

On-site Mitigation Plan

Proposed Replacement of Bridge No. 3 on SR 1423 over Little Northeast Creek and SR 1423 from SR 1411 to SR 1413 in Onslow County, North Carolina.

TIP No. B-3682/W-3413

October 22, 2004

Overview

Roadway improvement project W-3413 is located adjacent to the proposed bridge replacement project and will be included with B-3682 for permitting purposes. This 2.0 mile project proposes to improve the horizontal curvature of SR 1423 from SR 1427 to SR 1413 in Onslow County. Bridge No. 3 will be removed and replaced at a new location in conjunction with this proposed alignment. The NCDOT will replace the existing 70-foot long bridge over Little Northeast Creek with a new bridge approximately 200 feet in length, therefore, spanning a large portion of the existing wetlands. Moving the bridge to a new location approximately 80 feet downstream will allow for the removal of approximately 300 linear feet of causeway in previously filled wetlands beginning left of station 26+95-L- to left of station 30+50-L-, not including the bridge over Little Northeast Creek. The existing causeway will be removed and returned to an elevation resembling that of the adjacent wetlands.

Existing Conditions

Bridge No. 3 is currently a causeway, which fills wetland habitat adjacent to Little Northeast Creek. The adjacent community consists of green ash (*Fraxinus pennsylvanica*), river birch (*Betula nigra*), willow oak (*Quercus phellos*) and water oak (*Quercus nigra*).

Proposed Mitigation Activity: Causeway Removal

The removal of the old causeway will mean that approximately 0.28 acres of fill will be removed from wetlands associated with Little Northeast Creek. Approximately 300 feet of existing causeway will be lifted, restoring the palustrine broad leaved wetland underneath. It is anticipated that after the causeway is removed, existing wetlands will again be connected, allowing the natural wetland hydrology to return. Therefore, NCDOT proposes 0.28 acre of riverine wetland restoration credit.

The causeway should be removed to an elevation representative of the adjacent wetlands, not to the wetland delineation line. The elevation at the delineation line is the uppermost point of the wetland, consequently acting as the boundary between wetland conditions and upland dry conditions. Excavating the causeway to a representative elevation prevents a levee effect around the existing wetlands. The wetlands must be connected for hydrology to return. If the uncovered causeway soils are slightly lower than the adjacent wetlands, it is anticipated that organic materials carried by the wind, rain and/or brought in and out by the flushing of the adjacent wetlands will settle into the restored area. This will create the desired upper layer of natural material. It will also create small areas of micro-habitat for fish, amphibians, and small mammals.

Proposed Vegetation:

The NCDOT proposes to replant with indigenous vegetation. The area to be restored will be planted with green ash (*Fraxinus pennsylvanica*), river birch (*Betula nigra*), willow oak (*Quercus phellos*) and water oak (*Quercus nigra*). The NCDOT also expects natural colonization of native flora to occur around the removed causeway.

The proposed restoration area is currently a standing palustrine forested broad-leaved deciduous wetland community. The canopy of this area is dominated by willow oak, water

oak, American beech (*Fagus grandifolia*), green ash, red maple (*Acer rubrum*), and American elm (*Ulmus americana*).

Proposed Hydrology:

The proximity of the restoration areas to Little Northeast Creek ensures that area will be saturated and/or inundated for extended periods of time. It is anticipated that after the causeway is removed, existing wetlands will again be connected, allowing the natural wetland hydrology to return.

Monitoring

As requested by the Army Corps of Engineers, the NCDOT will perform 3 years of photo monitoring with a site visit to determine if jurisdictional status has been met.

23+00

24+00

25+00

26+00

27+00

28+00

NOTE: OLD ROADWAY EMBANKMENT WILL
WILL BE REMOVED DOWN TO NATURAL
GROUND WITH 2:1 SLOPES.
QUANTITY OF EXCAVATION - 12600 CY

WOODS

72' CHL

SR 1425 - OLD THIRTY ROAD

C

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WOODS

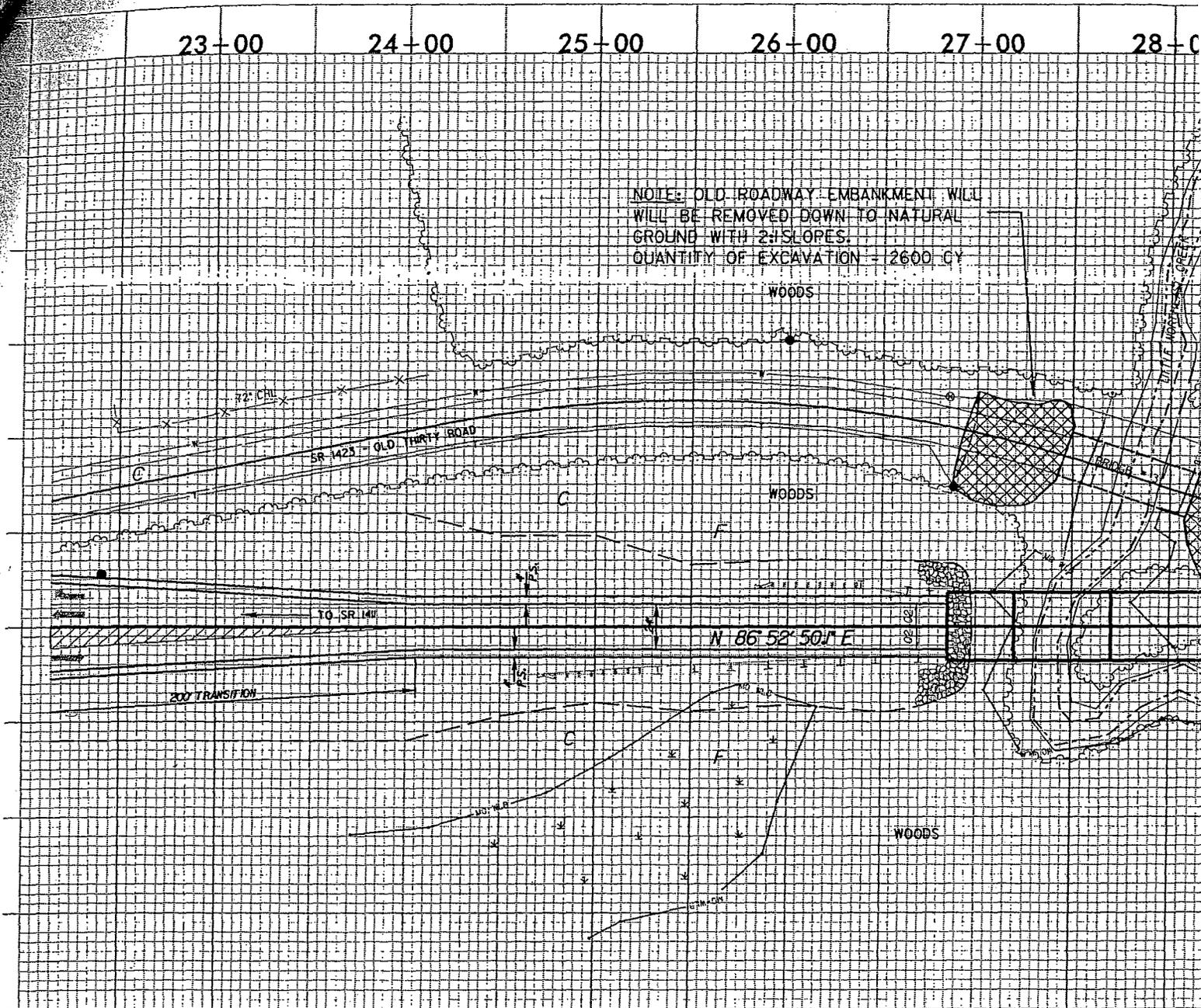
TO SR 1411

N 86° 52' 50" E

200' TRANSITION

WOODS

WOODS

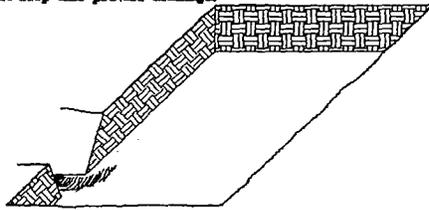


PLANTING DETAILS

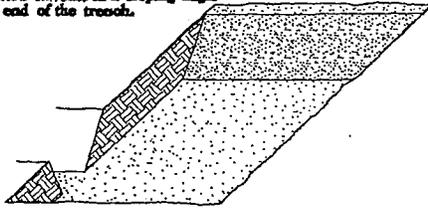
SEEDLING / LINER BAREROOT PLANTING DETAIL

HEALING IN

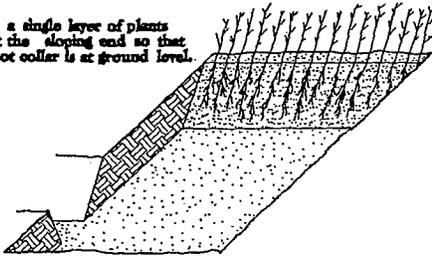
1. Locate a healing-in site in a shady, well protected area.
2. Excavate a flat bottom trench 12 inches deep and provide drainage.



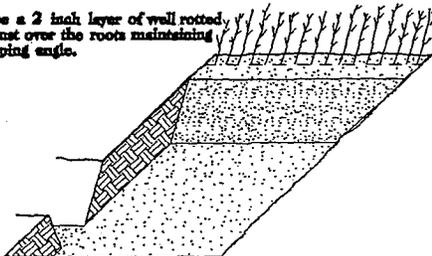
3. Backfill the trench with 2 inches well rotted sawdust. Place a 2 inch layer of well rotted sawdust at a sloping angle at one end of the trench.



4. Place a single layer of plants against the sloping end so that the root collar is at ground level.

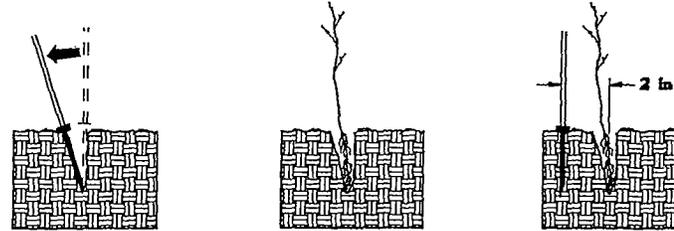


5. Place a 2 inch layer of well rotted sawdust over the roots maintaining a sloping angle.



6. Repeat layers of plants and sawdust as necessary and water thoroughly.

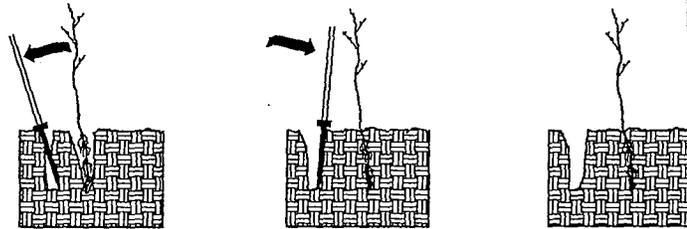
DIBBLE PLANTING METHOD USING THE KBC PLANTING BAR



1. Insert planting bar as shown and pull handle toward planter.

2. Remove planting bar and place seedling at correct depth.

3. Insert planting 2 inches toward from seedling.



4. Pull handle of bar toward planter, firming soil at bottom.

5. Push handle forward firming soil at top.

6. Leave compaction hole open. Water thoroughly.

PLANTING NOTES:

PLANTING BAG

During planting, seedlings shall be kept in a moist canvas bag or similar container to prevent the root systems from drying.



KBC PLANTING BAR

Planting bar shall have a blade with a triangular cross section, and shall be 12 inches long, 4 inches wide and 1 inch thick at center.



ROOT PRUNING

All seedlings shall be root pruned, if necessary, so that no roots extend more than 10 inches below the root collar.