Project: **Nebraska Heart Hospital - Hybrid Operating Room Addition** **3850**
Proj. No.

Date: April 9, 2012
To: All bidders of record
From: Dan Mulligan, AIA

Note

This addendum is hereby made a part of the contract documents to the same extent as though it were originally included therein. Revisions and clarifications to the drawings are referenced by the drawing number.

On-Site Pre-Bid Conference

Conducted Wednesday, April 4, 2012

1. Minutes - see attached (pgs. 3-5)
2. Medical Equipment Installation Responsibilities (see pg. 6)

Clarifications / Corrections

Bidder Questions / Comments to Date:

1. Drawing G001, Material Keynotes, Item 072100.F (Spray Polyurethane Foam Insulation). Is that correct? *Replace note with the following: 078100.A Sprayed Fire-Resistive Material.*
2. If there is fireproofing, please indicate the areas to be fireproofed. *Entire area of new roof.*
3. Where is the spray polyurethane foam insulation required? *Delete, not used.*
4. Drawing A500 Details A1, A5 and A11 call for 072100.D 2-Hr Fire Containment System. What is this? *Fire resistant blocking.*

Changes To Drawings (Architectural Drawings)

G000 Cover Sheet

1. Revise mounting heights, drinking fountain.

A001 Room Finish and Door Schedule

1. Architectural notes 1 and 2.
2. Wall Type 1, additional layers of 5/8 GB underside of horizontal return.

A110 Framing Plan

1. Indicate expansion joint locations, new sidewalk.

A115 Roof Plan

1. A8 - Parapet Detail: revise metal parapet flashing connection.
2. A12 - Parapet Detail: additional dimension.

A400 Reflected Ceiling Plan

1. Replace entire sheet.

A503 Exterior Wall Details

1. Replace entire sheet.

A600 Interior Elevations

1. D1 - Operating Room 100, South: clarify mounting height dimension, fire extinguisher cabinet.

A650 Interior Details

1. A5 - Integral Base Detail (typ.): Revise.
2. A12 - Interior HM Door Jamb: Extend GWB into frame.
3. Architectural Notes 2-5.

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minutes

Project: **Nebraska Heart Institute - Hybrid OR Addition** **3850**

Proj. No.

Date: April 4, 2012 – 2:00 PM
Subject: Pre-bid meeting
Present: See attached sign-in sheet

1. Introductions:
   A. Design team members
   B. NHI staff

2. Reading of project description

3. Open the floor for questions:
   A. Will bidder's list of subcontractors be due at bid deadline or can the list be submitted within 24 hours after deadline?
   Bidder's list of subcontractors will be accepted up to 24 hours after bid deadline.
   E-mail list to Dan Mulligan at: dmulligan@innerspace-studios.com

   B. Article 5 of the agreement, GMP and contractor's contingency – owner and GC are to share the costs; however, the responsibility of each is vague. Is the GC's percentage of total contingency required known at this time?
   This question will be referred to owner's attorney and answered by addendum.

   C. Critical dates:
      1. Bids are due at 2:00 PM on Tuesday, April 24, 2012.
      2. Addendum 1 is expected to be released Friday, April 6th (possibly Monday, April 9th).

   D. What is the GC's responsibility regarding equipment boom support plates?
   Addendum 1 will clarify GC's role in coordination and installation of medical equipment.

   E. Is there a preferred time to schedule contractor walk-through?
   Yes, generally afternoons between the hours of 2:00 PM to 6:00 PM work best.

   F. Are there time restrictions in erecting temporary barrier walls?
   It is requested that work on temporary construction occur between the hours of 3:00 PM to 10:00 PM.

   G. Testing procedures and responsibilities: please identify which party is responsible for ordering, scheduling and payment for each required test.
   GC will be required to order and coordinate all required testing with costs to be paid by Owner.

   H. How long after bid date do you expect to take before awarding the contract?
   2-3 days.

   I. Who will be responsible for damage to site, drives, and parking lots?

The GC will be expected to return site, landscaping, drives, and parking lots to condition as presently exist.

4. Follow-up comments by design team:
   A. The owner is interested in completing this project in a timely manner; therefore, all things being equal, estimated duration of the work will be considered in the award of contract.

   B. Permit application process will be initiated and paid for by owner.

   C. The owner's insurance carrier (F.M. Global) has reviewed construction documents. Their comments have been incorporated into bid documents where appropriate.

   D. The owner has identified the following captive subcontractors:
      1. Controls: Trane
      2. Fire protection: Continental
         a. Contact information will be included in addendum.

   E. Discussion of mechanical and electrical tie-ins:
      1. Mechanical/electrical room is separate and dedicated to this addition.
      2. Duct work and air intake is self-contained.
      3. Tie-ins to existing utilities and med gas will be critical. Coordinate all requests with Mark Rhodes, 402.328.3125.

   F. Please be aware that flooring and equipment support tolerances are very minute and will demand a high level of precision.

5. Miscellaneous comments:
   A. Innerspace to send bid documents to the following medical equipment consultants:
      1. Philips
      2. Maquet
      3. Banyan

6. Meeting adjourned:
   A. Contractor walk-through led by Sandy Koozer, NHH.

Comments, additions or corrections should be communicated to Innerspace within three (3) working days upon receipt of these minutes. If no comments are received, these minutes will stand as written and become part of the job's permanent record.

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MEETING SIGN-IN SHEET

Project: NEBRASKA HEART - HYBRID OF ADDITION

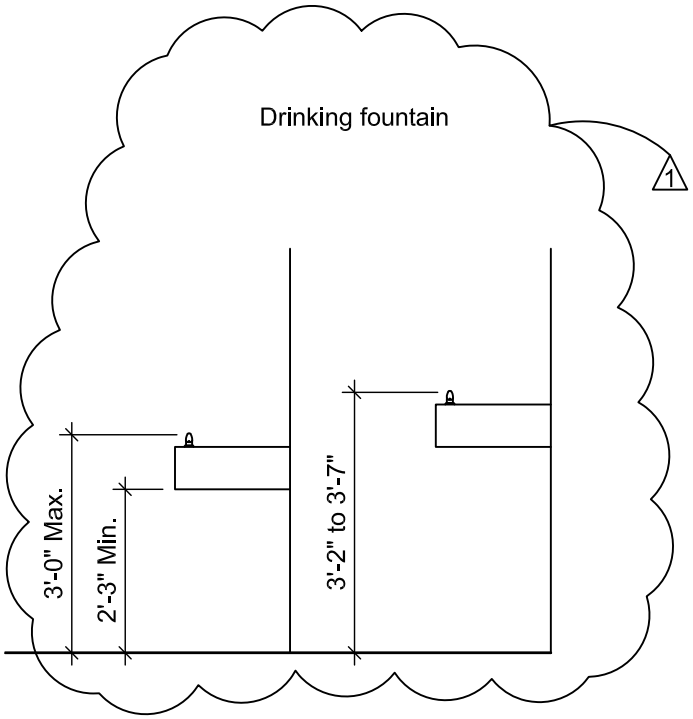
Project No: 3850

Date: 4/4/2012 - 2:00 pm

NAME	COMPANY	PHONE NO.
DAN MULLIGAN	INNERSPACE	402-475-7234
DOUG OTJEN	INNERSPACE	"
Dave Klute	Hampton	402-489-8858
Tyler Pulec	Hampton	"
Jay Hebenstreit	MCL	402.379-2221
PAUL BALON	MCL	306.6610
Ron Feuerbach	Morrissey Engineering	402-491-4144
JEFF MAAS	AOI	402-896-5520
KEN HUGHES	Midlands Mech.	402-466-2772
KEITH JURGENS	AOI	402 896-5520
Neil Smith	Sampson	402-802-2676
JOHN EIRICH	KIDWELL	402-475-9151
Troy Foster	Cornhusker H/G	402-464-3159
Tom Applegate	NHH	402 450 2536
JAMIE PRANGE	NHH	
TODD MEMMING	NHH	
MARK RHODES	NHH	
KIM BOUY	NHH	
SANDY KOOSER	NHH	
JOSH DUNN	NHH	
BEN MILLER	NHH	
ED Burns	AOI Corp	402 68 5298

Medical Equipment Installation Responsibilities

No.	Component	Furnished by	Installed by
1.	Ceiling Structure Plates	Maquet	GC
2.	PDU 4000/UPS	Philips	GC
3.	Support Structures	GC	GC
4.	Gas & Vacuum Supply Lines to Structural Support	GC	GC
5.	Gas & Vacuum Panel Mount Riser Assembly (Pigtails)	Maquet	GC
6.	Rough-in of Pneumatic Brake Lines to Structural Support	GC	GC
7.	Gas & Vacuum/WAGD Final Connections Between Equipment & Facility Lines	GC	GC
8.	Power Supplies, Dimmer Controls, Zoom Camera Controls & Utilization Equipment Outlet Boxes	Maquet	GC
9.	All Branch Circuit Wiring & Conduit (Primary & Secondary) External to Maquet Supplied Equipment to Include all Surgical light and Boom Power, Data and video signals Note: Coordinate with Philips	GC	GC
10.	Electrical final termination between utilization equipment outlet boxes and facility power	GC	GC
11.	Final Equipment certification (Med Gas & Electrical)	GC	GC
12.	AD7 Adaptation Plate	Philips	GC
13.	Support in Wall for Control Room Connection Box (CY)	GC	GC
14.	Anchors in Wall for Control Room Connection Box (CY)	Philips	Philips
15.	UTS Box Anchorage	-	GC
16.	2 – Philips CLEA Flex Move Rails	Philips	Philips
17.	Unistrut, Mounted below Fin Ceiling Note: Finished Ceiling Height to be ¼" above bottom of unistrut	GC	GC
18.	Wall Boxes MA, MP, and MG	Philips	GC



Miscellaneous Accessible Fixtures

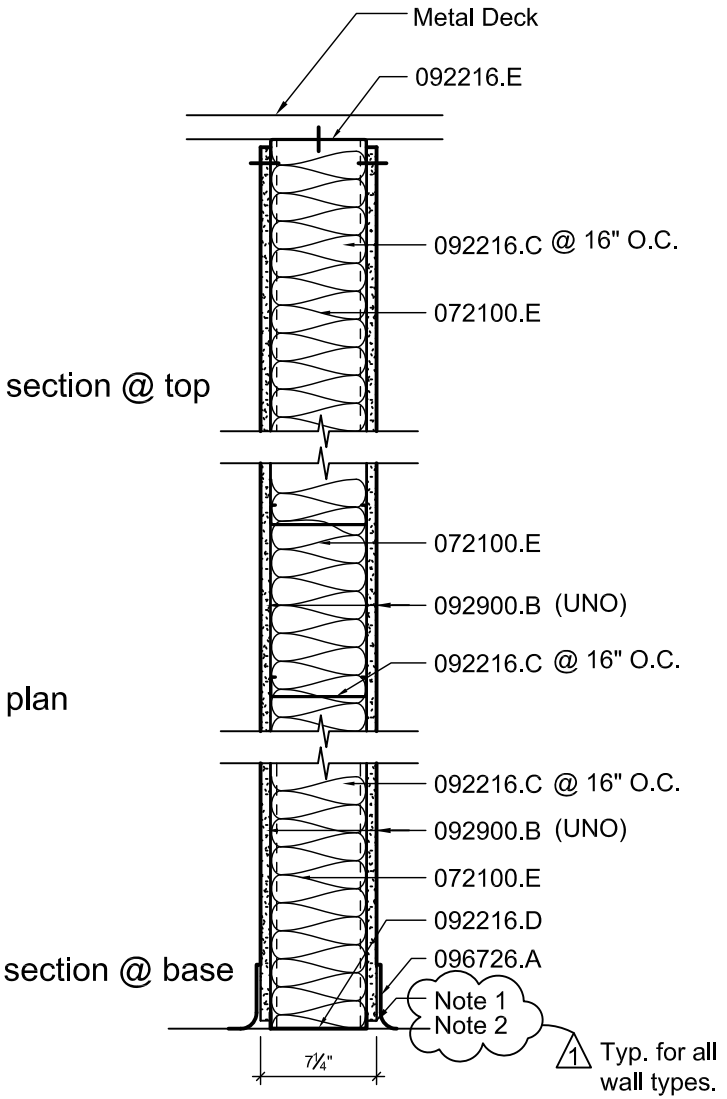
innerspace studios
335 north 8th street, suite c lincoln, nebraska 68508 402.475.7234

Proj Title: NHH Hybrid Operating Room Addition
7500 South 91st
Lincoln, NE 68526
File Path: F:\3850\NHH Hybrid OR\sheets\3850-G000 Cover Sheet

Drawn By: cer
Issue Date: 4/9/12
Revision _: _____

Project No: 3850

G000



1

ARCHITECTURAL NOTES

NOTE 1 PROVIDE 1/2" CLEARANCE BETWEEN TOP OF CONCRETE SLAB AND EDGE OF WALL BOARD.

NOTE 2 ACCOUSTICAL SEALANT, BOTH SIDES OF METAL RUNNER CHANNEL.

A1 / A001 **Wall Types**

1" = 1'-0"

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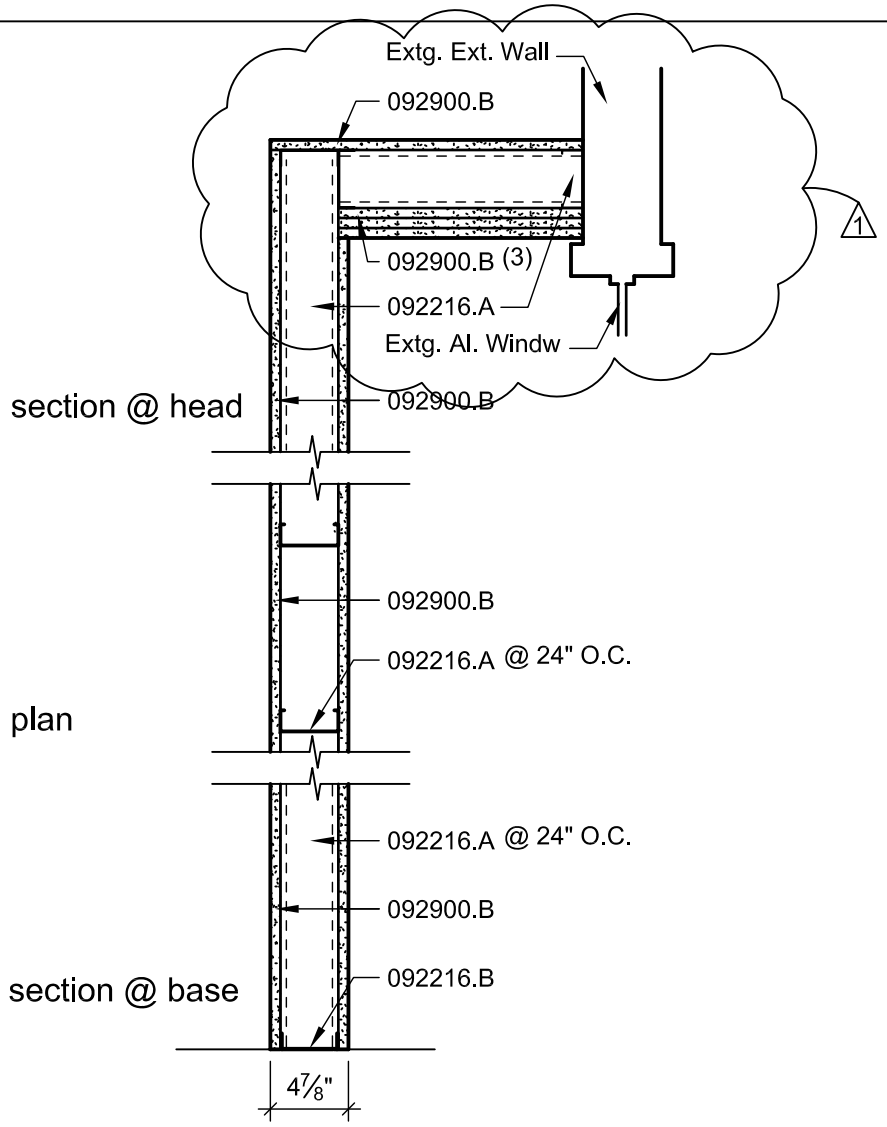
Proj Title:	NHH Hybrid Operating Room Addition 7500 South 91st Lincoln, NE 68526
File Path:	F:\3850\NHH Hybrid OR\sheets\3850-A001 Room Finish & Door Schedule
Drawn By:	cer
Issue Date:	4/9/12
Revision _:	_____
Project No:	3850
	A001



1 TEMPORARY INTERIOR PARTITION, 1-HR F.R.

A1 / A001 Wall Types
1" = 1'-0"

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Proj Title: NHH Hybrid Operating Room Addition
7500 South 91st
Lincoln, NE 68526
File Path: F:\3850\NHH Hybrid OR\sheets\3850-A001 Room Finish & Door Schedule

Drawn By: cer
Issue Date: 4/9/12
Revision _: _____

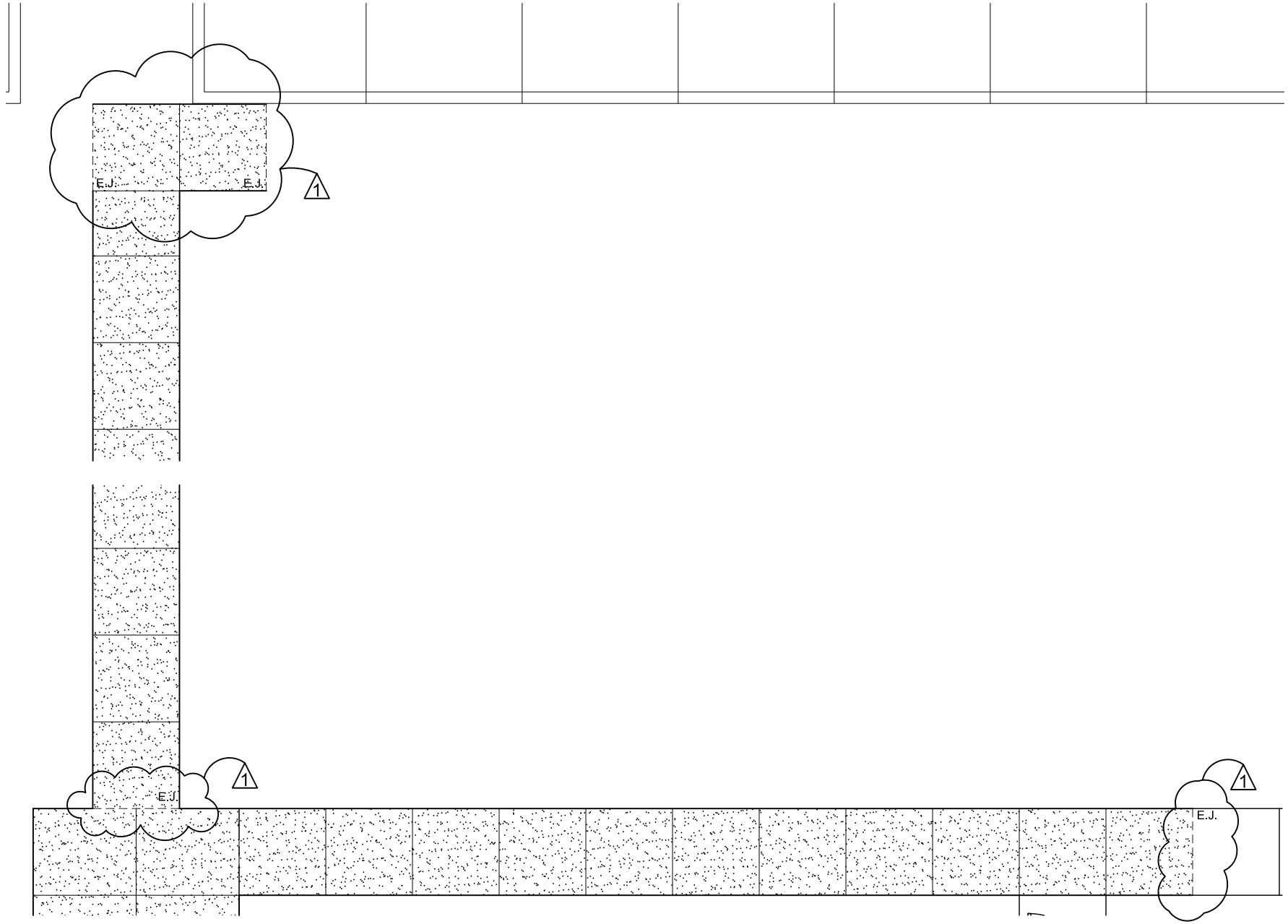
Project No: 3850

A001

A1
A001

1/8" = 1'-0"

Framing Plan



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Proj Title: NHH Hybrid Operating Room Addition
7500 South 91st
Lincoln, NE 68526

File Path: F:\3850\NHH Hybrid OR\sheets\A110 Framing Plan

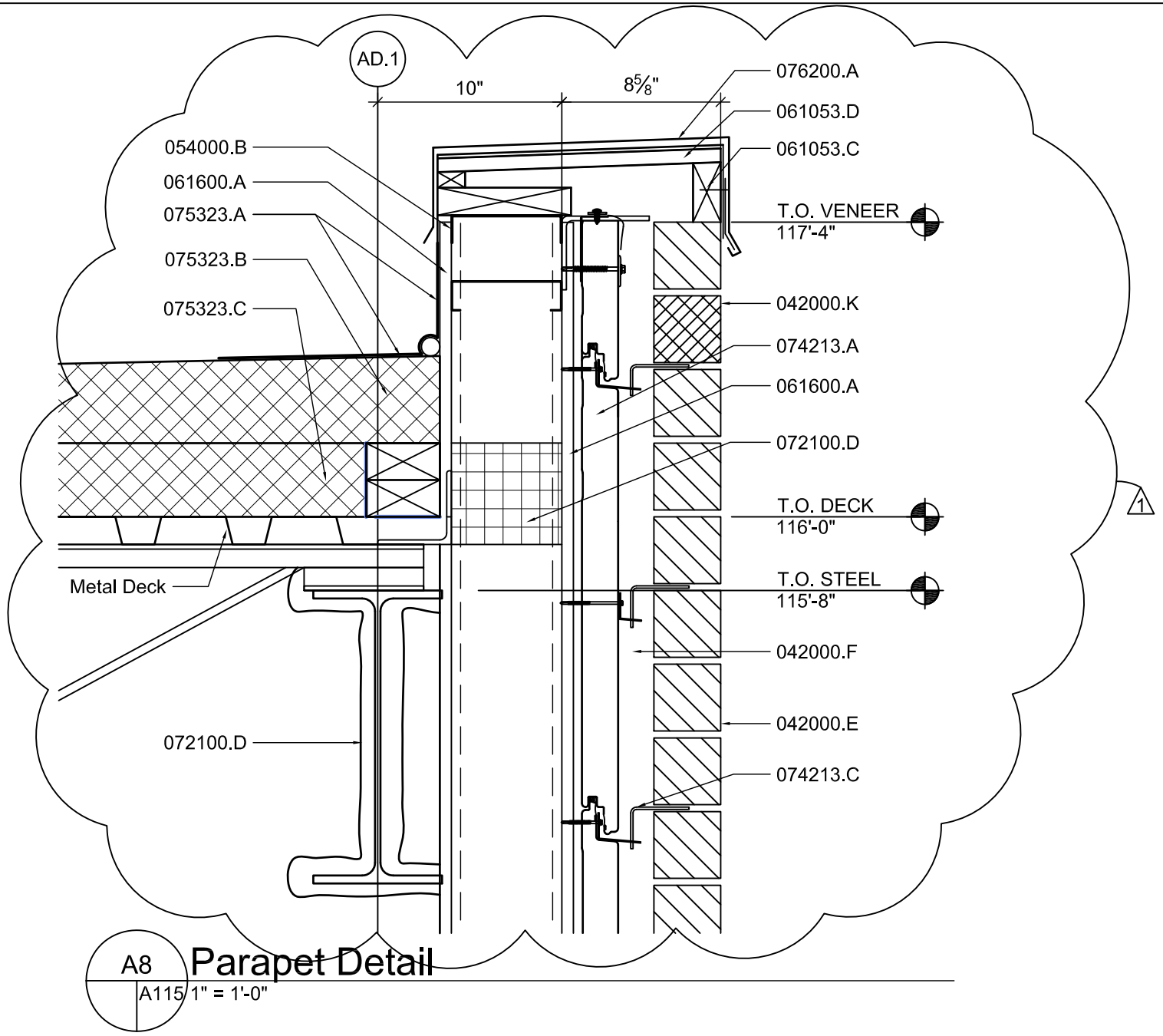
Drawn By: cer

Issue Date: 4/9/12

Revision _: _____

Project No: 3850

A110



A8 / A115 **Parapet Detail**
1" = 1'-0"

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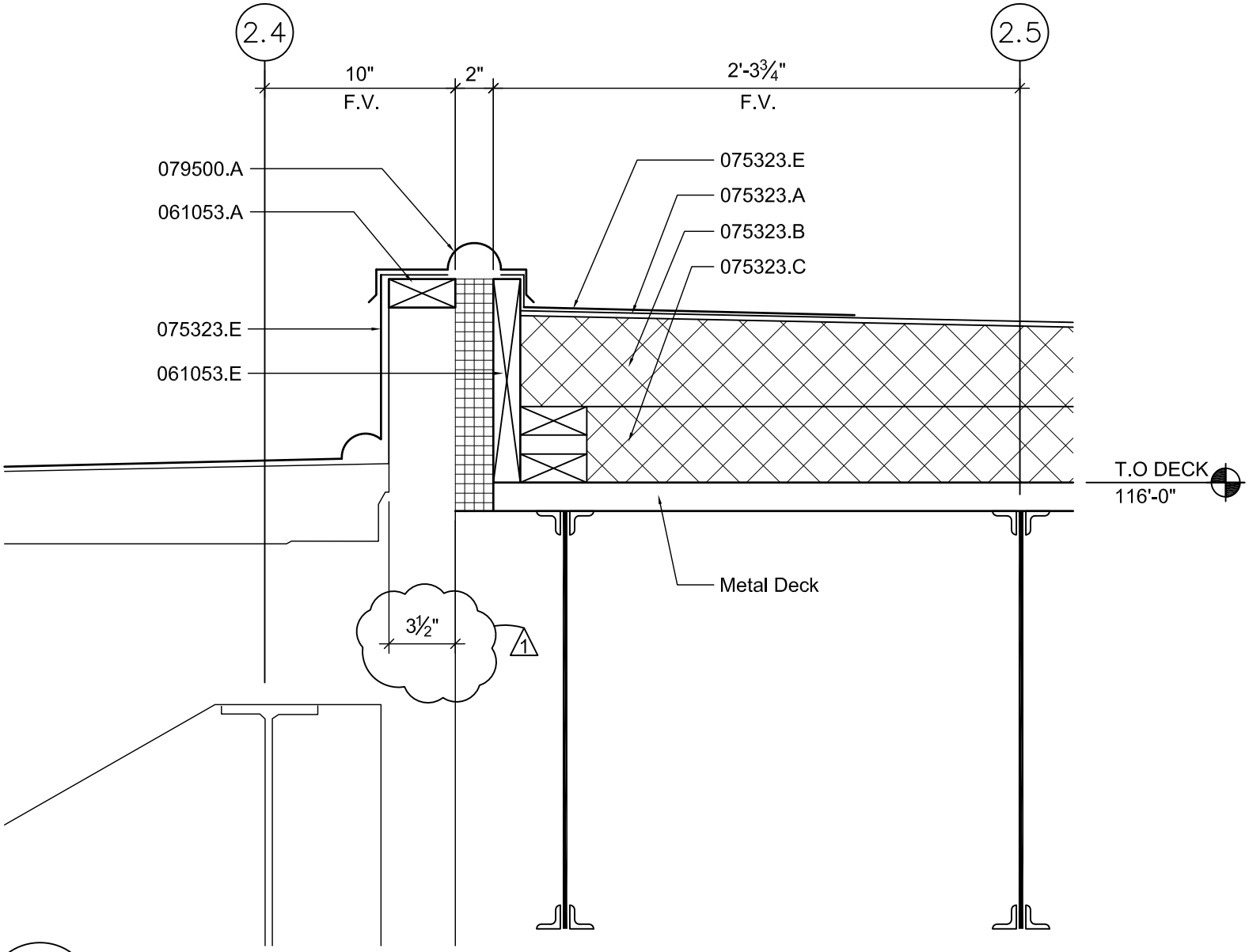
Proj Title: NHH Hybrid Operating Room Addition
7500 South 91st
Lincoln, NE 68526
File Path: F:\3850\NHH Hybrid OR\sheets\3850-A115 Roof Plan

Drawn By: cer
Issue Date: 4/9/12
Revision _: _____

Project No: 3850

A115



A12 / A115 **Parapet Detail**

1" = 1'-0"

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Proj Title: NHH Hybrid Operating Room Addition
7500 South 91st
Lincoln, NE 68526

File Path: F:\3850\NHH Hybrid OR\sheets\3850-A115 Roof Plan

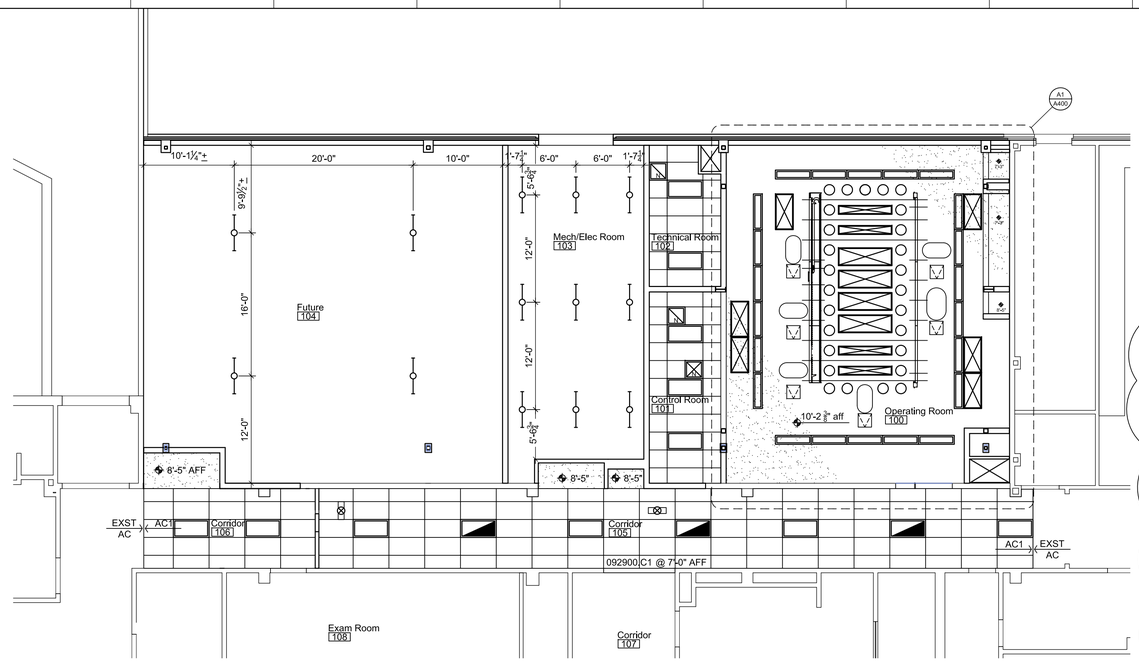
Drawn By: cer

Issue Date: 4/9/12

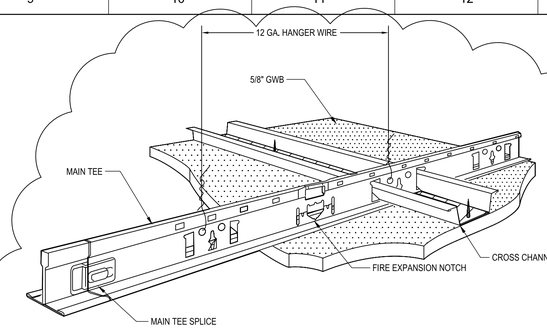
Revision _: _____

Project No: 3850

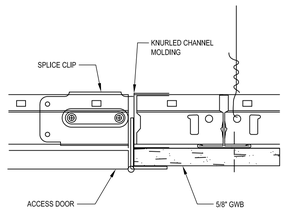
A115



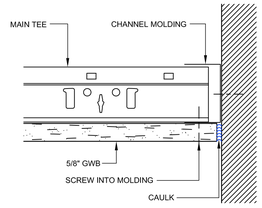
G1 Reflected Ceiling Plan
1/8" = 1'-0"



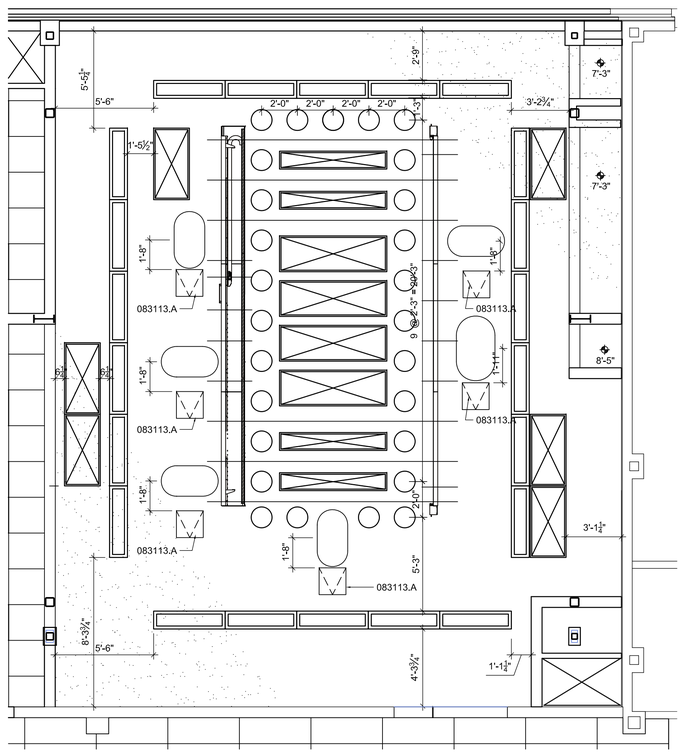
I9 GB Ceiling Suspension System
A400 No Scale



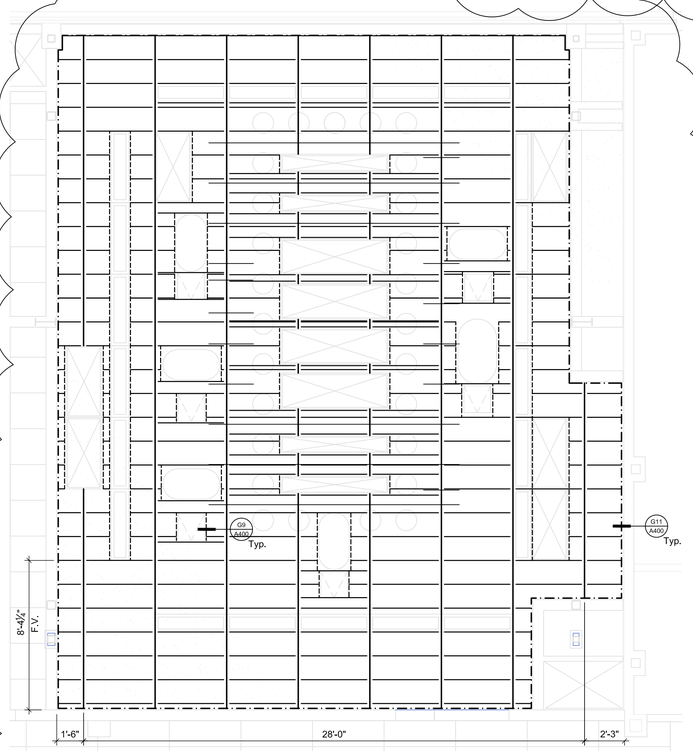
G9 GWB Ceiling @ Access Door
A400 No Scale



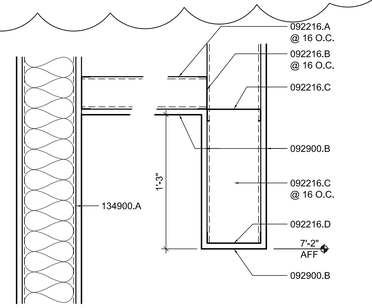
G11 GWB Ceiling @ Perimeter
A400 No Scale



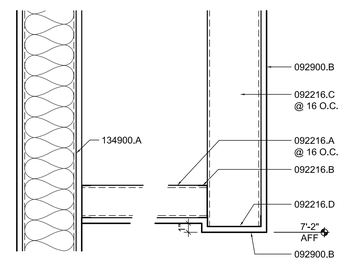
A1 Reflected Ceiling Pln Dtl: Operating Room 100
A400 1/4" = 1'-0"



A6 GB |Suspension System Pln Dtl: Operating Room 100
A400 1/4" = 1'-0"



D11 GB Bulkhead
A400 1 1/2" = 1'-0"

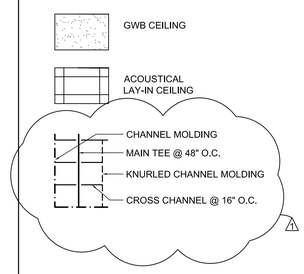


A11 GB Soffit
A400 1 1/2" = 1'-0"

MATERIAL KEYNOTES

Division 08-Openings	
083113-Access Doors and Frames	
083113.A	Flush access door, ceiling; 18" x 18"
Division 09-Finishes	
092216-Non-structural Metal Framing	
092216.A	3-5/8" x 20 gauge metal stud.
092216.B	3-5/8" x 20 gauge metal runner channel.
092216.C	6" x 18 gauge metal stud.
092216.D	6" x 18 gauge metal runner channel.
092900-Gypsum Board	
092900.B	5/8" DensArmor Plus Fireguard interior panel.
092900.C1	Gypsum board bulkhead.
Division 13-Special Construction	
134900-Radiation Protection	
134900.A	1/32" (2lb.) Lead sheet lining, floor to 8'-0" AFF.

MATERIAL LEGEND



ARCHITECTURAL NOTES

innerspace studios
lincoln, nebraska 68508
335 north 8th street, suite c
402.475.7234

Structural Engineers
Structural Design Group
105 N. 8th Street, Suite 100
Lincoln, NE 68508
402.438.7788

Mechanical/Electrical Engineers
Morrissey Engineering, Inc.
9240 N. 107th Street
Omaha, NE 68164
402.491.4144

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ON 03/27/12

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Hybrid Operating Room Addition
Nebraska Heart Hospital
7500 South 91st
Lincoln, NE 68526

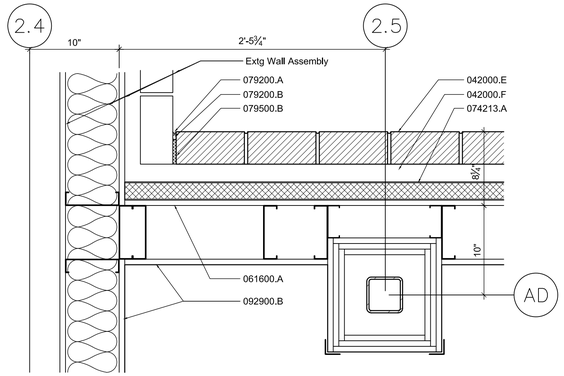
Date	Description
03/27/12	For Construction
04/06/12	Addendum #1

Designed: djm
Drawn: cer
Reviewed: _____
Project No: 3850

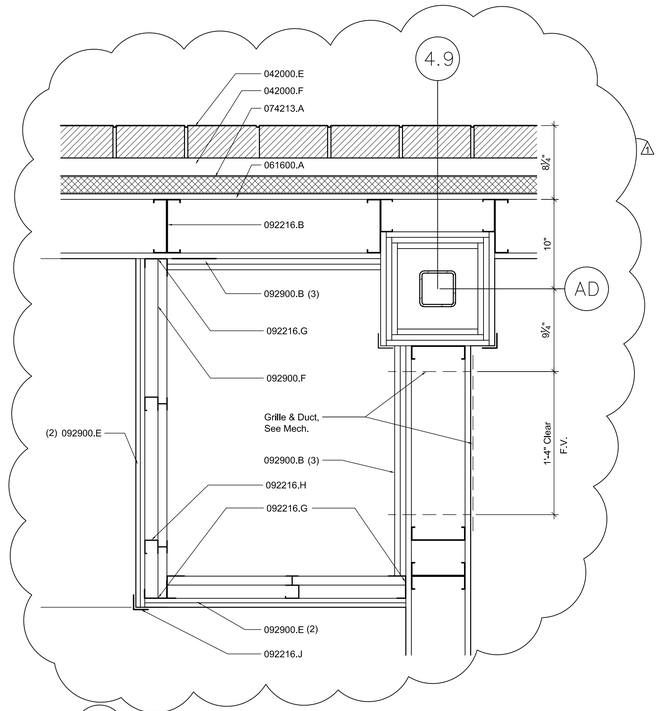
Reflected Ceiling Plan

Sheet No.
A400

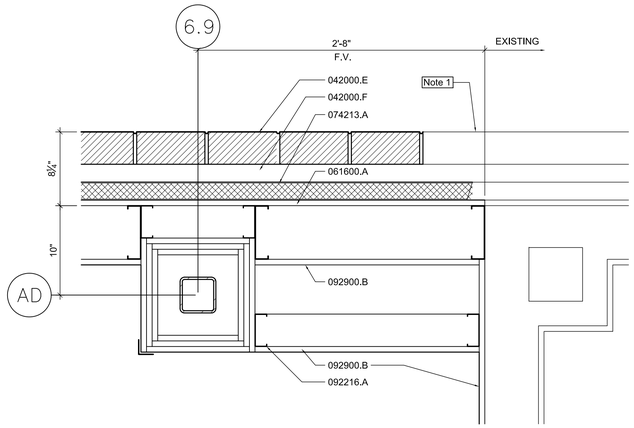
File Path



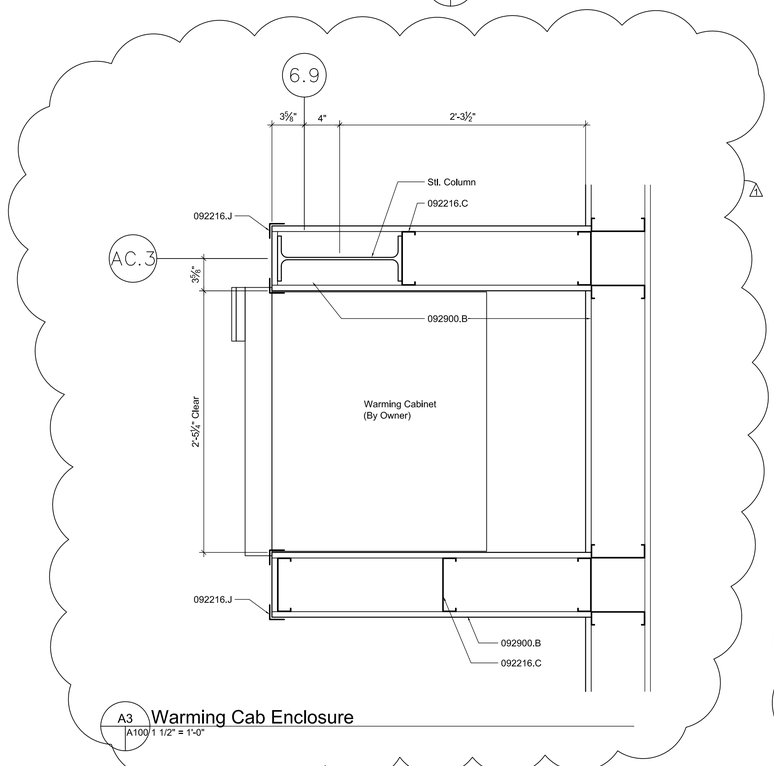
F1 Wall Detail @ Link
1 1/2" = 1'-0"



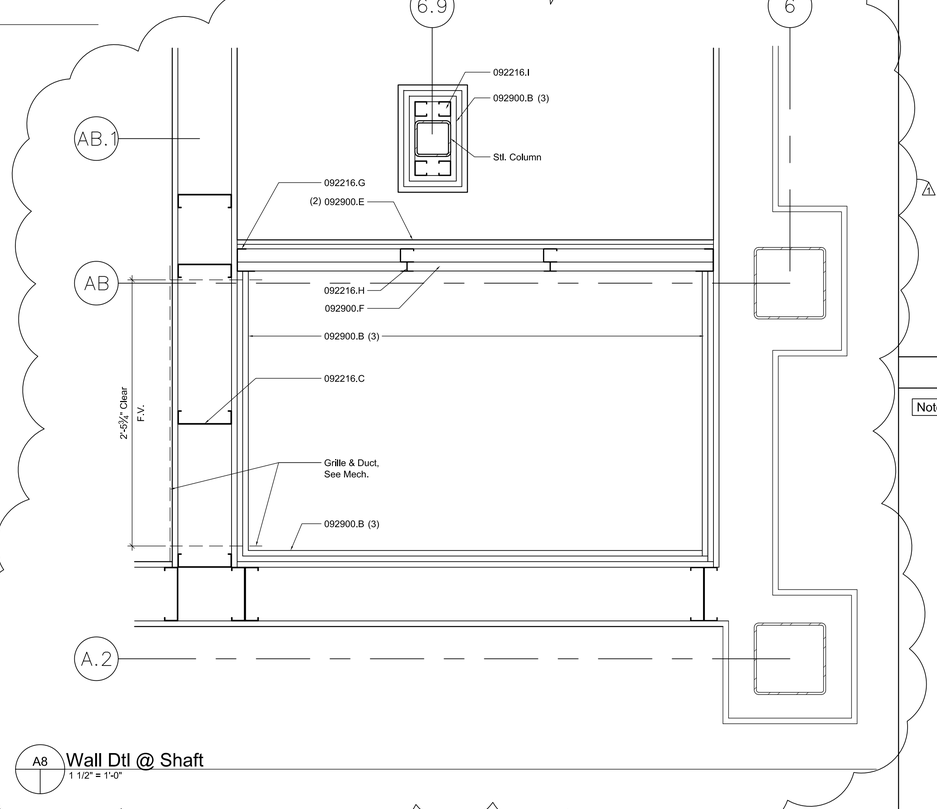
F5 Wall Dtl @ Shaft
1 1/2" = 1'-0"



G10 Wall Dtl @ Extg Shell
1 1/2" = 1'-0"



A3 Warming Cab Enclosure
A100 1 1/2" = 1'-0"



A8 Wall Dtl @ Shaft
1 1/2" = 1'-0"

MATERIAL KEYNOTES

Division 04-Masonry	
042000-Unit Masonry	
042000.E	Face brick (economy size).
042000.F	Air space.
Division 06-Wood, Plastics and Composites	
061600-Sheathing	
061600.A	Glass-mat gypsum wall sheathing, 5/8".
Division 07-Thermal and Moisture Protection	
074213-Metal Wall Panels	
074213.A	Insulated composite back-up panel.
079200-Joint Sealants	
079200.A	Caulk.
079200.B	Backer rod.
079500-Expansion Control	
079500.B	Interior floor-to-floor expansion control assembly, flush with top of finish floor.
Division 09-Finishes	
092216-Non-structural Metal Framing	
092216.A	3-5/8" x 20 gauge metal stud.
092216.B	3-5/8" x 20 gauge metal runner channel.
092216.C	6" x 18 gauge metal stud.
092216.G	"J" Runner w/ unequal legs, 24 ga.
092216.H	"C-H" Shaped stud; 2 1/2"w x 1 1/2"d x 25 ga.
092216.I	1-5/8" x 25 ga. metal stud.
092216.J	Corner bead.
092900-Gypsum Board	
092900.B	5/8" DensArmor Plus Fireguard interior panel.
092900.E	1/2" DensArmor Plus Fireguard interior panel.
092900.F	1" gypsum liner panel, mold tough.

ARCHITECTURAL NOTES

Note 1 — Tooth new brick veneer into extg face brick.

innerspace studios
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Structural Engineers
Structural Design Group
105 N. 8th Street, Suite 100
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Mechanical/Electrical Engineers
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DANIEL J. MULLIGAN
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ON 03/27/12

THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT

Description	Date

Hybrid Operating Room Addition
Nebraska Heart Hospital
7500 South 91st
Lincoln, NE 68526

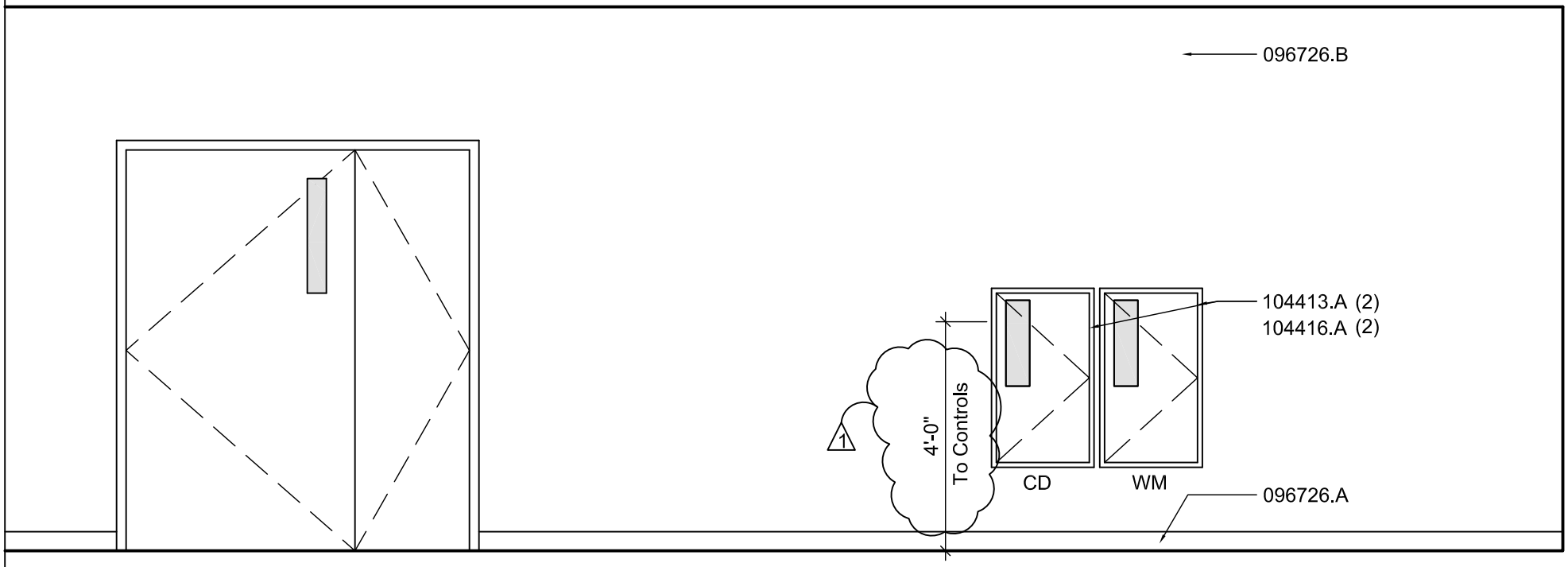
Description	Date
For Construction	03/27/12
Addendum #1	04/09/12

Designed: djm
Drawn: cer
Reviewed: _____
Project No: 3850

Exterior Wall Details

Sheet No.
A503

File Path



D1 A100

Operating Room 100, South

3/8" = 1'-0"

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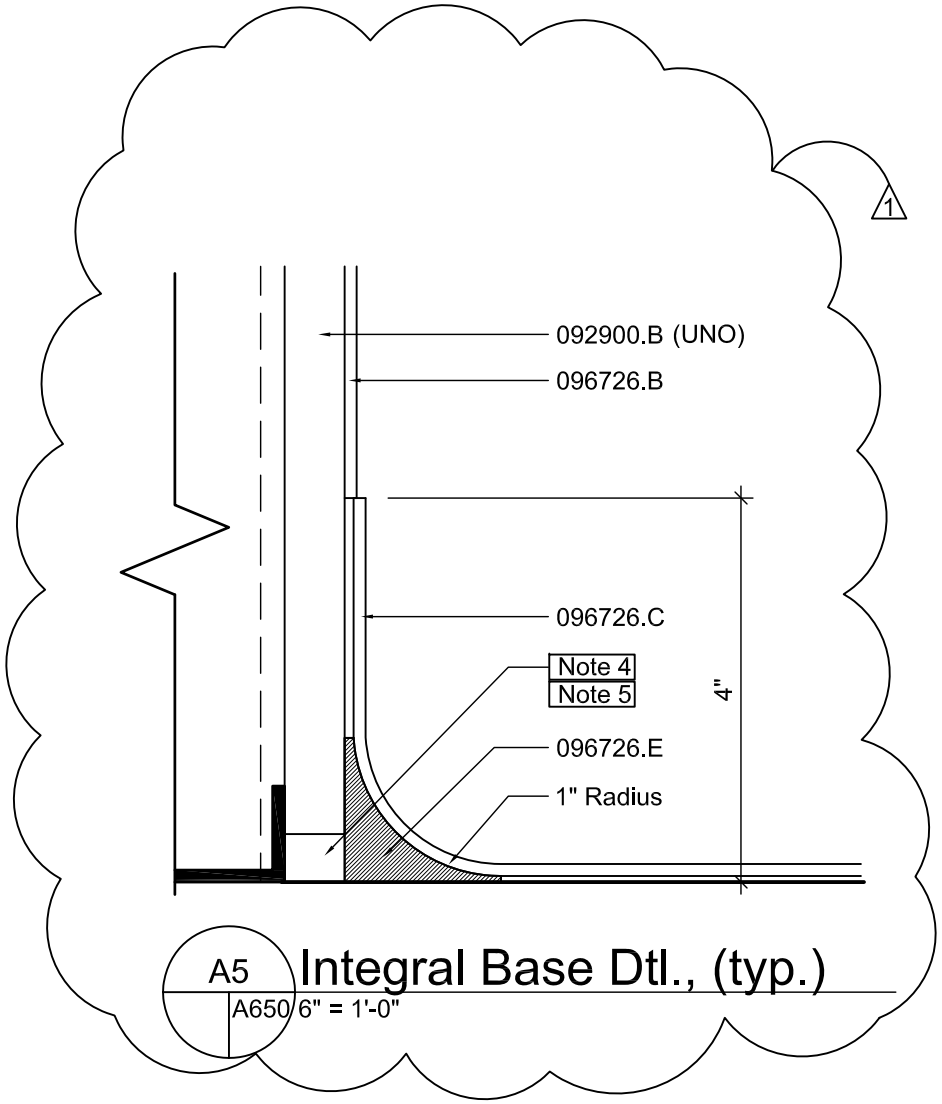
Proj Title: NHH Hybrid Operating Room Addition
7500 South 91st
Lincoln, NE 68526

File Path: F:\3850\NHH Hybrid OR\sheets\3850-A600 Interior Elevations

Drawn By: cer
Issue Date: 4/9/12
Revision _: _____

Project No: 3850

A600



A5 Integral Base Dtl., (typ.)
A650 6" = 1'-0"

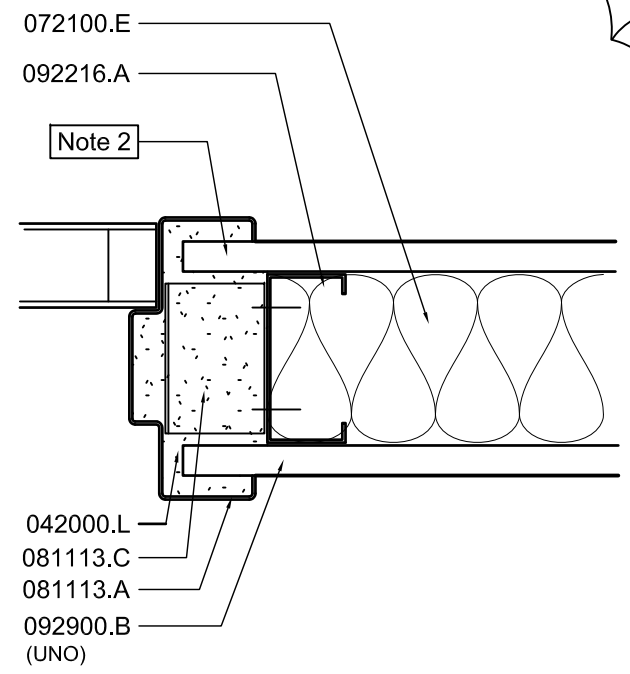
innerspace studios
335 north 8th street, suite c lincoln, nebraska 68508 402.475.7234

Proj Title: NHH Hybrid Operating Room Addition
7500 South 91st
Lincoln, NE 68526
File Path: F:\3850\NHH Hybrid OR\sheets\3850-A650 Interior Details

Drawn By: cer
Issue Date: 4/9/12
Revision _: _____

Project No: 3850

A650



A12 / A650 Interior HM Door Jamb

3" = 1'-0"

ARCHITECTURAL NOTES

Note 1	Connection box by others, shown for location only.
Note 2	At radiation doors, position GWB as deep as possible into the hollow metal frame.
Note 3	Not Used
Note 4	Provide 1/2" clearance between top of concrete slab and edge of wall board.
Note 5	Acoustical sealant, both sides of metal runner channel.

innerspace studios
335 north 8th street, suite c lincoln, nebraska 68508 402.475.7234

Proj Title: NHH Hybrid Operating Room Addition
7500 South 91st
Lincoln, NE 68526

File Path: F:\3850\NHH Hybrid OR\sheets\3850-A650 Interior Details

Drawn By: cer
Issue Date: 4/9/12
Revision _: _____

Project No: 3850

A650

morrissey engineering inc

mechanical | electrical | technology | commissioning

addendum

addendum no.	1
date:	April 6, 2012
bid date:	
project name:	Hybrid Operating Room Addition Nebraska Heart Hospital
mei project no:	11215

This addendum is hereby made a part of the contract documents to the same extent as if it were originally included therein. Contract documents shall be considered modified or revised as hereinafter described.

Mechanical Specifications

1. Page 211000-, Section 1.3 Paragraph A, Delete this section and replace with the following:

   "The area being added to the building includes a new operating room, control room, technical room, and shelled space. All areas except the shelled space are to be protected by the existing pre-action sprinkler system which is currently capped in Corridor 107. Extend this piping to protect the new operating room, control room and technical room. Size the piping to be able to add a future operating room in the shelled space to the system. The new mechanical room and shelled space are to be protected by extending the existing wet pipe sprinkler system into this area."

2. Page 211000-, Section 1.3 add Paragraph D as follows:

   "D. All fire suppression work shall be performed by Continental Fire Sprinkler Company (no substitution allowed). Contact Andrew Johnson at 402-898-6932."

Mechanical Drawings

Sheet M101 – Floor Plan – HVAC:

1. Flag Note 2, Add the following: "see detail A9/M402."
2. Flag Note 3, Revise to read: "…and detail D9/M402 for accessories."
3. Add Flag Note 7 to read: "Coordinate diffuser locations with all ceiling mounted equipment, lights, equipment booms, Unistrut supports, structural steel, and medical gas columns. Refer to Architectural reflected ceiling plans for exact diffuser locations."
4. Add Flag Note 7 to all ceiling diffusers in Operating Room 100.
5. Add the following note to the OSA duct riser to roof hood H-1: "Duct shall be divided into two separate riser ducts around bar joist. Coordinate with structural".
6. General Note 10, add the following: "Lined ductwork is not allowed in any ducts which serve the Operating Room."
7. "Room 104, add fire dampers in the 22/14 RA duct and the 10" round SA duct penetrations of the south corridor wall."

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Sheet M201 – Floor Plan – Mechanical Piping and Fire Protection:

1. Add the following note to the CWS and CWR piping connections to existing piping: “Connect new 2” taps to existing chilled water piping then increase pipe size to 2-1/2” for horizontal run to mechanical room. Connections must be hot tapped during off hours at time coordinated with Owners Representative. Provide a 2” valved and capped takeoff in the CWS and CWR piping to cooling coil CC-1 for future air handling unit connection.”
2. Add the following note to the HWS and HWR piping connections shown attaching to the existing piping: “Connect new 2” heating water piping to existing heating water piping serving existing Mechanical Room 111. Install new take offs downstream of shutoff valves located approximately 45 feet east of location shown. Coordinate shutting of valves and draining system with Owner Representative. Provide a 1-1/2”” valved and capped takeoff in the HWS and HWR piping in Mechanical Room 103 for future heating coil connection.”
3. Corridor 105, Delete capped piping takeoffs shown serving west of mains running to Mechanical Room 103.
4. Delete General Note 10.
5. Delete Fire Protection Note 1 and substitute the following: “The area being added to the building includes a new operating room, control room, technical room, and shelled space. All areas except the shelled space are to be protected by the existing pre-action sprinkler system which is currently capped in Corridor 107. Extend this piping to protect the new operating room, control room and technical room. Size the piping to be able to add a future operating room in the shelled space to the system. The new mechanical room and shelled space are to be protected by extending the existing wet pipe sprinkler system into this area.”

Sheet M301 – Floor Plan – Plumbing and Medical Gas:

1. Plan C1: note the air compressors shown in Decontam Room 101 were relocated to the southeast corner of Mechanical Room 111. Piping connections will be made at this location as reference in Flag Note 4.
2. Plan C10: Add lockable medical gas isolation valves at the capped future connections of all medical gases in Corridor 105.

Sheet M403 – Mechanical Schedules

1. Revise heating coil schedule per Sketch Sheet M403a.

Electrical Drawings

1. General Items:
    a. Fire Alarm - The fire alarm is required to be installed by Continental Alarm.
    b. Low Voltage Cabling - The low voltage cabling contractor is required to be Prime Communications or Lines of Communication.
2. Include Sheet E100: Floor Plan - Electrical Demolition.
3. Sheet E101 - Floor Plan - Lighting: Revise lighting per Sketch Sheet E101a.
4. Include Sheets E601 and E602: Philips Equipment - Power Plans. The drawings are supplementary information from the manufacturer. The electrical connections are to be installed per these documents.
5. Include Sheets E701 through E706: Maquet Equipment - Power Plans. The drawings are supplementary information from the manufacturer. The electrical connections are to be installed per these documents.

COIL SCHEDULE

GENERAL	PLAN TAG	HC-1	HC-2	HC-3	CC-1	
	MANUFACTURER	TRANE	TRANE	TRANE	TRANE	
	MODEL NUMBER	DP4B12	DTTB18	D5WB30	UW	
	SERVES	CNTRL RM	TECH RM	OR #4	OR#4 AHU	
	APPROXIMATE SIZE (LxW)(IN)	12" x 12"	20" x 18"	24" x 30"	41.5x72	
	MIN. ROWS	2	1	2	6	
	MAX. FINS PER INCH	14	11	14	12	
	REMARKS	(1)	(1)	(1)	-	
AIR	AIRFLOW (CFM)	400	2,200	4,100	6,700	
	MAX. FACE VELOCITY	700	880	700	500	
	MAX. AIR PRESSURE DROP (IN. WG)	.15	0.26	0.29	0.744	
	ENTERING AIR TEMP (°F)	50	50	50	78/65	
	LEAVING AIR TEMP (°F)	93	80	81	52/51	
	TOTAL CAPACITY (MBH)	18.65	71.58	140.27	260	
	REMARKS	-	-	-	-	
HOT WATER	ENTERING WATER TEMPERATURE (°F)	180	180	180	-	
	LEAVING WATER TEMPERATURE (°F)	160	160	160	-	
	WATER FLOW (GPM)	1.5	7.15	13.5	-	
	MAX. WATER PRESSURE DROP (FEET)	10	10	10	-	
	REMARKS	-	-	-	-	
CHILLED WATER	ENTERING WATER TEMPERATURE (°F)	-	-	-	45	
	LEAVING WATER TEMPERATURE (°F)	-	-	-	55	
	WATER FLOW (GPM)	-	-	-	52	
	MAX. WATER PRESSURE DROP (FEET)	-	-	-	18	
	REMARKS	-	-	-	-	
REMARKS	1. PROVIDE GALVANIZED STEEL CHANNEL FRAME FOR SLIP IN MOUNTING. INSTALL PIPING ADJACENT TO COILS TO ALLOW FOR SERVICE AND MAINTENANCE					

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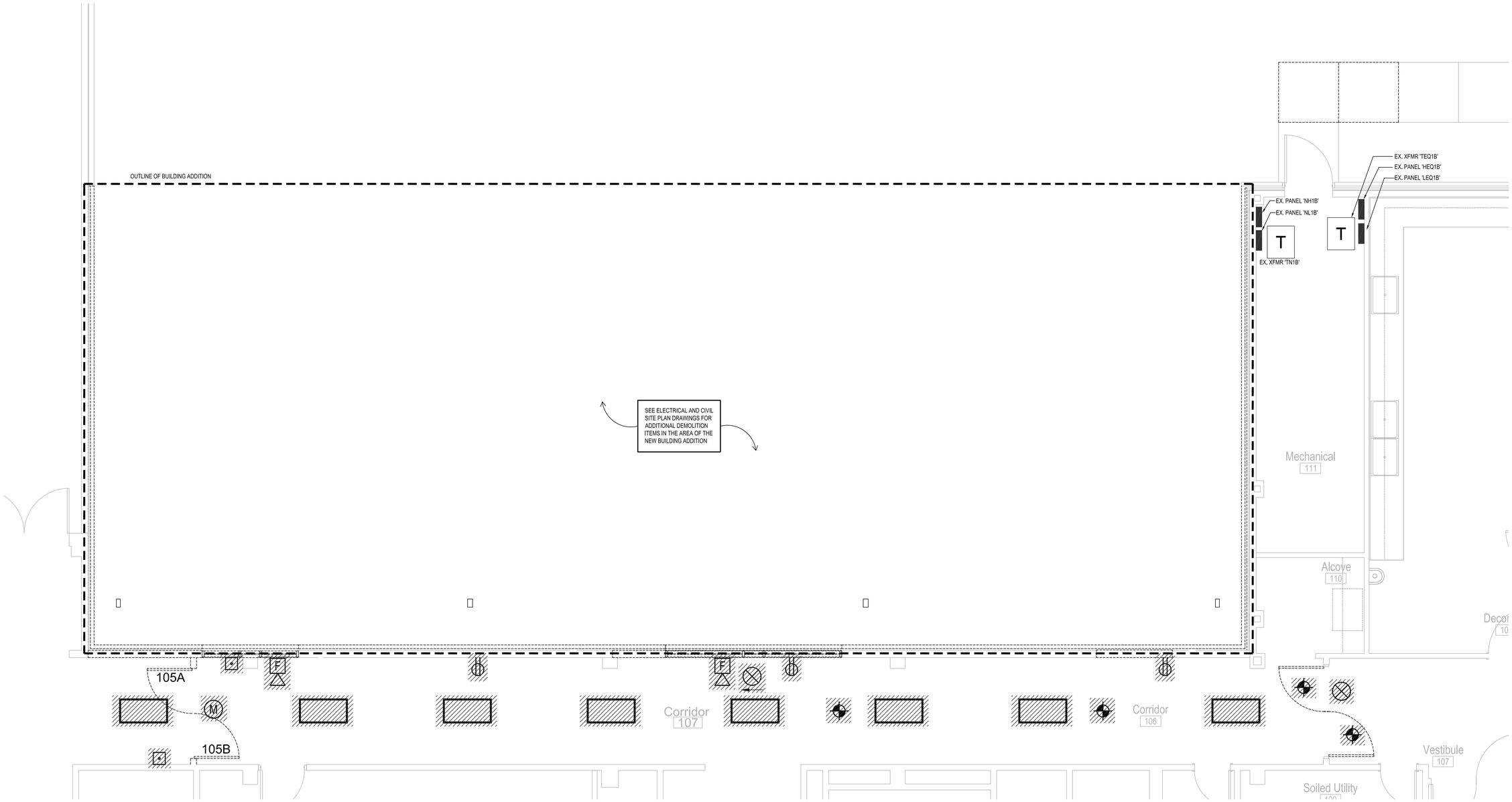
Hybrid Operating Room Addition
Nebraska Hospital
Lincoln, NE

project no.:	11215	drawing referenced:	M403	sketch M403a
date:	04/06/12	addendum no.:	1	



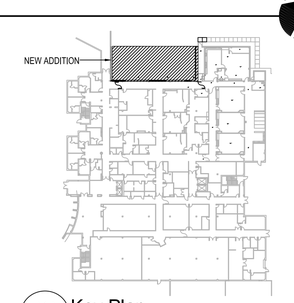
C1 E100 Floor Plan - Electrical Demolition
1/4" = 1'-0"

DEMOLITION NOTES

1. ALL WORK SHOWN ON THIS SHEET IS EXISTING. ITEMS SHOWN HATCHED ARE TO BE REMOVED. NOT ALL ELECTRICAL ITEMS ARE SHOWN.
2. THE OWNER SHALL HAVE FIRST SALVAGE RIGHTS TO ALL FIXTURES, DEVICES AND EQUIPMENT REMOVED.
3. WHERE EXISTING CIRCUITS ARE NOT REUSED, REMOVE CONDUCTORS AND ASSOCIATED ACCESSIBLE RACEWAYS BACK TO THE SOURCE. ABANDON CONCEALED CONDUITS IN WALLS WHICH ARE NOT REMOVED.
4. DEMOLITION DRAWINGS INDICATE FIXTURES, DEVICES AND MAJOR PIECES OF EQUIPMENT WHICH ARE TO BE REMOVED OR RECONNECTED. REMOVE INDICATED ITEMS AND ASSOCIATED ITEMS NOT INDICATED BUT WHICH MUST BE REMOVED TO ACCOMMODATE REMODELING. SEE PROJECT MANUAL "WORK IN EXISTING BUILDINGS" FOR ADDITIONAL INFORMATION.
5. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL ELECTRICAL DEMOLITION ITEMS. DISCONNECT AND REMOVE ELECTRICAL DEVICES, EQUIPMENT AND ASSOCIATED WIRING AS REQUIRED TO ACCOMMODATE NEW WORK.

DEMOLITION NOTES (CONT.)

6. POWER TO EXISTING AREAS NOT BEING REMODELED SHALL BE MAINTAINED AT ALL TIMES EXCEPT FOR SHORT TERM OUTAGES NECESSARY FOR RECONNECTION OF EXISTING CIRCUITS. COORDINATE AND SCHEDULE OUTAGES WITH THE OWNER.
7. COORDINATE DEMOLITION WITH THE WORK OF OTHER TRADES. PROVIDE TEMPORARY POWER AS REQUIRED TO ALLOW THE WORK OF OTHER TRADES TO PROCEED OR AS REQUIRED TO ALLOW THE OWNER TO OCCUPY THE SPACE.
8. SUBSCRIPT 'E' INDICATES AN EXISTING FIXTURE OR DEVICE TO REMAIN. MAINTAIN EXISTING CIRCUITING CONTINUITY UNLESS NOTED OTHERWISE.



A14 E100 Key Plan
no scale

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Hybrid Operating Room Addition
Nebraska Heart Hospital
7500 South 91st
Lincoln, NE 68526

Description	Date

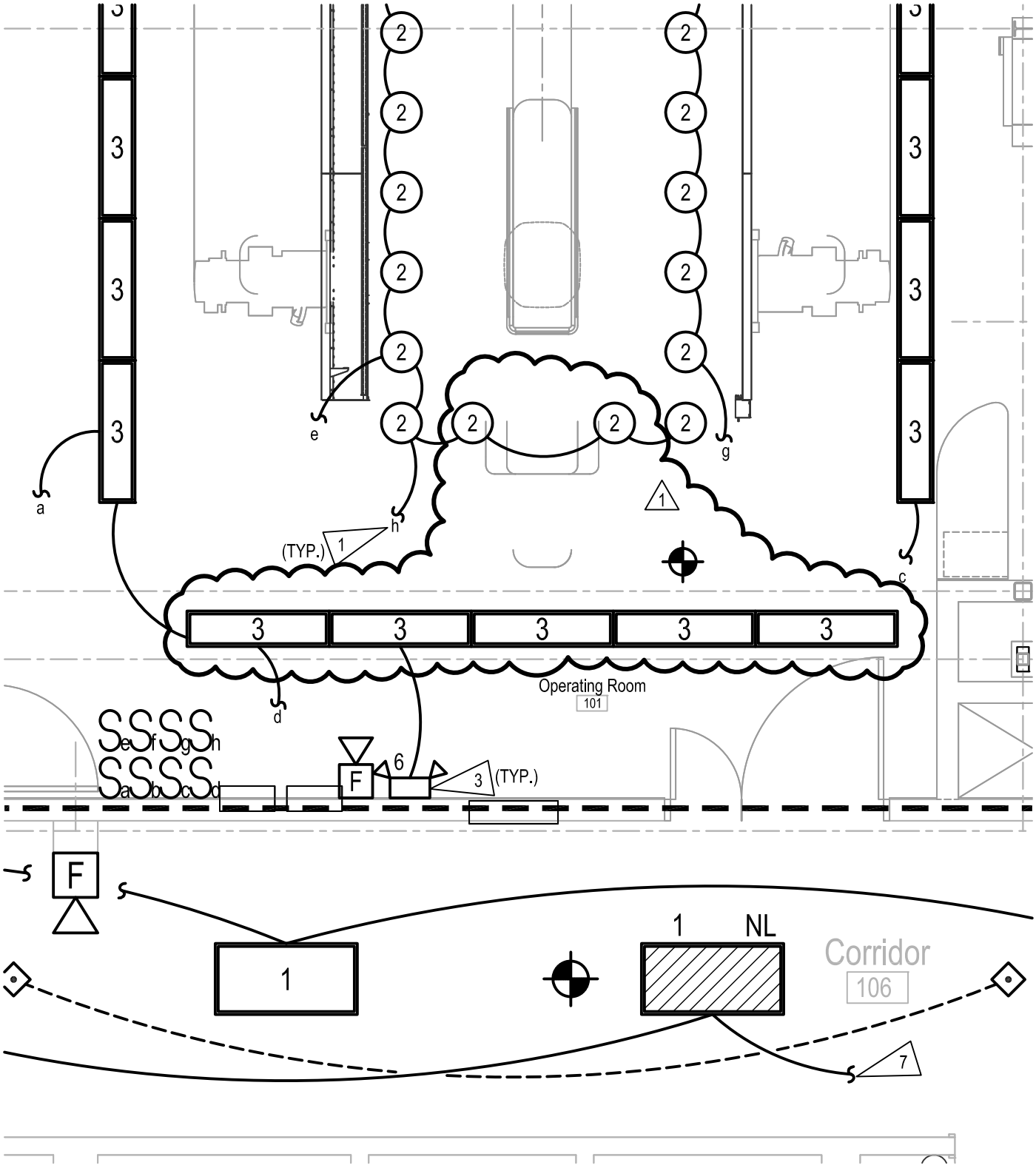
Description	Date

Designed: smf
Drawn: smf
Reviewed: smf
Project No: 11215

Floor Plan- Electrical Demolition

Sheet No.
E100

File Path



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Hybrid Operating Room Addition
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project no.:	11215	drawing referenced:	E101
date:	04/06/12	addendum no.:	1

sketch E101a

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 circuit protection for emergency power should be capable of handling a high initial surge of approximately 40 amps.

The transfer switch must be double actuator type with a minimum time delay of 400 milliseconds in both directions (utility to emergency - emergency to utility). This time is required to allow filters to dissipate their stored energy before a different mains voltage is applied. Russelectric type RMTD, Asco Series 7000 delayed transition transfer switch or equivalent is recommended.

To reduce the emergency power generator load demand, Philips equipment can be put into a lower power mode (5.5kVA fluoroscopy + 4kVA geometry) of operation by the connection of a potential free closure from the transfer switch. This potential free, normally open contact, has to be rated for 24VDC/100mA. For Philips cardiovascular Integris equipment, the two wires from this contact have to be routed to the equipment area and connected to the System Coordinator cabinet (MA).

(03,1)

Electrical Requirement Notes for Systems with PDU

Electrical power distribution at the facility shall comply with:

Utilization voltages per ANSI C84.1 - 1982 range A.

Voltage to be supplied is 3 phase, delta or wye.

Phase conductors to be size for instantaneous voltage drop per NEC 517 - 73 and Philips recommendations.

On systems with a PDU, the ground conductor for the power feeder shall never be less than $\frac{1}{2}$ the cross-sectional area of the phase conductors and never smaller than #5 AWG.

Metal conduit shall not be used as the equipment ground conductor.

ANSI / NFPA 70 - National Electrical Code
Article 250 - Grounding
Article 517 - Healthcare Facilities
ANSI / NFPA 99 - Healthcare Facilities
NEMA standard XR9 - Power Supply Guideline for X-ray Machines

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 at the mains supply to medical imaging equipment without consulting Philips installation or service personnel.

4. Line impedance is the combined resistance and inductance 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. Philips publishes recommended conductor sizes based on equipment power requirements, acceptable voltage drops, and assumptions about the facility source impedance. The minimum conductor size is based on the total line impedance and NEC requirements. Unless impedance calculations are performed by an electrical engineer, the recommended values must be used.

(08.0)

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, conduit, cables, wires, 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 three separate channels by metal dividers, separately specified herein, to separate wiring and/or cables into groups as follows: Group A: power wiring and/or cables. Group B: signal and/or data and protective ground wiring and/or cables. Group C: 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.

4. Conduit
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. 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 75°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.

(03.0)

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, raceways, conduit 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) shall be provided with conduit runs.

3. All pre - terminated, cut to length cables, will be supplied and installed by Philips. All cables to the breakers, will be supplied and installed by the contractor, subject to local arrangements.

4. Provide and Install 4 - 2" (50 mm) diameter, Chase nipples between adjacent wall boxes.

5. Electrical raceway 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 conduits 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 system as illustrated on this drawing are based upon length of furnished cables, Any changes in routing of raceway system could exceed maximum allowable length of furnished cables. Conduit or raceway above - ceiling must be kept as near to finished ceiling as possible.

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

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

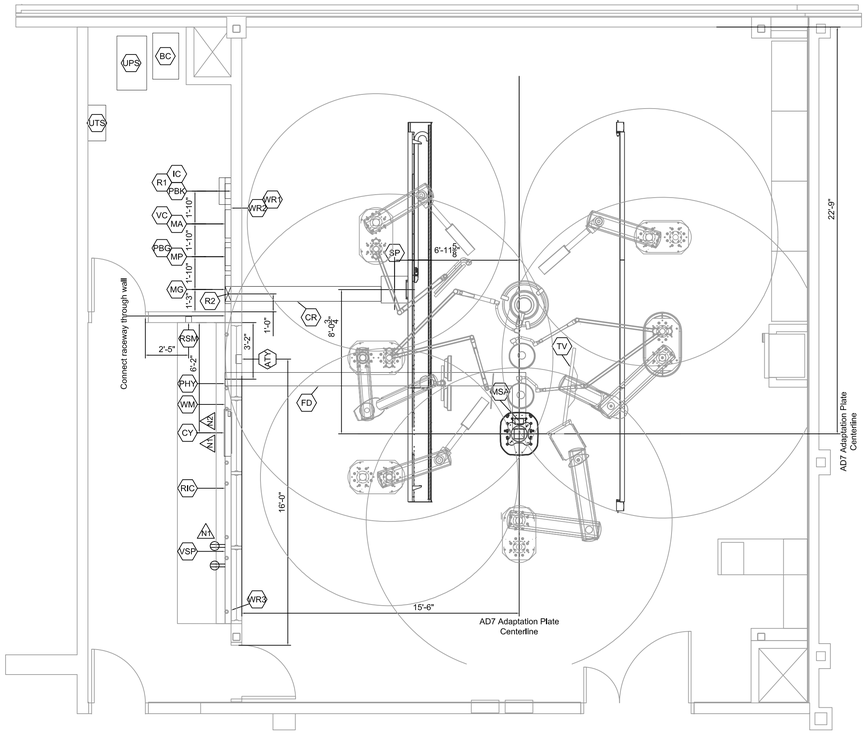
8. Electrical contractor shall install ground bond wires at conduit openings within wall boxes as required by national and local electrical codes. Ground bond wires and lugs shall be installed in such a way to prevent the inadvertent contact with the installed Philips equipment to maintain the Philips Equipotential Grounding Configuration and maintain patient safety. Install a #6 AWG stranded ground wire in the conduits from the Main Disconnect (CB) to the PDU and from the PDU to the MG wall box.

9. If the Philips system includes a PDU, the PDU is a "Separately Derived Source" by NEC standards, and must be ground according to NEC article 250-30.

10. Philips equipment must be electrically isolated from conduits, raceways, ducts, etc.

11. Acceptable cross-overs: Walker DuctCat. #RPD10-TUN-3C /, Square D Cat. #RSV122ST .

(10.0)



0 1' 2' 4' 8'
0 .5m 1m 2m

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
B	ST	Shunt Trip (emergency off) - Large mushroom-head button on remote control station with contacts to operate feature of "CB" (if required by local code or owner, and mandatory for VA and D,O,D installations). (Not shown on plan)	
B	GE	Ground electrode per N.E.C. 250-26, building steel preferred. (Not shown on plan)	
B	PBC	Central ground busbar 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.	E602
B	PBK	18" (460mm) W x 18" (460mm) H x 8" (205mm) D flanged-edge terminal wall box with removable screw-type cover plate, surface mounted 22" (560mm) A.F.F. to bottom of box, provide (1) 1 1/2" (40mm) and (2) 2" (55mm) conduits through "PBK" cover plate to PDU cabinet.	E602
D	MG, MP, MA	19 1/4" (490mm) W x 67" (1705mm) H x 4" (105mm) D flanged-edge terminal wall box, surface mounted 75" (1905mm) A.F.F. to top of box. General contractor to cut top and/or bottom of box as required.	E602
B	CY, WM, RIC, VSP	Grommet opening on "WR3". Approximate location shown is recommended and may be changed - verify relocation with local Philips Service.	
B	MSA	Turn conduit up at the underside of AD7 Adaption floorplate.	
B	FD	Four (4) 4" Underground conduit.	E602
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 3" (80mm) diameter knockout.	
B	TV	18" (460mm) W x 18" (460mm) L x 6" (155mm) D ceiling box, mounted above finished ceiling with removable screw-type cover plate, Box to be located near the 3rd party ceiling boom(s) with the Philips monitors, coordinate locally.	
B	WR1, WR2	10" (255mm) W x 4" (105mm) D wall raceway, surface mounted with removable screw-type cover plate. "WR1" is at finished floor. "WR2" is at 75" (1905mm) A.F.F. to bottom of raceway.	E602
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.	E602
B	R1, R2	10" (255mm) W x 4" (105mm) D riser duct with removable screw-type cover plate, surface mounted. "R1" from wall raceway to wall box and "R2" from wall raceway to ceiling raceway.	E602
B	PHY	Stub up point for physiological monitoring cables. Run conduit to customer's physiological console location. Contact manufacturer for power requirements, etc.	
B	ATY	Auxiliary Box - 6" (155mm) W x 6" (155mm) H x 4" (105mm) D wall box, flush mounted 70" (1780mm) A.F.F. to the bottom of the box with removable screw-type cover plate. Height and location shown are recommended and may be changed - verify height and relocation with local Philips Service.	
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. See Sheet "E602" diagram for connection details. (Not shown on plan)	E602
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 "E602" diagram for connection details. (Not shown on plan)	E602

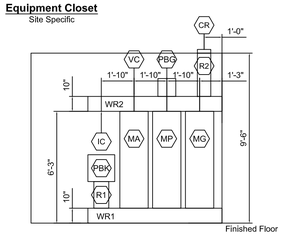
Electrical Legend

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

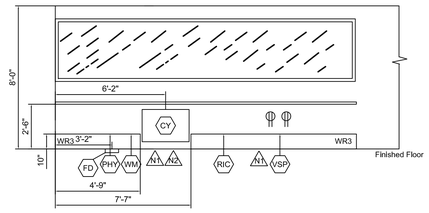
	Item Number	Description	Detail Sheet
B	T	Analog phone line for service (convenience). (Not shown on plan)	
B	N1	RJ45 type Ethernet 10/100/1000 Mbit network connector with access to customer's network. Locate within 10' of network card. Network fiber optic and Ethernet cabling, connectors, wall boxes, 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.	
B	IS	120V/20A dedicated duplex outlet for service in the equipment room. (Not shown on plan)	
B	IH	120V/20A dedicated duplex outlet for IH (Interventional Hardware).	
B	VC	Grommet opening on "WR2". Exact size and location to be determined by local Philips Service.	
B	VS	120V/20A dedicated duplex outlet for VSP (Video Splitter).	
B	CR	10" (255mm) W x 3 1/2" (90mm) D ceiling raceway, mounted above the ceiling line with removable screw-type cover plate accessible from top.	E602
B	CB	480V, 3 phase 125 AMP circuit breaker with shunt trip. Run power from breaker to "PBK", leaving an 8' (2440mm) tall at "PBK", and from "PBK" to "UTS", leaving an 8' (2440mm) tall at each end. See Sheet "E602" for power quality requirements. Location per local code or owner requirements. (Not shown on plan)	E602
B	CB2	480V, 3 phase 60 AMP circuit breaker. (Not shown on plan)	E602
D	UTS	Universal Transfer Switch.	E602
D	UPS	25 KVA UPS.	E602
D	BC	Battery Cabinet.	E602
G	RSM	Remote Status Monitor, wall mounted in the control area.	E602
B	IC	Grommet opening on "WR2". Exact size and location to be determined by local Philips Service.	

See sheet E602 for conduit and raceway requirements.

Equipment Closet
Site Specific



Control Room
Site Specific



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Nebraska Heart Hospital
7500 South 91st
Lincoln, NE 68526

Description	Date

Designed:	smf
Drawn:	smf
Reviewed:	smf
Project No:	11215

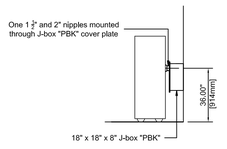
Philips Equipment - Power Plan

Sheet No.
E601

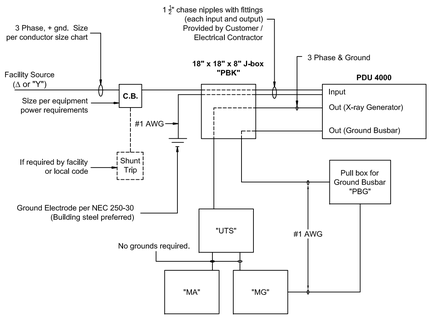
File Path

Detail - PDU 4000 Mounting Detail

J-box "PBK", nipples and other mounting hardware must be supplied by customer as required.



PDU 4000 with J-box "PBK" flush or surface mounted behind unit.



Note: Conductors, destinations, and number of conduit runs from PDU to J-box "PBK" and from J-box to equipment will vary from system to system. Consult individual site plans for detailed conduit schedules.

Diagram - PDU 4000 Electrical Interface with UTS (08.0)

PBK

Power Quality Requirements

Velara 100KW with PDU 4000

Power Output:	100KW
Supply Configuration:	3 phase, 3 wire power and ground, Delta or wye 3 phase, 4 wire power w/ Neutral + ground, wye
Nominal Line Voltage:	480 VAC, 60 Hz
Line Voltage Variation:	± 10% steady-state
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 maximum
Voltage Sags:	To 90% of steady-state voltage 100 msecs. Maximum duration, 6 per hour maximum
Line Impulses:	1000 VPK above phase-neutral RMS absolute maximum. No more than 1 impulse per hour to exceed 500 VPK.
Neutral-Ground Voltage:	2.0 volts maximum RMS value
Neutral-Ground Impulses:	No more than 1 per hour that exceeds 25 volts and 1 Mjoule
High Frequency Noise:	3.0 volts steady-state maximum. Over 3.0 volts permitted for 100 msec. maximum, 1 per hour max.
Grounded Conductor Impedance:	0.1 Ohms @ 60 hz. maximum

Branch Circuit and Wire Gauge Requirements

Velara 100KW with PDU 4000

Branch Power:	225 KVA
Max Stand by Current:	8 Amps, @ 3 mA, 110 KVP continuous
Circuit Breaker:	3 pole, 125 amperes
Maximum Instantaneous Power:	201 KVA (1000 mA @ 100 KVP)

Recommended conductor sizes for 1% impedance of branch conductors to circuit breaker (CB). Based on 20° copper conductors:

	480VAC
1/0 AWG	95ft
2/0 AWG	120ft
3/0 AWG	151ft
4/0 AWG	193ft
250 KCM	226ft
300 KCM	271ft
400 KCM	365ft

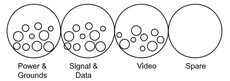
Inst. Current @ CB Panel	242 A
Max. Phase-phase impedance @ CB Panel	≤ 200 mΩ
Max. Load Voltage Drop @ CB Panel	18.2 V
Percent Regulation at Maximum Load @ CB Panel	3.8%
Output Voltage PDU 4000:	480 VAC ± 10%
Max Inst. Current @ PDU output:	305 Amps
Max Phase-Phase Impedance:	≤ 200 mΩ @ PDU output
Max Load Voltage Drop:	24.4 V @ PDU output
Percent Regulation at Max. Load:	6.4% @ PDU output

Minimum copper wire size, circuit breaker to PDU: #1 - Maximum 50' in length.

CB

Detail - Underground Conduit

Four (4) 4" conduit, separate cabling into the following:
1. High voltage (H.T.) cables to be run separately from all cables.
2. Power cables and ground cables can be run together.
3. Signal cables and data cables can be run together but must be separated from power cables.
4. Video cables to be run separately from all other cables.



5. It is important that all cables are placed in the appropriate conduit. at no given point do any cables from one division cross cables from another.

WR WR2 WR3 R1 R2 CR FD

(10.0)

Conduit Required

General Notes

1. All conduit runs must take most direct route point to point.
2. All conduit runs must have a pull string.

A Conduit supplied/installed by contractor - Phillips cables installed by Phillips
B Conduit supplied/installed by contractor - Phillips cables installed by contractor
C Conduits and cables supplied and installed by contractor
D Conduit existing - cables supplied and installed by Phillips
E Conduit existing - cables supplied by Phillips, Installed by contractor
F Conduit existing - cables supplied and installed by contractor
G Optional equipment, verify with local Phillips Service

* **P** Power (AC) **D** Power (DC) **G** Ground **S** Signal **H** High Tension **C** Cooling Hose **A** Air Supply Hose

	Conduit Run No.	Conduit From	Conduit To	Conduit Quantity	Cable Type (*)	Minimum Conduit Size	Maximum Conduit Length	Special Requirements
C	1	Power Panel	CB	1	(P)	Per N.E.C.	Per N.E.C.	
B	2	PBK	PDU Cabinet	1	(P)	1 1/2"	-	
B	3	PBK	PDU Cabinet	2	(P)	2"	-	
B	4	CB	PBK	1	(P)	2"	50'	
C	5	CB	ST	1	(P)	3/4"	50'	
C	6	PBK	GE	1	(P)	3/4"	25'	
C	7	PBG	Room Outlets	1	(P)	3/4"	-	See Sheet "E602" for details.
C	8	MA	WL	1	(P)	3/4"	55'	
C	9	ATY	DS	1	(S)	3/4"	55'	
A	10	ATY	MA	1	(S)	2 1/2"	41'	
A	11	ATY	TV	1	(S)	3/4"	75'	
A	12	SP	MG	1	(H)	2 1/2"	19'	H.T. Cables.
A	13	SP	MP	2	(C)	2"	19'	Cooling fluid hoses for tube.
A	14	SP	MP	2	(C)	2 1/2"	19'	Cooling fluid hoses for detector.
A	15	TV	MA	1	(P)	2"	52'	
A	16	TV	MA	1	(S)	2 1/2"	52'	
A	17	TV	MP	1	(S)	1 1/2"	54'	
G	18	TV	Control Room	2	(S)	1 1/2"	-	Verify with local Philips Service (Physio Monitor).
G	19	TV	Control Room	2	(S)	1 1/2"	-	For optional equipment (Interventional Hardware, ViewForum, Xcelera, etc).
G	20	PHY	Physio Monitor	1	(S)	2"	33'	Optional for remote location.
C	21	Power Panel	CB2	1	(P)	2"	-	
C	22	CB2	UPS	1	(P)	1 1/2"	-	
C	23	CB2	ST	1	(P)	3/4"	-	
C	24	PBK	UTS	1	(P)	2"	75'	
C	25	UTS	MG	1	(P)	2"	75'	
C	26	UTS	MG	1	(P)	1"	75'	
C	27	UTS	MA	1	(P)	1"	75'	
C	28	UTS	MA	1	(P)	3/4"	75'	
C	29	UPS	UTS	1	(P)	1 1/2"	150'	
C	30	UPS	ST	1	(P)	3/4"	150'	

Conduit Required

General Notes

1. All conduit runs must take most direct route point to point.
2. All conduit runs must have a pull string.

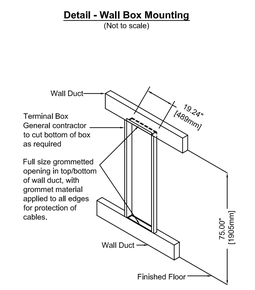
A Conduit supplied/installed by contractor - Phillips cables installed by Phillips
B Conduit supplied/installed by contractor - Phillips cables installed by contractor
C Conduits and cables supplied and installed by contractor
D Conduit existing - cables supplied and installed by Phillips
E Conduit existing - cables supplied by Phillips, Installed by contractor
F Conduit existing - cables supplied and installed by contractor
G Optional equipment, verify with local Phillips Service

* **P** Power (AC) **D** Power (DC) **G** Ground **S** Signal **H** High Tension **C** Cooling Hose **A** Air Supply Hose

	Conduit Run No.	Conduit From	Conduit To	Conduit Quantity	Cable Type (*)	Minimum Conduit Size	Maximum Conduit Length	Special Requirements
C	31	BC	UPS	1	(P)	1 1/2"	-	
G	32	RSM	UPS	1	(P)	1 1/2"	250'	Remote Status Monitor (Optional).

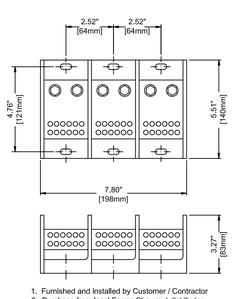
Detail - Wall Box Mounting

(Not to scale)



MG MP MA

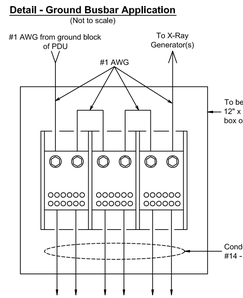
(08.0)



1. Furnished and Installed by Customer / Contractor
2. Purchase from local Ferraz Shawmut distributor, http://www.ferrazshawmutsales.com/index.htm Catalog #69143.
3. 62000 - 69000 Series Blocks http://www.ferrazshawmutsales.com/pdfs/PDB-LARGE.pdf

Detail - Ground Busbar Application

(Not to scale)



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 ensure 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.

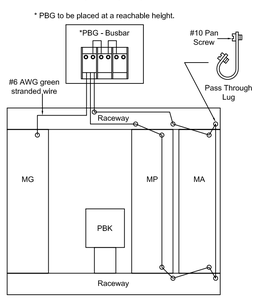
The GSSNA specified "Central Ground Busbar" serves as a ground reference for GSSNA equipment. It may also serve as the "Reference Grounding Point" of the room as defined in NFPA-99 (3-5.2.1.2) for non-PMSNA equipment.

PBG

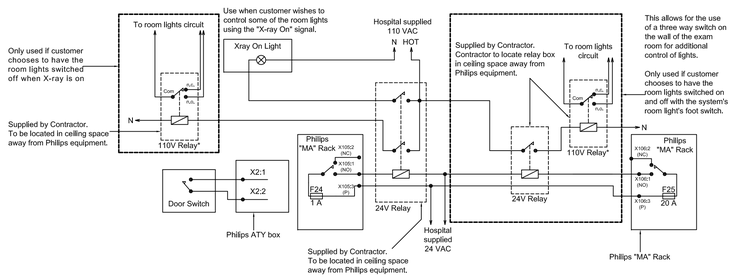
(08.0)

Detail - Grounding

(Not to scale)
(Not site specific)



(08.0)



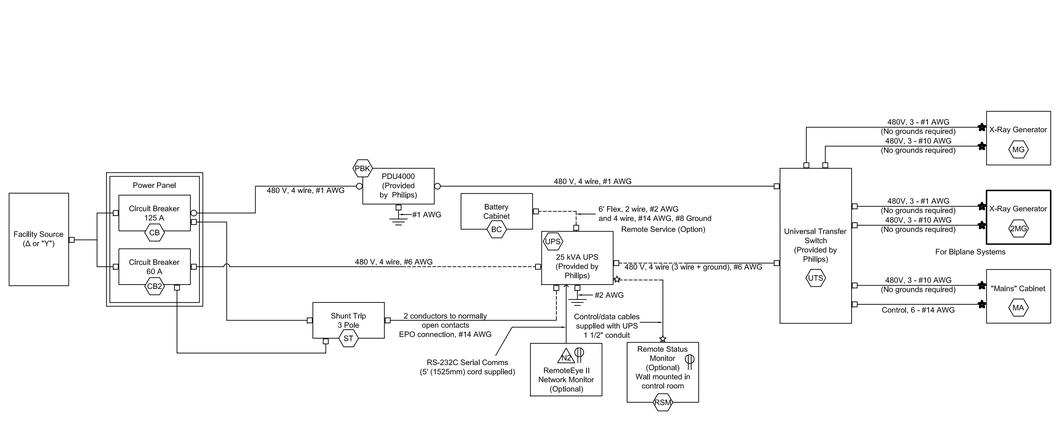
WL DS

* The 110V relay should have heavy-duty contacts to handle the room lights current.

All items shown (except Philips items) to be supplied by Customer / Contractor.

Diagram - Typical Connection of X-Ray On Light, Door Switch, & Room Lights

(08.0)



Legend

- ☐ Connections made by Contractor prior to Start-Up
- ○ Connections made by Contractor during Start-Up
- ☆ Connections made by Philips during Start-Up
- ---------- Flex, Liquid tight, etc.
- ———— Conduit, rigid EMT, etc.

*** All wires, breakers, splitter, and shunt trip are provided and installed by customer. Size of the wires is based on conduit run length shown on E3 sheet, the size of the wire will need to be increased for longer runs.**

Contact Philips Zone Power Specialist for detailed wiring diagram.

Diagram - Standard Connection - 25 kVA UPS

(09.0)

L | innerspace studios
335 north 8th street, suite c lincoln, nebraska 68508 402.475.7234

Structural Engineers
Structural Design Group
1650 N. 27th Street, Suite 100
Lincoln, NE 68508
402.438.7788

Mechanical/Electrical Engineers
Morrissey Engineering, Inc.
4640 N. 168th Street
Omaha, NE 68164
402.491.4144

STEPHEN M. FARRINGTON E-11987 03/27/12 ELECTRICAL ENGINEER PROFESSIONAL STATE OF NEBRASKA

Description	Date

Hybrid Operating Room Addition
Nebraska Heart Hospital
7500 South 91st
Lincoln, NE 68526

Designed: smf
Drawn: smf
Reviewed: smf
Project No: 11215

Philips Equipment - Power Plan

Sheet No.
E602

File Path

MAQUET SURGICAL WORKPLACE
PROJECT RESPONSIBILITIES

COMPONENT	DESIGNED BY/MATERIALS PROVIDED BY	PERFORMED BY	TIMING/PROJECT PHASE
MAQUET			
PRODUCT SPECIFICATIONS, CONSTRUCTION ROUGH-IN DRAWINGS	MAQUET	MAQUET	AT TIME OF PURCHASE ORDER OR CUSTOMER SIGNED MAQUET DRAWING PACKAGE
GENERAL CONTRACTOR			
DESIGN, FABRICATION AND INSTALLATION OF THE SUPPORT STRUCTURES. SEE NOTE 5	CUSTOMER OR GENERAL CONTRACTOR PER MAQUET CONSTRUCTION ROUGH IN DRAWINGS	CUSTOMER'S ENGINEER OF RECORD AND GENERAL CONTRACTOR	BASED UPON OVERALL CONSTRUCTION SCHEDULE
INSTALLATION OF CEILING AND WALL STRUCTURE PLATES	MAQUET	CUSTOMER'S SPECIFIED GENERAL CONTRACTOR	BASED UPON OVERALL CONSTRUCTION SCHEDULE
MEDICAL GAS CONTRACTOR			
GAS AND VACUUM SUPPLY LINES TO STRUCTURAL SUPPORT	CUSTOMER OR MEDICAL GAS CONTRACTOR USING MAQUET CONSTRUCTION ROUGH IN DRAWING OR CUSTOMER SIGNED MAQUET DRAWING PACKAGE	CUSTOMER'S SPECIFIED MEDICAL GAS CONTRACTOR	WHILE CEILINGS ARE OPEN DURING PLUMBING/ELECTRICAL INSTALLATION
GAS AND VACUUM PANEL MOUNT RISER ASSEMBLY (PIGTAILS)	MAQUET	CUSTOMER'S SPECIFIED MEDICAL GAS CONTRACTOR	WHILE CEILINGS ARE OPEN DURING PLUMBING/ELECTRICAL INSTALLATION
ROUGH IN OF PNEUMATIC BRAKE LINES TO STRUCTURAL SUPPORT	CUSTOMER OR MEDICAL GAS CONTRACTOR USING MAQUET CONSTRUCTION ROUGH IN DRAWING OR CUSTOMER SIGNED MAQUET DRAWING PACKAGE	CUSTOMER'S SPECIFIED MEDICAL GAS CONTRACTOR	WHILE CEILINGS ARE OPEN DURING PLUMBING/ELECTRICAL INSTALLATION
MEDICAL GAS AND VACUUM/WAGD FINAL CONNECTIONS BETWEEN EQUIPMENT AND FACILITY LINES	CUSTOMER OR MEDICAL GAS CONTRACTOR USING MAQUET CONSTRUCTION ROUGH IN DRAWING OR CUSTOMER SIGNED MAQUET DRAWING PACKAGE	CUSTOMER'S SPECIFIED MEDICAL GAS CONTRACTOR	DURING EQUIPMENT INSTALLATION
ELECTRICAL CONTRACTOR			
MAQUET PROVIDED POWER SUPPLIES, DIMMER CONTROLS, ZOOM CAMERA CONTROLS AND UTILIZATION EQUIPMENT OUTLET BOXES	MAQUET	CUSTOMER'S SPECIFIED ELECTRICAL CONTRACTOR	WHILE CEILINGS AND WALLS ARE OPEN DURING PLUMBING/ELECTRICAL INSTALLATION
ALL BRANCH CIRCUIT WIRING AND CONDUIT (PRIMARY AND SECONDARY) EXTERNAL TO MAQUET SUPPLIED EQUIPMENT TO INCLUDE ALL SURGICAL LIGHT AND BOOM POWER, DATA AND VIDEO SIGNALS	CUSTOMER OR ELECTRICAL CONTRACTOR USING MAQUET CONSTRUCTION ROUGH IN DRAWING OR CUSTOMER SIGNED MAQUET DRAWING PACKAGE	CUSTOMER'S SPECIFIED ELECTRICAL CONTRACTOR	WHILE CEILINGS AND WALLS ARE OPEN DURING PLUMBING/ELECTRICAL INSTALLATION
ELECTRICAL FINAL TERMINATION BETWEEN UTILIZATION EQUIPMENT OUTLET BOXES AND FACILITY POWER	CUSTOMER OR ELECTRICAL CONTRACTOR USING MAQUET CONSTRUCTION ROUGH IN DRAWING OR CUSTOMER SIGNED MAQUET DRAWING PACKAGE	CUSTOMER'S SPECIFIED ELECTRICAL CONTRACTOR	AFTER EQUIPMENT INSTALLATION
INSTALLATION CONTRACTOR			
UNCRATING OF EQUIPMENT	N/A	MAQUET IF INSTALLATION PURCHASED PER SALES AGREEMENT	BASED UPON OVERALL CONSTRUCTION SCHEDULE
EQUIPMENT INSTALLATION	N/A	MAQUET IF INSTALLATION PURCHASED PER SALES AGREEMENT	DURING EQUIPMENT INSTALLATION PHASE BASED ON PROJECT SCHEDULE
DISPOSAL OF SHIPPING CONTAINERS AND PACKING DEBRIS TO AN ON INSTALLATION SITE CUSTOMER PROVIDED RECEPTACLE	N/A	MAQUET IF INSTALLATION PURCHASED PER SALES AGREEMENT	AS REQUIRED DURING EQUIPMENT INSTALLATION PHASE BASED ON PROJECT SCHEDULE
FINAL INSTALLATION CHECKOUT	N/A	MAQUET IF INSTALLATION PURCHASED PER SALES AGREEMENT	AFTER EQUIPMENT INSTALLATION
INTEGRATOR			
WIRING AND EQUIPMENT TO BE INSTALLED INTO MAQUET SUPPLIED EQUIPMENT BY NON-MAQUET MULTIMEDIA INTEGRATION COMPANIES	THIRD PARTY DATA, VIDEO, OR INTEGRATION COMPANIES CONTRACTED BY THE CUSTOMER	CUSTOMER'S SPECIFIED INTEGRATION COMPANY	DURING EQUIPMENT INSTALLATION
CUSTOMER			
RECEIVE, OFF LOAD AND STORAGE OF EQUIPMENT IN SECURED PROTECTED AREA	N/A	CUSTOMER OR CUSTOMER DESIGNATED SHIPPING CONTRACTOR	BASED UPON OVERALL CONSTRUCTION SCHEDULE
FINAL EQUIPMENT CERTIFICATION (MED GAS AND ELECTRICAL)	AS STIPULATED BY LOCAL CODES, NEC AND NFPA	ELECTRICAL CONTRACTOR, MED GAS CONTRACTOR AND/OR LOCAL CODE INSPECTOR	AFTER EQUIPMENT INSTALLATION

MAQUET SURGICAL WORKPLACE
PROJECT RESPONSIBILITIES NOTES

1. MINIMUM OF TEN (10) WORKING DAYS NOTIFICATION WILL BE REQUIRED FOR SCHEDULING INSTALLATION. ADDITIONAL COST MAY BE BILLED IF LESS THAN 10 DAYS NOTICE.
2. INSTALLATION IS PERFORMED DURING THE HOURS OF 8AM TO 11PM EXCLUDING WEEKENDS AND HOLIDAYS. OVERTIME CHARGES WILL APPLY AFTER 11:00PM AND DURING WEEKENDS/HOLIDAYS. PRICING DOES NOT PROVIDE FOR UNION LABOR.
3. REMOVAL OF ASBESTOS OR EQUIPMENT SUBJECT TO DISPOSAL REGULATIONS OF FEDERAL, STATE OR LOCAL GOVERNMENTS IS NOT INCLUDED. PRICING MUST BE OBTAINED THROUGH LOCAL HAZARDOUS WASTE CONTRACTORS.
4. SCOPE OF INSTALLATION WORK IS BASED UPON TIMELY AND UNINTERRUPTED ACCESS, SITE CONDITIONS AND UTILITY AVAILABILITY. INTERRUPTIONS TO INSTALLATION SCHEDULE MAY RESULT IN ADDITIONAL FEES TO THE CUSTOMER.
5. PURCHASER SHALL PROVIDE A STRUCTURE SUFFICIENT TO SUSTAIN THE WEIGHT OF THE APPLICABLE PRODUCTS ON A PERMANENT BASIS, AND WHICH COMPLIES WITH ANY APPLICABLE REQUIREMENTS OF ANY GOVERNMENTAL AUTHORITY.
6. IF EQUIPMENT IS STORED OFF SITE, IT IS THE CUSTOMER'S RESPONSIBILITY TO TRANSPORT EQUIPMENT TO THE INSTALLATION SITE.
7. MAQUET CEILING-MOUNTED EQUIPMENT LOCATIONS ARE NOT TO BE FIELD-MODIFIED WITHOUT SECURING REVISED CUSTOMER-SIGNED DOCUMENTATION FROM MAQUET, INC. AND, ANY SUCH REVISION MUST FIRST BE COORDINATED WITH THE PROJECT'S ARCHITECT-OF-RECORDS

LIGHT ACCESSORIES

CUSTOMER INFORMATION	
CONTACT NAME/TITLE:	–
ADDRESS:	–
	–
CONTACT PHONE#:	–
REQUESTED DATE OF ARRIVAL:	–
SPECIAL SHIPPING INSTRUCTIONS:	
TYPE OF CONSTRUCTION:	–
CURRENT BRAND INSTALLED:	
HYDRAULIC LIFT GATE REQUIRED?	–

REV	BY	DATE	DESCRIPTION
A	PLF	1/27/12	REVISE BACKGROUNDS
B	PLF	2/7/12	REVISE BACKGROUNDS
C	PLF	1/14/12	REVISE BACKGROUNDS
D	PLF	2/21/12	REVISE PER ORSD
E	PLF	2/24/12	REVISE PER ORDER
F	PLF	3/7/12	REVISE BACKGROUNDS
G	PLF	3/28/12	REVISE BACKGROUNDS

DRAWING NOT TO BE USED FOR CONSTRUCTION

THIS DRAWING IS THE PROPERTY OF MAQUET USA INC. THE INFORMATION CONTAINED HERON MAY NOT BE REPRODUCED OF COMMUNICATED TO THIRD PARTIES WITHOUT PRIOR WRITTEN PERMISSION.

DRAWING APPROVAL

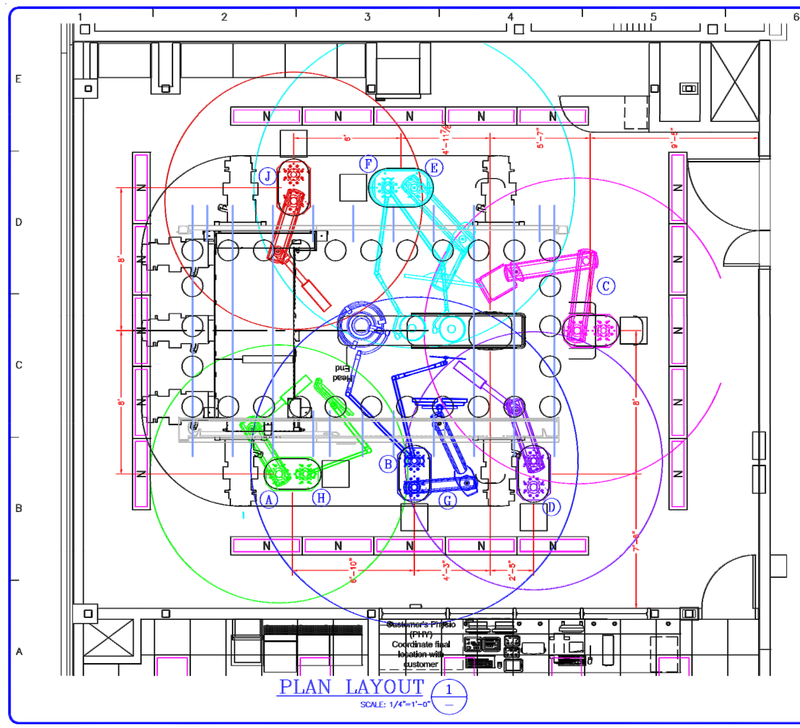
WITH SIGNATURE ON TITLE SHEET CUSTOMER HEREBY APPROVES THIS SHEET IS ACCURATE AND REFLECTS CUSTOMERS APPROVAL

DESCRIPTION: HYBRID ROOM NOTES

PROJECT: NEBRASKA HEART HOSPTIAL LINCOLN, NE

MAQUET GETINGE GROUP

DRAWN BY: P FRASER	SCALE: NONE
DATE: 8/31/11	SHEET #: 2
DRAWING NUMBER: M1436–001	REV: G



ITEM:	QTY:	DESCRIPTION
A	1	PLG9.12 ANESTHESIA BOOM
B	1	SAT30S–PWD70SFHORDD SURG LIGHT
C	1	HM12.12 EQUIPMENT BOOM
D	1	PLG9.12 PERFUSION BOOM
E	1	SAT30SF–PWD30SFHOR SURG LIGHT
F	1	MPWR12.8 MONITOR BOOM
G	1	MC9.11 MONITOR BOOM
H	1	XD MONITOR ARM
J	1	PLG9.12 UTILITY BOOM

SPECIAL CONSIDERATIONS

REV	BY	DATE	DESCRIPTION
A	PLF	1/27/12	REVISE BACKGROUNDS
B	PLF	2/7/12	REVISE BACKGROUNDS
C	PLF	1/14/12	REVISE BACKGROUNDS
D	PLF	2/21/12	REVISE PER ORSD
E	PLF	2/24/12	REVISE PER ORDER
F	PLF	3/7/12	REVISE BACKGROUNDS
G	PLF	3/28/12	REVISE BACKGROUNDS

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DRAWING APPROVAL

WITH SIGNATURE ON TITLE SHEET CUSTOMER HEREBY APPROVES THIS SHEET IS ACCURATE AND REFLECTS CUSTOMERS APPROVAL

DESCRIPTION: HYBRID ROOM PLAN LAYOUT

PROJECT: NEBRASKA HEART HOSPTIAL LINCOLN, NE

MAQUET GETINGE GROUP

DRAWN BY: P FRASER	SCALE: 1/4"=1'-0"
DATE: 8/31/11	SHEET #: 3
DRAWING NUMBER: M1436–001	REV: G

innerspace studios
335 north 8th street, suite c lincoln, nebraska 68508 402.475.7234

Structural Engineers
Structural Design Group
1500 N. 27th Street, Suite 100
Lincoln, NE 68508
402.438.7788

Mechanical/Electrical Engineers
Morrissey Engineering, Inc.
4640 N. 30th Street
Omaha, NE 68164
402.491.4144

PROFESSIONAL ENGINEER
STEPHEN M. FARRINGTON
E-11987
03/27/12
REGISTERED
STATE OF NEBRASKA

Hybrid Operating Room Addition
Nebraska Heart Hospital
7500 South 91st
Lincoln, NE 68526

Description	Date

Designed:	smf
Drawn:	smf
Reviewed:	smf
Project No:	11215

Maquet Equipment - Power Plan

Sheet No.
E701

File Path

MODUTEC TABLE OF MODELS AND LOADS

MODEL	LOADED WEIGHT (LBS)	LOADED MOMENT (FT-LBS)	MODEL	LOADED WEIGHT (LBS)	LOADED MOMENT (FT-LBS)
PLG 12.0	119	185	HM 9-9	670	3458
PLG 9.12	256	321	HM 12-9	617	3481
LL 6-0	783	2076	HM 12-12	578	3481
LL 9-0	617	2076	HH 6-6	1036	4204
LL 6-6	536	2076	HH 9-6	1054	5145
LL 9-6	467	2076	HH 9-9	1060	5955
LL 9-9	423	2076	HH 12-6	1052	5948
MM 6-0	893	2366	HH 12-9	959	5948
MM 9-0	816	2815	HH 12-12	891	5962
MM 12-0	683	2822	MPWR 0-8	645	1689
MM 6-6	708	2822	MPWR 0-10	543	1493
MM 9-6	617	2822	MPWR 6-8	768	3014
MM 9-9	560	2829	MPWR 6-10	631	2582
MM 12-6	553	2829	MPWR 9-8	758	3704
MM 12-9	512	2822	MPWR 9-10	649	3153
MM 12-12	481	2829	MPWR 12-8	805	4415
HM 9-0	933	3228			
HM 12-0	822	3422			

LIGHTS

MODEL	LOADED WEIGHT (LBS)	LOADED MOMENT (FT-LBS)
SINGLE ARM SURGICAL LIGHT	91	342
DUAL ARM SURGICAL LIGHT	176	779
TRIPLE ARM SURGICAL LIGHT	314	1728
SATELITE	939	2338
BLUE 30/80 MINOR LIGHT	132	221

USE HEAVIEST UNITS AND MAX TORQUES ON THE TABLE FOR DESIGNING THE STRUCTURE IF THE MODELS ARE UNKNOWN AT THE TIME OF DESIGN

ITEM:	QTY:	DESCRIPTION
A	1	PLG9.12 ANESTHESIA BOOM
B	1	SATXS-PMD70SFHORXD SURG LIGHT
C	1	HM12.12 EQUIPMENT BOOM
D	2	PLG9.12 PERFUSION BOOM
E	1	SAT30SF-PMD30SFHOR SURG LIGHT
F	1	MPWR12.8 MONITOR BOOM
G	1	MC9.11 MONITOR BOOM
H	1	XD MONITOR ARM
J	1	PLG9.12 UTILITY BOOM

REV	BY	DATE	DESCRIPTION
A	PLF	1/27/12	REVISE BACKGROUNDS
B	PLF	2/7/12	REVISE BACKGROUNDS
C	PLF	1/14/12	REVISE BACKGROUNDS
D	PLF	2/21/12	REVISE PER OR3D
E	PLF	2/24/12	REVISE PER ORDER
F	PLF	3/7/12	REVISE BACKGROUNDS
G	PLF	3/28/12	REVISE BACKGROUNDS

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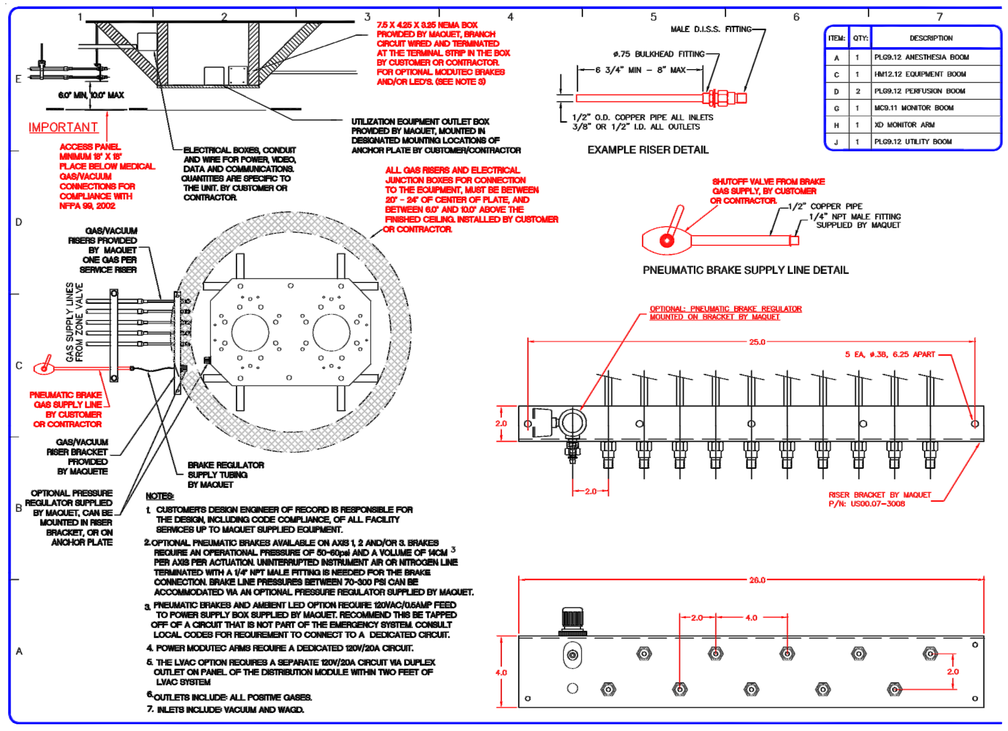
DRAWING APPROVAL
WITH SIGNATURE ON TITLE SHEET CUSTOMER HEREBY APPROVES THIS SHEET IS ACCURATE AND REFLECTS CUSTOMERS APPROVAL

DESCRIPTION: HYBRID ROOM LOAD TABLE
PROJECT: NEBRASKA HEART HOSPTIAL LINCOLN, NE

MAQUET GETINGE GROUP

DRAWN BY:	SCALE:
P FRASER	NONE
DATE: 8/31/11	SHEET #: 10
DRAWING NUMBER: M1436-001	REV: G



ITEM:	QTY:	DESCRIPTION
A	1	PLG9.12 ANESTHESIA BOOM
C	1	HM12.12 EQUIPMENT BOOM
D	2	PLG9.12 PERFUSION BOOM
G	1	MC9.11 MONITOR BOOM
H	1	XD MONITOR ARM
J	1	PLG9.12 UTILITY BOOM

REV	BY	DATE	DESCRIPTION
A	PLF	1/27/12	REVISE BACKGROUNDS
B	PLF	2/7/12	REVISE BACKGROUNDS
C	PLF	1/14/12	REVISE BACKGROUNDS
D	PLF	2/21/12	REVISE PER OR3D
E	PLF	2/24/12	REVISE PER ORDER
F	PLF	3/7/12	REVISE BACKGROUNDS
G	PLF	3/28/12	REVISE BACKGROUNDS

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DRAWING APPROVAL
WITH SIGNATURE ON TITLE SHEET CUSTOMER HEREBY APPROVES THIS SHEET IS ACCURATE AND REFLECTS CUSTOMERS APPROVAL

DESCRIPTION: HYBRID ROOM GAS/ELECTRICAL DETAIL
PROJECT: NEBRASKA HEART HOSPTIAL LINCOLN, NE

MAQUET GETINGE GROUP

DRAWN BY:	SCALE:
P FRASER	NONE
DATE: 8/31/11	SHEET #: 12
DRAWING NUMBER: M1436-001	REV: G

Mechanical/Electrical/Plumbing Engineers
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STEPHEN M. FARRINGTON E-11987 03/27/12 PROFESSIONAL ENGINEER ELECTRICAL STATE OF NEBRASKA

Hybrid Operating Room Addition
Nebraska Heart Hospital
7500 South 91st
Lincoln, NE 68526

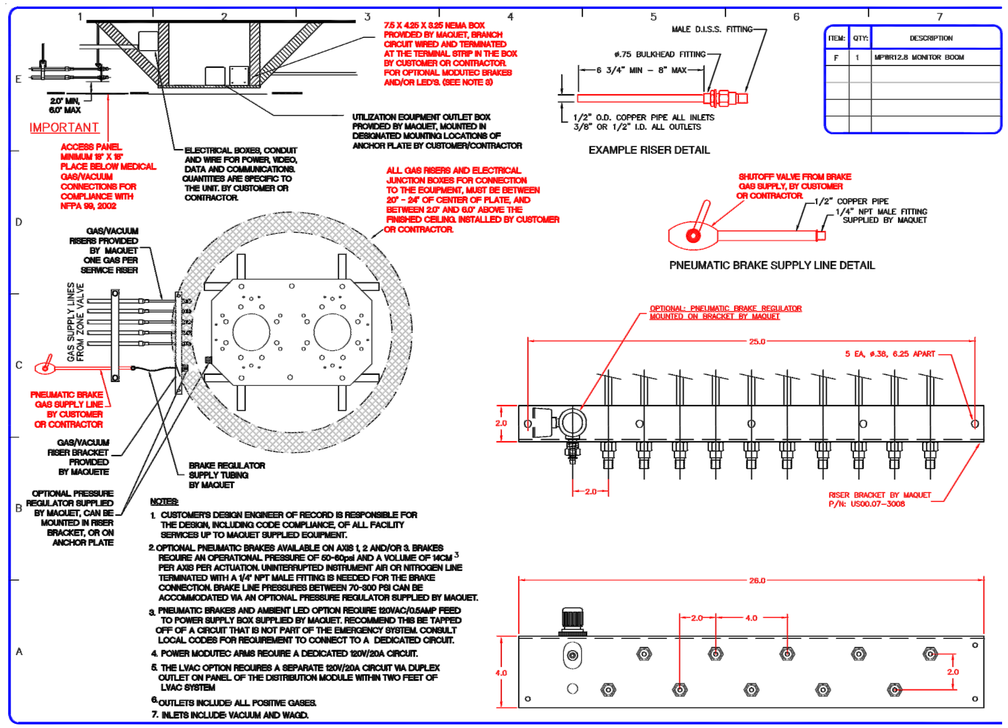
Description	Date

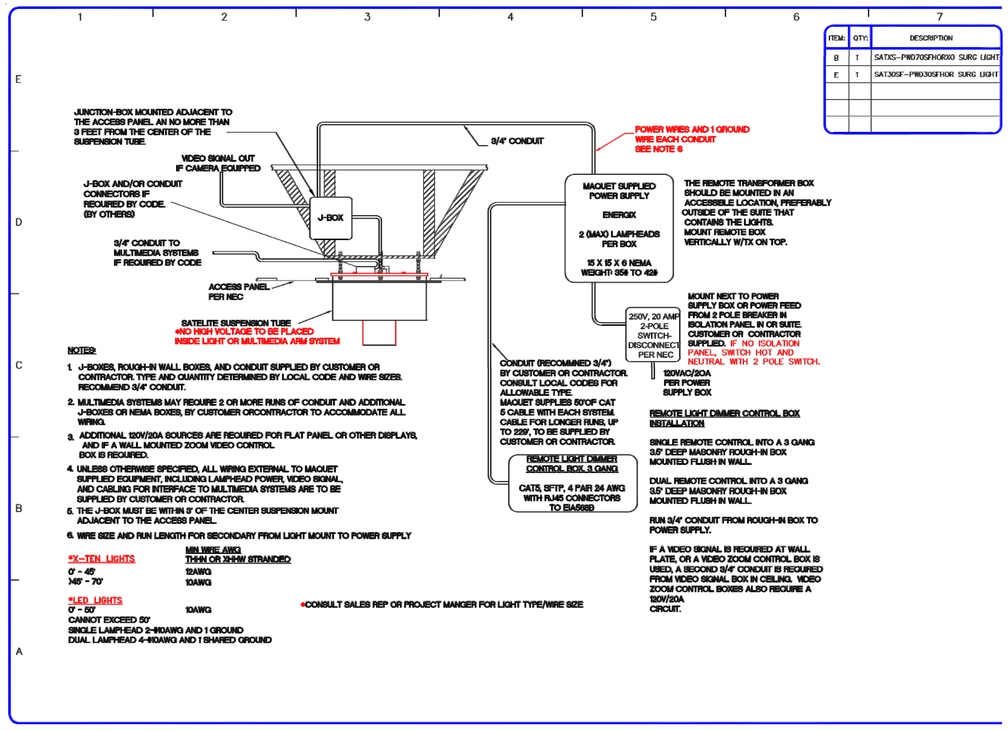
Designed: smf
Drawn: smf
Reviewed: smf
Project No: 11215

Maquet Equipment - Power Plan

Sheet No.
E702

File Path





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1500 N. 48th Street, Suite 100
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STEPHEN M. FARRINGTON E-11987 03/27/12 — PROFESSIONAL ELECTRICAL ENGINEER — STATE OF NEBRASKA

Hybrid Operating Room Addition
Nebraska Heart Hospital
7500 South 91st
Lincoln, NE 68526

Designed: smf
Drawn: smf
Reviewed: smf
Project No: 11215

Maquet Equipment - Power Plan

Sheet No.
E703

File Path

CIRCUIT IDENTIFICATION

CIRCUIT 1 = FRONT 4, 5
CIRCUIT 2 = FRONT 6, 7
CIRCUIT 3 = FRONT 8, 9
CIRCUIT 4 = —
CIRCUIT 5 = —
CIRCUIT 6 = —

SPECIAL

☐ ENGRAVED OUTLET COVERS, SPECIFICATIONS PROVIDED TO MAQUET BY THE CUSTOMER
MAX CAPACITY 7 ELECTRICAL AND DATA PER PANEL

NOTE: 11 GAS/ELECTRIC LINES MAX PER UNIT

8 GAS OUTLETS PER PANEL MAX
10 ELECTRIC OUTLETS PER PANEL MAX

DATA OUTLETS REQUIRE 1.5 OUTLET LOCATIONS

GAS
1 2 3 4 5 6 7 8
FRONT

ELECTRICAL
1 2 3 4 5 6 7 8 9 10
BACK

OR

ELECTRICAL
1 2 3 4 5 6 7 8 9 10
F F R R R R R R
FRONT

GAS
1 2 3 4 5 6 7 8
O C V NO V A E O
BACK

DESIGN NOTES:
HIGH VOLTAGE CIRCUITS DELIVERED IN 9/16" CONDUIT WITH BACK BOXES, 2 CIRCUITS PER CONDUIT

LOW VOLTAGE DATA OUTLETS REQUIRE 1.5 OUTLET LOCATIONS

ELECTRICAL/DATA CONDUIT DELIVERED IS 9/16"

ANESTHESIA CONFIGURATION — MOUNT A

SCALE: NTS

ITEM:	QTY:	DESCRIPTION
A	1	PL09.12 ANESTHESIA BOOM

LEGEND

ID	QTY:	DESCRIPTION
O	2	OXYGEN
A	1	MEDICAL AIR
V	2	VACUUM
C	1	CARBON DIOXIDE
N		NITROGEN
NO	1	NITROUS OXIDE
E	1	WAGD
NP		NITROGEN REGULATOR PANEL
F	2	DATA – FACE PLATE ONLY
D		DATA – CONDUIT/PULL STRING
R	6	RED DUPLEX
W		WHITE DUPLEX
L		LED AMBIENT SWITCH
M		MOTOR CONTROL
NC		NURSE CALL

GAS OUTLET TYPE

☐ D.I.S.S.
☐ CHEMETRON COMPATIBLE
☒ OHMEDA/MEDAES/HILL-ROM
☐ PURITAN BENNETT
☐ OTHER _____

NOTE: BEACON MANUFACTURED OUTLETS UNLESS OTHERWISE SPECIFIED.

WIRE TYPE

3 NO. OF CIRCUITS PER UNIT
☐ STANDARD/EMERGENCY POWER BLACK, WHITE, GREEN WIRE
☒ ISOLATED POWER ORANGE, BROWN, GREEN WIRE
☐ TAMPER RESISTANT DUPLEXES

RECEPTACLE ORIENTATION

REV	BY	DATE	DESCRIPTION
A	PLF	1/27/12	REVISE BACKGROUNDS
B	PLF	2/7/12	REVISE BACKGROUNDS
C	PLF	1/14/12	REVISE BACKGROUNDS
D	PLF	2/21/12	REVISE PER OR30
E	PLF	2/24/12	REVISE PER ORDER
F	PLF	3/7/12	REVISE BACKGROUNDS
G	PLF	3/28/12	REVISE BACKGROUNDS

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DRAWING APPROVAL
WITH SIGNATURE ON TITLE SHEET CUSTOMER HEREBY APPROVES THIS SHEET IS ACCURATE AND REFLECTS CUSTOMERS APPROVAL

DESCRIPTION: HYBRID ROOM SERVICE CONFIGURATIONS
PROJECT: NEBRASKA HEART HOSPTIAL LINCOLN, NE

MAQUET GETINGE GROUP

DRAWN BY:	SCALE:
P FRASER	NONE
DATE: 8/31/11	SHEET #: 16
DRAWING NUMBER: M1436-001	REV: G

ELECTRO-PNEUMATIC BRAKES

☐ AXIS 1 – CEILING
☐ AXIS 2
☐ AXIS 3

AMBIENT LIGHTING

☐ YES SWITCH LOCATION REQUIRED
☐ NO

MOTORIZED

☐ YES LOCATION OF EMERGENCY STOP REQUIRED
☐ NO

SHELVING

NUMBER OF SHELVES PER UNIT _____
QTY
☐ SHELF 15.7" X 19.7"
☐ SHELF 19.7" X 19.7"
☐ SHELF 23.6" X 19.7"
☐ LVAC (WITH 15.7" x 19.7" SHELF)

CIRCUIT IDENTIFICATION

CIRCUIT 1 = B2, B3
CIRCUIT 2 = B4, B5
CIRCUIT 3 = B6, C4
CIRCUIT 4 = C5, C6
CIRCUIT 5 = —
CIRCUIT 6 = —

SPECIAL

☐ ENGRAVED OUTLET COVERS, SPECIFICATIONS PROVIDED TO MAQUET BY THE CUSTOMER

PANEL C
PANEL A PANEL B

NOTE: 12 GAS/ELECTRIC LINES MAX PER UNIT

7 GAS OUTLETS PER PANEL MAX
6 ELECTRIC OUTLETS PER PANEL MAX

LVAC MUST BE LOCATED IN LOWEST POSITIONS

PANEL A
GAS ELECTRICAL OR MIXED
1 O 1
2 C 2
3 V 3
4 4
5 5
6 6
7

OR

PANEL B
GAS ELECTRICAL OR MIXED
1 F 1
2 R 2
3 R 3
4 R 4
5 R 5
6 6
7

OR

PANEL C
GAS ELECTRICAL OR MIXED
1 L 1
2 F 2
3 F 3
4 R 4
5 R 5
6 R 6
7

DESIGN NOTES:
LVAC MUST BE LOCATED IN LOWEST POSITIONS WITH DEDICATED CIRCUIT, LOCATED WITHIN 2 FEET OF LVAC UNIT.

HIGH VOLTAGE CIRCUITS DELIVERED IN 9/16" CONDUIT WITH BACK BOXES 2 CIRCUITS PER CONDUIT

MOTORIZED UNITS MUST HAVE EMERGENCY STOP. UNIT REQUIRES TWO VERTICAL ELECTRICAL OUTLETS

VERTICAL NITROGEN REGULATOR REQUIRES THREE GAS OUTLET LOCATIONS

ELECTRICAL/DATA CONDUIT DELIVERED IS 9/16"

MIXING GAS AND ELECTRICAL RULES; MUST USE OUTLET QUANTITIES OF AN ELECTRICAL PANEL. GAS OUTLETS MUST LOCATED ABOVE ELECTRICAL AND DATA OUTLETS.

PANEL A

NOTE: 8 GAS/ELECTRIC LINES MAX PER UNIT

3 GAS OUTLETS PER PANEL MAX
2 ELECTRIC OUTLETS PER PANEL MAX

LVAC MUST BE LOCATED IN LOWEST POSITIONS

PANEL A
GAS ELECTRICAL OR MIXED
1 V 1
2 2
3 3

EQUIPMENT CONFIGURATION — MOUNT C

SCALE: NTS

ITEM:	QTY:	DESCRIPTION
C	1	HM12.12 EQUIPMENT BOOM

LEGEND

ID	QTY:	DESCRIPTION
O	1	OXYGEN
A		MEDICAL AIR
V	2	VACUUM
C	1	CARBON DIOXIDE
N		NITROGEN
NO		NITROUS OXIDE
E		WAGD
NP		NITROGEN REGULATOR PANEL
F	3	DATA – FACE PLATE ONLY
D		DATA – CONDUIT/PULL STRING
R	8	RED DUPLEX
W		WHITE DUPLEX
L		LED AMBIENT SWITCH
M		MOTOR CONTROL
NC		NURSE CALL

GAS OUTLET TYPE

☐ D.I.S.S.
☐ CHEMETRON COMPATIBLE
☒ OHMEDA/MEDAES/HILL-ROM
☐ PURITAN BENNETT
☐ OTHER _____

NOTE: BEACON MANUFACTURED OUTLETS UNLESS OTHERWISE SPECIFIED.

WIRE TYPE

4 NO. OF CIRCUITS PER UNIT
☐ STANDARD/EMERGENCY POWER BLACK, WHITE, GREEN WIRE
☒ ISOLATED POWER ORANGE, BROWN, GREEN WIRE
☐ TAMPER RESISTANT DUPLEXES

RECEPTACLE ORIENTATION

REV	BY	DATE	DESCRIPTION
A	PLF	1/27/12	REVISE BACKGROUNDS
B	PLF	2/7/12	REVISE BACKGROUNDS
C	PLF	1/14/12	REVISE BACKGROUNDS
D	PLF	2/21/12	REVISE PER OR30
E	PLF	2/24/12	REVISE PER ORDER
F	PLF	3/7/12	REVISE BACKGROUNDS
G	PLF	3/28/12	REVISE BACKGROUNDS

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DRAWING APPROVAL
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DESCRIPTION: HYBRID ROOM SERVICE CONFIGURATIONS
PROJECT: NEBRASKA HEART HOSPTIAL LINCOLN, NE

MAQUET GETINGE GROUP

DRAWN BY:	SCALE:
P FRASER	NONE
DATE: 8/31/11	SHEET #: 17
DRAWING NUMBER: M1436-001	REV: G

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402.491.4144

LICENSED PROFESSIONAL ENGINEER
STEPHEN M. FARRINGTON
E-11987
03/27/12
STATE OF NEBRASKA

Hybrid Operating Room Addition
Nebraska Heart Hospital
7500 South 91st
Lincoln, NE 68526

Date	Description

Designed: smf
Drawn: smf
Reviewed: smf
Project No: 11215

Maquet Equipment - Power Plan

Sheet No.
E704

File Path

CIRCUIT IDENTIFICATION

CIRCUIT 1 = FRONT 4, 5
CIRCUIT 2 = FRONT 6, 7
CIRCUIT 3 = FRONT 8, 9
CIRCUIT 4 = —
CIRCUIT 5 = —
CIRCUIT 6 = —

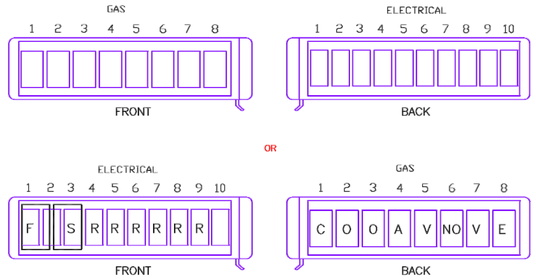
SPECIAL

☐ ENGRAVED OUTLET COVERS, SPECIFICATIONS PROVIDED TO MAQUET BY THE CUSTOMER
MAX CAPACITY 7 ELECTRICAL AND DATA PER PANEL

NOTE: 11 GAS/ELECTRIC LINES MAX PER UNIT

8 GAS OUTLETS PER PANEL MAX
10 ELECTRIC OUTLETS PER PANEL MAX

DATA OUTLETS REQUIRE 1.5 OUTLET LOCATIONS



DESIGN NOTES:
HIGH VOLTAGE CIRCUITS DELIVERED IN 9/16" CONDUIT WITH BACK BOXES, 2 CIRCUITS PER CONDUIT

LOW VOLTAGE DATA OUTLETS REQUIRE 1.5 OUTLET LOCATIONS

ELECTRICAL/DATA CONDUIT DELIVERED IS 9/16"

PERFUSION CONFIGURATION — MOUNT D

SCALE: NTS

1/—

ITEM:	QTY:	DESCRIPTION
D	1	PL09.12 PERFUSION BOOM

LEGEND

ID	QTY:	DESCRIPTION
O	2	OXYGEN
A	1	MEDICAL AIR
V	2	VACUUM
C	1	CARBON DIOXIDE
N		NITROGEN
NO	1	NITROUS OXIDE
E	1	WAGD
NP		NITROGEN REGULATOR PANEL
F	1	DATA – FACE PLATE ONLY
D		DATA – CONDUIT/PULL STRING
R	6	RED DUPLEX
W		WHITE DUPLEX
L		LED AMBIENT SWITCH
M		MOTOR CONTROL
S	1	22V FOR LASER

GAS OUTLET TYPE

☐ D.I.S.S.
☐ CHEMETRON COMPATIBLE
☒ OHMEDA/MEDAES/HILL-ROM
☐ PURITAN BENNETT
☐ OTHER _____

NOTE: BEACON MANUFACTURED OUTLETS UNLESS OTHERWISE SPECIFIED.

WIRE TYPE

3 NO. OF CIRCUITS PER UNIT
☐ STANDARD/EMERGENCY POWER BLACK, WHITE, GREEN WIRE
☒ ISOLATED POWER ORANGE, BROWN, GREEN WIRE
☐ TAMPER RESISTANT DUPLEXES

RECEPTACLE ORIENTATION

DESCRIPTION	DATE	BY	REV
REVISE BACKGROUNDS	1/27/12	PLF	A
REVISE BACKGROUNDS	2/7/12	PLF	B
REVISE BACKGROUNDS	1/14/12	PLF	C
REVISE PER ORD	2/21/12	PLF	D
REVISE PER ORDER	2/24/12	PLF	E
REVISE BACKGROUNDS	3/7/12	PLF	F
REVISE BACKGROUNDS	3/28/12	PLF	G

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DRAWING APPROVAL

WITH SIGNATURE ON TITLE SHEET CUSTOMER HEREBY APPROVES THIS SHEET IS ACCURATE AND REFLECTS CUSTOMERS APPROVAL

DESCRIPTION: HYBRID ROOM SERVICE CONFIGURATIONS
PROJECT: NEBRASKA HEART HOSPTIAL LINCOLN, NE

MAQUET GETINGE GROUP

DRAWN BY:	SCALE:
P FRASER	NONE
DATE: 8/31/11	SHEET # 18
DRAWING NUMBER: M1436-001	REV: G

ELECTRO-PNEUMATIC BRAKES

☐ AXIS 1 – CEILING
☐ AXIS 2
☐ AXIS 3

AMBIENT LIGHTING

☐ YES SWITCH LOCATION REQUIRED
☐ NO

MOTORIZED

☐ YES LOCATION OF EMERGENCY STOP REQUIRED
☐ NO

SHELVING

NUMBER OF SHELVES PER UNIT _____
QTY
☐ SHELF 15.7" X 19.7"
☐ SHELF 19.7" X 19.7"
☐ SHELF 23.6" X 19.7"
☐ LVAC (WITH 15.7" x 19.7" SHELF)

CIRCUIT IDENTIFICATION

CIRCUIT 1 = A2, C2
CIRCUIT 2 = —
CIRCUIT 3 = —
CIRCUIT 4 = —
CIRCUIT 5 = —
CIRCUIT 6 = —

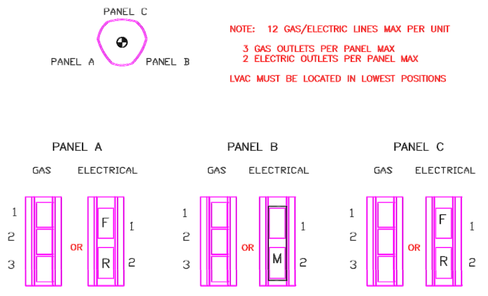
SPECIAL

☐ ENGRAVED OUTLET COVERS, SPECIFICATIONS PROVIDED TO MAQUET BY THE CUSTOMER

NOTE: 12 GAS/ELECTRIC LINES MAX PER UNIT

3 GAS OUTLETS PER PANEL MAX
2 ELECTRIC OUTLETS PER PANEL MAX

LVAC MUST BE LOCATED IN LOWEST POSITIONS



DESIGN NOTES:
LVAC MUST BE LOCATED IN LOWEST POSITIONS WITH DEDICATED CIRCUIT, LOCATED WITHIN 2 FEET OF LVAC UNIT.

HIGH VOLTAGE CIRCUITS DELIVERED IN 9/16" CONDUIT WITH BACK BOXES 2 CIRCUITS PER CONDUIT

MOTORIZED UNITS MUST HAVE EMERGENCY STOP, UNIT REQUIRES TWO VERTICAL ELECTRICAL OUTLETS

VERTICAL NITROGEN REGULATOR REQUIRES THREE GAS OUTLET LOCATIONS

ELECTRICAL/DATA CONDUIT DELIVERED IS 9/16"

THIS UNIT DOES NOT ALLOW MIXING GAS AND ELECTRICAL

MONITOR CONFIGURATION — MOUNT G

SCALE: NTS

1/—

ITEM:	QTY:	DESCRIPTION
G	1	MC9.11 MONITOR BOOM

LEGEND

ID	QTY:	DESCRIPTION
O		OXYGEN
A		MEDICAL AIR
V		VACUUM
C		CARBON DIOXIDE
N		NITROGEN
NO		NITROUS OXIDE
E		WAGD
NP		NITROGEN REGULATOR PANEL
F	2	DATA – FACE PLATE ONLY
D		DATA – CONDUIT/PULL STRING
R	2	RED DUPLEX
W		WHITE DUPLEX
L		LED AMBIENT SWITCH
M	1	MOTOR CONTROL
NC		NURSE CALL

GAS OUTLET TYPE

☐ D.I.S.S.
☐ CHEMETRON COMPATIBLE
☒ OHMEDA/MEDAES/HILL-ROM
☐ PURITAN BENNETT
☐ OTHER _____

NOTE: BEACON MANUFACTURED OUTLETS UNLESS OTHERWISE SPECIFIED.

WIRE TYPE

1 NO. OF CIRCUITS PER UNIT
☐ STANDARD/EMERGENCY POWER BLACK, WHITE, GREEN WIRE
☒ ISOLATED POWER ORANGE, BROWN, GREEN WIRE
☐ TAMPER RESISTANT DUPLEXES

RECEPTACLE ORIENTATION

DESCRIPTION	DATE	BY	REV
REVISE BACKGROUNDS	1/27/12	PLF	A
REVISE BACKGROUNDS	2/7/12	PLF	B
REVISE BACKGROUNDS	1/14/12	PLF	C
REVISE PER ORD	2/21/12	PLF	D
REVISE PER ORDER	2/24/12	PLF	E
REVISE BACKGROUNDS	3/7/12	PLF	F
REVISE BACKGROUNDS	3/28/12	PLF	G

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DRAWING APPROVAL

WITH SIGNATURE ON TITLE SHEET CUSTOMER HEREBY APPROVES THIS SHEET IS ACCURATE AND REFLECTS CUSTOMERS APPROVAL

DESCRIPTION: HYBRID ROOM SERVICE CONFIGURATIONS
PROJECT: NEBRASKA HEART HOSPTIAL LINCOLN, NE

MAQUET GETINGE GROUP

DRAWN BY:	SCALE:
P FRASER	NONE
DATE: 8/31/11	SHEET # 19
DRAWING NUMBER: M1436-001	REV: G

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402.491.4144

STEPHEN M. FARRINGTON E-11987 03/27/12 PROFESSIONAL ELECTRICAL ENGINEER STATE OF NEBRASKA

Hybrid Operating Room Addition
Nebraska Heart Hospital
7500 South 91st
Lincoln, NE 68526

Description	Date

Designed: smf
Drawn: smf
Reviewed: smf
Project No: 11215

Maquet Equipment - Power Plan

Sheet No.
E705

File Path

CIRCUIT IDENTIFICATION	
CIRCUIT 1 =	FRONT 4, 5
CIRCUIT 2 =	FRONT 6, 7
CIRCUIT 3 =	FRONT 8, 9
CIRCUIT 4 =	—
CIRCUIT 5 =	—
CIRCUIT 6 =	—

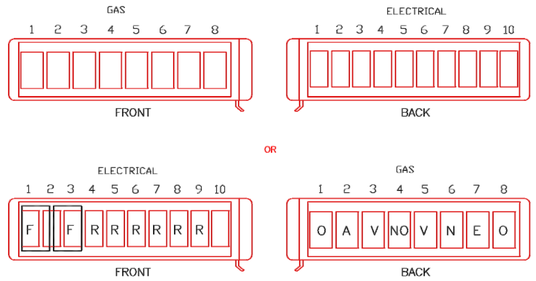
SPECIAL

☐ ENGRAVED OUTLET COVERS, SPECIFICATIONS PROVIDED TO MAQUET BY THE CUSTOMER
MAX CAPACITY 7 ELECTRICAL AND DATA PER PANEL

NOTE: 11 GAS/ELECTRIC LINES MAX PER UNIT

8 GAS OUTLETS PER PANEL MAX
10 ELECTRIC OUTLETS PER PANEL MAX

DATA OUTLETS REQUIRE 1.5 OUTLET LOCATIONS



DESIGN NOTES:
HIGH VOLTAGE CIRCUITS DELIVERED IN 9/16" CONDUIT WITH BACK BOXES, 2 CIRCUITS PER CONDUIT

LOW VOLTAGE DATA OUTLETS REQUIRE 1.5 OUTLET LOCATIONS

ELECTRICAL/DATA CONDUIT DELIVERED IS 9/16"

UTILITY CONFIGURATION – MOUNT J

SCALE: NTS

(1)

ITEM:	QTY:	DESCRIPTION
J	1	PL69.12 UTILITY BOOM

LEGEND

ID	QTY:	DESCRIPTION
O	2	OXYGEN
A	1	MEDICAL AIR
V	2	VACUUM
C		CARBON DIOXIDE
N	1	NITROGEN
NO	1	NITROUS OXIDE
E	1	WAGD
NP		NITROGEN REGULATOR PANEL
F	2	DATA – FACE PLATE ONLY
D		DATA – CONDUIT/PULL STRING
R	6	RED DUPLEX
W		WHITE DUPLEX
L		LED AMBIENT SWITCH
M		MOTOR CONTROL
NC		NURSE CALL

GAS OUTLET TYPE

☐ D.I.S.S.
☐ CHEMETRON COMPATIBLE
☒ OHMEDA/MEDAES/HILL-ROM
☐ PURITAN BENNETT
☐ OTHER _____

NOTE: BEACON MANUFACTURED OUTLETS UNLESS OTHERWISE SPECIFIED.

WIRE TYPE

3 NO. OF CIRCUITS PER UNIT
☐ STANDARD/EMERGENCY POWER BLACK, WHITE, GREEN WIRE
☒ ISOLATED POWER ORANGE, BROWN, GREEN WIRE
☐ TAMPER RESISTANT DUPLEXES

RECEPTACLE ORIENTATION

REV	BY	DATE	DESCRIPTION
A	PLF	1/27/12	REVISE BACKGROUNDS
B	PLF	2/7/12	REVISE BACKGROUNDS
C	PLF	2/14/12	REVISE BACKGROUNDS
D	PLF	2/21/12	REVISE PER OR30
E	PLF	2/24/12	REVISE PER ORDER
F	PLF	3/7/12	REVISE BACKGROUNDS
G	PLF	3/28/12	REVISE BACKGROUNDS

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DESCRIPTION: HYBRID ROOM SERVICE CONFIGURATIONS
PROJECT: NEBRASKA HEART HOSPTIAL LINCOLN, NE

MAQUET
GETINGE GROUP

DRAWN BY:	SCALE:
P FRASER	NONE
DATE: 8/31/11	SHEET # 20
DRAWING NUMBER: M1436-001	REV: G

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STEPHEN M. FARRINGTON
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03/27/12
STATE OF NEBRASKA

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Nebraska Heart Hospital
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Lincoln, NE 68526

Description	Date

Description	Date

Designed: smf
Drawn: smf
Reviewed: smf
Project No: 11215

Maquet Equipment - Power Plan

Sheet No.
E706

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