

Logistics and Technical Challenges

Designing a High Containment Facility in the Middle East



International Cultures

- Language – Translation services: business vs local language translation
- Travel –not meet FAA standards. Internal airlines may Roads & Politics
- Government Agencies provide many services that are businesses in USA
- Varying layers of Bureaucracy – who to meet, who has authority to decide?
- Frequent Gov't Personnel changes
- Importing products – duties, traditional methods not conducive to our customs
- Codes and Regulations – Permits
- Labor Intensive



International Cultures

- Eager to Learn & Improve
- Cultural – male/female
- Religion , Secular, Tribal
- Lab Protocols – biosafety methods
- Safety – construction methods
- Climate – hot/cold; wet/dry; seismic
- Construction techniques
- Equipment – modern/long term use
- International Recognition



Climate – Hot, Dry, Wind, Sand



Logistical Challenges

Location

- Support Infrastructure
 - Roads
 - Water
 - Electricity
 - Gas
- Design
 - Scope of Support
- Technical Challenges
 - Building Envelope
 - Wind, Heat, Sand
- International Recognition
 - Guidelines & Codes



Design – Scope (Functional Facility)

Design a High Containment Lab

- CDC & National goals

Need Support Lab Space

- BSL2, BSL3
- Animal Facility

Need Support Facilities

- Specimen Receiving/Loading
- Waste Handling
- Cafeteria, Staff areas

Need Infrastructure

- Central Svcs – BMS, Security, IT, Sample distribution
- Steam, Chilled Water

Need road access, elect, water



KINGDOM OF SAUDI ARABIA
MINISTRY OF HEALTH



المالك
المملكة العربية السعودية
وزارة الصحة

Smith Carter

Existing Condition



Technical Challenges

“Ensure it meets International Standards”

Seal the Building

- Doors, Windows, Walls
- HVAC Supply/Exhaust

Location for Construction

- Manufactured System
- National products
- International products
- Develop designs while developing protocols

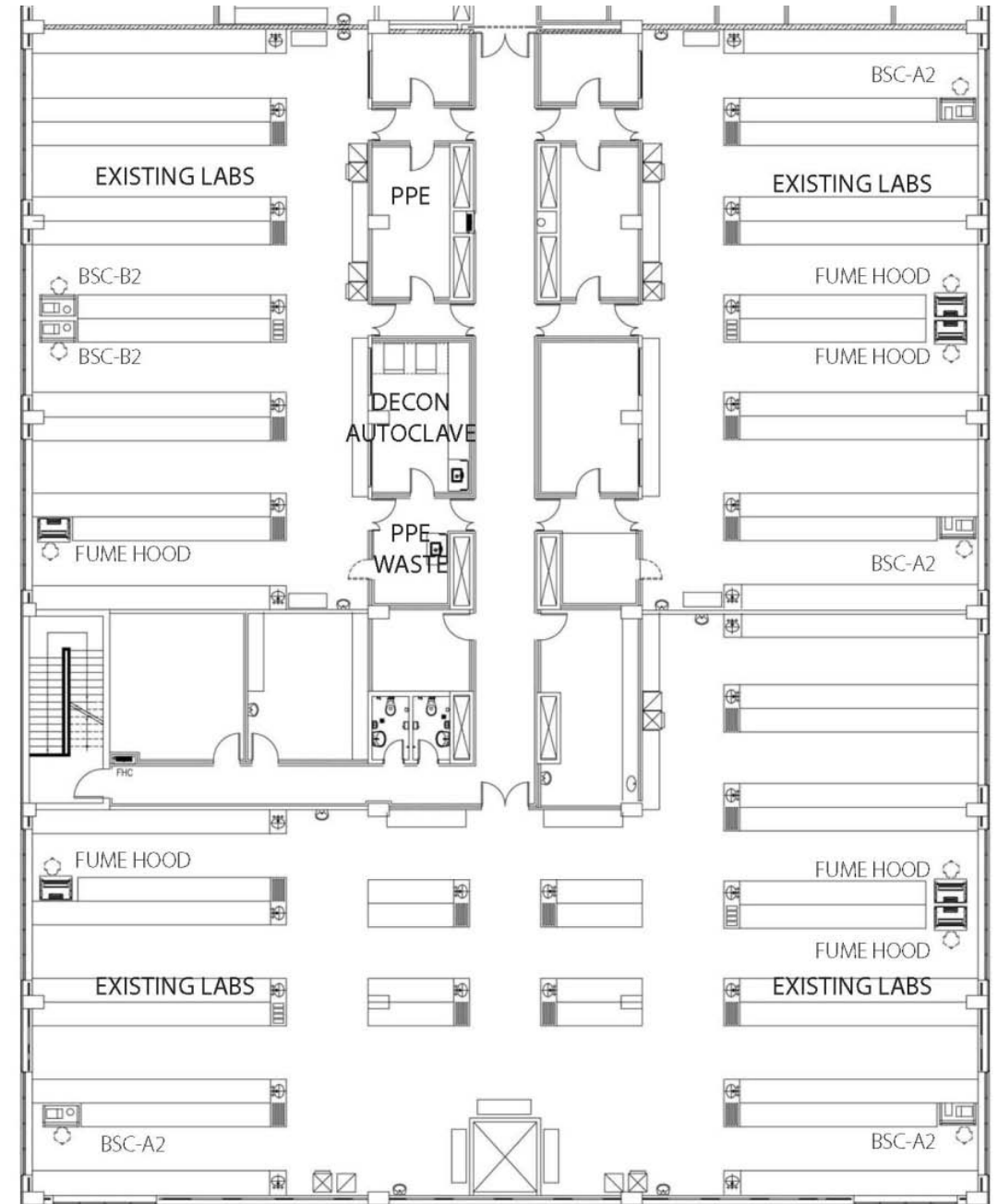


International Standards

“Ensure it meets International Standards”

Guidelines & Regs

- CAP
- BMBL
- International Building Code
- Users
 - Multiple nationalities
 - Workforce from North America, Europe, Asia
 - Short term involvement
- Develop designs while developing protocols



Questions

