

IV. Role of the Inspector

Description

(Specification 1105.07; Construction Manual section 3.01)

Inspection is one of the most important processes in any highway project. The quality of the finished product generally reflects the quality of the inspection performed.

An inspector must be honest and fair, exercising responsibilities with firmness and good nature. Inspectors must work cooperatively with fellow employees, supervisors, and contractors to promote the progress of the project. The inspector needs to be familiar with the construction schedule and know how the work to be inspected fits into the overall schedule.

Responsibilities

Inspectors are accountable to the project engineer for satisfactory performance of their duties. The primary responsibilities for an inspector include:

- Plan Familiarity
- Work Done Without Inspection
- Contract Compliance
- Unacceptable Work
- Testing
- Daily Diary

Authority

Inspectors have the authority to reject materials or suspend work if the quality of either is in dispute with the contractor. The project engineer decides settlement of a dispute. The grade inspector should immediately inform their supervisor and the contractor of any materials or work they feel is outside of specification limits. The actual decision to reject materials or suspend work

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would come from a higher level of authority, typically the project engineer, following discussions with the inspector and contractor.

The inspector's authority does not extend to modification of any of the provisions of the contract documents, approval or acceptance of the work, supervising the contractor's work operations, or performing any other activity that is the responsibility of the contractor.

Important Documents

Proposal

Proposals are supplied to the contractors upon request for the purpose of bidding on the work proposed. Some of the information listed on the proposal includes:

- Items of work to be performed on the project.
- Estimated quantities for each item of work.
- Proposed work period.
- Supplemental specifications, special provisions, and special notes, applicable to the project.
- Special job mix requirements for the project.

Proposals are subject to addendums that may alter the work originally proposed (make sure you have all of the addendums).

Contract

The contractor and the contracting authority enter into a contract after the acceptance of the bid. It obligates the contractor to perform the work as outlined in the proposal. The contract lists the unit prices and extended prices for all items of work outlined in the proposal.

ESTIMATING PROPOSAL -- FOR NON-FEDERAL AID CONTRACT PAGE: 1
 To be used for bidding, the Proposal Schedule of Prices form included with this Estimating Proposal or a computer generated FBS Schedule of Prices form must be included with a "BIDDING DOCUMENT" issued by the Iowa D.O.T., Office of Contracts.

 A Proposal ID No.: 13-0038-003 Bid Order No.: 152
 A Type of Work: ACC RESURFACING Listing Date: July 14, 1998
 A Primary County: BUTLER Design: METRIC
 A Pre-Qual Group: ACC PAVEMENT/RESURFACING 1998 Std Spec
 A Contracting Authority: IOWA DEPARTMENT OF TRANSPORTATION
 A Proposal Quantity: \$ 160,000.00
 A Time Proposal Package: None required to, or allowed with this Bid Order.

This Proposal includes the following Project(s):

 Project: STPN-3-5(93)--23-13 County: BUTLER
 Work Type: ACC RESURFACING / HEATER SCARIFICATION Plans: Yes
 Route: IOWA 3 Design: METRIC
 Location: FROM JUST EAST OF THE JCT. WITH IOWA 188, EASTERLY TO THE WEST JCT. WITH U.S. 318 IN HAVERLY IN BREWER COUNTY.
 Road System: PRIMARY ROAD (400-MS)
 Length: 14.52 Kilometers Milepost: 210.59 To 220.19
 Non-Federal Aid - Predetermined Weighs Are Not in Effect

 Project: STPN-3-5(93)--23-12 County: BUTLER
 Work Type: ACC RESURFACING Plans: Yes
 Route: IOWA 3 Design: METRIC
 Location: FROM JUST EAST OF THE EAST JCT. WITH IOWA 14, EASTERLY TO JUST EAST OF THE JCT. WITH IOWA 188.
 Road System: PRIMARY ROAD (400-MS)
 Length: 12.58 Kilometers Milepost: 202.62 To 210.59
 Non-Federal Aid - Predetermined Weighs Are Not in Effect

 Project: RP-16-3 (703) 18--76-38 County: GRUNDY
 Work Type: ACC RESURFACING Plans: No
 Route: IOWA 18 Design: METRIC
 Location: FROM NEAR THE SOUTH JCT. OF U.S. 20, NORTHERLY TO THE FLOOD COUNTY LINE.
 Road System: MAINTENANCE
 Milepost: 130.38 To 170.43
 Non-Federal Aid - Predetermined Weighs Are Not in Effect

CONTRACT SCHEDULE OF PRICES Page: 3
 Contract No.: 84811 Bid Order No.: 152
 Contract ID No.: 13-0038-003 Listing Date: July 14, 1998
 Primary Work Type: ACC RESURFACING
 Primary County: BUTLER

Line No.	Item Number	Item Description	Unit	Unit Price		Bid Amount
				Dollars	Cts	
0120	2300-10000 ASPHALT CEMENT CONCRETE BASE, TYPE B CLASS 1, 4.5% (SHOULDER PARTICLES)	MS	2,277.0000		29,93000	77,063.95
0130	2303-101025 ASPHALT CEMENT CONCRETE SURFACE (SHOULDER, TYPE A, 12 MM MAX. 7% CHALKED WART, 0.1% 22-10 FINEST REQ)	MS	15,177.0000		15,37000	231,928.49
0140	1020-100000 ASPHALT CEMENT	MS	1,048.0000		149,00000	155,854.00
-0150	1020-100000 ASPHALT CEMENT CONCRETE PAVEMENT SAMPLES	LUMP			LUMP	2,000.00
0160	1020-100000 ASPHALT CEMENT CONCRETE SURFACE (SHOULDER, TYPE A, 12 MM MAX. 7% CHALKED WART, 0.1% 22-10 FINEST REQ)	MS	110,413.0000		0.71000	78,275.43
0170	3315-101000 DRIVEWAY (CRUSHED STONE)	MS	6.0000		20,00000	120.00
0180	2401-100000 REMOVAL OF EXISTING STRUCTURES	LUMP			LUMP	200.00
0190	1401-100010 REMOVAL OF EXISTING HANDRAIL	LUMP			LUMP	1,900.00
0200	1010-100000 RETROFIT (ENHANCED) CONCRETE BARRIER RAILINGS	A	416.460		105,00000	45,749.50
0210	1010-100000 CONCRETE COLLECTOR 800 MM DIA	A	100.500		98,00000	9,850.00
0220	1010-100000 CONCRETE COLLECTOR 800 MM DIA	A	5.400		128,00000	691.20

Iowa Department of Transportation
 SPECIAL PROVISION
 FOR
 TEST METHOD FOR DETERMINATION OF DENSITY OF ASPHALT CEMENT CONCRETE IN-PLACE BY THE NUCLEAR METHOD

Scott County
 STP-S-C002(25)-FE-82
 L-101--73-82
 L-201--71-82
 L-401--73-82

Effective Date
 February 27, 2001

THE STANDARD SPECIFICATIONS, SERIES OF 1997, ARE AMENDED BY THE FOLLOWING ADDITIONS. THESE ARE SPECIAL PROVISIONS AND THEY SHALL PREVAIL OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS.

A. Scope
 This method covers the determination of the density of bituminous concrete in-place by gamma radiation using backscatter or direct transmission techniques.

B. Significance and Use
 1. The nuclear density method is preferred to determine the density of bituminous concrete. It may be used to establish the optimum density for a given rolling.

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Project Plans

Project plans show the location, character, dimensions, and details of the work to be performed. The plans generally include typical drawings, plan notes, standards, and supplemental drawings. Also included are traffic control plans, layouts, and standards.

Plans are subject to revisions (make sure you have all of the revisions).

Standards

Standard Road Plans show standardized design features, construction methods, and approved materials for performing various items of work on a project. Tabulation 105-4 on the title sheet lists the applicable standards for the project.

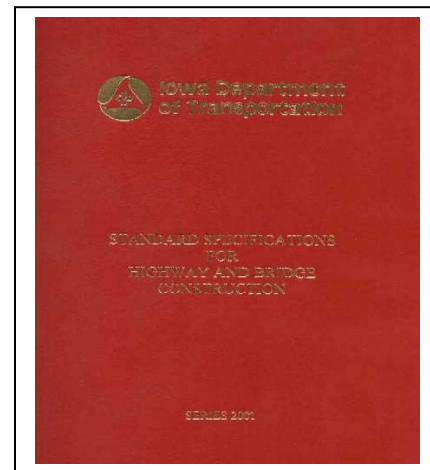
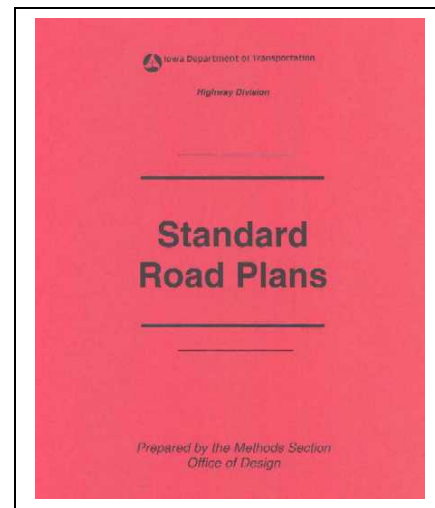
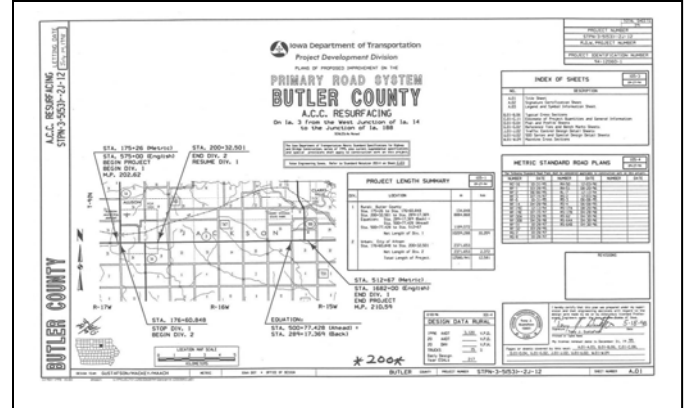
The standards are referenced by number and revision date (make sure you have the correct version the plans refer to).

Specifications

Specifications represent the minimum requirements for performing the work of the contract. Specifications outline how the items of work are to be measured and on what basis payment will be made. The specifications for a project include the current Standard Specification Series (hardbound book) and General Supplemental Specifications (GSS), as well as any Supplemental Specifications (SS) or Developmental Specifications (DS) outlined on the proposal.

Special Provisions

Special Provisions (SP) are additions and amendments to the Standard and Supplemental Specifications covering conditions peculiar to an individual project.



Instructional Memorandums

Materials Instructional Memorandums (IM's) are guidelines and instructions for the testing and acceptance of construction materials.

Construction Manual

The Construction Manual provides background information, required procedures, current instructions, and other departmental policy for uniform administration and inspection of construction projects. It is not a part of the contract documents for a project.

It is important to become familiar with the various contract documents, and the role they play in administering the project. It is also essential to understand how the contract documents are coordinated and their relative order of importance, in case discrepancies or conflicts exist between documents.

Duties Typically Performed

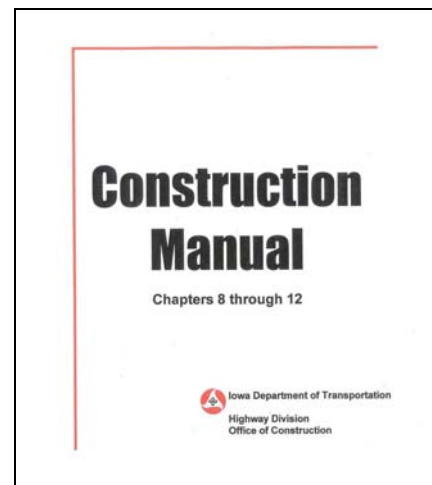
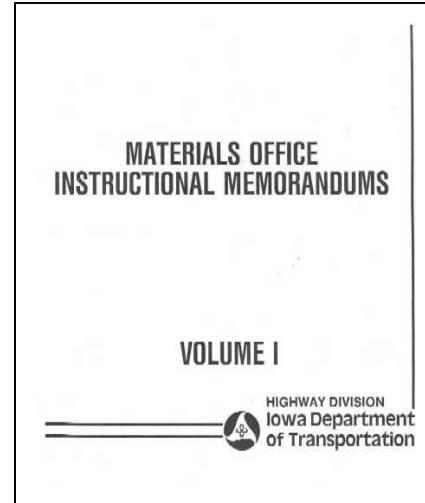
Checking

Checking includes reviewing the project plans, preparing field books, and acquiring a working knowledge of the specifications that apply to the project.

Observing

Observing is done continually to insure compliance with the specifications. Thorough checking and diligent observation will result in good inspection. Some of the typical items to be observed include:

- Roadway Preparation
- Handling of Mix
- Equipment
 - Type & Features
 - Operation of Equipment
- Traffic Control
- Safety



Sampling

Sampling and testing of materials is a very important part of construction work. Payment for many items of work is based on the compliance of tests performed on material that has been sampled.

Most project sampling is performed by contractor personnel, as directed and witnessed by the inspector or plant monitor. The timing and frequency of sampling is as stated in IM 204. Sampling procedures shall conform to applicable Materials IM's.

There is some project sampling that will be performed by District Materials Office personnel. They should be informed when that material will be available for sampling so it can be tested in a timely manner.

Testing

Testing of materials to be incorporated into the project may be performed by the contractor, District Materials Office personnel or by the inspector / plant monitor, depending on the material type, nature of the testing, and project staffing. Testing requirements and responsibilities are shown in IM 204 and IM 511 Appendices. Testing procedures are found in applicable Materials IM's, or as directed by other contract documents.

All personnel involved in project sampling and testing shall have received the appropriate level of training and maintained all certifications required to perform their duties. The minimum required certification level is shown in Appendix 3-4 of the Construction Manual.

See Chapter 8 of this manual for additional information regarding sampling and testing duties on HMA projects.



Documentation and Reporting

Complete documentation of all phases of the work is necessary. Good records of each item must be kept to document payment to the contractor. Some items to keep in mind:

- Keep complete, neat, accurate and up to date records and reports.
- Submit reports on time.
- Include lineal, quantitative, and unit count measurements to support pay quantities.
- Complete diary (You can never have too much information in the diary. Information found in a diary is useful to recreate events in the future).
- Daily traffic control records. For projects let under Traffic Quality Control specifications, this is a contractor responsibility.
- Inform other inspectors and/or supervisor of any irregularities.



Other Inspection Duties

- Check Contractor's Equipment
 - Type, Size & Features
 - Operation
 - Maintenance
 - Safety
- Check Material Certifications
- Check Dimensions
 - Width
 - Depth
 - Length
 - Alignment
- Check Quantities and Yields
- Check Traffic Control Setups
 - For projects let under Traffic Quality Control specifications, this is typically a contractor responsibility.
- Check Temperatures
 - Existing pavement surface
 - Mix (Plant & Grade)



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- Check Mix Uniformity
 - Temperature
 - Segregation
 - Aggregate Clumps
- Direct and Witness Sampling
 - Aggregate (Cold-feed)
 - Asphalt Binder
 - Loose Hot Mix (Hot box)
 - Compacted Hot Mix (Density Cores)
 - Determine and layout density core locations.
 - Direct and witness core drilling.
 - Measure and inspect cores for defects.
 - Take possession of cores & deliver to field lab for testing (maintain agency chain of custody).
 - Identify Samples
 - Secure Samples (to be transported by others)
- Perform Testing
 - Compacted Hot Mix (Density Cores)
 - Perform density testing on HMA core samples.



These are some of the typical duties that the inspector will be asked to perform. Knowledge of job requirements and an interest in the work will contribute immensely to performing the duties of an inspector.

