
APPENDIX D

SITE INFORMATION AND MAPS: GAITHERSBURG AND BOULDER

This appendix contains site construction information and maps for the Gaithersburg, MD and Boulder, CO campuses. These tables include information for years prior to 1994. We include the pre-1994 data in this supplement because the information became available after the publication of *Responding to National Needs: The National Bureau of Standards Becomes the National Institute of Standards and Technology 1969-1993*.

NIST Gaithersburg Site Construction 1990-2008

Building number	Building name	Date completed	Area (Gross sq ft)	Area (Gross sq meters)
311	Grounds Storage Shed	9/30/1990	2,511	233
NN	NIST North (Leased Office Bldg.)	10/1/1995	122,120	11,345
313	Site Effluent Neutralization	6/30/1996	245	22
312	Materials Processing Facility	9/30/1996	3,877	360
227	Advanced Chemical Sciences Laboratory (ACSL)	8/1/1998	200,000	18,580
314	Backflow Preventer Building East	10/31/1998	663	61
315	Backflow Preventer Building West	10/31/1998	663	61
215-219	Advanced Measurements Laboratory (AML)	1/30/2004	536,538	49,846
222	Gutted and renovated	6/30/2006	166,101	15,431
NN	NIST North (Leased Office Bldg.)	Vacated 12/31/2006	122,120	11,345
103	Visitor Center	4/1/2009	2,000	185
104	Gate House	4/1/2009	200	18

Source: Joan Stanley, NIST Office of the Chief Facilities Management Officer

Because of security regulations, maps will be provided to NIST staff only, upon appropriate request.

NIST Gaithersburg campus map

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NIST Boulder campus map

CONSTRUCTION SCHEDULE FOR ADVANCED MEASUREMENT LABORATORY

Activity	Start Date	End Date
Bldg 215 (Clean Room)		
Excavate Bldg 215 and Tunnel	Dec. 26, 2000	Jan. 23, 2001
Utility Tunnel Construction	Jan. 22, 2001	April 5, 2001
Install Tower Crane 1	Jan. 8, 2001	Jan. 19, 2001
Bldg 215 Remaining Work	Feb 12, 2001	April 3, 2003
Bldg 216 (Instrument East)		
Excavate Bldg 216	Jan 10, 2001	Feb 6, 2001
Install Tower Crane 2	Feb 7, 2001	Feb 22, 2001
Bldg 216 Remaining Work	March 1, 2001	Nov 25, 2002
Bldg 217 (Instrument West)	Feb 25, 2002	Aug 29, 2003
Bldg 219 (Metrology West)	Dec 18, 2000	Oct 2, 2003
Relocation Completion		June 15, 2004

AML WING COMPLETION SCHEDULE

Wing	Date
Instrument East (216)	Nov 25, 2002
Cleanroom (215)	April 3, 2003
Metrology East (218)	April 14, 2003
Instrument West (217)	August 29, 2003
Metrology West (219)	October 2, 2003

Cost: \$235.2 million

Completion date: June 21, 2004

SUPPLEMENTAL CONSTRUCTION INFORMATION FOR AML

Project Size:

Building Area:

47,480 gross square meters (511,070 gross square feet)

19,537 net assignable square meters (210,295 net square feet)

Net to Gross Ratio:

41.6 %

Gross Building Area Breakdown:

8,520 m² – Cleanroom Wing

9,529 m² – Instrument Lab (East)

11,858 m² – Instrument Lab (West)

8,470 m² – Dynamic Metrology Lab (East)

9,103 m² – Quiet Metrology Lab (West)

Net Building Area Breakdown:

2,407 m² – Offices
9,808 m² – Laboratories
4,086 m² – Laboratory Support
3,236 m² – Building Support

Lab Types:

187 Instrument Lab Modules
151 Metrology Lab Modules

Specialty Areas:

48 Precision Temperature Control Laboratories (± 0.01 °C or ± 0.1 °C)
27 Low Vibration Laboratories (active and passive isolation systems)
8,520 gsm Cleanroom Facility (Class 100 upgradable to Class 10)

Lab General Areas:

Laboratories building-wide feature each of the critical environmental categories listed for the overall building, including:

Air Cleanliness:

HEPA filtration at the supply-side of all laboratory air handlers

Temperature Control:

± 0.25 °C is the baseline for all laboratories, all digital system

Vibration Isolation:

All laboratories are on-grade or below-grade, with a minimum level of “Criterion-A”, isolated slab on-grade. Mechanical, electrical, and structural systems are designed to minimize vibration.

Power Quality:

Laboratories feature a building-wide, conditioned power supply system meeting IEEE Std. 1100-1992 for critical electronic loads.

Acoustical Design:

Considered in the design of all mechanical, architectural, structural, and electrical systems so as not to affect scientific programs. (Based on NC-45 (Labs), NC-55 (Cleanroom) & NC-30 (Special Metrology))

Service Galleys:

Mechanical services (piping, ventilation, & electrical) as well as “dirty” laboratory support equipment and gas bottles are located in a service corridor located between laboratory modules, maximizing flexibility and cleanliness.

Metric Design:

The building is laid out on a hard-metric module and features the use of the metric system wherever economically feasible.

Green Building:

Natural daylighting, energy conservation and recycling are incorporated into the building design and planned operation.

NIST Boulder Site Construction 1951-2008

Project	Construction began	Construction complete	Gross sq ft of project	Total gross sq ft	Total gross sq meters
B5 Heavy Equipment	1951	1951	2,850	2,850	264
B4 Camco	1951	1951	15,403	18,253	1,693
B2 Cryogenics South & North half	1951	1951	45,702	63,955	5,933
B3 Liquefier	1951	1951	20,024	83,979	7,790
B1 Radio Building Library, Aud., Center Spine, Wing 1, Wing 2, Wing 3 & Wing 4	1952	1954	200,257	286,636	26,590
B8 Mesa Test Site	1953	1953	2,400	86,379	8,013
B1 Wing 6	1956	1959	26,200	313,834	29,113
B14 Field Strength Calibration	1958	1958	278	286,914	26,615
B11 Vertical Incidence	1958	1958	408	287,322	26,653
B9 Gas Meter	1958	1958	312	287,634	26,682
B1 Wing 5	1960	1962	77,928	401,562	37,251
B2 Wing "B" Addition	1962	1964	9,800	323,634	30,022
B21 Maintenance Garage	1962	1963	3,968	405,530	37,619
B22 Warehouse	1962	1964	17,280	422,810	39,222
B25 North Shop	1965	1966	3,200	426,010	39,519
B24 Plasma Physics	1965	1967	27,328	453,338	42,054
B25 Offices & South Shop	1973	1975	5,000	458,338	42,517
B24 High Bay Addition	1984	1985	2,682	461,020	42,766
B2 High Bay Addition	1986	1986	3,320	464,340	43,074
B1 Annex B	1987	1987	3,800	468,140	43,427
B1 Annex A	1987	1987	4,200	472,340	43,816
B24 Annex A	1988	1988	4,200	476,540	44,206
B2 Annex A	1989	1989	1,800	478,340	44,373
B2 Annex A	1989	1989	2,400	480,740	44,596
B1 Annex C	1989	1989	4,200	484,940	44,985
B26 Day Care Facility	1989	1989	4,230	489,170	45,378
B23 Hazardous Materials Building	1989	1990	1,435	490,605	45,511
B27 High Frequency	1991	1991	480	491,085	45,555
B1 Annex D	1992	1992	4,200	495,285	45,945
B4 Addition	1994	1994	1,020	496,305	46,039
B26 Addition	1995	1995	4,370	500,675	46,445
B2 Addition	1995	1995	5,440	506,115	46,949
B41 High Speed Switch	2004	2004	460	506,575	47,061
B42 Central Utility Plant	2004	2005	24,000	530,575	49,290
B51 Visitors Center	2004	2005	1,450	532,025	49,425
B12 Hydrogen Research Facility	2008	2008	720	532,745	49,492

Source: James McConnell, Engineering, Maintenance, Safety, and Support Division, NIST Boulder