



Design Elements

*Timeless in simplicity and beauty,
like its landscape, both stark and serene,
the Memorial should be quiet in reverence, yet powerful in form,
a place both solemn and uplifting.
It should instill pride, and humility.
The Memorial should offer intimate experience,
yet be heroic in scale.
Its strong framework should be open to natural change
and allow freedom of personal interpretation.*

The Tower of Voices serves as both a visual and audible reminder of the heroism of the forty passengers and crew members. NPS Photo / B. Torrey

*We want to restore life here,
to heal the land, and nourish our souls.
In this place, a scrap yard will become a gateway
and a strip mine will grow into a flowering meadow.
But more than restoring health,
the Memorial should be **radiant**,
in loving memory of the passengers and crew who gave their lives on Flight 93.*

Paul Murdoch, Architect

Design Contest

Flight 93 National Memorial has significantly transformed since Congress authorized its development in 2002. The Flight 93 memorial partnership held an international competition to select the design for the permanent memorial and received over 1,100 entries from 27 different countries. Concluding the one-year competition, the design submission from Paul Murdoch Architects and Nelson Byrd Woltz Landscape Architects was chosen and subsequently constructed in three phases. The Memorial Plaza and the Wall of Names opened to the public on September 10, 2011. The second phase, the Visitor Center Complex, was completed four years later. The Tower of Voices completed the memorial design dedicated on September 10, 2020.

Gateway Entrance

The gateway entrance is located at US Route 30/Lincoln Highway. The Approach Road, leading into the memorial, sets the tone and color palette. The concrete pedestal of the entrance sign contains the pattern of hemlock barn beams used throughout the memorial's design, a nod to its rural past. The entrance sign is black to remind us of the industrial coal mining history, and the rusted guard rails hint at the past as a coal mining haul road.

Tower Of Voices

The Tower of Voices is a monumental, ninety-three-foot-tall musical instrument. It holds forty wind chimes, representing the forty passengers and crew members. The chimes are wind-activated. Due to variations in wind direction and speed, some wind chimes may remain motionless while others are partially or fully activated. The chimes will sound at wind speeds as low as 7-10 mph.



The tower is a landmark feature near the entrance, visible from US Route 30. There are no other chime structures like the Tower of Voices in the world. The shape and orientation of the tower help optimize airflow through the open walls. The chime system uses music theory to identify a mathematically calculated range of frequencies needed to produce the musical notes. The pitches are based on a C Lydian mode and are C, D, E, F#, G, and B. The applied music theory produces musically compatible tones with slight variations in tuning frequencies, creating a set of forty tones (voices) that connote, through consonance, the serenity and nobility of the site. The dissonance recalls the tragic event of September 11, 2001.

Flight Path Walkway
Visitor Center
Portal Walls
Overlook

The black granite walkway, located at the Visitor Center, leads through the tall Portal Walls along the Flight 93 flight path and includes a timeline of events. Designed to draw the eye skyward, the opening of the walls frame the airspace over the flight path.



The cast walls harmonize with the surrounding landscape, descending into the Allée. The texture in the concrete resembles old hemlock barn beams, giving the walls the appearance of weathered wood and references the rural landscape. The angled lines are a symbolic reference to Eastern hemlock trees, which bore witness to the crash. This pattern is replicated throughout the memorial. Upon reaching the Flight Path Overlook, the view opens to the crash site, marked by a 17-ton sandstone boulder, the hemlock grove, and the Wall of Names.

Field of Honor
Allée
Memorial Groves

The Allée, a tree-lined pathway, connects the Visitor Center Complex to Memorial Plaza. This circle of embrace defines the landscape and monumental scale of the area. Lined with Red Sunset maple trees (*Acer rubrum*), this formal trail brings visitors on a gentle descent to the focal point, the crash site, and the debris field.



Located between the Allée and Ring Road, 40 Memorial Groves of 40 trees radiate along this curving landform. The Memorial Groves, which honor the passengers and crew members, are planted with Pennsylvania hardwoods: Red Oak, White Oak, Black Oak, Scarlet Oak, Chestnut Oak, Swamp White Oak, Red Maple, and Sugar Maple. The Allée concludes after crossing wetlands via a pedestrian bridge near Memorial Plaza.

Crash Site/Debris Field
Wall of Names
Ceremonial Gate

The final resting place for the passengers and crew members is the Flight 93 crash site and debris field. This field is adjacent to a grove of Eastern hemlock trees and is the center of the memorial's design. Visitors may walk the Memorial Plaza following the boundary of the crash site to the Wall of Names. A 17-ton sandstone boulder marks the general area of impact.



NPS Photo/ Wild Excellence Films

The Wall of Names is forty polished marble panels, inscribed with the names of each passenger and crew member. The wall stands next to the flight path and appears solid from a distance, representing their unified action. Look closely at the Wall of Names, to identify the passengers from the crew members; a space between each panel highlights their unique individuality.

The Ceremonial Gate separates the Wall of Names from the crash site. This wooden gate, constructed of hewn hemlock beams with forty cut angles, represents the passengers and crew members. It is only opened on September 11 for family members to visit the site.



Wetlands Bridge
Wildflower

Native trees and wildflowers are among the restorative features intended to heal the mining landscape. Originally a part of the surface coal mining, the wetlands have been transformed into a self-sustaining natural habitat and aquatic ecosystem. The open meadows and wetlands continue to improve from an industrial past providing new habitat for wildlife. The 800-foot Wetlands Bridge is a place to reflect and experience the returning flora and fauna to this landscape.

