

**New Jersey Department of Transportation
QUALITY IMPROVEMENT ADVISORY**

QUALITY MANAGEMENT SERVICES

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QIA No. QIA005

**Approved
Date: 1/31/97**

Process Affected:

Scope Design Right of Way Utilities Environmental Historic Construction

Bureaus Affected:

Construction, Maintenance

Procedure(s) Affected:

Construction (Value Engineering)

Route & Section:

Route 55 FWY
Sec 5G, 6J, 7Q, &10E

County/Municipality: Gloucester & Cumberland Counties

Maurice River, Pittsgrove & Franklin Twps.
Cities of Millville & Vineland

Project Summary:

The installation of No Access Fencing along Route 55 FWY according to NJDOT Standard Specifications (1989), Section 614 and NJDOT Standard Detail CD-32.1.

Nature of Problem(s):

The contract as awarded required that fence posts, except those in wet areas, be installed in Class C Concrete. On this project, the contractor requested and received approval to install drive anchor shoe assemblies throughout the project. Since this contract was for the installation of fencing, this request represented a major pay item.

Literature from a major manufacture and supplier of fencing indicates that the cost for the anchor and shoe is more than concrete. However, when the concrete cannot be dumped directly from a truck into post holes, a substantial savings in labor costs can be realized when anchors and shoes are used. On this project, there is limited accessibility to the fence location which did not allow the substantial use of a truck for pouring. Therefore, the use of anchors and shoes proved to be less costly than the original bid items. At present the estimated minimum savings is \$52,588.00 for the use of drive anchors vs. concrete. This should be split between the State and the contractor, however the contractor contends that since the Resident Engineer approved of the change, the contractor should not split the savings with the State. This is presently being negotiated between the Resident and the contractor.

The use of anchors and shoes on this project has led to two main problem areas.

- 1) The allowing of the use of these products may permit the other bidding parties to seek a claim against the State since the change in work did not accurately follow the procedure identified in the contract specifications.
- 2) The anchors and shoes that were installed have been approved for installation only in wet areas. The performance and reliability of these items in dry areas has not been determined.

Recommendation(s):

1) Contractor's requests for this type of change should be processed through the Value Engineering guidelines in the Standard NJDOT Specifications Section 104.1, part 5. This states that through Supplementary Agreement, the Department will pay the contractor 50% of the actual savings as reflected by the difference between the as-built payment and the cost of the related construction required by the original Contract Documents computed at Contract bid prices. This allows the State to review proposals for cost savings by the contractor without jeopardizing the bidding process. To avoid possible future litigation, all major change requests should be processed through proper channels, including, but not limited to, VE.

2) The Bureau of Quality Assurance, Improvements and Research is reviewing the use of drive anchors for dry land. At present, the final review has not been completed. Therefore, the use of drive anchors is not permitted in dry areas. All fencing should be constructed according to Standard Specifications and Details. Any request for use of drive anchors in non wet areas must proceed through the Value Engineering process.

Implementation: Immediate

Impact Assessment:

Schedule Quality Cost Scope

Cost Impact:

\$52,588.00