 30 | 09/18/26 | 10/29/26 |
| SUB-109 | Electrical Procurement | 110 | 10/30/26 | 04/09/27 |
| **Division 27** | | 30 | 09/18/26 | 10/29/26 |
| SUB-112 | Division 27 Submittals | 30 | 09/18/26 | 10/29/26 |
| **Division 28** | | 30 | 09/18/26 | 10/29/26 |
| SUB-152 | Division 28 Submittals | 30 | 09/18/26 | 10/29/26 |
| **Owner/Vendor Procurement** | | 120 | 09/18/26 | 03/12/27 |
| A1110 | Cath Lab Equipment (Purchasing and Procurement) | 120 | 09/18/26 | 03/12/27 |
| A1120 | Hyperbaric Equipment (Purchasing and Procurement) | 120 | 09/18/26 | 03/12/27 |
| **Construction** | | 324 | 09/18/26 | 12/15/27 |
| **Mobilization** | | 7 | 09/18/26 | 09/28/26 |
| **Make Ready Demo/Coordination** | | 7 | 09/18/26 | 09/28/26 |
| C-MR4 | Construction Start | 1 | 09/18/26 | 09/18/26 |
| C-MR3 | Mobilization | 5 | 09/21/26 | 09/25/26 |
| C-MR1 | Demolition Coordination with Facilities/CM | 5 | 09/22/26 | 09/28/26 |
| **Phase 1** | | 278 | 11/23/26 | 12/15/27 |
| **Phase 1- Lower Level** | | 44 | 01/26/27 | 03/26/27 |
| **Notifications of Work** | | 15 | 01/26/27 | 02/16/27 |
| C-PH1-LL-NO | Prepare MOP's and Notifications of Work | 5 | 01/26/27 | 02/01/27 |
| C-PH1-LL-NO | Infection Control Permit | 5 | 02/02/27 | 02/08/27 |
| C-PH1-LL-NO | Review and Approve MOP for Work Notification | 10 | 02/02/27 | 02/16/27 |
| **Demo** | | 14 | 02/09/27 | 02/26/27 |
| C-PH1-LL-DEM | Set-Up Infection Control | 2 | 02/09/27 | 02/10/27 |
| C-PH1-LL-DEM | Pre Demo Air Balance | 2 | 02/09/27 | 02/10/27 |
| C-PH1-LL-DEM | Exploratory Demo, Flag, Document and Cap | 2 | 02/11/27 | 02/12/27 |
| C-PH1-LL-DEM | Remove Ceilings and Demo | 2 | 02/16/27 | 02/17/27 |
| C-PH1-LL-DEM | Air Balance | 2 | 02/18/27 | 02/19/27 |
| C-PH1-LL-DEM | Spot Abatement | 3 | 02/22/27 | 02/24/27 |
| C-PH1-LL-DEM | Patch Fireproofing | 1 | 02/25/27 | 02/25/27 |
| C-PH1-LL-DEM | Clean-Up | 1 | 02/26/27 | 02/26/27 |
| **(N) MEP Installation** | | 20 | 03/01/27 | 03/26/27 |
| **Plumbing Demo GL J-G/7-19** | | 20 | 03/01/27 | 03/26/27 |
| C-PH1-LL-OH2 | OH MEP Installation | 10 | 03/01/27 | 03/12/27 |





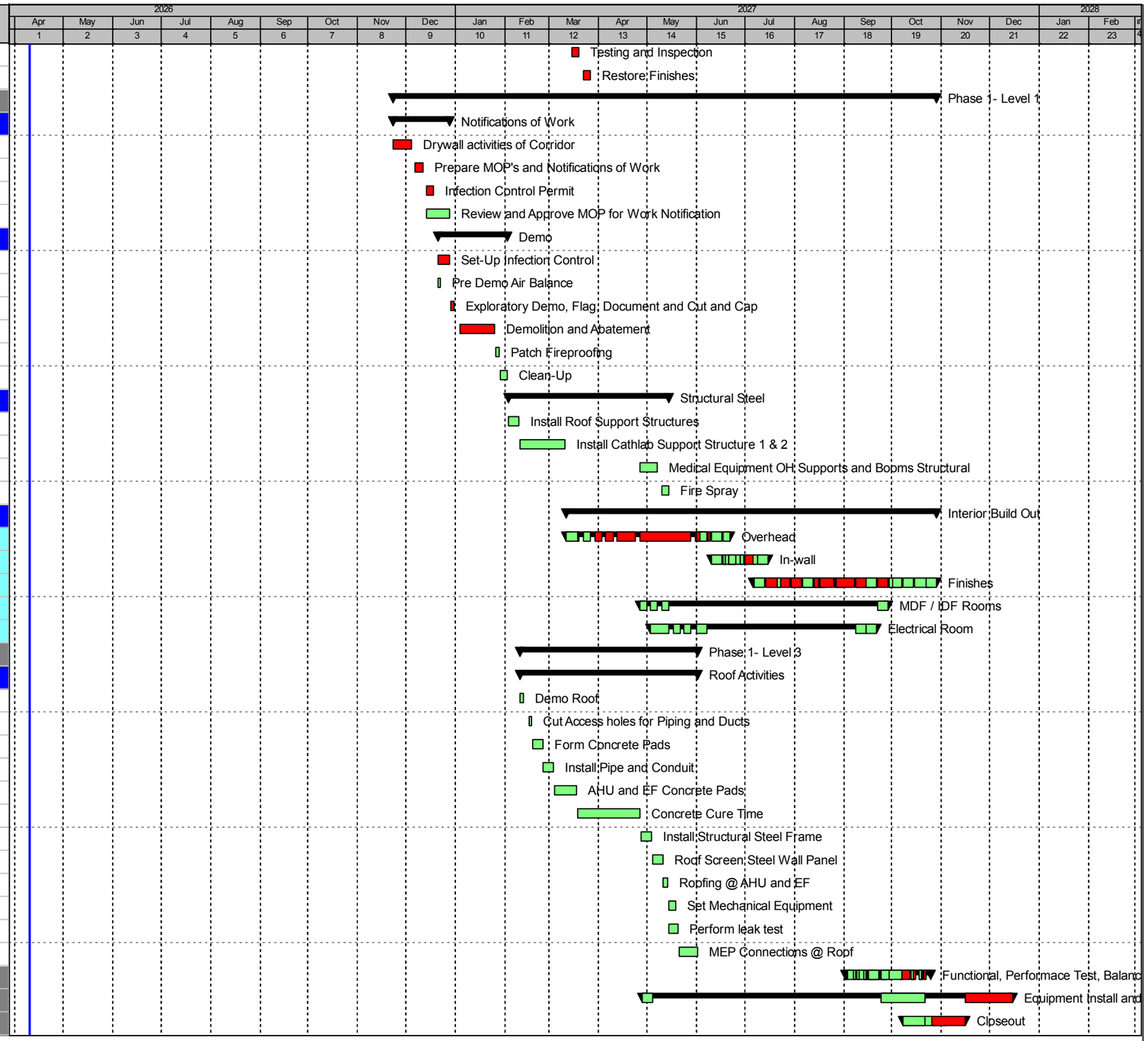

Actual Work
Remaining Work
Critical Remaining Work
Actual Level of Effort
Remaining Level of Effort

**RUHS - Medical Center Cardiac Catheterization Laboratory Suite**

Riverside University HEALTH SYSTEM

BERNARDS

| Activity ID | Activity Name | Original Duration | Start | Finish |
|---|---|---|---|---|
| C-PH1-LL-OH3 | Testing and Inspection | 5 | 03/15/27 | 03/19/27 |
| C-PH1-LL-OH4 | Restore Finishes | 5 | 03/22/27 | 03/26/27 |
| **Phase 1- Level 1** | | 244 | 11/23/26 | 10/28/27 |
| **Notifications of Work** | | 26 | 11/23/26 | 12/28/26 |
| C-PH1-L1-NO | Drywall activities of Corridor | 10 | 11/23/26 | 12/04/26 |
| C-PH1-L1-NO | Prepare MOP's and Notifications of Work | 5 | 12/07/26 | 12/11/26 |
| C-PH1-L1-NO | Infection Control Permit | 5 | 12/14/26 | 12/18/26 |
| C-PH1-L1-NO | Review and Approve MOP for Work Notification | 10 | 12/14/26 | 12/28/26 |
| **Demo** | | 32 | 12/21/26 | 02/02/27 |
| C-PH1-L1-DE | Set-Up Infection Control | 5 | 12/21/26 | 12/28/26 |
| C-PH1-L1-DE | Pre Demo Air Balance | 2 | 12/21/26 | 12/22/26 |
| C-PH1-L1-DE | Exploratory Demo, Flag, Document and Cut and Cap | 3 | 12/29/26 | 12/31/26 |
| C-PH1-L1-DE | Demolition and Abatement | 15 | 01/04/27 | 01/25/27 |
| C-PH1-L1-DE | Patch Fireproofing | 3 | 01/26/27 | 01/28/27 |
| C-PH1-L1-DE | Clean-Up | 3 | 01/29/27 | 02/02/27 |
| **Structural Steel** | | 72 | 02/03/27 | 05/14/27 |
| C-PH1-L0-SS | Install Roof Support Structures | 5 | 02/03/27 | 02/09/27 |
| C-PH1-L0-SS | Install Cathlab Support Structure 1 & 2 | 20 | 02/10/27 | 03/10/27 |
| C-PH1-L1-CA | Medical Equipment OH Supports and Booms Structural | 10 | 04/26/27 | 05/07/27 |
| C-PH1-L0-SS1 | Fire Spray | 5 | 05/10/27 | 05/14/27 |
| **Interior Build Out** | | 166 | 03/11/27 | 10/28/27 |
| **Overhead** | | 73 | 03/11/27 | 06/21/27 |
| **In-wall** | | 26 | 06/10/27 | 07/15/27 |
| **Finishes** | | 83 | 07/06/27 | 10/28/27 |
| **MDF / IDF Rooms** | | 109 | 04/26/27 | 09/28/27 |
| **Electrical Room** | | 99 | 05/03/27 | 09/21/27 |
| **Phase 1- Level 3** | | 80 | 02/10/27 | 06/01/27 |
| **Roof Activities** | | 80 | 02/10/27 | 06/01/27 |
| C-PH1-L3-RO | Demo Roof | 3 | 02/10/27 | 02/12/27 |
| C-PH1-L3-RO | Cut Access holes for Piping and Ducts | 2 | 02/16/27 | 02/17/27 |
| C-PH1-L3-RO | Form Concrete Pads | 5 | 02/18/27 | 02/24/27 |
| C-PH1-L3-RO | Install Pipe and Conduit | 5 | 02/25/27 | 03/03/27 |
| C-PH1-L3-RO | AHU and EF Concrete Pads | 10 | 03/04/27 | 03/17/27 |
| C-PH1-L3-RO | Concrete Cure Time | 28 | 03/18/27 | 04/26/27 |
| C-PH1-L3-RO | Install Structural Steel Frame | 5 | 04/27/27 | 05/03/27 |
| C-PH1-L3-RO | Roof Screen Steel Wall Panel | 5 | 05/04/27 | 05/10/27 |
| C-PH1-L3-RO | Roofing @ AHU and EF | 3 | 05/11/27 | 05/13/27 |
| C-PH1-L3-RO | Set Mechanical Equipment | 3 | 05/14/27 | 05/18/27 |
| C-PH1-L3-RO | Perform leak test | 5 | 05/14/27 | 05/20/27 |
| C-PH1-L3-RO | MEP Connections @ Roof | 7 | 05/21/27 | 06/01/27 |
| **Functional, Performace Test, Balance, & Close-out** | | 37 | 09/02/27 | 10/25/27 |
| **Equipment Install and Licensing** | | 166 | 04/28/27 | 12/15/27 |
| **Closeout** | | 27 | 10/08/27 | 11/15/27 |





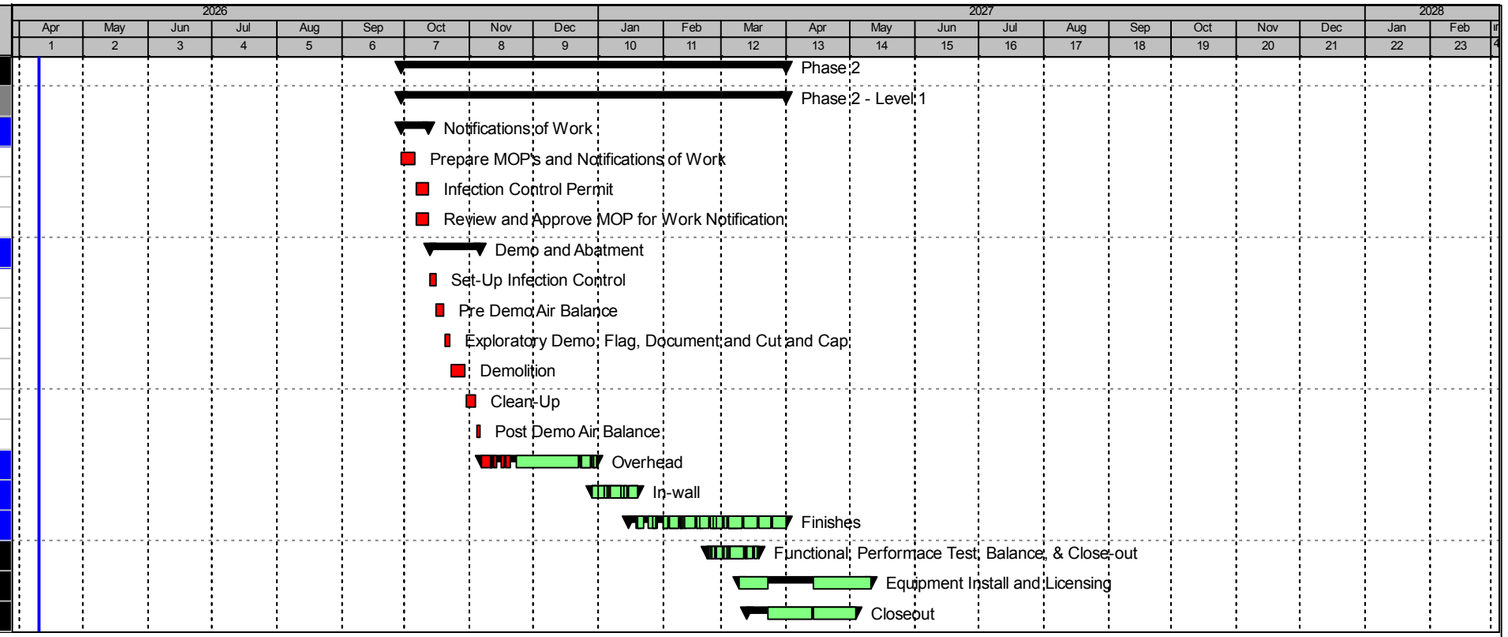

Actual Work
Remaining Work
Critical Remaining Work
Actual Level of Effort
Remaining Level of Effort

**RUHS - Medical Center Cardiac Catheterization Laboratory Suite**

Riverside University HEALTH SYSTEM

BERNARDS

| Activity ID | Activity Name | Original Duration | Start | Finish |
|---|---|---|---|---|
| **Phase 2** | | 132 | 09/29/26 | 03/31/27 |
| **Phase 2 - Level 1** | | 132 | 09/29/26 | 03/31/27 |
| **Notifications of Work** | | 10 | 09/29/26 | 10/12/26 |
| C-PH2-L1-NO | Prepare MOP's and Notifications of Work | 5 | 09/29/26 | 10/05/26 |
| C-PH2-L1-NO | Infection Control Permit | 5 | 10/06/26 | 10/12/26 |
| C-PH2-L1-NO | Review and Approve MOP for Work Notification | 5 | 10/06/26 | 10/12/26 |
| **Demo and Abatment** | | 18 | 10/13/26 | 11/05/26 |
| C-PH2-L1-DEM | Set-Up Infection Control | 3 | 10/13/26 | 10/15/26 |
| C-PH2-L1-DEM | Pre Demo Air Balance | 2 | 10/16/26 | 10/19/26 |
| C-PH2-L1-DEM | Exploratory Demo, Flag, Document and Cut and Cap | 3 | 10/20/26 | 10/22/26 |
| C-PH2-L1-DEM | Demolition | 5 | 10/23/26 | 10/29/26 |
| C-PH2-L1-DEM | Clean-Up | 3 | 10/30/26 | 11/03/26 |
| C-PH2-L1-DEM | Post Demo Air Balance | 2 | 11/04/26 | 11/05/26 |
| **Overhead** | | 37 | 11/06/26 | 12/31/26 |
| **In-wall** | | 16 | 12/29/26 | 01/19/27 |
| **Finishes** | | 52 | 01/15/27 | 03/31/27 |
| **Functional, Performace Test, Balance, & Close-out** | | 19 | 02/22/27 | 03/18/27 |
| **Equipment Install and Licensing** | | 45 | 03/09/27 | 05/10/27 |
| **Closeout** | | 36 | 03/12/27 | 05/03/27 |






Actual Work
Remaining Work
Critical Remaining Work
Actual Level of Effort
Remaining Level of Effort

**RUHS - Medical Center Cardiac Catheterization Laboratory Suite**

Riverside University HEALTH SYSTEM

BERNARDS

# RIVERSIDE UNIVERSITY HEALTH SYSTEM

(PROJECT NO. MC08430011869, HCAi NO. S231455-33-00)

## CATHETERIZATION LABORATORY SUITE

# COUNTY OF RIVERSIDE, STATE OF CALIFORNIA
# APPENDIX D
# TIO

HCAi Department of Health Care Access and Information
hcai.ca.gov

2020 West El Camino Avenue,
Suite 800
Sacramento, CA 95833

355 South Grand Avenue,
Suite 1900
Los Angeles, CA 90071

# Testing, Inspection, and Observation Program

2022 California Building Standards Code - OSHPD 1

***This program is prepared and submitted for an OSHPD 1 project. OSHPD 1 projects include all construction and remodel projects for: general acute care hospitals, acute psychiatric hospitals, and general acute care hospitals providing only acute medical rehabilitation center services (2022 CBC 1224.1).***

## SECTION A — PROJECT INFORMATION

| Facility #: | Facility Name: | | | Project #: |
|---|---|---|---|---|
| 15007 | Riverside University Health System - Medical Center | | | S231455-33-00 |
| **Street Address:** | 26520 Cactus Avenue | | | |
| **City:** | Moreno Valley | **County:** | Riverside | |
| **Record Name (Scope of Project):** | New Cardiac Catheterization Lab Suite & Hyperbaric Facility Expansion | | | |

Abbreviations:

CAC: California Administrative Code
CBC: California Building Code
CEC: California Electrical Code
CMC: California Mechanical Code
CPC: California Plumbing Code
AAMA: American Architectural Manufacturers Association
NFPA: National Fire Protection Association
FM: FM Approval Standards
DPOR: Design Professional of Record

**Version: R04.35**

## Testing, Inspection, and Observation Stages

| Stage No. | Stage Name | Stage Scope / Description |
|---|---|---|
| 1 | | |

## DESIGN PROFESSIONAL OF RECORD RESPONSIBILITY

***The administration of the work of construction, including this TIO, shall be under the responsible charge of an architect and structural engineer. When a structural engineer is not substantially involved, the architect shall be solely responsible. Where neither structural nor architectural elements are substantially involved, a mechanical or electrical engineer registered in the branch of engineering most applicable to the project may be in responsible charge. (CAC 7-141(a))***

***Note: HCAI plan review staff must provide verification that the TIO program has been "Reviewed" prior to plan approval to confirm the applicability of the tests and inspections identified in the TIO program for work scope, building systems, and the construction materials shown in the design drawings. Field staff will issue subsequent "TIO Program Approval".***

***The "TIO Program Approval" from HCAI field staff must be obtained and included with the notice of start of construction required by CAC Section 7-137(a)4) and 7-145(a)5.A)***

***Construction shall not commence until the health facility has obtained from HCAI "TIO Program Approval". (CAC Section 7-135(a)3)***

HCAI Department of Health Care Access and Information
hcai.ca.gov
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355 South Grand Avenue, Suite 1900
Los Angeles, CA 90071

# Testing, Inspection, and Observation Program

2022 California Building Standards Code - OSHPD 1

## SECTION B

NOTE: Approved agencies, individuals, and all changes to the TIO program shall be identified, evaluated by the DPOR and approved by HCAI prior to proceeding with the related work.

| Facility #: | Facility Name: | Project #: |
|---|---|---|
| 15007 | Riverside University Health System - Medical Center | S231455-33-00 |

**Stage 1:** — Select with "X" or provide required OPAA information:

| Index # | Stage 1 Required (Select with "X") | TESTS | Samples of Test & Inspection Reports Included | OPAA No. and Expiration Date | Responsible Approved Agency And/Or Individual (Identify Individual) | Compliance Verification by IOR (Initial/Date) | HCAI/FDD Use (Initial/Date) |
|---|---|---|---|---|---|---|---|
| **STRUCTURAL TESTS** | | | | | | | |
| **Concrete** | | | | | | | |
| B-C4 | X | **Concrete**<br>CBC 1705A.3 & 1905A.1.17; ACI 318 26.12<br>Strength test | | | | | |
| B-C5 | X | **Concrete**<br>CBC 1705A.3 & 1910A.2; ACI 318 20.2, 25.4.5.1 & 26.6.1.2<br>Metal reinforcement (including welded wire fabric and headed rebar) | | | | | |
| B-C13 | X | **Post-installed anchors**<br>CBC 1910A.5<br>Installation verification test (includes adhesive, shot pins and mechanical anchors) | | | | | |
| **Steel** | | | | | | | |
| B-S1 | X | **Steel**<br>CBC Table 1705A.2.1 & 2202A.1<br>Testing of unidentified steel or identification test for structural steel and cold formed steel | | | | | |
| B-S2 | X | **Steel**<br>CBC 2213A.1 & 1705A.2.6<br>High strength bolts, nuts, and washers | | | | | |
| **ELECTRICAL TESTS** | | | | | | | |
| B-E5 | X | **Grounding System in Patient Care Spaces**<br>2018 NFPA 99 6.3.3.1 | | | | | |
| B-E6 | X | **Hospital Grade Receptacles**<br>2018 NFPA 99 6.3.3.2.5 | | | | | |
| B-E11 | X | **Insulation Testing**<br>CEC 110.7 | | | | | |
| B-E12 | X | **Torque Electrical Connections**<br>CEC 110.3(B) & 110.14(D) | | | | | |
| B-E14 | X | **Nurse Call System**<br>CEC 517.123 | | | | | |
| B-E15 | X | **Means of Egress Illumination**<br>CBC 1008.2 and 1008.3<br>Illumination and emergency power | | | | | |
| **MECHANICAL TESTS** | | | | | | | |
| B-ME8 | X | **Hydronics**<br>CMC 1205.2, 1220.4.6 & 1221.3<br>Pressure test of steam and water piping | | | | | |
| B-ME10 | X | **Pre-Demolition Air Balance**<br>CMC 407.3.1<br>Pre-demolition air balance test and report | | | | | |
| B-ME11 | X | **Post-Demolition Air Balance**<br>CMC 407.3.1<br>Air balance test and report | | | | | |

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355 South Grand Avenue,
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Los Angeles, CA 90071

# Testing, Inspection, and Observation Program

2022 California Building Standards Code - OSHPD 1

## SECTION B

NOTE: Approved agencies, individuals, and all changes to the TIO program shall be identified, evaluated by the DPOR and approved by HCAI prior to proceeding with the related work.

| Facility #: | Facility Name: | Project #: |
|---|---|---|
| 15007 | Riverside University Health System - Medical Center | S231455-33-00 |

## Stage 1:

Select with "X" or provide required OPAA information:

| Index # | Stage 1 Required (Select with "X") | TESTS | Samples of Test & Inspection Reports Included | OPAA No. and Expiration Date | Responsible Approved Agency And/Or Individual (Identify Individual) | Compliance Verification by IOR (Initial/Date) | HCAI/FDD Use (Initial/Date) |
|---|---|---|---|---|---|---|---|
| B-ME12 | X | **Ventilation System Air Balance**<br>CMC 407.3.1 & Table 4-A<br>Areas tested and balanced | | | | | |
| B-ME13 | X | **Duct Leakage Test**<br>CMC 603.9.2<br>SMACNA HVAC air duct leakage test | | | | | |
| B-ME14 | X | **Airborne Infection Isolation Rooms and Protective Environment Rooms**<br>CMC 416.4<br>Alarm system test | | | | | |
| B-ME15 | X | **Airborne Infection Isolation Rooms and Protective Environment Rooms**<br>CMC 417.0<br>Mechanical system tested and balanced | | | | | |
| B-ME16 | X | **Ventilation System Air Balance**<br>**CMC 407.3.1 & Table 4-A**<br>**Areas tested and balanced (Corridor E1072 Only)** | | | | | |
| **PLUMBING TESTS** | | | | | | | |
| B-P1 | X | **Disinfection of Potable Water Systems**<br>CPC 609.10 | | | | | |
| B-P2 | X | **Medical Gas and Vacuum**<br>NFPA 99-2021 § 5.1.10.11.11<br>Qualification of brazing procedures and brazing | | | | | |
| B-P3 | X | **Medical Gas and Vacuum**<br>NFPA 99-2021 § 5.1.12.2.1 thru 5.1.12.2.7<br>Installer performed tests | | | *ASSE 6010 Cert Req'd<br>Input Responsible Individual | | |
| B-P4 | X | **Medical Gas and Vacuum**<br>NFPA 99-2021 § 5.1.12.2.6.7 & 5.1.12.2.7.6<br>Witness of 24-hour standing pressure test | | | *ASSE 6020 or 6030 Cert Req'd or Qualified IOR<br>Input Responsible Individual | | |
| B-P5 | X | **Medical Gas and Vacuum**<br>NFPA 99-2021 § 5.1.12.3.1.1 thru 5.1.12.3.1.5<br>System inspection prior to concealment/cover | | | *ASSE 6020 or 6030 Cert Req'd<br>Input Responsible Individual | | |
| B-P6 | X | **Medical Gas and Vacuum**<br>NFPA 99-2021 § 5.1.12.3.2.1<br>Inspection | | | *ASSE 6020 or 6030 Cert Req'd or Qualified IOR<br>Input Responsible Individual | | |
| B-P7 | X | **Medical Gas and Vacuum**<br>NFPA 99-2021 § 5.1.12.4<br>System verification | | | *ASSE 6030 Cert Req'd<br>Input Responsible Individual | | |
| B-P8 | X | **Existing Sewers and Drains**<br>CPC 102.4.1, 105.3, & 712.0<br>Tested for conformance with requirements for new work | | | | | |
| B-P9 | X | **Water Supply System**<br>CPC 105.3 & 609.4<br>Pressure tested prior to covering or concealment | | | | | |

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# Testing, Inspection, and Observation Program

2022 California Building Standards Code - OSHPD 1

## SECTION B

NOTE: Approved agencies, individuals, and all changes to the TIO program shall be identified, evaluated by the DPOR and approved by HCAI prior to proceeding with the related work.

| Facility #: | Facility Name: | Project #: |
|---|---|---|
| 15007 | Riverside University Health System - Medical Center | S231455-33-00 |

**Stage 1:**

**Select with "X" or provide required OPAA information:**

| Index # | Stage 1 Required (Select with "X") | TESTS | Samples of Test & Inspection Reports Included | OPAA No. and Expiration Date | Responsible Approved Agency And/Or Individual (Identify Individual) | Compliance Verification by IOR (Initial/Date) | HCAI/FDD Use (Initial/Date) |
|---|---|---|---|---|---|---|---|
| B-P10 | X | **Plumbing, Drainage, and Venting Systems**<br>CPC 105.3 & 712.0<br>Water or air tested prior to use, covering or concealment. No air test for plastic piping. | | | | | |
| **FIRE PROTECTION AND LIFE SAFETY SYSTEMS** | | | | | | | |
| B-FP1 | X | **Fire Alarm**<br>CFC 901.5 & CFC 907.7 NFPA 72-2022 §14.4<br>Acceptance and reacceptance testing | | | | | |
| B-FP2 | X | **Fire and Smoke Dampers**<br>CFC 901.5 & CFC 907.8<br>Acceptance testing | | | | | |
| B-FP3 | X | **Duct Detectors**<br>CFC 901.5, NFPA 72-2022 §14.4<br>Differential pressure test | | | | | |
| B-FP5 | X | **Fire Sprinkler**<br>CFC 901.5 & NFPA 13-2022 Chapter 29<br>Above ground piping acceptance testing | | | | | |
| **OTHER TESTS** | | | | | | | |
| B-OT1 | X | **Radiation Shielding Barriers**<br>CBC 1705A.1.1 and 3102C<br>Radiation shielding barrier test | | | | | |
| B-OT3 | X | **CMC 407.3.1** - Additional air balance and test reports during completion of work as shown on Mechanical plans to ensure pre-demolition values are maintained through the project. | | | | | |
| B-OT4 | X | **Inspection, Testing and Maintenance of the Hyperbaric Facility**<br>2021 NFPA 99, Section 14.3.4 and all associated sub-sections. | | | | | |

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# Testing, Inspection, and Observation Program

2022 California Building Standards Code - OSHPD 1

## SECTION C

NOTE: Approved agencies, individuals, and all changes to the TIO program shall be identified, evaluated by the DPOR and approved by HCAI prior to proceeding with the related work.

| Facility #: | Facility Name: | Project #: |
|---|---|---|
| 15007 | Riverside University Health System - Medical Center | S231455-33-00 |

**Stage 1:** Select with "X" or provide required OPAA information:

| Index # | Stage 1 Required (Select with "X") | ON-SITE SPECIAL INSPECTIONS | Samples of Test & Inspection Reports Included | OPAA No. and Expiration Date | Responsible Approved Agency And/Or Individual (Identify Special Inspector) | Compliance Verification by IOR (Initial/Date) | HCAI/FDD Use (Initial/Date) |
|---|---|---|---|---|---|---|---|
| **STRUCTURAL SPECIAL INSPECTIONS** | | | | | | | |
| **Concrete** | | | | | | | |
| C-C1 | X | **Concrete**<br>CBC 1705A.3; ACI-318 26.5.2 & 26.13<br>Placement of concrete | | | | | |
| C-C2 | X | **Concrete**<br>CBC 1705A.3; ACI-318 26.4.1.5<br>Admixtures | | | | | |
| C-C3 | X | **Concrete**<br>CBC 1705A.3; ACI-318 26.4<br>Mix design | | | | | |
| C-C4 | X | **Concrete**<br>CBC 1705A.3; ACI-318 26.13<br>Reinforcing steel & prestressing steel | | | | | |
| C-C5 | X | **Concrete**<br>CBC 1705A.3<br>CIP & post-installed anchors | | | | | |
| C-C6 | X | **Concrete**<br>CBC Table 1705A.3<br>Adhesive anchors in horizontal and upwardly inclined positions with sustained tension load | | | | | |
| **Steel** | | | | | | | |
| C-S2 | X | **Steel**<br>CBC 1705A.2.5<br>Field welding | | | | | |
| C-S3 | X | **Steel**<br>AWS D1.1 3 & 4 & AWS D1.8 6.1<br>Field welding - WPS / WPQR | | | | | |
| C-S4 | X | **Steel**<br>CBC 1705A.2 & 1705A.2.6<br>High strength bolt installation | | | | | |
| C-S5 | X | **Steel**<br>CBC 1705A.2, 1705A.12.2, & 1705A.13.3<br>Cold-formed steel light frame construction | | | | | |
| **Nonstructural components, supports and attachments** | | | | | | | |
| C-N1 | X | **Architectural components**<br>CBC 1705A.13.5 & 1705A.17<br>Cladding, nonbearing walls, and veneer | | | | | |
| C-N2 | X | **Ceiling**<br>CBC 1705A.13.5<br>Suspended ceiling systems and their anchorage | | | | | |
| C-N5 | X | **Plumbing, mechanical and electrical components**<br>CBC 1705A.13.6<br>Anchorage, bracing, and vibration isolators | | | | | |
| C-N6 | X | **Special Seismic Certification**<br>CBC 1705A.13.4<br>Special seismic certification label, anchorage, and mounting | | | | | |

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# Testing, Inspection, and Observation Program

2022 California Building Standards Code - OSHPD 1

## SECTION C

NOTE: Approved agencies, individuals, and all changes to the TIO program shall be identified, evaluated by the DPOR and approved by HCAI prior to proceeding with the related work.

| Facility #: | Facility Name: | Project #: |
|---|---|---|
| 15007 | Riverside University Health System - Medical Center | S231455-33-00 |

**Stage 1:** Select with "X" or provide required OPAA information:

| Index # | Stage 1 Required (Select with "X") | ON-SITE SPECIAL INSPECTIONS | Samples of Test & Inspection Reports Included | OPAA No. and Expiration Date | Responsible Approved Agency And/Or Individual (Identify Special Inspector) | Compliance Verification by IOR (Initial/Date) | HCAI/FDD Use (Initial/Date) |
|---|---|---|---|---|---|---|---|
| **FIRE PROTECTION AND LIFE SAFETY SYSTEM SPECIAL INSPECTIONS** | | | | | | | |
| C-FP3 | X | **Penetration Firestops**<br>CBC 1705A.18.1<br>Penetration firestop systems that are tested and listed | | | | | |
| C-FP4 | X | **Fire-Resistant Joint Systems**<br>CBC 1705A.18.2<br>Fire-resistant joint systems that are tested and listed | | | | | |
| **OTHER SPECIAL INSPECTIONS** | | | | | | | |
| C-OT3 | X | **Exit Signs**<br>CBC 1013.1<br>Location, illumination and physical characteristics | | | | | |
| C-OT4 | X | **Accessible Signage**<br>CBC 11B-703.1<br>Visual and tactile requirements | | | | | |

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# Testing, Inspection, and Observation Program

2022 California Building Standards Code - OSHPD 1

## SECTION D

NOTE: Approved agencies, individuals, and all changes to the TIO program shall be identified, evaluated by the DPOR and approved by HCAI prior to proceeding with the related work.

| Facility #: | Facility Name: | Project #: |
|---|---|---|
| 15007 | Riverside University Health System - Medical Center | S231455-33-00 |

**Stage 1:** — Select with "X" or provide required OPAA information:

| Index # | Stage 1 Required (Select with "X") | OFF-SITE SPECIAL INSPECTIONS | Samples of Test & Inspection Reports Included | OPAA No. and Expiration Date | Responsible Approved Agency And/Or Individual (Identify Special Inspector) | Compliance Verification by IOR (Initial/Date) | HCAI/FDD Use (Initial/Date) |
|---|---|---|---|---|---|---|---|
| **STRUCTURAL SPECIAL INSPECTIONS** | | | | | | | |
| **Steel** | | | | | | | |
| D-S1 | X | **Steel**<br>CBC 1705A.2; AISC 360 & AISC 341<br>Steel shop fabrication | | | | | |
| D-S3 | X | **Steel**<br>CBC 1705A.2.5<br>Shop welding | | | | | |
| D-S4 | X | **Steel**<br>AWS D1.1 3 & 4 and AWS D1.8 6.1<br>Shop welding - WPS / WPQR | | | | | |

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# Testing, Inspection, and Observation Program

2022 California Building Standards Code - OSHPD 1

| SECTION E | | | REQUIRED COMPLIANCE FORMS | | |
|---|---|---|---|---|---|
| Facility #: | Facility Name: | | Project #: | | |
| 15007 | Riverside University Health System - Medical Center | | S231455-33-00 | | |
| | | | | | |
| Form # | Required (Select with "X") | DOCUMENT NAME | Responsible Designer Or Installing Contractor | Compliance Verification by IOR (Initial/Date) | HCAI/FDD Use (Initial/Date) |
| **No Requirements for this Section of the TIO** | | | | | |

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# Testing, Inspection, and Observation Program

2022 California Building Standards Code - OSHPD 1

## SECTION F — CONSTRUCTION VERIFICATION

| Facility #: | Facility Name: | Project #: |
|---|---|---|
| 15007 | Riverside University Health System - Medical Center | S231455-33-00 |

**VERIFIED CONSTRUCTION INSPECTION AND OBSERVATION REPORTING**

| REFERENCE NUMBER | PROJECT STAGE(S), MILESTONE, OR INTERVAL (Clearly indicate which Stage(s) apply to which Milestone/Interval) | VERIFIED COMPLIANCE REPORT REQUIRED AS INDICATED (Form HCAI-OSH-123) (See "PERSONAL KNOWLEDGE" as defined in California Administrative Code, Section 7-151) | | | | | | | | | HCAI/FDD USE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | GEOR | AOR | SEOR | MEOR | EEOR | CONT | IOR | SP INSP | TEST LAB | |
| 1 | **Temporary occupancy of new Corridor E1072 for use as egress from Neuro/Cardio OP Dept, allowing start of Phase 2 scope of work.** | | X | | X | X | X | X | | | |
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| 2 | **Clear all plan review Outstanding Items List (OIL) Items** | | X | | | | | X | | | |
| 3 | **Substantial Compliance** (Remodel, Renovations, Maintenance projects, Equipment Replacement) | | X | X | X | X | X | X | X | | |
| 4 | **Certificate of Occupancy** (New Buildings, Additions, Changes in Occupancy) | | X | X | X | X | X | X | X | | |
| F | **Construction Final** | | X | X | X | X | X | X | X | | |

**ABBREVIATIONS:**

GEOR - Geotechnical Engineer of Record
AOR - Architect of Record
SEOR - Structural Engineer of Record
MEOR - Mechanical Engineer of Record
EEOR - Electrical Engineer of Record
CONT O/B - Contractor or Owner/Builder
SP. INSP - Special Inspector
IOR - Inspector of Record
Test Lab – Engr. For the approved agency

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# Testing, Inspection, and Observation Program

2022 California Building Standards Code - OSHPD 1

| SECTION G | Inspector of Record (IOR) Responsibility | |
|---|---|---|
| **Facility #:** | **Facility Name:** | **Project #:** |
| 15007 | Riverside University Health System - Medical Center | S231455-33-00 |

**INSPECTOR OF RECORD RESPONSIBILITIES. Per CAC 7-145: "The Inspector shall have personal knowledge, obtained by continuous inspection of all work of construction in all stages of its progress to ensure that the work is in accordance with the approved construction documents." This includes applicable Codes, Referenced Standards, Listings and Manufacturer's Installation Instructions applicable to the work shown in the approved construction documents. If a project has more than one inspector of record, the distribution of responsibilities for the work shall be clearly identified for each IOR per CAC 7-141(f). One IOR shall be designated as the 'lead' IOR per CAC 7-144(b). One IOR shall be assigned responsibility for "all other work" to make sure responsibility for the inspection of every part of the work is assigned.**

| INSPECTOR OF RECORD CAC 7-141, 7-145 & 7-151 | SCOPE OF INSPECTION | PERFORMED OFF-SITE |
|---|---|---|
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| | All other work | |

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# Testing, Inspection, and Observation Program

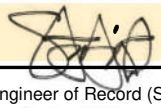
2022 California Building Standards Code - OSHPD 1

| SECTION H | HCAI REVIEWED | |
|---|---|---|
| **Facility #:** | **Facility Name:** | **Project #:** |
| 15007 | Riverside University Health System - Medical Center | S231455-33-00 |

**NOTE: When a structural engineer has been delegated responsibility for a portion of this project his or her signature is also required.**

**Submitted By:**

I have reviewed the approved construction documents for this project and all tests and special inspections required by Code are marked as “required” on this form.

| | | |
|---|---|---|
| Steven Henrich |  | 2024-04-19 |
| Architect/Engineer of Record (Print Name) | Architect/Engineer of Record (Signature) | Date |
| Tracy Rich | Tracy Rich | 8/15/2024 |
| Structural Engineer of Record (Print Name) | Structural Engineer of Record (Signature) | Date |

**FOR HCAI USE**

**TIO Program Reviewed by HCAI Plan Review Staff:**

TIO REVIEWED
Department of Health Care Access & Information
Office of Statewide Hospital Planning & Development
8/16/2024, 6:17:30 AM
S231455-33-00
Allen Cheng

**Note: HCAI plan review staff must provide verification that the TIO program has beeen "Reviewed" prior to plan approval to confirm the applicability of the tests and inspections identified in the TIO program for work scope, building systems, and the construction materials shown in the design drawings. Field staff will issue subsequent "TIO Program Approval".**

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# Testing, Inspection, and Observation Program

2022 California Building Standards Code - OSHPD 1

## SECTION I — TIO PROGRAM APPROVAL

| Facility #: | Facility Name: | Project #: |
|---|---|---|
| 15007 | Riverside University Health System - Medical Center | S231455-33-00 |

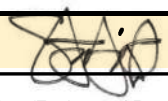
**This program is prepared and submitted for an OSHPD 1 project. OSHPD 1 projects include all construction and remodel projects for: general acute care hospitals, acute psychiatric hospitals, and general acute care hospitals providing only acute medical rehabilitation center services (2022 CBC 1224.1).**

**Samples of Test and Inspection Reports are *NOT required for tests performed by laboratories approved through OPAA Program***

*All test and special inspection reports shall be submitted to the IOR, hospital owner, architect in responsible charge, and the structural engineer by the testing agency per CAC 7-149(a).*

*Verified compliance reports shall be signed by the individual who performed the special inspection(s) as outlined in CAC 7-151 (c).*
*All reports shall clearly state whether the tests or special inspections were performed in accordance with the HCAI stamped approved documents and whether the results indicate compliance with those documents per CAC 7-149 (a). All IORs performing special inspections shall hold the appropriate certification and equipment, and shall obtain approval from the design professional of record and HCAI prior to performing such work.*

*NOTE: This Test, Inspection, and Observation Report shall be approved by HCAI field personnel prior to start of construction.*

| Steven A Henrich | C27292 |  | 2024-04-19 |
|---|---|---|---|
| Architect/Engineer of Record (Print Name) | Professional License # | Architect/Engineer of Record (Signature) | Date |

**FOR HCAI FIELD STAFF USE**

**TIO Program Approved by HCAI Field Staff:**

**Note: HCAI plan review staff must provide verification that the TIO program has been "Reviewed" prior to plan approval to confirm the applicability of the tests and inspections identified in the TIO program for work scope, building systems, and the construction materials shown in the design drawings. HCAI Field staff will issue subsequent "TIO Program Approval".**

**If "Approved with Comments" is checked the following comments shall be resolved by the designer prior to proceeding with the related construction:**

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# Testing, Inspection, and Observation Program

2022 California Building Standards Code - OSHPD 1

## SECTION J

## SUMMARY OF CHANGES TO THE TIO PROGRAM

**NOTE: Note all changes shall be approved as amended construction documents per CAC 7-153, or "concurred with" as non-material alterations per CAC 7-153(b), by HCAI prior to proceeding with the related work.**

| Facility #: | Facility Name: | Project #: |
|---|---|---|
| 15007 | Riverside University Health System - Medical Center | S231455-33-00 |

**TESTING, INSPECTION, AND OBSERVATION PROGRAM NON-MATERIALLY ALTERING CHANGES BY THE ARCHITECT OF RECORD / ENGINEER OF RECORD IN RESPONSIBLE CHARGE**

A signature below indicates that the DPOR has verified the acceptance statements in Section I of this Form are applicable to any approved agencies/testing laboratories and special inspectors added.

| REVISION NUMBER | SYNOPSIS OF CHANGE | Architect/Engineer of Record Signature (Initial/date) | Structural Engineer of Record Signature (Initial/date) | DATE of Effective Change | HCAI FDD CONCURRENCE (Initial/date) |
|---|---|---|---|---|---|
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# RIVERSIDE UNIVERSITY HEALTH SYSTEM

(PROJECT NO. MC08430011869, HCAi NO. S231455-33-00)

## CATHETERIZATION LABORATORY SUITE

# COUNTY OF RIVERSIDE, STATE OF CALIFORNIA
# APPENDIX E
# PHILIPS CATH LAB EQUIPMENT

PHILIPS

www.healthcare.philips.com

## Pre-Order Site Preparation Support Document

The equipment components shown in this drawing package are based on the current proposed equipment configuration and are subject to change if modifications are made to the configuration at the time of final equipment purchase.

### Revision History

Note for Architects and/or Contractors: If revisions are listed, these drawings must be thoroughly reviewed so that all changes can be incorporated into your project

| Rev. | Date | Revision Descriptions | By |
|---|---|---|---|
| - | 3/17/2023 | Created Preliminary Site Preparation Support Document per Quote: Q-00161607. | CR |
| A | 4/20/2023 | Updated background per document FloorPlan-LAYOUTPLANLEVEL1Coordination. | AH |
| B | 5/24/2023 | Updated background per document 20230518 RUHS Cath Lab Layout. | AH |
| C | 6/16/2023 | Created Pre-Order Site Preparation Support Document with Quote #: Q-00161607. | AH |

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THIS SHEET IS PART OF THE DOCUMENT SET LISTED ON SHEET C1 AND SHOULD NOT BE SEPARATED.

**FOR REFERENCE ONLY**

05.27.2022

PHILIPS PROVISIONAL

**Project**
**Azurion 7 C20 FlexArm - 4300mm - AD7**
**Riverside University Health Systems**
Riverside, CA
Room: Cath Lab Procedure RM 1

**Philips Contacts**
Project Manager: Winston Malcomb
Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com

Drawn By: Allec Hibit

**Project Details**
Drawing Number
**N-WES230078 C**
**Date Drawn: 6/16/2023**
Quote: Q-00161607
Order: None

C1


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**VENDOR'S SHOP DRAWING FOR REFERENCE ONLY**

Riverside University HEALTH SYSTEM

RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

26520 CACTUS AVENUE, MORENO VALLEY, CALIFORNIA 92555


LEO A DALY

550 SOUTH HOPE STREET, SUITE 2700
LOS ANGELES, CALIFORNIA 90071
TEL: (213)629-0100 FAX: (213)629-0070


ARCHITECTECT STAMP

CONSULTANT

CONSULTANT STAMP

KEY PLAN

REVISIONS

| NO. | DESCRIPTION | DATE |
|---|---|---|

FILE LOG

| ACTIVITY | BY |
|---|---|
| Design | Designer |
| Draw | Author |
| Check | Checker |
| Issue Date | 2023/9/28 |

AGENCY APPLICATION NUMBER

S231455-33-00

AGENCY APPROVAL STAMP

BUILDING TITLE

RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE

CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

RUHS-MC PROJ. NO.

FM08430011869

CONSULTANT PROJ. NO.

047-10071-002

SHEET NAME

CATH LAB 1 - PHILIPS - COVER SHEET

SHEET NUMBER

R1 C01


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## General Conditions

1. **Planning, Design, and Implementation Process**
   The multidisciplinary project team should be assembled as early as possible in the design process. The multidisciplinary team should include administrators, clinicians, infection preventionists, architects and other design professionals, facility managers, safety officers, security managers, users of equipment, and support staff relevant to the areas affected by the project as well as those with knowledge of the organization's functional goal for the project. Inclusion of patient advocates/consumers, A/E consultants, and construction specialists should be considered. FGI 2018 APPENDIX A1.2-1.2

2. **Responsibility**
   The customer shall be solely responsible, at their expense for preparation of site. Philips required specifications and any required MEP, construction and structural alterations shall be incorporated into customer's design and construction documents. Compliance with all safety, electrical, and building design codes relevant to the build out of the clinical area for Philips equipment and its installation is the customer's responsibility. Sufficiency of such plans and specifications, specifically including, but not limited to the accuracy of the dimensions described therein, shall be the sole responsibility of the customer. The customer shall advise Philips of conditions at or near the site, which could adversely affect the function of the equipment and/or carrying out of the delivery and installation work. This shall ensure that such conditions are corrected and that the site is fully prepared and available to Philips before the installation work is due to begin.

3. **Permits**
   Customer shall obtain all permits and licenses required by federal, state/provincial or local authorities in connection with the construction, installation and operation of the products and shall bear any expense in obtaining same or in complying with any related rules, regulations, ordinances and statutes.

4. **Radiation Protection**
   The customer or their contractor, at their own expense, shall obtain the service of a licensed radiation physicist to specify radiation protection and testing.

5. **Asbestos and Other Toxic Substances**
   Philips assumes that there is no hazardous material contained in project site. The customer is responsible for the removal of any materials, including but not limited to asbestos, deemed hazardous by local authorities, the EPA, OSHA, or any other authority having jurisdiction over the work. If such materials are discovered at any time that the work is proceeding, the work will immediately cease, the owner will be notified, and the work will again proceed after the owner has removed all of the hazardous material from the job site.

6. **Labor**
   In the event local labor conditions make it impossible or undesirable to use Philips' regular employees for such installation and connection, such work shall be performed by laborers supplied by the customer, or by an independent contractor chosen by the customer at the customer's expense, and in such case, Philips agrees to furnish adequate engineering supervision for proper completion of the installation.

7. **Schedule**
   The customer or general contractor shall provide Philips with a project/construction schedule with milestones to assist in the coordination of delivery of Philips supplied products and primary equipment.

8. **Extended Installation or Turnkey Work by Philips**
   Any room preparation requirements for Philips equipment indicated on these drawings is the responsibility of the customer. If an extended installation or turnkey contract exists between Philips and the customer for room preparation, then additional work required for the equipment will not be represented on these drawings. Some of the responsibilities of the customer as depicted in these drawings may be assumed by Philips. In the event of a conflict between the work described in the turnkey contract work scope and these drawings, the turnkey contract work scope shall govern.

9. **Infection Control and Interim Life Safety Measure**
   Compliance with all Infection Control and Interim Life Safety Measures shall be the sole responsibility of the customer. The customer shall provide all means and methods necessary for compliance with Infection Control (IC) and Interim Life Safety Measures (ILSM) in connection with the construction and installation/operation of the products shown herein and shall bear any expenses related to same.

(21.0)

## Minimum Site Preparation Requirements

A smooth efficient installation is vital to Philips and their customers. Understanding what the minimum site preparation requirements are will help achieve this goal. The following list clearly defines the requirements which must be fulfilled by the customer before the delivery and installation of equipment can begin.

1. Walls to be painted or covered, baseboards installed, floors to be tiled and/or covered, ceiling shall have grid tiles and luminaires installed and operational.

2. Doors and windows, especially radiation protection barriers, installed and finished with locksets operational.

3. All electrical convenience outlets, raceways, wireways, auxiliary fittings, knockouts, cable connectors, terminal and power distribution blocks, cable openings, chase nipples, junction boxes and pull boxes installed and operational.

4. A private supply mains branch circuit with overcurrent protective circuit breaker and manual operable circuit disconnect means shall be present and operational. Definition of "Private supply" means an end-leave of the hospital distribution system after the last overcurrent protective disconnect means from which all equipment included in the Azurion ground domain is powered. Note that only equipment included in the Azurion certification and equipment with which the Azurion has a compatibility statement are allowed to be inside the Azurion ground domain. All other electrical equipment is not allowed to have a functional connection to the Azurion system and shall have no direct galvanic connection to prevent ground loops. 3rd party equipment that does not have a function connection with the Azurion system, but that is intended to be used inside the same patient area as the Azurion System shall be grounded to the PCB inside the ERB with a ground bonding of <= 200 mOhm for plugable equipment.

5. Philips does not allow 3rd party equipment inside our cabinets.

6. 120V convenience outlets operational.

7. All support structure correctly installed. All channels, pipes, beams and/or other supporting devices should be level, parallel, and free of lateral or longitudinal movements.

8. All contractor supplied cables pulled and terminated.

9. A dust-free environment in and around the procedure room.

10. All HVAC (heating, ventilating and air conditioning) installed and operational as per specifications.

11. Architectural features such as computer floor, wood floor, casework, bulkheads, installed and finished. When technical cabinets are installed in a closet with doors, it is suggested that the customer install a temperature alarm in the event of an air conditional failure.

12. All plumbing installed and finished.

13. Philips does not install or connect developing tanks, automatic processors or associated equipment, built in illuminators, cassette pass boxes, loading benches and cabinets, lead protective screens, panels or lead glass window and frame. This is to be done by the customer/contractor.

14. Clear door openings for moving equipment into the building must be 42" (1067mm) W x 82" (2083mm) H min. 48" (1219mm) W x 82" (2083mm) H rec., Or larger contingent on an 8'-0" (2438mm) corridor width.

15. Countertop is 30" (765mm) for seated height and 36" (915mm) for standing height.

Note
Once Philips has moved equipment into the suite and started the installation, the contractor shall schedule his work around the Philips installation team on site. It is suggested that a telephone be provided in the room to receive telephone calls. This would alleviate facility staff from answering calls for Philips personnel.

Remote Service Diagnostics
Medical imaging equipment to be installed by Philips Medical is equipped with a service diagnostic feature which allows for remote and on site service diagnostics. To establish this feature, a RJ45 type ethernet 10/100/1000 Mbit network connector must be installed as shown on plan. Access to customer's network via their remote access server is needed for Remote Service Network (RSN) connectivity. All cost with this feature are the responsibility of the customer.

(22.0)

## HVAC Requirement for General Equipment Locations

| Operation | |
|---|---|
| Temperature | 59°F (15°C) to 86°F (30°C) |
| Temperature gradient | Max. 1°F / Minute (0.5°C / Minute) |
| Humidity (non-condensing)<br>Humidity shall be stable within 10% | 20% to 80% |
| Exam Room | *6479 BTU/hr |
| Equipment Room | *8184 BTU/hr |
| Control Room | *1705 BTU/hr |

***Average heat emission during clinical use**
Data applicable for basic system:
Large monitor + 4 x small monitor in Monitor Ceiling Suspension
1 workstation + 2 x small monitor in Control Room

Add 1705 BTU/hr for additional large monitor
Add 273 BTU/hr for additional small monitor
Add 1024 BTU/hr for additional workstation
See AL sheet for additional heat load in case of UPS

Equipment's designed airflow is from front/side to back. Please design the air handling in the rack cabinet equipment area accordingly.

Heating, ventilation, and air conditioning requirements must maintain temperature at 59°F (15°C) to 86°F (30°C) as well as a non-condensing relative humidity at 20-80% with 10% maximum variation. These temperature and humidity levels must be maintained in all (3) rooms (equipment, examination and control rooms).

(23.0)

## Electrical Requirements
## Mains 40E Cabinet

| | |
|---|---|
| Maximum Rated Power: | 100kW |
| Supply Configuration: | 3 phase, equally sized insulated power conductors and an insulated equipment grounding conductor. Insulated grounding conductor shall have the same or larger size than line conductors. Line wires shall be no smaller than 6 AWG, 90°C or higher temperature rating. The conductor size is dependant on the upstream circuit breaker rating:<br><br>Minimum 4 AWG for 80A circuit breaker rating. |
| Nominal Line Voltage: | 480 VAC, 60 Hz |
| Branch Power Requirement: | 100 kVA (System only; verify UPS power requirements) |
| Circuit Breaker: | 3 phase, Type D 80A with long-time delay |

(20.1)

## Remote Control of Room Lighting

The control of customer lighting must incorporate an electrical isolation system such as demonstrated on Sheet ED3. Lighting scheme is the responsibility of the customer.

(12.0)

PHILIPS
PROVISIONAL

**Project**
**Azurion 7 C20 FlexArm - 4300mm - AD7**
**Riverside University Health Systems**
Riverside, CA
Room: Cath Lab Procedure RM 1

**Philips Contacts**
Project Manager: Winston Malcomb
Contact Number: (629) 215-7345
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Drawn By: Alec Hibit

**Project Details**
Drawing Number
**N-WES230078 C**
**Date Drawn: 6/16/2023**
Quote: Q-00161607
Order: None

AN

05.27.2022

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| Check | Checker |
| Issue Date | 2023/8/28 |

AGENCY APPLICATION NUMBER
S231455-33-00

AGENCY APPROVAL STAMP

BUILDING TITLE
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PROJECT TITLE
CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

RUHS-MC PROJ. NO.
FM08430011869

CONSULTANT PROJ. NO.
047-10071-002

SHEET NAME
CATH LAB 1 - PHILIPS - GENERAL NOTES

SHEET NUMBER
R1 A0N

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## Equipment Legend

A Furnished and installed by Philips
B Furnished by customer/contractor and installed by customer/contractor
C Installed by customer/contractor
D Furnished by Philips and installed by contractor
E Existing
F Future
G Optional
H Furnished by Philips and installed by Third Party

| | Equipment Designation | Description | Weight (lbs) | Heat Load (BTU/hr) | Detail Sheet |
|---|---|---|---|---|---|
| A | SP | C-Arc Stand | 2755 | - | AD2 |
| A | MSA | Angio Diagnost 7 with Pivot and Tilt | 999 | - | AD2 |
| A | ME | Certeray iX Generator Cabinet | 320 | - | AD3 |
| A | MR | Peripheral 40E Cabinet with CRC + Extension | 386 | - | AD3 |
| A | MA | Mains 40E Cabinet | 826 | - | AD3 |
| A | CY | Control Room Connection Box | 115 | - | AD6 |
| A | DB | Documentation Box - Mounted on Wheels (Final location to be coordinated with customer and/or local Philips Service) | 176 | - | AD4 |
| A | ATY | Exam Room Auxiliary Box | 7 | - | AD4 |
| A | FW | Firewall | 4 | - | AD5 |
| D | UPS | Socomec Full Load UPS - OSHPD | 1767 | 17750 | AD5 |
| D | BC | Socomec Full Load Battery Cabinet - OSHPD | 2662 | - | AD5 |
| D | SBO | Signaling Box Option | 6.7 | - | AD5 |
| A | MB | Image 40E Cabinet | 441 | - | AD3 |
| A | TV | 58" + (2) 27" LCD Monitor Suspension | 596 | - | AD4 |
| A | VB1 | Video Connection Box | 2.2 | - | AD4 |
| | ~ | | | | |
| A | VB8 | Video Connection Box | 2.2 | - | AD4 |
| A | IC | Injector Room Console | 11 | - | AD5 |
| A | RIC | Injector Remote Panel | 7 | - | AD5 |
| A | INJ | Medrad Universal T-Rail Bracket for Injector Head (Not shown on plan) | - | - | - |
| A | MAV | Mavig 4m Ceiling Track w/ Rad Shield and Y LED 1F light | 205 | - | AD7 |
| G | INT | IntraSight- Workstation (Integrated with FlexSpot) | 83 | - | AD7 |

**PHILIPS**
**PROVISIONAL**

**Project**
**Azurion 7 C20 FlexArm - 4300mm - AD7**
**Riverside University Health Systems**
Riverside, CA
Room: Cath Lab Procedure RM 1

**Philips Contacts**
Project Manager: Winston Malcomb
Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com
Drawn By: Alec Hibit

**Project Details**
Drawing Number
**N-WES2300078 C**
**Date Drawn: 6/16/2023**
Quote: Q-00161607
Order: None

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| Check | Checker |
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S231455-33-00

AGENCY APPROVAL STAMP

BUILDING TITLE
RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE
CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

| RUHS-MC PROJ. NO. | CONSULTANT PROJ. NO. |
|---|---|
| FM08430011869 | 047-10071-002 |

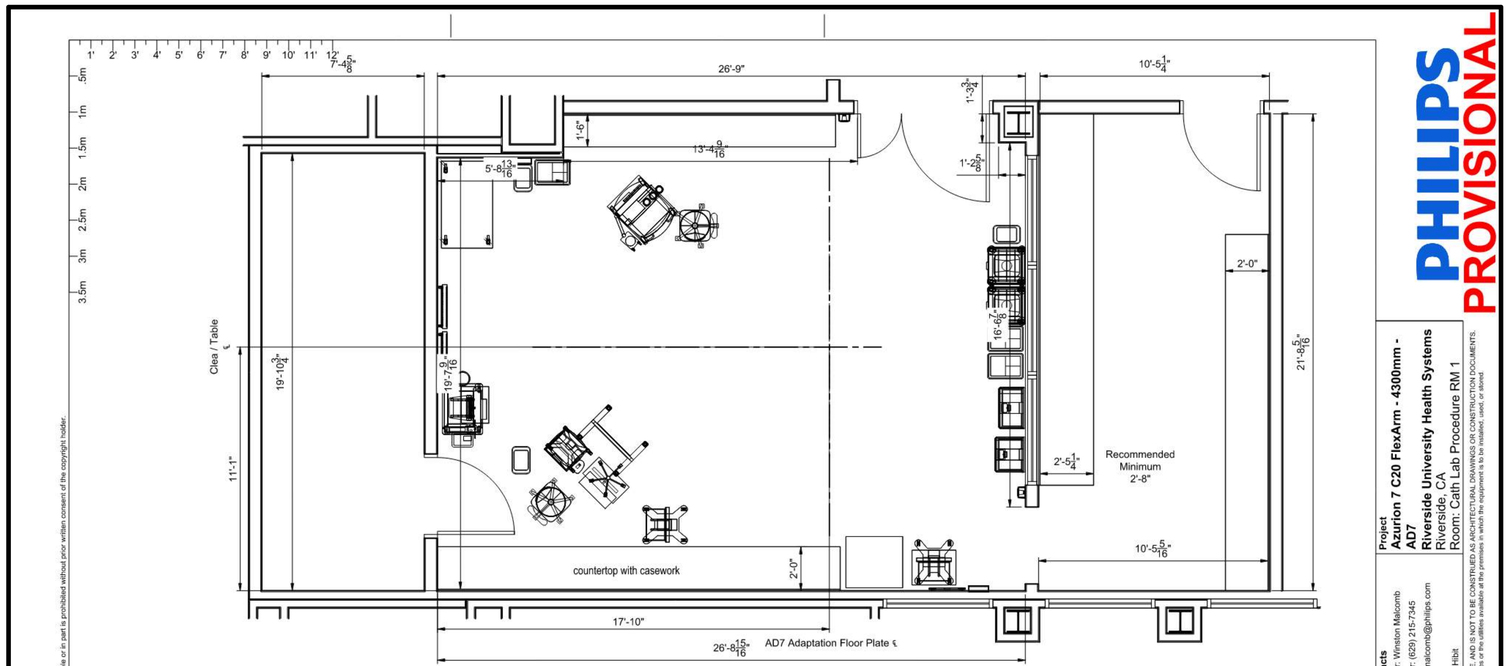
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CATH LAB 1 - PHILIPS - EQUIPMENT LEGEND

SHEET NUMBER
R1 A0L

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**Legend**

- Walls
- Soffit
- Existing (to be removed)
- Beams or other building construction elements

## Site Layout

1/4" = 1'-0"

Required Unistrut Height: 9' - 6 3/16", +3/8" / -0 (2900mm, +10mm / -0)
Unistrut height measured from finished floor to bottom of Unistrut.

**General Notes**

* Counters and cabinetry shown to be supplied and installed by contractor.
* Field to verify all room dimensions.
* Refer to A.D.A. Guidelines for doors and clearances. Verify all other applicable code(s) with the architect of record.

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Quote: Q-00161607
Order: None

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PROJECT TITLE
CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

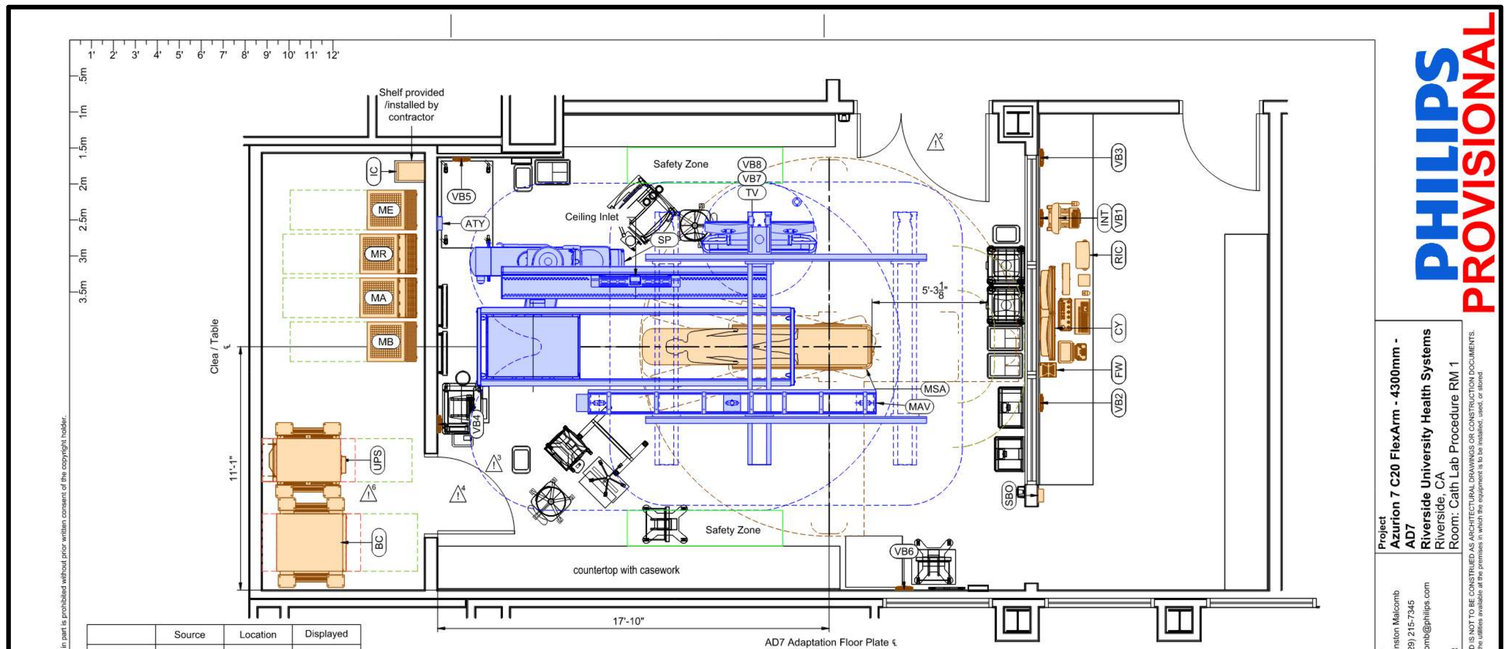
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| FM08430011869 | 047-10071-002 |

SHEET NAME
CATH LAB 1 - PHILIPS - SITE LAYOUT

SHEET NUMBER
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| | Source | Location | Displayed |
|---|---|---|---|
| VB1 | TBD | Control | FlexVision |
| VB2 | TBD | Control | FlexVision |
| VB3 | Imaging | Control | FlexVision |
| VB4 | Hemo | Exam | FlexVision |
| VB5 | Imaging | Exam | FlexVision |
| VB6 | Imaging | Exam | FlexVision |
| VB7 | TBD | Exam | FlexVision |
| VB8 | TBD | Exam | FlexVision |

DB

Exact location to be coordinated by Customer and local Philips service.

**Planning Issues and Considerations**

1. Third Party Items - It is the customer's responsibility to interface and coordinate all non-Philips' item(s) / equipment to ensure full functionality and movement of all equipment.
2. Patient loading may be difficult. Verify with customer requirement.
3. Potential collision of equipment with noted counter.
4. Per 2018 FGI Guidelines, equipment closet shall not open into the procedure room. Architect/Engineer of record to verify all applicable requirements/codes.
5. Verify quantity and designation of Live/Reference slaving monitors with local Philips Service.
6. Structural Engineer to verify adequate space on sides of equipment cabinets for seismic anchoring.
7. Exact equipment configuration to be verified. 2.5m Mavig Ceiling Track is listed on quote, but is not shown.
8. Current ceiling height is unknown and must be verified with customer.

# Equipment Layout

1/4" = 1'-0"

Required Unistrut Height: 9' - 6 3/16", +3/8" / -0 (2900mm, +10mm / -0)
Unistrut height measured from finished floor to bottom of Unistrut.

**General Notes**

* Architect to coordinate with end users/technicians to determine final placement of control desk components prior to installation in order to avoid rework. Architect to coordinate with Philips Project Manager to reflect final placement on Philips drawings.
* The customer shall advise Philips of existing and/or new conditions at or near the site, which could adversely affect the function of the equipment and/or carrying out of the delivery and installation work. Refer to sheet - AN line #2 of General Conditions for additional information.

PHILIPS
PROVISIONAL

**Project**
Azurion 7 C20 FlexArm - 4300mm -
AD7
Riverside University Health Systems
Riverside, CA
Room: Cath Lab Procedure RM 1

**Philips Contacts**
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Drawn By: Alec Hibit

**Project Details**
Drawing Number
N-WES230078 C
Date Drawn: 6/16/2023
Quote: Q-00161607
Order: None

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| FM08430011869 | 047-10071-002 |

SHEET NAME

CATH LAB 1 - PHILIPS - EQUIPMENT LAYOUT

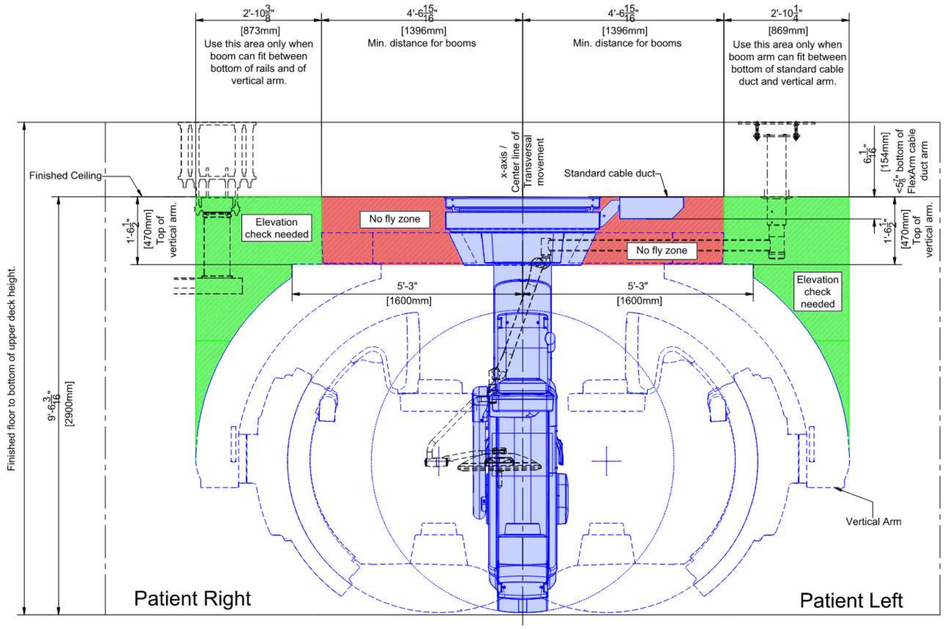
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# Elevation View

1/2" = 1'-0"

**General Notes**

* Finished ceiling height is not the same as unistrut height as illustrated on SD1 Philips Fixing Block for Philips Ceiling Rails (Clip Rails) detail.

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PHILIPS PROVISIONAL

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Room: Cath Lab Procedure RM 1

**Philips Contacts**
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Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com
Drawn By: Alec Hibit

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Order: None

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| Issue Date | 2023/8/28 |

AGENCY APPLICATION NUMBER

S231455-33-00

AGENCY APPROVAL STAMP

BUILDING TITLE

RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE

CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

| RUHS-MC PROJ. NO. | CONSULTANT PROJ. NO. |
|---|---|
| FM08430011869 | 047-10071-002 |

SHEET NAME

CATH LAB 1 - PHILIPS - ELEVATION VIEW

SHEET NUMBER

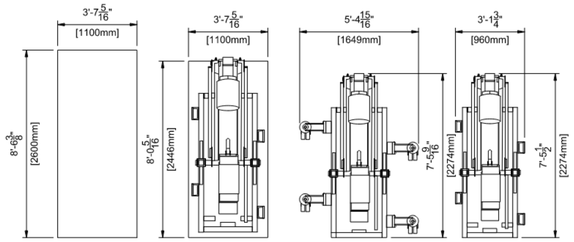
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PHILIPS
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## Detail - FlexArm Ceiling (C-ARM) Transport Details




| Transport Possibilities | | | | |
|---|---|---|---|---|
| | **Crate** | **Pallet** | **Kick Wheels Wide** | **Kick Wheels Small** |
| **Height** | 77.95" (1980mm) | 76.22" (1936mm) | 69.02" (1753mm) | 77.76" (1975mm) |
| **Weight** | 2050 lbs (930 kg) | 1940 lbs (880 kg) | 2061 lbs (935 kg) | 1764 lbs (800 kg) |

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**FOR REFERENCE ONLY**

05.27.2022

**Project**
**Azurion 7 C20 FlexArm - 4300mm - AD7**
**Riverside University Health Systems**
Riverside, CA
Room: Cath Lab Procedure RM 1

**Philips Contacts**
Project Manager: Winston Malcomb
Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com

Drawn By: Allec Hibbit

**Project Details**
Drawing Number
**N-WES2300078 C**
**Date Drawn: 6/16/2023**
Quote: Q-00161607
Order: None

AD1

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LEO A DALY

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LOS ANGELES, CALIFORNIA 90071
TEL: (213)629-0100 FAX: (213)629-0070

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AGENCY APPLICATION NUMBER
S231455-33-00

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BUILDING TITLE
RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

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CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

RUHS-MC PROJ. NO.
FM08430011869

CONSULTANT PROJ. NO.
047-10071-002

SHEET NAME
CATH LAB 1 - PHILIPS - TRANSPORT DETAILS

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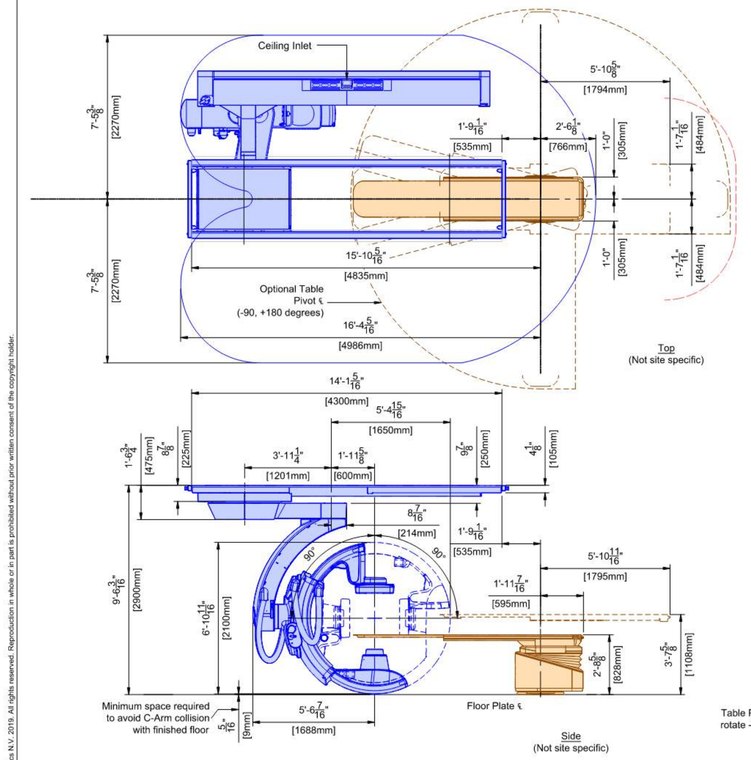



Table Pivot is optional. This allows the table to rotate -90, +180 degrees about center of table base.

| SP | FlexArm Stand (22.0) | |
|---|---|---|
| | Weight | Heat Dissipation |
| | 2755 lbs | - BTU/hr |

Indicates equipment movement

| MSA | Angio Diagnost 7 (22.0) | |
|---|---|---|
| | Weight | Heat Dissipation |
| | 999 lbs | - BTU/hr |

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PHILIPS
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**Project**
Azurion 7 C20 FlexArm - 4300mm -
AD7
Riverside University Health Systems
Riverside, CA
Room: Cath Lab Procedure RM 1

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**Philips Contacts**
Project Manager: Winston Malcomb
Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com
Drawn By: Allec Hibit

**Project Details**
Drawing Number
N-WES2300078 C
Date Drawn: 6/16/2023
Quote: Q-00161607
Order: None

AD2

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S231455-33-00

AGENCY APPROVAL STAMP

BUILDING TITLE
RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE
CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

| RUHS-MC PROJ. NO. | CONSULTANT PROJ. NO. |
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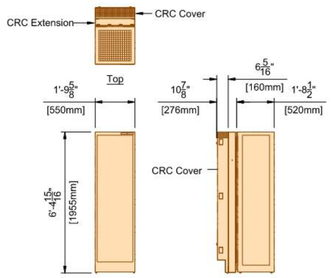
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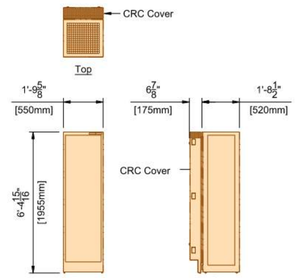



The CRC Cover must be attached to the back box.

Acoustic noise level: <= 55 dB(A) @ 1 meter in front of the rack and 1 meter high (1 meter = 39.37")

(19.0)

| | Mains 40E Cabinet | |
|---|---|---|
| MA | Weight | Heat Dissipation |
| | 826 lbs | - BTU/hr |

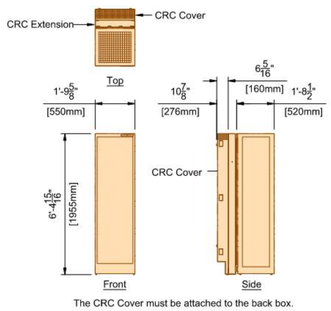



The CRC Cover must be attached to the back box.

Acoustic noise level: <= 48 dB(A) @ 1 meter in front of the rack and 1 meter high (1 meter = 39.37")

(19.0)

| | Image 40E Cabinet | |
|---|---|---|
| MB | Weight | Heat Dissipation |
| | 441 lbs | - BTU/hr |

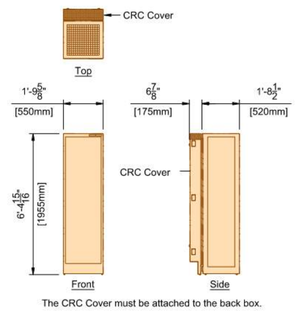



The CRC Cover must be attached to the back box.

Acoustic noise level: <= 55 dB(A) @ 1 meter in front of the rack and 1 meter high (1 meter = 39.37")

(23.0)

| | Peripheral 40E Cabinet | |
|---|---|---|
| MR | Weight | Heat Dissipation |
| | 386 lbs | - BTU/hr |




The CRC Cover must be attached to the back box.

Acoustic noise level: <= 55 dB(A) @ 1 meter in front of the rack and 1 meter high (1 meter = 39.37")

(19.0)

| | Certeray iX Generator 40E Cabinet | |
|---|---|---|
| ME | Weight | Heat Dissipation |
| | 320 lbs | - BTU/hr |

**PHILIPS**
**PROVISIONAL**

**Project**
**Azurion 7 C20 FlexArm - 4300mm - AD7**
**Riverside University Health Systems**
Riverside, CA
Room: Cath Lab Procedure RM 1

**Philips Contacts**
Project Manager: Winston Malcomb
Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com
Drawn By: Alec Hibit

**Project Details**
Drawing Number
**N-WES230078 C**
**Date Drawn: 6/16/2023**
Quote: Q-00161607
Order: None

AD3

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S231455-33-00

AGENCY APPROVAL STAMP

BUILDING TITLE
RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE
CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

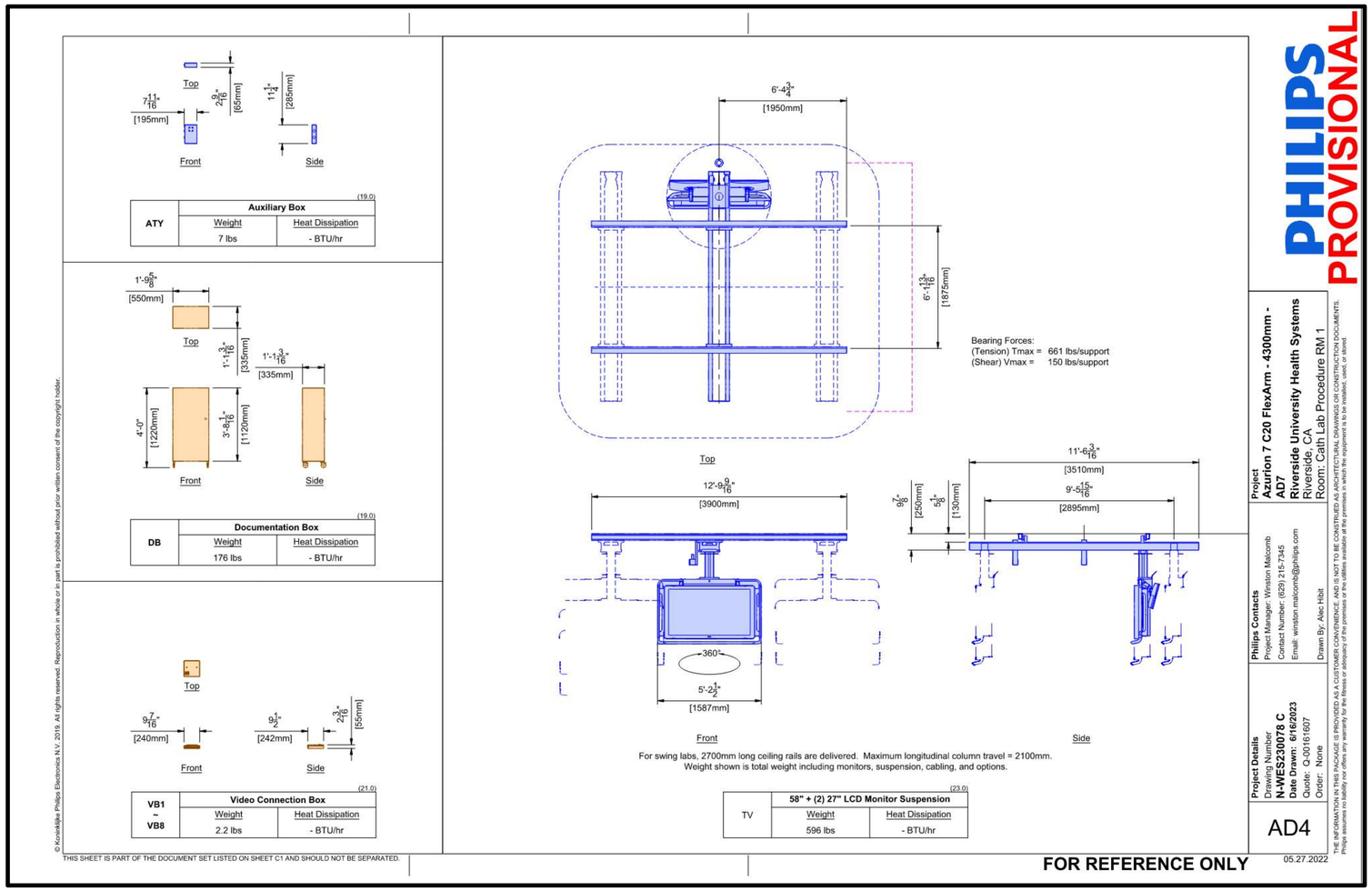
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CATH LAB 1 - PHILIPS - EQUIPMENT DETAILS

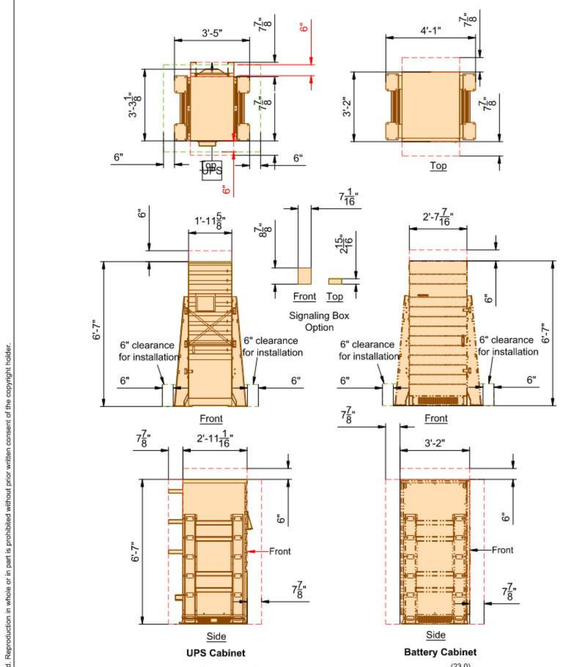
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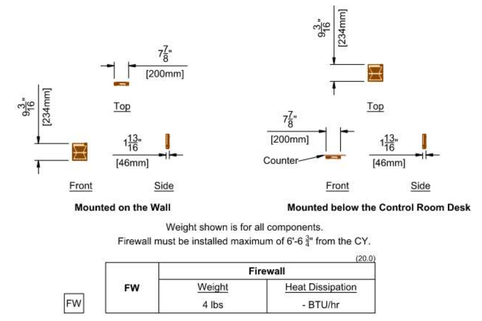
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(23.0)

| | Socomec - Full Load UPS - OSHPD | |
|---|---|---|
| | Weight | Heat Dissipation |
| UPS | 1767 lbs | 17750 BTU/hr |
| BC | 2662 lbs | - BTU/hr |
| SBO | 6.7 lbs | - BTU/hr |

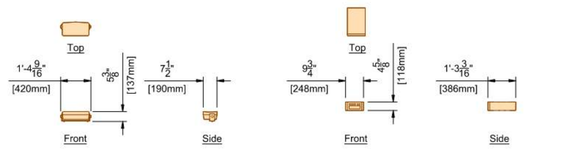
**Notes:**
* Required ventilation for the front - 7 7/8" (200mm)
* Required ventilation for the rear - 7 7/8" (200mm)
* Required ventilation for the top - 6" (155mm)
* Acoustic noise level: <= 58 dB(A) @ 1 meter in front of the rack and 1 meter high (1 meter = 39.37")




Weight shown is for all components.
Firewall must be installed maximum of 6'-6 3/4" from the CY.

(20.0)

| FW | Firewall | |
|---|---|---|
| | Weight | Heat Dissipation |
| | 4 lbs | - BTU/hr |




(23.0)

| RIC | Injector Remote Panel | |
|---|---|---|
| | Weight | Heat Dissipation |
| | 7 lbs | - BTU/hr |

(23.0)

| IC | Injector Room Console | |
|---|---|---|
| | Weight | Heat Dissipation |
| | 11 lbs | - BTU/hr |

PHILIPS
PROVISIONAL

**Project**
**Azurion 7 C20 FlexArm - 4300mm - AD7**
**Riverside University Health Systems**
Riverside, CA
Room: Cath Lab Procedure RM 1

**Philips Contacts**
Project Manager: Winston Malcomb
Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com
Drawn By: Alec Hibbi

**Project Details**
Drawing Number
**N-WES230078 C**
**Date Drawn: 6/16/2023**
Quote: Q-00161607
Order: None

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AGENCY APPROVAL STAMP

BUILDING TITLE
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PROJECT TITLE
CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

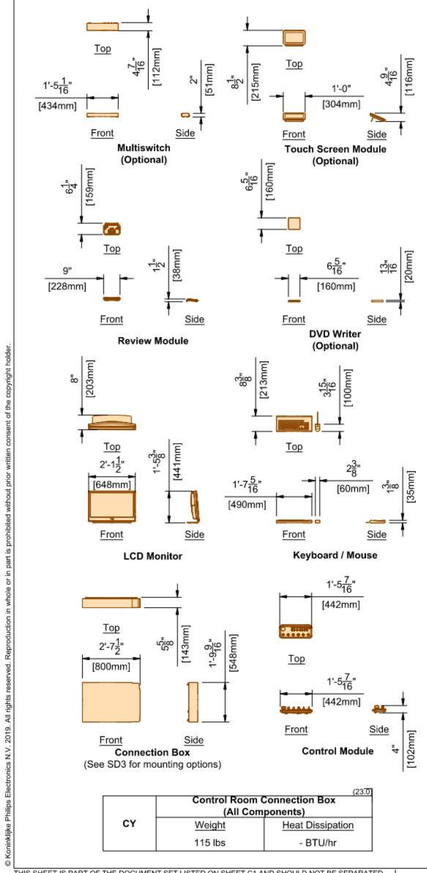
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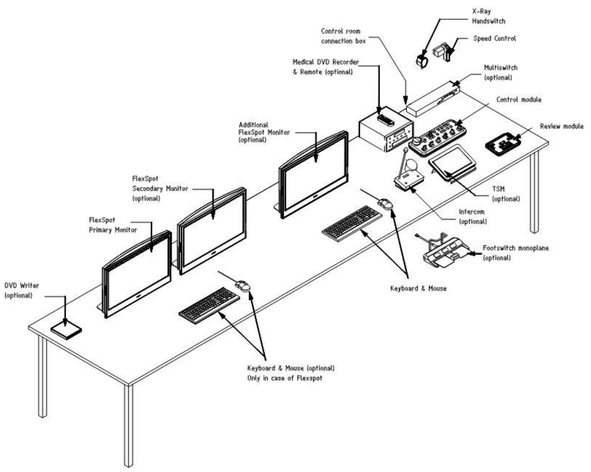



(23.7)

| CY | Control Room Connection Box (All Components) | |
|---|---|---|
| | Weight | Heat Dissipation |
| | 115 lbs | - BTU/hr |

## Detail - Typical Control Room Layout with FlexSpot

(Not to scale - Not site specific)




PHILIPS
PROVISIONAL

**Project**
**Azurion 7 C20 FlexArm - 4300mm -**
**AD7**
**Riverside University Health Systems**
Riverside, CA
Room: Cath Lab Procedure RM 1

**Philips Contacts**
Project Manager: Winston Malcomb
Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com

Drawn By: Allec Hibit

**Project Details**
Drawing Number
**N-WES230078 C**
**Date Drawn: 6/16/2023**
Quote: Q-00161607
Order: None

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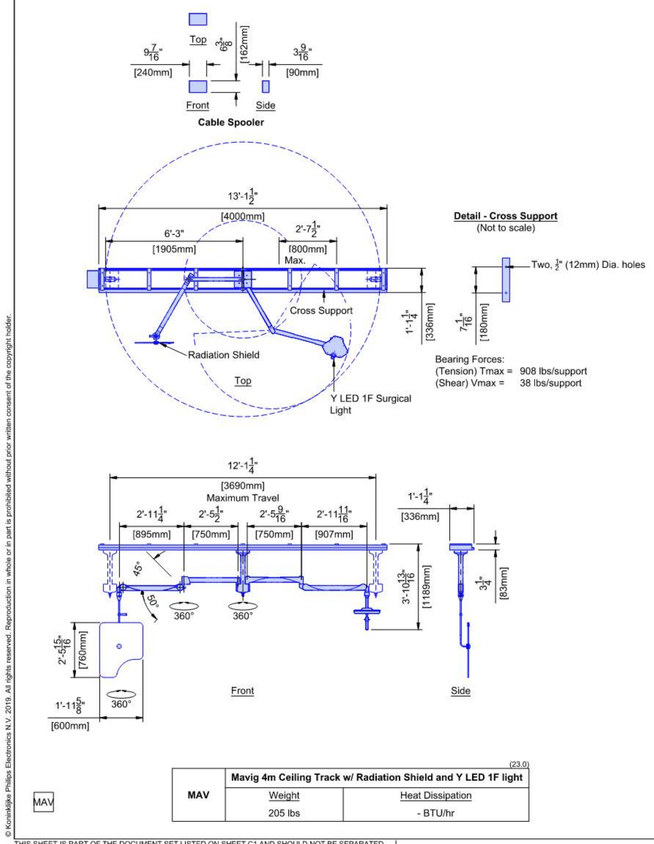
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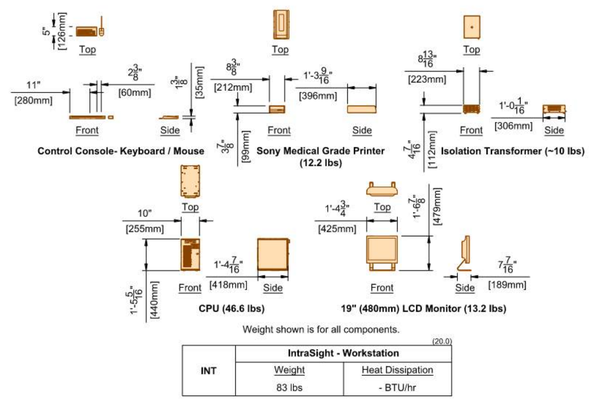
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| MAV | Mavig 4m Ceiling Track w/ Radiation Shield and Y LED 1F light (23.0) | |
|---|---|---|
| | Weight | Heat Dissipation |
| | 205 lbs | - BTU/hr |




Weight shown is for all components.

| INT | IntraSight - Workstation (20.0) | |
|---|---|---|
| | Weight | Heat Dissipation |
| | 83 lbs | - BTU/hr |

PHILIPS
PROVISIONAL

**Project**
**Azurion 7 C20 FlexArm - 4300mm - AD7**
**Riverside University Health Systems**
Riverside, CA
Room: Cath Lab Procedure RM 1

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Contact Number: (629) 215-7345
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Drawn By: Alec Hibit

**Project Details**
Drawing Number
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Quote: Q-00161607
Order: None

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AGENCY APPLICATION NUMBER
S231455-33-00

AGENCY APPROVAL STAMP

BUILDING TITLE
RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE
CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

| RUHS-MC PROJ. NO. | CONSULTANT PROJ. NO. |
|---|---|
| FM08430011869 | 047-10071-002 |

SHEET NAME
CATH LAB 1 - PHILIPS - EQUIPMENT DETAILS

SHEET NUMBER
R1 AD7

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## Equipment Support Information

**1. General**
The customer shall be solely responsible, at its expense, for preparation of the site, including any required structural alterations. The site preparation shall be in accordance with this plan and specifications, the architectural/construction drawings and in compliance with all safety and building codes. The customer shall be solely responsible for obtaining all construction permits from jurisdictional authority.

**2. Equipment Anchorage**
Philips provides, with this plan and specifications, information relative to equipment size, weight, shape, anchoring hole locations and forces which may be exerted on anchoring fasteners. The customer shall be solely responsible, through the engineer of record for the building, to provide on the architectural/construction drawings, information regarding the approved method of equipment anchoring to floors, wall and/or ceiling of the building. Any anchorage test required by local authority shall be the customer's responsibility. Stud type anchor bolts should not be specified as they hinder equipment removal for service. Consult with Philips service prior to specifying anchor methods. Philips equipment must be electrically isolated from anchorage.

**3. Floor Loading and Surface**
Philips provides, with this plan and specifications, information relative to size, weight and shape of floor mounted equipment. The customer shall be solely responsible, through the engineer of record for the building, to provide on the architectural/construction drawings confirmation of the structural adequacy of the floor upon which the equipment will be placed. Any load test required by local authority, shall be the customer's responsibility.
The floor surface upon which Philips equipment is to be placed/anchored shall be flat and level to within $\frac{1}{16}$" (2mm) over a length of 39" (1m).

**4. Ceiling Support Apparatus**
a. Philips provides, with this plan and specifications, information relative to size, weight and shape of ceiling supported equipment. The customer shall be solely responsible, through the engineer of record for the building, to provide on the architectural/construction drawings, information regarding the approved method of structural support apparatus, fasteners and anchorage to which Philips will attach equipment. Any anchorage and/or load test required by local authority shall be the customer's responsibility. Philips equipment must be electrically isolated from anchorage.

b. Contractor to clearly mark Philips equipment longitudinal centerline on bottom of each structural support.

c. The structural support apparatus surface to which Philips equipment is to be attached, shall have horizontal equipment attachment surfaces parallel, square and level to within .236" (6mm) per entire span.

d. Any drilling and/or tapping of holes required to attach Philips equipment to the structural support apparatus shall be the responsibility of the customer.

e. Fasteners/anchors (i.e., bolts, spring nuts, lock and flat washers) and strip closures shall be provided by the customer.

**5. Lighting**
Luminaires shall be placed in such a position that they are not obscured by equipment or its movement, nor shall they interfere with Philips ceiling rails and equipment movement or otherwise adversely affect the equipment. Such luminaire locations shall be the sole responsibility of the customer.

**6. Ceiling Obstructions**
There shall be no obstructions that project below the finished ceiling in the area covered by ceiling suspended equipment travel.

**7. Seismic Anchorage (For Seismic Zones Only)**
All seismic anchorage hardware, including brackets, backing plates, bolts, etc., shall be supplied and installed by the customer/contractor unless otherwise specified within the support legend on this sheet. Installation of electronic cabinets to meet seismic anchorage requirements must be accomplished using flush mounted expansion type anchor/bolt systems to facilitate the removal of a cabinet for maintenance. Do not use threaded rod/adhesive anchor systems. Consult with Philips regarding any anchor system issues. Philips equipment must be electrically isolated from anchorage.

**8. Floor Obstructions/ Floor Coverings**
There shall be no obstructions on the floor (sliding door tracks, etc.) within the serviceability area of the Philips technical cabinets. Floor must be clear to allow cabinets to be pulled away from the wall for service. Technical equipment room floor shall be commercial grade "VCT" Vinyl Composition Tile or a flooring material of equal hardness and compression resistance.

**9. Safety Factors**
Ceiling loads as mentioned in the PRD are worst case loads and excluding safety factors. Proper safety factors need to be applied by Design Professional/Engineer of Record.

**10. Stiffness Requirements of Ceiling**
Horizontal Stiffness: preferred 10,000,000 Newton/meter - 57.1 klb/in, minimal 6,000,000 Newton/meter - 34.2 klb/in
Vertical Stiffness: preferred 10,000,000 Newton/meter - 57.1 klb/in, minimal 6,000,000 Newton/meter - 34.2 klb/in
Rotation Stiffness: minimal 20,000,000 Newtonmeter/Rad - 177,014 (klb in)/Rad

For Clea Stand (1160 kg or 11600 N): the maximum allowed deflection of the ceiling and/or floor construction is 1.93 mm.
For Poly G Stand (1085 kg or 10850 N): the maximum allowed deflection of the ceiling construction is 1.80 mm.
For Poly G Stand (873 kg or 8730 N): the maximum allowed deflection of the floor construction is 1.46 mm.
For Larc Stand (835 kg or 8350 N): the maximum allowed deflection of the ceiling construction is 1.39 mm.
For FlexArm (FlexArm weight is 1250 kg and ceiling stiffness is 6,000,000 Newton/meter): Max allowed deflection of ceiling structure is 2.1mm.
For FlexMove Clea Stand (1860 kg or 18600 N): the maximum allowed deflection of the ceiling construction is 3.10 mm.

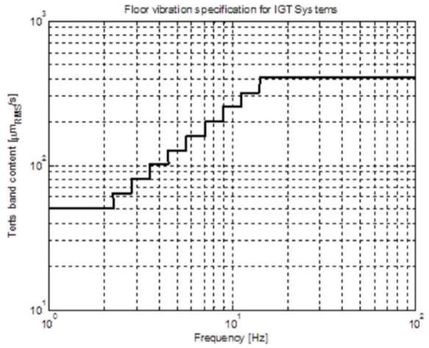
## Equipment Support Information

**11. Requirements for External Vibration**
The maximum allowed external vibration level of floors and ceilings, to which the equipment is mounted that will not adversely affect the image quality, is specified in terms of RMS velocity levels in 1/3-octave or terts bands, as follows:

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Center frequency [Hz] | 1 | 1.25 | 1.6 | 2 | 2.5 | 3.15 | 4 | 5 | 6.3 | 8 |
| Terts band value [µm/s] (RMS) | 50.8 | 50.8 | 50.8 | 50.8 | 63.5 | 80.01 | 101.6 | 127 | 160 | 203.2 |
| Center frequency [Hz] | 10 | 12.5 | 16 | 20 | 25 | 31.5 | 40 | 50 | 63 | 80 |
| Terts band value [µm/s] (RMS) | 254 | 317.5 | 406.4 | 406.4 | 406.4 | 406.4 | 406.4 | 406.4 | 406.4 | 406.4 |
| Center frequency [Hz] | 100 | 125 | 160 | 200 | | | | | | |
| Terts band value [µm/s] (RMS) | 406.4 | 406.4 | 406.4 | 406.4 | | | | | | |

### Terts Band Specification for External Vibrations

A graphical representation of this specification is given below:




### Terts Band Specification for External Vibrations

Terts band spectra shall be calculated on the basis of time traces with a duration of 10 minutes (600 seconds), taken at representative locations and during representative times during working days.

(21.1)

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PHILIPS
PROVISIONAL

**Project**
**Azurion 7 C20 FlexArm - 4300mm -**
**AD7**
**Riverside University Health Systems**
Riverside, CA
Room: Cath Lab Procedure RM 1

**Philips Contacts**
Project Manager: Winston Malcomb
Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com

Drawn By: Alec Hibit

**Project Details**
Drawing Number
**N-WES230078 C**
**Date Drawn: 6/16/2023**
Quote: Q-00161607
Order: None

SN

05.27.2022

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AGENCY APPLICATION NUMBER
S231455-33-00

AGENCY APPROVAL STAMP

BUILDING TITLE
RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE
CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

RUHS-MC PROJ. NO.
FM08430011869

CONSULTANT PROJ. NO.
047-10071-002

SHEET NAME
CATH LAB 1 - PHILIPS - SUPPORT NOTES

SHEET NUMBER
R1 S0N

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**See S1 for Floor & Wall Support Layout**

**Notes:**
1. Anchors for items that are installed/anchored by customer/contractor shall be provided by customer/contractor.
2. Anchors for items that are installed/anchored by Philips shall be provided by Philips. If customer's engineering documents specify anchors other than those listed in this document, the anchors shall be provided by customer/contractor and installed by Philips.
3. In all instances, the wall and/or floor support are the sole responsibility of the customer/contractor. The customer's architect/engineer of record shall specify wall and/or floor support sufficient for the bolt forces shown on the details.

**Contact Project Manager for seismic calculations on typical mounting method**

**See S2-S3 for Ceiling Support Layout**

**Floor & Wall Support Legend**

A Furnished and installed/anchored by Philips (exceptions may exist, see Note 2)
B Furnished and installed by customer/contractor and installed/anchored by customer/contractor
C Installed/anchored by customer/contractor
D Furnished by Philips and installed/anchored by contractor
E Existing
F Future
G Optional

| | Item Number | Description | Detail Sheet |
|---|---|---|---|
| B | CY | Support in wall for Control Room Connection Box (CY) | SD3 |
| A | CY | Anchors in wall for Control Room Connection Box (CY) | SD3 |
| D | MSA | AD7 Adaptation Plate | SD1 |
| B | FW | Firewall | SD2<br>AD5<br>SD2 |
| B | 40E | Seismic Anchorage for 40E Cabinet | |
| C | UPS | Anchors for UPS. | - |
| C | BC | Anchors for Battery Cabinet (BC). | - |

**Ceiling Support Legend**

A Furnished and installed by Philips
B Furnished by customer/contractor and installed by customer/contractor
C Installed by customer/contractor
D Furnished by Philips and installed by contractor
E Existing
F Future
G Optional
H Furnished by Philips and installed by Third Party

| | Item Number | Description | Detail Sheet |
|---|---|---|---|
| A | SP | 2 - Philips FlexArm Rails | SD1 |
| A | CD | Philips Cable Duct | SD1 |
| B | UNI | Unistrut (P1000/P1001 in meeting Philips ceiling requirements, geometry of channel and geometry of fixing block) - Bottom of Unistrut 1/4" (6mm) to 1/2" (13mm) Below Finished Ceiling | SD1 |
| A | TV | 2 - Philips Monitor Equipment Rails | SD1 |
| A | MAV | Mavig 4m Ceiling Track | AD7 |

PHILIPS
PROVISIONAL

**Project**
**Azurion 7 C20 FlexArm - 4300mm - AD7**
**Riverside University Health Systems**
Riverside, CA
Room: Cath Lab Procedure RM 1

**Philips Contacts**
Project Manager: Winston Malcomb
Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com
Drawn By: Alec Hibit

**Project Details**
Drawing Number
**N-WES230078 C**
**Date Drawn: 6/16/2023**
Quote: Q-00161607
Order: None

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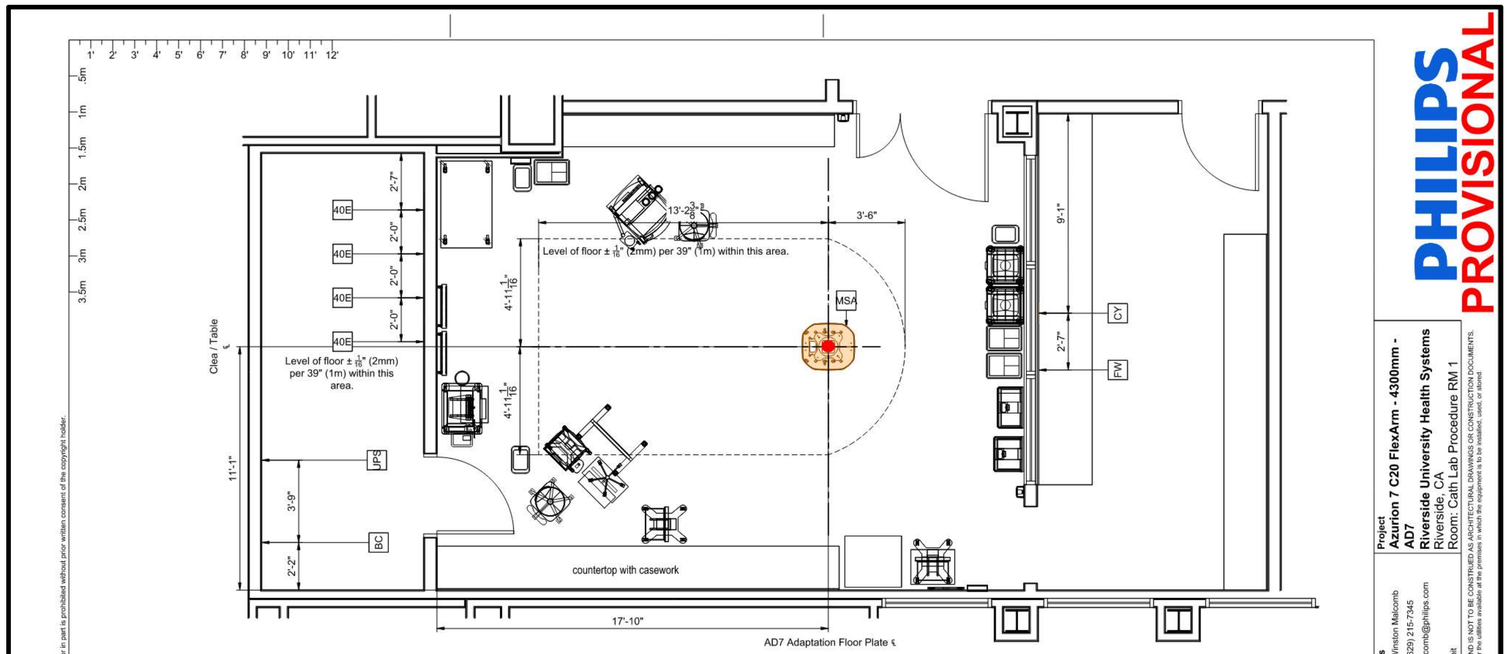
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CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

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SHEET NAME
CATH LAB 1 - PHILIPS - SUPPORT LEGEND

SHEET NUMBER
R1 S0L

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# Floor & Wall Support Layout

1/4" = 1'-0"

Required Unistrut Height: 9' - 6 3/16", +3/8" / -0 (2900mm, +10mm / -0)
Unistrut height measured from finished floor to bottom of Unistrut.

**Refer to Floor/Wall Support Legend - Sheet SL**

S1

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PHILIPS PROVISIONAL

**Project**
**Azurion 7 C20 FlexArm - 4300mm -**
**AD7**
**Riverside University Health Systems**
Riverside, CA
Room: Cath Lab Procedure RM 1

**Philips Contacts**
Project Manager: Winston Malcomb
Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com

Drawn By: Alec Hibit

**Project Details**
Drawing Number:
**N-WES230078 C**
**Date Drawn: 6/16/2023**
Quote: Q-00161607
Order: None

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AGENCY APPLICATION NUMBER
S231455-33-00

AGENCY APPROVAL STAMP

BUILDING TITLE
RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE
CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

RUHS-MC PROJ. NO.
FM08430011869

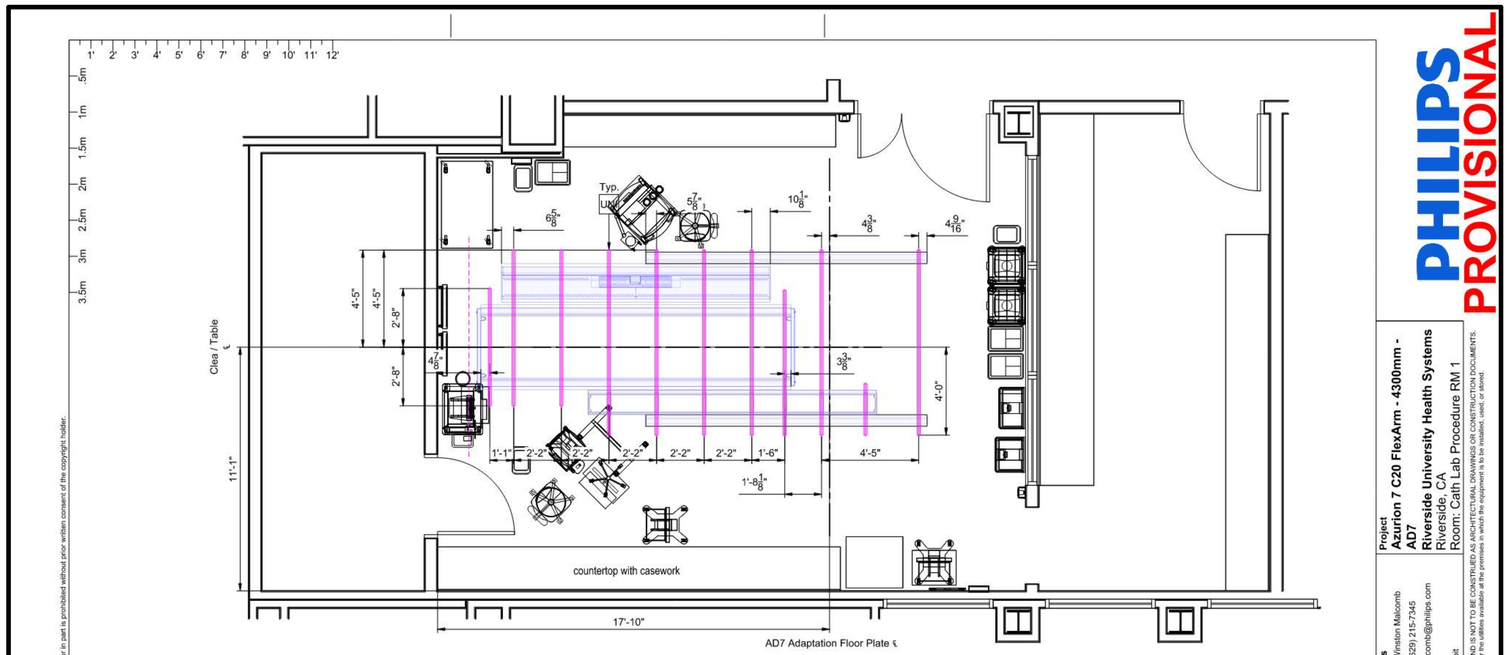
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SHEET NAME
CATH LAB 1 - PHILIPS - SUPPORT LAYOUT, FLOOR & WALL

SHEET NUMBER
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**General Notes**

- System Ceiling Rails: Overhang max 5 7/8" (150mm), distance between struts max 2'-3" (685mm) .
- Ceiling inlet cable duct must be supported by 2 struts.
- Normal cable duct (open): Overhang min 2" (50mm), max 11 13/16" (300mm).
- Hybrid cable duct (closed): Overhang min 9 13/16" (250mm), max 1'-7 11/16" (500mm) on the side where the strip rolls up and min 6 1/2" (165mm), max 1'-4 3/8" (415mm) at the other side.

# Ceiling Support Layout - Unistrut

1/4" = 1'-0"

Required Unistrut Height: 9' - 6 5/16", +3/8" / -0 (2900mm, +10mm / -0)
Unistrut height measured from finished floor to bottom of Unistrut.

**Refer to Ceiling Support Legend - Sheet SL**

PHILIPS
PROVISIONAL

**Project**
**Azurion 7 C20 FlexArm - 4300mm - AD7**
**Riverside University Health Systems**
Riverside, CA
Room: Cath Lab Procedure RM 1

**Philips Contacts**
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Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com

Drawn By: Allec Hibit

**Project Details**
Drawing Number
**N-WES230078 C**
**Date Drawn: 6/16/2023**
Quote: Q-00161607
Order: None

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RUHS-MC PROJ. NO.
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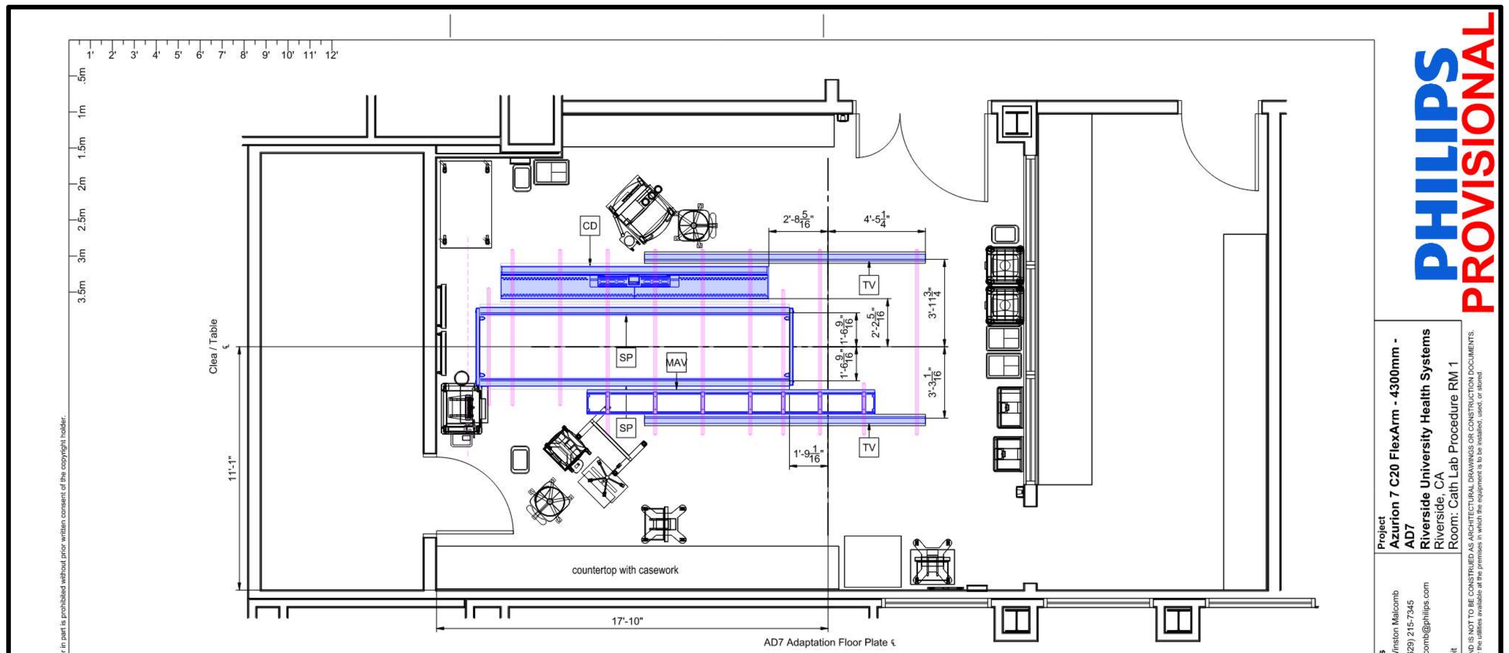
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CATH LAB 1 - PHILIPS - SUPPORT, LAYOUT, CEILING

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# Ceiling Support Layout (Equipment)

1/4" = 1'-0"

Required Unistrut Height: 9' - 6 3/16", +3/8" / -0 (2900mm, +10mm / -0)
Unistrut height measured from finished floor to bottom of Unistrut.

**Refer to Ceiling Support Legend - Sheet SL**

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PHILIPS
PROVISIONAL

**Project**
**Azurion 7 C20 FlexArm - 4300mm - AD7**
**Riverside University Health Systems**
Riverside, CA
Room: Cath Lab Procedure RM 1

**Philips Contacts**
Project Manager: Winston Malcomb
Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com

Drawn By: Alec Hibit

**Project Details**
Drawing Number
**N-WES230078 C**
**Date Drawn: 6/16/2023**
Quote: Q-00161607
Order: None

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AGENCY APPROVAL STAMP

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|---|---|
| FM08430011869 | 047-10071-002 |

SHEET NAME
CATH LAB 1 - PHILIPS - SUPPORT ALYOUT, CEILING

SHEET NUMBER
R1 S03

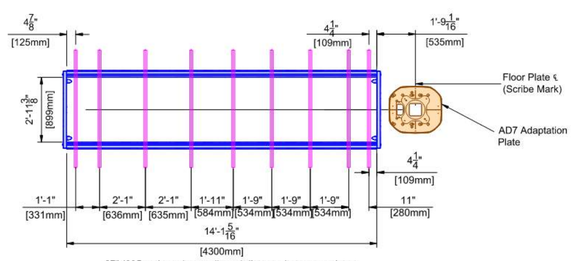
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## Detail - Structural Azurion 7 C20 FlexArm - 4300mm

(Not Site Specific)




27" (685mm) maximum allowed distance between unistrut

Floor plate supplied by Philips / installed by Contractor. Counterbored holes are sized for ½" (12mm) anchors per Seismic requirements.

| FlexArm | AD7 Table |
|---|---|
| FlexArm Bearing Forces: | Floor Plate to Floor Bolt Forces: |
| (Tension) Tmax = 2691 lbs/fixing block | (Tension) Tmax = 1950 lbs/bolt |
| (Shear) Vmax = 1227 lbs/fixing block | (Shear) Vmax = 776 lbs/bolt |

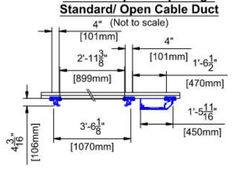
Note: The bearing force shown for the FlexArm is the maximum instantaneous equipment bearing load that can result from abusive use of the system. This force can occur at two locations (each fixing block) simultaneously on the same Unistrut (or equal) rail. If seismic forces must be considered, please refer to the seismic calculation sheets provided by Philips for the specific system components.

MSA SP

(19.0)

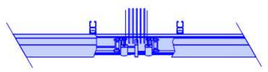
## Detail - Clip Rail Spacing - Standard/ Open Cable Duct

(Not to scale)




## Detail - Ceiling Inlet Detail- Standard/ Open Cable Duct

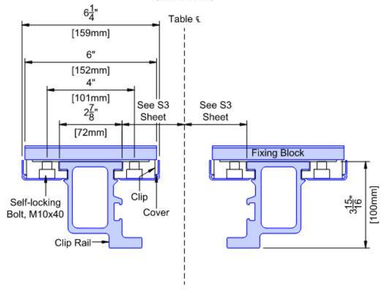
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(19.0)

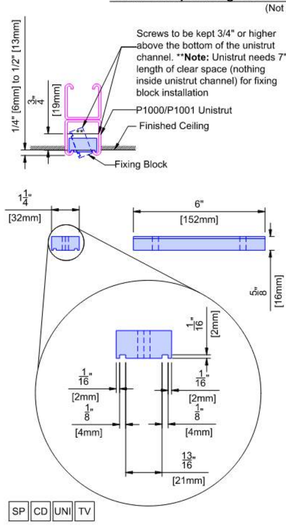
## Detail - Clip Rail Cross-Section

(Not to scale)




## Detail - Philips Fixing Block for Philips Ceiling Rails (Clip Rails)

(Not to scale)




**General Requirements:**

1. Philips does not specify the overhead equipment support structure. Unistrut may or may not be used. If Unistrut are used, it is up to Unistrut and the structural engineer for the project to determine which of its products are appropriate for each project.
2. P1000/P1001 Unistrut is specified.

**Finished Ceiling Requirements:**

1. Finished ceiling must **NOT** be lower than the bottom of the Unistrut in order to prevent damage to the finished ceiling during the installation of clip rails. Finished ceiling height to be mounted ¼" (6mm) to ½" (13mm) above bottom of Unistrut.

**Fixing Block Installation Requirements:**

1. Nothing shall be attached to the Unistrut with any fastener that protrudes into the Unistrut which would interfere with positioning of the fixing block.
2. Fixing blocks for Philips ceiling rails (Clip rails) are designed to be installed in P1000/P1001Unistrut.
3. The inside of the Unistrut must be clear of obstructions (including paint).

**Unistrut Requirements:**

1. Unistrut elements must be rigid and comply with the ceiling structure requirements. See SN sheet, line #4 "Ceiling Support Apparatus".
2. Welding Unistrut may warp Unistrut and deteriorate the structural integrity of the Unistrut. Consult the Structural Engineer of Record prior to welding any Unistrut.
3. Third party structural laminar modular array venders the minimum rail fixing block Unistrut length shall be 7 inches.

SP CD UNI TV

(22.0)

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05.27.2022

PHILIPS PROVISIONAL

**Project**
**Azurion 7 C20 FlexArm - 4300mm - AD7**
**Riverside University Health Systems**
Riverside, CA
Room: Cath Lab Procedure RM 1

**Philips Contacts**
Project Manager: Winston Malcomb
Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com

Drawn By: Alec Hibit

**Project Details**
Drawing Number
**N-WES230078 C**
**Date Drawn: 6/16/2023**
Quote: Q-00161607
Order: None

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RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

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| Draw | Author |
| Check | Checker |
| Issue Date | 2023/8/28 |

AGENCY APPLICATION NUMBER

S231455-33-00

AGENCY APPROVAL STAMP

BUILDING TITLE

RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE

CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

RUHS-MC PROJ. NO.
FM08430011869

CONSULTANT PROJ. NO.
047-10071-002

SHEET NAME

CATH LAB 1 - PHILIPS - SUPPORT DETAILS

SHEET NUMBER

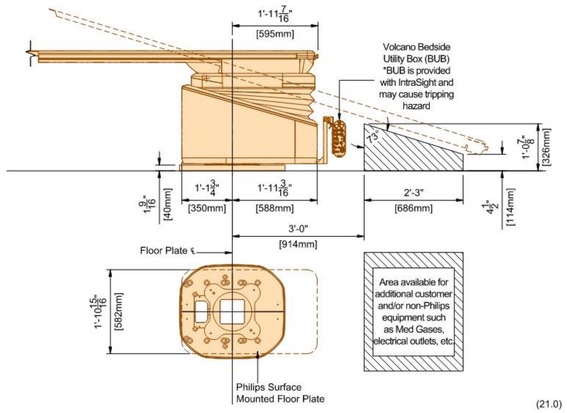
R1 SD1

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## Detail - AD7 SyncraTilt/Tilt Table, Fixed/Pivot Base - Clearance Area

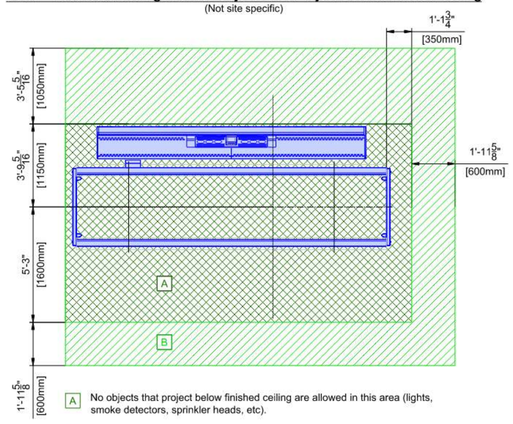
(Not to scale)




(21.0)

## Detail - Restricted Ceiling Area for Objects that Project Below Finished Ceiling

(Not site specific)




A No objects that project below finished ceiling are allowed in this area (lights, smoke detectors, sprinkler heads, etc).

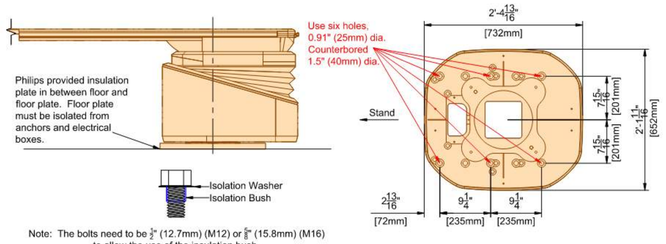
B All objects placed 4 1/2" (114mm) or less below ceiling are clear, but all objects placed past 4 1/2" (114mm) require an elevation check before installation.

(19.0)

## Detail - AD7 Adaptation Plate - Notes for Installation

(Not to scale)

1. 1.5748" (40mm) thick floor plate, surface mounted with top of slab.
2. Level within 1/16" (1.5mm) across surface of plate.



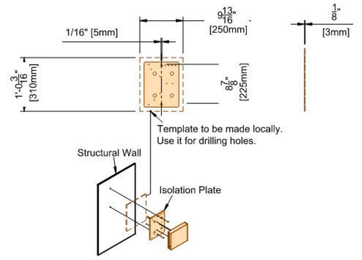

Note: The bolts need to be 1/2" (12.7mm) (M12) or 5/8" (15.8mm) (M16) to allow the use of the insulation bush.

MSA

(21.0)

## Detail - Firewall Cisco ASA-5506 - Hole Pattern for Mounting

(Not to scale)




FW

(20.0)

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05.27.2022

PHILIPS
PROVISIONAL

**Project**
Azurion 7 C20 FlexArm - 4300mm - AD7
Riverside University Health Systems
Riverside, CA
Room: Cath Lab Procedure RM 1

**Philips Contacts**
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Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com
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**Project Details**
Drawing Number
N-WES2230078 C
Date Drawn: 6/16/2023
Quote: Q-00161607
Order: None

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| Design | Designer |
| Draw | Author |
| Check | Checker |
| Issue Date | 2023/9/28 |

AGENCY APPLICATION NUMBER
S231455-33-00

AGENCY APPROVAL STAMP

BUILDING TITLE
RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE
CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

| RUHS-MC PROJ. NO. | CONSULTANT PROJ. NO. |
|---|---|
| FM08430011869 | 047-10071-002 |

SHEET NAME
CATH LAB 1 - PHILIPS - SUPPORT DETAILS

SHEET NUMBER
R1 SD2

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## Pre-Evaluated and -Approved Anchor Reference List for Philips Installers

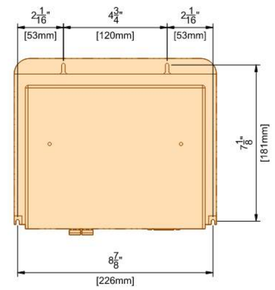
Anchors for items that are installed/anchored by customer/contractor shall be provided by customer/contractor. Anchors for items that are installed/anchored by Philips shall be provided by Philips. If customer's engineering documents specify anchors other than those listed below, the anchors shall be provided by customer/contractor and installed by Philips. In all instances, the wall and/or floor support are the sole responsibility of the customer/contractor. The customer's architect/engineer of record shall specify wall and/or floor support sufficient for the bolt forces shown on the details.

| Equipment | Option | Anchor Style (provided by Philips) | Anchor Size (provided by Philips) | Qty. | Support Size & Material (provided & installed by customer/contractor) |
|---|---|---|---|---|---|
| Control Room Connection Box (CY) | A | Round Phillips Head Self Drilling Screws | #10-16 x 1 $\frac{1}{2}$" (38mm) L | 3 | Drywall with minimum 20 gauge Steel backing |
| | B | SPAX Multipurpose flat head screw | #10 x 1 $\frac{1}{2}$" (38mm) L | 3 | Drywall with minimum 20 gauge Steel backing |
| | C | Toggler Snaptoggle and (round head screws) | #BA and (#10-24 x 2 $\frac{1}{2}$" (63.5mm) L) | 3 | Minimum $\frac{5}{8}$" (16mm) Drywall |

(16.0)

## Detail - Video Connection Box - Hole Pattern for Mounting

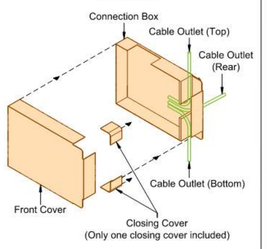
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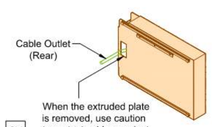



(16.0)

## Detail - CY - Cable Outlets

(Not to scale)

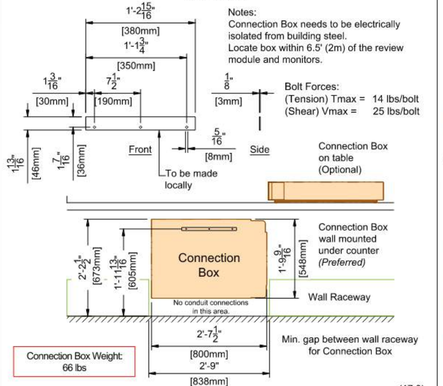



(16.0)

## Detail - CY - Wall Mount Template

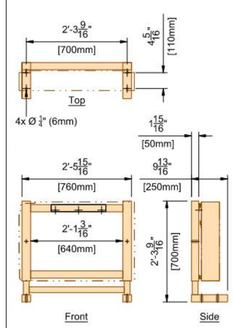
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(17.0)

## Detail - CY Support Frame Option

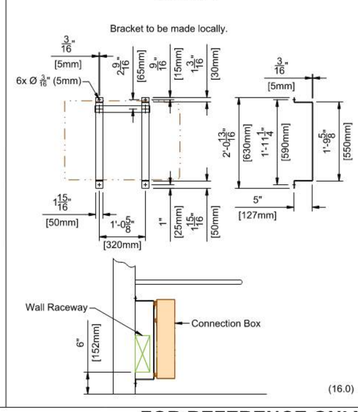
(Not to scale)




(16.0)

## Detail - CY - Bracket Mount Option

(Not to scale)




(16.0)

**Project**
**Azurion 7 C20 FlexArm - 4300mm - AD7**
**Riverside University Health Systems**
Riverside, CA
Room: Cath Lab Procedure RM 1

**Philips Contacts**
Project Manager: Winston Malcomb
Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com
Drawn By: Alec Hibit

**Project Details**
Drawing Number
**N-WES230078 C**
**Date Drawn: 6/16/2023**
Quote: Q-00161607
Order: None

SD3

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| Check | Checker |
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BUILDING TITLE
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| FM08430011869 | 047-10071-002 |

SHEET NAME
CATH LAB 1 - PHILIPS - SUPPORT DETAILS

SHEET NUMBER
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## Emergency Power

Philips does not require equipment to be on emergency power. If the customer deems it necessary for the equipment to be supplied with emergency power, the following specifications must be applied:

The Mains 40E cabinet feeding an Azurion system will have an absolute peak current of <=300A @ 480V. Maximum momentary current <=80A per phase when averaged over a 5-second window. Note that during acquisition, the current harmonics (including sub- and inter-harmonics) up to 1 kHz can be substantial. Account for: 30% for the mains frequency +/- the frame speed, up to 20% for the 5th harmonics, up to 10% for the 7th harmonics.

Maximum differential mode induced disturbance voltage on these wires shall be a <3V peak at all frequencies. Maximum common mode current on these wires shall be less than 3 micro-amp at frequencies between 30-1000MHz to meet EMC regulations.

For systems delivered to site before Jan 2016 or with SIB (system interface box) 4522163320978. When this interface is used a Sub-D capacitive filter adapter with 5.6nF between pins and chassis shall be placed on X14 of the SIB input in the MA-cabinet (e.g. Amphenol FCE17B25AD290).

(22.0)

## Electrical Requirement Notes for Systems with Mains 40E Cabinet

Electrical power distribution at the facility shall comply with:

Utilization voltages per ANSI C84.1 - 2006 range A.

Voltage to be supplied is 3 phase, Wye or symmetric Delta 3-line +PE.

Phase conductors to be sized for instantaneous voltage drop per NEC 517.73 and Philips recommendations.

All Philips equipment is grounded via the equipment insulated ground wire. Metal raceway bonding shall be used as a secondary ground fault return path only for the supply mains to the equipment. The raceway system ground and isolated equipment ground shall be bonded together via the ERB terminal jumpers.

The Philips system has a private ground domain per clause 250.96B of the NEC. The raceway from the X-ray breaker (CB) to the Mains 40E Cabinet shall be supplemented by an internal insulated equipment grounding conductor installed in accordance with clause 250.146(D) of the NEC. The Azurion equipment ground domain and the branch circuit ground domain are bonded together in the ERB via a ground bonding jumper.

ANSI / NFPA 70 - National Electrical Code
Article 250 - Grounding
Article 517 - Healthcare Facilities
ANSI / NFPA 99 - Healthcare Facilities

## Power Quality Guidelines

1. Power supplied to medical imaging equipment must be separate from power feeds to air conditioning, elevators, outdoor lighting, and other frequently switched or motorized loads. Such loads can cause waveform distortion and voltage fluctuations that can hinder high quality imaging.
2. Equipment that utilizes the facility power system to transmit control signals (especially clock systems) may interfere with medical imaging equipment, thus requiring special filtering.
3. The following devices provide a high impedance, nonlinear voltage source, which may affect image quality: Static UPS systems, Series filters, Power conditioners, and Voltage regulators.
Do not install such devices in the supply mains branch circuit of the Azurion system without consulting Philips installation or service personnel.
4. Line impedance is the combined resistance and inductive reactance of the electrical system and includes the impedance of the power source, the facility distribution system, and all phase conductors between the source and the imaging equipment. The minimum conductor size is based on the total line impedance and NEC requirements. Impedance calculations are to be performed by an electrical engineer.

(22.0)

## General Electrical Information

1. General
The customer shall be solely responsible, at its expense, for preparation of the site, including any required electrical alterations. The site preparation shall be in accordance with this plan and specifications, the architectural/construction drawings and in compliance with all safety and electrical codes, the customer shall be solely responsible for obtaining all electrical permits from jurisdictional authority.

2. Materials and Labor
The customer shall be solely responsible, at its expense, to provide and install all electrical ducts, boxes, raceways (conduits, wireways, auxiliary gutters etc.), fittings, bushing, etc., As separately specified herein.

3. Electrical Ducts and Boxes
Electrical ducts and boxes shall be accessible and have removable covers. Floor ducts and boxes shall have watertight covers. Ducts shall be divided into as many as four separate channels by metal dividers, separately specified herein, to separate wiring and/or cables into groups as follows: Group A: Branch circuit equipment supply mains power wires together with the branch circuit isolated equipment bonding wire. Group B: Equipment Secondary Circuit AC supply and associated isolated ground cable/wire harnesses. Group C: Equipment signal wires and cable harnesses plus equipment low-voltage DC supply cable/wire harnesses. Group D: X-Ray high-voltage cables, the use of 90 deg. ells is not acceptable. On ceiling duct and wall duct use 45 deg. bends at all corners. All intersecting points in duct to have cross over tunnels supplied and installed by contractor to maintain separation of cables based on 725.136 for low voltage signaling cables and conductors and 517.80 for communications and signaling cables in health care applications. Secondary circuits of transformer powered communications and signaling systems are not required to be enclosed in raceways unless otherwise specified by Chapter 7 or Chapter 8. All wire harnesses of the Azurion system are required to be run in a raceway (wireway) dedicated to Azurion wire harnesses. No foreign wiring shall be run in the same wireway together with the Azurion wire harnesses. Separation between Group A and other groups is mandatory along the full run of group A wires. Separation between groups B, C, and D is recommended for the first 3 meters behind the equipment cabinets and for the locations where wire-harness over-length is suspended.

4. Raceways (Conduit)
Raceway (Conduit) point - to - point runs shall be as direct as possible. Empty conduit runs used for cables may require pull boxes located along the run. Consult with Philips. A pull wire or cord shall be installed in each conduit run. Best practice to name the physical conduit. All conduits which enter duct prior to their termination point must maintain separation from other cables via use of dividers, cross over tunnels, or conduit supplied and installed by contractor from entrance into duct to exit from duct. Do not use flex conduit unless approved by Philips Service.

5. Conductors
All conductors, separately specified, shall be 90°C stranded copper, rung out and marked.

6. Disconnecting Means
A disconnecting means shall be provided as separately specified.

7. Warning Lights and Door Switches
"X-ray on" warning lights and x-ray termination door switches should be provided at all entrances to x-ray rooms as required by code.

8. Dimmer Switches
X-ray room lights should be provided with dimmer switches. (19.0)

## Electrical Notes

1. The contractor will supply & install all breakers, shunt trip and incoming power to the breakers. The exact location of the breakers and shunt trips will be determined by the architect or contractor.

2. The contractor shall supply & install all pull boxes, raceway runs, stainless steel covers, etc. Conduit/raceways must be free from burrs and sharp edges over its entire length. A Greenlee pull string/measuring tape (part no. 435, or equivalent) must be provided with raceway runs to validate runs are within length restrictions.

3. All pre - terminated, cut to length cables, will be supplied and installed by Philips. All cables and conductors to the equipment supply mains branch circuit breaker shall be supplied and installed by the contractor, subject to local arrangements.

4. Provide and install 50mm diameter chase nipples between adjacent wall boxes.

5. Electrical raceway ducts shall be installed with removable covers. The raceway should be accessible for the entire length. In case of non - accessible floors, walls and ceilings, an adequate number of access hatches should be supplied to enable installation of cabling. Approved raceways may be substituted. All raceways will be designed in a manner that will not allow cables to fall out of the raceway when the covers are removed. In most cases, this will require above - ceiling raceway to be installed with the covers removable from the top. Raceway systems as illustrated on this drawing are based upon length of furnished cables. Any changes in routing of raceway systems could exceed maximum allowable length of furnished cables. Conduits or raceways installed above ceilings must be kept as near as practicable to finished ceilings and still permit accessibility.

6. Raceway sizes shall be verified by the architect, electrical engineer or contractor, in accordance with local or National Electrical Code, whichever govern.

7. Convenience outlets are not shown on the plans. Their number and location are to be specified by the customer/architect.

8. Electrical contractor shall install grounding and bonding conductors at raceway openings within wall boxes as required by national and local electrical codes. Ground bond wires and lugs shall be installed in such a way to prevent the inadvertent contact with the installed Philips equipment to maintain Philips isolated ground scheme and maintain patient safety.

9. Install an insulated stranded ground wire per feeder/conductor size from the Main Disconnect (CB) to the ERB (minimum size 4 AWG) and from the ERB to the Mains 40E Cabinet (minimum size 4 AWG).

10. Philips equipment must be electrically isolated from conduits, raceways, ducts, seismic anchoring, floor anchoring, etc. (18.0)

PHILIPS
PROVISIONAL

**Project**
**Azurion 7 C20 FlexArm - 4300mm - AD7**
**Riverside University Health Systems**
Riverside, CA
Room: Cath Lab Procedure RM 1

**Philips Contacts**
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Drawn By: Alec Hibit

**Project Details**
Drawing Number
**N-WES230075 C**
**Date Drawn: 6/16/2023**
Quote: Q-00161607
Order: None

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Riverside University HEALTH SYSTEM

RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

26520 CACTUS AVENUE, MORENO VALLEY, CALIFORNIA 92555

LEO A DALY

550 SOUTH HOPE STREET, SUITE 2700
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TEL: (213)629-0100 FAX: (213)629-0070

ARCHITECTECT STAMP

CONSULTANT

CONSULTANT STAMP

KEY PLAN

REVISIONS

| NO. | DESCRIPTION | DATE |
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| Design | Designer |
| Draw | Author |
| Check | Checker |
| Issue Date | 2023/8/28 |

AGENCY APPLICATION NUMBER
S231455-33-00

AGENCY APPROVAL STAMP

BUILDING TITLE
RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE
CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

RUHS-MC PROJ. NO.
FM08430011869

CONSULTANT PROJ. NO.
047-10071-002

SHEET NAME
CATH LAB 1 - PHILIPS - ELECTRICAL NOTES

SHEET NUMBER
R1 E0N

VENDOR'S SHOP DRAWING
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## Electrical Legend

A Furnished and installed by Philips
B Furnished by customer/contractor and installed by customer/contractor
C Installed by customer/contractor
D Furnished by Philips and installed by contractor
E Existing
F Future
G Optional

Item Number | Description | Detail Sheet

### Wall

| | | Description | Detail Sheet |
|---|---|---|---|
| B | CB | 480V, 3 phase, Type D 80 A circuit breaker with long-time delay (e.g. Square D HDL36080 or equivalent). Run power from breaker to "MA", leaving an 8' (2440mm) tail at "MA". See Sheet "ED1" for power quality requirements. Location per local code or owner requirements. (Not shown on plan) | ED1 |
| B | ST | Shunt Trip (emergency off) - Large mushroom-head button on remote control station with contacts to operate feature of "CB2" (if required by local code or owner, and mandatory for VA and D.O.D installations). If UPS is utilized, EPO switch will run 2 sets of communication wires to input breaker to UPS and to UPS itself (Not shown on plan) | ED4 |
| B | GE | Local building steel (i.e. structural steel, ground rod). (Not shown on plan) | |
| B | ERB | Equi-Potential Reference Bar mounted in a 12" (305mm) W x 12" (305mm) H x 4" (105mm) D pull box with hinged cover, surface mounted to the bottom of "WR2" when possible. | ED2 |
| B | ME / MR / MA / MB | **Customer/Contractor provided** 19 $\frac{1}{4}$" (490mm) W x 67" (1705mm) H x 4" (105mm including rubber isolation strips) D flanged-edge terminal back box, surface mounted 82" (2085mm) A.F.F. to top of box. Weight is approximately 125 lbs (56.7 kg) per box. Please see ED3 for ordering instructions for back boxes. | ED3 |
| B | CY / WM / VB1 / VB2 / RIC / VB3 / INT | Grommet opening on "WR3". Approximate location shown is recommended and may be changed - verify relocation with local Philips Service. | |
| B | VB4 / VB5 / VB6 | 4" (105mm) W x 4" (105mm) H x 4" (105mm) D pull box with removable screw-type cover plate, flush mounted. Exact height to be determined. Verify location with local Philips Service. | |
| B | WR1 / WR2 | 10" (255mm) W x 4" (105mm) D wall raceway, surface mounted with removable screw-type cover plate. "WR1" is at 5" (130mm) A.F.F. to bottom of raceway. "WR2" is at 82" (2085mm) A.F.F. to bottom of raceway. | ED3 |
| B | WR3 | 10" (255mm) W x 4" (105mm) D wall raceway, surface mounted with removable screw-type cover plate. "WR3" is at finished floor. "WR3" may need to be cut at the location of the "CY" connection box. | ED3 |
| G | PHY | Stub up point for physiological monitoring cables. Run raceway (conduit) to customer's physiological console location. Contact manufacturer for power requirements, etc. (Not shown on plan) | |
| B | ATY | Auxiliary Box - 6" (155mm) W x 6" (155mm) H x 4" (105mm) D wall box, flush mounted with removable screw-type cover plate. Location shown is recommended and may be changed - verify height and relocation with local Philips Service. | |
| B | DS | Door Switch - 120V/5A switch limited to open when door is open. Mount in upper corner on strike side of main entry door(s) (Cooper no. 1665 or equivalent), if required by local code or physicist of record. See Sheet "ED3" diagram for connection details. (Not shown on plan) | ED3 |
| B | WL | Warning Light - Provide a surface or flush mounted light fixture above door to indicate when X-ray is on, if required by local code or physicist of record. (Not shown on plan) | ED3 |
| B | FW | Approximate location shown for Firewall is recommended and may be changed - verify relocation with local Philips Service. Firewall must be installed maximum of 6'-6 3/4" from the CY. | |

## Electrical Legend

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C Installed by customer/contractor
D Furnished by Philips and installed by contractor
E Existing
F Future
G Optional

Item Number | Description | Detail Sheet

### Floor

| | | Description | Detail Sheet |
|---|---|---|---|
| B | MSA | 10" (255mm) W x 10" (255mm) L x 6" (155mm) D floor box, flush mounted with underside of AD7 Adaptation Plate. | |

### Ceiling

| | | Description | Detail Sheet |
|---|---|---|---|
| B | SP | 18" (460mm) W x 18" (460mm) L x 6" (155mm) D ceiling box, flush mounted with removable screw-type cover plate. Provide one 4" (105mm) square knockout. | |
| B | TV / VB7 / VB8 | 18" (460mm) W x 18" (460mm) L x 6" (155mm) D ceiling box, flush mounted with removable screw-type cover plate. Provide a 2 $\frac{1}{2}$" (65mm) round cutout (Two 2 $\frac{1}{2}$" (65mm) round cutouts are required for systems with two monitor carriages - verify with local Philips Service). VB7 & VB8 to be mounted on the rear of Flexvision. | |
| B | M3 | 4" (105 mm)W x 4" (105 mm)L x 2 1/2" (65 mm)D ceiling box, flush mounted with removable screw-type cover plate. Recommended location is near or above the cable spooler. Hardwire 120 - 240 VAC, 50 - 60 Hz hospital power to "M3". | |

### Duplexes

| | | Description | Detail Sheet |
|---|---|---|---|
| G | 250 | 250V/30A dedicated duplex outlet for optional third party equipment (e.g. Spectranetics Laser - Not shown on plan). | |
| B | | 120V/20A dedicated duplex outlet. | |
| B | IS | 120V/20A dedicated duplex outlet for service in the equipment room. (Not shown on plan) | |
| B | 3 | 120VAC with 1Amp power draw SBO (Signaling Box Option) | |

### Network Connectors

| | | Description | Detail Sheet |
|---|---|---|---|
| B | N1 | RJ45 type Ethernet 10/100/1000 Mbit network connector with access to customer's network. Locate within 10' (3050mm) of network card. Network fiber optic and Ethernet cabling, connectors, wall boxes, patch panels, etc. are the responsibility of the purchaser. Philips assumes no responsibility for procurement, installation, or maintenance of these components. | |
| B | N2 | RJ45 type Ethernet 10/100/1000 Mbit network connector. Access to customer's network via their remote access server is needed for Remote Service Network (RSN) connectivity. | N1 |

**See E1 - E4 sheets for conduit and raceway requirements.**

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**FOR REFERENCE ONLY** 05.27.2022

PHILIPS
PROVISIONAL

**Project**
**Azurion 7 C20 FlexArm - 4300mm - AD7**
**Riverside University Health Systems**
Riverside, CA
Room: Cath Lab Procedure RM 1

**Philips Contacts**
Project Manager: Winston Malcomb
Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com
Drawn By: Alec Hibit

**Project Details**
Drawing Number
**N-WES230078 C**
**Date Drawn: 5/16/2023**
Quote: Q-00161607
Order: None

EL1

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ARCHITECTECT STAMP

CONSULTANT

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KEY PLAN

REVISIONS

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| ACTIVITY | BY |
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| Design | Designer |
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| Check | Checker |
| Issue Date | 2023/8/28 |

AGENCY APPLICATION NUMBER
S231455-33-00

AGENCY APPROVAL STAMP

BUILDING TITLE
RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE
CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

RUHS-MC PROJ. NO.
FM08430011869

CONSULTANT PROJ. NO.
047-10071-002

SHEET NAME
CATH LAB 1 - PHILIPS - ELECTRICAL LEGEND

SHEET NUMBER
R1 EL1

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## Electrical Legend

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B Furnished by customer/contractor and installed by customer/contractor
C Installed by customer/contractor
D Furnished by Philips and installed by contractor
E Existing
F Future
G Optional

| | Item Number | Description | Detail Sheet |
|---|---|---|---|
| | | **Wall** | |
| B | CB2 | UPS input breaker. 125A, 3-pole circuit breaker with shunt trip. (Not shown on plan). | ED4 |
| D | UPS | UPS - 75 kVA. | ED4 |
| D | BC | Battery Cabinet. | ED4 |
| D | SBO | Signaling Box Option (wall mounted in the control area). Exact height to be determined. Location shown is recommended and may be changed - verify relocation with customer/contractor. | ED4 |
| B | IC | Grommet opening on "WR2". Exact size and location to be determined by local Philips Service. | |

**See E1 - E4 sheets for conduit and raceway requirements.**

PHILIPS
PROVISIONAL

**Project**
**Azurion 7 C20 FlexArm - 4300mm - AD7**
**Riverside University Health Systems**
Riverside, CA
Room: Cath Lab Procedure RM 1

**Philips Contacts**
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Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com

Drawn By: Alec Hibit

**Project Details**
Drawing Number
**N-WES230078 C**
**Date Drawn: 6/16/2023**
Quote: Q-0016'607
Order: None

EL2

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| Draw | Author |
| Check | Checker |
| Issue Date | 2023/8/28 |

AGENCY APPLICATION NUMBER
S231455-33-00

AGENCY APPROVAL STAMP

BUILDING TITLE
RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE
CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

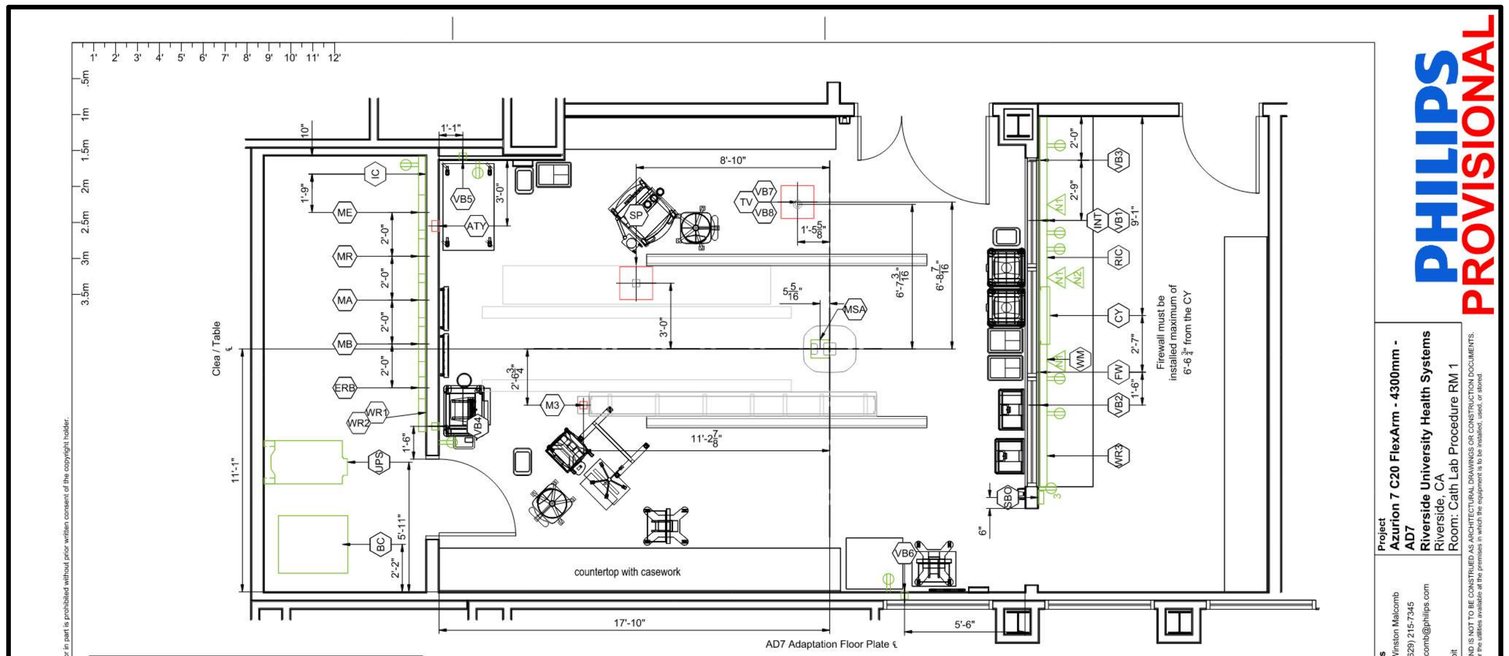
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|---|---|
| FM08430011869 | 047-10071-002 |

SHEET NAME
CATH LAB 1 - PHILIPS - ELECTRICAL LEGEND

SHEET NUMBER
R1 EL2

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**General Notes for Testing and Service Purpose:** (22.0)

The conduit must meet these 3 criteria:

- Accessible for the FSE during install & annual PM Electrical Safety testing.
- Max Lenght of the ground wire stays below 60'-0".
- A #6 ground to be used.

The calculated ground resistance to the added wire would need to be subtracted from the measured ground bonding between the ERB and accessible part.

Conduit is added to bypass long hallways during testing purposes. Conduit must be alone. Verify with field and customer requirement.

Exam room placement of conduit termination should be on shared wall with equipment room, if possible, if not, exam room wall closest to the equipment room.

# Electrical Layout

1/4" = 1'-0"

Required Unistrut Height: 9' - 6 3/16", +3/8" / -0 (2900mm, +10mm / -0)
Unistrut height measured from finished floor to bottom of Unistrut.

**Refer to Electrical Legend - Sheet EL1-EL2 and Raceway/Conduit - Sheet E2-E4**

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PHILIPS
PROVISIONAL

**Project**
**Azurion 7 C20 FlexArm - 4300mm -**
**AD7**
**Riverside University Health Systems**
Riverside, CA
Room: Cath Lab Procedure RM 1

**Philips Contacts**
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Contact Number: (629) 215-7345
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Drawn By: Alec Hibit

**Project Details**
Drawing Number
**N-WES2330078 C**
**Date Drawn: 6/16/2023**
Quote: Q-0016160?
Order: None

E1

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AGENCY APPROVAL STAMP

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RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE
CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

| RUHS-MC PROJ. NO. | CONSULTANT PROJ. NO. |
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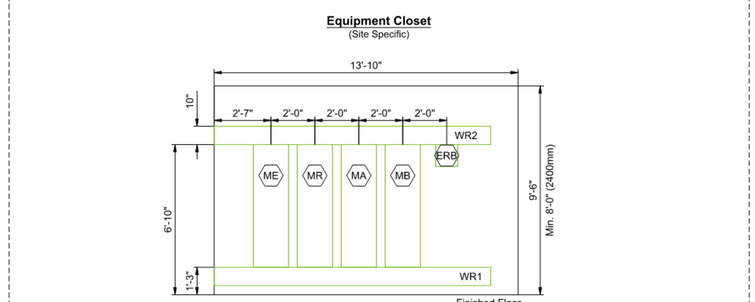
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CATH LAB 1 - PHILIPS - ELECTRICAL LAYOUT

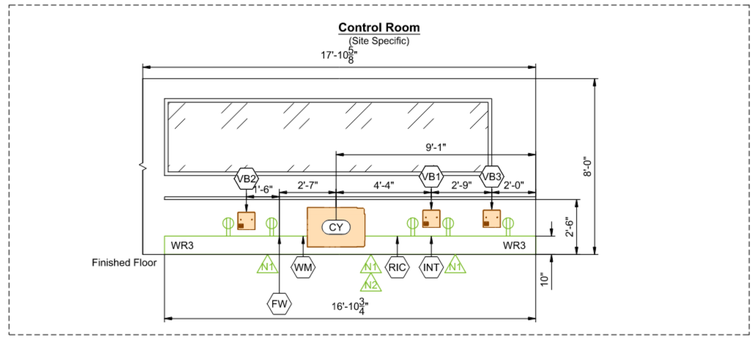
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R1 E01

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Note: The use of 90 degree ells is not acceptable. Use 45 degree bends at all raceway corners. For raceway (conduit) runs, use the minimum bending radius specific to the raceway (conduit) diameter. The use of crossover tunnels at all applicable locations is required. The above mentioned recommendations will help to ensure the integrity of the cables and fiber optic runs.

*** Countertop Height Guide:**
30" (765mm) for standard seated height.
36" (915mm) for standard standing height.
*** Ensure that the wall junction boxes are mounted perpendicular to the floor.**
*** Verify exact ceiling height of Equipment and Control Room Area.**
*** Architect to coordinate with end users/technicians to determine final placement of control desk components prior to installation in order to avoid rework. Architect to coordinate with Philips Project Manager to reflect final placement on Philips drawings.**

**PHILIPS**
**PROVISIONAL**

**Project**
**Azurion 7 C20 FlexArm - 4300mm -**
**AD7**
**Riverside University Health Systems**
Riverside, CA
Room: Cath Lab Procedure RM 1

**Philips Contacts**
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Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com
Drawn By: Alec Hibit

**Project Details**
Drawing Number
**N-WES230078 C**
**Date Drawn: 6/16/2023**
Quote: Q-00161607
Order: None

E2

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AGENCY APPROVAL STAMP

BUILDING TITLE
RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE
CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

| RUHS-MC PROJ. NO. | CONSULTANT PROJ. NO. |
|---|---|
| FM08430011869 | 047-10071-002 |

SHEET NAME
CATH LAB 1 - PHILIPS - RACEWAY & CONDUIT INFO

SHEET NUMBER
R1 E02

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## Raceway (Conduit) Required

### General Notes

1. All raceway (conduit) runs must take most direct route point to point.
2. A Greenlee pull string/measuring tape (part no. 435, or equivalent) must be provided with raceway (conduit) runs

| | |
|---|---|
| A | Raceway (Conduit) supplied/installed by contractor - Philips cables installed by Philips |
| B | Raceway (Conduit) supplied/installed by contractor - Philips cables installed by contractor |
| C | Raceway (Conduits) and cables supplied and installed by contractor |
| D | Raceway (Conduit) existing - cables supplied and installed by Philips |
| E | Raceway (Conduit) existing - cables supplied by Philips and installed by contractor |
| F | Raceway (Conduit) existing - cables supplied and installed by contractor |
| G | Optional equipment, verify with local Philips Service |

* P Power (AC), D Power (DC), G Ground, S Signal, H High Tension, C Cooling Hose, A Air Supply Hose

| | Raceway (Conduit) Run No. | From | To | Raceway (Conduit) Quantity | Cable Type (*) | Minimum Raceway (Conduit) Size | Maximum (Raceway) Conduit Length | Special Requirements |
|---|---|---|---|---|---|---|---|---|
| C | 1 | ERB | GE Room Outlets | 1 | G | 4" | 6' | - |
| C | 2 | ERB | | 1 | G | 4" | - | See Sheet "ED2" for details. |
| C | 3 | MA | WL | 1 | P | 3" | 55' | - |
| C | 4 | ATY | DS | 1 | S | 4" | 55' | - |
| A | 5 | ATY | MA | 1 | S | 2 1/2" | 41' | - |
| A | 6 | ATY | TV | 1 | S | 4" | 65' | - |
| A | 7 | SP | MA | 1 | S | 2" | 41' | Standard/Open Cable Duct |
| A | 8 | SP | ME | 1 | C | 2 1/2" | 41' | |
| A | 9 | SP | ME | 1 | P/G | 1" | 41' | |
| A | 10 | SP | ME | 1 | S | 1 1/2" | 41' | |
| A | 11 | SP | ME | 1 | H | 2 1/2" | 41' | High Tension Cables. |
| A | 12 | SP | MR | 1 | P/G | 2" | 41' | |
| A | 13 | SP | MR | 1 | S | 1" | 41' | |
| A | 14 | MSA | MA | 1 | P | 1 1/2" | 39' | - |
| A | 15 | MSA | MA | 1 | S | 3" | 39' | - |
| A | 16 | MSA | MR | 1 | P/G | 2" | 39' | - |
| A | 17 | MSA | MR | 1 | S | 2" | 39' | - |
| A | 18 | TV | MA | 1 | P | 1 1/2" | 55' | - |
| A | 19 | TV | MA | 1 | S | 2 1/2" | 55' | - |
| A | 20 | TV | MR | 1 | P | 2" | 55' | - |
| A | 21 | TV | MB | 1 | S | 1 1/2" | 55' | For FlexVision XL. |
| A | 22 | TV | MB | 1 | P/G | 1 1/2" | 55' | - |
| A | 23 | TV | WM | 1 | S | 4" | 65' | For Intercom. |
| A | 24 | CY | MR | 1 | S | 2" | 55' | Conduits to land on wall raceway adjacent to CY. |
| A | 25 | CY | MA | 1 | P/G | 1 1/2" | 55' | Conduits to land on wall raceway adjacent to CY. |
| A | 26 | CY | MA | 1 | S | 2 1/2" | 55' | Conduits to land on wall raceway adjacent to CY. |
| A | 27 | MB | WM | 1 | S | 1 1/2" | 82' | For FlexSpot. |
| A | 28 | MR | WM | 1 | S | 1" | 82' | Conduits to land on wall raceway adjacent to CY. |
| A/C | 29 | TV | WR3 | 2 | S | 1 1/2" | - | For equipment (IE. Physio Monitor/ Slave Monitor/ VBs on back of FlexVision) For future options (Patient Monitoring). Verify with local Philips Service if auxiliary box should be used. |
| C | 30 | MSA | WR3 | 2 | S | 1 1/2" | - | |

## Raceway (Conduit) Required

### General Notes

1. All raceway (conduit) runs must take most direct route point to point.
2. All raceway (conduit) runs must have a pull string.

| | |
|---|---|
| A | Raceway (Conduit) supplied/installed by contractor - Philips cables installed by Philips |
| B | Raceway (Conduit) supplied/installed by contractor - Philips cables installed by contractor |
| C | Raceway (Conduits) and cables supplied and installed by contractor |
| D | Raceway (Conduit) existing - cables supplied and installed by Philips |
| E | Raceway (Conduit) existing - cables supplied by Philips and installed by contractor |
| F | Raceway (Conduit) existing - cables supplied and installed by contractor |
| G | Optional equipment, verify with local Philips Service |

* P Power (AC), D Power (DC), G Ground, S Signal, H High Tension, C Cooling Hose, A Air Supply Hose

| | Raceway (Conduit) Run No. | From | To | Raceway (Conduit) Quantity | Cable Type (*) | Minimum Raceway (Conduit) Size | Maximum (Raceway) Conduit Length | Special Requirements |
|---|---|---|---|---|---|---|---|---|
| G | 31 | MSA | PHY | 1 | S | 3" | - | For future options (Patient Monitoring). Verify with local Philips Service if auxiliary box should be used. |
| G | 32 | PHY | Physio Monitor | 1 | S | 2" | 33' | Optional for remote location. |
| G | 33 | Third Party | Third Party | - | - | - | - | For Injector, Auxiliary Box, Patient Monitoring, Video Networking, etc. |
| G | 34 | Third Party | ERB | - | G | - | - | For Injector, Auxiliary Box, Patient Monitoring, Video Networking, etc. |
| A | 35 | VB1 | MB | 1 | S | 1" | 82' | - |
| A | 36 | VB2 | MB | 1 | S | 1" | 82' | - |
| A | 37 | VB3 | MB | 1 | S | 1" | 82' | - |
| A | 38 | VB4 | MB | 1 | S | 1" | 82' | - |
| A | 39 | VB5 | MB | 1 | S | 1" | 82' | - |
| A | 40 | VB6 | MB | 1 | S | 1" | 82' | - |
| A | 41 | VB4 | CY | 1 | S | 1" | 91' | - |
| A | 42 | VB5 | CY | 1 | S | 1" | 91' | - |
| A | 43 | VB6 | CY | 1 | S | 1" | 91' | - |
| A | 44 | INT | MSA | 1 | S | 3" | 75' | Conduit opening must be covered if the IntraSight system is planned for future installation. |
| G | 45 | WR2 | WR3 | 1 | G | 1" | 60' | For Testing & Service Purposes. Required to run a #6 ground. #6 ground to be ran in conduit non-terminated. Refer to E1 for further explanation. |
| C | 46 | Power Panel | CB2 | 1 | P | Per N.E.C. | Per N.E.C. | |
| C | 47 | Power Panel | CB2 | 1 | G | Per N.E.C. | Per N.E.C. | |
| C | 48 | CB2 | UPS | 1 | G | Per N.E.C. | Per N.E.C. | |
| C | 49 | UPS | CB | 1 | G | Per N.E.C. | Per N.E.C. | |
| C | 50 | CB | ERB | 1 | G | Per N.E.C. | Per N.E.C. | Conduit must hit WR2 raceway. |
| C | 51 | MA | ERB | 1 | G | Per N.E.C. | Per N.E.C. | |
| C | 52 | WR2 | ERB | 1 | G | Per N.E.C. | Per N.E.C. | |
| C | 53 | CB2 | UPS | 1 | P | Per N.E.C. | Per N.E.C. | |
| C | 54 | CB2 | ST | 1 | P | Per N.E.C. | Per N.E.C. | |
| C | 55 | UPS | ST | 1 | S | Per N.E.C. | Per N.E.C. | |
| C | 56 | UPS | CB | 1 | P | Per N.E.C. | Per N.E.C. | |
| C | 57 | CB | MA | 1 | P | Per N.E.C. | Per N.E.C. | Conduit must hit WR2 raceway. |
| C | 58 | UPS | MA | 1 | S | Per N.E.C. | Per N.E.C. | |
| C | 59 | SBC | UPS | 1 | S | Per N.E.C. | Per N.E.C. | For Signaling Box. |
| C | 60 | BC | UPS | 1 | P | Per N.E.C. | Per N.E.C. | |

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05.27.2022

PHILIPS PROVISIONAL

**Project**
**Azurion 7 C20 FlexArm - 4300mm - AD7**
**Riverside University Health Systems**
Riverside, CA
Room: Cath Lab Procedure RM 1

**Philips Contacts**
Project Manager: Winston Malcomb
Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com

Drawn By: Alec Hilst

**Project Details**
Drawing Number
**N-WES230078 C**
**Date Drawn: 6/16/2023**
Quote: Q-00161607
Order: None

E3

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Riverside University HEALTH SYSTEM

RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

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| Design | Designer |
| Draw | Author |
| Check | Checker |
| Issue Date | 2023/8/28 |

AGENCY APPLICATION NUMBER
S231455-33-00

AGENCY APPROVAL STAMP

BUILDING TITLE
RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE
CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

RUHS-MC PROJ. NO.
FM08430011869

CONSULTANT PROJ. NO.
047-10071-002

SHEET NAME
CATH LAB 1 - PHILIPS - RACEWAY & CONDUIT INFO

SHEET NUMBER
R1 E03

**VENDOR'S SHOP DRAWING FOR REFERENCE ONLY**

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**Raceway (Conduit) Required**

**General Notes**

1. All raceway (conduit) runs must take most direct route point to point.
2. A Greenlee pull string/measuring tape (part no. 435, or equivalent) must be provided with raceway (conduit) runs

A Raceway (Conduit) supplied/installed by contractor - Philips cables installed by Philips
B Raceway (Conduit) supplied/installed by contractor - Philips cables installed by contractor
C Raceway (Conduits) and cables supplied and installed by contractor
D Raceway (Conduit) existing - cables supplied and installed by Philips
E Raceway (Conduit) existing - cables supplied by Philips and installed by contractor
F Raceway (Conduit) existing - cables supplied and installed by contractor
G Optional equipment, verify with local Philips Service

* P Power (AC) / D Power (DC) / G Ground / S Signal / H High Tension / C Cooling Hose / A Air Supply Hose

| | Raceway (Conduit) Run No. | From | To | Raceway (Conduit) Quantity | Cable Type (*) | Minimum Raceway (Conduit) Size | Maximum (Raceway) Conduit Length | Special Requirements |
|---|---|---|---|---|---|---|---|---|
| C | 61 | BC | UPS | 1 | S | Per N.E.C. | Per N.E.C. | |
| A | 62 | IC | MSA | 1 | S | 3" | 65' | For Table Mounted Injector. |
| A | 63 | IC | RIC | 1 | S | 3" | 90' | |
| C | 64 | Power Supply | M3 | 1 | P | 4awg | - | Project electrician to land 120 - 240 VAC, 50 - 60 HZ in M3 terminal block. Light requires: Plus 24, Minus 24, and Ground. |

**Raceway (Conduit) Required**

**General Notes**

1. All raceway (conduit) runs must take most direct route point to point.
2. All raceway (conduit) runs must have a pull string.

A Raceway (Conduit) supplied/installed by contractor - Philips cables installed by Philips
B Raceway (Conduit) supplied/installed by contractor - Philips cables installed by contractor
C Raceway (Conduits) and cables supplied and installed by contractor
D Raceway (Conduit) existing - cables supplied and installed by Philips
E Raceway (Conduit) existing - cables supplied by Philips and installed by contractor
F Raceway (Conduit) existing - cables supplied and installed by contractor
G Optional equipment, verify with local Philips Service

* P Power (AC) / D Power (DC) / G Ground / S Signal / H High Tension / C Cooling Hose / A Air Supply Hose

| | Raceway (Conduit) Run No. | From | To | Raceway (Conduit) Quantity | Cable Type (*) | Minimum Raceway (Conduit) Size | Maximum (Raceway) Conduit Length | Special Requirements |
|---|---|---|---|---|---|---|---|---|

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05.27.2022

PHILIPS
PROVISIONAL

**Project**
**Azurion 7 C20 FlexArm - 4300mm - AD7**
**Riverside University Health Systems**
Riverside, CA
Room: Cath Lab Procedure RM 1

**Philips Contacts**
Project Manager: Winston Malcomb
Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com
Drawn By: Alec Hibit

**Project Details**
Drawing Number
**N-WES2330078 C**
**Date Drawn: 6/16/2023**
Quote: Q.00161607
Order: None

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| Check: | Checker |
| Issue Date: | 2023/8/28 |

AGENCY APPLICATION NUMBER
S231455-33-00

AGENCY APPROVAL STAMP

BUILDING TITLE
RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE
CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

RUHS-MC PROJ. NO.: FM08430011869
CONSULTANT PROJ. NO.: 047-10071-002

SHEET NAME
CATH LAB 1 - PHILIPS - RACEWAY & CONDUIT INFO

SHEET NUMBER
R1 E04

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## Power Quality Requirements (Mains 40E Cabinet)

| | |
|---|---|
| **Maximum Rated Power** | 100kW |
| **Supply Configuration** | 3 phase, equally sized insulated power conductors and an insulated equipment grounding conductor. Insulated grounding conductor shall have the same or larger size than line conductors. Line wires shall be no smaller than 6 AWG, 90°C temperature or higher temperature rating. The conductor size is dependant on the upstream circuit breaker rating: Minimum 4 AWG for 80A circuit breaker rating. |
| **Nominal Line Voltage** | 480 VAC, 60 Hz |
| **Line Voltage Variation** | Voltage variations are never to exceed ±10% when measured using 10 minute mean RMS values with a measurement window of 1 week. At least 95% of all measured 10 minute mean RMS values shall be within ±5% of the configured nominal voltage. |
| **Line Voltage Balance** | 2% maximum of nominal voltage between phases |
| **Frequency Variation** | ± 1.0 Hz |
| **Voltage Surges** | To 110% of steady-state voltage 100 msecs. Maximum duration, 6 per hour max. |
| **Voltage Sags** | To 90% of steady-state voltage 100 msecs. Maximum duration, 6 per hour max. |
| **Line Impulses** | 1000 VPK above phase-neutral RMS absolute maximum. No more than 1 impulse per hour to exceed 500 VPK. |
| **Neutral-Ground Voltage** | 2.0V maximum RMS value |
| **Neutral-Ground Impulses** | No more than 1 per hour that exceeds 25V and 1 milli-Joule |
| **High Frequency Noise** | 3.0V steady-state maximum. Over 3.0V permitted for 100 msec. maximum, 1 per hour max. |
| **Grounded Conductor Impedance** | 0.1 Ohms @ 60 Hz maximum |

## Branch Circuit and Wire Gauge Requirements (Mains 40E Cabinet)

| | |
|---|---|
| **Branch Power** | 100 kVA (System only; verify UPS power requirements) |
| **Max. Standby Current** | 8A per phase |
| **Circuit Breaker (CB)** | 3 Phase, Type D 80A with long-time delay |
| **For information only. Terminal block accommodates AWG 00 to AWG 4 in mains cabinet. Engineer of record responsible for calculating phase conductor and equipment ground conductor sizes. Recommended phase conductor and equipment ground conductor sizes for 1% impedance of supply conductors to circuit breaker (CB).** | |
| **Max. Instantaneous Power (at X-ray tube power 100 kV 1000mA current)** | 100 kW |
| **Max. Inst. Current @ CB (RMS value over half-cycle)** | 300A @ 480V |
| **Max. Phase-phase impedance @ CRC** | 0.455 Ω |
| **Long Term Rating** | 63A at 480V |
| **Momentary Rating (using a window of 5 seconds)** | 125A at 480V |

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CB

(19.1)

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05.27.2022

PHILIPS
PROVISIONAL

**Project**
**Azurion 7 C20 FlexArm - 4300mm - AD7**
**Riverside University Health Systems**
Riverside, CA
Room: Cath Lab Procedure RM 1

**Philips Contacts**
Project Manager: Winston Malcomb
Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com
Drawn By: Alec Hibit

**Project Details**
Drawing Number
**N-WES230075 C**
**Date Drawn: 6/16/2023**
Quote: Q-00161607
Order: None

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| Check | Checker |
| Issue Date | 2023/8/28 |

AGENCY APPLICATION NUMBER
S231455-33-00

AGENCY APPROVAL STAMP

BUILDING TITLE
RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE
CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

RUHS-MC PROJ. NO.
FM08430011869

CONSULTANT PROJ. NO.
047-10071-002

SHEET NAME
CATH LAB 1 - PHILIPS - ELECTRICAL DETAILS

SHEET NUMBER
R1 ED1

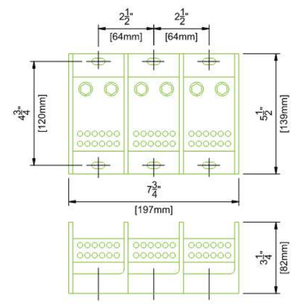
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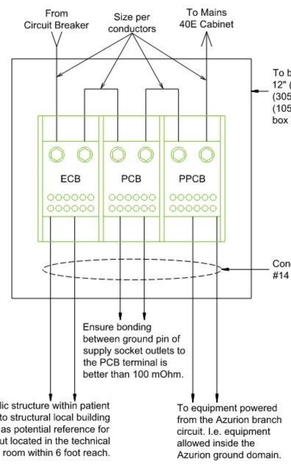
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## Detail - Equi-Potential Reference Bar Application

(Not to scale)




1. Furnished and installed by Contractor
2. Purchase from local Mersen distributor, https://ep-us.mersen.com/ Catalog #MPDB69143
3. MPDB Series UL 1953 Open-Style Power Distribution Blocks https://ep-us.mersen.com/products/product/mpdb69143




ERB

(19.0)

**Invasive Procedures**

This equipment may be used for invasive procedures; therefore, the area to be installed is classified as critical care area per NFPA-99 and NFPA-70 (NEC). These documents specify maximum touch voltages and ground impedance in these areas.

Test performed by GSSNA service require that these specifications are met by the GSSNA equipment. It is the facility's responsibility to ensure that these specifications are met by the wall outlet, facility structure, and other equipment not installed by GSSNA.

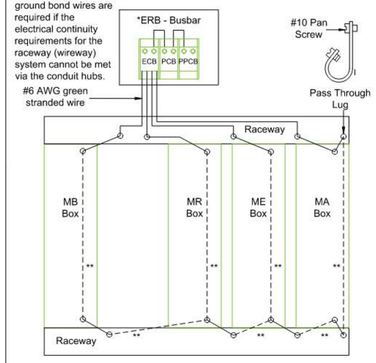
The GSSNA specified "Equi-Potential Reference Bar (ERB)" serves as a ground reference for GSSNA equipment. It may also serve as the "Reference Grounding Point" of the room as defined in NFPA 99-3.3.140 for non-Philips Healthcare equipment.

Equi-Potential Reference Bar (ERB)
A) Equip-Potential Conductor Bar (ECB)
B) Protective Conductor Bar (PCB)
C) Philips Protective Conductor Bar (PPCB)

## Detail - Grounding

(Not to scale / Not site specific)

* ERB to be placed at a reachable height.
**Verify with Engineer of Record and local codes if additional ground bond wires are required if the electrical continuity requirements for the raceway (wireway) system cannot be met via the conduit hubs.




(16.0)

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PHILIPS
PROVISIONAL

**Project**
**Azurion 7 C20 FlexArm - 4300mm - AD7**
**Riverside University Health Systems**
Riverside, CA
Room: Cath Lab Procedure RM 1

**Philips Contacts**
Project Manager: Winston Malcomb
Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com
Drawn By: Alec Hibit

**Project Details**
Drawing Number
**N-WES2330078 C**
**Date Drawn: 6/16/2023**
Quote: Q-00161607
Order: None

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| RUHS-MC PROJ. NO. | CONSULTANT PROJ. NO. |
|---|---|
| FM08430011869 | 047-10071-002 |

SHEET NAME
CATH LAB 1 - PHILIPS - ELECTRICAL DETAILS

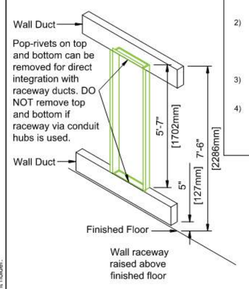
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## Detail - Back Box Mounting
(Not to scale)




**Back Box Ordering Details**

**Koester Metals Method of Business Transactions for Philips Customers**

**Part# 989801220367 Philips Xray Back Box**

1) Three ordering methods:
-Email: backbox@kmenclosures.com
-Phone: 260-495-1818x234
-Fax: 260-495-1822

2) Payment Terms - Credit Card Only
-MasterCard
-Visa
-Discover
-American Express

3) Lead Time
-2 Week Lead time

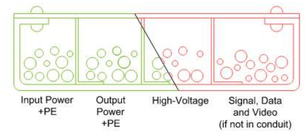
4) Freight
-All shipments will be shipped on skid
-Freight will be Pre-paid and added (PP+) to the invoice at time of shipment

ME MR MA MB (22.0)

## Detail - Cable Trough Divisions
(Not to scale)

Contractors to discuss raceway plan with Philips Project Manager. Raceways (troughs or ducts) may be separated by metal barriers into four sections. Only required separation if for Group A wires that must be separated from other groups. See sheet EN for more information:

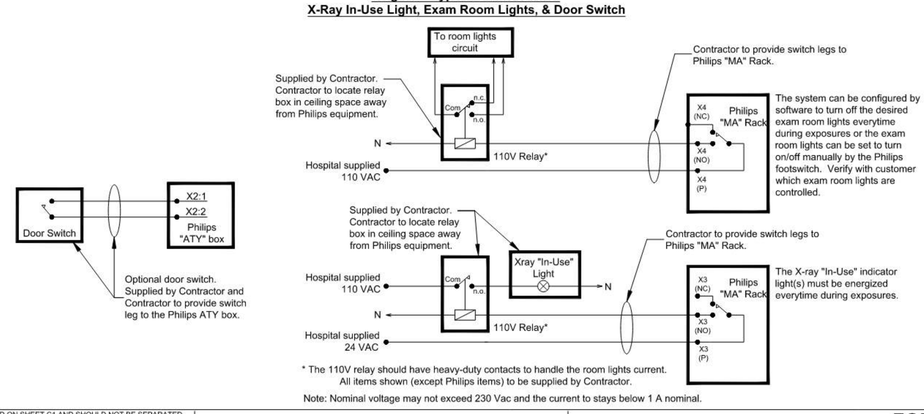
1. Supply Mains conductors and associated PE.
2. Secondary Circuit (Azurion equipment internal single phase 230Vac) conductors and associated PE.
3. High-Voltage wire harness to X-Ray stands.
4. Signal, data and video cables.




5. It is important that all cables are placed in the appropriate raceway (trough), and at no given point do any cables from one division cross cables from another. Trough separation must be continuous from the beginning.
6. Raceway (trough or ducts): steel with steel dividers grounded to building ground.
7. Contractor to provide cable restraints in all troughs.

WR1 WR2 WR3 (16.0)

## Diagram - Typical Connection of X-Ray In-Use Light, Exam Room Lights, & Door Switch




* The 110V relay should have heavy-duty contacts to handle the room lights current. All items shown (except Philips items) to be supplied by Contractor.

Note: Nominal voltage may not exceed 230 Vac and the current to stays below 1 A nominal.

WL DS (22.0)

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**AD7**
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Riverside, CA
Room: Cath Lab Procedure RM 1

**Philips Contacts**
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Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com

Drawn By: Alec Hibit

**Project Details**
Drawing Number
**N-WES230078 C**
**Date Drawn: 6/16/2023**
Quote: Q-00161607
Order: None

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| Design: | Designer |
| Draw | Author |
| Check | Checker |
| Issue Date | 2023/8/28 |

AGENCY APPLICATION NUMBER
S231455-33-00

AGENCY APPROVAL STAMP

BUILDING TITLE
RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE
CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

| RUHS-MC PROJ. NO. | CONSULTANT PROJ. NO. |
|---|---|
| FM08430011869 | 047-10071-002 |

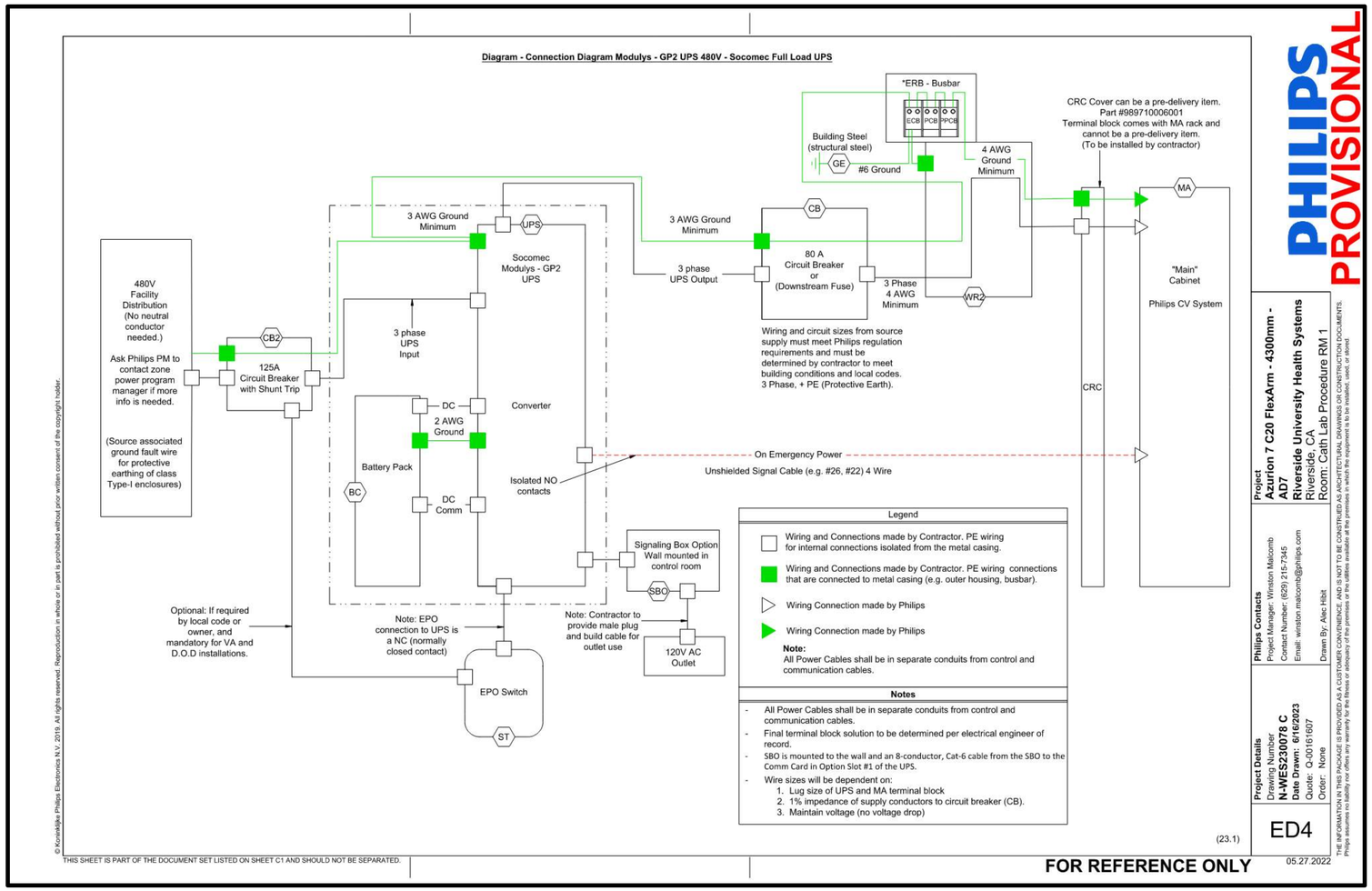
SHEET NAME
CATH LAB 1 - PHILIPS - ELECTRICAL DETAILS

SHEET NUMBER
R1 ED3

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KEY PLAN

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SHEET NAME
CATH LAB 1 - PHILIPS - ELECTRICAL DETAILS

SHEET NUMBER
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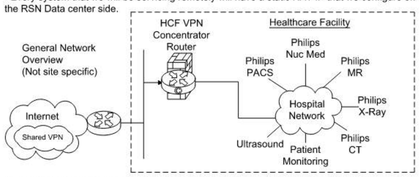
# Philips Healthcare Remote Services Network (RSN)

*Secure broadband connection required for Philips remote technical support, diagnostics, and applications assistance*

**Broadband Site-to-Site Connectivity (Preferred)**

*This connectivity method is designed for customers who prefer a connection from the RSN Data Center to the Health Care Facility (HCF) utilizing their existing VPN equipment.*

**Connectivity Details:**
- A Site-to-Site connection from the RSN data center's Cisco router will be established to the HCF's VPN concentrator.
- The VPN Tunnel will be an IPSEC, 3DES encrypted Tunnel using IKE as standard, but alternative standards are also available, such as AES, MD5, SHA, Security Association lifetime and Encryption Mode.
- Every system that we will be servicing remotely will have a static NAT IP that we configure on the RSN Data center side.




Action Required by Hospital:
- Review and approve connection details.
- Complete appropriate Site Checklist.
- Configure and allow Site-to-Site access prior to setting up connectivity depending on the access criteria that the HCF decides to implement (ex: Source IP filtering, destination IP filtering, NAT assignment, etc.).
- Route traffic from within the hospital network with destination addresses 192.68.48.0/22 to the designed IP provided by Philips.

---

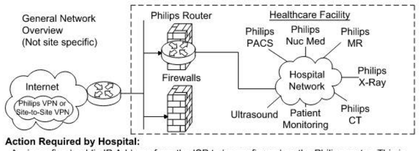
**Broadband Router Installed at Health Care Facility**

*This connectivity method is designed for customers who have a dedicated high speed connection for Philips equipment.*

**Connectivity Details:**
- An RSN Cisco 1711 or 1712 router will be preconfigured and installed at the HCF by Philips in conjunction with the HCF IT representative.
- The VPN Tunnel will be an IPSEC, 3DES encrypted Tunnel using IKE and will be established from the RSN-DC and terminated at the RSN Router on-site.
- One to One NAT is used to limit access to Philips equipment only.
- Router Config and IP auditing is enabled for Customer IT to view via website 24/7.
- Dedicated DSL connections are also supported.

**Option 1: Parallel to HCF Firewall Connectivity Method**

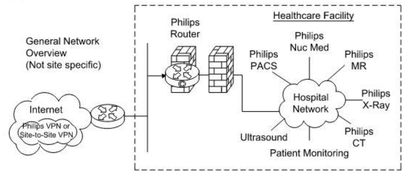
This connectivity method is designed for customers who prefer a Philips RSN Router installed on site utilizing all the security features provided and managed by Philips.




**Action Required by Hospital:**
- Assign a fixed public IP Address from the ISP to be configured on the Philips router. This is the DOTTED link on the picture connected to the firewall.
- Assign a Back end IP for the Philips router on the Hospital Network.
- Complete appropriate Site Checklist.
- Route traffic from within the hospital network with destination addresses 192.68.48.0/22 to internal Philips router Ethernet interface. This is the DASHED line connected to the firewall.

**Option 2: Back End Connected to the HCF Firewall Connectivity Method**

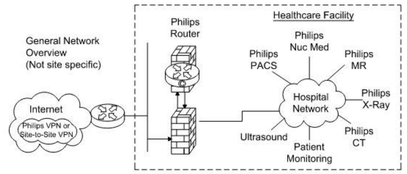
This connectivity method is designed for customers who prefer a Philips RSN Router installed on site by setting up an IP-Based policy allowing access thru existing HCF Firewall to Philips equipment.




**Action Required by Hospital:**
- Assign a fixed public IP Address from the ISP to be configured on the Philips router. This is the DOTTED link on the picture connected to the firewall.
- Assign a Back end IP for the Philips router on the Hospital Network.
- Complete appropriate Site Checklist.
- Route traffic from within the hospital network with destination addresses 192.68.48.0/22 to internal Philips router Ethernet interface. This is the DASHED line connected to the firewall.
- Configure and allow on the firewall on the DASHED line interface access between the IP address allocated by the hospital to the Philips internal Ethernet router interface and the target modality IP address.

**Option 3:** Router Installed Inside the HCF's DZM

This connectivity method is designed for customers who prefer the RSN Router installed inside and existing, or new DMZ, allowing access to Philips equipment.




**Action Required by Hospital:**
- Assign a fixed public IP Address from the ISP to be configured on the Philips router. This is the DOTTED link on the picture connected to the firewall.
- Assign a Back end IP for the Philips router on the Hospital Network.
- Complete appropriate Site Checklist.
- Route traffic from within the hospital network with destination addresses 192.68.48.0/22 to internal Philips router Ethernet interface. This is the DASHED line connected to the firewall.
- Configure and allow on the firewall on the DASHED line interface IPSec protocol communication by opening protocol 500, 50, 51, 47 and port 23 + TACACS. Traffic should be between external IP Address located on the Philips router and the RSN Data center IP address 192.68.48/24 and IP address AOSN TACAS.
- Configure and allow on the firewall on the DASHED line interface access between the IP address allocated by the hospital to the Philips internal Ethernet router interface and the target modality IP address.

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05.27.2022

PHILIPS PROVISIONAL

**Project**
**Azurion 7 C20 FlexArm - 4300mm - AD7**
**Riverside University Health Systems**
Riverside, CA
Room: Cath Lab Procedure RM 1

**Philips Contacts**
Project Manager: Winston Malcomb
Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com
Drawn By: Alec Hibit

**Project Details**
Drawing Number
**N-WES230078 C**
**Date Drawn: 6/16/2023**
Quote: Q-00161607
Order: None

N1

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Riverside University HEALTH SYSTEM

RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

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| Issue Date | 2023/9/28 |

AGENCY APPLICATION NUMBER

S231455-33-00

AGENCY APPROVAL STAMP

BUILDING TITLE

RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE

CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

| RUHS-MC PROJ. NO. | CONSULTANT PROJ. NO. |
|---|---|
| FM08430011869 | 047-10071-002 |

SHEET NAME

CATH LAB 1 - PHILIPS - REMOVE SERVICE NETWORK

SHEET NUMBER

R1 N01

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# System Network Information

**IMPORTANT NOTE:** *It is the customer's responsibility to coordinate with the local Philips Engineer to provide ALL required network information and install ALL required network cabling & drops according to Philips specifications PRIOR to the scheduled installation start date. Failure to do so may delay system installation and jeopardize the customer hand over date.*

| **Azurion** | IP Sec [ ]yes [ ]no |
|---|---|
| Physical Location: | |
| Hostname: | |
| MAC Address: | |
| IP Address | |
| Netmask: | |
| Gateway: | |
| AE Title: | |
| Port Number (5101): | |

| **XtraVision** | IP Sec [ ]yes [ ]no |
|---|---|
| Physical Location: | |
| Hostname: | |
| MAC Address: | |
| IP Address | |
| Netmask: | |
| Gateway: | |
| AE Title XtraVision: | |
| Port Number (3110): | |
| AE Title for X-Ray Mod: | |
| IP for X-Ray Modality: | |

| **EP Navigator** | IP Sec [ ]yes [ ]no |
|---|---|
| Physical Location: | |
| Hostname: | |
| MAC Address: | |
| IP Address | |
| Netmask: | |
| Gateway: | |
| AE Title: | |
| Port Number: | |

| **View Forum** | IP Sec [ ]yes [ ]no |
|---|---|
| Physical Location: | |
| Hostname: | |
| MAC Address: | |
| IP Address | |
| Netmask: | |
| Gateway: | |
| AE Title: | |
| Port Number: | |

| **XperIM** | IP Sec [ ]yes [ ]no | | |
|---|---|---|---|
| | Location 1 | Location 2 | Location3 |
| Physical Location: | | | |
| Hostname: | | | |
| MAC Address: | | | |
| IP Address | | | |
| Netmask: | | | |
| Gateway: | | | |
| AE Title: | | | |
| Port Number (3010): | | | |

| **Remote Software Installation (RPS)** | |
|---|---|
| Enable Distribution: | [ ]yes [ ]no |
| Enable Installation: | [ ]yes [ ]no |

**Dicom Printer**

| | Location 1 | Location 2 | Location3 | Location 4 |
|---|---|---|---|---|
| Physical Location: | | | | |
| Hostname: | | | | |
| IP Address | | | | |
| AE Title: | | | | |
| Port Number : | | | | |

| **PACS** | Physical Location: | | | | |
|---|---|---|---|---|---|
| | Store/ Import 1 | Store/ Import 2 | Store/ Export | Query/ Retrieve | Storage/ Commit |
| Hostname: | | | | | |
| IP Address | | | | | |
| AE Title: | | | | | |
| Port Number : | | | | | |

| **PACS** | Physical Location: | | | | |
|---|---|---|---|---|---|
| | Store/ Import 1 | Store/ Import 2 | Store/ Export | Query/ Retrieve | Storage/ Commit |
| Hostname: | | | | | |
| IP Address | | | | | |
| AE Title: | | | | | |
| Port Number : | | | | | |

| **Audit Trail** | |
|---|---|
| Physical Location: | |
| Hostname: | |
| IP Address | |
| AE Title: | |
| Port Number : | |

| **Time Synchronization** | |
|---|---|
| Physical Location: | |
| Server Name: | |

| **RIS** | **Physical Location:** | | |
|---|---|---|---|
| | Basic Local RIS | WLM | MPPS |
| Hostname: | | | |
| IP Address: | | | |
| AE Title: | | | |
| Max PDU Size: | 16384 or | | |
| Port Number: | | [ ]yes [ ]no | [ ]yes [ ]no |
| Secure Node: | | [ ]yes [ ]no | [ ]yes [ ]no |
| Encryption: | | | |
| Certificate Name: | | | |
| PPSM IHE Compatible: | | | [ ]yes [ ]no |

| **Time Synchronization** | |
|---|---|
| Azurion: | 20/21(ftp), 80(http), 443(https), 5900(vnc), 9903(fsf.net) |
| Allura Xper: | 20/21(ftp), 80(http), 443(https), 5900(vnc), 9903(fsf.net) |
| Allura CV20: | 20/21(ftp), 80(http), 4440(fsf) |
| XtraVision: | 20/21(ftp), 80(http), 443(https), 5660(ist/ice), 5900(vnc), 9905(lots) |
| EP Navigator (R3): | 20/21(ftp), 443(https), 5660(ist/ice), 9055(lots) |
| EP Cockpit (R1.2): | 20/21(ftp), 80(http), 443(https), 5900(vnc), 9903(fsf.net) |
| CX50: | |
| Xper IM: | |
| View Forum | |

| **Hospital Network** | | | |
|---|---|---|---|
| | M2M Server (PRS) | Proxy | ePO Server (PRS) |
| Scheme (https): | | | |
| IP Address (192.68.49.50): | | | |
| Portnumber (443): | | | |
| Use Proxy Server: | [ ]yes [ ]no | | |
| IP Address | | | |
| Port Number: | | | |
| User Name: | | | |
| Password: | | | |

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05.27.2022

PHILIPS
PROVISIONAL

**Project**
**Azurion 7 C20 FlexArm - 4300mm - AD7**
**Riverside University Health Systems**
Riverside, CA
Room: Cath Lab Procedure RM 1

**Philips Contacts**
Project Manager: Winston Malcomb
Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com
Drawn By: Alec Hibit

**Project Details**
Drawing Number
**N-WES2230078 C**
**Date Drawn: 6/16/2023**
Quote: Q-00161607
Order: None

N2

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RUHS-MC PROJ. NO.
FM08430011869

CONSULTANT PROJ. NO.
047-10071-002

SHEET NAME
CATH LAB 1 - PHILIPS - REMOVE SERVICE NETWORK

SHEET NUMBER
R1 N02

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**Instructions**

This form is to be used by Project Manager, Contractor, and Service Engineer. Information is used to develop and determine site ready date.

Be sure to contact the Zone Installation Specialist (ZIS), Field Service Engineer (FSE), or National Support Specialist (NSS) if you have questions concerning any of these checklist items.

**Site Readiness Checklist**

**Required Prior to Delivery**

- ☐ **Cable Trough/Raceway/Conduit:** Installed, cleaned and locations checked per Philips Final Drawings. Duct covers in place. Cable openings are clear, without sharp edges. ***Greenlee*** pull strings/measuring tape, (Part # 435, or equivalent), are in place.
- ☐ **Ceiling (Hard):** Installed and painted.
- ☐ **Ceiling (Drop-In):** Installed.
- ☐ **Customer Site Preparation:** Verified per Philips Final Drawings.
- ☐ **Delivery Path and Truck Parking:** Has been checked with the customer and lead FSE including verifying floor loading, delivery route, elevator capacity, height, width and depth clearances, and a plan for bad weather.
- ☐ **Doors:** Installed.
- ☐ **Drawings (Final):** Shows all room obstacles to include millwork, lighting overlay, structure overlay, med gases and plumbing.
- ☐ **Flooring:** Installed and covered with protective covering (i.e. scratch protection).
- ☐ **Glass:** Installed.
- ☐ **Installation Team:** Has received the room drawings and necessary contact phone numbers.
- ☐ **Millwork:** Completely installed in all rooms.
- ☐ **Parking:** Parking area identified for installers.
- ☐ **Performance Testing Requirements Identified:** Determine if Certificate of Compliance is required, (i.e. NEMA, OSHPD, AHCA).
- ☐ **Permits and Inspections:** Completed by applicable governing authorities. Method statement available and safety meetings attended (OSHPD, AHCA).
- ☐ **Philips Project Space:** Is clean, free of dust, all construction-related debris and tools have been removed.
- ☐ **Restroom Facilities**: Toilet facilities, including area to wash up, are available.
- ☐ **Room Lighting:** Installed and operational.
- ☐ **Room Security:** Room is secure, with keys and alarm codes provided.
- ☐ **Site Access:** Is available for after hours. Storage for tools, parts, covers and packing material has been arranged.
- ☐ **Site Is Safe To Work:** PPE requirements identified (Construction and Hospital). No open Mains, slippery floors, sharp edges, or hazardous goods on site.
- ☐ **Sprinklers:** Installed.
- ☐ **Transport & Handling Tools:** Crane, forklift, wheels and trolleys have been specified with the LMP/rigging company.
- ☐ **Walls:** Installed and final finished, (i.e. final coat painted and/or tiled).
- ☐ **Existing Equipment:** Is dismantled and removed from the site.
- ☐ **Floor Levelness:** Checked with Laser Level and is level per Philips Final Drawings.
- ☐ **System Orientation:** Verified per Philips Final Drawings.
- ☐ **Table Isocenter:** Verified per Philips Final Drawings.
- ☐ **ERB Conductor Bar:** Installed per Philips Final Drawings. All Philips-provided electrical boxes and contractor-provided raceway are grounded to the ERB.
- ☐ **Mains Power Supply:** Installed per Philips Final Drawings. (Including impedance, isolated grounds, wire size verified, and distribution unit has been installed).
- ☐ **UPS:** Fully installed per Philips Final Drawings, and startup has been scheduled with vendor.
- ☐ **Video Connection Boxes:** Locations, video sources, and display destinations are verified with customer, and the Philips Final Drawings are updated with the information.
- ☐ **3rd Party Booms (if applicable):** Compatibility, locations, and isolation kits have been verified with boom vendor and the Philips Final Drawings are updated with the information. If required, a '*Request for Modification*' has been submitted.
- ☐ **3rd Party Booms (if applicable):** Installed prior to Philips equipment delivery.
- ☐ **Ceiling Height:** Verified per Philips Final Drawings. Single plane measure from finished floor to bottom of Unistrut. For Bi-Plane, from Clea plate to bottom of Unistrut.
- ☐ **Ceiling Obstructions:** Verify there are no obstructions where Philips rails will be installed.
- ☐ **Ceiling Plate for Equipment Rack (EP Boom) (if applicable):** Installed and leveled per Philips Final Drawings.
- ☐ **Ceiling Unistruts (P1001 or equal):** Installed and leveled per Philips Final Drawings.
- ☐ **Clearances:** Verified to the closest obstacles (i.e. walls, cabinets), in order to lift up the C-arm, monitor support, etc.
- ☐ **Fixing Blocks:** Provided by Philips, verify the block properly sits in the Unistrut channel with no obstructions, as designed.
- ☐ **FlexArm Clearance (if applicable):** Verified per Philips Final Drawings.
- ☐ **FlexMove (if applicable):** Must order Ceiling/Floor levelness kit, complete form and submit.
- ☐ **Floor Plates:** Patient Support and Stand (if applicable), are installed, isolated, and leveled, at the correct locations per Philips Final Drawings.
- ☐ **Med Gas Box (if applicable):** Location does not interfere with the installation and movement of the Philips equipment. The Philips Final Drawings are updated with the location.
- ☐ **Back Boxes:** Installed with required covers and grommet material per Philips Final Drawings. Specifically, the spacing between the boxes and height off of finished floor.
- ☐ **ERB Grounding Block:** Installed within 6 feet of building steel, and non-Philips-provided electrical equipment ground conductors, to include wall outlets installed per Philips Final Drawings.
- ☐ **Hospital Mains Supply Wiring:** For Allura R8.2 and Azurion systems, installed per Philips Final Drawings, for connection in Cabinet Rear Cover (CRC) of MA-Cabinet.
- ☐ **Hospital Mains Supply:** For system versions prior to Allura R8.2 (in the USA), the Hospital Mains must be available for connection at the PDU or gssPDU, and then to MA & ME-Cabinets (by the electrician).

**Required Prior to Philips System Power Up**

- ☐ **Wall Outlets:** Installed and functional.
- ☐ **Door Interlock Switch:** If required, is installed per Philips Final Drawings.
- ☐ **X-Ray in Use or Warning Light:** If required, is installed per Philips Final Drawings.

**Required Prior to Install Complete**

- ☐ **Physicist:** If required, verify the Physicist has been scheduled.
- ☐ **Network Connections:** Hardware is installed and active per Philips Final Drawings. All network information provided by facility IT, i.e. IP addresses (static IPs only), AE Titles, SNM, GTWY and DNS server are available.
- ☐ **UPS:** Commissioned and certified by UPS vendor.

**Approved for Delivery**

| | |
|---|---|
| Project Manager | Date |
| Service Engineer | Date |

PHILIPS
PROVISIONAL

**Project**
**Azurion 7 C20 FlexArm - 4300mm -**
**AD7**
**Riverside University Health Systems**
Riverside, CA
Room: Cath Lab Procedure RM 1

**Philips Contacts**
Project Manager: Winston Malcomb
Contact Number: (629) 215-7345
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Drawn By: Alec Hilst

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Order: None

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| Design | Designer |
| Draw | Author |
| Check | Checker |
| Issue Date | 2023/9/28 |

AGENCY APPLICATION NUMBER
S231455-33-00

AGENCY APPROVAL STAMP

BUILDING TITLE
RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE
CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

| RUHS-MC PROJ. NO. | CONSULTANT PROJ. NO. |
|---|---|
| FM08430011869 | 047-10071-002 |

SHEET NAME
CATH LAB 1 - PHILIPS - CHECKLIST

SHEET NUMBER
R1 CHK

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PHILIPS

www.healthcare.philips.com

## Pre-Order Site Preparation Support Document

The equipment components shown in this drawing package are based on the current proposed equipment configuration and are subject to change if modifications are made to the configuration at the time of final equipment purchase.

### Revision History

Note for Architects and/or Contractors: If revisions are listed, these drawings must be thoroughly reviewed so that all changes can be incorporated into your project

| Rev. | Date | Revision Descriptions | By |
|---|---|---|---|
| - | 3/17/2023 | Created Preliminary Site Preparation Support Document per Quote: Q-00161607. | CR |
| A | 4/20/2023 | Updated background per document FloorPlan-LAYOUTPLANLEVEL1Coordination. | AH |
| B | 5/24/2023 | Updated background per document 20230518 RUHS Cath Lab Layout. | AH |
| C | 6/16/2023 | Created Pre-Order Site Preparation Support Document with Quote #: Q-00161607. | AH |

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05.27.2022

PHILIPS PROVISIONAL

**Project**
**Azurion 7 C20 FlexArm - 4300mm - AD7**
**Riverside University Health Systems**
Riverside, CA
Room: Cath Lab Procedure RM 2

**Philips Contacts**
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Contact Number: (629) 215-7345
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Drawn By: Alec Hibit

**Project Details**
Drawing Number
**N-WES230080 C**
**Date Drawn: 6/16/2023**
Quote: Q-00161607
Order: None

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**Riverside University HEALTH SYSTEM**

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CATH LAB 2 - PHILIPS - COVER SHEET

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## General Conditions

1. **Planning, Design, and Implementation Process**
   The multidisciplinary project team should be assembled as early as possible in the design process. The multidisciplinary team should include administrators, clinicians, infection preventionists, architects and other design professionals, facility managers, safety officers, security managers, users of equipment, and support staff relevant to the areas affected by the project as well as those with knowledge of the organization's functional goal for the project. Inclusion of patient advocates/consumers, A/E consultants, and construction specialists should be considered. FGI 2018 APPENDIX A1.2-1.2

2. **Responsibility**
   The customer shall be solely responsible, at their expense for preparation of site. Philips required specifications and any required MEP, construction and structural alterations shall be incorporated into customer's design and construction documents. Compliance with all safety, electrical, and building design codes relevant to the build out of the clinical area for Philips equipment and its installation is the customer's responsibility. Sufficiency of such plans and specifications, specifically including, but not limited to the accuracy of the dimensions described therein, shall be the sole responsibility of the customer. The customer shall advise Philips of conditions at or near the site, which could adversely affect the function of the equipment and/or carrying out of the delivery and installation work. This shall ensure that such conditions are corrected and that the site is fully prepared and available to Philips before the installation work is due to begin.

3. **Permits**
   Customer shall obtain all permits and licenses required by federal, state/provincial or local authorities in connection with the construction, installation and operation of the products and shall bear any expense in obtaining same or in complying with any related rules, regulations, ordinances and statutes.

4. **Radiation Protection**
   The customer or their contractor, at their own expense, shall obtain the service of a licensed radiation physicist to specify radiation protection and testing.

5. **Asbestos and Other Toxic Substances**
   Philips assumes that there is no hazardous material contained in project site. The customer is responsible for the removal of any materials, including but not limited to asbestos, deemed hazardous by local authorities, the EPA, OSHA, or any other authority having jurisdiction over the work. If such materials are discovered at any time that the work is proceeding, the work will immediately cease, the owner will be notified, and the work will again proceed after the owner has removed all of the hazardous material from the job site.

6. **Labor**
   In the event local labor conditions make it impossible or undesirable to use Philips' regular employees for such installation and connection, such work shall be performed by laborers supplied by the customer, or by an independent contractor chosen by the customer at the customer's expense, and in such case, Philips agrees to furnish adequate engineering supervision for proper completion of the installation.

7. **Schedule**
   The customer or general contractor shall provide Philips with a project/construction schedule with milestones to assist in the coordination of delivery of Philips supplied products and primary equipment.

8. **Extended Installation or Turnkey Work by Philips**
   Any room preparation requirements for Philips equipment indicated on these drawings is the responsibility of the customer. If an extended installation or turnkey contract exists between Philips and the customer for room preparation, then additional work required for the equipment will not be represented on these drawings. Some of the responsibilities of the customer as depicted in these drawings may be assumed by Philips. In the event of a conflict between the work described in the turnkey contract work scope and these drawings, the turnkey contract work scope shall govern.

9. **Infection Control and Interim Life Safety Measure**
   Compliance with all Infection Control and Interim Life Safety Measures shall be the sole responsibility of the customer. The customer shall provide all means and methods necessary for compliance with Infection Control (IC) and Interim Life Safety Measures (ILSM) in connection with the construction and installation/operation of the products shown herein and shall bear any expenses related to same.

(21.0)

## Minimum Site Preparation Requirements

A smooth efficient installation is vital to Philips and their customers. Understanding what the minimum site preparation requirements are will help achieve this goal. The following list clearly defines the requirements which must be fulfilled by the customer before the delivery and installation of equipment can begin.

1. Walls to be painted or covered, baseboards installed, floors to be tiled and/or covered, ceiling shall have grid tiles and luminaires installed and operational.

2. Doors and windows, especially radiation protection barriers, installed and finished with locksets operational.

3. All electrical convenience outlets, raceways, wireways, auxiliary fittings, knockouts, cable connectors, terminal and power distribution blocks, cable openings, chase nipples, junction boxes and pull boxes installed and operational.

4. A private supply mains branch circuit with overcurrent protective circuit breaker and manual operable circuit disconnect means shall be present and operational. Definition of "Private supply" means an end-leave of the hospital distribution system after the last overcurrent protective disconnect means from which all equipment included in the Azurion ground domain is powered. Note that only equipment included in the Azurion certification and equipment with which the Azurion has a compatibility statement are allowed to be inside the Azurion ground domain. All other electrical equipment is not allowed to have a functional connection to the Azurion system and shall have no direct galvanic connection to prevent ground loops. 3rd party equipment that does not have a function connection with the Azurion system, but that is intended to be used inside the same patient area as the Azurion System shall be grounded to the PCB inside the ERB with a ground bonding of <= 200 mOhm for plugable equipment.

5. Philips does not allow 3rd party equipment inside our cabinets.

6. 120V convenience outlets operational.

7. All support structure correctly installed. All channels, pipes, beams and/or other supporting devices should be level, parallel, and free of lateral or longitudinal movements.

8. All contractor supplied cables pulled and terminated.

9. A dust-free environment in and around the procedure room.

10. All HVAC (heating, ventilating and air conditioning) installed and operational as per specifications.

11. Architectural features such as computer floor, wood floor, casework, bulkheads, installed and finished. When technical cabinets are installed in a closet with doors, it is suggested that the customer install a temperature alarm in the event of an air conditional failure.

12. All plumbing installed and finished.

13. Philips does not install or connect developing tanks, automatic processors or associated equipment, built in illuminators, cassette pass boxes, loading benches and cabinets, lead protective screens, panels or lead glass window and frame. This is to be done by the customer/contractor.

14. Clear door openings for moving equipment into the building must be 42" (1067mm) W x 82" (2083mm) H min. 48" (1219mm) W x 82" (2083mm) H rec., Or larger contingent on an 8'-0" (2438mm) corridor width.

15. Countertop is 30" (765mm) for seated height and 36" (915mm) for standing height.

Note
Once Philips has moved equipment into the suite and started the installation, the contractor shall schedule his work around the Philips installation team on site. It is suggested that a telephone be provided in the room to receive telephone calls. This would alleviate facility staff from answering calls for Philips personnel.

Remote Service Diagnostics
Medical imaging equipment to be installed by Philips Medical is equipped with a service diagnostic feature which allows for remote and on site service diagnostics. To establish this feature, a RJ45 type ethernet 10/100/1000 Mbit network connector must be installed as shown on plan. Access to customer's network via their remote access server is needed for Remote Service Network (RSN) connectivity. All cost with this feature are the responsibility of the customer.

(22.0)

## HVAC Requirement for General Equipment Locations

| Operation | |
|---|---|
| Temperature | 59°F (15°C) to 86°F (30°C) |
| Temperature gradient | Max. 1°F / Minute (0.5°C / Minute) |
| Humidity (non-condensing)<br>Humidity shall be stable within 10% | 20% to 80% |
| Exam Room | *6479 BTU/hr |
| Equipment Room | *8184 BTU/hr |
| Control Room | *1705 BTU/hr |

***Average heat emission during clinical use**
Data applicable for basic system:
Large monitor + 4 x small monitor in Monitor Ceiling Suspension
1 workstation + 2 x small monitor in Control Room

Add 1705 BTU/hr for additional large monitor
Add 273 BTU/hr for additional small monitor
Add 1024 BTU/hr for additional workstation
See AL sheet for additional heat load in case of UPS

Equipment's designed airflow is from front/side to back. Please design the air handling in the rack cabinet equipment area accordingly.

Heating, ventilation, and air conditioning requirements must maintain temperature at 59°F (15°C) to 86°F (30°C) as well as a non-condensing relative humidity at 20-80% with 10% maximum variation. These temperature and humidity levels must be maintained in all (3) rooms (equipment, examination and control rooms).

(23.0)

## Electrical Requirements
## Mains 40E Cabinet

| | |
|---|---|
| Maximum Rated Power: | 100kW |
| Supply Configuration: | 3 phase, equally sized insulated power conductors and an insulated equipment grounding conductor. Insulated grounding conductor shall have the same or larger size than line conductors. Line wires shall be no smaller than 6 AWG, 90°C or higher temperature rating. The conductor size is dependant on the upstream circuit breaker rating:<br><br>Minimum 4 AWG for 80A circuit breaker rating. |
| Nominal Line Voltage: | 480 VAC, 60 Hz |
| Branch Power Requirement: | 100 kVA (System only; verify UPS power requirements) |
| Circuit Breaker: | 3 phase, Type D 80A with long-time delay |

(20.1)

## Remote Control of Room Lighting

The control of customer lighting must incorporate an electrical isolation system such as demonstrated on Sheet ED3. Lighting scheme is the responsibility of the customer.

(12.0)

**PHILIPS**
**PROVISIONAL**

**Project**
**Azurion 7 C20 FlexArm - 4300mm - AD7**
**Riverside University Health Systems**
Riverside, CA
Room: Cath Lab Procedure RM 2

**Philips Contacts**
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Contact Number: (629) 215-7345
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Drawn By: Alec Hibit

**Project Details**
Drawing Number
**N-WES230080 C**
**Date Drawn: 6/16/2023**
Quote: Q-00161607
Order: None

AN

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S231455-33-00

AGENCY APPROVAL STAMP

BUILDING TITLE
RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE
CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

RUHS-MC PROJ. NO.
FM08430011869

CONSULTANT PROJ. NO.
047-10071-002

SHEET NAME
CATH LAB 2 - PHILIPS - GENERAL NOTES

SHEET NUMBER
R2 A0N

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## Equipment Legend

A Furnished and installed by Philips
B Furnished by customer/contractor and installed by customer/contractor
C Installed by customer/contractor
D Furnished by Philips and installed by contractor
E Existing
F Future
G Optional
H Furnished by Philips and installed by Third Party

| | Equipment Designation | Description | Weight (lbs) | Heat Load (BTU/hr) | Detail Sheet |
|---|---|---|---|---|---|
| A | SP | C-Arc Stand | 2755 | - | AD2 |
| A | MSA | Angio Diagnost 7 with Pivot and Tilt | 999 | - | AD2 |
| A | ME | Certeray iX Generator Cabinet | 320 | - | AD3 |
| A | MR | Peripheral 40E Cabinet with CRC + Extension | 386 | - | AD3 |
| A | MA | Mains 40E Cabinet | 826 | - | AD3 |
| A | CY | Control Room Connection Box | 115 | - | AD6 |
| A | DB | Documentation Box - Mounted on Wheels (Final location to be coordinated with customer and/or local Philips Service) | 176 | - | AD4 |
| A | ATY | Exam Room Auxiliary Box | 7 | - | AD4 |
| A | FW | Firewall | 4 | - | AD5 |
| D | UPS | Socomec Full Load UPS - OSHPD | 1767 | 17750 | AD5 |
| D | BC | Socomec Full Load Battery Cabinet - OSHPD | 2662 | - | AD5 |
| D | SBO | Signaling Box Option | 6.7 | - | AD5 |
| A | MB | Image 40E Cabinet | 441 | - | AD3 |
| A | TV | 58" + (2) 27" LCD Monitor Suspension | 596 | - | AD4 |
| A | VB1 ~ | Video Connection Box | 2.2 | - | AD4 |
| A | VB8 | Video Connection Box | 2.2 | - | AD4 |
| A | IC | Injector Room Console | 11 | - | AD5 |
| A | RIC | Injector Remote Panel | 7 | - | AD5 |
| A | INJ | Medrad Universal T-Rail Bracket for Injector Head (Not shown on plan) | - | - | - |
| A | MAV | Mavig 4m Ceiling Track w/ Rad Shield and Y LED 1F light | 205 | - | AD7 |
| G | INT | IntraSight- Workstation (Integrated with FlexSpot) | 83 | - | AD7 |

PHILIPS
PROVISIONAL

**Project**
**Azurion 7 C20 FlexArm - 4300mm - AD7**
**Riverside University Health Systems**
Riverside, CA
Room: Cath Lab Procedure RM 2

**Philips Contacts**
Project Manager: Winston Malcomb
Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com
Drawn By: Alec Hibit

**Project Details**
Drawing Number
**N-WES230080 C**
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Order: None

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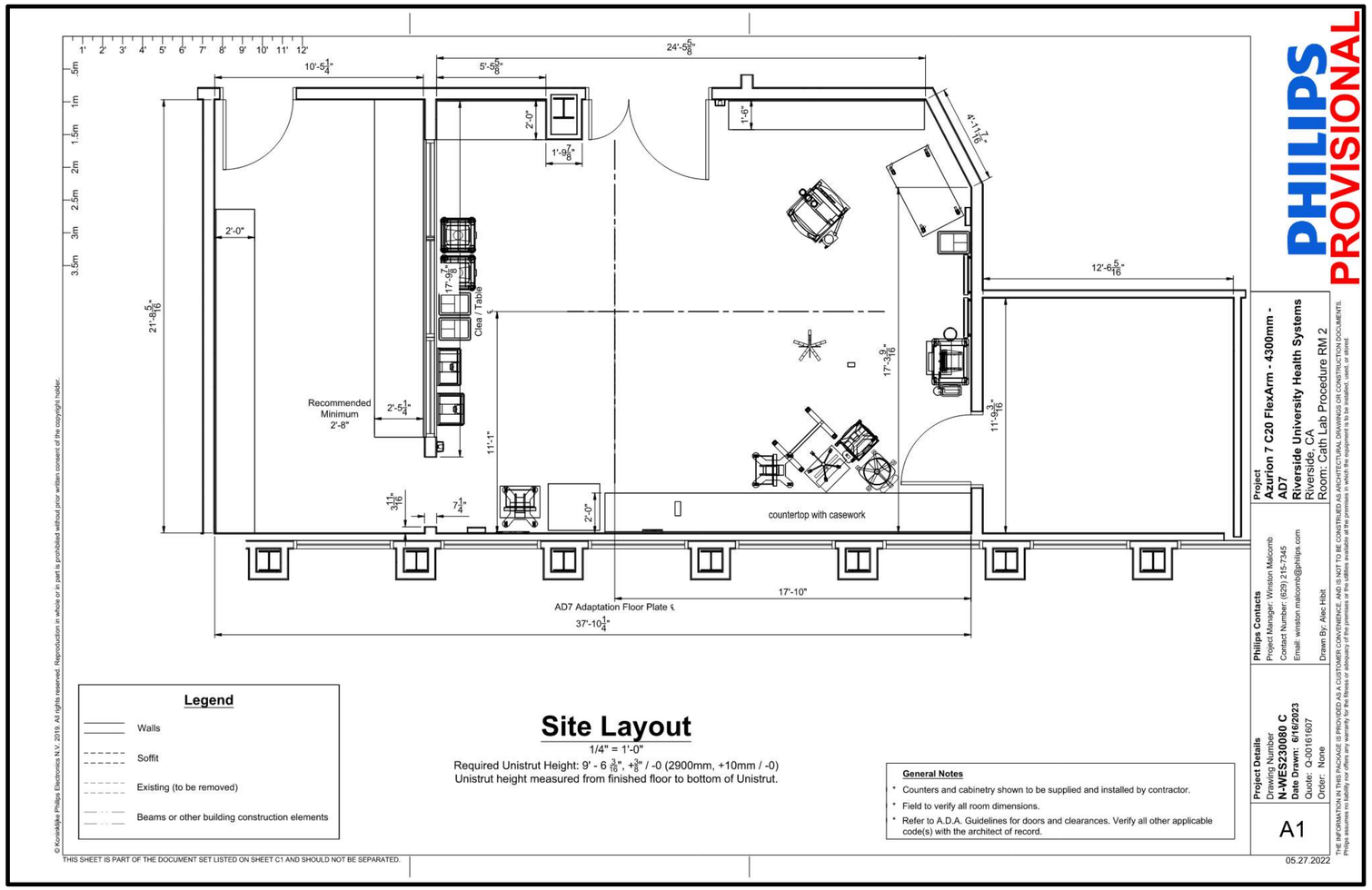
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CATH LAB 2 - PHILIPS - EQUIPMENT LEGEND

SHEET NUMBER
R2 A0L

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## Legend

- Walls
- Soffit
- Existing (to be removed)
- Beams or other building construction elements

# Site Layout

1/4" = 1'-0"

Required Unistrut Height: 9' - 6 3/16", +3/8" / -0 (2900mm, +10mm / -0)
Unistrut height measured from finished floor to bottom of Unistrut.

**General Notes**

* Counters and cabinetry shown to be supplied and installed by contractor.
* Field to verify all room dimensions.
* Refer to A.D.A. Guidelines for doors and clearances. Verify all other applicable code(s) with the architect of record.

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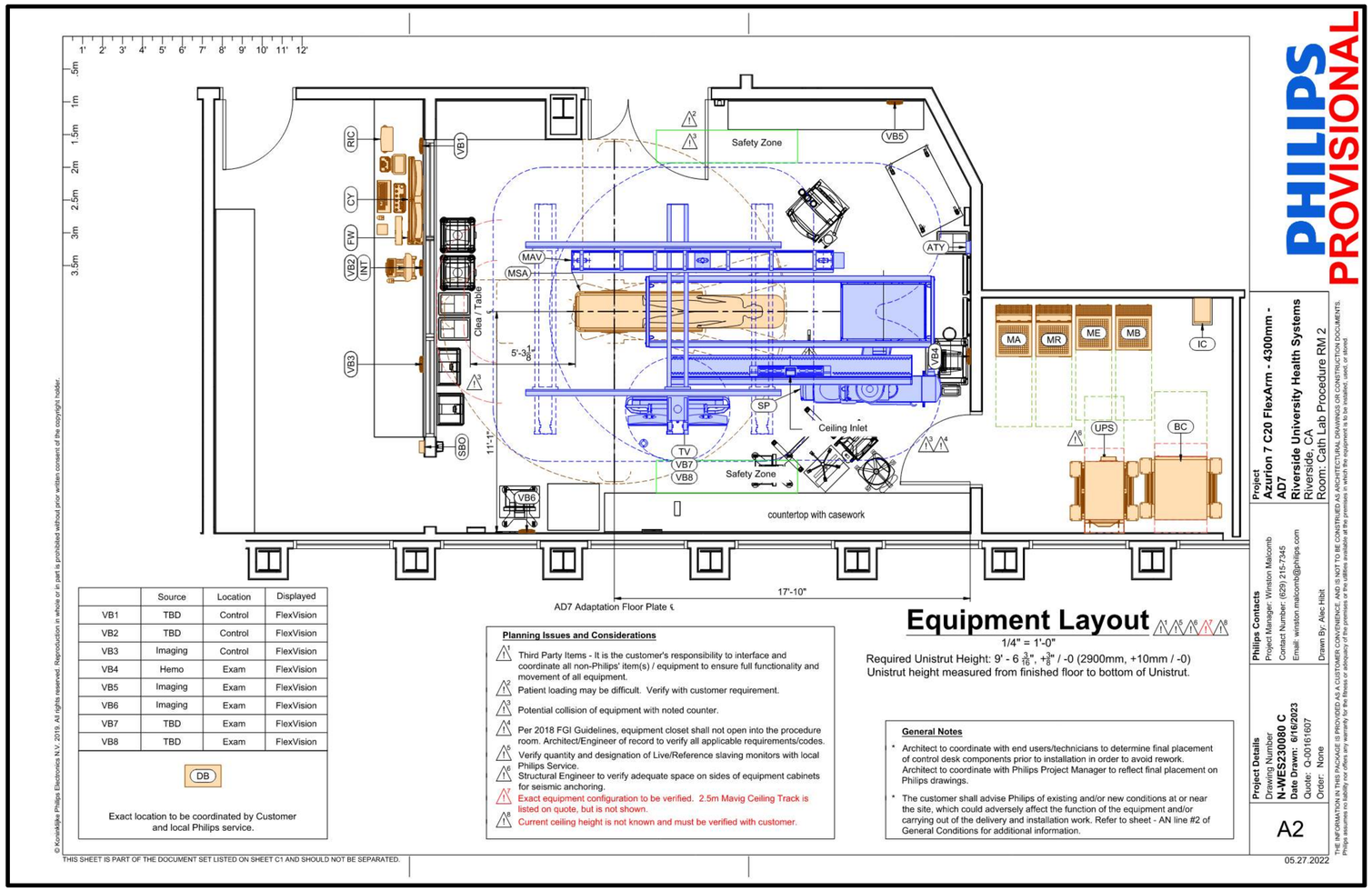
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CATH LAB 2 - PHILIPS - SITE LAYOUT

SHEET NUMBER
R2 A01

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| | Source | Location | Displayed |
|---|---|---|---|
| VB1 | TBD | Control | FlexVision |
| VB2 | TBD | Control | FlexVision |
| VB3 | Imaging | Control | FlexVision |
| VB4 | Hemo | Exam | FlexVision |
| VB5 | Imaging | Exam | FlexVision |
| VB6 | Imaging | Exam | FlexVision |
| VB7 | TBD | Exam | FlexVision |
| VB8 | TBD | Exam | FlexVision |

DB

Exact location to be coordinated by Customer and local Philips service.

**Planning Issues and Considerations**

1. Third Party Items - It is the customer's responsibility to interface and coordinate all non-Philips' item(s) / equipment to ensure full functionality and movement of all equipment.
2. Patient loading may be difficult. Verify with customer requirement.
3. Potential collision of equipment with noted counter.
4. Per 2018 FGI Guidelines, equipment closet shall not open into the procedure room. Architect/Engineer of record to verify all applicable requirements/codes.
5. Verify quantity and designation of Live/Reference slaving monitors with local Philips Service.
6. Structural Engineer to verify adequate space on sides of equipment cabinets for seismic anchoring.
7. Exact equipment configuration to be verified. 2.5m Mavig Ceiling Track is listed on quote, but is not shown.
8. Current ceiling height is not known and must be verified with customer.

# Equipment Layout

1/4" = 1'-0"

Required Unistrut Height: 9' - 6 3/16", +3/8" / -0 (2900mm, +10mm / -0)
Unistrut height measured from finished floor to bottom of Unistrut.

**General Notes**

* Architect to coordinate with end users/technicians to determine final placement of control desk components prior to installation in order to avoid rework. Architect to coordinate with Philips Project Manager to reflect final placement on Philips drawings.
* The customer shall advise Philips of existing and/or new conditions at or near the site, which could adversely affect the function of the equipment and/or carrying out of the delivery and installation work. Refer to sheet - AN line #2 of General Conditions for additional information.

PHILIPS
PROVISIONAL

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AD7
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Riverside, CA
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LEO A DALY
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TEL: (213)629-0100 FAX: (213)629-0070

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AGENCY APPLICATION NUMBER
S231455-33-00

AGENCY APPROVAL STAMP

BUILDING TITLE
RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE
CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

| RUHS-MC PROJ. NO. | CONSULTANT PROJ. NO. |
|---|---|
| FM08430011869 | 047-10071-002 |

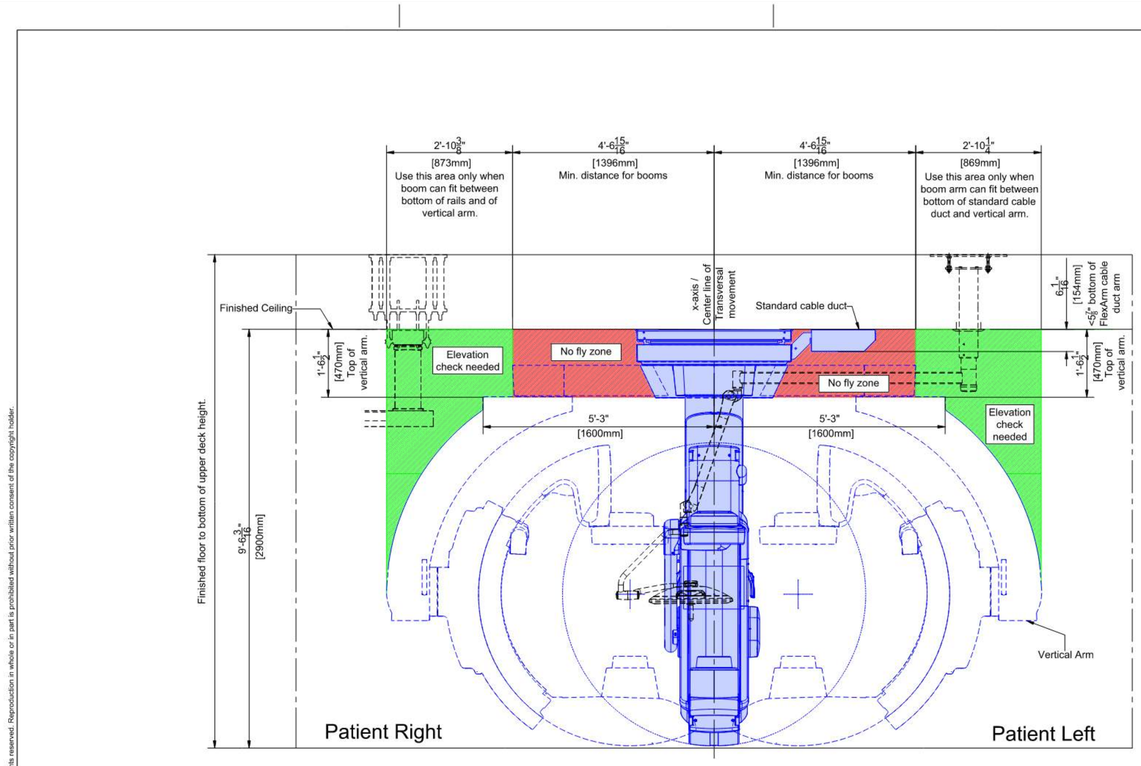
SHEET NAME
CATH LAB 2 - PHILIPS - EQUIPMENT LAYOUT

SHEET NUMBER
R2 A02

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# Elevation View

1/2" = 1'-0"

**General Notes**

* Finished ceiling height is not the same as unistrut height as illustrated on SD1 Philips Fixing Block for Philips Ceiling Rails (Clip Rails) detail.

PHILIPS
PROVISIONAL

**Project**
**Azurion 7 C20 FlexArm - 4300mm - AD7**
**Riverside University Health Systems**
Riverside, CA
Room: Cath Lab Procedure RM 2

**Philips Contacts**
Project Manager: Winston Malcomb
Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com
Drawn By: Alec Hibit

**Project Details**
Drawing Number
**N-WES230080 C**
**Date Drawn: 6/16/2023**
Quote: Q-00161607
Order: None

A3

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AGENCY APPLICATION NUMBER
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AGENCY APPROVAL STAMP

BUILDING TITLE
RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE
CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

| RUHS-MC PROJ. NO. | CONSULTANT PROJ. NO. |
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| FM08430011869 | 047-10071-002 |

SHEET NAME
CATH LAB 2 - PHILIPS - ELEVATION VIEW

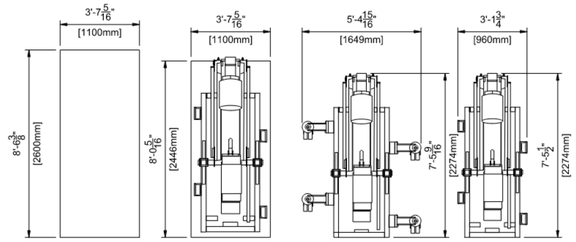
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## Detail - FlexArm Ceiling (C-ARM) Transport Details




| Transport Possibilities | | | | |
|---|---|---|---|---|
| | Crate | Pallet | Kick Wheels Wide | Kick Wheels Small |
| **Height** | 77.95" (1980mm) | 76.22" (1936mm) | 69.02" (1753mm) | 77.76" (1975mm) |
| **Weight** | 2050 lbs (930 kg) | 1940 lbs (880 kg) | 2061 lbs (935 kg) | 1764 lbs (800 kg) |

(19.0)

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05.27.2022

**Project**
**Azurion 7 C20 FlexArm - 4300mm - AD7**
**Riverside University Health Systems**
Riverside, CA
Room: Cath Lab Procedure RM 2

**Philips Contacts**
Project Manager: Winston Malcomb
Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com

Drawn By: Alec Hibit

**Project Details**
Drawing Number
**N-WES230080 C**
**Date Drawn: 6/16/2023**
Quote: Q-00161607
Order: None

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PROJECT TITLE
CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

RUHS-MC PROJ. NO.
FM08430011869

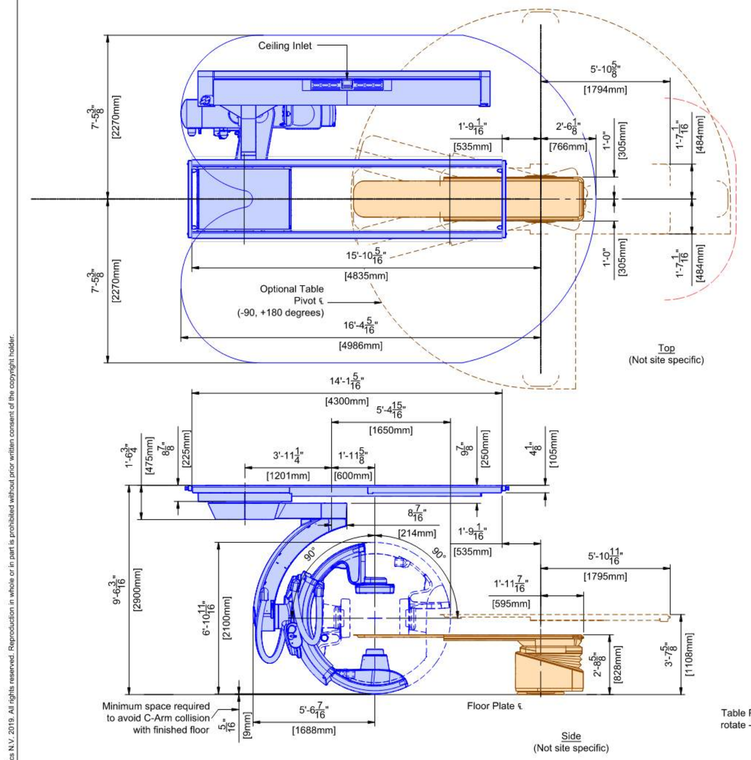
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SHEET NAME
CATH LAB 2 - PHILIPS - TRANSPORT DETAILS

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| SP | FlexArm Stand (22.0) | |
|---|---|---|
| | Weight | Heat Dissipation |
| | 2755 lbs | - BTU/hr |

Indicates equipment movement

| MSA | Angio Diagnost 7 (22.0) | |
|---|---|---|
| | Weight | Heat Dissipation |
| | 999 lbs | - BTU/hr |

PHILIPS
PROVISIONAL

**Project**
Azurion 7 C20 FlexArm - 4300mm -
AD7
Riverside University Health Systems
Riverside, CA
Room: Cath Lab Procedure RM 2

**Philips Contacts**
Project Manager: Winston Malcomb
Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com
Drawn By: Allec Hibit

**Project Details**
Drawing Number
N-WES230080 C
Date Drawn: 6/16/2023
Quote: Q-00161607
Order: None

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AGENCY APPLICATION NUMBER
S231455-33-00

AGENCY APPROVAL STAMP

BUILDING TITLE
RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE
CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

RUHS-MC PROJ. NO.
FM08430011869

CONSULTANT PROJ. NO.
047-10071-002

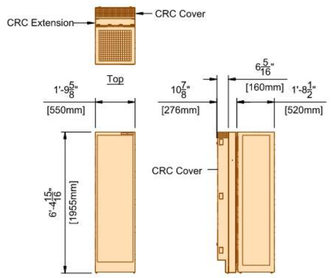
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CATH LAB 2 - PHILIPS - EQUIPMENT DETAILS

SHEET NUMBER
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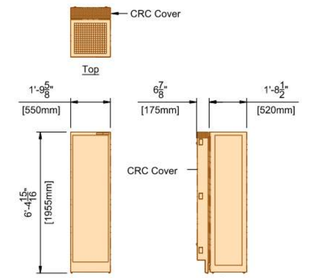



The CRC Cover must be attached to the back box.

Acoustic noise level: <= 55 dB(A) @ 1 meter in front of the rack and 1 meter high (1 meter = 39.37")

(19.0)

| MA | Mains 40E Cabinet | |
|---|---|---|
| | Weight | Heat Dissipation |
| | 826 lbs | - BTU/hr |

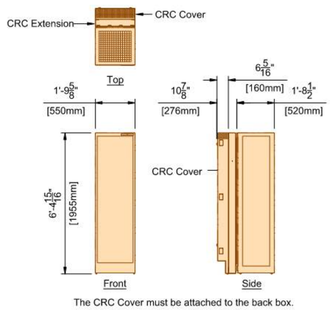



The CRC Cover must be attached to the back box.

Acoustic noise level: <= 48 dB(A) @ 1 meter in front of the rack and 1 meter high (1 meter = 39.37")

(19.0)

| MB | Image 40E Cabinet | |
|---|---|---|
| | Weight | Heat Dissipation |
| | 441 lbs | - BTU/hr |

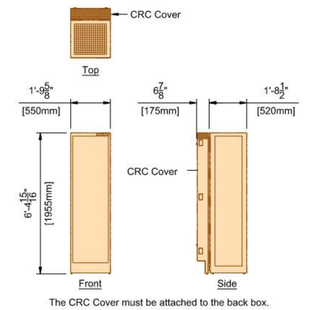



The CRC Cover must be attached to the back box.

Acoustic noise level: <= 55 dB(A) @ 1 meter in front of the rack and 1 meter high (1 meter = 39.37")

(23.0)

| MR | Peripheral 40E Cabinet | |
|---|---|---|
| | Weight | Heat Dissipation |
| | 386 lbs | - BTU/hr |




The CRC Cover must be attached to the back box.

Acoustic noise level: <= 55 dB(A) @ 1 meter in front of the rack and 1 meter high (1 meter = 39.37")

(19.0)

| ME | Certeray iX Generator 40E Cabinet | |
|---|---|---|
| | Weight | Heat Dissipation |
| | 320 lbs | - BTU/hr |

PHILIPS
PROVISIONAL

**Project**
**Azurion 7 C20 FlexArm - 4300mm - AD7**
**Riverside University Health Systems**
Riverside, CA
Room: Cath Lab Procedure RM 2

**Philips Contacts**
Project Manager: Winston Malcomb
Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com
Drawn By: Alec Hibit

**Project Details**
Drawing Number
**N-WES230080 C**
**Date Drawn: 6/16/2023**
Quote: Q-00161607
Order: None

AD3

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AGENCY APPLICATION NUMBER

S231455-33-00

AGENCY APPROVAL STAMP

BUILDING TITLE

RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE

CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

| RUHS-MC PROJ. NO. | CONSULTANT PROJ. NO. |
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| FM08430011869 | 047-10071-002 |

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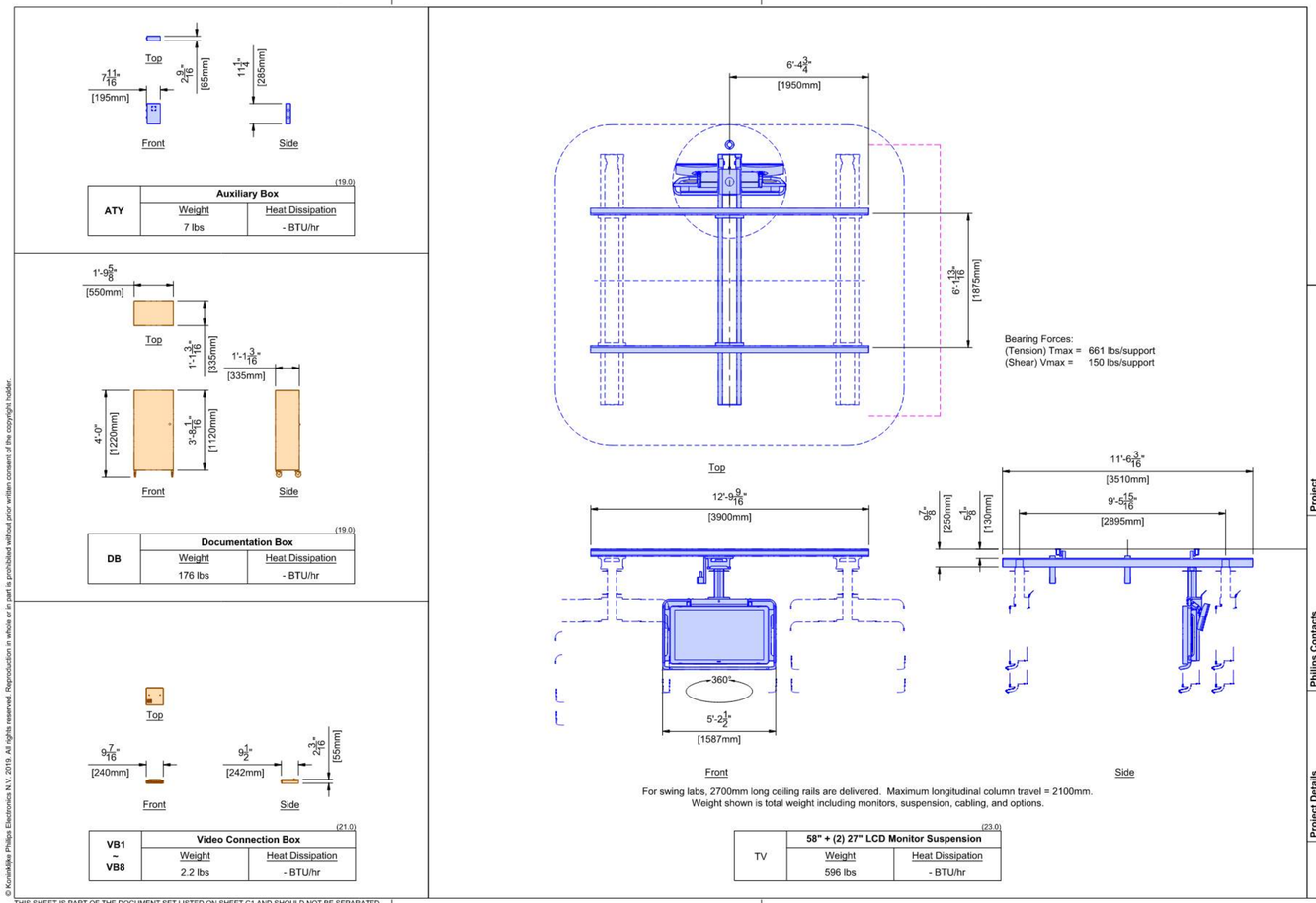
CATH LAB 2 - PHILIPS - EQUIPMENT DETAILS

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R2 AD3

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CATH LAB 2 - PHILIPS - EQUIPMENT DETAILS

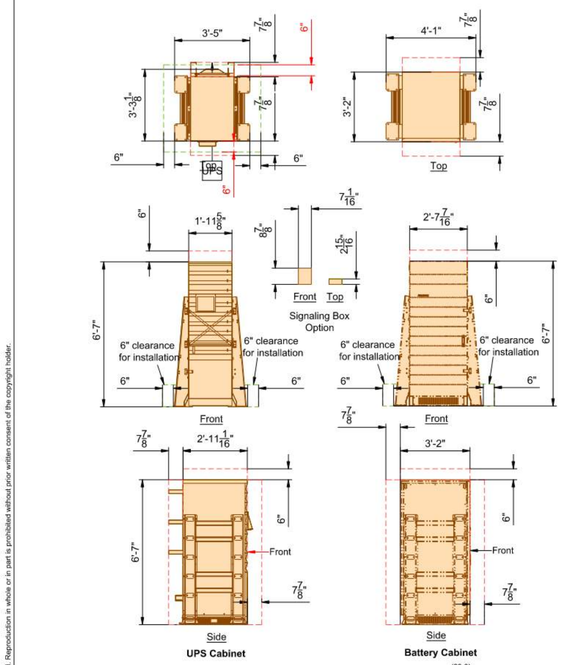
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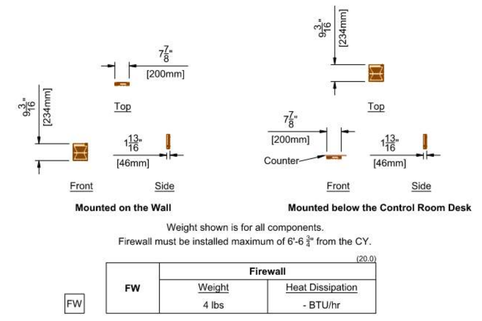
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(23.0)

| | Socomec - Full Load UPS - OSHPD | |
|---|---|---|
| | Weight | Heat Dissipation |
| UPS | 1767 lbs | 17750 BTU/hr |
| BC | 2662 lbs | - BTU/hr |
| SBO | 6.7 lbs | - BTU/hr |

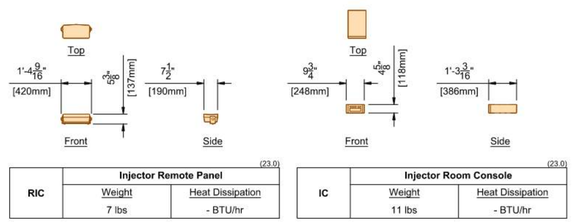
**Notes:**
* Required ventilation for the front - 7 7/8" (200mm)
* Required ventilation for the rear - 7 7/8" (200mm)
* Required ventilation for the top - 6" (155mm)
* Acoustic noise level: <= 58 dB(A) @ 1 meter in front of the rack and 1 meter high (1 meter = 39.37")




Weight shown is for all components.
Firewall must be installed maximum of 6'-6 3/4" from the CY.

(20.0)

| FW | Firewall | |
|---|---|---|
| | Weight | Heat Dissipation |
| | 4 lbs | - BTU/hr |




(23.0)

| RIC | Injector Remote Panel | |
|---|---|---|
| | Weight | Heat Dissipation |
| | 7 lbs | - BTU/hr |

(23.0)

| IC | Injector Room Console | |
|---|---|---|
| | Weight | Heat Dissipation |
| | 11 lbs | - BTU/hr |

PHILIPS
PROVISIONAL

Project
Azurion 7 C20 FlexArm - 4300mm - AD7
Riverside University Health Systems
Riverside, CA
Room: Cath Lab Procedure RM 2

Philips Contacts
Project Manager: Winston Malcomb
Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com
Drawn By: Alec Hibit

Project Details
Drawing Number
N-WES230080 C
Date Drawn: 6/16/2023
Quote: Q-00161607
Order: None

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AGENCY APPLICATION NUMBER
S231455-33-00

AGENCY APPROVAL STAMP

BUILDING TITLE
RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE
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RUHS-MC PROJ. NO.
FM08430011869

CONSULTANT PROJ. NO.
047-10071-002

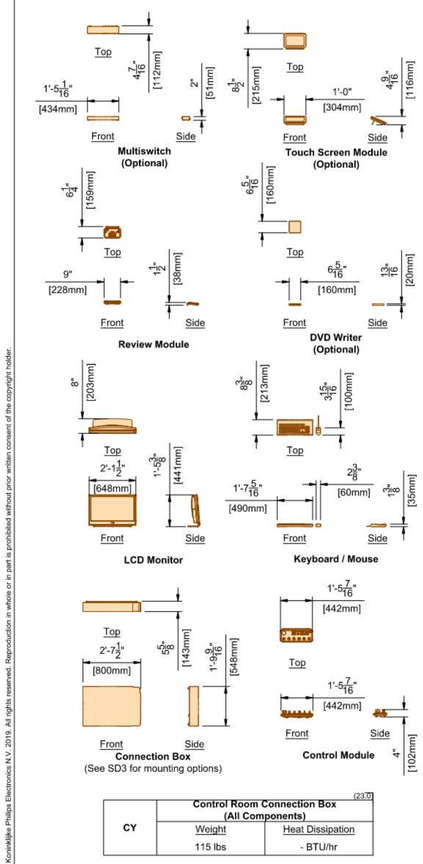
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CATH LAB 2 - PHILIPS - EQUIPMENT DETAILS

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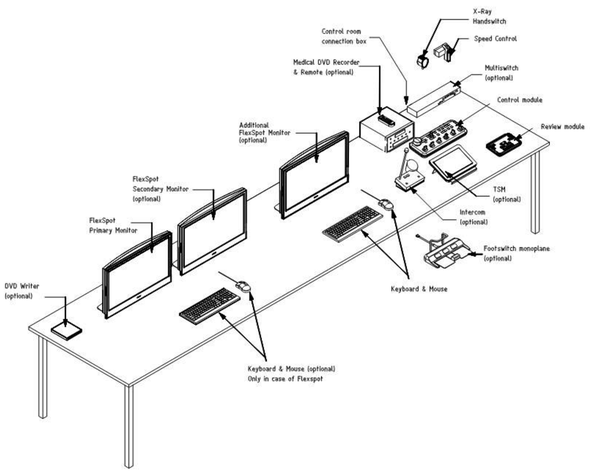



(23.7)

| CY | Control Room Connection Box (All Components) | |
|---|---|---|
| | Weight | Heat Dissipation |
| | 115 lbs | - BTU/hr |

## Detail - Typical Control Room Layout with FlexSpot

(Not to scale - Not site specific)




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**Project**
**Azurion 7 C20 FlexArm - 4300mm -**
**AD7**
**Riverside University Health Systems**
Riverside, CA
Room: Cath Lab Procedure RM 2

**Philips Contacts**
Project Manager: Winston Malcomb
Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com

Drawn By: Alec Hibit

**Project Details**
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Order: None

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LEO A DALY

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LOS ANGELES, CALIFORNIA 90071
TEL: (213)629-0100 FAX: (213)629-0070

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AGENCY APPLICATION NUMBER

S231455-33-00

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BUILDING TITLE

RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE

CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

| RUHS-MC PROJ. NO. | CONSULTANT PROJ. NO. |
|---|---|
| FM08430011869 | 047-10071-002 |

SHEET NAME

CATH LAB 2 - PHILIPS - EQUIPMENT DETAILS

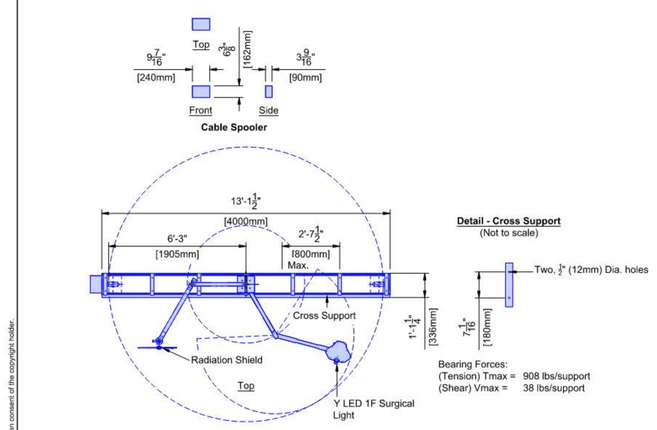
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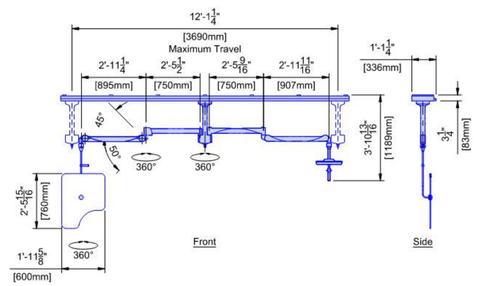




**Detail - Cross Support**
(Not to scale)

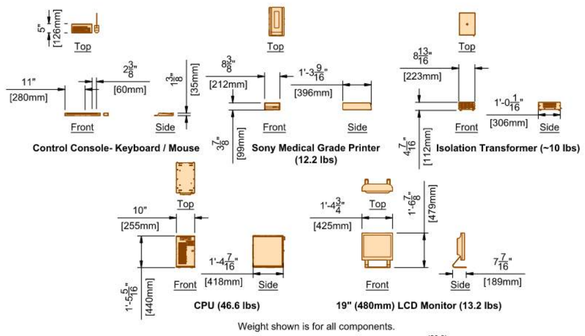



Bearing Forces:
(Tension) Tmax = 908 lbs/support
(Shear) Vmax = 38 lbs/support




(23.0)

| MAV | Mavig 4m Ceiling Track w/ Radiation Shield and Y LED 1F light | |
|---|---|---|
| | Weight | Heat Dissipation |
| | 205 lbs | - BTU/hr |




Weight shown is for all components.

(20.0)

| INT | IntraSight - Workstation | |
|---|---|---|
| | Weight | Heat Dissipation |
| | 83 lbs | - BTU/hr |

PHILIPS
PROVISIONAL

**Project**
**Azurion 7 C20 FlexArm - 4300mm -**
**AD7**
**Riverside University Health Systems**
Riverside, CA
Room: Cath Lab Procedure RM 2

**Philips Contacts**
Project Manager: Winston Malcomb
Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com

Drawn By: Alec Hibit

**Project Details**
Drawing Number
**N-WES230080 C**
**Date Drawn: 6/16/2023**
Quote: Q-00161607
Order: None

AD7

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AGENCY APPLICATION NUMBER
S231455-33-00

AGENCY APPROVAL STAMP

BUILDING TITLE
RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE
CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

| RUHS-MC PROJ. NO. | CONSULTANT PROJ. NO. |
|---|---|
| FM08430011869 | 047-10071-002 |

SHEET NAME
CATH LAB 2 - PHILIPS - EQUIPMENT DETAILS

SHEET NUMBER
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## Equipment Support Information

**1. General**
The customer shall be solely responsible, at its expense, for preparation of the site, including any required structural alterations. The site preparation shall be in accordance with this plan and specifications, the architectural/construction drawings and in compliance with all safety and building codes. The customer shall be solely responsible for obtaining all construction permits from jurisdictional authority.

**2. Equipment Anchorage**
Philips provides, with this plan and specifications, information relative to equipment size, weight, shape, anchoring hole locations and forces which may be exerted on anchoring fasteners. The customer shall be solely responsible, through the engineer of record for the building, to provide on the architectural/construction drawings, information regarding the approved method of equipment anchoring to floors, wall and/or ceiling of the building. Any anchorage test required by local authority shall be the customer's responsibility. Stud type anchor bolts should not be specified as they hinder equipment removal for service. Consult with Philips service prior to specifying anchor methods. Philips equipment must be electrically isolated from anchorage.

**3. Floor Loading and Surface**
Philips provides, with this plan and specifications, information relative to size, weight and shape of floor mounted equipment. The customer shall be solely responsible, through the engineer of record for the building, to provide on the architectural/construction drawings confirmation of the structural adequacy of the floor upon which the equipment will be placed. Any load test required by local authority, shall be the customer's responsibility.
The floor surface upon which Philips equipment is to be placed/anchored shall be flat and level to within $\frac{1}{16}$" (2mm) over a length of 39" (1m).

**4. Ceiling Support Apparatus**
a. Philips provides, with this plan and specifications, information relative to size, weight and shape of ceiling supported equipment. The customer shall be solely responsible, through the engineer of record for the building, to provide on the architectural/construction drawings, information regarding the approved method of structural support apparatus, fasteners and anchorage to which Philips will attach equipment. Any anchorage and/or load test required by local authority shall be the customer's responsibility. Philips equipment must be electrically isolated from anchorage.

b. Contractor to clearly mark Philips equipment longitudinal centerline on bottom of each structural support.

c. The structural support apparatus surface to which Philips equipment is to be attached, shall have horizontal equipment attachment surfaces parallel, square and level to within .236" (6mm) per entire span.

d. Any drilling and/or tapping of holes required to attach Philips equipment to the structural support apparatus shall be the responsibility of the customer.

e. Fasteners/anchors (i.e., bolts, spring nuts, lock and flat washers) and strip closures shall be provided by the customer.

**5. Lighting**
Luminaires shall be placed in such a position that they are not obscured by equipment or its movement, nor shall they interfere with Philips ceiling rails and equipment movement or otherwise adversely affect the equipment. Such luminaire locations shall be the sole responsibility of the customer.

**6. Ceiling Obstructions**
There shall be no obstructions that project below the finished ceiling in the area covered by ceiling suspended equipment travel.

**7. Seismic Anchorage (For Seismic Zones Only)**
All seismic anchorage hardware, including brackets, backing plates, bolts, etc., shall be supplied and installed by the customer/contractor unless otherwise specified within the support legend on this sheet. Installation of electronic cabinets to meet seismic anchorage requirements must be accomplished using flush mounted expansion type anchor/bolt systems to facilitate the removal of a cabinet for maintenance. Do not use threaded rod/adhesive anchor systems. Consult with Philips regarding any anchor system issues. Philips equipment must be electrically isolated from anchorage.

**8. Floor Obstructions/ Floor Coverings**
There shall be no obstructions on the floor (sliding door tracks, etc.) within the serviceability area of the Philips technical cabinets. Floor must be clear to allow cabinets to be pulled away from the wall for service. Technical equipment room floor shall be commercial grade "VCT" Vinyl Composition Tile or a flooring material of equal hardness and compression resistance.

**9. Safety Factors**
Ceiling loads as mentioned in the PRD are worst case loads and excluding safety factors. Proper safety factors need to be applied by Design Professional/Engineer of Record.

**10. Stiffness Requirements of Ceiling**
Horizontal Stiffness: preferred 10,000,000 Newton/meter - 57.1 klb/in, minimal 6,000,000 Newton/meter - 34.2 klb/in
Vertical Stiffness: preferred 10,000,000 Newton/meter - 57.1 klb/in, minimal 6,000,000 Newton/meter - 34.2 klb/in
Rotation Stiffness: minimal 20,000,000 Newtonmeter/Rad - 177,014 (klb in)/Rad

For Clea Stand (1160 kg or 11600 N): the maximum allowed deflection of the ceiling and/or floor construction is 1.93 mm.
For Poly G Stand (1085 kg or 10850 N): the maximum allowed deflection of the ceiling construction is 1.80 mm.
For Poly G Stand (873 kg or 8730 N): the maximum allowed deflection of the floor construction is 1.46 mm.
For Larc Stand (835 kg or 8350 N): the maximum allowed deflection of the ceiling construction is 1.39 mm.
For FlexArm (FlexArm weight is 1250 kg and ceiling stiffness is 6,000,000 Newton/meter): Max allowed deflection of ceiling structure is 2.1mm.
For FlexMove Clea Stand (1860 kg or 18600 N): the maximum allowed deflection of the ceiling construction is 3.10 mm.

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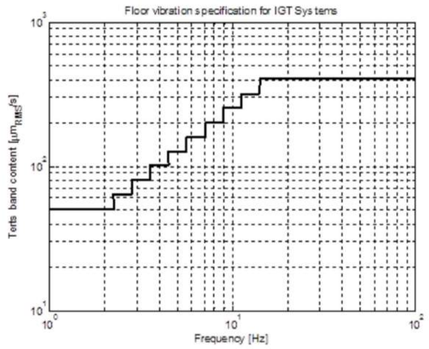
## Equipment Support Information

**11. Requirements for External Vibration**
The maximum allowed external vibration level of floors and ceilings, to which the equipment is mounted that will not adversely affect the image quality, is specified in terms of RMS velocity levels in 1/3-octave or terts bands, as follows:

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Center frequency [Hz] | 1 | 1.25 | 1.6 | 2 | 2.5 | 3.15 | 4 | 5 | 6.3 | 8 |
| Terts band value [µm/s] (RMS) | 50.8 | 50.8 | 50.8 | 50.8 | 63.5 | 80.01 | 101.6 | 127 | 160 | 203.2 |
| Center frequency [Hz] | 10 | 12.5 | 16 | 20 | 25 | 31.5 | 40 | 50 | 63 | 80 |
| Terts band value [µm/s] (RMS) | 254 | 317.5 | 406.4 | 406.4 | 406.4 | 406.4 | 406.4 | 406.4 | 406.4 | 406.4 |
| Center frequency [Hz] | 100 | 125 | 160 | 200 | | | | | | |
| Terts band value [µm/s] (RMS) | 406.4 | 406.4 | 406.4 | 406.4 | | | | | | |

### Terts Band Specification for External Vibrations

A graphical representation of this specification is given below:




### Terts Band Specification for External Vibrations

Terts band spectra shall be calculated on the basis of time traces with a duration of 10 minutes (600 seconds), taken at representative locations and during representative times during working days.

(21.1)

05.27.2022

PHILIPS
PROVISIONAL

**Project**
**Azurion 7 C20 FlexArm - 4300mm -**
**AD7**
**Riverside University Health Systems**
Riverside, CA
Room: Cath Lab Procedure RM 2

**Philips Contacts**
Project Manager: Winston Malcomb
Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com

Drawn By: Allec Hibit

**Project Details**
Drawing Number
**N-WES230080 C**
**Date Drawn: 6/16/2023**
Quote: Q-00161607
Order: None

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AGENCY APPROVAL STAMP

BUILDING TITLE
RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE
CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

RUHS-MC PROJ. NO.
FM08430011869

CONSULTANT PROJ. NO.
047-10071-002

SHEET NAME
CATH LAB 2 - PHILIPS - SUPPORT NOTES

SHEET NUMBER
R2 S0N

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**See S1 for Floor & Wall Support Layout**

**Notes:**
1. Anchors for items that are installed/anchored by customer/contractor shall be provided by customer/contractor.
2. Anchors for items that are installed/anchored by Philips shall be provided by Philips. If customer's engineering documents specify anchors other than those listed in this document, the anchors shall be provided by customer/contractor and installed by Philips.
3. In all instances, the wall and/or floor support are the sole responsibility of the customer/contractor. The customer's architect/engineer of record shall specify wall and/or floor support sufficient for the bolt forces shown on the details.

**Contact Project Manager for seismic calculations on typical mounting method**

**See S2-S3 for Ceiling Support Layout**

**Floor & Wall Support Legend**

A Furnished and installed/anchored by Philips (exceptions may exist, see Note 2)
B Furnished and installed by customer/contractor and installed/anchored by customer/contractor
C Installed/anchored by customer/contractor
D Furnished by Philips and installed/anchored by contractor
E Existing
F Future
G Optional

| | Item Number | Description | Detail Sheet |
|---|---|---|---|
| B | CY | Support in wall for Control Room Connection Box (CY) | SD3 |
| A | CY | Anchors in wall for Control Room Connection Box (CY) | SD3 |
| D | MSA | AD7 Adaptation Plate | SD1 |
| B | FW | Firewall | SD2<br>AD5<br>SD2 |
| B | 40E | Seismic Anchorage for 40E Cabinet | |
| C | UPS | Anchors for UPS. | - |
| C | BC | Anchors for Battery Cabinet (BC). | - |

**Ceiling Support Legend**

A Furnished and installed by Philips
B Furnished by customer/contractor and installed by customer/contractor
C Installed by customer/contractor
D Furnished by Philips and installed by contractor
E Existing
F Future
G Optional
H Furnished by Philips and installed by Third Party

| | Item Number | Description | Detail Sheet |
|---|---|---|---|
| A | SP | 2 - Philips FlexArm Rails | SD1 |
| A | CD | Philips Cable Duct | SD1 |
| B | UNI | Unistrut (P1000/P1001 in meeting Philips ceiling requirements, geometry of channel and geometry of fixing block) - Bottom of Unistrut 1/4" (6mm) to 1/2" (13mm) Below Finished Ceiling | SD1 |
| A | TV | 2 - Philips Monitor Equipment Rails | SD1 |
| A | MAV | Mavig 4m Ceiling Track | AD7 |

PHILIPS
PROVISIONAL

**Project**
**Azurion 7 C20 FlexArm - 4300mm - AD7**
**Riverside University Health Systems**
Riverside, CA
Room: Cath Lab Procedure RM 2

**Philips Contacts**
Project Manager: Winston Malcomb
Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com
Drawn By: Alec Hibit

**Project Details**
Drawing Number
**N-WES230080 C**
**Date Drawn: 6/16/2023**
Quote: Q-00161607
Order: None

SL

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S231455-33-00

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BUILDING TITLE
RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

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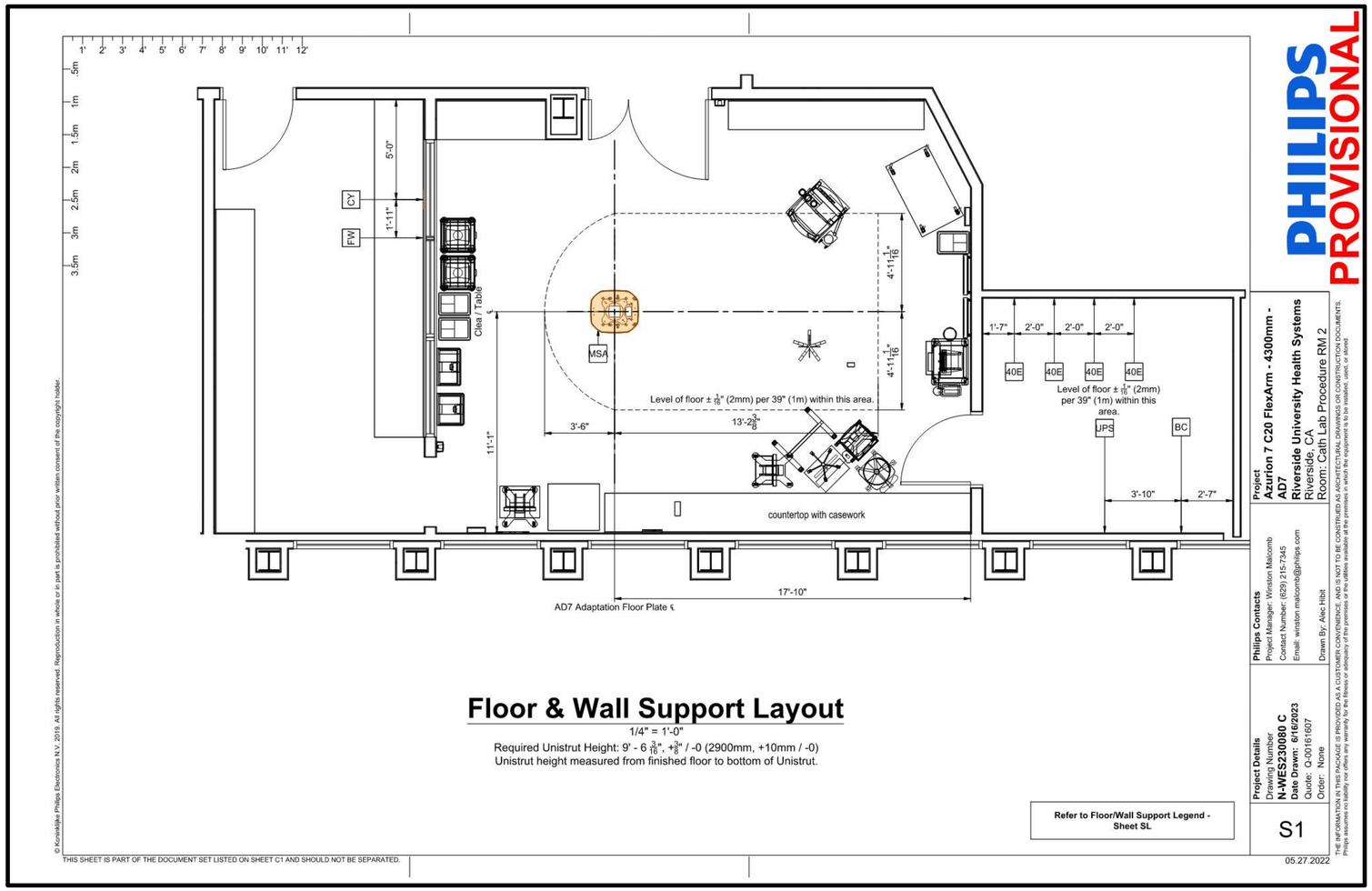
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# Floor & Wall Support Layout

1/4" = 1'-0"

Required Unistrut Height: 9' - 6 3/16", +3/8" / -0 (2900mm, +10mm / -0)
Unistrut height measured from finished floor to bottom of Unistrut.

**Refer to Floor/Wall Support Legend - Sheet SL**

PHILIPS
PROVISIONAL

**Project**
Azurion 7 C20 FlexArm - 4300mm - AD7
Riverside University Health Systems
Riverside, CA
Room: Cath Lab Procedure RM 2

**Philips Contacts**
Project Manager: Winston Malcomb
Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com
Drawn By: Alec Hibit

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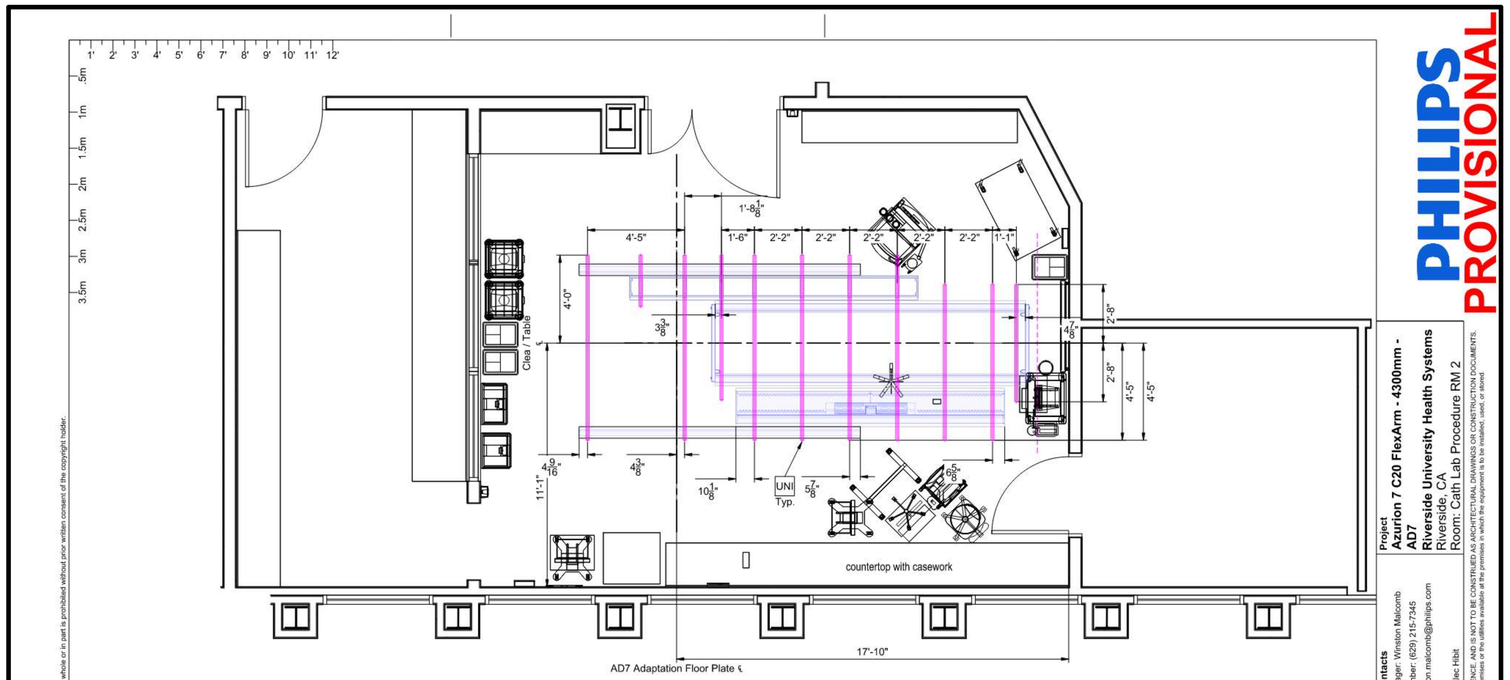
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SHEET NAME
CATH LAB 2 - PHILIPS - SUPPORT LAYOUT, FLOOR & WALL

SHEET NUMBER
R2 S01

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**Project**
**Azurion 7 C20 FlexArm - 4300mm - AD7**
**Riverside University Health Systems**
Riverside, CA
Room: Cath Lab Procedure RM 2

**Philips Contacts**
Project Manager: Winston Malcomb
Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com
Drawn By: Alec Hibit

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**General Notes**

- System Ceiling Rails: Overhang max 5 15/16" (150mm), distance between struts max 2'-3" (685mm) .
- Ceiling inlet cable duct must be supported by 2 struts.
- Normal cable duct (open): Overhang min 2" (50mm), max 11 13/16" (300mm).
- Hybrid cable duct (closed): Overhang min 9 13/16" (250mm), max 1'-7 13/16" (500mm) on the side where the strip rolls up and min 6 1/2" (165mm), max 1'-4 7/8" (415mm) at the other side.

# Ceiling Support Layout - Unistrut

1/4" = 1'-0"

Required Unistrut Height: 9' - 6 3/16", +3/8" / -0 (2900mm, +10mm / -0)
Unistrut height measured from finished floor to bottom of Unistrut.

**Refer to Ceiling Support Legend - Sheet SL**

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RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE
CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

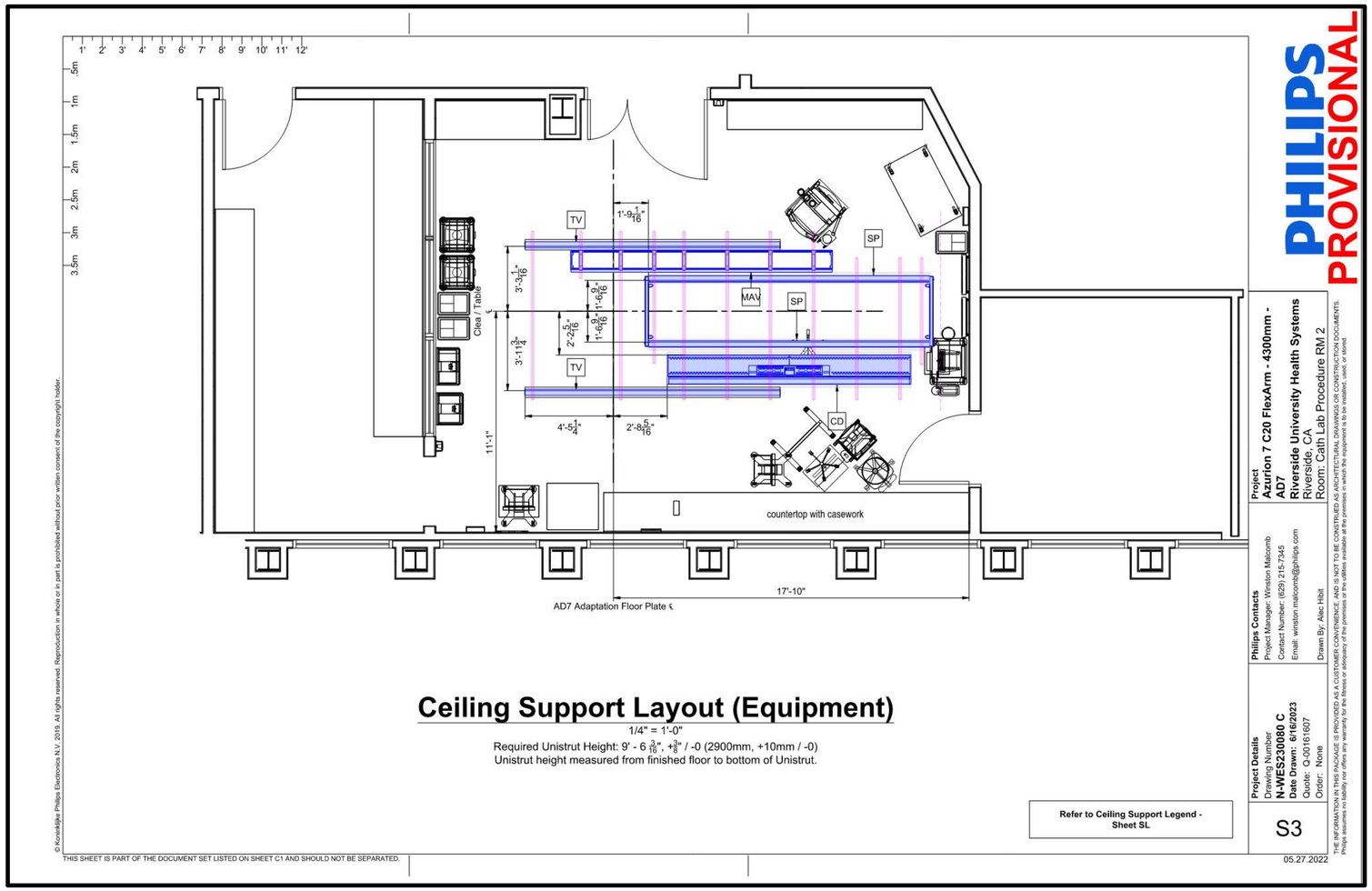
RUHS-MC PROJ. NO.
FM08430011869

CONSULTANT PROJ. NO.
047-10071-002

SHEET NAME
CATH LAB 2 - PHILIPS - SUPPORT LAYOUT, CEILING

SHEET NUMBER
R2 S02

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# Ceiling Support Layout (Equipment)

1/4" = 1'-0"

Required Unistrut Height: 9' - 6 3/16", +3/8" / -0 (2900mm, +10mm / -0)
Unistrut height measured from finished floor to bottom of Unistrut.

**Refer to Ceiling Support Legend - Sheet SL**

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05.27.2022

**PHILIPS**
**PROVISIONAL**

**Project**
Azurion 7 C20 FlexArm - 4300mm -
AD7
Riverside University Health Systems
Riverside, CA
Room: Cath Lab Procedure RM 2

**Philips Contacts**
Project Manager: Winston Malcomb
Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com
Drawn By: Alec Hibit

**Project Details**
Drawing Number
N-WES230080 C
Date Drawn: 6/16/2023
Quote: Q-0016'607
Order: None

S3

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26520 CACTUS AVENUE, MORENO VALLEY, CALIFORNIA 92555

LEO A DALY
550 SOUTH HOPE STREET, SUITE 2700
LOS ANGELES, CALIFORNIA 90071
TEL: (213)629-0100 FAX: (213)629-0070

ARCHITECTECT STAMP

CONSULTANT

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KEY PLAN

REVISIONS

| NO. | DESCRIPTION | DATE |
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FILE LOG

| ACTIVITY | BY |
|---|---|
| Design | Designer |
| Draw | Author |
| Check | Checker |
| Issue Date | 2023/8/28 |

AGENCY APPLICATION NUMBER
S231455-33-00

AGENCY APPROVAL STAMP

BUILDING TITLE
RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE
CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

RUHS-MC PROJ. NO.
FM08430011869

CONSULTANT PROJ. NO.
047-10071-002

SHEET NAME
CATH LAB 2 - PHILIPS - SUPPORT LAYOUT, CEILING

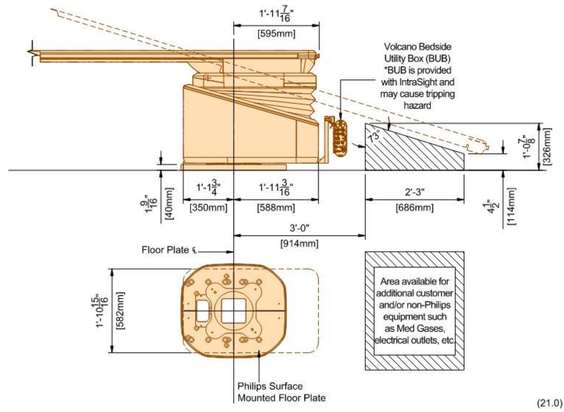
SHEET NUMBER
R2 S03

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## Detail - AD7 SyncraTilt/Tilt Table, Fixed/Pivot Base - Clearance Area

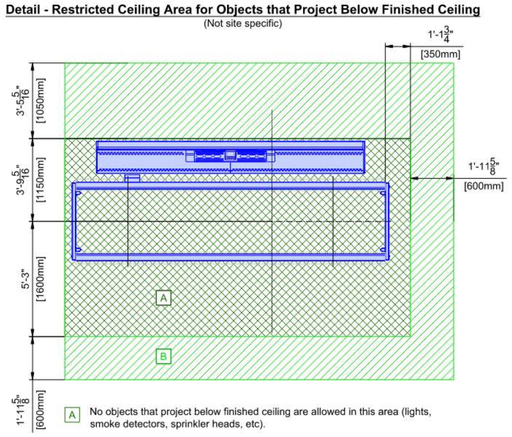
(Not to scale)




(21.0)

## Detail - Restricted Ceiling Area for Objects that Project Below Finished Ceiling

(Not site specific)




A No objects that project below finished ceiling are allowed in this area (lights, smoke detectors, sprinkler heads, etc).

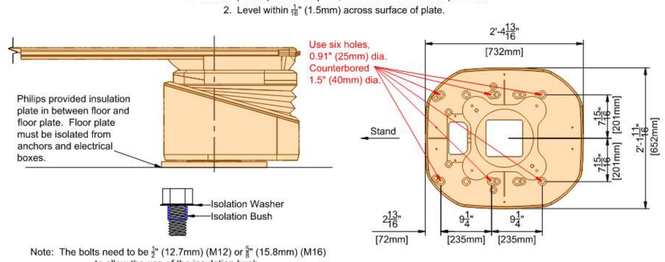
B All objects placed 4 1/2 " (114mm) or less below ceiling are clear, but all objects placed past 4 1/2 " (114mm) require an elevation check before installation.

(19.0)

## Detail - AD7 Adaptation Plate - Notes for Installation

(Not to scale)

1. 1.5748" (40mm) thick floor plate, surface mounted with top of slab.
2. Level within 1/16" (1.5mm) across surface of plate.



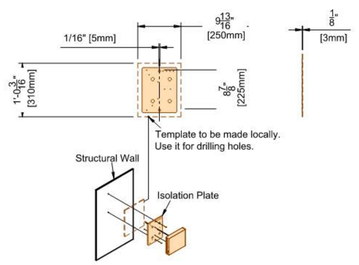

Note: The bolts need to be 3/4" (12.7mm) (M12) or 5/8" (15.8mm) (M16) to allow the use of the insulation bush.

MSA

(21.0)

## Detail - Firewall Cisco ASA-5506 - Hole Pattern for Mounting

(Not to scale)




FW

(20.0)

**Project**
Azurion 7 C20 FlexArm - 4300mm -
AD7
Riverside University Health Systems
Riverside, CA
Room: Cath Lab Procedure RM 2

**Philips Contacts**
Project Manager: Winston Malcomb
Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com

Drawn By: Alec Hibit

**Project Details**
Drawing Number
**N-WES230080 C**
**Date Drawn: 6/16/2023**
Quote: Q-30161607
Order: None

SD2

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PROVISIONAL


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05.27.2022


Riverside University HEALTH SYSTEM

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LOS ANGELES, CALIFORNIA 90071
TEL: (213)629-0100 FAX: (213)629-0070


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| ACTIVITY | BY |
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| Design | Designer |
| Draw | Author |
| Check | Checker |
| Issue Date | 2023/8/28 |

AGENCY APPLICATION NUMBER

S231455-33-00

AGENCY APPROVAL STAMP

BUILDING TITLE

RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE

CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

| RUHS-MC PROJ. NO. | CONSULTANT PROJ. NO. |
|---|---|
| FM08430011869 | 047-10071-002 |

SHEET NAME

CATH LAB 2 - PHILIPS - SUUPPORT DETAILS

SHEET NUMBER

R2 SD1

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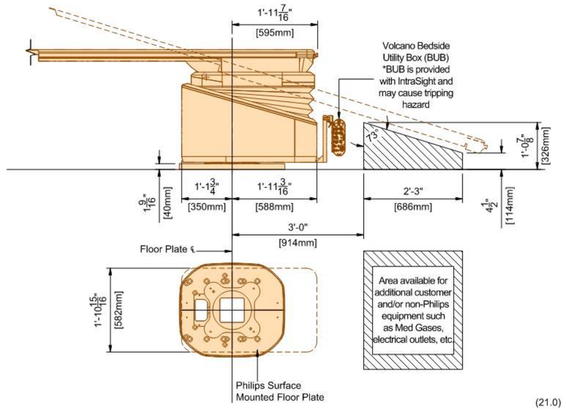

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## Detail - AD7 SyncraTilt/Tilt Table, Fixed/Pivot Base - Clearance Area

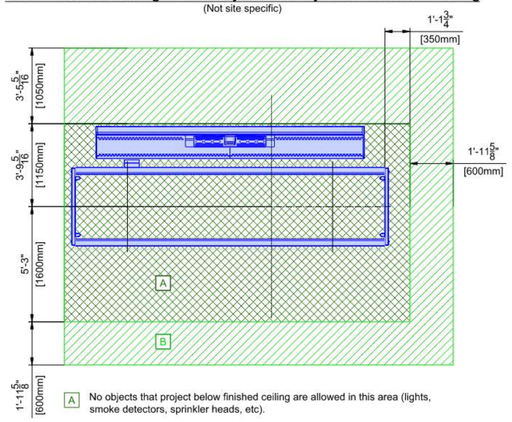
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(21.0)

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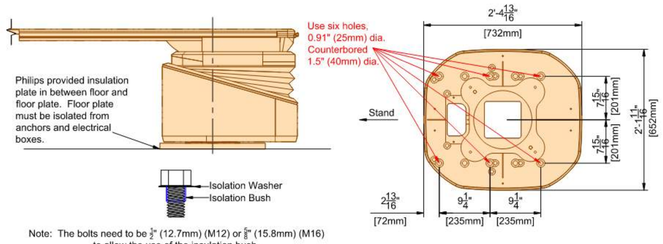
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(19.0)

## Detail - AD7 Adaptation Plate - Notes for Installation

(Not to scale)

1. 1.5748" (40mm) thick floor plate, surface mounted with top of slab.
2. Level within 1/16" (1.5mm) across surface of plate.



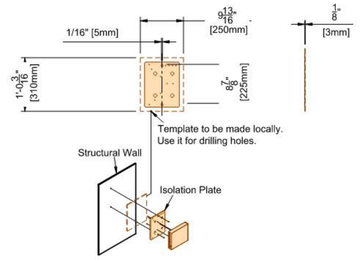

Note: The bolts need to be 1/2" (12.7mm) (M12) or 5/8" (15.8mm) (M16) to allow the use of the insulation bush.

MSA

(21.0)

## Detail - Firewall Cisco ASA-5506 - Hole Pattern for Mounting

(Not to scale)




FW

(20.0)

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05.27.2022

PHILIPS
PROVISIONAL

**Project**
Azurion 7 C20 FlexArm - 4300mm - AD7
Riverside University Health Systems
Riverside, CA
Room: Cath Lab Procedure RM 2

**Philips Contacts**
Project Manager: Winston Malcomb
Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com
Drawn By: Alec Hibit

**Project Details**
Drawing Number
N-WES230080 C
Date Drawn: 6/16/2023
Quote: Q-00161607
Order: None

SD2

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Riverside University HEALTH SYSTEM

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TEL: (213)629-0100 FAX: (213)629-0070

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| Design | Designer |
| Draw | Author |
| Check | Checker |
| Issue Date | 2023/8/28 |

AGENCY APPLICATION NUMBER
S231455-33-00

AGENCY APPROVAL STAMP

BUILDING TITLE
RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE
CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

RUHS-MC PROJ. NO.
FM08430011869

CONSULTANT PROJ. NO.
047-10071-002

SHEET NAME
CATH LAB 2 - PHILIPS - SUPPORT DETAILS

SHEET NUMBER
R2 SD2

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## Pre-Evaluated and -Approved Anchor Reference List for Philips Installers

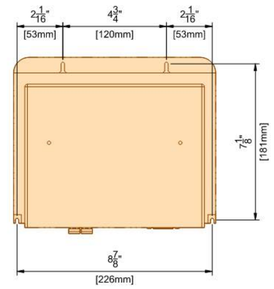
Anchors for items that are installed/anchored by customer/contractor shall be provided by customer/contractor. Anchors for items that are installed/anchored by Philips shall be provided by Philips. If customer's engineering documents specify anchors other than those listed below, the anchors shall be provided by customer/contractor and installed by Philips. In all instances, the wall and/or floor support are the sole responsibility of the customer/contractor. The customer's architect/engineer of record shall specify wall and/or floor support sufficient for the bolt forces shown on the details.

| Equipment | Option | Anchor Style (provided by Philips) | Anchor Size (provided by Philips) | Qty. | Support Size & Material (provided & installed by customer/contractor) |
|---|---|---|---|---|---|
| Control Room Connection Box (CY) | A | Round Phillips Head Self Drilling Screws | #10-16 x 1 $\frac{1}{2}$" (38mm) L | 3 | Drywall with minimum 20 gauge Steel backing |
| | B | SPAX Multipurpose flat head screw | #10 x 1 $\frac{1}{2}$" (38mm) L | 3 | Drywall with minimum 20 gauge Steel backing |
| | C | Toggler Snaptoggle and (round head screws) | #BA and (#10-24 x 2 $\frac{1}{2}$" (63.5mm) L) | 3 | Minimum $\frac{5}{8}$" (16mm) Drywall |

(16.0)

## Detail - Video Connection Box - Hole Pattern for Mounting

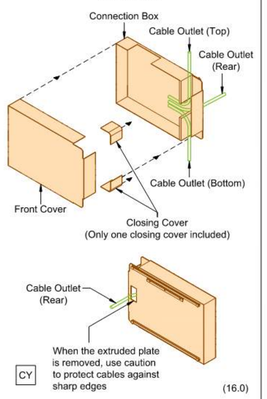
(Not to scale)




(16.0)

## Detail - CY - Cable Outlets

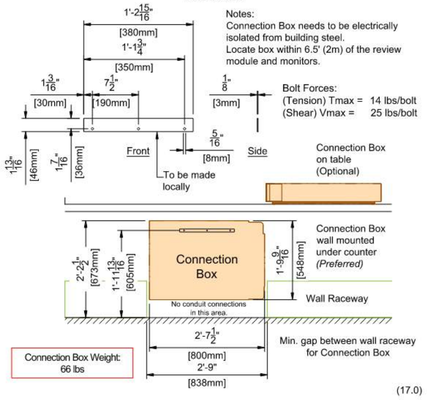
(Not to scale)




(16.0)

## Detail - CY - Wall Mount Template

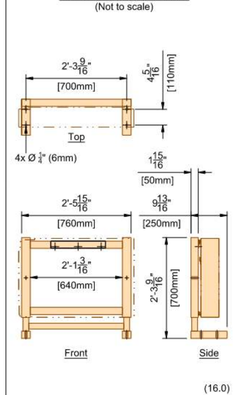
(Not to scale)




(17.0)

## Detail - CY Support Frame Option

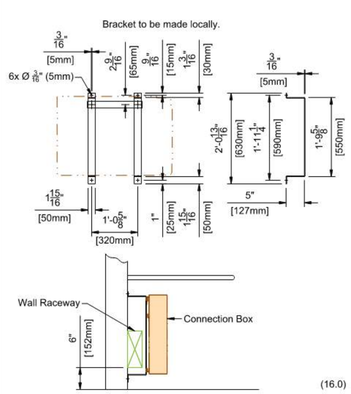
(Not to scale)




(16.0)

## Detail - CY - Bracket Mount Option

(Not to scale)




(16.0)

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PHILIPS
PROVISIONAL

**Project**
**Azurion 7 C20 FlexArm - 4300mm - AD7**
**Riverside University Health System**
Riverside, CA
Room: Cath Lab Procedure RM 2

**Philips Contacts**
Project Manager: Winston Malcomb
Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com

Drawn By: Allec Hibit

**Project Details**
Drawing Number
**N-WES230080 C**
**Date Drawn: 6/16/2023**
Quote: Q-0016'607
Order: None

SD3

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BUILDING TITLE
RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE
CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

RUHS-MC PROJ. NO.
FM08430011869

CONSULTANT PROJ. NO.
047-10071-002

SHEET NAME
CATH LAB 2 - PHILIPS - SUPPORT DETAILS

SHEET NUMBER
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## Emergency Power

Philips does not require equipment to be on emergency power. If the customer deems it necessary for the equipment to be supplied with emergency power, the following specifications must be applied:

The Mains 40E cabinet feeding an Azurion system will have an absolute peak current of <=300A @ 480V. Maximum momentary current <=80A per phase when averaged over a 5-second window. Note that during acquisition, the current harmonics (including sub- and inter-harmonics) up to 1 kHz can be substantial. Account for: 30% for the mains frequency +/- the frame speed, up to 20% for the 5th harmonics, up to 10% for the 7th harmonics.

Maximum differential mode induced disturbance voltage on these wires shall be a <3V peak at all frequencies. Maximum common mode current on these wires shall be less than 3 micro-amp at frequencies between 30-1000MHz to meet EMC regulations.

For systems delivered to site before Jan 2016 or with SIB (system interface box) 4522163320978. When this interface is used a Sub-D capacitive filter adapter with 5.6nF between pins and chassis shall be placed on X14 of the SIB input in the MA-cabinet (e.g. Amphenol FCE17B25AD290).

(22.0)

## Electrical Requirement Notes for Systems with Mains 40E Cabinet

Electrical power distribution at the facility shall comply with:

Utilization voltages per ANSI C84.1 - 2006 range A.

Voltage to be supplied is 3 phase, Wye or symmetric Delta 3-line +PE.

Phase conductors to be sized for instantaneous voltage drop per NEC 517.73 and Philips recommendations.

All Philips equipment is grounded via the equipment insulated ground wire. Metal raceway bonding shall be used as a secondary ground fault return path only for the supply mains to the equipment. The raceway system ground and isolated equipment ground shall be bonded together via the ERB terminal jumpers.

The Philips system has a private ground domain per clause 250.96B of the NEC. The raceway from the X-ray breaker (CB) to the Mains 40E Cabinet shall be supplemented by an internal insulated equipment grounding conductor installed in accordance with clause 250.146(D) of the NEC. The Azurion equipment ground domain and the branch circuit ground domain are bonded together in the ERB via a ground bonding jumper.

ANSI / NFPA 70 - National Electrical Code
Article 250 - Grounding
Article 517 - Healthcare Facilities
ANSI / NFPA 99 - Healthcare Facilities

## Power Quality Guidelines

1. Power supplied to medical imaging equipment must be separate from power feeds to air conditioning, elevators, outdoor lighting, and other frequently switched or motorized loads. Such loads can cause waveform distortion and voltage fluctuations that can hinder high quality imaging.
2. Equipment that utilizes the facility power system to transmit control signals (especially clock systems) may interfere with medical imaging equipment, thus requiring special filtering.
3. The following devices provide a high impedance, nonlinear voltage source, which may affect image quality: Static UPS systems, Series filters, Power conditioners, and Voltage regulators.
Do not install such devices in the supply mains branch circuit of the Azurion system without consulting Philips installation or service personnel.
4. Line impedance is the combined resistance and inductive reactance of the electrical system and includes the impedance of the power source, the facility distribution system, and all phase conductors between the source and the imaging equipment. The minimum conductor size is based on the total line impedance and NEC requirements. Impedance calculations are to be performed by an electrical engineer.

(22.0)

## General Electrical Information

1. General
The customer shall be solely responsible, at its expense, for preparation of the site, including any required electrical alterations. The site preparation shall be in accordance with this plan and specifications, the architectural/construction drawings and in compliance with all safety and electrical codes, the customer shall be solely responsible for obtaining all electrical permits from jurisdictional authority.

2. Materials and Labor
The customer shall be solely responsible, at its expense, to provide and install all electrical ducts, boxes, raceways (conduits, wireways, auxiliary gutters etc.), fittings, bushing, etc., As separately specified herein.

3. Electrical Ducts and Boxes
Electrical ducts and boxes shall be accessible and have removable covers. Floor ducts and boxes shall have watertight covers. Ducts shall be divided into as many as four separate channels by metal dividers, separately specified herein, to separate wiring and/or cables into groups as follows: Group A: Branch circuit equipment supply mains power wires together with the branch circuit isolated equipment bonding wire. Group B: Equipment Secondary Circuit AC supply and associated isolated ground cable/wire harnesses. Group C: Equipment signal wires and cable harnesses plus equipment low-voltage DC supply cable/wire harnesses. Group D: X-Ray high-voltage cables, the use of 90 deg. ells is not acceptable. On ceiling duct and wall duct use 45 deg. bends at all corners. All intersecting points in duct to have cross over tunnels supplied and installed by contractor to maintain separation of cables based on 725.136 for low voltage signaling cables and conductors and 517.80 for communications and signaling cables in health care applications. Secondary circuits of transformer powered communications and signaling systems are not required to be enclosed in raceways unless otherwise specified by Chapter 7 or Chapter 8. All wire harnesses of the Azurion system are required to be run in a raceway (wireway) dedicated to Azurion wire harnesses. No foreign wiring shall be run in the same wireway together with the Azurion wire harnesses. Separation between Group A and other groups is mandatory along the full run of group A wires. Separation between groups B, C, and D is recommended for the first 3 meters behind the equipment cabinets and for the locations where wire-harness over-length is suspended.

4. Raceways (Conduit)
Raceway (Conduit) point - to - point runs shall be as direct as possible. Empty conduit runs used for cables may require pull boxes located along the run. Consult with Philips. A pull wire or cord shall be installed in each conduit run. Best practice to name the physical conduit. All conduits which enter duct prior to their termination point must maintain separation from other cables via use of dividers, cross over tunnels, or conduit supplied and installed by contractor from entrance into duct to exit from duct. Do not use flex conduit unless approved by Philips Service.

5. Conductors
All conductors, separately specified, shall be 90°C stranded copper, rung out and marked.

6. Disconnecting Means
A disconnecting means shall be provided as separately specified.

7. Warning Lights and Door Switches
"X-ray on" warning lights and x-ray termination door switches should be provided at all entrances to x-ray rooms as required by code.

8. Dimmer Switches
X-ray room lights should be provided with dimmer switches. (19.0)

## Electrical Notes

1. The contractor will supply & installl all breakers, shunt trip and incoming power to the breakers. The exact location of the breakers and shunt trips will be determined by the architect or contractor.

2. The contractor shall supply & install all pull boxes, raceway runs, stainless steel covers, etc. Conduit/raceways must be free from burrs and sharp edges over its entire length. A Greenlee pull string/measuring tape (part no. 435, or equivalent) must be provided with raceway runs to validate runs are within length restrictions.

3. All pre - terminated, cut to length cables, will be supplied and installed by Philips. All cables and conductors to the equipment supply mains branch circuit breaker shall be supplied and installed by the contractor, subject to local arrangements.

4. Provide and install 50mm diameter chase nipples between adjacent wall boxes.

5. Electrical raceway ducts shall be installed with removable covers. The raceway should be accessible for the entire length. In case of non - accessible floors, walls and ceilings, an adequate number of access hatches should be supplied to enable installation of cabling. Approved raceways may be substituted. All raceways will be designed in a manner that will not allow cables to fall out of the raceway when the covers are removed. In most cases, this will require above - ceiling raceway to be installed with the covers removable from the top. Raceway systems as illustrated on this drawing are based upon length of furnished cables. Any changes in routing of raceway systems could exceed maximum allowable length of furnished cables. Conduits or raceways installed above ceilings must be kept as near as practicable to finished ceilings and still permit accessibility.

6. Raceway sizes shall be verified by the architect, electrical engineer or contractor, in accordance with local or National Electrical Code, whichever govern.

7. Convenience outlets are not shown on the plans. Their number and location are to be specified by the customer/architect.

8. Electrical contractor shall install grounding and bonding conductors at raceway openings within wall boxes as required by national and local electrical codes. Ground bond wires and lugs shall be installed in such a way to prevent the inadvertent contact with the installed Philips equipment to maintain Philips isolated ground scheme and maintain patient safety.

9. Install an insulated stranded ground wire per feeder/conductor size from the Main Disconnect (CB) to the ERB (minimum size 4 AWG) and from the ERB to the Mains 40E Cabinet (minimum size 4 AWG).

10. Philips equipment must be electrically isolated from conduits, raceways, ducts, seismic anchoring, floor anchoring, etc. (18.0)

PHILIPS
PROVISIONAL

Project
Azurion 7 C20 FlexArm - 4300mm - AD7
Riverside University Health Systems
Riverside, CA
Room: Cath Lab Procedure RM 2

Philips Contacts
Project Manager: Winston Malcomb
Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com
Drawn By: Alec Hibit

Project Details
Drawing Number
**N-WES230080 C**
**Date Drawn: 6/16/2023**
Quote: Q-00161607
Order: None

EN

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AGENCY APPLICATION NUMBER
S231455-33-00

AGENCY APPROVAL STAMP

BUILDING TITLE
RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE
CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

RUHS-MC PROJ. NO.
FM08430011869

CONSULTANT PROJ. NO.
047-10071-002

SHEET NAME
CATH LAB 2 - PHILIPS - ELECTRICAL NOTES

SHEET NUMBER
R2 E0N

**VENDOR'S SHOP DRAWING FOR REFERENCE ONLY**

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## Electrical Legend

A Furnished and installed by Philips
B Furnished by customer/contractor and installed by customer/contractor
C Installed by customer/contractor
D Furnished by Philips and installed by contractor
E Existing
F Future
G Optional

Item Number | Description | Detail Sheet

### Wall

| | Item Number | Description | Detail Sheet |
|---|---|---|---|
| B | CB | 480V, 3 phase, Type D 80 A circuit breaker with long-time delay (e.g. Square D HDL36080 or equivalent). Run power from breaker to "MA", leaving an 8' (2440mm) tail at "MA". See Sheet "ED1" for power quality requirements. Location per local code or owner requirements. (Not shown on plan) | ED1 |
| B | ST | Shunt Trip (emergency off) - Large mushroom-head button on remote control station with contacts to operate feature of "CB2" (if required by local code or owner, and mandatory for VA and D.O.D installations). If UPS is utilized, EPO switch will run 2 sets of communication wires to input breaker to UPS and to UPS itself (Not shown on plan) | ED4 |
| B | GE | Local building steel (i.e. structural steel, ground rod). (Not shown on plan) | |
| B | ERB | Equi-Potential Reference Bar mounted in a 12" (305mm) W x 12" (305mm) H x 4" (105mm) D pull box with hinged cover, surface mounted to the bottom of "WR2" when possible. | ED2 |
| B | ME, MR, MA, MB | **Customer/Contractor provided** 19 $\frac{3}{4}$" (490mm) W x 67" (1705mm) H x 4" (105mm including rubber isolation strips) D flanged-edge terminal back box, surface mounted 82" (2085mm) A.F.F. to top of box. Weight is approximately 125 lbs (56.7 kg) per box. Please see ED3 for ordering instructions for back boxes. | ED3 |
| B | CY, WM, VB1, VB2, RIC, VB3, INT | Grommet opening on "WR3". Approximate location shown is recommended and may be changed - verify relocation with local Philips Service. | |
| B | VB4, VB5, VB6 | 4" (105mm) W x 4" (105mm) H x 4" (105mm) D pull box with removable screw-type cover plate, flush mounted. Exact height to be determined. Verify location with local Philips Service. | |
| B | WR1, WR2 | 10" (255mm) W x 4" (105mm) D wall raceway, surface mounted with removable screw-type cover plate. "WR1" is at 5" (130mm) A.F.F. to bottom of raceway. "WR2" is at 82" (2085mm) A.F.F. to bottom of raceway. | ED3 |
| B | WR3 | 10" (255mm) W x 4" (105mm) D wall raceway, surface mounted with removable screw-type cover plate. "WR3" is at finished floor. "WR3" may need to be cut at the location of the "CY" connection box. | ED3 |
| G | PHY | Stub up point for physiological monitoring cables. Run raceway (conduit) to customer's physiological console location. Contact manufacturer for power requirements, etc. (Not shown on plan) | |
| B | ATY | Auxiliary Box - 6" (155mm) W x 6" (155mm) H x 4" (105mm) D wall box, flush mounted with removable screw-type cover plate. Location shown is recommended and may be changed - verify height and relocation with local Philips Service. | |
| B | DS | Door Switch - 120V/5A switch limited to open when door is open. Mount in upper corner on strike side of main entry door(s) (Cooper no. 1665 or equivalent), if required by local code or physicist of record. See Sheet "ED3" diagram for connection details. (Not shown on plan) | ED3 |
| B | WL | Warning Light - Provide a surface or flush mounted light fixture above door to indicate when X-ray is on, if required by local code or physicist of record. (Not shown on plan) | ED3 |
| B | FW | Approximate location shown for Firewall is recommended and may be changed - verify relocation with local Philips Service. Firewall must be installed maximum of 6'-6 3/4" from the CY. | |

## Electrical Legend

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C Installed by customer/contractor
D Furnished by Philips and installed by contractor
E Existing
F Future
G Optional

Item Number | Description | Detail Sheet

### Floor

| | Item Number | Description | Detail Sheet |
|---|---|---|---|
| B | MSA | 10" (255mm) W x 10" (255mm) L x 6" (155mm) D floor box, flush mounted with underside of AD7 Adaptation Plate. | |

### Ceiling

| | Item Number | Description | Detail Sheet |
|---|---|---|---|
| B | SP | 18" (460mm) W x 18" (460mm) L x 6" (155mm) D ceiling box, flush mounted with removable screw-type cover plate. Provide one 4" (105mm) square knockout. | |
| B | TV, VB7, VB8 | 18" (460mm) W x 18" (460mm) L x 6" (155mm) D ceiling box, flush mounted with removable screw-type cover plate. Provide a 2 $\frac{3}{4}$" (65mm) round cutout (Two 2 $\frac{3}{4}$" (65mm) round cutouts are required for systems with two monitor carriages - verify with local Philips Service). VB7 & VB8 to be mounted on the rear of Flexvision. | |
| B | M3 | 4" (105 mm)W x 4" (105 mm)L x 2 1/2" (65 mm)D ceiling box, flush mounted with removable screw-type cover plate. Recommended location is near or above the cable spooler. Hardwire 120 - 240 VAC, 50 - 60 Hz hospital power to "M3". | |

### Duplexes

| | Item Number | Description | Detail Sheet |
|---|---|---|---|
| G | 250 | 250V/30A dedicated duplex outlet for optional third party equipment (e.g. Spectranetics Laser - Not shown on plan). | |
| B | | 120V/20A dedicated duplex outlet. | |
| B | IS | 120V/20A dedicated duplex outlet for service in the equipment room. (Not shown on plan) | |
| B | 3 | 120VAC with 1Amp power draw SBO (Signaling Box Option) | |

### Network Connectors

| | Item Number | Description | Detail Sheet |
|---|---|---|---|
| B | N1 | RJ45 type Ethernet 10/100/1000 Mbit network connector with access to customer's network. Locate within 10' (3050mm) of network card. Network fiber optic and Ethernet cabling, connectors, wall boxes, patch panels, etc. are the responsibility of the purchaser. Philips assumes no responsibility for procurement, installation, or maintenance of these components. | |
| B | N2 | RJ45 type Ethernet 10/100/1000 Mbit network connector. Access to customer's network via their remote access server is needed for Remote Service Network (RSN) connectivity. | N1 |

**See E1 - E4 sheets for conduit and raceway requirements.**

PHILIPS
PROVISIONAL

**Project**
**Azurion 7 C20 FlexArm - 4300mm - AD7**
**Riverside University Health Systems**
Riverside, CA
Room: Cath Lab Procedure RM 2

**Philips Contacts**
Project Manager: Winston Malcomb
Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com
Drawn By: Alec Hibit

**Project Details**
Drawing Number
**N-WES230080 C**
**Date Drawn: 6/16/2023**
Quote: Q-00161607
Order: None

EL1

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| Issue Date | 2023/8/28 |

AGENCY APPLICATION NUMBER
S231455-33-00

AGENCY APPROVAL STAMP

BUILDING TITLE
RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE
CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

RUHS-MC PROJ. NO.
FM08430011869

CONSULTANT PROJ. NO.
047-10071-002

SHEET NAME
CATH LAB 2 - PHILIPS - ELECTRICAL LEGEND

SHEET NUMBER
R2 EL1

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## Electrical Legend

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C Installed by customer/contractor
D Furnished by Philips and installed by contractor
E Existing
F Future
G Optional

| | Item Number | Description | Detail Sheet |
|---|---|---|---|
| | | **Wall** | |
| B | CB2 | UPS input breaker. 125A, 3-pole circuit breaker with shunt trip. (Not shown on plan). | ED4 |
| D | UPS | UPS - 75 kVA. | ED4 |
| D | BC | Battery Cabinet. | ED4 |
| D | SBO | Signaling Box Option (wall mounted in the control area). Exact height to be determined. Location shown is recommended and may be changed - verify relocation with customer/contractor. | ED4 |
| B | IC | Grommet opening on "WR2". Exact size and location to be determined by local Philips Service. | |

**See E1 - E4 sheets for conduit and raceway requirements.**

PHILIPS
PROVISIONAL

**Project**
**Azurion 7 C20 FlexArm - 4300mm - AD7**
**Riverside University Health Systems**
Riverside, CA
Room: Cath Lab Procedure RM 2

**Philips Contacts**
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Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com
Drawn By: Alec Hibit

**Project Details**
Drawing Number
**N-WES230080 C**
**Date Drawn: 6/16/2023**
Quote: Q-00161607
Order: None

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RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE
CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

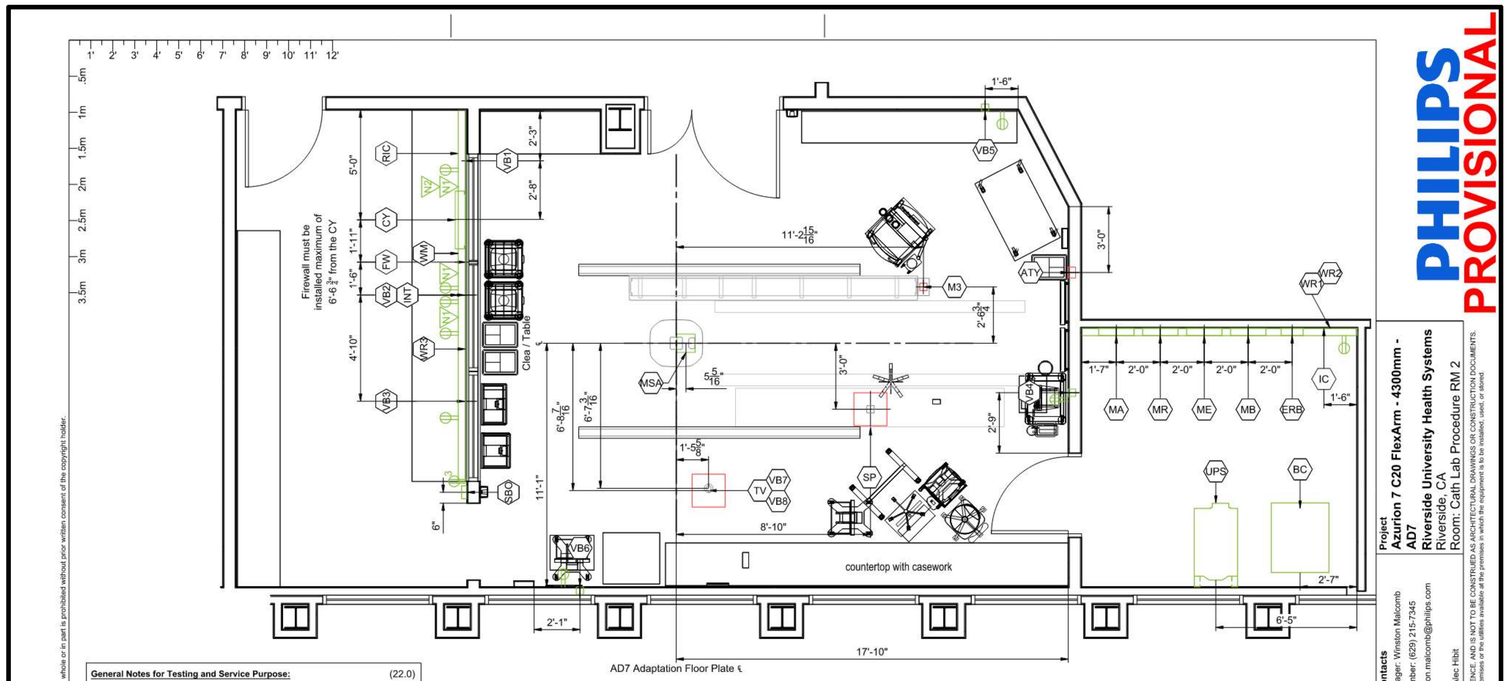
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CATH LAB 2 - PHILIPS - ELECTICAL LEGEND

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**General Notes for Testing and Service Purpose:** (22.0)

The conduit must meet these 3 criteria:

- Accessible for the FSE during install & annual PM Electrical Safety testing.
- Max Lenght of the ground wire stays below 60'-0".
- A #6 ground to be used.

The calculated ground resistance to the added wire would need to be subtracted from the measured ground bonding between the ERB and accessible part.

Conduit is added to bypass long hallways during testing purposes. Conduit must be alone. Verify with field and customer requirement.

Exam room placement of conduit termination should be on shared wall with equipment room, if possible, if not, exam room wall closest to the equipment room.

# Electrical Layout

1/4" = 1'-0"

Required Unistrut Height: 9' - 6 3/16", +3/8" / -0 (2900mm, +10mm / -0)
Unistrut height measured from finished floor to bottom of Unistrut.

**Refer to Electrical Legend - Sheet EL1-EL2 and Raceway/Conduit - Sheet E2-E4**

E1

05.27.2022

PHILIPS PROVISIONAL

**Project**
**Azurion 7 C20 FlexArm - 4300mm - AD7**
**Riverside University Health Systems**
Riverside, CA
Room: Cath Lab Procedure RM 2

**Philips Contacts**
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BUILDING TITLE

RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE

CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

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CATH LAB 2 - PHILIPS - ELECTRICAL LAYOUT

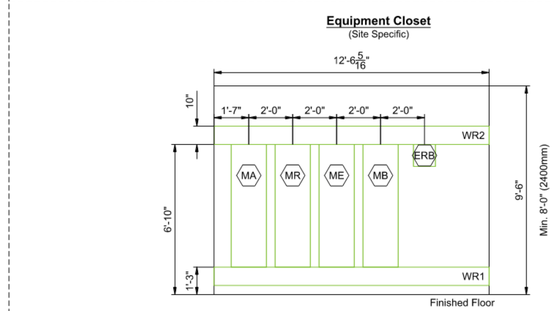
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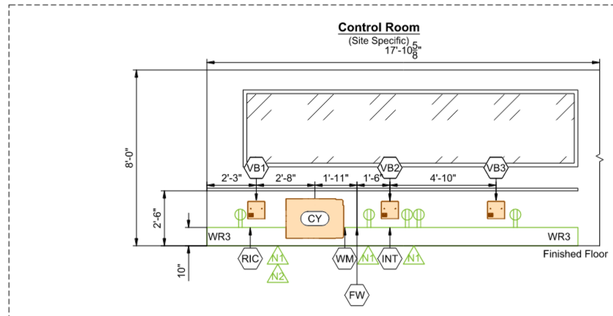
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Note: The use of 90 degree ells is not acceptable. Use 45 degree bends at all raceway corners. For raceway (conduit) runs, use the minimum bending radius specific to the raceway (conduit) diameter. The use of crossover tunnels at all applicable locations is required. The above mentioned recommendations will help to ensure the integrity of the cables and fiber optic runs.

*** Countertop Height Guide:**
30" (765mm) for standard seated height.
36" (915mm) for standard standing height.
*** Ensure that the wall junction boxes are mounted perpendicular to the floor.**
*** Verify exact ceiling height of Equipment and Control Room Area.**
*** Architect to coordinate with end users/technicians to determine final placement of control desk components prior to installation in order to avoid rework. Architect to coordinate with Philips Project Manager to reflect final placement on Philips drawings.**

PHILIPS
PROVISIONAL

**Project**
**Azurion 7 C20 FlexArm - 4300mm -**
**AD7**
**Riverside University Health Systems**
Riverside, CA
Room: Cath Lab Procedure RM 2

**Philips Contacts**
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**Project Details**
Drawing Number
**N-WES230080 C**
**Date Drawn: 6/16/2023**
Quote: Q-00161607
Order: None

E2

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| RUHS-MC PROJ. NO. | CONSULTANT PROJ. NO. |
|---|---|
| FM08430011869 | 047-10071-002 |

SHEET NAME
CATH LAB 2 - PHILIPS - RACEWAY & COUNDUIT INFO

SHEET NUMBER
R2 E02

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## Raceway (Conduit) Required

### General Notes

1. All raceway (conduit) runs must take most direct route point to point.
2. A Greenlee pull string/measuring tape (part no. 435, or equivalent) must be provided with raceway (conduit) runs

| | |
|---|---|
| A | Raceway (Conduit) supplied/installed by contractor - Philips cables installed by Philips |
| B | Raceway (Conduit) supplied/installed by contractor - Philips cables installed by contractor |
| C | Raceway (Conduits) and cables supplied and installed by contractor |
| D | Raceway (Conduit) existing - cables supplied and installed by Philips |
| E | Raceway (Conduit) existing - cables supplied by Philips and installed by contractor |
| F | Raceway (Conduit) existing - cables supplied and installed by contractor |
| G | Optional equipment, verify with local Philips Service |

* P Power (AC); D Power (DC); G Ground; S Signal; H High Tension; C Cooling Hose; A Air Supply Hose

| | Raceway (Conduit) Run No. | From | To | Raceway (Conduit) Quantity | Cable Type (*) | Minimum Raceway (Conduit) Size | Maximum (Raceway) Conduit Length | Special Requirements |
|---|---|---|---|---|---|---|---|---|
| C | 1 | ERB | GE Room Outlets | 1 | G | 4x4" | 6' | - |
| C | 2 | ERB | | 1 | G | 4x4" | - | See Sheet "ED2" for details. |
| C | 3 | MA | WL | 1 | P | 4x4" | 55' | - |
| C | 4 | ATY | DS | 1 | S | 4x4" | 55' | - |
| A | 5 | ATY | MA | 1 | S | 2 1/2" | 41' | - |
| A | 6 | ATY | TV | 1 | S | 4x4" | 65' | - |
| A | 7 | SP | MA | 1 | S | 2" | 41' | Standard/Open Cable Duct |
| A | 8 | SP | ME | 1 | C | 2 1/2" | 41' | High Tension Cables. |
| A | 9 | SP | ME | 1 | P/G | 1" | 41' | |
| A | 10 | SP | ME | 1 | S | 1 1/2" | 41' | |
| A | 11 | SP | ME | 1 | H | 2 1/2" | 41' | |
| A | 12 | SP | MR | 1 | P/G | 2" | 41' | |
| A | 13 | SP | MR | 1 | S | 1" | 41' | |
| A | 14 | MSA | MA | 1 | P | 1 1/2" | 39' | - |
| A | 15 | MSA | MA | 1 | S | 3" | 39' | - |
| A | 16 | MSA | MR | 1 | P/G | 2" | 39' | - |
| A | 17 | MSA | MR | 1 | S | 2" | 39' | - |
| A | 18 | TV | MA | 1 | P | 1 1/2" | 55' | - |
| A | 19 | TV | MA | 1 | S | 2 1/2" | 55' | - |
| A | 20 | TV | MR | 1 | P | 2" | 55' | - |
| A | 21 | TV | MB | 1 | S | 1 1/2" | 55' | For FlexVision XL. |
| A | 22 | TV | MB | 1 | P/G | 1 1/2" | 55' | - |
| A | 23 | TV | WM | 1 | S | 4x4" | 65' | For Intercom. |
| A | 24 | CY | MR | 1 | S | 2" | 55' | Conduits to land on wall raceway adjacent to CY. |
| A | 25 | CY | MA | 1 | P/G | 1 1/2" | 55' | Conduits to land on wall raceway adjacent to CY. |
| A | 26 | CY | MA | 1 | S | 2 1/2" | 55' | Conduits to land on wall raceway adjacent to CY. |
| A | 27 | MB | WM | 1 | S | 1 1/2" | 82' | For FlexSpot. |
| A | 28 | MR | WM | 1 | S | 1" | 82' | Conduits to land on wall raceway adjacent to CY. |
| A/C | 29 | TV | WR3 | 2 | S | 1 1/2" | - | For equipment (IE: Physio Monitor/ Slave Monitor/ VBs on back of FlexVision) For future options (Patient Monitoring). Verify with local Philips Service if auxiliary box should be used. |
| C | 30 | MSA | WR3 | 2 | S | 1 1/2" | - | |

## Raceway (Conduit) Required

### General Notes

1. All raceway (conduit) runs must take most direct route point to point.
2. All raceway (conduit) runs must have a pull string.

| | |
|---|---|
| A | Raceway (Conduit) supplied/installed by contractor - Philips cables installed by Philips |
| B | Raceway (Conduit) supplied/installed by contractor - Philips cables installed by contractor |
| C | Raceway (Conduits) and cables supplied and installed by contractor |
| D | Raceway (Conduit) existing - cables supplied and installed by Philips |
| E | Raceway (Conduit) existing - cables supplied by Philips and installed by contractor |
| F | Raceway (Conduit) existing - cables supplied and installed by contractor |
| G | Optional equipment, verify with local Philips Service |

* P Power (AC); D Power (DC); G Ground; S Signal; H High Tension; C Cooling Hose; A Air Supply Hose

| | Raceway (Conduit) Run No. | From | To | Raceway (Conduit) Quantity | Cable Type (*) | Minimum Raceway (Conduit) Size | Maximum (Raceway) Conduit Length | Special Requirements |
|---|---|---|---|---|---|---|---|---|
| G | 31 | MSA | PHY | 1 | S | 3" | - | For future options (Patient Monitoring). Verify with local Philips Service if auxiliary box should be used. |
| G | 32 | PHY | Physio Monitor | 1 | S | 2" | 33' | Optional for remote location. |
| G | 33 | Third Party | Third Party | - | - | - | - | For Injector, Auxiliary Box, Patient Monitoring, Video Networking, etc. |
| G | 34 | Third Party | ERB | - | G | - | - | For Injector, Auxiliary Box, Patient Monitoring, Video Networking, etc. |
| A | 35 | VB1 | MB | 1 | S | 1" | 82' | - |
| A | 36 | VB2 | MB | 1 | S | 1" | 82' | - |
| A | 37 | VB3 | MB | 1 | S | 1" | 82' | - |
| A | 38 | VB4 | MB | 1 | S | 1" | 82' | - |
| A | 39 | VB5 | MB | 1 | S | 1" | 82' | - |
| A | 40 | VB6 | MB | 1 | S | 1" | 82' | - |
| A | 41 | VB4 | CY | 1 | S | 1" | 91' | - |
| A | 42 | VB5 | CY | 1 | S | 1" | 91' | - |
| A | 43 | VB6 | CY | 1 | S | 1" | 91' | - |
| A | 44 | INT | MSA | 1 | S | 3" | 75' | Conduit opening must be covered if the IntraSight system is planned for future installation. |
| G | 45 | WR2 | WR3 | 1 | G | 1" | 60' | For Testing & Service Purposes. Required to run a #6 ground. #6 ground to be ran in conduit non-terminated. Refer to E1 for further explanation. |
| C | 46 | Power Panel | CB2 | 1 | P | Per N.E.C. | Per N.E.C. | |
| C | 47 | Power Panel | CB2 | 1 | G | Per N.E.C. | Per N.E.C. | |
| C | 48 | CB2 | UPS | 1 | G | Per N.E.C. | Per N.E.C. | |
| C | 49 | UPS | CB | 1 | G | Per N.E.C. | Per N.E.C. | |
| C | 50 | CB | ERB | 1 | G | Per N.E.C. | Per N.E.C. | Conduit must hit WR2 raceway. |
| C | 51 | MA | ERB | 1 | G | Per N.E.C. | Per N.E.C. | |
| C | 52 | WR2 | ERB | 1 | G | Per N.E.C. | Per N.E.C. | |
| C | 53 | CB2 | UPS | 1 | P | Per N.E.C. | Per N.E.C. | |
| C | 54 | CB2 | ST | 1 | P | Per N.E.C. | Per N.E.C. | |
| C | 55 | UPS | ST | 1 | S | Per N.E.C. | Per N.E.C. | |
| C | 56 | UPS | CB | 1 | P | Per N.E.C. | Per N.E.C. | |
| C | 57 | CB | MA | 1 | P | Per N.E.C. | Per N.E.C. | Conduit must hit WR2 raceway. |
| C | 58 | UPS | MA | 1 | S | Per N.E.C. | Per N.E.C. | |
| C | 59 | SBO | UPS | 1 | S | Per N.E.C. | Per N.E.C. | For Signaling Box. |
| C | 60 | BC | UPS | 1 | P | Per N.E.C. | Per N.E.C. | |

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05.27.2022

PHILIPS PROVISIONAL

**Project**
**Azurion 7 C20 FlexArm - 4300mm - AD7**
**Riverside University Health Systems**
Riverside, CA
Room: Cath Lab Procedure RM 2

**Philips Contacts**
Project Manager: Winston Malcomb
Contact Number: (629) 215-7345
Email: winston.malcomb2@philips.com
Drawn By: Alec Hibit

**Project Details**
Drawing Number
**N-WES5230080 C**
**Date Drawn: 6/16/2023**
Quote: Q-00161607
Order: None

E3

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| Draw | Author |
| Check | Checker |
| Issue Date | 2023/8/28 |

AGENCY APPLICATION NUMBER
S231455-33-00

AGENCY APPROVAL STAMP

BUILDING TITLE
RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE
CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

| RUHS-MC PROJ. NO. | CONSULTANT PROJ. NO. |
|---|---|
| FM08430011869 | 047-10071-002 |

SHEET NAME
CATH LAB 2 - PHILIPS - RACEWAY & CONDUIT INFOR

SHEET NUMBER
R2 E03

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**Raceway (Conduit) Required**

**General Notes**

1. All raceway (conduit) runs must take most direct route point to point.
2. A Greenlee pull string/measuring tape (part no. 435, or equivalent) must be provided with raceway (conduit) runs

A Raceway (Conduit) supplied/installed by contractor - Philips cables installed by Philips
B Raceway (Conduit) supplied/installed by contractor - Philips cables installed by contractor
C Raceway (Conduits) and cables supplied and installed by contractor
D Raceway (Conduit) existing - cables supplied and installed by Philips
E Raceway (Conduit) existing - cables supplied by Philips and installed by contractor
F Raceway (Conduit) existing - cables supplied and installed by contractor
G Optional equipment, verify with local Philips Service

* P Power (AC); D Power (DC); G Ground; S Signal; H High Tension; C Cooling Hose; A Air Supply Hose

| | Raceway (Conduit) Run No. | Raceway (Conduit) From | Raceway (Conduit) To | Raceway (Conduit) Quantity | Cable Type (*) | Minimum Raceway (Conduit) Size | Maximum (Raceway) Conduit Length | Special Requirements |
|---|---|---|---|---|---|---|---|---|
| C | 61 | BC | UPS | 1 | S | Per N.E.C. | Per N.E.C. | |
| A | 62 | IC | MSA | 1 | S | 3" | 65' | For Table Mounted Injector. |
| A | 63 | IC | RIC | 1 | S | 3" | 90' | |
| C | 64 | Power Supply | M3 | 1 | P | 4-#4/0 | - | Project electrician to land 120 - 240 VAC, 50 - 60 HZ in M3 terminal block. Light requires: Plus 24, Minus 24, and Ground. |

**Raceway (Conduit) Required**

**General Notes**

1. All raceway (conduit) runs must take most direct route point to point.
2. All raceway (conduit) runs must have a pull string.

A Raceway (Conduit) supplied/installed by contractor - Philips cables installed by Philips
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C Raceway (Conduits) and cables supplied and installed by contractor
D Raceway (Conduit) existing - cables supplied and installed by Philips
E Raceway (Conduit) existing - cables supplied by Philips and installed by contractor
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G Optional equipment, verify with local Philips Service

* P Power (AC); D Power (DC); G Ground; S Signal; H High Tension; C Cooling Hose; A Air Supply Hose

| | Raceway (Conduit) Run No. | Raceway (Conduit) From | Raceway (Conduit) To | Raceway (Conduit) Quantity | Cable Type (*) | Minimum Raceway (Conduit) Size | Maximum (Raceway) Conduit Length | Special Requirements |
|---|---|---|---|---|---|---|---|---|

PHILIPS
PROVISIONAL

**Project**
**Azurion 7 C20 FlexArm - 4300mm - AD7**
**Riverside University Health Systems**
Riverside, CA
Room: Cath Lab Procedure RM 2

**Philips Contacts**
Project Manager: Winston Malcomb
Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com
Drawn By: Alec Hibit

**Project Details**
Drawing Number
**N-WES230080 C**
**Date Drawn: 6/16/2023**
Quote: Q-00161607
Order: None

E4

05.27.2022

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AGENCY APPROVAL STAMP

BUILDING TITLE
RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE
CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

RUHS-MC PROJ. NO.: FM08430011869
CONSULTANT PROJ. NO.: 047-10071-002

SHEET NAME
CATH LAB 2 - PHILIPS - RACEWAY & CONDUIT INFO

SHEET NUMBER
R2 E04

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## Power Quality Requirements (Mains 40E Cabinet)

| | |
|---|---|
| **Maximum Rated Power** | 100kW |
| **Supply Configuration** | 3 phase, equally sized insulated power conductors and an insulated equipment grounding conductor. Insulated grounding conductor shall have the same or larger size than line conductors. Line wires shall be no smaller than 6 AWG, 90°C temperature or higher temperature rating. The conductor size is dependant on the upstream circuit breaker rating: Minimum 4 AWG for 80A circuit breaker rating. |
| **Nominal Line Voltage** | 480 VAC, 60 Hz |
| **Line Voltage Variation** | Voltage variations are never to exceed ±10% when measured using 10 minute mean RMS values with a measurement window of 1 week. At least 95% of all measured 10 minute mean RMS values shall be within ±5% of the configured nominal voltage. |
| **Line Voltage Balance** | 2% maximum of nominal voltage between phases |
| **Frequency Variation** | ± 1.0 Hz |
| **Voltage Surges** | To 110% of steady-state voltage 100 msecs. Maximum duration, 6 per hour max. |
| **Voltage Sags** | To 90% of steady-state voltage 100 msecs. Maximum duration, 6 per hour max. |
| **Line Impulses** | 1000 VPK above phase-neutral RMS absolute maximum. No more than 1 impulse per hour to exceed 500 VPK. |
| **Neutral-Ground Voltage** | 2.0V maximum RMS value |
| **Neutral-Ground Impulses** | No more than 1 per hour that exceeds 25V and 1 milli-Joule |
| **High Frequency Noise** | 3.0V steady-state maximum. Over 3.0V permitted for 100 msec. maximum, 1 per hour max. |
| **Grounded Conductor Impedance** | 0.1 Ohms @ 60 Hz maximum |

## Branch Circuit and Wire Gauge Requirements (Mains 40E Cabinet)

| | |
|---|---|
| **Branch Power** | 100 kVA (System only; verify UPS power requirements) |
| **Max. Standby Current** | 8A per phase |
| **Circuit Breaker (CB)** | 3 Phase, Type D 80A with long-time delay |
| **For information only. Terminal block accommodates AWG 00 to AWG 4 in mains cabinet. Engineer of record responsible for calculating phase conductor and equipment ground conductor sizes. Recommended phase conductor and equipment ground conductor sizes for 1% impedance of supply conductors to circuit breaker (CB).** | |
| **Max. Instantaneous Power (at X-ray tube power 100 kV 1000mA current)** | 100 kW |
| **Max. Inst. Current @ CB (RMS value over half-cycle)** | 300A @ 480V |
| **Max. Phase-phase impedance @ CRC** | 0.455 Ω |
| **Long Term Rating** | 63A at 480V |
| **Momentary Rating (using a window of 5 seconds)** | 125A at 480V |

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CB

(19.1)

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PHILIPS
PROVISIONAL

**Project**
**Azurion 7 C20 FlexArm - 4300mm - AD7**
**Riverside University Health Systems**
Riverside, CA
Room: Cath Lab Procedure RM 2

**Philips Contacts**
Project Manager: Winston Malcomb
Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com
Drawn By: Alec Hibit

**Project Details**
Drawing Number
**N-WES230080 C**
**Date Drawn: 6/16/2023**
Quote: Q-00161607
Order: None

ED1

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AGENCY APPLICATION NUMBER
S231455-33-00

AGENCY APPROVAL STAMP

BUILDING TITLE
RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE
CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

RUHS-MC PROJ. NO.
FM08430011869

CONSULTANT PROJ. NO.
047-10071-002

SHEET NAME
CATH LAB 2 - PHILIPS - ELECTRICAL DETAILS

SHEET NUMBER
R2 ED1

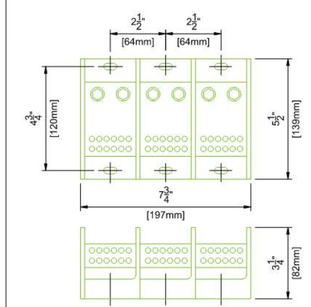
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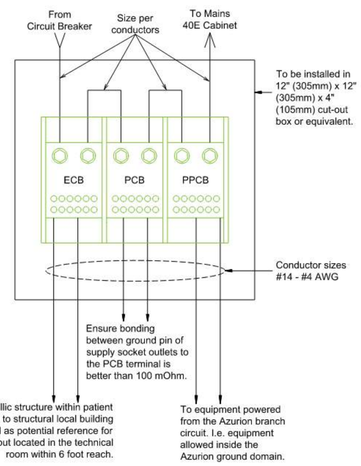
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## Detail - Equi-Potential Reference Bar Application

(Not to scale)




1. Furnished and installed by Contractor
2. Purchase from local Mersen distributor, https://ep-us.mersen.com/ Catalog #MPDB69143
3. MPDB Series UL 1953 Open-Style Power Distribution Blocks https://ep-us.mersen.com/products/product/mpdb69143




ERB

(19.0)

### Invasive Procedures

This equipment may be used for invasive procedures; therefore, the area to be installed is classified as critical care area per NFPA-99 and NFPA-70 (NEC). These documents specify maximum touch voltages and ground impedance in these areas.

Test performed by GSSNA service require that these specifications are met by the GSSNA equipment. It is the facility's responsibility to ensure that these specifications are met by the wall outlet, facility structure, and other equipment not installed by GSSNA.

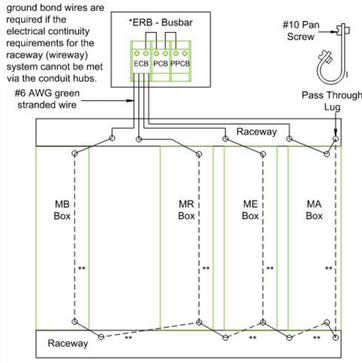
The GSSNA specified "Equi-Potential Reference Bar (ERB)" serves as a ground reference for GSSNA equipment. It may also serve as the "Reference Grounding Point" of the room as defined in NFPA 99-3.3.140 for non-Philips Healthcare equipment.

Equi-Potential Reference Bar (ERB)
A) Equip-Potential Conductor Bar (ECB)
B) Protective Conductor Bar (PCB)
C) Philips Protective Conductor Bar (PPCB)

## Detail - Grounding

(Not to scale / Not site specific)

* ERB to be placed at a reachable height.
**Verify with Engineer of Record and local codes if additional ground bond wires are required if the electrical continuity requirements for the raceway (wireway) system cannot be met via the conduit hubs.




(16.0)

PHILIPS
PROVISIONAL

**Project**
**Azurion 7 C20 FlexArm - 4300mm - AD7**
**Riverside University Health Systems**
Riverside, CA
Room: Cath Lab Procedure RM 2

**Philips Contacts**
Project Manager: Winston Malcomb
Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com
Drawn By: Alec Hibit

**Project Details**
Drawing Number
**N-WES230080 C**
**Date Drawn: 6/16/2023**
Quote: Q-00161607
Order: None

ED2

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PROJECT TITLE
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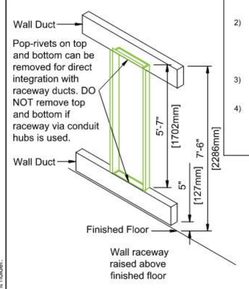
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SHEET NAME
CATH LAB 2 - PHILIPS - ELECTRICAL DETAILS

SHEET NUMBER
R2 ED2

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## Detail - Back Box Mounting
(Not to scale)




**Back Box Ordering Details**

**Koester Metals Method of Business Transactions for Philips Customers**

**Part# 989801220367 Philips Xray Back Box**

1) Three ordering methods:
-Email: backbox@kmenclosures.com
-Phone: 260-495-1818x234
-Fax: 260-495-1822

2) Payment Terms - Credit Card Only
-MasterCard
-Visa
-Discover
-American Express

3) Lead Time
-2 Week Lead time

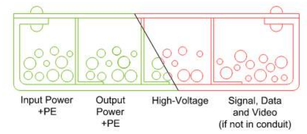
4) Freight
-All shipments will be shipped on skid
-Freight will be Pre-paid and added (PP+) to the invoice at time of shipment

ME MR MA MB (22.0)

## Detail - Cable Trough Divisions
(Not to scale)

Contractors to discuss raceway plan with Philips Project Manager. Raceways (troughs or ducts) may be separated by metal barriers into four sections. Only required separation if for Group A wires that must be separated from other groups. See sheet EN for more information:

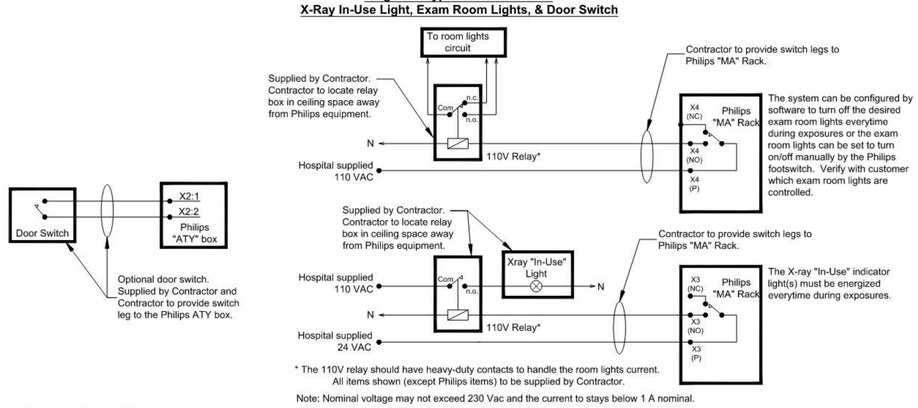
1. Supply Mains conductors and associated PE.
2. Secondary Circuit (Azurion equipment internal single phase 230Vac) conductors and associated PE.
3. High-Voltage wire harness to X-Ray stands.
4. Signal, data and video cables.




5. It is important that all cables are placed in the appropriate raceway (trough), and at no given point do any cables from one division cross cables from another. Trough separation must be continuous from the beginning.
6. Raceway (trough or ducts): steel with steel dividers grounded to building ground.
7. Contractor to provide cable restraints in all troughs.

WR1 WR2 WR3 (16.0)

## Diagram - Typical Connection of X-Ray In-Use Light, Exam Room Lights, & Door Switch




* The 110V relay should have heavy-duty contacts to handle the room lights current. All items shown (except Philips items) to be supplied by Contractor.

Note: Nominal voltage may not exceed 230 Vac and the current to stays below 1 A nominal.

WL DS (22.0)

**PHILIPS**
**PROVISIONAL**

**Project**
**Azurion 7 C20 FlexArm - 4300mm -**
**AD7**
**Riverside University Health Systems**
Riverside, CA
Room: Cath Lab Procedure RM 2

**Philips Contacts**
Project Manager: Winston Malcomb
Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com

Drawn By: Alec Hibit

**Project Details**
Drawing Number
**N-WES230080 C**
**Date Drawn: 6/16/2023**
Quote: Q-00161607
Order: None

ED3

05.27.2022


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**VENDOR'S SHOP DRAWING FOR REFERENCE ONLY**


Riverside University HEALTH SYSTEM

RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

26520 CACTUS AVENUE, MORENO VALLEY, CALIFORNIA 92555

LEO A DALY

550 SOUTH HOPE STREET, SUITE 2700
LOS ANGELES, CALIFORNIA 90071
TEL: (213)629-0100 FAX: (213)629-0070


ARCHITECTECT STAMP

CONSULTANT

CONSULTANT STAMP

KEY PLAN

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| Design: | Designer |
| Draw | Author |
| Check | Checker |
| Issue Date | 2023/8/28 |

AGENCY APPLICATION NUMBER
S231455-33-00

AGENCY APPROVAL STAMP

BUILDING TITLE
RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

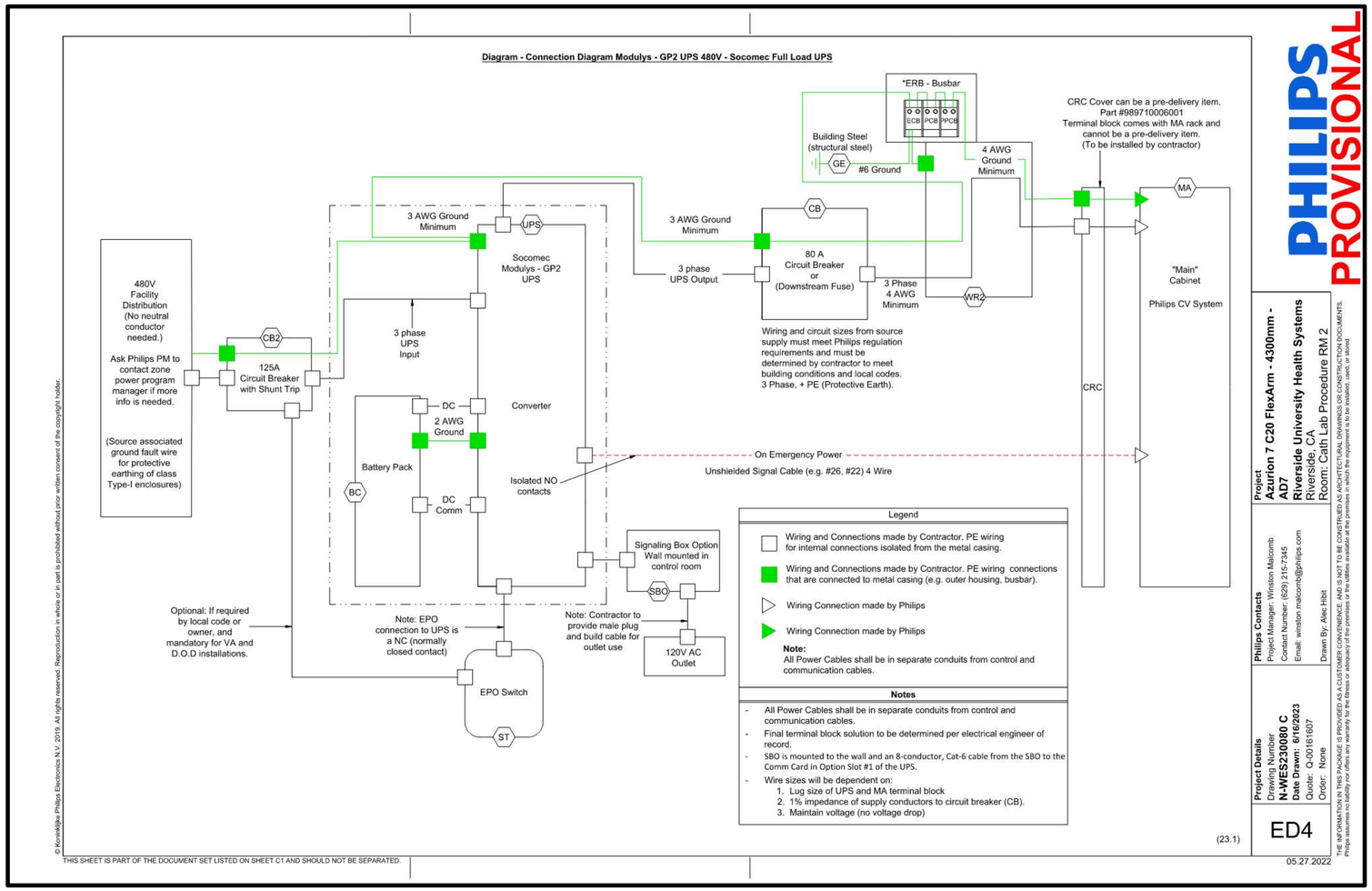
PROJECT TITLE
CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

| RUHS-MC PROJ. NO. | CONSULTANT PROJ. NO. |
|---|---|
| FM08430011869 | 047-10071-002 |

SHEET NAME
CATH LAB 2 - PHILIPS - ELECTRICAL DETAILS

SHEET NUMBER
R2 ED3


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RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE

CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

| RUHS-MC PROJ. NO. | CONSULTANT PROJ. NO. |
|---|---|
| FM08430011869 | 047-10071-002 |

SHEET NAME

CATH LAB 2 - PHILIPS - ELECTRICAL DETAILS

SHEET NUMBER

R2 ED4

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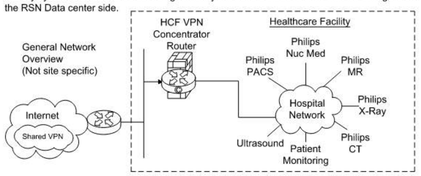
# Philips Healthcare Remote Services Network (RSN)

*Secure broadband connection required for Philips remote technical support, diagnostics, and applications assistance*

**Broadband Site-to-Site Connectivity (Preferred)**

*This connectivity method is designed for customers who prefer a connection from the RSN Data Center to the Health Care Facility (HCF) utilizing their existing VPN equipment.*

**Connectivity Details:**
- A Site-to-Site connection from the RSN data center's Cisco router will be established to the HCF's VPN concentrator.
- The VPN Tunnel will be an IPSEC, 3DES encrypted Tunnel using IKE as standard, but alternative standards are also available, such as AES, MD5, SHA, Security Association lifetime and Encryption Mode.
- Every system that we will be servicing remotely will have a static NAT IP that we configure on the RSN Data center side.




Action Required by Hospital:
- Review and approve connection details.
- Complete appropriate Site Checklist.
- Configure and allow Site-to-Site access prior to setting up connectivity depending on the access criteria that the HCF decides to implement (ex: Source IP filtering, destination IP filtering, NAT assignment, etc.).
- Route traffic from within the hospital network with destination addresses 192.68.48.0/22 to the designed IP provided by Philips.

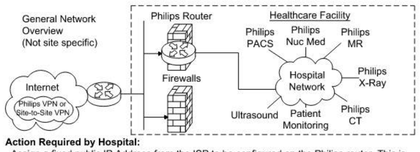
**Broadband Router Installed at Health Care Facility**

*This connectivity method is designed for customers who have a dedicated high speed connection for Philips equipment.*

**Connectivity Details:**
- An RSN Cisco 1711 or 1712 router will be preconfigured and installed at the HCF by Philips in conjunction with the HCF IT representative.
- The VPN Tunnel will be an IPSEC, 3DES encrypted Tunnel using IKE and will be established from the RSN-DC and terminated at the RSN Router on-site.
- One to One NAT is used to limit access to Philips equipment only.
- Router Config and IP auditing is enabled for Customer IT to view via website 24/7.
- Dedicated DSL connections are also supported.

**Option 1: Parallel to HCF Firewall Connectivity Method**

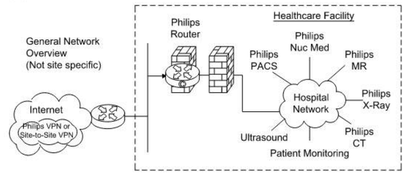
This connectivity method is designed for customers who prefer a Philips RSN Router installed on site utilizing all the security features provided and managed by Philips.




**Action Required by Hospital:**
- Assign a fixed public IP Address from the ISP to be configured on the Philips router. This is the DOTTED link on the picture connected to the firewall.
- Assign a Back end IP for the Philips router on the Hospital Network.
- Complete appropriate Site Checklist.
- Route traffic from within the hospital network with destination addresses 192.68.48.0/22 to internal Philips router Ethernet interface. This is the DASHED line connected to the firewall.

**Option 2: Back End Connected to the HCF Firewall Connectivity Method**

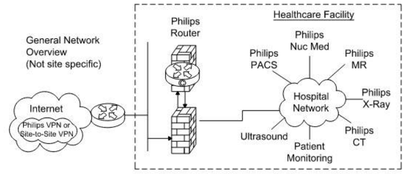
This connectivity method is designed for customers who prefer a Philips RSN Router installed on site by setting up an IP-Based policy allowing access thru existing HCF Firewall to Philips equipment.




**Action Required by Hospital:**
- Assign a fixed public IP Address from the ISP to be configured on the Philips router. This is the DOTTED link on the picture connected to the firewall.
- Assign a Back end IP for the Philips router on the Hospital Network.
- Complete appropriate Site Checklist.
- Route traffic from within the hospital network with destination addresses 192.68.48.0/22 to internal Philips router Ethernet interface. This is the DASHED line connected to the firewall.
- Configure and allow on the firewall on the DASHED line interface access between the IP address allocated by the hospital to the Philips internal Ethernet router interface and the target modality IP address.

**Option 3:** Router Installed Inside the HCF's DZM

This connectivity method is designed for customers who prefer the RSN Router installed inside and existing, or new DMZ, allowing access to Philips equipment.




**Action Required by Hospital:**
- Assign a fixed public IP Address from the ISP to be configured on the Philips router. This is the DOTTED link on the picture connected to the firewall.
- Assign a Back end IP for the Philips router on the Hospital Network.
- Complete appropriate Site Checklist.
- Route traffic from within the hospital network with destination addresses 192.68.48.0/22 to internal Philips router Ethernet interface. This is the DASHED line connected to the firewall.
- Configure and allow on the firewall on the DASHED line interface IPSec protocol communication by opening protocol 500, 50, 51, 47 and port 23 + TACACS. Traffic should be between external IP Address located on the Philips router and the RSN Data center IP address 192.68.48/24 and IP address AOSN TACAS.
- Configure and allow on the firewall on the DASHED line interface access between the IP address allocated by the hospital to the Philips internal Ethernet router interface and the target modality IP address.

(12.0)

PHILIPS PROVISIONAL

**Project**
**Azurion 7 C20 FlexArm - 4300mm - AD7**
**Riverside University Health Systems**
Riverside, CA
Room: Cath Lab Procedure RM 2

**Philips Contacts**
Project Manager: Winston Malcomb
Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com
Drawn By: Alec Hibit

**Project Details**
Drawing Number
**N-WES230080 C**
**Date Drawn: 6/16/2023**
Quote: Q-00161607
Order: None

N1

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05.27.2022

Riverside University HEALTH SYSTEM

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TEL: (213)629-0100 FAX: (213)629-0070

ARCHITECTECT STAMP

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KEY PLAN

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FILE LOG

| ACTIVITY | BY |
|---|---|
| Design | Designer |
| Draw | Author |
| Check | Checker |
| Issue Date | 2023/9/28 |

AGENCY APPLICATION NUMBER

S231455-33-00

AGENCY APPROVAL STAMP

BUILDING TITLE

RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE

CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

| RUHS-MC PROJ. NO. | CONSULTANT PROJ. NO. |
|---|---|
| FM08430011869 | 047-10071-002 |

SHEET NAME

CATH LAB 2 - PHILIPS - REVOE SERVICE NETWORK

SHEET NUMBER

R2 N01

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# System Network Information

**IMPORTANT NOTE:** *It is the customer's responsibility to coordinate with the local Philips Engineer to provide ALL required network information and install ALL required network cabling & drops according to Philips specifications PRIOR to the scheduled installation start date. Failure to do so may delay system installation and jeopardize the customer hand over date.*

| **Azurion** | IP Sec [ ]yes [ ]no |
|---|---|
| Physical Location: | |
| Hostname: | |
| MAC Address: | |
| IP Address | |
| Netmask: | |
| Gateway: | |
| AE Title: | |
| Port Number (5101): | |

| **XtraVision** | IP Sec [ ]yes [ ]no |
|---|---|
| Physical Location: | |
| Hostname: | |
| MAC Address: | |
| IP Address | |
| Netmask: | |
| Gateway: | |
| AE Title XtraVision: | |
| Port Number (3110): | |
| AE Title for X-Ray Mod: | |
| IP for X-Ray Modality: | |

| **EP Navigator** | IP Sec [ ]yes [ ]no |
|---|---|
| Physical Location: | |
| Hostname: | |
| MAC Address: | |
| IP Address | |
| Netmask: | |
| Gateway: | |
| AE Title: | |
| Port Number: | |

| **View Forum** | IP Sec [ ]yes [ ]no |
|---|---|
| Physical Location: | |
| Hostname: | |
| MAC Address: | |
| IP Address | |
| Netmask: | |
| Gateway: | |
| AE Title: | |
| Port Number: | |

| **XperIM** | IP Sec [ ]yes [ ]no | | |
|---|---|---|---|
| | Location 1 | Location 2 | Location3 |
| Physical Location: | | | |
| Hostname: | | | |
| MAC Address: | | | |
| IP Address | | | |
| Netmask: | | | |
| Gateway: | | | |
| AE Title: | | | |
| Port Number (3010): | | | |

| **Remote Software Installation (RPS)** | |
|---|---|
| Enable Distribution: | [ ]yes [ ]no |
| Enable Installation: | [ ]yes [ ]no |

| **Dicom Printer** | Location 1 | Location 2 | Location3 | Location 4 |
|---|---|---|---|---|
| Physical Location: | | | | |
| Hostname: | | | | |
| IP Address | | | | |
| AE Title: | | | | |
| Port Number : | | | | |

| **PACS** | Physical Location: | | | | |
|---|---|---|---|---|---|
| | Store/ Import 1 | Store/ Import 2 | Store/ Export | Query/ Retrieve | Storage/ Commit |
| Hostname: | | | | | |
| IP Address | | | | | |
| AE Title: | | | | | |
| Port Number : | | | | | |

| **PACS** | Physical Location: | | | | |
|---|---|---|---|---|---|
| | Store/ Import 1 | Store/ Import 2 | Store/ Export | Query/ Retrieve | Storage/ Commit |
| Hostname: | | | | | |
| IP Address | | | | | |
| AE Title: | | | | | |
| Port Number : | | | | | |

| **Audit Trail** | |
|---|---|
| Physical Location: | |
| Hostname: | |
| IP Address | |
| AE Title: | |
| Port Number : | |

| **Time Synchronization** | |
|---|---|
| Physical Location: | |
| Server Name: | |

| **RIS** | **Physical Location:** | | |
|---|---|---|---|
| | Basic Local RIS | WLM | MPPS |
| Hostname: | | | |
| IP Address: | | | |
| AE Title: | | | |
| Max PDU Size: | 16384 or | | |
| Port Number: | | [ ] yes [ ] no | [ ] yes [ ] no |
| Secure Node: | | [ ] yes [ ] no | [ ] yes [ ] no |
| Encryption: | | | |
| Certificate Name: | | | |
| PPSM IHE Compatible: | | | [ ] yes [ ] no |

| **Time Synchronization** | |
|---|---|
| Azurion: | 20/21(ftp), 80(http), 443(https), 5900(vnc), 9903(fsf.net) |
| Allura Xper: | 20/21(ftp), 80(http), 443(https), 5900(vnc), 9903(fsf.net) |
| Allura CV20: | 20/21(ftp), 80(http), 4440(fsf) |
| XtraVision: | 20/21(ftp), 80(http), 443(https), 5660(ist/ice), 5900(vnc), 9905(lots) |
| EP Navigator (R3): | 20/21(ftp), 443(https), 5660(ist/ice), 9055(lots) |
| EP Cockpit (R1.2): | 20/21(ftp), 80(http), 443(https), 5900(vnc), 9903(fsf.net) |
| CX50: | |
| Xper IM: | |
| View Forum | |

| **Hospital Network** | M2M Server (PRS) | Proxy | ePO Server (PRS) |
|---|---|---|---|
| Scheme (https): | | | |
| IP Address (192.68.49.50): | | | |
| Portnumber (443): | | | |
| Use Proxy Server: | [ ] yes [ ] no | | |
| IP Address | | | |
| Port Number: | | | |
| User Name: | | | |
| Password: | | | |

(13.0)

PHILIPS

PROVISIONAL

**Project**
**Azurion 7 C20 FlexArm - 4300mm - AD7**
**Riverside University Health Systems**
Riverside, CA
Room: Cath Lab Procedure RM 2

**Philips Contacts**
Project Manager: Winston Malcomb
Contact Number: (629) 215-7345
Email: winston.malcomb@philips.com

Drawn By: Alec Hibit

**Project Details**
Drawing Number
**N-WES230080 C**
**Date Drawn: 6/16/2023**
Quote: Q-00161607
Order: None

N2

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ARCHITECTECT STAMP

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AGENCY APPLICATION NUMBER
S231455-33-00

AGENCY APPROVAL STAMP

BUILDING TITLE
RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE
CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

RUHS-MC PROJ. NO.
FM08430011869

CONSULTANT PROJ. NO.
047-10071-002

SHEET NAME
CATH LAB 2 - PHILIPS - REMOVE SERVICE NETWORK

SHEET NUMBER
R2 N02

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**Instructions**

This form is to be used by Project Manager, Contractor, and Service Engineer. Information is used to develop and determine site ready date.

Be sure to contact the Zone Installation Specialist (ZIS), Field Service Engineer (FSE), or National Support Specialist (NSS) if you have questions concerning any of these checklist items.

**Site Readiness Checklist**

**Required Prior to Delivery**

- ☐ **Cable Trough/Raceway/Conduit:** Installed, cleaned and locations checked per Philips Final Drawings. Duct covers in place. Cable openings are clear, without sharp edges. ***Greenlee*** pull strings/measuring tape, (Part # 435, or equivalent), are in place.
- ☐ **Ceiling (Hard):** Installed and painted.
- ☐ **Ceiling (Drop-In):** Installed.
- ☐ **Customer Site Preparation:** Verified per Philips Final Drawings.
- ☐ **Delivery Path and Truck Parking:** Has been checked with the customer and lead FSE including verifying floor loading, delivery route, elevator capacity, height, width and depth clearances, and a plan for bad weather.
- ☐ **Doors:** Installed.
- ☐ **Drawings (Final):** Shows all room obstacles to include millwork, lighting overlay, structure overlay, med gases and plumbing.
- ☐ **Flooring:** Installed and covered with protective covering (i.e. scratch protection).
- ☐ **Glass:** Installed.
- ☐ **Installation Team:** Has received the room drawings and necessary contact phone numbers.
- ☐ **Millwork:** Completely installed in all rooms.
- ☐ **Parking:** Parking area identified for installers.
- ☐ **Performance Testing Requirements Identified:** Determine if Certificate of Compliance is required, (i.e. NEMA, OSHPD, AHCA).
- ☐ **Permits and Inspections:** Completed by applicable governing authorities. Method statement available and safety meetings attended (OSHPD, AHCA).
- ☐ **Philips Project Space:** Is clean, free of dust, all construction-related debris and tools have been removed.
- ☐ **Restroom Facilities**: Toilet facilities, including area to wash up, are available.
- ☐ **Room Lighting:** Installed and operational.
- ☐ **Room Security:** Room is secure, with keys and alarm codes provided.
- ☐ **Site Access:** Is available for after hours. Storage for tools, parts, covers and packing material has been arranged.
- ☐ **Site Is Safe To Work:** PPE requirements identified (Construction and Hospital). No open Mains, slippery floors, sharp edges, or hazardous goods on site.
- ☐ **Sprinklers:** Installed.
- ☐ **Transport & Handling Tools:** Crane, forklift, wheels and trolleys have been specified with the LMP/rigging company.
- ☐ **Walls:** Installed and final finished, (i.e. final coat painted and/or tiled).
- ☐ **Existing Equipment:** Is dismantled and removed from the site.
- ☐ **Floor Levelness:** Checked with Laser Level and is level per Philips Final Drawings.
- ☐ **System Orientation:** Verified per Philips Final Drawings.
- ☐ **Table Isocenter:** Verified per Philips Final Drawings.
- ☐ **ERB Conductor Bar:** Installed per Philips Final Drawings. All Philips-provided electrical boxes and contractor-provided raceway are grounded to the ERB.
- ☐ **Mains Power Supply:** Installed per Philips Final Drawings. (Including impedance, isolated grounds, wire size verified, and distribution unit has been installed).
- ☐ **UPS:** Fully installed per Philips Final Drawings, and startup has been scheduled with vendor.
- ☐ **Video Connection Boxes:** Locations, video sources, and display destinations are verified with customer, and the Philips Final Drawings are updated with the information.
- ☐ **3rd Party Booms (if applicable):** Compatibility, locations, and isolation kits have been verified with boom vendor and the Philips Final Drawings are updated with the information. If required, a '*Request for Modification*' has been submitted.
- ☐ **3rd Party Booms (if applicable):** Installed prior to Philips equipment delivery.
- ☐ **Ceiling Height:** Verified per Philips Final Drawings. Single plane measure from finished floor to bottom of Unistrut. For Bi-Plane, from Clea plate to bottom of Unistrut.
- ☐ **Ceiling Obstructions:** Verify there are no obstructions where Philips rails will be installed.
- ☐ **Ceiling Plate for Equipment Rack (EP Boom) (if applicable):** Installed and leveled per Philips Final Drawings.
- ☐ **Ceiling Unistruts (P1001 or equal):** Installed and leveled per Philips Final Drawings.
- ☐ **Clearances:** Verified to the closest obstacles (i.e. walls, cabinets), in order to lift up the C-arm, monitor support, etc.
- ☐ **Fixing Blocks:** Provided by Philips, verify the block properly sits in the Unistrut channel with no obstructions, as designed.
- ☐ **FlexArm Clearance (if applicable):** Verified per Philips Final Drawings.
- ☐ **FlexMove (if applicable):** Must order Ceiling/Floor levelness kit, complete form and submit.
- ☐ **Floor Plates:** Patient Support and Stand (if applicable), are installed, isolated, and leveled, at the correct locations per Philips Final Drawings.
- ☐ **Med Gas Box (if applicable):** Location does not interfere with the installation and movement of the Philips equipment. The Philips Final Drawings are updated with the location.
- ☐ **Back Boxes:** Installed with required covers and grommet material per Philips Final Drawings. Specifically, the spacing between the boxes and height off of finished floor.
- ☐ **ERB Grounding Block:** Installed within 6 feet of building steel, and non-Philips-provided electrical equipment ground conductors, to include wall outlets installed per Philips Final Drawings.
- ☐ **Hospital Mains Supply Wiring:** For Allura R8.2 and Azurion systems, installed per Philips Final Drawings, for connection in Cabinet Rear Cover (CRC) of MA-Cabinet.
- ☐ **Hospital Mains Supply:** For system versions prior to Allura R8.2 (in the USA), the Hospital Mains must be available for connection at the PDU or gssPDU, and then to MA & ME-Cabinets (by the electrician).

**Required Prior to Philips System Power Up**

- ☐ **Wall Outlets:** Installed and functional.
- ☐ **Door Interlock Switch:** If required, is installed per Philips Final Drawings.
- ☐ **X-Ray in Use or Warning Light:** If required, is installed per Philips Final Drawings.

**Required Prior to Install Complete**

- ☐ **Physicist:** If required, verify the Physicist has been scheduled.
- ☐ **Network Connections:** Hardware is installed and active per Philips Final Drawings. All network information provided by facility IT, i.e. IP addresses (static IPs only), AE Titles, SNM, GTWY and DNS server are available.
- ☐ **UPS:** Commissioned and certified by UPS vendor.

**Approved for Delivery**

| | |
|---|---|
| Project Manager | Date |
| Service Engineer | Date |

CHK

05.27.2022

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PHILIPS
PROVISIONAL

**Project**
**Azurion 7 C20 FlexArm - 4300mm -**
**AD7**
**Riverside University Health Systems**
Riverside, CA
Room: Cath Lab Procedure RM 2

**Philips Contacts**
Project Manager: Winston Malcomb
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Drawn By: Alec Hibit

**Project Details**
Drawing Number
**N-WES230080 C**
**Date Drawn: 6/16/2023**
Quote: Q-00161607
Order: None

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RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

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ARCHITECTECT STAMP

CONSULTANT

CONSULTANT STAMP

KEY PLAN

REVISIONS

| NO. | DESCRIPTION | DATE |
|---|---|---|

FILE LOG

| ACTIVITY | BY |
|---|---|
| Design | Designer |
| Draw | Author |
| Check | Checker |
| Issue Date | 2023/9/28 |

AGENCY APPLICATION NUMBER

S231455-33-00

AGENCY APPROVAL STAMP

BUILDING TITLE

RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE

CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

| RUHS-MC PROJ. NO. | CONSULTANT PROJ. NO. |
|---|---|
| FM08430011869 | 047-10071-002 |

SHEET NAME

CATH LAB 2 - PHILIPS - CHECKLIST

SHEET NUMBER

R2 CHK

**VENDOR'S SHOP DRAWING FOR REFERENCE ONLY**

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# RIVERSIDE UNIVERSITY HEALTH SYSTEM

(PROJECT NO. MC08430011869, HCAi NO. S231455-33-00)

## CATHETERIZATION LABORATORY SUITE

# COUNTY OF RIVERSIDE, STATE OF CALIFORNIA
# APPENDIX F
# ROUND 1 RFI RESPONSE

| | |
|---|---|
| Activity ID | Bid RFI's |
| Subject: | RUHS Bid RFI Responses |
| Date | 2/25/2026 |
| AOR Name: | Leo Daly |

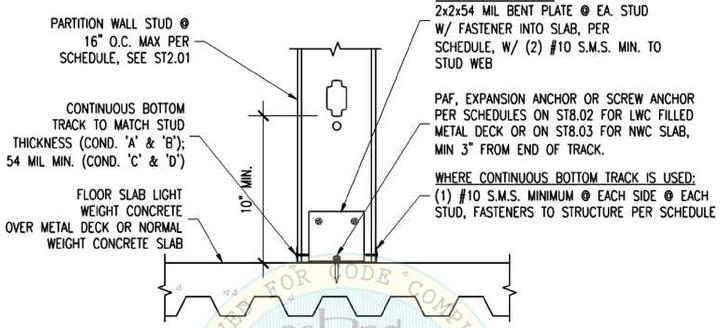
| RFI # | Date Received | Contractor | Contractor RFI# | Comments | Author | Response |
|---|---|---|---|---|---|---|
| B001 | 2/19/2026 | Bayview | #001 | Please provide copy of hazardous materials survey report | RHUS | Report is Pending<br>Report Included in part 3 of 3 |
| B002 | 2/19/2026 | Bayview | #002 | Which trade package will be providing infectious control? | Bernards | • Infectious control is required by each contractor<br>• Hard Temporary Barriers are provided by the Demo or Drywall Contractor<br>Each will include specific requirements for that scope, BP 01 will provide general ICRA requirements |
| B003 | 2/19/2026 | Bayview | #003 | • Are there any Union Requirements?<br>• Is there a PLA? | Bernards | • There are no Union Requirements<br>• There is no PLA, but this is Prevaling Wage<br>Certified Payrolls required |
| B004 | 2/24/2026 | Level It Builders | #004 | Can the design team please furnish an installation schedule for Cath Lab Rooms 1 & 2? | Bernards | Included in Bid Document |
| B005 | 2/24/2026 | Level It Builders | #005 | Atkore/Unistrut received an OPM to eliminate the additional weld on the sides of the channel and doesn't manufacture this anymore. Please find attached OPM. Can the design team please approve the use of P1001instead? | ABS Engineers | P1001 members are approved for use on this project. |
| B006 | 2/24/2026 | Brady West Inc | #006 | AE611 shows Wall Type 1S6L at Control Room E1047A / Corridor E1048, however, the Lead Lined Walls Symbol is not shown on this wall. Please confirm this should be Wall Type 1S6 as no lead occurs at this location. | LAD | Confirmed. Lead lining only occurs where rooms E1047 and E1049 adjoin Corridor E1046 per shielding plan on AE141. No lead lining occurs where rooms E1047A and E1049A adjoin Corridor E1046. |
| B007 | 2/24/2026 | Brady West Inc | #007 | Several Walls are shown as non rated wall types (EX: S4A) however, have the 1 HR Rated Symbol on AE111, please confirm we are to use the symbols for determining where rated walls occur. | LAD | Where wall tags for rated and non-rated walls conflict with the wall hatch legend, the wall hatchs shown on the plan shall govern as noted on AE111 for continuity of the required rating separation. |
| B008 | 2/24/2026 | Brady West Inc | #008 | Door Schedule AE601 lists HM Door Frame 1079, however, this is not found on the floor plan AE111. Please advise where this doo occurs or if it exist. | LAD | Door 1079 can be deleted from the 'Door Schedule'. Door does not exist in scope. |
| B009 | 2/24/2026 | Brady West Inc | #009 | Please confirm, all framing drywall and plaster shown on A3/AE511 is exisitng. Per Window Schedule on AE601 the W4 windows are existing frames with new spandrel glass only | LAD | Confirmed. Keynotes 1 thru 18 on detail A3/AE511 describe existing conditions, per as-builts, to remain. Provide new construction where noted in the detail. |
| B010 | 2/24/2026 | Brady West Inc | #010 | Insulation & Drywall & FRP Scope Item #25 on page 6 of BP 09 - FRP is not shown on Finish Schedule and I do not see a spec. for this either. Please clarify what FRP is required and provide a specification for it? | LAD | Refer to WP-1 & WP-2 on finish schedule on sheet IE601. The 'Altro' is a FRP equivilant wall protection panel for use where noted in the room finish schedule. |
| B011 | 2/24/2026 | Brady West Inc | #011 | Please confirm that the Fireproofing Scope in BP 09 - Insulation & Drywall Scope Item #4 is only for patching of existing fireproofing where new steel beams are connected to existing fireproofed beams and that the new steel beams added for unistrut support on C2 & C3/S211 DO NOT require any fireproofing as this steel is not part of the structural frame of the building. New Roof Steel will need access from the 2nd floor ceilings ? | LAD | Fire proofing is not required on new steel members supporting the unistrut framing system decribed in details C2 & C3/S211. |
| B013 | 2/24/2026 | Brady West Inc | #012 | What are the Lower Level Ceilings ? Will we need to patch any fireproofing above the lower level ceilings? RCP and Wall schedule to be provided | LAD | Contractor shall verify existing conditions on Lower Level for confirmation. As-built drawings provided by RUHS show the Lower Level to mostly be t-bar grid and lay-in tile. |

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|---|---|---|---|---|---|---|
| B014 | 2/24/2026 | Brady West Inc | #013 | A1/AE141 shows a Note on the West wall (or true south wall) of Room E1047B as Lead Lined Wall up to 7'-0" AFF, however, the lead lined dotted line is not shown on this wall and the Wall Type S6A does not show any Lead. Please confirm there is no lead on this wall and only on walls with the red dotted line marking symbol noted in the Legend. | LAD | Confirmed. No lead lining required on the plan-west wall of Room #1047B. Lead lining is required per the 'red dotted' line. |
| B015 | 2/24/2026 | Brady West Inc | #014 | Please Clarify the Lead Thickness for the Cath Lab South Walls - The detail at the top of the page on AE141 notes 1/32" however, the detail at the bottom of the page A1/AE141 Shielding Plan notes 1/16" lead? | LAD | Confirmed. The plan-south wall in rooms E1047 & E1049 may be 1/32" lead lined per shielding report on sheet AE141. |
| B016 | 2/24/2026 | Brady West Inc | #015 | What work is required in BP09 Drywall for Keynote P35 on AE111 - Upgradeing existing 1 HR Fire Fire Partition to 1 HR Fire Barrier per Code ? What is the difference between these partitions. | LAD | The intent of Keynote P35 is to highlight the requirement to upgrade any conditions, along the defigned Fire Barrier route on the drawings, where deficiencies in the continuity of the fire rating are observed in the field. Non-confirming openings, through-penetrations and joint conditions shall be repaired to meet a 1-HR rated condition. |
| B017 | 2/24/2026 | Brady West Inc | #016 | It appears as if all Lower Level Ceilings are ACT. Clgs, there will be areas where access to level 1 floor slab will be required through these ceilings. Please confirm there is no drywall patching required at the Lower level for the new work at the underside of the Level 1 floor slab. | LAD | On the Lower Level, should access above existing drywall ceilings or within walls be necessary for routing of required utilities, then drywall patching will be needed. Contractor to verify in field. |
| B018 | 2/24/2026 | Brady West Inc | #017 | It appears as if all 2nd Level Ceilings are ACT. Clgs, there will be areas where access to level 3 roof deck will be required through these ceilings for fireproofing of new steel per drawing S113. Please confirm there is no drywall patching required at the 2nd level for the new work at the underside of the Level 3 roof slab. | LAD | See response to B016 |
| B019 | 2/24/2026 | Brady West Inc | #018 | Confirm we are to include our own debris bins | LAD | On the 2nd Level, should access above existing drywall ceilings or within existing walls be necessary for any required scope of new work, then drywall patching will be needed. Contractor to verify in field. |
| B020 | 2/24/2026 | Brady West Inc | #019 | Confirm we can park on site and no costs. | Bernards | Confimred - No site cost |
| B021 | 2/24/2026 | Brady West Inc | #020 | Specification 09 22 16 calls for Resilient Sound Isolation Clips, Decoupling Sound Isolation Clips, Resilient Channel Vibration Isolation Clips, Resilient Partition Isolation Pad, however, NONE of these are shown on the drawings. Please confirm these are not required on this project. | LAD | Sound isolation products noted in 09 22 16, Sec 2.4 C, D, & E are not required. |
| B022 | 2/24/2026 | Brady West Inc | #021 | Please provide a detail list of what is required for Bid Package 09 - Alternate A "Provide a price for installation of Misc. Accessories" | LAD | See drawings EQ701 and EQ702 for a summary of the equipment. |
| B023 | 2/24/2026 | Brady West Inc | #022 | Specification 09 29 00 Gypsum Board calls for Kinetics Noise Control Wallmat and Anchor Isolators at All Acoustical Walls, however, the drawing details do not show these. Please confirm there is no Kinetics Noise Control Wallmat and Anchor Isolators on this project | LAD | Walls are requried to meet the minimum STC ratings noted in the Partition Type schedule on AE511. Kinetics Noise Control Wallmat and Anchor Isolators my be eliminated if STC rating can be achieved using acoustical insulation in the cavity and continuous acoustical sealant along base and head of wall. |
| B024 | 2/24/2026 | Brady West Inc | #023 | Specification 09 29 00 Gypsum Board under Accecories list Textured Finishfine orange peel, however it does not specify any installation requirements and this is not indicated on the drawings. Please confirm there is no Textured Finish on this project | LAD | Provide eggshell finish for all new painted P-1, P-2, P-3 & P-4 finish surfaces |

| | | | | | | |
|---|---|---|---|---|---|---|
| B025 | 2/24/2026 | Brady West Inc | #024 | Specification 09 29 00 Gypsum Board notes Level 5 Finish where indicated on the drawings, however this is none indicated on the drawings. Please confirm there is no Level 5 Finish on this project | LAD | Provide Level 5 finish only in Cath Lab procedure rooms E1047 & E1049, in the PACU areas E1053, E1056, E1056A thru G & E1058, and in the Hyberbaric Therapy E1051. |
| B026 | 2/24/2026 | Brady West Inc | #025 | Det. A1/AE121 refers to detail CJ2.10 which is not shown. Please provide this detail, | LAD | No reference on sheet AE121 for CJ2.10. Perhaps this is a reference to CJ2.10 the OPD sheets?<br><br>Detail CJ2.10 is added to sheet A519.A. |
| B027 | 2/24/2026 | Brady West Inc | #026 | EI & E2/AE520 Soffit details refer to drawing AE516 for the diagonal brace connection however, there is no detail for the top track connection at the deck. Please provide a top track detail for suspended soffits. | LAD | Connection at deck for top track and stud fastening for suspended soffits may follow detail A5/AE515. Provide (2) fasteners each side per graphic for connection of stud to top track. |
| B028 | 2/24/2026 | Brady West Inc | #027 | Dets. A3, A5 & D5/AE515 & D1, D3 & D6/AE516 refer to Brace per schedule on ST6.01, however, this detail is not found. Please provide this detail | LAD | Detail ST6.01 is added to sheet AE517. |
| B029 | 2/24/2026 | Brady West Inc | #028 | Drawing AE121 shows Reception Room E1077 with no Ceiling, please confirm the Reception room E1077 DOES Receive a new ACT Clg? | LAD | Reception E1077 shall have a 2x2 grid ACT ceiling. Ceiling was turned off in error on the drawings. |
| B030 | 2/24/2026 | Brady West Inc | #029 | Please clarify wall heights at Walls S6L & S6A & S4A between Rooms E1047, E1047A, E1049A, E1049, E1049B & E1076 per Wall Types these extend to the structure (approx. 30' H. at this location), however, per sections on A1 & D1/AE301 these terminate at approx. 12' H. with the existing Vaulted ceiling to remain above. Provide bracing detail for these alls if they terminate at 12' and bracing is required. | LAD | Refer to response to B0028. |
| B031 | 2/24/2026 | Brady West Inc | #030 | Please clarify wall heights at Walls S6L & S6A between Rooms E1022A, E1047B per Wall Types these extend to the structure (approx. 15' H. at this location), however, per sections on D1/AE301 these terminate at approx. 12' H. | LAD | Section is graphical. Design intent is to extend the walls to structure above per the wall type descriptions on AE511. |
| B032 | 2/24/2026 | Brady West Inc | #031 | Please confirm the 1-hour Wall (1S4A) between rooms E1076 & E1077 will go full height to the 30' Deck and penetrate the xisting vaulted ceiling shown on A1/AE301. There is no section showing this wall and all other walls at the vaulted ceiling terminate at approx. 12' AFF per the sections on AE301. | LAD | Refer to detail AEA1/AE520 for continuation of rating above the ceiling. This detail is referenced on the remodel plan AE111 in this area. |
| B033 | 2/24/2026 | Brady West Inc | #032 | Det. A3/S003 Pony Wall support notes "Post per plan" for locations, this detail is referenced on A6/AE401 at Control rooms C1, C3, F1 & F3/AE402 & at C5/AE403 & at B3/AE403 however, they are not shown on the plans (S111 for example), please provide the post spacing for these details | ABS Engineers / LAD | Detail A3/S003 are installed at pony walls where located on structural plan S111. Attached is an added structural detail C1/S003 for counter support brackets which would be installed at all of the referenced room elevations. Support backet per Keynote IE24 and per detail B4/AE561 shall reference to bracket design in detail C1/S003. Provide 45deg closed face chamfer at brace end facing counter edge per B4/AE561. Spacing shall be as noted in the elevations on AE402. |
| B034 | 2/24/2026 | Brady West Inc | #033 | Det. A1/AE515 Note #2 refers to ST5.01 detail, however, this detail is not found. Please provide this detail | LAD | Eliminate Note #2 on A1/AE515. The reference to ST5.01 is for a flat backing detail, which is not acceptable. |
| B035 | 2/24/2026 | Brady West Inc | #034 | Please confirm that BP 09 - Insulation & Drywall DOES NOT include the removal of Temp. Walls or patching after removal | LAD | Per Demolition Sheet Notes on AD111, Note #16, existing finishes to remain that are affected by demolition work shall be patch to match the original condition. This includes removal of temp walls and patching after removal. |
| B036 | 2/24/2026 | Brady West Inc | #035 | Det. D1/AE514 Note #4 & A3/AE514 refers to ST3.00 detail, however, this detail is not found. Please provide this detail | LAD | Detail ST3.00 and referenced design assumptions in Note #4 in ST3.01 are not applicable to this scope of work. |

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| B037 | 2/24/2026 | Brady West Inc | #036 | Please confirm  Temp. Wall only needs firetaping both sides of the wall. | LAD | Further clarification on question is needed. |
| B038 | 2/24/2026 | Brady West Inc | #037 | Please confirm all jambs and headers for temp. walls can be 20ga studs | LAD | 20GA studs on the temp wall are acceptable per the approved detail A2/AE511. |
| B039 | 2/24/2026 | Brady West Inc | #038 | Please confirm temp. wall door openings do not require exp. anchors at the jambs | LAD | Connection of bottom track to floor may follow A2/AE511. |
| B040 | 2/24/2026 | Brady West Inc | #039 | Please confirm at Exist. Window Dets. A3A, B & C /AE511 (from A4/AE601) that everything is existing except the new spandrel glass and Mineral Wool insulation | LAD | Refer to response to B009 |
| B041 | 2/24/2026 | Brady West Inc | #040 | Window Frame Types W1 & W2 on AE601 refer to details on AE551, however, this drwg does not exist. Please provide these details | LAD | Sheet AE551 is provided in the HCAi plan approved documents and amended in the Amedment #1 package. |
| B042 | 2/24/2026 | Brady West Inc | #041 | Please clarify Keynote CP12 on AE121, notes where gypsum boxes are removed, however, the two locations this keynote is shown has existing walls with nothing removed per the demo drawing AD151? | LAD | CP12 is referring to the patching the area where the large drywall framed light sconce boxe,s mounted on the furred column walls, are removed. Keynote DP01 points to these drywall sconces on AD152. |
| B043 | 2/24/2026 | Brady West Inc | #042 | Specification 05 40 00 calls for Delegatd Design. This project only has det. B2/AE552 1ea jamb patching condition x approx. 3' H that falls into this spec. section. Is this delegated design required for this one detail? It seems very costly to require this for such a small amount of work. Maybe the str. engineer or arch. could provide a detail and eliminate this requirement. Please advise if this is possible. | LAD | Delegated design is not required for the new door frame opening per detail B2/AE552. |
| B044 | 2/24/2026 | Brady West Inc | #043 | Specification 05 40 00 calls for Mockup. This project only has det. B2/AE552 1ea jamb patching condition x approx. 3' H that falls into this spec. section. Is a mockup required for this one detail? It seems very costly to require this for such a small amount of work. | LAD | A mock-up is not required for the new door frame opening per detail B2/AE552.  A mock up will be needed for concurrence by the Architect and Owner on the new spandrel glass infill panel per detail A3/AE511. Provide samples matching existing spandrel panels on the building for selection, then provide a full size mockup in one window section for final approval.  Confir with Architect and Owner on mock up location. |
| B045 | 2/24/2026 | Brady West Inc | #044 | Specification 09 22 16 calls for Delegated Design. This project is an OSPD project with several pages of OSHPD framing details (see AE513 through AE519). Also cover page GI001 under HCAI Deferred Approval Items framing specification 09 22 16 and 05 40 00 are not listed for Deferred Approval (Delegated Design). Please confirm we are to follow the details on the drawings and ddlegated design is not required. | LAD | Delegated framing design is not required if the constructed framing follows the guidelines and limitations in the pre-approved OSHPD details on the drawings. |
| B046 | 2/24/2026 | Brady West Inc | #045 | Metal Stud Framing Scope Item #13 calls out some detailed framing work at the Roof Parapet and floor / roof joists, however, NONE of this work is shown on the drawings. Please clarify the intent of this line item, provide detail references please ? | Bernards | Strike Item 13 on Page 3 from Bid Package 9 |
| B047 | 2/24/2026 | Brady West Inc | #046 | Metal Stud Framing Scope Item #19 calls out some framing & supports for aluminum soffit / fascia / storefront system, however, there is no aluminum soffit / fascia shown on the drawings. Please clarify the intent of this line item, provide detail references please ? | Bernards | Strike Item 19 on Page 3 from Bid Package 10 |
| B048 | 2/24/2026 | Brady West Inc | #047 | Metal Stud Framing Scope Item #25 calls out some elevator shaft work, however, there is no elevator shaft work shown on the drawings. Please confirm this line item does not apply to this project ? | Bernards | Strike Item 25 on Page 4 from Bid Package 11 |

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|---|---|---|---|---|---|---|
| B049 | 2/24/2026 | Brady West Inc | #048 | Metal Stud Framing Scope Item #26 calls out some temporary stair shaft work, however, there is no temporary stair shaft work shown on the drawings. Please confirm this line item does not apply to this project ? | Bernards | Strike Item 26 on Page 4 from Bid Package 12 |
| B050 | 2/24/2026 | Brady West Inc | #049 | Please provide clear direction for what scope exactly is required for the BP 09 ALT. C. ICRA | Bernards | a. Provide Pricing for the installation of ICRA<br>Furnish and Install temp hard barriers per plans<br>b. Provide Pricing for the ICRA maintenance<br>Provide and Maintain ICRA through out the project duration. This include Sticky Mats, Dust Barriar, Sign off on ICRA signage, manage dust track outside of the temp barriars, make necessary repairs to barriers.<br>c. Provide Pricing for the removal of the ICRA<br>Remove all barriers and clean up at the end of the project. |
| B051 | | | #050 | | | |
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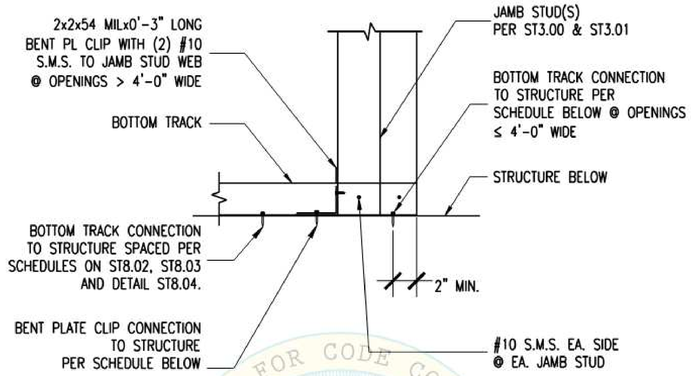

**A** PARTITION WALL BOTTOM TRACK ANCHORAGE

LIGHT WEIGHT CONCRETE OVER METAL DECK OR NORMAL WEIGHT CONCRETE SLAB

NOTES:
1. SEE ST1.01 & ST1.02 FOR PAF REQUIREMENT AND ST1.03 & ST1.04 FOR EXPANSION ANCHOR REQUIREMENTS AND ST1.09 & ST1.10 FOR SCREW ANCHOR REQUIREMENTS.
2. SEE ST8.05 FOR ANCHORAGE @ JAMBS.
3. FOR LIGHT WEIGHT CONCRETE OVER METAL DECK, SEE ST8.02 FOR FASTENER TO SLAB SCHEDULE.
4. FOR NORMAL WEIGHT CONCRETE SLAB, SEE ST8.03 FOR FASTENER TO SLAB SCHEDULE.
5. SEE ST2.01 FOR PARTITION WALL STUD SCHEDULE.

**A1** ST8.01 BOTTOM TRACK CONNECTION TO LWC ON METAL DECK OR NWC SLAB - ALL PARTITION WALL CONDITIONS

SCALE: NTS




| OPENING SIZE | JAMB STUD BOTTOM TRACK CONNECTION TYPE | CONNECTION TO STRUCTURE (THROUGH BENT PL CLIP OR THROUGH BOTTOM TRACK) |
|---|---|---|
| ≤ 4'-0" | BOTTOM TRACK CONNECTION TO STRUCTURE (NO CLIP REQUIRED) | (3) PAF |
| | | (1) 3/8"ø x 2" EMBED EXPANSION ANCHOR |
| | | (1) 3/8"ø x 2 1/2" EMBED SCREW ANCHOR |
| | | (2) #10 WOOD SCREWS |
| >4'-0" TO ≤ 10'-0" | BENT PL CLIP CONNECTION TO STRUCTURE | (6) 0.145"ø PAF |
| | | (1) 3/8"ø x 2" EMBED EXPANSION ANCHOR |
| | | (1) 3/8"ø x 2 1/2" EMBED SCREW ANCHOR |
| | | (3) #10 WOOD SCREWS |

NOTE:
1. BOTTOM CONNECTION @ JAMBS AT PARTITION WALL CONDITION 'A', ALL $S_{DS}$ CATEGORIES.

**A4** ST8.05 BOTTOM TRACK CONNECTION AT JAMBS - PARTITION WALL CONDITION 'A'

SCALE: NTS

PLOT DATE: May 05, 2017

## PARTIAL HEIGHT PARTITION WALL BRACE SPACING, SIZE AND CONNECTION SCHEDULES

PARTITION WALL CONDITION 'A'
DETAIL ST6.02

| $S_{DS}$ | MAX BRACE SPACING (FT) | BRACE SIZE AND MIL: SINGLE STUD BRACE 3 5/8" | 4" | 6" | BACK TO BACK BRACE 3 5/8" | 4" | 6" | S.M.S. CONNECTIONS AT BRACE ENDS: BOTTOM OF BRACE (TO TOP TRACK) | TOP OF BRACE (AT CONNECTION TO STRUCTURE) |
|---|---|---|---|---|---|---|---|---|---|
| 0.25-0.99 | 10 | 362S162-43 | 800S162-43 | 1200S162-43 | 2(362S162-43) | 2(450S162-43) | 2(800S162-43) | (4) #10 S.M.S. | (4) #10 S.M.S. |
| 1.00-1.25 | 9.33 | 362S162-43 | 800S162-43 | 1200S162-43 | 2(362S162-43) | 2(450S162-43) | 2(800S162-43) | (5) #10 S.M.S. OR (5) #12 S.M.S. | (4) #10 S.M.S. |
| 1.26-1.45 | 8.75 | 362S162-43 | 800S162-43 | 1200S162-43 | 2(362S162-43) | 2(450S162-43) | 2(800S162-43) | (5) #10 S.M.S. | (4) #10 S.M.S. |
| 1.46-1.95 | 7 | 362S162-43 | 800S162-43 | 1200S162-43 | 2(362S162-43) | 2(450S162-43) | 2(800S162-43) | (5) #10 S.M.S. | (4) #10 S.M.S. |

PARTITION WALL CONDITION 'B'
DETAIL ST6.02

| $S_{DS}$ | MAX BRACE SPACING (FT) | BRACE SIZE AND MIL: SINGLE STUD BRACE 3 5/8" | 4" | 6" | BACK TO BACK BRACE 3 5/8" | 4" | 6" | S.M.S. CONNECTIONS AT BRACE ENDS: BOTTOM OF BRACE (TO TOP TRACK) | TOP OF BRACE (AT CONNECTION TO STRUCTURE) |
|---|---|---|---|---|---|---|---|---|---|
| 0.25-0.99 | 8 | 362S162-43 | 800S162-43 | 1200S162-43 | 2(362S162-43) | 2(450S162-43) | 2(800S162-43) | (5) #10 S.M.S. | (4) #10 S.M.S. |
| 1.00-1.25 | 7 | 362S162-43 | 800S162-43 | 1200S162-43 | 2(362S162-43) | 2(450S162-43) | 2(800S162-43) | (6) #10 S.M.S. OR (5) #12 S.M.S. | (4) #10 S.M.S. |
| 1.26-1.45 | 6.5 | 362S162-43 | 800S162-43 | 1200S162-43 | 2(362S162-43) | 2(450S162-43) | 2(800S162-43) | (6) #10 S.M.S. OR (5) #12 S.M.S. | (4) #10 S.M.S. |
| 1.46-1.95 | 5.33 | 362S162-43 | 800S162-43 | 1200S162-43 | 2(362S162-43) | 2(450S162-43) | 2(800S162-43) | (6) #10 S.M.S. | (4) #10 S.M.S. |

PARTITION WALL CONDITION 'C' AND 'D'
DETAIL ST6.03

| $S_{DS}$ | MAX BRACE SPACING (FT) | BRACE SIZE AND MIL: BACK TO BACK BRACE 3 5/8" | 4" | 6" | NUMBER OF S.M.S. AT TOP AND BOTTOM OF BRACE |
|---|---|---|---|---|---|
| 0.25-0.99 | 6.67 | 2(362S162-43) | 2(600S162-43) | 2(1200S162-43) | (8) #10 S.M.S. |
| 1.00-1.25 | 6 | 2(362S162-43) | 2(600S162-43) | 2(1200S162-43) | (8) #10 S.M.S. |
| 1.26-1.45 | 5.5 | 2(362S162-43) | 2(600S162-43) | 2(1200S162-43) | (8) #10 S.M.S. |
| 1.46-1.95 | 3.33 | 2(362S162-43) | 2(600S162-43) | 2(1200S162-43) | (8) #10 S.M.S. |

NOTES:
1. THESE TABLES ARE BASED ON THE FOLLOWING DESIGN CRITERIA:
   A. DEMAND LOADS PER ST6.11.
   B. 9 FT MAX PARTITION WALL HEIGHT.
   C. MAX BRACE LENGTH PER ST6.02 OR ST6.03.
   D. LIMIT OF KL/r TO 200 WHERE,
      K=1.0, EFFECTIVE LENGTH FACTOR
      L=LENGTH OF BRACE PER ST6.02 AND ST6.03 (INCHES)
      r=MINIMUM RADIUS OF GYRATION OF C-STUD (INCHES)
2. RDP IN RESPONSIBLE CHARGE SHALL DESIGN FOR OTHER CONDITIONS.

SECTION TITLE: STANDARD PARTITION WALL DETAILS
SHEET TITLE: PARTIAL HEIGHT PARTITION WALL BRACE SPACING, SIZE AND CONNECTION SCHEDULES
OPD NO.: ST6.01



PLOT DATE: May 05, 2017

## BOTTOM TRACK CONNECTION TO LWC ON METAL DECK FASTENER MAX SPACING SCHEDULE

BOTTOM CONNECTION DEMANDS (PARTITION WALL CONDITION 'A')

| MAX PARTITION WALL HEIGHT | $S_{DS}$ | MAXIMUM FASTENER SPACING IN INCHES AT BOTTOM CONNECTION: PAF | 3/8"ø EXP ANCHOR W/ 2" EMBED | 1/2"ø EXP ANCHOR W/ 2 1/4" EMBED | 3/8"ø SCREW ANCHOR W/ 2 1/2" EMBED | 1/2"ø SCREW ANCHOR W/ 2 1/2" EMBED |
|---|---|---|---|---|---|---|
| 9 FT | 0.25-0.99 | 32 | 32 | 32 | 32 | 32 |
| | 1.00-1.25 | 24 | 32 | 32 | 32 | 32 |
| | 1.26-1.45 | 16 | 32 | 32 | 32 | 32 |
| | 1.46-1.95 | 16 | 32 | 32 | 32 | 32 |
| 12 FT | 0.25-0.99 | 24 | 32 | 32 | 32 | 32 |
| | 1.00-1.25 | 16 | 32 | 32 | 32 | 32 |
| | 1.26-1.45 | 16 | 32 | 32 | 32 | 32 |
| | 1.46-1.95 | 8 | 32 | 32 | 32 | 32 |
| 16 FT | 0.25-0.99 | 16 | 32 | 32 | 32 | 32 |
| | 1.00-1.25 | 8 | 32 | 32 | 32 | 32 |
| | 1.26-1.45 | 8 | 32 | 32 | 32 | 32 |
| | 1.46-1.95 | 8 | 32 | 32 | 32 | 32 |

BOTTOM CONNECTION DEMANDS (PARTITION WALL CONDITION 'B')

| MAX PARTITION WALL HEIGHT | $S_{DS}$ | MAXIMUM FASTENER SPACING IN INCHES AT BOTTOM CONNECTION: PAF | 3/8"ø EXP ANCHOR W/ 2" EMBED | 1/2"ø EXP ANCHOR W/ 2 1/4" EMBED | 3/8"ø SCREW ANCHOR W/ 2 1/2" EMBED | 1/2"ø SCREW ANCHOR W/ 2 1/2" EMBED |
|---|---|---|---|---|---|---|
| 9 FT | 0.25-0.99 | 16 | 32 | 32 | 32 | 32 |
| | 1.00-1.25 | 16 | 32 | 32 | 32 | 32 |
| | 1.26-1.45 | 8 | 32 | 32 | 32 | 32 |
| | 1.46-1.95 | 8 | 32 | 32 | 32 | 32 |
| 12 FT | 0.25-0.99 | 8 | 32 | 32 | 32 | 32 |
| | 1.00-1.25 | 8 | 32 | 32 | 32 | 32 |
| | 1.26-1.45 | 8 | 32 | 32 | 32 | 32 |
| | 1.46-1.95 | 8 | 32 | 32 | 32 | 32 |
| 16 FT | 0.25-0.99 | 8 | 32 | 32 | 32 | 32 |
| | 1.00-1.25 | 8 | 32 | 32 | 32 | 32 |
| | 1.26-1.45 | 8 | 32 | 32 | 32 | 32 |
| | 1.46-1.95 | 8 | 32 | 32 | 32 | 32 |

BOTTOM CONNECTION DEMANDS (PARTITION WALL CONDITIONS 'C' & 'D')

| MAX PARTITION WALL HEIGHT | $S_{DS}$ | MAXIMUM FASTENER SPACING IN INCHES AT BOTTOM CONNECTION: PAF | 3/8"ø EXP ANCHOR W/ 2" EMBED | 1/2"ø EXP ANCHOR W/ 2 1/4" EMBED | 3/8"ø SCREW ANCHOR W/ 2 1/2" EMBED | 1/2"ø SCREW ANCHOR W/ 2 1/2" EMBED |
|---|---|---|---|---|---|---|
| 9 FT | 0.25-0.99 | - | 32 | 32 | 32 | 32 |
| | 1.00-1.25 | - | 32 | 32 | 32 | 32 |
| | 1.26-1.45 | - | 32 | 32 | 32 | 32 |
| | 1.46-1.95 | - | 32 | 32 | 32 | 32 |
| 12 FT | 0.25-0.99 | - | 32 | 32 | 32 | 32 |
| | 1.00-1.25 | - | 32 | 32 | 32 | 32 |
| | 1.26-1.45 | - | 32 | 32 | 32 | 32 |
| | 1.46-1.95 | - | 32 | 32 | 32 | 32 |
| 16 FT | 0.25-0.99 | - | 32 | 32 | 32 | 32 |
| | 1.00-1.25 | - | 32 | 32 | 32 | 32 |
| | 1.26-1.45 | - | 32 | 32 | 32 | 32 |
| | 1.46-1.95 | - | 32 | 32 | 32 | 32 |

NOTES:
1. SEE ST1.01 & ST1.02 FOR PAF REQUIREMENTS.
2. SEE ST1.03 & ST1.04 FOR EXPANSION ANCHOR REQUIREMENTS.
3. SEE ST1.09 & ST1.10 FOR SCREW ANCHOR REQUIREMENTS.

SECTION TITLE: STANDARD PARTITION WALL DETAILS
SHEET TITLE: BOTTOM TRACK CONNECTION TO LWC ON METAL DECK FASTENER MAX SPACING SCHEDULE
OPD NO.: ST8.02



**C5** ST8.02 BOTTOM TRACK CONNECTION TO NWC SLAB FASTENER MAX SPACING SCHEDULE

SCALE: 3" = 1'-0"

PLOT DATE: May 05, 2017

BOTTOM TRACK CONNECTION TO NWC SLAB FASTENER MAX SPACING SCHEDULE

BOTTOM CONNECTION DEMANDS (PARTITION WALL CONDITION 'A')

| MAX PARTITION WALL HEIGHT | $S_{DS}$ | MAXIMUM FASTENER SPACING IN INCHES AT BOTTOM CONNECTION: PAF | 3/8"ø EXP ANCHOR W/ 2" EMBED | 1/2"ø EXP ANCHOR W/ 2 1/4" EMBED | 3/8"ø SCREW ANCHOR W/ 2 1/2" EMBED | 1/2"ø SCREW ANCHOR W/ 2 1/2" EMBED |
|---|---|---|---|---|---|---|
| 9 FT | 0.25-0.99 | 32 | 32 | 32 | 32 | 32 |
| | 1.00-1.25 | 24 | 32 | 32 | 32 | 32 |
| | 1.26-1.45 | 16 | 32 | 32 | 32 | 32 |
| | 1.46-1.95 | 16 | 32 | 32 | 32 | 32 |
| 12 FT | 0.25-0.99 | 24 | 32 | 32 | 32 | 32 |
| | 1.00-1.25 | 16 | 32 | 32 | 32 | 32 |
| | 1.26-1.45 | 16 | 32 | 32 | 32 | 32 |
| | 1.46-1.95 | 8 | 32 | 32 | 32 | 32 |
| 16 FT | 0.25-0.99 | 16 | 32 | 32 | 32 | 32 |
| | 1.00-1.25 | 8 | 32 | 32 | 32 | 32 |
| | 1.26-1.45 | 8 | 32 | 32 | 32 | 32 |
| | 1.46-1.95 | 8 | 32 | 32 | 32 | 32 |

BOTTOM CONNECTION DEMANDS (PARTITION WALL CONDITION 'B')

| MAX PARTITION WALL HEIGHT | $S_{DS}$ | MAXIMUM FASTENER SPACING IN INCHES AT BOTTOM CONNECTION: PAF | 3/8"ø EXP ANCHOR W/ 2" EMBED | 1/2"ø EXP ANCHOR W/ 2 1/4" EMBED | 3/8"ø SCREW ANCHOR W/ 2 1/2" EMBED | 1/2"ø SCREW ANCHOR W/ 2 1/2" EMBED |
|---|---|---|---|---|---|---|
| 9 FT | 0.25-0.99 | 16 | 32 | 32 | 32 | 32 |
| | 1.00-1.25 | 16 | 32 | 32 | 32 | 32 |
| | 1.26-1.45 | 8 | 32 | 32 | 32 | 32 |
| | 1.46-1.95 | 8 | 32 | 32 | 32 | 32 |
| 12 FT | 0.25-0.99 | 8 | 32 | 32 | 32 | 32 |
| | 1.00-1.25 | 8 | 32 | 32 | 32 | 32 |
| | 1.26-1.45 | 8 | 32 | 32 | 32 | 32 |
| | 1.46-1.95 | 8 | 32 | 32 | 32 | 32 |
| 16 FT | 0.25-0.99 | 8 | 32 | 32 | 32 | 32 |
| | 1.00-1.25 | 8 | 32 | 32 | 32 | 32 |
| | 1.26-1.45 | 8 | 32 | 32 | 32 | 32 |
| | 1.46-1.95 | 8 | 32 | 32 | 32 | 32 |

BOTTOM CONNECTION DEMANDS (PARTITION WALL CONDITIONS 'C' & 'D')

| MAX PARTITION WALL HEIGHT | $S_{DS}$ | MAXIMUM FASTENER SPACING IN INCHES AT BOTTOM CONNECTION: PAF | 3/8"ø EXP ANCHOR W/ 2" EMBED | 1/2"ø EXP ANCHOR W/ 2 1/4" EMBED | 3/8"ø SCREW ANCHOR W/ 2 1/2" EMBED | 1/2"ø SCREW ANCHOR W/ 2 1/2" EMBED |
|---|---|---|---|---|---|---|
| 9 FT | 0.25-0.99 | - | 32 | 32 | 32 | 32 |
| | 1.00-1.25 | - | 32 | 32 | 32 | 32 |
| | 1.26-1.45 | - | 32 | 32 | 32 | 32 |
| | 1.46-1.95 | - | 32 | 32 | 32 | 32 |
| 12 FT | 0.25-0.99 | - | 32 | 32 | 32 | 32 |
| | 1.00-1.25 | - | 32 | 32 | 32 | 32 |
| | 1.26-1.45 | - | 32 | 32 | 32 | 32 |
| | 1.46-1.95 | - | 32 | 32 | 24 | 24 |
| 16 FT | 0.25-0.99 | - | 32 | 32 | 32 | 32 |
| | 1.00-1.25 | - | 32 | 32 | 32 | 32 |
| | 1.26-1.45 | - | 32 | 32 | 32 | 32 |
| | 1.46-1.95 | - | 24 | 32 | 24 | 24 |

NOTES:
1. SEE ST1.01 & ST1.02 FOR PAF REQUIREMENTS.
2. SEE ST1.03 & ST1.04 FOR EXPANSION ANCHOR REQUIREMENTS.
3. SEE ST1.09 & ST1.10 FOR SCREW ANCHOR REQUIREMENTS.

SECTION TITLE: STANDARD PARTITION WALL DETAILS
SHEET TITLE: BOTTOM TRACK CONNECTION TO NWC SLAB FASTENER MAX SPACING SCHEDULE
OPD NO.: ST8.03



**A5** ST8.03 BOTTOM TRACK CONNECTION TO NWC SLAB FASTENER MAX SPACING SCHEDULE

SCALE: 3" = 1'-0"

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ARCHITECT STAMP

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CONSULTANT

CONSULTANT STAMP

KEY PLAN

REVISIONS

| NO. | DESCRIPTION | DATE |
|---|---|---|
| 1 | PLAN CHECK | 10/10/2023 |
| BC1 | BACK CHECK 01 | 04/19/2024 |

FILE LOG

| ACTIVITY | BY |
|---|---|
| Design | Designer |
| Draw | Author |
| Check | Checker |
| Issue Date | 2023/9/29 |

AGENCY APPLICATION NUMBER
S231455-33-00

AGENCY APPROVAL STAMP

REVIEWED IN ACCORDANCE WITH THE REQUIREMENTS OF T24, CCR
APPROVED
Department of Health Care Access & Information
Office of Statewide Hospital Planning & Development
8/16/2024, 7:12:57 AM
S231455-33-00
Allen Cheng

BUILDING TITLE
RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE
NEW CARDIAC CATHETERIZATION LAB SUITE & HYPERBARIC FACILITY EXPANSION

RUHS-MC PROJ. NO.: FM08430011869
CONSULTANT PROJ. NO.: 047-10071-002

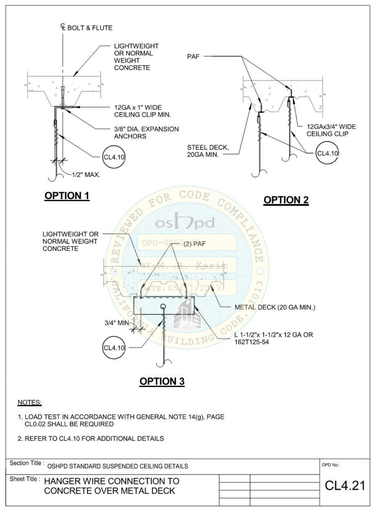
SHEET NAME
DETAILS - PARTITION

SHEET NUMBER
AE517

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REVIEWED FOR CODE COMPLIANCE OSHPD CALIFORNIA BUILDING CODE 2013 BY: M. R. Karim DATE: 05/11/2017

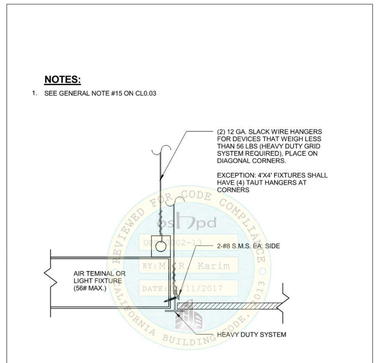
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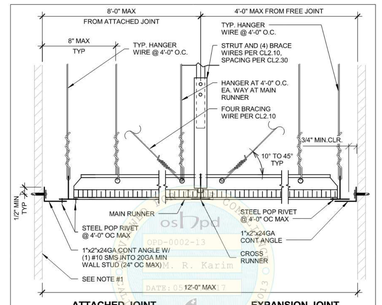

NOTES:

1. LOAD TEST IN ACCORDANCE WITH GENERAL NOTE 14(g), PAGE CL0.02 SHALL BE REQUIRED
2. REFER TO CL4.10 FOR ADDITIONAL DETAILS

| | | |
|---|---|---|
| Section Title : OSHPD STANDARD SUSPENDED CEILING DETAILS | | OPD No: |
| Sheet Title : HANGER WIRE CONNECTION TO CONCRETE OVER METAL DECK | | CL4.21 |




| | | |
|---|---|---|
| Section Title : OSHPD STANDARD SUSPENDED CEILING DETAILS | | OPD No: |
| Sheet Title : SUSPENDED ACOUSTICAL CEILING - LIGHT FIXTURES/ AIR TERMINAL SUPPORT DETAIL | | CL2.80 |




**ACCEPTABLE EXITWAY DETAILS**

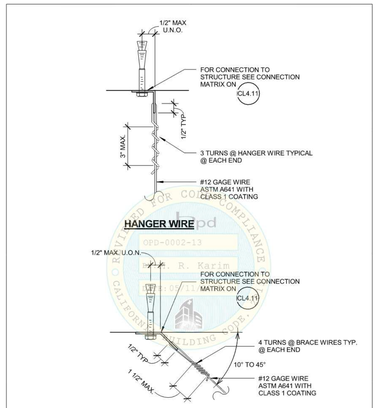
NOTES:

1. PERIMETER WALLS SHALL BE DESIGNED TO CARRY TRIBUTARY LATERAL FORCES PER TABLE BELOW. RDP TO VERIFY. RDP TO SPECIFY CONNECTION OF BACKING TO STUDS

| $S_{DS}$ | Fp |
|---|---|
| $S_{DS} \leq 1.15$ | 9.3 plf |
| $1.15 < S_{DS} \leq 1.73$ | 14.0 plf |
| $1.73 < S_{DS} \leq 2.50$ | 20.9 plf |

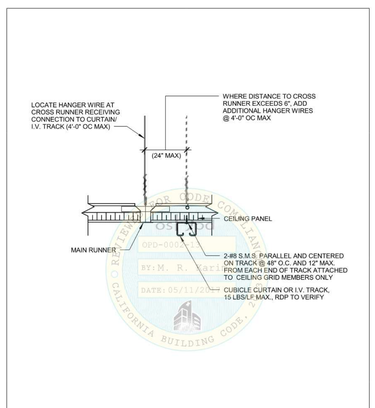
2. SEISMIC BRACING WIRES AND STRUTS IN ACCORDANCE WITH PAGES CL2.20, CL2.21, AND CL2.22 SHALL BE PERMITTED IN LIEU OF DESIGNING PERIMETER WALLS FOR SEISMIC FORCES AND BRACING SYSTEM SHOWN ON PAGE CL2.30 AND THIS PAGE.
3. STEEL POP RIVET SHALL HAVE MINIMUM ALLOWABLE SHEAR STRENGTH OF 120# AND ULTIMATE SHEAR STRENGTH OF 300#.

| | | |
|---|---|---|
| Section Title : OSHPD STANDARD SUSPENDED CEILING DETAILS | | OPD No: |
| Sheet Title : TYPICAL CEILING SECTION AT EXITWAY CORRIDORS | | CL2.50 |

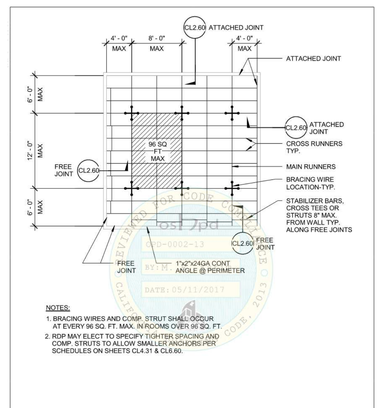



**BRACING WIRE**

| | | |
|---|---|---|
| Section Title : OSHPD STANDARD SUSPENDED CEILING DETAILS | | OPD No: |
| Sheet Title : HANGER AND BRACING WIRE CONNECTION - TYPICAL WIRE TURNS | | CL4.10 |



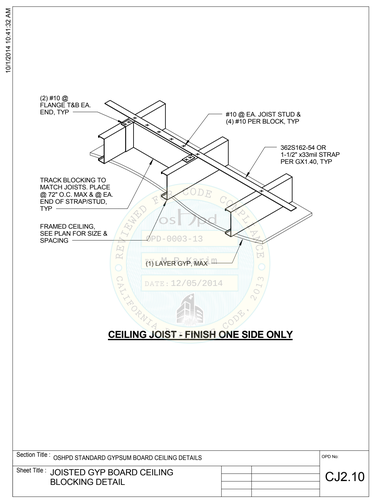

| | | |
|---|---|---|
| Section Title : OSHPD STANDARD SUSPENDED CEILING DETAILS | | OPD No: |
| Sheet Title : SUSPENDED ACOUSTICAL CEILING - CUBICLE CURTAIN I.V. TRACK | | CL2.70 |




NOTES:

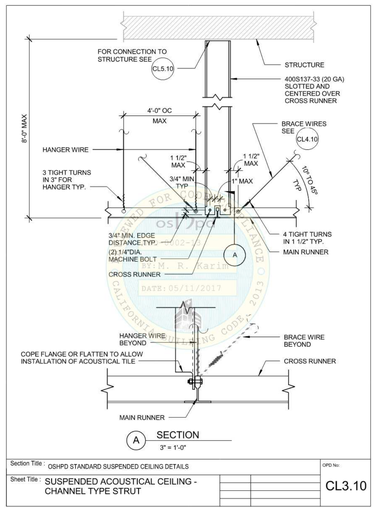
1. BRACING WIRES AND COMP. STRUT SHALL OCCUR AT EVERY 96 SQ. FT. MAX. IN ROOMS OVER 96 SQ. FT.
2. RDP MAY ELECT TO SPECIFY TIGHTER SPACING AND COMP. STRUTS TO ALLOW SMALLER ANCHORS PER SCHEDULES ON SHEETS CL4.31 & CL6.60.

| | | |
|---|---|---|
| Section Title : OSHPD STANDARD SUSPENDED CEILING DETAILS | | OPD No: |
| Sheet Title : TYPICAL CEILING PLAN FOR $1.15 < S_{DS} \leq 1.73$ AND z/h <= 1.0 | | CL2.21 |

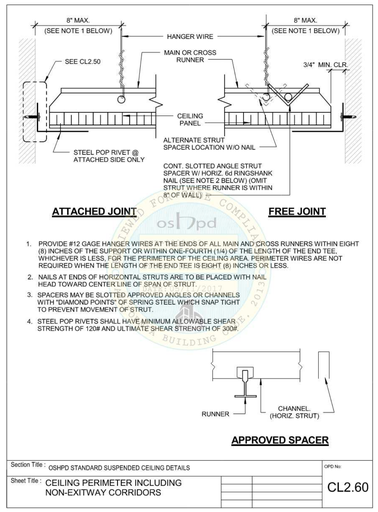



**CEILING JOIST - FINISH ONE SIDE ONLY**

| | | |
|---|---|---|
| Section Title : OSHPD STANDARD GYPSUM BOARD CEILING DETAILS | | OPD No: |
| Sheet Title : JOISTED GYP BOARD CEILING BLOCKING DETAIL | | CJ2.10 |

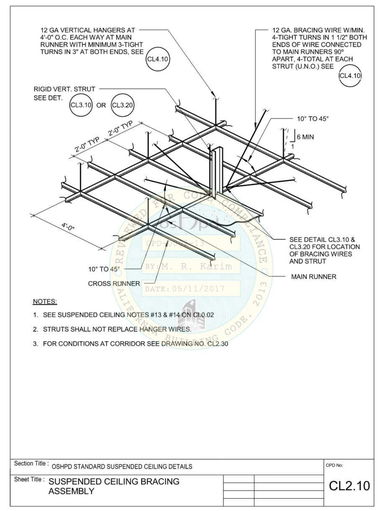



| | | |
|---|---|---|
| Section Title : OSHPD STANDARD SUSPENDED CEILING DETAILS | | OPD No: |
| Sheet Title : SUSPENDED ACOUSTICAL CEILING - CHANNEL TYPE STRUT | | CL3.10 |




1. PROVIDE #12 GAGE HANGER WIRES AT THE ENDS OF ALL MAIN AND CROSS RUNNERS WITHIN EIGHT (8) INCHES OF THE SUPPORT OR WITHIN ONE-FOURTH (1/4) OF THE LENGTH OF THE END TEE, WHICHEVER IS LESS. FOR THE PERIMETER OF THE CEILING AREA, PERIMETER WIRES ARE NOT REQUIRED WHEN THE LENGTH OF THE END TEE IS EIGHT (8) INCHES OR LESS.
2. NAILS AT ENDS OF HORIZONTAL STRUTS ARE TO BE PLACED WITH NAIL HEAD TOWARD CENTER LINE OF SPAN OF STRUT.
3. SPACERS MAY BE SLOTTED APPROVED ANGLES OR CHANNELS WITH "DIAMOND POINTS" OF SPRING STEEL WHICH SNAP TIGHT TO PREVENT MOVEMENT OF STRUT.
4. STEEL POP RIVETS SHALL HAVE MINIMUM ALLOWABLE SHEAR STRENGTH OF 120# AND ULTIMATE SHEAR STRENGTH OF 300#.

| | | |
|---|---|---|
| Section Title : OSHPD STANDARD SUSPENDED CEILING DETAILS | | OPD No: |
| Sheet Title : CEILING PERIMETER INCLUDING NON-EXITWAY CORRIDORS | | CL2.60 |




NOTES:

1. SEE SUSPENDED CEILING NOTES #13 & #14 ON CL0.02
2. STRUTS SHALL NOT REPLACE HANGER WIRES.
3. FOR CONDITIONS AT CORRIDOR SEE DRAWING NO. CL2.30

| | | |
|---|---|---|
| Section Title : OSHPD STANDARD SUSPENDED CEILING DETAILS | | OPD No: |
| Sheet Title : SUSPENDED CEILING BRACING ASSEMBLY | | CL2.10 |



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Riverside University HEALTH SYSTEM

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ARCHITECT STAMP

LICENSED ARCHITECT STEVEN A. HEATH C-27299 REN. 7/31/25 STATE OF CALIFORNIA

CONSULTANT

CONSULTANT STAMP

KEY PLAN

REVISIONS

| NO. | DESCRIPTION | DATE |
|---|---|---|
| BC1 | BACK CHECK 02 | 07/12/2024 |

FILE LOG

| ACTIVITY | BY |
|---|---|
| Design | Designer |
| Draw | Author |
| Check | Checker |
| Issue Date | 2023/9/29 |

AGENCY APPLICATION NUMBER

**S231455-33-00**

AGENCY APPROVAL STAMP

REVIEWED IN ACCORDANCE WITH THE REQUIREMENTS OF T24, CCR
APPROVED
Department of Health Care Access & Information
Office of Statewide Hospital Planning & Development
8/16/2024, 7:12:57 AM
S231455-33-00
Allen Cheng

BUILDING TITLE

RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE

NEW CARDIAC CATHETERIZATION LAB
SUITE & HYPERBARIC FACILITY EXPANSION

| RUHS-MC PROJ. NO. | CONSULTANT PROJ. NO. |
|---|---|
| FM08430011869 | 047-10071-002 |

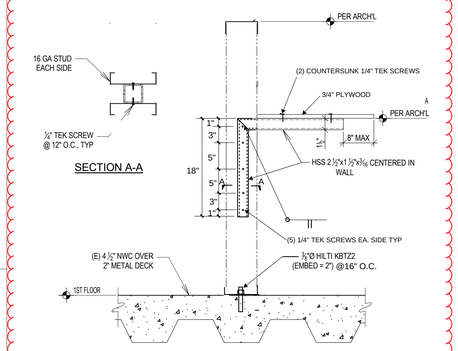
SHEET NAME

CEILING DETAILS

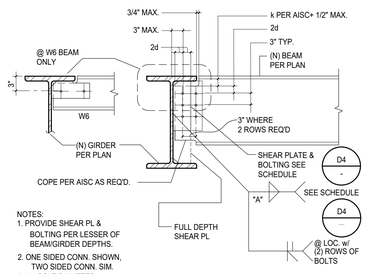
SHEET NUMBER

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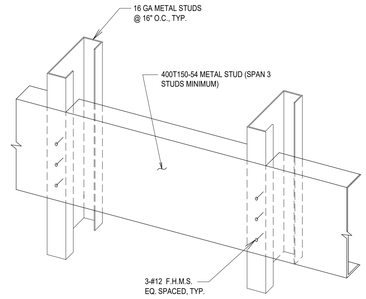
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## D1 COUNTER BRACE SECTION
SCALE: NTS

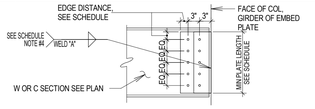



## D2 (N) BEAM TO (N) BEAM SIMPLE CONNECTIONS
SCALE: 3/4" = 1'-0"



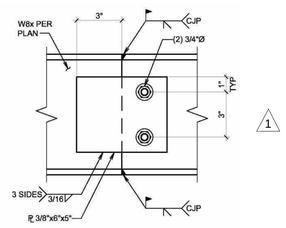

## D3 METAL BACKING
SCALE: 1 1/2" = 1'-0"

| NOMINAL BEAM/GIRDER DEPTH (1) | MINIMUM PLATE LENGTH (IN) | SHEAR PLATE THICKNESS (IN) | NUMBER OF VERTICAL ROWS OF BOLTS | NUMBER OF BOLTS PER ROW | BOLT DIAMETER (IN) (2) | EDGE DISTANCE (IN) | WELD "A" (2) | ASD DESIGN SHEAR STRENGTH (KIPS) | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| W8x | 6 | 3/8 | 1 | 2 | 3/4 | 1 1/2 | 1/4 | 8 | |
| W12x & C12 | 9 | 3/8 | 1 | 3 | 3/4 | 1 1/2 | 1/4 | 16 | |
| W14x | 11 | 3/8 | 1 | 3 | 1 | 1 1/2 | 1/4 | 29 | |
| W16x | 13 | 1/2 | 1 | 4 | 1 | 1 1/2 | 1/4 | 47 | |
| W18x | 15 | 1/2 | 1 | 4 | 1 | 2 | 1/4 | 47 | |
| W21x | 18 | 1/2 | 1 | 5 | 1 1/8 | 2 | 1/4 | 75 | |
| W24x | 20 | 1/2 | 1 | 6 | 1 1/8 | 2 | 1/4 | 91 | |
| W27x | 24 | 3/4 | 2 | 7 | 1 1/8 | 2 | 3/8 | 217 | |
| W30x | 26 | 1 1/2 | 2 | 6 | 1 1/2 | 2 | 1/2 | 298 | |

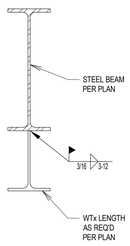


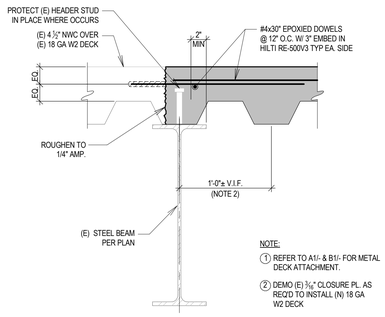

NOTES:
1. C BEAM CONNECTION SIMILAR TO W BEAM OF SAME DEPTH.
2. PROVIDE STANDARD AISC ROUND HOLES IN SHEAR PLATE.
3. PROVIDE THE LARGER OF WELD INDICATED & AWS MINIMUM.
4. WELD "A" SHALL BE FILLET WELD ON BOTH SIDES. WELD "A" CAN BE SUBSTITUTED WITH C.P. GROVE WELD WITH BACKING BAR REMOVED.
5. ALL BOLTS ARE A325 BOLTS PER GENERAL NOTES.
6. CONNECTION PLATE IS CONFORMING TO A992 OR A572 GRADE 50, Fy=50 KSI, Fu=65 KSI.

## D4 SHEAR PLATE BOLTING SCHEDULE
SCALE: 3/4" = 1'-0"

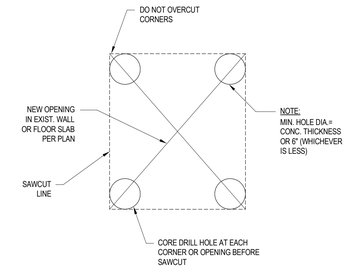



## C1 BEAM SPLICE DETAILS
SCALE: NONE



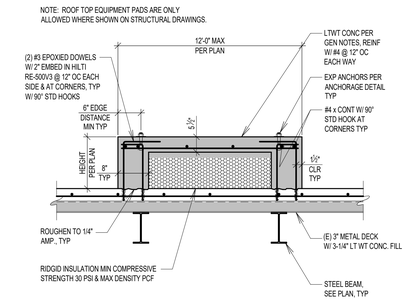




DECK PARALLEL TO BEAM

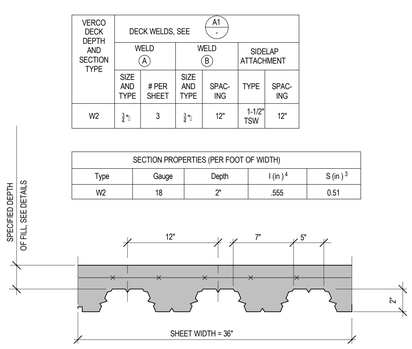



NOTE
1. REFER TO PLAN FOR ADDITIONAL FRAMING NOT SHOW.

## C4 NEW OPENING IN EXIST. SLAB
SCALE: 3/4" = 1'-0"



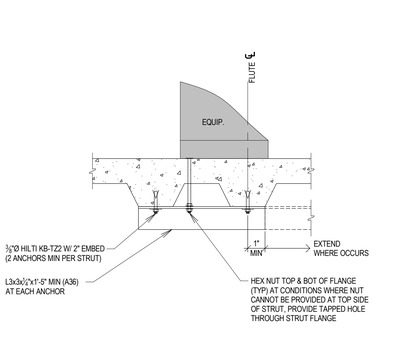

## C5 ROOF TOP EQUIOMENT PAD
SCALE: 3/4" = 1'-0"



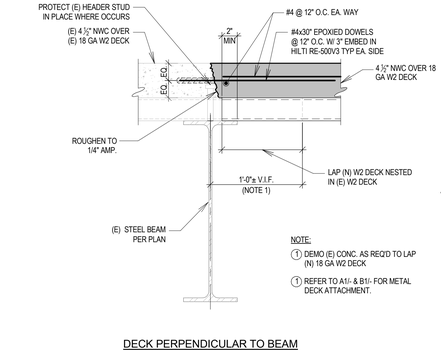

TYPE W2 DECK

NOTE: OR EQUIVALENT BUTTON PUNCH

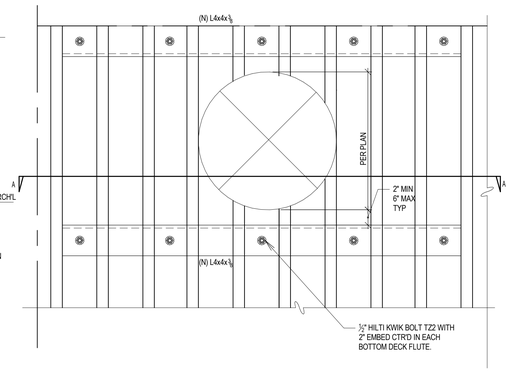
## B1 METAL DECK PROPERTIES
SCALE: NTS



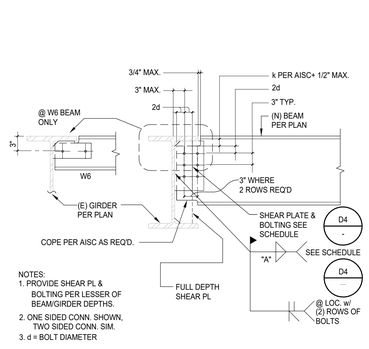

## B2 THRU BOLT STRUT DETAIL
SCALE: 1 1/2" = 1'-0"



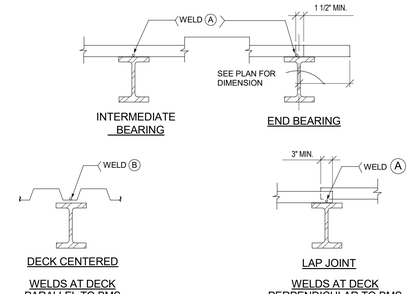

## B3 FLOOR DECK INFILL
SCALE: 1 1/2" = 1'-0"



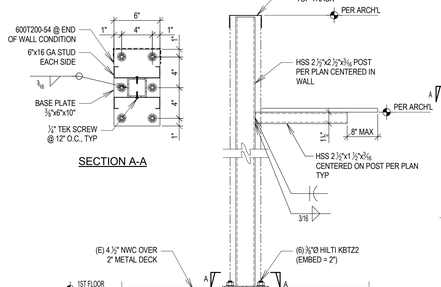

PLAN



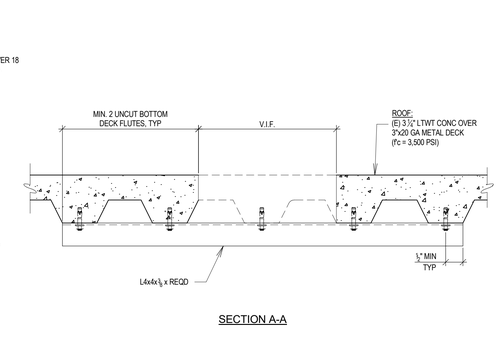

## B5 (N) BEAM TO (E) GIRDER SIMPLE CONNECTIONS
SCALE: 3/4" = 1'-0"




## A1 METAL DECK WELDING
SCALE: NTS



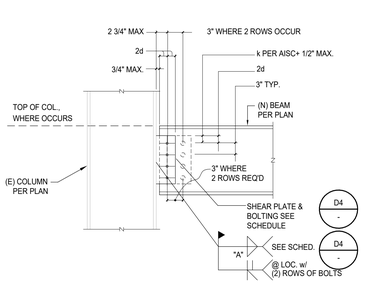

DECK PERPENDICULAR TO BEAM




SECTION A-A

## A3 PONY WALL SECTION
SCALE: NTS

## A4 FLOOR / ROOF PENETRATION SLAB STRENGTHENING
SCALE: 1 1/2" = 1'-0"




## A5 (N) BEAM TO (E) COLUMN FLANGE SIMPLE CONNECTIONS
SCALE: 3/4" = 1'-0"


Riverside University HEALTH SYSTEM

RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

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ARCHITECTECT STAMP

CONSULTANT


ABS Consulting
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Irvine, CA 92602 U.S.A.
Phone: (714) 734-4242


CONSULTANT STAMP

REGISTERED PROFESSIONAL ENGINEER TRACY R. RICH RENEWAL 12/31/24 NO. 4831 STRUCTURAL STATE OF CALIFORNIA

KEY PLAN

REVISIONS

| NO. | DESCRIPTION | DATE |
|---|---|---|
| | PLAN CHECK | 10/10/2023 |
| BC1 | BACK CHECK 01 | 04/19/2024 |
| BC2 | BACK CHECK 02 | 07/03/2024 |

FILE LOG

| ACTIVITY | BY |
|---|---|
| Design | Designer |
| Draw | Author |
| Check | Checker |
| Issue Date | Issue Date |

AGENCY APPLICATION NUMBER

S

AGENCY APPROVAL STAMP

BUILDING TITLE

RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE

CARDIAC CATHETERIZATION LABORATORY SUITE PROJECT

| RUHS-MC PROJ. NO. | CONSULTANT PROJ. NO. |
|---|---|
| FM08430011869 | 047-10071-002 |

SHEET NAME

TYPICAL DETAILS

SHEET NUMBER

S003

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7/2/2024 9:45:26 AM Autodesk Docs://047-10071-002_RUHS-TO-1_Riverside_County_Health_Cath_Lab/ RUHS-2ND-CATH-LAB-STRU-r1

# RIVERSIDE UNIVERSITY HEALTH SYSTEM

(PROJECT NO. MC08430011869, HCAi NO. S231455-33-00)

## CATHETERIZATION LABORATORY SUITE

# COUNTY OF RIVERSIDE, STATE OF CALIFORNIA
# APPENDIX G
# ROUND 1 ADDENDUM 2

LEO A DALY

PLANNING
ARCHITECTURE
ENGINEERING
INTERIORS

# BID ADDENDUM #2

To: Carlos Cueva, Project Manager
Keren Cruznueva, Project Planner

From: Steven Henrich, Sr. Project Architect, LEO A DALY

CC: LAD Consultant Team

Date: July 28, 2025

Project: RUHS Cardiac Catheterization Lab Suite & Hyperbaric Facility Expansion

Re: Bid Addendum #2

---

All HCAi approved Contract Documents and scope of work remain unchanged unless identified on this Supplemental Instruction. Revisions per Bid Addendum #2, identified with Delta #2 clouded changes dated 7/28/25, are summarized below.

Change Summary:
Add a new service access door on 3rd floor for maintenance only access to the roof. The basis of design for the new door is of a single Kawneer '2000T Terrace Door', Outswing, 5" frame, 10" bottom rail. Glazing shall be dual pane, insulated, tempered glass. Latch and lock shall be per manufacturer, storeroom function. Locking shall be from the corridor side and allow free egress from roof area. Keying and core shall match facility standards. See attached Kawneer cutsheet for reference.

**Sheet AE112**

1. Located new 3rd floor roof maintenance access door on D1/AE112 Partial Roof Plan. Added detail references for demo and remodel scope on new sheet AE552.

**Sheet AE552 (New Sheet)**

2. New demo plans and details describing the demo of an existing roof access hatch in the existing exterior storefront window and a portion of the exterior furred wall below the window.
3. New remodel plans and details describing the installation of a new roof access doorway within a single window bay of the existing exterior window system.

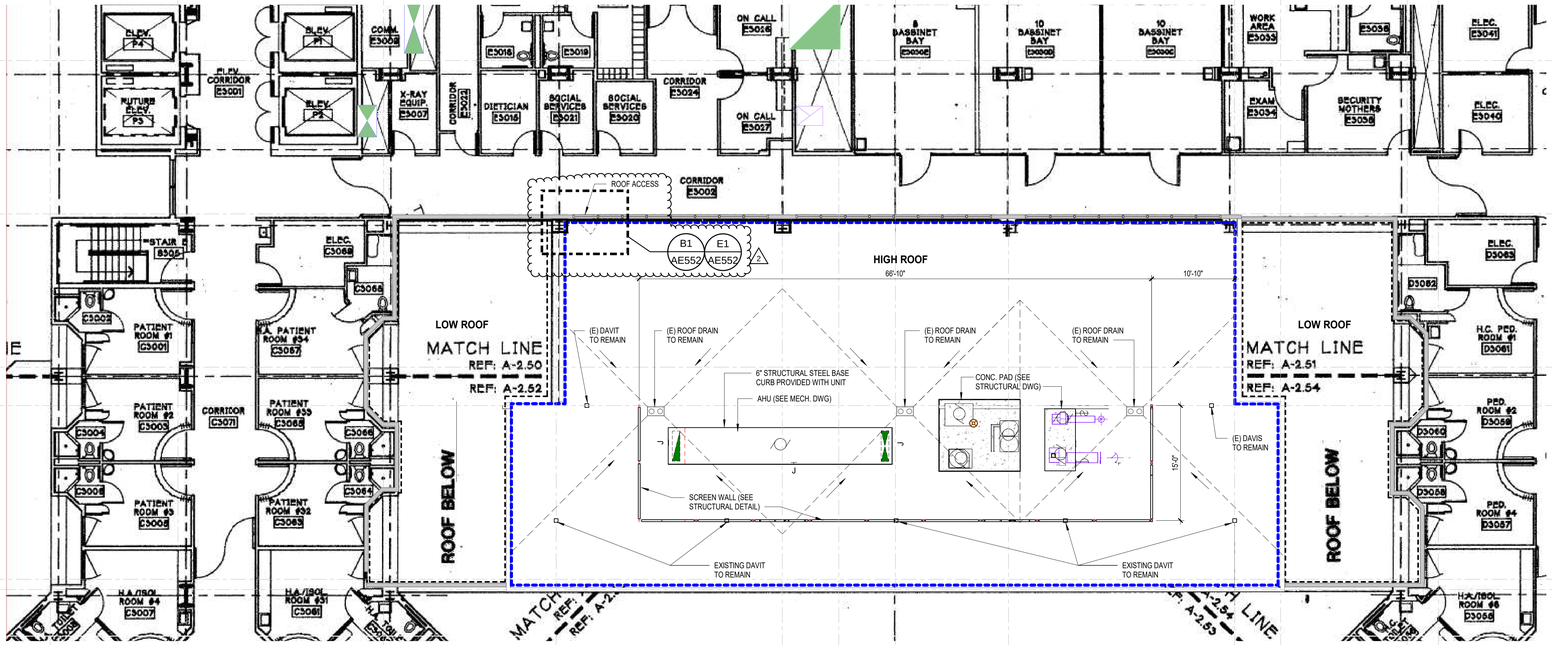
**Sheet AE601**

4. Added door E3002A to door schedule.
5. Added new Door Type 'E'
6. Added new Door Frame type 5.

End of Bid Amendment #2

550 South Hope Street
27th Floor
Los Angeles, CA 90071-2675
213.629.0100

leoadaly.com




**D1** PARTIAL ROOF PLAN
SCALE: 1/8" = 1'-0"




**A1** PARTIAL FLOOR PLAN - LEVEL 2 - REMODEL
SCALE: 1/8" = 1'-0"

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Riverside University HEALTH SYSTEM

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ARCHITECT STAMP

LICENSED ARCHITECT STEVEN A. HEATH C-27289 REN. 7/31/25 STATE OF CALIFORNIA

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KEY PLAN

REVISIONS

| NO. | DESCRIPTION | DATE |
|---|---|---|
| 1 | PLAN CHECK | 10/10/2023 |
| BC1 | BACK CHECK 01 | 04/19/2024 |
| 2 | ADDENDUM 02 | 07/28/2025 |

FILE LOG

| ACTIVITY | BY |
|---|---|
| Design | Designer |
| Draw | Author |
| Check | Checker |
| Issue Date | 2023/9/29 |

AGENCY APPLICATION NUMBER
**S231455-33-00**

AGENCY APPROVAL STAMP

BUILDING TITLE
RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE
NEW CARDIAC CATHETERIZATION LAB SUITE & HYPERBARIC FACILITY EXPANSION

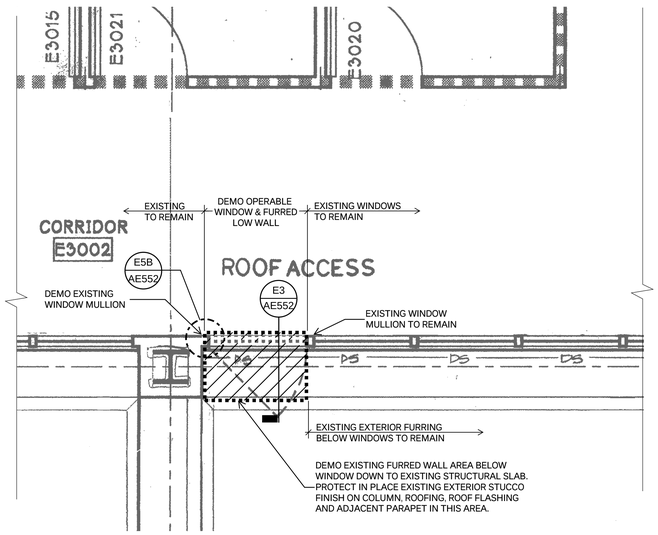
| RUHS-MC PROJ. NO. | CONSULTANT PROJ. NO. |
|---|---|
| FM08430011869 | 047-10071-002 |

SHEET NAME
PARTIAL FLOOR PLAN - LEVEL 2 - REMODEL AND PARTIAL ROOF PLAN

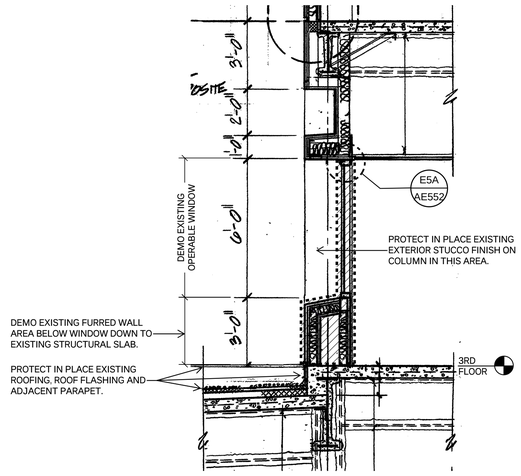
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TRUE NORTH N

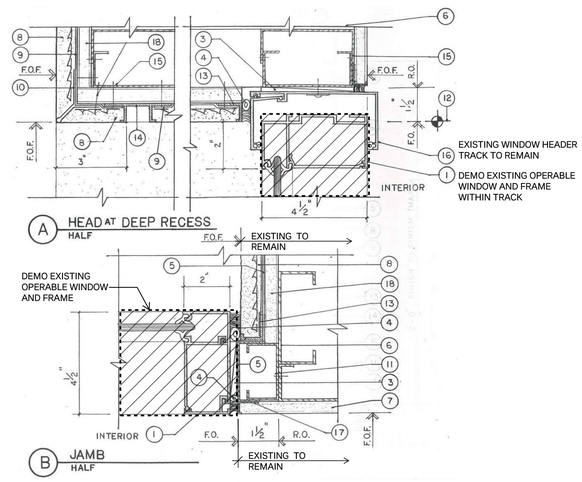
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E1 PARTIAL DEMO PLAN AT (E) ROOF ACCESS WINDOW
SCALE: 1/2" = 1'-0"




E3 DEMO SECTION @ (E) ROOF ACCESS WINDOW
SCALE: 3/8" = 1'-0"




E5 DEMO @ (E) WINDOW FOR NEW ROOF ACCESS DOOR
SCALE: NTS

**KEYNOTES FROM AS-BUILT DRAWINGS FOR EXISTING CONDITION (FOR INFO ONLY)**

1. EXISTING WINDOW FRAME
2. FASTENER PER WINDOW MANUFACTURER'S SPECIFICATIONS AND/OR OSHPD REQUIREMENTS AND APPROVAL.
3. SHIM PER WINDOW MANUFACTURER'S SPECIFICATIONS.
4. CONTINUOUS CAULKING SEALANT WITH BACKER ROD AS REQUIRED.
5. CONTINUOUS SHEET WATERPROOF MEMBRANE.
6. METAL STUD FRAMING MEMBER. SEE STRUCTURAL DRAWINGS.
7. 5/8" GYPSUM BOARD.
8. STUCCO WITH PAPER-BACKED LATH.
9. BUILDING PAPER TO BE EXTENDED OVER METAL EXTRUSION FLANGES.
10. G.I. CORNER SCREED.
11. 2½" X 1-3/8" METAL STUD INSIDE 2½" X 1¼" STUD TRACK FOR LEVELING/SQUARING OF ROUGH OPENING.
12. FINISH CEILING LINE. SEE REFLECTED CEILING PLAN OR FINISH SCHEDULE.
13. CONTINUOUS EXTRUDED METAL STANDARD "J" MOLD.
14. CONTINUOUS G.I. METAL STANDARD "J" MOLD.
15. 4" X 1-5/8" METAL STUD INSIDE 4" X 1¼" STUD TRACK FOR LEVELING/SQUARING OF ROUGH OPENING.
16. CONTINUOUS SEISMIC WINDOW RECEPTOR FRAME.
17. STANDARD GYPSUM BOARD "J" MOLD.
18. 5/8" EXTERIOR GYPSUM SHEATHING.




B1 NEW ROOF ACCESS DOORWAY
SCALE: 1/2" = 1'-0"



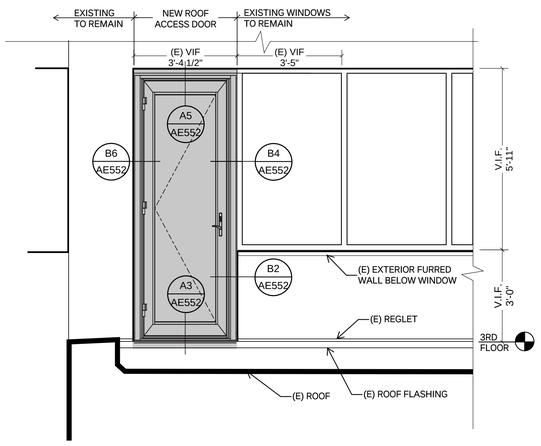

B2 NEW ROOF ACCESS DOOR INFILL - JAMB @ FURRED WALL
SCALE: 6" = 1'-0"



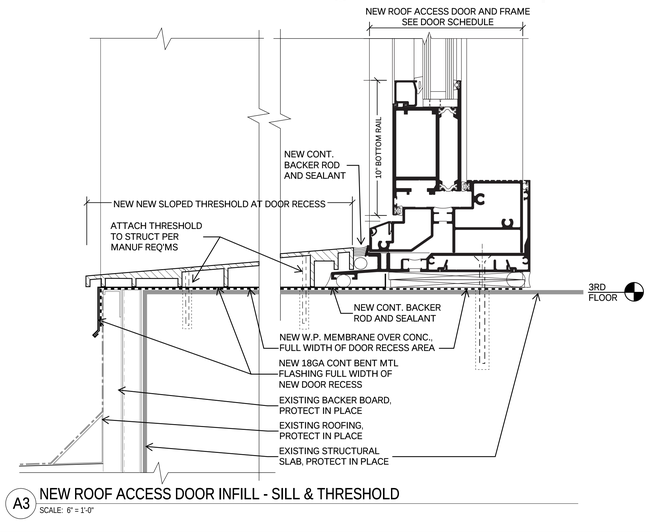

B4 NEW ROOF ACCESS DOOR INFILL - JAMB @ MULLION
SCALE: 6" = 1'-0"



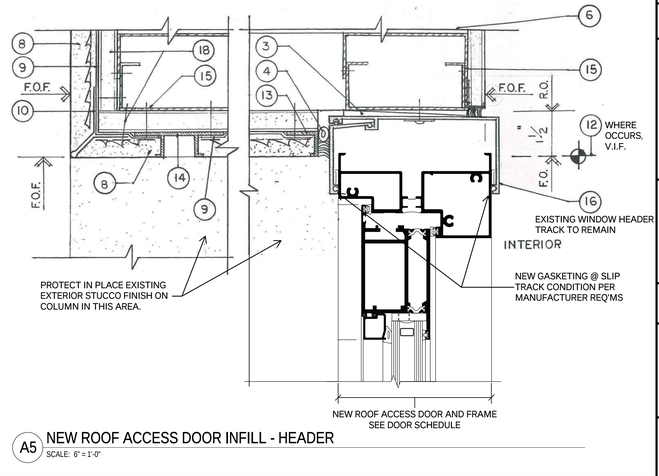

B6 NEW ROOF ACCESS DOOR INFILL - JAMB @ COLUMN
SCALE: 6" = 1'-0"




A1 NEW ROOF ACCESS DOOR INFILL - ELEVATION
SCALE: 1/2" = 1'-0"




A3 NEW ROOF ACCESS DOOR INFILL - SILL & THRESHOLD
SCALE: 6" = 1'-0"




A5 NEW ROOF ACCESS DOOR INFILL - HEADER
SCALE: 6" = 1'-0"

RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER
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ARCHITECT STAMP

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KEY PLAN

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|---|---|---|
| 2 | ADDENDUM 02 | 07/28/2025 |

FILE LOG

| ACTIVITY | BY |
|---|---|
| Design | Designer |
| Draw | Author |
| Check | Checker |
| Issue Date | 2023/9/29 |

AGENCY APPLICATION NUMBER
S231455-33-00

AGENCY APPROVAL STAMP

BUILDING TITLE
RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE
NEW CARDIAC CATHETERIZATION LAB SUITE & HYPERBARIC FACILITY EXPANSION

| RUHS-MC PROJ. NO. | CONSULTANT PROJ. NO. |
|---|---|
| FM08430011869 | 047-10071-002 |

SHEET NAME
DETAILS - DOORS

SHEET NUMBER
AE552

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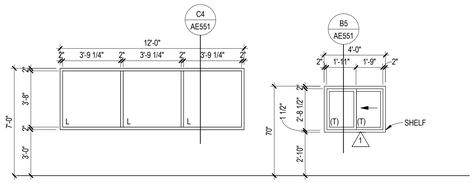
## WINDOW SCHEDULE - NEW WINDOWS

| WINDOW TYPE | Width | Height | FRAME TYPE | FRAME FINISH | DETAIL NO. | DETAIL SHEET | COMMENTS |
|---|---|---|---|---|---|---|---|
| W1 | 12'-0" | 4'-0" | HM | PT- | C4 | AE551 | LEAD-LINED (L) |
| W2 | 4'-0 | 3'-0 | HM | PT- | B5 | AE551 | (T) |
| W3 | 5'-0" | 4'-2" | EXISTING | EXISTING | A4/AE601 | A4/AE601 | EXISTING GLAZING AND FRAME TO REMAIN (E) |
| W4 | 3'-0" | 4'-0" | EXISTING | EXISTING | A4/AE601 | A4/AE601 | REPLACE EXISTING GLASS PANEL WITH NEW SPANDREL GLASS IN EXISTING FRAME (S) |

1

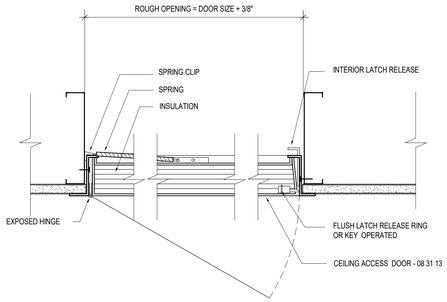
WINDOW REMARKS:

A = 1/4" LAMINATED, CLEAR GLASS
E = EXISTING GLAZING TO REMIAN
F = FIRE RATED GLAZING PER OPENING
PROTECTION LABEL HOUR RATING IN DOOR SCHEDULE
L = LEAD LINED (MEET SHIELDING REQUIREMENTS ON AE141
T = 1/4" TEMPERED, CLEAR GLASS
S = SPANDREL (COORDINATE TO MATCH EXISTING HOSPITAL GLASS COLOR AND CERAMIC FRIT COLOR, V.I.F.)



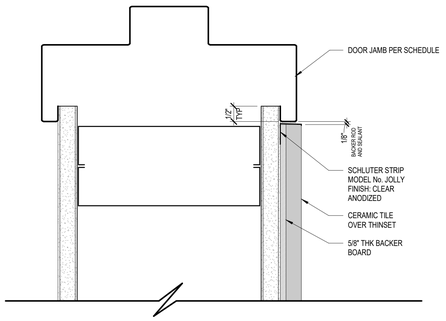

## WINDOW FRAME TYPES

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



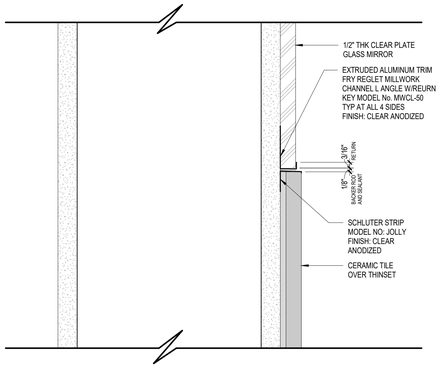

## D1 CL- ACCESS DOOR

SCALE: 3" = 1'-0"




## B1 DETAIL AT TILE EDGE AT DOOR JAMB AND HEAD

SCALE: 6" = 1'-0"




## A1 DETAIL AT MIRROR AND TILE EDGE

SCALE: 6" = 1'-0"

## DOOR SCHEDULE

| DOOR NO. | DOOR TYPE | Width | DOOR HEIGHT | HDWE SET | DOOR TYPE | DOOR MAT'L | DOOR FIN. | FRAME TYPE | FRAME MAT'L | FRAME FIN. | FRAME DET NOS | FRAME DET SHT | LABEL HOUR | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1034 | | 3'-6" | 7'-0" | 119 | F | WD | P-1 | 1 | HM | P-2 | B1 | AE551 | 45 | SMOKE DOOR |
| 1035 | | 3'-6" | 7'-0" | 119 | F | WD | P-1 | 1 | HM | P-2 | B1 | AE551 | 45 | |
| 1037 | | 3'-6" | 7'-0" | 120 | F | WD | P-1 | 1 | HM | P-2 | B1 | AE551 | 45 | |
| 1038 | | 3'-0" | 7'-0" | 119 | F | WD | P-1 | 1 | HM | P-2 | B1 | AE551 | 20 MIN. | |
| 1039 | | 3'-0" | 7'-0" | 108 | F | WD | P-1 | 1 | HM | P-2 | B1 | AE551 | 20 MIN. | NOTE 1, 5 |
| 1040A | UN | 7'-0" | 7'-0" | 124 | F | WD | P-1 | 3 | HM | P-2 | B1 | AE551 | 20 MIN. | NOTE 4, PANIC HARDWARE; EACH DOOR LEAF TO BE 20 MIN. FIRE RATED ; UNEVEN PAIR DOOR, ONE LEAF 44" CLR WIDTH; PANIC HDWR; HOLD OPENS; OPPOSIT SWING |
| 1040B | UN | 7'-0" | 7'-0" | 124 | F | WD | P-1 | 3 | HM | P-2 | B1 | AE551 | 20 MIN. | UNEVEN PAIR DOORS, ONE LEAF 44" MIN CLR WIDTH; PANIC HDWR; HOLD OPENS; OPPOSIT SWING |
| 1040C | | 3'-6" | 7'-0" | 112 | F | WD | P-1 | 1 | HM | P-2 | B1 | AE551 | 45 | |
| 1041A | | 3'-0" | 7'-0" | 118 | F | WD | P-1 | 1 | HM | P-2 | B1 | AE551 | 45 | |
| 1041B | | 3'-0" | 7'-0" | 108 | F | WD | P-1 | 1 | HM | P-2 | B1 | AE551 | -- | NOTE 1, 5 |
| 1041C | | 2'-2" | 7'-0" | 122 | F | WD | P-1 | 1 | HM | P-2 | B1 | AE551 | -- | |
| 1046 | UN | 6'-0" | 7'-0" | 101 | F/NG | HM | P-1 | 2 | HM | P-2 | B1 | AE551 | -- | NOTE 1, 2, 3, 5 PANIC HARDWARE, ONE LEAF 44" MIN CLR WIDTH |
| 1047 | UN | 6'-0" | 7'-0" | 104 | F/F | WD | P-1 | 2 | HM | P-2 | B2 | AE551 | 20 MIN. | NOTE 2, 3, 5, LEAD-LINED |
| 1047A | | 3'-6" | 7'-0" | 116 | F | WD | P-1 | 1 | HM | P-2 | B2 | AE551 | 45 MIN. | LEAD-LINED |
| 1047A.1 | | 3'-6" | 7'-0" | 117 | F | WD | P-1 | 1 | HM | P-2 | B1 | AE551 | 20 MIN. | |
| 1047B | | 3'-6" | 7'-0" | 116 | F | WD | P-1 | 1 | HM | P-2 | B2 | AE551 | 45 MIN. | LEAD-LINED |
| 1047B.1 | | 3'-0" | 7'-0" | 116.1 | F | WD | P-1 | 1 | HM | P-2 | B1 | AE551 | -- | |
| 1049 | UN | 6'-0" | 7'-0" | 104 | F/F | WD | P-1 | 2 | HM | P-2 | B2 | AE551 | 20 MIN. | NOTE 2, 3, 5 |
| 1049A | | 3'-6" | 7'-0" | 116 | F | WD | P-1 | 1 | HM | P-2 | B2 | AE551 | 45 MIN. | LEAD-LINED |
| 1049A.1 | | 3'-6" | 7'-0" | 117 | F | WD | P-1 | 1 | HM | P-2 | B1 | AE551 | 20 MIN. | |
| 1049B | | 3'-6" | 7'-0" | 116 | F | WD | P-1 | 1 | HM | P-2 | B2 | AE551 | 45 MIN. | LEAD-LINED |
| 1051 | UN | 7'-0" | 7'-0" | 105 | F/F | WD | P-1 | 2 | HM | P-2 | B1 | AE551 | 20 MIN. | NOTE 1, 2, 3, 5 LEAD-LINED |
| 1051A | | 3'-0" | 7'-0" | 114 | F | WD | P-1 | 1 | HM | P-2 | B1 | AE551 | -- | |
| 1051B | | 3'-0" | 7'-0" | 115 | F | WD | P-1 | 1 | HM | P-2 | B1 | AE551 | -- | |
| 1051C | | 3'-0" | 7'-0" | 121 | F | WD | P-1 | 1 | HM | P-2 | B1 | AE551 | 20 MIN. | |
| 1053 | PR | 7'-0" | 7'-0" | 103 | F | HM | P-1 | 2 | HM | P-2 | B1 | AE551 | 45 MIN. | NOTE 2, 3, 5; EACH DOOR LEAF TO BE 45 MIN FIRE RATED |
| 1054 | | 3'-0" | 7'-0" | 114 | F | WD | P-1 | 1 | HM | P-2 | B1 | AE551 | -- | |
| 1055 | | 3'-0" | 7'-0" | 114 | F | WD | P-1 | 1 | HM | P-2 | B1 | AE551 | -- | |
| 1057 | | 3'-0" | 7'-0" | 113 | F | WD | P-1 | 1 | HM | P-2 | B1 | AE551 | -- | |
| 1059A | PR* | 6'-2" | 7'-0" | 107 | F/NG | WD | P-1 | 2 | HM | P-2 | B1 | AE551 | -- | NOTE 1, 4, 5 PANIC HARDWARE |
| 1059B | | 3'-8" | 7'-0" | 126 | NG | WD | P-1 | 1 | HM | P-2 | B1 | AE551 | -- | NOTE 1, 4 |
| 1059C | | 3'-6" | 7'-0" | 125 | F | HM | P-1 | 1 | HM | P-2 | B1 | AE551 | 45 | |
| 1060 | | 9'-0" | 7'-6" | 106 | SGD | AL | ANOD | 4 | AL | ANOD | A1, A3 | AE551 | -- | SLIDING DOOR TO BE EQUIPPED WITH AN AUTO-CLOSER AND POSITIVE LATCH, SLIDER IN OPEN POSITION SHALL ALLOW 44" MIN. CLR |
| 1060A | | 3'-0" | 7'-0" | 123 | F | WD | P-1 | 1 | HM | P-2 | B1 | AE551 | 45 | NOTE 1, 5 |
| 1060B | | 3'-0" | 7'-0" | 108 | F | WD | P-1 | 1 | HM | P-2 | B1 | AE551 | -- | NOTE 1 |
| 1061 | | 3'-0" | 7'-0" | 115 | F | WD | P-1 | 1 | HM | P-2 | B1 | AE551 | -- | |
| 1062 | | 3'-0" | 7'-0" | 108 | F | WD | P-1 | 1 | HM | P-2 | B1 | AE551 | 45 | NOTE 1, 5 |
| 1071 | | 3'-0" | 7'-0" | 115 | F | WD | P-1 | 1 | HM | P-2 | B1 | AE551 | -- | |
| 1071C | UN | 7'-0" | 7'-0" | 102 | F/NG | WD | P-1 | 2 | HM | P-2 | B1 | AE551 | 45 MIN. | NOTE 1, 2, 3, 5 |
| 1072A | PR | 8'-0" | 7'-0" | 101.1 | NG | HM | P-1 | 3 | HM | P-2 | B1 | AE551 | 20 MIN. | NOTE 1, 2, 3, 5 PANIC HARDWARE; EACH DOOR LEAF TO BE 20 MIN FIRE RATED |
| 1072B | PR | 8'-0" | 7'-0" | 124 | NG | HM | P-1 | 3 | HM | P-2 | B1 | AE551 | 20 MIN. | NOTE 4 |
| 1074 | | 3'-0" | 7'-0" | 111 | F | WD | P-1 | 1 | HM | P-2 | B1 | AE551 | 90 MIN. | |
| 1075 | | 3'-0" | 7'-0" | 110 | F | WD | P-1 | 1 | HM | P-2 | B1 | AE551 | 90 MIN. | NOTE 1, 5, 6 |
| 1076 | | 3'-0" | 7'-0" | 109 | F | WD | P-1 | 1 | HM | P-2 | B1 | AE551 | 20 MIN. | NOTE 1, 5 |
| 1077 | | 3'-0" | 7'-0" | 126 | F | WD | P-1 1 | 1 | HM | P-2 | B1 | AE551 1 | -- | |
| 1079 | | 3'-0" | 7'-0" | | F | WD | P-1 | 1 | HM | P-2 | B1 | AE551 | -- | |
| 2 E3002A | - | 2'-10" * | 8'-6" * | (BY MANUF.) | E | AL | ANOD | 5 | AL | ANOD | A1 | AE552 | -- | * DOOR W' & H' SHALL BE DETERMINED IN THE FIELD PER DETAILS ON AE552 |

## DOOR HARDWARE REMARKS

| | |
|---|---|
| AO | AUTOMATIC OPENER |
| CR | CARD READER |
| DA | DELAYED ALARM |
| EH | ELECTRIC HARDWARE |
| FAR | FIRE ALARM RELAY |
| HO | HOLD OPEN |
| IB | INTEGRAL BLINDS |
| LD | ER LOCKDOWN |
| PR | EQUAL PAIR DOOR |
| UN | UNEQUAL PAIR DOOR |

## DOOR HARDWARE NOTES

NOTE 1 - HARD-WIRED CARD READER: HARD-WIRED CARD READER LOCATIONS REQUIRE ELECTRICAL AND/OR SECURITY TO COORDINATE, FURNISH & INSTALL COMPONENTS INCLUDING BUT NOT LIMITED TO WIRE, CONDUIT, AND CONNECTIVITY FROM CEILING THROUGH FRAME TO ALL ELECTRIFIED HARDWARE SPECIFIED IN SECTIONS 08 71 00, 08 71 13 AND/OR 08 17 13.

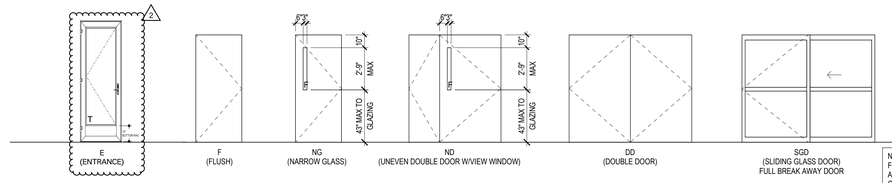
NOTE 2 - AUTOMATIC OPERATOR LOCATIONS: HARD-WIRED, ELECTRICAL 120V LOCATIONS REQUIRED. ELECTRICAL AND/OR SECURITY TO COORDINATE, FURNISH & INSTALL COMPONENTS INCLUDING BUT NOT LIMITED TO WIRE, CONDUIT, AND CONNECTIVITY FROM CEILING THROUGH FRAME TO COMPLETE ELECTRIFIED HARDWARE SPECIFIED (INCLUDING FOR SWING DOORS 6'X9" BOLLARDS WITH FULL HEIGHT PUSH-PLATE/ACTUATORS AT EACH LEAF INTERIOR AND EXTERIOR) AND AS SEEN IN SECTIONS 08 71 00, 08 71 13, 08 17 13 AND/OR IN DIVISION 08 SLIDING OR REVOLVING DOOR SPECIFICATIONS.

NOTE 3 - AUTOMATIC OPERATOR SURFACE OVERHEAD LOCATIONS REQUIRING 6" OVERHEAD CLEARANCE. SEE SPECIFIED IN SECTIONS 08 17 13.

NOTE 4 (HO) - WALL ELECTRO-MECHANICAL MAG HOLD-OPENS. FURNISH AND INSTALL FIRE ALARM DROP. IN THE EVENT OF FLS/FIRE LIKE SAFETY) OR EMERGENCY OR LOSS OF BUILDING POWER. WALL MOUNTED ELECTRO-MECHANICAL HOLD-OPEN DEVICES TO HAVE POWER DROPPED (DOOR TO SELF-CLOSE AND SELF-LATCH DOORS IN AN EMERGENCY). ELECTRICAL TO FURNISH & INSTALL COMPONENTS INCLUDING BUT NOT LIMITED TO WIRE, CONDUIT, AND CONNECTIVITY.

NOTE 5 - DOORS WHERE ELECTRICAL SYSTEMS THAT MONITOR OR RECORD EGRESS ACTIVITY ARE INCORPORATED, THE LOCKING SYSTEM SHALL COMPLY WITH SECTION 1010.2.11, 1010.2.12, 1010.2.13, 1010.2.14 OR 1010.2.15 OR SHALL BE READILY OPENABLE FROM THE EGRESS SIDE WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE OR EFFORT.

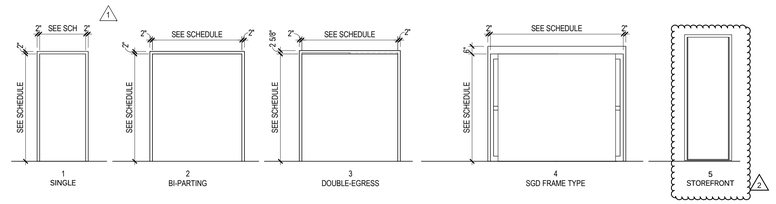
NOTE 6 - PROVIDE SIGNAGE FOR ELECTRICAL ROOM LABELED AS "ELECTRICAL ROOM" PER CODE




NOTE:
FOR VISION PANELS IN DOORS ACROSS FIRE BARRIERS AND FIRE PARTITIONS, THE FIRE-RESISTANCE-RATED GLAZING TESTED TO ASTM E119 IN ACCORDANCE WITH SECTION CCBC 716.1.2.3 SHALL BE PERMITTED, IN THE MAXIMUM SIZE TESTED

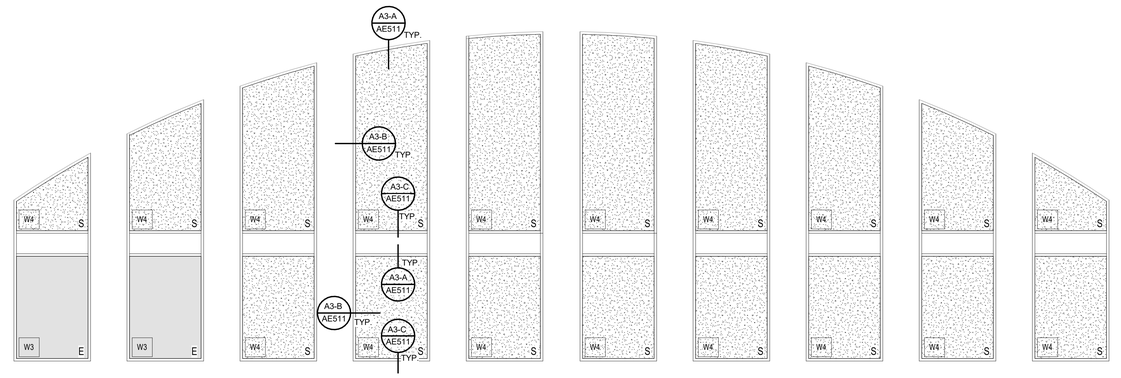
## DOOR TYPES

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




## DOOR FRAME TYPES

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




NOTE: SEE WINDOW SCHEDULE FOR GLAZING TYPE

## A4 EXTERIOR WINDOW TYPES ELEVATION

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


Riverside University HEALTH SYSTEM

RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

26520 CACTUS AVENUE, MORENO VALLEY, CALIFORNIA 92555

LEO A DALY

550 SOUTH HOPE STREET, SUITE 2700
LOS ANGELES, CALIFORNIA 90071
TEL: (213)629-0100 FAX: (213)629-0070


ARCHITECT STAMP

LICENSED ARCHITECT STEVEN A. HEATH C-27299 REN. 7/31/25 STATE OF CALIFORNIA

CONSULTANT

CONSULTANT STAMP

KEY PLAN

REVISIONS

| NO. | DESCRIPTION | DATE |
|---|---|---|
| 1 | ADDENDUM 01 | 04/30/2025 |
| 2 | ADDENDUM 02 | 07/28/2025 |

FILE LOG

| ACTIVITY | BY |
|---|---|
| Design | Designer |
| Draw | Author |
| Check | Checker |
| Issue Date | 2023/9/29 |

AGENCY APPLICATION NUMBER

**S231455-33-00**

AGENCY APPROVAL STAMP

BUILDING TITLE

RIVERSIDE UNIVERSITY HEALTH SYSTEM MEDICAL CENTER

PROJECT TITLE

NEW CARDIAC CATHETERIZATION LAB SUITE & HYPERBARIC FACILITY EXPANSION

| RUHS-MC PROJ. NO. | CONSULTANT PROJ. NO. |
|---|---|
| FM08430011869 | 047-10071-002 |

SHEET NAME

DOOR SCHEDULE, DOOR TYPES, AND FRAMES

SHEET NUMBER

AE601


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5/12/2025 11:05:39 AM Autodesk Docs://047-10071-002_RUHS-TO-1_Riverside_County_Health_Care_Dist_RUHS-2ND-CATH-LAB-ARCH.rvt

# 2000T Terrace Doors



5" (127) FRAME - OUTSWING DOOR DETAILS
- MetroView® FG 601T PG Window Wall

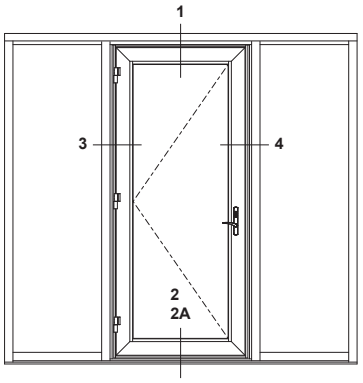
**Additional information and CAD details are available at www.kawneer.com**

**Note**: For pairs reference detail 5 Meeting Stile on page 5.

**Note**: No dual finish option with 5" door frame.

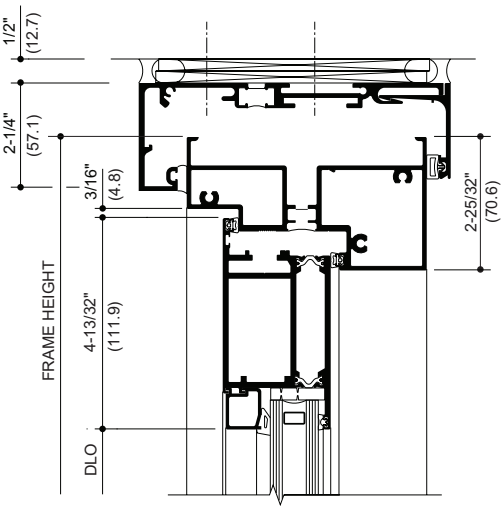
**Single Door**
Maximum Frame Size = 48" x 120"
(1219.2 x 3048)
Minimum Frame Size = 30" x 73"
(762 x 1854.2)

**Pair of Doors**
Maximum Frame Size = 96" x 96"
(2438.4 x 2438.4)
Minimum Frame Size = 60" x 81"
(1524 x 2057.4)

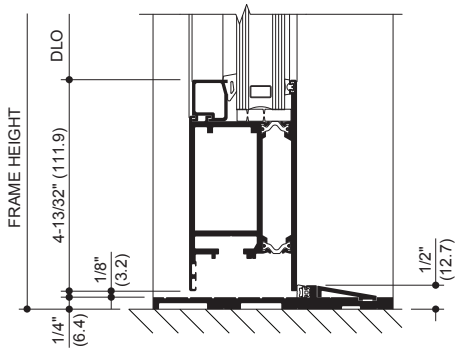



**OUTSWING DOORS & FRAME**

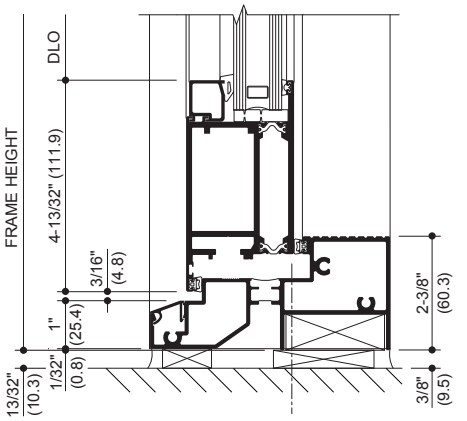
**1**
**HEAD**

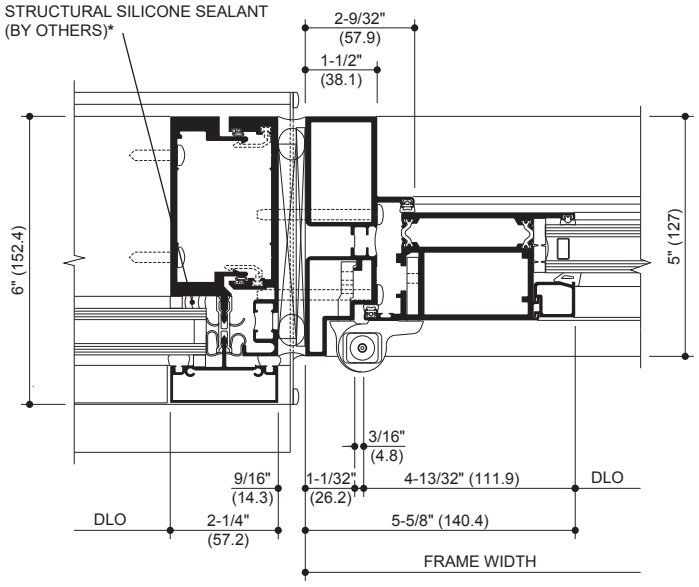



**2A**
**OPTIONAL**
**LOW PROFILE**
**THRESHOLD**

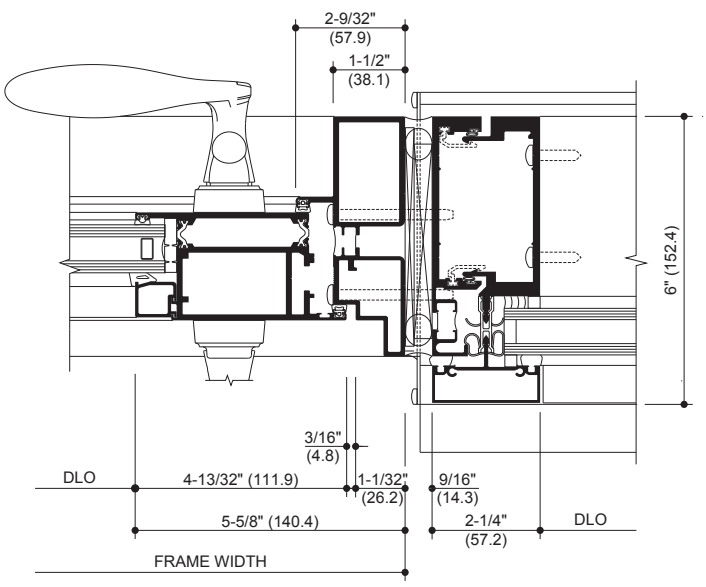



**2**
**THRESHOLD**




**3**
**PIVOT JAMB**




**4**
**LOCK JAMB**
**AT DEADBOLT/LATCHLOCK**

* Installer Note: Installer is responsible for all required compatibility review and approvals with the Structural Silicone Manufacturer and the Insulated Glass Unit Manufacturer.

Laws and building and safety codes governing the design and use of Kawneer products, such as glazed entrance, window, and curtain wall products, vary widely. Kawneer does not control the selection of product configurations, operating hardware, or glazing materials, and assumes no responsibility therefor.

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