

LCLS Room Data Sheet #	1.9-1007	Beam Transport Hall - Service Building #1	Revision 2
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	Signature	Date
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	Signature	Date
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	Signature	Date

REVISION INFORMATION

Rev 2. Changes to floor specs, general deletions, added electrical requirements, revised HVAC schematic and added electrical outlets. Changed heat rejected load for the racks. Updated applicable standards and Codes

ROOM DATA SHEETS

System & WBS Manager: Dave Schultz/Eric Bong

FACILITY COMPONENT	BTH SERVICE BLDG#1 - ROOM DATA SHEET										
	Name of Building	BTH Service Building # 1									
	Organization or Department	SLAC, Stanford University									
	Net area	87.0 sq. meters 938 sf									
	Critical dimensions	<table border="1"> <tr> <td>H:</td> <td>3.66 m</td> <td>12'</td> </tr> <tr> <td>W:</td> <td>7.32 m</td> <td>24'</td> </tr> <tr> <td>L:</td> <td>11.89 m</td> <td>39'</td> </tr> </table>	H:	3.66 m	12'	W:	7.32 m	24'	L:	11.89 m	39'
H:	3.66 m	12'									
W:	7.32 m	24'									
L:	11.89 m	39'									
	Hours of operation	24/7/365 locked, occupied only for equipment service and maintenance									
	Users/Occupancy	Only during service and maintenance periods									
	Building orientation	East/West									
FUNCTIONAL OBJECTIVE	To house rack mounted diagnostic equipment and free standing power supplies to run/monitor the ~1st third of BTH .										
PLANNING CONSIDERATIONS & CRITICAL FACTORS	<ol style="list-style-type: none"> 1) Building is placed on top of BTH structure. 2) Provide two (2) 24" penetrations for the building (One near the North wall of the BTH housing & another on the South wall of the BTH housing). Opening shall be centered over trays in housing below. Penetrations must conform with Radiation Physics requirements. 3) Provide stairway for access. 4) Locate access doors to allow the loading and unloading of racks from ground level. 										
FINISHES		Corrugated steel, insulated, painted surface (SLAC Home Spun brown exterior)									
	Ceiling	Corrugated steel, insulated									
	Floor	Housing roof of BTH. Sealed concrete floor-Epoxy painted									
	Base	None									
	Doors	Pair of 3 ft by7ft high insulated hollow metal equipment doors on centerline. Provide a small window on each door.									
	Fenestrations	NA									
	Acoustical	NA									
APPLICABLE STANDARDS	29 CFR Part 1910 Occupational Safety Health Standard Dept of Labor and Part 1926 Safety and Health Regulations for Construction Dept of Labor. Uniform Building Code (UBC) 1997 including appendixes, National Electrical Code (NEC) 2002, 2003 Uniform Mechanical Code (UMC) including appendixes, 2003 Uniform Plumbing Code (UPC) including appendixes, Uniform Fire Code (UFC) including appendixes, California Code of Regulations title 8 Industrial Safety, Title 19 Public Safety, NFPA 70 National Fire Codes, National Electrical Safety Code ANSI C2, Occupational Safety Health Act (OSHA), General Services Administration 41 CFR part 101-19, Environmental Protection Agency 40 CFR Parts 264 and 265 SLAC Environmental safety and Health Manual, General Industrial Activities Storm Water Permit (SLAC Permit), NFPA 101 Life Safety Code, Title 24 Energy Code Standards, DOE Standard 10 CFR Part 435, ASHRAE/IES Standard 90.1, Fire Marshal requirements, LCLS Cabling Standard and SLAC LOTO										

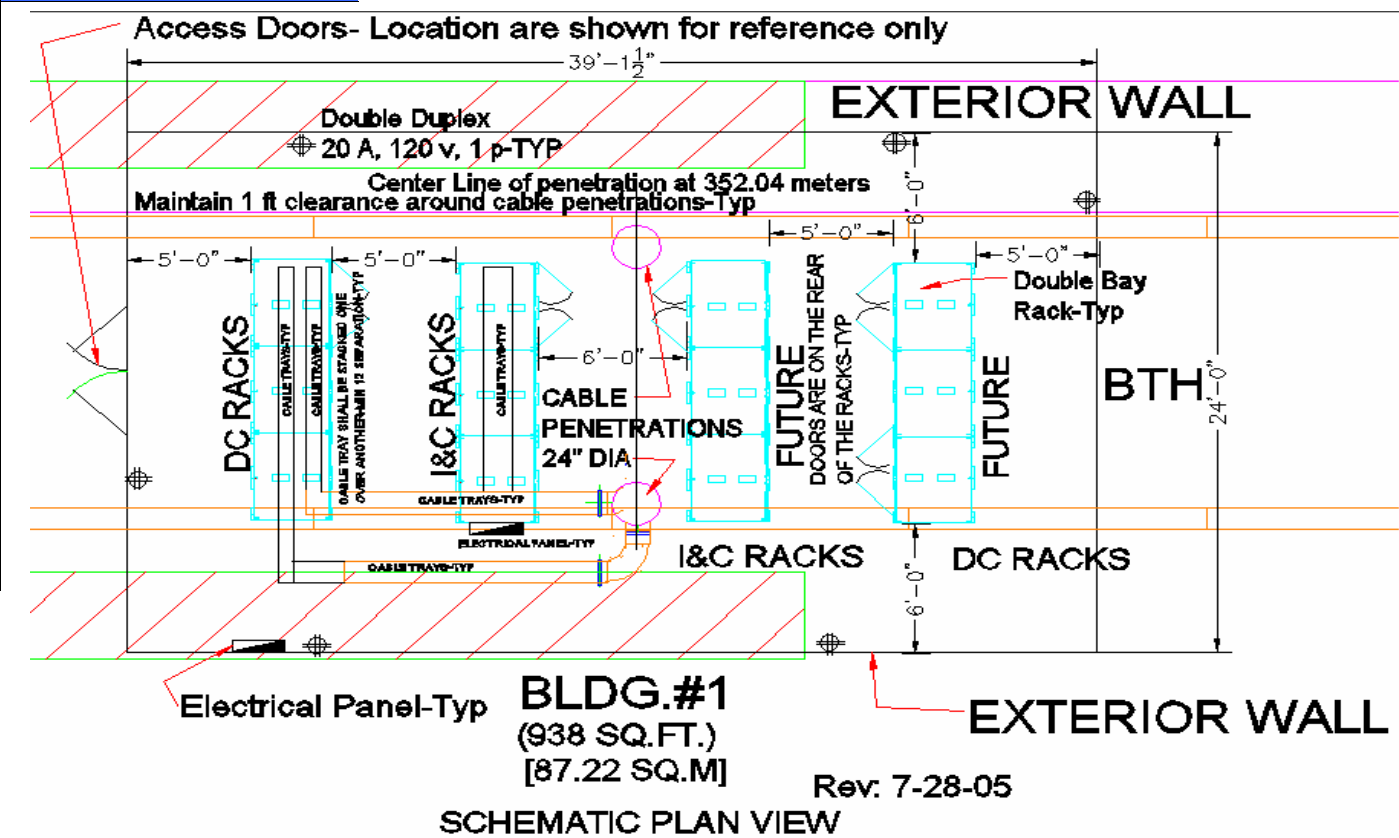
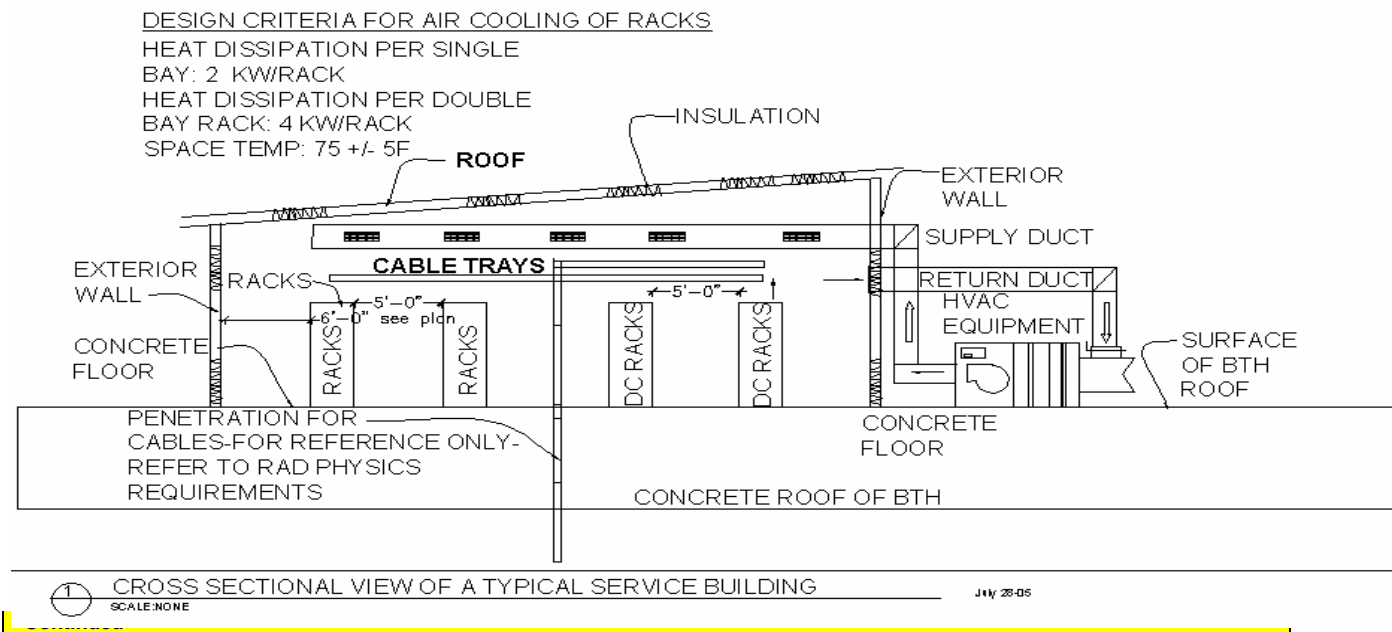


Figure No. 2



MECHANICAL REQUIREMENTS	HVAC	<input type="checkbox"/> Heating system	Temp:	<input type="checkbox"/> Mechanical humidification
		<input checked="" type="checkbox"/> Air conditioning	Temp: 75 F	<input checked="" type="checkbox"/> Direct exhaust system
		<input type="checkbox"/> Direct supply		<input type="checkbox"/> Positive pressure system
		<input type="checkbox"/> Indirect supply		<input type="checkbox"/> Negative pressure system
		<input type="checkbox"/> Smoke control system		<input type="checkbox"/> Standard registers
		<input checked="" type="checkbox"/> Temperature sensors connected to SLAC's DDC system		<input type="checkbox"/> Requirement for gases
		a) Room will be air conditioned. Maximum heat rejected load per each double rack is: 4 kW b) Refer to figure #2		None
	Communications	<input checked="" type="checkbox"/> Telephone- a phone at one location		<input type="checkbox"/> PA speakers
		<input checked="" type="checkbox"/> Dataport- 2 outlets-one location per building		<input type="checkbox"/> PA station
		<input type="checkbox"/> Payphone		<input type="checkbox"/> CCTV camera
		<input checked="" type="checkbox"/> Fire alarm station		<input type="checkbox"/> CCTV monitor
		<input type="checkbox"/> Intercom		
		Comments: a) Provide 24" wide cable trays, 6" deep for I&C cables and control cables for DC racks, and 4" deep for cables for DC racks. b) Cable trays shall be made of galvanized steel, provide each cable tray with 1 # 4/0 bare copper wire as grounding. c) Racks to be furnished and installed by SLAC		
	Plumbing/Fire Protection	<input type="checkbox"/> Hot water system		<input type="checkbox"/> Electric watercooler
		<input type="checkbox"/> Cold water system		<input type="checkbox"/> Drinking fountain Bottled
		<input type="checkbox"/> Tempered water		<input checked="" type="checkbox"/> Smoke detection system
		<input type="checkbox"/> Waste drain		<input checked="" type="checkbox"/> Wet sprinkler heads
		<input type="checkbox"/> Floor drain		<input type="checkbox"/> Eye wash
		<input type="checkbox"/> Trench drain		
Comments:				
ELECTRICAL REQUIREMENTS	Power supply	<input type="checkbox"/> 208 V outlets, 3 phase		<input type="checkbox"/> Uninterrupted power supply
		<input checked="" type="checkbox"/> 110V outlets -20 amps distributed along walls		<input type="checkbox"/> Special electric
		<input type="checkbox"/> Emergency power		Type:
Comments: a) Provide two panels, 120-208 volts, 3 ph (one panel for "clean" power and one "dirty" power-DC Racks) . Each panel shall have a main breaker with a minimum capacity of 125 amps, 70% demand. Capacity: 42 circuits, 22 KAIC. All panels should have 20% spare capacity of additional breaker space. These panels shall be independent of any power panel needed for Utilities, HVAC equipment and service outlets. b) Panel location: (Dirty power on the wall of service building and panel for "clean" power on the end of the I&C racks.				
	Lighting	<input checked="" type="checkbox"/> Light fixtures		<input type="checkbox"/> Remote lighting control
		<input checked="" type="checkbox"/> Fixture type I: Downright		<input checked="" type="checkbox"/> Light switches
		<input type="checkbox"/> Fixture type II: Bollard (exterior)		Lighting level
		<input checked="" type="checkbox"/> Emergency lighting		FC: 30
		Comments: Low profile fixtures preferred.		

RADIATION/SEISMIC/VIBRATIONS ISSUES	Comments: 1. Comply with Radiation Physics requirements for penetrations thru floor (roof of BTH housing).	
SPECIAL REQUIREMENTS FOR EQUIPMENT	Comments:	
ENVIRONMENTAL NEEDS		Refer to cross sectional view for schematic layout of air conditioning system