

Remote Cold Regions

Design – Construction – Science



79° North Latitude
90° South Latitude

Presentation prepared by: Harley H. Hightower, FAIA

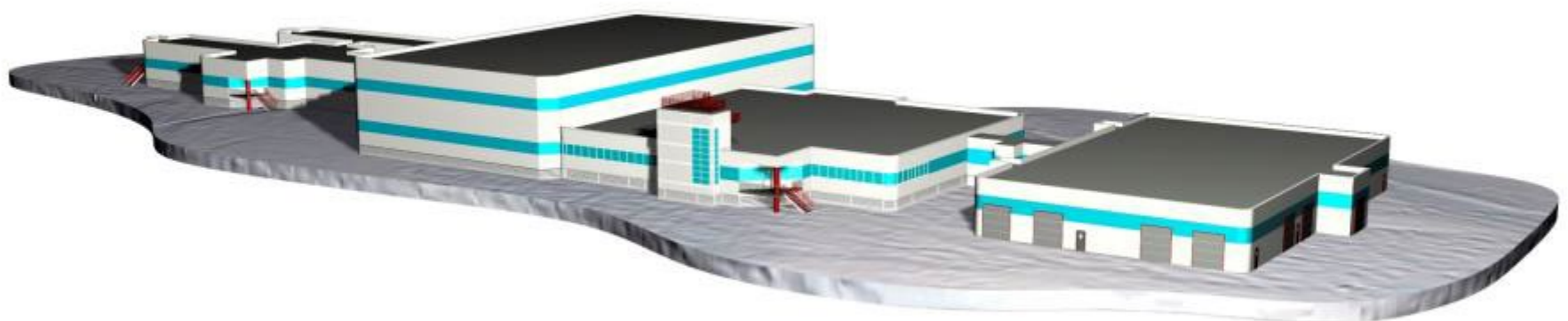
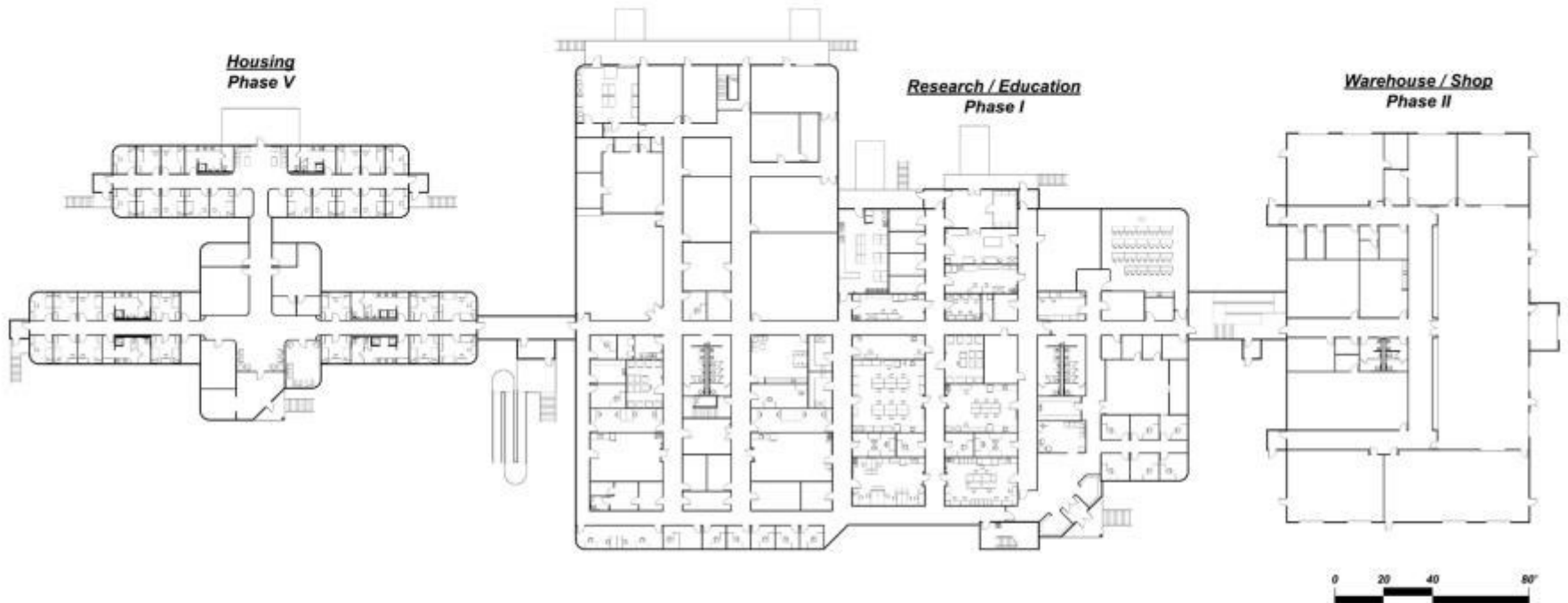
Barrow Global Climate Change Research Facility

Research / Education
First Floor Second Floor
Phase III Phase IV

Housing
Phase V

Research / Education
Phase I

Warehouse / Shop
Phase II



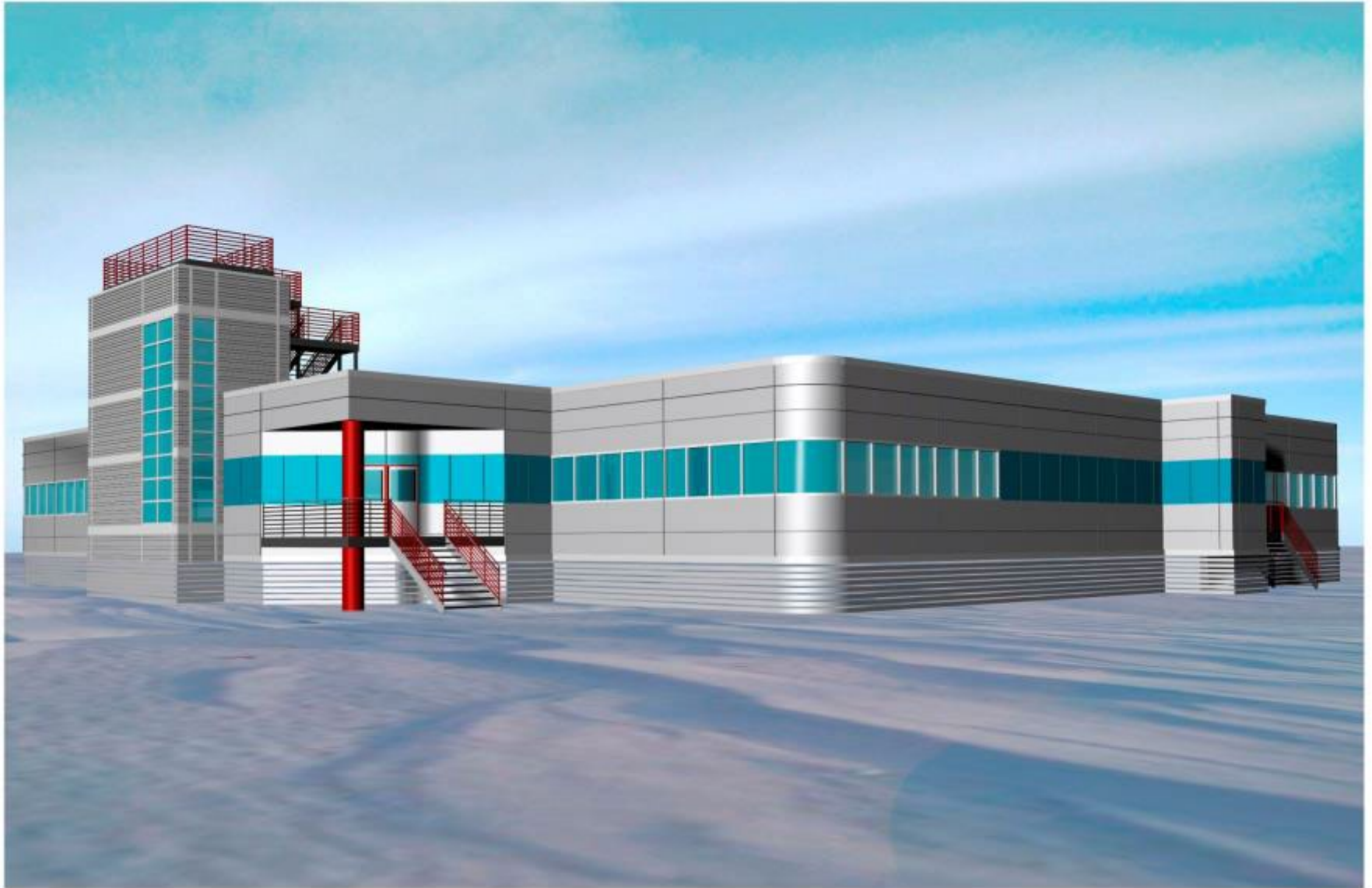
Phase I-V - Master Plan



BGCCRF and UIC-NARL Location Map

Photograph Copyright AEROMAP, U.S. Date of Photography: 07/20/03

Barrow Global Climate Change Research Facility

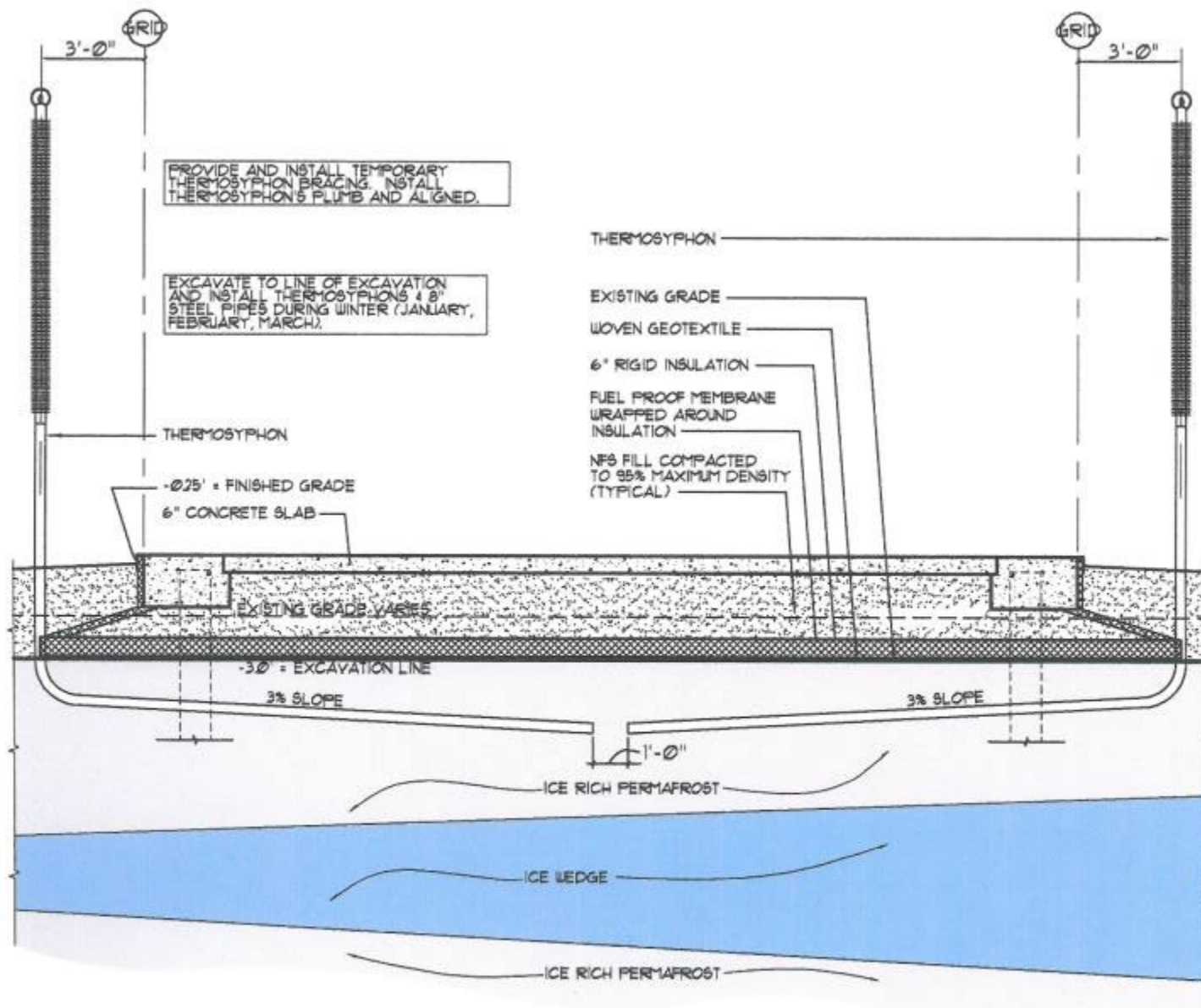


Phase I - Exterior Perspective







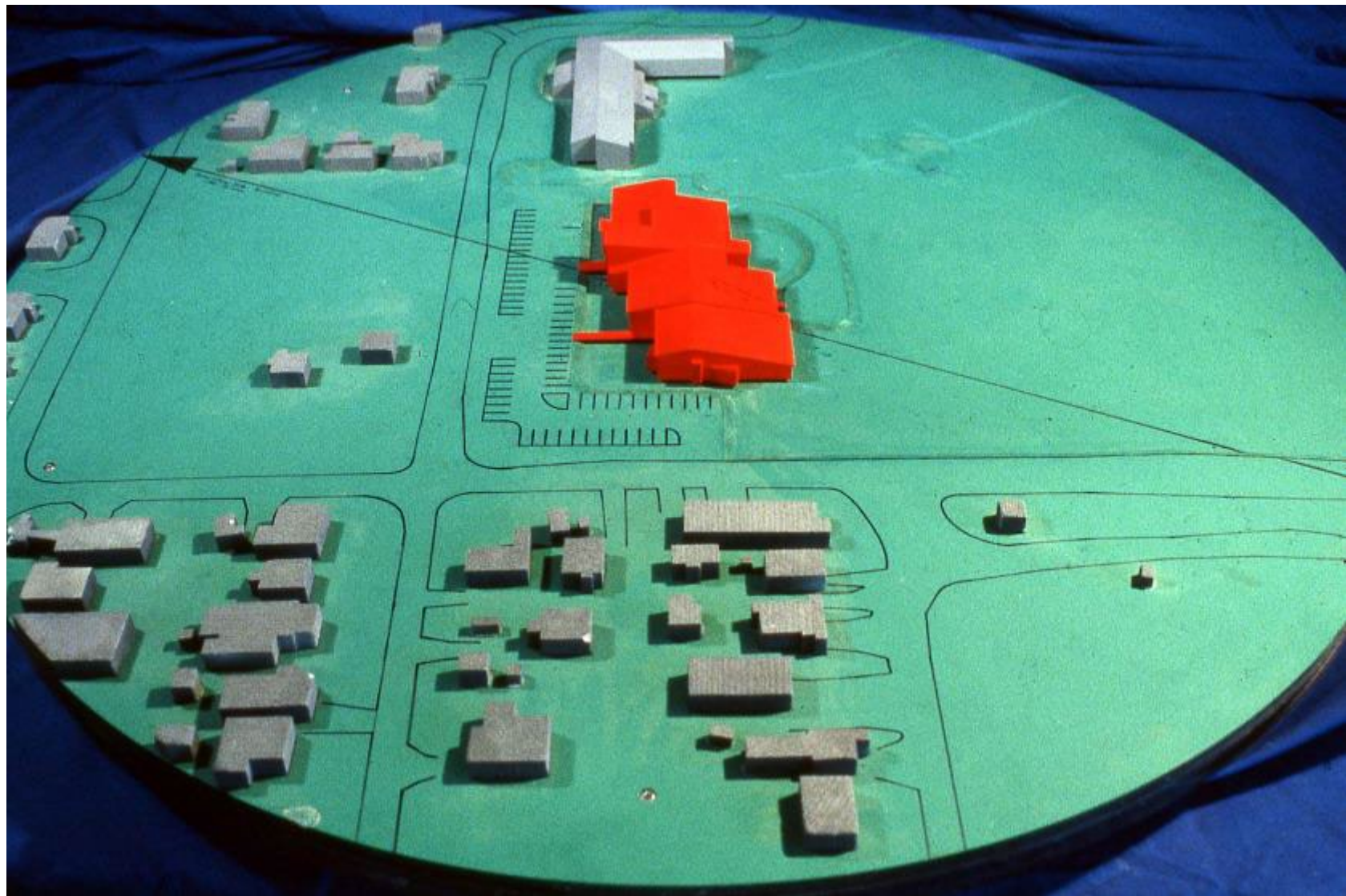


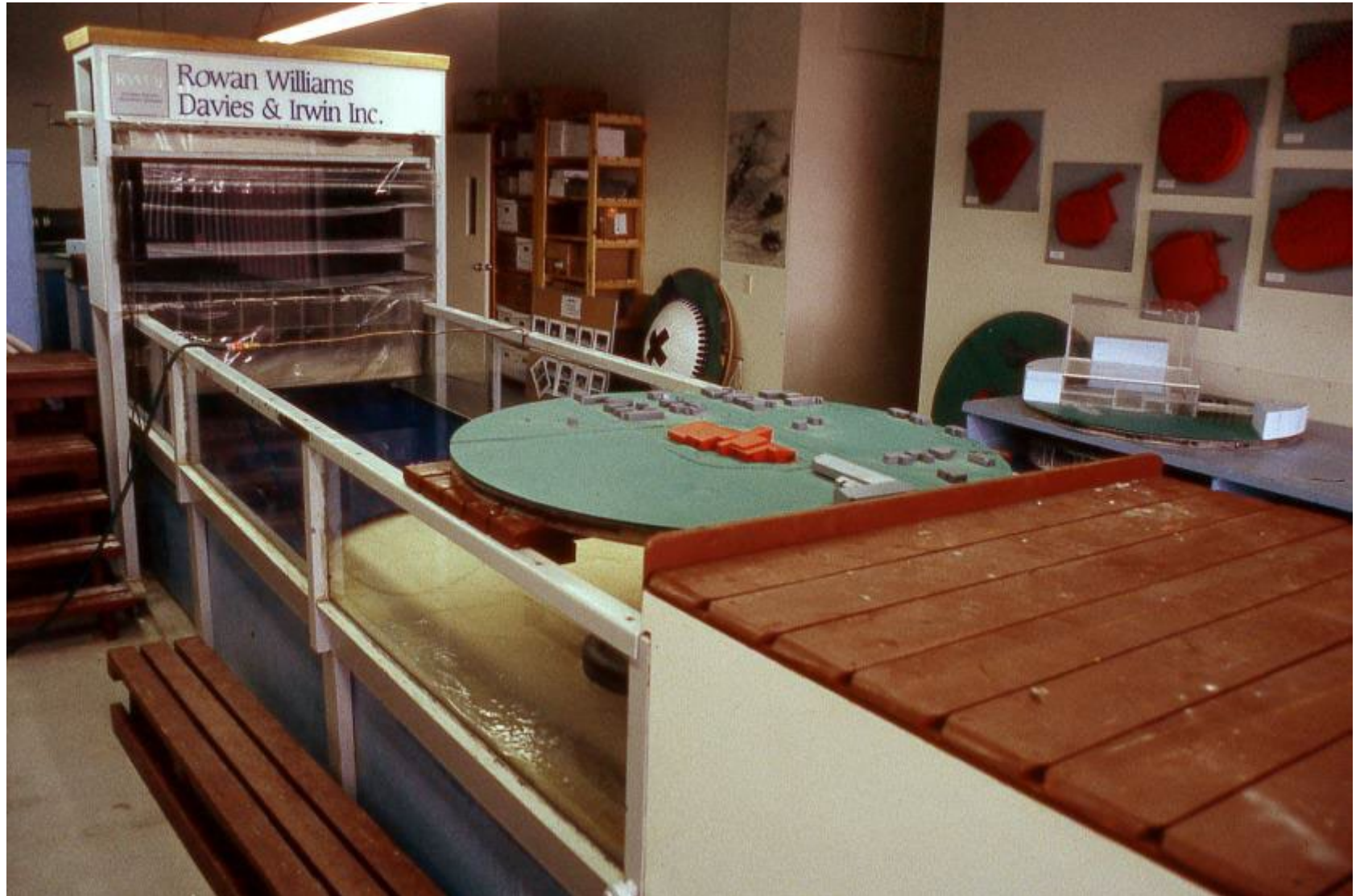
REINFORCED STRUCTURAL CONCRETE FOUNDATION ON ICE RICH PERMAFROST

NO SCALE

INUPIAT HERITAGE CENTER

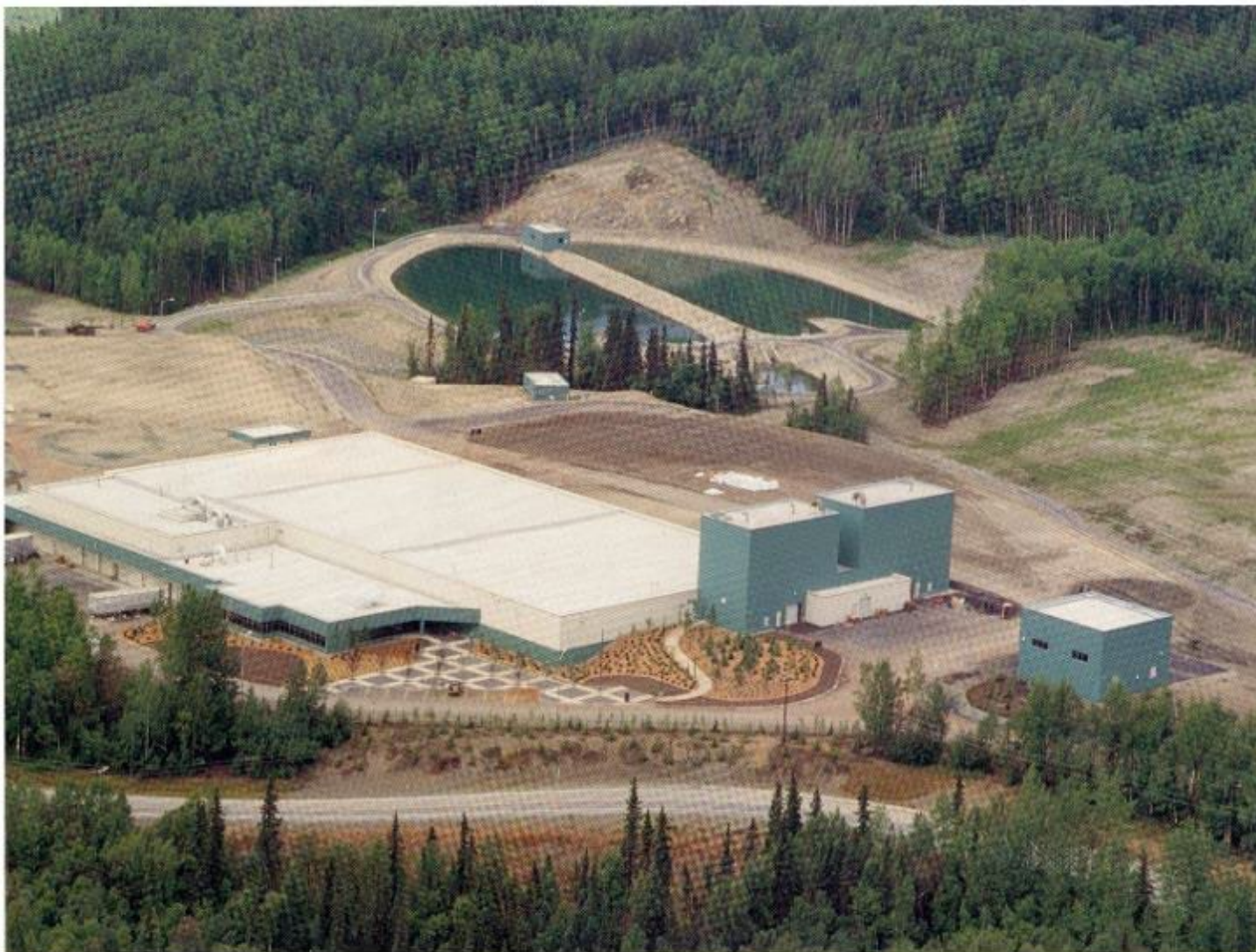






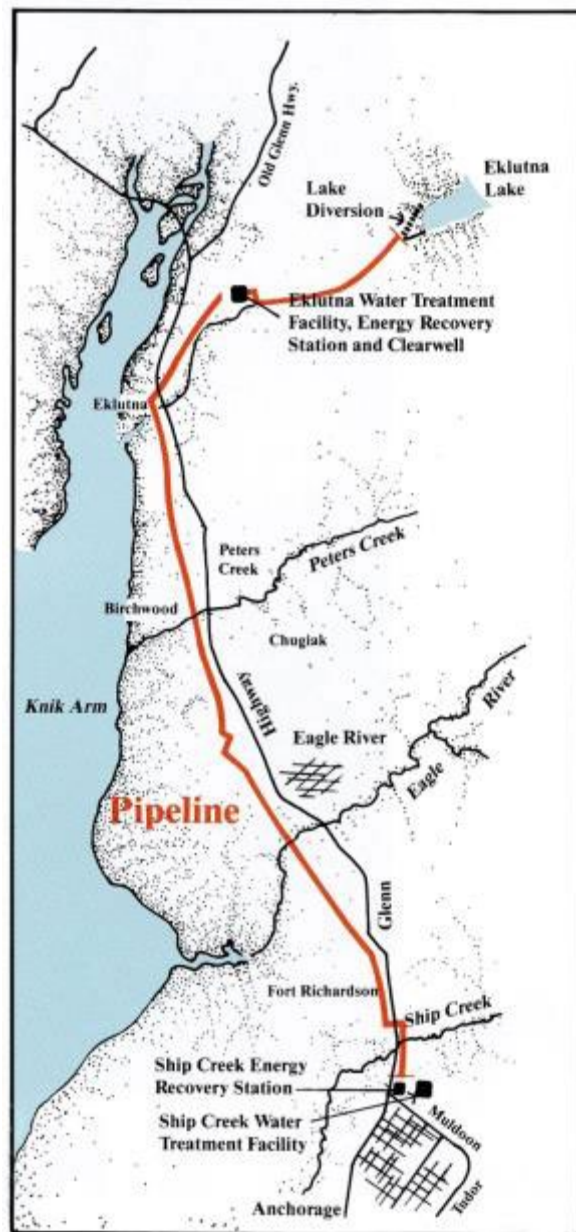
WAINWRIGHT POWER PLANT





EKLUTNA WATER PROJECT





ANTARCTIC CENTER CHRISTCHURCH, NEW ZEALAND



ANTARCTIC CENTER CHRISTCHURCH, NEW ZEALAND





Clothing Distribution Center
Issues all the warm clothing that a person needs for
travel to Antarctica



C-17 APPROACHING ANTARCTICA



ANTARCTICA CONTINENT



ON THE PEGASUS RUNWAY ROSS ICE SHELF



C-17 ON THE ICE (PEGASUS)



C-17 ON THE ICE



McMURDO STATION



McMURDO STATION



McMURDO STATION



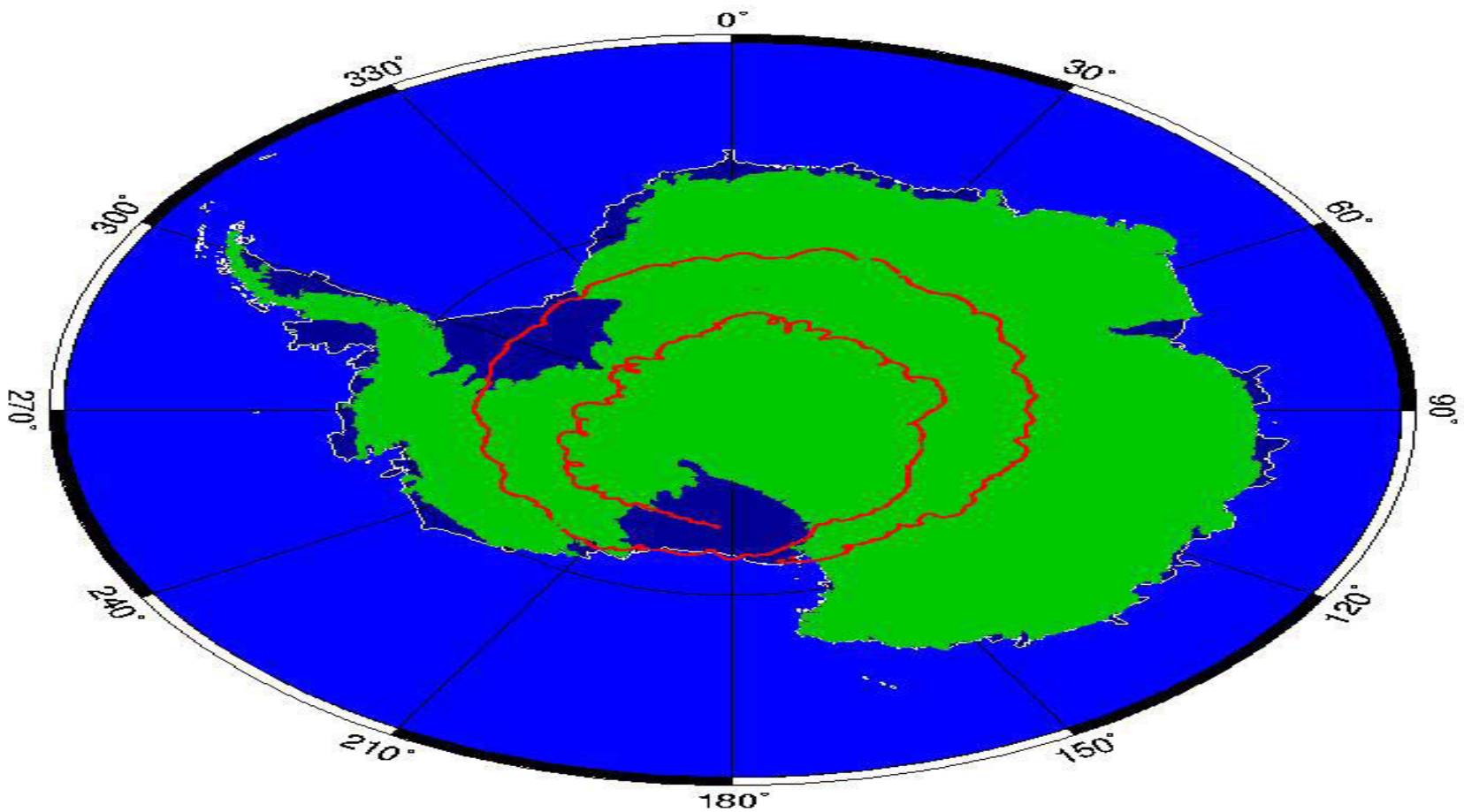
SCOTT'S HUT



Inflating Long Duration Balloon At Ross Sea



LDR Actual Flight Path per GPS



PERSONNEL TRANSPORTATION



C-130 EN-ROUTE TO SOUTH POLE STATION



AMUNDSEN-SCOTT SOUTH POLE STATION



C-130 ON THE ICE SOUTH POLE



GEOGRAPHIC SOUTH POLE



NEW SOUTH POLE STATION





CONSTRUCTION NEW STATION





CLUB
MED

SOUTH
POLE
MEDICAL
CENTER

A230

OLD SOUTH POLE STATION



DOME WITH BUILDINGS INSIDE



SUMMER CAMP



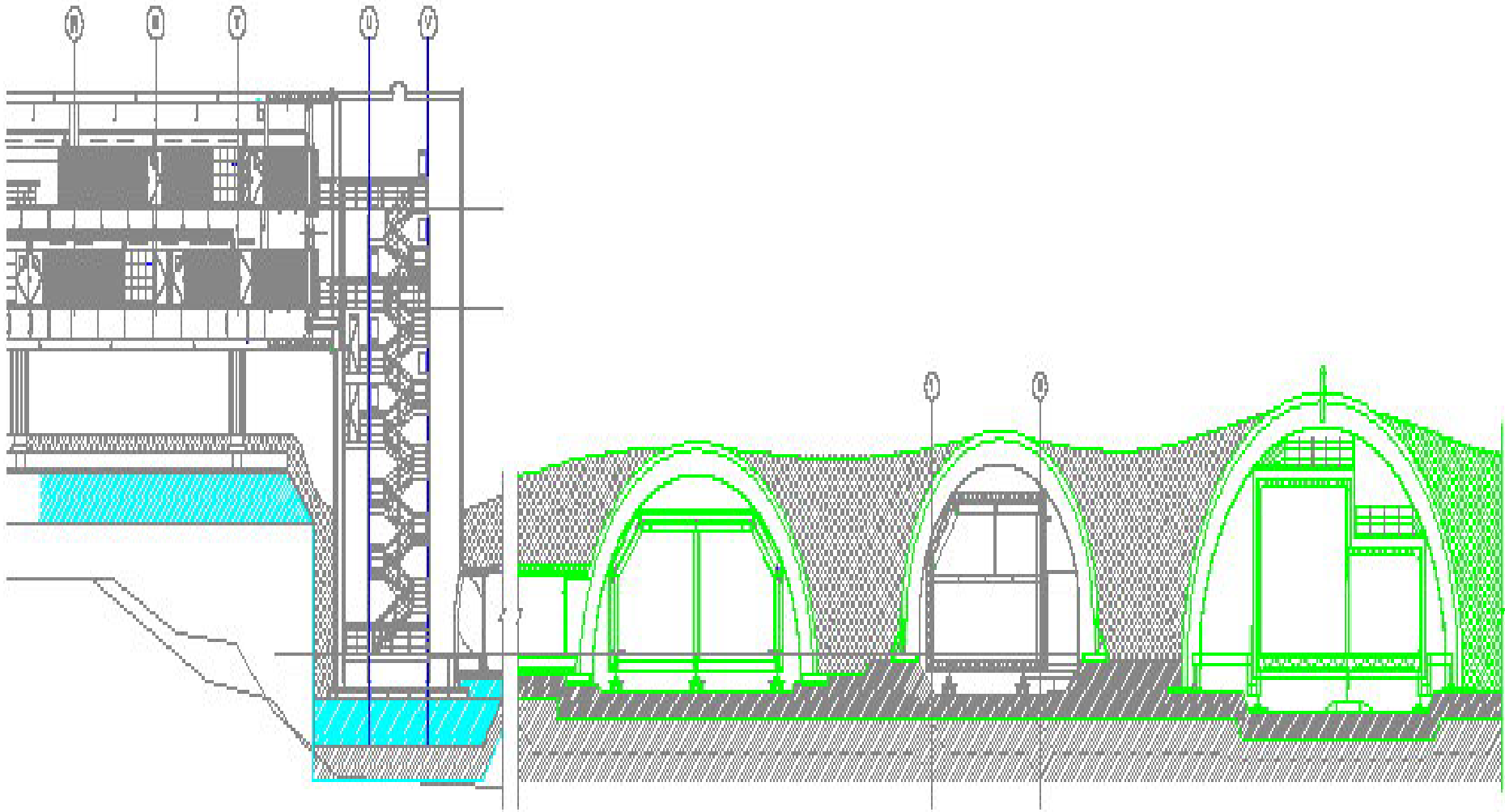
SUMMER CAMP JAMESWAYS



POWERPLANT/LOGISTICS/SHOP ARCHES



BELOW GRADE / ABOVE GRADE







CONSTRUCTION IN LOGISTICS ARCH



LOGISTICS FACILITY SUPERSTRUCTURE



RODWELL FACILITY

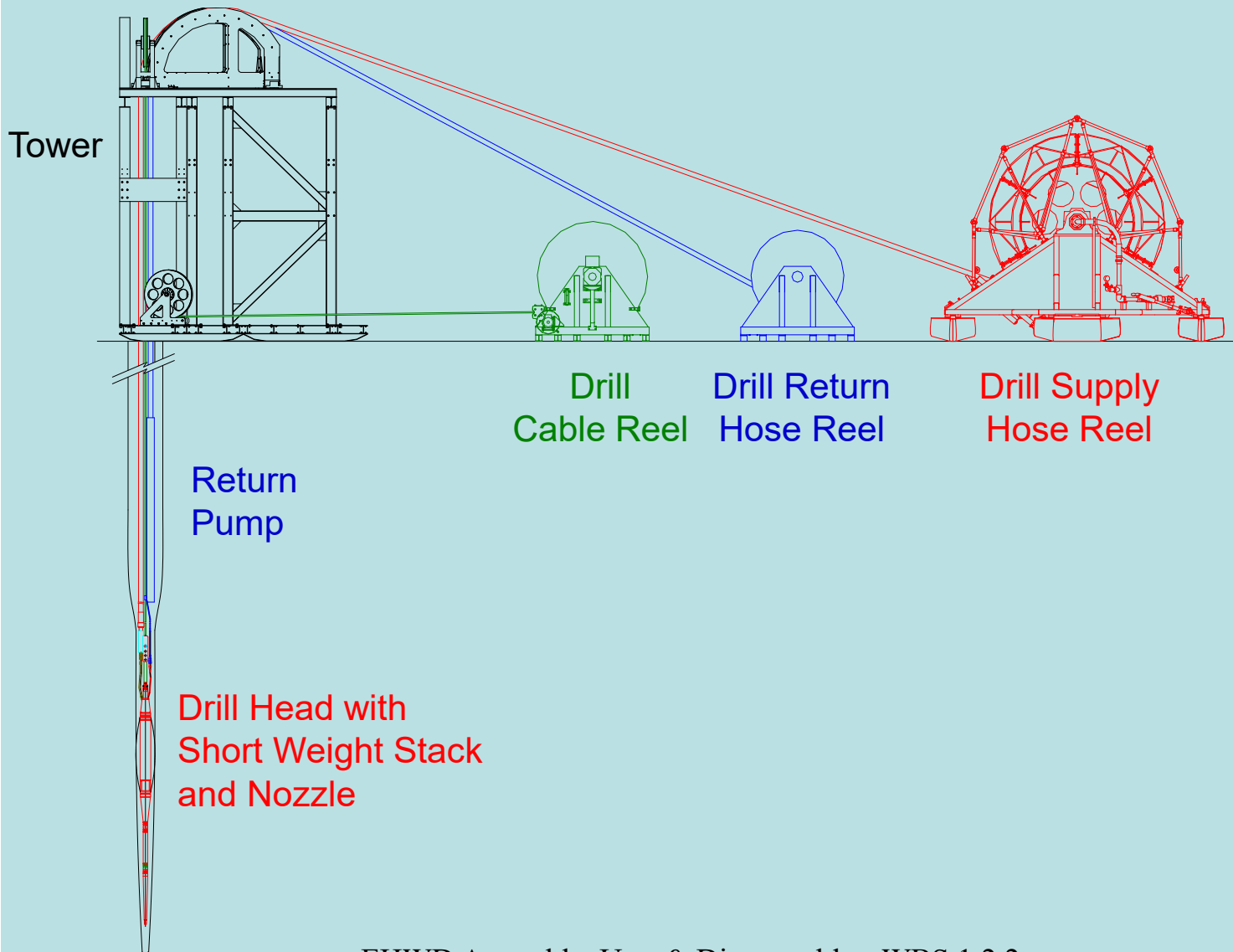




DOWN HOLE (ROD WELL)

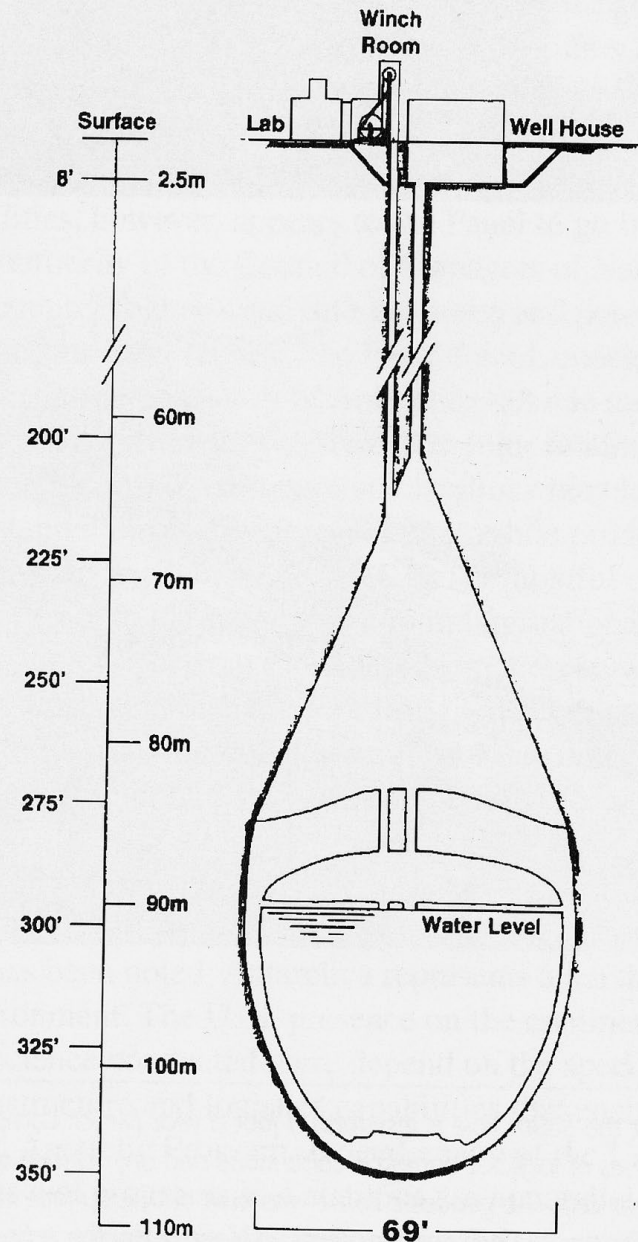


Deep Drilling Illustration



EHWD Assembly, Use, & Disassembly - WBS 1.2.2

Water Well at South Pole



TUNNELING AT POLE

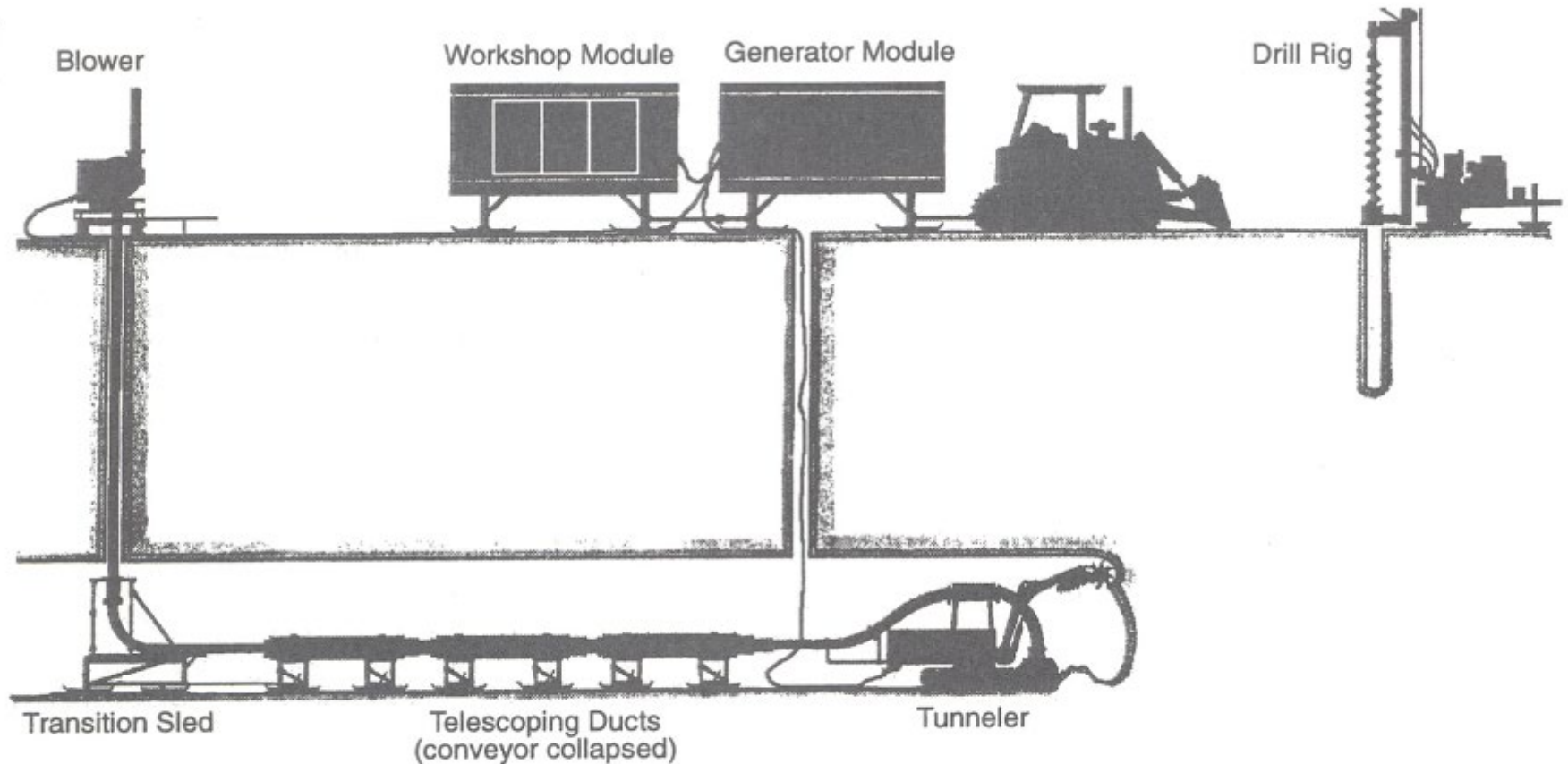
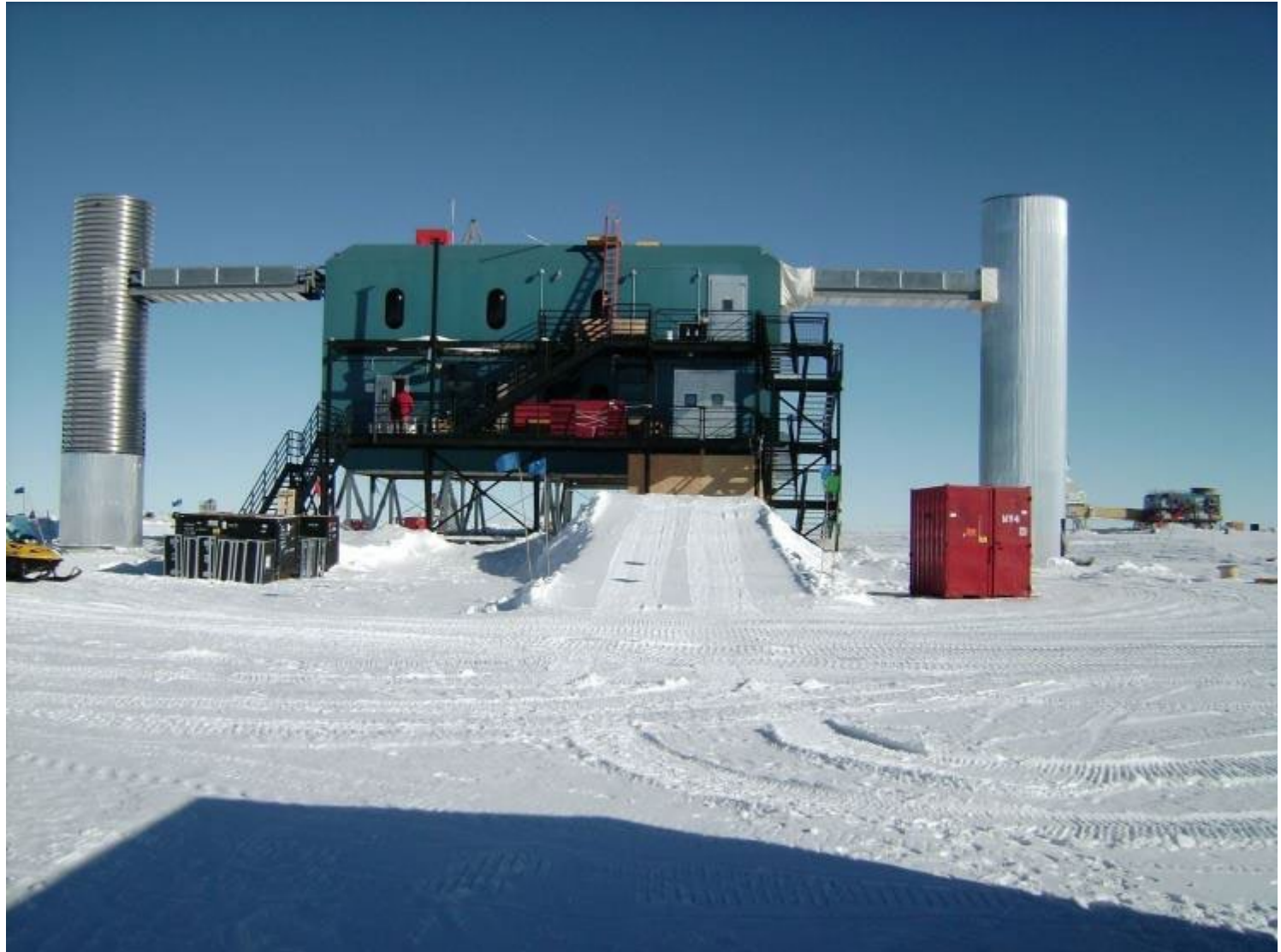


Figure 7. The South Pole Tunneling System (SPoTs).

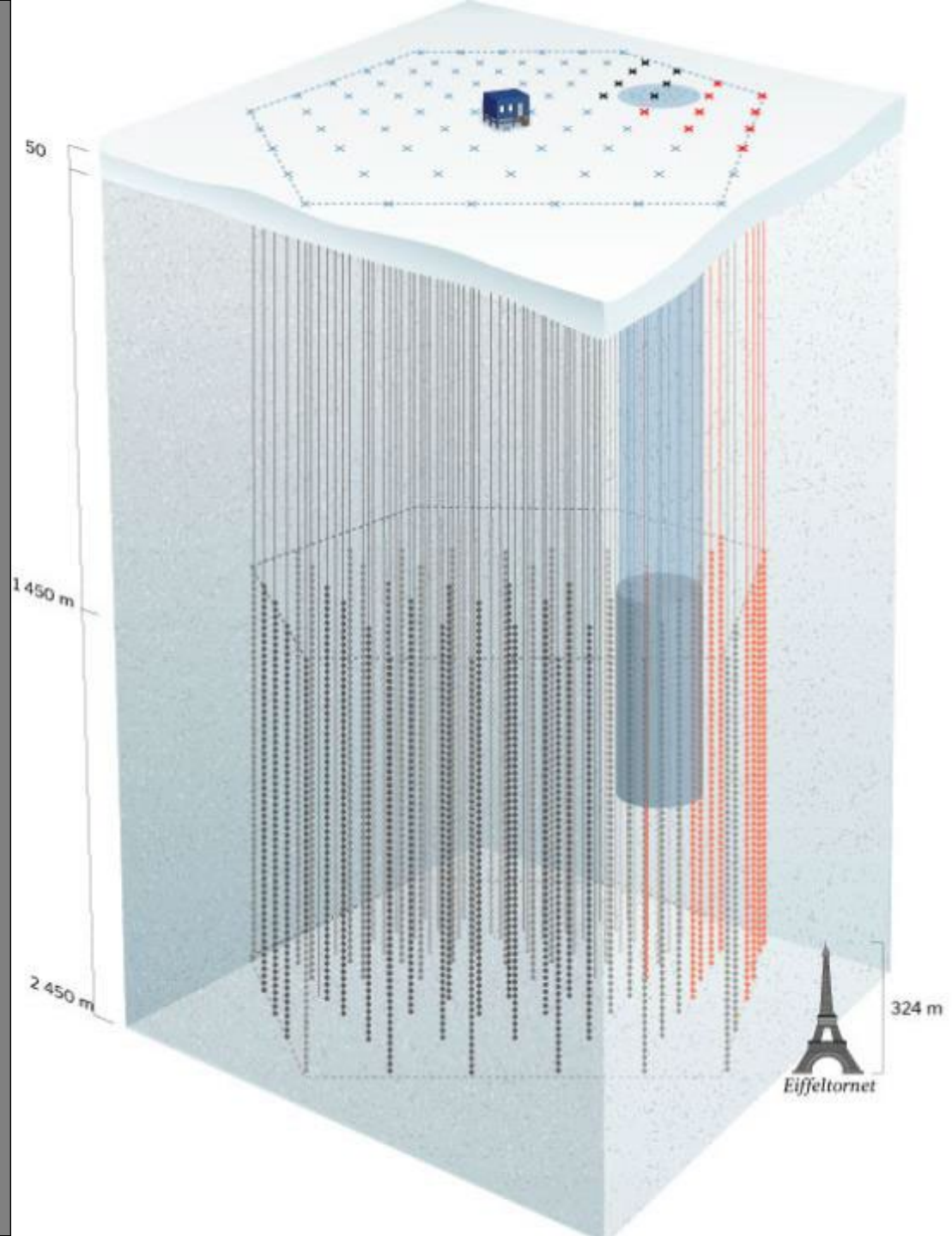
ICE TUNNEL AHD UTILIDOR 55' BELOW THE SURFACE



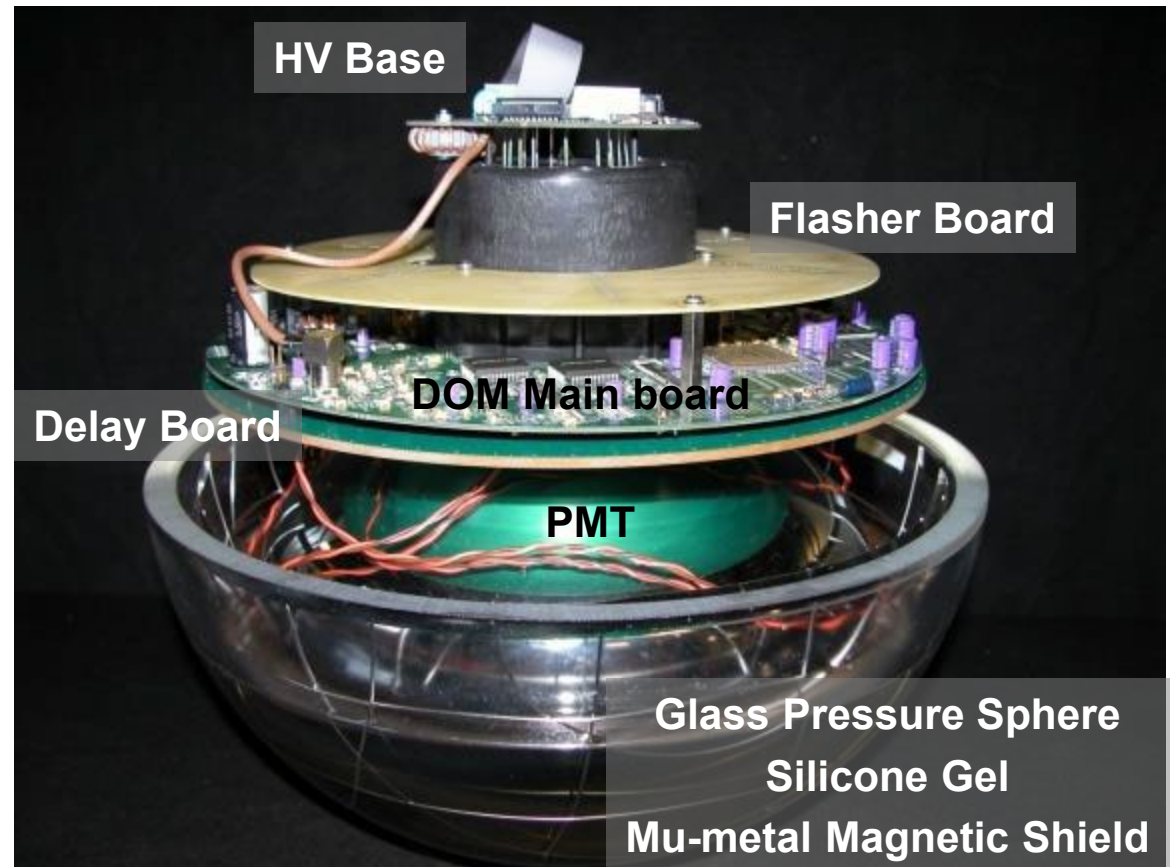
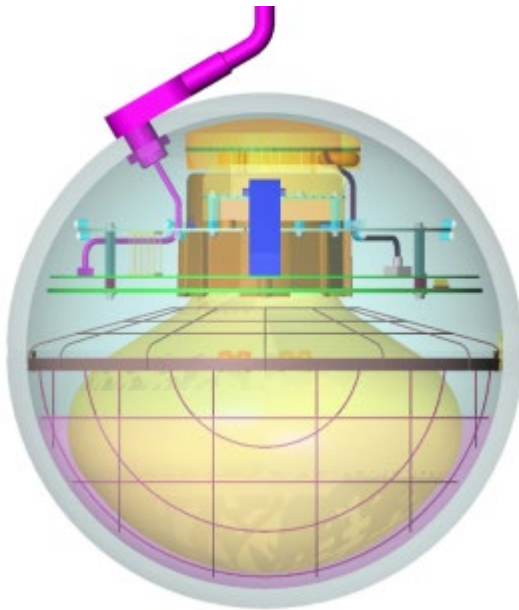
NEUTRINO TELESCOPE LAB



IceCube February 2006



Digital Optical Module (DOM)



Ice Cube Construction



DIGITAL OPTICAL MODULE



10 METER MICROWAVE TELESCOPE



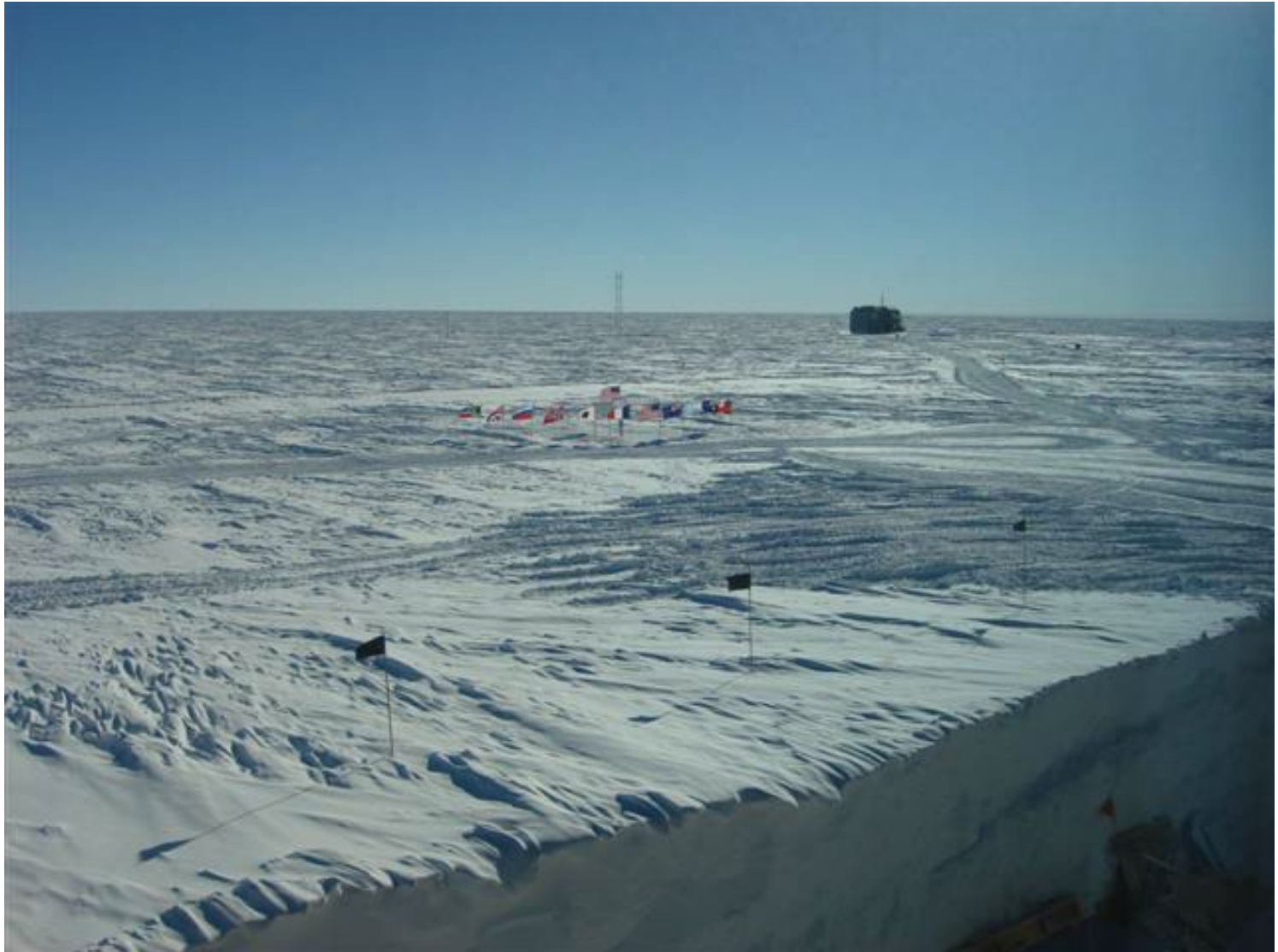




TEMPORARY ARCHITECTURE



GEOGRAPHIC SOUTH POLE MONUMENT



RACE AROUND THE WORLD







CHRISTMAS 2007



HERO PHOTO



POW-MIA FLAG



NEW YEAR'S EVE 2007-2008









LIFE IS GOOD AT THE SOUTH POLE



MARDI GRAS PARADE 2007



















POLAR TRAVERSE CELEBRATION









