LCLS Room Data Sheet #	1.9-1036	Near Experimental Hall - Optics Lab	Revision 2

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REVISION INFORMATION

Rev 2, Added panic bars for doors, deleted floor drain. Clarified ceiling height requirements

Updated Standards and Codes- Added diversity factor for power panels. Clarified lighting requirements

ROOM DATA SHEETS

FACILITY COMPONENT	OPTICS LAB - ROOM DATA SHEET			
	Name of Building	Optics Lab -NEH sub Basement		
	Organization or Department	SLAC, Stanford University		
	Net area	98.48	sq. meters includes future mirror tank area (3.49mx10.91m=37.08 sq. m)	1059 sf
	Critical dimensions	**H:**	3.06 m	10'-0"
		W:	8.2 m	26'-11"
		L:	7.4 m	24'-4"
	Hours of operation	Operate during normal business hours		
	Users/Occupancy	Laboratory researchers preparing optical equipment in support of the experiments being conducted in the Laser Labs. Occupancy Group "B".		
	Building orientation	Optics lab in the NEH is located on the basement level directly adjacent to the Open Work area, across from the Laser Bay.		
FUNCTIONAL OBJECTIVE	1- A room devoted entirely to the preparation of optical equipment in support of the experiments being conducted in the Laser Bay and Hutches.			
PLANNING CONSIDERATIONS & CRITICAL FACTORS	Room shall be open to area designated as "Future Mirror Tank Area" (no wall separation, no doors). Refer to figure in RDS NEH Overall			
FINISHES	Walls	Painted reinforced concrete, framed gypsum board assembly		
	Ceiling	Mylar wrapped acoustic tile panels within suspended ceiling assembly.		
	Floor	Epoxy floor coating		
	Base	Rubber base		
	Doors	Pair of 3ft wide by 7 ft high narrow light hollow metal door, card key reader for access. Add panic bar for unobstructed egress.		
	Fenestration	NA		
	Acoustical	Perimeter walls are to be constructed with sound attenuation insulation batts to prevent the shop noise from disturbing the adjacent labs.		
APPLICABLE STANDARDS	29 CFR Part 1910 Occupational Safety and Health Standards Dept of Labor, 29 CFR Part 1926 Safety and Health Regulations for Constructions Dept of Labor, Uniform Building Code (UBC) 1997 including appendixes, National Electric Code (NEC) 2002, Uniform Mechanical Code (UMC) 2003 including appendixes, Uniform Plumbing Code (UPC) 2003 including appendixes, Uniform Fire Code (UFC) 1997 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 and Health Act (OSHA), General Services Administration 41 CFR part 101-19, Environmental Protection Agency 40 CFR Parts 264 and 265, SLAC Environmental Safety & Health Manual, General Industrial Activities Storm Water Permit (SLAC Permit), NFPA 101 life Safety Code, Title 24, DOE standard 10 CFR Part 435, ASHRAE/IES Standards 90.1, NFPA Standard 13 and SLAC Fire Marshal requirements, LCLS Cabling Standard, SLAC LOTO			

VIEWS & SCHEMATICS (N. T. S.)	Refer to RDS NEH Overall

9.11 LIST OF SHOP EQUIPMENT		Equipment	Watts/Voltage	Nos.
		SLAC furnished equipment.		
	Other	Equipment	Watts/Voltage	Nos.

MECHANICAL REQUIREMENTS	**HVAC**	☒	Heating system	Temp:	☐	Mechanical humidification	
		☒	Air conditioning	Temp: 72 degrees F± 1 degree F	☒	Direct exhaust system	
		☐	Direct supply		☐	Positive pressure system	
		☐	Indirect supply		☐	Negative pressure system	
		☐	Smoke control system		☐	Standard registers	
		☒	Temperature sensors connected to SLAC's DDC system		☐	Requirement for gases	
		Centralized Mechanical Utilities: a- Clean dry oil-free compressed air 20 SCFM, 100 psig-Provide shut-off valve and gauge. One location			1- 200 CFM exhaust ducts (6") for process exhaust at 1.5"W.C. static pressure.		
	Communications	☒	Telephone- 2 phone/location- see diagram for locations		☐	PA speakers	
		☒	Data port- 2 outlet/location- see diagram for locations		☐	PA station	
		☐	Payphone		☐	CCTV camera	
		☒	Fire alarm station		☐	CCTV monitor	
		☐	Intercom				
		Comments:					
	Plumbing/Fire Protection	☐	Hot water system		☐	Electric water cooler	
		☐	Cold water system		☐	Drinking fountain	
		☐	Tempered water		☒	Smoke detection system	
		☐	Waste drain		☒	Wet Sprinkler System	
		☐	Floor drain		☐	Eye wash / Safety shower	
		☐	Trench drain				
		Comments:					
ELECTRICAL REQUIREMENTS	**Power supply**	☐	208-230V-1ph outlets		☐	Uninterrupted power supply	
		☒	110V, 1ph Double duplex outlets, 20 amps locate at 10ft apart on all walls.		☐	Special electric	Type:
		☐	Emergency power		☐	208-230V-3ph outlets	
		Comments: Provide two panels, 120-208 volts, 3 ph, (one "clean" and one "dirty" power). Each panel shall have a main breaker. All panels should have 20% spare capacity and additional breaker space. Capacity of each panel: 100 amps/Panel					
	Lighting	☒	Light fixtures - 2' x 4' recessed fluorescent		☐	Remote lighting control	
		☐	Fixture type I: Down light		☒	Light switches	
		☐	Fixture type II: Bollard (exterior)			Lighting level	FC: 75
		☒	Emergency lighting				
		Comments:					
RADIATION/SEISMIC/VIBRATIONS ISSUES	**Comments:** 1- All equipment and systems are to be seismically braced and restrained per Code. 2- The mirror tank area in the sub-basement is the most vibration sensitive area in the project. Refer to Vibration criteria LCLS ESD 1.9-105, Vibration Specification A for Optics Lab Area.						
SPECIAL REQUIREMENTS FOR EQUIPMENT	**Comments:**						

CHEMICALS / GASES	CHEMICALS			SPECIALTY GASES		
	#	Chemical Type	Quantity	#	Gas Type	Quantity
ENVIRONMENTAL NEEDS						