LIGO LABORATORY
California Institute of Technology
1200 E. California Blvd.
Pasadena, CA 91125

Statement of Work
PS-129a aLIGO LHO Laser Area Enclosure Acoustic Shells

The following documents are incorporated into and made a part this Statement of Work (SOW). Click on the following LIGO Document Control Center (DCC) links to access these documents or go on line to the LIGO Public DCC at https://dcc.ligo.org/ to access the DCC#.

1.0 Terms:

DCC #	*Description*
C080185-v1	Laser Interferometer Gravitational Wave Observatory (LIGO) Commercial Items or Services Contract General Provisions California Institute of Technology "Institute", LIGO Rev 11/12/08
F0810001-v4	Technical Direction Memorandum.

2.0 Quality Control:

The supplier shall:

1) Meet or exceed all specifications and requirements
2) Identify the corresponding sections/paragraphs in their existing QA/QC system or proposed QA/QC plan for each of the boxes checked in the table below.

DCC #	*Description*
Q0900001-v4	Advanced LIGO Supplier Quality Requirements, dated 2/10/10, describes the following contractor/supplier QA/QC actions for this procurement:

☐ 3.1 Pre-Award Inspection	☐ 3.9 Discrepant Material Storage	☐ 4.4 Calibration Program
☒ 3.2 Supplier In Process Quality Control	☒ 3.10 Quality Records	☐ 4.5 Critical Interface
☐ 3.3 In Process Inspection	☒ 3.11 Drawing and Specification Change Control	☒ 4.6 Cleanliness
☐ 3.4 Pre-Ship Inspection	☐ 3.12 Welding Certification	☐ 4.7 Packaging
☐ 3.5 Receiving Inspection	☒ 3.13 End Item Data Package (including Certifications of Compliance)	☐ 4.8 Storage
☐ 3.6 Discrepant Material	☒ 4.1 Design Verification	☒ 4.9 Transport
☒ 3.7 Material Review Action	☐ 4.2 Raw Material Procurement	☐ 4.10 Customs
☐ 3.8 Material Review Actions at Contractor	☐ 4.3 Traceability of Materials	

3.0 Included Documents:

Required Drawings:

DCC #	*Description*
D1002386-v3	Mechanical Plan, H1 Laser Area Enclosure Acoustic Shell
D1002387-v2	Mechanical Plan and Schedules, H1 Laser Area Enclosure Acoustic
D1002388-v3	Mechanical Sections and Details, H1 Laser Area Enclosure Acoustic Shell
D1002389-v2	Room Layout/Framing Plan, H1 Laser Area Enclosure Acoustic Shell
D1002390-v2	Framing Plans and Elevations, H1 Laser Area Enclosure Acoustic Shell
D1002396-v2	Mechanical Plan, H2 Laser Area Enclosure Acoustic Shell
D1002397-v2	Mechanical Plan and Schedules, H2 Laser Area Enclosure Acoustic Shell
D1002398-v2	Mechanical Sections and Details, H2 Laser Area Enclosure Acoustic Shell
D1002399-v2	Room Layout/Framing Plan, H2 Laser Area Enclosure Acoustic Shell
D1002411-v2	Framing Plans and Elevations, H2 Laser Area Enclosure Acoustic Shell

LAE Cleanroom Specifications (*For Reference Only*):

DCC #	*Description*
C1002229-v1	PSL Laser Area Enclosure Cleanrooms - Specifications, Requirements, and Design Considerations
D1002633-v2	Ante-room Plan, H1 Laser Area Enclosure
D1002634-v1	Ante-room Elevations, H1 Laser Area Enclosure
D1002781-v2	Ante-room Plan, H2 Laser Area Enclosure
D1002786-v2	Ante-room Elevations, H2 Laser Area Enclosure

4.0 Scope:

This SOW is for the fabrication of two aLIGO PSL Laser Area Enclosure Acoustic Shells, one for the H1 interferometer and one for the H2 interferometer, at the LIGO Hanford Observatory. The structures are to be fabricated as shown in the "Required Drawings" in Section 3.0.

Constraints:

1) Welded, sheet vinyl flooring will be in place before construction of the Acoustic Shells and must be protected from damage during construction.

2) The 5 ft. x 16 ft. x 40" surface height PSL optical tables will be grouted in place prior to construction of the Acoustic Shells and must be protected from damage.

3) Acoustic shells to be constructed inside the Lasers and Vacuum Equipment Area (LVEA), a cleanroom facility. No sanding of gypsum board, etc.

4) Activities that generate particulates, such as sanding, grinding, and painting must be avoided or controlled. Alternatives such as trowel finish on drywall joints, brushing and rolling as opposed to spray painting, etc. are preferred. Exceptions, along with particulate mitigation plans must be approved by LIGO in advance.

Information to be updated prior to start of construction:

1) Exact dimensions of finished opening for double doors between Ante-room and Laser Room.
2) Exact dimensions of finished opening for exhaust damper in wall between Ante-room and Laser Room.

5.0 Quantity Required:

2 ea.	LIGO Hanford Observatory, Richland, WA

Acoustic Shell Installation Dates:

- H2 Acoustic Shell Installation: April 28 - May 19, 2011
- H1 Acoustic Shell Installation: January 31 - Feb 20, 2012

For Reference Only:

- H2 Cleanroom Installation: May 20 - June 10 2011
- H1 Cleanroom Installation: Feb 21 - Mar 13, 2012