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**Design, Supply, Installation, Testing, Commissioning (SITC) and Validation of Human ancient & modern DNA Laboratory on turnkey basis with civil work and its Operation and Maintenance**

**SCOPE OF WORK:**

Includes Design, Supply, Installation, Testing, Commissioning (SITC) and Validation of the Ancient DNA Lab & Modern DNA lab , Institute of Paleosciences, Lucknow, on Turnkey Basis and its Operation and Maintenance.

Scope will include design, engineer, and install a prefabricated Laboratory with double skin PUF sandwiched panels, HVAC system including complete air management system for maintaining the lab environment as per the biosafety guidelines, all related internal lighting and wiring work for smooth and safe operation of the lab.

For safe operations as per the guidelines and monitoring of the facility, the system shall have necessary monitoring, operations & controlled through control panel for displaying indoor parameters like pressure gradient, Temperature, Humidity, exhaust air flow etc.

A Fire detection system and Access Control System at the lab entrance for restricting lab personnel movement .

The lab shall be validated as per the prevailing Guidelines and necessary documentation and validation report will be submitted at the time of handing over.

**Design Basis**

**Total Lab Area after Civil Construction: 720 Sq. ft.**

**Ancient Human DNA Lab-**

Overall Area: **270Sqft approx**.

False Ceiling Height: 8 Ft, Walkable

Volume: 1700 Cu feet

Pressure: -20 pascal to -10 pascal

Temperature: 22±2 Deg. C

Rh: 55 ± 5 %

Light: 2W /sqFft.

Cleanliness: ISO 7 (Class 10,000)

Perimeter wall: Puff Panel

Roof walkable: Puff Panel

Flooring: 2mm epoxy flooring.

Lab Furniture: Modular

**Modern Human DNA Lab-**

Overall Area :  **450 Sqft approx**.

False Ceiling Height : 8 Ft, **Walkable**

Volume : 1700 Cu feet

Pressure : -20 pascal to -10 pascal

Temperature : 22±2 Deg. C

Rh : 55 ± 5 %

Light : 2W /sqFft.

Cleanliness : ISO 7 (Class 10,000)

Perimeter wall : Puff Panel

Roof walkable: Puff Panel

Flooring: 2mm epoxy flooring.

Lab Furniture : Modular

**Overall Lab Area (Sq. Ft.) 250 Sq. feet approx. including office, PCR chamber, Sample library**

**Civil Work :**

**Civil construction and renovation of appx 210 Sq Ft. ( 30X7 feet)**