

Grand Meadow Dome School Fact Sheet

Dimensions: Each Dome

Diameter	150 feet
Circumference	472 feet
Floor Area	17,670 square feet
Structure Surface Area	22,800 square feet
Center Height	40 feet

Major Ingredients: Each Dome

Concrete (walls 4 to 10" thick, foundation 4 ft. deep x 3 ft. wide).....	700 cubic yards
Reinforcement Bar (full pattern in foundation, 2 meshed layers in dome walls....)	.57 tons
Foam Insulation (4" thick between airform and concrete walls)	7500 cubic ft.

Approximate Cost: Each Dome

Concrete Foundation.....	\$75,000
Air Form.....	\$41,000
Dome Construction.....	<u>\$336,000</u>
	\$452,000

Details

- The airforms were fabricated in Italy, TX. The dome builders are from Idaho, using some local labor in addition to regular crews from around the nation. All other contractors are from the surrounding areas. There were four dome construction contractors nationwide that bid on this project.
- The facility is equipped with a geothermal heating and cooling system, which uses liquid pumped through 20 miles of tubing buried 7 feet in the ground in an area about the size of 4 football fields. . All heating and cooling system equipment is located on the second floors of the connecting structures. . Main HV AC ductwork feeds to the core of each dome, then distributes forced air into each classroom.
- Most electrical conduit is attached to the walls of the dome prior to the application of concrete.
- There are no windows in the domes themselves. All three connecting structures have glass entrances.
- The 3 front domes have center skylights allowing natural light into the cores, and into all perimeter classrooms through interior windows located on the core wall of the rooms. . An acoustical spray-on product is applied to a specified area of each dome to improve acoustics.
- There are ceilings only in the halls and offices. All other rooms see the dome as the ceiling.
- The outer shell is warranted for 10 years. A spray-on treatment is applied approximately every 5 years to extend the life of the outer fabric indefinitely. The outer shell can be replaced or covered if needed.
- Interior walls are either concrete block, metal studs & drywall, or a combination of both.
- The entire facility consists of approximately 96,000 square feet.
- The combination of 5 domes is currently the largest number of domes configured for a school in the u.s.