**PROJECT DESCRIPTION**

Gemini seeks to design and construct ~ 2,000 sqft of equipment storage space inside our existing observatory Endurance Building. The proposed storage space would be located on three levels stacked above one another. The mezzanine would include a 3-ton bridge crane mounted below the second level of the mezzanine.

**MEZZANINE DESIGN REQUIREMENTS**

1. **Level 1 (second level):**
   - Accommodate existing Primary Mirror Cell Cart (PMCC) storage area on 2nd floor.
   - Accommodate existing welding work area estimated at 300 sqft located on 2nd floor.
   - Provide steel storage area and rack to accommodate 21 ft long material accessible by fork lift and prepared Lower Bridge Crane.
   - Provide 20 ft x 15 ft bridge crane with 3-ton capacity (Lower Crane) above existing welding area and steel storage area.
   - Provide minimum 7 ft wide aisle way between storage mezzanine and existing machine shop to allow a fork lift to safely pass.
   - To prevent ground source vibration from degrading telescope performance all foundation footings must be located beyond the radius of the telescope pin concrete footing.

2. **Level 2:**
   - Provide a floor system rated at 125 psf heavy storage
   - Provide raised floor access to Level 3 for material handling and transfer
   - Provide safety tie-off points when working near edge of fork lift access area

3. **Level 3:**
   - Provide a floor system rated at 100 psf storage

**LEVEL 4:**
- Provide a floor system rated at 50 psf storage

**GENERAL:**
- Mezzanine floors shall be either smooth concrete or smooth steel plate with non-slip finish.
- Support structure shall use crossbeam frames across interior columns to maintain beam-free access.
- Floor framing shall be designed to allow for temporary rigging tie-off.
- Access spaces between existing walkways and mezzanine storage shall be minimum 4 ft wide.

**INITIAL DESIGN ASSUMPTIONS:**
- Mezzanine levels do not require secondary access for emergency exit.
- Mezzanine levels do not require electrical lighting or electrical outlets.
- Mezzanine levels do not require the sprinkler protection.
- Mezzanine levels do not require additional alarms tied to the existing fire alarm system.

**REFERENCE DOCUMENTS:**
- GM 1990 Architectural Permit Plan.pdf
- GM 1990 Structural Permit Plan.pdf
- GM Photos of Mezzanine Area.jpg

**ADD ALTERNATE 3:**
- Remove existing 12.5-ton trolley crane now supported from Level 3
- Replace with new 3-ton crane

**PROJECT ALTERNATE 4:**
- Organize construction documents and shop drawings to allow Gemini to postpone construction of Level 4 mezzanine till later date resulting in ~ 1,800 sqft of storage space.

**LOCATION MAP**

**GEMINI 8-M Telescopes Project**

Operated by the Association of Universities for Research in Astronomy, Inc. (AURA)
under cooperative agreement with the National Science Foundation

**ON SUMMIT STORAGE MEZZANINE**

**NOTE:**

Sheet B  NOTED  INDEX 1 of 8

**RELEASE**

08/09/93