

Dogwood Planted Along Roadsides

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An article in the September 1946 issue of *Contractors and Engineers Monthly* described the original Blue Star planting project in New Jersey:

Blue Star Drive Planned as Memorial for Service People; Slopes Flattened or Stabilized With Trees

Living tribute to service men and women of New Jersey advanced further this spring when over 6,000 flowering-dogwood trees were planted along U.S. 22, important east-west cross-state highway. Two sections of the artery, known as the Blue Star Drive, have been selected as a permanent memorial. But eventually, as many dogwoods will line the four-lane highway as there were men and women from New Jersey in the armed forces during World War II.

Most of the planting has been done on a 5½-mile stretch between North Plainfield, Somerset County, and Mountainside, Union County. At this location, U.S. 22, or State Route 29, is somewhat west of the commercialized and industrialized east side of the state. So the natural beauty of the countryside is being enhanced by roadside planting. The project is sponsored by the Garden Club of New Jersey, which has collected the funds to purchase the trees. The work of selecting, planting, and maintaining them is being carried on by the New Jersey State Highway Department. The Department has also flattened many backslopes along the road. Where lack of the necessary space interfered, the Department has stabilized the slopes by planting young trees to check erosion and slides.

Black Star Memorial Drive

The start or northeast end of the Blue Star Drive in Mountainside is at the Locust Grove Union Chapel. There a roadside sign has been erected to signify its dedication. Completed in 1932, the route has dual concrete roadways, each 20 feet wide, with 10-foot shoulders on the outside that have a slope of ¼ inch to the foot. A system of catch basins along the ditch line provides adequate drainage. The dual roads are separated by a planted area that varies in width according to the right-of-way available. However, the average right-of-way width is only 100 feet. This means that the roadside strip beyond the shoulder on each side is only about 10 feet wide. So in order to have adequate space for planting, the State sought permission from owners of abutting property to put dogwoods on their land. For the most part cooperation was excellent, since the property was improved at no cost and with no strings attached to the benefit.

Although written agreements were negotiated between the State and the property owner, no easements were granted to the State. But neither could the owner claim any loss or damage to his property because of the planting. Some property owners granted the State unlimited distance for the improvement, but the usual strip was between 25 and 50 feet. Before any planting was done on this strip it was first cleared of debris or rubbish. If it happened to be woodland, the existing growth was thinned selectively. Desirable native growth, such as high-bush huckleberry, spice bush, red maple, oak, and birch, was retained and room left for the addition of informal groupings of dogwoods.

Where space permitted, many of the original 1½ to 1 backslopes were flattened to 4 to 1 by dozing with a Caterpillar R4 tractor equipped with a 6-foot blade. This unit also either dozed or pulled out old tree

stumps on the slopes. When the operations were such that a large quantity of earth was removed from the slopes by dozing, a Bay City $\frac{3}{4}$ yard shovel was moved in to load the excavated material into three $1\frac{1}{2}$ -ton trucks. These hauled it away for waste on the fills or low places along the road. Altogether six trucks were used either in grading or in hauling the trees from the nurseries to the road.

Flowering Dogwood

Although the floral emblem of New Jersey is the violet, the *Cornus florida* or white flowering dogwood was chosen to be featured on the Blue Star Drive because it is the state's most beautiful native tree. Its large white blossoms in the spring, and its foliage and clustered red berries in the autumn, give it two full seasons of spectacular display. In addition to the dogwood, and acting as a background for it, other trees such as native scarlet and red oak, white pine, and hemlock were also planted, along with flowering native shrubbery.

The project really started in the autumn of 1944 when about 2,000 dogwoods were planted along this road. Those trees, as well as the ones planted this year, were purchased with funds raised by the Garden Club of New Jersey from donations by corporations, organizations, clubs, and public-spirited individuals. All future trees will be purchased in the same way. A 5-foot nursery-grown tree can be planted on Blue Star Drive for approximately \$1. A donation which does not specify the exact number of trees is used to plant an area with trees and shrubs of varying size to fit a landscape design. As this four-lane highway is one of the great traffic arteries between New Jersey and other states, it is estimated that 29,000 cars will pass the memorial daily.

Because of the purpose for which the trees are being used, the nurseries have cooperated with the Garden Club to provide the trees as economically as possible. Most of them are grown at a nursery, where the Garden Club purchases them in the ground. They are dug by the Highway Department and transplanted along the roadside or in the median strip.

Planting

The planting this spring was done in about 40 working days in the fairly short season between March 25 and May 15. The latter part of this period coincided with dogwood-blossom time which lasts two or three weeks between the middle of April and the middle of May. A force averaging 50 laborers and 6 foremen from the landscape crew was assigned to the work. Altogether the State has about 135 landscape laborers from the nine districts, but only three districts were represented on this project.

At the nursery the trees were dug from large blocks, and those of larger size, 7 to 10 feet high, were balled and burlapped (B&B), while the smaller ones were classified as bare-root stock. After being hauled to the site, the B&B's were unloaded and stood in groups until they were planted. The bare-root stock could not be left in this fashion, however, if the holes had not been dug to receive them. On the way to the job they were covered with burlap so the roots would not dry out, and if they were not used immediately they were placed in a heeling area nearby.

This heeling area contained a V-shaped trench, $1\frac{1}{2}$ to 2 feet wide and $1\frac{1}{2}$ feet deep, in which the bare roots were placed as the trees were stretched out on the ground lengthwise of the trench. The roots were then covered with dirt, and these small 2 to 5-foot trees could be left safely in this area for a week or two before planting.

The planting was well organized. Wooden stakes were set out on a varied spacing of 8 to 10-foot centers each way to mark the location of the trees. Holes were dug by hand with spades or shovels. The dogwoods required a hole $1\frac{1}{2}$ feet in depth and 2 feet in diameter; the larger trees of the various other types serving as a background were set in holes averaging 2 feet in depth and $3\frac{1}{2}$ feet in diameter. Some of the pines and hemlocks thus planted were up to 12 feet high. The topsoil from each hole was

set to one side and later mixed with well rotted cow manure. Then it was placed in the bottom of the pit which had been grubbed as deeply as possible. The amount of manure required varied from 5 pounds for a shrub to 10 pounds for a large tree, and care was taken that no manure came in contact with the roots themselves. The trees were planted at practically the same depth at which they stand before transplanting.

After being cut free, the burlap from the balled trees was usually left in the bottom of the pit. During the backfilling the earth was firmly packed to prevent the formation of air pockets. At ground level a 2-inch-deep shallow saucer-like basin, as large in diameter as the tree pit, was left around the tree. This area was then filled with a peat-moss mulch from 1½ to 2 feet in depth. The mulch, manure, and any additional topsoil required were provided by the Garden Club. The manure was procured from neighboring farms.

Trees over 2 inches in diameter were supported by three guy [wires] made from No. 12-gage galvanized-iron wire equipped with 4-inch-long turnbuckles. Wooden 2 x 4's of white cedar, fir, or white pine, sharpened at one end and 24 inches long, were driven flush with the ground at least 4 feet from the base of the tree. Notches were cut in the stakes near the top for fastening the guy wires. To prevent the wire from cutting into the trees, black corded rubber hose, ¾ inch in diameter and 8 inches long, was used to secure the guys to the trees. After guying, the trees were trimmed by removing about 1½ feet of growth in order to offset the loss to the root system during the initial digging and the subsequent transplanting. This reduces the limb area which the roots have to feed and is necessary to insure the growth and life of the tree.

Another shorter section of the Blue Star Drive was also the scene of planting activity this spring. It was a 2-mile stretch of U.S. 22, State Route 28, near Whitehouse in Hunterdon County. Here about 600 dogwoods and 300 other trees including oaks, maples, and gums were planted through the cooperative efforts of the Hunterdon County Community Garden Club and the New Jersey State Highway Department. At this location also the highway has a dual concrete pavement. But its 140-foot right-of-way makes possible a 50-foot-wide planted area as a central mall. Trees were planted both in this median strip and at the sides of the road beyond the shoulders, as they were at the other section of the Drive.

The full results of all this work naturally will not be observed until a lapse of about five years, when the trees have attained a greater growth and can show to their best advantage. By that time too it is hoped that the present two sections of the Blue Star Drive will have been extended along the full length of U.S. 22 crossing the state.

New Parkway

With the end of the war, roadside development in New Jersey is expected to take a more prominent part in new highway construction. The trend will be to provide wider right-of-ways so that slopes can be graded 4 to 1. This will enable the operation of power maintenance equipment such as mowing machines, which will mean a subsequent reduction in maintenance costs. The landscape labor force is expected to be increased from 135 to 275 men, although at the present time such labor is still difficult to obtain. With a larger crew the scope of roadside development can be broadened.

Plans are now being completed for construction of the first New Jersey state parkway, and informal planting and landscape development are provided for in the original highway-construction design. This north-south parkway will eventually be 140 miles long. It will extend from the New Jersey connection to the George Washington Bridge over the Hudson River near Clifton, N.J., to Cape May at the southern tip of the state. The parkway will have at least a 300-foot right-of-way for six lanes of traffic and a 20-foot-minimum median strip. Opposing lanes will have greater separation wherever the cost of the right-of-way will permit more acquisition. This will reduce headlight glare and allow the new parkway to fit the

existing terrain more easily. Construction is expected to start this year on the initial 7½-mile section of parkway from Cranford, Route 28, to Woodbridge, Route 25 and 35.

Personnel

The roadside development along the Blue Star Drive is under the supervision of Oliver A. Deakin, Parkway Engineer, and Robert S. Green, Supervising Landscape Engineer, of the New Jersey State Highway Department. Spencer Miller, Jr., is Commissioner, and Charles M. Noble, State Highway Engineer.
