



Memo

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September 25, 1996

To: Wayne Murphy - M.S. 650
State Construction/Materials Engineer

From: Gerald N. Kreutzer - Baxter
Asst. Dist. Engineer - Construction

Subject: Supplementary Specification to MnDOT Spec 2051

Enclosed is a draft spec dated August 12, 1996, which has been developed as a supplement to MnDOT Specification 2051 *Maintenance and Restoration of Haul Roads*. The task force has also developed a supplemental questions/answers to Spec 2051 dated August 12, 1996 (copy enclosed), that provides history and answers many of the questions that the Haul Road Task Force addressed in developing this spec.

This specification has been developed in accordance with Resolution No. 7 (copy enclosed) by the Minnesota County Engineer's Association (MCEA) which recommended, in part, that MnDOT and MCEA jointly develop a haul road compensation procedure similar to the detour compensation procedure. This task force consisted of members from the counties, townships, cities, and MnDOT, and has worked very closely with MnDOT Contract Administration to develop this special provision. It is the recommendation of the task force that this draft spec dated August 12, 1996, be approved by MnDOT staff and implemented in future contracts.

Members of the task force are available to meet with groups such as the applicable AGC committees, MnDOT staff, and county/city/township associations so that the information is presented and the spec implemented.

In closing, Wayne, I want to thank everyone on the task force and especially Frank Kennedy of Contract Administration, for their excellent cooperation and efforts in developing this spec.

cc:

Don Raisanen - Baxter
Paul Bergman - M.S. 650
Frank Kennedy - M.S. 650

Haul Road Task Force

Troy Gilchrist - Minnesota Association of Townships
Jon Huseby - Mankato
Mark Gieseke - M.S. 500
Jerry Teig - Maplewood Lab
Tony Kemperich - Baxter
Ben Sieck - Willmar
George Cochran - Maplewood Lab

Mike Sheehan - Olmsted County
Dan Edwards - Fergus Falls
Pete Boomgarden - Redwood County
Wayne Fingalson - Wright County
Art Hill - Maplewood Lab
Dave Everds - Dakota County

"DRAFT"

2051 MAINTENANCE AND RESTORATION OF HAUL ROADS

The Provisions of MnDOT 2051 are supplemented by the following:

(A) In addition to the amount the Contractor bids for Item 2051.501 Maintenance and Restoration of Haul Roads, the Department agrees to reimburse the Contractor at the predetermined unit prices as set forth below for materials ordered by the Engineer. All materials ordered by the Engineer for the maintenance and restoration of haul roads will be measured as set forth in the applicable sections of Standard Specifications.

Each of the following materials measured as provided above, will be paid for at the following predetermined prices:

		<u>English</u>	<u>Metric</u>
2118.501	Aggregate Surfacing, Class 1	\$3.00/ton	(\$3.31/t)
2130.501	Water	\$6.00/1000(M)gal.	(\$1.58/1000 liter)
2131.502	Calcium Chloride Solution	\$0.40/gal.	(\$0.11/liter)
2211.501	Aggregate Base, Class 5	\$3.00/ton	(\$3.31/t)
2340.508	Type 31 Wearing Course Mixture	\$8.75/ton	(\$9.65/t)
2357.502	Bituminous Material for Tack Coat	\$0.50/gal.	(\$0.13/liter)

Note: 1000 Liters = 1 m³ = 264.2 gallons

Crushing will not be required in the production of Class 1 material.

The above prices will be considered to be compensation in full for furnishing and providing the materials complete in place including, but not limited to, royalty, waste, equipment rental, labor, overhead, profit and incidentals. When materials other than those listed above are ordered by the Engineer, they will be paid for as extra work in accordance with MnDOT 1403, with the Department and the Contractor sharing equally in the costs. Blading and reshaping necessary for the maintenance and restoration of haul roads shall be considered incidental to the Contract item.

The above work shall be performed to restore visible damage.

(B) The Contractor will be required to reimburse local government agency(s) for its haul road use on certain bituminous roadways as set forth below. The Contractor shall verify spring load capacities of proposed haul roads with the local government agency(s). Reimbursement to local government agency(s) for concrete surfaced roadways is not required.

When a designated haul road has a bituminous surface and a spring load capacity of less than nine (9) tons, reimbursement to the local government agency(s) for haul road use shall be made at the rates as follows:

\$0.01/ton of material hauled per mile

\$0.007/metric ton of material hauled per kilometer

The Engineer is responsible for measurement of materials hauled; distances traveled and all computations.

The Contractor shall make full payment to the local government agency(s) upon receiving notice of payment due and computations from the Engineer. There will be no Prime Contractor allowance for this payment. The Contractor shall provide the Engineer with confirmation of payment to the local government agency(s). Should the amount due an individual local government agency be less than \$500, no payment will be required.

DEPARTMENT : Mn/DOT-Field Operations Division
Brainerd

STATE OF MINNESOTA

Office Memorandum

DATE : August 12, 1996

TO : Haul Road Task Force

FROM : Gerald N. Kreutzer - Brainerd
Asst. Dist. Engineer - Construction

PHONE : (218) 828-2462
1-800-657-3971

SUBJECT : Supplemental Questions/Answers to Spec 2051

What was the origin of this request? In the mid-80's, a task force was set up to review the detour and haul road specifications. It was decided to address the detour issue first. A questionnaire was sent statewide, a study was completed, and subsequently there was Technical Memo No. 91-20-TS-02 (subsequent number 92-44-TS-02) issued which set up the process for detour restoration. Since that time there has also been Technical Memo #92-45-TS-03 which sets up the process for the Township Road Unofficial Policy.

What was the purpose of setting up a detour process? It was to provide uniformity throughout the state yet allow flexibility for individual districts and counties. The detour costs to date have ranged from approximately \$500,000 in 1993 to an estimated \$300,000 in 1995. Obviously this can be significantly impacted by major detour(s) in any given year.

What has been the reaction to the detour process? Contacts with counties and other agencies, indicate they feel this process has provided statewide uniformity.

What is the background for haul road review? After the detour specification was implemented, the Minnesota County Highway Engineer's Association requested that the Department review the haul road specification.

What has happened since then? A haul road task force consisting of state, county, city, and township representatives was formed in December 1992 with the mission to establish a "fair" haul road compensation specification. In 1993 projects were analyzed in various districts for the impact of a spec change. In 1994, draft specs were developed and a meeting was held in June 1994, with Pat Hughes and Wayne Murphy to confirm that the task force was headed in the right direction. In 1995, a draft spec was developed and we are now to the point where it is being finalized.

What is the applicable law? State Statute 161.25 - *Temporary Trunk Highway Detour: Haul Road* addresses the trunk highway system and State Statute 164.155 - *Restoration of Certain Town Roads* addresses the town roads.

Why does MnDOT designate haul roads? It is the policy of MnDOT to designate haul roads in accordance with Specification 2051. The policy provides that by the use of the haul road specification, that a reasonable route to the project is assured, and that the contracting agency, MnDOT, is responsible to see that haul roads are responsibly used.

Why do not all public agencies designate haul roads? Each governmental jurisdiction has the right to apply Specification 1515 as they desire.

For what purposes are haul roads designated? Specification 2051 is to be applied when answering this question.

Why pay for visible damage to haul roads? There can always be damage to a roadway that must be fixed as well as visible defects that should be repaired before hauling or visible damage that should be repaired during and after hauling.

Why does the agency and contractor share the visible damage for haul roads? The present spec provides that the agency and contractor share (approximately 50/50) for the invisible damage (fixed prices in the special provisions). The task force consensus was that this spec has been working well and that it should be continued.

Why is there pay for the use of haul roads? The consensus of the agencies and in accordance with MnDOT design procedures, the hauling of construction materials does take life out of a roadway. Since the agencies design roadways by ESALs, it is realistic to expect that hauling of materials will reduce the life of a structure.

Why does the contractor pay the total cost for the use of haul roads? The contractor has the responsibility to select the materials and plant location sites. Where these sites are, and the connecting road usage, are a cost to the project. The agencies are concerned with the total cost of a project and the selection of a specific/particular roadway is a part of the cost. The contractor must take into account the haul roads as a cost of providing the product and therefore reflect this in his bid.

What is the estimated cost? A statewide survey was done on MnDOT trunk highway projects in 1993. That survey indicated that approximately 5 million tons were hauled per year and that the average length of a haul road was three miles. Based on that data, the cost could amount to approximately \$150,000/year based on \$0.01/ton mile (\$0.007/metric ton kilometer).

Why use the spring load capacity of 9-ton? It was the consensus of the task force that a 9-ton roadway has sufficient ESALs (load-carrying capacity) designed into the road to take care of "the loss of life" when used as a haul road.

Isn't this contrary to the loss of life philosophy, i.e. we should pay for the use of all haul roads? Why only for bituminous roads and not gravel and concrete roads? This is true, but it was the consensus of the task force (all road authorities involved) to not deal with this issue.. This is not to say that 9-ton designed roads have sufficient ESAL life to handle their use as a haul road. Again if you go to a loss of life concept it would seem that the paying for all haul roads is appropriate. Again the task force came to a consensus that the visible damage would take care of the issue for roadways other than bituminous. If some catastrophic damage occurs, it was the consensus that an agency has the wherewithal to deal with it.

What if a proposed haul road has need of improvement before using (replace culvert or upgrade bridge, guard rail, etc.)? In this case, the cost participation for the improvement would be negotiated by the contractor, contracting authority, and local road agency. Payment for visible damage and compensation for the use of the roadway will still apply as outlined in the Supplement to 2051 *Maintenance and Restoration of Haul Roads*.

Will the keeping track of quantities create a problem? Yes, each resident office or district will have to develop a process to record the amount of tonnage that went across a specific haul road. It is recognized that this will create additional work, and it's left to the ingenuity of each district to document the quantities hauled for payment.

What will be required for documentation? MnDOT Contract Administration will issue a documentation procedure.

Why \$500? This is the same as the detour specification. Consensus of the Task Force is that minor quantities would have minimum impact on a roadway, and that the visible damage spec would reimburse the roadway owner.

Why the \$0.01/ton mile (\$0.007/metric ton kilometer)? The Task Force agreed that this was fair compensation. Three methods of payment which included gas tax, additional GE, and an empirical 1¢/ton mile. Every effort was made to keep the process simple and easy to administer. The additional GE method looked at two flexible pavement types - one low strength or low design capacity; the other of moderate strength or moderate design capacity. The low strength road was roughly similar to the road that needed to be posted in the spring while the moderate strength road would not be posted. In both cases, the hauling uses up some of the pavement life, but in the low capacity case, the restoration cost is roughly ten times that of restoration cost of the moderate capacity roads because proportionally the same hauling consumes more of the low capacity road's life.

The various methods were then examined by Ken Wasnie in a number of pilot cases and it was found that the gas tax and additional GE for moderate strength designed roads compared well. However, for these roads the calculated payments were low (usually well under \$500) and the committee felt that the fees were not worth dealing with from an administrative aspect. The empirical 1¢/ton mile and additional GE for low strength designed roads also compared well but at a higher payment level.

The committee then recommended the empirical 1¢/ton mile payment as simple (no ESAL calculations need to be made) and easy to administer for those roads most in jeopardy - the low strength designed roads, e.g., those roads which must be posted in the spring. It was not the committee's intent to allow hauling on these roads during spring load restrictions, but again to find a simple way to designate which roads deserved payment.

How does the contracting agency or contractor know what the spring haul road load limit is? Each road authority posts by Statute or by roadway analysis and will be able to provide the information to any requestor.

What about haul roads that are used as return routes? No payment for invisible damage will be made. The visible damage portion of the specification applies.

What if legal load limits are hauled during spring load restrictions? In general, the specification would apply and payment for invisible damage would be made. Since there may be extenuating circumstances that necessitate hauling during spring load restrictions, the contracting authority, roadway authority, and contractor should work out details in accordance with Specification 1513 which refers to State Statute 169 - *Highway Traffic Regulations Act*.



MINNESOTA COUNTY HIGHWAY ENGINEERS ASSOCIATION

**MEMORANDUM**

TO: Wayne Murphy
State Construction Engineer

FROM: Don Wisniewski, President *DW*
Minnesota County Highway Engineers Association

DATE: July 29, 1992

SUBJECT: Haul Roads

As discussed in our telephone conversation today, our Association requests continuation of the Detour/Haul Road Committee study to determine a haul road compensation procedure. Enclosed is the Association's resolution passed in January. The detour study and formula has been applied and is working satisfactorily. We request further committee work on haul roads.

Our Association committee members are:

Dave Everds (Dakota County) - Chairman
Peter Boomgarden (Redwood County)
Wayne Fingalson (Wright County)
Mike Sheehan (Olmsted County)

Dave Everds is the Associations contact person regarding this issue. Please advise him of Mn/DOT's contact and your intended action.

cc: Dave Everds

RESOLUTION NO. 7 - HAUL ROADS

WHEREAS, a Detour Road Compensation policy was adopted and successfully used in 1991 by the Minnesota Department of Transportation and the Minnesota County Highway Engineers Association, and

WHEREAS, use of county highways as haul roads on Minnesota Department of Transportation projects concerns counties, and

WHEREAS, it is desirable for the Minnesota Department of Transportation and the Minnesota County Highway Engineers Association to jointly develop a Minnesota Department of Transportation haul road compensation procedure similar to that used for detour road compensation.

NOW, THEREFORE, BE IT RESOLVED that the Minnesota Department of Transportation incorporate calculation procedures and a bid item for haul road compensation on several 1991 Minnesota Department of Transportation projects on a trial basis.

AND BE IT FURTHER RESOLVED that the Minnesota Department of Transportation pay the contractor the amount bid for haul road use and the contractor pay the county for use of haul roads as computed in accordance with the bid documents.