

Layout of VLBA Tape Drives at the AOC**February 4, 1991****Jim Ruff****A) Physical Requirements**

- 1) Independent HVAC controls are required for the correlator and operator areas. Temperatures and humidities in the two areas will differ.
- 2) The fronts of all tape drives should be visible and accessible to the operators.
- 3) Drives should be readily accessible for maintenance and replacement. Convenient access is required between the operator and correlator areas.
- 4) Noise in the operator area should be minimized. Noise in the (unoccupied) correlator area is not a great concern.
- 5) There should be some convenient way of keeping the drives lined up neatly - both for appearance and to avoid straining the tape drive cables.
- 6) The initial configuration will not include all drives. NRAO will remove partitions to make room for additional drives as they are added.

B) Proposed Layout and Features

The attached drawings describe the final layout as planned.

The drives are held in line under lintels mounted between the building columns. The lintels will have guides to hold the drives in position while allowing them to be removed in either direction for service. They will also have removable panels over each drive to facilitate installation of oscilloscopes or other equipment.

The lintels and drive cabinets will be equipped with teflon/foam seals to provide a noise and draft barrier.

The operator area will be carpeted to reduce noise.

An earlier layout showed 8 drives and one door between each building column. There is not enough room between the columns to permit such an arrangement.

C) Implementation

The AOC remodeling plan calls for the contractor to erect partitions where the drives will eventually be installed. These partitions will be removed as drives are added.

Lintels and seals will be designed, built and installed by NRAO.

D) Concerns

1) Noise.

The lintels and seals described above were designed more for environmental control and servicing convenience than for noise control. Our tests indicate that the operator area will be noisier than usual for an office environment. (72-78 dB compared to 55-60 dB for a typical office.) It might prove necessary to install additional noise control measures after all drives are in.

A very effective way of reducing operator area noise would be to build a "window wall" between the drives and the operators. This approach was rejected for the initial construction but could be revived if necessary.

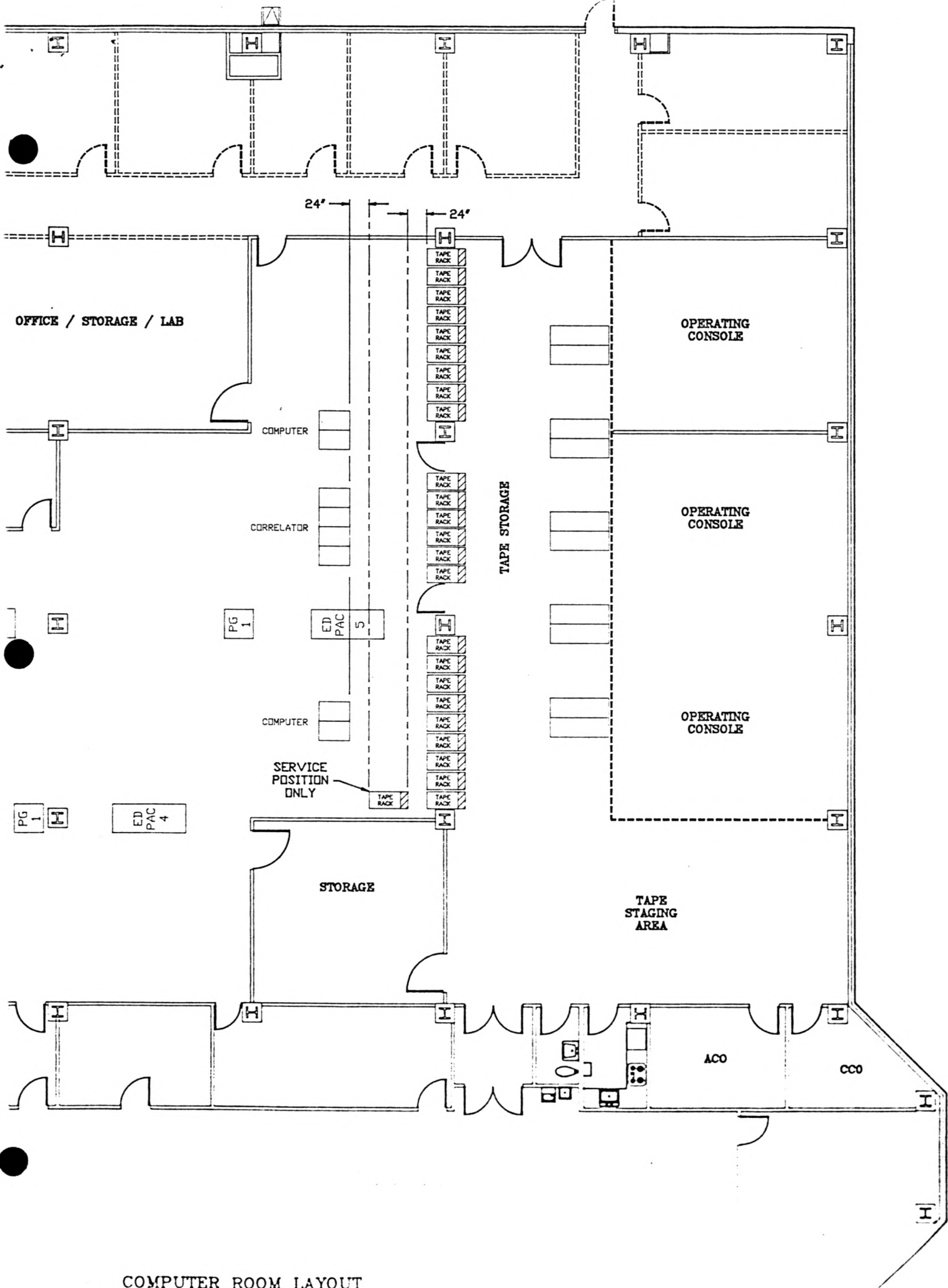
A less effective solution would entail installation of sound absorbing material in the operator area. This could be in the form of baffles hung from the ceiling or free-standing partitions.

2) Modifications

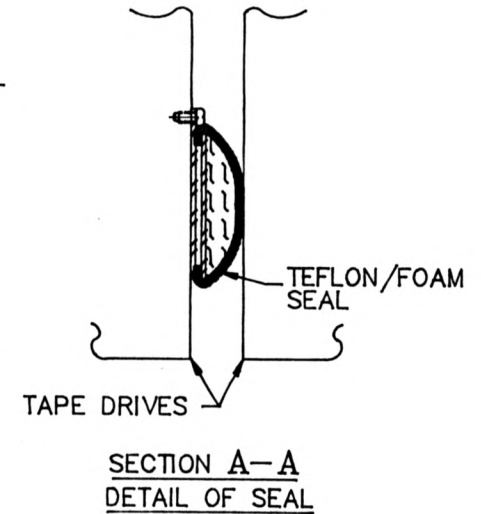
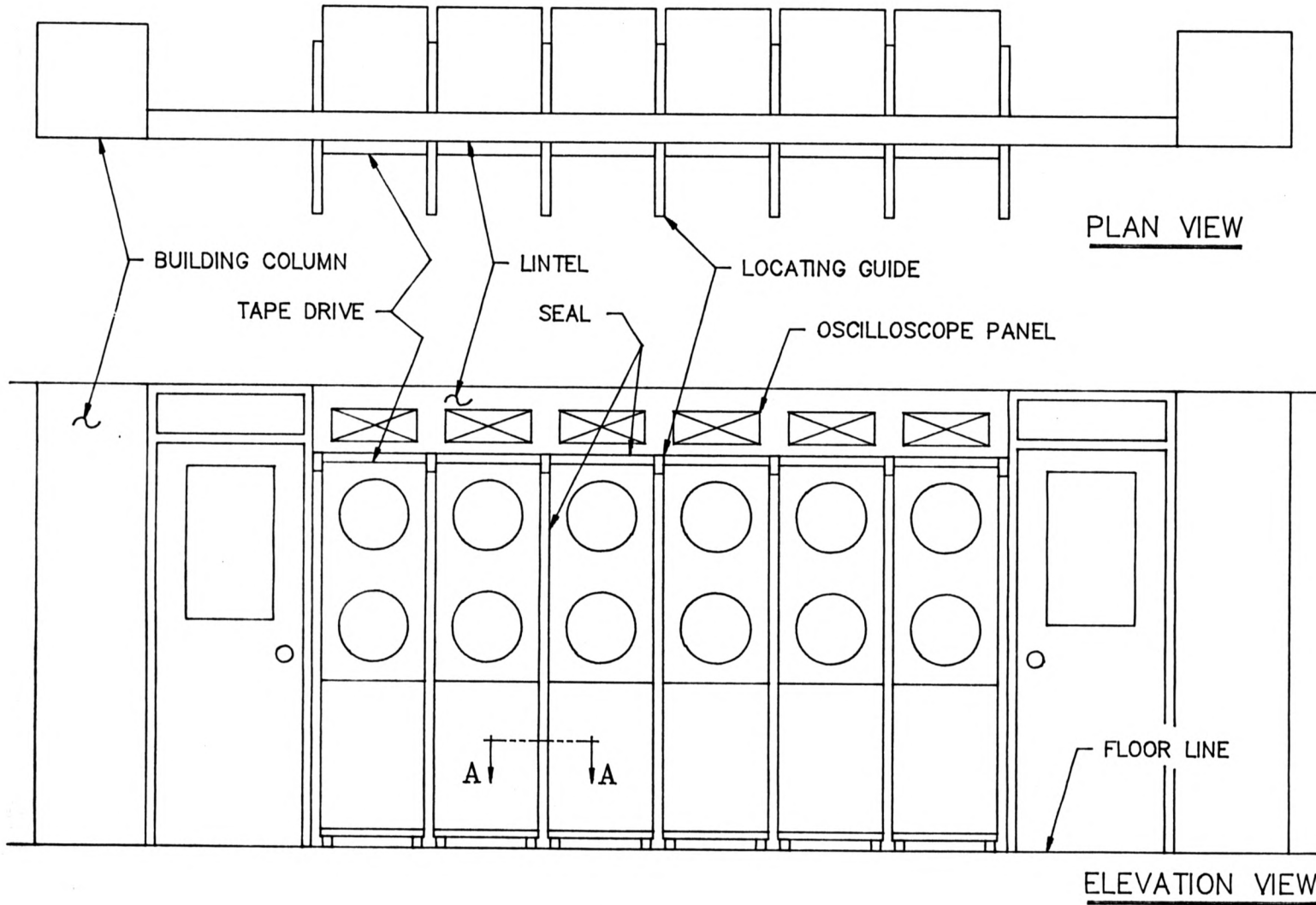
Removing partition walls to make room for additional drives is likely to be a dusty proposition. We need to insure that the work can be done without damage to tapes and drives and without extensive disruption of operations.

3) Cabling

It might prove necessary to provide cable tracks for the tape drives. This would keep the cables tractable and protect them from damage.



COMPUTER ROOM LAYOUT



PROPOSED VLBA TAPE DRIVE LAYOUT
(CENTER SECTION SHOWN, ENDS SIMILAR)