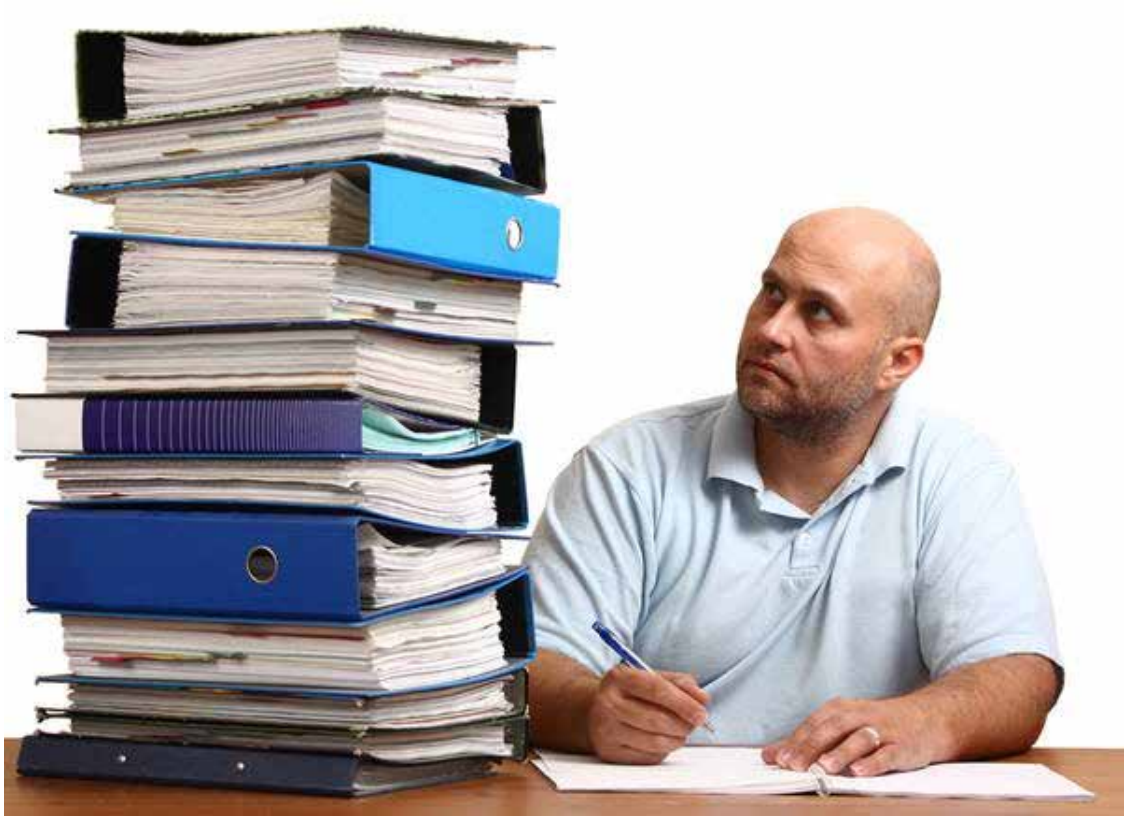
IOWA DOT
SMARTER | SIMPLER | CUSTOMER DRIVEN

LEVEL III CONTRACT ADMINISTRATION

INSTRUCTION MANUAL

2019



Technical Training & Certification Program

Iowa Department of Transportation

Technical Training and Certification Program

Course Evaluation Sheet

As part of our continuing effort to improve the program, we ask that you please carefully fill out this evaluation sheet. Your responses are very important to us. We read each comment and consider your suggestions and feedback for future classes. Please use the back of the page if additional space is needed.

Course Name
(*Example: PCC I, AGG Tech*): _____ Course Instructor: _____

Location of course:
(*District or city*): _____

What type of agency do you work for:

a) DOT
b) County or City
c) Consultant
d) Contractor
e) Other

Were the instructor(s) effective in helping you learn? How could they be more helpful?

Were the instructional manuals helpful and user friendly? How could they be improved?

Is there a topic you would have liked to spend more time on? Less time on?

Do you feel prepared to work as a certified tech in this area?

What are one or two things you liked best about this class?

What are one or two things you would like to see done differently in this class?

Thank you!!!

IOWADOT U

https://learning.iowadot.gov/

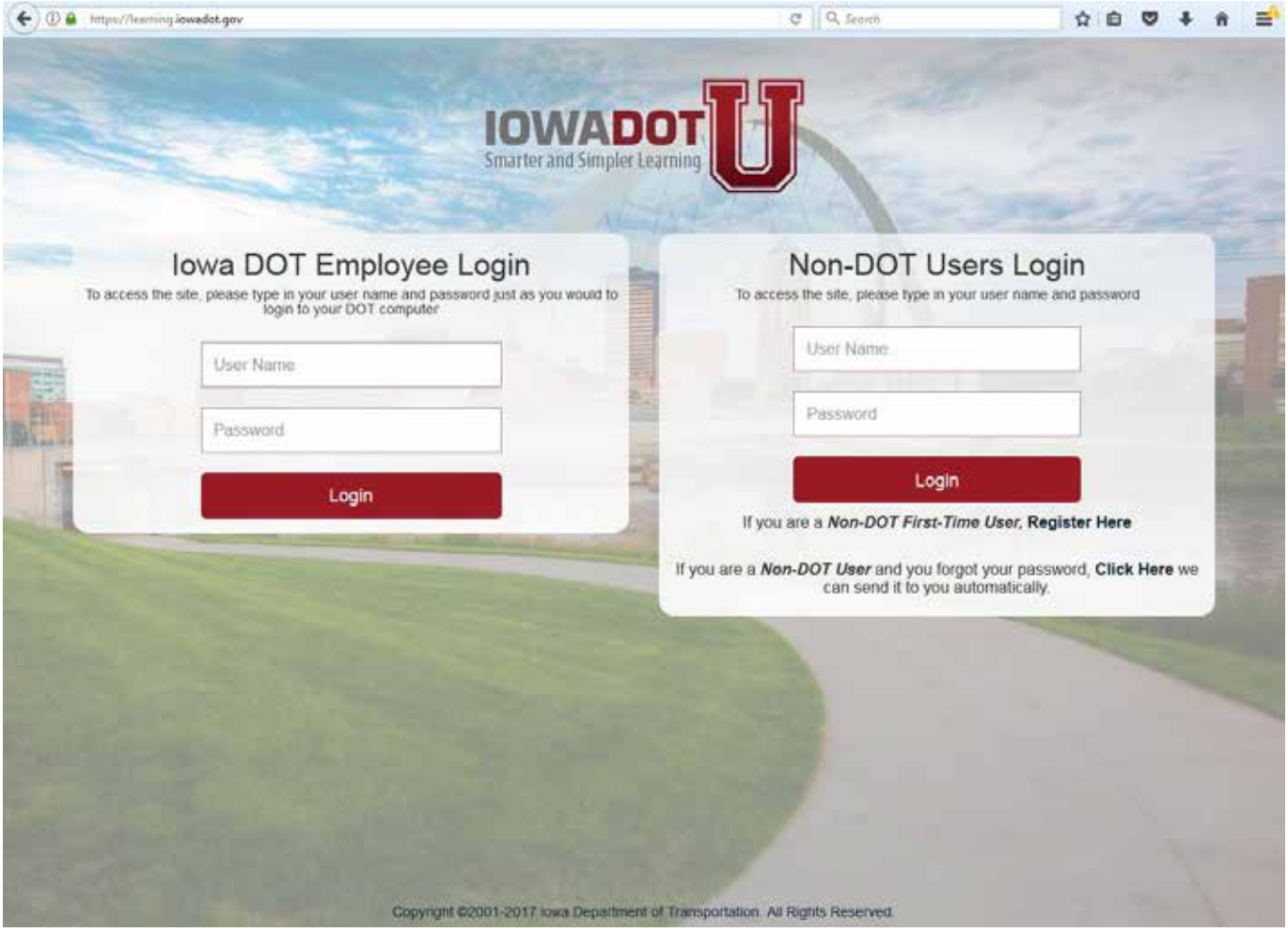
IOWADOT U is the Iowa Department of Transportation's learning management system.

This is where you register for classes and take web-based training. You can also print your training records transcript here.

Step-by-step instructions are available at https://iowadot.gov/training/technical-training-and-certification-program.

Your username and password for test.com and your username for IOWADOT U may, or may not, be the same. Since you create both yourself, you can make them the same, or different.

Below is a screenshot of the log-in screen. You might find it useful to record your username and password below for future reference.



COMPUTER TESTING

Computer Testing has been piloted the last two years for Technical Training and Certification (TTCP) classes held in Boone. Beginning this season all Iowa DOT TTCP Testing will be done on the computer. Questions are multiple choice, and you will be able to see your score immediately as well as the questions that you missed. Computer Testing has been very popular, we hope that you find it user friendly.

You will be required to register as a user of the Test.Com program. If you've taken a computerized test in the past two years you will already be registered in the software. If you have not taken a test before on Test.Com you will need to register as a user before you can take the test. This is not the same site as IowaDOT U. It is a separate testing site.

Below is a screen shot of the log-in Screen. You might find it useful to record your user name and password below for future reference.

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Mission Statement
Work with our transportation partners and provide guidance in the development and implementation of projects to ensure compliance with state and federal requirements. Together we will continue to improve the quality of transportation in Iowa.

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Organization Chart

Reorg 2018
February 13, 2019

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Gene Welter	Black Hawk, Bremer, Butler, South of US 18 & IA 24 in Chickasaw, Floyd and Franklin County
Jason Ryan	Allamakee, North of US 18 & IA 24 in Chickasaw, Clayton, Fayette, Howard, Mitchell, and Winneshiek County

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Dane Bjugan	Howard, Chickasaw, Bremer, Black Hawk, Winneshiek, Fayette, Allamakee and Clayton

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Keith Oppold	Matis. Fab 2	Temp 712-202-0835	Temp 30835	712-539-2959	Steel Fabrication/ Shop Welders
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Kie Ahrens	Matis. Tech 4	712-202-0813	30813	N/A	HMA Lab Chief
Anthony Willman	Matis. Tech 4	712-202-0815	30815	712-53 9-1315	Pavement Profiles/ Steel Fabrication/ Wood Suppliers/ Field Welders
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Counties of Inspection
Garrity: Dubuque, Jones, Buchanan, Delaware, Jackson
Godwin/Huebner: Scott, Cedar, Clinton, aggregate only for Muscatine
Slisbury: Linn, Benton, Iowa
Schrock: Johnson, Iowa

MATERIALS INSTRUCTIONAL MEMORANDUM 101 REVIEW OF MATERIALS USED IN CONSTRUCTION & MAINTENANCE PROJECTS

REVIEW OF MATERIALS USED IN CONSTRUCTION & MAINTENANCE PROJECTS

PURPOSE

The purpose of this memorandum is to provide guidance to the District Materials Offices and Project Engineers for reviewing documentation of materials accepted into construction and maintenance projects. These reviews are intended to determine compliance with the contract documents, prescribed methods of acceptance, sampling, testing and the requirements of Federal Regulation 23 CFR 637. The results of the District Materials Engineer's (DME's) final review of materials used provides the basis of certification of conformance with approved plans and specifications.

OBJECTIVES

To provide the following:

- Guidelines for identifying projects that require materials auditing
- Guidelines for small quantities of materials
- Guidance for maintaining and disposition of project materials files
- Description of the review process
- Identification of forms used in the materials review
- Guidelines for documenting non-compliance issues

PROJECTS REQUIRING A FINAL REVIEW BY DME

The District Materials Engineer will conduct a final review of materials used in all Interstate and Primary construction.

The District Materials Engineer will conduct a final review of materials used in construction and maintenance projects on Parks and Institutional Roads and roads for other State agencies only when Iowa DOT Standard Specifications are used for the project. The District Materials Engineer may conduct a final review of materials used in construction on Federal-aid Swap projects.

The level of review performed by the District Materials Engineer for local agency projects is determined by the type of funding and location of the project. The Administering Office (either Systems Planning or District Local Systems), in consultation with the District Materials Engineer, may either require a materials review of all local agency Federal-aid projects or review only selected local agency Federal-aid projects using the systems approach described below.

SYSTEM APPROACH TO FINAL MATERIALS REVIEW

A minimum of one federal aid project per local agency and two maintenance (MP or MB) projects per RCE Office will be reviewed per year. The Administering Office, in consultation with the District Materials Engineer will determine if more than one project should be reviewed in any particular local agency or more than two maintenance projects in any RCE Office due to issues found during a project's final review.

Ideally, the construction final records/quantity review and District Materials Engineer's final materials review should be conducted on the same project.

The District Materials Engineers will report annually to the Construction and Materials Engineer their findings on the final reviews performed on local agency projects and maintenance projects. Findings will include shortages or acceptance of materials in manners that vary from IM 204, IM 204 Supplemental or the contract documents.

MATERIALS DOCUMENTATION NOT REQUIRING REVIEW

Certain materials incorporated into a project may not be included in the materials review, at the discretion of the DME, when the quantities involved are below those listed in Appendix A. Typically, these are low-risk items that will not have a significant impact on the value, performance or longevity of the overall project. The effort needed to account for these quantities exceeds the purpose of the review.

The normal method of acceptance by the Project Engineer is not to vary from those described in IM 204 or other relevant IMs.

Appendix A provides a guide in determining what materials and the maximum quantities that may be waived from the final materials review.

MAINTENANCE & DISPOSITION OF DOC EXPRESS FILES

For active projects that require a final materials review, all materials documentation is to be maintained in Doc Express by both the Project Engineer and District Materials Engineer.

Doc Express Files: During the project, these files are to be kept current with all materials documentation needed for materials acceptance.

During the District Materials Engineer's final materials review, copies of materials documentation may need to be added.

Upon completion of the District Materials Engineer's final materials review:

- for local files, the District Materials Engineer will send an e-mail to the Office of Construction and Materials to let them know that the review is completed.

- for Interstate and Primary files, an automated e-mail is sent to the Office of Construction and Materials after the 436 is completed.

Once the Office of Construction and Materials has completed the billing to the county or city, an e-mail is sent to the Electronic Records Management System (ERMS) Support Team informing them that the project is completed in Doc Express.

GUIDELINES FOR PERFORMING THE MATERIALS REVIEW

The District Materials Engineer compares the required method of acceptance as described in IM 204, IM 204 Supplemental and the contract documents with information on the material review sheets prepared by the Project Engineer.

Combining more than one project onto one set of material review sheets may be allowed under the following conditions:

- Tied under one contract

- Similar types of work
- Materials or mixtures furnished to the projects are from a common plant or source, making it difficult to separate quantities to each individual project (i.e., HMA, PCC or aggregates).

The material review sheets are found on the Construction and Materials Office website http://www.iowadot.gov/Construction_Materials/materialsforms/auditforms.xlsx. They provide a format and guidance in summarizing the materials documentation for various types of work. These sheets are completed by the Project Engineer and submitted to the District Materials Engineer.

The Miscellaneous Materials sheet is used for documenting items that are not identified on the sheets representing specific types of work. The Miscellaneous Materials sheet may be used to supplement any of the review sheets.

Documentation on the review sheets should normally be prepared using the following form for the various methods of acceptance:

Approved Brand/Source	Identify only the brand or source of the material with no specific quantity.
Approved Brand/Source and/or Batch	Identify only the brand or source of the material and the lot or batch used with no specific quantity.
Certified Materials	Identify the quantity of the material certified by the supplier (except materials represented on a plant report).
Plant Reports	Identify the quantity of mixture required and the quantity represented on plant reports.
Tests	Identify the required number of tests and the actual tests reported to the project.
Fabrication Reports	Identify the number of units represented by fabrication reports (i.e., number of beams, lbs., etc.).

All materials are to be documented on the review sheet except materials considered as Small Quantities, (Appendix A). Small Quantity items need not be documented on the review sheets.

The review of a material item may be considered acceptable if at least 98% of the required documentation for the material used is accounted for in Doc Express. The agency person responsible for preparing the review quantities, in each category, shall date and sign the signature line representing the Project Engineer's Office.

NONCOMPLIANT TESTS

The Project Engineer furnishes the summary Noncompliant Tests or Measurements of Material Incorporated into the Project. The Project Engineer attaches this summary to the Final Payment Form #830436 or the Certificate of Completion and Final Acceptance of Agreement Work, Form #640003.

When acceptance of noncompliant materials is made by a means other than using established price adjustment schedules, the basis of acceptance requires an explanation by the District Materials Engineer.

Deviations from the prescribed sampling and testing frequency or the basis of acceptance as described in IM 204, also require an explanation.

Explanations for issues described above should be addressed to Office of Construction and Materials with copies to the Project Engineer and the Doc Express file.

GUIDELINES FOR DME FOR WAIVING MATERIAL FROM THE FINAL MATERIALS REVIEW

MATERIAL	UNITS	MAXIMUM QUANTITY BY ITEM
Aggregate	Tons	200
Asphalt, Cutback	Gal.	100
Asphalt, Emulsified	Gal.	100
Asphalt, Hot Mix	Tons	50
Aprons: RCP or CMP	Ea.	4
Base Repair: HMA or PCC	S.Y.	100
Conduit	Ft.	50
Culvert Pipe: RCP, CMP or PE	Ft.	30
Delineators	Ea.	10
Delineator Posts	Ea.	10
Dowel Baskets, Epoxy Coated	Ea.	10
Fabric Engineering, Erosion Control	S.Y.	100
Fabric Engineering, Silt Fence	Ft.	100
Iron Casting, Manhole Covers, Etc.	Ea.	1
Joint Filler, Preformed	Ft.	100
Lighting Material, Ground Rods	Ea.	2
Lighting Material, Wire/Cable	Ft.	250
Paint, Bridge	Sq.Ft.	250
Pavement	S.Y.	100
Pavement Markings	Sta.	25
Pipe, Rodent Guard for CMP	Ea.	5
Pipe, Rodent Guard for P.E. Pipe	Ea.	5
Seed, Fertilizer/Mulch	Acres	1
Signing Materials, Finished Sign	Sq. Ft.	20
Signing Materials, Wood Posts	Ft.	50
Steel Reinforcement, Plain, Epoxy Coated, Stainless	Lbs.	500
Structural Concrete	C.Y.	25
Subdrain, CMP	Ft.	250
Subdrain, CMP Outlet	Ea.	5

Subdrain, P.E.	Ft.	250
Subdrain, P.E. Outlet	Ea.	5

MATERIALS INSTRUCTIONAL MEMORANDUM 101 AUDIT SHEETS

v 10.16 2016 Material Review Forms - 101

Project Number: _____

Contract No.: _____

County: _____

Contractor: _____

Type Of Work: _____

X	Mark the 101 Sheets & Support Documents included in this Materials Review
_____	**Roadway & Borrow Excavations and Embankments**
_____	**Aggregates (Proportioned)**
_____	**Aggregates (Non-Proportioned)**
_____	**Bridge Deck Overlay**
_____	**Concrete Structures**
_____	**Culvert, Storm Sewer Pipe & Subdrain**
_____	**Guardrail and Safety Enhancement**
_____	**HMA Paving & Cold-In-Place Recycling**
_____	**Portland Cement Concrete Paving & Base Repair**
_____	**Miscellaneous Materials**
_____	**Lighting & Signals**

Project Engineer's Office Prepared By: _____ Date: _____

District Materials Reviewed By: _____ Date: _____

Comments: _____

_____

_____

2016

Construction and Materials Review

Roadway & Borrow Excavations and Embankments

Project No.: 0 Contract No.: 0

Refer to IM 204, Appendix A

Job Control Tests (Construction)

Contract Item No.			Required	Documented
	Q/C Proctor Tests	1 / soil class		
	Verification Proctor Tests	1 / 10 req'd QC tests		
	Q/C Moisture Tests	1 / lift / 1500 ft (for max 1300 cy)		
	Verification Moisture Tests	1 / 10 req'd QC tests		
	Q/C In-Place Density Tests	1 / lift / 1500 ft (for max 1300 cy)		
	Verification Density Tests	1 / 10 req'd QC tests		

Independent Assurance Tests --- Materials will furnish report(s)

Proctor Test	1 / project or systems approach		
Moisture Test Witness	1 / project or systems approach		
In-Place Density Test Witness	1 / project or systems approach		

Comments:

Construction and Materials Review

AGGREGATES

Project No.: _____ Contract No.: _____

Refer to IM 204 for Acceptance of Materials

Proportioned Aggregates - (HMA Paving, PCC Paving, Structural Concrete, etc.)

Basis of Acceptance	Type of Aggregate	Source / T203 A-Number
Cert.		
Cert.		
Cert.		
Cert.		
Cert.		
Cert.		
Cert.		
Cert.		
Cert.		
Cert.		
Cert.		
Cert.		
Cert.		
Cert.		
Cert.		
Cert.		
Cert.		
Cert.		
Cert.		
Cert.		

Comments: _____

Construction and Materials Review

AGGREGATES

Project No.: _____ Contract No.: _____

Refer to IM 204 for Acceptance of Materials

Non-Proportioned Aggregates (Porous Backfill, Subbase, Revetment, Etc…)

Contract Item No.	Basis of Acceptance	Type of Aggregate	Source / T203 A-Number	Quantity Documented
	Cert.			
	Cert.			
	Cert.			
	Cert.			
	Cert.			
	Cert.			
	Cert.			
	Cert.			
	Cert.			
	Cert.			
	Cert.			
	Cert.			
	Cert.			
	Cert.			
	Cert.			
	Cert.			
	Cert.			
	Cert.			
	Cert.			
	Cert.			

Comments: _____

Construction and Materials Review

BRIDGE DECK OVERLAY

Project No.: _____ Contract No.: _____

Refer to IM 204 for Acceptance of Materials

Contract Item No.	Mix Type	Quantity Paid	Quantity Documented

Items	Basis of Acceptance	Approved Brand &/or Batch #
Curing Compound, White	Approved Brand / Batch #	

Refer to IM 204 for Acceptance of Materials

Job Control Tests (Construction		Form	Required	Documented
Fine agg.- CPI process control grad. QC (HPC-O)	1 Test / Lot*	800240		
Fine agg.- Verification grad. (HPC-O)	1 per project	821283		
Coarse agg.- CPI process control grad. QC (HPC-O)	1 Test / Lot*	800240		
Coarse agg.- Verification grad. (HPC-O)	1 per project	821283		
Air Test	1 / 100 SY*	830242		
Slump Test	1 / 100 SY*	830242		
Density-Nuclear	6 / bridge or min. 3 per placement			
Smoothness (Yes or No)	Cert. Report	821301		

* For Ready Mix,1/ 30yc^3, min 1/day

Verification Tests --- Materials will furnish report(s)

Coarse aggregate-quality	1 / project			
Cement	1 / project			
Smoothness	1 set wheeltracks (minimum)	821301		

Independent Assurance --- Materials will furnish report(s)

Nuclear test-densities	Witness	1297		

Department Info --- Materials will furnish report(s)

Compression cylinders (primary projects only)	3 / project			

*See IM 535, Quality Control Sampling, Testing and Reporting, fo
required testing frequency

Comments: _____

Construction and Materials Review

CONCRETE STRUCTURES

Project No.: _____ Contract No.: _____

Contract Item No.	Plant	Mix Type	Quantity Paid (C.Y. or L.F.)	Documented Qty. (C.Y.)

Refer to IM 204, Appendix H

Contract Item No.	Items	Basis of Acceptance	Unit	Quantity Paid	Quantity Documented
	Beams, prestressed	Fabrication Report	Each		
	Piling, wood	Cert or Test Rpt from Approved Agency	Lf.		
	Piling, steel H (42)	Approved Source/Heat No's/Mill Test Rpt			
	Piling, steel H (53)	Approved Source/Heat No's/Mill Test Rpt			
	Piling, steel H(____)	Approved Source/Heat No's/Mill Test Rpt	Lf.		
	Piling, steel H(____)	Approved Source/Heat No's/Mill Test Rpt	Lf.		
	Pile Points	Approved Manufacturer or Supplier	Each		
	Piling, concrete	Fabrication Report	Each		
	Reinforcing steel, uncoated	Mill Cert	Lbs.		
	Epoxy coated steel	Mill Cert, Epoxy Cert & Test Report	Lbs.		
	Stainless Steel Reinforcing	Mill Cert & Test Report	Lbs.		
	Steel diaphragms	Approved Shop Drawing & Fab Report	Lbs.		
	Floor drains	Approved Shop Drawing & Fab Report	Lbs.		
	Steel masonary plates	Approved Shop Drawing & Fab Repor	Lbs.		
	Structural steel	Approved Shop Drawing & Fab Repor	Lbs.		

			Required	Reported
	Plastic Conduit Size/Type	_____ Test Report		
	Plastic Conduit Size/Type	_____ Test Report		
	Plastic Conduit Size/Type	_____ Test Report		
	Bronze bearing plates	Test Report		

				Approved Manufacturer / Brand
	Steel Conduit	Size	_____ Approved Manufacturer / Brand	
	Steel Conduit	Size	_____ Approved Manufacturer / Brand	
	Steel Conduit	Size	_____ Approved Manufacturer / Brand	

Contract Item No.	Items	Basis of Acceptance	Approved Brand, & / or Batch #
	Curing Compound, White	Approved Brand / Lot #	
	Curing Compound, Clear	Approved Brand	
	Paint, Bridge	Approved Brand	
	Type: _____		
	Paint, Bridge	Approved Brand	
	Type: _____		
	Paint, Bridge	Approved Brand	
	Type: _____		

Comments: _____

Construction and Materials Review

CONCRETE STRUCTURES

Project No.: _____ Contract No.: _____

Refer to IM 204 for Acceptance of Materials

Job Control Tests (Construction)		Form	Required	Documented
Fine agg.- CPI process control grad. QC	1 Test / Lot*	800240		
Fine agg.- Verification grad.	1st day, then 20% 1/deck/wk	821283		
Int. agg. - CPI process control grad. QC	1 Test / Lot*	800240		
Int. agg.- Verification grad.	1st day, then 20% 1/deck/wk	821283		
Coarse agg.- CPI process control grad. QC	1 Test / Lot*	800240		
Coarse agg.- Verification grad.	1st day, then 20% 1/deck/wk	821283		
Air Test	1 / 30 CY	145 / 115		
Air Test (Unit Weight) Grout mix	1 / 4-hr			
Slump test	1 / 30 CY	145 / 115		
Efflux Test (Flowable Mortar /Grout mix)	1 / 4-hr			
Smoothness (Yes or No)	Cert. Test	821301		

Verification Tests --- Materials will furnish report(s)			Required	Documented
Coarse aggregate-quality	1 / 1000 CY			
Cement	1 / 1000 CY			
GGBFS	1 / 1000 CY			
Reinforcing Steel	IM 451			
Reinforcing Steel, epoxy	IM 451.03B			
Smoothness	10% of project	821301		

Independent Assurance --- Materials will furnish report(s)		Required	Documented
Slump	1 / Project or Systems Approach		
Plastic Air	1 / Project or Systems Approach		
Gradation Test (Splits W/ Monitor)	1 / Project or Systems Approach		

Department Info --- Materials will firnish report(s)		Required	Documented
Compression cylinders	when required		

*See IM 528, Quality Control Sampling, Testing and Reporting, for required testing frequency.

Comments: _____

Construction and Materials Review

CULVERT, STORM SEWER AND SUBDRAIN PIPE

Project No.: _____ **Contract No.:** _____

Refer to IM 441*, 445*, and 446 *** Requires "End Of Project Delivery Summary"**

Concrete Rdwy, Ent, Arch, Aprons; CMP Rdwy, Ent. Arch, Aprons; PE Pipe (12"-36" Dia.); Precast RCB sections.

Basis of Acceptance **ALL PIPE IN THIS SECTION NEED CERTIFICATION FROM AN APPROVED SOURCE**

Contract Item No.	Description	Diameter	Source	Quantity Paid	Quantity Documented

ALL SUBDRAIN ITEMS IN THIS SECTION NEED TO BE FROM AN APPROVED SOURCE OR BRAND

Refer to IM 204, Appendix V & IM 443 **PE Tubing & Rodent Guards**

Contract Item No.	Description	Diameter	Basis of Accept.	Approved Source / Brand

Comments: _____

Construction and Materials Review

GUARDRAIL & SAFETY ENHANCEMENT

Project No.: _____ Contract No.: _____

Refer to IM 204 Appendix H, IM 455 & IM 46

Contract Item No.	Item	Basis of Acceptance	Unit	Quantity Paid	Quantity Documented
_____	Posts for guardrail , wood	Cert or Test Report	Each	_____	_____
_____	Steel Beam Guardrail	Approved Source	Lf.	_____	_____
_____	Guardrail Cable	Test Report	Lf.	_____	_____
_____	Steel, Guardrail Posts	Certified Mill Test Report	Each	_____	_____
_____	BA _____ transition connnection	Test Report	Each	_____	_____
_____	BA _____ transition connnection	Test Report	Each	_____	_____
_____	BA _____ end anchor, bolted	Test Report	Each	_____	_____
_____	BA _____ end anchor, bolted	Test Report	Each	_____	_____
_____	BA _____ end terminal	Test Report	Each	_____	_____
_____	BA _____ end terminal	Test Report	Each	_____	_____
_____	BA _____ end anchor, cable	Test Report	Each	_____	_____
_____	BA _____ end anchor, cable	Test Report	Each	_____	_____
_____	Delineators posts	Test Report	Each	_____	_____
_____	Object Markers, Type 3	Test Report	Each	_____	_____

Contract Item No.	Item	Basis of Acceptance	Brand / Source
_____	Delineators, amber	Approved Brand	_____
_____	Delineators, white	Approved Brand	_____
_____	Impact Attenuators	Approved Source	_____
_____	High Tension Cabel Guardrail	Approved Source	_____

Miscellaneous

Contract Item No.	Item	Basis of Acceptance	Unit	Required	Documented
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

Comments: _____

_____

_____

Construction and Materials Review

HMA PAVING and COLD-IN-PLACE RECYCLING

Project No.: _____ Contract No.: _____

Refer to IM 204 Appendix F, IM 437, IM 510, IM 511

Contract Item No.	Material	Type	Source
	Binder		
	Binder		
	Emulsion / Cutbacks		
	Emulsion / Cutbacks		
	Stabilizing Agent		

Contract Item No.	Basis of Acceptance	Mix Design No.	Quantity Paid Tons or S.Y	Quantity Documented Tons
	PWL or Small Qty's			
	PWL or Small Qty's			
	PWL or Small Qty's			
	PWL or Small Qty's			
	PWL or Small Qty's			
	PWL or Small Qty's			
	PWL or Small Qty's			

Job Control Tests (Construction)

				Required	Documented
Combined aggregate-gradation (CPI)		1 Cert Test / Lot			
Binder	(DSR) Sample	1 / Day			
Binder	(DSR) Tests	1st Day - 1 / Wk			
Tack	Viscosity or Residue	1 per project			
Stabilizing Agent	(DSR) or Residue	1 / day			
Lab density	(QMA) No. of tests based on production				
Field Voids		1 per lot			
Film Thickness		1 per lot			
Smoothness (Yes or No)		Certified Test Rpt			
Field Density (Cold-in-Place)		10 / lot			
Field Moisture (Cold-in-Place)		10 / lot			
Seal Coat Compatibility		1st Day - 1 / Wk			
Verification Test --- Materials will furnish report(s)					
Verification gradation tests (Splits W / CPI)		1st Day + 20%	201		
Aggregate Quality		1 / 20,000 Tons of Mix			
AC Binder		1 / 20,000 Tons of Mix			
Uncompacted mixture (Lab Density/Voids)		1/day			
Smoothness (Yes or No)		10% of project	821301		
Stablizing Agent		1 per project			
Independent Assurance --- Materials will furnish report(s)					
Compacted mixture (Lab Density/Voids)		1 / Project or Systems Approach	800242		
Aggregate Gradation (Splits W / Monitor)		1 / Project or Systems Approach			

Comments: _____

Construction and Materials Review

PORTLAND CEMENT CONCRETE PAVING & BASE REPAIR

Project No.: _____ Contract No.: test2

Refer to IM 204 Appendix H

Contract Item No.	Plant	Mix Type	Qty. Paid C.Y. or S.Y.	Qty. Documented C.Y.

Job Control Tests (Construction

Items		Basis of Acceptance	Form	Required	Docum.
QMC					
Fine agg.- gradation process control QC		1/ 1500 CY	800240		
Fine agg.- verification monitor grad.		1st day, then 2/lot	821283		
Intermediate agg.- gradation process control QC		1/ 1500 CY	800240		
Intermediate agg.- verification monitor grad		1st day, then 2/lot	821283		
Coarse agg.- gradation process control QC		1/ 1500 CY	800240		
Coarse agg.- verification monitor grad.		1st day, then 2/lot	821283		
Air Test	(Paving w / Transit mix, Ver.)	1 / 350 CY	115		
	(Paving, Central Batch, Ver.)	1 / 700 CY	115		
Non-QMC					
Fine agg.- gradation process control QC		1 / lot	800240		
Fine agg.- verification monitor grad.		1st day, then 1/lot	821283		
Intermediate agg.- gradation process control QC		1 / lot	800240		
Intermediate agg.- verification monitor grad		1st day, then 1/lot	821283		
Coarse agg.- gradation process control QC		1 / lot	800240		
Coarse agg.- verification monitor grad.		1st day, then 1/lot	821283		
Air Test	(Base Repair Only)	1 / 30 CY	115		
	(Paving w / Transit mix)	1 / 100 CY	115		
	(Paving Only, Central Batch)	1 / 700 CY	115		
Both QMC and Non-QMC					
Slump test	(Base Repair Only)	1 / 30 CY	115		
	(Fixed Form w / Transit mix)	1 / 100 CY or 1 / pour	115		
	(Fixed Form Only)	1 / 700 CY or 1 / pour	115		
Maturity - (Curves & Verifications)					
Thickness	(hardened concrete)	1 / 2000 SY			
Smoothness (Yes or No)		Cert. Test	821301		
Water (other than city)		Test Report 1 / Source			

Comments: _____

Construction and Materials Review

PORTLAND CEMENT CONCRETE PAVING & BASE REPAIR

Project No.: _____ Contract No.: _____

Contract Item No.	Items	Basis of Acceptance	Approved Brand &/or Batch #
_____	Curing Compound, White	Approved Brand / Batch #	_____
_____	Curing Compound, Clear	Approved Brand	_____
_____	Concrete Sealer	Approved Brand	_____
_____	Engineering Fabric	Approved Brand	_____
_____	Grout, Polymer	Approved Brand	_____
_____	Joint Filler, Flex Foam Type CF & EF	Approved Brand	_____

	Items	Basis of Acceptance	Units	Source
Coarse aggreg	Dowels	Approved Source/Letter of Compliance	Lbs	_____
	Dowel Baskets	Approved Source/Letter of Compliance	Lbs	_____
	Tie Bars	Approved Source/Letter of Compliance	L.F.	_____
	Reinf.Steel Epox	Approved Source/ Identification List	Lbs.	_____
		Mill Test Reports / Epoxy Cert.		

Comments: _____

Verification Tests (Paving Only) --- Materials will furnish report(s)		Required	Documented
Coarse aggregate - quality	1 / 100,000 SY		
Cement	1 / 100,000 SY		
Fly Ash ------- Type _____	1 / 100,000 SY		
GGBFS	1 / 100,000 SY		
Reinforcing Steel	1 / District / Year		
Reinforcing Steel, epoxy	1 / District / Year		

Independent Assurance --- Materials will furnish report(s)		Required	Documented
Thickness Cores	10% of project		
Smoothness (Yes or No)	10% of project		
Gradation Test (Splits W/ Monitor)	1 / Project or Systems Approach		

Comments: _____

Construction and Materials Review

MISCELLANEOUS MATERIALS

(Pavement Markings, Beads, Erosion Control Items, Signing, Etc…..)

Project No.: _____ **Contract No.:** _____

Refer to IM 204 for Acceptance of Materials

Contract Item No.	Item	Unit	Quantity Paid	Basis of Acceptance	I.M. Spec.	Brand or Source

Comments: _____

Construction and Materials Review

LIGHTING & SIGNALS

Project No.: _____ Contract No.: _____

Refer to IM 204 Appendix Z, (Spec. 2523.03B)

Approved Source, Approved Shop Drawings

Light & Signal Poles

Contract Item No.	Description	Basis of Acceptance	Quantity Paid	Quantity Documented

Electrical Components Accepted by Approved Catalog Cuts

Signal Heads, Luminars, Cabinets, Circuit Breakers, Loop Detectors, Video Detectors, RM40 Connectors, Wire Cable, Surge Suppressors, Fuse Holders, etc. Spec. 2523.03B

Item No.	Description

Electrical Components Accepted by Approve Brand - (Conduit, Anchor Bolts)

Item No.	Description	Basis of Acceptance	Source / Brand

_____ Cirtcuit Test (Yes or No)

Comments: _____

MATERIALS INSTRUCTIONAL MEMORANDUM 103 INSPECTION SERVICES PROVIDED TO COUNTIES, CITIES, AND OTHER STATE AGENCIES

INSPECTION SERVICES PROVIDED TO COUNTIES, CITIES, AND OTHER STATE AGENCIES

INTRODUCTION

The purpose of this Instructional Memorandum is to outline the procedures to be followed for materials quality assurance inspection and other materials associated services performed for counties, cities, and other state agencies. This is in accordance with the Code of Federal Regulations, Code of Iowa, the Iowa Administrative Code, and the Iowa Department of Transportation Policies and Procedures Manual.

The level and type of review required depends on the category to which the project belongs, as defined below:

Category:

1. Federally Funded County and City Road, Street, and Bridge Projects.
   - Surface Transportation Program (STP-S, STP-U, STP-A, CS-TS-STP-U, STP-S-TS)
   - Highway Demonstration Program (HDP, DE, DPI, DE-RP, DPR)
   - Highway Bridge Reconstruction and Rehabilitation Program (BROS, BHOS, BRM, BHM, BRS, BHS, BR-RP)
   - Innovative Bridge Research and Construction Program (IBRC)
   - National Historic Covered Bridge Preservation Program (HCBP)
   - Highway Safety Improvement Program (HSIP, HSIPX, HSIP-S)
   - Emergency Relief (ER)
   - Economic Stimulus / Recovery Act (ESFM, ESFTA, ESIM, ESIMX, ESL, ESP, ESR)
   - Transportation Community System Preservation Program (TCSP)

2. Federally Funded County and City Non-highway Projects.
   - Transportation Enhancement (STP-E, STP-ES, STP-ES-E)
   - Federal Recreational Trails (NRT)
   - Safe Routes to School (SRTS, SRTS-S, SRTS-U)
   - National Scenic Byways (SB-IA)
   - Transportation Enhancement Earmarks (EDP)
   - Transportation Alternatives (TAP-T, TAP-U, TAP-R)

3. State-assisted projects or cooperative projects involving through traffic lanes on primary roads, including turn lanes and other work within the primary right-of-way that will be owned and maintained by the Department.
   - U-STEP/C-STEP (UST, CST)
   - RISE (RC, RM, RFM, RP, RPX, RCX, RFMX, RP-M)
   - Traffic Safety Improvement Program (CS-TSF, FM-TSF)
   - Parks and Institutional Roads and other State agencies (SP, BR, DHS, DC, SFB, SCG)

4. Farm-to-Market, Local, or State-assisted projects on county roads or city streets that do not involve any work on primary highway through traffic lanes or turn lanes that will be owned and maintained by the Department.
   - Farm-to-Market (FM, LFM)

- RISE (RC, RCX, RM, RMX, RFM, RFMX, RP-M)
- Traffic Safety Improvement Program (FM-TSF, L-TSF, CS-TSF)
- State Bridge (SBRC, SBRM, SBRFM)
- State Recreational Trails (RT)
- Curb Ramp Program (ADA)
- Federal-aid Swap (BHM-SWAP, BHOS-SWAP, BHS-SWAP, BRM-SWAP, BROS-SWAP, BRS-SWAP, STBG-SWAP, ICAAP-SWAP, HSIP-SWAP)
- 100% Locally funded city or county projects let at the Department (L, CS). Note: 100% locally funded city or county projects that are let locally have no Department involvement in any aspect of the project development or construction.

QUALITY ASSURANCE PROCEDURES

Project materials quality assurance inspection services and other materials associated services provided to counties, cities, and other state agencies will be billed to them. For Category 2-4 projects, a written request outlining the services requested must be submitted from the contracting authority to the DME. A copy will be forwarded to the Office of Construction and Materials. For Category 1 projects no written request is required.

A. Invoicing for Materials Inspection.

The Office of Construction and Materials will invoice counties and cities as follows:

1. Invoicing for project inspection costs will be based on a cost per test basis, which is calculated at the beginning of the calendar year using a running average of the previous four years' cost and work experience. These rates shall apply to inspection performed during that calendar year. Invoicing for requested investigations or surveys for location, quantity, or quality of material resources will be based on actual total time, mileage and expense costs incurred in the investigation or survey.

2. For Federal Aid and County Farm to Market and qualifying State-Assisted Projects, the invoices will be prepared and forwarded to the Office of Finance for all inspection performed upon processing of the project final estimates.

3. For other projects, except when other arrangements are made, an invoice will be prepared at the end of the calendar year and forwarded to the Office of Finance invoices for all inspection performed to date on the basis of contract quantities. If a county or city wishes to be billed at the completion of a project they must notify the District Materials Engineer of the project completion and request a billing.

4. When source inspection is performed by other agencies or by consultant, the local agency will be invoiced the actual costs incurred.

B. Equipment Calibration

The DME may assist the local agency in witnessing the calibration of PCC and HMA plant equipment for Category 1-3 Projects and for Category 4 projects (FM and Federal-aid Swap projects only).

C. Source Inspection

The DME and the Office of Construction and Materials will assist the local agency with the source inspection listed in IM 204 as well as aggregate sources. When required or requested the Office of Construction and Materials will arrange for inspection of materials furnished from outside the State of Iowa in areas where normal routine inspection service is available either by Iowa DOT personnel, other agencies, or consulting firms.

1. For Category 1 Projects, the source inspection requirements of IM 205 and IM 204 will be followed.
2. For Category 2 Projects, the DME, when requested, will perform the source inspection tasks in IM 204.
3. For Category 3 Projects (except FM) the DME, when requested, will perform the source inspection tasks in IM 204.
4. For Category 4 Projects (All Projects), the DME, when requested, will perform the source inspection tasks in IM 204. This source inspection will include inspection for precast and prestressed concrete bridge units (Specification Section 2407 items) on FM and Federal-aid Swap projects, unless specifically requested by the local agency to be excluded form inspection.

D. Project Inspection

1. For Category 1 Projects, the inspection requirements of IM 205 and IM 204 will be followed.
2. For Category 2 Projects, the DME, when requested, will perform the DME tasks in IM 204.
3. For Category 3 Projects except FM, the DME, when requested, will perform the DME tasks in IM 204.
4. For Category 4 Projects (FM and Federal-aid Swap projects only), the DME, when requested, will perform limited testing.
   a) HMA mix design paper review or evaluation of test strip results.
   b) Verification testing of un-compacted mixture will be done the first day and then one test per week maximum.
   c) Verification testing of asphalt binder will be done the first day and then one test per week maximum.
   d) Verification testing of smoothness will be done at the rate in IM 204.

CERTIFICATION PROCEDURES

Certification by the DME on form 830436 or 640003 will be based on the category. The form 830436 has qualifying statements that are to be used by the DME depending on the level of audit. The Office of Construction and Materials does not send a certification to the FHWA on local agency projects.

A. Certification

1. For Category 1 Projects, the local agency will certify the work was completed in substantial compliance with the plans and specifications, including the materials incorporated.
   The DME will sign the form 830436 with the qualifying statement marked if appropriate

based on the level of audit performed.

2. For Category 2 Projects, the local agency will certify the work was completed in substantial compliance with the plans, specifications, and agreements (when applicable).
   If required, the DME will sign the form 830436 with the qualifying statement marked if appropriate based on the level of audit performed.
3. For Category 3 Projects, the local agency will certify the work was completed in substantial compliance with the plans and specifications, including the materials incorporated.
   The DME may be required to sign form 640003. The DME may designate specific materials or contract items that have been reviewed.
4. For Category 4 Projects that are state assisted or that are FM or Federal-aid Swap, the local agency will certify the work was completed in substantial compliance with the plans, specifications, and agreements (when applicable).
   No DME signature is required.

*****GENERAL REWRITE – PLEASE READ CAREFULLY.*****

IOWA DOT INSPECTION COSTS

Function Description	No. of Tests in 2017	2018 Avg. Cost Per Test
Aggregate		
853 Certified Aggregate	4,282	173.19
856 Freeze - Thaw Tests	1,186	112.55
857 Abrasion Test	1,932	67.17
858 Coarse Aggregate Specific Gravity & Absorption	1,699	36.66
859 Fine Aggregate Specific Gravity & Absorption	558	70.86
860 Sieve Analysis & Plasticity Index	1,607	96.57
861 Deleterious Material Determination	2,361	9.64
862 AC Aggregate Specific Gravity & Absorption	114	328.32
863 Aggregate Miscellaneous	124	198.91
Asphalt Materials		
841 Materials Lab QMA	59	285.62
865 AC Binder Analysis Complete	178	247.21
866 DSR or Penetration or Viscosity	410	100.57
867 Liquid Asphalt Complete Analysis	12	754.84
868 Liquid Asphalt Partial Analysis	85	102.43
870 Asphalt Type Joint	41	252.15
872 Asphalt Mix Lab Density	1,301	95.44
873 Asphalt Mix Max. Density	1,469	76.33
874 Asphalt Mix Extraction & Gradation	96	1,114.61
876 Asphalt Mix Special	1	7,108.12
877 Asphalt Mix Design	9	2,859.30
878 Asphalt Plant Calibration & Inspection	37	1,317.47
879 Ignition Oven	106	97.99
Cement		
882 Physical Cement Test	408	329.93
883 Fine Aggregate Mortar Strength	0	0.00
884 Lime - Fly Ash Physical Test	125	299.68
885 Miscellaneous	21	128.16
Chemical		
887 Concrete - Soil Chloride Determination	6	143.57
890 Lime - Fly Ash	286	218.03
891 Portland Cement	248	217.27
892 Calcium & Sodium Chloride & Deicers	0	351.19
893 Aggregate – Aluminum Oxide	1,426	96.20
894 Concrete Admixtures	427	66.31
895 Air Entraining Admixture	284	85.29
Concrete		
840 Flowable Mortar	0	0.00
900 Coring, Strength & Air	187	222.99
901 Concrete Admixture Physical Test	13	198.23
902 Concrete Durability	0	1,378.46
903 Concrete Coring	826	162.39

904 Precast Bridge Beams	705	95.51
905 Precast Piling	140	63.14
906 Miscellaneous Precast Units	5	227.94
907 Concrete & Clay Pipe	3	115.56
908 Concrete Coating & Seal	2	95.07
909 Concrete Miscellaneous	0	784.13
910 Concrete Plant Calibration - Inspection	191	408.35
Field Testing		
898 Asbestos S & T	160	117.19
922 Nuclear Test Materials & Construction	6	378.00
923 Profile Measurement (Bridge Decks)	22	812.42
Lighting & Signal		
930 Lighting Materials	115	236.12
931 Standard Light Poles	82	7.60
932 Tower Light Poles	0	55.62
Metals		
934 Calibration of Tension & Compression Testers	0	250.36
936 Physical Test Structural Steel- Aluminum	19	3,226.34
937 Reinforcing Steel	218	304.99
938 Prestress Cables	0	422.86
939 Casting	0	94.30
940 Guardrail Cable, Rails & ACC	0	368.65
941 Calibration of Beam Breakers	261	284.89
942 Fence Material	2	949.56
943 Weld Tests Operator	103	260.81
945 Fasteners High Strength	283	89.99
946 Fasteners Miscellaneous	441	67.19
947 Steel & Aluminum Fabrication	13,212	76.47
951 Radiograph Exams	0	179.77
952 Miscellaneous Metals Testing	0	82.59
Pavement Evaluation		
955 Pavement Ride Testing	3,709	18.29
956 Pavement Friction Testing	2,544	28.92
957 Pavement Deflection	2,140	104.75
959 Test Equipment Calibrations	13	1,952.01
961 California Profilometer (Paving)	399	321.78
Physical Tests		
968 Neoprene Bearing Pad	0	433.31
969 Neoprene Joint Seals	10	455..28
972 Curing Compounds Non-AC	44	642.39
Physico-Chemical		
978 Paint & Ingredients	140	257.20
979 Protective Coating Tests	1,348	35.37
980 Mixing Water	0	0.00
982 Preform & Form Joint Filler	0	0.00
983 Carbon Analysis of Soil	0	2.89
985 Fabrics	0	0.00

Soils		
990 Plasticity Index	55	74.28
991 Proctor Tests	51	150.85
992 Mechanical Analysis	55	34.87
993 Triaxial - UU	27	856.60
994 Consolidation	9	151.58
995 Triaxial – CU	0	229.20
996 Soil Cores	0	18.61

MATERIALS INSTRUCTIONAL MEMORANDUM 204 INSPECTION OF CONSTRUCTION PROJECT SAMPLING & TESTING

INSPECTION OF CONSTRUCTION PROJECT SAMPLING & TESTING

INTRODUCTION

The Iowa Department of Transportation (DOT) has established a Quality Assurance Program (IM 205) to assure that the quality of materials and construction workmanship incorporated into all highway construction projects is in reasonable conformity with the requirements of the approved plans and Specifications, including approved changes. It consists of an Acceptance Program and an Independent Assurance Program (IAP), both of which are based on test results obtained by qualified persons and equipment.

The acceptance portion of the program covers quality control (QC) sampling and testing and verification sampling and testing. The IAP portion of the program covers the evaluation of all sampling and testing procedures, personnel, and equipment used as part of an acceptance decision (includes contractor, contracting agency, and consultant).

ACCEPTANCE PROGRAM FOR MATERIALS

To fulfill the materials acceptance requirements, several methods are used by the DOT.

Sampling & Testing (Test Report)
Certification
Approved Brands
Approved Sources
Approved Shop Drawings
Approved Catalog Cut
Inspection Report
Visual Approval by the Engineer

The Instructional Memorandum IM 204 Appendices A through W contain the material acceptance information for the type of work being done. If there is a conflict in wording between the appendix and another Instructional Memorandum or appendix Z, the appendix A through W will supersede the others.

In many cases more than one method may be required for acceptance in the 204 Appendices and tables in the back of this guide. For some new or special materials, the District Materials Engineer may need to determine the most appropriate acceptance requirements.

In order to provide the Contractor the opportunity to construct a project with minimal sampling and testing delays, inspection is performed at the source for many materials. Source inspection may consist of inspecting process control, sampling for laboratory testing or a combination of these procedures. All source-inspected or certified materials are subject to inspection at the project site prior to being incorporated into the work. Project site inspections are for identification of materials with test reports and for any unusual alterations of the characteristics of the material due to handling or other causes. Verification samples secured by project agency personnel of source-inspected, certified, or project processed materials are also required for some materials in order to secure satisfactory validation for acceptance.

When certification procedures are required, the Contractor may, on the Contractor's own responsibility and at the Contractor's risk, incorporate these materials into the work. Acceptance will be based on satisfactory certification and compliance of the test results of any verification samples. When verification samples are not taken, acceptance will be based on satisfactory certification.

A. SAMPLING & TESTING (TEST REPORT)

When a material is sampled and tested, the results will be documented on a construction form or a test report. There is quality control sampling and testing done by the Contractor or producer and verification sampling testing done by the Project Engineer, the District Materials Engineer, the Central Materials Laboratory, or an independent laboratory.

In many cases, in addition to sampling and testing, some other type of acceptance method will also be required. Sampling and testing may be done at the project, supplier, or source depending on which is the most appropriate.

B. CERTIFICATION OF COMPLIANCE

For many materials, a fabricator, manufacturer, or supplier is required to provide the Project Engineer with a certification document stating that the material meets the requirements of the plans and specifications. In most cases, the fabricator, manufacturer, or supplier must also be on an approved list in the Materials Approved Products Listing Enterprise (MAPLE). For some of these materials, sampling and testing is also required before final acceptance. The certification comes in a variety of forms:

- Stamped or preprinted on truck tickets as with aggregates,
- Stamped or preprinted on invoices as with Portland Cement and asphalt binder,
- Stamped or printed on the Mill Analysis as with reinforcing steel, structural steel, and other metals,
- Furnished as a separate document with each shipment as with zinc-silicate paint, engineering fabrics, epoxy coatings, and dowel baskets,
- Stamped or printed on a list of materials for each shipment as with CMP, concrete pipe, and corrugated plastic subdrain,

The inspector will verify that the certification has been entered into DocExpress.

C. APPROVED SOURCE

(May also be referred to as "Approved Producer, Approved Supplier, Approved Fabricator, or Approved Brand") The source, producer, and the material must be evaluated and approved by the Office of Construction and Materials according to the appropriate Materials IM in order to be used on a project. Once a letter of approval is issued, the source or producer is approved for use on projects (with the exception of steel fabricators and precast concrete plants). Approved products, sources, and producers are listed in the Materials Approved Products Listing Enterprise (MAPLE). Approval for a source or producer may be rescinded at any time if it no longer meets the requirements of the IM. The plans, developmental specifications, and special provisions may also contain lists of approved sources.

The project inspector will document information about this material such as product name, source, date, producer, and lot number in the project files.

Most approved sources also require a certification.

D. APPROVED WAREHOUSE STOCK

For some items made up of miscellaneous materials, inspection and approval will be done by the District Materials Engineer at the supplier's warehouse.

E. APPROVED SHOP DRAWING & APPROVED CATALOG CUT

This information must be submitted to, and reviewed by the Iowa DOT Design Office or Bridges and Structures Office, before the material can be incorporated in the project.

F. INSPECTION REPORT

The project inspector must have a copy of the final inspection report prior to incorporating the item into the project. The report will vary depending on the Materials IM requirements for the item fabricated. Final acceptance is by construction personnel at the project site, and is based on the proper documentation and the condition of the component.

G. VISUAL APPROVAL BY PROJECT ENGINEER

(May also be referred to as "As Per Plan, Approved By RCE, or Manufacturer Recommendations") The project inspector must document information about this material such as product name, source, producer, lot number and date produced in the project files. The inspector will make sure the material meets the requirements of the plans, the Engineer, or the manufacturer before the material is used. Visual approval requires construction personnel to visually inspect the material to determine if it complies with the specifications. Visual approval is appropriate for non-critical items such as sod stakes, where compliance can be readily determined by visual means. If there are questions on specification compliance, samples will be taken for testing.

INDEPENDENT ASSURANCE PROGRAM

The IAP evaluates all sampling and testing procedures, personnel, and equipment used as part of an acceptance decision (Includes Contractor, Contracting Agency, and consultant). Independent assurance includes evaluation based on:

Calibration checks
Split samples
Proficiency samples
Observation of sampling and testing performance

The test method and the frequency of test are in the Appendices. Calibration checks and proficiency samples testing is covered in IM 208.

SMALL QUANTITIES

The FHWA allows and encourages alternative acceptance methods for small quantities of non-critical materials. Appendix X contains a list of those materials and maximum quantities for which alternative acceptance methods may be appropriate. The Project Engineer or District Materials Engineer may still require the normal acceptance method for a material when it is considered critical in the intended application.

IM 204 APPENDIXES

Appendix A	Roadway & Borrow Excavation & Embankments
Appendix B	Soil Aggregate Subbase
Appendix C	Modified Subbase
Appendix D	Granular Subbase
Appendix E	Portland Cement Concrete Pavement, Pavement Widening, Base Widening, Curb & Gutter & Paved Shoulders
Appendix F	Asphalt Mixtures
Appendix H	Structural Concrete, Reinforcement, Foundations & Substructures, Concrete Structures, Concrete Floors, & Concrete Box, Arch & Circular Culverts
Appendix I	Concrete Drilled Shaft Foundations
Appendix K	Cold-In-Place Recycled Asphalt Pavement
Appendix L	Granular Surfacing/Driveway Surfacing
Appendix M	Concrete Bridge Floor Repair & Overlay & Surfacing
Appendix P	Surface Treatment (Seal Coat, Microsurfacing, Slurry, Joint Repair, Crack Filling & Fog Seal)
Appendix T	Base Repair, Pavement Repair
Appendix U	Granular Shoulders
Appendix V	Subdrains
Appendix W	Water Pollution Control, Erosion Control
Appendix X	Acceptance of Small Quantities of Materials
Appendix Z	Supplemental Guide, Basis of Acceptance

Sampling & Testing Guide-Minimum Frequency

April 21, 2015 | **ROADWAY & BORROW EXCAVATION & EMBANKMENTS** | Matls. IM 204

Supersedes October 21, 2014 | Section 2102 & 2107 | Appendix A (US) Units

MATERIAL OR CONSTRUCTION ITEM	TESTS	METHOD OF ACCEPTANCE & RELATED IMs	QUALITY CONTROL					INDEPENDENT ASSURANCE & VERIFICATION S&T						REMARKS
			SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	S&T TYPE	SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	
SOURCE INSPECTION														
Special Backfill, Crushed Stone (4132.02), Gravel (4132.03)		AS 209												
Crushed Concrete (4132.02), RAP (2303.02)		209,210												
Granular Backfill (4133, 4134)	Quality	AS 209												
Engr. Fabric (4196)	Quality	AS 496.01												
Contractor Furnished Borrow		545	CONTR	IM 545	IM 545	CONTR	IM 545 & Cert	V	RCE/ CONTR	1/10 QC tests	35 lb.	CTRL	Test Report	Note 4
GRADE INSPECTION														
Moisture Control, (QC by Contractor) Note 1	Proctor	309	CONTR	1/ soil class	25 lb	CONTR	Field Book & Test Report	V (7) IA (4)	CONTR/ RCE CONTR/ DME	1/ 10 req'd QC tests (min. 1)(5) 1/proj.	25 lb. 25 lb.	RCE/ DME CTRL	Field Book Test Report	
	Moisture	335, 334	CONTR	1/lift/1500 ft (for max of 1300 cy) (6)	3 lb	CONTR	Field Book & Test Report	V (7) IA (4)	RCE (2) DME	1/ 10 req'd QC tests (min. 1)(5) Witness 1/proj.	3 lb.	RCE	Field Book	
Moisture & Density Control, including Special Compaction of Subgrade (2109.03C), (QC by Contractor) Note 1	Proctor	309	CONTR	1/ soil class	25 lb	CONTR	Field Book & Test Report	V (7) IA (4)	CONTR/ RCE CONTR/ DME	1/ 10 req'd QC tests (min. 1)(5) 1/proj.	25 lb. 25 lb.	RCE/ DME CTRL	Field Book Test Report	
	Moisture	335, 334	CONTR	1/lift/1500 ft.(for max of 1300 cy) (6)	3 lb	CONTR	Field Book & Test Report	V (7) IA (4)	RCE (2) DME	1/ 10 req'd QC tests (min. 1)(5) Witness 1/proj.	3 lb.	RCE	Field Book	
	In-place Density	326 & 334, ASTM D2937, D2167, D1556, & AASHTO T191 & T233	CONTR	1/lift/1500 ft (for max of 1300 cy) (6)	As req'd by test	CONTR	Field Book & Test Report	V (7) IA (4)	RCE/ DME DME	1/10 req'd QC tests (min. 1)(5) Witness 1/proj.		RCE/ DME	Field Book	

AS-Approved Source
ASD-Approved Shop Drawing
S&T-Sampling & Testing
Cert- Certification Statement
RCE-Resident Construction Engineer/Project Engineer
DME-District Materials Engineer
CTRL-Central Materials Office
CONTR-Contractor
IA-Independent Assurance
V-Verification

Note 1: When Contractor QC testing is not required in the contact documents. The RCE will perform verification testing at the frequency listed for QC.
Note 2: RCE will direct the Contractor to take a moisture sample beside the RCE verification sample location.
Note 4: For earthwork quantities of less than 50,000 Yd^3, no IA will be required.
Note 5: If no QC tests are required, then no verification or independent assurance tests are required.
Note 6: If source of excavation and moisture have been consistent and within moisture control limits and density has been greater than or equal to minimum density (if required), testing of each lift will be waived. Minimum frequency will be 1 per 1300 Yd^3.
Note 7: For earthwork quantities of less than 1300 Yd^3, no verification tests will be required.

April 15, 2014
Supersedes October 16, 2007

SOIL AGGREGATE SUBBASE

Section 2110

Matls. IM 204
Appendix B

MATERIAL OR CONSTRUCTION ITEM	TESTS	METHOD OF ACCEPTANCE & RELATED IMs	QUALITY CONTROL					INDEPENDENT ASSURANCE & VERIFICATION S&T						REMARKS
			SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	S&T TYPE	SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	
SOURCE INSPECTION														
Granular Surfacing Material (4120)		AS 209												
GRADE INSPECTION														
Mixed Materials (2110)	Density (Proctor)	309						V	RCE	2/mile (min. 2/proj.)	5000 gm	RCE	Field Book	Change of Soil type requires additional Proctors
Uncompacted Mixture	Pulverization Moisture	2" Sieve Visual						V	RCE	2/mile		RCE	Field Book	
Compacted Mixture (2110)	Density Thickness Width	311, 312, 334 337						V	RCE	2/mile		RCE	Field Book	
Finished Subbase	Cross Section	Stringline						V	RCE	10/mile		RCE	Field Book	Template for secondary park & institutional roads

AS-Approved Source
ASD-Approved Shop Drawing
S&T-Sampling & Testing

Cert- Certification Statement

RCE-Resident Construction Engineer/Project Engineer
DME-District Materials Engineer
CTRL-Central Materials Office
CONTR-Contractor

IA-Independent Assurance
V-Verification

MODIFIED SUBBASE

Section 2115

MATERIAL OR CONSTRUCTION ITEM	TESTS	METHOD OF ACCEPTANCE & RELATED IMs	QUALITY CONTROL					INDEPENDENT ASSURANCE & VERIFICATION S&T						REMARKS
			SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	S&T TYPE	SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	
SOURCE INSPECTION														
Natural Aggregate	Quality Gradation	AS 209												
Recycled Products														
Composite	Gradation	*As Per Spec.												
PCC Pavement	Gradation	*As Per Spec.												
Rap		*As Per Spec.												
GRADE INSPECTION														
Compacted Subbase	Density	*As Per Spec.						V	RCE			RCE	Field Book	
Dimensions	Thickness Width	337						V	RCE	3/2 lane mi.		RCE	Field Book	
	Cross Section (Primary)	Stringline						V	RCE	10/mi.		RCE	Field Book	
	Cross Section (Other)	Template						V	RCE	3/mi.		RCE	Field Book	

AS-Approved Source
ASD-Approved Shop Drawing
S&T-Sampling & Testing
Cert- Certification Statement
RCE-Resident Construction Engineer/Project Engineer
DME-District Materials Engineer
CTRL-Central Materials Office
CONTR-Contractor
IA-Independent Assurance
V-Verification

* Use Current Specification for Modified Subbase

April 14, 2014
Supersedes October 17, 2006

GRANULAR SUBBASE
Section 2111

Matls. IM 204
Appendix D (US) Units

MATERIAL OR CONSTRUCTION ITEM	TESTS	METHOD OF ACCEPTANCE & RELATED IMs	QUALITY CONTROL					INDEPENDENT ASSURANCE & VERIFICATION S&T						REMARKS
			SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	S&T TYPE	SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	
SOURCE INSPECTION														
Natural Aggregate (4121)	Quality Gradation	AS 209												
PCC Pavement	Gradation	209												
GRADE INSPECTION														
Compacted Subbase (2111)	Density	By Specification						V	RCE			RCE	Field Book	
Dimensions	Thickness Width	337						V	RCE	3/2 lane mi.		RCE	Field Book	
	Cross Section (Primary)	Stringline						V	RCE	10/ mi.		RCE	Field Book	
	Cross Section (Others)	Template						V	RCE	3/mi		RCE	Field Book	

AS-Approved Source
ASD-Approved Shop Drawing
S&T-Sampling & Testing
Cert- Certification Statement
RCE-Resident Construction Engineer/Project Engineer
DME-District Materials Engineer
CTRL-Central Materials Office
CONTR-Contractor
IA-Independent Assurance
V-Verification

Sampling & Testing Guide-Minimum Frequency

PORTLAND CEMENT CONCRETE PAVEMENT, PAVEMENT WIDENING, BASE WIDENING CURB & GUTTER, & PAVED SHOULDERS

October 16, 2018 | Matls. IM 204

Supersedes October 17, 2017 | Section 2122, 2201, 2213, 2301, 2302, 2310, Quality Management Concrete (QM-C) | Appendix E (US) Units

MATERIAL OR CONSTRUCTION ITEM	TESTS	METHOD OF ACCEPTANCE & RELATED IMs	QUALITY CONTROL					INDEPENDENT ASSURANCE & VERIFICATION S&T						REMARKS
			SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPT.	S&T TYPE	SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	
SOURCE INSPECTION														
Aggregates-Fine (4110)		AS 209												
Aggregate-Coarse (4115), Intermediate		AS 209												
Portland Cement (4101)	Quality	AS 401												
Fly Ash (4108)	Quality	AS 491.17												
GGBFS (Ground Granulated Blast Furnace Slag)	Quality	AS 491.14												
Curing Compounds (4105)	Lab Tested	405												
Clear Curing Compounds (4105)		AB 405.07												
Air Entraining Admixture (4103)	Quality	AB 403												
Water Reducing Admix. (4103)	Quality	AB 403												
Retarding Admixture (4103)	Quality	AB 403												
Joint Sealer (4136.02)	Lab Tested	436.01, 436.02,436.03												
Backer Rod (4136.02)	Lab Tested	AB 436.04												
Mixing Water (4102)	Lab Tested							V	RCE/ CONTR	1/ source	1 pint	CTRL		Not required for potable water from municipal supply (1)

AS-Approved Source
ASD-Approved Shop Drawing
S&T-Sampling & Testing
AB-Approved Brand

Cert- Certification Statement

RCE-Resident Construction Engineer/Project Engineer
DME-District Materials Engineer
CTRL-Central Materials Office
CONTR-Contractor

IA-Independent Assurance
V-Verification
M-Monitor
QMC-Quality Management Concrete

(1) DME may waive sampling of water from an established well that has shown past compliance.

NOTE: RCE/CONTR indicates that the contractor shall assist in the sampling at the direction of and witnessed by the project engineer.

Sampling & Testing Guide-Minimum Frequency

PORTLAND CEMENT CONCRETE PAVEMENT, PAVEMENT WIDENING, BASE WIDENING CURB & GUTTER, & PAVED SHOULDERS

October 16, 2018 | Matls. IM 204

Supersedes October 17, 2017 | Section 2122, 2201, 2213, 2301, 2302, 2310, Quality Management Concrete (QM-C) | Appendix E (US) Units

MATERIAL OR CONSTRUCTION ITEM	TESTS	METHOD OF ACCEPTANCE & RELATED IMs	QUALITY CONTROL					INDEPENDENT ASSURANCE & VERIFICATION S&T						REMARKS
			SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	S&T TYPE	SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	
SOURCE INSPECTION														
Steel Reinforcement (4151)														
Dowels	Quality	AS 451												
Tie Bars	Quality	AS 451												
General Use	Quality	AS 451												
PLANT INSPECTION														
Aggregates-Fine (4110/4111)	Grad QMC	302 306 336	CONTR	1/1500cy	IM 301	CONTR	800240	V IA	RCE/ CONTR	Sample 1/day, test 1st day + 2/week	IM 301	RCE DME		IM 530 for intermittent production
	Grad Non-QMC	302 306 336	CONTR	1/day	IM 301	CONTR		V IA	RCE/ CONTR	Sample 1/day, test 1st day + 1/-week	IM 301	RCE DME		IM 527 for intermittent or low production
	Moist	308, 527	CONTR	IM 527	1000 gm	CONTR								Not applicable with probe
	Sp. Gr.	307	CONTR	IM 527	1000 gm	CONTR								
	Quality	AS 209												

AS-Approved Source
ASD-Approved Shop Drawing
S&T-Sampling & Testing
Cert- Certification Statement
RCE-Resident Construction Engineer/Project Engineer
DME-District Materials Engineer
CTRL-Central Materials Office
CONTR-Contractor
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V-Verification
M-Monitor
QMC-Quality Management Concrete

NOTE: IA may be accomplished by system approach or on a per project basis (IA at 1 per 100,000 sy of concrete) at the discretion of the DME.
NOTE: When Certified Plant Inspection is not provided, the engineer is responsible for performing quality control sampling and testing.
NOTE: RCE/CONTR indicates that the contractor shall assist in the sampling at the direction of and witnessed by the project engineer.

Sampling & Testing Guide-Minimum Frequency

PORTLAND CEMENT CONCRETE PAVEMENT, PAVEMENT WIDENING, BASE WIDENING CURB & GUTTER, & PAVED SHOULDERS

October 16, 2018 | Matls. IM 204

Supersedes October 17, 2017 | Section 2122, 2201, 2213, 2301, 2302, 2310, Quality Management Concrete (QM-C) | Appendix E (US) Units

MATERIAL OR CONSTRUCTION ITEM	TESTS	METHOD OF ACCEPTANCE & RELATED IMs	QUALITY CONTROL					INDEPENDENT ASSURANCE & VERIFICATION S&T						REMARKS
			SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	S&T TYPE	SAMPLE BY	FREQ.	SAMP. SIZE	TEST BY	REPORT	
PLANT INSPECTION														
Aggregates-Coarse (4115), Intermediate	Grad QMC	302 306 336	CONTR	QMC 1/1500 cy	IM 301	CONTR	800240	V IA	RCE/ CONTR	Sample 1/day,test 1st day+2/-week	IM 301	RCE DME		IM 530 for intermittent production
	Grad Non-QMC	302 306 336	CONTR	1/day	IM 301	CONTR		V IA	RCE/ CONTR	Sample 1/day, test 1st day + 1/week	IM 301	RCE DME		IM 527 for intermittent or low production
	Moist	308	CONTR	IM 527	IM 301	CONTR								
	Sp. Gr.	307	CONTR	IM 527	IM 301	CONTR								
	Quality	AS 209						V	DME	1/100,000 sy	50 lb	CTRL		
Portland Cement (4101)	Quality	AS Cert		Each Load				V	DME	1/100,000 sy	15 lb	CTRL		
	Cement Yield		CONTR	1/10,000 cy		CONTR	820912							
Fly Ash	Quality	AS Cert		Each Load			800240	V	DME	1/100,000 sy	15 lb	CTRL		
GGBFS(Ground Granulated Blast Furnace Slag)	Quality	AS Cert		Each Load				V	DME	1/100,000 sy	15 lb	CTRL		
Air Admixture	Quality	AB 403						M	DME	1/project	1 pint	CTRL		Sample batches not previously reported or as required by DME
Water Reducer	Quality	AB 403						M	DME	1/project	1 pint	CTRL		
Retarding Admixture	Quality	AB 403						M	DME	1/project	1 pint	CTRL		

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S&T-Sampling & Testing
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NOTE: IA may be accomplished by system approach or on a per project basis (IA at 1 per 100,000 sy of concrete) at the discretion of the DME.
NOTE: When Certified Plant Inspection is not provided, the engineer is responsible for performing quality control sampling and testing.
NOTE: Quality samples not required when mix quantity is less than 2000 sq. yds., except for curing compound.
NOTE: RCE/CONTR indicates that the contractor shall assist in the sampling at the direction of and witnessed by the project engineer.

Sampling & Testing Guide-Minimum Frequency

PORTLAND CEMENT CONCRETE PAVEMENT, PAVEMENT WIDENING, BASE WIDENING CURB & GUTTER, & PAVED SHOULDERS

October 16, 2018 | Matls. IM 204

Supersedes October 17, 2017 | Section 2122, 2201, 2213, 2301, 2302, 2310, Quality Management Concrete (QM-C) | Appendix E (US) Units

MATERIAL OR CONSTRUCTION ITEM	TESTS	METHOD OF ACCEPTANCE & RELATED IMs	QUALITY CONTROL					INDEPENDENT ASSURANCE & VERIFICATION S&T						REMARKS
			SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPT.	S&T TYPE	SAMP. BY	FREQ.	SAMPLE SIZE	TEST BY	REPT.	
GRADE INSPECTION														
Chloride Solution	Concentration	373	RCE	1/day										
Steel Reinforcement:														
Dowels	Quality	AS 451.03B						V	DME	1/Source/Yr	1 dowel bar	CTRL		
Dowel Basket Assembly	Quality	AS 451 Cert 451.03B												
Tie Bars	Quality	AS 451						V	DME	1/Source/Yr	1 tie bar	CTRL		
General Use	Quality	AS 451						V	DME	1/Source/Yr	48 in	CTRL		
Curing Compound (4105)	Quality	Tested 405						V	DME	1/batch	1/qt	CTRL		Sample batches not previously reported or as required by DME
Plastic Concrete	Air QMC	318 327	CONTR	1/350 cy, 1/100 cy ready mix		CONTR	E115	V IA	RCE	1/700 cy,1/200 cy ready mix 1/100,000 sy		RCE DME		Min. 1 test/pour
	Air Non-QMC	318 327					E115	V IA	RCE	1/700 cy,1/100 cy ready mix 1/100,000 sy		RCE DME		Min. 1 test/pour
	Slump	317						V	RCE	1/700 cy,1/100 cy ready mix		RCE		For hand finish or fixed form only. Min. 1/pour
	Grade Yield		RCE	1/1000 cy		RCE								
	Beams**	316, 327, 328	RCE	2/day		RCE	E115							
Hardened Concrete	Thickness*	346, 347						V IA	RCE/ CONTR	1/2000 sy 10%		RCE DME		
	Smoothness	341	CONTR		100%	CONTR		V	DME		10%	DME		

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*IA thickness cores sent to Central Lab for additional project information testing (Interstate and Primary only.) **None required when maturity is used.

NOTE: IA may be accomplished by system approach or on a per project basis (IA at 1 per 100,000 sy of concrete or as noted in the table) at the discretion of the DME.

NOTE: Quality samples not required when mix quantity is less than 2000 sq. yds., except for curing compound.

NOTE: RCE/CONTR indicates that the contractor shall assist in the sampling at the direction of and witnessed by the project engineer. **NOTE:** Form #E115 available from the Office of Construction.

Sampling & Testing Guide-Minimum Frequency

ASPHALT MIXTURES

Section 2303 & 2213

MATERIAL OR CONSTRUCTION ITEM	TESTS	METHOD OF ACCEPTANCE & RELATED IMs	QUALITY CONTROL					INDEPENDENT ASSURANCE, & VERIFICATION S&T						REMARKS
			SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	S&T TYPE	SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	
SOURCE INSPECTION														
Aggregates-Coarse (4127)		AS 209												
Aggregates-Fine (4127)		AS 209												
Hydrated Lime (4127)		AS 491.04												
Asphalt Binder		AS 437												
Emulsions & Cutbacks		AS 437												
Release Agent		AB 491.15												
Recycled Asphalt Shingles		AS 506												
PLANT INSPECTION														
Aggregates (2303)	Quality							V	DME	1/20,000 Ton	50 lb.	CTRL		
Combined Aggregate (4127)	Gradation	302, 336	RCE/ CONTR	1/lot	IM 301	CONTR		V IA	RCE/ CONTR	Sample 1/day, Test 1st day + 20% Systems Approach*	IM 301	DME/ RCE	IM 216 IM 216	
	Moisture		CONTR	1 / half day	1000 gm	CONTR								Drum Mix Plants Only

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*A project approach may be applied at the discretion of the DME at the frequency 1/project.

NOTE: RCE/CONTR indicates that the Contractor shall assist in the sampling at the direction of and witnessed by the Project Engineer.

Sampling & Testing Guide-Minimum Frequency
ASPHALT MIXTURES
Section 2303 & 2213

MATERIAL OR CONSTRUCTION ITEM	TESTS	METHOD OF ACCEPTANCE & RELATED IMs	QUALITY CONTROL					INDEPENDENT ASSURANCE, & VERIFICATION S&T						REMARKS
			SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	S&T TYPE	SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	
PLANT INSPECTION														
Asphalt Binder	DSR Quality	AS Cert 323						V V IA	RCE/ CONTR DME	Sample 1/day Test 1st 1/week 1/20,000 T of Mix Systems Approach	4 oz tin 1 qt	DME CTRL		Log all shipments ** Interlayer
Cutback		AS Cert												Log all shipments
Emulsion	Residue	AS 360						V	RCE	1/project	1 qt	DME		Plastic bottle required
GRADE INSPECTION														
Uncompacted Mixture:	Lab Density & Lab Voids	321,322, 350 325G, 357, 338	RCE/ CONTR	As per 2303	40 lb	CONTR		V IA	RCE/ CONTR	As per 2303 Test 1/day Systems Approach	40 lb	DME		***Interlayer
	Moisture Sensitivity	319, 322, 325G Article 2303.02, E,2						V	RCE/ CONTR	Test 1st Sample at 500 tons then sample 1/10,000 tons per 2303 until 1st sample accepted (test as needed)	70 lb	CTRL		
Compacted Mixture	Mat Density, Thickness & Voids	320, 321 337						V IA	RCE/ CONTR DME	Lot 1 lot/project*	Min 8/lot	RCE DME		
	Joint Density	SS-15004						V	RCE/ CONTR	Lot	3/lot	RCE		6-inch core
	Smoothness	341	CONTR	100%	100%	CONTR		V	DME	10%		DME		

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* A system approach may be applied at the discretion of the DME.
NOTE: A Verification sample for asphalt binder quality and aggregate quality not required under 2000 tons of mix.
NOTE: RCE/CONTR indicates that the Contractor shall assist in the sampling at the direction of and witnessed by the Project Engineer.
****NOTE:** For interlayer construction, as a minimum, sample 1 Qt. each day, and perform the MSCR test on the first and last day's binder sample of interlayer placement.
***** NOTE:** For interlayer construction, in addition to the required uncompacted mix sample(s) tested by the contractor and district lab, sample and retain at least one additional box of uncompacted mix each day of interlayer placement.

Sampling & Testing Guide-Minimum Frequency

STRUCTURAL CONCRETE, REINFORCEMENT, FOUNDATIONS & SUBSTRUCTURES, CONCRETE STRUCTURES, CONCRETE FLOORS, & CONCRETE BOX, ARCH & CIRCULAR CULVERTS

October 16, 2018 | Sections 2403, 2404, 2405, 2406, 2412, & 2415 | Matls. IM 204

Supersedes April 17, 2018 | Appendix H (US) Units

MATERIAL OR CONSTRUCTION ITEM	TESTS	METHOD OF ACCEPTANCE & RELATED IMs	QUALITY CONTROL					INDEPENDENT ASSURANCE & VERIFICATION S&T						REMARKS
			SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	S&T TYPE	SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	
SOURCE INSPECTION														
Aggregate-Fine (4110)		AS 209												
Aggregate-Coarse (4115)		AS 209												
Granular Backfill (4133)		AS 209												
Portland Cement (4101)	Quality	AS 401												
Fly Ash (4108)	Quality	AS 491.17												
Mixing Water (4102)	Quality							V	RCE	1/source	1pt	CTRL		Not required for potable water from Municipal Supply (2)
GGBFS (Ground Granulated Blast Furnace Slag)	Quality	AS 491.14												
Air Entraining Admixture	Quality	AB 403												
Retarding Admixture	Quality	AB 403												
Water reducing Admixture	Quality	AB 403												
Curing Compound, White (4105)	Lab Tested	AS 405						V	DME	1/batch	1qt	CTRL		Sample batches not previously reported or as required by DME
Curing Compound, Clear (4105)		AB 405.07												

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(2) DME may waive sampling of water from an established well that has shown past compliance.

NOTE: RCE/CONTR indicates that the Contractor shall assist in the sampling at the direction of and witnessed by the Project Engineer.

Sampling & Testing Guide-Minimum Frequency

STRUCTURAL CONCRETE, REINFORCEMENT, FOUNDATIONS & SUBSTRUCTURES, CONCRETE STRUCTURES, CONCRETE FLOORS, & CONCRETE BOX, ARCH & CIRCULAR CULVERTS

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			SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	S&T TYPE	SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	
SOURCE INSPECTION														
Pre-formed Joint Sealer (4136)	Lab-Tested	AB 436.02 436.05												
Reinforcing Steel Bars (4151)	Quality	AS 451 451.03B												
Steel Pile (4167)	Quality	467												
Concrete Pile (4166)	Quality	AS 570												
Timber Pile (4165)	Quality	Cert AS 462												
Timber (4162) & Lumber (4163		Treated-Cert AS 462												
Concrete Anchors	Quality	AB 453.09												
Epoxy Grout	Quality	AB 491.11												
Concrete Sealer	Quality	AB 491.12												
Subdrain Pipe (4143)	Quality	AS 443, 448												
Neoprene Bearing Pads (4195)		AB 495.03												
Bronze Bearing Plates (4190.03)		AS Cert												

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NOTE: RCE/CONTR indicates that the Contractor shall assist in the sampling at the direction of and witnessed by the Project Engineer.

Sampling & Testing Guide-Minimum Frequency

STRUCTURAL CONCRETE, REINFORCEMENT, FOUNDATIONS & SUBSTRUCTURES, CONCRETE STRUCTURES, CONCRETE FLOORS, & CONCRETE BOX, ARCH & CIRCULAR CULVERTS

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			SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	S&T TYPE	SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	
SOURCE INSPECTION														
Steel Masonry Plate (4152)		AS Cert												
Precast Units (2407)	Quality	AS 570												
Anchor Bolts (lighting, signing, handrail, structures) (4153)	Lab Tested	ASD												
Structural Steel (4152)	Quality	Cert												Monitor Sample According to plans or other instructions
Aluminum & Steel Bridge Rail & Anchor Assembly		ASD												
Conduit (Electrical) (4185.10)) Steel		AS												
Conduit (Plastic) (4185.10)	Lab Tested							V	DME	1/size	4'	CTRL		
Bentonite		Visual												
Flowable Mortar	Lab Tested	Approved Trial Mix 525, 375												Tested by DME
Fabric Formed Revetment		Approved Trial Mix 375												Tested by DME

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Sampling & Testing Guide-Minimum Frequency

STRUCTURAL CONCRETE, REINFORCEMENT, FOUNDATIONS & SUBSTRUCTURES, CONCRETE STRUCTURES, CONCRETE FLOORS, & CONCRETE BOX, ARCH & CIRCULAR CULVERTS

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MATERIAL OR CONSTRUCTION ITEM	TESTS	METHOD OF ACCEPTANCE & RELATED IMs	QUALITY CONTROL					INDEPENDENT ASSURANCE & VERIFICATION S&T						REMARKS
			SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	S&T TYPE	SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	
PLANT INSPECTION														
Aggregate- Fine (4110)	Gradation Deck	302, 306 336	CONTR	IM 528	IM 301	CONTR	800240	V IA	RCE/ CONTR	Sample & Test 1/deck pour	IM 301	RCE DME	Plant Monitor Workbook	See IM 528
	Gradation All other		CONTR	IM 528	IM 301	CONTR		V IA	RCE/ CONTR 1/project	Sample 1/wk Test 1st day +20%	IM 301	RCE DME	Plant Monitor Workbook	See IM 528 Systems approach applicable
	Moisture	308, 528	CONTR	IM 528	IM 301	CONTR								See IM 528 if Moisture Probe is used
	Sp. Gr.	307	CONTR	IM 528	IM 301	CONTR								
	Quality	AS 209												
Aggregate- Coarse (4115)	Gradation Deck	302, 306 336	CONTR	IM 528	IM 301	CONTR		V IA	RCE/ CONTR	Sample & Test 1/deck pour	IM 301	RCE DME	Plant Monitor Workbook	See IM 528
	Gradation All other		CONTR	IM 528	IM 301	CONTR		V IA	RCE/ CONTR 1/project	Sample 1/wk Test 1st day +20%	IM 301	RCE DME	Plant Monitor Workbook	See IM 528 Systems approach applicable
	Moisture	308, 528	CONTR	IM 528	2000gm	CONTR								
	Sp. Gr.	307	CONTR	IM 528	2000gm	CONTR								
	Quality	AS 209						V	DME	1/1000 cy	50 lb	CTRL		(1)
Portland Cement	w/c ratio	528	CONTR	1/pour		CONTR								
	Quality	AS Cert						V	DME	1/1000 cy	15 lb	CTRL		(1)

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(1) These verification samples for concrete materials not required when mix quantity is less than 50 cu. yd. For placements greater than 1000 cu. yd., sample 1/placement.

NOTE: IA may be accomplished by system approach or on a per project basis (IA at 1 per 1000 cy of concrete) at the discretion of the DME according to IM 207.

NOTE: RCE/CONTR indicates that the Contractor shall assist in the sampling at the direction of and witnessed by the Project Engineer.

Sampling & Testing Guide-Minimum Frequency

STRUCTURAL CONCRETE, REINFORCEMENT, FOUNDATIONS & SUBSTRUCTURES, CONCRETE STRUCTURES, CONCRETE FLOORS, & CONCRETE BOX, ARCH & CIRCULAR CULVERTS

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MATERIAL OR CONSTRUCTION ITEM	TESTS	METHOD OF ACCEPTANCE & RELATED IMs	QUALITY CONTROL					INDEPENDENT ASSURANCE & VERIFICATION S&T						REMARKS
			SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	S&T TYPE	SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	
PLANT INSPECTION														
Fly Ash	Quality	AS Cert		Each Load			800240							
GGBFS(Ground Granulated Blast Furnace Slag)	Quality	AS Cert		Each Load										
Air-Entraining Admixture (4103)		AB 403						M	DME	1/project	1pt	CTRL		(1) Sample lots/batches not previously reported or as required by DME
Retarding Admixture		AB 403						M	DME	1/project	1pt	CTRL		
Water Reducing Admixture (4103)		AB 403						M	DME	1/project	1pt	CTRL		
GRADE INSPECTION														
Plastic Concrete	Air Content	318, 327					E145*	V IA	RCE	1/30 cy, min. 1/day		RCE DME		If >350 cy placement, DME may increase to 1/50 cy, if consistent during first 90 cy
	Slump	317, 327						V IA	RCE	1/30 cy, min. 1/day		RCE DME		For slip formed barrier rail, test 1/placement. DME may adjust .
	Beams	316, 327, 328							RCE	2/placement		RCE		If required per 2403
	Cylinders								DME			DME		See Note

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(1) These verification samples for concrete materials not required when mix quantity is less than 50 cu. yd. For placements greater than 1000 cu. yd., sample 1/placement.

(2) **NOTE:** IA may be accomplished by system approach or on a per project basis (IA at 1 per 1000 cy of concrete) at the discretion of the DME according to IM 207.

NOTE: RCE/CONTR indicates that the Contractor shall assist in the sampling at the direction of and witnessed by the Project Engineer.

NOTE: Cylinders for strength on primary project bridge decks only and where specifically called for in the plans or specifications.

*Available from the Office of Construction.

Sampling & Testing Guide-Minimum Frequency

STRUCTURAL CONCRETE, REINFORCEMENT, FOUNDATIONS & SUBSTRUCTURES, CONCRETE STRUCTURES, CONCRETE FLOORS, & CONCRETE BOX, ARCH & CIRCULAR CULVERTS

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			SAMPLE BY	FREQ.	SAMPLE SIZE	TES BY	REPORT	S&T TYPE	SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	
GRADE INSPECTION														
Reinforcing Steel (4151)	Quality	AS Cert		Each Shipment			Field Book	V	DME	IM 451	6 ft	CTRL		
Reinforcing Steel Epoxy Coated (4151)	Quality	AS Cert		Each Shipment			Field Book	V	DME	1 bar	6 ft	CTRL		Will be verification tested for coating
Reinforcing Stainless Steel (4151)	Quality	AS Cert		Each Shipment			Field Book	V	DME	IM 452	6 ft	CTRL		
Steel Pile (4167)	Quality	AS Cert		Each Heat			Field Book		DME	IM 467		CTRL		
Timber Pile (4165)	Quality	AS 462 Cert						V	DME	IM 467		CTRL		No grade requirement Charge numbers on butt end.
Anchor Bolts (lighting, signing, handrail, structures)	Lab Tested	ASD						V	DME	1/diameter/ source/year	1 bolt w/nut & washer	CTRL		Sample only if not source inspected
Steel Masonry Plates (4152)		ASD Cert		Each Shipment			Field Book							Approved by Materials Department
Bronze Bearing Plates (4190.03)	Lab Tested							V	DME	1/project	1 only	CTRL		Sample only if not source inspected
Neoprene Bearing Pads (4195)		AB 495.03		Each Shipment			820905							
Alum. Bridge Rail & Anchor Assembly		ASD		Each Shipment			Field Book							Approved By Materials Dept.
Drains (Std Steel Pipe)(as per plan)	Dimensions Galvanized	ASD Visual 332						V	DME	1/project		DME		

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			SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	S&T TYPE	SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	
GRADE INSPECTION														
Timber (4162) & Lumber (4163)	Quality	AS 462 Treated-Cert												
Subdrain Pipe (4143)	Quality	AS Cert 443, 448		Each Shipment										
Flowable Mortar (2506)	Flow Test	375						V	RCE	1/4 hours (critical) Visual (noncritical)		RCE	Plant Report	Mix Design approval by DME Lab mix for critical flow only
Grout for Stone Revetment 2507 and Fabric Formed Revetment	Air Content	318 340						V	RCE	1/half day			Plant Report	Fabric Formed Mix Design approval by DME
	Flow Test	375						V	RCE	1/half day				Fabric Formed Revetment Only
	Compressive Strength	315												Only when required by the DME
Foamed Cellular Concrete	Density		CONTR	Each Load										RCE Witness density test by CONTR
Bentonite	Flow Test	Visual 375				RCE								
Hardened Concrete	Smoothness	341	CONTR	100%		CONTR	821301	V	DME	10%		DME		

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NOTE: RCE/CONTR indicates that the Contractor shall assist in the sampling at the direction of and witnessed by the Project Engineer.

Sampling & Testing Guide-Minimum Frequency

CONCRETE DRILLED SHAFT FOUNDATIONS

April 17, 2018 | Section 2433 | Matls. IM 204

Supersedes October 17, 2017 | Appendix I

MATERIAL OR CONSTRUCTION ITEM	TESTS	METHOD OF ACCEPTANCE & RELATED IMs	QUALITY CONTROL					INDEPENDENT ASSURANCE & VERIFICATION S&T						REMARKS
			SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	S&T TYPE	SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	
SOURCE INSPECTION														
Aggregate-Fine (4110)		AS 209												
Aggregate-Coarse (4115)		AS 209												
Portland Cement (4101)	Quality	AS 401												
Fly Ash (4108)	Quality	AS 491.17												
Mixing Water (4102)	Quality								DME	1/project	1 quart	CTRL	731	Not required for potable water from Municipal Supply
Air Entraining Admixture	Quality	AB 403												
Retarding Admixture	Quality	AB 403												
Reinforcing Steel Bars (4151)	Quality	AS 451												
Permanent Casing	Quality	Cert												According to plans or other instructions
Drilling Slurry		Visual 2433												

AS-Approved Source
ASD-Approved Shop Drawing
S&T-Sampling & Testing
AB-Approved Brand

Cert- Certification Statement

RCE-Resident Construction Engineer/Project Engineer
DME-District Materials Engineer
CTRL-Central Materials Office
CONTR-Contractor

IA-Independent Assurance
V-Verification

Quality samples not required when mix quantity is less than 50 cu. yd.

Sampling & Testing Guide-Minimum Frequency

CONCRETE DRILLED SHAFT FOUNDATIONS

April 17, 2018 | Section 2433 | Matls. IM 204

Supersedes October 17, 2017 | Appendix I

MATERIAL OR CONSTRUCTION ITEM	TESTS	METHOD OF ACCEPTANCE & RELATED IMs	QUALITY CONTROL					INDEPENDENT ASSURANCE & VERIFICATION S&T						REMARKS
			SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	S&T TYPE	SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	
PLANT INSPECTION														
Aggregate- Fine (4110)	Gradation	302, 306 336	CONTR	IM 528	IM 301	CONTR		V IA	RCE/ CONTR DME	Sample 1/wk Test 1st day +20% 1/project	IM 301 IM 301	DME RCE		System Approach Applicable
	Moisture	308, 528	CONTR	IM 528	1000 gm	CONTR								See IM 528 if Moisture Probe is used
	Sp. Gr.	307	CONTR	IM 528	1000 gm	CONTR								
	Quality	AS 209												
Aggregate- Coarse (4115)	Gradation	302, 306 336	CONTR	IM 528	IM 301	CONTR		V IA	RCE/ CONTR DME	Sample 1/wk Test 1st day +20% 1/project	IM 301 IM 301	DME RCE		System Approach Applicable
	Moisture	308, 528	CONTR	IM 528	2000gm	CONTR								
	Sp. Gr.	307	CONTR	IM 528	2000gm	CONTR								
	Quality	AS 209						V	DME	1/1000 cy	50 lb	CTRL		
Portland Cement	w/c ratio	528	CONTR	1/pour		CONTR								
	Quality	AS Cert						V	DME	1/1000 cy	15 lb	CTRL		
Fly Ash	Quality	AS Cert		Each Load			800240							
Air-Entraining Admixture (4103)		AB 403						V	DME	1/batch	1 pint	CTRL		Sample lots not previously reported or as required by DME
Retarding Admixture		AB 403						V	DME	1/batch	1 pint	CTRL		Sample lots not previously reported or as required by DME

AS-Approved Source
ASD-Approved Shop Drawing
S&T-Sampling & Testing
AB-Approved Brand

Cert- Certification Statement

RCE-Resident Construction Engineer/Project Engineer
DME-District Materials Engineer
CTRL-Central Materials Office
CONTR-Contractor

IA-Independent Assurance
V-Verification

Quality samples not required when mix quantity is less than 50 cu. yd.

Sampling & Testing Guide-Minimum Frequency

CONCRETE DRILLED SHAFT FOUNDATIONS

April 17, 2018 | Section 2433 | Matls. IM 204

Supersedes October 17, 2017 | Appendix I

MATERIAL OR CONSTRUCTION ITEM	TESTS	METHOD OF ACCEPTANCE & RELATED IMs	QUALITY CONTROL					INDEPENDENT ASSURANCE & VERIFICATION S&T						REMARKS
			SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	S&T TYPE	SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	
GRADE INSPECTION														
Plastic Concrete	Air Content	316, 327						V IA	RCE	1/30 cy		RCE DME		DME may adjust
	Slump	317, 327						V IA	RCE	1/30 cy		RCE DME		DME may adjust
	Cylinders								DME	3/project		DME		Primary Projects Only (Information only)
Reinforcing Steel (4151)	Quality	AS Cert		Each Shipment			Field Book							
Metal Access Pipe		Visual												
Drilling Slurry	Density, Viscosity, pH, Sand Content	387	CONTR	1/ 2 hours		CONTR								1/ 4 hours if consistent
Crosshole Sonic Log Test		2433	CONTR	1/shaft		CONTR	Report, Analysis, Inter-pretation							

AS-Approved Source
ASD-Approved Shop Drawing
S&T-Sampling & Testing

Cert- Certification Statement

RCE-Resident Construction Engineer/Project Engineer
DME-District Materials Engineer
CTRL-Central Materials Office
CONTR-Contractor

IA-Independent Assurance
V-Verification

Quality samples not required when mix quantity is less than 50 cu. yd.

NOTE: IA may be accomplished by system approach or on a per project basis (IA at 1 per project) at the discretion of the DME according to IM 207.

April 17, 2018
Supersedes April 15, 2014

COLD-IN-PLACE RECYCLED ASPHALT PAVEMENT

Section 2318~~, DS-01076~~

Matls. IM 204
Appendix K (US) Units

MATERIAL OR CONSTRUCTION ITEM	TESTS	METHOD OF ACCEPTANCE & RELATED IMs	QUALITY CONTROL					INDEPENDENT ASSURANCE & VERIFICATION S&T						REMARKS
			SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	S&T TYPE	SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	
SOURCE INSPECTION														
Asphalt Stabilizing Agent	Quality	AS 437												
GRADE INSPECTION														
RAP (2318.02)	Max Size							V	RCE	1st day + 1/week	10 lb	RCE		
Stabilizing Agent (Engr. Emulsion)	Quality Residue	Cert 360						V	RCE/CONTR RCE/CONTR	1/project 1/day (2)	1 qt 1 qt	CTRL DME		Must use plastic bottle for emulsion
Stabilizing Agent (Foamed Asphalt)	Quality DSR	Cert						V	RCE/CONTR RCE/CONTR	1/project 1/day (2)	1 qt 1 qt	CTRL DME		
Stabilizing Agent (Std. Emulsion)	Quality Residue	Cert 360						V	RCE	1/day(2)	1 qt	DME		Must use plastic bottle for emulsion
Uncompacted Mixture	Moisture Density	504 504						V	RCE	1/lot	40 lb	DME		Sealed Container
Compacted Mixture	Moisture(1) Density	504 504	CONTR CONTR	10/lot 10/lot		CONTR CONTR								Witnessed by RCE
Completed CIR Layer	Moisture	504	CONTR	2/lot (3)		CONTR								
Smoothness		2318 only												

AS-Approved Source ASD-Approved Shop Drawing S&T-Sampling & Testing	Cert- Certification Statement	RCE-Resident Construction Engineer/Project Engineer DME-District Materials Engineer CTRL-Central Materials Office CONTR-Contractor	IA-Independent Assurance V-Verification

(1) See IM 504 for Day 1 moisture correction factor.
(2) The sample from the first day and 1/week shall be forwarded to the District Laboratory for testing. The other samples shall be retained for submission in the event of a failing test result.
(3) No more than 3 calendar days between consecutive tests. Adjustments may be approved by the Engineer for inclement weather or conditions.

April 14, 2014
Supersedes October 17, 2006

GRANULAR SURFACING/DRIVEWAY SURFACING

Sections 2312 & 2315

Matls. IM 204
Appendix L (US) Units

MATERIAL OR CONSTRUCTION ITEM	TESTS	METHOD OF ACCEPTANCE & RELATED IMs	QUALITY CONTROL					INDEPENDENT ASSURANCE & VERIFICATION S&T						REMARKS
			SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	S&T TYPE	SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	
SOURCE INSPECTION														
Class C Gravel (4120.03)	Gradation Quality	AS 209												
Class A Crushed Stone (4120.04)	Gradation Quality	AS 209												
Class B Crushed Stone (4120.05)	Gradation Quality	AS 209												
Class D Crushed Stone (4120.06)	Gradation Quality	AS 209												
Aggregate for Type B, AC or cold laid Bituminous Concrete (for driveways only)	Gradation Quality	AS 209												
Crushed Stone Base (For driveways only) (4122)	Gradation Quality	AS 209												
GRADE INSPECTION														
Dimensions	Thickness Width Cross Slope		RCE	3/mi.			Field Book							

AS-Approved Source
ASD-Approved Shop Drawing
S&T-Sampling & Testing

Cert- Certification statement

RCE-Resident Construction Engineer/Project Engineer
DME-District Materials Engineer
CTRL-Central Materials Office
CONTR-Contractor

IA-Independent Assurance
V-Verification

Sampling and Testing Guide-Minimum Frequency

April 17, 2018
Supersedes October 17, 2017

CONCRETE BRIDGE FLOOR REPAIR & OVERLAY & SURFACING

Section 2413

Matls. IM 204
Appendix M

MATERIAL OR CONSTRUCTION ITEM	TESTS	METHOD OF ACCEPTANCE & RELATED IMs	QUALITY CONTROL					INDEPENDENT ASSURANCE & VERIFICATION S&T						REMARKS
			SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	S&T TYPE	SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	
SOURCE INSPECTION														
Aggregates-Fine (4110)		AS 209												
Aggregates-Coarse (4115)		AS 209												
Portland Cement (4101)	Quality	AS 401												
GGBFS (Ground Granulated Blast Furnace Slag)	Quality	AS 491.14												For HPC-O
Fly Ash (4108)	Quality	AS 491.17												For HPC-O
Mixing Water (4102)	Quality	Lab Tested						V	RCE	1/source	1 qt.	CTRL		Not needed for potable Municipal Water
Air Entraining Admixture (4103)	Quality	AB 403												
Water Reducing Admixture (4103)	Quality	AB 403												
Retarding Admixture (4103)		AB 403												
Curing Compound (4105)	Lab Tested	405						V	DME	1/batch	1 pt	CTRL		Sample lots not previously reported
PLANT INSPECTION														
Aggregate-Fine (4110)	Gradation	AS Cert	CONTR	IM 528		CONTR			RCE	1/project	20 lb	RCE		When ready mixed concrete is used
Aggregate-Coarse (4115)	Quality	AS Cert						V	DME	1/project	50 lb	CTRL		DME may adjust frequency
	Gradation		CONTR	IM 528		CONTR		V	RCE	1/project	20 lb	RCE		When ready mixed concrete is used
Portland Cement (4101)	Quality	AS Cert						V	DME	1/project	15 lb	CTRL		Sample bulk cement only. Mill test report for bagged.

AS-Approved Source
ASD-Approved Shop Drawing
S&T-Sampling & Testing
AB-Approved Brand

Cert- Certification Statement

RCE-Resident Construction Engineer/Project Engineer
DME-District Materials Engineer
CTRL-Central Materials Office
CONTR-Contractor

IA-Independent Assurance
V-Verification
M-Monitor

Sampling and Testing Guide-Minimum Frequency

April 17, 2018
Supersedes October 17, 2017

CONCRETE BRIDGE FLOOR REPAIR & OVERLAY & SURFACING
Section 2413

Matls. IM 204
Appendix M

MATERIAL OR CONSTRUCTION ITEM	TESTS	METHOD OF ACCEPTANCE & RELATED IMs	QUALITY CONTROL					INDEPENDENT ASSURANCE & VERIFICATION S&T						REMARKS
			SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	S&T TYPE	SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	
PLANT INSPECTION (cont)														
GGBFS(Ground Granulated Blast Furnace Slag)	Quality	AS Cert		Each Load										For HPC-O
Fly Ash	Quality	AS Cert		Each Load										For HPC-O
Air Entraining Admixture (4103)		AB 403						M	DME	1/project	1 pt	CTRL		Sample if not previously reported
Water Reducing Admixture (4103)		AB 403						M	DME	1/project	1 pt	CTRL		Sample if not previously reported
Retarding Admixture (4103)		AB 403						M	DME	1/project	1 pt	CTRL		Sample if not previously reported

AS-Approved Source
ASD-Approved Shop Drawing
S&T-Sampling & Testing
AB-Approved Brand

Cert- Certification Statement

RCE-Resident Construction Engineer/Project Engineer
DME-District Materials Engineer
CTRL-Central Materials Office
CONTR-Contractor

IA-Independent Assurance
V-Verification
M-Monitor

Sampling and Testing Guide-Minimum Frequency

April 17, 2018
Supersedes October 17, 2017

CONCRETE BRIDGE FLOOR REPAIR & OVERLAY & SURFACING

Section 2413

Matls. IM 204
Appendix M

MATERIAL OR CONSTRUCTION ITEM	TESTS	METHOD OF ACCEPTANCE & RELATED IMs	QUALITY CONTROL					INDEPENDENT ASSURANCE & VERIFICATION S&T						REMARKS
			SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	S&T TYPE	SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	
GRADE INSPECTION														
Plastic Concrete (2413)	Air	318, 327						V IA	RCE	1/100 sy (2) 1/project		RCE DME		1/ 30yd³ for ready mix, min 1/day
	Slump	317, 327						V IA	RCE	1/100 sy (2) 1/project		RCE DME		1/ 30yd³ for ready mix, min 1/day
	Density	358						V	RCE	See Note		RCE		For Class O PCC only.(1)
	Thickness								RCE	3/50 sy		RCE		
Concrete Sealer (2413.03, G)	Quality	AS 491.12												
Hardened Concrete	Smooth-ness	341	CONTR	100%		CONTR		V	DME	10%		DME		

AS-Approved Source
ASD-Approved Shop Drawing
S&T-Sampling & Testing
Cert- Certification Statement
RCE-Resident Construction Engineer/Project Engineer
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CONTR-Contractor
IA-Independent Assurance
V-Verification
M-Monitor

(1) Nuclear density testing frequency for each placement shall be one test within 5 feet of the beginning and end of the placement and additional tests shall be equally spaced a maximum of 100 feet throughout the length of the placement. Each placement shall have a minimum of three nuclear density tests.

(2) For Class O on daily pours of more than 300 square yards, the minimum frequency will be 1 test per 100 square yards for the first 300 square yards, then 1 test for every 300 square yards for the remainder of the day's pour.

April 15, 2014
Supersedes April 16, 2013

SURFACE TREATMENT (Seal Coat, Microsurfacing, Slurry, Joint Repair, Crack Filling, Fog Seal) Matls. IM 204
Section 2307, 2319, 2540, 2544, 2306, 2308 Appendix P (US) Units

MATERIAL OR CONSTRUCTION ITEM	TESTS	METHOD OF ACCEPTANCE & RELATED IMs	QUALITY CONTROL					INDEPENDENT ASSURANCE & VERIFICATION S&T						REMARKS
			SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	S&T TYPE	SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	
SOURCE INSPECTION														
Aggregates (4125)	Quality Gradation	AS 209												
Emulsions/ Cutbacks	Quality	AS 437												
Emulsion & Aggregate	Compatibility	349							DME	1/ source	1 qt & 10lb	DME/ CTRL		Seal Coat
Emulsion & Aggregate	Mix Design													Slurry& Microsurfacing
GRADE INSPECTION														
Aggregate	Quality Gradation	301 Cert						V	DME	1/proj.	50 lb	CTRL		Seal Coat
Emulsion	Quality Residue	Cert 323, 360						V	RCE	1/20,000 gal	1 qt	DME	(2)	(1) Seal Coat
	Compatibility	349						V	RCE	1st day+ 1/week	1 qt & 10 lb	DME		
Cutback	Quality Viscosity	Cert 323												
	Anti-Strip	AS 323, 374												

AS-Approved Source
ASD-Approved Shop Drawing
S&T-Sampling & Testing
Cert- Certification Statement
RCE-Resident Construction Engineer/Project Engineer
DME-District Materials Engineer
CTRL-Central Materials Office
CONTR-Contractor
IA-Independent Assurance
V-Verification

Emulsion samples in plastic bottles only.
No samples required for joint repair, crack filling, and fog seal. Acceptance based on certification only.
(1) Sample emulsion for full width placement seal coat, slurry, and microsurfacing only .
(2) Log all shipments

Sampling & Testing Guide-Minimum Frequency

BASE REPAIR (2212), PAVEMENT REPAIR (PATCHES)

October 17, 2017 | Sections 2529 & 2530 | Matls. IM 204

Supersedes October 20, 2015 | Appendix T

MATERIAL OR CONSTRUCTION ITEM	TESTS	METHOD OF ACCEPTANCE & RELATED IMs	QUALITY CONTROL					INDEPENDENT ASSURANCE & VERIFICATION S&T						REMARKS
			SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	S&T TYPE	SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	
SOURCE INSPECTION														
Aggregates Fine (4110)		AS 209												
Aggregates Coarse (4115)		AS 209												
Portland Cement (4101)	Quality	AS 401												
Fly Ash (4108)	Quality	AS 491.17												
GGBFS (Ground Granulated Blast Furnace Slag)	Quality	AS 491.14												
Curing Compound (4105)	Lab Tested	405												
Air Entraining Admixture (4103)	Quality	AB 403												
Granular Backfill	Gradation Quality	AS Cert AS Cert												
Drain Tubing	Quality	AS 443												
Epoxy Grout		AB 491.11												
Joint Seal (4136.02)	Lab Tested	436.01 AB 436.02												
Backer Rod (4136.02)		AB 436.04												
Steel Reinforcing	Quality	AS 451												

AS-Approved Source
ASD-Approved Shop Drawing
S&T-Sampling & Testing
AB-Approved Brand

Cert- Certification Statement

RCE-Resident Construction Engineer/Project Engineer
DME-District Materials Engineer
CTRL-Central Materials Office
CONTR-Contractor

IA-Independent Assurance
V-Verification

Sampling & Testing Guide-Minimum Frequency

BASE REPAIR (2212), PAVEMENT REPAIR (PATCHES)

October 17, 2017 | Sections 2529 & 2530 | Matls. IM 204

Supersedes October 20, 2015 | Appendix T

MATERIAL OR CONSTRUCTION ITEM	TESTS	METHOD OF ACCEPTANCE & RELATED IMs	QUALITY CONTROL					INDEPENDENT ASSURANCE & VERIFICATION S&T						REMARKS
			SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	S&T TYPE	SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	
PLANT INSPECTION														
Aggregates-Coarse (4115)	Grad	302 306 336	CONTR	IM 528	IM 301	CONTR		V	RCE/ CONTR	IM 528	IM 301	RCE		
	Moist	308	CONTR	IM 528	1000 gm	CONTR								
	Sp. Gr.	307	CONTR	IM 528	1000 gm	CONTR								
	Quality	AS 209												
Aggregate- Fine (4110)	Gradation	302, 306 336	CONTR	IM 528	IM 301	CONTR	830211	V	RCE/ CONTR	IM 528	IM 301 IM 301	RCE		
	Moisture	308, 528	CONTR	IM 528	IM 301	CONTR	830211							See IM 528 if Moisture Probe is used
	Sp. Gr.	307	CONTR	IM 528	IM 301	CONTR	830211							
	Quality	AS 209												
Portland Cement (4101)	Quality	AS Cert		Each Load										
Fly Ash	Quality	AS Cert		Each Load										
Air Entraining Admixture		AB 403												
Water Reducing Admixture		AB 403												
Retarding Admixture		AB 403												

AS-Approved Source
ASD-Approved Shop Drawing
S&T-Sampling & Testing
AB-Approved Brand

Cert- Certification Statement

RCE-Resident Construction Engineer/Project Engineer
DME-District Materials Engineer
CTRL-Central Materials Office
CONTR-Contractor

IA-Independent Assurance
V-Verification

Sampling & Testing Guide-Minimum Frequency

BASE REPAIR (2212), PAVEMENT REPAIR (PATCHES)

October 17, 2017 | Sections 2529 & 2530 | Matls. IM 204

Supersedes October 20, 2015 | Appendix T

MATERIAL OR CONSTRUCTION ITEM	TESTS	METHOD OF ACCEPTANCE & RELATED IMs	QUALITY CONTROL					INDEPENDENT ASSURANCE, & VERIFICATION S&T						REMARKS
			SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	S&T TYPE	SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	
GRADE INSPECTION														
Uncompacted HMA Mixture		Scale ticket with JMF number												Job Mix Formula (JMF) approved by DME
Plastic Concrete	Air Slump	318 327 317 327						V V	RCE RCE	1/30 cy 1/30 cy		RCE RCE		Minimum 1 per pour
Reinforcing Steel Epoxy-Coated Steel	Quality Quality	AS 451 AS 451		Each Shipment										
Calcium Chloride	Concentr.	373	RCE	1/lot		RCE								
Smoothness for Compacted HMA or Hardened Conc. (2529.03)		341	CONTR			CONTR								Approval by DME See Plans/Specs for exclusions

AS-Approved Source
ASD-Approved Shop Drawing
S&T-Sampling & Testing
Cert- Certification Statement
RCE-Resident Construction Engineer/Project Engineer
DME-District Materials Engineer
CTRL-Central Materials Office
CONTR-Contractor
IA-Independent Assurance
V-Verification

GRANULAR SHOULDERS

Section 2121

MATERIAL OR CONSTRUCTION ITEM	TESTS	METHOD OF ACCEPTANCE & RELATED IMs	QUALITY CONTROL					INDEPENDENT ASSURANCE & VERIFICATION S&T						REMARKS
			SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	S&T TYPE	SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	
SOURCE INSPECTION														
Aggregate (4120.02)	Gradation Quality	AS 209												
Aggregate (Paved Shoulder Fillets) (4120.07)	Gradation Quality	AS 209												
GRADE INSPECTION														
Dimensions	Thickness Width Cross Section	Template	RCE	3/mile 3/mile 3/mile		RCE	Field Book							
Aggregate (Paved Shoulder Fillets)	Gradation	Certification												

AS-Approved Source
ASD-Approved Shop Drawing
S&T-Sampling & Testing

Cert- Certification Statement

RCE-Resident Construction Engineer/Project Engineer
DME-District Materials Engineer
CTRL-Central Materials Office
CONTR-Contractor

IA-Independent Assurance
V-Verification

Sampling & Testing Guide-Minimum Frequency

SUBDRAINS

Section 2502

October 17, 2017
Supersedes April 15, 2014

Matls. IM 204
Appendix V (US) Units

MATERIAL OR CONSTRUCTION ITEM	TESTS	METHOD OF ACCEPTANCE & RELATED IMs	QUALITY CONTROL					INDEPENDENT ASSURANCE & VERIFICATION S&T						REMARKS
			SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	S&T TYPE	SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	
SOURCE INSPECTION														
Drain Tubing (4143)	Quality	AS 443												
Rodent Guard (4143.01)		AS 443.01												
Subdrain Outlet (4143)		AS												
Porous Backfill (4131)	Quality Gradation	AS 209												
Granular Backfill (4133)	Quality Gradation	AS 209												
Class A (Outlets) (4120.04)	Quality Gradation	AS 209												
GRADE INSPECTION														
Drain Tubing (4143)	Quality	AS												
Engineering Fabric (4196)		AB 496.01												
Subdrain Outlet	Quality	AS Cert												
Porous Backfill (4131)	Gradation	AS Cert		Each Shipment										
Granular Backfill (4133)	Gradation	AS Cert		Each Shipment										
Class A (Outlets) (4120.04)	Gradation	AS Cert		Each Shipment										
Metal Posts (4154.09)		Visual	RCE											

AS-Approved Source
ASD-Approved Shop Drawing
S&T-Sampling & Testing
AB-Approved Brand

Cert- Certification Statement

RCE-Resident Construction Engineer/Project Engineer
DME-District Materials Engineer
CTRL-Central Materials Office
CONTR-Contractor

IA-Independent Assurance
V-Verification

Sampling & Testing Guide-Minimum Frequency

WATER POLLUTION CONTROL
EROSION CONTROL

October 17, 2017 | Matls. IM 204
Supersedes April 19, 2016 | Section 2525, 2601 | Appendix W

MATERIAL OR CONSTRUCTION ITEM	TESTS	METHOD OF ACCEPTANCE & RELATED IMs	QUALITY CONTROL					INDEPENDENT ASSURANCE & VERIFICATION S&T						REMARKS
			SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	S&T TYPE	SAMPLE BY	FREQ.	SAMPLE SIZE	TEST BY	REPORT	
GRADE INSPECTION														
Seeds 4169		Seed Ticket (rural stabilizing) AS, mix report and cert (seed mixes except rural stabilizing) 469.02												
Fertilizer 4169		Bag label or bulk blend sheet 469.03												
Inoculants 4169		Seed Manufacturer Recommendation												
Sticking Agent		Manufacturer Recommendation												
Sod 4169		Visual				RCE	Field Book							
Compost 4169		AS IM 469.10												
Straw Mulch 4169		Cert												
Hydraulic Mulch 4169		AS IM 469.10												
Stakes for Sod 4169		Visual				RCE	Field Book							
Wire Staples 4169		Visual				RCE	Field Book							
Wood Excelsior Mat 4169		AB IM 469.10												
Engineering Fabrics		AB IM 496.01					Field Book							
Silt Fence Wire and Posts (Std. Rd. Plan EC-201)		Visual				RCE	Field Book							

AS-Approved Source
ASD-Approved Shop Drawing
S&T-Sampling & Testing
AB-Approved Brand

Cert- Certification Statement

RCE-Resident Construction Engineer/Project Engineer
DME-District Materials Engineer
CTRL-Central Materials Office
CONTR-Contractor

IA-Independent Assurance
V-Verification

ACCEPTANCE OF SMALL QUANTITIES OF MATERIALS

Material		Maximum Quantity	Specifications	Alternate Acceptance Method
Aggregate, non-proportioned, non-critical		200 tons	IM 209	Approved Source and Visual
Asphalt, HMA	Mix	mixture bid item of 1000 tons	2303	Approved JMF, Contractor QC, and Contractor Certification
	Binder	mixture bid item of 1000 tons	4137	Approved Source and Supplier Certification
	Aggregate	mixture bid item of 1000 tons	4127	Approved Source, Producer Certification for gradation and quality, and Contractor QC.
Concrete, PCC Paving	Aggregate	Less than 2000 Square Yards of Concrete	4110, 4111, 4115	Approved Source, Producer Certification for gradation and quality, Agency gradation verification, and Contractor QC.
		Less than 10 Cubic Yards of Concrete or Non- structural items Defined in IM 528	4110, 4111, 4115	Approved Source, Producer Certification for gradation and quality, and Contractor QC.
	Portland Cement	Less than 2000 Square Yards of Concrete	4101	Approved Source and Producer Certification
	Fly Ash	Less than 2000 Square Yards of Concrete	4108	Approved Source and Producer Certification
	GGBFS	Less than 2000 Square Yards of Concrete	4108	Approved Source and Producer Certification
	Admixtures	Less than 2000 Square Yards of Concrete Yards	4103	Approved Source
	White Pigmented Cure	55 gallons or less	4105	Visual

ACCEPTANCE OF SMALL QUANTITIES OF MATERIALS

Concrete, PCC Structural	Aggregate	Less than 50 Cubic Yards of Concrete	4110, 4111, 4115	Approved Source, Producer Certification for gradation and quality, Agency gradation verification, and Contractor QC.
		Less than 10 Cubic Yards of Concrete or Non- structural items Defined in IM 528	4110, 4111, 4115	Approved Source, Producer Certification for gradation and quality, and Contractor QC.
	Portland Cement	Less than 50 Cubic Yards of Concrete	4101	Approved Source and Producer Certification
	Admixtures	Less than 50 Cubic Yards of Concrete	4103	Approved Source
	White Pigmented Cure	55 gallons or less	4105	Visual
Dowel Baskets, Epoxy-coated		25		Visual & Field Check
Hardware for Timber		100 lbs.	4153.07	Visual
Joint Filler, Preformed		50 ft.	4136.03	Visual & Dimension
Lighting Material-Conduit & Fittings		100 ft	4185.10	Visual & Brand Name
Paint, Bridge		5 gal.	4182	Visual & Brand Name
Pipe, Welded Steel for Bridge Railing		100 ft.	4153.05	Letter of Compliance
Signing, Delineator posts		10	4186.10,C	Visual
Steel Reinforcement, Epoxy Coated **(other than bridge decks)**		Less than 5 tons	4151.03,B	Approved Source, Producer Certification
Steel Reinforcement, Uncoated		Less than 45 tons	4151	Approved Source, Producer Certification
Steel Reinforcement, Stainless		Less than 1 ton	4151	Approved Source, Producer Certification

SUPPLEMENTAL GUIDE – BASIS OF ACCEPTANCE

Material	IM	Contact	Spec.	Sample Size	Sampled By	Basis of Acceptance	Verification	Other Details
Admixture-Air Entraining	403	C. Ouyang	4103	1 pt.	DME or RCE	Approved Brand Name (Lot)	Project	Contact District Matls.
Admixture-Corrosion Inhibitor	402		4103	1 pt.	DME or RCE	Approved Brand Name (Lot)	Project	Contact District Matls.
Admixture-Retarder	403		4103	1 pt.	DME or RCE	Approved Brand Name (Lot)	Project	Contact District Matls.
Admixture-Water Reducer	403		4103	1 pt.	DME or RCE	Approved Brand Name (Lot)	Project	Contact District Matls.
Aggregates-Non-proportioned	209	B. Gossman	4110-4133	IM 301	DME/PROD.	Approved Source/Certified Truck Tickets, (Form #821278)	Source	Certified Ticket for pay items by weight
Aggregates-Proportioned	209 & 204		4110-4133	IM 301	CONTR/RCE/ DME	Approved Source/Certified Truck Tickets, (Form #821278)	Source Project	
Aluminum, Structural		K. Frame	4190.01			Approved Shop Drawing & Inspection Report		
Anchor Bolts & Swedge Anchor	453.08	K. Frame	2522.03, E,4 4185.02, B 4187.01, C	1 bolt, nut & washer per size, per source, per year	DME	Approved Source/Test Report/Steel Mill Certifications		
Anchors, Concrete	453.09	C. Ouyang				Approved Brand Name		
Anti-Strip Agent	491.16	C. Brakke				Approved Brand Name		
Arrow Panels, Solar-Assisted	486.12	M. Bortle	2528.03, G			Approved Brand Name		
Asphalt Binder	437	C. Brakke	4137	1 4-oz. tin	CONTR/DME	Approved Source/Certification Statement /Test Rpt.	Source Project	
Asphalt, Cutback	437		4138	1 qt. tin	RCE	Approved Source/Certification Statement /Test Rpt.	Source	
Asphalt, Emulsified	437	C. Brakke	4140	1 qt. bottle	RCE	Approved Source/ Certification Statement /Test Rpt.	Source	Project verification for seal coat
Attenuators, Guardrail		K. Frame				As per plan		
Attenuators -see crash cushion								
Backer Rod for Cold Pour Joint Seal	436.04	S. Sommers	4136.02, B			Approved Brand Name		
Backer Rod for Hot Pour Joint Seal	436.04	S. Sommers	4136.02, B			Approved Brand Name		

Material	IM	Contact	Spec.	Sample Size	Sampled By	Basis of Acceptance	Verification	Other Details
Barrier Rail, Permanent Precast Concrete	571	M. Khoda	2419, 2513			Approved Source/DOT Stamp/Inspection Report/Certification Statement	Source	
Barrier Rail, Temporary Precast Concrete	571	M. Khoda	2419, 2513			Approved Source/Fabricator's trade mark/ Date of Manufacture		
Beads, Glass	484	S. Sommers	4184	1 qt.		Approved Brand Name		
Bearing, Bronze		K. Frame	4190.03	1/project	DME	Test Report		
Bearing, Lead		K. Frame	4195.01			Certification Statement		
Bearing, Neoprene	495.03	S. Sommers	4195.02	1/pad	DME	Approved Brand Name	Fabricator	
Bentonite Clay		C. Ouyang	2501.03,Q			Visual Approval by RCE		
Bolts, Nuts & Washers, Structural	453.06B	K. Frame	4153.06	Per IM 453.06B	DME	Mill Certification/Rotational Capacity Test/Test Report per IM 453.06B		
Calcium Chloride Solution	373	S. Sommers	4194.01	4 lbs. or 1 qt.	RCE	Test by RCE		
Caulking Compound		S. Sommers	4192			Visual Approval by RCE		
Concrete, Mechanically Stabilized Earth Panels (MSE)	445.03	M. Khoda	2432			Approved Source/Certification Statement/Shop Drawing	Source	
Concrete, Modular & Segmental Block (Dry Cast/Wet Cast)	445.04 445.05	M. Khoda	2419, 2430, 2431			Approved Source/Certification Statement		
Concrete, Noise Wall, Precast	445.06		2436			Approved Source/Certification Statement/Shop Drawing	Source	
Concrete, Precast Box Culvert	445.02		2415			Approved source, Approved Shop Drawing, Fabricator's trade mark, Date of Manufacture, Certified stamp, Certification Statement	Source	
Concrete, Prestressed, Precast Units	570		2407			Approved Source, Fabricator's trade mark, Date of Manufacture, DOT Inspection stamp, Inspection Report/Certification Statement	Source	

SUPPLEMENTAL GUIDE – BASIS OF ACCEPTANCE

Material	IM	Contact	Spec.	Sample Size	Sampled By	Basis of Acceptance	Verification	Other Details
Concrete Sealer	491.12	C. Ouyang	4139			Approved Brand Name		
Conduit – See Lighting Matl.								
Curing Matls., Burlap		S. Sommers	4104			Visual Approval by RCE		
Curing Matls., Clear	405.07	S. Sommers	4105.07			Approved Brand Name		
Curing Matls., Dark-colored	437	C. Brakke	4105.06			Approved Source	Source	
Curing Matls., Plastic Film		S. Sommers	4106.01			Visual Approval by RCE		
Curing Matls., White Pigmented	405	S. Sommers	4105.05	1 qt.		Batch (Lot) Accept	Source	
Crash Cushion	455	S. Sommers	2551			Approved Brand Name, Certification Statement if source not clearly marked		
Delineators–See Signing Matls.								
Detectable Warning Panels	411	M. Khoda	4171			Approved Source/Certification Statement		
Dowel-See Steel Reinforcement								
Drainage Trough, Elastomeric Bridge Joints	494	S. Sommers				Approved Brand Name		
Drains, Floor		K. Frame	2406.03, D			Approved Shop Drawing & Inspection Report		
Drums, Channelizing	488.02	S. Sommers	4188.02			Approved Brand Name		
Epoxy-coated Steel-See Steel Reinforcement								
Epoxy Injection Resin	491.19	C. Ouyang				Approved Brand Name		
Erosion Control, Fertilizer	469.03	M. Serio	4169.03			Bagged: Bag label analysis. Bulk: Blend ticket/sheet		If material is suspect, DME will sample
Erosion Control, Inoculant		M. Serio	4169.04			Seed Manufacturing Recommendation		
Erosion Control, Mulch, Hydraulic	469.10	S. Sommers	4169.07			Approved Brand Name		
Erosion Control, Mulch, Straw		S. Sommers	4169.07			Weed Free Certification		

Material	IM	Contact	Spec.	Sample Size	Sampled By	Basis of Acceptance	Verification	Other Details
Erosion Control, Perimeter & Slope Sediment Control Devices- Sediment Logs	469.10	S. Sommers	4169.12			Approved Brand Name		
Erosion Control, Perimeter & Slope Sediment Control Devices- Wattles & Filter Socks	469.10		4169.12			Certification Statement		
Erosion Control, Seed	469.02		4169.02			Seed Ticket Printed with Test Data (rural stabilizing) Approved Source, seed mixture report and certification (seed mixes except rural stabilizing)		
Erosion Control, Silt Fence Fabric	496.01		4196.01			Approved Brand Name		
Erosion Control, Silt Fence Wire & Posts						Visual Approval by RCE		
Erosion Control, Sod		S. Sommers	4169.06			Visual Approval by RCE		
Erosion Control, Sod Stakes		S. Sommers	4169.09			Visual Approval by RCE		
Erosion Control, Sticking Agent		S. Sommers	4169.05			Seed Manufacturing Recommendation		
Erosion Control, Wire Staples		S. Sommers	4169.10, A			Visual Approval by RCE		
Erosion Control Mats	469.10	S. Sommers	4169.10			Approved Brand Name		
Expansion Device, Steel		K. Frame	4152.02			Approved Shop Drawing & Inspection Report		
Expansion Tube		K. Frame	4191.01, B			Visual Approval by RCE		
Fence, Chain Link Fabric	454.10		4154.03			Approved Source/ Certification Statement		
Fence, Chain Link Fittings			4154.11			Certification Statement		
Fence, Chain Link Posts, Braces, & Rails	454.10		4154.10			Approved Source/ Certification Statement		

Material	IM	Contact	Spec.	Sample Size	Sampled By	Basis of Acceptance	Verification	Other Details
Fence, Field Fence Fabric	454.10		4154.02			Certification Statement		
Fence, Gate			4154.12			Certification Statement		
Fence, Orange Mesh Safety	488.03	S. Sommers	4188.03			Approved Brand Name		
Fence, Silt-See Erosion Control								
Fence, Staples		M. Khoda	4154.06			Visual Approval by RCE		
Fence, Steel Line Posts and Braces	454.10		4154.08 &4154.09			Approved Source/ Certification Statement		
Fence, Wood Fence Post	462	C. Ouyang	4154.07			Approved Source/Certification of Grade/Certified Treatment Test Report		
Fertilizer-See Erosion Control								
Fly Ash	491.17	C. Ouyang	4108	15 lbs.	DME	Approved Source/ Certification Statement	Project Source	Verification on paving only
Galvanized Items	410.01	K. Frame	4100.07		DME	Test Report per IM 410.01/Certification Statement		
GGBFS	491.14	C. Ouyang	4108.02			Approved Source/ Certification Statement	Source Project	
Grating (Aluminum)		K. Frame	4187.01, A			Approved Shop Drawing & Inspection Report		
Grout, Hydraulic Cement	491.13	C. Ouyang				Approved Brand Name		
Grout, Polymer	491.11	C. Ouyang				Approved Brand Name		
Guardrail, High Tension Cable	455.01	K. Jones	2505.03, B			Approved Source/ Certification Statement		
Guardrail, Formed Steel Beam and Terminals	455.02	K. Jones	4155.02			Approved Source		
Guardrail, Steel Posts	455.02	K. Jones	4155.05			Approved Source/ Mill Test Report		
Guardrail, Wood Posts	462	C. Ouyang	4155.04			Approved Source/Certification of Grade/Certified Treatment Test Report		

Material	IM	Contact	Spec.	Sample Size	Sampled By	Basis of Acceptance	Verification	Other Details
Iron Castings, Utility Access Covers, etc.	453.04	K. Frame	4149, 4153.04			Certification Statement & Proper Identification Imprint		
Iron Castings, Utility Access Adjustment Rings	449.05		4149, 4153.04			Approved Source/Certification Statement		
Iron Bridge Rockers			4153.04			Approved Shop Drawing & Inspection Report		
Joint Filler, Flexible Foam-Type CF & EF Joints	436.05	S. Sommers	4136.03, B 4136.03, D			Approved Brand Name		
Joint Filler, Type E Joint	436.03		4136.03, A			Approved Brand Name		
Joint Filler, Bituminous	436.03		4136.03, A			Approved Brand Name		
Joint Sealer for Concrete Sewer Pipes	491.09		4149.04,D,2			Approved Brand Name		
Joint Sealer, Elastomeric (Neoprene)	436.02		4136.03			Approved Brand Name		
Joint Sealer, Poured	436.01		4136.02, A			Approved Brand Name		
Keyway		K. Frame	4191.01, A			Visual Approval by RCE		
Lighting Material, Aluminum Poles	557	K. Frame	4185.02, F			Approved Shop Drawing/Approved Source/Certification Statement		
Lighting Material, Circuit Test		K. Jones	2523.03, U		Contractor	Test Report (Contractor) Form #820928		
Lighting Material, Connectors		S. Sommers	4185.11			Approved Catalog Cut		
Lighting Material, Contactors		S. Sommers	4185.05			Approved Catalog Cut		
Lighting Material, Control Cabinet		S. Sommers	4185.07			Approved Shop Drawing & Catalog Cut		
Lighting Material, Conduit & Fittings, Plastic		S. Sommers	4185.10, D	4'-Plastic	DME	Test Report		
Lighting Material, Conduit & Fittings, Steel	485.10	S. Sommers	4185.10, B			Approved Source		

Material	IM	Contact	Spec.	Sample Size	Sampled By	Basis of Acceptance	Verification	Other Details
Lighting Material, Ground Rods & Clamps		S. Sommers	4185.04			Visual		
Lighting Material, Precast Handholes	445.01	M. Khoda	4185.08			Approved Source, Fabricator's trade mark, Date of Manufacture, Certified stamp, Certification Statement	Source	
Lighting Material, Fiberglass Handholes			4185.08			Approved Catalog Cut		
Lighting Material, Junction Boxes		S. Sommers	4185.09			Approved Catalog Cut		
Lighting Material, Lighting Tower	557	K. Frame	2522.03, E			Approved Shop Drawing/Approved Source/Certification Statement		
Lighting Material, Lowering Device			2522.03, G			Approved Shop Drawing & Inspection Report		
Lighting Material, Luminaries		S. Sommers	4185.03			Approved Catalog Cut		
Lighting Material, Photoelectric Control			4185.06			Approved Catalog Cut		
Lighting Material, Sealant for Traffic Loop Detectors	491.18	S. Sommers				Approved Brand Name		
Lighting Material, Steel Poles	557	K. Frame	4185.02, E			Approved Shop Drawing/Approved Source/Certification Statement		
Lighting Material, Underground Warning Tape		S. Sommers	2523.03, E			Visual Approval by RCE		
Lighting Material, Wire & Cable			4185.12			Approved Catalog Cut & Certification Statement		DME may obtain verification samples
Lighting Material, Wood Poles	462	C. Ouyang	4185.02, G			Approved Source/Certification Statement		
Lighting Material, Fasteners for Poles	453.09	C. Ouyang	4185.02, B	1 each type	DME	Test Report & Approved Shop Drawing		
Lighting Material, Mastarms	557	K. Frame	4185.02, C			Approved Shop Drawing/Approved Source/Certification Statement		

Material	IM	Contact	Spec.	Sample Size	Sampled By	Basis of Acceptance	Verification	Other Details
Lighting Material, Slip Base	557		4185.02, B			Approved Shop Drawing/Approved Source/Certification Statement		
Lighting Material, Transformer Base	557		4185.02, D			Approved Shop Drawing/Approved Source/Certification Statement		
Markers (reflective) for Guardrail & Concrete Barrier Rail	486.08	S. Sommers	4186.12			Approved Brand Name		
Markers, Raised Pavement	483.07		2527.02, D,5			Approved Brand Name		
Mastarms-See Lighting Materials								
Paint, Epoxy Aluminum	482.04					Approved Brand Name/Certification Statement		
Paint, Traffic-VOC-Compliant Solvent-borne	483.03		4183.02			Approved Brand Name		
Paint, Traffic Waterborne	483.03		4183.03			Approved Brand Name	Subcontr.	
Paint, Waterborne Acrylic Finish (Bridge Paint)	482.05	S. Sommers	4182.03			Approved Brand Name/Certification Statement		
Paint, Zinc-rich Epoxy	482.02		4182.02			Approved Brand Name/Certification Statement		
Paint, Zinc-silicate Solvent-borne	482.05		4182.02			Approved Source/Certification Statement		
Patch Material, Rapid-set Concrete	491.20					Approved Source		
Piling, Concrete	570		4166			Approved Source, Fabricator's trade mark, Date of Manufacture, DOT Inspection stamp, Inspection Report/Certification Statement	Source	
Piling, Timber	462	C. Ouyang	4165	20 cores /shipment	DME	Approved Source/Certification of Grade/Certified Treatment Test Report	Source	Charge number on butt ends
Piling, Steel	467	K. Frame	4167			Approved Source/Mill Certification	Project	
Pipe, PVC Sewer	443, 446	S. Sommers	4149.02			Approved Source/Certification Statement	Source	

Material	IM	Contact	Spec.	Sample Size	Sampled By	Basis of Acceptance	Verification	Other Details
Pipe, Concrete Apron Guard	443.03	M. Khoda	DR-213			Approved Source, Certification Statement		
Pipe, Concrete	445	M. Khoda	4145			Approved Source, Fabricator's trade mark, Date of Manufacture, Certified stamp, Certification Statement	Source	
Pipe, Concrete Sanitary and Storm Sewer and Structures (Precast)	445.01	M. Khoda	2435, 4149.04			Approved Source, Fabricator's trade mark, Date of Manufacture, Certified stamp, Certification Statement	Source	
Pipe, Concrete Special Sections	445.01	M. Khoda	2419, 4145 4149.02, B			Approved Source, Fabricator's trade mark, Date of Manufacture, Certified stamp, Certification Statement	Source	
Pipe, Corrugated Aluminized	441	M. Khoda	4141			Approved Source/Certification Statement		
Pipe, Corrugated Polyethylene 3-10 in.	443	S. Sommers	4146.02 4143.01			Approved Source	Source	
Pipe, Corrugated Polyethylene 12-36 in.	446	S. Sommers	4146.02			Approved Source/Certification Statement	Source	
Pipe, Corrugated Steel	441	M. Khoda	4141			Approved Source/Certification Statement	Fabricator	
Pipe, Ductile Iron Sewer			4149.02			Certification Statement		
Pipe, Polyethylene Sewer	443, 446	S. Sommers	4146.03			Approved Source/Certification Statement	Source	
Pipe, Concrete Subdrain Tile	448	S. Sommers	4148			Approved Source/Certification Statement	Source	
Pipe, Corrugated Metal Subdrain Outlet	441	M. Khoda	4143.01, B			Approved Source/Certification Statement	Fabricator	
Pipe, Corrugated Polyethylene Subdrain	443	S. Sommers	4143.01, B			Approved Source	Source	
Pipe, Welded Steel for Bridge Rail (See Railing, Bridge)		K. Frame						
Pipe, Horizontal Subdrain	443	S. Sommers	4143.01, A			Approved Source	Source	
Plant Material, Fertilizer	469.03	S. Sommers	4170.09, B			Bagged: Bag label analysis. Bulk: Blend ticket/sheet		If material is suspect, DME will sample

Material	IM	Contact	Spec.	Sample Size	Sampled By	Basis of Acceptance	Verification	Other Details
Plant Material, Mulch	470	S. Sommers	4170.09, D		RCE	Field Review Report		
Plant Materials, Plants	470		4170.01-4170.08		Roadside Development	Field Review Report		Rpt. Issued-Roadside Development
Portland Cement Concrete Premix Pack	447	C. Ouyang				Approved Source/Certification Statement	Source	
Portland Cement, All Types	401		4101	10 lbs.	DME	Approved Source/Certification Statement	Project Source	
Railing, Bridge		K. Frame	4153.05			Approved Source/Approved Shop Drawing/ Inspection Report		
Reflective Sheeting-See Signing Material								
Release Agent	491.15	C. Ouyang	491.15			Approved Brand Name		
Sealant, Traffic Loop-See Lighting Material								
Seed-See Erosion Control								
Signing Material, Delineator Posts	486.10	S. Sommers	4186.10, C			Certification Statement		
Signing Material, Delineators	486.07	S. Sommers	4186.11			Approved Brand Name	Project	
Signing Material, Finished Sign	486	S. Sommers	4186			Shipping Report/Approved Source/Certification Statement	Source	
Signing Material, Fasteners		S. Sommers	4186.09			Inspection Report		
Signing Material, Reflective	486.03	S. Sommers	4186.03			Approved Brand Name	Source	
Signing Material, Sign Panels		S. Sommers	4186.02			Approved Shop Drawing & Shipping Report		
Signing Material, Sign Support Structures	557	K. Frame	4187			Approved Source/Approved Shop Drawing/ Inspection Report		
Signing Material, Stainless Steel Fasteners	453.07	K. Frame				Approved Source/Mill Certification	Project	

Material	IM	Contact	Spec.	Sample Size	Sampled By	Basis of Acceptance	Verification	Other Details
Signing Material, Perforated Square Steel Tube, PSST and anchor	486.10	K. Frame	4186.10			Approved Source/Certification Statement		
Signing Material, Steel Posts		K. Frame	4186.10			Approved Shop Drawing & Shipping Report		
Signing Material, Wood Posts	462	C. Ouyang	4186.10			Approved Source/Certification of Grade/Certified Treatment Test Report		
Signing Material, Galvanized Items		K. Frame	4100.07			Test Report by District Materials		
Sod-See Erosion Control								
Steel Castings		K. Frame	4153.03			Approved Source/Catalog Cut		
Steel Masonry Plates		K. Frame	4152.02			Mill Certification		
Steel Pipe, Welded		K. Frame	4153.05			Approved Shop Drawing & Inspection Report		
Steel, Pins/Rollers, Cold Finished		K. Frame	4153.02			Approved Source/Catalog Cut		
Steel, Pins/Rollers, Forged		K. Frame	4153.01			Approved Source/Catalog Cut		
Steel Reinforcement, Basket Assemblies	451.03B	M. Khoda	4151.02			Approved Source/Certification Statement		
Steel Reinforcement, Epoxy-coated	451.03B	M. Khoda	4151.03, C	6 ft.	DME	Approved Source/Mill Certifications & Epoxy Certification Statement /Test Report	Project	Test sample should be 3 ft. away from end of the bar.
Steel Reinforcement, Epoxy-coated Tie Bars	451.03B		4151.02, A	1 bar	DME	Approved Source/Certification Statement	Project	1 per source per year
Steel Reinforcement, Epoxy-coated Dowels	451.03B		4151.02, B	1 bar	DME	Approved Source/Certification Statement	Project	1 per source per year
Steel Reinforcement, Galvanized	451		4151.03, B	3 ft.	DME	Mill Certifications & Test Report for Galvanizing	Project	
Steel Reinforcement, Stainless	452	M. Khoda	4151	6 ft.	DME	Approved Source/Mill Certification	Project	Sample when project quantity >=1ton.

SUPPLEMENTAL GUIDE – BASIS OF ACCEPTANCE

Material	IM	Contact	Spec.	Sample Size	Sampled By	Basis of Acceptance	Verification	Other Details
Steel Reinforcement, Uncoated	451		4151	*6 ft. of most common	DME	Approved Source/Mill Certification	Project	Sample when project quantity >=45ton.
Steel Reinforcement, Wire Mesh	451		4151.04					
Steel Mechanical Splicers for Reinforcement	451	M. Khoda				Approved Source/Mill Certification/Epoxy Certification	Project	Need: Certification Statement, Project #, Quantity, Heat #
Steel Structural, Main Members (Except Bearing Devices)	557, 561 to 565	K. Frame	2408 4152			Approved Source/Approved Shop Drawing/Fabrication Report/Mill Certifications		
Steel Structural, Bridge Components	557, 561 to 565	K. Frame	2408 4152			Approved Source/Approved Shop Drawing/Inspection Report/Mill Certifications		
Steel Structural, Engineered Truss Trail Bridge	557, 561 to 565	K. Frame	2408 4152			Approved Source/Approved Shop Drawing		
Step Irons for Utility Access		M. Khoda	4149.04, L			Inspection Report		
Structural Items, Other		K. Frame				Approved Shop Drawing & Inspection Report		
Structural Plate (Arches)	444	M. Khoda	4144	Visual	RCE	Approved Source/Certification Statement		
Studs, Shear	453.10	K. Frame				Approved Source/ Mill Certification		
Tape, Pavement Marking	483.06	S. Sommers	2527.02, D			Approved Source		
Torque Calibration Machine (Skidmore)		K. Frame	2408.03, S	Verified every 12 mo.	CTRL	Approved Brand Name		
Torque Wrench		K. Frame	2408.03, S	Verified every 12 mo.	CTRL	Test Report		
Traffic Signalization, Electrical Tests		K. Jones	2525.03, E 2525.03, H		Contractor	Test Report (Contractor) Form #820928		

Material	IM	Contact	Spec.	Sample Size	Sampled By	Basis of Acceptance	Verification	Other Details
Water		S. Sommers	4102	1 qt. per source	DME	Test Report or City Water Supply		
Wire & Cable-See Lighting Material								
Watermain, Appurtenances		K. Frame	4150.05			Catalog Cut/Manufacturer Certification of Buy America IM 107		
Watermain, Ductile Iron Pipe			4150.02			Manufacturer Certification of Buy America IM 107		
Watermain, Ductile Iron Pipe Fittings			4150.02			Catalog Cut/Mill Manufacturer Certification of Buy America IM 107		
Watermain, Fire Hydrant Assembly			4150.04			Catalog Cut/Mill Manufacturer Certification of Buy America IM 107		
Watermain, PVC Pipe	446	S. Sommers	4150.02			Catalog Cut		
Watermain, PVC Pipe Fittings	446		4150.02			Catalog Cut		
Watermain, Valves			4150.03			Catalog Cut/Manufacturer Certification of Buy America IM 107		
Wood, Hardware for Timber Structure	462	S. Sommers	4153.07	1 ea. type		Test Report		
Wood, Treated Posts	462	C. Ouyang	4164			Approved Source/Certification of Grade/Certified Treatment Test Report		
Wood, Treated Timber & Lumber	462		4163			Approved Source/Certification of Grade/Certified Treatment Test Report		
Wood, Untreated Timber & Lumber	462		4162	Visual	RCE	Quality grad mark or certification of grade on items requiring grade		

MATERIALS INSTRUCTIONAL MEMORANDUM 209 APPROVED PRODUCER PROGRAM

APPROVED PRODUCER PROGRAM AND CERTIFIED AGGREGATES

APPROVED PRODUCER PROGRAM

In order to furnish certified aggregates to projects, an aggregate producer shall be on the approved aggregate producer listing Appendix B. This will also apply to recycled product yards and/or processors. The specific requirements, including the details of the required quality control program are in Appendix A.

Specification limits for aggregates being produced are found in Appendix C and the Aggregate Gradation Table in the Standard Specifications. For complete details on aggregate quality and gradation requirements, refer to the appropriate referenced specification.

Non-compliance to the approved Producer Quality Control Program shall constitute grounds for the source and/or producer to be placed on conditional status by the District Materials Engineer. Continued non-compliance will be considered sufficient grounds to remove the producer from the Approved Producer List.

Appendix E contains the "Notification of Violations of the Approved Producer's Quality Control Program". This is a written notice from the District Materials Coordinator or District Materials Engineer to a Producer identifying violation(s) of the Producer's Quality Control Program or requirements of the Approved Producer Program. A written response is required from the Producer describing how the violation occurred, how the violation will be rectified, and what will be done so the violation will not occur or continue to occur in the future.

An Aggregate Review Board will meet, as needed, for disciplinary actions and appeals involving Approved Producers.

The Aggregate Review Board shall consist of:

- The State Construction and Materials Engineer
- The Chief Construction and Materials Geologist

CERTIFIED AGGREGATES – SAMPLING AND TESTING

The Aggregate Producer shall be responsible for source product quality control. Aggregate quality will be determined by testing samples secured by District Materials personnel. This will not relieve the producer or supplier of their responsibility for quality of the material. Producers must meet the responsibilities outlined in *Guidelines for Aggregate Producer Quality Control Program,* IM 209 Appendix A.

Not less than 24 hours before start up, or as soon as possible for a production change, the appropriate District Materials Engineer shall be notified. The notification shall include the estimated daily production and total production, the intended use (project or warehouse stock), production ledge(s) if applicable, and responsible person(s). Failure to notify may result in additional quality sampling and testing, or rejection of the material.

Aggregates to be used in highway construction projects shall be subject to sampling and testing, including Producer Quality Control (QC) sampling and testing. Sampling and testing shall be performed during production in accordance with the minimum frequencies listed in the table

below.

TABLE 1. SOURCE SAMPLING AND TESTING REQUIREMENTS

Sample Type	Producer Quality Control Testing Frequency	Iowa DOT Verification Testing Frequency
Proportioned Aggregates		
Gradation	1/1500 T[1, 4] minimum	1/18,000 T[2, 4]
Quality	1/12,000 T or 1/month, whichever is more frequent [3]	1/12,000 T or 1/month, whichever is less frequent [2]
Non-Proportioned Aggregates		
Gradation	1/3000 T[1] minimum	1/18000 T[2]
Quality	1/12,000 T or 1/month, whichever is more frequent [3]	1/12,000 T or 1/month, whichever is less frequent [2]

Notes:

1 Additional QC testing may be required at the time material is shipped to a project, for a stockpiled material carried over a winter season or if there is evidence of segregation, contamination, or degradation.

2 May be adjusted by the DME for source specific needs.

3 When required by the DME for sources where historic quality test results have approached or exceeded the specification limits (IM 307, 344, and 368).

4 Variation of Fineness Modulus (FM) by more than 0.2 lower than the target fineness or more than 0.25 greater than the target fineness modulus should be investigated.

A. Producer Quality Control Sampling & Testing

Producer QC sampling and testing personnel, laboratories, and equipment shall be qualified in accordance with the Iowa DOT Technical Training & Certification Program (IM 213) and the Materials Laboratory Qualification Program (IM 208). If Producer gradation test results are used as part of an acceptance decision, they will be evaluated under the Independent Assurance Program.

It is recommended that a Producer Quality Control Program include quality control testing to assist with ledge control and pit quality. Such tests may include: specific gravity (IM 307), clay lumps and friable material (IM 368), or shale in fine aggregate (IM 344). If historic data from a source indicate that quality test results approach or exceed specification limits the Engineer may require specific data be provided by the aggregate producer or supplier to the Iowa DOT (obtained by qualified persons and procedures). These data may include those tests listed above. See Table 1 for frequencies.

B. Iowa DOT Verification Sampling & Testing

The District Materials Office will be responsible for monitoring the Producers Quality Control Program. Verification of quality and gradation is through independent sampling and testing. Verification sampling and testing is done by Agency personnel. Agency sampling and testing personnel, laboratories, and equipment will be qualified in accordance with the Iowa DOT

Technical Training & Certification Program (IM 213) and the Materials Laboratory Qualification Program (IM 208).

When requested by the Agency, Producer or Contractor personnel shall assist with the sampling as directed and witnessed by the certified Agency personnel. The sample location and time will be randomly selected by the Agency (except when noted elsewhere) and will only be given to the Producer immediately prior to sampling. To maintain the integrity of the sample, it will be transported by Agency personnel or secured by a tamper proof method and transported by the Producer. The Agency may spilt the verification sample and give a portion to the Producer.

Verification gradation test results, when non-complying, will normally be provided to the Producer within 3 working days of sampling.

At no time will the District Materials Office representative issue directions to the producer. However, the representative will have authority and responsibility to question and where necessary reject any operation, which is not in accordance with the Specifications, Special Provisions, and Instructional Memorandums.

C. Validation of Non-Proportioned Aggregate Test Results

The verification gradation test results will be compared to the QC test results to validate the QC results for non-proportioned aggregate. Validation is based on the verification test results being within the specification limits. When the QC test results cannot be validated, the dispute resolution process will be used. Material shall not be shipped from the stockpile until the dispute is resolved. **NOTE:** Verification test results may be used solely for acceptance. When verification test results are used solely for acceptance, the acceptance criteria is Article 4109.

D. Dispute Resolution System

Validation disputes arising between the Contracting Agency and the Producer or Contractor will be resolved in a reliable, unbiased manner usually within two weeks of notification of a dispute. If necessary, an evaluation will be performed by the Iowa DOT Central Materials Laboratory. Resolution decisions by the Iowa DOT Central Materials Laboratory will be final.

Unless specified elsewhere, the District Materials Engineer will select some or all of the following steps for the dispute resolution:

1. Perform a comparison between the verification result and QC result(s) for the same time period (If the QC sample is from a split with the verification sample, also compare the previous independently taken QC result). Use the tolerances in IM 216. If the results are within the tolerance, validation is achieved.
2. Check all numbers and calculations.
3. Isolate material in dispute and begin a new stockpile. Resample stockpile material in dispute.
4. Perform tests on split obtained by Agency personnel.
5. Review past proficiency and validation data.
6. Review sampling and testing procedures.
7. Check equipment operation, calibrations and tolerances.
8. In the event of multiple validation failures for a source, the DME may use F-test and t-test statistical methods to compare the set of QC results with the set of verification

results. A 0.05 level of significance will be used and a set of at least 5 verification test results.

9. Involve the Central Materials Laboratory.

If the discrepancy cannot be resolved using the steps listed above then the Agency test results will be used for the acceptance decision for that lot.

E. Small Quantities

Verification sampling and testing may be waived by the DME for product quantities of less than 2000 tons. For quantities of less than 200 tons of non-critical aggregate, the DME may waive QC testing and approve the stockpile based on a visual inspection by the DME or the Engineer.

CERTIFIED AGGREGATES – DOCUMENTATION

A. Producer Test Documentation

All producer test results performed on certified aggregates, whether compliant or non-compliant, shall be reported weekly or as designated to the District Materials Engineer on Form #821278. These reports shall indicate whether the aggregate is being produced for direct project delivery, stockpiling for a specific project, or for advance warehouse stock.

Selected production limits shall be included on Form #821278.

Production limits for aggregate produced for use in HMA are generated by the contractor and supplied to the aggregate producer on Form #955.

B. Certified Aggregate Delivery Documentation

Documentation may be accomplished by numbered truck ticket, transfer list or shipment statement (such as Form #821278), or by a bill of lading (for rail or barge shipments). The certified documentation shall be furnished to project inspection personnel or receiving contractor before material is incorporated.

- For aggregates as bid items measured by weight (mass), the certified truck tickets shall be numbered and include signatures or initials in accordance with Article 2001.07.

- A “secure electronic signature” as defined by IM 209 Appendix G may be acceptable for certification of truck tickets in lieu of an original signature.

- In the case of shipment by rail or barge, the documentation shall be sent to the project engineer and receiving contractor or ready mix operator no later than the same day as shipment source departure. The documentation shall include the rail car or barge number(s).

- Documentation not having an exact weight (mass) shall include an estimated quantity (i.e. transfer listings or Form #821278, etc.).

- Non-Proportioned Aggregate Summaries

- If the Producer/Supplier QC test results are used in the acceptance decision for non-proportioned aggregates, the Producer shall supply a signed certified summary documentation to the Project Engineer, including: the source, the type of material, the total quantity delivered, and project number.

- When Agency test results are used in the acceptance decision of for non-proportioned aggregate, the Producer/Supplier shall supply a signed certified summary documentation to the Project Engineer and District Materials Engineer, including: the source, type of material, the total quantity delivered, and project number.
  The District Materials Engineer will provide test reports to the Project Engineer.

The following certification statement is required to be on the document used to certify the material being delivered (i.e. truck ticket, Form #821278, etc.): "**This is to certify the material herein described meets applicable contract specifications.**" **NOTE:** This certification statement shall be signed or initialed by an authorized representative of the aggregate supplier.

To ensure proper identification of delivered aggregates, the following additional information is required on the certification document:

Proportioned Aggregate
When the aggregate represented is for use in HMA or PCC mixtures, the project number is preferred when practical, as in the case when shipping to a single project paving plant site, and not required when impractical, as in the case when shipping into warehouse stock at a ready mix plant or when shipping to a plant supplying material to multiple projects.

PCC Aggregate: Gradation number, quantity, source name and T203 A-number, production beds (for quarried stones) and the delivery date.

HMA Aggregate: Product size, quantity, source name and T203 A-number, production beds (for quarried stones), and delivery date.

Non-proportioned Aggregate
Iowa DOT gradation number, project number, quantity, source name and T203 A-number and the delivery date. **NOTE:** Documentation for revetment stones shall include production beds.

Recycled Aggregate Materials
Iowa DOT gradation number, project number, quantity, source name and the delivery date. **NOTE:** A T203 A-number is not required for Recycled plants.

REHANDLING OF CERTIFIED AGGREGATES

When certified aggregates are rehandled the District Materials Engineer shall be notified and afforded the opportunity to monitor the re-handling procedure.

For the purpose of this IM, re-handling is meant to include the physical unloading and reloading of aggregate at a temporary storage site before the aggregate is delivered to its final destination. Rehandled certified aggregates may be required to be re-tested, with or without re-weighing and recertified on a numbered shipment ticket with proper identification and certification statement.

ACCEPTANCE

At the Contractor's and Producer's own risk, aggregates may be certified for project use before quality sample test results are reported based on the following:

- Complying Quality Control and Verification gradations
- Documentation of consistent previous compliance to specified quality requirements from the source or ledge.

A. Proportioned Aggregate

In the case of HMA or PCC proportioned aggregates, acceptance tests will be performed on verification samples obtained at the proportioning plant.

Certified proportioned aggregate may be incorporated into a project on the basis of the certified truck ticket, certified bill of lading, shipment listing, certified transfer listing or Certified Gradation Test Report (Form #821278).

A file of certified shipment or transfer documents for the HMA or PCC proportioned aggregate will be maintained by the contractor or ready mix operator and made available for inspection at each plant or project site during the project period. Project inspection personnel shall verify that all material incorporated in the project is properly certified and document this verification and quantity on each of the appropriate daily or periodic construction reports. No other project documentation for the incorporated aggregate is required.

B. Non-Proportioned Aggregate

Acceptance of non-proportioned aggregates will be based on proper certification, visual examination by the contracting authority to ensure against obvious contamination or segregation, Producer quality control test results, and Agency verification test results.

Minor quantities of non-critical aggregates may be visually inspected by the contracting authority and recorded in the project field book. Quantities less than 200 Mg (ton) are considered minor. An example of a non-critical aggregate is a non-proportioned aggregate such as granular backfill material for bridge abutments.

If a non-proportioned aggregate has a C-freeze of 10 or greater and has gone through winter freeze thaw cycles without recertification, that material must remain visibly identifiable in the stockpile.

C. Independent Assurance Program (IAP)

If Producer QC test results are used in the acceptance decision for non-proportioned aggregate, each certified technician who performs the QC sampling or testing and their test equipment will be independently checked by Iowa DOT certified technicians (IAP personnel) as per Materials IM 205 at least once per year. IAP personnel must not be involved in gradation verification testing for the aggregate source being tested.

IAP personnel will witness the Producer technician taking a random sample and splitting that sample. The splits of the sample will be tested by the Producer's technician and by the Iowa

DOT District Laboratory. District Laboratory IAP testing equipment must not be the same equipment that is used for gradation verification for that source.

The results will be compared using IM 216. If acceptable correlation is not found, IAP personnel will contact the Producer's technician and review the results for the following:

1. Check for recording, weighing, or calculating errors.
2. Check to see that the balance is working correctly.
3. Check the sieves for damage or out of tolerance openings.
4. Check for overloading of sieves.
5. Check for incomplete sieving.
6. Resolve any problems, repeat the sampling, splitting, and observe the testing of a new sample.

The IAP results are not to be used in the acceptance decision for the material. Any non-complying IAP results should result in a visit by the Iowa DOT inspector responsible for verification testing at that location.

This method of IAP is called a System Approach and requires the Iowa DOT to report a summary of the results annually to the FHWA. Document when the Producer's Technician was visited, which Producer's laboratory was used, the results, and any follow-up if required. This documentation should be retained in the event of an FHWA audit.

GUIDELINES FOR AGGREGATE PRODUCER QUALITY CONTROL PROGRAM

GENERAL

This appendix contains the minimum requirements for the producer Quality Control Program in order to become an approved aggregate producer.

Producers must submit a written application to their District Materials Engineer (DME) for review and approval.

Quality Control Programs for recyclers will describe procedures for receiving, sorting and managing stockpiles of reclaimed materials intended to be processed into certified aggregates.

NOTE: Producers with operations in more than one District shall apply to the District Materials Engineer in the district where the most certified material production exists or is anticipated. The application is attached to this Appendix or is available on-line through the Iowa DOT web page. This application is also available from the DME Offices and the Iowa Limestone Producers Association (ILPA) office.

DEFINITIONS

The following definitions apply to the Quality Control Program guidelines:

Source - Any location aggregate is produced at or shipped from on a certified basis (e.g., quarries, pits, project sites, recycle yards, terminal locations, portable production operation, etc.).

Conditional Status - This is a written notice from the District Materials Engineer to a producer that certified aggregates will no longer be accepted from a particular source. Application of Conditional Status may vary depending upon situation or specific circumstances. The Conditional Status may apply only to a production operation and aggregate produced by that operation. In other situations, when the deficiency is more widespread, the Conditional Status may apply to an entire company or division within a company until the problem is resolved. In the case of portable production operations, Conditional Status shall apply to the specific production operation regardless of source location, and shipment of aggregate previously produced by the affected production operation may be placed on Conditional Status when warranted.

GUIDELINES FOR AGGREGATE PRODUCER QUALITY CONTROL PROGRAM

1. Aggregate Certification

   The producer has the overall responsibility of certifying that material being placed in the certified stockpile is produced under and conforms to the Aggregate Certification Program, and the producer Quality Control (QC) Program. The Iowa DOT, through its monitoring activities (sampling/testing, visual observation, etc.), will verify the continued compliance to the program.

2. Knowledge of Current Specifications

   The producer Quality Control representative(s) must maintain up-to-date knowledge of the specifications that apply to aggregate products currently being produced at the source. The

producer representative shall have available, at the testing lab, a copy of the current Standard Specifications, all applicable Supplemental Specifications and all applicable Instructional Memorandums (IMs) for aggregate inspection, as well as a current geological section, if applicable. The producer will be aware of any Special Provisions, which change current aggregate specifications. This applies to both quality and gradation requirements. The producer shall be responsible for providing these up-to-date publications to their QC representative.

3. Plant Production Log

   The producer is required to maintain a plant production log when producing under the program. This production log shall detail, on a daily basis, samples taken, pass/fail results, corrective actions, plant/ledge changes, etc. The log must be kept at a designated location and be readily available to the Iowa DOT representative for review.

4. Visual Inspection

   The producer is responsible for visually inspecting the aggregate source process on a frequent basis. Visual inspection can be defined as observing the processing or production area, as well as the condition of the aggregate in the flow stream or stockpiles. This visual inspection does not take away from actual testing, but enhances the inspection to ensure quality aggregates. It is the responsibility of the producer Quality Control representative to observe the overall operation to detect segregation, degradation, and contamination that are detrimental to the quality of the product.

5. Quality Requirements

   Any certified stockpile must meet the designated quality before shipment. The producer is responsible for supplying material meeting all quality requirements. Intentional shipment of untested or out of specification material will constitute grounds for immediate rejection of material and placement of the source and/or the producer on conditional status. The producer Quality Control representative will obtain and maintain quality information on specific ledges, production methods, and certified stockpiles for each source.

6. Production Notification

   Twenty-four hours before startup or as soon as possible for production change, the appropriate Area Materials Coordinator (AMC) or District Materials Engineer (DME) shall be notified. Failure to notify may result in material rejection or resampling of the stockpile. Notification shall include the estimated intended tonnage to be produced, estimated daily production rate, intended use (e.g., project information or warehouse stock), and if applicable, production ledges, and responsible person(s).

7. Production

   A. The producer shall establish gradation production limits for each material to be certified to help ensure a product that is uniformly graded and meets specifications at the time of use.

      1. Gradation production limits shall apply to individual products within each source and be

maintained for each stockpile.

2. Gradation production limits are subject to review, only, by the AMC or DME.
3. Repeated non-adherence to the producer established gradation production limits require stockpile sampling and testing by the producer.

B. Testing and Reporting

1. Minimum test frequencies as per IM 209, Appendix C
2. Test results will be known before delivery when the product is being shipped to a project.
3. All test results will be available at a designated location within 24 hours of sampling when the material is being placed into a certified stockpile.
4. Report gradation test results to DME and contractor, when applicable, on Form #821278.

C. Maintaining Ongoing Quality Control Procedures

1. Proper ledge control and/or control of stockpiles of reclaimed PCC and HMA intended for recycling into certified aggregates.
2. Equipment (production and testing)
3. Stockpiling procedures
4. Proper stockpile identification (signing, stockpile maps, etc., as required).

8. Delivery

A. Stockpile identification to ensure delivery from proper stockpiles
B. Visual inspection for contamination, segregation, etc.
C. Stockpile gradation resampling may be required.
D. Proper identification and certification of delivered aggregate as per IM 209
E. Maintain ongoing QC procedures.
F. Report tonnage to the AMC when requested.

9. Quality Control Structure

In order to ensure quality as a priority, the producer Quality Control personnel will have a line of communication directly to their management, as well as their production operation.

AGGREGATE PRODUCER APPROVAL APPLICATION

Company Name _____

Address _____
(IF MORE THAN ONE; i.e., Regional Offices, etc., PLEASE ATTACH LIST AND AREA COVERED.)

1. Are copies of current applicable specifications, aggregate testing IMs and source information data such as geologic sections available at the respective sources or testing facilities? (Yes or No) If No, explain.

_____

2. Is a plant production log maintained on a daily basis and available for inspection? (Yes or No) If No, explain

_____

3. Who (position) is responsible for production notification to the Area Materials Coordinator?

_____

4. Which company representative (position) is normally responsible for daily overall Quality Control processes at the source?

_____

5. Describe the certified stockpile identification system in place at each source (Map, signing, etc.)

_____

6. Please attach a detailed summary of your Quality Control Program. (**NOTE:** Please refer to Guidelines for Required Aggregate Producer Quality Control Program.)

7. Please attach a flow chart of your current Quality Control structure (Include names, addresses, phone numbers of appropriate management personnel, chain of command, etc., for problem resolution).

Indicate the District(s) for which you have operations to produce State of Iowa Certified material.

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐

AUTHORIZED SIGNATURE _____ DATE _____

DME RECOMMENDATIONS _____

DME SIGNATURE _____ DATE _____

APPROVAL (YES or NO) REMARKS _____

CENTRAL MATERIALS SIGNATURE

_____ DATE _____

APPROVED AGGREGATE PRODUCERS

This appendix lists the approved aggregate Producers.

PRODUCER	LOCATION
A-Line Crushing Service	Cedar Falls, IA
Acme Fuel & Materials Company	Muscatine, IA
Aggregate Industries	Eagan, MN
Aggregate Materials Company	Dubuque, IA
Alliance Materials Inc.	Dixon, IL
Anderson Sand & Gravel Company	De Witt, IA
Arcadia Limestone Company	Arcadia, IA
Bard Concrete	Dyersville, IA
BMC Aggregates L.C.	Waterloo, IA
Bedrock Gravel Company	Schleswig, IA
Bellco of Nebraska, Inc.	Council Bluffs, IA
Bellevue Sand & Gravel Co.	Bellevue, IA
Benton's Sand & Gravel	Cedar Falls, IA
Big Stones Quarry, Inc.	Peru, IA
Bluff City Minerals/ Bluff City Sand	Alton, IL
Boon Construction Company	Neillsville, WI
Boyer Sand & Rock, Inc.	Hawarden, IA
Bridgeport Materials	Sergeant Bluff, IA
Brockman Mgt., LLC, dba Brockman Sand Co.	Ft. Madison, IA
Bruening Rock Products, Inc./Skyline Const., Inc.	Decorah, IA
Builders Sand & Cement Co	Davenport, IA
Bushman Excavating Inc	Fairfax, IA
C.A.P Recycling	Sioux City, IA
C.J. Materials, Inc.	Morrison, IL
C.J. Moyna & Sons, Inc.	Elkader, IA
Cantera Aggregates, Inc.	Corydon, IA
Carnarvon Sand & Gravel	Denison, IA

Cemstone Products Company	Mendota Heights, MN
Central Stone Company #1	Hannibal, MO
Cessford Construction Company	Burlington, IA
Cessford Construction Company	Le Grand, IA
Central Iowa Ready Mix	Des Moines, IA
Cleveringa Excavating LLC	Alton, IA
Cohrs Construction, Inc.	Spirit Lake, IA
Concrete, Inc.	Gifford, IA
Concrete Materials	Sioux Falls, SD
Concrete Technologies Inc	Grimes, IA
Conreco Inc.	Omaha, NE
Con-Struct Inc.	Ames, IA
Coots Materials Company	Vinton, IA
Corell Recycling - A Div. of Corell Contractor, Inc.	Des Moines, IA
County Materials Corp.	Marathon, WI
Crawford Quarry Co	Cedar Rapids, IA
Croell Redi Mix	New Hampton, IA
Crushed Aggregate Products	Red Oak, IA
Dave's Sand & Gravel, Inc.	Everly, IA
DeLong Recycling, Inc.	Washington, IA
Des Moines Asphalt and Paving	Johnston, IA
Douds Stone, Inc.	Ottumwa, IA
Duininck Bros., Inc.	Prinsburg, MN
Elder Corporation	Pleasant Hill, IA
Falk, L. R. Construction Company	St. Ansgar, IA
Falkstone LLC	St Ansgar, IA
Flewelling Sand & Gravel	Moville, IA
Floyd River Materials	Sioux City, IA
Fort Dodge Asphalt Company	Fort Dodge, IA
Gehrke Quarries, Inc.	Gifford, IA
Geo Tech Materials	Douds, IA
Gray Quarries, Inc.	Hamilton, IL

Great River Materials, LLC	Burlington, IA
Greene Limestone Co.	Charles City, IA
Grimes Asphalt & Paving	Grimes, IA
Hahn Ready Mix	Muscatine, IA
Hallett Materials	Des Moines, IA
Hancock Concrete Products LLC	Hancock, MN
“Hank” Stalp Gravel Company	West Point, NE
Harsco Metals	Muscatine, IA
Hawkeye Paving Corporation	Bettendorf,
Heartland Asphalt, Inc.	Mason City, IA
Heimes Excavating & Utilities Co.	Omaha, NE
Higman Sand & Gravel	Akron, IA
Horsfield Materials, Inc.	Epworth, IA
Ideal Sand Co. aka Ideal Ready Mix Co., Inc.	West Burlington, IA
Iowa Drainage, Inc.	Sheffield, IA
K&L Construction	Sergeant Bluff, IA
Knife River Midwest LLC	Stratford, IA
Kuhlman Construction Company	Colesburg, IA
L.G. Everist, Inc.	Sioux Falls, SD
L & M Sand & Gravel, Inc.	LeMars, IA
L & W Quarries	Centerville, IA
LaHARV Construction Company, Inc.	Forest City, IA
Lessard Contracting, Inc.	Sergeant Bluff, IA
Liberty Ready Mix	Urbandale, IA
Linwood Mining & Minerals Corporation	Davenport, IA
Lounsbury	West Des Moines, IA
Lundell Construction Co., Inc.	Storm Lake, IA
Lyman-Richey Sand & Gravel Company	Omaha, NE
Mallard Sand & Gravel Company	Valley, NE
Manatt’s, Inc.	Brooklyn, IA
Manatt’s Sand & Gravel, Inc.	Tama, IA
Marengo Ready Mix, Inc.	Marengo, IA

Mark Albenesius, Inc.	South Sioux City, NE
Martin Commercial Excavating	Davenport, IA
Martin Marietta Aggregates	Des Moines, IA
Mass Custom Hauling & Crushing	Milan, IL
MatX, Inc.	Colorado Springs, CO
McAlister Aggregates, LLC	Bayard, IA
Meller Excavating & Asphalt, Inc.	Fort Madison, IA
Mielke's Quarry	McGregor, IA
Milestone Materials, Di. of Mathy Const. Company	Onalaska, WI
Miller Materials	Silvis, IL
Mobile Crushing & Recycling, Inc.	Otho, IA
Mohr Sand, Gravel & Construction, LLC	Lohrville, IA
Money Pit LLC	Ocheyedan, IA
Murphy Heavy Contracting	Anita, IA
Myrl & Roy's Paving, Inc.	Sioux Falls, SD
Nelstar	Meriden, IA
New Ulm Quartzite Quarries, Inc.	New Ulm, MN
Norris Quarries LLC	Cameron, MO
Northern Con-Agg, LLP	Luverne, MN
North Iowa Sand & Gravel, Inc.	Mason City, IA
Northwest Illinois Construction LLC	Rock Falls, IL
Northwest Materials	Humboldt, IA
NorthWest Ready-Mix Concrete, Inc.	Ocheyedan, IA
NUAggregates	Akron, IA
Ortonville Stone Company	Ortonville, MN
PBI Construction	Marcus, IA
Patrick M. Pinney Contractors, Inc.	Sioux City, IA
Paul Niemann Construction Company	Sumner, IA
Pella Construction Company Ltd.	Pella, IA
Peru Quarry Inc.	Peru, IA
Peterson Contractors, Inc.	Reinbeck, IA
Pettengill Concrete & Gravel	Rock Rapids, IA

Pierce Sand	Stanberry, MO
PNB Processors, LLC	Denmark, IA
Prairie Sand & Gravel	Prairie Du Chien, WI
Preston Ready Mix Corporation	Preston, IA
Quality Concrete Company	Clinton, IA
Rainbow Quarry LLC	Monona, IA
Randall Transit Mix Company	Northwood, IA
Recycled Aggregate Products Company	Sioux City, IA
Red Rock Quarry	Sanborn, MN
Reding's Gravel & Excavating Co.	Algona, IA
Reilly Construction Company, Inc.	Ossian, IA
Riehm Construction Company, Inc.	Waukon, IA
River City Stone - Di. of Mathy Construction Company	Keiler, WI
Riverstone Group, Inc.	Moline, IL
River Products Company, Inc.	Iowa City, IA
Rock Hard Concrete Recycling Inc.	West Branch, IA
Rocky Mountain Enterprises, Inc.	Athens, WI
S & A Construction, LTD	Allendale, MO
S & G Materials	Iowa City, IA
Saylorcreek Sand Company	Des Moines, IA
Savanna Quarry, Inc.	Savanna, IL
Schildberg Construction Company, Inc.	Greenfield, IA
Schmillen Construction, Inc.	Marcus, IA
Sean Negus Construction LLC	Omaha, NE
Shipley Contracting	Fort Madison, IA
Sieh Sand and Gravel	Spencer, IA
Southern Minnesota Construction Company, Inc.	Fairmont, MN
Spencer Quarries	Spencer, SD
Stensland Gravel Company	Larchwood, IA
Sterzinger Crushing, Inc.	Taunton, MN
Stoner Sand	Ridgeway, MO
Stratford Gravel, Inc.	Dayton, IA

Strong Rock & Gravel	Lansing, IA
Swain Construction Inc.	Omaha, NE
Swan Rock & Sand Products, LLC	Eddyville, IA
Tiefenthaler Ag-Lime Inc.	Breda, IA
Trap Rock & Granite Quarries, LLC	Ironton, MO
Tri City Blacktop	Bettendorf, IA
Tri Star Quarries	Plano, IA
Ulland Brothers, Inc.	Albert Lea, MN
United Contractors, Inc.	Grimes, IA
Valley Sand & Gravel, Inc.	Rock Valley, IA
Weatherton Contracting Co., Inc.	Beresford, SD
Weber Stone Company, Inc.	Anamosa, IA
Wedeking Pit & Plant Inc.	Spirit Lake, IA
Wendling Quarries, Inc.	De Witt, IA
West Des Moines Sand	Des Moines, IA
Western Engineering Company	Harlan, IA
Wiltgen Construction Company	Calmar, IA
Winn Corporation Sand & Gravel	Ollie, IA
Wright Materials Company	Belmond, IA
Zupke Sand & Gravel	Randalia, IA

AGGREGATE SPECIFICATION LIMITS & SAMPLING AND TESTING GUIDE

October 16, 2018 (See Specifications for complete details.) Matls. IM 209
Supersedes October 27, 2017 Appendix C

TEST LIMITS	Spec #	F & T A	F & T C	LA Abrasion	Absorption	Chert	Shale	Clay Lumps	Plastic Index	Organic Material	Al_2O_3 Limit	Pore Index	Gradation Number
Fine Aggregate for PCC													
PCC	4110						2						1
		Note: Maximum 40% between sieves											
		Note: The fineness modulus must be no lower than 2.60. A target fineness modulus (or base-line) will be established for each source for continued approval.											
		Note: Shale + Coal not to exceed 2% max.											
PCC, Class L	4111						2						1
		Note: Only from approved PCC sources.											
		Note: Maximum 45% between sieves and must have a fineness modulus no lower than 2.30.											
		Note: Shale + Coal not to exceed 2%max.											
Intermediate Aggregate for PCC													
Crushed Stone and Pea Gravel	4112	6						0.5			0.5		2
		Note: For Pea Gravel see Table 4112.03-2 for maximum allowable objectionable materials											
Coarse Aggregate for PCC													
Crushed Stone	4115												
-Structural		6		50		2	1	0.5		0.01	0.5		3-5
-Nonstructural		6		50		3	1	0.5		0.01	0.5		3-5
		Note: See 4115.02 for maximum allowable objectionable materials.											
Gravel	4115												
-Structural		6		35		2	1	0.5					3-5
-Nonstructural		6		35		3	1	0.5					3-5
		Note: See 4115.02 for maximum allowable objectionable materials.											
Bridge Deck	4115.05												
-Surfacing, Repair & Overlay		6		40	2.5	0.5				0.01	0.4		6
		Note: Unsound Chert+Shale+Coal+Iron not to exceed 1%.											
		Note: Unsound Chert particles are defined in 4115.02.											

AGGREGATE SPECIFICATION LIMITS & SAMPLING AND TESTING GUIDE

October 16, 2018 (See Specifications for complete Details.) Matls. IM 209
Supersedes October 17, 2017 Appendix C

TEST LIMITS	Spec #	F & T A	F & T C	LA Abrasion	Absorption	Chert	Shale	Clay Lumps	Plastic Index	Organic Material	Al_2O_3 Limit	Pore Index	Gradation Number
Class V Aggregate													
	4117	6		40			2 (+#16)						7
		Note: Coarse Aggregates as in 4115 (except abrasion) and Fine Aggregates as in 4110.											
Combination of Materials With Class V													
Coarse Limestone													
Limestone Screenings													
		Note: See 4117 for cement requirements.											
		Note: Acquire limestone from sources meeting the specified coarse aggregate durability class for PCC.											
		Note: Must meet the requirements of 4115 and be only from sources acceptable as coarse aggregate.											8
Pipe Bedding													
Aggregate	4118.02		20	50									3
(Non-Primary Roads)		Note: >75% Crushed Gravel or Crushed Stone. Crushed PCC may be used if approved by the Engineer.											
Pipe Bedding and Backfill													
Aggregate	4119.02		15	45				4					10,11
(Interstate and Primary)		Note: >75% Crushed Gravel or Crushed Stone. Crushed PCC may be used if approved by the Engineer.											
		Note: If a Crushed Gravel is used meet the requirements of 4120.03.											
Granular Surfacing													
Aggregate for Granular Shoulders	4120.02												Per 4120.02
		Note: Requirements are equivalent to 4120.04, 4120.05 or 4120.06.											
Class C Gravel	4120.03		15				10						10
		Note: Percent of Clay Lumps + percent passing #200 sieve not to exceed 15%.											
		Note: Percent of Clay Lumps + percent of (+4) shale + percent passing #200 not to exceed 20%.											
Class A Crushed Stone	4120.04		15	45				4					11
		Note: For shoulders only; material with Al_2O_3 not exceeding 0.7 or A-freeze not exceeding 10 may have an abrasion maximum of 55.											Stone
Class B Crushed Stone	4120.05		20	55				4					11
		Note: "C" Freeze + Abrasion not to exceed 65%											
Class D Crushed Stone	4120.06												
		Note: "C" Freeze, Abrasion, and Gradation to be specified by Contract Documents.											
Paved Shoulders Fillets	4120.07		15	45				4					11
		Note: Material with Al_2O_3 not exceeding 0.7 or A-freeze not exceeding 10 may have an abrasion maximum of 55.											

AGGREGATE SPECIFICATION LIMITS & SAMPLING AND TESTING GUIDE

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TEST LIMITS	Spec #	F & T A	F & T C	LA Abrasion	Absorption	Chert	Shale	Clay Lumps	Plastic Index	Organic Material	Al_2O_3 Limit	Pore Index	Gradation Number
Granular Subbase													
	4121	25		50							1.5		12a(Cr. St.) 12b(Grav.)
		Note: Combinations of crushed PCC, sand, crushed gravel, or crushed stone may be used.											
		Note: Specification limits are for crushed stone or crushed gravel.											
Crushed Stone-Base													
Macadam Stone	4122		10	50									13 (Visual) Per 4122.02
		Note: Choke stone see 4122.03 for details; when produced from Macadam has certified inspection of 1/3000 ton.											
Modified Subbase													
	4123		15	45					7 (Gravel)		4.7(-#40)		14
		Note: Material with Al_2O_3 not exceeding 0.7 (+4) or A-freeze not exceeding 10 may have an abrasion maximum of 55.											
		Note: If gravel only, 75% of +3/8" must be crushed with a minimum of one fractured face.											
		Note: Reclaimed pavements meeting Materials IM 210 may be used with no more than 50% RAP.											
Aggregate for Slurry Mixture													
	4124.03	10		40			5			0.01	0.7		22 or 23
		Note: Friction Type 4 or better, sand equivalent of not less than 45, and organic materials maximum 0.01%.											
Aggregate for Bituminous Sealcoat													
	4125.03		10	40		0.5		0.5					1, 19-21
		Note: Friction Type 4 or better, shale on sand cover aggregate shall not exceed 2% maximum.											
Aggregate for Polymer-Modified Microsurfacing													
	4126.03		10	40		0.5		0.5		0.01	0.7		37, 38
		Note: Sand Equivalence of 45 Minimum. Note: Total of all combined unsound chert+shale+coal+iron 1.0											
		Note: For Friction Type 2 crushed stone requires Abrasion loss 30 max and Sand Equivalence of 60 Minimum.											
Coarse Aggregate for HMA													
Type A	4127.02	15		45	6.0			2.0		0.01	1.0		Per Form 955
Type B													
Primary	4127.02	25	10	45	6.0					0.01	1.5		Per Form 955
Non-Primary	4127.02	45	10	45	6.0					0.01	2.5		Per Form 955
		Note: Organic materials maximum 0.01%.											
Fine Aggregate for HMA													
	4127.03									0.01			Per Form 955
		Note: Natural sand shall have no more than 50% retained between two consecutive sieves below the #4 sieve.											
		Note: Crushed gravel or stone processed from coarse aggregate meeting requirements of 4127.02.											

AGGREGATE SPECIFICATION LIMITS & SAMPLING AND TESTING GUIDE

October 16, 2018 (See Specifications for Complete Details.) Matls. IM 209
Supersedes October 17, 2017 Appendix C

TEST LIMITS	Spec #	F & T A	F & T C	LA Abrasion	Absorption	Chert	Shale	Clay Lumps	Plastic Index	Organic Material	Al_2O_3 Limit	Pore Index	Gradation Number
Combination of Materials													
Type A	4127.04												Per Form 955
		Note: The fine portion of combined materials shall not exceed 2% shale retained on the #16 sieve.											
Type B		Note: The fine portion of combined materials shall not exceed 5% shale retained on the #16 sieve.											
Stabilization (Foundation) Material													
	4128.03		20	50									13
Revetment Stone		Note: Rocks that split into layers less than 4" thick shall not be used.											
Class A	4130.01	10		50							0.7	25	Visual
Class B	4130.01	10		50							0.7	25	Visual
Class D	4130.01		10	50									Visual
Class E and C	4130.01	10		50							0.7	25	Visual
		Note: See Specification 4130.01 for bedding plane/concrete slab thickness requirements.											
		Note: See 4130.02 for gradation requirements.											
Erosion and Gabion Stone													
Erosion Stone	4130.05		15	50				5					Visual
		Note: See 4130.04 for gradation requirements.											
Gabion Stone	4130.08	10		50							0.7		Visual
		Note: See 4130.07 for gradation requirements.											
Porous Backfill													
	4131	10		50			5(+4)				0.7		29
		Note: Material shall be free of visible clay and objectionable clay coating.											
Special Backfill													
	4132.01												30,31
Crushed Stone/PCC/CCP/Reclaimed HMA; Mixtures of Gravel, Sand and Soil or Uniformly blended combinations of the above.													
Gravel	4132.03								10				31
		Note: Organic material of no more than 1% on fraction passing the #40 sieve.											
Granular Backfill													
	4133		20	55				4					32 (see note 2)
		Note: "C" Freeze + Abrasion not to exceed 65%.											
		Note: When backfill is under flowable mortar see 4133.04 for gradations.											
Floodable Backfill													
	4134	Note: Meet requirements for gradations No. 1, 5, or 36.											
Recycled PCC		Note: Recycled PCC and Recycled Composite must meet gradation and sampling frequency of the intended product; and meet the requirements of IM 210.											
Recycled Composite													

NOTIFICATION OF IM 209 VIOLATION

This appendix contains the Notification of Violations of the Approved Producer's Quality Control Program.

This is a written notice from the District Materials Coordinator or District Materials Engineer to a producer identifying violation(s) of the Producer's Quality Control Program or requirements of the Approved Producer Program (Office of Materials IM 209).

A written response is required from the Producer describing how the violation occurred, how the violation will be rectified, and what will be done so the violation will not occur or continue to occur in the future. After the written response is received, grounds for Conditional Status will be determined. Conditional Status requires that certified aggregates will no longer be accepted from a particular source. The Conditional Status may apply only to a production operation and aggregate produced by that operation. In other situations, when the deficiency is more widespread, the Conditional Status may apply to an entire company or division within a company until the problem is resolved. See Office of Materials IM 209, Appendix A for details. If the Notification of Violation is found to be in error, the Notification will be rescinded. Written responses should be sent to the District Materials Office and the Geology Section of the Central Materials Laboratory.

Producer Name _____

Source (include A-number) _____

Date(s) of violation _____

Nature of Violation (Check all that apply)

- ☐ Aggregate Certification
- ☐ Knowledge of Current Specifications
- ☐ Plant Production Log
- ☐ Visual Inspection
- ☐ Quality Requirements
- ☐ Production Notification
- ☐ Production
- ☐ Delivery (Unapproved Materials)
- ☐ Quality Control Structure
- ☐ Other

Additional details (attach a separate document if more space is needed):

IOWA DOT SIGNATURE _____ DATE _____

Copies to: District Materials Office
Geology Section, Central Materials Laboratory

DISTRICT MATERIALS DUTIES

This appendix contains District Materials aggregate duties.

- Monitor producer/supplier compliance to the respective Approved Producer Quality Control Program.
- Confirm that material is being produced from the intended ledge.
- Confirm that unprocessed reclaimed pavement is sorted for the intended recycled product.
- Review requirements of source approvals for production ledges or depths and processing methods.
- Review sample locations and methods.
- Review Q/C tests:
  - test results
  - frequencies
  - reporting
- Request updates to Producer Q/C programs. Every two years the Districts review Producer laboratories as part of the Aggregate Laboratory Qualification Process (IM 208). During this process, the inspector may request company Q/C plan updates. Another opportunity is at District/Producer meetings. Updates may be necessary particularly if there have been:
  - personnel changes
  - changes in contact information
  - changes in the company structure such as changes in aggregate sources.
  - Please send a copy of updates to Geology Section
- Visual inspection of stockpiles:
  - Condition of base
  - Segregation
  - Contamination
  - Degradation
  - Load-out
  - Product identification
- Production verification samples:
  - Gradation (one of the following methods)
    - Independent sample by District Materials
    - Witness Q/C technician obtain production verification sample
    - For revetment, erosion stone and macadam base, verification will be based on visual inspection
  - Quality samples will be obtained by District Materials.
  - District Materials will take possession of all production verification samples.
- District Materials will make production verification test results available to the producer.
- Non-complying production verification test results.
  - Notify the producer.
  - Investigate the stockpile, for acceptance, in accord with written evaluation method IM 301 or as directed by the District Materials Engineer.
- Review producer certification of aggregates, including compliance of certification documents in accord with IM 209.

APPLICATION FOR APPROVAL OF ELECTRONIC SIGNATURE

This appendix contains the Application for Approval of Electronic Signature for Certification of Materials and Weights.

_____
Name of Weighmaster

_____
Name of Company Official / Company Name

I have read Federal Code 1020 and Iowa Code 714.8 (following this document) and am aware of the potential penalties for fraud and knowingly tendering a false certification. I will not knowingly cause or create a false document nor allow others access to my password that would allow them to certify materials. I am also aware of the provisions authorizing secure electronic signature per IM.209 Appendix G.

My Secure Electronic Signature Authority is granted to me by the Iowa DOT Office of Construction and Materials and represents the authorization by the company official to certify materials for the company for whom I am employed. Should I terminate employment, this signature authority shall be revoked. Violations of these Codes shall be cause for revocation of this authority.

Ticket Signature, and Date of Weighmaster acknowledging review of Codes.

Ticket Signature (if different from name)	Signature	Date

Authorization to Certify on behalf of the Company:

Company Official Signature	Title	Date

Email form to: brian.gossman@iowadot.us and cc neal.tieck@iowadot.us

Signature and Date of Electronic Signature Authorization: Iowa DOT Office of Construction and Materials

Iowa DOT Signature	Date

Iowa DOT requirements are based on Iowa Code Section 554(C) Superseded by 554(D) Secure Electronic Signature.

1. Subject to the provisions of section 554C.303 and 554(D), if, by the application of a qualified security procedure, it can be authenticated that an electronic signature is the signature of a specific person, the electronic signature shall be considered to be a secure electronic signature at the time of verification.
2. A qualified security procedure for purposes of this section is a security procedure for identifying a party that meets the following:
    A. Authorized by, and implemented in accordance with the requirements of IM 209 Appendix G.
    B. Previously agreed to by the parties to an agreement and implemented in accordance with the terms of the agreement.
    C. Authorized by the responsible Company Officer to act on behalf of the Company and being capable of creating a secure electronic signature that meets all of the following conditions:
        (1) Is unique to the signer within the context in which it is used.
        (2) Can be used to promptly, objectively, and automatically identify the person signing the electronic record.
        (3) Is password protected and assignable to only that person with the authority given by the Company Officer.
        (4) Was reliably created by such identified person.
        (5) Is linked to the electronic record to which it relates in a manner which ensures that if the record or signature is changed the electronic signature is invalidated, provided that the security procedure is implemented in a manner required by the certification.
        (6) Acceptable security systems shall meet the provisions of NTEP or NIST Handbook 44.

Crimes and Criminal Procedure 18 USC Section 1020

1020. Highway projects
Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the costs thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction of any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report, or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to a material fact in any statement, certificate, or report submitted pursuant to the provisions of the Federal-Aid Road Act approved July 11, 1916 (39 Stat. 355), as amended and supplemented,

Shall be fined under this title or imprisoned not more than five years, or both.

Iowa Code Section 714.8 Fraudulent practices defined.

A person who does any of the following acts is guilty of a fraudulent practice:

1. Makes, tenders, or keeps for sale any warehouse receipt, bill of lading, or any other instrument purporting to represent any right to goods, with knowledge that the goods represented by such instrument do not exist.
2. Knowingly attaches or alters any label to any goods offered or kept for sale so as to materially misrepresent the quality or quantity of such goods, or the maker or source of such goods.
3. Knowingly executes or tenders a false certification under penalty of perjury, false affidavit, or false certificate, if the certification, affidavit, or certificate is required by law or given in support of a claim for compensation, indemnification, restitution, or other payment.
4. Makes any entry in or alteration of any public records, or any records of any corporation, partnership, or other business enterprise or nonprofit enterprise, knowing the same to be false.
5. Removes, alters or defaces any serial or other identification number, or any owners' identification mark, from any property not the person's own.
6. For the purpose of soliciting assistance, contributions, or other thing of value, falsely represent oneself to be a veteran of the armed forces of the United States, or a member of any fraternal, religious, charitable, or veteran’s organization, or any pretended organization of a similar nature, or to be acting on behalf of such person or organization.
7. Manufactures, sells, or keeps for sale any token or device suitable for the operation of a coin-operated device or vending machine, with the intent that such token or device may be so used, or with the representation that they can be so used; provided, that the owner or operator of any coin-operated device or vending machine may sell slugs or tokens for use in the person's own devices.
8. Manufactures or possesses any false or counterfeit label, with the intent that it is placed on merchandise to falsely identify its origin or quality, or who sells any such false or counterfeit label with the representation that it may be so used.
9. Alters or renders inoperative or inaccurate any meter or measuring device used in determining the value of or compensation for the purchase, use or enjoyment of property, with the intent to defraud any person.
10. Does any act expressly declared to be a fraudulent practice by any other section of the Code.
11. Removes, defaces, covers, alters, or destroys any component part number as defined in section 321.1, vehicle identification number as defined in section 321.1, or product identification number as defined in section 321.1, for the purpose of concealing or misrepresenting the identity or year of manufacture of the component part or vehicle.
12. Knowingly transfers or assigns a legal or equitable interest in property, as defined in section 702.14, for less than fair consideration, with the intent to obtain public assistance under chapters 16, 35B, 35D, and 347B, or Title VI, subtitles 2 through 6, or accepts a transfer of or an assignment of a legal or equitable interest in property, as defined in section 702.14, for less than fair consideration, with the intent of enabling the party transferring the property to

obtain public assistance under chapters 16, 35B, 35D, and 347B, or Title VI, subtitles 2 through 6. A transfer or assignment of property for less than fair consideration within one year prior to an application for public assistance benefits shall be evidence of intent to transfer or assign the property in order to obtain public assistance for which a person is not eligible by reason of the amount of the person's assets. If a person is found guilty of a fraudulent practice in the transfer or assignment of property under this subsection the maximum sentence shall be the penalty established for a serious misdemeanor and sections 714.9, 714.10 and 714.11 shall not apply.

13. Fraudulent practices in connection with targeted small business programs.
    a. Knowingly transfers or assigns assets, ownership, or equitable interest in property of a business to a woman or minority person primarily for the purpose of obtaining benefits under targeted small business programs if the transferor would otherwise not be qualified for such programs.
    b. Solicits and is awarded a state contract on behalf of a targeted small business for the purpose of transferring the contract to another for a percentage if the person transferring or intending to transfer the work had no intention of performing the work.
    c. Knowingly falsifying information on an application for the purpose of obtaining benefits under targeted small business programs.

A violation under this subsection is grounds for decertification of the targeted small business connected with the violation. Decertification shall be in addition to any penalty otherwise authorized by this section.

14. Makes payment pursuant to an agreement with a dealer or market agency for livestock held by the dealer or market agency by use of a financial instrument which is a check, share draft, draft, or written order on any financial institution, as defined in section 203C.1, if after seven days from the date that possession of the livestock is transferred pursuant to the purchase, the financial institution refuses payment on the instrument because of insufficient funds in the maker's account.

This subsection is not applicable if the maker pays the holder of the instrument the amount due on the instrument within one business day from a receipt of notice by certified mail from the holder that payment has been refused by the financial institution.

As used in this subsection, "dealer" means a person engaged in the business of buying or selling livestock, either on the person's own account, or as an employee or agent of a vendor or purchaser. "Market agency" means a person engaged in the business of buying or selling livestock on a commission basis.

15. Obtains or attempts to obtain the transfer of possession, control, or ownership, of the property of another by deception through communications conducted primarily by telephone and involving direct or implied claims that the other person contacted has won or is about to win a prize, or involving direct or implied claims that the other person contacted may be able to recover any losses suffered by such other person in connection with a prize promotion.

16. Knowingly provides false information to the treasurer of state when claiming, pursuant to section 556.19, an interest in unclaimed property held by the state, or knowingly provides false information to a person or fails to disclose the nature, value, and location of unclaimed property prior to entering into a contract to receive compensation to recover or assist in the recovery of property reported as unclaimed pursuant to section 556.11.

17. A packer who includes a confidentiality provision in a contract with a livestock seller in violation of section 202A.4.
18. Manufactures, creates, reproduces, alters, possesses, uses, transfers, or otherwise knowingly contributes to the production or use of a fraudulent retail sales receipt or universal price code label with intent to defraud another person engaged in the business of retailing.

For purposes of this subsection:

a. Retail sales receipt" means a document intended to evidence payment for goods or services.
b. Universal price code label" means the unique ten-digit bar code placed on the packaging of an item that may be used for purposes including but not limited to tracking inventory, maintaining price information in a computerized database, and serving as proof of purchase of a particular item.

19. A contractor who enforces a provision in a production contract that provides that information contained in the production contract is confidential as provided in section 202.3.

APPROVED ELECTRONIC SIGNATURES

This appendix contains the Approved Electronic Signature for Certification of Materials and Weights.

Weighmaster	Company Name
Al Kisling	BMC Aggregates
Al Neebel	BMC Aggregates
Ben Becker	BMC Aggregates
Ben McMahon	BMC Aggregates
Brent Luloff	BMC Aggregates
Bryan Ross	BMC Aggregates
Carol Wermerskirchen	BMC Aggregates
Casey Platt	BMC Aggregates
Chad Lindquist	BMC Aggregates
Cindy Williamson	BMC Aggregates
Cory Platt	BMC Aggregates
Cullen Peterson	BMC Aggregates
Dave Green	BMC Aggregates
Deano Dean	BMC Aggregates
Deb McDonald	BMC Aggregates
Deb Stratmann	BMC Aggregates
Ed McGarvey	BMC Aggregates
Gene Robinson	BMC Aggregates
Holly Manatt	BMC Aggregates
Jason Klemke	BMC Aggregates
Jeff Harrington	BMC Aggregates
Joe Panther	BMC Aggregates
Joel Sweeney	BMC Aggregates
Josh VanNatta	BMC Aggregates
Julie Koob	BMC Aggregates
Kara Koob	BMC Aggregates
Kayeleen Luloff	BMC Aggregates
Kevin Fischels	BMC Aggregates
Kurt Behrens	BMC Aggregates
Larry Saul	BMC Aggregates
Linda Dullard	BMC Aggregates
Mark Frost	BMC Aggregates
Mike Even	BMC Aggregates
Molly Hanna	BMC Aggregates
Nancy Roberts	BMC Aggregates

Rick Taylor	BMC Aggregates
Rusty Sickels	BMC Aggregates
Scott Hinrichs	BMC Aggregates
Terry Frost	BMC Aggregates
Tom Zeien	BMC Aggregates
Tony Wright	BMC Aggregates
John Johnson	Hallett Materials
Jo Ann Decker	Higman Sand &Gravel
Jolene McMahon	Higman Sand &Gravel
Chris Klein	L.G. Everist, Inc.
Debbie Veldhuizen	L.G. Everist, Inc.
Erica Smith	L.G. Everist Inc.
Jaime Hawkins	L.G. Everist Inc.
John Devries	L.G. Everist, Inc.
Mark Bowden	L.G. Everist, Inc.
Melody Fuhrman	L.G. Everist, Inc.
Russ Ruhland	L.G. Everist, Inc.
Sandy Caskey	L.G. Everist, Inc.
Sarah Faulkner	L.G. Everist, Inc.
Brandon Cannon	Martin Marietta
Brenda L. Benjamin	Martin Marietta
Brenda Liles	Martin Marietta
Carrie Thompson	Martin Marietta
Cherene M Vote	Martin Marietta
Coby Metz	Martin Marietta
Connie Dewey	Martin Marietta
Craig Groover	Martin Marietta
Danielle Fiorini	Martin Marietta
Deb Gjerde	Martin Marietta
Derek Jorgensen	Martin Marietta
Diane Thomas	Martin Marietta
Donna Hughes	Martin Marietta
Hillerie Salat	Martin Marietta
Jennifer Stanley	Martin Marietta
Joel Tichy	Martin Marietta
Josh Armstrong	Martin Marietta
Joyce Davis	Martin Marietta
Karen Ries	Martin Marietta
Kimberly Pendergast	Martin Marietta
Kristen Lindenlaub	Martin Marietta
Leeanne Ewing	Martin Marietta
Linda Jones	Martin Marietta
Lisa Dugdale	Martin Marietta
Lisa George-Bacon	Martin Marietta

Lisa Hofker Walz	Martin Marietta
Lisa Maher	Martin Marietta
Lori Hale	Martin Marietta
Lori Henry	Martin Marietta
Mark Haskell	Martin Marietta
Markie Conover	Martin Marietta
Mary Worrell	Martin Marietta
Michell Thilges	Martin Marietta
Nikki Hanna	Martin Marietta
Rex A. Gaskill	Martin Marietta
Rick A. Burchard	Martin Marietta
Robin Cass	Martin Marietta
Ronda Hammes	Martin Marietta
Sandra Johnson	Martin Marietta
Tara Waters	Martin Marietta
Terri Day	Martin Marietta
Theresa McMains	Martin Marietta
Thomas Owens Jr	Martin Marietta
Viki Sauerman	Martin Marietta
Wesley Alertsen	Martin Marietta
Donnie Steuhm	Wendling Quarries Inc.
Glen Paup	Wendling Quarries Inc.
Jackie Behounek	Wendling Quarries Inc.
Jackie Schlarbaum	Wendling Quarries Inc.
Jim Liddle	Wendling Quarries Inc.
Jim Little	Wendling Quarries Inc.
Karen Harris	Wendling Quarries Inc.
Kelsey Harrill	Wendling Quarries Inc.
Lee Johnson	Wendling Quarries Inc.
Marion Campbell	Wendling Quarries Inc.
Melissa Gottschalk	Wendling Quarries Inc.
Penny Doyle	Wendling Quarries Inc.
Russell Heinsius	Wendling Quarries Inc.
Russ Upah	Wendling Quarries Inc.

******THIS IS A NEW IM. – PLEASE READ CAREFULLY.******

GUIDELINES FOR RECERTIFICATION OF STOCKPILES

It may become necessary to re-certify a stockpile for gradation that was previously certified. Below are guidelines for deciding when recertification is needed and when it may not be necessary.

When it may be necessary:

- Stockpiles that appear to be contaminated.
- Stockpiles from ledges that have a history of generating minus No. 200 fines over time.
- HMA coarse aggregate produced from low quality ledges or ledges that incorporate a blend of high and low quality beds may need to be recertified if held over the winter.
- Class A made from ledges with abrasion over 40 and C-freeze over 5 may need to be re-sampled if held over the winter.

When it may not be necessary:

- Stockpiles of porous backfill, concrete sand, or washed products with low alumina/A-freeze specifications probably will have no “breakdown” over a winter due to freeze-thaw damage.
- In general, stockpiles with low alumina/A-freeze washed products produced on the coarse side of the gradation specification where the minus No. 200 mesh sieve was low the previous year.
- Stockpile recertification is not necessary for Class A produced with a coarse gradation from most ledges.

MATERIALS INSTRUCTIONAL MEMORANDUM 507 ASPHALT PLANT MONITOR

******THIS IS A NEW IM – PLEASE READ CAREFULLY.******

ASPHALT PLANT MONITORING

GENERAL

The following instruction is to be used when monitoring the operation of an asphalt plant. The plant monitor is responsible for monitoring the plant operation, quality control procedures performed by the certified plant inspector, and ensure that proper mix is being produced and delivered.

DUTIES

The following duties are performed by the plant monitor for asphalt paving.

Duty	Task	Minimum Frequency
1. Inspect stockpiles	• Observe stockpiling procedures. • Check for segregation. • Check for contamination. • Check for degradation. • Check for proper storage and handling of aggregates per Article 2303.03 C 3. • Check that the stockpiles being loaded into the bins match the mix design.	Observe during startup and during visits
2. Mix Design	• Verify that a valid mix design exists and has been signed by the DME. • Check that any changes to the mix design are properly documented. • Verify that the mix design being produced matches the bid item being placed.	At start up and before each new design.
3. Test Equipment	• Inspect test equipment to ensure it is in good working order and lab has been qualified.	During startup and when problems arise
4. Material certifications	• Check certifications for binder, aggregates, and RAM. Verify that the material delivered meets the mix design and materials requirements of 2303.02.	During visits
5. Observe aggregate and mixture sampling and testing.	• Observe tests are performed in accordance with Materials IM's and at the frequency listed in IM 204. • Direct and witness binder and aggregate samples for verification testing. • Fill out form 193 for binder aggregate and mixture samples and secure for transport per IM 205 Appendix A.	During daily visits
6. Plant proportion control	• Observe delivery tolerances. • Observe scale check and verification weights per 2001.07 A 7.	

	• Check that mix proportions settings in the control house match the approved mix design.	
7. Compacted mixture density.	• Witness or verify that agency personal direct and witness coring. •Transport or verify that sample security has been maintained. • Check cores for damage with the CPI before testing. • Test cores, record and furnish the results to the CPI.	During visits
8. Audit Daily Diary	• Review for proper recording of events.	During visits
9. Plant Reports	• Check for proper project bid item and mix identification. • Check for dates and report number. • Check for proper placement records (stations, widths for PWL & non-PWL) • Check for recorded air, binder, mix and mat temperatures. • Check binder quantities against totalizer in the control house. • Check for locations on hot boxes. • Check for proper documentation of mix changes. • For small quantities 2303.03 E., check that the certification statement is in the remarks. • Review test results and aggregate gradations. • Check materials sources. • Check for correct binder, aggregate and RAM totals (daily, weekly, and to date). • Check for appropriate Plant Inspector signature or initials. • Sign report after review. • Check for hard copy or electronic backup of files	Daily / Weekly
10. Monitor dump trucks	• Check for properly cleaned dump box. • Check release agents. • Watch for inappropriate use of solvents per 2001.01 D.	During visits
11. Inspect plant facility	• When available observe plant calibration to assure compliance with Materials IM 514. • Check for calibration report. • Check lab qualifications. • Inspect test equipment.	At start of project

A monitor checklist is available at: http://www.iowadot.gov/Construction_Materials/hma.html

SAMPLING

A Non-compliance Notice (Form #225) shall be immediately delivered to the acting representative of the contractor for the area of construction involved whenever procedures or tests results on acceptance samples representing material to be incorporated or incorporated in the work indicate non-compliance with the specifications and plans. Appropriate action in accordance with the applicable specifications and Instructional Memorandums shall be taken.

Identification of Sample for Test (Form #193)

This form must accompany all samples submitted to the Central Laboratory and District Laboratories. Examples of completed forms have been included in this instruction. A copy of the 193 form may be found at: http://www.iowadot.gov/Construction_Materials/hma.html

MATERIALS INSTRUCTIONAL MEMORANDUM 535 PCC PLANT MONITOR

PCC PLANT MONITOR

GENERAL

The following instruction is to be used when monitoring the operation of a ready mix concrete plant or a central batch plant. The plant monitor is responsible for monitoring the plant operation, quality control procedures performed by the plant inspector, and ensure that proper concrete mix is being batched and delivered.

DUTIES

The following duties are performed by the plant monitor for structural and paving concrete. If non-structural concrete is being produced during the time that structural or paving concrete is produced, no additional plant site visits are required. When non-structural concrete is the only concrete being placed, perform monitor duties at least once per project.

Duty	Task	Minimum Frequency
1. Inspect stockpiles	•Observe stockpiling procedures. •Check for segregation. •Check for contamination. •Check for degradation. •Check for proper storage and handling of aggregates per Article 2301.02.C.1 and IM 527.	Observe during startup and during visits
2. Maturity Curve and Validation	•Witness curve development or beam break. •Verify that a valid maturity curve exists and has been signed by the DME. •Check for monthly validation in accordance with Materials IM 383.	When available Observe each occurrence
3. Test Equipment	•Inspect test equipment to ensure in good working order and lab has been qualified.	During startup and when problems arise
4. Material certifications	Check certifications for cement, fly ash, slag, aggregates, admixtures	During visits
5. Observe aggregate moisture and specific gravity testing	•Observe test performed in accordance with Materials IM 307 and IM 308.	Central Batch– once during first week Ready Mix 1/ project (structural or paving)

6. Plant proportion control	•Observe delivery tolerance. •Observe scale sensitivity. •Observe admixture dispenser operation. •Check for proper batch proportions on computer generated or hand written batch tickets	Central Batch– once during first week
7. Observe mix times for central batch plant	•Per Article 2001.21.	During visits
8. Audit Checks and Test results in Plant Book	•Check for proper completion of Daily Plant Checklist and Plant Site Inspection List. •Observe record of test results for moistures and specific gravities.	During visits
9. Audit Daily Diary	•Review for proper recording of events.	During visits
10. Plant Reports	•Check for proper project and mix identification. •Check for dates and report number. •Review batch weights and aggregate gradations. •Check materials brands and sources. •Check for correct concrete and cement totals (daily, weekly, and to date). •Check for appropriate Plant Inspector signature or initials. •Sign report after review. •Check for hard copy or electronic backup of files	Daily / Weekly
11. Inspect Transit Mixers	•Inspect for buildup in drum per Article 2001.21 B. •Inspect for fin wear or broken fins per Article 2001.21 B. •Check for current truck certification per Article 2001.21 B.	1/Month
12. Monitor agitors & dump trucks	•Check for properly cleaned dump box.	During visits
13. Inspect plant facility	•Observe plant calibration to assure compliance with Materials IM 527. •Check lab qualifications. •Inspect test equipment.	Central Batch - startup Ready Mix - Yearly

SAMPLING & TESTING

AGGREGATES

Verification Gradation – One sample for each aggregate per lot in accordance with IM 527 for paving or IM 528 for all other concrete.

The engineer will split samples obtained with the plant inspector, or observe splitting by the plant inspector, and immediately take possession of the agency sample. Report test results to producer in a timely manner.

Testing and sampling for non-structural concrete is based on that being the only concrete being produced. If structural or paving concrete is being produced, no additional gradation sampling and testing is required for non-structural concrete produced from the same plant, since the sampling and testing frequency for structural and paving concrete is greater. If multiple projects are being supplied by the plant, one representative gradation sample for the lot covers sampling and testing for all of the projects.

Example 1: If a sample was obtained for a footing and the ready mix produces concrete for a sidewalk project the next week, the gradation sample for the footing can be used for the sidewalk project.

Example 2: If a sample was obtained for a paving project and the ready mix produces concrete for a patching and a bridge pier, the gradation sample for the paving can be used for all projects.

Non Complying Gradation

When a verification gradation test does not comply with the gradation requirements of Article 4109, the Engineer will contact the contractor, producer and the District Materials Engineer. The District Materials Engineer may investigate sampling and testing procedures, stockpiling, source material, etc. After corrections have been made, the Engineer will obtain and test another verification sample.

Acceptance of lots will be based on complying verification test results. The engineer will retain all samples representing the lots until the lots have been accepted. Since the contracting authority tests are verification, correlation with IM 216 is not required, but may be performed as a check of sampling and testing procedures.

REPORTS & REPORTING

Enter monitor checks on plant monitor workbook for structural or paving. Report gradations on gradation verification form 821283.

PCC PAVING - FIELD AND PLANT SAMPLING AND TESTING GUIDE

(See Specifications for Complete Details.)

Article	Work Type	Field Acceptance	Plant Acceptance	
		Air & Slump (No slump for slipform paving)	**Gradation QC**	**Gradation Verification**
2122	PCC Shoulders	1/700 yd^3: 1/100 yd^3 RM	S/T 1st day, then 1/day>500 yd^3, If <500 yd^3/day 1/wk	S/T 1st/day, S 1/day >500 yd^3 & T 1/wk, If <500 yd^3/day S 1/wk & T 20% (4)
2301	PCC Pavement	1/700 yd^3: 1/100 yd^3 RM	S/T 1st day, then 1/day>500 yd^3, If <500 yd^3/day 1/wk	S/T 1st/day, S 1/day >500 yd^3 & T 1/wk, If <500 yd^3/day S 1/wk & T 20% (4)
2301	PCC Pavement - QMC	1/700 yd^3: 1/100 yd^3 RM	S/T 1/1500 yd^3, If <500 yd^3/day 1/wk	S/T 1st/day, S 1/day >500 yd^3, Test 2/week, If <500 yd^3/day, S/T 1 wk
2301	Bridge Approaches, Gores, tapers, radiuses	1/700 yd^3: 1/100 yd^3 RM	S/T 1st day, then 1/day>500 yd^3, If <500 yd^3/day 1/wk	n/a
2302	PCC Widening	1/700 yd^3: 1/100 yd^3 RM	S/T 1st day, then 1/day>500 yd^3, If <500 yd^3/day 1/wk	S/T 1st/day, S 1/day >500 yd^3 & T 1/wk, If <500 yd^3/day S 1/wk & T 20% (4)
2310	PCC Overlay	1/700 yd^3: 1/100 yd^3 RM	S/T 1st day, then 1/day>500 yd^3, If <500 yd^3/day 1/wk	S/T 1st/day, S 1/day >500 yd^3 & T 1/wk, If <500 yd^3/day S 1/wk & T 20% (4)
2310	PCC Overlay - QMC	1/700 yd^3: 1/100 yd^3 RM	S/T 1/1500 yd^3, If <500 yd^3/day 1/wk	S/T 1st/day, S 1/day >500 yd^3, Test 2/week, If <500 yd^3/day, S/T 1 wk

(1) If less than 20 yd^3/ day, the engineer may waive air testing if inspection is not available and producer has exhibited consistency in prior placements
(3) Sampling and testing rate if no other concrete supplied. Use structural or paving test results to cover non structural concrete items.
(4) If less than 500 yd^3 per day / intermittent construction continues for more than two weeks, obtain verification samples weekly and test 20% of the samples obtained.

PCC STRUCTURAL - FIELD AND PLANT SAMPLING AND TESTING GUIDE

(See Specifications for Complete Details.)

Article	Work Type	Field Acceptance	Plant Acceptance	
		Air & Slump	Gradation QC	Gradation Verification
2403	Structural Concrete	1/30 yd^3 (2)	S/T 1/week, if <50 yd^3/wk S/T 1/ 2 weeks	S/T 1st/wk; S 1/wk or S 1/2 wks if <50 yd^3/wk , T 20%
2405	Foundations	1/30 yd^3 (2)	S/T 1/week, if <50 yd^3/wk S/T 1/ 2 weeks	S/T 1st/wk; S 1/wk or S 1/2 wks if <50 yd^3/wk , T 20%
2406	Concrete Structures	1/30 yd^3	S/T 1/week, if <50 yd^3/wk S/T 1/ 2 weeks	S/T 1st/wk; S 1/wk or S 1/2 wks if <50 yd^3/wk , T 20%
2412	Bridge Decks	1/30 yd^3 (2)	S/T 1/deck pour	S/T 1/deck pour
2413	Deck Repair	1/30 yd^3	S/T 1/week, if <50 yd^3/wk S/T 1/ 2 weeks	S/T 1st/wk; S 1/wk or S 1/2 wks if <50 yd^3/wk , T 20%
2413	Deck Surfacing/Overlay HPC-O	1/30 yd^3	S/T 1/week, if <50 yd^3/wk S/T 1/ 2 weeks	S/T 1/project
2413	Deck Surfacing/Overlay Class O	1/100 yd^2 (4)	n/a	n/a
2414	Railings	1/30 yd^3	S/T 1/week, if <50 yd^3/wk S/T 1/ 2 weeks	S/T 1st/wk; S 1/wk or S 1/2 wks if <50 yd^3/wk , T 20%
2415	Box, Arch Circular Culverts	1/30 yd^3	S/T 1/week, if <50 yd^3/wk S/T 1/ 2 weeks	S/T 1st/wk; S 1/wk or S 1/2 wks if <50 yd^3/wk , T 20%
2416	Rigid Pipe Culverts	1/30 yd^3	S/T 1/week, if <50 yd^3/wk S/T 1/ 2 weeks	S/T 1st/wk; S 1/wk or S 1/2 wks if <50 yd^3/wk , T 20%
2423	Support Structures	1/30 yd3	S/T 1/week, if <50 yd^3/wk S/T 1/ 2 weeks	S/T 1st/wk; S 1/wk or S 1/2 wks if <50 yd^3/wk , T 20%
2424	Shotcrete	1/30 yd^3	S/T for Mix Design only	n/a
2433	Drilled Shaft	1/30 yd^3 (2)	S/T 1/week, if <50 yd^3/wk S/T 1/ 2 weeks	S/T 1st/wk; S 1/wk or S 1/2 wks if <50 yd^3/wk , T 20%
2503	Storm Sewers	1/30 yd^3	S/T 1/week, if <50 yd^3/wk S/T 1/ 2 weeks	S/T 1st/wk; S 1/wk or S 1/2 wks if <50 yd^3/wk , T 20%
2503	intakes, utility access	1/30 yd^3	S/T 1/week, if <50 yd^3/wk S/T 1/ 2 weeks	n/a
2501	Pile encasement	1/30 yd^3	S/T 1/week, if <50 yd^3/wk S/T 1/ 2 weeks	S/T 1st/wk; S 1/wk or S 1/2 wks if <50 yd^3/wk , T 20%
2505	Guardail anchorage	1/30 yd^3	S/T 1/week, if <50 yd^3/wk S/T 1/ 2 weeks	n/a
2513	Concrete barrier	1/30 yd^3	S/T 1/week, if <50 yd^3/wk S/T 1/ 2 weeks	S/T 1st/wk; S 1/wk or S 1/2 wks if <50 yd^3/wk , T 20%
2516	Walls and Steps	1/30 yd^3	S/T 1/week, if <50 yd^3/wk S/T 1/ 2 weeks	S/T 1st/wk; S 1/wk or S 1/2 wks if <50 yd^3/wk , T 20%

(1) If less than 20 yd^3/ day, the engineer may waive air testing if inspection is not available and producer has exhibited consistency in prior placements
(2) On large structural placements >350 yd^3, the DME may adjust air and slump testing to 1/50 yd^3 based on consistent results in the first 100 yd^3 placed
(3) Sampling and testing rate if no other concrete supplied. Use structural or paving test results to cover non structural concrete items.
(4) See 204 Appendix M for overlays >300 yd^2.

PCC NON-STRUCTURAL & MISCELLANEOUS - FIELD AND PLANT SAMPLING AND TESTING GUIDE
(See Specifications for Complete Details.)

Article	Work Type	Field Acceptance	Plant Acceptance	
		Air & Slump	Gradation QC	Gradation Verification
2212	Base Repair	1/30 yd^3 (1)	S/T 1st week, S/T 1 per month (3)	S/T 1/project (3)
2201	PCC Base	1/700 yd^3: 1/100 yd^3 RM	S/T 1st week, S/T 1 per month (3)	S/T 1/project (3)
2213	Base Widening	1/700 yd^3: 1/100 yd^3 RM	S/T 1st week, S/T 1 per month (3)	S/T 1/project (3)
2304	Detour Pavement, 3 yrs or less	n/a	n/a	n/a
2405	seal course	n/a	n/a	n/a
2415	Curtain Wall	1/30 yd^3	n/a	n/a
2416	Pipe collars	n/a	n/a	n/a
2503	Catch basins, abandonment,collars	n/a	n/a	n/a
2506	Flowable Mortar	n/a	S/T for Mix Design only	n/a
2507	Revetment Grout	Air -1/half day	S/T for Mix Design only	n/a
	Fabric Formed Revetment	Air- 1/half day	S/T for Mix Design only	n/a
2511	Sidewalks	1/100 yd^3 (1)	S/T 1st week, S/T 1 per month (3)	S/T 1/project (3)
2511	Trails	1/100 yd^3	S/T 1st week, S/T 1 per month (3)	S/T 1/project (3)
2512	Curb & Gutter	1/100 yd^3 (1)	S/T 1st week, S/T 1 per month (3)	S/T 1/project (3)
2515	Driveways	1/100 yd^3 (1)	S/T 1st week, S/T 1 per month (3)	S/T 1/project (3)
2517	Railroad Approach Sections	1/100 yd^3 (1)	S/T 1st week, S/T 1 per month (3)	S/T 1/project (3)
2519	Fence construction	n/a	n/a	n/a
2524	Type A and B	n/a	n/a	n/a
2529	Patching (Full depth), rumble strip	1/30 yd^3 (1)	S/T 1st week, S/T 1 per month (3)	S/T 1/project (3)
2530	Patching (Partial depth)	1/30 yd^3 (1)	S/T 1st week, S/T 1 per month (3)	S/T 1/project (3)
2554	Thrust blocks	n/a	n/a	n/a

(1) If less than 20 yd^3/ day, the engineer may waive air testing if inspection is not available and producer has exhibited consistency in prior placements. Test minimum of 1/day for concrete exposed to freezing and thawing.
(3) Sampling and testing rate if no other concrete supplied. Use structural or paving test results to cover non structural concrete items.

PCC PAVING - FIELD AND PLANT SAMPLING AND TESTING GUIDE

(See Specifications for Complete Details.)

Article	Work Type	Field Acceptance	Plant Acceptance	
		Air & Slump (No slump for slipform paving)	**Gradation QC**	**Gradation Verification**
2122	PCC Shoulders	1/700 yd^3: 1/100 yd^3 RM	S/T 1st day, then 1/day>500 yd^3, If <500 yd^3/day 1/wk	S/T 1st/day, S 1/day >500 yd^3 & T 1/wk, If <500 yd^3/day S 1/wk & T 20% (4)
2301	PCC Pavement	1/700 yd^3: 1/100 yd^3 RM	S/T 1st day, then 1/day>500 yd^3, If <500 yd^3/day 1/wk	S/T 1st/day, S 1/day >500 yd^3 & T 1/wk, If <500 yd^3/day S 1/wk & T 20% (4)
2301	PCC Pavement - QMC	1/700 yd^3: 1/100 yd^3 RM	S/T 1/1500 yd^3, If <500 yd^3/day 1/wk	S/T 1st/day, S 1/day >500 yd^3, Test 2/week, If <500 yd^3/day, S/T 1 wk
2301	Bridge Approaches, Gores, tapers, radiuses	1/700 yd^3: 1/100 yd^3 RM	S/T 1st day, then 1/day>500 yd^3, If <500 yd^3/day 1/wk	n/a
2302	PCC Widening	1/700 yd^3: 1/100 yd^3 RM	S/T 1st day, then 1/day>500 yd^3, If <500 yd^3/day 1/wk	S/T 1st/day, S 1/day >500 yd^3 & T 1/wk, If <500 yd^3/day S 1/wk & T 20% (4)
2310	PCC Overlay	1/700 yd^3: 1/100 yd^3 RM	S/T 1st day, then 1/day>500 yd^3, If <500 yd^3/day 1/wk	S/T 1st/day, S 1/day >500 yd^3 & T 1/wk, If <500 yd^3/day S 1/wk & T 20% (4)
2310	PCC Overlay - QMC	1/700 yd^3: 1/100 yd^3 RM	S/T 1/1500 yd^3, If <500 yd^3/day 1/wk	S/T 1st/day, S 1/day >500 yd^3, Test 2/week, If <500 yd^3/day, S/T 1 wk

(1) If less than 20 yd^3/ day, the engineer may waive air testing if inspection is not available and producer has exhibited consistency in prior placements
(3) Sampling and testing rate if no other concrete supplied. Use structural or paving test results to cover non structural concrete items.
(4) If less than 500 yd^3 per day / intermittent construction continues for more than two weeks, obtain verification samples weekly and test 20% of the samples obtained.

PCC STRUCTURAL - FIELD AND PLANT SAMPLING AND TESTING GUIDE

(See Specifications for Complete Details.)

Article	Work Type	Field Acceptance	Plant Acceptance	
		Air & Slump	Gradation QC	Gradation Verification
2403	Structural Concrete	1/30 yd^3 (2)	S/T 1/week, if <50 yd^3/wk S/T 1/ 2 weeks	S/T 1st/wk; S 1/wk or S 1/2 wks if <50 yd^3/wk , T 20%
2405	Foundations	1/30 yd^3 (2)	S/T 1/week, if <50 yd^3/wk S/T 1/ 2 weeks	S/T 1st/wk; S 1/wk or S 1/2 wks if <50 yd^3/wk , T 20%
2406	Concrete Structures	1/30 yd^3	S/T 1/week, if <50 yd^3/wk S/T 1/ 2 weeks	S/T 1st/wk; S 1/wk or S 1/2 wks if <50 yd^3/wk , T 20%
2412	Bridge Decks	1/30 yd^3 (2)	S/T 1/deck pour	S/T 1/deck pour
2413	Deck Repair	1/30 yd^3	S/T 1/week, if <50 yd^3/wk S/T 1/ 2 weeks	S/T 1st/wk; S 1/wk or S 1/2 wks if <50 yd^3/wk , T 20%
2413	Deck Surfacing/Overlay HPC-O	1/30 yd^3	S/T 1/week, if <50 yd^3/wk S/T 1/ 2 weeks	S/T 1/project
2413	Deck Surfacing/Overlay Class O	1/100 yd^2 (4)	n/a	n/a
2414	Railings	1/30 yd^3	S/T 1/week, if <50 yd^3/wk S/T 1/ 2 weeks	S/T 1st/wk; S 1/wk or S 1/2 wks if <50 yd^3/wk , T 20%
2415	Box, Arch Circular Culverts	1/30 yd^3	S/T 1/week, if <50 yd^3/wk S/T 1/ 2 weeks	S/T 1st/wk; S 1/wk or S 1/2 wks if <50 yd^3/wk , T 20%
2416	Rigid Pipe Culverts	1/30 yd^3	S/T 1/week, if <50 yd^3/wk S/T 1/ 2 weeks	S/T 1st/wk; S 1/wk or S 1/2 wks if <50 yd^3/wk , T 20%
2423	Support Structures	1/30 yd3	S/T 1/week, if <50 yd^3/wk S/T 1/ 2 weeks	S/T 1st/wk; S 1/wk or S 1/2 wks if <50 yd^3/wk , T 20%
2424	Shotcrete	1/30 yd^3	S/T for Mix Design only	n/a
2433	Drilled Shaft	1/30 yd^3 (2)	S/T 1/week, if <50 yd^3/wk S/T 1/ 2 weeks	S/T 1st/wk; S 1/wk or S 1/2 wks if <50 yd^3/wk , T 20%
2503	Storm Sewers	1/30 yd^3	S/T 1/week, if <50 yd^3/wk S/T 1/ 2 weeks	S/T 1st/wk; S 1/wk or S 1/2 wks if <50 yd^3/wk , T 20%
2503	intakes, utility access	1/30 yd^3	S/T 1/week, if <50 yd^3/wk S/T 1/ 2 weeks	n/a
2501	Pile encasement	1/30 yd^3	S/T 1/week, if <50 yd^3/wk S/T 1/ 2 weeks	S/T 1st/wk; S 1/wk or S 1/2 wks if <50 yd^3/wk , T 20%
2505	Guardail anchorage	1/30 yd^3	S/T 1/week, if <50 yd^3/wk S/T 1/ 2 weeks	n/a
2513	Concrete barrier	1/30 yd^3	S/T 1/week, if <50 yd^3/wk S/T 1/ 2 weeks	S/T 1st/wk; S 1/wk or S 1/2 wks if <50 yd^3/wk , T 20%
2516	Walls and Steps	1/30 yd^3	S/T 1/week, if <50 yd^3/wk S/T 1/ 2 weeks	S/T 1st/wk; S 1/wk or S 1/2 wks if <50 yd^3/wk , T 20%

(1) If less than 20 yd^3/ day, the engineer may waive air testing if inspection is not available and producer has exhibited consistency in prior placements
(2) On large structural placements >350 yd^3, the DME may adjust air and slump testing to 1/50 yd^3 based on consistent results in the first 100 yd^3 placed
(3) Sampling and testing rate if no other concrete supplied. Use structural or paving test results to cover non structural concrete items.
(4) See 204 Appendix M for overlays >300 yd^2.

PCC NON-STRUCTURAL & MISCELLANEOUS - FIELD AND PLANT SAMPLING AND TESTING GUIDE

(See Specifications for Complete Details.)

Article	Work Type	Field Acceptance	Plant Acceptance	
		Air & Slump	Gradation QC	Gradation Verification
2212	Base Repair	1/30 yd^3 (1)	S/T 1st week, S/T 1 per month (3)	S/T 1/project (3)
2201	PCC Base	1/700 yd^3: 1/100 yd^3 RM	S/T 1st week, S/T 1 per month (3)	S/T 1/project (3)
2213	Base Widening	1/700 yd^3: 1/100 yd^3 RM	S/T 1st week, S/T 1 per month (3)	S/T 1/project (3)
2304	Detour Pavement, 3 yrs or less	n/a	n/a	n/a
2405	seal course	n/a	n/a	n/a
2415	Curtain Wall	1/30 yd^3	n/a	n/a
2416	Pipe collars	n/a	n/a	n/a
2503	Catch basins, abandonment,collars	n/a	n/a	n/a
2506	Flowable Mortar	n/a	S/T for Mix Design only	n/a
2507	Revetment Grout	Air -1/half day	S/T for Mix Design only	n/a
	Fabric Formed Revetment	Air- 1/half day	S/T for Mix Design only	n/a
2511	Sidewalks	1/100 yd^3 (1)	S/T 1st week, S/T 1 per month (3)	S/T 1/project (3)
2511	Trails	1/100 yd^3	S/T 1st week, S/T 1 per month (3)	S/T 1/project (3)
2512	Curb & Gutter	1/100 yd^3 (1)	S/T 1st week, S/T 1 per month (3)	S/T 1/project (3)
2515	Driveways	1/100 yd^3 (1)	S/T 1st week, S/T 1 per month (3)	S/T 1/project (3)
2517	Railroad Approach Sections	1/100 yd^3 (1)	S/T 1st week, S/T 1 per month (3)	S/T 1/project (3)
2519	Fence construction	n/a	n/a	n/a
2524	Type A and B	n/a	n/a	n/a
2529	Patching (Full depth), rumble strip	1/30 yd^3 (1)	S/T 1st week, S/T 1 per month (3)	S/T 1/project (3)
2530	Patching (Partial depth)	1/30 yd^3 (1)	S/T 1st week, S/T 1 per month (3)	S/T 1/project (3)
2554	Thrust blocks	n/a	n/a	n/a

(1) If less than 20 yd^3/ day, the engineer may waive air testing if inspection is not available and producer has exhibited consistency in prior placements. Test minimum of 1/day for concrete exposed to freezing and thawing.

(3) Sampling and testing rate if no other concrete supplied. Use structural or paving test results to cover non structural concrete items.

MATERIALS AUDIT POWERPOINT PRESENTATION

I.M. 101 PRESENTATION

LEVEL 3 CONTRACT ADMINISTRATION

2019

WHAT ARE 101'S GOOD FOR?

- PROVIDE THE FOUNDATION FOR DEMONSTRATING HOW MATERIALS WERE ACCEPTED INTO THE PROJECT.
- SUMMARIZES THE TYPES OF WORK NECESSARY TO COMPLETE THE PROJECT
- QUANTITIES OF VARIOUS TYPES OF MATERIALS INCORPORATED
- EVIDENCE TO THE DEGREE THAT THE REQUIREMENTS OF IM 204 HAVE BEEN MET.

2 THINGS NEEDED TO START AN AUDIT

IM 101 Review Sheets

Final Quantities

SUBMITTING IM 101'S AND FINAL QUANTITIES

Email 101's & Final Quantities to District Materials:

- **To: District Materials Audit Technician**
- **CC: District DME**

SENDING DOCUMENTATION TO DISTRICT MATERIALS

In subject line, of the email, always start with "IM 101" followed by the Contract Number

Subject: IM 101 88-0035-254

EMAIL EXAMPLE

From: **Steven Snow**

Sent: **Wednesday, January 24, 2018 7:19 A M**

To: **Norris Keith; Mariner Steven**

Subject: **IM 101 Contract ID: 88-0035-254**

Good morning,

Attached are the 101's and Final Quantities for Contract ID: 88-0035-254 .

IM 101 COVER SHEET

- The cover sheet identifies:
  - Person(s) responsible for completing the IM 101's for the Project Engineer
  - Person(s) responsible for reviewing the 101's for the DME
- Identify <u>all</u> the types of IM 101 sheets that are being provided for review.

Example IM 101 Cover Sheet

2016 Material Review Forms - 101

Project Number: STPN-065-8(56)--22-17

Contract No.: 17-0658-036

County: Cerro Gordo

Contractor: Heartland Asphalt, Inc.

Type Of Work: HMA Resurfacing

X	Mark the 101 Sheets & Support Documents included in this Materials Review
	Roadway & Borrow Excavations and Embankments
	Aggregates (Proportioned)
X	Aggregates (Non-Proportioned)
	Bridge Deck Overlay
X	Concrete Structures
X	Culvert, Storm Sewer Pipe & Subdrain
X	Guardrail and Safety Enhancement
X	HMA Paving & Cold-In-Place Recycling
X	Portland Cement Concrete Paving & Base Repair
X	Miscellaneous Materials
	Lighting & Signals

DISCUSSION

- 1. T or F Deviations from Prescribed sampling and testing frequency or the basis of acceptance as described in IM204, require an explanation.
- 2. What are IM101s good for?
- 3. T or F Incidental material items incorporated into the project, shall be documented?
- 4. When submitting IM101s and final quantites what else would you send with? (or Verify that are entered into Doc Express)
- 5. T of F When submitting a paper audit; You should box copied items, deliver to the District Materials Engineer, and should be organized by bid item number.
- 6. What does the IM101 Cover Sheet identify?
- 7. T or F At the of the District Materials Engineer, when the quantites are below those listed in IM101 Appendix A; typically these are low-risk items that will not have significant impact on the value.
- 8. Acceptance of materials incorporated into a project are found in IM____?

IM 101
Roadway & Borrow Excavation & Embankment

ROADWAY & BORROW EXCAVATION & EMBANKMENT

TYPICAL CONTRACT ITEMS:

- Compaction with Moisture & Density
- Compacting with Moisture Control
- Selected Backfill
- Special Compaction of Subgrade for Recreational Trails

ROADWAY & BORROW EXCAVATION & EMBANKMENT

These soil tests are reported on this IM 101 sheet:

- Proctor Tests
- Soil Moisture Tests
- Soil Density Tests

ROADWAY & BORROW EXCAVATION & EMBANKMENT

CONTRACTOR Q/C TESTING REQUIRED

- If the contractor provides Q/C soil testing, a summary of the Contractor's Q/C tests will document the number of tests performed.

ROADWAY & BORROW EXCAVATION & EMBANKMENT

CONTRACTOR Q/C TESTING REQUIRED

- Record the Required and Documented contractor Q/C tests on this IM 101 sheet on the lines identified for Q/C tests.

ROADWAY & BORROW EXCAVATION & EMBANKMENT

VERIFICATION TESTING REQUIRED

- If the contracting authority performs Verification soil testing, a summary of the Verification soil tests will document the number of tests performed

ROADWAY & BORROW EXCAVATION & EMBANKMENT VERIFICATION TESTING REQUIRED

Record the Required and Documented contracting authority Verification tests on this IM 101 sheet on the lines identified for Verification tests.

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CONTRACTING AUTHORITY TESTING

- If contracting authority is responsible for all soil tests, test at the same frequency as required for Contractor Q/C tests.
- Required and Documented test quantities may be recorded on same lines that the Q/C tests are recorded. Note that all testing performed by the contracting authority.

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INDEPENDENT ASSURANCE

- IAP to be performed by District Materials Office when the earthwork quantity is greater than 50,000 cy.
- Recorded in Independent Assurance Tests – Materials will furnish report.

VERIFICATION BY DISTRICT

- A proctor sample will be taken by District Materials
- A test report will be furnished by Central Materials

DISCUSSION

- 1. What are typical contract items that you will use on a Roadway & Borrow Excavation & Embankment IM101?
- 2. T or F IAP will be performed by DME personnel when the earthwork quantity is greater than 50,000CY.
- 3. What tests are recorded on the Roadway and Borrow Excavation & Embankment IM101?
- 4. Y or N Project line item for Compaction and Moisture Control is for 3775 Cys. Do Verification tests, performed by Contracting Authority need to be documented on the IM101?

IM 101
Proportioned Aggregates

I.M. 101 PROPORTIONED AGGREGATES

- Aggregates used in all HMA, PCC, Flowable Mortar, & Grout mixtures incorporated into project.
- Proportioned Aggregates are identified on all approved mix designs and on PCC plant reports.

I.M.101 PROPORTIONED AGGREGATE EXAMPLE

Construction and Materials Review

AGGREGATES

Project No.: STP-S-C007(144)--6E-07 Contract No.: 07-C007-144

Refer to IM 204 for Acceptance of Materials

Proportioned Aggregates - (HMA Paving, PCC Paving, Structural Concrete, etc.)

Basis of Acceptance	Type of Aggregate	Source / T203 A-Number
Cert.	Nat. Sand	Manetts Inc./Aspro / A07506
Cert.	Man. Sand	BMC Raymond/Peske / A07018
Cert.	1/2" Chips	BMC Waterloo South / A07004
Cert.	3/4" Clean	BMC Waterloo South / A07004

PROPORTIONED AGGREGATES

- IM 101 Sheet for Proportioned Aggregates is not required for projects being reviewed by ALL District Materials Offices.
- Discuss this at the Pre-Construction Conference.

DISCUSSION

- 1. What is considered a Proportioned Aggregate?
- 2. Give me an example of a Proportioned Aggregate?

IM 101
Non-Proportioned Aggregates

I.M. 101 NON-PROPORTIONED AGGREGATES

Examples of Non-Proportioned Aggregates:

- Modified Subbase
- Granular Surfacing
- Porous Backfill
- Revetment

WHAT DOCUMENTS ARE NEEDED FOR NON-PROPORTIONED AGGREGATES ? SEE I.M. 209

- For acceptance, please refer to the instructions in Materials IM 209.
- The following would meet this requirement for documentation in a project file:
  - A copy of a Certified Truck Ticket (preferably the LAST ticket for each aggregate) OR Test Report (821278) from every source for each aggregate AND
  - Aggregate Summary Report

EXAMPLE # 1

- Examples: Item 0090 Cl A Shldr. Stone Fertile Q. 25.00 tons
  Item 0090 Cl A Shldr. Stone Mason Q. 25.00 tons
  Item 0090 Cl A Shldr. Stone Portland Q. 175.00 tons

You need the normal acceptance documents required by IM 209 for each of these sources.

EXAMPLE # 2

A contract item only calls for 60.00 tons of Cl A Shoulder Stone

The final quantity furnished was 225.00 tons for the item.

The normal acceptance documents required by IM 209 for that amount will be needed for the project file.

PAY ITEM UNITS

- Units of measure for non-proportioned aggregates may be in tons, cubic yards, or square yards.
- For contract items that are not in tons, (cubic or square yards) report in tons on the IM 101 from either:
  - Total from delivery tickets
  - Summaries from Contractor

AGGREGATES THAT ARE INCIDENTAL TO A CONTRACT ITEM

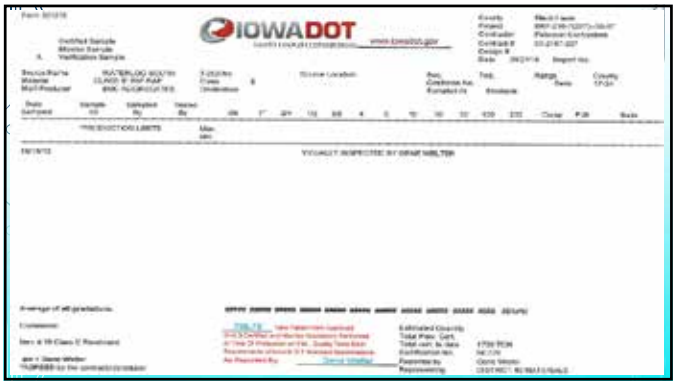
Non-proportioned aggregates may be needed for a contract item, but may not be measured separately.

Examples: For Longitudinal Subdrain:

* Porous Backfill, Granular Shoulder

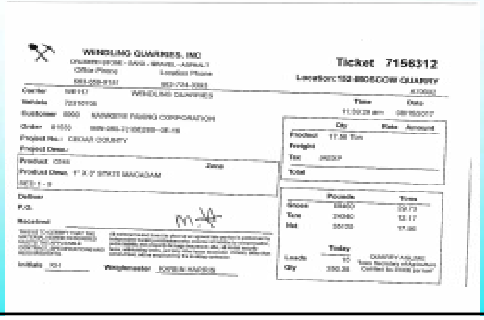
For Structural Concrete (Bridge):

*Porous Backfill, Floodable Backfill



Aggregate Summary from Contractor

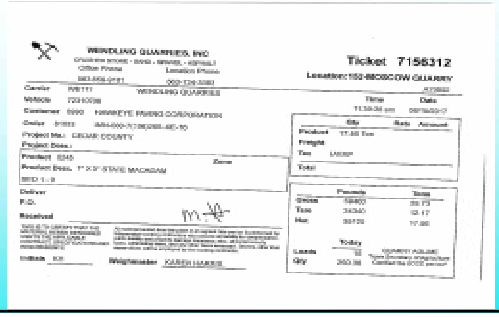
EXAMPLE CERTIFIED AGGREGATE DELIVERY TICKET


WINDLING QUARRIES, INC

Ticket 7156312

Location: 102-BROSDOW QUARRY

EXAMPLE CERTIFIED AGGREGATE DELIVERY TICKET


WINDLING QUARRIES, INC

Ticket 7156312

Location: 102-BROSDOW QUARRY

2016

Construction and Materials Review

AGGREGATES

Project No.: STPN 005-8(50)--22-17 Contract No.: 17-0555-006

Refer to IM 204 for Acceptance of Materials

Non-Proportioned Aggregates (Porous Backfill, Subbase, Revetment, Etc...)

Basis of Acceptance

Contract Item No.		Type of Aggregate	Source / T203 A Number	Qty Doc. = Total from Tickets Quantity Documented
6	Cert.	Granular Bkfl St. C.A.	MM @ MC Qry/A-17026	3216.76 Tons
5, 15, 90 & 92	Cert.	Modified Subbase	MM @ MC Qry/A-17026	1641.45 Tons
70	Cert.	Class E Rip Rap	MM @ Portland Qry/A-17005	35.56 Tons
90	Cert.	Pourous Backfill	MM @ Hidrive Sand/A-17014	14.28 Tons
61	Cert.	Pourous Backfill	BMC @ Fertile Qry/A-96010	1573.15 Tons
61	Cert.	Granular Bkfl St. C.A.	BMC @ Fertile Qry/A-96010	784.17 Tons
19	Cert.	Pourous Backfill	MM @ MC Qry/A-17026	14.08 Tons

DISCUSSION

- 1. What would you see on a Non-Proportioned IM101?
- 2. What do you need to meet the requirements for Non-Proportioned Aggregates for documentation in a project file?
- 3. What do you need for acceptance of a Non-Proportioned Aggregate if on the grade of a project site?
- 4. Y or N You have 4000 Tons of Porous Backfill (PB) incidental to line item for longitudinal subdrain, Do you need to document the PB on the Non-Proportioned IM101?
- 5. You have 100 Tons of Floodable Backfill incidental to line item for Structural Bridge, what is the acceptance method (IM204 Appendix X)?

IM 101
Culvert, Storm Sewer, & Subdrain Pipe

I.M. 101 CULVERT, STORM SEWER, & SUBDRAIN PIPE

- Top section is for reporting items like certified pipe, precast intakes and precast culverts.
- Lower portion for reporting subdrain items from approved sources or brands.

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I.M. 101 CULVERT, STORM SEWER & SUBDRAIN PROJECT DOCUMENTATION

Examples of End of Project Summaries:

Metal Aprons Adobe Acrobat Document

Corrugated Metal Pipe Adobe Acrobat Document

Concrete Pipe Items Adobe Acrobat Document

QUANTITIES FOR CULVERT AND STORM SEWER ITEMS

- Use the following sources to complete the columns requiring quantities in the top portion of the IM 101 sheet:
  - Quantity Paid = the item amount on the final quantities
  - Quantity Documented = the quantity reported on an End of Project Summary provided by the manufacturer.

SUBDRAIN ITEMS

Examples:

Longitudinal Subdrain, Outlets, Rodent Guards, Orange Posts, Blocks

No Quantities are required in this section

SUBDRAIN ITEMS - BASIS OF ACCEPTANCE

- By Certification or Approved Source?
  - PVC Outlets – Certification/Approved Source
  - CMP – Certification/Approved Source
  - HDPE Tubing & Outlets – Approved Source

CERTIFICATION

- CMP & PVC subdrain outlets require an invoice or bill of lading with the certification statement as described in Materials IM 441& 446.

Required Information:

- Contractor
- Project Number
- Number of feet of pipe of each size
- Number of pieces of couplings and fittings,
- Number of rodent guards

RODENT GUARDS FOR SUBDRAIN OUTLETS

- Rodent Guards have been accepted on approved brand basis.
- Iowa DOT projects will likely no longer use rodent guards on future projects.

TYPICAL FORMS OF PROJECT DOCUMENTATION FOR SUBDRAIN

Note to the Project

Adobe Acrobat Document

Bill of Lading

Adobe Acrobat Document

Certification of Compliance

Adobe Acrobat Document

DISCUSSION

- 1. What do you see on the top portion of a Culvert, Storm Sewer, & Subdrain Pipe IM101?
- 2. What do you see on the lower portion of a Culvert, Storm Sewer, & Subdrain Pipe IM101?
- 3. Y or N If you have Precast Intakes; Do you need to document quantities on the IM101?
- 4. Y or N For Section2435, is this possible to see on an IM101? Qty Paid 860Lf, Qty Documented 845LF?

2016

Construction and Materials Review

CULVERT, STORM SEWER AND SUBDRAIN PIPE

Project No.: NHSX-000-1(57)--3H-57 **Contract No.:** 57-0000-057

Refer to IM 441*, 445*, and 446 *** Requires "End Of Project Delivery Summary"**

Concrete Rdwy, Ent, Arch, Aprons; CMP Rdwy, Ent. Arch, Aprons; PE Pipe (12"-36" Dia.); Precast RCB sections.

Basis of Acceptance **ALL PIPE IN THIS SECTION NEED CERTIFICATION FROM AN APPROVED SOURCE**

Contract Item No.	Description	Diameter	Source	Quantity Paid	Quantity Documented
0190	36" Class 3 RCP	36"	County Materials	860LF	845LF

IM 101
Guardrail & Safety Enhancement

I.M. 101 GUARDRAIL & SAFETY ENHANCEMENT

This review sheet used to record quantities of:

- W and Thrie beam guardrail,
- Posts
- Cable and high tension guardrail,
- Transition connections and end anchors treatments
- Object markers, and delineators

IM 101 Guardrail & Safety Enhancement

PRIMARY SUPPLIERS:

Hi-Way Products

Guardrail Systems

Lovewell Fence

A SUPPLIER'S REPORT ITEMIZED LIST PROVIDE:

- Item descriptions
- Quantities
- Test reports for guardrail materials

  (which will have Ames Lab Numbers on them)

Adobe Acrobat Document

IM 101 GUARDRAIL & SAFETY ENHANCEMENT

Contracts, Proposals and Final Quantities item descriptions often do not clearly identify the BA Standard Road Plan item required.

Contract Item:

Steel Beam Guardrail End Anchor Bolted = Which BA Standard????

Steel Beam Guardrail End Terminal = Which BA Standard????

Adobe Acrobat Document

Adobe Acrobat Document

IM 101 GUARDRAIL & SAFETY ENHANCEMENT

The guardrail tab in the project plan may help clarify what specific end anchor or end treatment is required.

Adobe Acrobat Document

I.M. 101 GUARDRAIL & SAFETY ENHANCEMENT

Most of the time the guardrail supplier's report will have all the information needed to complete the IM 101 Guard Rail & Safety Enhancement sheet.

Adobe Acrobat Document

I.M. 101Guardrail & Safety Enhancement

HIGH TENSION GUARDRAIL CERTIFICATION:

THE CERTIFICATION STATEMENT SHALL INCLUDE THE FOLLOWING:

1. **…….TESTED UNDER NCHRP REPORT 350 CRITERIA…..**

2. **ALL STEEL AND IRON MATERIALS MEET THE REQUIREMENTS OF IM 107, GROUP 2, BUY AMERICA**

Adobe Acrobat Document

DISCUSSION

- 1. T or F IM101 Guardrail & Safety Enhancement IM101 is used to record quantities of beam guardrail, transitions, posts, transition connections, end anchors, object markers, and delineators?
- 2 Contracts, Proposals, and Final Quantities item descriptions often do not clearly identify the BA Standard Road Plan Guardrail item required. Where else would you go look?
- 3. T or F High Tension Guardrail certification statement shall include…tested under NCHRP Report 350 Criteria…and shall include…All Steel and iron materials meet the requirements of IM207, Group 2, Buy America.

IM 101's
Bridge Deck Overlay, PCC Structure, PCC Paving

I.M. 101'S FOR DECK OVERLAYS, CONCRETE STRUCTURES, PAVING

Concrete Plant, Mix and Quantities Section…. Top Section of Sheet

For each line:

- Record Contract Item
- Record Plant
- Record Mix
- Record Quantity Paid
- Record Quantity Documented

I.M. 101'S FOR DECK OVERLAYS, CONCRETE STRUCTURES, PAVING

- QUANTITY PAID COLUMN
  - What you actually paid for on project (Final Quantities)
  - C.Y., L.F., S.Y.,
- QUANTITY DOCUMENTED COLUMN
  - Comes from the Plant reports
  - Always report Concrete Documented in Cubic Yards!

TYPICAL ITEMS FOR DECK OVERLAY 101

- Class A or B Deck Surfacing
- Class A or B Deck Repair
- Deck Overlay (Class O PCC)
- Deck Overlay (Class HPC-O PCC)

BRIDGE DECK OVERLAY IM 101 SHEET

DO NOT use this sheet for reporting:

- Miscellaneous Structural Concrete
- Paving Notch
- Joint Repairs

Construction and Materials Review

BRIDGE DECK OVERLAY

Project No.: BRFN-251-1(49)--39-07
BRFN-021-5(12)-39-86

Contract No.: 86-0215-012

Refer To IM 204 For Acceptance of Materials

Contract Item No.	Mix Type	Quantity Paid (SY)	Quantity Documented (CY)
0120	HPC-O	922.20	77.50
0480	HPC-O	547.30	61.50
0230	T.C. Concrete Packaged Class O PCC	7.50	0.15

Construction and Materials Review

CONCRETE STRUCTURES

Project No.: STPN-065-8(56)--2J-17

Contract No.: 17-0858-056

Contract Item No.	Plant	Mix Type	Quantity Paid (C.Y. or L.F.)	Documented Qty. (C.Y.)
126.5	Croell @ Mason City	C-4WRC-20	80.0 LF	6.75 CY

Refer to IM 204, Appendix H

PORTLAND CEMENT CONCRETE PAVING & BASE REPAIR

Project No.: STPN-065-8(56)--2J-17

Contract No.: test2

Refer to IM 204 Appendix H

Contract Item No.	Plant	Mix Type	Qty. Paid C.Y. or S.Y.	Qty. Documented C.Y.
2 thru 59	Croell @ Mason City	M-4	35.0 each ???	56.50 C.Y.
2 thru 59	Croell @ Mason City	C-4WR-C20	35.0 each	34.50 C.Y.
4 & 126.5	Croell @ Mason City	C-4WI-C20	2209.50 L.F.	244.00 C.Y.
19	Croell @ Mason City	C-4WR-C20	448.88 S.Y.	129.75 C.Y.
19	Croell @ Mason City	M-4	448.88 SY	10.00 C.Y.

IM 101's
Deck Overlays, Concrete Structures, Paving

JOB CONTROL TESTS
(NEXT SECTION ON THE 101 SHEETS)

IM 535 APPENDIX A, B AND C
SAMPLING AND TEST FREQUENCIES

Appendix A

PCC PAVING - FIELD AND PLANT SAMPLING AND TESTING GUIDE
(See Specifications for Complete Details.)

Article	Work Type	Field Acceptance	Plant Acceptance	
		Air & Slump	Gradation QC	Gradation Verification
2301	PCC Structures	1/250 yd³, 1/100 yd³ Min	SIT 1/2 day, then 1/day<500 yd³, if >500 yd³/day, 1/wk	SIT 1/day, 5 tests >500 yd³ & 1/wk, if >500 yd³/day, 5 tests & 1/20% qty
2301	PCC Pavement	1/250 yd³, 1/100 yd³ Min	SIT 1/2 day, then 1/day<500 yd³, if >500 yd³/day, 1/wk	SIT 1/day, 5 tests >500 yd³ & 1/wk, if >500 yd³/day, 5 tests & 1/20% qty
2301	PCC Pavement - Grid	1/250 yd³, 1/100 yd³ Min	SIT 1/1500 yd³, if >500 yd³/day, 1/wk	SIT 1/day, 5 tests >500 yd³, Field 2/week, if >500 yd³/day, SIT 1 wk
2301	Bridge Approaches, Slope, Islands, Gutters	1/250 yd³, 1/100 yd³ Min	SIT 1/2 day, then 1/day<500 yd³, if >500 yd³/day, 1/wk	n/a
2302	PCC Widening	1/250 yd³, 1/100 yd³ Min	SIT 1/2 day, then 1/day<500 yd³, if >500 yd³/day, 1/wk	SIT 1/day, 5 tests >500 yd³ & 1/wk, if >500 yd³/day, 5 tests & 1/20% qty
2303	PCC Shoulder	1/250 yd³, 1/100 yd³ Min	SIT 1/2 day, then 1/day<500 yd³, if >500 yd³/day, 1/wk	SIT 1/day, 5 tests >500 yd³ & 1/wk, if >500 yd³/day, 5 tests & 1/20% qty
2303	PCC Overlay - Grid	1/250 yd³, 1/100 yd³ Min	SIT 1/1500 yd³, if >500 yd³/day, 1/wk	SIT 1/day, 5 tests >500 yd³, Field 2/week, if >500 yd³/day, SIT 1 wk

(1) If less than 50 yd³/day, Paving/Finisher has waive or testing. If Inspector is not available and produce has exhibited consistency in prior placements
(2) Sampling and testing rate if no other concrete supplied. Use structure or paving testresults to cover non structure concrete items.
(3) If less than 500 yd³ per day / intermittent construction continues for more than two weeks, obtain verification samples weekly and test 20% of the samples obtained.

Appendix B - Top

PCC STRUCTURAL - FIELD AND PLANT SAMPLING AND TESTING GUIDE
(See Specifications for Complete Details.)

Article	Work Type	Field Acceptance	Plant Acceptance	
		Air & Slump	Gradation QC	Gradation Verification
2403	Structural Concrete	1/30 yd³ (2)	SIT 1/week, if <50 yd³/wk SIT 1/2 weeks	SIT 1/day, 5 1/wk or 5 1/2 wks if <50 yd³/wk, 1/20%
2405	Foundations	1/30 yd³ (2)	SIT 1/week, if <50 yd³/wk SIT 1/2 weeks	SIT 1/day, 5 1/wk or 5 1/2 wks if <50 yd³/wk, 1/20%
2408	Concrete Structures	1/30 yd³	SIT 1/week, if <50 yd³/wk SIT 1/2 weeks	SIT 1/day, 5 1/wk or 5 1/2 wks if <50 yd³/wk, 1/20%
2412	Bridge Decks	1/30 yd³ (2)	SIT 1/day/ project	SIT 1/day/ project
2413	Deck Repair	1/30 yd³	SIT 1/week, if <50 yd³/wk SIT 1/2 weeks	SIT 1/day, 5 1/wk or 5 1/2 wks if <50 yd³/wk, 1/20%
2413	Deck Surfacing/Overlay HPC-O	1/30 yd³	SIT 1/week, if <50 yd³/wk SIT 1/2 weeks	SIT 1/project
2413	Deck Surfacing/Overlay Class D	1/100 yd² (4)	n/a	n/a
2414	Railings	1/30 yd³	SIT 1/week, if <50 yd³/wk SIT 1/2 weeks	SIT 1/day, 5 1/wk or 5 1/2 wks if <50 yd³/wk, 1/20%
2415	Box, Arch Circular Culverts	1/30 yd³	SIT 1/week, if <50 yd³/wk SIT 1/2 weeks	SIT 1/day, 5 1/wk or 5 1/2 wks if <50 yd³/wk, 1/20%
2416	Rigid Pipe Culverts	1/30 yd³	SIT 1/week, if <50 yd³/wk SIT 1/2 weeks	SIT 1/day, 5 1/wk or 5 1/2 wks if <50 yd³/wk, 1/20%

Appendix B - Bottom

I.M. 535 PCC STRUCTURAL

PAGE 2

2416	Rigid Pipe Culverts	1/100 yd³	S/T 1/week, if <50 yd³/wk S/T 1/2 weeks	S/T 1/shift, S 1/wk, or S 1/2 wks if <50 yd³/wk , T 20%
2420	Support Structures	1/100 yd³	S/T 1/week, if <50 yd³/wk S/T 1/2 weeks	S/T 1/shift, S 1/wk, or S 1/2 wks if <50 yd³/wk , T 20%
2424	Shotcrete	1/100 yd³	S/T for Mix Design only	n/a
2430	Drilled Shaft	1/100 yd³ (2)	S/T 1/week, if <50 yd³/wk S/T 1/2 weeks	S/T 1/shift, S 1/wk, or S 1/2 wks if <50 yd³/wk , T 20%
2503	Storm Sewers	1/100 yd³	S/T 1/week, if <50 yd³/wk S/T 1/2 weeks	S/T 1/shift, S 1/wk, or S 1/2 wks if <50 yd³/wk , T 20%
2510	Inlets, utility access	1/100 yd³	S/T 1/week, if <50 yd³/wk S/T 1/2 weeks	n/a
2521	Pile encasement	1/100 yd³	S/T 1/week, if <50 yd³/wk S/T 1/2 weeks	S/T 1/shift, S 1/wk, or S 1/2 wks if <50 yd³/wk , T 20%
2530	Guardrail anchorage	1/100 yd³	S/T 1/week, if <50 yd³/wk S/T 1/2 weeks	n/a
2610	Concrete barrier	1/100 yd³	S/T 1/week, if <50 yd³/wk S/T 1/2 weeks	S/T 1/shift, S 1/wk, or S 1/2 wks if <50 yd³/wk , T 20%
2616	Walls and Steps	1/100 yd³	S/T 1/week, if <50 yd³/wk S/T 1/2 weeks	S/T 1/shift, S 1/wk, or S 1/2 wks if <50 yd³/wk , T 20%

(1) If less than 20 yd³/day, the engineer may waive air testing if inspection is not available and producer has exhibited consistency in prior placements
(2) On large structural placements >250 yd³, the DME may reduce air and slump testing to 1/50 yd³ based on consistent results in the first 100 yd³ placed.
(3) Sampling and testing rate if no other concrete supplied. Use structural or paving test results to cover non structural concrete items.
(4) See 2Ix Appendix Ir for overbuys >100 yd³

Appendix C - Top

PCC NON-STRUCTURAL & MISCELLANEOUS - FIELD AND PLANT SAMPLING AND TESTING GUIDE

(See Specifications for Complete Details.)

Article	Work Type	Field Acceptance	Plant Acceptance	
		Air & Slump	Gradation QC	Gradation Verification
2202	Base Repair	1/50 yd³ (1)	S/T 1st week, S/T 1 per month (3)	S/T 1/project (3)
2201	PCC Base	1/750 yd³, 1/100 yd³ RM	S/T 1st week, S/T 1 per month (3)	S/T 1/project (3)
2213	Base Widening	1/750 yd³, 1/100 yd³ RM	S/T 1st week, S/T 1 per month (3)	S/T 1/project (3)
2304	Detour Pavement, 3 yrs or less	n/a	n/a	n/a
2405	seal course	n/a	n/a	n/a
2415	Curtain Wall	1/50 yd³	n/a	n/a
2416	Pipe collars	n/a	n/a	n/a
2501	Catch basins, abandonment,collars	n/a	n/a	n/a
2506	Flowable Mortar	n/a	S/T for Mix Design only	n/a
2507	Revetment Grout	1/half day	S/T for Mix Design only	n/a
	Fabric Formed Revetment	1/half day	S/T for Mix Design only	n/a
2511	Sidewalks	1/100 yd³ (1)	S/T 1st week, S/T 1 per month (3)	S/T 1/project (3)

Appendix C - Bottom

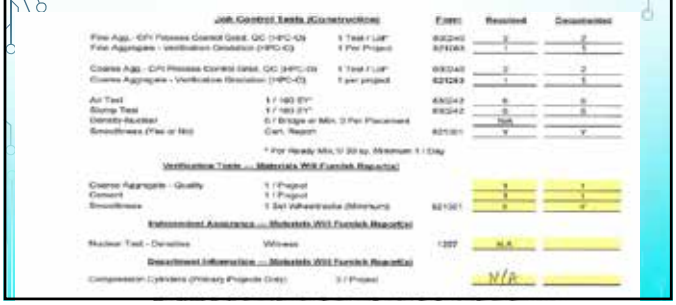
I.M. 535 PCC NON-STRUCTURAL & MISCELLANEOUS

PAGE 2

2511	Trails	1/100 yd³	S/T 1st week, S/T 1 per month (3)	S/T 1/project (3)
2512	Curb & Gutter	1/100 yd³ (1)	S/T 1st week, S/T 1 per month (3)	S/T 1/project (3)
2515	Driveways	1/100 yd³ (1)	S/T 1st week, S/T 1 per month (3)	S/T 1/project (3)
2517	Railroad Approach Sections	1/100 yd³ (1)	S/T 1st week, S/T 1 per month (3)	S/T 1/project (3)
2519	Fence construction	n/a	n/a	n/a
2534	Type A and B	n/a	n/a	n/a
2529	Patching (Full depth), rumble strip	1/50 yd³ (1)	S/T 1st week, S/T 1 per month (3)	S/T 1/project (3)
2530	Patching (Partial depth)	1/50 yd³ (1)	S/T 1st week, S/T 1 per month (3)	S/T 1/project (3)
2554	Thrust blocks	n/a	n/a	n/a

(1) If less than 20 yd³/day, the engineer may waive air testing if inspection is not available and producer has exhibited consistency in prior placements
(3) Sampling and testing rate if no other concrete supplied. Use structural or paving test results to cover non structural concrete items.

BRIDGE DECK OVERLAY JOB CONTROL TESTS



Job Control Tests (Construction) | Form | Required | Documented

Fine Agg. - CPI Process Control Grad. QC (HPC-G) | 1 Test / Lot* | 800240 | 2 | 2
Fine Aggregate - Verification Gradation (HPC-G) | 1 Per Project | 821283 | 1 | 1

Coarse Agg. - CPI Process Control Grad. QC (HPC-G) | 1 Test / Lot* | 800240 | 2 | 2
Coarse Aggregate - Verification Gradation (HPC-G) | 1 per project | 821283 | 1 | 1

Air Test | 1 / 180 CY* | 800242 | 6 | 6
Slump Test | 1 / 180 CY* | 800242 | 6 | 6
Density-Nuclear | 6 / Bridge or Min. 3 Per Placement | | N/A
Smoothness (Yes or No) | Cert. Report | 821301 | Y | Y

* Per Ready Mix, 1/ 30 cy, Minimum 1 / Day

Verification Tests ... Materials Will Furnish Reports

Coarse Aggregate - Quality | 1 / Project | 1 | 1
Cement | 1 / Project | 1 | 1
Smoothness | 1 Set Wheelstracks (Minimum) | 821301 | Y | Y

Independent Assurance ... Materials Will Furnish Reports

Nuclear Test - Densities | Witness | 1207 | N.A.

Department Information ... Materials Will Furnish Reports

Compression Cylinders (Primary Projects Only) | 3 / Project | N/A

Page 2 of 2

Construction and Materials Review

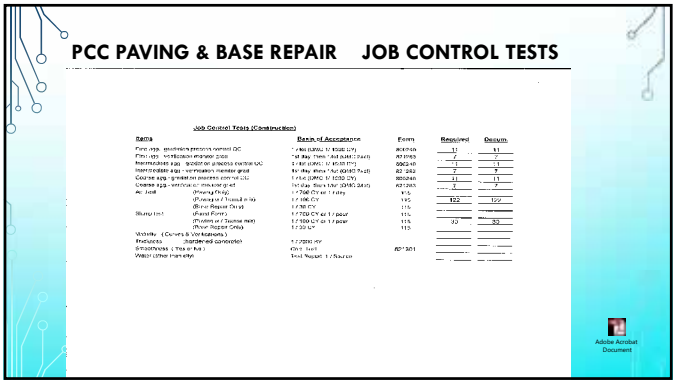
CONCRETE STRUCTURES

Project No.: STPN-065-8(55)--2J-17 Contract No.: 17-0658-056

Refer to IM 204 for Acceptance of Materials

Job Control Tests (Construction)		Form	Required	Documented
Fine agg.- CPI process control grad. QC	1 Test / Lot*	800240	2	2
Fine agg.- Verification grad.	1st day, then 20% 1/deck/wk	821283	2	2
Int. agg. - CPI process control grad. QC	1 Test / Lot*	800240	0	0
Int. agg.- Verification grad.	1st day, then 20% 1/deck/wk	821283	0	0
Coarse agg.- CPI process control grad. QC	1 Test / Lot*	800240	2	2
Coarse agg.- Verification grad.	1st day, then 20% 1/deck/wk	821283	2	2
Air Test	1 / 30 CY	145 / 115	2 ✓	2 ✓
Air Test (Unit Weight) Grout mix	1 / 4-hr		0	0
Slump test	1 / 30 CY	145 / 115	2 ✓	2 ✓
Efflux Test (Flowable Mortar /Grout mix)	1 / 4-hr		0	0
Smoothness (Yes or No)	Cert. Test	821301	No	No

PCC PAVING & BASE REPAIR JOB CONTROL TESTS



Job Control Tests (Construction)

Items	Rate of Acceptance	Form	Required	Docum.
Fine agg. - gradation process control QC	1 test (SPEC 1/ 1000 CY)	800240	51	51
Fine agg. - verification gradation	1st day, then 1 test each 1/ 2000	821283	7	7
Intermediate agg. - gradation process control QC	1 test (SPEC 1/ 1000 CY)	800240	13	13
Intermediate agg. - verification gradation	1st day, then 1 test (SPEC 1/ 2000)	821283	7	7
Coarse agg. - gradation process control QC	1 test (SPEC 1/ 1000 CY)	800240	51	51
Coarse agg. - verification gradation	1st day, then 1 test (SPEC 1/ 2000)	821283	7	7
Air Test (Paving Only)	1 / 100 CY or 1 / day	115		
(Paving / Tunnel Lining)	1 / 100 CY	145	102	102
(Bridge Repair Only)	1 / 50 CY	115		
Slump test (Paved Form)	1 / 100 CY or 1 / pour	115		
(Footing or / Tunnel Wall)	1 / 100 CY or 1 / pour	115	33	33
(Pier Repair Only)	1 / 30 CY	115		
Visibility - (Curves & Verticals)				
Products (hardened concrete)	1 / 2000 CY			
Smoothness (Yes or No)	One Test	821301		
Water Other than Potable	1 Test Report / 1 Source			

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GRADATIONS

- Verification – Monitor's Sample
  - Contracting Authority
  - I.M. 535 - Frequency
  - Reported on the Gradation Verification Form
    - Form # 821283
    - Sample date is usually on the date of concrete placement (if sample is taken for a major placement, it may be sampled on the day before to ensure that the material is acceptable).

AIR & SLUMP TESTS

- Contracting Authority samples and performs tests
- Reported on Concrete – Air & Slump record (Form E115) <u>or</u> Structures Weekly Grade Report (Form E145)
  - A separate E115 form should be used for each concrete item!

E115 FORM

- Project Inspector fills out an E115 for each contract item.
  - Examples:
    - Item 0040 Curb & Gutter
    - Item 0050 Sidewalk
    - Item 0060 Driveways
    - Item 0070 PCC Pavement

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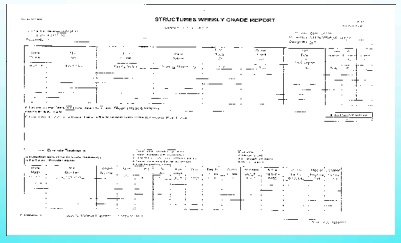
STRUCTURES WEEKLY GRADE REPORT

A Structures Weekly Grade Report (Form E 145), may be used to record air and slump tests and beam test information.


STRUCTURES WEEKLY GRADE REPORT

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PCC MATERIALS WORKSHEET

ALONG WITH PCC PLANT REPORTS, E115 FORM, AND GRADATION VERIFICATION SHEET

CLASS HAND OUT

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FLOWABLE MORTAR EFFLUX TESTING

- Only tested for Critical Flowable Mortar & Grout Mixes
  - Non-Critical Flowable Mortar is visual acceptance only.
- Tested by Contracting Authority
- Reported on Ready Mix Plant Report.

PAVEMENT SMOOTHNESS TEST REPORTS

- Contractor's Final Smoothness Report
- Verification District Smoothness Report (10% of the contract minimum)

VERIFICATION TESTS

- When Materials personnel visit a project they may get various samples:
  - Coarse Aggregate
  - Cement
  - GGBFS
  - Reinforcing Steel (Black and Epoxy Coated)
  - Smoothness
  - Concrete Cylinders from Bridge Decks

VERIFICATION SAMPLES AND TESTS

- A District Verification Report will have Ames Test Reports along with it.
- These are samples that are obtained by District Materials personnel.

INDEPENDENT ASSURANCE IAP

- District Materials Personnel visit project and perform a side by side air test, witness your slump test, and perform a split gradation.
- DO NOT FORGET to notify the District Materials Office when your project starts and for all concrete placements!

PAGE 2 PCC PAVING & BASE REPAIR

Items:

- Curing Compound
- Concrete Sealer
- Engineering Fabric
- Grout, Polymer
- Joint Filler, Flex Foam
  - Type CF & EF

PAGE 2 OF PCC PAVING & BASE REPAIR

- These items are Approved Brand/Batch
  - Record the Brand names & batch/lot #'s

    Not the suppliers names
  - Look them up on MAPLE to make sure the sources are approved

PAGE 2 PCC PAVING STEEL ITEMS

Items:

- Dowels
- Dowel Baskets
- Tie Bars
- Reinforcing Steel (Black and Epoxy Coated)

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PAGE 2 PCC PAVING STEEL ITEMS

- Be sure to document the supplier of each item!
- Approved source/letter of compliance

  (On dowels, baskets, & tie bars – see IM 451.03B)

PAGE 2 PCC PAVING STEEL ITEMS

- Reinforcing Steel Epoxy
  - Approved Source, Identification List

    Mill Test Reports, Epoxy Cert. – see IM 451.03B

VERIFICATION AND INDEPENDENT ASSURANCE

- Materials will furnish reports for:
  - Thickness cores
  - Smoothness

THICKNESS CORES

- Notify District Materials department for core/target locations
- Thickness Cores
  - When construction is done these must be sent into District Materials
  - 10% of cores will be tested by District Materials
- Non-Destructive Testing (MIT Scan)
  - Verification procedure will be discussed at the Pre-Con
  - DO NOT forget to record the locations where the targets are placed!!!

PCC PAVEMENT THICKNESS REPORT EXAMPLES

PCC Nine Point Pavement Core Report with IAP

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Non-Destructive Thickness Test Report with IAP

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Adobe Acrobat Document

I.M. 101 PCC PAVING & BASE REPAIR (PAGE 2 OF 2)

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I.M. 101'S PCC STRUCTURES

(MIDDLE SECTION OF PAGE….ITEMS INCORPORATED INTO PROJECT)

- Quantity Paid = What you are paying for
- Quantity Documented = Quantity you have Certifications for
- Quantity Documented must be > or = Quantity Paid

I.M. 101 CONCRETE STRUCTURES (MIDDLE SECTION)

	Beams, prestressed	Fabrication Report	Each		
	Piling, wood	Cert or Test Rpt from Approved Agency	Lf.		
	Piling, steel H (40)	Approved Source/Heat No's/Mill Test Rpt			
	Piling, steel H (50)	Approved Source/Heat No's/Mill Test Rpt			
	Piling, steel H (___)	Approved Source/Heat No's/Mill Test Rpt	Lf.		
	Piling, steel H (___)	Approved Source/Heat No's/Mill Test Rpt	Lf.		
	Pile Points	Approved Manufacturer or Supplier	Each		
	Piling, concrete	Fabrication Report	Each		
	Reinforcing steel, uncoated	Mill Cert	Lbs.		
126.5	Epoxy coated steel	Mill Cert, Epoxy Cert & Test Report	Lbs.	8,280.0	1,380.0
	Stainless Steel Reinforcing	Mill Cert & Test Report	Lbs.		
	Steel diaphragms	Approved Shop Drawing & Fab Report	Lbs.		
	Floor drains	Approved Shop Drawing & Fab Report	Lbs.		
	Steel masonary plates	Approved Shop Drawing & Fab Report	Lbs.		
	Structural steel	Approved Shop Drawing & Fab Report	Lbs.		

PILING

- Concrete:
  - Fabrication Report/End of Job Summary
- Wood:
  - Cert or Test Report from Approved Agency
- Steel: By Size
  - Approved Source/ Heat No's/Mill Test Report

STEEL H-PILING

- I.M. 467.01 App. C
- Project Inspector shall verify what is actually delivered to project
  - Document all Heat Numbers
  - How many of each heat number
  - Size
  - Length of each piece

STEEL H-PILING

- Shipping Invoice
- Mill Certifications
  - Melted and Manufactured in U.S.A.

You want both of these before Driving Begins!

- Get hold of Area Inspector

I.M. 467.01 H-PILE PROJECT DOCUMENTATION

Specification Reference (ASTM) ASTM A572/A572M - 12

Supplier * Triad Metals International

Rolling Mill ** Steel Dynamics, Inc.

Project Number BRF - 218 - (522) – 38 - 07

Design Number 111

Contractor's Name PCI

Subcontractor's Name

Shipping Date 10/21/2013

Certified Mill Test Report *** DOC Express Item 0140 certs dated 10/17/13 and 10/21/13

Foundation N. Abutment, Stage 1

Pipe / Pile Size	Length	Heat Number	No. of Pieces
Steel HP 10x57	45 LF	0004441	1
Steel HP 10x57	45 LF	A0000084	1
Steel HP 10x57	45 LF	0000085	4

Steel Dynamics, Inc.

CERTIFIED MILL TEST REPORT

Customer # 60701

Ship to: Triad Metals Inc (SF)

Bill to: TRIAD METALS INTERNATIONAL

Quality Steel 100% SAY Melted and Manufactured in the USA

GENERAL INFORMATION

Product

Size HP10X57

HP 250 x 85

Heat Number A0000084

Certifier(s)

SPECIFICATIONS

Description

Grade

ASTM A572/A572M

ASTM A992/A992M

ASTM A572/A572M

ASTM A36

ASTM A709/A709M

SHIPMENT DETAILS

Bundle / ASN # Length per Cust PO | Item PO | Job

CHEMICAL ANALYSIS (weight percent)

C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Sn	V	Nb/Cb	Al	N	B	*C1	*C2	*C3	*PC	*I	Available Type
.077	1.28	.015	.010	.23	.28	.12	.14	.002	.011	.004	.031	.043	.0100	.0002	.38	.43	.34	.14	0.00	Heat

MECHANICAL TESTING

Test	Yield (ksi) Strength ksi / MPa	Tensile (ksi) Strength ksi / MPa	Ry / Ta ratio	% Elong 2" (gage)
1	[illegible]	[illegible]	.80	27
2	[illegible]	[illegible]	.80	27
3				
4				

Charpy Impact Tests (available only when specified at time of order)

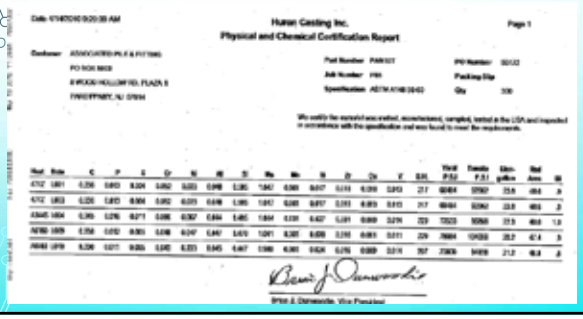
Temp °F/°C	Absorbed Energy ft-lb / J Specimen 1	Specimen 2	Specimen 3	Average	Minimum

Notes: * Cold Formed Tensile Value (Yield Strength) ASTM A370, Annexure A1.4

PILE POINTS

- Approved Manufacturer or Supplier
- Mill Cert's

PILE POINT CERTIFED MILL TESTS


Hunter Casting Inc.
Physical and Chemical Certification Report

PRESTRESSED CONCRETE BRIDGE BEAMS

- Approved Fabricator
- Inspected Product
- Fabrication Report from District Materials where Fabrication Plant is located.

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TYPES OF REINFORCING STEEL

- Uncoated
- Epoxy Coated
- Stainless Steel
- Galvanized

EPOXY COATED REINFORCING MILL CERT'S

(CLASS EXAMPLE)

Check to see the following items are present before accepting the reinforcing:

- Project Number
- Certification Statements
- Melted and Manufactured in USA
- Heat Numbers in the shipment
- Coating Reports
- Mill Test Reports for each heat of steel
- Epoxy Coating Powder Certifications

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TYPICAL STRUCTURAL STEEL ITEMS

- Steel Diaphragms
- Floor Drains
- Steel Masonry Plates
- Structural Steel
- Extrusion Joint

STRUCTURAL STEEL
APPROVED SHOP DRAWING & FAB REPORT

- Require Approved Shop Drawings
- Fabrication Report – Most often from the District Materials Office where item is fabricated.

STRUCTURAL STEEL
APPROVED SHOP DRAWING & FAB REPORT

- Component items fabricated out of state are inspected by District Materials must be done when delivered to the project site.
  - Diaphragms, Extrusion Joints, Hand Rail
  - Call District Materials when the items arrive on site!
  - Make sure to discuss this at the Pre-Construction Conference when talking about Source of Materials.

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Document

CONDUIT

- Plastic Conduit:
  - Accepted based on a test report for samples representing each conduit size and manufacturer furnished to the project.
    - If not sampled at the source, must be sampled on site by District Materials.
    - If there isn't a test report furnished, call District Materials!
- Steel or Rigid Conduit:
  - Accepted based on approved source for each manufacturer and size furnished to the project.

PAINTS FOR STEEL STRUCTURES

- Accepted based on approved brand and approved specific batch of lot number.
- Require reporting of the paint type such as primer, intermediate, and top coat and batch or lot number.

DISCUSSION

- 1. T or F On the IM101s for Bridge Deck Overlay, PCC Structures, PCC Paving; The quantity paid is what actually paid for on the project and should match the Final Quantities sheet.
- 2. What form do you report your grade air and slump test performed?
- 3. T or F IM535 Appendices A, B and C shows testing intervals for entrained air, slump, and gradations. With a note See Specifications for Complete Details.
- 4. Culvert project took 5 weeks. The Concrete was furnished each week as identified on the PCC Plant Reports. **What is the minimum number of Coarse Aggregate CPI process Control gradations required for this project?** Given weekly Report 1 is 40CY, weekly Report 2 is 140CY, weekly Report 3 is 80Cy, weekly Report 4 is 25CY, and weekly Report 5 is 150CY.
- 5. On IM101 Concrete Structures middle portion of page, What do you look for?

DISCUSSION

- 6. Y or N Do you need mill test certifications for H-Pile; Pile Points?
- 7. On IM101 PCC Paving for Steel items; What do you look for?
- 8. What are the 4 types of Reinforcing steel? (must meet Buy America Act IM107)
- 9. T or F Structural steel items need approved shop drawings and Fabrication report.
- 10. T or F According to IM535; When available observe each occurrence; Witness maturity curve development, Verify that a valid maturity exists and has been signed by the DME or representative of the DME, and Check for every validation(s) in accordance with IM383.
- 11. What does the PCC Plant Monitor look for on the Plant Reports?
- 12. Where do you look to find approved Brand/Sources for a materials item?

DISCUSSION

- 13. Y or N Is this something you might see for a Verification of Gradations and Air and slump tests for the Materials audit? _____ Do we have enough required tests documented?_____

BROS-C048(73)--5F-48 Contract 48-C048-073

	Report	Date	CY	Required Air &	Required Slump	Actual Air &	Actual Slump	QC Gradation Coarse	QC Gradation Fine	QC Grad Required	Monitor Gradation Coarse	Monitor Gradation Fine	Mon. Grad Set Required	Mix	Plant	Contractor	Remarks
	1	8/19/2016	16.50	1	1	1	1	CA8-17-16	FA8-17-16	1	8-19-16VK	8-19-16VK	1	C-4WR-C20	Manatt-Wburg	Taylor	east abut
<50	1	8/23/2016	16.50	1	1	1	1							C-4WR-C20	Manatt-Wburg	Taylor	west abut
	2	9/14/2016	112.00	4	4	5	5	CA9-12-16	FA9-12-16	1	9-12-16VK	9-12-16VK	1	C-4WR-C20	Manatt-Wburg	Taylor	Bridge Deck
	3	9/21/2016	16.50	1	1	1	1	CA9-21-16	FA9-21-16	1				C-4WR-C20	Manatt-Wburg	Taylor	Barrier Rail
<50	3	9/26/2016	3.25	1	1	1	1							C-4WR-C20	Manatt-Wburg	Taylor	Barrier Rail
		total	164.75	8	8	9	9	3	3	3	2	2	2				
				(1/30)	(1/30)												

IM 101
HMA Paving & Cold-In-Place Recycling

HMA PAVING & COLD-IN-PLACE RECYCLING

Typical Items Reported on this IM 101:

- Flexible Pavement (HMA & WMA)
- Cold-in-Place Recycling
- Seal Coat
- Microsurfacing
- Slurry Treatments
- Crack Filling/Sealing
- Fog Seal

HMA PAVING & COLD-IN-PLACE RECYCLING

Binder & Emulsion Entries (Top Section of Form)

- Binders – PG 58-28S, PG 52-34S
  - Supplier
  - Terminal Location
- Emulsions CRS-2, CRS-2P, CSS-1, CSS-1H
  - Supplier
  - Terminal Location
  - Diluted or undiluted

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I.M. 101 HMA & COLD-IN-PLACE RECYCLING

Stabilizing Agent

- Used in Cold-In-Place Recycling
  - Standard Asphalt Emulsion HFMS-2s or CSS-1
  - Foamed Asphalt PG 52-34S

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HMA PAVING & COLD-IN-PLACE RECYCLING

BINDER AND EMULSION CERTIFICATIONS:

PRODUCT; TYPE OR GRADE
BATCH NUMBER
SPECIFIC GRAVITY OR WEIGHT PER GALLON
SIGNED CERTIFICATION STATEMENT
PROJECT NUMBER
QUANTITY

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MIX DESIGNS

- All mix designs: HMA, WMA, Microsurfacing, and slurry are approved by the District Materials Office.
- Identified with a specific number
  - Ex: ABD18-2001 18 = year 2 = district 001 #

MIX DESIGNS

- Record only the Original Mix Design used on the contract item.
  - Ex: ABD18-2001
- Revisions made during placement on contract item do not need to be listed.
  - Ex: ABD18-2001R1

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QUANTITY PAID VS. QUANTITY DOCUMENTED

- Quantity Paid – may be in tons or square yards as identified in the contract item's units.
- If mix total is <u>under 1000 tons</u> quantity paid and quantity documented <u>may</u> be in square yards.
- If mix is <u>over 1000 tons</u> then quantity documented <u>must</u> be in tons.

SQUARE YARD ITEMS

- To be considered small quantities HMA/WMA, the mix quantity is under 1000 tons per item (if paying in square yards, must calculate the tonnage to determine this) the following documentation is needed:
  - A certification statement must be on the HMA/WMA Plant Report.
  - Contractor must run a minimum of 1 Box and 1 gradation sample for daily production in excess of 100 tons.

SQUARE YARD ITEMS EXAMPLE
SMALL QUANTITY

- Item is HMA/WMA Shoulder Strengthening for Bridge Deck Overlay
- There are four areas at 10' x 75'
- Depth is 8"
- Use 145pcf HMA/WMA

- 10' x 75' x 8" / 12" per foot = 500CF
- 500 CF x 145#/CF = 72,500 #
- 72,500# / 2000 pounds per ton = 36.25 Tons x 4 areas = 145 Tons

JOB CONTROL TESTS

- This section of the IM 101 sheet is completed by project inspection staff from information found in the from the following sources:
  - Plant Reports
  - Monitor gradation reports
  - Charting Program
  - Lab Test Reports or Summaries
  - Pavement Smoothness Reports

  The yellow shaded blanks are completed by District Materials.

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JOB CONTROL TESTS

- Gradations:
  - How many are Required?
    - Count # of days of production (lot)
    - Documented: Reported on Plant Report
- Binder Samples:
  - How many are Required?
    - Count days of plant production
    - Documented: Found on District Lab Test Summary

JOB CONTROL TESTS

- **Binder Tests:**
  - Required: Frequency of one 1st day of production and then one per week of plant production.
  - Documented: Found on District Lab Test Summary
- **Tack:**
  - Required: One per project
  - Documented: Count tests on District Lab Test Summary

JOB CONTROL TESTS

- **Stabilizing Agent:**
  - Required: Count the number of days Cold-in-Place Recycling is performed.
  - Documented: Count # tests on District Lab Test Summary.

JOB CONTROL TESTS

Lab Density

- Required: # of lab density tests completed by contractor for determination of Gmm and Gmb and Lab voids, is based on the daily production.

Estimated Daily Production	No. of Sublots
101 – 500 tons	1
501 – 1250 tons	2
1251 – 2000 tons	3
2001 – 4500	4
Over 4500 tons	5

Documented: Number of mix tests reported by contractor on the plant report or charting programs.

JOB CONTROL TESTS

- **Field Voids:**
  - Required: Number of lots based on IM 204 or IM 511 (typically one lot per day).
  - Documented: Results of compacted mix (road cores cut) for determination of PWL or AAD.
- **Film Thickness:**
  - Required: One per day.
  - Documented: Total number of reported on Plant Reports.

JOB CONTROL TESTS

- **Smoothness:**
  - If smoothness testing is part of the contract documents record "Yes". If not, then "No".
  - The contractor's smoothness test mark FINAL are the ones important for the materials review.

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JOB CONTROL TESTS

- **Field Density & Field Moisture (Cold-in-Place)**
  - Required: Counting number of days multiplied by 10. If retests are required to demonstrate density compliance, include the number of tests reported for the required re-tests.
  - Documented: Count the tests reported by the contractor.

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JOB CONTROL TESTS - DOCUMENTED

Look at the Plant Reports or in the Charting Program to find:

- Gradations reported by the Certified Plant Inspector
- Lab Voids – number of Box Samples tested
- Field Voids – number of Roadway Cores cut and tested

JOB CONTROL TEST

- Seal Coat Compatability:
  - Required: One on the first day of production and one per week of seal coat production.
  - Documented: Count the number of tests recorded on the District Lab Test Summary.

JOB CONTROL TEST

- Gradation Verification Tests (Splits with CPI):
  - Required: First day of Production and 20% thereafter.

VERIFICATION TESTS & INDEPENDENT ASSURANCE

- Both Verification and Independent Assurance tests are performed by District Materials Inspectors.
- This is the information that will be put into the Yellow portion of the IM 101 sheets after they are submitted to District Materials.

HMA PLANT REPORT EXAMPLES

class hand out

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DISCUSSION

- 1. Y or N If you have a small quantities HMA Line item; are you still required to document PG oil and Emulsion on your HMA IM101?
- 2. According to IM204 Appendix K, Cold-in Place Recycling; what is required to document for QC tests of compacted field density and field moisture tests?___/lot.
- 3. T or F If retests for compacted field density and field moistures are required to demonstrate density compliance, include the number of tests reported for the required re-tests.
- 4. When monitoring a HMA plant, what is the frequency for Observing the tasks of aggregate and mixture sampling and testing? A.Weekly, B.During Start Up, C.During daily visits, D.End of Project
- 5. When Monitoring a HMA Project; what do you look for on Plant Reports?
- 6. T or F According to IM507; The HMA Plant report needs to verify that a valid mix design exists and has been signed by the DME.

DISCUSSION

- 7. T or F To be considered small quantities HMA/WMA, the mix design quantity is under 1000tons per item {if paving SY, (5000SY), must calculate the tonnage to determine this} the following documentation is needed:1. A certification statement must be on the HMA/WMA plant report. 2.Contractor must run a minimum of 1 Box and 1 gradation sample for the daily production in excess of 100 tons.
- 8. When monitoring the HMA project field cores; witness or verify that agency personnel direct and witness coring, transport or verify that sample security has been maintained, check field cores for damage before testing, test cores, record and furnish the results to the CPI.
- 9. A Plastic bottle is required when a verification Emulsion sample is taken per IM204 Appendix F.
- 10. What is the frequency of the Combined Aggregate Gradation for the Independent Assurance sample on a HMA Project.

DISCUSSION

- 11. Y or N Is this something you might see in the file for Verification of a Small Quantities item for HMA material placed on a project for the Materials Audit? _____ Do we have enough tests documented?_____

MP-150-6(705)40--76-10 Contract 10-1506-705

Aspro Small Quantities

		QC	cold feed	QC	Hot box	QA	cold feed	QA	Hot box	QI Field Cores		Film Thickness					
Date	Report	req	act	req	act	req	act	req	act	req	act	req	act	Mix Design	Patching	placement	Tons
9/25/2017	1	1	1	1	1							1	1	ABD17-2004B	2530 Partial patch	HT Int 1/2	36.04
9/27/2017	2													ABD17-2004B	2530 Partial patch	HT Int 1/2	81.14
9/28/2017	3													ABD17-2004B	2530 Partial patch	HT Int 1/2	85.00
9/29/2017	4													ABD17-2004B	2530 Partial patch	HT Int 1/2	69.56
10/3/2017	5													ABD17-2004B	2530 Partial patch	HT Int 1/2	84.32
10/4/2017	6													ABD17-2004B	2530 Partial patch	HT Int 1/2	110.50
Totals		1	1	1	1	0	0	0	0	0	0	1	1				466.56

IM 101
Miscellaneous Materials

I.M. 101 MISCELLANEOUS MATERIALS

Common items recorded on this IM 101 sheet:

- Engineering Fabric
- Seed Mixtures, Mulch, Fertilizer,
- Traffic Paint & Glass Beads,
- Perimeter and Slope Sediment Logs,
- Type A & B Signs

I.M. 101 MISCELLANEOUS MATERIALS

- Most of these are accepted on the basis of approved sources and brands.
- Example:
  - Safety Fence
    - Plastic Safety/Nite Brite II
  - Paint for Pavement Markings – Fast Dry Waterborne
    - Diamond Vogel Paints – UC 1512

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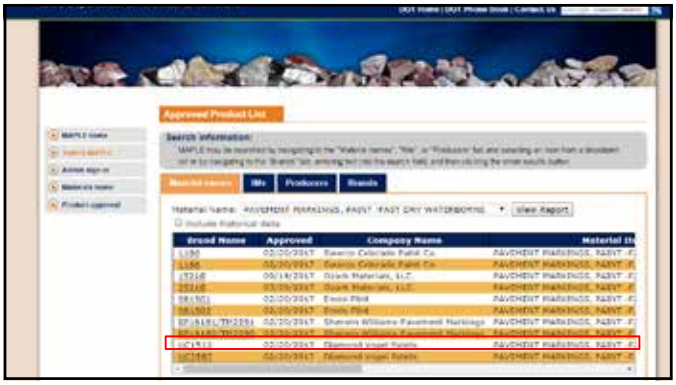

I.M. 101 MISCELLANEOUS MATERIALS

Construction and Materials Review

MISCELLANEOUS MATERIALS

(Pavement Markings, Beads, Erosion Control Items, Signing, Etc.....)

Project No.: STPN-065-5(56)--2J-17 Contract No.: 17-065S-055

Refer to IM 204 for Acceptance of Materials

Contract Item No.	Item	Unit	Quantity Paid	Basis of Acceptance	I.M. Spec.	Brand or Source
9200	Seed (Parsh)	ACRE	2.48	Cert	409.02	Albert Lea Seed House
1100/1110	Fertilizer	N/A	N/A	Approved Source	409.03	Potash Fertilizer
9050	Mulch	ACRE	2.22	Approved Source	4100.03	Certified Fiber wood Blend
1210	6" Slope Sediment Dev.	LF	4,871.000	Approved Source	409.10	American Excelsior Co.
1130	Silt Fence/Ditch Checks	LF	1,207.000	Approved Source	409.03	Willamette Industries
1220	12" Slope Sediment Dev.	LF	1,613.000	Approved Source	409.10	American Excelsior Co.
1090	Seed (Urban)	LF	0.770	Cert	409.02	Albert Lea Seed House
0700/0750	Glass Beads (Paint)	N/A	N/A	Approved Source	401	Ennis-Flint
1080	Mulch Bonded Fiber Matrix	ACRE	0.770	Approved Source	409.10	Tensar North American
0790/0750	Paint White/Yellow	Gal	4,150.000	Approved Source	403.03	Ennis Flint
0270	Weld Retroreflective Tape	Gal	28.950	Approved Source	420.00	3M
0690	Engineer Fabric	SY	96.000	Approved Source	490.01	Propex Geotex 601
0650	EF Joint Assembly	EACH	20.000	Approved Source	451.030	Logan
0190	Perforated Resilient Joint Filler	N/A	N/A	Approved Source	430.03	WR Meadows
0190	Geogrid	N/A	N/A	Approved Source	490.01	TENSAR BX4100
0190	EF Joint Assembly	Deduct	Approach	Approved Source	451.030	Wiley Industries

ENGINEERING FABRIC

Ex: Propex Geotex 601

- **Make sure you include BOTH the source and the Brand name!**
- **When reporting the above product, don't forget to include the "601".**

SEED MIXTURES

- Must be from an Approved Seed Conditioner (Source)
  - Approved by Iowa Crop Improvement Association
  - All seeding is mixed off site
    - ➡ Permanent Rural,
    - ➡ Permanent Urban,
    - ➡ Native Grass,
    - ➡ Wetland Grass,
    - ➡ Wildflower Seeding.

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SEEDING – RELATED ITEMS

- Fertilizer:
  - The information on the bag should list the blend (such as 6-24-24) and this should be noted in the inspector's field records and/or a photo of the bag should be included in the project records.

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- Straw Mulch:
  - All that is needed is a certificate stating that the material is "Weed Seed Free".

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- Other Mulch Products are accepted on a basis of Approved Brand.

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LANDSCAPE ITEMS

- Trees, shrubs
  - Must meet the requirements of IM 470 (Inspection and Acceptance of Landscape Plant Materials)
  - Will be inspected for survival rate by the Office of Roadside Development
    - 1 year replacement
    - 2 year replacement

TEMPORARY CONTRACT ITEMS

- Items will be removed at a later date when no longer needed.
- It is the inspector's responsibility to ensure that approved mixes or sources are used and documented
- Examples:
  - Detour Pavement
  - Pavement Markings
  - Flood Lights
  - Crash Cushions
  - Temporary Barrier Rail

TYPE A & B SIGNS

- IM 486 page 3
  - Must have a Shipping Report issued by an approved fabricator.
- A report for each shipment of signs sent to Iowa projects shall be furnished to the project engineer and DME of the District in which the project is located.
  - Certification Statement shall be on each shipping report. It shall be signed by a responsible company representative and is required on each report.

TYPE A & B SIGNS (CONT.)

- As a minimum the report shall contain:
  - Project Number, Contractor, & County
  - Listing of signs shipped (showing sign message, square footage of signs, and identification number)
  - Tabulation of all materials used in sign fabrication. It shall show Office of Materials lab test numbers or copies of applicable material certifications not represented by lab number

SHIPPING REPORT

The fabricator shall issue a shipping report to the project engineer and DME of the District in which the project is located, or as directed, for each shipment of signs sent to Iowa projects. The report shall contain, as a minimum, the following information:

1. Project Number, Contractor, and County.
2. A listing of signs shipped, showing the sign message and identification number
3. The area (square feet or square meter) of each sign being shipped
4. Tabulation of all materials used in the sign fabrication. The tabulation shall show the Office of Materials laboratory test number, or copies of applicable material certifications not represented by lab number.
5. The following certification statement shall be on each shipping report. It shall be signed by a responsible company representative, and is required on each report:

I certify that the signs contained in this shipment were fabricated according to the contract documents using the tested and/or certified materials listed above.

Signed _____

Date _____

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DISCUSSION

- 1. What are common items recorded on a Miscellaneous IM101?
- 2. Where do you look to find an approved brand/source for an item?
- 3. It is the inspectors responsibilities to ensure that approved mixes or approved sources are used and documented for Temporary Contract items. Give a few examples of Temporary Contract items.
- 4. T or F Type A and B Signs must have a shipping report issued by an approved Fabricator.
- 5. What is the basis of acceptance for wood posts as signing material?

I.M. 101
Lighting and Signals

I.M. 101 LIGHTING AND SIGNALS SHEETS

- Top Portion of this review sheet is for reporting information specifically for light poles and signal poles.
  - Common lights or Signal poles with mast arms &/or extensions bolted to the pole
  - Tower Lights

I.M. 101 LIGHTING & SIGNALS

- Basis of Acceptance:
  - Shop Drawings from an approved Fabricator approved by the designer
  - Fabrication report from a fabrication inspector, representing the contracting authority.

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LIGHTING & SIGNALS

- Non-standard light or signal poles may be specified such as ornamental poles.
- A particular product or model from a manufacturer may be identified in the project plans or other contract documents.
- When a specific model or product is specified, catalog cuts approved by the designer is most often the basis of acceptance.

ELECTRICAL COMPONENTS
(MIDDLE SECTION OF 101 PAGE)

- Most often itemized in the plan or other contract documents (such as Special Provisions).
- Accepted by Approved Catalog Cuts.
- Control cabinets and junction boxes
  - Approved Catalog Cuts must include an approval statement signed by the Designer.

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101 LIGHTING & SIGNALS
(BOTTOM SECTION OF 101 SHEET)

- Ground rods and clamps
  - Accepted on the basis of visual inspection.
- Electrical conduit is accepted on basis of:
  - Approved brand for steel conduit or
  - Central Materials test report for plastic conduit.

HAND HOLES & IRON CASTINGS

- Precast concrete Hand holes are accepted on the basis of:
  - Approved fabricator and must include:
    - Fabricator's trade mark or logo,
    - Casting date,
    - "Certified" stamp on each piece,
    - Certified delivery tickets,
    - End of job summary report, and
    - Visual Inspection after delivery to the Project Site.

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CIRCUIT TEST REPORT

- Identify if the electrical contractor has furnished an electrical test report by a "Y" in the blank next to the words Circuit Test at the bottom of this review sheet.

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DISCUSSION

- 1. T or F Top portion of Lighting and Signals IM101 is specifically for light poles and signal poles?
- 2. T or F Basis of Acceptance for Lighting and Signals is shop drawings from an approved Fabricator, approved by the designer?
- 3. T or F Middle portion of Lighting and Signals IM101 is electrical components; most often itemized in the plans or special provision and accepted by Catalog Cuts.
- 4. Give me an example of what you might see on the bottom portion of Lighting and Signals IM101?

Questions????

Thank you and good luck!!

LINKS FROM MATERIALS AUDIT POWERPOINT PRESENTATION

LINKS FROM MATERIALS AUDIT

CHOSEN VALLEY TESTING, INC.

225 North Jackson Avenue, Mason City, IA 50401 Phone (641) 201-1050 Fax (641) 201-1012

REPORT OF FIELD COMPACTION TESTS

Date: 04/22/15 **Project #:** 7680.2015.IAW

Client: Mr. Adam Larson
JB Holland Construction, Inc
2092 State Hwy 9
Decorah, IA 52101

Project Description: Compaction Testing Services
CN Railroad
Janesville, IA

Test No.	Date	Soil I.D.	Classification	Optimum Moisture	Max. Lab Dry Density (PCF)	In Place % Moisture	In Place Density (PCF)	Percent Compaction	Specified Compaction	Comments
1	4/7/2015	P-1	Brown Sand	10.1	117.4	9.8	118.3	101%	95%	Pass
2	4/7/2015	P-1	Brown Sand	10.1	117.4	8.4	117.4	100%	95%	Pass
3	4/7/2015	P-1	Brown Sand	10.1	117.4	8.1	122.6	104%	95%	Pass
4	4/8/2015	P-6	Tan Sand	10.7	119.2	9.4	122.4	103%	95%	Pass
5	4/8/2015	P-6	Tan Sand	10.7	119.2	10.1	122.0	102%	95%	Pass
6	4/8/2015	P-6	Tan Sand	10.7	119.2	11.6	113.6	95%	95%	Pass
7	4/8/2015	P-6	Tan Sand	10.7	119.2	12.2	115.8	97%	95%	Pass

X Nuclear Method - ASTM D 6938-08
____ Sand Cone Method - ASTM D 1556-82

X Standard Proctor - ASTM D 698-91
____ Modified Proctor - ASTM D 1557-78

Benchmark:

Test No.	Test Location	Elevation
1	Sta 15601+85 5' left of Center Line	-1.5
2	Sta 15604+55 3' left of Center Line	-1.5
3	Sta 15606+35 10' right of Center Line	-1.5
4	Sta 15604+75 3' right of Center Line	-1
5	Sta 15606+35 2' right of Center Line	-1
6	Sta 15608+90 10' right of Center Line	-1.5
7	Sta 15608+00 5' left of Center Line	-4

F-C: Failed due to Compaction
F-M: Failed due to Moisture Content
Pass: Passing Test

c:

☐ Reviewed

Date	4/4/2016	4/4/2016	4/4/2016	4/5/2016	4/5/2016
Location	RAMP B	RAMP B			
Station	2595+00	2601+00	2596+00	2597+00	2600+00
Mass of Wet soil + Pan, A, in grams	1259.7	1261.4	1284.5	1254.6	1257.0
Mass of day soil + Pan, B, in grams	1217.5	1218.4	1229.1	1203.4	1211.0
Mass of Pan, C, in grams	749.8	750.0	750.0	750.0	750.0
Mass of wet soil, in grams	509.9	511.4	534.5	504.6	507.0
Mass of dry soil, D=B-C, in grams	467.7	468.4	479.1	453.4	461.0
Mass of water, E= A-B, in grams	42.2	43.0	55.4	51.2	46.0
Moisture Content, F= 100 x E/D, in %	9.0	9.2	11.6	11.3	10.0
Optimum	**11.0**	**11.0**	**11.0**	**11.0**	**11.0**
Pass or Fail	Pass	Pass	Pass	Pass	Pass
Proctor Mold mass, G , in grams					
Soil and Mold mass, H, in grams					
Soil mass, I + H-G, in grams					
Wet Density, J= I x 0.06614, in pcf					
Dry Density, L = J/(1 + F/100), in pcf					

Date	4/6/2016	4/6/2016	4/6/2016	4/6/2016	4/7/2016
Location					
Station					
Mass of Wet soil + Pan, A, in grams	1259.2	1265.9	1284.4	1260.7	1253.9
Mass of dry soil + Pan, B, in grams	1161.6	1230.3	1184.8	1217.6	1181.1
Mass of Pan, C, in grams	750.0	750.0	750.0	750.0	750.0
Mass of wet soil, in grams	509.2	515.9	534.4	510.7	503.9
Mass of dry soil, D=B-C, in grams	411.6	480.3	434.8	467.6	431.1
Mass of water, E= A-B, in grams	97.6	35.6	99.6	43.1	72.8
Moisture Content, F= 100 x E/D, in %	23.7	7.4	22.9	9.2	16.9
Optimum	**11.0**	**11.0**	**14.0**	**11.0**	**11.0**
Pass or Fail	Fail	Fail	Fail	Pass	Fail
Proctor Mold mass, G , in grams					
Soil and Mold mass, H, in grams					
Soil mass, I + H-G, in grams					
Wet Density, J= I x 0.06614, in pcf					
Dry Density, L = J/(1 + F/100), in pcf					

Date	4/7/2016	4/7/2016	4/8/2016		
Location					
Station					
Mass of Wet soil + Pan, A, in grams	1260.3	1259.7	1258.6		
Mass of dry soil + Pan, B, in grams	1193.7	1190.4	1191.4		
Mass of Pan, C, in grams	750.0	750.0	750.0		
Mass of wet soil, in grams	510.3	509.7	508.6		
Mass of dry soil, D=B-C, in grams	443.7	440.4	441.4		
Mass of water, E= A-B, in grams	66.6	69.3	67.2		
Moisture Content, F= 100 x E/D, in %	15.0	15.7	15.2		

Field Moisture Test

Line No.: 0090

Item Code: 2107-0875100

Description: Compaction With Moisture Control

Project No.: NHSX-218-7(207)--3H-07

Verification Moisture Tests

Contract ID: 07-2187-207

Date	Test Section Location (Sta. to Sta.)	Sample Location (Sta.)	Material Type	Wet Wt. (g)	Dry Wt. (g)	Difference (g)	Moisture (%)	Opt. MC (%)	Source of Proctor (Type & Location)[1]	Contr. or QA MC (%)	Remarks (e.g. Pass/Fail or Verified)
04/14/15	Ramp C	3592+75		506.0	462.5	43.5	9.4	10±2		QA	Pass
04/15/15	Ramp C	3587+50		503.5	469.7	33.8	7.2	10±2			Fail
04/16/15	Ramp C	3587+50		517.2	473.7	43.5	9.2	10±2			Pass
04/21/15	Ramp A	1595+00		501.9	457.6	44.3	9.7	10±2			Pass
04/23/15	Ramp A	1598+00		503.4	465.4	38.0	8.2	10±2			Pass
04/27/15	C-57	10593+00		518.6	477.6	41.0	8.6	10±2			Pass
04/29/15	Ramp C	3587+00		524.5	474.1	50.4	10.6	10±2			Pass
04/30/15	Ramp C	3588+00		510.9	469.1	41.8	8.9	10±2			Pass
05/04/15	Ramp C	3587+00		511.9	472.1	39.8	8.4	10±2			Pass
05/05/15	C-57	10593+00		516.5	485.9	30.6	6.3	10±2			Fail
05/05/15	C-57	10593+00		507.2	469.8	37.4	8.0	10±2			Pass
05/07/15	Ramp C	3586+75		563.3	510.8	52.5	10.3	10±2			Pass
05/08/15	Ramp C	3588+00		505.2	465.9	39.3	8.4	10±2			Pass
05/12/15	C-57	10595+00		522.7	495.6	27.1	5.5	10±2			Fail
05/12/15	C-57	10595+00		525.3	485.5	39.8	8.2	10±2			Pass
05/13/15	C-57			529.9	485.2	44.7	9.2	10±2			Pass
05/14/15	C-57	10591+50		505.5	453.8	51.7	11.4	10±2			Pass
05/19/15	C-57	10584+00		515.6	468.2	47.4	10.1	10±2			Pass

Note 1: MP = Multi point proctor, 1P = One point proctor, Q = Q sheets, SD = Soils Data Sheets

Rev 1/97

Form E008A

Line No.: 0080

Item Code:

Page No.:

Description: Comp. w / M & D Control

Category No.:

Project No.: NHSX-218-7(207)--3H-07

Verification Moisture + Density

Contract ID:

Date	Location Sta	Sta	(Side)	Plan Length (ft)	Plan Width (ft)	Plan Depth (ft)	Lift No.	Moist. (%)	Opt. Moist. (%)	Density (%)	Comp (Y/N)	Roller Check	Today (CY)	To Date (CY)	By
04/17/15	15564+00							9.2	10.5	114.90	Y				mh
04/17/15	15567+30							9.2	10.5	122.50	Y				mh
04/30/15	15599+40							8.5	10.5	122.10	Y				mh
04/30/15	15606+00							10.4	10.5	117.00	Y				mh
05/01/15	15607+90							7.4	10.5	122.90	Y				mh
05/04/15	15595+40							8.6	10.5	118.80	Y				mh
05/04/15	15600+15							9.6	10.5	115.00	Y				mh
	Domen														

2015

Construction and Materials Review

Roadway & Borrow Excavations and Embankments

Project No.: NHSX-218-7(207)--3H-07 Contract No.: 07-2187-207

Refer to IM 204, Appendix A

Job Control Tests (Construction)

Contract Item No.			Required	Documented
0030	Q/C Proctor Tests	1 / soil class	5	5
0030	Verification Proctor Tests	1 / 10 req'd QC tests	1	1
0090	Q/C Moisture Tests	1 / lift / 1500 ft (for max 1300 cy)	252	252
0090	Verification Moisture Tests	1 / 10 req'd QC tests	39	39
0080	Q/C In-Place Density Tests	1 / lift / 1500 ft (for max 1300 cy)	55	55
0080	Verification Density Tests	1 / 10 req'd QC tests	7	7
0080	Q/C Moisture Tests	1 / lift / 1500 ft (for max 1300 cy)	55	55
0080	Verification Moisture Tests	1 / 10 req'd QC tests	7	7

Independent Assurance Tests --- Materials will furnish report(s)

Proctor Test	1 / project or systems approach		
Moisture Test Witness	1 / project or systems approach		
In-Place Density Test Witness	1 / project or systems approach		

Comments: Item 0790 - Proof Rolling For Railroad - Proof Rolling Performed As Required

Construction and Materials Review

CULVERT, STORM SEWER AND SUBDRAIN PIPE

Project No.: NHSX-218-7(207)--3H-07 **Contract No.:** 07-2187-207

Refer to IM 441*, 445*, and 446 *** Requires "End Of Project Delivery Summary"**

Concrete Rdwy, Ent, Arch, Aprons; CMP Rdwy, Ent. Arch, Aprons; PE Pipe (12"-36" Dia.); Precast RCB sections.

Basis of Acceptance **ALL PIPE IN THIS SECTION NEED CERTIFICATION FROM AN APPROVED SOURCE**

Contract Item No.	Description	Diameter	Source	Quantity Paid	Quantity Documented
0270	Concrete Aprons	24"	Cretex	5.0	5.0
0280	Concrete Aprons	30"	Cretex	2.0	2.0
0290	Concrete Aprons	88" x 54"	Cretex	4.0	4.0
0300	Concrete Roadway Pipe	24"	Cretex	198.0 LF	198.0 LF
0310	Concrete Roadway Pipe	30"	Cretex	82.0 LF	82.0 LF
0320	Concrete Roadway Pipe	88" x 54"	Cretex	172.0 LF	176.0 LF
0330	Metal Arch Aprons	28" x 20"	ILLOWA Culvert & Supply	2.0	2.0
0340	Metal Arch Entrance Pipe	28" x 20"	ILLOWA Culvert & Supply	42.0	42.0
0350	Unclassified Aprons	18"	ILLOWA Culvert & Supply	20.0	20.0
0360	Unclassified Entrance Pipe	18"	ILLOWA Culvert & Supply	422 LF	422 LF
0370	Unclassified Roadway Pipe	18"	ILLOWA Culvert & Supply	124 LF	124 LF
0770	Smooth Steel Pipe	36"	Trinity Products, Inc.	176.0 LF	176.0 LF
0780	Smooth Steel Pipe	48"	Trinity Products, Inc.	54.0 LF	54.0 LF
1620	Handholes	24"	Iowa Base, Inc.	12.0	12.0
2140	Concrete Aprons	18"	Cretex	2.0	2.0
2150	Concrete Entrance Pipe	18"	Cretex	48.0	48.0
2160	Metal Aprons	18"	ILLOWA Culvert & Supply	2.0	2.0
2170	CMP Entance Pipe	18"	ILLOWA Culvert & Supply	60.0 LF	60.0 LF

ALL SUBDRAIN ITEMS IN THIS SECTION NEED TO BE FROM AN APPROVED SOURCE OR BRAND

Refer to IM 204, Appendix V & IM 443 **PE Tubing & Rodent Guards**

Contract Item No.	Description	Diameter	Basis of Accept.	Approved Source / Brand
0380	Longitudinal Subdrain	4"	Approved Product	Prinsco
0390	Subdrain Outlet	6"	Approved Product	Prinsco
0390	Rodent Guard	6"	Approved Source w/ Cert	Agri Drain
0970	Subdrain	4"	Approved Product	ADS
0970	Rodent Guard	6"	Approved Source w/ Cert	Agri Drain
1110	Perforated Subdrain	4"	Approved Product	ADS
1110	Rodent Guard	6"	Approved Source w/ Cert	ADS N-12
1210	Subdrain	4"	Approved Product	ADS
1210	Rodent Guard	6"	Approved Source w/ Cert	ADS N-12
1370	Perforated Subdrain	4"	Approved Product	ADS
1370	Rodent Guard	6"	Approved Source w/ Cert	Contech

Comments:

NO.

ILLOWA CULVERT & SUPPLY CO.
P.O. BOX 43 · LOW MOOR, IA 52757

Plant located at
Low Moor, Iowa

SHIPPING LIST

Contractor: JB Holland

County: Black Hawk

Project No: NHSX-218-7(207)--3H-07

SIZE	LENGTH	CORR.	GAGE	BRAND	HOW MADE	STATION NUMBER
28"x20"	2			Contech	Aprons	

ILLOWA CULVERT & SUPPLY CO. CERTIFICATION STATEMENT

The material covered by this certificate of compliance was manufacured in conformity with Iowa Dept. of Transportation specifications section 4141 and AASHTO M 36 and M 218. Based on mill certificates and quality control testing, it is certified that representative samples of the listed materials have been tested in accordance with these specifications and that the results meet the requirements. We also certify that all steel used meets the requirements of IM 107, Buy America. (Material description and shipping destination are as shown.)

Authorized Signature Jeff Greve Date May 21, 2015

NO.

ILLOWA CULVERT & SUPPLY CO.
P.O. BOX 43 - LOW MOOR, IA 52757

Plant located at
Low Moor, Iowa

SHIPPING LIST

Contractor: JB Holland

County: Black Hawk

Project No: NHSX-218-7(207)–3H-07

SIZE	LENGTH	CORR.	GAGE	BRAND	HOW MADE	STATION NUMBER
28"x20"	42'	2 2/3	16	Worth	Entrance	

ILLOWA CULVERT & SUPPLY CO. CERTIFICATION STATEMENT

The material covered by this certificate of compliance was manufacured in conformity with Iowa Dept. of Transportation specifications section 4141 and AASHTO M 36 and M 218. Based on mill certificates and quality control testing, it is certified that representative samples of the listed materials have been tested in accordance with these specifications and that the results meet the requirements. We also certify that all steel used meets the requirements of IM 107, Buy America. (Material description and shipping destination are as shown.)

Authorized Signature Jeff Greve Date May 21, 2015

Iowa Finished Job Report

FORTERRA™

Contractor: JB Holland
Iowa Job #: NHSX-218-7(207)-3H-07
Acct. ID:
Location: Black Hawk County

RS#: 1714168PI1

Pipe Dia.	Class	4' 1.22 m	6' 1.83 m	8' 2.44 m	Other	Specials	Total Shipped (ft)	Total Shipped (m)
18"	3			6	2 each - Flared Ends		48	14.64
24"	3	2	1	23	5 each - Flared Ends		198	60.39
30"	3	1	1	9	2 each - Flared Ends		82	25.01
72 RCAP	3			22	4 each - Flared Ends		176	53.68
							0	0.00
							0	0.00
							0	0.00
							0	0.00
							0	0.00
							0	0.00
							0	0.00
							0	0.00

Other Materials:

The materials itemized in this shipment are certified to be in compliance with the applicable AASHTO and/or ASTM requirements and Iowa Department of Transportation Standard Plans and Specifications, IMs and meet the Buy America requirements as described in IM 107 for all steel, iron products, and coatings.

Matthew McAllister

Matt McAllister, President
Forterra Pipe and Precast

Hancock

Hancock Concrete Products
218 Lake Street
Lake View, IA 51450

Tel (712) 665-2822
Fax (712) 665-0909

December 16, 2016

MP Backhoe
906 Walnut Street
Bristow, IA 50611

Reference: HMA Resurfacing, US 65 from 18th Street (Mason City) to IA 9 (Manly) – Cerro Gordo and Worth Counties;
Iowa Department of Transportation Project STPN-065-8(56)--2J-17

Subject: Certificate of Compliance

The intent of this letter is to certify that the reinforced concrete pipe, reinforced concrete manhole sections, and reinforced concrete intake structures, and accessories supplied to the above customer meet applicable Iowa Department of Transportation specifications.

ITEM NO.	ITEM CODE	ITEM	UNIT	TOTAL
1265	2416-0100015	APRONS, CONCRETE, 15 IN. DIA.	EACH	1
0370	2416-0100018	APRONS, CONCRETE, 18 IN. DIA.	EACH	2
0380	2416-0100024	APRONS, CONCRETE, 24 IN. DIA.	EACH	5.
39	2416-0100048	APRONS, CONCRETE, 48 IN. DIA.	EACH	1
	2416-1160015	CULVERT, CONCRETE ENTRANCE PIPE, 15 IN. DIA.	LF	16
42	2416-1160018	CULVERT, CONCRETE ENTRANCE PIPE, 18 IN. DIA.	LF	48
43	2416-1160024	CULVERT, CONCRETE ENTRANCE PIPE, 24 IN. DIA.	LF	88
44	2416-1180018	CULVERT, CONCRETE ROADWAY PIPE, 18 IN. DIA.	LF	24
52	2435-0250810	INTAKE, SW-508 MODIFIED	EA	4
53	2435-0250814	INTAKE, SW-508 MODIFIED, TOP ONLY	EA	2

If you have any questions or wish to contact me for any reason, please email me at geoff.richardson@hancockconcrete.com or call me on my mobile phone at (320) 287-2705.

Sincerely,

Geoff Richardson
Director of Quality

Construction and Materials Review

CULVERT, STORM SEWER AND SUBDRAIN PIPE

Project No.: NHSX-218-7(207)--3H-07 **Contract No.:** 07-2187-207

Refer to IM 441*, 445*, and 446 *** Requires "End Of Project Delivery Summary"**

Concrete Rdwy, Ent, Arch, Aprons; CMP Rdwy, Ent. Arch, Aprons; PE Pipe (12"-36" Dia.); Precast RCB sections.

Basis of Acceptance **ALL PIPE IN THIS SECTION NEED CERTIFICATION FROM AN APPROVED SOURCE**

Contract Item No.	Description	Diameter	Source	Quantity Paid	Quantity Documented
0270	Concrete Aprons	24"	Cretex	5.0	5.0
0280	Concrete Aprons	30"	Cretex	2.0	2.0
0290	Concrete Aprons	88" x 54"	Cretex	4.0	4.0
0300	Concrete Roadway Pipe	24"	Cretex	198.0 LF	198.0 LF
0310	Concrete Roadway Pipe	30"	Cretex	82.0 LF	82.0 LF
0320	Concrete Roadway Pipe	88" x 54"	Cretex	172.0 LF	176.0 LF
0330	Metal Arch Aprons	28" x 20"	ILLOWA Culvert & Supply	2.0	2.0
0340	Metal Arch Entrance Pipe	28" x 20"	ILLOWA Culvert & Supply	42.0	42.0
0350	Unclassified Aprons	18"	ILLOWA Culvert & Supply	20.0	20.0
0360	Unclassified Entrance Pipe	18"	ILLOWA Culvert & Supply	422 LF	422 LF
0370	Unclassified Roadway Pipe	18"	ILLOWA Culvert & Supply	124 LF	124 LF
0770	Smooth Steel Pipe	36"	Trinity Products, Inc.	176.0 LF	176.0 LF
0780	Smooth Steel Pipe	48"	Trinity Products, Inc.	54.0 LF	54.0 LF
1620	Handholes	24"	Iowa Base, Inc.	12.0	12.0
2140	Concrete Aprons	18"	Cretex	2.0	2.0
2150	Concrete Entrance Pipe	18"	Cretex	48.0	48.0
2160	Metal Aprons	18"	ILLOWA Culvert & Supply	2.0	2.0
2170	CMP Entance Pipe	18"	ILLOWA Culvert & Supply	60.0 LF	60.0 LF

ALL SUBDRAIN ITEMS IN THIS SECTION NEED TO BE FROM AN APPROVED SOURCE OR BRAND

Refer to IM 204, Appendix V & IM 443 **PE Tubing & Rodent Guards**

Contract Item No.	Description	Diameter	Basis of Accept.	Approved Source / Brand
0380	Longitudinal Subdrain	4"	Approved Product	Prinsco
0390	Subdrain Outlet	6"	Approved Product	Prinsco
0390	Rodent Guard	6"	Approved Source w/ Cert	Agri Drain
0970	Subdrain	4"	Approved Product	ADS
0970	Rodent Guard	6"	Approved Source w/ Cert	Agri Drain
1110	Perforated Subdrain	4"	Approved Product	ADS
1110	Rodent Guard	6"	Approved Source w/ Cert	ADS N-12
1210	Subdrain	4"	Approved Product	ADS
1210	Rodent Guard	6"	Approved Source w/ Cert	ADS N-12
1370	Perforated Subdrain	4"	Approved Product	ADS
1370	Rodent Guard	6"	Approved Source w/ Cert	Contech

Comments:

Text_from_Steve_Timmerman.txt

The 4" perforated subdrain used was manufactured by ADS. According to Matls. I.M. 443, Appendix A, that manufacturer is approved.

Certificate of Compliance

Company Identification: Prinsco, Inc. is a manufacturer of corrugated polyethylene pipe and tubing, with regional facilities in Minnesota, Illinois and Iowa. Prinsco pipe and tubing is manufactured from high grade polyethylene resins under controlled process conditions by extrusion and vacuum-forming.

Products: Goldline® corrugated pipe and tubing for culverts and drainage. Goldflo® Dual-Wall Pipe for storm sewers, culverts and drainage.

ECOFLO WT Dual-Wall Pipe for non-AASHTO storm sewers, culverts and drainage.

Quality Assurance: Incoming resin materials are subjected to careful acceptance testing. Finished pipe is tested to the requirements of all applicable specifications. Control of quality at each stage of the manufacturing process is everyone's responsibility and forms a major part of the Prinsco teamwork approach to reliability and quality assurance.

Certification: All polyethylene products with the Prinsco logo or the Prinsco Gold Stripe are manufactured, tested and supplied in accordance with the highest industry standards, including:

BUREC: Standard of Specifications for Polyethylene Plastic Corrugated Drainage Tubing
SCS 606: Standard Practice for Subsurface Drain

All Prinsco products are manufactured, tested and supplied in accordance with the following applicable ASTM standards:

ASTM F405: Standard Specification for corrugated polyethylene pipe and fittings, 3-inch through 6-inch, (75mm-150mm)
ASTM F667: Standard Specification for large diameter corrugated polyethylene pipe and fittings, 8-inch through 24-inch, (200mm-600mm)

In addition, all Prinsco products with an AASHTO designation are manufactured, tested and supplied in accordance with the following AASHTO standards:

AASHTO M252: Corrugated Polyethylene Drainage Pipe, 75mm-250mm diameter, (3-10 inch)
AASHTO M294: Corrugated Polyethylene Pipe, 300mm-1200mm diameter (12-60 inch)
NTPEP: National Transportation Product Evaluation Program Certified: Certification Program of AASHT0 (4" -60")

All Prinsco products manufactured with an integral bell coupler are supplied with a rubber gasket meeting the following ASTM standards.

ASTM F477: Elastomeric Seals (Gaskets) for Joining Plastic Pipe
ASTM D3212: Standard specification for Joints for Drain and Sewer Plastic Pipe Using Flexible Elastomeric Seals
ASTM F2306: Standard specification for 12–60 inch (300–1500mm) annular corrugated profile wall PE pipe and fittings for gravity flow storm sewer and subsurface drainage applications.

All Prinsco pipe is manufactured with high density polyethylene that meets or exceeds the ASTM D3350 cell classification requirements of the appropriate standards, as outlined below:

AASHTO M294 Products: Materials meet or exceed ASTM D3350 Cell Classification 435400C, plus a minimum 24-hour NCLS Test value per ASTM F2136
All Other Products: Materials meet or exceed ASTM D3350 Cell Classification 324420C

Test Results: Testing on all Prinsco products is done according to applicable ASTM and AASHTO standards. Results of these tests will be furnished upon request.

Certified by: Prinsco, Inc. (Company Name), [signature] (Vice President of Operations), 1/1/2016 (Date)

CERTIFICATE OF COMPLIANCE

DATE: 5-31-16

TO: REDING'S GRAVEL- EDWARDS

PRODUCTS SUPPLIED:
200'- 4"x250' DOT PERF PIPE

PROJECT: Black Hawk County

NHSX-218-7(207)—3H-07

The materials itemized in this shipment are certified to meet the requirements of the applicable specifications of the Iowa Department of Transportation.
AASHTO M - 252 and / or M - 294

THE MOST ADVANCED NAME IN DRAINAGE SYSTEMS

November 30, 2017

J.B. Holland Const.
2092 State Highway 9
Decorah, IA 52101

Re: Advanced Drainage Systems, Inc.
Certification of Compliance
(Invoice# 17907673)

Dear Sir or Madam:

This will certify that the 100 MM I.D. corrugated Type CP polyethylene pipe and fittings manufactured by Advanced Drainage Systems, Inc. comply with the requirements specified in the latest revision of AASHTO M 252M Standard Specification for Corrugated Polyethylene Drainage Pipe.

Project:

Project No.: BRFN-346-1(16)39-19

Location: Chickasaw County

Quantity: 200 Feet of 4 Inch (Perf)

Sincerely,

Mitch Kirkland
Plant Manager

ADVANCED DRAINAGE SYSTEMS, INC. 100 NE 20TH STREET EAGLE GROVE, IA 50533 TEL: 515 / 448-5101 FAX: 515 / 448-3630
HTTP://WWW.ADS-PIPE.COM

HI-WAY PRODUCTS, INC.

500 ASH DR. IDA GROVE, IA 51445
PHONE 712-364-3763 FAX 712-364-3764

HI-WAY PRODUCTS, INC. CERTIFICATE OF COMPLIANCE
IOWA DEPARTMENT OF TRANSPORTATION

THIS IS TO CERTIFY THAT THIS MATERIAL HAS BEEN INSPECTED BY AN IOWA D.O.T. PROJ. DEVELOPMENT DIVISION. AN APPROVED AGENCY AND COMPLIES WITH THE IOWA D.O.T. REQUIREMENTS CITIED IN THE CONTRACT OR UNDER WHICH THEY WERE PURCHASED.

DETAILED INSPECTION REPORTS ARE ON FILE AT: HI-WAY PRODUCTS, INC.
500 ASH DR., P.O. BOX 278
IDA GROVE, IA 51445

BY Jeremy Williams DATE: 6/5/15
JEREMY J. WILLIAMS, HI-WAY PRODUCTS, INC.

PROJ. NO.: HSIPX-218-7(230)-3207 COUNTY: Black Hawk County, IA

PRIME CONTACTOR: JB Holland SUB CONTRACTOR: Anne Duffield Const.

MATERIALS:
ALL BEAM GUARDRAIL, BOLTS, NUTS & WASHERS
APPROVED BY THE IOWA D.O.T. AMES LAB
SEE ATTACHED TEST REPORT SHEETS FOR IOWA D.O.T. AMES LAB#'S.

175 L.Ft. **STEEL BEAM GUARDRAIL *SEE ABOVE***
GREGORY HIGHWAY, TRINITY INDUSTRIES, IMH PRODUCTS
ALL GUARDRAILS ARE IN COMPLIANCE W/Matls. IM 455.02

3 Ea **BA-201 BARRIER TRANS. SECT. *SEE ABOVE***
GREGORY HIGHWAY, TRINITY INDUSTRIES, IMH PRODUCTS
ALL GUARDRAILS ARE IN COMPLIANCE W/Matls. IM 455.02

3 Ea **BA-202 BOLTED, END ANCHOR *SEE ABOVE***
GREGORY HIGHWAY, TRINITY INDUSTRIES, IMH PRODUCTS
ALL GUARDRAILS ARE IN COMPLIANCE W/Matls. IM 455.02

BA-203 W-BEAM END ANCHOR *SEE ABOVE*
GREGORY HIGHWAY, TRINITY INDUSTRIES, IMH PRODUCTS
ALL GUARDRAILS ARE IN COMPLIANCE W/Matls. IM 455.02

BA-204 THRIE-BEAM END ANCHOR *SEE ABOVE*
GREGORY HIGHWAY, TRINITY INDUSTRIES, IMH PRODUCTS
ALL GUARDRAILS ARE IN COMPLIANCE W/Matls. IM 455.02

3 Ea **BA-205 END TERMINAL *SEE ABOVE***
GREGORY HIGHWAY, TRINITY INDUSTRIES, IMH PRODUCTS
ALL GUARDRAILS ARE IN COMPLIANCE W/Matls. IM 455.02

BA-206 END TERMINAL *SEE ABOVE*
GREGORY HIGHWAY, TRINITY INDUSTRIES, IMH PRODUCTS
ALL GUARDRAILS ARE IN COMPLIANCE W/Matls. IM 455.02

BA-210 POST ADAPTER UNIT *SEE ABOVE*
GREGORY HIGHWAY, TRINITY INDUSTRIES, IMH PRODUCTS
ALL GUARDRAILS ARE IN COMPLIANCE W/Matls. IM 455.02

64 Ea **GUARDRAIL *WOOD POSTS AND BLOCKS***
PERMA TREAT OF IL., AMERICAN TIMBER AND STEEL, CENTRAL NE WOOD PRESERVE
ALL WOOD POSTS ARE IN COMPLIANCE W/Matls. IM 462.

3 Ea ***OBJECT MARKERS***
FRANKLIN INDUSTRIES, ROCAL, AKT CORP., STRUCT. BOLT
ACCEPTANCE OF PRISMATIC REFLECTORS & GUARDRAIL MARKERS IS ON THE BASIS OF MANUFACTURER & BRAND. Matls. IM 486.07

Hi-Way Products, Inc.
Ida Grove, Iowa
Test Report-Miscellaneous Materials

Material:	Guardrail Components	County:	Black Hawk County, IA
Intended Use:	Guardrail	Proj. No.:	HSIPX-218-7(230)--3L-07
Invoice No:	30124	Design No.:	
Producer:	Rockford Bolt & Steel	DOT No:	
	Gregory Highway Prod.		
	Trinity Industries	Contr:	Anne Duffield Construction
	IMH Products		
Number of Units:	3 BA-201, 3 BA-202	Date Shipped:	6/5/2015
	3 BA-205		
Total Pages:	1 Page	Inspected By:	Iowa Dept. of Trans.

Qty.	Description	Ames & N.W.I.T.C. Lab No.
3	Offset Brackets	3DC7-G100
6	3/8" x 1 1/2" Alum. W/self-lock nuts	AST11-134,135
188	5/8" x 1 1/4" Splice Bolts w/ nut, (A-307)	AST5-0108,0109,0110
6	5/8" x 6" Post Bolts w/ nut, (A-307)	AST8-0141
97	5/8" x 22" Post Bolts w/ nut, (A-307)	AST5-0104,0105,0106
3	Type "J" Bridge Connectors	ASG04-0004
21	7/8" x 12" Bolts (A-449) w/nut&washer	ASU8-0072, 0070,0071
3	SKT-SP-MGS End Terminal	See Attached Material Certific
3	10'-0" Type 1 Object Marker Post	ASP6-0009
3	Type 3 Object Markers	ASY10-0001,0002
6	5/16" x 2 1/2" Alum Bolts w/nut & 2 washers	AST4-0370
6	Neoprene Washers	AST9-9-10

Note: All Galvanizing was checked to ASTM specification. Acceptance of prismatic reflectors and guard rail markers is on the basis of manufacturer and brand. Materials I.M. 486.07.

" I certify that materials shipped to the above reference project comply with applicable Iowa D.O.T. specifications. Test results and/or appropriate certifications are on file at Hi-Way Products, Inc. Ida Grove, IA.

Signed: Jeremy Wilhelm Date: 6/5/15

CC: Materials Ames
Keith Norris, P.E.
Ed Bailey
JB Holland
File

HI-WAY PRODUCTS, Inc.

P.O. BOX 278
IDA GROVE, IOWA 51445
Ph. (712) 364-3763
Fax: (712) 364-3764
e-mail: hiwayproducts@longlines.com

P.O. #30124

"HI-WAY PRODUCTS, INC. CERTIFICATE OF COMPLIANCE"

This is to certify that this material has been inspected by an Iowa D.O.T. Highway Division approved agency and complies with Highway Division Standard Specification Series 2015 and Supplemental requirements cited in the contract or order under which they were purchased.

Detailed inspection reports are on file at Hi-Way Products, Inc. in Ida Grove, Iowa.

by _____

Jeremy Williams
Hi-Way Products, Inc.
Project No. HSIPX-218-7(230)—3L-07
County: Black Hawk County, Iowa
Design No.:
Contractor: Prime: JB Holland Sub.: Anne Duffield Const.

Materials:

15 pcs. - 6" x 8" x 7'-0"	Wood Posts	6807
49 pcs. - 6" x 8" x 6'-0"	" "	6806, 19040
33 pcs. - 6" x 12" x 19"	Wood Blocks	
31 pcs. - 6" x 12" x 14"	" "	
3 pcs. - 6" x Tapered	" "	

Iowa Wood Preservers, Inc.

2102 South 17th St.
Oskaloosa, IA 52577
Phone 641-673-0451
FAX 641-673-9994

Date: 5-13-15

CERTIFICATE OF COMPLIANCE

Shipped TO: HI-Way Products Inc. BOL# 10026579

Customer PO# 29835-001 Preservative: CCA – C 0.60D pcf AWPA UC4B

Part #	Physical Description	# of Pieces	Charge #	Tested Retention
6806	6x8x6' Rough 2 Hole Post	70	2834	.704 pcf
6806	6x8x6' Rough 2 Hole Post	70	2835	.720 pcf
6806	6x8x6' Rough 2 Hole Post	35	2833	.778 pcf
6806	6x8x6' Rough 2 Hole Post	35	2848	.873 pcf
6806	6x8x6' Rough 2 Hole Post	280	2857	.829 pcf
61219	6x12-19" Rough Blocks	56	2892	.692 pcf
61219	6x12-19" Rough Blocks	168	2916	.776 pcf

I certify the above referenced material has been produced, treated and tested in accordance with AWPA standards and conforms to AASHTO M133 & M168.

VA: Iowa Wood Preservers certifies that the treated wood products listed above have been treated in accordance with AWPA standards, Section 236 of the VDOT Road & Bridge Specifications and meets the applicable minimum penetration and retention requirements.

Bryon Hershey, Assistant Plant Manager

5-13-15
Date

GREGORY HIGHWAY PRODUCTS, INC.
4100 13th St. SW
Canton, Ohio 44710

Test Report

Customer:	HI-WAY PRODUCTS, INC.	Ship Date:	5/21/2015
	500 ASH STREET	Customer P.O.:	30079
		Shipped to:	HI-WAY PRODUCTS, INC.
	IDA GROVE,IA,51445	Project:	IOWA STOCK
		GHP Order No.:	7985AA

HT # code	Heat #	C.	Mn.	P.	S.	Si.	Tensile	Yield	Elong.	Quantity	Class	Type	Description
8424	4135788	0.2	0.72	0.01	0.006	0.01	77194	55406	25.48	36	A	1	12GA 15FT 7.5IN WB TI HS 2@6FT3IN 1@3FT1.5IN
8433	413580	0.21	0.74	0.009	0.03	0.01	77897	56298	24.77	72	A	1	12GA 12FT6IN/3FT1 1/2IN WB T1
8416	A57671	0.2	0.51	0.12	0.002	0.02	79713	52926	22.12	36	A	1	12 GA 12FT6IN WB T1 FLEAT-SKT COMBO PAN

Bolts comply with ASTM A-307 specifications and are galvanized in accordance with ASTM A-153, unless otherwise stated.
Nuts comply with ASTM A-563 specifications and are galvanized in accordance with ASTM A-153, unless otherwise stated.
All other galvanized material conforms with ASTM-123 & ASTM-653
All Galvanizing has occurred in the United States
All steel used in the manufacture is of Domestic Origin, "Made and Melted in the United States"
All Steel used meets Title 23CFR 635.410 - Buy America
All Guardrail and Terminal Sections meets AASHTO M-180, All structural steel meets AASHTO M-183 & M270
All Bolts and Nuts are of Domestic Origin
All material fabricated in accordance with Iowa Department of Transportation
All controlled oxidized/corrosion resistant Guardrail and terminal sections meet ASTM A606, Type 4.

By:_____
Andrew Artar, VP of Sales & Marketing
Gregory Highway Products, Inc.

NOTARIAL SEAL STATE OF OHIO

James P. Dehnke
Notary Public, State of Ohio
My Commission Expires 10-19-2019

STATE OF OHIO, COUNTY OF STARK
Sworn to and subscribed before me, a Notary Public, by
Andrew Artar this 22 day of May, 2015

Notary Public, State of Ohio

ArcelorMittal

ArcelorMittal LaPlace
138 HWY 3217
LaPlace LOUISIANA 70068
Telephone (985) 652-4900
Export Country = USA

MATERIAL CERTIFICATION REPORT

GREGORY INDUSTRIES
.
CANTON OH 44708
USA

GREGORY GALVANIZING
CANTON, OH
1218 15TH STREET S.W.
CANTON OH 44706
USA

Tested in Accordance
With: ASTM A6

Sales Order	136949-1	Date	2015/03/24	PO:	30880
Product	Wide Beam	Cust	40006108	Ref.	80764815
Heat NO.	L98405	Grade	A36G	Pieces	63
Cust.Mat.		Length	48' 00"	Weight	25704
Size	6" X4" X8.500				

CHEMICAL ANALYSIS	
C	0.08
Mn	0.86
P	0.012
S	0.020
Si	0.18
Cu	0.29
Ni	0.14
Cr	0.24
Mo	0.044
Cb	0
V	0
B	
Al	
Sn	0.011
N	
Ti	

Ci	5.7
CE	0.31

MECHANICAL PROPERTIES	TEST 1 IMPERIAL	TEST 1 METRIC	TEST 2 IMPERIAL	TEST 2 METRIC	TEST 3 IMPERIAL	TEST 3 METRIC
YIELD STRENGTH	42500 PSI	293 MPa	45200 PSI	312 MPa		
TENSILE STRENGTH	68800 PSI	474 MPa	70800 PSI	488 MPa		
ELONGATION	34 %	34 %	30 %	30 %		
GAUGE LENGTH	8 IN	203 mm	8 IN	203 mm		
BEND TEST DIAMETER						
BEND TEST RESULTS						
SPECIMEN AREA						
REDUCTION OF AREA						
IMPACT STRENGTH						

IMPACT STRENGTH	IMPERIAL	METRIC	INTERNAL CLEANLINESS		GRAIN SIZE	
AVERAGE			SEVERITY		HARDNESS	
TEST TEMP			FREQUENCY		GRAIN PRACTICE	
ORIENTATION			RATING		REDUCTION RATIO	

A36-08, A70936-10

I hereby certify that the material test results presented here are from the reported heat and are correct. All tests were performed in accordance to the specification reported above. All steel is electric arc furnace melted (billets), manufactured, processed, tested in the U.S.A with satisfactory results. No weld repair was performed on this heat.

Notarized upon request:
Sworn to and subscribed before me on this 24th day of March, 2015

Signed Mark Edwards
MARK EDWARDS, QUALITY ASSURANCE SUPERVISOR

Notary Public

Parish/County

Direct any questions or necessary clarifications concerning this report to the Sales Department 1-800-535-7692(USA)

PH 216.676.5600
FX 216.676.6761
www.assemblyspecialty.com

ASSEMBLY
SPECIALTY PRODUCTS INC.

ISO 9001:2008

14700 Brookpark Rd
Cleveland, OH 44135-5166
customerservice@assemblyspecialty.com

Certificate of Conformance

Date: May 5, 2015

To: Gregory Industries, Inc.
Gregory Galv. & Metal Processing
4100 13th St. SW
Canton, OH 44710

We certify that our system and procedures for the control of quality assures that all items furnished on the order will meet applicable tests, requirements and inspection requirements as required by the purchase order and applicable specifications and drawings.

PURCHASE ORDER #: 31370 line 1

DATE SHIPPED: 5/4/2015

ASPI SALES ORDER #: 105696

MANUFACTURER: ASSEMBLY SPECIALTY PRODUCTS, INC.

QTY	Gregory Ind. P/N	ASPI P/N	DESCRIPTION
3500	3012G	C-2028	6' 6" BCT Cable Assembly

Attachments:

Eaton Steel Heat: 498219; 294999; 590074 (Hercules, ArcelorMittal USA) [sleeve]

Keystone Heat: 10351250 (Taubensee, Charter) [threaded rod]

Heat: 10348290 (Taubensee, Charter) [threaded rod]

Art Galvanizing Galvanizing [sleeve & threaded rod assembly]

Attachments continued on next page:

REMARKS: NOMINAL BREAKING STRENGTH: 46,000 lbs

WIRE ROPE MANUFACTURED IN ACCORDANCE WITH AASHTO DESIGNATION: M30-02 and ASTM A741 TYPE 2, CLASS A

FITTINGS GALVANIZED IN ACCORDANCE WITH ASTM A-153 CLASS C.

STEEL USED TO MANUFACTURE THESE ITEMS WAS MELTED AND MANUFACTURED IN THE U.S.A

ALL MANUFACTURING PROCESSES SUPPLIED OR PERFORMED BY ASSEMBLY SPECIALTY PRODUCTS, INC. TOOK PLACE IN THE U.S.A.

Signature:

Certification and Compliance Manager

PH 216.676.5600
FX 216.676.6761
www.assemblyspecialty.com

ASSEMBLY
SPECIALTY PRODUCTS INC.

ISO 9001:2008

14700 Brookpark Rd
Cleveland, OH 44135-5166
customerservice@assemblyspecialty.com

Attachments (continued):

Wirerope Works: Certificate#: AA30155; Reel#: 5196744 [ASPI Reel 9765E]

.054" Heat: 10342780 Charter

Heat: 53131923 Gerdau

.040" Heat: 25807 Charter

Heat: 10309710 Charter

.061: Heat: 10246830 Charter

.046" Heat: 53132132 Gerdau

ROAD SYSTEMS, INC.

CERTIFICATION OF COMPLIANCE

WE CERTIFY THAT OUR PROCEDURES FOR QUALITY CONTROL OF THE SEQUENTIAL KINKING TERMINAL AND FLARED ENERGY ABSORBING TERMINAL MEET THE STRUCTURAL STEEL SPECIFICATION A-36 AND 50 KSI

GALVANIZING TO MEET SPECIFICATION ASTM 123

BOLTS AND NUTS COMPLY WITH ASTM A-307, A-325, AND ARE GALVANIZED TO MEET ASTM-153
ALL GUARDRAIL MEETS AASHTO M-180
ALL STRUCTURAL STEEL MEETS AASHTO M-183
ALL BOLTS, NUTS AND CABLES ARE OF DOMESTIC ORGIN
ALL TIMBER POST AND BLOCKS MEET AASHTO M-168 AND PRESERVED TO AASHTO M-133
PRODUCT MEETS THE REQUIRMENTS OF NCHRP 350, TEST LEVEL 3

THIS PRODUCT IS MADE, MELTED AND MANUFACTURED IN THE UNITED STATES AND GALVANIZED IN THE UNITED STATES.

CUSTOMER: Gregory Industries
4100 13th Street SW
Canton, OH 44710

PROJECT: PO # 31553

DESCRIPTION	PIECES	
SKT Impact Heads	180	Lot # A144
Cable Anchor Boxes	180	

ROAD SYSTEMS, INC.
CERTIFIED BY: _____

STATE OF TEXAS COUNTY OF HOWARD
SWORN AND SUBSCRIBED BEFORE ME

THIS 11th DAY OF May 15

NOTARY PUBLIC: _____

MY COMMISSION EXPIRES: 3/29/17

PENNI L. KOTHMANN
MY COMMISSION EXPIRES
March 29, 2017

ROAD SYSTEMS, INC.
P.O. BOX 2163 BIG SPRING, TEXAS 79721

MONDO POLYMER TECHNOLOGIES INC.
Plastics From Today for Tomorrow...

P.O. BOX 250
27620 ST. RT. 7 NORTH
RENO, OH 45773

Phone: 740-376-9396
Fax: 740-376-9960
(888) 607-4790

MATERIAL CERTIFICATE

SHIPMENT NUMBER: 24490
PURCHASE ORDER 31814
SHIPMENT DATE: 5/1/2015

PAGE: 1

CONSIGNED TO

Gregory Industries
4100 13th Street SW
Canton, OH 44710

SHIP TO

Gregory Industries
Receiving
4100 13th Street SW
Canton, OH 44710

CONSIGNED	ITEM NUMBER	DESCRIPTION	LOT #	SHIP VIA
4,140	MGS14SH 6126	Midwest Composite Block 14" h x 12" d for Steel Post w/hanger	1504/1000	Mondo Building & Ex.

MADE IN USA

Mondo Polymer Technologies, Inc.'s product, the Polymer Offset Block named MGS MondoBlock, is of the same formulation, composition and test properties which were qualified and MASH tested and approved under the Federal Highway Administration Approval No. #HSST/B-39C

All materials meet specifications required

NOTARIAL SEAL STATE OF OHIO

Cindy L. Fogle
CINDY L. FOGLE, Notary Public
In and For The State of Ohio
My Commission Expires Nov. 28, 2016
5/1/15

Approved by: Maggie Ellis

Date: 5/1/15

Print Name: Maggie Ellis

Position: General Manager

413 West Main
Eagle Lake, TX 77434
979-234-5713
1-800-918-7273
Fax: 979-234-7776

March 16, 2015

Gregory Industries, Inc.
4100 13th Street SW
Canton, OH 44708-0508

WE HEREBY CERTIFY THAT THE MATERIAL FURNISHED, AS INDICATED HEREIN, COMPLIES WITH THE REQUIREMENTS OF THE SPECIFICATIONS LISTED BELOW:

MATERIAL: Object Marker Decal, Yellow Retro Reflective Sheeting, HI-Intensity, High Tack Adhesive Avery

PRODUCT NUMBER	COLOR	QUANTITY	SIZE
OMD18.18.3	YLLW/BLK	2500	18"x 18"

PO NUMBER: 31275

SPECIFICATIONS: ASTMD4956-04, AASHTO M268-10
All materials meet required specifications.

Sincerely,

Garrett Flores

Garrett Flores
Shipping Coordinator/Estimator

ROAD SYSTEMS, INC.

CERTIFICATION OF COMPLIANCE

WE CERTIFY THAT OUR PROCEDURES FOR QUALITY CONTROL OF THE SEQUENTIAL KINKING TERMINAL AND FLARED ENERGY ABSORBING TERMINAL MEET THE STRUCTURAL STEEL SPECIFICATION A-36 AND 50 KSI

GALVANIZING TO MEET SPECIFICATION ASTM 123

BOLTS AND NUTS COMPLY WITH ASTM A-307, A-325, AND ARE GALVANIZED TO MEET ASTM-153
ALL GUARDRAIL MEETS AASHTO M-180
ALL STRUCTURAL STEEL MEETS AASHTO M-183
ALL BOLTS, NUTS AND CABLES ARE OF DOMESTIC ORGIN
ALL TIMBER POST AND BLOCKS MEET AASHTO M-168 AND PRESERVED TO AASHTO M-133
PRODUCT MEETS THE REQUIRMENTS OF NCHRP 350, TEST LEVEL 3

THIS PRODUCT IS MADE, MELTED AND MANUFACTURED IN THE UNITED STATES AND GALVANIZED IN THE UNITED STATES.

CUSTOMER: Gregory Industries
1218 15th Street SW
Canton, OH

PROJECT: PO # 30949

DESCRIPTION	PIECES
Two Post Hinge Post Upper	350
Two Post Hinge Post Lower	300

ROAD SYSTEMS, INC.
CERTIFIED BY: _____

STATE OF TEXAS COUNTY OF HOWARD
SWORN AND SUBSCRIBED BEFORE ME

THIS 10th DAY OF Mar 15

NOTARY PUBLIC: Penni L Kothmann

MY COMMISSION EXPIRES: 3/29/17

ROAD SYSTEMS, INC.
P.O. BOX 2163 BIG SPRING, TEXAS 79721

PENNI L. KOTHMANN
MY COMMISSION EXPIRES
March 29, 2017

Bid Order No.: 101
Proposal ID No.: 07-2187-207 Letting Date: November 18, 2014
Primary Work Type: PCC PAVEMENT - GRADE AND NEW 10:00 A.M.
Primary County: BLACK HAWK

UNIT BIDS MUST BE TYPED OR SHOWN IN INK OR THE BID WILL BE REJECTED.

Line No	Item Number Item Description	Item Quantity and Unit	Unit Price Dollars	Unit Price Cts	Bid Amount Dollars	Bid Amount Cts
1750	2505-4008120 REMOVAL OF STEEL BEAM GUARDRAIL	600.000 LF	.		.	
1760	2505-4008300 STEEL BEAM GUARDRAIL	175.000 LF	.		.	
1770	2505-4008400 STEEL BEAM GUARDRAIL BARRIER TRANSITION SECTION	3.000 EACH	.		.	
1780	2505-4021010 STEEL BEAM GUARDRAIL END ANCHOR, BOLTED	3.000 EACH	.		.	
1790	2505-4021700 STEEL BEAM GUARDRAIL END TERMINAL	3.000 EACH	.		.	
1800	2505-6000111 HIGH TENSION CABLE GUARDRAIL	546.000 LF	.		.	
1810	2505-6000121 HIGH TENSION CABLE GUARDRAIL, END ANCHOR	4.000 EACH	.		.	
1820	2505-6000131 HIGH TENSION CABLE GUARDRAIL, SPARE PARTS KIT	1.000 EACH	.		.	
1830	2519-3280000 FENCE, FIELD	35.000 LF	.		.	
1840	2519-3300400 FIELD FENCE BRACE PANELS	2.000 EACH	.		.	
1850	2526-8285000 CONSTRUCTION SURVEY	LUMP	LUMP			.
1860	2527-9263109 PAINTED PAVEMENT MARKING, WATERBORNE OR SOLVENT-BASED	1,469.720 STA	.			

Contract ID: 17-0658-056

Project: 17-0658-056 151117 007 KAM

Category: <All>

Contractor: <All>

Filter: <Sh

Item Description	Units	Item Code	Prop. Line	Quantity Placed	Quantity Paid	Authorized	Initial Quantity	Pendin	Unit Price
SUBDRAIN, LONGITUDINAL, (SHLD) 4"	LF	2502-8212	0610	4,177.000	4,177.000	8,770.000	8,770.000	0.000	$5.97000
SUBDRAIN, PLASTIC PIPE, 15"	LF	2502-8212	0620	0.000	0.000	80.000	80.000	0.000	$25.00000
SUBDRAIN OUTLET, DR-304	EAC	2502-8221	0630	66.000	66.000	72.000	72.000	0.000	$185.00000
RMVL OF STEEL BEAM G'RAIL	LF	2505-4008	0640	725.000	725.000	725.000	725.000	0.000	$6.00000
STEEL BEAM G'RAIL	LF	2505-4008	0650	200.000	200.000	200.000	200.000	0.000	$18.00000
STEEL BEAM G'RAIL BARRIER TRANS SECTIO	EAC	2505-4008	0660	10.000	10.000	10.000	10.000	0.000	$1,900.00000
STEEL BEAM G'RAIL END ANCHOR, BOLTED	EAC	2505-4021	0670	6.000	6.000	6.000	6.000	0.000	$150.00000
STEEL BEAM G'RAIL END TERMINAL	EAC	2505-4021	0680	10.000	10.000	10.000	10.000	0.000	$2,100.00000
ENGINEER FABRIC	SY	2507-3256	0690	96.200	96.200	62.200	62.200	0.000	$5.00000
REVETMENT, CLASS E	TON	2507-6800	0700	52.260	52.260	38.400	38.400	0.000	$65.00000
RMVL OF PAV'T	SY	2510-6745	0710	528.880	528.880	517.800	517.800	0.000	$18.00000
RMVL OF INTAKE+UTILITY ACCESS	EAC	2510-6750	0720	6.000	6.000	6.000	6.000	0.000	$600.00000
CURB+GUTTER, PCC, 2.0' , 4 INCH SLOPED CU	LF	2512-1725	0730	0.000	0.000	258.500	258.500	0.000	$35.00000
CURB+GUTTER, PCC, 2.5' , 6 INCH STANARD C	LF	2512-1725	0740	1,949.500	1,949.500	1,986.200	1,986.200	0.000	$29.65000
FIELD OFFICE	EAC	2520-3350	0750	1.000	1.000	1.000	1.000	0.000	$20,600.00000
PAINTED PAV'T MARK, WATERBORNE/SOLVEN	STA	2527-9263	0760	4,159.906	4,159.906	4,666.400	4,666.400	0.000	$7.62000

STEEL BEAM GUARDRAIL AT CONCRETE BARRIER OR BRIDGE RAIL END SECTION

Refer to BA-200, BA-201, BA-202, BA-205, BA-206, BA-210, BA-211, BA-250, SI-172, SI-173 and SI-211.

	Long-Span System BA-211		Delineators and Object Markers					Bid Items					
			SI-211	Delineator SI-172	Object Marker SI-173			Bolted End Anchor		Barrier Transition Section	Steel Beam Guardrail	End Terminal	
				Type 1	Type 2	Type 3						Standard	Flared
or				White	OM2-2	OM3-L	OM3-R	BA-202		BA-201	BA-200	BA-205	BA-206
	STATION	TYPE	TYPE	EACH	EACH	EACH	EACH	TYPE	EACH	EACH	LF	EACH	EACH
0			3				1	C	1	1		1	
0			3				1	C	1	1		1	
0			3			1		C	1	1	175.0	1	
						1	2		3	3	175.0	3	

2016

Construction and Materials Review

GUARDRAIL & SAFETY ENHANCEMENT

Project No.: STPN-065-8(56)--2J-17 Contract No.: 17-0658-056

Refer to IM 204 Appendix H, IM 455 & IM 462

Contract Item No.	Item			Basis of Acceptance	Unit	Quantity Paid	Quantity Documented
0650	Posts for guardrail , wood			Cert or Test Report	Each	172	172
0650	Steel Beam Guardrail			Approved Source	Lf.	200	200
	Guardrail Cable			Test Report	Lf.	N/A	N/A
660/670	Steel, Guardrail Posts			Certified Mill Test Report	Each	80	80
0660	BA	201	transition connnection	Test Report	Each	10	10
	BA		transition connnection	Test Report	Each		
0670	BA	202	end anchor, bolted	Test Report	Each	6	6
	BA		end anchor, bolted	Test Report	Each		
0680	BA	205	end terminal	Test Report	Each	10	10
	BA		end terminal	Test Report	Each		
	BA		end anchor, cable	Test Report	Each		
	BA		end anchor, cable	Test Report	Each		
	Delineators posts			Test Report	Each		
	Object Markers, Type 3			Test Report	Each	10	10

Contract Item No.	Item	Basis of Acceptance	Brand / Source
	Delineators, amber	Approved Brand	
	Delineators, white	Approved Brand	
	Impact Attenuators	Approved Source	
	High Tension Cabel Guardrail	Approved Source	

Miscellaneous

Contract Item No.	Item	Basis of Acceptance	Unit	Required	Documented
0650	Guardrail Fasteners and Hardware	Approved Source/Brand	N/A		Gregory Corp.
0650	Steel Beam Guardrail	Approved Source	N/A		Gregory Corp.
0650	Wood Posts	Approved Treater			Cent. NE Wood Preservers

Comments:

Certs

GIBRALTAR

Jessie Ramirez
Buyer
Gibraltar Cable Barriers
4303 W. Innovation Loop
Marble Falls, TX 78654
1-800-495-8957 (Toll Free)
830-798-5444 (fax)
jramirez@gibraltartx.com

July 29, 2015

Re: Gibraltar Cable Barrier Systems Material Compliance
Black Hawk County Project # 07-2187-207

Dear Ms. Duffield,

The purpose of this letter is to certify that the Gibraltar Cable Barrier System is a proprietary system, with proprietary parts, and all materials meet the manufacturer's specifications as tested under NCHRP Report 350 criteria and comply with the applicable specifications of the Iowa Department of Transportation.

We also certify that all products of iron, steel, or a coating of steel have been manufactured in the United States. We can provide the material certifications specific for your project that prove compliance with this statement if necessary.

Parts Supplied for IADOT Project referenced above:

Parts to include:
New Cable Barrier Installation
End Terminals
Spare Parts

Should you have any questions or need additional information, please do not hesitate to contact our office.

Best regards,

Jessie Ramirez
Buyer
Gibraltar Cable Barrier Systems

PCC PAVING - FIELD AND PLANT SAMPLING AND TESTING GUIDE

(See Specifications for Complete Details.)

Article	Work Type	Field Acceptance	Plant Acceptance	
		Air & Slump (No slump for slipform paving)	**Gradation QC**	**Gradation Verification**
2122	PCC Shoulders	1/700 yd^3: 1/100 yd^3 RM	S/T 1st day, then 1/day>500 yd^3, If <500 yd^3/day 1/wk	S/T 1st/day, S 1/day >500 yd^3 & T 1/wk, If <500 yd^3/day S 1/wk & T 20% (4)
2301	PCC Pavement	1/700 yd^3: 1/100 yd^3 RM	S/T 1st day, then 1/day>500 yd^3, If <500 yd^3/day 1/wk	S/T 1st/day, S 1/day >500 yd^3 & T 1/wk, If <500 yd^3/day S 1/wk & T 20% (4)
2301	PCC Pavement - QMC	1/700 yd^3: 1/100 yd^3 RM	S/T 1/1500 yd^3, If <500 yd^3/day 1/wk	S/T 1st/day, S 1/day >500 yd^3, Test 2/week, If <500 yd^3/day, S/T 1 wk
2301	Bridge Approaches, Gores, tapers, radiuses	1/700 yd^3: 1/100 yd^3 RM	S/T 1st day, then 1/day>500 yd^3, If <500 yd^3/day 1/wk	n/a
2302	PCC Widening	1/700 yd^3: 1/100 yd^3 RM	S/T 1st day, then 1/day>500 yd^3, If <500 yd^3/day 1/wk	S/T 1st/day, S 1/day >500 yd^3 & T 1/wk, If <500 yd^3/day S 1/wk & T 20% (4)
2310	PCC Overlay	1/700 yd^3: 1/100 yd^3 RM	S/T 1st day, then 1/day>500 yd^3, If <500 yd^3/day 1/wk	S/T 1st/day, S 1/day >500 yd^3 & T 1/wk, If <500 yd^3/day S 1/wk & T 20% (4)
2310	PCC Overlay - QMC	1/700 yd^3: 1/100 yd^3 RM	S/T 1/1500 yd^3, If <500 yd^3/day 1/wk	S/T 1st/day, S 1/day >500 yd^3, Test 2/week, If <500 yd^3/day, S/T 1 wk

(1) If less than 20 yd^3/ day, the engineer may waive air testing if inspection is not available and producer has exhibited consistency in prior placements
(3) Sampling and testing rate if no other concrete supplied. Use structural or paving test results to cover non structural concrete items.
(4) If less than 500 yd^3 per day / intermittent construction continues for more than two weeks, obtain verification samples weekly and test 20% of the samples obtained.

PCC STRUCTURAL - FIELD AND PLANT SAMPLING AND TESTING GUIDE

(See Specifications for Complete Details.)

Article	Work Type	Field Acceptance	Plant Acceptance	
		Air & Slump	Gradation QC	Gradation Verification
2403	Structural Concrete	1/30 yd^3 (2)	S/T 1/week, if <50 yd^3/wk S/T 1/ 2 weeks	S/T 1st/wk; S 1/wk or S 1/2 wks if <50 yd^3/wk , T 20%
2405	Foundations	1/30 yd^3 (2)	S/T 1/week, if <50 yd^3/wk S/T 1/ 2 weeks	S/T 1st/wk; S 1/wk or S 1/2 wks if <50 yd^3/wk , T 20%
2406	Concrete Structures	1/30 yd^3	S/T 1/week, if <50 yd^3/wk S/T 1/ 2 weeks	S/T 1st/wk; S 1/wk or S 1/2 wks if <50 yd^3/wk , T 20%
2412	Bridge Decks	1/30 yd^3 (2)	S/T 1/deck pour	S/T 1/deck pour
2413	Deck Repair	1/30 yd^3	S/T 1/week, if <50 yd^3/wk S/T 1/ 2 weeks	S/T 1st/wk; S 1/wk or S 1/2 wks if <50 yd^3/wk , T 20%
2413	Deck Surfacing/Overlay HPC-O	1/30 yd^3	S/T 1/week, if <50 yd^3/wk S/T 1/ 2 weeks	S/T 1/project
2413	Deck Surfacing/Overlay Class O	1/100 yd^2 (4)	n/a	n/a
2414	Railings	1/30 yd^3	S/T 1/week, if <50 yd^3/wk S/T 1/ 2 weeks	S/T 1st/wk; S 1/wk or S 1/2 wks if <50 yd^3/wk , T 20%
2415	Box, Arch Circular Culverts	1/30 yd^3	S/T 1/week, if <50 yd^3/wk S/T 1/ 2 weeks	S/T 1st/wk; S 1/wk or S 1/2 wks if <50 yd^3/wk , T 20%
2416	Rigid Pipe Culverts	1/30 yd^3	S/T 1/week, if <50 yd^3/wk S/T 1/ 2 weeks	S/T 1st/wk; S 1/wk or S 1/2 wks if <50 yd^3/wk , T 20%
2423	Support Structures	1/30 yd3	S/T 1/week, if <50 yd^3/wk S/T 1/ 2 weeks	S/T 1st/wk; S 1/wk or S 1/2 wks if <50 yd^3/wk , T 20%
2424	Shotcrete	1/30 yd^3	S/T for Mix Design only	n/a
2433	Drilled Shaft	1/30 yd^3 (2)	S/T 1/week, if <50 yd^3/wk S/T 1/ 2 weeks	S/T 1st/wk; S 1/wk or S 1/2 wks if <50 yd^3/wk , T 20%
2503	Storm Sewers	1/30 yd^3	S/T 1/week, if <50 yd^3/wk S/T 1/ 2 weeks	S/T 1st/wk; S 1/wk or S 1/2 wks if <50 yd^3/wk , T 20%
2503	intakes, utility access	1/30 yd^3	S/T 1/week, if <50 yd^3/wk S/T 1/ 2 weeks	n/a
2501	Pile encasement	1/30 yd^3	S/T 1/week, if <50 yd^3/wk S/T 1/ 2 weeks	S/T 1st/wk; S 1/wk or S 1/2 wks if <50 yd^3/wk , T 20%
2505	Guardail anchorage	1/30 yd^3	S/T 1/week, if <50 yd^3/wk S/T 1/ 2 weeks	n/a
2513	Concrete barrier	1/30 yd^3	S/T 1/week, if <50 yd^3/wk S/T 1/ 2 weeks	S/T 1st/wk; S 1/wk or S 1/2 wks if <50 yd^3/wk , T 20%
2516	Walls and Steps	1/30 yd^3	S/T 1/week, if <50 yd^3/wk S/T 1/ 2 weeks	S/T 1st/wk; S 1/wk or S 1/2 wks if <50 yd^3/wk , T 20%

(1) If less than 20 yd^3/ day, the engineer may waive air testing if inspection is not available and producer has exhibited consistency in prior placements
(2) On large structural placements >350 yd^3, the DME may adjust air and slump testing to 1/50 yd^3 based on consistent results in the first 100 yd^3 placed
(3) Sampling and testing rate if no other concrete supplied. Use structural or paving test results to cover non structural concrete items.
(4) See 204 Appendix M for overlays >300 yd^2.

PCC NON-STRUCTURAL & MISCELLANEOUS - FIELD AND PLANT SAMPLING AND TESTING GUIDE

(See Specifications for Complete Details.)

Article	Work Type	Field Acceptance	Plant Acceptance	
		Air & Slump	Gradation QC	Gradation Verification
2212	Base Repair	1/30 yd^3 (1)	S/T 1st week, S/T 1 per month (3)	S/T 1/project (3)
2201	PCC Base	1/700 yd^3: 1/100 yd^3 RM	S/T 1st week, S/T 1 per month (3)	S/T 1/project (3)
2213	Base Widening	1/700 yd^3: 1/100 yd^3 RM	S/T 1st week, S/T 1 per month (3)	S/T 1/project (3)
2304	Detour Pavement, 3 yrs or less	n/a	n/a	n/a
2405	seal course	n/a	n/a	n/a
2415	Curtain Wall	1/30 yd^3	n/a	n/a
2416	Pipe collars	n/a	n/a	n/a
2503	Catch basins, abandonment,collars	n/a	n/a	n/a
2506	Flowable Mortar	n/a	S/T for Mix Design only	n/a
2507	Revetment Grout	Air -1/half day	S/T for Mix Design only	n/a
	Fabric Formed Revetment	Air- 1/half day	S/T for Mix Design only	n/a
2511	Sidewalks	1/100 yd^3 (1)	S/T 1st week, S/T 1 per month (3)	S/T 1/project (3)
2511	Trails	1/100 yd^3	S/T 1st week, S/T 1 per month (3)	S/T 1/project (3)
2512	Curb & Gutter	1/100 yd^3 (1)	S/T 1st week, S/T 1 per month (3)	S/T 1/project (3)
2515	Driveways	1/100 yd^3 (1)	S/T 1st week, S/T 1 per month (3)	S/T 1/project (3)
2517	Railroad Approach Sections	1/100 yd^3 (1)	S/T 1st week, S/T 1 per month (3)	S/T 1/project (3)
2519	Fence construction	n/a	n/a	n/a
2524	Type A and B	n/a	n/a	n/a
2529	Patching (Full depth), rumble strip	1/30 yd^3 (1)	S/T 1st week, S/T 1 per month (3)	S/T 1/project (3)
2530	Patching (Partial depth)	1/30 yd^3 (1)	S/T 1st week, S/T 1 per month (3)	S/T 1/project (3)
2554	Thrust blocks	n/a	n/a	n/a

(1) If less than 20 yd^3/ day, the engineer may waive air testing if inspection is not available and producer has exhibited consistency in prior placements. Test minimum of 1/day for concrete exposed to freezing and thawing.
(3) Sampling and testing rate if no other concrete supplied. Use structural or paving test results to cover non structural concrete items.

Construction and Materials Review

PORTLAND CEMENT CONCRETE PAVING & BASE REPAIR

Project No.: NHSX-218-7(207)--3H-07 Contract No.: 07-2187-207

Refer to IM 204 Appendix H

Contract Item No.	Plant	Mix Type	Qty. Paid C.Y. or S.Y.	Qty. Documented C.Y.
0110	Manatts - Airline	QM-C	569.8 SY	142.0 CY
0120	Croell - Janesville	C4WRC20	133.1 SY	48.25 CY
1110	Croell - Janesville	C4WRC20	788.4 SY	263.25 CY
1370	Croell - Janesville	C4WRC20	788.4 SY	286.25 CY
2450	Manatts - Airline	QMC - C20	1491.0 SY	340.0 CY
2440	Manatts - Airline	QMC - C20	12,541.3 SY	2979.50 CY
2445	Manatts - Airline	QMC - C20	18,011.7 SY	6294.75 CY

Job Control Tests (Construction)

Items		Basis of Acceptance	Form	Required	Docum.
Fine agg.- gradation process control QC		1 / lot (QMC 1/ 1500 CY)	800240	11	11
Fine agg.- verification monitor grad.		1st day, then 1/lot (QMC 2/lot)	821283	7	7
Intermediate agg.- gradation process control QC		1 / lot (QMC 1/ 1500 CY)	800240	11	11
Intermediate agg.- verification monitor grad		1st day, then 1/lot (QMC 2/lot)	821283	7	7
Coarse agg.- gradation process control QC		1 / lot (QMC 1/ 1500 CY)	800240	11	11
Coarse agg.- verification monitor grad.		1st day, then 1/lot (QMC 2/lot)	821283	7	7
Air Test	(Paving Only)	1 / 700 CY or 1 / day	115		
	(Paving w / Transit mix)	1 / 100 CY	115	122	122
	(Base Repair Only)	1 / 30 CY	115		
Slump test	(Fixed Form)	1 / 700 CY or 1 / pour	115		
	(Paving w / Transit mix)	1 / 100 CY or 1 / pour	115	30	30
	(Base Repair Only)	1 / 30 CY	115		
Maturity - (Curves & Verifications)					
Thickness	(hardened concrete)	1 / 2000 SY			
Smoothness (Yes or No)		Cert. Test	821301		
Water (other than city)		Test Report 1 / Source			

Contract Item No.	Items	Basis of Acceptance	Approved Brand &/or Batch #
0120, 1110,1370	Curing Compound, White	Approved Brand / Batch #	W.R. Meadows - Sealtight 1645 #6HE094
0110, 2440, 2445, 2450	Curing Compound, White	Approved Brand / Batch #	J9A White Wax Cure
	Curing Compound, Clear	Approved Brand	
	Concrete Sealer	Approved Brand	
	Engineering Fabric	Approved Brand	
0120, 1110, 1370	Grout, Polymer	Approved Brand	W.R. Meadows - Rezi Weld Gel Paste
0110, 2440, 2445, 2450	Grout, Polymer	Approved Brand	Adv. Tech. Corp. Ultrabond 1300
120	Joint Filler, Hot Pour	Approved Brand	W.R. Meadows - 3405 Modified
1110 & 1370	Joint Filler, Flex Foam Type CF & EF	Approved Brand	Construction Materials - W.R. Meadows

Items	Basis of Acceptance	Units	Source
Dowels	Approved Source/Letter of Compliance	Lbs	
Dowel Baskets	Approved Source/Letter of Compliance	Lbs	Dayton Superior
Tie Bars	Approved Source/Letter of Compliance	L.F.	Construction Materials
Reinf.Steel Epoxy	Approved Source/ Identification List Mill Test Reports / Epoxy Cert.	Lbs.	Construction Materials

Comments: Rumble strip panels on C57 were replaced after the paving was complete.

CMI

CONSTRUCTION MATERIALS, INC.

345 49TH AVENUE DRIVE S.W.
CEDAR RAPIDS, IOWA 52404
PHONE: (319) 366-6446
FAX: (319) 366-1712

5210 N.E. 17TH STREET
DES MOINES, IOWA 50313
PHONE: (515) 263-9006
FAX: (515) 263-8326

SALES ORDER

Order Number: 0186408
Order Date: 8/4/2017
Ship Date: 8/4/2017
Customer P.O.: Black Hawk Co. (234)
Ship VIA: CUSTOMER PU
Project: Black Hawk Co. (234)

SOLD TO:
Iowa Civil Contracting
PO Box Q
Victor, IA 52347

SHIP TO:
Cedar Rapids Will Call
345 49th Avenue Dr. SW
Cedar Rapids, IA 52404

Confirm To:

F.O.B.	Terms	CMI Job #	Salesperson	Customer Number
	Net 30 Days		AA	02-IOW09

Item Number	Description		Unit	Ordered	Shipped	Back Order	Shipped
	Black Hawk Co. NHSN-218-7(234)--2R-07 B.O. #201 Lett. 7/19/16						
3DEC4185251212Q	1-1/2"x18" 10-115" Slab 12' Unit Contraction Dowel Bar Assembly 5.25" Dowel Height, Square Epoxy/Tectyl Coated @12" ctr 12 units	030	LFT	144.00	0.00	0.00	144
3DCT10181051212	CT Basket Wire Frame-10" Slab (Used also for 10 1/2" Slab) 12', Square W/ Loop openings for #10 Bar @ 12"cc Wire Frame Only 1 unit	030	LFT	12.00	0.00	0.00	12
3REST60110206S	Epoxy-60 Gr. No. 11x2'-6",Str. Tie Bar, Straight ASTM A615 (5.313 lbs/Lft)	030	EACH	12.00	0.00	0.00	12
3DBS12	Iowa Dowel Bar Stake Standard 12"	030	EACH	104.00	0.00	0.00	104

This is to certify that the material listed on this bill of lading does comply with the applicable specifications of the I.D.O.T. Highway Division
CONSTRUCTION MATERIALS, INC.
Sig. AK
Date 8-4-17

This is to certify that the attached Mill Certifications [illegible] to the material listed.
[illegible] MATERIALS, INC.
AK
8-4-17

The materials itemized in this shipment are from the Iowa Department of Transportation Approved sources & are certified to be in compliance with the applicable ASTM Standards & the Iowa Department of Transportation Standard Specification, IMs & meet the Buy America requirements as described in IM 107 for all steel, iron products & coatings.

FOR CHEMICAL EMERGENCY
SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT
CALL CHEMTREC 800-424-9300 CCN-5519

ALL RETURNS ARE SUBJECT TO A 25% RESTOCK CHARGE

X
SIGNATURE

PLEASE PRINT NAME

CONSTRUCTION MATERIALS, INC.

LETTER OF COMPLIANCE – PROCESSOR CERTIFICATION

SUPPLIER:	**CONSTRUCTION MATERIALS, INC**
CONTRACTOR:	Iowa Civil Contracting
PROJECT:	NHSN-218-7(234)—2R-07
LOCATION:	Black Hawk County
MATERIALS:	144 lft. Contraction Baskets 1-1/2" x 18" @ 12" Ctrs. Epoxy/Tectyl Coated, w/Stakes (12 units)

We hereby certify the above welded dowel bar assemblies and/or loose dowels to conform with the plans and specifications for the above Iowa D.O.T. project. The materials itemized in this shipment are from the Iowa D.O.T. approved sources and are certified to be in compliance with the applicable ASTM Standards and the Iowa D.O.T. Standard Specifications, IM's, and meet the Buy American requirements as described in the IM 107 for all steel, iron products & coatings. The dowel and dowel bar assemblies are according to drawings submitted to the Iowa D.O.T. and according to the Iowa D.O.T. approved supplies list dated April 21, 2015. The steel used in the dowels complies with ASTM A615/A615M, Grade 40 or higher. Mill test reports of the heat numbers of steel used are maintained in our records at 5210 NE 17th Street, Des Moines, Iowa. The dowels have been epoxy coated to comply with ASTM A775/A775M, Type B, minimum 7-12 mil thickness. Coating reports are maintained in our records at 5210 NE 17th Street, Des Moines, Iowa.

All applicable Manufacturers Certifications, Data Sheets, Steel Mill Test Reports, Epoxy Coating Reports Are Available If Requested.

DATE: August 4, 2017

345-49TH AVENUE DRIVE SW/CEDAR RAPIDS, IA 52404
CONSTRUCTION MATERIALS, INC.

Form #130

IOWA DEPARTMENT OF TRANSPORTATION
ACCEPTANCE AND ASSURANCE TESTING OF PCC CORE THICKNESS
OFFICE OF CONSTRUCTION AND MATERIALS

PROJECT # : BRFN-169-8(57)--39-55
ACCOUNTING ID # : 33912
OF SECTIONS ON PROJECT : 1
THIS SECTION # : 1
OF LOTS IN THIS SECTION : 10

CONTRACTOR : HENKEL
COUNTY : KOSSUTH
PLANT : READY MIX
BEGINNING CORE # : 22559
ENDING CORE # : 22568
SAMPLED BY : CMT
MEASURED BY : RCE
IA CHECKED BY : Jon Kleven

DME: Keith Norris
RCE: ROY GELHAUS

REMARKS : WICKS PAVED AS SUB.

PAY SUMMARY

DESIGN THICKNESS :	10.00
ORIGINAL AVERAGE THICKNESS OF ALL CORES IN SECTION :	10.56
ORIGINAL STANDARD DEV. (N-1) OF SECTION :	0.30
ORIGINAL TI INDEX FOR PCC THICKNESS :	0.25
ORIGINAL % PAYMENT OF SECTION :	103
NUMBER OF DEFICIENT DEPTH CORES :	0
NUMBER OF CORES 3 STDEV THICKER THAN PLAN THICKNESS :	2
10% OF ALL CORES IN SECTION (maximum that can be removed) :	1
ADJUSTED AVERAGE THICKNESS OF ALL CORES IN SECTION :	
ADJUSTED STANDARD DEV. (N-1) OF SECTION :	
ADJUSTED TI INDEX FOR PCC THICKNESS :	
ADJUSTED % PAYMENT OF SECTION :	
DOLLAR INCENTIVE OR DISINCENTIVE :	$5,413.42

Core #	Date Poured	Design Thick.	Station	Lane	Dist. CL	Rt Lt	Nine Point Measurements -Form #130									Avg. Thick.	Pass (Y/N)	By	Matls. Assr.	Cores > 3 STDEV
							1	2	3	4	5	6	7	8	9					
22559	10/4/2017	10.00	863+54	NB	1.8	Rt	10.45	10.45	10.50	10.45	10.45	10.55	10.70	10.95	10.60	10.55	Y	CG		
22560	10/4/2017	10.00	866+47	NB	12.2	Rt	10.75	10.80	10.85	10.85	10.80	10.75	10.80	10.80	10.80	10.80	Y	CG	10.85	
22561	10/4/2017	10.00	867+95	NB	8.2	Rt	10.85	10.90	10.95	11.00	10.95	10.85	10.90	10.90	10.95	10.90	Y	CG		Y
22562	10/4/2017	10.00	871+85	NB	2.3	Rt	10.00	10.10	10.00	10.10	10.00	10.00	10.00	10.00	10.05	10.05	Y	CG		
22563	10/4/2017	10.00	873+04	NB	11.0	Rt	10.60	10.60	10.60	10.60	10.60	10.60	10.60	10.60	10.65	10.60	Y	CG	10.70	
22564	10/4/2017	10.00	862+98	SB	1.0	LT	10.95	10.90	10.95	10.90	10.75	10.75	10.85	10.95	10.95	10.90	Y	CG		Y
22565	10/4/2017	10.00	865+67	SB	4.3	Lt	10.50	10.45	10.50	10.50	10.50	10.50	10.60	10.60	10.65	10.55	Y	CG		
22566	10/4/2017	10.00	866+69	SB	4.9	Lt	10.55	10.55	10.60	10.65	10.60	10.60	10.60	10.60	10.55	10.60	Y	CG		
22567	10/4/2017	10.00	872+26	SB	12.2	Lt	10.55	10.50	10.55	10.50	10.60	10.60	10.50	10.50	10.50	10.55	Y	CG		
22568	10/4/2017	10.00	873+14	SB	5.6	Lt	10.10	10.00	10.05	10.00	10.05	10.05	10.05	10.05	10.05	10.05	Y	CG		

Core #	Date Poured	Design Thick.	Station	Lane	Dist. CL	Rt Lt	MIT SCAN II Measurements 1	2	3	4	5	Avg. Thick.	Corrected Thick.	Pass (Y/N)	By	Matls. Assr.	Cores > 3 STDEV	Remove Core
		6.00	1044+73-4				6.22	6.18	6.18			6.19	6.19	Y				
		6.00	1054+99-4				5.71	5.71	5.67			5.70	5.70	Y				
		6.00	1057+24-4				6.10	6.10	6.10			6.10	6.10	Y				
		6.00	1061+09-4				6.65	6.65	6.65			6.65	6.65	Y				
		6.00	1061+49-4				6.61	6.61	6.61			6.61	6.61	Y				
		6.00	1068+23-4				6.26	6.26	6.22			6.25	6.25	Y				
		6.00	1070+60-4				6.65	6.65	6.65			6.65	6.65	Y				
		6.00	1074+29-4				6.85	6.85	6.81			6.84	6.84	Y				
		6.00	1072+77-4				6.69	6.69	6.69			6.69	6.69	Y				
		6.00	1055+81-4				6.81	6.81	6.81			6.81	6.81	Y				
		6.00	1061+56-4				6.26	6.22	6.22			6.23	6.23	Y				
		6.00	1068+02-4				6.57	6.57	6.57			6.57	6.57	Y				
		6.00	1043+28-4				6.26	6.22	6.22			6.23	6.23	Y				
		6.00	1055+40-4				6.85	6.85	6.85			6.85	6.85	Y				
		6.00	1067+25-4				7.28	7.24	7.20			7.24	7.24	Y			Y	
		6.00	1071+60-4				7.17	7.17	7.17			7.17	7.17	Y				
		6.00	-				0.00	0.00	0.00			0.00	0.00					
		6.00					0.00	0.00	0.00			0.00	0.00					
		6.00					0.00	0.00	0.00			0.00	0.00					
		6.00					0.00	0.00	0.00			0.00	0.00					
		6.00					0.00	0.00	0.00			0.00	0.00					
		6.00					0.00	0.00	0.00			0.00	0.00					
		6.00					0.00	0.00	0.00			0.00	0.00					
		6.00					0.00	0.00	0.00			0.00	0.00					
		6.00					0.00	0.00	0.00			0.00	0.00					
		6.00					0.00	0.00	0.00			0.00	0.00					
		6.00					0.00	0.00	0.00			0.00	0.00					
		6.00					0.00	0.00	0.00			0.00	0.00					
		6.00					0.00	0.00	0.00			0.00	0.00					
		6.00					0.00	0.00	0.00			0.00	0.00					
		6.00					0.00	0.00	0.00			0.00	0.00					
		6.00					0.00	0.00	0.00			0.00	0.00					
		6.00					0.00	0.00	0.00			0.00	0.00					
		6.00					0.00	0.00	0.00			0.00	0.00					
		6.00					0.00	0.00	0.00			0.00	0.00					
		6.00					0.00	0.00	0.00			0.00	0.00					

IOWA DEPARTMENT OF TRANSPORTATION
OFFICE OF MATERIALS
TEST REPORT - MISCELLANEOUS
LAB LOCATION-AMES

MATERIAL…… PCC Pavement Thickness
INTENDED USE…….. IA MIT Thickness
CONTRACTOR……. Steger/ Allied Manatts
PROJECT NUMBER NHSX-020-9(203)--3H-28
SAMPLED BY…….. K. Miller
DATE TESTED…….. 10/13/2016 DATE REPORTED…….. 12/19/2016
IA GAGE #..... 1
V GAGE #..... 12
V TESTED BY #..... S. Belken

Sta./Dir	Thickness (Inches)		
	IA	V	Diff
1076+00-2	11.176772	11.17677	0.00
1074+00-2	11.373622	11.41299	0.04
1072+00-2	11.019291	11.08491	0.07
1070+00-2	10.940551	10.97992	0.04
1066+00-2	10.664961	10.73058	0.07
1062+00-2	10.704331	10.7437	0.04
1060+00-2	10.42874	10.38937	-0.04
Average	10.90	10.93	
Std. Deviation	0.32	0.34	

Within accuracy of gauges and 0.15"

Copies To: K. Jones, T. Hanson, District 6 Materials, Manchester RCE

SIGNED KEVIN B. JONES
TESTING ENGINEER

IOWA DEPARTMENT OF TRANSPORTATION
Office of Construction and Materials
PRESTRESS AND PRECAST BRIDGE UNITS

PROJECT NUMBER: HDP-2100(657)--71-31
COUNTY: Dubuque
PRODUCER: Cretex Concrete Products Midwest
TYPE OF MATERIAL: Bridge Beams
PROCESS: Pretensioned

CONTRACTOR: Taylor Construction, Inc.
PLANT: Iowa Falls, IA
REPORT NUMBER: 2015.40

The following units have been stockpiled by the producer shown above. An Iowa Department of Transportation Materials representative was present when these units were made and test specimens were tested by the inspector. These units have been tested and are stockpiled at the producer's plant.

NOTE TO ENGINEERS AND INSPECTORS: These units should be inspected at the destination for damage. damage due to handling & shipping, also for Iowa Department of Transportation Inspection Stamp. Unit Complied with Specifications prior to shipping if stamped.

UNIT NUMBER	LENGTH OF UNIT	DESCRIPTION	DATE MADE	AGE TESTED	COMPRESSIVE STRENGTH, psi
14959	146' 4"	BTE145	11/19/2015	1 Day	9065
14960	146' 4"	BTE145	11/19/2015	1 Day	9065
14964	146' 4"	BTE145	11/24/2015	1 Day	8968
14965	146' 4"	BTE145	11/24/2015	1 Day	8968
14974	146' 4"	BTE145	12/1/2015	1 Day	9118
14975	146' 4"	BTE145	12/1/2015	1 Day	9118
14976	146' 4"	BTE135	12/3/2015	1 Day	8793
14977	146' 4"	BTE145	12/3/2015	1 Day	8793
14978	136' 4"	BTE135	12/7/2015	1 Day	9158
14979	136' 4"	BTE135	12/7/2015	1 Day	9158
14984	136' 4"	BTE135	12/9/2015	1 Day	8950
14985	136' 4"	BTE135	12/9/2015	1 Day	8950
14989	136' 4"	BTE135	12/15/2015	1 Day	8733
14990	136' 4"	BTE135	12/15/2015	1 Day	8733

Copies: District 6 Materials Engineer
City of Dubuque-Engineer
Cretex
File

Reported by: Jeff Brinkman
District 1 Materials

Date: 12/23/15

IOWA DEPARTMENT OF TRANSPORTATION
Office of Construction and Materials
PRESTRESS AND PRECAST BRIDGE UNITS

PROJECT NUMBER: HDP-2100(657)--71-31
COUNTY: Dubuque
PRODUCER: Forterra Pipe and Precast
TYPE OF MATERIAL: Bridge Beams
PROCESS: Pretensioned

CONTRACTOR: Taylor Construction
PLANT: Iowa Falls, IA
REPORT NUMBER: 2016-16

The following units have been stockpiled by the producer shown above. An Iowa Department of Transportation Materials representative was present when these units were made and test specimens were tested by the inspector. These units have been tested and are stockpiled at the producer's plant.

NOTE TO ENGINEERS AND INSPECTORS: These units should be inspected at the destination for damage. damage due to handling & shipping, also for Iowa Department of Transportation Inspection Stamp. Unit Complied with Specifications prior to shipping if stamped.

UNIT NUMBER	LENGTH OF UNIT	DESCRIPTION	DATE MADE	AGE TESTED	COMPRESSIVE STRENGTH, psi
15294	146'4"	Remake of BE14512	6/15/2016	1 Day	9822

Copies: District 6 Materials Engineer
City of Dubuque-Engineer
Forterra Pipe and Precast
File

Reported by: Jeff Brinkman
District 1 Materials

Date: 6/27/2016

FORTERRA

Bill of Lading

587240 6/2/2016 DELIVERY ORDER: 246197

Taylor Construction Inc.
PO Box 10
New Vienna, IA 52065
Project:
Dubuque County, IA HDP-2100(657)--71-31
Delivery directions to the South end of the bridge
are attached. Please call Eric Steger
563-543-4231 prior to arrival

Ship Site: Iwaf
Hauler/Truck#: Othe/ARGEE
Zone: 15
Truck Type: P/S
Order #: 1715260BR1
Created By: doelmann
Date Printed: 6/2/2016

State Stamp: Y

Goes With DO:

Item	Structure	Description	QTY	Weight
602631460004	HDP-2100(657)--71-31	BTE145 BULB TEE EXTERIOR - 0 SOLE PL	1.00	123,000
7018000000007	HDP-2100(657)--71-31	3 X 3 SQ BEARING BAR	14.00	210
90000000850	HDP-2100(657)--71-31	.75X15IN COIL ROD	56.00	112
			71.00	123,322

Notes: Load 1 - BE14508E - 11 am delivery

Made in the USA

THE ABOVE MATERIAL WAS RECEIVED IN GOOD ORDER AS TO PHYSICAL APPEARANCE

Hauled By: _____

Print Name: _____

Signature: _____

State Inspector

The materials itemized in this shipment are certified to be in compliance with the applicable AASHTO and/or ASTM requirements and Iowa Department of Transportation Standard Plans and Specifications, IMs and meet the Buy America requirements as described in IM 107 for all steel, iron products, and coatings.

Edward Seye - Vice President
Forterra Building Products

0920

Construction and Materials Review

PORTLAND CEMENT CONCRETE PAVING & BASE REPAIR

Project No.: STPN-065-8(56)--2J-17 Contract No.: 17-0658-056

Contract Item No.	Items	Basis of Acceptance	Approved Brand &/or Batch #
190	Curing Compound, White	Approved Brand / Batch #	Dayton Superior / Lot #A50623102A
	Curing Compound, Clear	Approved Brand	
	Concrete Sealer	Approved Brand	
0190	Engineering Fabric	Approved Brand	Tensar BX4100
	Grout, Polymer	Approved Brand	
190	Joint Filler, Flex Foam Type CF & EF	Approved Brand	Iowa EPS Products/PXL Cross Link

	Items	Basis of Acceptance	Units	Source
19, 89, 90	Dowels	Approved Source/Letter of Compliance	Lbs	Logan
19, 89, 90	Dowel Baskets	Approved Source/Letter of Compliance	Lbs	Logan & Wady Industries
19, 12,	Tie Bars	Approved Source/Letter of Compliance	L.F.	Logan/Gerdau
12	Reinf.Steel Black	Approved Source/ Identification List Mill Test Reports / Epoxy Cert.	Lbs.	Nucor

Comments: Dowels and Basket Steel from NUCOR and coating from ABC Coating
Midwest Pipe Coating and ABC Coating for the epoxy coated steel.

Verification Tests (Paving Only) --- Materials will furnish report(s)		Required	Documented
Coarse aggregate - quality	1 / 100,000 SY		
Cement	1 / 100,000 SY		
Fly Ash ------- Type _____	1 / 100,000 SY		
GGBFS	1 / 100,000 SY		
Reinforcing Steel	1 / District / Year		
Reinforcing Steel, epoxy	1 / District / Year		

Independent Assurance --- Materials will furnish report(s)		Required	Documented
Thickness Cores	10% of project		
Smoothness (Yes or No)	10% of project		
Gradation Test (Splits W/ Monitor)	1 / Project or Systems Approach		

Comments:

SALES ORDER

CONSTRUCTION MATERIALS, INC.

345 49TH AVENUE DRIVE S.W.
CEDAR RAPIDS, IOWA 52404
PHONE: (319) 366-6446
FAX: (319) 366-1712

5210 N.E. 17TH STREET
DES MOINES, IOWA 50313
PHONE: (515) 263-9006
FAX: (515) 263-8326

Order Number: 0177727
Order Date: 11/10/2016
Ship Date: 3/20/2017
Customer P.O.: BRIAN
Ship VIA: CMI TRUCK
Project: FRANKLIN CO (124)

SOLD TO:
Cramer & Associates Inc
3100 SW Brookside Drive
Grimes, IA 50111-4977

SHIP TO:
Jobsite Bridge on Hwy 3 over
I-35, Just West of
Coulter, IA 50431

Confirm To: Jack F (515) 249-8315

F.O.B.	Terms	CMI Job #	Salesperson	Customer Number
DELIVERED	Net 30 Days	16-B195	CS	02-CRA02

Item Number	Description		Unit	Ordered	Shipped	Back Order	Shipped
	FRANKLIN COUNTY - IMN-035-6(124)165--OE-35 B.O.#006 LET 10-18-16						
	ITEM #3 - EPOXY REINFORCING STEEL						
3RESEF1.0		030	LBS	2,840.00	0.00	0.00	2,840
	Epoxy Steel Fab. CR Iowa-Unit Price						
	SEE CMI BAR-LIST/JOB# 16-B195 CC-B451 TAG COLOR:GREEN						
	Includes: The material for this project was provided using steel cut from the standard stock lengths shown as follows:						
3RES60044000		030	LBS	641.00	0.00	0.00	641
	Epoxy - 60 Gr. No. 4 x 40'-00" ASTM A615 (0.668 lbs/Lft) Ht. # 16105745						
3RES60054000		030	LBS	2,082.00	0.00	0.00	2,082
	Epoxy - 60 Gr. No. 5 x 40'-00" ASTM A615 (1.043 lbs/Lft) Ht. # 17100231						
3RES60064000		030	LBS	117.00	0.00	0.00	117
	Epoxy - 60 Gr. No. 6 x 40'-00" ASTM A615 (1.502 lbs/Lft) Ht. # 16103629						
3RAFSEW05X030F		030	EACH	18.00	0.00	0.00	18

Continued

SALES ORDER

CONSTRUCTION MATERIALS, INC.

345 49TH AVENUE DRIVE S.W.
CEDAR RAPIDS, IOWA 52404
PHONE: (319) 366-6446
FAX: (319) 366-1712

5210 N.E. 17TH STREET
DES MOINES, IOWA 50313
PHONE: (515) 263-9006
FAX: (515) 263-8326

Order Number: 0177727
Order Date: 11/10/2016
Ship Date: 3/20/2017
Customer P.O.: BRIAN
Ship VIA: CMI TRUCK
Project: FRANKLIN CO (124)

SOLD TO:
Cramer & Associates Inc
3100 SW Brookside Drive
Grimes, IA 50111-4977

SHIP TO:
Jobsite Bridge on Hwy 3 over
I-35, Just West of
Coulter, IA 50431

Confirm To: Jack F (515) 249-8315

F.O.B.	Terms	CMI Job #	Salesperson	Customer Number
DELIVERED	Net 30 Days	16-B195	CS	02-CRA02

Item Number	Description	Whse	Unit	Ordered	Shipped	Back Order	Shipped
	#5 x 2'-6" Str. Epoxy Female Mechanical Splice Bars - Bar Splice Products Ht. #DL16102402						
3RAFSEW05X030M	#5 x 2-6" Str. Epoxy Male Mechanical Splice Bars - Bar Splice Products Ht. #57158477/02	030	EACH	18.00	0.00	0.00	18

This is to certify that the attached Mill Certifications are applicable to the materal listed.
CONSTRUCTION MATERIALS, INC.
Signature Beth Kirk
Date 3-20-17

The materials itemized in this shipment are from the Iowa Department of Transportation Approved sources & are certified to be in compliance with the applicable ASTM Standards & the Iowa Department of Transportation Standard Specification, IM's & meet the Buy America requirements as described in IM 107 for all steel, iron products & coatings.

FOR CHEMICAL EMERGENCY
SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT
CALL CHEMTREC 800-424-9300 CCN-5519

ALL RETURNS ARE SUBJECT TO A 25% RESTOCK CHARGE

X
SIGNATURE

PLEASE PRINT NAME

Construction Materials, Inc.

- 345-49th Ave. Dr. SW ~ Cedar Rapids, IA 52404 ~ Phone (319) 366-6446 ~ (800) 747-6401 ~ FAX (319) 366-1712
- 5210 N.E. 17th St. ~ Des Moines, IA 50313 ~ Phone (515) 263-9006 ~ (800) 747-9006 ~ FAX (515) 263-8326
- 6725 Oxford St. ~ Minneapolis, MN 55426 ~ Phone (952) 929-0431 ~ (800) 486-8456 ~ FAX (952) 929-0373

www.constructionmaterialsinc.com

Epoxy Rebar Certification

Contractor: Cramer & Associates

County: Franklin County

Project: IMN-035-6(124)165--OE-35

Size	Weight	Heat Numbers
3		
4	641	16105745
5	2,082	17100231
6	117	16103629
7		
8		
9		
10		
11		
Bar List Weight	2,840	
Spirals & Spacers		
Bar List Total	**2,840**	

We hereby certify the above reinforcing conforms to the plans and specifications for the above Iowa D.O.T. Project. The materials itemized in the shipment are from the Iowa D.O.T. approved sources and are certified to be in compliance with the applicable ASTM Standards and the Iowa D.O.T. Standard Specifications, IM's and meet the Buy America requirements as described in IM 107 for all steel, iron products and coatings.
Reinforcing provided complies with the Iowa D.O.T. approved suppliers list dated April 21, 2015.
The material used in the reinforcing complies with ASTM A6515/A6515M, Grade 40 or higher. Mill test reports of

Signed: _____

Date: 3/20/17

#4
6091

ABC COATING CO. OF ILLINOIS, INC.

481 GOVERNORS HIGHWAY
PEOTONE, ILLINOIS 60468
(708) 258-9633
FAX (708) 258-9637

AN ACUÑA CO.

DATE:	12/8/2016	CONTRACTOR:	Construction Materials, Inc.
OUR JOB NO:	IL-6427	COUNTY:	
CUSTOMER:	Construction Materials, Inc.	PROJECT NO:	277780
CUSTOMER PO NO:	65272EP	JOB NO:	65272EP

We certify that the following described bar material has been cleaned, coated with 3 M #413 or Nap-gard 7-2719, 7-2750, or Valspar 720A009 Powder inspected in accordance with and meets the specification requirements of the Illinois Department of Transportation and ASTM A775-07b, AASHTO M284-06, ASTM D3963-01. Manufacturer's Certifications for the bar material and epoxy resin used are on file.

Mill	Lot/Heat	Powder	Size	Weight
Nucor GR 60	KN1610574201	3395645	4/13	31,743
Nucor GR 60	KN1610574501	3395645	4/13	15,872
				47,615

Certifications for the listed material and resin are attached.
STATE OF ILLINOIS)
COUNTY OF COOK)

OFFICIAL SEAL
FREDDIE ROGNA
Notary Public – State of Illinois
My Commission Expires March 31, 2018

Thomas Greenfield, Vice President
SUBSCRIBED AND SWORN BEFORE ME, a Notary Public in and for Cook County, Illinois, on this 8th day of December 2016

My commission expires 03-31-2018

Notary Public in and for Chicago, Illinois

EPOXY COATING PLANT CERTIFICATION TM
CONCRETE REINFORCING STEEL INSTITUTE

CRSI MEMBER

ABC Coating Company, Inc. (An Acuña Co.)

Epoxy Coated Reinforcing Steel Test Record

Peotone, Illinois

Preheat Temperature : 450

Gel Time : 8 Seconds

Holidays Line 1: 568

Powder Lot : 3395645

Date : 12-6-2016

Shift : DAY

Holidays Line 2:

Qty	Mill: NUCOR						Heat: KN161057450 1									Length: 40'-0"						Size/Grade: 4 - 420									Bend Test
25	89	91	115	99	91	115	99	101	116	99	101	97	115	99	92	89	99	97	113	99	91	115	98	99	93	116	99	91	115	99	OK
25	96	99	91	116	99	97	115	98	92	98	95	116	98	97	115	98	91	115	95	98	113	98	89	91	116	98	97	115	98	92	
25	89	91	116	98	97	116	98	101	116	97	113	92	99	101	96	99	101	97	115	99	91	113	98	96	95	89	116	91	115	89	
25	101	116	98	99	115	97	112	98	92	99	91	117	98	95	99	95	98	116	97	112	89	91	116	95	99	93	98	116	98	97	
25	96	98	99	91	106	99	97	116	99	91	115	98	99	101	115	99	101	98	99	91	116	99	92	99	91	116	89	97	115	99	
25	114	99	96	99	91	116	99	97	115	99	97	116	98	99	91	115	89	101	117	113	98	93	89	91	116	99	105	99	99	104	
25	95	98	99	91	116	98	97	115	91	98	89	91	117	98	89	91	115	98	99	97	96	99	91	117	98	91	116	98	95	98	
25	89	115	98	99	91	117	99	91	115	99	98	99	99	89	95	99	91	117	98	99	99	91	115	98	99	101	97	115	99	115	
25	95	98	89	91	117	98	97	115	98	97	115	98	116	97	112	98	99	91	117	98	98	99	91	117	98	98	99	91	117	98	
25	99	101	97	115	98	97	117	98	89	115	98	99	91	117	89	101	97	116	98	99	101	91	117	98	89	115	98	99	91	114	
25	105	99	106	95	117	118	92	99	91	109	89	91	117	89	91	115	117	98	99	95	89	99	91	112	98	98	99	91	117	96	

LINE 1

Qty	Mill:						Heat:									Length:						Size/Grade:									Bend Test

LINE 2

Certified by: Junio Lopez

Plant Operator:

Fabian Santoyo

ABC Coating Company, Inc. (An Acuña C
Epoxy Coated Reinforcing Steel Test Recor

Preheat Temperature : 450
Gel Time : 8 Seconds
Holidays Line 1: 568

Peotone, Illinois
Powder Lot : 3395645

Qty.	Mill: NUCOR						Heat: KN16105745 01									Length: 40'-0"					
25	89	91	115	99	91	115	99	101	116	99	101	97	115	99	92	89	99	97	113	95	91
25	96	99	91	116	99	97	115	98	92	98	95	116	98	97	115	98	91	115	95	98	113
25	89	91	116	98	97	116	98	101	116	97	113	92	99	101	96	99	101	97	115	99	91
25	101	116	98	99	115	97	112	98	92	89	91	117	98	95	99	95	98	116	97	112	89
25	96	98	95	91	106	99	97	116	99	91	115	98	99	101	115	99	101	98	99	91	116
25	114	99	96	99	91	116	99	97	115	99	97	116	98	99	91	115	89	101	117	113	98
25	95	98	99	91	116	98	97	115	91	98	99	91	117	98	89	91	115	98	99	97	96
25	89	115	98	99	91	117	99	91	115	99	98	99	99	89	95	99	91	117	98	99	99
25	95	98	89	91	117	98	97	115	98	97	115	98	116	97	112	98	99	91	117	98	98
25	99	101	97	115	98	97	117	98	99	115	98	97	91	117	89	101	97	116	98	99	101
25	105	99	106	95	117	118	92	91	91	109	89	91	117	89	91	115	117	98	99	95	89

LINE 1

Qty	Mill:						Heat:									Length:					

LINE 2

Certified by:
Junio Lopez
Plant Operator:

SOLD TO: CONSTRUCTION MATERIALS INC
345 49TH AVE DR SW
CEDAR RAPIDS, IA 52404-4819

NUCOR
NUCOR STEEL KANKAKEE, INC.

CERTIFIED MILL TEST REPORT

Ship from:
MTR #: 0000150805
Nucor Steel Kankakee, Inc.
One Nucor Way
Bourbonnais, IL 60914
815-937-3131

SHIP TO: CONSTRUCTION MATERIALS
345 49TH AVE SW
CEDAR RAPIDS, IA 52404-4819

Date: 29-Nov-2016
B.L. Number: 531106
Load Number: 277780

Material Safety Data Sheets are available at www.nucorbar.com or by contacting your inside sales representative.

NBMG-08 January 1, 2012

LOT # / HEAT #	DESCRIPTION	PHYSICAL TESTS					CHEMICAL TESTS						
		YIELD P.S.I.	TENSILE P.S.I.	ELONG % IN 8"	BEND	WT% / DEF	C / Ni	Mn / Cr	P / Mo	S / V	Si / Cb	Cu / Sn	C.E.
PO# =>	65272												
KN1610574201	Nucor Steel - Kankakee Inc	72,534	107,791	13.3%	OK	-5.0%	.39	.99	.016	.049	.20	.34	
KN16105742	13/#4 Rebar	500MPa	743MPa			.028	.21	.15	.054	.010	.001		
	40' A615M GR420 (Gr60)												
	ASTM A615/A615M-14 GR 60[420]												
	AASHTO M31-07												
	Melted 10/06/16 Rolled 10/18/16												
PO# =>	65272												
KN1610574501	Nucor Steel - Kankakee Inc	70,350	105,549	13.1%	OK	-4.7%	.37	.98	.017	.043	.17	.36	
KN16105745	13/#4 Rebar	485MPa	728MPa			.029	.26	.17	.060	.010	.001		
	40' A615M GR420 (Gr60)												
	ASTM A615/A615M-14 GR 60[420]												
	AASHTO M31-07												
	Melted 10/06/16 Rolled 10/15/16												

I hereby certify that the material described herein has been manufactured in accordance with the specifications and standards listed above and that it satisfies those requirements.
1.) Weld repair was not performed on this material.
2.) Melted and Manufactured in the United States.
3.) Mercury, Radium, or Alpha source materials in any form have not been used in the production of this material.

QUALITY ASSURANCE: Matt Luymes

Matt Luymes

SOLD TO: CONSTRUCTION MATERIALS INC
345 49TH AVE DR SW
CEDAR RAPIDS, IA 52404-4819

NUCOR
NUCOR STEEL KANKAKEE, INC.

CERTIFIED MIL

Ship from:
MTR #: 00001508
Nucor Steel Kank
One Nucor Way
Bourbonnais, IL 6
815-937-3131

SHIP TO: CONSTRUCTION MATERIALS
345 49TH AVE SW
CEDAR RAPIDS, IA 52404-4819

Material Safety Data Sheets are available at www.nucorbar.com or by contacting your Inside sales representative.

LOT # / HEAT #	DESCRIPTION	PHYSICAL TESTS					
		YIELD P.S.I.	TENSILE P.S.I.	ELONG % IN 8"	BEND	WT% / DEF	C / Ni
PO# =>	65272						
KN1610574201	Nucor Steel - Kankakee Inc	72,534	107,791	13.3%	OK	-5.0%	.39
KN16105742	13/#4 Rebar	500MPa	743MPa			.028	.21
	40' A615M GR420 (Gr60)						
	ASTM A615/A615M-14 GR 60[420]						
	AASHTO M31-07						
	Melted 10/06/16 Rolled 10/18/16						
PO# =>	65272						
KN1610574501	Nucor Steel - Kankakee Inc	70,350	105,549	13.1%	OK	-4.7%	.37
KN16105745	13/#4 Rebar	485MPa	728MPa			.029	.26
	40' A615M GR420 (Gr60)						
	ASTM A615/A615M-14 GR 60[420]						
	AASHTO M31-07						
	Melted 10/06/16 Rolled 10/15/16						

I hereby certify that the material described herein has been manufactured in accordance with the specifications and standards listed above and that it satisfies those requirements.
1.) Weld repair was not performed on this material.
2.) Melted and Manufactured in the United States.
3.) Mercury, Radium, or Alpha source materials in any form have not been used in the production of this material.

QUALITY ASSURANCE: ___

Axalta Powder Coating Systems USA, Inc.
9800 Genard Rd.
Houston, TX 77041

O 832 955 0200
F 832 955 0562
info.powder@axaltacs.com
axalta.us/powder

AXALTA

CERTIFICATE OF COMPLIANCE

Material: Nap-Gard® 7-2750 Green Rebar Fusion Bonded-Epoxy powder coating for concrete reinforced steel bar.

This is to certify that the batch number of Nap-Gard® 7-2750 Green Rebar FBE listed below is chemically the same material that was tested by Valley Forge Laboratories Inc. of Devon, Pennsylvania to A775. I certify that it meets the requirements of Annex A1 of A775-00 and A884/A884M. Nap-Gard 7-2750 Rebar also meets the requirements of ASTM D3963-93a, ASTM-A-1078, AASHTO M284-95 and AASMTO M254-06 Type B.

The following batch was manufactured in the United States.

Batch Number	Lot Number	Date of Manufacture	Date of Expiration	Batch Size (Lbs)
3395645	3395645	October 01, 2016	April 01, 2017	15,000

Shelf Life: 6 Months < 80°F, 50% Humidity

Sincerely,

Steven Yi
Quality Systems Manager

WARRANTY POLICY: Axalta Powder Coating Systems USA, Inc. ("Seller") certifies that all coatings delivered to Customer in unopened factory filled containers meet all pertinent quality standards presented in Seller's current published literature. Since matters of surface preparation, application procedures, curing procedures and other local factors that affect coating performance are beyond Seller's control, Seller assumes no liability for coating failure other than to supply replacement material for coating material proven to be defective. Customer will determine suitability of this product for it use and thereby assumes all risks and liabilities in connection therewith. Seller will not be liable for any injuries, damages or other losses derived, directly or indirectly, from or as a consequence of Customer's use of the product. SELLER DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, RELATING TO ITS PRODUCTS AND THEIR APPLICATION, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSES.

ISO 9001:2008

Axalta Powder Coating Systems USA, Inc.
9800 Genard Rd.
Houston, TX 77041

O 832 955 0200
F 832 955 0562
info.powder@axaltacs.com
axalta.us/powder

CERTIFICATE OF COMPLIANCE

Material: Nap-Gard® 7-2750 Green Rebar Fusion Bonded-Epoxy powder coating for concret reinforced steel bar.

This is to certify that the batch number of Nap-Gard® 7-2750 Green Rebar FBE listed below i chemically the same material that was tested by Valley Forge Laboratories Inc. of Devon, Pennsylvania to A775. I certify that it meets the requirements of Annex A1 of A775-00 and A884/A884M. Nap-Gard 7-2750 Rebar also meets the requirements of ASTM D3963-93a, A A-1078, AASHTO M284-95 and AASMTO M254-06 Type B.

The following batch was manufactured in the United States.

Batch Number	Lot Number	Date of Manufacture	Date of Expiration	Batch Size (
3395645	3395645	October 01, 2016	April 01, 2017	15,000

Shelf Life: 6 Months < 80°F, 50% Humidity

Sincerely,

IOWA DEPARTMENT OF TRANSPORTATION
OFFICE OF MATERIALS
TEST REPORT - MISCELLANEOUS MATERIALS

Laboratory - NWITC Materials

Material: Diaphragms & Bearings & Drains Laboratory No. 3DC12-3

Intended use: Bridge Accounting ID#:

County: Bremer Contract No: Project No: HSIPX-218-8(103)—36-09

Producer: Hawkeye Fab. Inc. Contractor: Taylor Cosnt.

Source: Ida Grove, Iowa Unit of Material: Design:

Inspected by: Daryl Carr Sender's No:27648

Date Inspected: 1/24/12 Date Reported: 03/19/12

Note: The following material was checked for the dimensions and galvanization and found to comply to ASTM-123 and ASTM-153.

20- Diaphragms
6- Bearings
8- Deck Drains

CC:
Dist Two Materials Engineer
File

Disposition: COMPLIES Signed: Daryl Carr MT IV

Iowa Department of Transportation

Letter of Transmittal

Office of Bridges and Structures
800 Lincoln Way (515)-233-7924
Ames, IA 50010 Fax (515)-239-1978

IOWA DEPARTMENT OF TRANSPORTATION
DISTRICT 2

September 30, 2013

OCT 2 2013

MASON CITY, IA

ID No	1271

To: PACAL, LLC.
400 CAR STREET
LA CROSSE, WI 54603

Design No.	412	Station	
File No.	30354	Section	
Job No.			
County	ALLAMAKEE		
Project	BRFN-009-9(60)--39-03		
Project			
Location			

We are sending you

[X] *Attached* [ ] *Under Separate Cover*

[ ] Plans
[ ] Prints
[X] Shop Drawings
[ ] Falsework Plans

Item	Copies	Sheets	Description	No Exceptions Taken 1.	Make Corrections Noted * 2.	Amend and Resubmit 3.	Rejected - See Remarks 4.
1	1	8	LADDER & TIE-OFF DWG., WELD PROCEDURES		X		
			(1-Contractor submittal form, 4-weld procedures,				
			1-Tie-off anchor & 2-Ladder shop drawings)				

* No Resubmittal Necessary

Remarks: **Shop drawings are marked "For Distribution By" the Iowa DOT Office of Bridges and Structures. Shop drawings are marked "Make Corrections Noted" by the review consultant, HDR Engineering, Inc.**

Signed *Brett Kloss*
Brett Kloss
Office of Bridges and Structures

Cc:

S. MOUSSALLI-CENTRAL MATERIALS (2 COPIES)
J.F. BRENNAN CO., INC.
OFFICE COPY
K. NORRIS-DISTRICT 2 MATERIALS
R. LOECHER-NEW HAMPTON RCE

BILL OF MATERIAL

LINE #	REQ,D ASSY.	REQ,D COMP	MADE UP OF DESCRIPTION & GRADE	LENGTH FEET	LENGTH INCH	LENGTH FR.	MARK	REMARKS
1	10		UB 1 1/2"DIA.-6 U-BOLT A36				UB12	GALV.
2			13 1/2 C TO C X 30 DEEP					
3								
4	10		PL 1/2 x 4 1/2 A36	1	6	-	PW	GALV.
5								
6	42		HN 1 1/2-6 HVY A563DHG				N12	
7	42		FW 1 1/2 F436G				W12	
8								
9								
10								

SHOP NOTES:
-ALL WORKMANSHIP SHALL BE PERFORMED IN ACCORDANCE WITH THE IOWA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, SERIES 2012, SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS. THE ADDITIONAL REQUIREMENTS OF PACAL'S APPROVED QUALITY CONTROL PLAN (QCP) SHALL APPLY.
-NON-HIGH STRENGTH BOLTS SHALL CONFORM TO ASTM A307, AND BE HOT DIP GALVANIZED PER ASTM A153.
-DEBURR/BREAK ALL EDGES, CORNERS AND HOLES BEFORE GALVANIZING.
-GALVANIZED SHALL BE IN ACCORDANCE WITH ASTM A123,A153, B695. PRIOR TO GALVANIZING ALL STEEL AND WELDS SHALL BE BLAST CLEANED TO A SSPC-SP6 FINISH.

REVIEWED BY OFFICE OF BRIDGES AND STRUCTURES
IOWA DEPARTMENT OF TRANSPORTATION
Reviewed in accordance with current policy
SEP 30 2013
☐ NO EXCEPTIONS TAKEN
☐ MAKE CORRECTION NOTED (NO RESUBMITTAL NEC.)
☐ AMEND AND RESUBMIT
☒ FOR DISTRIBUTION BY BDK

A. FURNISH AS SUBMITTED ☐
B. FURNISH AS NOTED ☒
C. REVISE AND RESUBMIT ☐
D. REJECTED ☐
E. ENGINEER'S REVIEW NOT REQUIRED ☐

This review is for general conformance with design concept only. Any deviation from plans or specifications not clearly noted by the Contractor has not been reviewed. Review by the Engineer shall not serve to relieve the Contractor of the contractual responsibility or any error or deviation from contract requirements.

HDR ENGINEERING, INC.
By NJL Date 9-18-13
Shop Drawing Transmittal No.
Project

LEVEL	DATE

DRAWN BY: LHO
CHKD. BY: MPM
DATE: 9-11-13
APPROVED:

JOB NO 88581-1 SHEET NO. 1 OF 1

PACAL, LLC.
PACAL INDUSTRIES • (651) 631-1111 • (800) 328-9836 • FAX (651) 631-9268

AISC CERTIFIED FABRICATOR

2016

Construction and Materials Review

HMA PAVING and COLD-IN-PLACE RECYCLING

Project No.: STPN-065-8(56)--2J-17 Contract No.: 17-0658-056

Refer to IM 204 Appendix F, IM 437, IM 510, IM 511

Contract Item No.	Material	Type	Source
0250	Binder	PG 58-28	Flint Hills / Algona Iowa
0260	Binder	PG 64-34	Flint Hills / Savage MN
0340	Emulsion / Cutbacks	CQS-1HP	Flint Hills / Algona Iowa
Incidental to paving	Emulsion / Cutbacks	CSS-1H	Flint Hills / Algona Iowa
	Stabilizing Agent		

Contract Item No.	Basis of Acceptance	Mix Design No.	Quantity Paid Tons	Quantity Documented Tons
0200	PWL, AAD or Small Qty's	ABD16-2035R1 & R2	171.30 Tons	171.30 Tons
0200	PWL, AAD or Small Qty's	ABD16-2026R1	71.70 Tons	71.70 Tons
0210	PWL, AAD or Small Qty's	ABD16-2031R1	2,396.680 Tons	2,396.680 Tons
0220	PWL, AAD or Small Qty's	ABD16-2027R1	1261.93 Tons	1261.93 Tons
0220	PWL, AAD or Small Qty's	ABD16-2040	1087.74 Tons	1087.74 Tons
0230	PWL, AAD or Small Qty's	ABD16-2035R1 & R2	6076.48 Tons	6078.48 Tons
0240	PWL, AAD or Small Qty's	ABD16-2026 - R-1	8838.88 Tons	8838.88 Tons
0080	PWL, AAD or Small Qty's	ABD160-2001	276.00 Tons	276.00 Tons
0080	PWL, AAD or Small Qty's	ABD16-2040	40.40 Tons	40.40 Tons
0070	PWL, AAD or Small Qty's	ABD16-2001R1	1089 ~~193.39~~ Tons SY	193.39 Tons
0150	PWL, AAD or Small Qty's	ABD16-2006	3.00 Tons	3.00 Tons
0150	PWL, AAD or Small Qty's	ABD16-2002	36.97 Tons	36.97 Tons
0150	PWL, AAD or Small Qty's	ADB16-2035R1	1.00 Tons	1.00 Tons
0960	PWL, AAD or Small Qty's	ABD16-2002	435 ~~346.37~~ Tons	346.37 Tons

Job Control Tests (Construction)

			Required	Documented
Combined aggregate-gradation (CPI)		1 Cert Test / Lot	23	23
Binder	(DSR) Sample	1 / Day	12	12
Binder	(DSR) Tests	1st Day - 1 / Wk	5	5
Tack	Residue	1 per project	1	1
Stabilizing Agent	(DSR) or Residue	1 / day	0 N/A	0 —
Lab density Rpt'd in chart	(QMA) No. of tests based on production		~~37~~ 39	~~37~~ 42
Field Voids		1 per lot	10	10
Film Thickness		1 per lot	18	18
Smoothness (Yes or No) (FINAL)		Certified Test Rpt	YES	YES
Field Density (Cold-in-Place)		10 / lot	0 N/A	0
Field Moisture (Cold-in-Place)		10 / lot	0 N/A	0
Seal Coat Compatibility		1st Day - 1 / Wk		

Verification Test --- Materials will furnish report(s)

Verification gradation tests (Splits W / CPI)	1st Day + 20%	201	6	6
Aggregate Quality	1 / 20,000 Tons of Mix		1	1
AC Binder	1 / 20,000 Tons of Mix		1	1
Uncompacted mixture (Lab Density/Voids)	1/day		12	12
Smoothness (Yes or No)	10% of project	821301	YES	YES
Stablizing Agent	1 per project		N/A	—

Independent Assurance --- Materials will furnish report(s)

Compacted mixture (Lab Density/Voids)	1 / Project or Systems Approach	800242	1	1

KEY

Midwest Industrial Asphalt Inc.

615 SUMNER STREET
LA CROSSE, WISCONSIN 54602

PHONE 608-782-3308

BILL OF LADING
TRUCK MANIFEST

...to certify that the herein named materials are properly classified, described, packaged, marked, and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. ...ject to Section 7 of the terms and conditions of the applicable bill of lading. If this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement: The carrier shall not make delivery of shipment without payment of freight and all other lawful charges.

Property described herein in apparent good order is received by the carrier shown on this bill of lading and the carrier agrees to transport the property to the consignee and the destination set forth herein subject to the classifications and tariffs, and terms and conditions of the Uniform Domestic Straight Bill of Lading found in National Motor Freight Classification, in effect on the date of issuance of this bill of lading. It is further agreed by the carrier that the transportation of the property will be ...ormed in compliance with all applicable rules, regulations, and laws.

E DESCRIBED MATERIAL RECEIVED IN GOOD CONDITION AS NOTED

...NSIGNEE _____ BY _____ DATE _____ DRIVER _____

...L OF LADING	SHIP DATE	CARRIER
51207	9/6/2017	CH WILSON TRANSPORT, INC.

...ED TO
MATHY PORTABLES PLANT 52-OELWEIN
FAYETTE COUNTY
OELWEIN, IA

TRACTOR # 166
TRAILER # 137
PRODUCT LAST HAULED - 58s-28
TIME OUT 1:14:01 PM

SAMPLE NUMBER - 27329

ROJ/PO# 1 HSIPX-003-6(64)--3L-09
ROJ/PO# 2 MP-063-2(709)177-76-09
ROJ/PO# 3

Shipping Description / Product	F Temp	API Grav	Gross Gallons	Net Gallons	Scale Weights
UN 3257, ELEVATED TEMPERATURE, LIQUID, N.O.S (ASPHALT),.	285	6.9	6793	6225	79600 GROSS
...I, PG III					26420 TARE
					53180 NET
PG 58S-34 ASPHALT					26.59 NET TON

IN EMERGENCY CONTACT : PERS 1-800-633-8253

WEIGHT PER GALLON	8.5428
SPECIFIC GRAVITY	1.0227

DEODORANT ADDED YES

COMMENTS:

SIGNATURE OF AUTHORIZED REPRESENTATIVE _____ TANK: LAX Tank 3

MIDWEST INDUSTRIAL ASPHALT INC. CERTIFIES THAT THE PRODUCT LISTED ABOVE, AS TRANSPORTED TO THE CONTRACTORS PLANT, CONFORMS TO THE APPLICABLE ILLINOIS, IOWA, MICHIGAN, MINNESOTA, WISCONSIN AND COMBINED STATES BINDER GROUP PRODUCT SPECIFICATIONS

FLINT HILLS resources

Bill of Lading

Shippers BOL No.	Revision
130005307	2
Ship Date: 07/11/2016	

EMERGENCY CONTACT: CHEMTREC (CCN 8586) 1-800-424-9300
SHIPPER/OFFEROR: FLINT HILLS RESOURCES PINE BEND, LLC

RECEIVED in apparent good order, exceptions noted and subject to individually determined rates or contracts that have been agreed upon in writing between the carrier and shipper, if applicable, otherwise to the rates, classifications and rules that have been established by the carrier and are available to the shipper upon request.

NON-RECOURSE: if this shipment is to be delivered to the consignee without recourse on Flint Hills Resources, the carrier may decline to make delivery of this shipment without payment of freight and lawful charges. Signature: FLINT HILLS RESOURCES, LP and affiliates.

If the cargo tank for the shipment is supplied by the Carrier, Carrier certifies that the cargo tank is a proper container for the transportation of this commodity. Carrier acknowledges that it has, or has been offered and accepted the required hazardous materials placards and emergency response information. The undersigned driver/carrier certifies compliance with all applicable rules of any government entity having jurisdiction over the transportation of products, including the State and Federal Departments of Transportation.

Signature of Carrier Linus Holthaus Signed 07/11/2016 08:09

Origin	Customer/Consignee/Sold To	Destination/Ship To
FHR PINE BEND, LLC 832 N MAIN ST ALGONA, IA 50511 515-295-2883	HEARTLAND ASPHALT INC 2601 S. FEDERAL MASON CITY, IA 50401	VAR CERRO GORDO COUNTY IA OVARIOUS, IA N/A

Agreement	Customer PO	Carrier	Freight Paid By	
6479690		1927 - WILSON, C H TRANSPORT, INC		
Truck	**Trailer**	**Driver**	**Load Time**	
00156	24043	00010 - Holthaus, Linus	In 07:28	Out 08:08

HM	Package	Proper Shipping Description Product Description SDS Classification	Temp (F) SpGr@60F LBS/GAL@60F	Gross GAL Net GAL@60F	Gross LBS Tare LBS
	1-T/T	NON-REGULATED BY DOT	104	5384	74880
		CSS-1H	1.025	5272	29880
		SLOW SET ASPHALT EMULSION	8.536		
				NET WT (LBS)	45000
				(TON)	22.50

Batch ID:Emulsion 34
Last Load:cqslhp

Tank ID:Emulsion 34
Bay:Rack 3

Sample ID:NA

Notes:

Project Notes:

Certifications:
Flint Hills Resources, LP (FHR) certifies that the product provided under this bill of lading meets the applicable Iowa product specification criteria based on sampling and testing in accordance with FHR's Agency Quality Control Plan as most recently submitted to such State (IA). Signature: Flint Hills Resources, LP

21720

Steve

Specific Gravity and weight per gallon can vary throughout the processes of manufacturing, shipping and handling. The values provided are based on a historical average for the product supplied. These commodities, technology, or software were shipped from the United States in accordance with the Export Administration Regulations. Diversion contrary to U.S. law is prohibited.

To request a current SDS in non-emergency situations, please call 316-828-7988

FHR WS BOL 04.12.2016_17:00

District 2 Materials
428 43rd Street S.W.
Mason City, IA 50401

IOWADOT
SMARTER I SIMPLER I CUSTOMER DRIVEN

☐ Revised Report
Changes Lab. No.

PAVEMENT TEST REPORT
25-FOOT CALIFORNIA PROFILOGRAPH

☐ For Information Only ☐ Preliminary ☑ Final

Lab No.	33-0188-042	Route No.	U.S. 18	Project No.	NHSN-018-8(42)--2R-33
Date Reported	11/16/2017	Date Paved	10-23-17	County	Fayette
				Contractor	Mathy
Tested By	Jon Kleven NE300			Date	10/23/2017
Trace Reduced By	Computer			Date	11/16/2017

Spec. 2317 Tested at: Wheel Track

HMA Paving Blanking Band: 0.0-Inch

Roadway Type: ☑ 2-Lane ☐ 4-Lane ☐ Ramp ☐ Other

		☐ Inside Lane		Direction (4-Lane Only)		Westbound ☐ Outside Lane		
Length (Miles)	Wheel Track Measured Roughness (Inches)	Inside Profile Index (Inches/Mile)	Location (Station)	Length (Miles)	Wheel Track Measured Roughness (Inches)	Outside Profile Index (Inches/Mile)	Index Average (In./Mi.)	Incent./ Deduct
0.500	6.22	12.44	406+48 to 380+08 +/-	0.500	9.17	18.34	15.39	
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0.500	6.22			0.500	9.17			$0
	AVG =	12.44			AVG =	18.34		

Incentive Levels

Station **1/2" Bump Locations** **Station**

Contractor Lab#	Contractor Results	IDOT Results	Difference	IM216 Tolerance
Mathy EB summary tables	16.22	15.39	-0.8	3.0 in/mi

Correlation Complies

Copies: J. Omundson
Doc X

Jon Kleven

Kathrine Miller

Digitally signed by Kathrine Miller
DN: cn=Kathrine Miller, o=IDOT, ou=District 2 Materials, email=kathrine.miller@iowadot.us, c=US
Date: 2017.11.16 13:22:01 -06'00'

Mathy Construction Co.- HMA PAVEMENT PROFILE SUMMARY TABLE

PROJECT DESCRIPTION		RUN DESCRIPTION	
Project: NHSN-018-8(42)--2R-33	Road Way type: 2 Lane	Paving Dates: 10/23/2017	Profile Dates: 10/30/2017
Highway: IA - 18 West Union	County: Fayette	Start Station: 373+39	End Station: 423+00
Description: EB Lane - **FINAL REPORT**	Tested at: Wheel path	Lab Number: SSI-High Speed (2)	Blanking Band: 0
Contractor: Mathy Construction Company		Pavement Type: HMA	Tested by: Kevin Olson — Certification #: NE 281

This is to certifiy that all testing and trace reduction herein described has been performed according to the applicable contract specifications and requirements.

Signed: Kevin T. Olson

Lane	Segment Limits: Begin Station	Segment Limits: End Station	Length ft	Number of Bumps >0.5 in.	Profile Index 0.0 Blanking Band: Inside in/mile	Profile Index 0.0 Blanking Band: Outside in/mile	Profile Index 0.0 Blanking Band: Average in/mile	Segment Pay Adjustment $/segment	
EB Lane	373+39	373+55	16.0	0					**16 FT. NCR Existing Pavement**
EB Lane	373+55	373+71	16.0	0					**16 FT. NCR New Pavement**
EB Lane	373+71	378+67	496.0	0	14.00	17.80	15.90	$200.00	
EB Lane	378+67	383+95	528.0	1	24.70	15.80	20.25	$0.00	**SEE NOTE ****
EB Lane	383+95	389+23	528.0	0	17.10	23.40	20.25	$0.00	
EB Lane	389+23	394+51	528.0	0	13.30	13.00	13.15	$500.00	
EB Lane	394+51	399+79	528.0	0	11.80	17.60	14.70	$500.00	
EB Lane	399+79	405+07	528.0	0	14.40	13.60	14.00	$500.00	
EB Lane	405+07	410+35	528.0	0	9.60	13.20	11.40	$500.00	
EB Lane	410+35	415+63	528.0	0	9.90	12.90	11.40	$500.00	
EB Lane	415+63	423+00	737.0	0	9.30	13.20	11.25	$500.00	**423+00 Begin 55 MPH**
Totals			0.94 lane miles	1 Bumps	13.79 inside avg	15.61 outside avg	$3,200.00 Total Pay adjustment		**NO CORRECTIVE WORK NEEDED**

Table 2317.05-2

15.0 Or Less $ 500.00
15.1 To 20.0 $ 200.00
20.1 To 45.0 $ 0.00
*45.1 To 50.0 $ - 200.00 or Grind**
*50.1 Or More 0.00**

NOTE ** the Defect at 382+29 to 382+43 is due to a manhole cover directly in the Left Wheel path

CIR 3 modified

DAILY COLD-IN-PLACE ASPHALT RECYCLING REPORT

Project No.:	STPN-218-9(118)--2J-66	Report No.:	3
Contractor/sub:	WK CONST.	Report Date:	5/10/16
County:	MITCHELL	Contract ID:	

Date Recycled: 5/6/16 Date Tested: 5/10/16 Tested By: RALPH DITTMER

Test Number or Location:	1	2	3*	4	5	6	7*	8	9	10
Station:	1283+27	1286+71	1298+61	1325+48	1353+19	1232+11	1374+49	1400+36	1421+81	1424+68
Centerline Reference:	3' LT	9.3' LT	12.6' LT	11.2' LT	12.4' LT	3.7' LT	3.2' LT	6.5' LT	12.6' LT	3.2' LT
Probe Depth:	2"	2"	2"	2"	2"	2"	2"	2"	2"	2"
Gauge Wet Density PCF:	131.9	131.3	132.9	136.4	136.5	134.8	138.0	132.2	136.5	133.5
Gauge Dry Density PCF:	116.1	116.2	118.3	124.2	122.8	119.6	123.3	118.2	122.0	118.6
Moisture PCF:	15.8	15.1	14.6	12.2	13.7	15.2	14.7	14.0	14.5	14.9
Moisture Correction Factor PCF:	8.83	8.83	8.83	8.83	8.83	8.83	8.83	8.83	8.83	8.83
Corrected Dry Density PCF:	124.9	125.0	127.1	133.0	131.6	128.4	132.1	127.0	130.8	127.4
Percent of Lab Dry Density:	95.2	95.3	96.9	101.4	100.3	97.9	100.7	96.8	99.7	97.1
Percent Moisture:	5.6	5.0	4.5	2.5	3.7	5.0	4.4	4.1	4.3	4.8

Lab Dry Density avg. PCF:	131.2
Lab Density avg. Gmb:	2.103
Lab Percent Moisture:	4.4

Avg. Corrected Dry Density PCF:	128.76
Avg. Corrected % of Lab Density:	98.1
Average Moisture:	4.4
Specified % of Lab Density:	94

Type of Rejuvinating Agent
PG 52-34

Recycle Depth:	3"	Recycle Width:	14'

Samples Submitted	
Material	Senders Number
UNCOMPACTED MIX	050616RDA
OIL	050616RDB

Production and Placement Record

From Station	To Station	Side	Sq. Yds. Today	Sq. Yds. To Date
1277+50	1301+64	LT		
1319+67	1335+55	LT		
1341+24	1439+20	LT		

Weather: CLOUDY COOL

Remarks:

Inspector: JOHN PERROTT

CIR-2

Determination of Moisture Correction Factor

Date: 06/01/17

Test Number:	1	2	3	4	5	6	7	8	9	10
Gauge Wet Density PCF:	120.8	128.4	124.2	131.5	126.9	8.2	124.3	121.5	122	119.8
Gauge Moisture Content PCF:	8.9	11	10.3	11.9	12	9.5	10	8.4	8.4	8.7
Gauge Percent Moisture:	8	9.4	9	9.9	10.5	125.3	8.8	7.4	7.4	7.8
Lab % Moisture Pan Dry:	1.3	2.2	1.3	2.3	1.9	1.1	1.2	1.3	1.4	0.7
Actual in-place Moisture PCF:	1.55	2.76	1.59	2.96	2.37	0.09	1.47	1.56	1.68	0.83
Correction Factor % Moisture:	6.7	7.2	7.7	7.6	8.6	124.2	7.6	6.1	6.0	7.1
Correction Factor PCF:	7.35	8.24	8.71	8.94	9.63	9.41	8.53	6.84	6.72	7.87

Avg. Gauge Wet Density PCF:	112.76
Avg. Gauge Moisture PCF:	9.91
Avg. Lab % Moisture:	1.47
Avg. Actual Moisture PCF:	1.69
Avg. Correction Factor % Moisture:	18.88
Avg. Correction Factor PCF:	8.22

ENNIS-FLINT
A Traffic Safety Solutions Company

Manufacturer:
Ennis-Flint
13213 Hwy 79 South
Saverton, MO 63467
Phone: 800-331-8118

Certificate of Analysis

Date:	2/15/2017
Code:	981502
Description:	WB YEL IA FAST DRY
Batch:	MP1702Y0036
Color:	Yellow
Quantity:	6,050 Gallons
MFG Date:	2/6/2017

Property	UOM	Min	Max	Actual
Total Solids	%			75.86
Pigment Content % (ash - organic pigment)	%	55.00	58.00	55.99
NVV, Non-volatile vehicle + Organic pigment	%	45.00		45
Weight	lbs./gallon	12.00		13.31
Viscosity	KU	88	95	91
Contrast Ratio @ 6 Wet Mils	Unit	0.930		0.93
Directional Reflectance	%	50	59	52.80
Dry Time D-711 @ 6 Wet Mils	minutes		5	4
Color Coordinate	x	0.4710	0.5010	0.4762
Color Coordinate	y	0.4280	0.4550	0.4462
VOC Less Than	grams/liter		150	95
Closed Cup Flash Point	°F	100		>200
Fineness of Grind		3		4
Flexibility				Pass

This product does not contain mercury, lead, hexavalent chromium, toluene, chlorinated solvents, hydrolyzable chlorine derivatives, ethylene based glycol ethers and their acetates, nor any carcinogen as defined in 29-CFR 1910.1200.

Having the authority to act for Ennis-Flint, I do hereby certify that all materials and the final product hereon complies with MGS-91-060 and the paint offered for conformance to this specification is manufactured to the same formulation as the paint applied on the NTPEP test deck.

Name: *Thomas Elizondo*

Title: Quality Manager

ENNIS-FLINT
A Traffic Safety Solutions Company

Manufacturer:
Ennis-Flint
13213 Hwy 79 South
Saverton, MO 63467
Phone: 800-331-8118

Certificate of Analysis

Date:	2/21/2017
Code:	981501
Description:	WB WHT IA FAST DRY
Batch:	MP1702W0049
Color:	White
Quantity:	5,995 Gallons
MFG Date:	2/16/2017

Property	UOM	Min	Max	Actual
Total Solids	%			73.63
Pigment Content	%	45	55	53.36
Non-Volatile Vehicle	%	43		43.46
Weight	lbs./gallon	12		13.23
Viscosity	KU	88	95	92
Contrast Ratio @ 6 Wet Mils	Unit	0.955		0.97
TiO2 % Rutile lb/gal	%	1		1.02
Directional Reflectance	%	84		87.20
Dry Time D-711 @ 6 Wet Mils	minutes		5	4
VOC Less Than	grams/liter		150	106.0
Closed Cup Flash Point	F	100		200
Fineness of Grind		3		4
Flexibility				PASS

This product does not contain mercury, lead, hexavalent chromium, toluene, chlorinated solvents, hydrolyzable chlorine derivatives, ethylene based glycol ethers and their acetates, nor any carcinogen as defined in 29-CFR 1910.1200.

Having the authority to act for Ennis-Flint, I do hereby certify that all materials and the final product hereon complies with all applicable specifications.

Name: *Lisa Lawrence*

Title: Quality Manager

Potters
Recycles Over One Billion Pounds Of Glass Each Year
4907 55th Ave.
Muscatine, IA 52761
Phone: 563-262-8481
Fax: 563-262-8745

MATERIAL CERTIFICATION

The material covered by this Certification has been tested according to ISO 9001 standard procedures by our Quality Control Department and complies with all applicable specifications. Quality Control Data to substantiate this certification is on file in our Laboratory.

Potters tests every lot of glass beads produced for use in Highway Markings using XRF technology to insure that Heavy Metals are below the following limits for total content unless lower limits are required by the specification: Arsenic <200ppm, Lead <200ppm, Antimony <200ppm. Test Data is on file in our Quality Lab to support this, and is available upon request. Independent Testing Laboratory results using EPA Methods 3052 and 6010C can also be provided if requested at least 2 weeks in advance of shipment.

Customer (1051): QUALITY STRIPING INC.
Customer PO #: 4/4/17

Potters Order #: 1202946
Bill of Lading #: 81285940

Material	Quantity (LB)
IOWA CONTRACTOR AC-110 80% SS 2000	44,000.000
LOT# MU-H-040517-3 PALLET 1-22 These glass beads are manufactured from commercial soda lime glass cullet from North American sources.	
TOTAL QUANTITY:	**44,000.000**

DATE: 04/06/2017

BY: Deb Saylor

COLEMAN MOORE COMPANY
220 NEW YORK AVENUE
DES MOINES, IA 50313
515-309-5577 fax 515-309-5579

MATERIALS CERTIFICATION

Peterson Contractors, Inc.
104 Blackhawk
Reinbeck, IA 50669

RE: Blackhawk County
MBIN-380-2(509)71—0M-07

This is to certify Propex Geotex 601 embankment erosion control and concrete pipe joint wrap fabric meets the specifications set forth for 4196.01.B.3 of Iowa Dept. of Transportation manual. Propex Geotex 601 is listed as an approved material in the materials I.M. section 4196.01C.

Signed: _____

Date: 12-19-17

Seed Mixture Report - Permanent Rural

11-13

Project No.:	STPN-065-8(56)	Date:	11/9/2016
County:	Cero Gordo	Seed Mix Type:	Permanent Rural
Contractor:	Lakeside Construction	# of Acres:	1.5
		Lot #:	IDR-ST2-16

Species (Scientific name)	Origin	Lot #	Test Date	Purity (%)	Germination (%)
Fescue, Tall (Fawn) (Min. 98% Purity, 85% Germ.)	OR	70-15-101F	5/16/2016	98.89	93
Ryegrass, Perennial (Linn) (Min. 95% Purity, 90% Germ.)	MN	M144-14-39	16-May	98.89	97
Bluegrass, Kentucky (Min. 85% Purity, 80% Germ.)	WA	U21-15-01002	16-May	98.89	90

NOTE: If "Purity (%)" or "Germination (%)" cell background turns red after entering number, then purity or germination % does not meet requirement.

Species (Scientific name)	Lbs./Acre	# of Acre	Total Bulk Lbs.
Fescue, Tall (Fawn)	100	1.5	150.00
Ryegrass, Perennial (Linn)	75	1.5	112.50
Bluegrass, Kentucky	20	1.5	30.00
		Total:	292.50

Lbs/Bag: 48.75 Acres/Bag: 0.25 # of Bags: 6

The materials itemized in this shipment are certified to be in compliance with the applicable requirements of the Iowa Department of Transportation.

Project No.	STPN-065-8(56)
County	Cero Gordo
Seed Mixture Type	Permanent Rural
# of Acres	1.5
Total Bulk Lbs. of Mixture	292.5
Lbs./Bag	48.75
Acres/Bag	0.25
Lot No.	IDR-ST2-16
# of Bags	6
Contractor	Lakeside Construction
Date	11/9/2016

Company: United Seeds, Inc.

Name: Matt Kovacevich

Signature: Matt Kovacevich

Date: 9-Nov-16

DATE:	9/26/2017	PROJECT NO:	MBIN-380-2(509)71--OM-07
TO:	SCHECKEL SEEDING	LOCATION:	BLACK HAWK COUNTY
		CONTRACTOR:	SCHECKEL SEEDING
FROM:	Andre Hoyt	SEED TYPE:	IDOT WETLAND GRASSES MIX
	UNITED SEEDS INC.	ACRES:	0.24
	SEED CERTIFICATION FORM	LOT NUMBER	IDOTWET-17

UNITED SEEDS INC
7500 BURLINGTON
OMAHA, NE 68127
800-456-9801
DES MOINES, IA 50316
800-365-6674

KIND	VARIETY	PLS # / AC	AC DO	TOTAL PLS #	PLS FACTOR	TOTAL BULK LBS
Blue Vervain		0.0625	0.24	0.02	1.055	0.016
Common Ironweed		0.0625	0.24	0.02	1.278	0.019
Nodding Bur Marigold		0.5	0.24	0.12	1.148	0.138
Swamp Milkweed		1	0.24	0.24	1.126	0.270
Sneezeweed		0.125	0.24	0.03	1.083	0.032
Water Plaintain		0.25	0.24	0.06	1.080	0.065
Arrowhead		0.25	0.24	0.06	1.152	0.069
New England Aster		0.125	0.24	0.03	1.171	0.035
Big Bluestem		1	0.24	0.24	1.312	0.315
Switchgrass		0.5	0.24	0.12	1.088	0.131
Prairie Cordgrass		1	0.24	0.24	1.472	0.353
Virginia Wildrye		5	0.24	1.20	1.086	1.302
Blue Jointgrass		0.0625	0.24	0.02	1.071	0.016
Rice Cutgrass		0.25	0.24	0.06	1.076	0.065
Dark Green Bulrush		0.0625	0.24	0.02	1.067	0.016
Fox Sedge		0.25	0.24	0.06	1.046	0.063
Softstem Bulrush		0.5	0.24	0.12	1.112	0.133
Spike Rush		0.25	0.24	0.06	1.235	0.074
Porcupine Sedge		0.5	0.24	0.12	1.104	0.132
Broom Sedge		0.125	0.24	0.03	1.129	0.034
Tussock Sedge		0.125	0.24	0.03	1.054	0.032
		ACRES / BAG:	0.240		TOTAL BULK LBS	3.31
		LBS / BAG:	3.31	1	# of Bags	
		NEED:	1	0.240	AC TAGS	

Written By: Andre Hoyt
Vice President/Submittal Writer

UNITED SEEDS INC
OMAHA DES MOINES

PURCHASED 11/02/17 TUESDAY
EAST SIDE OF RIVER

SCHECKEL SEEDING

6.2 K
+ 20%
= 0.24 K

MBIN-380-2(509)71--OM-07
BLACK HAWK COUNTY, IA
IDOT WETLAND MIXTURE
3.31 LBS = 0.24 ACRES

6-28-28

PCS Sales

FERTILIZER PRODUCTS

Product Name: **Monoammonium Phosphate 11-52-0**

Order Code: **MAP**

Source: Aurora, NC / White Springs, FL

Alternate Names: GMAP, MAP

TYPICAL ANALYSIS	TYPICAL PERCENT	GUARANTEED PERCENT
Total Nitrogen, as N	11.1	11.0 min.
Total P_2O_5	52.5	
Available P_2O_5	52.4	52.0 min.
Citrate Insoluble P_2O_5	0.1	
Water Soluble P_2O_5	46.5	
Moisture, as H_2O	0.8	
Fluoride, as F	0.6	
Sulfate, as SO_4	5.3	

SCREEN ANALYSIS (TYLER)	CUMULATIVE PERCENT	FRACTIONAL PERCENT
+4	Trace - 0.5	Trace - 0.5
+5	3	3
+6	19	16
+7	53	34
+8	82	29
+9	95	13
+10	99	4
+14	100	1
-14	100	Trace - 0.5

Size Guide Number (SGN)	285
Uniformity Index	54

Angle of Repose	30°

TYPICAL BULK DENSITY		
	AURORA	WHITE SPRINGS
Loose	60 lb/ft^3	55 lb/ft^3
Tamped	69 lb/ft^3	60 lb/ft^3

Note: All of the above properties are based on the analysis of a composite sample from a bulk shipment. Grab samples or individual car samples may fall outside of the specified typical.

PotashCorp

6-28-28

Material Safety Data Sheet

Revision Issued: 04/07/2011	Supercedes: 10/23/2009	First Issued: 1/1/2000

Section I – Product and Company Identification

Product Name: **Potash**

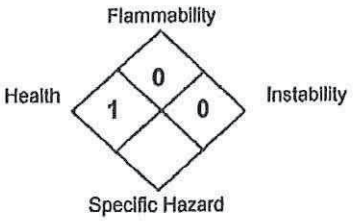
PotashCorp MSDS No.: 1
ERG No.: N/A

PCS Sales

1101 Skokie Blvd., Northbrook, IL 60062
Phone (800) 241-6908 / (847) 849-4200

Suite 500, 122 – 1st Avenue South
Saskatoon, Saskatchewan Canada S7K7G3
Phone (800) 667-0403 from Canada
(800) 667-3930 from USA

Emergencies (800) 424-9300 (CHEMTREC)
Web Site www.potashcorp.com
Health Emergencies, Contact Your Local Poison Center



NFPA Code

Common Name: Potash	Formula: KCl	Synonym: Muriate of Potash: Granular, Lawn & Garden, Standard & Suspension Grades	Uses: Fertilizer

Section II – Composition / Information On Ingredients

Chemical Name	CAS No.	Exposure Limits								% by Weight
		OSHA PEL		TLV – TWA		STEL		CEIL		
		mg/m³	ppm	mg/m³	ppm	mg/m³	ppm	mg/m³	ppm	
Potassium Chloride	7447-40-7			10*						95-99.8
Sodium Chloride	7647-14-5			10*						0.1-4

May contain up to 0.25% base lubrication (de-dust) oil and/or 0.03% neutralized primary aliphatic (anti-cake) amine.
* Based on ACGIH nuisance dust limits

Section III – Hazard Identification

Potential Acute Health Effects:	May cause irritation		
Eyes and Skin:	Mild Irritation, especially in open wounds..		
Inhalation:	Exposure to high dust concentrations may cause irritation of mucous membranes.		
Ingestion:	A large body load may cause vomiting, diarrhea, cramps, tingling in hands and feet, weak pulse, and circulatory disturbances.		
Potential Chronic Health Effects:	Lung symptoms		
CARCINOGENICITY LISTS	**IARC Monograph:** No	**NTP:** No	**OSHA:** No

Section IV – First Aid Measures

Eyes:	Flush eyes with water, including under upper and lower lids, for at least 15 minutes. Get medical attention if pain and irritation persists.
Skin:	Wash thoroughly with water. Obtain medical advice if rash develops.
Ingestion:	Administer water if patient is conscious. Ingesting potash will usually cause purging of the stomach by vomiting. Obtain medical attention.
Inhalation:	Remove to fresh air. Obtain medial attention if discomfort persists.

PCS Sales

FERTILIZER PRODUCTS

SGN: 285
Uniformity Index: 50
Order Code: GRA
SDS No.: 100

Source: Saskatchewan
Alternate Names: Potassium Chloride, KCl, Potash, MOP

CHEMICAL COMPOSITION	UNIT	RANGE	TYPICAL	GUARANTEE
Potassium Oxide, as K_2O	%	60.0 - 60.7	60.4	60 min.
Moisture, as H_2O	%	0.05 - 0.20	0.10	
Potassium Chloride, as KCl	%		95.60	
Potassium, as K	%		50.14	
Magnesium, as Mg	%		0.04	
Calcium, as Ca	%		0.04	
Sodium Chloride, as NaCl	%		3.66	
Chloride, as Cl	%		47.68	
Sulfate, as SO_4	%		0.08	
Sodium, as Na	%		1.40	
Insolubles in water	%		0.45	

PARTICLE SIZE, PERCENT CUMULATIVE				
TYLER MESH	OPENING	UNIT	RANGE	TYPICAL
+5	4.00 mm	%	0 - 5	3
+6	3.35 mm	%	20 - 40	28
+7	2.80 mm	%	40 - 70	52
+8	2.36 mm	%	65 - 85	75
+9	2.00 mm	%	85 - 98	93
+10	1.70 mm	%	95 - 100	97

PHYSICAL PROPERTIES		
Bulk Density	kg/m^3	1,041 - 1,201
	lb/ft^3	65 - 75
Angle of Repose	degrees	37°
Uniformity Index		50
Size Guide Number (SGN)		285
Color		Red/Pink

GUARANTEED ANALYSIS
(0-0-60)
Soluble Potash (K_2O) - 60%

Note: All of the above properties are based on the analysis of a composite sample from a bulk shipment. Grab samples or individual car samples may fall outside of the specified typical.

PotashCorp

04/2016 PCS Sales (USA), Inc. • 1101 Skokie Blvd., Northbrook, Illinois 60062 Phone: (847) 849-4200 • 1 (800) 524-0132

North American Weed Free Forage
Certification Program

NAISMA

CERTIFIED NOXIOUS WEED SEED FREE FORAGE AND MULCH
This Material has been certified to the North American Standards and those of MCIA. Certification valid only when the MCIA certification tag is attached to each bale.

LIMITED CERTIFICATION: The materials marked with this tag were inspected in accordance with the standards of the Minnesota Crop Improvement Association which is recognized as the official noxious weed free forage and mulch certifying agency by the laws of Minnesota. The Association only certifies that the forage or mulch met the standards of the Association at the time the inspections were made. EXCLUSION OF WARRANTIES: IN CONJUNCTION WITH THIS MATERIAL, THE ASSOCIATION MAKES NO WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.
Reuse of this tag is strictly prohibited.

Minnesota Crop Improvement Association
1900 Hendon Avenue, St. Paul, MN 55108 612-625-7766

N- 260969

Mike Cemensky
Rye
Field Caswells
Serial no. 17-40006 Large round

North American Weed Free Forage
Certification Program

NAISMA

CERTIFIED NOXIOUS WEED SEED FREE FORAGE AND MULCH
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Minnesota Crop Improvement Association
1900 Hendon Avenue, St. Paul, MN 55108 612-625-7766

N- 260970

Mike Cemensky
Rye
Field Caswells
Serial no. 17-40006 Large round

North American Weed Free Forage
Certification Program

NAISMA

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Minnesota Crop Improvement Association
1900 Hendon Avenue, St. Paul, MN 55108 612-625-7766

N- 260971

Mike Cemensky
Rye
Field Caswells
Serial no. 17-40006 Large round

North American Weed Free Forage
Certification Program

NAISMA

CERTIFIED NOXIOUS WEED SEED FREE FORAGE AND MULCH
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Minnesota Crop Improvement Association
1900 Hendon Avenue, St. Paul, MN 55108 612-625-7766

N- 260972

Mike Cemensky
Rye
Field Caswells
Serial no. 17-40006 Large round

North American Weed Free Forage
Certification Program

NAISMA

CERTIFIED NOXIOUS WEED SEED FREE FORAGE AND MULCH
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Minnesota Crop Improvement Association
1900 Hendon Avenue, St. Paul, MN 55108 612-625-7766

N- 260973

Mike Cemensky
Rye
Field Caswells
Serial no. 17-40006 Large round

COLEMAN MOORE COMPANY
220 NEW YORK AVENUE
DES MOINES, IA 50313
515-309-5577 fax 515-309-5579

June 30, 2016

Lakeside Construction
1807 325th Street
Forest City, IA 50436

MATERIALS CERTIFICATION

RE:

This is to certify that North American Green Bonded Fiber Matrix Hydro CM mulch meets the specifications set forth by the Iowa Department of Transportation for bonded fiber matrix and is listed as an approved product on MAPLE.

Signed: Shauna Mikesell

Date: 6/30/16

12100 210th Street • Davenport, IA 52806 • (563) 340-4277

CERTIFICATION

To Whom It May Concern:

This letter is to certify that the product listed below meets or exceeds the IA-DOT specification for this item, as listed below.

Product:	SprayMatt
Manufacturer:	Profile Products
IA-DOT Item:	Hydraulic Mulch, Bonded Fiber Matrix
IA-DOT Specification:	4169.07-2
Project:	

Easton Armstrong

Easton Armstrong
Technical Director
Storm Water Supply, LLC
P: (563)340-4277
earmstrong@stormwatersupply.net

A Traffic Safety & Municipal Supply Company

The Work Zone, Inc.
1207 Ozark
North Kansas City, MO 64116
Phone 816.471.2899
Fax 816.471.2970
theworkzone@aol.com

November 22, 2016

Sold To:
Iowa Plains Signing
1718 18th St
Slater, IA 51105

Project# PO CFI 5390

This is to certify that The Work Zone, Inc. Fabricated and Provided materials for Type A signs to Iowa Plains Signing for the above project.
All products are American made.

Square Foot of Type A Signs 217.00

Materials Used:
3M 3930 High Intensity White
3M 4081 Diamond Grade Fluorescent Yellow
Vulcan Aluminum 5052H38 Aluminum Alloy .080 & .125 Flat Sheet
AKT #18 Red Reflectors

Type A Signs	Qty
30 x 30 R1-1 Stop	6
18 x 18 R1-1 Stop	9
24 x 24 R5-3 No Motor Vehicles	9
24 x 30 R2-1 Speed Limit 35	3
24 x 8 R3-17b Ends	1
36 x 36 W3-1 Stop Ahead Symbol	2
48 x 24 W1-6 Solid Bar Arrow	1
36 x 36 W4-2L Lane Transition	1
36 x 36 W9-2R Lane Ends Merge Right	1
18 x 18 W11-1 Bike Symbol	1
30 x 30 W14-2 No Outlet	1
18 x 18 OM4-2	20
8" x Var D3-1 Street Signs	10

Sincerely,
The Work Zone, Inc.

Barry Moore
Vice President

IOWA DEPARTMENT OF TRANSPORTATION
OFFICE OF MATERIALS

MISCELLANEOUS MATERIALS TEST REPORT
COUNCIL BLUFFS LABORATORY

Material:	Slip Bases,Arms,Poles	County:	Blackhawk
Intended Use:	Lighting	Project No.:	NHSX-218-7(214)--3H-07
Job No.:	274838-3-1	Date Inspected:	48/2015
Unit of Material:	One	Design No.:	
Fabricator:	Valmont Structures		
Contractor:	JB Holland		
Subcontractor:			
Inspected By:	Steve Forbes		
Sender's No.:	4FS15-83		

Fabrication for this project has been completed. Materials where randomly checked, were in compliance with the current Iowa DOT applicable specifications. A copy of the Mill Certifications and this Report are on file at the Materials Lab in the Council Bluffs Office.

Additional comments:

Copies To:
New Hampton RCE
Fred Burkart
District 2 Materials
File

Date Reported: 4/8/2015

Reported By: Steve Forbes District 4 Materials

mobotrex
MOBILITY & TRAFFIC EXPERTS

Date: December 27, 2017

Ref: PO# 2843 - CO# 1058755
IADOT OCT '17 #103

To: KWS, Inc.

Attn: Kevin Martin

Thank you for your recent purchase order! Attached are the drawings for the above referenced project. The order has been entered and will deliver pending drawing approval.

Should you require immediate release before approval, please send paperwork stating this to our attention.

Thank you again for your business!

Sincerely,

Justin Zank
Inside Sales Representative

P.S. Could you please submit the necessary paperwork for the tax exemption, if applicable. Thank you.

109 W. 55th Street, Davenport, IA 52806 | 563.323.0009 | MoboTrex.com

EL712, Size P Cabinet
NEMA Size 6

EAGLE®
Traffic Control Systems

Description

The Eagle Size P Cabinet protects electronic components including controllers and other equipment. It features an aluminum enclosure for protection from all forms of outdoor natural elements including rain, sleet, and snow, as well as seepage and splash.

Optional Configurations

- Outward-rotating door handle.
- Double-flanged door frame to provide a better splash shield.
- Continuously welded enclosure for maximum protection from contaminants.
- Unique lock/keying combinations.
- Custom finish per customer requirements.
- Lifting ears.

SHOP DRAWING REVIEW

☒ NO EXCEPTIONS NOTED ☐ MAKE CORRECTIONS NOTED

☐ REJECTED ☐ REVISE AND RESUBMIT

Review is only for general conformance with the design concept of the project and general compliance with the contract documents. Review does not relieve the contractor of responsibility for errors in dimensions and details, nor does it constitute acceptance of material not in accordance with contract requirements.

IOWA DOT **OFFICE OF TRAFFIC AND SAFETY**

Date 1/17/18 By Zachary K. Abrams

Eagle Traffic Control Systems continues our 80+ year history of providing excellence in the ever evolving traffic industry. All of Eagle's products are developed with the highest standards of engineering and manufacturing. Eagle maintains a superior level of integrity in interactions with all of our business partners and customers. We also take tremendous pride in being model corporate citizens.

Eagle Traffic Control Systems is a division of:
mobotrex™
MOBILITY & TRAFFIC EXPERTS
›MANUFACTURING

MoboTrex.com

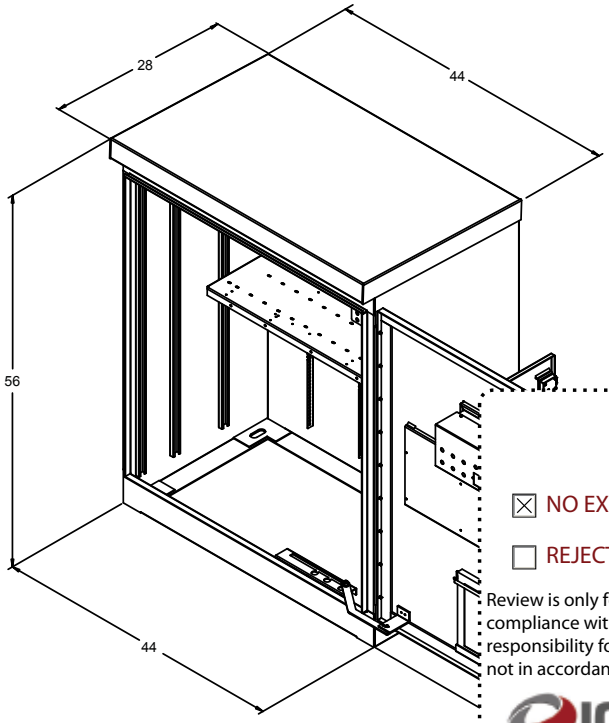
109 W. 55th Street • Davenport, IA • 52806
301 W. Howard Lane, Suite 200 • Austin, TX • 78753

EL712, Size P Cabinet NEMA Size 6

EAGLE®
Traffic Control Systems

Standard Door Specifications

- Provided with three-point locking mechanism with nylon rollers at the top and bottom.
- 3/4"-diameter stainless steel inward turning handle with provisions for padlocking.
- Main door lock - industrial standard pin tumbler lock with #2 key.
- Louvered inlet with filter to prevent dirt from entering with air flow.
- Closed cell PVC door gasket with polyester film to prevent sticking.
- Heavy gauge stainless steel continuous hinge utilizing a 1/4"-diameter stainless steel hinge pin for door support, carriage bolted in place for ease of door removal.
- A 2"-deep fabricated switch compartment is included with a standard police lock and a stainless steel continuous hinge with a 1/8"-diameter hinge pin riveted in place. Compartment is mounted flush to the door.



Standard Enclosure Specifications

- Completely fabricated from .125"-thick type 5052-H32 mill-finished aluminum utilizing intermittently welded construction, subsequently weatherproofed with silicone sealant.
- Internal attaching components include six (6) adjustable "C" mounting channels (3 per side), and three (3) slotted rails on rear wall for attaching equipment panels.
- The door opening is double-flanged on top to prevent water drops when the door is open. The opening also includes a mount for two door-operated switches.
- Thermoconvection air ventilation system utilized with provisions for mounting fan for forced-air cooling.
- Exhaust outlet openings are provided under the roof over-hang.
- All internal and external hardware is fabricated from non-corrosive material.
- Automatic door stop to hold main door open at 90 , 120 and 135 .
- Two (2) shelves included.

Ordering Information

- EL712- Base Mount

(Order 1 (set of 4) anchor bolts, UA242, if required)

SHOP DRAWING REVIEW

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IOWA DOT OFFICE OF TRAFFIC AND SAFETY

Date 1/17/18 By Zachary K. Abrams

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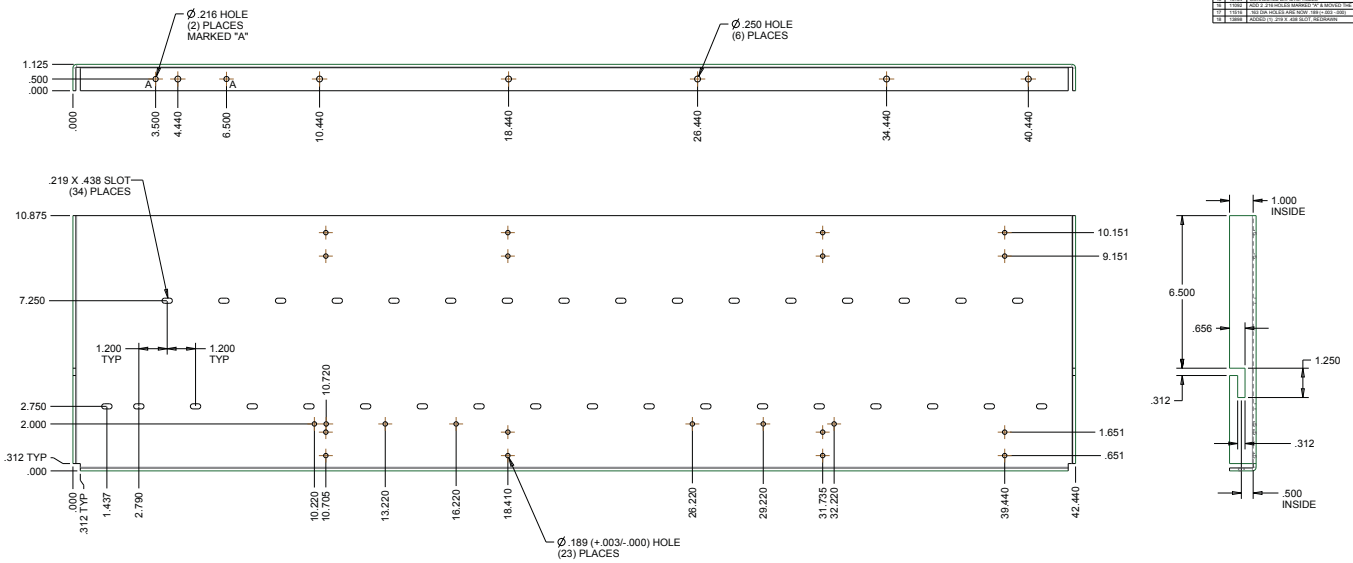
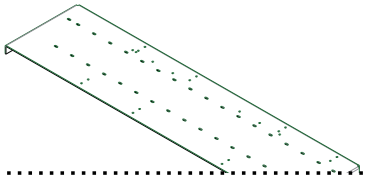
REVISIONS

REV	SCN	DESCRIPTION	DRWT	DATE	CHKD
8		ADDED MINT HOLES	JEF	11/98	RKW
9		DEPLACED HOLES WITH SLOTS	LEC	3/99	RKW
10	6997	CHECKED BOLT PATTERN, ADDED HOLES FOR LIGHTS	JFB	4/00	JFB
11	8323	ADDED (6) @ .189 HOLES, CHGD @ .125 & .191 HOLES TO .189	JFB	1/02	JFB
12	9325	4.44 DIM WAS 4.44 & CHANGED ALL @ .189 HOLES TO .192	DAK	1/02	BKR
13	10048	21.030 WAS 20.020, 10.315 WAS 10.015, & 18.191 WAS 18.086, ADDED 1 OFFSET SET OF DRAWER MTG HOLES	JFB	3/03	JFB
14	10114	2.000 WAS 1.750	DAK	04/03	JFB
15	11067	ADDED (2) .216 DIA. MTG. HOLES	DAK	12/05	JFB
16	11092	ADD (2) .216 HOLES MARKED "A" & MOVED THE 2 NEW HOLES ON OTHER SIDE	DAK	02/06	JFB
17	11216	.192 DIA HOLES ARE NOW .189 (+.003 -.000)	DAK	08/06	JFB
18	13808	ADDED (1) .219 X .438 SLOT, REDRAWN	LEC	9/08	BKR





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301 W. HOWARD LN., STE 200
AUSTIN, TX 78753
PHONE: (512) 527-3580
MOBOTREX.COM

ALUMINUM

9270023 REV 18

SHT 1 OF 1

SHOP DRAWING REVIEW

☒ NO EXCEPTIONS NOTED

☐ MAKE CORRECTIONS NOTED

☐ REJECTED

☐ REVISE AND RESUBMIT

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IOWA DOT **OFFICE OF TRAFFIC AND SAFETY**

Date 1/17/18 By Zachary K. Abrams

SA Polycarbonate Vehicle Traffic Signal

EAGLE®
Traffic Control Systems

Replacement Parts
8" (200mm) &
12" (300mm)
Signals

Signal Replacement Parts

Ref No.	Description	Part # 8"(200 mm)	Part # 12"(300 mm)
1	Signal Housing Green	KB19113	KB4818
	Signal Housing Yellow	KB19111	KB8416
	Signal Housing Black	KB19112	KB4817
2	Screw (10-24 hex screw)	0141716	0141716
3	Flange nut	0150715	0150715
4	Door hinge pin	K1196	K1196
5	Thumbscrew, SS	0141212	0141212
6	Thumbscrew washer, SS	0155924	0155924
7	Hole plug	PHP16	PHP16
8	Lens clip, generic	A84436155	A84436155
9	Lens clip screw	0133029	0133029
10	Signal door, green	PDM2029	PDM2032
	Signal door, yellow	PDM2028	PDM2031
	Signal door, black	PDM2027	PDM2030
11	Visor - tunnel	A700119 XX	A700120 XX
	Visor - cutaway		
12	Visor Screw (10-		
13	Terminal block,		
14	Terminal block		

SHOP DRAWING REVIEW

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IOWA DOT OFFICE OF TRAFFIC AND SAFETY

Date 1/17/18 By Zachary K. Abrams

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301 W. Howard Lane, Suite 200 • Austin, TX • 78753

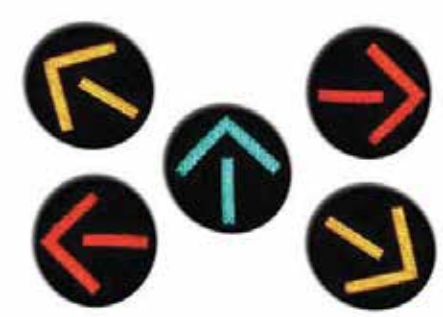
Uniform Appearance LED Traffic Signal Modules

- *Fully compliant to ITE VTCSH-LED Circular Signal Supplement dated 6/27/2005
- Industry's lowest power for all colors
- Meets or exceeds ITE intensity, color and uniformity specification, including 49°C / 74°C requirements
- Temperature compensated power supplies for longer LED life
- Uniform appearance
- Expanded view radiation pattern suitable for span wire and steep grade applications
- Transient suppression exceeds ITE [illegible] to 6KV ring wave)
- Manufactured with anti-capillary [illegible]
- Conformal coated power supply [illegible]
- Secondary lens treatment for abrasion resistance
- Patent No. 7,281,818 and other patents pending
- Intertek/ETL certified and listed on ETL certification program
- All units operate at 80-135VAC RMS, 60±3Hz

XL15 versions should be used throughout

Part Number	Color	Lens Type	Dominant Wavelength (nm)	Typical Wattage at 25°C	Peak Minimum Maintained Luminous Intensity (cd)	*Meets ITE VTCSH LED Circular Signal Supplement	CSA Approved	Size (in)
433-1110-003XL	Red	Tinted	625	6	165	✓	✓	8
433-1170-003XL	Red	Clear	625	6	165	✓	✓	8
433-3130-901XL	Yellow	Tinted	590	7	410	✓	✓	8
433-3170-901XL	Yellow	Clear	590	7	410	✓	✓	8
433-2120-001XL	Green	Tinted	500	8	215	✓	✓	8
433-2170-001XL	Green	Clear	500	8	215	✓	✓	8
433-1210-003XL	Red	Tinted	625	6	365	✓	✓	12
433-1270-003XL	Red	Clear	625	6	365	✓	✓	12
433-3230-901XL	Yellow	Tinted	590	12	910	✓	✓	12
433-3270-901XL	Yellow	Clear	590	12	910	✓	✓	12
433-2220-001XL	Green	Tinted	500	7	475	✓	✓	12
433-2270-001XL	Green	Clear	500	7	475	✓	✓	12

OMNI-DIRECTIONAL, UNIFORM APPEARANCE LED ARROWS



- *Fully compliant to ITE VTCSH-LED Vehicle Arrow Supplement dated 7/01/2007
- Allows for mounting in any orientation in the signal head
- Industry's lowest power for all colors
- Meets or exceeds ITE intensity, color and uniformity specification, including 49°C / 74°C requirements
- Temperature compensated power supplies for longer LED life
- Uniform appearance
- Transient suppression exceeds ITE and NEMA specifications (Up to 6KV ring wave)
- Manufactured with anti-capillary wires
- Conformal coated power supply
- Secon[illegible]
- Intertek[illegible]
- All unit[illegible]

Part Number	Color	Lens Type	Typic Watta at 25
432-1314-001XOD	Red	Tinted	6
432-1374-001XOD	Red	Clear	6
431-3334-901XOD	Yellow	Tinted	6
431-3374-901XOD	Yellow	Clear	6
432-2324-001XOD	Green	Tinted	6
432-2374-001XOD	Green	Clear	6

SHOP DRAWING REVIEW

☐ NO EXCEPTIONS NOTED ☒ MAKE CORRECTIONS NOTED

☐ REJECTED ☐ REVISE AND RESUBMIT

Review is only for general conformance with the design concept of the project and general compliance with the contract documents. Review does not relieve the contractor of responsibility for errors in dimensions and details, nor does it constitute acceptance of material not in accordance with contract requirements.

IOWA DOT OFFICE OF TRAFFIC AND SAFETY

Date 1/18/18 By Zachary K. Abrams

www.didlight.com

PELCO PRODUCTS, INC.
www.pelcoinc.com
EDMOND, OK 73013
405-340-3434
FAX: 405-340-3435

This drawing is for reference only. It is the property of Pelco and is not to be used in whole or in part without Pelco's permission.

ASSEMBLY SHEET

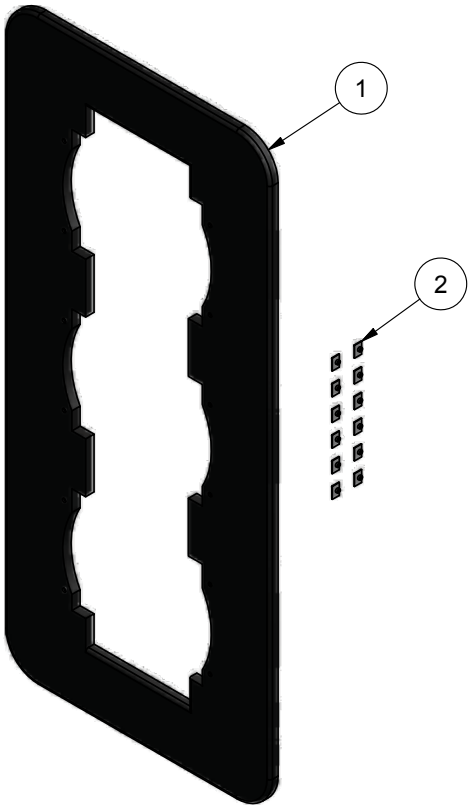
REF:

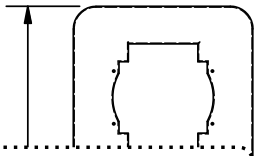
TITLE: Backplate w/ Hardware Kit, VF, 12" 3-Sec, .125" ABS, Drilled - Trafcon

PART NO.: BK-1003-E-PNC

PART NO
BK-1003-E-PNC

Process No Color





SHOP DRAWING REVIEW

☒ NO EXCEPTIONS NOTED ☐ MAKE CORRECTIONS NOTED

☐ REJECTED ☐ REVISE AND RESUBMIT

Review is only for general conformance with the design concept of the project and general compliance with the contract documents. Review does not relieve the contractor of responsibility for errors in dimensions and details, nor does it constitute acceptance of material not in accordance with contract requirements.

IOWA DOT OFFICE OF TRAFFIC AND SAFETY

Date 1/17/18 By Zachary K. Abrams

ITEM	PART NUMBER		Y
1	BK-1003-ET	Backplate, VF,	
2	BK-0108-SS	Hardware Kit,	

DRAWN: christina.jackson DATE: 12/12/2012 CHK'D: KAK DATE: 12/18/2012 REV: REV CHK'D: DATE: SHEET 1 OF 1

IOWA DOT

SMARTER I SIMPLER I CUSTOMER DRIVEN

www.iowadot.gov

Office of Traffic and Safety
800 Lincoln Way I Ames, IA 50010
Phone: 515-239-1557 I Email: Traffic.Safety@dot.iowa.gov

TO OFFICE: Britt RCE

DATE: June 15, 2015

ATTENTION: Roy Gelhaus, P.E.

REF. NO.: County: Kossuth
Project Number: TSF-018-3(94)—92-55

FROM: Michael Jorgensen

OFFICE: Traffic and Safety

SUBJECT: Traffic Signal Shop Drawing Review

The attached shop drawings have been reviewed and are found to be in general conformance with the design concept of the project and the contract documents, with one clarification. The emergency vehicle preemption shall include confirmation lights on each approach of preemption.

For easier distribution, an electronic copy of the drawings and letters is being forwarded to you and the other recipients. No paper copies will be distributed.

By copy of the correspondence the Contractor has been notified of our review. Please forward to Fabricator.

Please call with any questions in this regard.

MJJ:mjj

cc: Greg Mulder – Central Construction and Materials Engineer
Keith Norris, P.E. – District 2 Materials Engineer
Jeremy Brandt – K & W Electric Inc.

Traffic Control Products

NEMA TS2 CABINET

SHOP DRAWING REVIEW

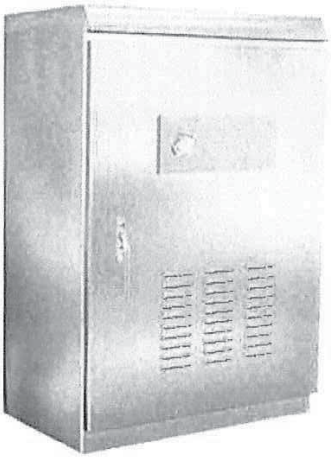
☐ NO EXCEPTIONS NOTED ☒ MAKE CORRECTIONS NOTED

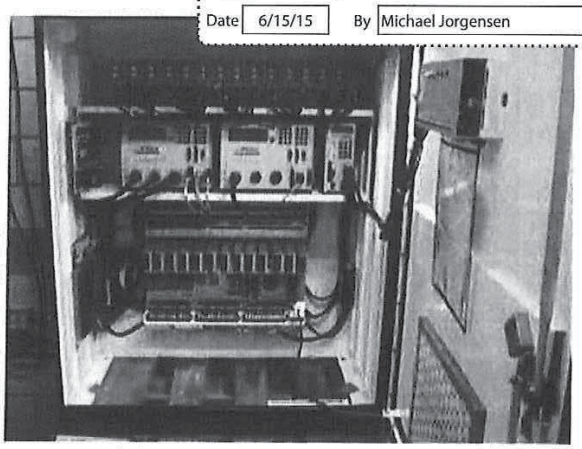
☐ REJECTED ☐ REVISE AND RESUBMIT

Review is only for general conformance with the design concept of the project and general compliance with the contract documents. Review does not relieve the contractor of responsibility for errors in dimensions and details, nor does it constitute acceptance of material not in accordance with contract requirements.

Iowa Department of Transportation OFFICE OF TRAFFIC AND SAFETY

Date 6/15/15 By Michael Jorgensen





OVERVIEW

- Traffic Control Products build high quality NEMA cabinets, which conform to the latest National Electrical Manufacturer's Association (NEMA) Standards Publication TS 2-2003. Available in both TS1 and TS2, our cabinets utilize a modular design and special Plug-N-Go wiring harnesses to allow for quick replacement. Cabinets and backpanels come in a variety of sizes and configurations making the TCP cabinet the perfect choice for any situation. Our strict 7 day testing procedure insures high quality and increased reliability.

CABINET

- Sizes—see 2nd page OPTIONS for available sizes
- The enclosure has a sloped top to prevent water accumulation.
- The door has a louvered vent with retainer for a removable filter. Disposable paper filters are provided. Provision is made for a forced air ventilation system, vented through the roof overhang. A thermostatically controlled forced air ventilation system is available as an option.
- For interior flexibility, the enclosure is equipped with two "C" mounting channels on both side walls and on the rear wall for mounting shelves or panels. Channels are adjustable and can be placed in any position front to back, or along the rear wall.
- The enclosure door opening is double flanged on all four sides. This feature not only provides additional strength, but prevents dirt and liquids from dropping into the enclosure when the door is opened.
- All surfaces, edges, and openings are smooth and burr-free for worker safety and equipment protection.
- Standard enclosures are provided with a smooth and uniform, natural aluminum finish.

DOORS

- The cabinet is designed so that the leaves of the hinges are not exposed, making the hinges tamper-proof and presenting a neat and clean appearance. The cabinet door is attached to the body of the enclosure by means of a continuous 0.075" stainless steel piano-type hinge on the right side. It is riveted to the door with 0.25" stainless steel rivets and bolted to the cabinet with 1/4-20 stainless steel carriage bolts and Nylock nuts. Further, the 0.25" stainless steel hinge pin is welded top and bottom to prevent tampering.
- The door is sealed with a closed cell neoprene gasket bonded to the inside of the door with an oil resistant adhesive.
- The three point latching mechanism is designed with a heavy duty 3/4" stainless steel handle.
- The door lock is Corbin # 1548-1 or equivalent lock with two keys is standard.

THHN

600 Volt. Copper Conductor. Thermoplastic Insulation/Nylon Sheath. Heat, Moisture, Oil & Gasoline Resistant[1]. All Sizes Rated THWN-2. All Stranded Sizes Rated MTW. AWG Sizes 14 Through 6 AWG Rated AWM (105°C). AWG Sizes 14 Through 1 Rated VW-1 and Larger Sizes Rated for CT Use.

APPLICATIONS

Southwire Type THHN or THWN-2 conductors are primarily used in conduit and cable trays for services, feeders, and branch circuits in commercial or industrial applications as specified in the National Electrical Code[2]. When used as Type THHN, conductor is suitable for use in dry locations at temperatures not to exceed 90°C. When used as Type THWN-2, conductor is suitable for use in wet or dry locations at temperatures not to exceed 90°C or not to exceed 75°C when exposed to oil or coolant. When used as Type MTW, conductor is suitable for use in wet locations or when exposed to oil or coolant at temperatures not to exceed 60°C or dry locations at temperatures not to exceed 90°C (with ampacity limited to that for 75°C conductor temperature per NFPA 79). Conductor temperatures not to exceed 105°C in dry locations when rated AWM and used as appliance wiring material. Voltage for all applications is 600 volts.

SPECIFICATIONS

Southwire Type THHN or THWN-2 or MTW (also AWM) meets or exceeds all applicable ASTM specifications, UL standard 83, UL standard 1063 (MTW), Federal Specification J-C-30B, and requirements of the National Electrical Code.

CONSTRUCTION

Southwire Type THHN or THWN-2 or MTW copper conductors are annealed (soft) copper, insulated with a tough, heat and moisture resistant polyvinyl chloride (PVC), over which a nylon (polyamide) or UL-listed equal jacket is applied. Available in black, white, red, blue, green, yellow, brown, orange, or grey. Some colors standard, some subject to economic order quantity. Sizes 1-19 through 1,000 kcmil available in black only.

[1] Oil and gasoline resistance II as defined by Underwriters Laboratories.
[2] 1995 Edition.

MADE IN THE USA
Printed on Recycled Paper
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©1995

THHN

Conductor Size (AWG or kcmil)	Conductor No. Strands	Insulation Thickness (mils)	Jacket Thickness (mils)	Nominal O.D. (mils) Sol.	Nominal O.D. (mils) Str.	Approx. Net Weight Per 1000' (lbs.) Sol.	Approx. Net Weight Per 1000' (lbs.) Str.	Allowable Ampacities+ 60°C	Allowable Ampacities+ 75°C	Allowable Ampacities+ 90°C	Standard Package
**14	19*	15	4	102	109	15	16	15	15	15	DNF°
**12	19*	15	4	119	128	23	24	20	20	20	DNF°
**10	19*	20	4	150	161	37	38	30	30	30	DOF^
**8	19	30	5		212		63	40	50	55	F
**6	19	30	5		250		95	55	65	75	E
4	19	40	6		319		153	70	85	95	C
3	19	40	6		346		189	85	100	110	BC
2	19	40	6		378		234	95	115	130	C
1	19	50	7		435		300	110	130	150	B
1/0	19	50	7		474		372	125	150	170	B
2/0	19	50	7		518		463	145	175	195	B
3/0	19	50	7		568		576	165	200	225	B
4/0	19	50	7		624		719	195	230	260	B
250	37	60	8		694		849	215	255	290	B
300	37	60	8		747		1010	240	285	320	B
350	37	60	8		797		1172	260	310	350	B
400	37	60	8		842		1332	280	335	380	B
500	37	60	8		925		1652	320	380	430	B
600	61	70	9		1024		1990	355	420	475	C
750	61	70	9		1126		2468	400	475	535	C
1000	61	70	9		1275		3263	455	545	615	C

* Tracer

* Solid construction available in sizes 14, 12, & 10 as Types THHN or THWN-2 or AWM only.
** Also suitable for 105°C appliance wiring material (AWM).
° Four 500' spools per carton.
^ Two 500' spools per carton.
+ Allowable Ampacities:
Allowable ampacities shown are for general use as specified by the National Electrical Code, 1996 Edition, section 310-15.
60°C - When terminated to equipment for circuits rated 100 amperes or less or marked for #14 through #1 conductors. MTW wet locations or when exposed to oil or coolant.
75°C - When terminated to equipment for circuits rated over 100 amperes or marked for conductors larger than #1. THWN-2 when exposed to oil or coolant. MTW dry locations.
90°C - THHN dry locations. THWN-2 wet or dry locations.
All AWG sizes 14 through 1 rated VW-1. Larger sizes rated for CT Use.

STANDARD PACKAGE CODE:
B = 1000' Reel
C = 500' Reel
D = 2500' Spool
E = 1000' Spool
F = 500' Spool
N = 2000' Carton
O = 250' Carton

RECOMMENDED SAMPLE SPECIFICATIONS:

(MTW OR THHN OR THWN-2)

Conductors shall be UL-listed Type MTW or THHN or THWN-2 gasoline and oil resistant II, suitable for operations at 600 volts as specified in the National Electrical Code. AWG sizes 14 through 1 shall be rated VW-1, larger sizes shall be rated for CT use. Conductors shall be annealed copper, insulated with high-heat and moisture resistant PVC, jacketed with abrasion, moisture, gasoline, and oil resistant nylon or UL-listed equivalent, as manufactured by Southwire Company or approved equal.

(AWM)

Conductors shall be UL-listed Type THHN or THWN-2 or MTW or AWM, suitable for operation at 600 volts at conductor temperatures not to exceed 105°C.

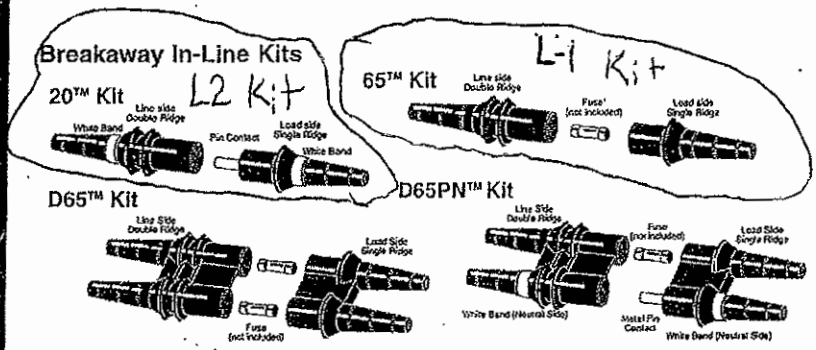
Southwire

P.O. Box 1000
Carrollton, GA USA 30119-0001
770/832-4242

Ordering Information

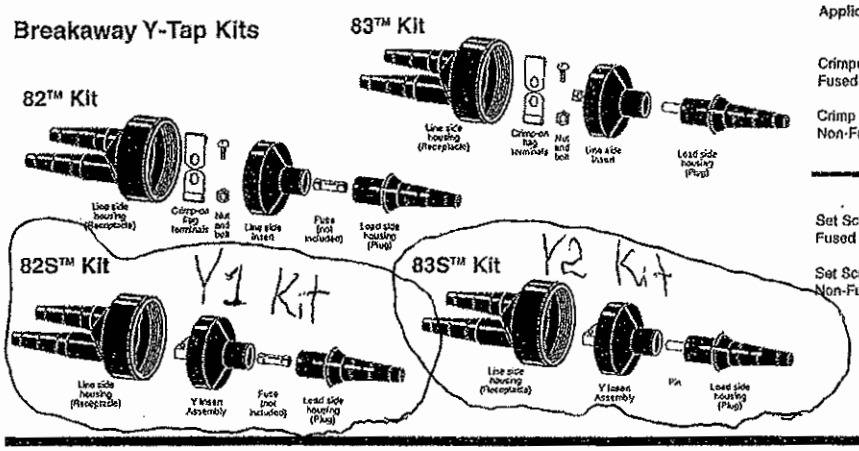
Use the following chart and table to determine the correct part number by choosing model, line side, and load side ordering codes from the shaded columns. See example below, right.

Breakaway In-Line Kits



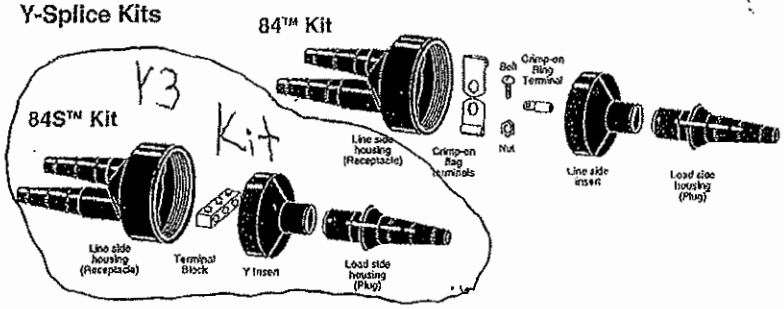
MODEL		
Application	Electrical Rating	Ordering Co
In-Line Neutral Non-Fused Breakaway	30 Amp 600 Volt	20
In-Line Phase Fused Breakaway	1/10-30 Amp 600 Volt	65
Dual In-Line Phase Fused Breakaway	1/10-30 Amp 600 Volt	D65
Dual In-Line Phase & Neutral Fused Breakaway	1/10-30 Amp Phase 30 Amp Neutral 600 Volt	D65PN

Breakaway Y-Tap Kits



Application	Electrical Rating	Ordering Co
Crimped Phase Fused Tap & Run	1/10-30 Amp 600 Volt	82
Crimp Neutral Non-Fused Tap & Run	125 Amp Line 30 Amp Load 600 Volt	83
Set Screw Phase Fused Tap & Run	1/10-30 Amp 600 Volt	82S
Set Screw Neutral Non-Fused Tap & Run	70 Amp Line 30 Amp Load 600 Volt	83S

Y-Splice Kits



Application	Electrical Rating	Ordering Code
Crimp Splice Tap & Run	150 Amp 600 Volt	84
Set Screw Splice Tap & Run	70 Amp 600 Volt	84S

Excerpts of the 1996 NEC Tables 5 & 5A
Dimensions of Insulated Conductors and Fixture Wires

Size (AWG)	Approx. Diameter in Inches for Insulation Types: RH	RHH, RHW-2, RHW	TW	THW, THW-2	THHW	THHN, THWN, THWN-2	XHH	XHHW, XHHW-2	Approx. Diameter in Inches for Compact AL with Insulation Types: THW, THHW	THHN	XHHW
14	0.163	0.193	0.133	0.183		0.111		0.133	–	–	–
12	0.182	0.212	0.152	0.182		0.130		0.152	–	–	–
10	0.236	0.236	0.176	0.206		0.164		0.176	–	–	–
8	0.326	0.326	0.236	0.266		0.216		0.236	0.255	–	0.224
6	0.364	0.364	0.304	0.304		0.254		0.274	0.290	0.240	0.260
4	0.412	0.412	0.352	0.352		0.324		0.322	0.335	0.305	0.305
3	0.440	0.440	0.380	0.380		0.352		0.350	–	–	–
2	0.472	0.472	0.412	0.412		0.384		0.382	0.390	0.360	0.360
1	0.582	0.582	0.492	0.492		0.446		0.442	0.465	0.415	0.415
1/0	0.622	0.622	0.532	0.532		0.486		0.482	0.500	0.450	0.450

National Electric Code®, Copyright © 1996, National Fire Protection Association, Quincy MA 02269

AMC5-0081
MC

IOWA DEPARTMENT OF TRANSPORTATION
OFFICE OF MATERIALS
TEST REPORT - CONDUIT
LAB LOCATION - AMES

LAB NO....:AMC15-0081 - AMC15-0082

MATERIAL.....:4" PVC CONDUIT SCH. 40
INTENDED USE....:LIGHTING
PRODUCER.....:PRIME
COUNTY.....:KOSSUTH CONTRACTOR:K&W ELEC.
UNIT OF MATERIAL:ONE SECTION
SAMPLED BY.....:WELTER SENDER NO.:2GW15-79B
DATE SAMPLED: 08/31/15 DATE RECEIVED: 09/04/15 DATE REPORTED: 09/10/15
PROJECT# TSF-018-3(94)--92-55

- -

MATERIAL	CONDUIT	COUPLING
LAB. NO.	AMC5-0081	AMC5-0082
NOMINAL SIZE, INCHES	4	4
INSIDE DIAMETER, INCHES	3.982	4.435
		4.494
OUTSIDE DIAMETER, INCHES	4.496	4.988
WALL THICKNESS, INCHES	0.257	0.000
LENGTH, INCHES		5.713
WT./FT, POUNDS		
THREADS/INCH		
UNIT WEIGHT POUNDS		
FLATTENING TEST	COMPLIES	
DEFLECTION RESISTANCE	COMPLIES	
EXTRUSION TEST		

COPIES TO:
CENTRAL LAB DIST2 BRITT RES.

DISPOSITION: RESULTS COMPLY NEMA TC-2

SIGNED: KEVIN B. JONES
TESTING ENGINEER

Iowa Base Inc.
1616 270th St.
Nashua, IA 50658

PHONE 641-435-4159
FAX 641-435-4298

PRECAST
CONCRETE BASES

EMAIL iowabase@internet2go.biz
WEB www.iowabase.com

Sold to:

KWS Electric Inc.
1125 Lincoln St
PO Box 96
Cedar Falls, IA 50613

PROJECT

B13440-JB-0825
Algona signals
Kossuth County

Terms	Ship	Via
Due on receipt	7/2/2015	Cust. Pickup

Date	Invoice #
7/2/2015	2015-3017

Quantity	Item Code	Description	U/M	Price Each	Amount
3	IB-HNDHL...	IDOT RM-42 24" X 24" Handhole			
		The materials itemized in this shipment are certified to be in compliance with the applicable AASHTO and /or ASTM requirements and Iowa Department of Transportation Standard Plans and Specifications.			
		NE 218 Jamey Welter			
		NE817 Russell Clement			
		RECEIVED ... 0 6 2015			

APPROVED
DATE: 7-22-15 BY
WO#
No Price on P.O.

Sales Tax (0.0%)	$0.00
Total	

Finance charge of 1.5% per month or 18% annum when 30 days past due. Sales tax added for Iowa & Illinois. All other states must file your own sales tax. No sales tax added to freight.

EJ
301 Spring Street
PO Box 439
East Jordan, MI 49727-0439

+1 231 536 2261
800 874 4100
ejco.com

Material Certification

UECO
4473 Texas St.
Waterloo, Ia. 50702
Attn: Ryan O'Loughlin
Fax #: 319-296-2110

QUANTITY	DESCRIPTION
21	41610410 V1610-4 UND RG REV
15	41610420 V1610-4 UND CV
6	41610461 V1610-4 UND TRAFFIC SIGNALS CV

Dear Valued Partner:

We hereby certify that the iron used to make the construction castings manufactured by EJ for the above referenced project is in full compliance with ASTM A48, Class 35B and AASHTO M105 for gray iron castings and ASTM A536, Grade 70-50-05 for ductile iron castings. Thank you for specifying and using products manufactured by EJ.

The above listed castings are melted and manufactured 100% in the United States of America at our foundries in Ardmore, OK and East Jordan, MI. These castings comply with the applicable provisions of the Code of Federal Regulations 23 CFR 635.410 BUY AMERICA Requirements.

We also certify that the above listed products supplied to the subject project are in full compliance with the American Iron and Steel (AIS) requirement as mandated in EPA's State Revolving Fund Programs.

EJ USA, Inc.

Scott B. Beal
Product Testing & Compliance Manager

Form 820928
08-08

Iowa Department of Transportation

REPORT OF PROJECT LIGHTING CIRCUITS

(Materials Office)

COUNTY: Bremer Co

~~CONTR.: KWS, INC.~~ ~~PROJECT: NHSN-218-8(118)-2R-09~~

RES. ENGR.: New Hampton RCE CONTRACT NO.:

INSULATION RESISTANCE TEST

Control Station ID "A" Instrument MEG OHMS METER

All insulation resistance tests are to be reported in megaohms. Readings of 100 megohms of higher should be obtained on all phase lines.

CIRCUIT NO.: A-1				CIRCUIT NO.: A-2				CIRCUIT NO.:				CIRCUIT NO.:			
DATE TESTED: 11/16/12				DATE TESTED: 11/16/12				DATE TESTED:				DATE TESTED:			
Values of Readings in Megohms	Line #1 To Ground	Line #2 To Ground	Line #1 To Line #2	Values of Readings in Megohms	Line #1 To Ground	Line #2 To Ground	Line #1 To Line #2	Values of Readings in Megohms	Line #1 To Ground	Line #2 To Ground	Line #1 To Line #2	Values of Readings in Megohms	Line #1 To Ground	Line #2 To Ground	Line #1 To Line #2
	500+	500+	500+		500+	500+	500+								

Retest circuits not meeting proper insulation resistance values upon the completion of corrective action.

DATE RETESTED:				DATE RETESTED:				DATE RETESTED:				DATE RETESTED:			
Retested Values				Retested Values				Retested Values				Retested Values			

CIRCUIT NO.:				CIRCUIT NO.:				CIRCUIT NO.:				CIRCUIT NO.:			
DATE TESTED:				DATE TESTED:				DATE TESTED:				DATE TESTED:			
Values of Readings in Megohms	Line #1 To Ground	Line #2 To Ground	Line #1 To Line #2	Values of Readings in Megohms	Line #1 To Ground	Line #2 To Ground	Line #1 To Line #2	Values of Readings in Megohms	Line #1 To Ground	Line #2 To Ground	Line #1 To Line #2	Values of Readings in Megohms	Line #1 To Ground	Line #2 To Ground	Line #1 To Line #2

Retest circuits not meeting proper insulation resistance values upon the completion of corrective action.

DATE RETESTED:				DATE RETESTED:				DATE RETESTED:				DATE RETESTED:			
Retested Values				Retested Values				Retested Values				Retested Values			

Instrument _____

GROUND ROD RESISTANCE TEST

GROUND RESISTANCE VALUES SHOULD BE 25 OHMS OR LESS

STATION NUMBER OR LOCATION	RESIS. (OHMS)	DATE TESTED	STATION NUMBER OR LOCATION	RESIS. (OHMS)	DATE TESTED	STATION NUMBER OR LOCATION	RESIS. (OHMS)	DATE TESTED	STATION NUMBER OR LOCATION	RESIS. (OHMS)	DATE TESTED
3156+70	0	11-6-12									
3156+90	0										
2544+00	0										
4530+70	0										
3153+80	0										
3155+30	0										

Retest ground rods not meeting proper resistance values upon the completion of corrective action.

The recorded measurements are within the ratings and requirements specified in the contract documents.

CERTIFIED BY: _____
Signature

DISTRIBUTION: One copy to District Materials Office, one copy to Resident Construction Office

Form 820928
06-08

Iowa Department of Transportation

REPORT OF PROJECT LIGHTING CIRCUITS

(Materials Office)

COUNTY: BREMER CO

CONTR: KWS, INC

PROJECT: NHSN-218-8(118)-2R-09

RES. ENGR.: NEW HAMPTON RCE

CONTRACT NO.:

INSULATION RESISTANCE TEST

Control Station ID: J

Instrument: MEG OHMS METER

All insulation resistance tests are to be reported in megaohms. Readings of 100 megohms of higher should be obtained on all phase lines.

CIRCUIT NO.: J-1				CIRCUIT NO.: J-2				CIRCUIT NO.:				CIRCUIT NO.:			
DATE TESTED:				DATE TESTED:				DATE TESTED:				DATE TESTED:			
Values of Readings in Megohms	Line #1 To Ground	Line #2 To Ground	Line #1 To Line #2	Values of Readings in Megohms	Line #1 To Ground	Line #2 To Ground	Line #1 To Line #2	Values of Readings in Megohms	Line #1 To Ground	Line #2 To Ground	Line #1 To Line #2	Values of Readings in Megohms	Line #1 To Ground	Line #2 To Ground	Line #1 To Line #2
	500+	500+	500+		500+	500+	500+								
Retest circuits not meeting proper insulation resistance values upon the completion of corrective action.															
DATE RETESTED: 11/16/12				DATE RETESTED: 11/16/12				DATE RETESTED:				DATE RETESTED:			
Retested Values				Retested Values				Retested Values				Retested Values			

CIRCUIT NO.:				CIRCUIT NO.:				CIRCUIT NO.:				CIRCUIT NO.:			
DATE TESTED:				DATE TESTED:				DATE TESTED:				DATE TESTED:			
Values of Readings in Megohms	Line #1 To Ground	Line #2 To Ground	Line #1 To Line #2	Values of Readings in Megohms	Line #1 To Ground	Line #2 To Ground	Line #1 To Line #2	Values of Readings in Megohms	Line #1 To Ground	Line #2 To Ground	Line #1 To Line #2	Values of Readings in Megohms	Line #1 To Ground	Line #2 To Ground	Line #1 To Line #2
Retest circuits not meeting proper insulation resistance values upon the completion of corrective action.															
DATE RETESTED:				DATE RETESTED:				DATE RETESTED:				DATE RETESTED:			
Retested Values				Retested Values				Retested Values				Retested Values			

Instrument: _____

GROUND ROD RESISTANCE TEST

GROUND RESISTANCE VALUES SHOULD BE 25 OHMS OR LESS

STATION NUMBER OR LOCATION	RESIS. (OHMS)	DATE TESTED	STATION NUMBER OR LOCATION	RESIS. (OHMS)	DATE TESTED	STATION NUMBER OR LOCATION	RESIS. (OHMS)	DATE TESTED	STATION NUMBER OR LOCATION	RESIS. (OHMS)	DATE TESTED
3145+10	0	11/16/12									
3144+00	0										
3144+00	0										
3141+00	0										
3141+10	0										
3142+36	0										
Retest ground rods not meeting proper resistance values upon the completion of corrective action.											

The recorded measurements are within the ratings and requirements specified in the contract documents.

CERTIFIED BY: Glenn Mass

Signature

DISTRIBUTION: One copy to District Materials Office, one copy to Resident Construction Office

PCC MATERIALS
AUDIT EXAMPLE

PCC WORKSHEET

COUNTY: _____

PROJECT No.: _____ DATE: _____

REPORT	DATE	MIX	QUANTITY	GRADATION			VERIFICATION			AIRS	SLUMPS	Contract Bid Item #
				ROCK	INTER.	SAND	ROCK	INTER.	SAND			

800249 computer VER 1-05

PCC Plant Report

E - Units

Date of Placement		Location From	Location To
Mix 1	7/13/17		
Mix 2	7/14/17		
Mix 3	7/18/17		
Mix 4	7/21/17		
Mix 5			

Project No.: BROS-C035(94)--8J-35
Plant Name: CROELL INC. SHEFFIELD
Contractor: GUS CONSTRUCTION
SubContractor:
Weather: SUNNY

Contract ID: 35-C035-094
County: FRANKLIN
Temp. Min: _____ °F
Temp. Max: _____ °F

Report No.: 1
Date This Report: 07/22/17
Date Of Last Report: NA
Structures Des. No:

Check Mix(x)		Check One(x)		E - Units
Central		Paving		SEND
Ready	X	Structure	X	(Daily)
		Non-structural		(Weekly)
		Miscellaneous		(Monthly)
				(Project)

	Mix	Batched yd3	% Of Est. Used	Fine Aggregate Moist. (%)	Fine Aggregate T-203 Sp. G.	Fine Aggregate Wt. SSD lbs	Intermediate Aggregate Moist. (%)	Intermediate Aggregate T-203 Sp. G.	Intermediate Aggregate Wt. SSD lbs	Coarse Aggregate Moist. (%)	Coarse Aggregate T-203 Sp. G.	Coarse Aggregate Wt. SSD lbs	Actual Quantities Used - lbs/yd3 Cement	Fly Ash	GGBFS	Fine	Inter.	Coarse	Water In Agg.	Water Plant	Water Grade	Avg w/c Ratio	Max w/c Ratio
#	C-4WR-C20	9.00	115.4	2.9	2.66	1,506				0.2	2.75	1,561	474	119		1,551		1,564	48	211.0	4.6	0.445	0.489
#	C-4WR-C20	9.00	109.0	2.9	2.66	1,506				0.2	2.75	1,561	474	119		1,551		1,564	48	211.0	NONE	0.437	0.489
#	C-4WR-C20	71.00	103.1	2.7	2.66	1,506				0.2	2.75	1,561	474	119		1,548		1,564	45	209.5	7.9	0.442	0.489
#	C-4WR-C20	71.00	104.2	3.0	2.66	1,506				0.5	2.75	1,561	474	119		1,553		1,569	54	201.3	3.5	0.437	0.489
#																							

Coarse

	1 1/2"	1"	3/4"	1/2"	3/8"	#4	#8	#200	Comply
	100	95-100		25-60		0-10	0-5	0-2.5	Y/N
7/14/17	100	100	85	51	31	5.4	1	0.1	Y

Conc. Treatment	(X)	lbs/yd3
Ice		
Heated Water		
Heated Materials		

Check One (X)		Batched Today	Week X	Total To Date
Concrete:	yd3		160.00	160.00
Cement:	tons		37.92	37.92

Intermediate

	1 1/2"	1"	3/4"	1/2"	3/8"	#4	#8	#200	Comply
									NA
									NA
									NA

	Brand / Source	Rate	Lot Number
Air Entraining:	WR GRACE DARAVAIR 1000	7	C604-A187-01
Water Reducer (Normal):	WR GRACE WRDA 82	4	CF08-A178-69
Retarder:			
Calcium Chloride:			
Superplasticizer:			

Fine

	1/2"	3/8"	#4	#8	#16	#30	#50	#100	#200	Comply
		100	90-100	70-100		10-50			0-1.5	Y/N
7/14/17		100	93	81	64	39	12	1.5	0.5	Y

	Type	Sp. Gr.	Source
Cement:	I	3.14	PC0401
Fly Ash:	C	2.69	FA008C
GGBFS:			

Adjusted % Passing Calculated Combined Gradation

	1 1/2"	1"	3/4"	1/2"	3/8"	#4	#8	#16	#30	#50	#100	#200	Within Target	CW Zone
Target														

	Source	T-203 A #	Grad. No.
Coarse:	PORTLAND-WEST	A17008	3
Intermediate:			
Fine:	FOOTHILL PIT	A34520	1

Certified RM

Remarks MIX #1 EAST CURTAIN WALL MIX #3 EAST 23'-0 BARREL FOOTING AND EAST HEADWALL FOOTING
MIX #2 WEST CURTAIN WALL MIX #4 WEST 23'-0 BARREL FOOTING AND WEST HEADWALL FOOTING

Distribution: ____ DME ____ Proj. Eng. ____ Plant

C.P.I.: T. MAHLSTEDT / K. ROOSE / V. ARTHUR NE745 / 217041 / NE 159
Monitor: L. WALVATNE / L. KNOWLES NE015 / NE031

600240 computer VER 1-05

PCC Plant Report

Date of Placement		Location From	Location To
Mix 1	7/26/17		
Mix 2			
Mix 3			
Mix 4			
Mix 5			

Project No.: BROS-C035(94)--8J-35
Plant Name: CROELL INC. SHEFFIELD
Contractor: GUS CONSTRUCTION
SubContractor:
Weather:

Contract ID: 35-C035-094
County: FRANKLIN
Temp. Min: _____ °F
Temp. Max: _____ °F

Report No.: 2
Date This Report: 07/29/17
Date Of Last Report: 07/22/17
Structures Des. No:

Check Mix(x)		Check One(x)		E - Units
Central		Paving		SEND
Ready	X	Structure	X	(Daily)
		Non-structural		(Weekly)
		Miscellaneous		(Monthly)
				(Project)

Mix	Batched yd3	% Of Est. Used	Fine Aggregate Moist. (%)	Fine Aggregate T-203 Sp. G.	Fine Aggregate Wt. SSD lbs	Intermediate Aggregate Moist. (%)	Intermediate Aggregate T-203 Sp. G.	Intermediate Aggregate Wt. SSD lbs	Coarse Aggregate Moist. (%)	Coarse Aggregate T-203 Sp. G.	Coarse Aggregate Wt. SSD lbs	Actual Quantities Used - lbs/yd3 Cement	Fly Ash	GGBFS	Fine	Inter.	Coarse	Water In Agg.	Water Plant	Water Grade	Avg w/c Ratio	Max w/c Ratio
C-4WR-C20	71.00	103.6	2.7	2.66	1,506				0.3	2.75	1,561	474	119		1,548		1,566	46	192.5	6.7	0.414	0.489

Coarse

	1 1/2"	1"	3/4"	1/2"	3/8"	#4	#8	#200	Comply
	100	95-100		25-60		0-10	0-5	0-2.5	Y/N
7/26/17	100	100	82	52	34	5.8	0.8	0.1	Y

Conc. Treatment	(X)	lbs/yd3
Ice		
Heated Water		
Heated Materials		

Batched	Today	Week X	Total To Date
Check One (X)			
Concrete: yd3		71.00	231.00
Cement: tons		16.83	54.75

Intermediate

	1 1/2"	1"	3/4"	1/2"	3/8"	#4	#8	#200	Comply
									NA
									NA
									NA

	Brand / Source	Rate	Lot Number
Air Entraining:	WR GRACE DARAVAIR 1000	5.5 oz/ CY	C604-A187-01
Water Reducer (Normal):	WR GRACE WRDA 82	3.0 oz/C	CF08-A178-69
Retarder:			
Calcium Chloride:			
Superplasticizer:			

Fine

	1/2"	3/8"	#4	#8	#16	#30	#50	#100	#200	Comply
		100	90-100	70-100		10-60			0-1.5	Y/N
7/26/17		100	94	82	65	40	12	1.8	0.6	Y

	Type	Sp. Gr.	Source
Cement:	I	3.14	PC0401
Fly Ash:	C	2.69	FA008C
GGBFS:			

Adjusted % Passing Calculated Combined Gradation

	1 1/2"	1"	3/4"	1/2"	3/8"	#4	#8	#16	#30	#50	#100	#200	Within Target	CW Zone
Target														

	Source	T-203 A.#	Grad. No.
Coarse:	PORTLAND-WEST	A17008	3
Intermediate:			
Fine:	FOOTHILL PIT	A34520	1

Certified RM

Remarks: East 23'-0 Barrel Walls and Slab, East Headwall Wingwalls and Parapet

Distribution: ____ DME ____ Proj. Eng. ____ Plant

C.P.I.: KURT ROOSE 217041
Monitor: LAYNE WALVATNE NE015

300209 computer VER 1-06

PCC Plant Report

E - Units

Check Mix(x)		Check One(x)		SEND
Central		Paving		(Daily)
Ready	X	Structure	X	(Weekly)
		Non-structural		(Monthly)
		Miscellaneous		(Project)

Date of Placement	Location From	Location To
Mix 1	7/31/17	
Mix 2		
Mix 3		
Mix 4		
Mix 5		

Project No.: BROS-C035(94)--8J-35
Plant Name: CROELL INC. SHEFFIELD
Contractor: GUS CONSTRUCTION
SubContractor:
Weather:

Contract ID: 35-C035-094
County: FRANKLIN
Temp. Min: °F
Temp. Max: °F

Report No.: 3
Date This Report: 8/05/17
Date Of Last Report: 7/29/17
Structures Des. No:

Mix	Batched yd3	% Of Est. Used	Fine Aggregate Moist. (%)	Fine Aggregate T-203 Sp. G.	Fine Aggregate Wt. SSD lbs	Intermediate Aggregate Moist. (%)	Intermediate Aggregate T-203 Sp. G.	Intermediate Aggregate Wt. SSD lbs	Coarse Aggregate Moist. (%)	Coarse Aggregate T-203 Sp. G.	Coarse Aggregate Wt. SSD lbs	Actual Quantities Used - lbs/yd3 Cement	Fly Ash	GGBFS	Fine	Inter.	Coarse	Water In Agg.	Water Plant	Water Grade	Avg w/c Ratio	Max w/c Ratio
# C-4WR-C20	71.00	103.2	3.2	2.66	1,506				0.6	2.75	1,561	474	119		1,556		1,570	59	199.1	4.7	0.444	0.489
#																						
#																						
#																						
#																						

Coarse

	1 1/2"	1"	3/4"	1/2"	3/8"	#4	#8	#200	Comply
	100	95-100		25-60		0-10	0-5	0-2.5	Y/N
7/31/17	100	100	84	45	29	4.1	0.6	0.1	Y

Conc. Treatment	(X)	lbs/yd3
Ice		
Heated Water		
Heated Materials		

Check One (X)	Batched Today	Batched Week X	Batched Total To Date
Concrete: yd3		71.00	302.00
Cement: tons		16.83	71.58

Intermediate

	1 1/2"	1"	3/4"	1/2"	3/8"	#4	#8	#200	Comply
									NA
									NA
									NA

	Brand / Source	Rate	Lot Number
Air Entraining:	WR GRACE DARAVAIR 1000	5.5 oz/ CY	C604-A187-01
Water Reducer (Normal):	WR GRACE WRDA 82	3.0 oz/C	CF08-A178-69
Retarder:			
Calcium Chloride:			
Superplasticizer:			

Fine

	1/2"	3/8"	#4	#8	#16	#30	#50	#100	#200	Comply
		100	90-100	70-100		10-60			0-1.5	Y/N
7/31/17		100	92	81	64	38	11	1.4	0.4	Y

	Type	Sp. Gr.	Source
Cement:	I	3.14	PC0401
Fly Ash:	C	2.69	FA008C
GGBFS:			

Adjusted % Passing Calculated Combined Gradation

	1 1/2"	1"	3/4"	1/2"	3/8"	#4	#8	#16	#30	#50	#100	#200	Within Target	CW Zone
Target														

	Source	T-203 A #	Grad. No.
Coarse:	PORTLAND-WEST I	A17008	3
Intermediate:			
Fine:	FOOTHILL PIT	A34520	1

Certified RM

Remarks WEST 23' BARREL WALLS AND SLAB, WEST HEADWALL WINGWALLS AND PARAPET

Distribution: ____ DME ____ Proj. Eng. ____ Plant

C.P.I.: KURT ROOSE 217041
Monitor: LAYNE WALVATNE NE015

IOWADOT
SMARTER | SIMPLER | CUSTOMER DRIVEN

STRUCTURES WEEKLY GRADE REPORT

E145 Rev 3/21/16 BW
FORM 830242E

Contract ID: 35-C035-094

Contractor: Gus Construction Co., Inc.
Date: Week Ending July 15, 2017
Report No.: 1

County: Franklin
Project No: BROS-C035(94)--8J-35
Design No:

Date Poured	Mix No	Unit Poured	Plant Name	Plan Today (CY)	Actual Used (CY)	Plan Total (CY) This Report	Concrete Treatment	Air Content %	Slump in.
07/13/17	C-4WR-C20	East Curtain Wall	Croell Inc. Sheffield	7.80	9.00	7.80	3	7.1	3 1/2
07/14/17	C-4WR-C20	West Curtain Wall	Croell Inc. Sheffield	7.80	8.50	15.60	3	8.2	3 3/4

Additional Slump Tests, Air Tests, Beam Numbers of Beams Made & Remarks

Total Plan CY to Date
15.60

Note: Concrete Treatments

Indicate Number/s of the Concrete Treatment/s in the Column Provided Above

1 Heated water only with no protection
2 Heated materials with no protection
3 Protected concrete but did not heat materials
4 Heated materials and protected concrete
5 Retarder used in concrete
6 Ice added
7 Nitrogen added
8 Superplasticizer added
9 Microsilica added

Date Made	Mix Number	Beam Number	Time	Slump	% Air	Age Days	W/C	Depth Inches	Width Inches	Indicated Load (lbs)	Actual Load (lbs)	Comp Factor	Mod of Rupture	Location Inches

Distribution: 1 copy to Material Engineer 1 copy to RCE

Layne Walvatne
Structures Inspector

IOWADOT
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STRUCTURES WEEKLY GRADE REPORT

E145 Rev 3/21/16 BW
FORM 830242E

Contract ID: 35-C035-094

Contractor: Gus Construction Co., Inc.
Date: Week Ending July 22, 2017
Report No.: 2

County: Franklin
Project No: BROS-C035(94)--8J-35
Design No:

Date Poured	Mix No	Unit Poured	Plant Name	Plan Today (CY)	Actual Used (CY)	Plan Total (CY) This Report	Concrete Treatment	Air Content %	Slump In.
07/18/17	C-4WR-C20	East Apron & East 23'-0 Barrel Floor	Croell Inc. Sheffield	67.90	70.00	67.90	3	6.9	3 3/4
07/21/17	C-4WR-C20	West Apron & West 23'-0 Barrel Floor	Croell Inc. Sheffield	67.90	70.75	135.80	3	6.1	2 1/4

Additional Slump Tests, Air Tests, Beam Numbers of Beams Made & Remarks

Additional Tests

	Air	Slump
07/18/17	7.0%	3"
	6.6%	2 1/2"
07/21/17	6.0%	2 1/4"
	6.7%	4"

Total Plan CY to Date
151.40

Note: Concrete Treatments

Indicate Number/s of the Concrete Treatment/s in the Column Provided Above

1 Heated water only with no protection
2 Heated materials with no protection
3 Protected concrete but did not heat materials
4 Heated materials and protected concrete
5 Retarder used in concrete
6 Ice added
7 Nitrogen added
8 Superplasticizer added
9 Microsilica added

Date Made	Mix Number	Beam Number	Time	Slump	% Air	Age Days	W/C	Depth Inches	Width Inches	Indicated Load (lbs)	Actual Load (lbs)	Comp Factor	Mod of Rupture	Location Inches
07/18/17	C-4WR-C20	1	11:40	3 3/4	6.9	3	0.448	6.00	6.05	4650	4560	0.123967	565	1 3/8
07/18/17	C-4WR-C20	2	12:30	3	7.0		0.432							
07/21/17	C-4WR-C20	3	8:20	2 1/4	6.1		0.442							
07/21/17	C-4WR-C20	4	9:20	2 1/4	6.0		0.435							

Distribution: 1 copy to Material Engineer 1 copy to RCE

Layne Walvatne
Structures Inspector

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STRUCTURES WEEKLY GRADE REPORT

E145 Rev 3/21/16 BW
FORM 830242E

Contract ID: 35-C035-094

Contractor: Gus Construction Co., Inc.
Date: Week Ending July 29, 2017
Report No.: 3

County: Franklin
Project No: BROS-C035(94)--8J-35
Design No:

Date Poured	Mix No	Unit Poured	Plant Name	Plan Today (CY)	Actual Used (CY)	Plan Total (CY) This Report	Concrete Treatment	Air Content %	Slump In.
07/26/17	C-4WR-C20	East 23'-0 Barrel Walls & Slab;	Croell Inc. Sheffield	67.60	70.00	67.60	3	7.1	4
		East Headwall Wingwall & Parapet							

Additional Slump Tests, Air Tests, Beam Numbers of Beams Made & Remarks

Additional Tests

	Air	Slump	
07/26/17	7.5%		DOT Correlation Test
	7.0%	2 1/2"	
	6.0%	2"	

Total Plan CY to Date
219.00

Note: Concrete Treatments

Indicate Number/s of the Concrete Treatment/s in the Column Provided Above

1 Heated water only with no protection
2 Heated materials with no protection
3 Protected concrete but did not heat materials
4 Heated materials and protected concrete
5 Retarder used in concrete
6 Ice added
7 Nitrogen added
8 Superplasticizer added
9 Microsilica added

Date Made	Mix Number	Beam Number	Time	Slump	% Air	Age Days	W/C	Depth Inches	Width Inches	Indicated Load (lbs)	Actual Load (lbs)	Comp Factor	Mod of Rupture	Location Inches
07/21/17	C-4WR-C20	3	8:20	2 1/4	6.1	3	0.442	6.00	6.05	5000	4910	0.123967	609	3/4
07/26/17	C-4WR-C20	5	9:25	4"	7.1		0.422							
07/26/17	C-4WR-C20	6	10:15	3 1/2"	7.0		0.415							

Distribution: 1 copy to Material Engineer 1 copy to RCE

Layne Walvatne lw
Structures Inspector

IOWADOT
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STRUCTURES WEEKLY GRADE REPORT

E145 Rev 3/21/16 BW
FORM 830242E

Contract ID: 35-C035-094

Contractor: Gus Construction Co., Inc.
Date: Week Ending August 5, 2017
Report No.: 4

County: Franklin
Project No: BROS-C035(94)--8J-35
Design No:

Date Poured	Mix No	Unit Poured	Plant Name	Plan Today (CY)	Actual Used (CY)	Plan Total (CY) This Report	Concrete Treatment	Air Content %	Slump In.
07/31/17	C-4WR-C20	West 23'-0 Barrel Walls & Slab;	Croell Inc. Sheffield	67.60	69.75	67.60	3	7.1	3 3/4
		West Headwall Wingwall & Parapet							

Additional Slump Tests, Air Tests, Beam Numbers of Beams Made & Remarks

Additional Tests

	Air	Slump
07/31/17	6.9%	3 3/4"
	6.8%	4"

Total Plan CY to Date
286.60

Note: Concrete Treatments

Indicate Number/s of the Concrete Treatment/s in the Column Provided Above

1 Heated water only with no protection
2 Heated materials with no protection
3 Protected concrete but did not heat materials
4 Heated materials and protected concrete
5 Retarder used in concrete
6 Ice added
7 Nitrogen added
8 Superplasticizer added
9 Microsilica added

Date Made	Mix Number	Beam Number	Time	Slump	% Air	Age Days	W/C	Depth Inches	Width Inches	Indicated Load (lbs)	Actual Load (lbs)	Comp Factor	Mod of Rupture	Location Inches
07/26/17	C-4WR-C20	5	9:25	4"	7.1	5	0.422	6.00	6.05	5200	5110	0.123967	633	1/8
07/31/17	C-4WR-C20	7	9:25	3 3/4"	7.1	3	0.442	6.00	6.05	5400	5310	0.123967	658	1/8
07/31/17	C-4WR-C20	8	10:25	3 3/4"	6.9		0.435							
07/18/17	C-4WR-C20	2	12:30	3"	7.0	14	0.432	6.00	6.05	5710	5630	0.123967	698	1/8

Distribution: 1 copy to Material Engineer 1 copy to RCE

Layne Walvatne
Structures Inspector

421203 COMPUTER
VER 9-00

Iowa Department of Transportation
Office of Materials

PCC GRADATION TEST REPORT - VERIFICATION

Check Mix (x)		Check One (x)	
Central		Paving	
Ready	X	Structure	X
		Incidental	
		Patching	

Project No.: BROS-C035(94)--8J-35
Contract ID: 35-C035-096
Report No.: 1
County: Franklin
Date This Report: 07/15/17
Mix ID: C4WR-C20
Date Of Last Report: NA
Structures Des. No: -
Contractor: Gus Construction Co., Inc.
Plant Name: Croell Redi-Mix, Sheffield, IA

COARSE AGGREGATE					1 1/2"	1"	3/4"	1/2"	3/8"	#4	#8	#200	
				GRAD NO.: 3	37.5 mm	25 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	75 um	Comply
SOURCE:	T-203 A#	AGG.%	Date Sampled	Sample ID	100	95-100		25-60		0-10	0-5	0-1.5	Y/N
M Portland Wes	A17008		7/14/2017	FCLW-170714-C1	100	100	96	53	34	6	1.3	0.7	Y

NTERMEDIATE AGGREGATE					1 1/2"	1"	3/4"	1/2"	3/8"	#4	#8	#200	
					37.5 mm	25 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	75 um	Comply
OURCE:	T-203 A#	AGG %	Date Sampled	Sample ID									Y/N
			7/14/2017										NA
													NA
													NA
													NA
													NA

INE AGGREGATE					1/2"	3/8"	#4	#8	#16	#30	#50	#100	#200	
				GRAD NO.: 1	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 um	300 um	150 um	75 um	Comply
OURCE:	T-203 A#	AGG %	Date Sampled	Sample ID		100	90-100	70-100		10-60			0-1.5	Y/N
roell Foothills	A34520		7/14/2017	FCLW-170714-F1		100	93	82	66	42	12	2.4	0.9	Y

OMBINED AGGREGATE GRADATION															
1.5"	1"	3/4"	1/2"	3/8"	#4	#8	#16	#30	#50	#100	#200	Within Target	Coarseness Factor	Workability Factor	QMC PAY ZONE
#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!				
												Lot Average - VERIFICATION			
												Lot Average - CONTRACTOR			

Remarks: Split sample with CPI. Sample correlated with CPI results.

Distribution: ____ DME ____ Proj. Eng. ____ Contractor

Monitor: Layne Walvaine

Cert No. NE 018

#21285 COMPUTER
VER 3-09

Iowa Department of Transportation
Office of Materials

PCC GRADATION TEST REPORT - VERIFICATION

Check Mix (x)		Check One (x)	
Central		Paving	
Ready	X	Structure	X
		Incidental	
		Patching	

Project No.: BROS-C035(94)--8J-35
Contract ID: 35-C035-096
County: Franklin
Mix ID: C4WR-C20
Contractor: Gus Construction Co., Inc.
Plant Name: Croell Redi-Mix, Sheffield, IA
Report No.: 3
Date This Report: 08/05/17
Date Of Last Report: 07/29/17
Structures Des. No:

COARSE AGGREGATE					1 1/2"	1"	3/4"	1/2"	3/8"	#4	#8	#200	
				GRAD NO.: 3	37.5 mm	25 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	75 um	Comply
SOURCE:	T-203 A#	AGG %	Date Sampled	Sample ID	100	95-100		25-60		0-10	0-5	0-1.5	Y/N
IM Portland Wes	A17008		7/31/2017	FCLW-073117-C2	100	100	79	37	22	2.3	0.6	0.5	Y

INTERMEDIATE AGGREGATE					1 1/2"	1"	3/4"	1/2"	3/8"	#4	#8	#200	
					37.5 mm	25 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	75 um	Comply
SOURCE:	T-203 A#	AGG %	Date Sampled	Sample ID									Y/N
			7/31/2017										NA
													NA
													NA
													NA
													NA

FINE AGGREGATE					1/2"	3/8"	#4	#8	#16	#30	#50	#100	#200	
				GRAD NO.: 1	12.5 mm	9.5 mm	4.75 mm	2.36 mm	1.18 mm	600 um	300 um	150 um	75 um	Comply
SOURCE:	T-203 A#	AGG %	Date Sampled	Sample ID		100	90-100	70-100		10-60			0-1.5	Y/N
Croell Foothills	A34520		7/31/2017	FCLW-073117-F2		100	93	82	64	41	12	1.9	0.6	Y

COMBINED AGGREGATE GRADATION															
1.5"	1"	3/4"	1/2"	3/8"	#4	#8	#16	#30	#50	#100	#200	Within Target	Coarseness Factor	Workability Factor	QMC PAY ZONE
#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!				
												Lot Average - VERIFICATION			
												Lot Average - CONTRACTOR			

Remarks: Split Sample with IDOT District 2 Materials.

Distribution: ____ DME ____ Proj. Eng. ____ Contractor

Monitor: Layne Walvatne

Cert No. NE 015

PCC WORKSHEET

COUNTY: Franklin

PROJECT No.: BROS-C035(94)--8J-35

Croell @ Sheffield --- Gus Construction

DATE: _____

REPORT	DATE	MIX	QUANTITY	GRADATION			VERIFICATION			AIRS	SLUMPS	Contract Bid Item #
				ROCK	INTER.	SAND	ROCK	INTER.	SAND			
1	^07/13/17	C-4WR-C20	9							1	1	70
	^07/14/17	"" ""	9	1	^07/14/17	1	1	^07/14/17	1	1	1	70
	^07/18/17	" ""	71							3	3	70
	^07/21/17	" "	71							3	3	70
2	^07/26/17	C-4WR-C20	71	1	^07/26/17	1				3	3	70
3	^07/31/17	C-4WR-C20	71	1	^07/31/17	1	1	^07/31/17	1	3	3	70
			302	3		3	2		2	14	14	

2/19/18

C:\Users\npaulso\Desktop\pcc 101 class exercise.xlsx

HMA MATERIALS AUDIT EXAMPLE

HMA MATERIALS AUDIT EXAMPLE

HMA WORKSHEET

PROJECT No.: STPN-065-8(56)--2J-17

Mix No.:

DATE:

REPORT #	DATE	MIX DESIGN #	*GRADATIONS	MIX TESTS	**MIX TESTS REQUIRED	PWL # (Field Cores)	*F/T	Tons Today	Tons to Date	Contract Bid Item #
1	8/16/2016	ABD16-2026	1	2	2	1	9.5	771.84	771.84	
2	8/24/2016	" " R1	1	3	3	1	9.1	1790.91	2562.75	
3	8/25/2016	" "	1	3	3	1	9	2000.26	4563.01	
4	8/26/2016	" "	1	3	3	1	8.7	1384.24	5947.25	
5	8/29/2016	" "	1	2	3	1	8.6	1271.17	7218.42	
6	8/30/2016	" "	1	3	3	1	9.4	1414.37	8632.79	
7	8/31/2016	" "	0	0	1	0	n/a	206.09	8838.88	
			7	**16**	**18**	**6**	**6**		**8838.9**	

*** One required per lot**

** Estimated Daily production	Number of Sublots
Tons (mG) 101 - 500	1
501 - 1250	2
1251 - 2000	3
2001 - 4500	4
Over 4500	5

4/25/13 ver.10.03

IOWA DOT ASPHALT PAVING DAILY PLANT REPORT

8/17/16 11:46 AM

8/16/2016
Active Project No.: STPN-065-8(56)--2J-17
Contract ID: 17-0658-056
Mix Design No.: ABD16-2026

Contractor: Heartland Asphalt
County: Cerro Gordo
RAP Stockpile ID: ABC15-0078 (3.73 % AC)

Active Placement: Intermediate (Travel Lane)
Mix Type: 3M Surface 1/2 L-3 (HMA)
Active Bid Item: 2303-0043503 3M Surf 1/2in L-3 (HMA)

Report No.: 1
Lab Voids Target: 4.0
Design Gyrations: 86

UNCOMPACTED MIXTURE

Hot Box I.D. (Theoretical %AC)	QMA1 (5.44%)	QMA2 (5.38%)				
Date Sampled	8/16/16	8/16/16				
Time	8:30 AM	9:30 AM				
Station	76+88	65+49				
Side	L-SB\WB R	L-SB\WB R				
Sample (Tons)	314.77	534.20				
G_{mb}	2.416	2.423				
Gmb (DOT)						
G_{mm}	2.504	2.508				
Gmm (DOT)						
P_a (%)	3.5	3.4				
P_a (%) (DOT)						
				Avg G_{mb}	Avg G_{mm}	Avg Pa (%)
				2.420	2.506	3.5

GRADATION (%Passing)

☐ Use DOT District

Sieve	Specs	grad #1			Avg	District
1 in.	100	100.0			100.0	
3/4 in.	100	100.0			100.0	
1/2 in.	90-100(97)	98.0			98.0	
3/8 in.	82-96(89)	90.0			90.0	
* #4	65-79(72)	69.0			69.0	
* Dev	± 7.0	-3.0			-3.0	
*#8	48-58(53)	50.0			50.0	
*Dev	± 5.0	-3.0			-3.0	
#16		36.0			36.0	
*#30	22-30(26)	23.0			23.0	
* Dev	± 4.0	-3.0			-3.0	
#50		12.0			12.0	
#100		6.1			6.1	
*#200	1.6-5.6(3.6)	4.1			4.1	
*Dev	± 2.0	0.5			0.5	
Gradation Compliance?		Yes			Yes	
DBR	0.6 - 1.4	0.84			0.84	
% +4 Type 4	80	100.0			100.0	
% +4 Type 3	45	40.4			40.4	
(+4/-4) Type 2	(25/0)	13.8/11.5			13.8/11.5	

% Type 3 or Better aggregate does not comply with 2303.02, B, 1, b

COMPACTED JOINT

Core #	Station	Joint ID	G_{mb}
1			
2			
3			

Average Joint G_{mb}	
Average Mat G_{mb}	2.348
% Mat Density	

For information Only in 2015
Joint Length, ft
Unit Price Adjustment ($/ft)

Joint Price Adjustment =

COMPACTED MAT

Core	Date of Placement	Station	CL Reference	W1 Dry (g)	W2 in H20 (g)	W3 Wet (g)	G_{mb}	% of Gmm	P_a (%)	Thickness (in.)
1	8/16/2016	86+32	5.1 S\W Drv	663.6	379.2	664.1	2.329	92.9	7.1	1.50
2	8/16/2016	84+30	9.9 S\W Drv	677.2	391.0	677.7	2.362	94.3	5.7	1.50
3	8/16/2016	78+59	6.3 S\W Drv	691.3	400.5	691.7	2.374	94.7	5.3	1.50
4	8/16/2016	76+52	2.7 S\W Drv	721.2	412.4	721.7	2.332	93.1	6.9	1.75
5	8/16/2016	74+50	11.1 S\W Drv	770.3	443.5	770.7	2.354	93.9	6.1	1.75
6	8/16/2016	69+13	8.7 S\W Drv	651.5	375.9	651.9	2.361	94.2	5.8	1.50
7	8/16/2016	65+58	1.5 S\W Drv	671.4	382.3	671.7	2.320	92.6	7.4	1.50
8	8/16/2016	62+44	2.7 S\W Drv	668.3	384.7	668.7	2.353	93.9	6.1	1.50

Course Placed: Intermediate (Travel Lane) — Thickness QI: 2.25

Intended Lift Thickness: 1.50 — Avg. Mat Density: 2.348
Date Placed: 08/16/16 — Avg. % of Gmm: 93.700
Test Date/By: 08/17/16 Bruce Fingalson — Avg. % Field Voids: 6.30

Tons of Mix for PWL Field Voids Analysis (213.78 deducted)= 558.06 — Field Voids Price Adjustment = $0.00

USE D.O.T. RESULTS

(Enter an 'X')

TEST STRIP

(Enter an "X")

X

FILM THICKNESS (FT) [8.0-15.0]

FT, µm	9.5
Price Adjustment	$0.00

Gyratory VMA [14.6-16.6]

VMA, %	14.9

QUANTITY FOR PAYMENT

Mix Unit Price ($/ton)	$47.12
Binder Unit Price ($/ton)	$419.35
Tons of Mix on Road	771.84
Tons to Other Bid Item(s)	
Tons of Binder	41.75
Tons of Waste	72.02
Tons of Binder to Date	41.75
Tons of Mix to Date	771.84

TEMPERATURE, °F

Time	7:00	9:00	11:00	1:00	3:00	5:00	7:00	Spec	Comply?
Air Temp	64	72	75	79	79	79	75		
Binder Temp	298	297	298	297	297	298		260-330 °F	Yes
Plant Temp	310	305	310	310	305	310		245-330 °F	Yes
Mat Temp		300	303	295				245-330 °F	Yes

☐ Break Down
☐ Rain Out
☐ Re-start after mandatory shutdown

Mix Change Information (when changes are made to start the day, identify them on previous day's report):

Old Target	New Target	Tons	Agg	Initial %	New %	Agg	Initia	New %

Comments:

BINDER

	Target	Actual	Spec	Comply?
% Added Binder	4.47	4.51	N/A	
% Total Binder	5.36	5.41	5.06-5.66	Yes
% RAP	25.00	25.19%	≤100%	Yes
% RAS				
% Binder Replacement	16.62%	16.59%	≤ 100%	Yes
PG Grade	58-28		58-28	Yes
Gb: 1.03500	Gsb: 2.690		Pbe (%):	4.90

PLACEMENT RECORD

From Station	To Station	Lane	Width (ft)
89+14	60+63	SB/WB Drive Ln	16
56+32	54+00	SB/WB Drive Ln	16

Certified Tech: Rich Millard — Cert. No. NE352
Certified Tech: Brenda Simon — Cert. No. NE422

Distribution: ____ Dist. Materials ____ Proj. Engineer ____ Contractor

4/25/13 ver.10.03

IOWA DOT ASPHALT PAVING DAILY PLANT REPORT

8/25/16 7:00 AM

8/24/2016

Active Project No.: STPN-065-8(55)--2J-17
Contract ID: 17-0658-056
Mix Design No.: ABD16-2026R1

Contractor: Heartland Asphalt
County: Cerro Gordo
RAP Stockpile ID ABC15-0078 (3.73 % AC)

Active Placement: Surface (Travel Lane)
Mix Type: 3M Surface 1/2 L-3 (HMA)
Active Bid Item: 2303-0043503 3M Surf 1/2in L-3 (HMA)

Report No.: 2
Lab Voids Target: 4.0
Design Gyrations: 86

UNCOMPACTED MIXTURE

Hot Box I.D. (Theoretical %AC)	QMA1 (5.39%)	QMA2 (5.51%)	QMA3 (5.63%)			
Date Sampled	8/24/16	8/24/16	8/24/16			
Time	10:05 AM	1:50 PM	2:45 PM			
Station	79+03	25+00	11+25			
Side	L-SB\WB L	4L-SB\WB L	L-SB\WB L			
Sample (Tons)	144.99	884.04	1,151.78			
G_{mb}	2.415	2.420	2.415			
Gmb (DOT) (in)		2.421				
G_{mm}	2.511	2.504	2.497			
Gmm (DOT) (in)		2.513				
P_a (%)	3.8	3.4	3.3			
P_a (%) (DOT)		3.7				
				Avg G_{mb}	Avg G_{mm}	Avg Pa (%)
				2.417	2.504	3.5

GRADATION (%Passing)

☐ Use DOT District

Sieve	Specs	grad #1			Avg	District
1 in.	100	100.0			100.0	
3/4 in.	100	100.0			100.0	
1/2 in.	90-100(97)	98.0			98.0	
3/8 in.	83-97(90)	91.0			91.0	
* #4	65-79(72)	72.0			72.0	
* Dev	± 7.0	0			0	
*#8	48-58(53)	54.0			54.0	
*Dev	± 5.0	1.0			1.0	
#16		38.0			38.0	
*#30	22-30(26)	25.0			25.0	
* Dev	± 4.0	-1.0			-1.0	
#50		13.0			13.0	
#100		6.6			6.6	
*#200	1.6-5.6(3.6)	4.2			4.2	
*Dev	± 2.0	0.6			0.6	
Gradation Compliance?		Yes			Yes	
DBR	0.6 - 1.4	0.85			0.85	
% +4 Type 4	80	100.0			100.0	
% +4 Type 3	45	50.8			50.8	
(+4/-4) Type 2	(25/0)	16.2/11.7			16.2/11.7	

COMPACTED JOINT

Core #	Station	Joint ID	G_{mb}
1			
2			
3			

Average Joint G_{mb}	
Average Mat G_{mb}	2.346
% Mat Density	

For information Only in 2015
Joint Length, ft
Unit Price Adjustment ($/ft)

Joint Price Adjustment =

USE D.O.T. RESULTS

(Enter an "X")

TEST STRIP

(Enter an "X")

FILM THICKNESS (FT) [8.0-15.0]	
FT, µm	9.1
Price Adjustment	$0.00

Gyratory VMA [14.5-16.5]	
VMA, %	15.1

QUANTITY FOR PAYMENT

Mix Unit Price ($/ton)	$47.12
Binder Unit Price ($/ton)	$419.35
Tons of Mix on Road	1,790.91
Tons to Other Bid Item(s)	
Tons of Binder	98.65
Tons of Waste	3.00
Tons of Binder to Date	140.40
Tons of Mix to Date	2,562.75

COMPACTED MAT

Core	Date of Placement	Station	CL Reference	W1 Dry (g)	W2 in H20 (g)	W3 Wet (g)	G_{mb}	% of Gmm	P_a (%)	Thickness (in.)
1	8/24/2016	75+00	1.4 S\W Pass	719.4	414.4	719.7	2.356	94.1	5.9	1.50
2	8/24/2016	68+25	7.9 S\W Pass	732.8	420.6	733.0	2.346	93.7	6.3	1.50
3	8/24/2016	47+84	5.1 S\W Pass	886.3	513.6	886.7	2.376	94.9	5.1	1.88
4	8/24/2016	25+30	5.1 S\W Pass	815.4	467.3	815.7	2.340	93.5	6.5	1.75
5	8/24/2016	16+18	9.6 S\W Pass	741.9	421.8	742.2	2.316	92.5	7.5	1.63
6	8/24/2016	10+72	1.5 S\W Pass	849.9	487.1	850.3	2.340	93.5	6.5	1.75
7	8/24/2016	269+52	1.4 S\W Pass	676.3	385.2	676.5	2.322	92.7	7.3	1.50
8	8/24/2016	261+74	7.9 S\W Pass	658.1	380.7	658.4	2.370	94.6	5.4	1.38

Course Placed: Surface (Travel Lane)
Thickness QI: 1.22

Intended Lift Thickness: 1.50
Date Placed: 08/24/16
Test Date/By: 08/25/16 Bruce Fingalsen

Avg. Mat Density: 2.346
Avg. % of Gmm: 93.688
Avg. % Field Voids: 6.31

Q.I. (lower) = $\frac{(0.965 \times 2.504) - 2.346}{0.021}$ = 3.35 → PWL (lower) = 100.0

Q.I. (upper) = $\frac{2.346 - (0.915 \times 2.504)}{0.021}$ = 2.61 → PWL (upper) = 100.0

PWL (total) = 100.0 + 100.0 − 100.0 = 100.0

Pay Factor = 1.040

Tons of Mix for PWL Field Voids Analysis (319.57 deducted)= 1,471.34

Field Voids Incentive = $2,773.18

TEMPERATURE, °F

Time	7:00	9:00	11:00	1:00	3:00	5:00	7:00	Spec	Comply?
Air Temp	72	73	73	77	81	81			
Binder Temp	298	297	297	297	298	298		260-330 °F	Yes
Plant Temp	310	305	305	310	310	300		245-330 °F	Yes
Mat Temp		275	305	305	312	285		245-330 °F	Yes

☐ Break Down
☐ Rain Out
☐ Re-start after mandatory shutdown

Mix Change Information (when changes are made to start the day, identify them on previous day's report):

Old Target	New Target	Tons	Agg	Initial %	New %	Agg	Initia	New %

BINDER

	Target	Actual	Spec	Comply?
% Added Binder	4.47	4.56	N/A	
% Total Binder	5.36	5.51	5.06-5.66	Yes
% RAP	25.00	26.61%	≤100%	Yes
% RAS				
% Binder Replacement	16.62%	17.20%	≤ 30%	Yes
PG Grade	58-28		58-28	Yes
Gb: 1.03496	Gsb:	2.689	Pbe (%):	4.96

PLACEMENT RECORD

From Station	To Station	Lane	Width (ft)
366+91	361+68	SB/WB Pass Ln	12
81+80	38+62	SB/WB Pass Ln	16
30+05	1+82	SB/WB Pass Ln	16
275+60	258+44	SB/WB Pass Ln	12
257+25	252+00	SB/WB Pass Ln	12

Certified Tech: Rich Millard Cert. No. NE352
Certified Tech: Brenda Simon Cert. No. NE422

Distribution: ____ Dist. Materials ____ Proj. Engineer ____ Contractor

Comments:
widths are variable

1793.91 delivered. 3 tons road waste. 1790.91 tons placed as surface.

4/25/13 ver.10.03

IOWA DOT ASPHALT PAVING DAILY PLANT REPORT

8/26/16 8:21 AM

8/25/2016
Active Project No.: STPN-065-8(56)--2J-17
Contract ID: 17-0858-056
Mix Design No.: ABD16-2026R1

Contractor: Heartland Asphalt
County: Cerro Gordo
RAP Stockpile ID: ABC15-0078 (3.73 % AC)

Active Placement: Surface (Travel Lane)
Mix Type: 3M Surface 1/2 L-3 (HMA)
Active Bid Item: 2303-0043503 3M Surf 1/2in L-3 (HMA)

Report No.: 3
Lab Voids Target: 4.0
Design Gyrations: 86

UNCOMPACTED MIXTURE

Hot Box I.D. (Theoretical %AC)	QMA1 (5.33%)	QMA2 (5.38%)	QMA3 (5.47%)			
Date Sampled	8/25/16	8/25/16	8/25/16			
Time	8:00 AM	11:15 AM	1:45 PM			
Station	265+50	314+85	346+74			
Side	L-SB\WB	L-SB\WB	L-SB\WB			
Sample (Tons)	152.08	873.10	1,341.85			
G_{mb}	2.420	2.421	2.408			
Gmb (DOT) (lit)			2.407			
G_{mm}	2.515	2.512	2.507			
Gmm (DOT) (lit)			2.509			
P_a (%)	3.8	3.6	3.9			
P_a (%) (DOT)			4.1			
				Avg G_{mb}	Avg G_{mm}	Avg Pa (%)
Warning! 4 sample(s) required and only 3 sublots/samples entered				2.416	2.511	3.8

GRADATION (%Passing)

☐ Use DOT District

Sieve	Specs	grad #1			Avg	District
1 in.	100	100.0			100.0	
3/4 in.	100	100.0			100.0	
1/2 in.	90-100(97)	97.0			97.0	
3/8 in.	83-97(90)	87.0			87.0	
* #4	65-79(72)	69.0			69.0	
* Dev	± 7.0	-3.0			-3.0	
*#8	48-58(53)	50.0			50.0	
*Dev	± 5.0	-3.0			-3.0	
#16		35.0			35.0	
*#30	22-30(26)	24.0			24.0	
* Dev	± 4.0	-2.0			-2.0	
#50		12.0			12.0	
#100		6.5			6.5	
*#200	1.6-5.6(3.6)	4.4			4.4	
*Dev	± 2.0	0.8			0.8	
Gradation Compliance?		Yes			Yes	
DSR	0.6 - 1.4	0.92			0.92	
% +4 Type 4	80	100.0			100.0	
% +4 Type 3	45	45.9			45.9	
(+4/-4) Type 2	(25/0)	14.6/12.2			14.6/12.2	✓

COMPACTED JOINT

Core #	Station	Joint ID	G_{mb}
1			
2			
3			

Average Joint G_{mb}
Average Mat G_{mb}: 2.348
% Mat Density

For Information Only in 2015
Joint Length, ft
Unit Price Adjustment ($/ft)

Joint Price Adjustment =

USE D.O.T. RESULTS

(Enter an "X")

TEST STRIP

(Enter an "X")

FILM THICKNESS (FT) [8.0-15.0]	
FT, µm	9.0
Price Adjustment	$0.00

Gyratory VMA [14.5-16.5]	
VMA, %	15.0

QUANTITY FOR PAYMENT

Mix Unit Price ($/ton)	$47.12
Binder Unit Price ($/ton)	$419.35
Tons of Mix on Road	2,000.26
Tons to Other Bid Item(s)	
Tons of Binder	108.02
Tons of Waste	218.82
Tons of Binder to Date	248.42
Tons of Mix to Date	4,563.01

COMPACTED MAT

Core	Date of Placement	Station	CL Reference	W1 Dry (g)	W2 in H20 (g)	W3 Wet (g)	G_{mb}	% of Gmm	P_a (%)	Thickness (in.)
1	8/25/2016	269+54	6.9 N\E Pass	738.2	426.7	738.8	2.365	94.2	5.8	1.50
2	8/25/2016	274+71	3.3 N\E Pass	958.9	551.6	959.4	2.351	93.6	6.4	2.00
3	8/25/2016	293+19	3.3 N\E Pass	789.9	453.6	790.6	2.344	93.3	6.7	1.63
4	8/25/2016	298+37	7.9 N\E Pass	700.4	401.9	700.7	2.344	93.3	6.7	1.50
5	8/25/2016	315+53	5.1 N\E Pass	964.0	554.4	964.7	2.350	93.6	6.4	2.00
6	8/25/2016	332+45	8.7 N\E Pass	906.9	525.5	907.0	2.377	94.7	5.3	1.88
7	8/25/2016	347+60	9.6 N\E Pass	801.4	456.8	802.2	2.320	92.4	7.6	1.75
8	8/25/2016	356+85	8.7 N\E Pass	952.1	549.9	957.4	2.336	93.0	7.0	2.00

Course Placed: Surface (Travel Lane)
Thickness QI: 1.56
Intended Lift Thickness: 1.50
Date Placed: 08/25/16
Test Date/By: 08/26/16 Bruce Fingalsen
Avg. Mat Density: 2.348
Avg. % of Gmm: 93.513
Avg. % Field Voids: 6.49

Q.I. (lower) = $\frac{(0.965 \times 2.511) - 2.348}{0.017}$ = 4.42 → PWL (lower) = 100.0

Q.I. (upper) = $\frac{2.348 - (0.915 \times 2.511)}{0.017}$ = 2.97 → PWL (upper) = 100.0

PWL (total) = 100.0 + 100.0 − 100.0 = 100.0

Pay Factor = 1.040

Tons of Mix for PWL Field Voids Analysis (658.45 deducted)= 1,341.80
Field Voids Incentive = $2,529.02

TEMPERATURE, °F

Time	7:00	9:00	11:00	1:00	3:00	5:00	7:00	Spec	Comply?
Air Temp	61	68	72	75	75	75	72		
Binder Temp	298	298	298	295	297	298		260-330 °F	Yes
Plant Temp	305	305	310	310	310	310		245-330 °F	Yes
Mat Temp		295	285	311	295	285		245-330 °F	Yes

☐ Break Down
☐ Rain Out
☐ Re-start after mandatory shutdown

Mix Change Information (when changes are made to start the day, identify them on previous day's report):

Old Target	New Target	Tons	Agg	Initial %	New %	Agg	Initial	New %

Comments:

2007.26 tons delivered. 7 tons waste. 2000.26 tons placed as surface.

BINDER

	Target	Actual	Spec	Comply?
% Added Binder	4.47	4.45	N/A	
% Total Binder	5.36	5.40	5.06-5.66	Yes
% RAP	25.00	26.66%	≤100%	Yes
% RAS				
% Binder Replacement	16.62%	17.59%	≤ 30%	Yes
PG Grade	58-28		58-28	Yes
Gb: 1.03494	Gsb: 2.689		Pbe (%): 4.80	

PLACEMENT RECORD

From Station	To Station	Lane	Width (ft)
258+44	275+60	NB/EB Pass Ln	12
282+00	314+92	NB/EB Pass Ln	15
332+40	336+41	NB/EB Pass Ln	15
345+22	364+58	NB/EB Pass Ln	15
18+50	20+50	NB/EB Pass Ln	34

Certified Tech: Rich Millard Cert. No. NE352
Certified Tech: Brenda Simon Cert. No. NE422

Distribution: ____ Dist. Materials ____ Proj. Engineer ____ Contractor

4/25/13 ver.10.03

IOWA DOT ASPHALT PAVING DAILY PLANT REPORT

8/29/16 7:38 AM

8/26/2016

Active Project No.: STPN-065-8(56)--2J-17
Contract ID: 17-0658-056
Mix Design No.: ABD16-2026R1

Contractor: Heartland Asphalt
County: Cerro Gordo
RAP Stockpile ID: ABC15-0078 (3.73 % AC)

Active Placement: Surface (Travel Lane)
Mix Type: 3M Surface 1/2 L-3 (HMA)
Active Bid Item: 2303-0043503 3M Surf 1/2in L-3 (HMA)

Report No.: 4
Lab Voids Target: 4.0
Design Gyrations: 86

UNCOMPACTED MIXTURE

Hot Box I.D. (Theoretical %AC)	QMA1 (5.51%)	QMA2 (5.29%)	QMA3 (5.24%)			
Date Sampled	8/26/16	8/26/16	8/26/16			
Time	12:00 PM	2:40 PM	4:45 PM			
Station	81+50	45+00	8+00			
Side	L-SB\WB F	4L-SB\WB R	L-SB\WB F			
Sample (Tons)	237.00	817.71	1,299.70			
G_{mb}	2.417	2.417	2.414			
Gmb (DOT) (in)			2.407			
G_{mm}	2.499	2.512	2.515			
Gmm (DOT) (in)			2.509			
P_a (%)	3.3	3.8	4.0			
P_a (%) (DOT)			4.1			
				Avg G_{mb}	Avg G_{mm}	Avg Pa (%)
				2.416	2.509	3.7

GRADATION (%Passing)

☐ Use DOT District

Sieve	Specs	grad #1			Avg	District
1 in.	100	100.0			100.0	
3/4 in.	100	100.0			100.0	
1/2 in.	90-100(97)	98.0			98.0	
3/8 in.	83-97(90)	92.0			92.0	
* #4	65-79(72)	74.0			74.0	
* Dev	± 7.0	2.0			2.0	
*#8	48-58(53)	54.0			54.0	
*Dev	± 5.0	1.0			1.0	
#16		38.0			38.0	
*#30	22-30(26)	24.0			24.0	
* Dev	± 4.0	-2.0			-2.0	
#50		13.0			13.0	
#100		6.7			6.7	
*#200	1.6-5.6(3.6)	4.5			4.5	
*Dev	± 2.0	0.9			0.9	
Gradation Compliance?		Yes			Yes	
DBR	0.6 - 1.4	0.93			0.93	
% +4 Type 4	80	100.0			100.0	
% +4 Type 3	45	54.5			54.5	
(+4/-4) Type 2	(25/0)	16.7/10.9			16.7/10.9	

COMPACTED JOINT

Core #	Station	Joint ID	G_{mb}
1			
2			
3			

Average Joint G_{mb}	
Average Mat G_{mb}	2.339
% Mat Density	

For information Only in 2015
Joint Length, ft
Unit Price Adjustment ($/ft)

Joint Price Adjustment =

USE D.O.T. RESULTS

(Enter an 'X')

TEST STRIP

(Enter an "X")

FILM THICKNESS (FT) [8.0-15.0]	
FT, µm	8.7
Price Adjustment	$0.00

Gyratory VMA [14.5-16.5]	
VMA, %	15.0

QUANTITY FOR PAYMENT

Mix Unit Price ($/ton)	$47.12
Binder Unit Price ($/ton)	$419.35
Tons of Mix on Road	1,384.24
Tons to Other Bid Item(s)	
Tons of Binder	73.94
Tons of Waste	340.18
Tons of Binder to Date	322.36
Tons of Mix to Date	5,947.25

COMPACTED MAT

Core	Date of Placement	Station	CL Reference	W1 Dry (g)	W2 in H20 (g)	W3 Wet (g)	G_{mb}	% of Gmm	P_a (%)	Thickness (in.)
1	8/26/2016	77+60	3.3 S\W Drv	787.7	454.1	787.9	2.360	94.1	5.9	1.63
2	8/26/2016	64+77	4.2 S\W Drv	754.3	432.7	754.6	2.343	93.4	6.6	1.63
3	8/26/2016	53+68	8.7 S\W Drv	913.3	525.5	913.6	2.353	93.8	6.2	1.88
4	8/26/2016	48+73	2.4 S\W Drv	966.9	551.4	967.3	2.325	92.7	7.3	2.13
~~5~~	~~8/26/2016~~	~~38+00~~	~~5.1 S\W Drv~~	~~634.0~~	~~352.5~~	~~635.1~~	~~2.243~~	~~89.4~~	~~10.6~~	~~1.38~~
6	8/26/2016	31+22	6.9 S\W Drv	769.7	437.4	769.9	2.315	92.3	7.7	1.63
7	8/26/2016	25+89	3.3 S\W Drv	745.5	426.7	745.9	2.336	93.1	6.9	1.63
8	8/26/2016	14+76	4.6 S\W Drv	761.6	434.8	761.8	2.329	92.8	7.2	1.63

Course Placed: Surface (Travel Lane)
Thickness QI: 0.92

Intended Lift Thickness: 1.50
Date Placed: 08/26/16
Test Date/By: 08/29/16 Bruce Fingalsen

*Avg. Mat Density: 2.339
*Avg. % of Gmm: 93.171
*Avg. % Field Voids: 7.30

*CORE # 5 has been identified as an outlier and removed from PWL analysis

*Q.I. (lower) = (0.965 x 2.509) — 2.337 / 0.016 = 5.26 → PWL (lower) = 100.0

*Q.I. (upper) = 2.337 — (0.915 x 2.509) / 0.016 = 2.58 → PWL (upper) = 100.0

PWL (total) = 100.0 + 100.0 — 100.0 = 100.0

Pay Factor = 1.040

Tons of Mix for PWL Field Voids Analysis (319.56 deducted)= 1,064.68
Field Voids Incentive = $2,006.71

TEMPERATURE, °F

Time	7:00	9:00	11:00	1:00	3:00	5:00	7:00	Spec	Comply?
Air Temp	54	61	70	72	73	73	70		
Binder Temp	298	298	298	299	298	297		260-330 °F	Yes
Plant Temp	310	310	305	310	310	305		245-330 °F	Yes
Mat Temp			310	316	290	290		245-330 °F	Yes

☐ Break Down
☐ Rain Out
☐ Re-start after mandatory shutdown

Mix Change Information (when changes are made to start the day, identify them on previous day's report):

Old Target	New Target	Tons	Agg	Initial %	New %	Agg	Initia	New %

Comments:

1384.24 tons delivered. No waste.

BINDER

	Target	Actual	Spec	Comply?
% Added Binder	4.47	4.43	N/A	
% Total Binder	5.36	5.34	5.06-5.66	Yes
% RAP	25.00	25.49%	≤100%	Yes
% RAS				
% Binder Replacement	16.62%	17.01%	≤ 30%	Yes
PG Grade	58-28		58-28	Yes

Gb: 1.03497 Gsb: 2.689 Pbe (%): 4.82

PLACEMENT RECORD

From Station	To Station	Lane	Width (ft)
369+50	361+68	SB/WB Drive Ln	16
82+01	38+63	SB/WB Drive Ln	16
33+51	0+68	SB/WB Drive Ln	16
280+75	258+44	SB/WB Drive Ln	12
257+25	252+00	SB/WB Drive Ln	12

Certified Tech: Rich Millard Cert. No. NE352
Certified Tech: Brenda Simon Cert. No. NE422

Distribution: ____ Dist. Materials ____ Proj. Engineer ____ Contractor

4/25/13 ver.10.03

IOWA DOT ASPHALT PAVING DAILY PLANT REPORT

8/29/16 1:23 PM

8/29/2016
Active Project No.: STPN-065-8(56)--2J-17
Contract ID: 17-0656-056
Mix Design No.: ABD16-2026R1

Contractor: Heartland Asphalt
County: Cerro Gordo
RAP Stockpile ID ABC15-0078 (3.73 % AC)

Active Placement: Surface (Travel Lane)
Mix Type: 3M Surface 1/2 L-3 (HMA)
Active Bid Item: 2303-0043503 3M Surf 1/2in L-3 (HMA)

Report No.: 5
Lab Voids Target: 4.0
Design Gyrations: 86

UNCOMPACTED MIXTURE

Hot Box I.D. (Theoretical %AC)	QMA1 (5.22%)	QMA2 (5.28%)				
Date Sampled	8/29/16	8/29/16				
Time	9:15 AM	11:30 AM				
Station	268+78	272+10				
Side	L-SB\WB R	4L-NB\EB R				
Sample (Tons)	283.78	898.39				
G_{mb}	2.414	2.410				
Gmb (DOT) (In)		2.401				
G_{mm}	2.515	2.511				
Gmm (DOT) (In)		2.511				
P_a (%)	4.0	4.0				
P_a (%) (DOT)		4.4				
			Avg G_{mb}	Avg G_{mm}	Avg Pa (%)	
			2.412	2.513	4.0	

GRADATION (%Passing)

☐ Use DOT District

Sieve	Specs	grad #1			Avg	District
1 in.	100	100.0			100.0	
3/4 in.	100	100.0			100.0	
1/2 in.	90-100(97)	97.0			97.0	
3/8 in.	83-97(90)	92.0			92.0	
* #4	65-79(72)	76.0			76.0	
* Dev	± 7.0	4.0			4.0	
*#8	48-58(53)	57.0			57.0	
*Dev	± 5.0	4.0			4.0	
#16		40.0			40.0	
*#30	22-30(26)	26.0			26.0	
* Dev	± 4.0	0			0	
#50		13.0			13.0	
#100		6.3			6.3	
*#200	1.6-5.6(3.6)	4.0			4.0	
*Dev	± 2.0	0.4			0.4	
Gradation Compliance?		Yes			Yes	
DBR	0.6 - 1.4	0.85			0.85	
% +4 Type 4	80	100.0			100.0	
% +4 Type 3	45	59.1			59.1	
(+4/-4) Type 2	(25/0)	18.1/10.6			18.1/10.6	

COMPACTED JOINT

Core #	Station	Joint ID	G_{mb}
1			
2			
3			

Average Joint G_{mb}
Average Mat G_{mb} 2.341
% Mat Density

For information Only in 2015
Joint Length, ft
Unit Price Adjustment ($/ft)

Joint Price Adjustment =

COMPACTED MAT

Core	Date of Placement	Station	CL Reference	W1 Dry (g)	W2 in H20 (g)	W3 Wet (g)	G_{mb}	% of Gmm	P_a (%)	Thickness (in.)
1	8/29/2016	279+02	3.1 S\W Drv	795.0	460.2	795.7	2.370	94.3	5.7	1.75
2	8/29/2016	274+63	1.5 S\W Drv	628.8	360.9	629.2	2.344	93.3	6.7	1.38
3	8/29/2016	268+90	8.6 S\W Drv	770.7	441.8	771.0	2.341	93.2	6.8	1.63
4	8/29/2016	260+25	7.7 S\W Drv	784.6	451.7	784.9	2.355	93.7	6.3	1.63
5	8/29/2016	262+74	9.3 N\E Drv	868.2	495.6	868.5	2.328	92.6	7.4	1.88
6	8/29/2016	278+74	1.5 N\E Drv	932.3	532.8	932.7	2.331	92.8	7.2	2.00
7	8/29/2016	286+08	8.6 N\E Drv	975.7	557.7	976.1	2.332	92.8	7.2	2.13
8	8/29/2016	297+67	7.7 N\E Drv	781.5	446.5	782.2	2.328	92.6	7.4	1.75

Course Placed: Surface (Travel Lane)
Thickness QI: 1.02
Intended Lift Thickness: 1.50
Avg. Mat Density: 2.341
Date Placed: 08/29/16
Avg. % of Gmm: 93.163
Test Date/By: 08/30/16 Bruce Fingalsen
Avg. % Field Voids: 6.84

Q.I. (lower) = $\frac{(0.965 \times 2.513) - 2.341}{0.015}$ = 5.60 → PWL (lower) = 100.0

Q.I. (upper) = $\frac{2.341 - (0.915 \times 2.513)}{0.015}$ = 2.77 → PWL (upper) = 100.0

PWL (total) = 100.0 + 100.0 − 100.0 = 100.0

Pay Factor = 1.040

Tons of Mix for PWL Field Voids Analysis (116.55 deducted)= 1,154.62
Field Voids Incentive = $2,176.23

USE D.O.T. RESULTS

(Enter an 'X')

TEST STRIP

(Enter an "X")

FILM THICKNESS (FT) [8.0-15.0]	
FT, µm	8.6
Price Adjustment	$0.00

Gyratory VMA [14.5-16.5]	
VMA, %	15.0

QUANTITY FOR PAYMENT

Mix Unit Price ($/ton)	$47.12
Binder Unit Price ($/ton)	$419.35
Tons of Mix on Road	1,271.17
Tons to Other Bid Item(s)	
Tons of Binder	66.78
Tons of Waste	138.03
Tons of Binder to Date	389.14
Tons of Mix to Date	7,218.42

TEMPERATURE, °F

Time	7:00	9:00	11:00	1:00	3:00	5:00	7:00	Spec	Comply?
Air Temp	68	72	77	79	79	79	77		
Binder Temp	298	298	297					260-330 °F	Yes
Plant Temp	310	310	305					245-330 °F	Yes
Mat Temp		300	282					245-330 °F	Yes

☐ Break Down ☐ Re-start after mandatory shutdown
☑ Rain Out

Mix Change Information (when changes are made to start the day, identify them on previous day's report):

Old Target	New Target	Tons	Agg	Initial %	New %	Agg	Initia	New %

Comments:

1271.17 tons delivered, no waste.

BINDER

	Target	Actual	Spec	Comply?
% Added Binder	4.47	4.34	N/A	
% Total Binder	5.36	5.25	5.06-5.66	Yes
% RAP	25.00	25.56%	≤100%	Yes
% RAS				
% Binder Replacement	16.62%	17.36%	≤ 30%	Yes
PG Grade	58-28		58-28	Yes

Gb: 1.03495 Gsb: 2.689 Pbe (%): 4.72

PLACEMENT RECORD

From Station	To Station	Lane	Width (ft)
6+60	0+68	SB/WB Drive Ln	16
280+75	252+00	SB/WB Drive Ln	12
252+00	280+75	NB/EB Drive Ln	12
280+75	298+80	NB/EB Drive Ln	16

Certified Tech: Rich Millard Cert. No. NE352
Certified Tech: Brenda Simon Cert. No. NE422

Distribution: ____ Dist. Materials ____ Proj. Engineer ____ Contractor

4/25/13 ver.10.03

IOWA DOT ASPHALT PAVING DAILY PLANT REPORT

8/31/16 10:30 AM

8/30/2016

Active Project No.: STPN-065-8(56)--2J-17
Contract ID: 17-0658-056
Mix Design No.: ABD16-2026R1

Contractor: Heartland Asphalt
County: Cerro Gordo
RAP Stockpile ID: ABC15-0076 (3.73 % AC)

Active Placement: Surface (Travel Lane)
Mix Type: 3M Surface 1/2 L-3 (HMA)
Active Bid Item: 2303-0043503 3M Surf 1/2in L-3 (HMA)

Report No.: 6
Lab Voids Target: 4.0
Design Gyrations: 86

UNCOMPACTED MIXTURE

Hot Box I.D. (Theoretical %AC)	QMA1 (5.63%)	QMA2 (5.30%)	QMA3 (5.36%)			
Date Sampled	8/30/16	8/30/16	8/30/16			
Time	8:15 AM	11:10 AM	1:40 PM			
Station	308+69	350+16	65+49			
Side	L-NB\EB R	4L-NB\EB R	L-NB\EB R			
Sample (Tons)	153.59	827.65	1,230.51			
G_{mb}	2.410	2.414	2.409			
Gmb (DOT) (in)	2.406					
G_{mm}	2.491	2.511	2.507			
Gmm (DOT) (in)	2.500					
P_a (%)	3.3	3.9	3.9			
P_a (%) (DOT)	3.8					
				Avg G_{mb}	Avg G_{mm}	Avg Pa (%)
				2.411	2.503	3.7

GRADATION (%Passing)

☐ Use DOT District

Sieve	Specs	grad #1			Avg	
1 in.	100	100.0			100.0	
3/4 in.	100	100.0			100.0	
1/2 in.	90-100(97)	98.0			98.0	
3/8 in.	83-97(90)	89.0			89.0	
* #4	65-79(72)	71.0			71.0	
* Dev	± 7.0	-1.0			-1.0	
*#8	48-58(53)	52.0			52.0	
*Dev	± 5.0	-1.0			-1.0	
#16		37.0			37.0	
*#30	22-30(26)	24.0			24.0	
* Dev	± 4.0	-2.0			-2.0	
#50		12.0			12.0	
#100		6.2			6.2	
*#200	1.6-5.6(3.6)	4.2			4.2	
*Dev	± 2.0	0.6			0.6	
Gradation Compliance?		Yes			Yes	
DBR	0.6 - 1.4	0.85			0.85	
% +4 Type 4	80	100.0			100.0	
% +4 Type 3	45	49.3			49.3	
(+4/-4) Type 2	(25/0)	16.5/12.5			16.5/12.5	

COMPACTED JOINT

Core #	Station	Joint ID	G_{mb}
1			
2			
3			

Average Joint G_{mb}	
Average Mat G_{mb}	2.344
% Mat Density	

For information Only in 2015
Joint Length, ft
Unit Price Adjustment ($/ft)

Joint Price Adjustment =

USE D.O.T. RESULTS

(Enter an 'X')

TEST STRIP

(Enter an "X")

FILM THICKNESS (FT) [8.0-15.0]	
FT, µm	9.4
Price Adjustment	$0.00

Gyratory VMA [14.5-16.5]	
VMA, %	15.2

QUANTITY FOR PAYMENT

Mix Unit Price ($/ton)	$47.12
Binder Unit Price ($/ton)	$419.35
Tons of Mix on Road	1,414.37
Tons to Other Bid Item(s)	71.70
Tons of Binder	76.86
Tons of Waste	330.22
Tons of Binder to Date	466.00
Tons of Mix to Date	8,632.79

COMPACTED MAT

Core	Date of Placement	Station	CL Reference	W1 Dry (g)	W2 in H20 (g)	W3 Wet (g)	G_{mb}	% of Gmm	P_a (%)	Thickness (in.)
1	8/30/2016	305+52	3.3 N\E Drv	834.0	478.0	834.6	2.339	93.4	6.6	1.75
2	8/30/2016	312+22	9.6 N\E Drv	745.3	424.9	745.8	2.323	92.8	7.2	1.63
3	8/30/2016	315+86	11.4 N\E Drv	954.8	550.1	955.3	2.356	94.1	5.9	2.00
4	8/30/2016	326+42	9.6 N\E Drv	746.8	430.3	747.5	2.354	94.0	6.0	1.63
5	8/30/2016	342+08	7.9 N\E Drv	719.9	412.2	720.4	2.336	93.3	6.7	1.50
6	8/30/2016	350+04	2.4 N\E Drv	798.3	458.0	798.7	2.343	93.6	6.4	1.75
7	8/30/2016	359+64	11.4 N\E Drv	909.8	519.0	910.1	2.326	92.9	7.1	1.88
8	8/30/2016	364+99	5.1 N\E Drv	931.4	539.0	931.8	2.371	94.7	5.3	2.00

Course Placed: Surface (Travel Lane) — Thickness QI: 1.53

Intended Lift Thickness: 1.50 — Avg. Mat Density: 2.344
Date Placed: 08/30/16 — Avg. % of Gmm: 93.600
Test Date/By: 08/31/16 Bruce Finagalsen — Avg. % Field Voids: 6.40

Q.I. (lower) = $\frac{(0.965 \times 2.503) - 2.344}{0.016}$ = 4.46 → PWL (lower) = 100.0

Q.I. (upper) = $\frac{2.344 - (0.915 \times 2.503)}{0.016}$ = 3.36 → PWL (upper) = 100.0

PWL (total) = 100.0 + 100.0 — 100.0 = 100.0

Pay Factor = 1.040

Tons of Mix for PWL Field Voids Analysis (538.72 deducted)= 874.65 — Field Voids Incentive = $1,648.54

TEMPERATURE, °F

Time	7:00	9:00	11:00	1:00	3:00	5:00	7:00	Spec	Comply?
Air Temp	67	72	75	75	77	79	73		
Binder Temp	298	297	297	298	297	298		260-330 °F	Yes
Plant Temp	310	305	310	310	310	305		245-330 °F	Yes
Mat Temp		295	307	291	301	285		245-330 °F	Yes

☐ Break Down
☐ Rain Out
☐ Re-start after mandatory shutdown

Mix Change Information (when changes are made to start the day, identify them on previous day's report):

Old Target	New Target	Tons	Agg	Initial %	New %	Agg	Initia	New %

BINDER

	Target	Actual	Spec	Comply?
% Added Binder	4.47	4.43	N/A	
% Total Binder	5.36	5.43	5.06-5.66	Yes
% RAP	25.00	28.11%	≤100%	Yes
% RAS				
% Binder Replacement	16.62%	18.44%	≤ 30%	Yes
PG Grade	58-28		58-28	Yes
Gb: 1.03489	Gsb: 2.690		Pbe (%): 4.97	

PLACEMENT RECORD

From Station	To Station	Lane	Width (ft)
298+80	335+41	NB/EB Drive Ln	16
340+03	369+50	NB/EB Drive Ln	16

Certified Tech: Rich Millard — Cert. No. NE352
Certified Tech: Brenda Simon — Cert. No. NE422

Distribution: ____ Dist. Materials ____ Proj. Engineer ____ Contractor

Comments:
mix also placed at various sideroads.

1486.07 tons delivered. 71.7 used as leveling. 1414.37 placed as surface.

4/25/13 ver.10.03

IOWA DOT ASPHALT PAVING DAILY PLANT REPORT

8/31/16 1:30 PM

Active Project No.: STPN-065-8(56)--2J-17
Contract ID: 17-0658-056
Mix Design No.: ABD16-2026R1

8/31/2016

Contractor: Heartland Asphalt
County: Cerro Gordo
RAP Stockpile ID: ABC16-007a (3.73 % AC)

Active Placement: Surface (Travel Lane)
Mix Type: 3M Surface 1/2 L-3 (HMA)
Active Bid Item: 2303-0043503 3M Surf 1/2in L-3 (HMA)

Report No.: 7
Lab Voids Target: 4.0
Design Gyrations: 86

UNCOMPACTED MIXTURE

Hot Box I.D. (Theoretical %AC)						
Date Sampled	8/31/16					
Time						
Station						
Side						
Sample (Tons)						
G_{mb}						
Gmb (DOT)						
G_{mm}						
Gmm (DOT)						
P_a (%)						
P_a (%) (DOT)						
				Avg G_{mb}	Avg G_{mm}	Avg Pa (%)
1 sample(s) required and only 0 sublots/samples entered						

GRADATION (%Passing)

☐ Use DOT

Sieve	Specs	grad #1			Avg	District
1 in.	100	100.0			100.0	
3/4 in.	100	100.0			100.0	
1/2 in.	90-100(97)	97.0			97.0	
3/8 in.	83-97(90)	90.0			90.0	
* #4	65-79(72)	73.0			73.0	
* Dev	± 7.0	1.0			1.0	
*#8	48-58(53)	54.0			54.0	
*Dev	± 5.0	1.0			1.0	
#16		38.0			38.0	
*#30	22-30(26)	24.0			24.0	
* Dev	± 4.0	-2.0			-2.0	
#50		12.0			12.0	
#100		5.7			5.7	
*#200	1.6-5.6(3.6)	3.8			3.8	
*Dev	± 2.0	0.2			0.2	
Gradation Compliance?		Yes			Yes	
DBR	0.6 - 1.4					
% +4 Type 4	80	100.0			100.0	
% +4 Type 3	45	52.6			52.6	
(+4/-4) Type 2	(25/0)	16.2/11.2			16.2/11.2	

COMPACTED JOINT

Core #	Station	Joint ID	G_{mb}
1			
2			
3			

Average Joint G_{mb}
Average Mat G_{mb}
% Mat Density

For Information Only in 2015
Joint Length, ft
Unit Price Adjustment ($/ft)

Joint Price Adjustment =

USE D.O.T. RESULTS

(Enter an "X")

TEST STRIP

(Enter an "X")

FILM THICKNESS (FT) [8.0-15.0]	
FT, µm	
Price Adjustment	

Gyratory VMA [14.5-16.5]	
VMA, %	

QUANTITY FOR PAYMENT

Mix Unit Price ($/ton)	$47.12
Binder Unit Price ($/ton)	$419.35
Tons of Mix on Road	206.09
Tons to Other Bid Item(s)	
Tons of Binder	11.14
Tons of Waste	1.95
Tons of Binder to Date	477.14
Tons of Mix to Date	8,838.68

COMPACTED MAT

Cores have been waived

Core	Date of Placement	Station	CL Reference	W1 Dry (g)	W2 In H20 (g)	W3 Wet (g)	G_{mb}	% of Gmm	P_a (%)	Thickness (in.)
1										
2										
3										
4										
5										
6										
7										
8										

Course Placed: Surface (Travel Lane)
Thickness QI:
Intended Lift Thickness:
Avg. Mat Density:
Date Placed: 08/31/16
Avg. % of Gmb:
Test Date/By:
Avg. % Field Voids:

Q.I. (lower) = _____ = → PWL (lower) =

Q.I. (upper) = _____ = → PWL (upper) =

PWL (total) = + — 100.0 =

Pay Factor =

Tons of Mix for PWL Field Voids Analysis (206.09 deducted)=

Field Voids Price Adjustment =

TEMPERATURE, °F

Time	7:00	9:00	11:00	1:00	3:00	5:00	7:00	Spec	Comply?
Air Temp	55	64	72	75	75	75	70		
Binder Temp	298	299	298					280-330 °F	Yes
Plant Temp	310	305						245-330 °F	Yes
Mat Temp		295						245-330 °F	Yes

☐ Break Down
☐ Rain Out
☐ Re-start after mandatory shutdown

Mix Change Information (when changes are made to start the day, identify them on previous day's report):

	Old Target	New Target	Tons	Agg	Initial %	New %	Agg	Initia	New %

BINDER

	Target	Actual	Spec	Comply?
% Added Binder	4.47	4.49	N/A	
% Total Binder	5.36	5.41	5.06-5.66	Yes
% RAP	25.00	25.77%	≤100%	Yes
% RAS				
% Binder Replacement	16.62%	16.99%	≤ 30%	Yes
PG Grade	58-28		58-28	Yes

Gb: 1.03498 Gsb: 2.689 Pbe (%):

PLACEMENT RECORD

From Station	To Station	Lane	Width (ft)
16+25	17+80	Intersection A	
298+00	299+25	NB/EB Rt Shldr	4

Certified Tech: Rich Millard Cert. No. NE352
Certified Tech: Brenda Simon Cert. No. NE422

Distribution: ____ Dist. Materials ____ Proj. Engineer ____ Contractor

Comments:
B-20 intersection and various other intersections.

206.04 tons delivered, 1.95 tons waste 206.09 tons placed as surface.

Binder Summary Sheet

County:
Contract ID:

Lab Number	Mix Design Number	Course	Project	Source	DOT Technician
17-113	ABD16-2026	Surface	STPN-065-8(56)--2J-17	Flint Hills	Boyle
17-114	ABD16-2026	Surface	STPN-065-8(56)--2J-17	Flint Hills	
17-115	ABD16-2026	Surface	STPN-065-8(56)--2J-17	Flint Hills	
17-116	ABD16-2026	Surface	STPN-065-8(56)--2J-17	Flint Hills	
17-117	ABD16-2026	Surface	STPN-065-8(56)--2J-17	Flint Hills	
17-118	ABD16-2026	Surface	STPN-065-8(56)--2J-17	Flint Hills	Boyle

Cerro Gordo Contractor: Heartland Asphalt

17-0658-056

Date Sampled	PG Binder	G*/Sin Delta	Phase Angle	Disposition	Remarks	Comments
8/24/2016	58-28	1.41	87.1	Comply		
8/25/2016	58-28	0			Waived	
8/26/2016	58-28	0			Waived	
8/29/2016	58-28	0			Waived	
8/30/2016	58-28	0			Waived	
8/31/2016	58-28	1.25	87.3	Comply		no HMA

IOWA DOT

Gradation Summary Sheet

County: Cerro Gordo Contractor: Heartland

Contract ID: 17-0658-056

Percent of Testing =

Lab Number	Mix Design Number	Date Sampled	Project Number	Course	DOT Technician	216 (1½)	DOT (1½)	CPI (1½)	216 (1 1/2 - 1)	DOT (1)	CPI (1)	216 (1 - 3/4)	DOT (3/4)	CPI (3/4)	216 (3/4 - 1/2)	DOT (1/2)	CPI (1/2)	216 (1/2 - 3/8)	DOT (3/8)
30	ABO16-2026 0	8/30/2016	STPN-065-8(56)--2J-17	Surface	Boyle	Y	100 100	100	Y	100	100	Y	100	100	Y	96	96	Y	89

CPI (3/8)	216 (3/8 - #4)	DOT (#4)	CPI (#4)	216 (#4 - #8)	DOT (#8)	CPI (#8)	216 (#8 - #16)	DOT (#16)	CPI (#16)	216 (#16 - #30)	DOT (#30)	CPI (#30)	216 (#30 - #50)	DOT (#50)	CPI (#50)	216 (#50 - #100)	DOT (#100)	CPI (#100)	(#100 - #200)	DOT (#200)	CPI (#200)	216 Pan	Comments
89		72	71	Y	52	52		38	37		24	24		12	12		6.1	6.2	Y	4.2	4.2	Y	

Volumetrics Summary Sheet

County: Cerro Gordo
Contract ID: 17-0658-056

Lab Number	Mix Design Number	Date Sampled	Project Number	Course	Mix Designation	DOT Technician
17-500	ABD16-2026	8/24/2016	STPN-065-8(56)--2J-17	Surface	1/2 3M L - 3	Mennenga
17-501	ABD16-2026	8/25/2016	STPN-065-8(56)--2J-17	Surface	1/2 3M L - 3	Mennenga
17-502	ABD16-2026	8/26/2016	STPN-065-8(56)--2J-17	Surface	1/2 3M L - 3	Boyle
17-503	ABD16-2026	8/29/2016	STPN-065-8(56)--2J-17	Surface	1/2 3M L - 3	Scott/ Todd
17-504	ABD16-2026	8/30/2016	STPN-065-8(56)--2J-17	Surface	1/2 3M L - 3	Todd/Scott

Contractor: Heartland Asphalt

Gmb-Data (±.020)			Gmm-Data (±.010)			Air Voids (Pa)			
DOT	CPI	Diff.	DOT	CPI Gmm	Diff.	DOT	CPI	Diff.	Mix Adjustments/ Comments
2.421	2.420	-0.001	2.513	2.504	-0.009	3.7	3.4	-0.3	
2.407	2.408	0.001	2.509	2.507	-0.002	4.1	3.9	-0.2	
2.409	2.414	0.005	2.506	2.515	0.009	3.9	4.0	0.1	
2.401	2.410	0.009	2.511	2.511	0.000	4.4	4.0	-0.4	
2.406	2.410	0.004	2.500	2.491	-0.009	3.8	3.3	-0.5	

Iowa DOT District 0 Materials Laboratory Results

Project: STPN-065-8(56)--2J-17
County: Cerro Gordo
Contractor: Heartland Asphalt
Contract ID: 17-0658-056

Course: Intermediate
Date Placed: 8/16/2016
Mix Design #: ABD16-2035R2
Mix Type: 1/2 HMA 3M Intermediate None

Core Density

Independent Assurance			QA		
Tested By:	Boyle	NE087	**Tested By:**	Fingalsen	NE452
Date Tested:	8/18/2016		**Date Tested:**	8/17/2016	
Sampled By:			**Sampled By:**		
Date Sampled:	8/17/2016		**Date Sampled:**	8/17/2016	
Intended Thickness:	1.50				

Core #	W1 Dry	W2 Water	W3 Wet	Assurance Field Density	QA Field Density	Difference	IM 216 Comp.	Thickness, in.
1	690.5	400.9	690.9	2.381	2.382	0.001	IN	1.50
2	956.2	548.0	956.4	2.341	2.339	-0.002	IN	2.13
3	638.9	371.5	638.9	2.389	2.388	-0.001	IN	1.25
4	968.8	552.4	968.9	2.326	2.327	0.001	IN	2.00
5	686.8	394.6	687.0	2.349	2.349	0	IN	1.63
6	589.9	337.7	589.9	2.339	2.339	0	IN	1.38
7	697.8	399.9	697.9	2.342	2.341	-0.001	IN	1.50
8	677.7	388.0	677.9	2.338	2.336	-0.002	IN	1.50

STPN-065-8(56)--2J-17 Surface item, gradation validation tab

Date	PREVAIL GRADATION (Select One)	P200					P30					P8					P4				
		DOT	CON	TARGET	DEV.	2303.03-5 (± 2.0)	DOT	CON	TARGET	DEV.	2303.03-5 (± 4.0)	DOT	CON	TARGET	DEV.	2303.03-5 (± 5.0)	DOT	CON	TARGET	DEV.	2303.03-5 (± 7.0)
8/16/2016	CON	0	4.1	3.6	0.5	In	0.0	23.0	26.0	-3.0	In	0.0	50.0	53.0	-3.0	In	0.0	69.0	72.0	-3.0	In
8/24/2016	CON	0	4.2	3.6	0.6	In	0.0	25.0	26.0	-1.0	In	0.0	54.0	53.0	1.0	In	0.0	72.0	72.0	0.0	In
8/25/2016	CON	0	4.4	3.6	0.8	In	0.0	24.0	26.0	-2.0	In	0.0	50.0	53.0	-3.0	In	0.0	69.0	72.0	-3.0	In
8/26/2016	CON	0	4.5	3.6	0.9	In	0.0	24.0	26.0	-2.0	In	0.0	54.0	53.0	1.0	In	0.0	74.0	72.0	2.0	In
8/29/2016	CON	0	4	3.6	0.4	In	0.0	26.0	26.0	0.0	In	0.0	57.0	53.0	4.0	In	0.0	76.0	72.0	4.0	In
8/30/2016	CON	0	4.2	3.6	0.6	In	0.0	24.0	26.0	-2.0	In	0.0	52.0	53.0	-1.0	In	0.0	71.0	72.0	-1.0	In
8/31/2016	CON	0	3.8	3.6	0.2	In	0.0	24.0	26.0	-2.0	In	0.0	54.0	53.0	1.0	In	0.0	73.0	72.0	1.0	In
	CON																				

STPN-065-8(56)--2J-17 Surface item, field void tab

Test Number	Plant Report	Date	ID/Station	Description	Lot	Gmm	Gmb	Field Voids
1	1	8/16/2016	1/5.1 S\W Dr	Test Strip	1	2.506	2.329	7.1
2	1	8/16/2016	2/9.9 S\W Dr	Test Strip	1	2.506	2.362	5.7
3	1	8/16/2016	3/6.3 S\W Dr	Test Strip	1	2.506	2.374	5.3
4	1	8/16/2016	4/2.7 S\W Dr	Test Strip	1	2.506	2.332	6.9
5	1	8/16/2016	5/11.1 S\W D	Test Strip	1	2.506	2.354	6.1
6	1	8/16/2016	6/8.7 S\W Dr	Test Strip	1	2.506	2.361	5.8
7	1	8/16/2016	7/1.5 S\W Dr	Test Strip	1	2.506	2.320	7.4
8	1	8/16/2016	8/2.7 S\W Dr	Test Strip	1	2.506	2.353	6.1
9	2	8/24/2016	1/11.4 S\W F	Surface (Tra	2	2.504	2.356	5.9
10	2	8/24/2016	2/7.9 S\W Pa	Surface (Tra	2	2.504	2.346	6.3
11	2	8/24/2016	3/5.1 S\W Pa	Surface (Tra	2	2.504	2.376	5.1
12	2	8/24/2016	4/5.1 S\W Pa	Surface (Tra	2	2.504	2.340	6.5
13	2	8/24/2016	5/9.6 S\W Pa	Surface (Tra	2	2.504	2.316	7.5
14	2	8/24/2016	6/1.5 S\W Pa	Surface (Tra	2	2.504	2.340	6.5
15	2	8/24/2016	7/11.4 S\W F	Surface (Tra	2	2.504	2.322	7.3
16	2	8/24/2016	8/7.9 S\W Pa	Surface (Tra	2	2.504	2.370	5.4
17	3	8/25/2016	1/6.9 N\E Pa	Surface (Tra	3	2.511	2.365	5.8
18	3	8/25/2016	2/3.3 N\E Pa	Surface (Tra	3	2.511	2.351	6.4
19	3	8/25/2016	3/3.3 N\E Pa	Surface (Tra	3	2.511	2.344	6.7
20	3	8/25/2016	4/7.9 N\E Pa	Surface (Tra	3	2.511	2.344	6.7
21	3	8/25/2016	5/5.1 N\E Pa	Surface (Tra	3	2.511	2.350	6.4
22	3	8/25/2016	6/8.7 N\E Pa	Surface (Tra	3	2.511	2.377	5.3
23	3	8/25/2016	7/9.6 N\E Pa	Surface (Tra	3	2.511	2.320	7.6
24	3	8/25/2016	8/8.7 N\E Pa	Surface (Tra	3	2.511	2.336	7.0
25	4	8/26/2016	1/3.3 S\W Dr	Surface (Tra	4	2.509	2.360	5.9
26	4	8/26/2016	2/4.2 S\W Dr	Surface (Tra	4	2.509	2.343	6.6
27	4	8/26/2016	3/8.7 S\W Dr	Surface (Tra	4	2.509	2.353	6.2
28	4	8/26/2016	4/2.4 S\W Dr	Surface (Tra	4	2.509	2.325	7.3
29	4	8/26/2016	5/5.1 S\W Dr	Surface (Tra	4	2.509	2.243	
30	4	8/26/2016	6/6.9 S\W Dr	Surface (Tra	4	2.509	2.315	7.7
31	4	8/26/2016	7/3.3 S\W Dr	Surface (Tra	4	2.509	2.336	6.9
32	4	8/26/2016	8/4.6 S\W Dr	Surface (Tra	4	2.509	2.329	7.2
33	5	8/29/2016	1/3.1 S\W Dr	Surface (Tra	5	2.513	2.370	5.7
34	5	8/29/2016	2/1.5 S\W Dr	Surface (Tra	5	2.513	2.344	6.7
35	5	8/29/2016	3/8.6 S\W Dr	Surface (Tra	5	2.513	2.341	6.8
36	5	8/29/2016	4/7.7 S\W Dr	Surface (Tra	5	2.513	2.355	6.3
37	5	8/29/2016	5/9.3 N\E Dn	Surface (Tra	5	2.513	2.328	7.4
38	5	8/29/2016	6/1.5 N\E Dn	Surface (Tra	5	2.513	2.331	7.2
39	5	8/29/2016	7/8.6 N\E Dn	Surface (Tra	5	2.513	2.332	7.2
40	5	8/29/2016	8/7.7 N\E Dn	Surface (Tra	5	2.513	2.328	7.4
41	6	8/30/2016	1/3.3 N\E Dn	Surface (Tra	6	2.503	2.339	6.6
42	6	8/30/2016	2/9.6 N\E Dn	Surface (Tra	6	2.503	2.323	7.2
43	6	8/30/2016	3/11.4 N\E D	Surface (Tra	6	2.503	2.356	5.9
44	6	8/30/2016	4/9.6 N\E Dn	Surface (Tra	6	2.503	2.354	6.0
45	6	8/30/2016	5/7.9 N\E Dn	Surface (Tra	6	2.503	2.336	6.7
46	6	8/30/2016	6/2.4 N\E Dn	Surface (Tra	6	2.503	2.343	6.4
47	6	8/30/2016	7/11.4 N\E D	Surface (Tra	6	2.503	2.326	7.1
48	6	8/30/2016	8/5.1 N\E Dn	Surface (Tra	6	2.503	2.371	5.3

STPN-065-8(56)--2J-17 Surface item, lab void tab

Test Number	Date	Plant Report	ID/Station	Description	Lot	Lab Voids (%)	AAD	Moving AAD
1	8/16/2016	1	QMA1/76+88/4L-SB\WB Rt/MP=NA	Test Strip	1	3.5	0.5	
2	8/16/2016	1	QMA2/65+49/4L-SB\WB Rt/MP=NA	Test Strip	1	3.4	0.6	
3	8/24/2016	2	QMA1/79+03/4L-SB\WB Lt/MP=NA	Surface (Travel Lane)	2	3.8	0.2	
4	8/24/2016	2	QMA2/25+00/4L-SB\WB Lt/MP=NA	Surface (Travel Lane)	2	3.4	0.6	0.48
5	8/24/2016	2	QMA3/11+25/4L-SB\WB Lt/MP=NA	Surface (Travel Lane)	2	3.3	0.7	0.53
6	8/25/2016	3	A1/265+50/4L-SB\WB Lt/MP=198.084087121	Surface (Travel Lane)	2	3.8	0.2	0.43
7	8/25/2016	3	A2/314+85/4L-SB\WB Lt/MP=199.018746212	Surface (Travel Lane)	2	3.6	0.4	0.48
8	8/25/2016	3	A3/346+74/4L-SB\WB Lt/MP=199.622723484	Surface (Travel Lane)	2	3.9	0.1	0.35
9	8/26/2016	4	QMA1/81+50/4L-SB\WB Rt/MP=NA	Surface (Travel Lane)	2	3.3	0.7	0.35
10	8/26/2016	4	QMA2/45+00/4L-SB\WB Rt/MP=NA	Surface (Travel Lane)	2	3.8	0.2	0.35
11	8/26/2016	4	QMA3/8+00/4L-SB\WB Rt/MP=NA	Surface (Travel Lane)	2	4.0	0	0.25
12	8/29/2016	5	A1/268+78/4L-SB\WB Rt/MP=198.146208333	Surface (Travel Lane)	2	4.0	0	0.23
13	8/29/2016	5	A2/272+10/4L-NB\EB Rt/MP=198.209087121	Surface (Travel Lane)	2	4.0	0	0.05
14	8/30/2016	6	A1/308+69/4L-NB\EB Rt/MP=198.902079545	Surface (Travel Lane)	2	3.3	0.7	0.18
15	8/30/2016	6	A2/350+16/4L-NB\EB Rt/MP=199.687496212	Surface (Travel Lane)	2	3.9	0.1	0.20
16	8/30/2016	6	QMA3/65+49/4L-NB\EB Rt/MP=NA	Surface (Travel Lane)	2	3.9	0.1	0.23

Iowa Department of Transportation
District 2 Materials
Liquid Report

Contractor: Heartland Asphalt/ Astech (Sub)

County: Cerro Gordo

Project Number: STPN-065-8(56)--2J-17

Contract Number: 17-0658-056

Date Sampled	Senders #	Lab #	Material	G*/SIN (Delta)	Phase Angle	Percent Residue	Compliance	Comments
6/7/2016	14072	17-100	CQS-1HP			64.1	Yes	
6/9/2016	14074	17-101	CQS-1HP			63.9	Yes	
6/12/2016	14274	17-102	CQS-1HP			64.3	Yes	

Distribution: Lab File

Contracting Authority: Mason City RCE

Kelli Arnburg Digitally signed by Kelli Arnburg DN: cn=Kelli Arnburg, o, ou, email=Kelli.arnburg@dot.iowa.gov, c=US Date: 2017.02.16 17:42:29 -06'00'

HMA WORKSHEET

PROJECT No.: STPN-065-8(56)--2J-17

Mix No.:

DATE:

REPORT #	DATE	MIX DESIGN #	*GRADATIONS	MIX TESTS	**MIX TESTS REQUIRED	PWL # (Field Cores)	*F/T	Tons Today	Tons to Date	Contract Bid Item #
1	8/16/2016	ABD16-2026	1	2	2	1	9.5	771.84	771.84	
2	8/24/2016	" " R1	1	3	3	1	9.1	1790.91	2562.75	
3	8/25/2016	" "	1	3	3	1	9	2000.26	4563.01	
4	8/26/2016	" "	1	3	3	1	8.7	1384.24	5947.25	
5	8/29/2016	" "	1	2	3	1	8.6	1271.17	7218.42	
6	8/30/2016	" "	1	3	3	1	9.4	1414.37	8632.79	
7	8/31/2016	" "	0	0	1	0	n/a	206.09	8838.88	
			7	**16**	**18**	**6**	**6**		**8838.9**	

*** One required per lot**

** Estimated Daily production	Number of Sublots
Tons (mG) 101 - 500	1
501 - 1250	2
1251 - 2000	3
2001 - 4500	4
Over 4500	5

FINAL REVIEW POWERPOINT PRESENTATION

FINAL REVIEW

LEVEL 3
CONTRACT
ADMINISTRATION
2019

I.M. 6.110

Final Review, Audit, and Close-out Procedures for Local Agency Projects

Introduction

- I.M. 6.110 was originally published in December 2007 as 3.910
- The IM number was changed and it was rewritten in fall of 2018
- Attachment E has not yet been modified to mirror the filing system used for Local Agencies in DocExpress
  - Check the Office of Local Systems website periodically for updates, there may be a new version of Attachment E coming out soon

Introduction

- IM 6.110 is intended to help Local Public Agencies (LPAs) with the closeout process for Local Agency projects
- The I.M. provides guidance for all types of project costs
  - Construction, Preliminary Engineering, Construction Engineering, Right of Way, Utility Relocations, etc.
- The main focus is on construction project closeouts

Introduction

- Used for projects administered by the Regional Offices: Roadway and Bridge projects
- Used for projects administered by the Office of Systems Planning: Trails, Safe Routes to School, Transportation Enhancements, Traffic Signal Interconnects (ICAAP), etc.

Introduction

- Today we will focus on Local Systems Regional Office administered projects
- If you have a Systems Planning project, read the document for slight differences in the processes

Introduction

- The time to start using the guidance in the I.M. 6.110 is before the project begins
- It provides a "heads up" of what will be required at the end
- If you wait to read it until after the project is complete, it may be too late to obtain some of the required documentation

Introduction

- The I.M. 6.110 is broken down into two main components
  - Written text describing the project closeout process (pages 1 thru 6)
  - Attachments A thru F
    - Attachments A thru D are flowcharts
    - Attachment E is the Pre-Audit Checklist
    - Attachment F is the Final Forms Checklist

Introduction

- Attachments A thru D
  - Flow charts show intended sequence of project closeouts
  - The small numbers below the flow chart boxes provide the approximate time needed to complete that step of the process
  - The numbers shown represent the minimum amount of time needed to complete that step

Introduction

- Attachment A Flow Chart
  - Covers entire Federal-aid project closeout
  - Includes engineering, right of way, utilities, construction, etc.

Introduction

- Attachment A Flow Chart (cont.)
  - If you have engineering or utility costs, be sure to <u>request reimbursement and a final audit as soon as the work is complete</u>
    - A written request for audit needs to be submitted to the Regional Office (see Local Systems I.M.'s 3.310, 3.330, or 3.650)
    - Engineering and Utility audits can hold up the project closeout as a whole

Introduction

- Attachment B Flow Chart (Regional Projects)
- Closeout of construction contracts
  - Highway/Bridge Construction
  - IDOT Specifications

Introduction

- Attachment C Flow Chart (Systems Planning projects)
  - Closeout of construction contracts
  - Non-Highway type projects (enhancement, safe routes to school, trails, etc.)
  - IDOT Specifications

Introduction

- Attachment D Flow Chart (Systems Planning)
  - Closeout of construction contracts
  - Non-Highway type projects
  - Non-DOT specifications

Written Text (Pages 1 thru 6)

- The written text provides detailed information on various steps in the project closeout
- It covers:
  - Completion of Field Work
  - Acceptance of Field Work
  - Pre-Audit Process
  - Audit Process
  - Project Closeout
- Let's discuss each of these steps further

Completion of Field Work

- Field work is considered complete when the Contractor has finished all physical work to be performed on the project
- This includes the final punchlist
- Notify the DOT when the project nears completion

Completion of Field Work

- Schedule a final walkthrough with Contractor, Engineer, DOT, Inspector
- The goal is to schedule the walkthrough within two weeks, dependent upon schedules and weather
  - It's difficult to review a project with snow cover
  - Allows Contractor to complete punchlist before demobilizing

Completion of Field Work

- One final punchlist is prepared by the Engineer and provided to the Contractor
  - Also copy DOT and request concurrence in the punchlist
- After Contractor completes punchlist, Engineer notifies DOT that punchlist is complete and emails pictures of the corrections
  - The LPA may choose to complete punchlist work with local forces

Completion of Field Work

- The DOT sends an email response to Engineer stating that field work is accepted and to submit the Statement of Completion (Form 830435)

Statement of Completion and Final Acceptance of Field Work

- Statement of Completion (Form 830435)
  - Commonly referred to as the "435"
  - City projects require the Engineer's signature
  - County projects require the Engineer's signature and Board of Supervisors signature
    - The Board may pass a resolution allowing the County Engineer to sign on their behalf- see Local Systems I.M. 6.140

Statement of Completion and Final Acceptance of Field Work

- <u>We advise that you DO NOT sign the 435 until after the DOT has given you notification that the field work is accepted</u>
  - The Engineer's signature starts the clock for interest payment

Statement of Completion and Final Acceptance of Field Work

- Submit the 435 ASAP (within five days) after being notified the field work is accepted
  - The Iowa AGC has complained to IDOT management that some LPA's are purposely waiting to sign the 435 to avoid interest payment- DON'T DO THAT!

Statement of Completion and Final Acceptance of Field Work

- Besides physical field acceptance, some paperwork is required from the Contractor before the 435 is signed
  - Survey books (if construction survey is part of the construction contract)
  - Traffic Control Diary
  - Abandoned Water Well Plugging Record
  - Final Profilometer Reports
  - PCC and/or HMA Plant Reports
  - Resolution of Non-Compliance Notices

Statement of Completion and Final Acceptance of Field Work

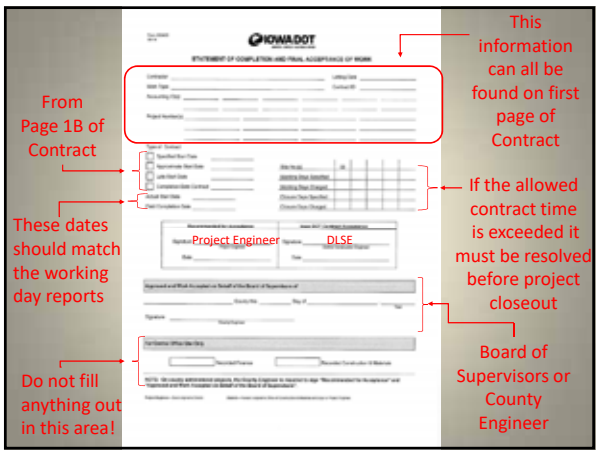
- If you are missing any of these items, notify the Contractor in writing ASAP and make them aware that the field work cannot be accepted until you receive the items
- The DOT signature on the 435 is "automatic" at this point

Statement of Completion and Final Acceptance of Field Work

- The DOT returns a signed photocopy of the 435 to the Engineer
- The Engineer uploads a copy of the signed 435 to DocExpress
- Electronic signatures by both the Project Engineer and the Regional Engineer signify acceptance

Statement of Completion and Final Acceptance of Field Work

- The IDOT Office of Finance will receive notification that the 435 has been accepted and the 30 period for any stakeholders to submit any liens against the Contract
- Let's take a look at the form….



KNOWLEDGE CHECK #1

Pre-Audit Process

- The next step in the process is to prepare for DOT final audits
  - Both a Materials audit (for federal aid project only) and Regional audit will be performed
    - The Materials audit is typically performed as a desk type audit
  - The Regional audit will be performed at the Engineer's Office

Pre-Audit Process

- The DOT audits will not begin until the Project Engineer completes and submits their pre-audit documentation
- For the Materials audit (for Federal aid Projects), the Materials 101 sheets need to be submitted to the District Materials Office
- For the Regional audit, the Pre-Audit Checklist (IM 6.110 Attachment E) needs to be submitted to the Regional Office

Attachment E- Pre-Audit Checklist

- The Pre-Audit Checklist is broken down into four main categories
  - Contract Documents
  - Contract Administration and Inspection Documents
  - Review of Quantities and Payments
  - Project Engineer's Comments
- Let's take an in-depth look at each of these

Contract Documents

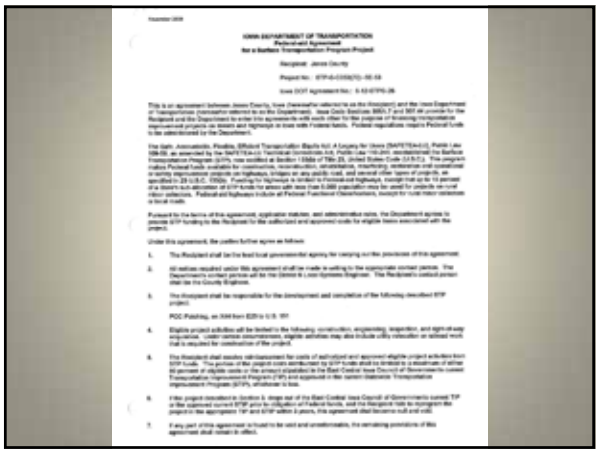
- Funding Agreement (when applicable)
  - Document signed by Agency representative (and DOT for Local projects)
  - LPA's responsibilities and requirements
  - Design criteria to be used
  - Funding limits, location of project, type of project

Contract Documents

- Funding Agreement (cont.)
  - DOT (& LPA) contact person for project
  - Reimbursement ratio
  - DOT withholding (retainage) on reimbursements to LPA
  - DOT billing for material sampling/testing services

Contract Documents

- Funding Agreement
  - Before starting design on a project, be sure to obtain a copy of all funding agreements
  - The agreements may dictate different funding divisions needed for the project and design criteria/clear zones
  - May have multiple agreements for one project (STP, TSF, USTEP, HDP, etc.)



Contract Documents

- Estimating Proposal
  - The proposal is issued at the same time as the project plans prior to the letting
  - The proposal is used by the contractors to determine their bids for the project
  - Plans and proposals must be ordered through Bidx.com, even for DOT and LPA staff
    - https://www.bidx.com/ia/main

Contract Documents

- Estimating Proposal
  - The Proposal includes some important contract information
    - ➢Type of Road System
      - Local, Farm to Market, Primary, Interstate, etc.
      - The type or route can affect the specifications that apply to a project (especially on a Primary Road route)
    - ➢Winter free time (November 15 thru April 1)
    - ➢Special Provisions & other Specification modifications
    - ➢Specifications updates that are immediately needed
    - ➢DBE Goal (Federal Aid only)
    - ➢Davis-Bacon wages (Federal Aid only)

IOWADOT

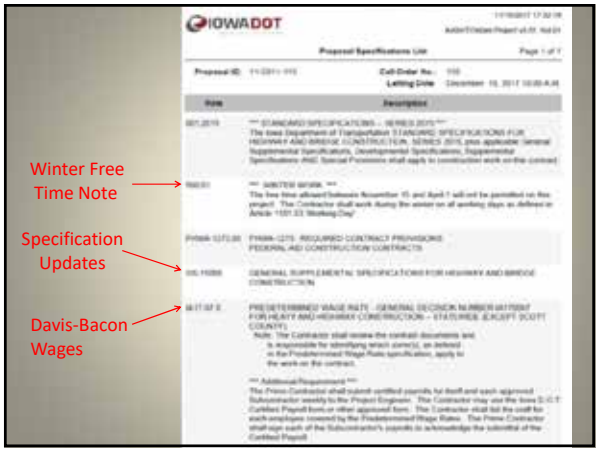
SMARTER | SIMPLER | CUSTOMER DRIVEN

OFFICE OF CONTRACTS
Proposal

Proposal ID: 11-C011-115 **Letting Date:** December 19, 2017 10:00 A.M.
Call Order No.: 155
Proposal Work Type: HMA RESURFACING/COLD IN-PLACE RECYCLING
DBE Goal: 0.0% ← DBE Goal
Contracting Authority: BOARD OF SUPERVISORS OF BUENA VISTA CO.
Proposal Guaranty: $100,000.00

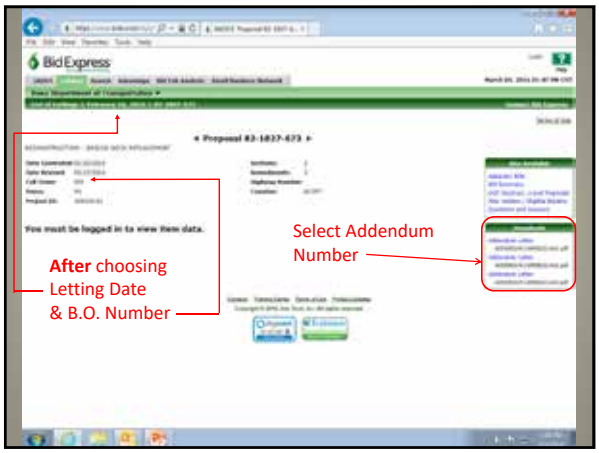
This proposal includes the following project(s):

Project Number: STP-S-C011(115)--05-11 **County:** BUENA VISTA
Project Work Type: HMA RESURFACING/COLD IN-PLACE RECYCLING **Route:** C49
Location: ON C49, FROM 190TH AVE EAST 6 MILES TO THE BUENA VISTA / POC COUNTY LINE, ALONG N LINE S31,32,33,34,35,36 T91N R35W
Road System: FARM TO MARKET ROAD ← Road System



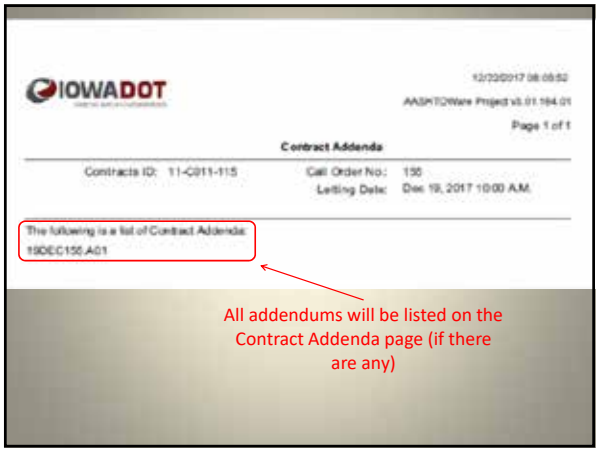
Contract Documents

- Addendums
  - Addendums are issued for changes that occur after the project has been advertised for letting but prior to the letting
  - Addendums change the contract documents
  - A list of all addendums for a project can be found on the first page of the Contract
  - Addendums can be downloaded from Bidx.com



Contract Documents

- Addendums - In the hierarchy of contract documents, addendums are at the top of the order
  1. Addendum
  2. Proposal Form
  3. Special Provision
  4. Plans
  5. Road/Bridge Standards
  6. Developmental Specifications
  7. Supplemental Specifications
  8. General Supplemental Specifications
  9. Standard Specifications
  10. Materials I.M.s
  11. Notice to Bidders



Addendum

Iowa Department of Transportation
Office of Contracts

Date of Letting: December 15, 2015
Date of Addendum: November 25, 2015

B.O.	Proposal ID	Proposal Work Type	County	Project Number	Addendum
108	44-C044-077	PCC PAVEMENT - GRADE & REPLACE	HENRY	STP-S-C044(77)--5E-44	15DEC108.A01

Addendum Number

Make the following changes to the PROPOSAL SCHEDULE OF PRICES:

Change Proposal Line No. 0060:

From: 2301-1013080 STANDARD OR SLIP FORM PORTLAND CEMENT CONCRETE PAVEMENT, CLASS A, CLASS 3 DURABILITY, 8 IN.

To: 2301-1013080 STANDARD OR SLIP FORM PORTLAND CEMENT CONCRETE PAVEMENT, CLASS C, CLASS 3 DURABILITY, 8 IN.

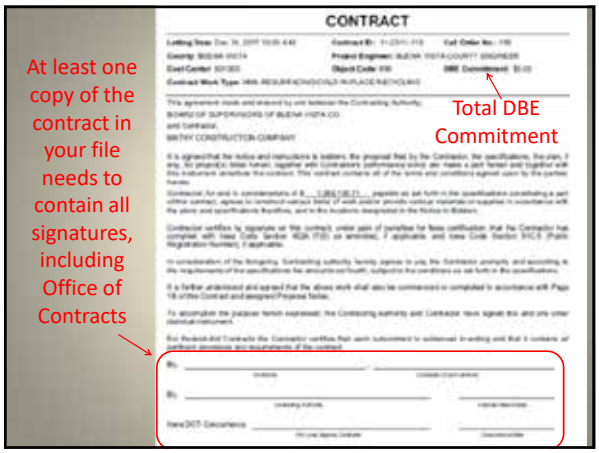
If the above changes are not made, they will be made as shown here.

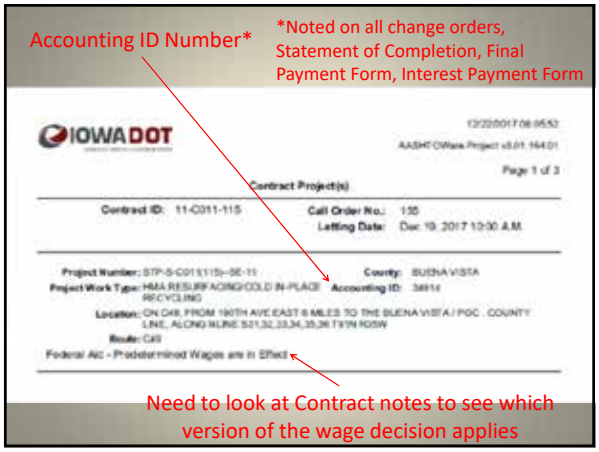
Contract Documents

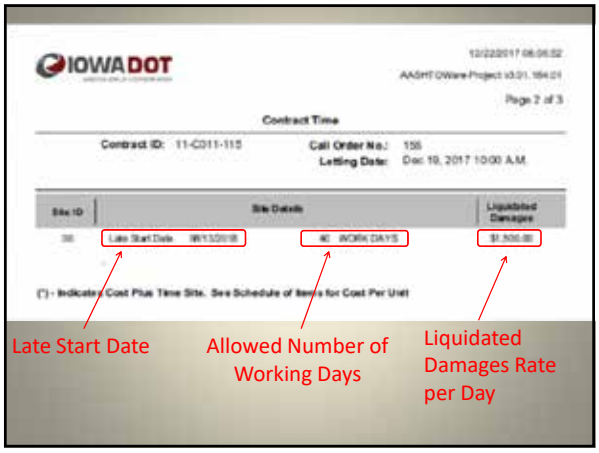
- Contract
  - A Contract will be uploaded into the Contracts Signing Drawer of DocExpress by the IDOT Office of Contracts where it will be signed electronically
  - FHWA-1273 attached to the Contract

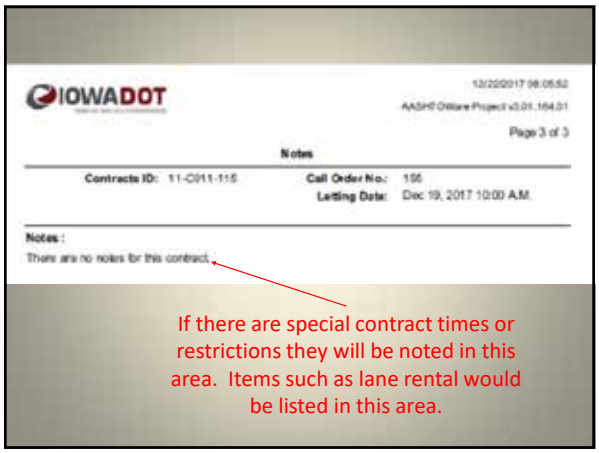
Contract Documents

- Contract
  - The contract provides the following information
    - Bid prices
    - Accounting ID Number
    - Whether or not Davis-Bacon (Federal Aid only) applies to the project and the wage decision number that applies
    - Specifications that apply to the project
    - Total DBE Commitment (Federal Aid only) amount
    - Contract time and Liquidated Damages rate/day
    - Contract Item Line Numbers (needed for change orders)

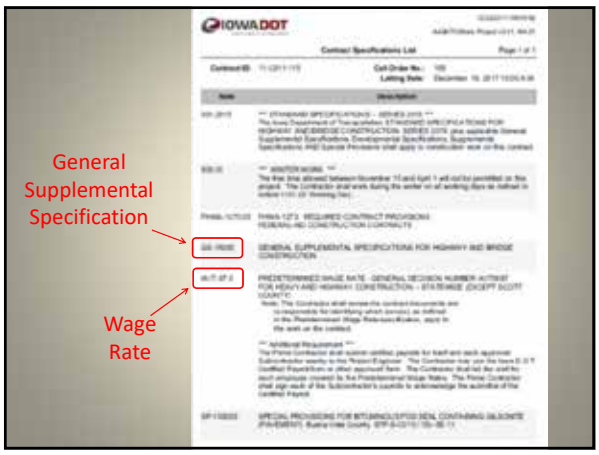

CONTRACT
At least one copy of the contract in your file needs to contain all signatures, including Office of Contracts
Total DBE Commitment

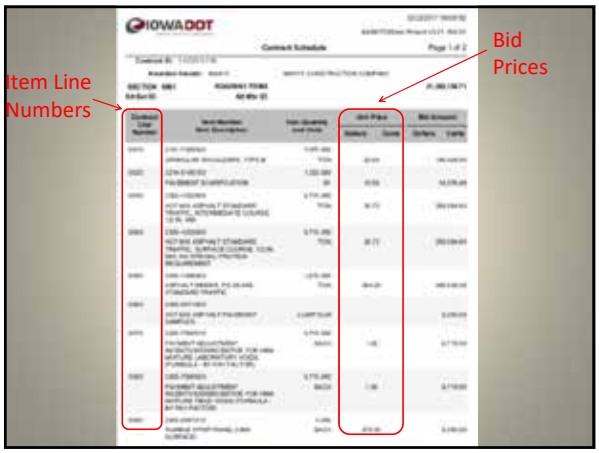

Accounting ID Number*
*Noted on all change orders, Statement of Completion, Final Payment Form, Interest Payment Form
IOWA DOT
Contract Project(s)
Contract ID: 11-C011-115
Call Order No.: 155
Letting Date: Dec 19, 2017 10:00 A.M.
Project Number: STP-S-C011(115)--5E-11
County: BUENA VISTA
Project Work Type: HMA RESURFACING/COLD IN-PLACE RECYCLING
Accounting ID: 38914
Location: ON C49, FROM 190TH AVE EAST 6 MILES TO THE BUENA VISTA / POC COUNTY LINE, ALONG N LINE S31,32,33,34,35,36 T91N R35W
Route: C49
Federal Act - Predetermined Wages are in Effect
Need to look at Contract notes to see which version of the wage decision applies

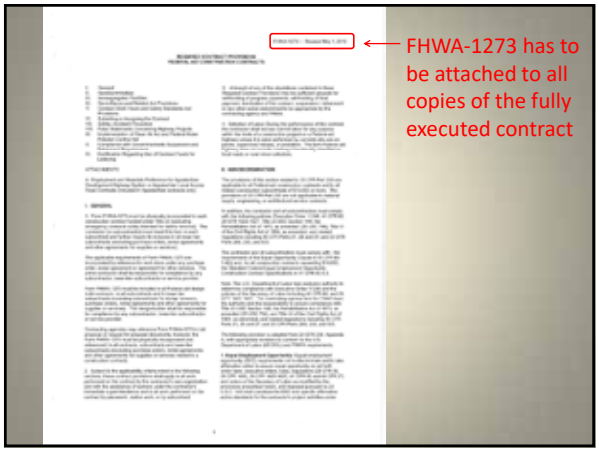

IOWA DOT
Contract Time
Contract ID: 11-C011-115
Call Order No.: 155
Letting Date: Dec 19, 2017 10:00 A.M.
Site ID
Site Details
Liquidated Damages
Late Start Date
WORK DAYS
Late Start Date
Allowed Number of Working Days
Liquidated Damages Rate per Day


IOWADOT
12/22/2017 06:05:52
AASHTOWare Project v3.01.164.01
Page 3 of 3
Notes
Contracts ID: 11-C011-115
Call Order No.: 156
Letting Date: Dec 19, 2017 10:00 A.M.
Notes :
There are no notes for this contract.
If there are special contract times or restrictions they will be noted in this area. Items such as lane rental would be listed in this area.

IOWADOT
12/22/2017 06:05:52
AASHTOWare Project v3.01.164.01
Page 1 of 1
Contract Addenda
Contracts ID: 11-C011-115
Call Order No.: 156
Letting Date: Dec 19, 2017 10:00 A.M.
The following is a list of Contract Addenda:
190EC156.A01
Addenda that apply to project


IOWADOT
General Supplemental Specification
Wage Rate

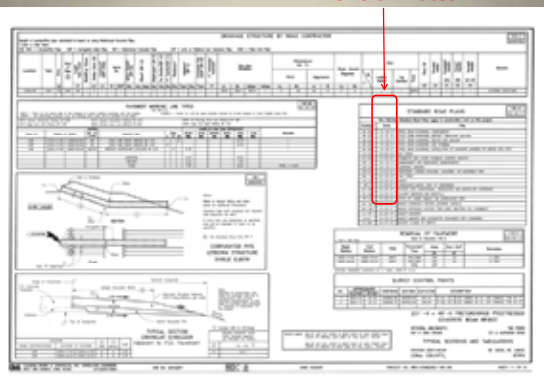




Contract Documents

- Plans
  - Make sure that you have at least one set of the as-let plans (ordered through Bidx.com) in your file
  - Standard Road Plans and Bridge Standards are also considered part of the project plans
    - Can be paper copies or electronic (CD-Rom or note where they can be found on the web- Electronic Reference Library)
    - Make sure that you have the correct revision date of the standards as referenced in your project plans

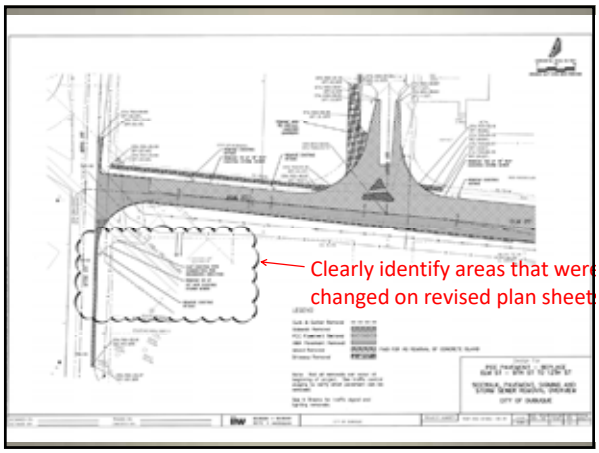
Standard Road Plan Revision Dates



Standard Road Plan Revision Dates

Contract Documents

- Plan Revisions
  - Typically need to be documented by Change Order
    - This assures that all interested parties in the contract have the same plan sheets and also that the Prime Contractor has received the plan revisions
  - Make sure that the revised plan sheets clearly show what areas were revised
    - Highlight, use “balloons”, etc.



Contract Documents

- Specifications & Specification Modifications
  - You need to be able to produce all of the specifications that apply to your project, if asked
    - Paper or electronic (CD or a note where they can be found on the ERL website)
  - The specifications that apply to a project can be found on the front page of the contract

Contract Documents

- Specifications & Specification Modifications
  - Developmental Specifications and Special Provisions are attached to the Estimating Proposal
  - All other specifications (Standard Specifications, General Supplemental Specifications, Supplemental Specifications, and Material I.M.'s) can be found on the DOT website
    - http://www.iowadot.gov/erl/index.html

Contract Documents

- Specifications and Specification Modifications
  - All Iowa DOT standard specifications are set up in the same manner
    - XXXX.01 Description of work to be performed
    - XXXX.02 Materials
    - XXXX.03 Construction
    - XXXX.04 Method of Measurement
    - XXXX.05 Basis of Payment

Contract Documents

- Specifications and Specification Modifications
  - The contract item's Item Number defines where to look in the specifications (Article No.)
    - The only exception is generic item numbers (2599-). The specifications for those items will typically be in the project plans or in a special provision

The first four digits of the Item Number define what article to look under in the Specifications

Contract Line Number	Item Number Item Description
0010	2121 7425020 GRANULAR SHOULDERS, TYPE B
0020	2214 5145150 PAVEMENT SCARIFICATION
0030	2303 1032500 HOT MIX ASPHALT STANDARD TRAFFIC, INTERMEDIATE COURSE, 1/2 IN. MIX
0040	2303 1033500 HOT MIX ASPHALT STANDARD TRAFFIC, SURFACE COURSE, 1/2 IN. MIX, NO SPECIAL FRICTION REQUIREMENT
0050	2303 1258283 ASPHALT BINDER, PG 58-28S, STANDARD TRAFFIC
0060	2303 6911000 HOT MIX ASPHALT PAVEMENT SAMPLES

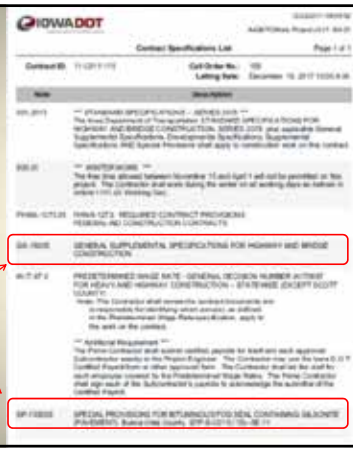
Contract Documents

- Specifications and Specification Modifications
  - Make sure that you are using the correct revision date of the specifications
    - Specifications are updated every April and October
    - The Contractor bid the work based upon the specifications that were in place at the time of the letting
    - You will be audited based upon the specifications that apply to your project

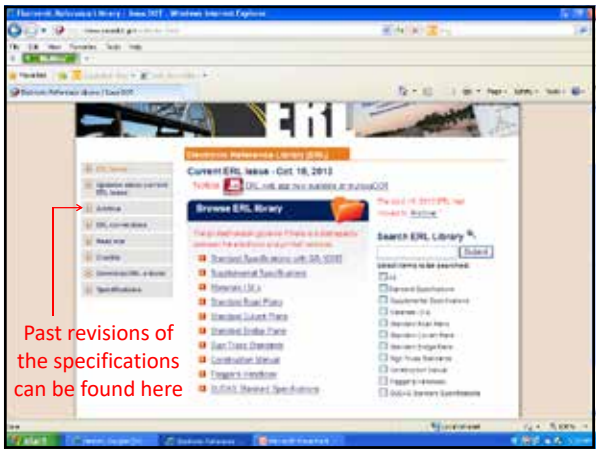
The letting date determines the General Supplemental Specifications (GS) that applies to the project- based upon April or October revisions

CONTRACT

Specifications that apply to this project


IOWA DOT

Contract Specifications List



Let's take a break!

Contract Administration and Inspection Documents

- Detail Estimate and Final Highway Funding Sources
  - Published by Office of Contracts after a contract has been awarded
  - Populated into DocExpress by the Office of Local Systems
  - Identifies the various funding sources (Federal, State, Farm to Market, Local) that will be utilized on the project

Contract Administration and Inspection Documents

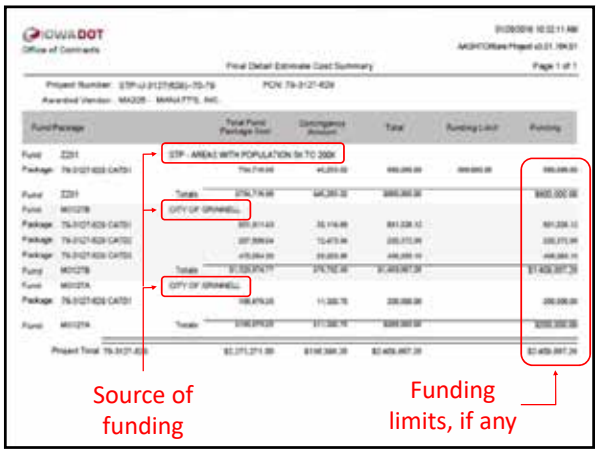
- Detail Estimate and Final Highway Funding Sources
  - ➢Defines the order (priority) for which the funding will be spent
  - ➢Defines the funding limits (if any) of the various funding sources
  - ➢Identifies the cost share percentage of the funding
  - ➢Identifies any Federal-aid non-participating contract items

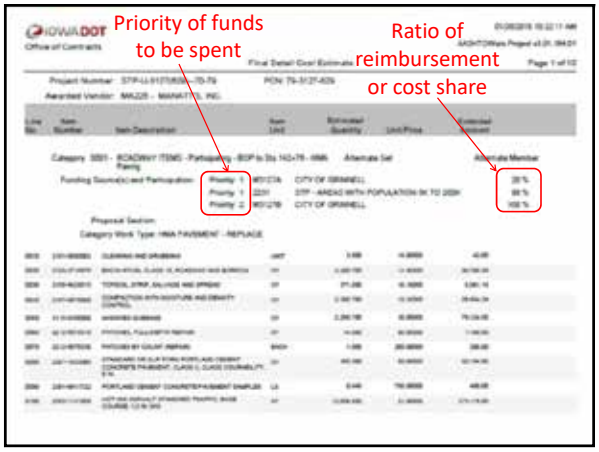
IOWADOT

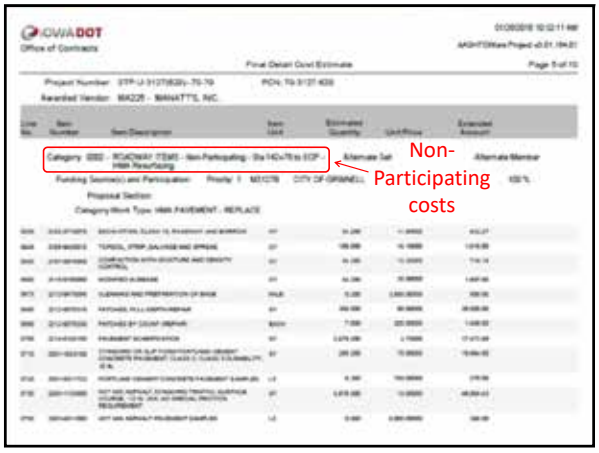
OFFICE OF CONTRACTS
Final Highway Funding Sources
Final Detail Cost Estimate - Project

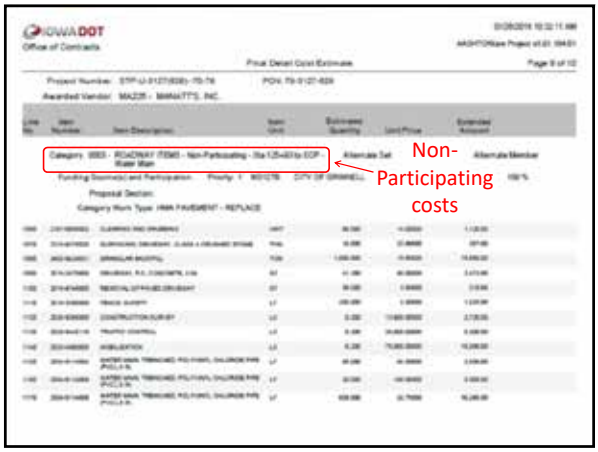
Project Number: STP-U-3127(629)--70-78 Letting Date: 01/17/2018
Route: EAST STREET Length (miles): 1 County: POWESHIEK
Project Work Type: HMA PAVEMENT - REPLACE Accounting ID: 34667
Project Location: In the city of Grinnell On East Street from 1st Ave south .51 Miles to Garfield Ave
Awarded Vendor: 8A225 - MANATT'S, INC.

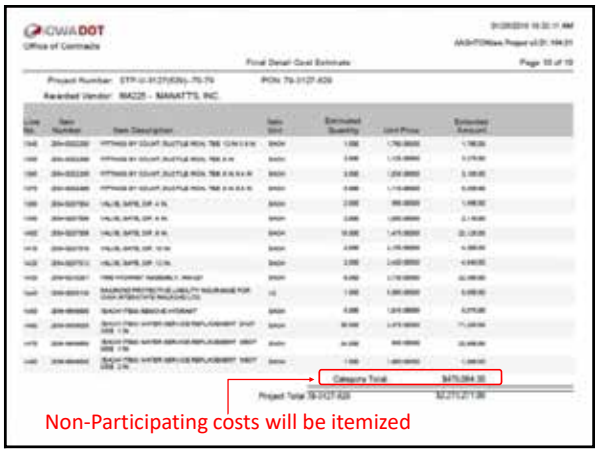
This cover page identifies our Contract


Source of funding
Funding limits, if any


Priority of funds to be spent
Ratio of reimbursement or cost share


Non-Participating costs





Contract Administration and Inspection Documents

- Pre-construction Meeting Minutes
  - You need to have a copy of the Pre-con minutes in your file, as well as a copy of the sign-in sheet showing who attended the meeting
  - It is highly recommended that you follow the meeting agenda shown in Section 2.10 of the Construction Manual Chapter 2 or Local Agency IM 6.000

Contract Administration and Inspection Documents

- Inspector's Daily Diary
  - Just about any format (DOT form, pad of paper, electronic, orange field books, etc.) can be used to document the diary
  - However, the diary entries need to contain all of the information that the DOT diary form contains
    - Date, Weather conditions, Controlling Operation of Work, Working Days Charged, Initials of Author, High/Low Temperatures, Summary of daily activities on the project

If using loose leaf forms, make sure all entries are signed/initialed by the author

Contract Administration and Inspection Documents

- Property Used By Contractor
  - If the contractor uses any property other than the as-let right of way or easements, they need to provide you with a written agreement that they have with the property owner
  - Typically happens for storing equipment, waste sites of excess materials, contractor furnished borrow, etc.

CON-STRUCT, INC.
305 S. Dayton Avenue
Ames, IA 50010
(515)232-6445 phone
(515)232-6445 fax

June 10, 2009

Kum & Go
313 Story Street
Boone, IA 50036

Mr. Hamad Alsaeil:

This letter is in regards to the reconstruction project for the intersection of Story Street and Mamie Eisenhower Avenue.

We are the prime contractor in charge of construction and along with 12 other subcontractors it is our intention to complete the project on time and with as little disruption as possible.

The reason I am contacting you is to ask your permission to use the vacant lot to the North of Kum N Go for equipment and material storage. The project is scheduled to start on June 15 and be finished by late August. We would intend to use as little space as necessary and would accommodate all of your store deliveries. At the end of the project, we would return the lot to its current condition.

If you have any questions please do not hesitate to contact me.

I appreciate your consideration in this matter.

Respectfully,

Doug Wade
Vice President
515.203.4859

Kum and Go 2217
315 Cherry St.

Contract Administration and Inspection Documents

- Traffic Control Documentation
  - If your contract has an item for Traffic Control, the following two items need to be in your project file
    - A copy of the **Contractor's Daily Traffic Control Diary**
    - Proof that the **Contractor has a trained Traffic Control Technician (TCT) on their staff** (ATSSA, IMSA, MN DOT Traffic Control Supervisor, TX Engineering Extension Service Work Zone Traffic Control trained)

Contract Administration and Inspection Documents

- Traffic Control Documentation
  - As per Article 2528.01, C, 1., Employees who install and remove temporary traffic control signs and devices **shall be supervised** by a trained Traffic Control Technician

Contract Administration and Inspection Documents

- Traffic Control Documentation – Project Inspector
  - Even though the Contractor maintains a daily traffic control diary, **the Inspector also needs to monitor the traffic control for compliance and document each time the traffic control is checked for compliance**
    - Use **Form E126** for this purpose
    - Do not record your traffic control reviews in your daily diary!!!

Traffic Control Video

Contract Administration and Inspection Documents

- A few things to note about the **Contractor's traffic control diary**
  - The diary is required to be kept every day that traffic control is set up on the project
    - ★ Includes weekends, holidays, days the contractor does not work due to weather, etc.

Contract Administration and Inspection Documents

- A few things to note about the **Contractor's traffic control diary** (continued)
  - The dairy is required to be in the format provided by the Contracting Authority (the Iowa DOT form)
    - See Construction Manual Chapter 5 Appendix 5-11
    - If the Contractor uses a different form that the one provided by the Iowa DOT it must be approved by the project engineer before work starts

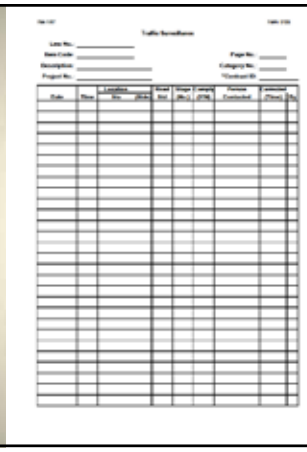
Contract Administration and Inspection Documents

- A few things to note about the **Contractor's traffic control diary** (continued)
  - The diary can be requested at any time by the Project Engineer
    - It is recommended that the diary be checked early in the project
    - It is recommended that the diary be submitted at a set interval throughout the project (don't wait until the end)

The Contractor's traffic control diary is required to include all of the information contained on the Iowa DOT form

The most recent version includes documentation of the Pilot Car item.

Form E126 Inspector's monitoring of traffic control compliance



Contract Administration and Inspection Documents

- A few things to note about the Trained Traffic Control Technician
  - Must be an employee of the Prime Contractor
  - Does not have to be the person completing traffic control diary entries unless…
    - When traffic control is installed or removed, the Traffic Control Technician who supervised the installation or removal of temporary traffic control devices and signs **shall document in the daily traffic control diary** what was installed or removed.

Contract Administration and Inspection Documents

- A few things to note about the Trained Traffic Control Technician (continued)
  - Needs to be verified prior to the start of construction
    - Should be discussed at preconstruction meeting
  - Proof of the traffic control technician can be documented in your file in one of two ways
    - A copy of their training certificate
    - A printout from the Iowa DOT Construction & Materials Website

Actual Training Certificate

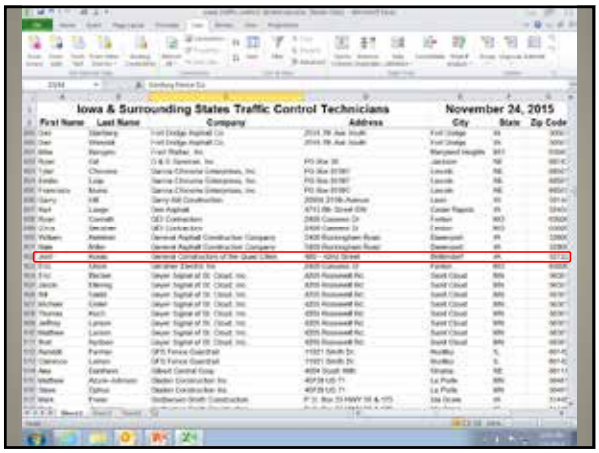
The American Traffic Safety Services Association

This is to certify that

Josh Kovac

Traffic Control Technician

ATSSA


Iowa & Surrounding States Traffic Control Technicians
November 24, 2015
First Name
Last Name
Company
Address
City
State
Zip Code

Knowledge Check #3

Contract Administration and Inspection Documents

- Non-Compliance Notice
  - If non-complying work was incorporated into the project, it is required that a Non-Compliance Notice (Form 830245) be issued to the Contractor
  - May also be necessary for the Contractor's operations (ex. traffic control, backfill practices, etc.)

Contract Administration and Inspection Documents

- Non-Compliance Notice (continued)
  - Prior to requesting Regional audits, all Non-compliance Notices must be resolved
    - Price adjustment by change order
    - Work is accepted as reasonably close conformance
    - Other resolution agreed to between the Contractor, Contracting Authority, Regional Office

Contract Administration and Inspection Documents

- Issuing a Non-Compliance Notice
  - It is NOT A BIG DEAL to issue a Non-Compliance Notice
  - It simply places the Contractor on notice that non-complying materials or practices have occurred and need to be corrected and/or resolved

Contract Administration and Inspection Documents

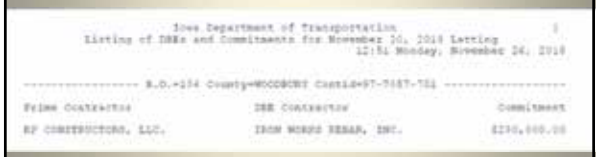
- Issuing a Non-Compliance Notice
  - Without notifying the Contractor in writing of a non-complying issue, it can be difficult to price adjust or to resolve later
  - If the Contractor refuses to sign the notice, it still carries just as much weight as if they sign the notice
    - Document who you issued it to and the date/time

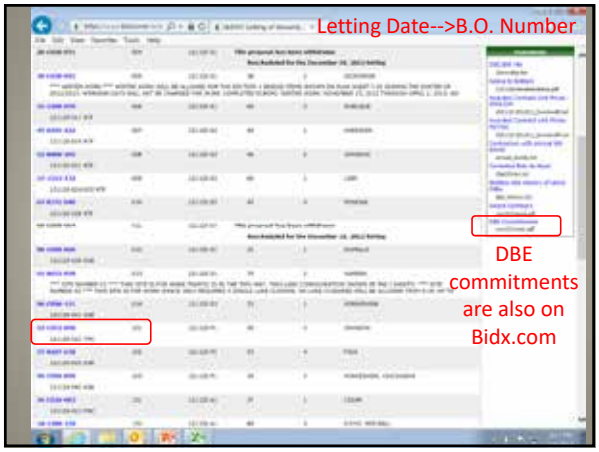
Form 830245 Non-Compliance Notice

Contract Administration and Inspection Documents

- DBE Commitment Report
  - If your contract includes a DBE commitment, the Office of Contracts will mail you a DBE Commitment Report
    - Sent out after a contract is fully awarded
  - The report will include all DBE contractors to which commitments were made and the amounts of the commitments
  - This document will help inspection staff monitor DBE work

This document is generated in the Office of Employee Services – Civil Rights Section and is uploaded into DocExpress by the Office of Local Systems





Contract Administration and Inspection Documents

- Certification of DBE Accomplishment
  - This will be covered later as part of the Final Forms Checklist
  - Form 102116

Checkboxes were added to the bottom of the most recent version of the form.

Contract Administration and Inspection Documents

- Subcontract Request and Approval
  - Any contractor, other than the prime contractor, that performs work on the project is required to be authorized as a subcontractor
  - This includes flagging companies

Contract Administration and Inspection Documents

- Subcontract Request and Approval (cont.)
  - The subcontractor requests are submitted by the Prime Contractor directly to the Office of Contracts at the time of contract award
    - Submitted using SiteXchange software using a .con file- SiteXchange is available for download at http://www.iowadot.gov/contracts/bidx_utilityfiles.htm

A pdf of the Subcontractor Request forms should be uploaded by the Prime Contractor into DocExpress

Contract Administration and Inspection Documents

- Subcontract Request and Approval
  - The Project Engineer will know what subcontractors have been authorized by the Office of Contracts by receiving a copy of the EEO/AA poster for the EEO Board.
  - The Project Engineer should verify that the Subcontract Requests have been uploaded into DocExpress by the Prime Contractor (Pre-Con item).

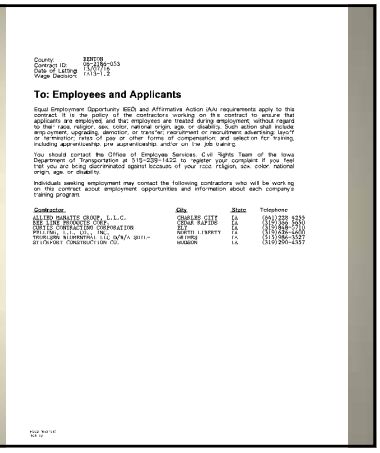
Contract Administration and Inspection Documents

- Subcontract Request and Approval (cont.)
  - If there are DBE's with partial items, these items should be identified at the Pre-Con to verify what portion of those items will be done by the DBE.
  - If a subcontractor is changed, added, or deleted after the initial subcontractors have been approved, but before the project is awarded, if it is for an existing item the Prime Contractor is to submit a revised .con file to the Project Engineer

Contract Administration and Inspection Documents

- Subcontract Request and Approval (cont.)
  - The project engineer reviews the revised subcontractor request and if he/she agrees, forwards the .con file to the Office of Contracts at dot.contracts@dot.iowa.gov
  - After the revised subcontractor is authorized by the Office of Contracts, a new EEO/AA poster is mailed to the Project Engineer by the Office of Contracts

Contractor and Subcontractor list sent with the Contract to the Contractor to be displayed on the Poster Board.



County: BENTON
Contract ID: FE-020-6053
Date of Letting: 11-15-12
Wage Decision: IA15-1.2

To: Employees and Applicants

Equal Employment Opportunity (EEO) and Affirmative Action (AA) requirements apply to this contract. It is the policy of the contractors working on this contract to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age, or disability. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre apprenticeship, and/or on the job training.

You should contact the Office of Employee Services, Civil Rights Team of the Iowa Department of Transportation at (515) 239-1422 if to register your complaint if you feel that you are being discriminated against because of your race, religion, sex, color, national origin, age, or disability.

Individuals seeking employment may contact the following contractors who will be working on this contract about employment opportunities and information about each company's training program.

Contractor	City	State	Telephone
ALLIED HABITAT GROUP, L.L.C.	CHARLES CITY	IA	(641)228-4255
BAR TIME BUSINESS INC.	CEDAR RAPIDS	IA	(319)393-5831
CURTIS CONTRACTING CORPORATION	ELK	IA	(515)858-2310
DAVID LEE CONSTRUCTION	FOURTH LIBERTY	IA	(319)895-8222
FRIEDLANDER MECHANICAL INC. D/B/A SMITH-PARKER CONSTRUCTION CO.	NEVADA	IA	(515)382-4027
	MARION	IA	(319)200-2157

FOUR SEASONS
NOV 12

Contract Administration and Inspection Documents

- Subcontract Request and Approval (cont.)
  - The only exception to using the SiteXchange software is when new items are added to the contract by Change Order
    - SiteXchange cannot recognize any items that are not part of the awarded contract
    - Form 830231 is mailed/emailed to the Project Engineer
    - The Project Engineer reviews the form and if he/she agrees, signs the bottom of the form and forwards a copy to the Office of Contracts

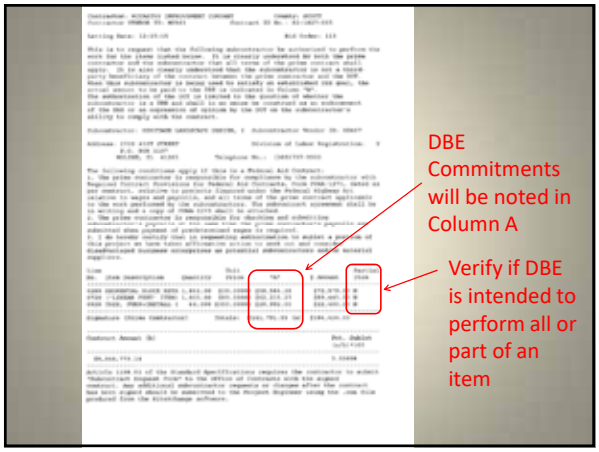
Form 830231
Subcontract Request

Contract Administration and Inspection Documents

- Subcontract Request and Approval
  - The subcontractor requests also provide valuable information for monitoring DBE commitments
    - DBE Commercially Useful Function
  - DBE subcontracts will note which contract items the DBE is committed to perform and if it is the entire item or part of the item

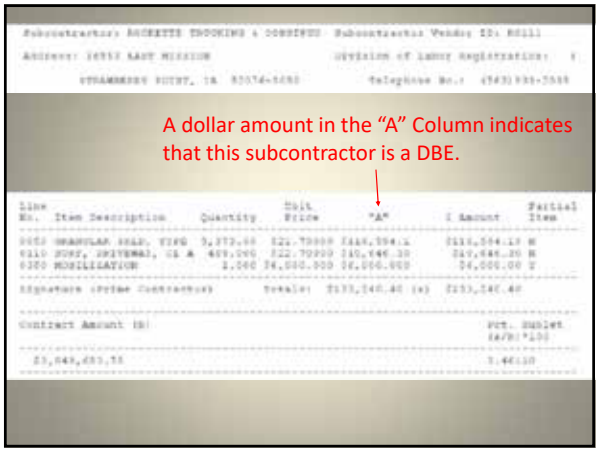
Contract Administration and Inspection Documents

- Subcontract Request and Approval (cont.)
  - DBE commitments will be shown in Column A on the subcontract request
  - It can also help identify if DBE trucking will be utilized
    - Contract the Regional to obtain a copy of the DBE truck roster

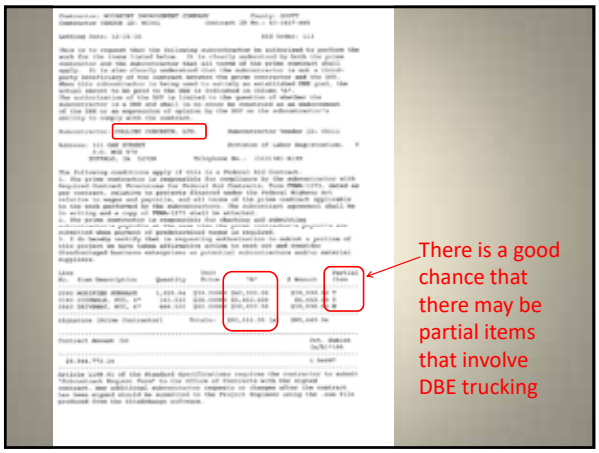


DBE Commitments will be noted in Column A

Verify if DBE is intended to perform all or part of an item



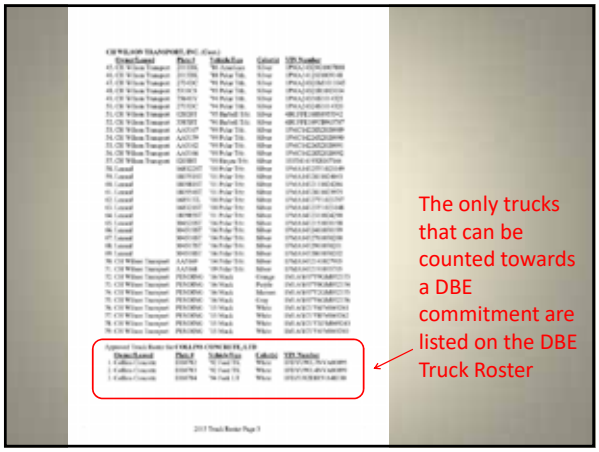
A dollar amount in the "A" Column indicates that this subcontractor is a DBE.



There is a good chance that there may be partial items that involve DBE trucking

Contract Administration and Inspection Documents

- DBE Commercially Useful Function
  - Required any time a DBE performs work on a Federal-aid project
    - Do not need to have a DBE Commitment
  - DBE Accomplishment cannot be claimed on a project without also verifying the DBE's commercially useful function



The only trucks that can be counted towards a DBE commitment are listed on the DBE Truck Roster

Contract Administration and Inspection Documents

- DBE Commercially Useful Function (cont.)
  - Use Form 517014 to document a DBE's CUF
  - A separate form needs to be filled out for each DBE
  - Also required when the Prime Contractor is a DBE

Form 517014
DBE Commercially Useful Function Checklist

Knowledge Check #4

Contract Administration and Inspection Documents

- Storm Water Permit
  - If the project disturbs one acre or more of land, a NPDES General Permit #2 is required
  - A Pollution Prevention Plan also needs to be included in the project plans

Contract Administration and Inspection Documents

- Storm Water Permit
  - The Contractor must designate a Water Pollution Control Manager (WPCM) from the Contractor prior to initiating any construction activities.
  - Maintain an individual (with a minimum ESC Basics training) that will be onsite daily during construction activities.
  - For the audit…

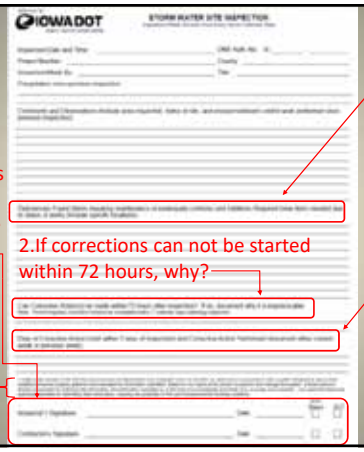
SWPPP items required for Audit

1. Required newspaper notice
2. Iowa DNR's Notice to Proceed
3. Storm water permit
4. Storm Water Discharge Associated with Industrial Activity for Construction Activities signed by the Prime
5. Co-Permittee Certification Statement signed by all subcontractors who perform work that could potentially result in erosion or who perform erosion control work.

SWPPP items required for Audit

6. Storm Water Site Inspections
   a. Performed jointly with Contractor every seven calendar days (during winter shutdown inspections must continue, but the Contractor is not required to participate if approved by the project engineer)
   b. BOTH the Contractor and Contracting Authority representatives must have at least ESC Basics training (qualified)
   c. Highly recommended to use DOT Form #830214
   d. Starts with first disturbance of land, stops when project reaches 70% permanent vegetative growth
7. Iowa DNR's Notice of Discontinuation

1.Site reviews are to be performed jointly when the Contractor is performing work on the project.

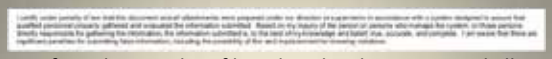


2.If corrections can not be started within 72 hours, why?

3.If there are deficiencies noted, the document must show that corrections were started within three days of the inspection.

4.The form used must include this certification statement

Certification Statement



I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Contract Administration and Inspection Documents

- Iowa DNR Notification of Completion of Construction
  - Required if the project had a DNR flood plain permit

Contract Administration and Inspection Documents

- For projects with a storm water permit:
  - Contractor must designate a Water Pollution Control Manager (WPCM) from the Contractor prior to initiating any construction activities.
  - Contractor must identify the individual (minimum ESC Basic trained) that will be onsite daily during construction activities.
  - Contractor must submit the name of the ECT on their staff and all ESC trained personnel
    - ECT training is good for five years
    - ESC Basics training is good for two years

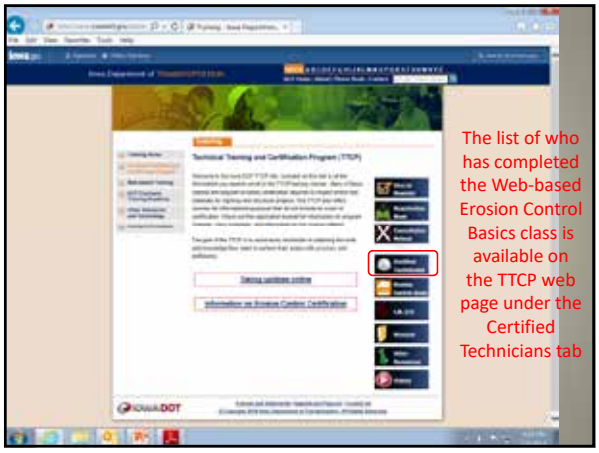
Contract Administration and Inspection Documents

- For projects with a storm water permit (continued):
  - Verify that the staff's training is still current on IDOT Training website
    - http://www.iowadot.gov/training/ttcp.html
    - If you do not find that person on the list, before issuing a Non-Compliance Notice contact the Iowa DOT to make sure that the list is current

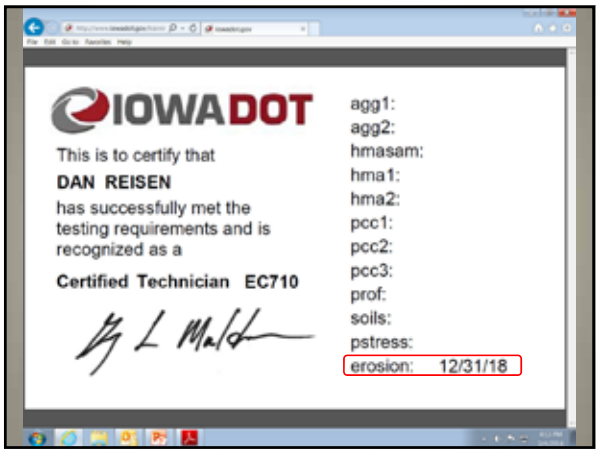
The web based course for Erosion Control Basics is available on the TTCP Web page under the Erosion Control Basics tab on the right hand side of the page.

EROSION CONTROL BASIC COURSE

Last Name	First Name	COMPANY	EXPIRATION DATE
Adcock	Mary	DSI Engineering	6/15/2017
Ackerman	Dennis	Iowa DOT	9/14/2016
Ahrens	Jesse	Iowa DOT	2/24/2016
Albers	Tyler	Tindl Nursery	2/22/2016
Alexander	Kevin	R & L Construction	7/21/2016
Allen	Valerie	Sisu Contracting	4/4/2016
Allner	Dana	R & L Construction	7/22/2016
Ambrosy	Merle	Dubuque County	2/27/2016
Amundson	Maine	DSI Engineering	11/10/2017
Anderson	Mike	Cedar County	2/22/2017
Anderson	Jay	Crisafi Ready Mix	6/26/2016
Anderson	John	Iowa Bridge and Culvert	3/7/2016
Anderson	Mike	Absolute Concrete	1/14/2016
Arnold	Jacob	Mid American Energy	12/16/2017
Arp	Chad	City of Cedar Rapids	1/28/2016
Awtry	Grayson	United Contractors	2/3/2017
Bachman	Frank	Tyb Construction	1/30/2016
Bahe	Jeremy	Allied Metalts Group	3/14/2016
Bahrenfuss	Eli	Tindl Nursery	1/31/2016
Bandridge	Roger	Rolly Rose	2/5/2016
Baker	Jason	Maryland Asphalt	2/22/2016
Ball	Jim	Hopkins Construction	10/2/2017
Barkalow	Michael	City of Marion	3/8/2017
Bartholomew	Andy	Wiemer Engineering	2/11/2016
Barquin	Vernon	Iowa DOT	8/14/2017



The list of who has completed the Web-based Erosion Control Basics class is available on the TTCP web page under the Certified Technicians tab



Contract Administration and Inspection Documents

- Erosion Control Implementation Plan (ECIP)
  - For any project that has any type of excavation being performed, the Contractor is required to submit an initial Erosion Control Implementation Plan for accomplishment of temporary & permanent erosion and sediment control **prior to the Preconstruction Conference** (See Specification 2602.03, A.)

Contract Administration and Inspection Documents

- Erosion Control Implementation Plan (ECIP)
  - The Project Engineer needs to accept this plan **before excavation operations commence** on the project
  - It is the Contractor's proposed sequence and methods to accomplish erosion control on the project

Contract Administration and Inspection Documents

- Erosion Control Implementation Plan (ECIP)
  - For projects with a storm water permit:
    - ECIP must be submitted by an Erosion Control Technician (ECT)
  - Per Specification 2602.03, L., the Contractor is to be paid when they mobilize to perform erosion control work

Contract Administration and Inspection Documents

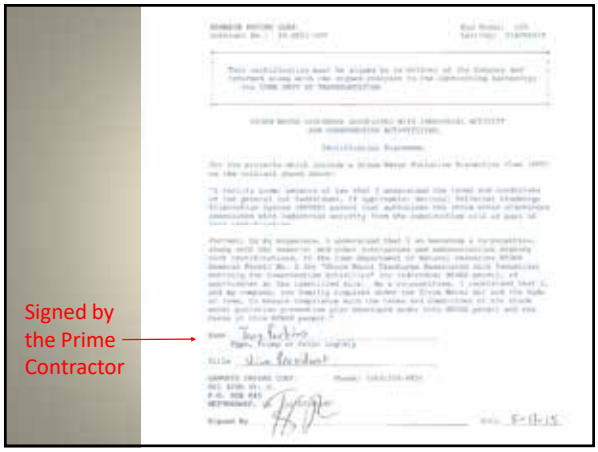
- Erosion Control Implementation Plan (ECIP)
  - Applies for any project with a Storm Water Pollution Prevention Plan (SWPPP)
  - Mobilizations are to be paid when the contractor mobilizes to perform any work under Specifications 2601 and 2602 (excluding watering, mowing, debris pickup, monitoring well, corrective work, or removal items)

Contract Administration and Inspection Documents

- Erosion Control Implementation Plan (ECIP)
  - $500/Each for "standard" mobilizations
  - $1,000/Each for "emergency" mobilizations
  - Standard mobilizations must occur within 72 hours or $750/day penalty after 72 hours
    - To comply with 3 day timeframe allowed in PPP for beginning corrections to erosion control deficiencies
  - Emergency mobilizations must occur within 8 hours or $1,500/day penalty after 8 hours

Contract Administration and Inspection Documents

- Erosion Control Implementation Plan (ECIP)
  - Contractor's Certification Statement of Storm Water Discharge
    - Required for any project with a storm water permit
    - Provided to Contractor by the Office of Contracts as part of the contract award packet
    - Must be returned by the Contractor as part of their contract paperwork before the contract is fully executed



Signed by the Prime Contractor

Contract Administration and Inspection Documents

- Erosion Control Implementation Plan (ECIP)
  - Signed affidavits from affected subcontractors identifying them as co-permittees
    - Prime Contractor is to collect and submit co-permittee certifications from all subcontractors <u>that will disturb soils</u>
    - Need to be submitted **before** the subcontractors disturb soils on the project
    - Subcontractors certify they are aware of the storm water permit and PPP and will comply with its terms
    - Form is found in Construction Manual Chapter 10 Appendix 10-2

Signed by all Subcontractors performing work that has the potential to result in erosion or performing erosion control work.

Knowledge Check #5

Contract Administration and Inspection Documents

- Weekly Report of Working Days
  - Required if the contract time is based upon working days (look at second page of contract)
  - Use Form 830238
  - If the contract is set up with closure days, use Form 830241 instead
  - If the project does not track work days, but instead specifies a Completion Date, work days will need to be tracked if they do not finish by the Completion Date.

Contract Administration and Inspection Documents

- Weekly Report of Working Days (cont.)
  - If using electronic documentation (Fieldmanager/Appia), the program will generate the Weekly Working Day Reports
  - Submit a copy of each working day report to DocExpress so they can be reviewed by the Contractor and the Regional Office
  - The Contractor has 10 calendar days to dispute days charged or they stand as charged

Contract Administration and Inspection Documents

- Weekly Report of Working Days (cont.)
  - Reports start on the Late Start Date or when the Contractor begins work, whichever occurs first
  - All Mondays thru Fridays need to show a controlling operation of work, document if the contractor worked, and show how many working days were charged (0.0, 0.5, 1.0)

Contract Administration and Inspection Documents

- Weekly Report of Working Days (cont.)
  - If any Monday thru Friday is not charged a whole (1.0) working day, a delay reason must be provided in the comments (Rain, Too Wet, Too Cold, Extra Work, etc.)
  - Saturdays are a chargeable working day if the work being performed requires inspection
    - Charge actual time used
  - Reports need to be filled out until <u>all</u> contract work is complete, <u>including punchlist work</u>

IOWA DOT

12/22/2017 08:06:52
AASHTOWare Project v3.01.164.01
Page 2 of 3

Contract Time

Contract ID: 11-C011-115 Call Order No.: 155
Letting Date: Dec 19, 2017 10:00 A.M.

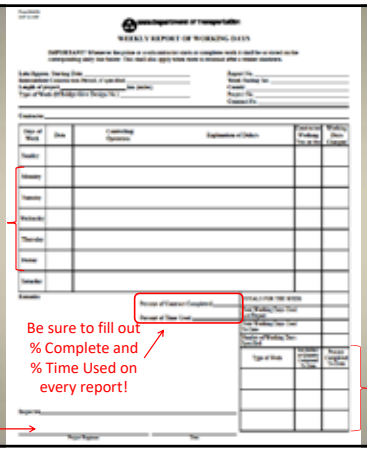
Site ID	Site Details	Liquidated Damages
(1)	Late Start Date 08/13/2018	(4) WORK DAYS $1,500.00

(*) - Indicates Cost Plus Time Site. See Schedule of Items for Cost Per Unit

The third page of the contract will define the site times for the contract

All Mondays thru Fridays must show a controlling operation, if the contractor worked, and the number of working days being charged

All reports need to be "signed" by the Project Engineer


WEEKLY REPORT OF WORKING DAYS

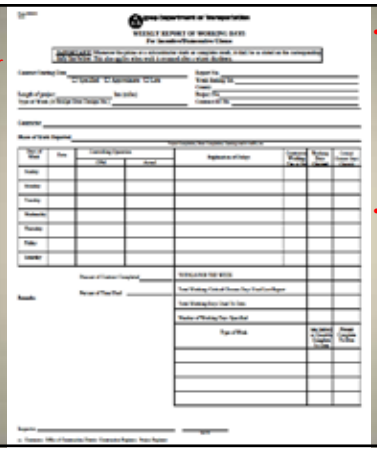
Be sure to fill out % Complete and % Time Used on every report!

Use Form 830238 for contracts with **working days**

This area is optional

When using electronic documentation, the form may look a little different, but the same information is on it.

Use Form 830241 for contracts with **Critical Closure Days**

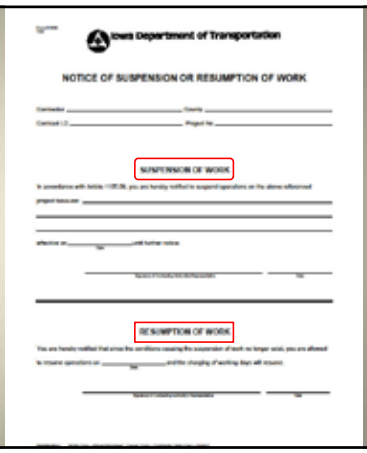


- Contracts with Closure Dates may include an item for Incentive/ Disincentive
- If there is not I/D item, there will be a plan note specifying a $ amount for I/D and a Change Order will be needed.

Contract Administration and Inspection Documents

- Notice of Suspension or Resumption of Work
  - If the Contractor is directed to stop work by the Project Engineer, a Notice of Suspension must be issued
    - This can be issued by the project inspector
  - A Notice of Resumption must be issued when the Contractor is expected to resume work
    - This must be signed by the project engineer
  - Use Form 810036 to document the Suspension and the Resumption of work

Use Form 830238 for contracts with **working days**



Iowa Department of Transportation

NOTICE OF SUSPENSION OR RESUMPTION OF WORK

SUSPENSION OF WORK

RESUMPTION OF WORK

KNOWLEDGE CHECK #6

Contract Administration and Inspection Documents

- Davis-Bacon Compliance
  - When the Contract specifies that Pre-Determined Wages apply, Davis-Bacon applies
  - When Davis-Bacon applies, two audit items will be reviewed
    - Wage Rate Interviews
    - Certified Payrolls

IOWA DOT

12/22/2017 08:06:52

AASHTOWare Project v3.01.164.01

Page 1 of 3

Contract Project(s)

Contract ID: 11-C011-115 Call Order No.: 155

Letting Date: Dec 19, 2017 10:00 A.M.

Project Number: STP-S-C011(115)--5E-11 County: BUENA VISTA

Project Work Type: HMA RESURFACING/COLD IN-PLACE RECYCLING Accounting ID: 34814

Location: ON C40, FROM NIGTH AVE EAST 6 MILES TO THE BUENA VISTA / POC COUNTY LINE, ALONG N LINE S31,32,33,34,35,36 T91N R38W

Route: C49

Federal Aid - Predetermined Wages are in Effect

The second page of the contract will state if there are Predetermined Wages in Effect.

Contract Administration and Inspection Documents

- Davis-Bacon Compliance
  - Wage Rate Interviews
    - Required to be performed on the Prime Contractor and all subcontractors whose value of work (per approved subcontract request) exceeds $10,000
    - Only exception is contractors participating in the AGC's Prevailing Wage Notification Program (PWNP)
      - http://www.agcia.org/pwnp.asp
      - It is good practice to print the PWNP current listing at the time of contract award and place it in your (the listing changes) file

Contract Administration and Inspection Documents

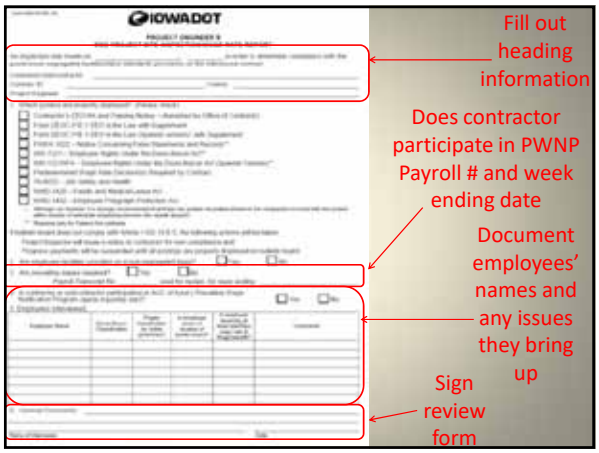
- Davis-Bacon Compliance
  - Wage Rate Interviews
    - Use Form 650170 (same as EEO board review form) to document the interviews
    - Fill out a form even if the contractor participates in the PWNP and note that you did not interview them because of the PWNP

Contract Administration and Inspection Documents

- Davis-Bacon Compliance
  - Wage Rate Interviews (continued)
    - Need to document the name of the person interviewed, the Certified Payroll #, and week ending date of the certified payroll used during the interview
    - If a payroll has not been submitted at the time of the interview, note that on the review form
    - If the employee has a complaint, it is required that the Project Engineer's staff investigate the complaint-contact the Regional Office for help

Contract Administration and Inspection Documents

- Davis-Bacon Compliance
  - Wage Rate Interviews (cont.)
    - If you are not sure what to ask the employees during the interview, there are some suggested questions listed in Construction Manual 2.24
      - Is the employee receiving at least the specified wage rate for type and class of work performed?
      - Is proper allowance being made for fringe benefits and have the plans been explained to the employees?
      - Is work performed within the proper classification?
      - Are additional classifications necessary?
      - Does the employee have complaints as to hours, wages, and fringe benefits?



Contract Administration and Inspection Documents

- Davis-Bacon Compliance
  - Certified Payrolls
    - The following items will be verified during audits
      - Certified Payrolls have been submitted for all required contractors
        - » Construction Survey and Testing Work (densities, certified plant inspection, etc.) are exempt
      - All payrolls are in the file based upon their sequential numbering (have payrolls #1 thru #10, but #8 is missing)

Contract Administration and Inspection Documents

- Davis-Bacon Compliance
  - Certified Payrolls (cont.)
    - I will check for the following during my audits
      - All of the heading information is filled out and is correct
        - » Project Number/Contract ID Number
        - » Letting Date
        - » Wage Decision Number
        - » Week Ending Date
        - » Payroll Number
        - » County

Contract Administration and Inspection Documents

- Davis-Bacon Compliance
  - Certified Payrolls (cont.)
    - I will check for the following during my audits
      - Each employee is identified by name and a unique employee number (ie. Last four digits of their social security number)
        - » Per FHWA 1273, employees' personal addresses and full social security numbers are not allowed due to The Privacy Act
      - Each employee has the Classification (laborer, operator, truck driver, etc.), Group (A, B, C, etc.), and Craft (asphalt laydown machine, finish bulldozer, sandblaster, seeding/mulching, etc.) noted

Contract Administration and Inspection Documents

- Davis-Bacon Compliance
  - Certified Payrolls (cont.)
    - The following will be verified during the final review:
      - The list of non-cash fringe benefits is to be submitted with the first payroll for each contractor
      - Fringe payments made to plans/programs (vacation, paid holiday, 401K, medical insurance, etc.) are defined and the hourly wage equivalent is noted
        - » Required to be submitted with first payroll submittals

Contract Administration and Inspection Documents

- Davis-Bacon Compliance
  - Certified Payrolls
    - The following will be verified during the final review (cont.):
      - The payrolls are signed by the payroll administrator
      - <u>All</u> subcontractor payrolls are signed by the Prime Contractor
      - <u>All</u> payrolls are dated when received by the Project Engineer's office
      - At least a few (3-4) of each contractor's payrolls are signed by the Engineer's staff indicating that they have been checked for compliance

Contract Administration and Inspection Documents

- Davis-Bacon Compliance
  - Certified Payrolls
    - Note: The items that are listed are what are checked for.
    - The Engineer's staff is required to check **all items** listed either in Section 2.24 of:
      - the Construction Manual Chapter 2 for IDOT projects
      - or Local Agency IM 6.000 Attachment D for Local Agency projects

Davis-Bacon Compliance

Construction Manual 2.24

Project Engineer's Involvement

D. Office Procedure

Payroll transcripts shall be checked to verify that:

1. Information in the heading is correct and complete.
2. Titles designating crafts correspond correctly with those in wage schedule for that particular contract. No others may be used unless a supplemental wage determination has been secured by the contractor.
   - If a listed craft is not included in the wage decision, the contractor shall be advised that a supplemental wage rate must be requested.

Davis-Bacon Compliance

Construction Manual 2.24

Project Engineer's Involvement

D. Office Procedure

Payroll transcripts shall be checked to verify that (cont.):

3. Rate per hour is not less than that shown for each craft in the wage schedule for that contract, and overtime rates (if any) are at least one and one half times the regular base rate, plus any fringe benefits.
   - Exception: Contractors have the option to reduce basic cash wage by the excess payment of fringe benefits. Fringe benefits may be in cash, by contribution into a bona fide fringe benefit program, or a combination of both.

Davis-Bacon Compliance

Construction Manual 2.24

Project Engineer's Involvement

D. Office Procedure

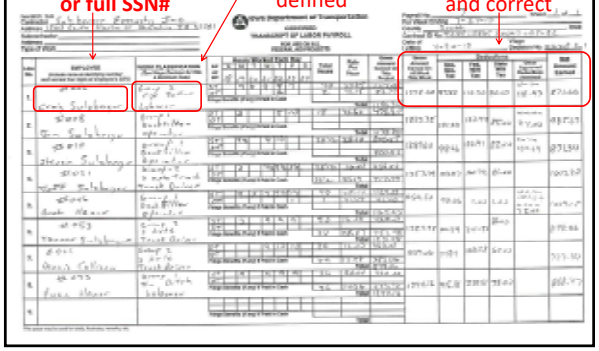
Payroll transcripts shall be checked to verify that (cont.):

4. Fringe benefits (if any) have been provided and appropriate paragraph is checked on the Statement of Compliance.
5. The Statement of Compliance is complete and properly signed. Multiple-sheet transcripts will be considered certified if the necessary information and dated signature are shown on the last sheet of that packet.
6. Signature of the prime contractor appears on all payrolls submitted from subcontractors.

Employee Name with unique employee #. **No personal addresses or full SSN#**

Classification, Group and Craft are defined

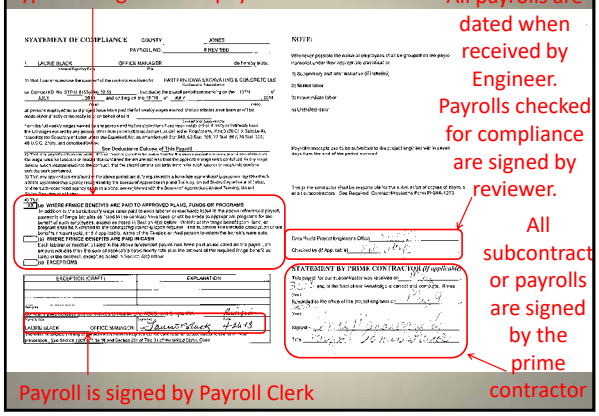
Heading information is completed and correct



Type of fringe benefit payment is certified

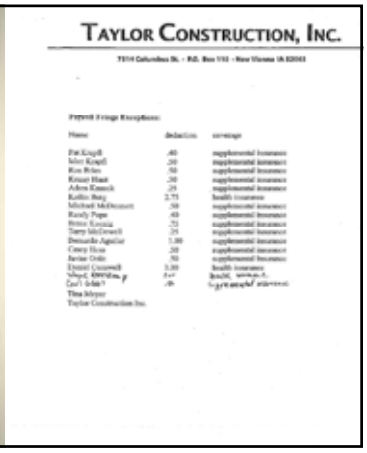
All payrolls are dated when received by Engineer. Payrolls checked for compliance are signed by reviewer.

All subcontract or payrolls are signed by the prime contractor



Payroll is signed by Payroll Clerk

When fringe benefits are paid to plans/programs, the contractor must provide a breakdown of what they are and the value being paid. Verify they are valid fringe benefits (uniforms are not a valid fringe benefit)


TAYLOR CONSTRUCTION, INC.

Contract Administration and Inspection Documents

- Davis-Bacon Compliance
  - Be sure to use the correct wage decision when reviewing the certified payroll
  - The wage decision number is noted on Page 1 of the contract
    - The wage decision is also attached to the contract
  - Wages + Fringes can be any combination as long as the total => the combined total shown in the wage decision

Wage Decision #

IOWA DOT

Contract Specifications List

Page 1 of 1

Description

STANDARD SPECIFICATIONS

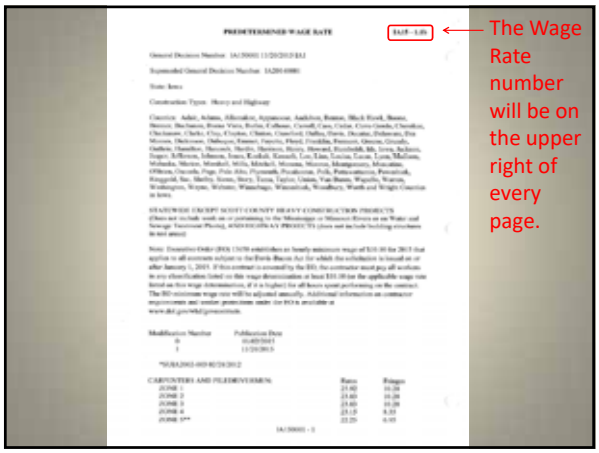
WINTER WORK

FHWA-1273 REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

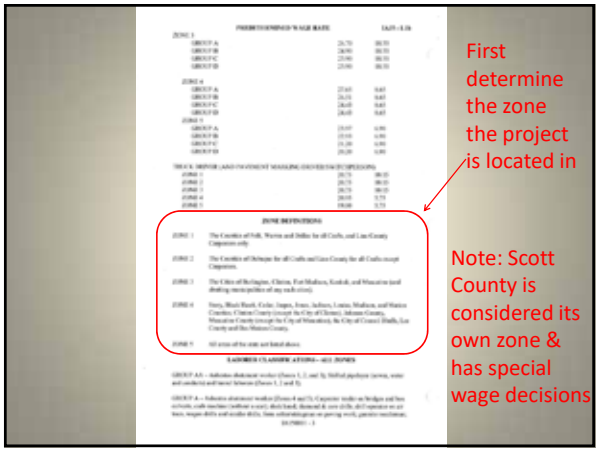
GENERAL SUPPLEMENTAL SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION

PREDETERMINED WAGE RATE - GENERAL DECISION NUMBER IA170001 FOR HEAVY AND HIGHWAY CONSTRUCTION - STATEWIDE (EXCEPT SCOTT COUNTY)

Additional Requirement

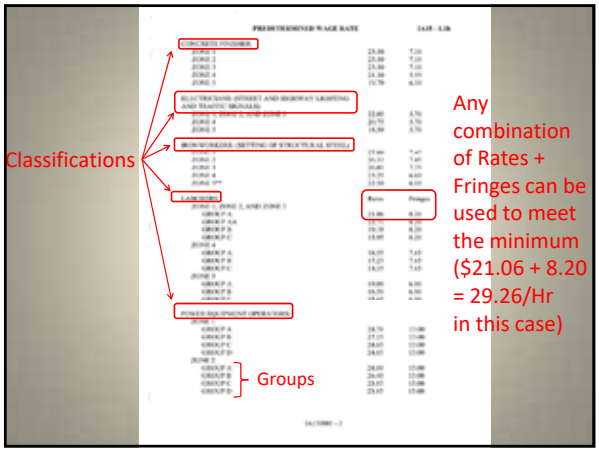


The Wage Rate number will be on the upper right of every page.



First determine the zone the project is located in

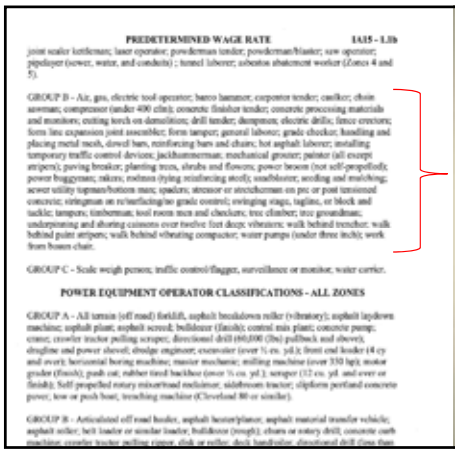
Note: Scott County is considered its own zone & has special wage decisions



Classifications

Groups

Any combination of Rates + Fringes can be used to meet the minimum ($21.06 + 8.20 = 29.26/Hr in this case)



PREDETERMINED WAGE RATE 1A15 - 1.1b

joint sealer kettleman; laser operator; powderman tender; powderman/blaster; saw operator; pipelayer (sewer, water, and conduits) ; tunnel laborer; asbestos abatement worker (Zones 4 and 5).

GROUP B - Air, gas, electric tool operator; barco hammer; carpenter tender; caulker; chain sawman; compressor (under 400 cfm); concrete finisher tender; concrete processing materials and monitors; cutting torch on demolition; drill tender; dumpman; electric drills; fence erectors; form line expansion joint assembler; form tamper; general laborer; grade checker; handling and placing metal mesh, dowel bars, reinforcing bars and chairs; hot asphalt laborer; installing temporary traffic control devices; jackhammerman; mechanical grouter; painter (all except stripers); paving breaker; planting trees, shrubs and flowers; power broom (not self-propelled); power buggyman; rakers; rebman (tying reinforcing steel); seedblower; seeding and mulching; sewer utility tapman/bottom man; spaders; stressor or stretcherman on pre or post tensioned concrete; stringman on re/surfacing/no grade control; swinging stage, tagline, or block and tackle; tampers; timberman; tool room men and checkers; tree climber; tree groundman; underpinning and shoring caissons over twelve feet deep; vibrators; walk behind trencher; walk behind paint stripers; walk behind vibrating compactor; water pumps (under three inch); work from bosun chair.

GROUP C - Scale weigh person; traffic control/flagger, surveillance or monitor, water carrier.

POWER EQUIPMENT OPERATOR CLASSIFICATIONS - ALL ZONES

GROUP A - All terrain (off road) forklift, asphalt breakdown roller (vibratory); asphalt laydown machine; asphalt plant; asphalt screed; bulldozer (finish); central mix plant; concrete pump; crane; crawler tractor pulling scraper; directional drill (60,000 (lbs) pullback and above); dragline and power shovel; dredge engineer; excavator (over ½ cu. yd.); front end loader (4 cy and over); horizontal boring machine; master mechanic; milling machine (over 350 hp); motor grader (finish); push cat; rubber tired backhoe (over ½ cu. yd.); scraper (1/2 cu. yd. and over or finish); Self propelled rotary mixer/road reclaimer; sidebroom tractor; slipform portland concrete paver; tow or push boat; trenching machine (Cleveland 80 or similar).

GROUP B - Articulated off road hauler, asphalt heater/planer; asphalt material transfer vehicle; asphalt roller; belt loader or similar loader; bulldozer (rough); chum or rotary drill; concrete curb machine; crawler tractor pulling ripper, disk or roller; deck hand/oiler; directional drill (less than

Crafts of work Certified Payrolls must list craft that corresponds with the wage decision.

Contract Administration and Inspection Documents

- Equal Employment Opportunity (EEO) Site Inspection
  - The EEO board site inspection is required for all Federal-aid projects
  - Again, use Form 650170 to document the inspection

Contract Administration and Inspection Documents

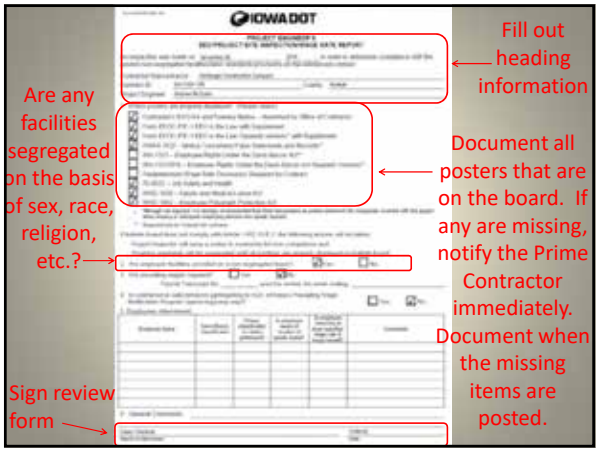
- Equal Employment Opportunity (EEO) Site Inspection (continued)
  - The board should be located on the project site
    - Must be visible and accessible at all times
    - If there are multiple project sites that are not physically connected, multiple boards may be needed
  - The board must be present on the project from beginning to end
    - Including punchlist work

Contract Administration and Inspection Documents

- Equal Employment Opportunity (EEO) Site Inspection (continued)
  - The EEO board is the sole responsibility of the Prime Contractor
  - You only need to fill out the poster board portion of the review form for the Prime Contractor
  - Review the board at least once every six months
    - If the project goes over a winter, review the board in the Spring to verify the documents are still legible

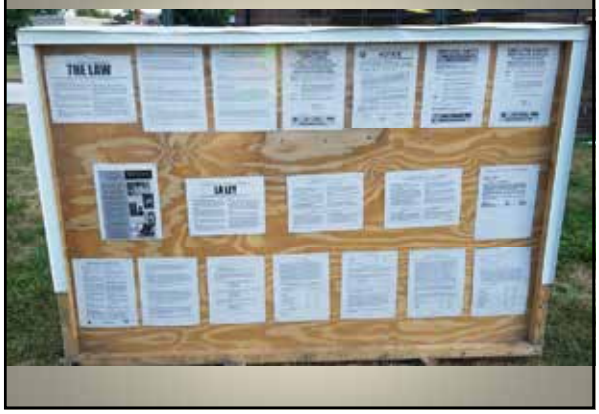
Contract Administration and Inspection Documents

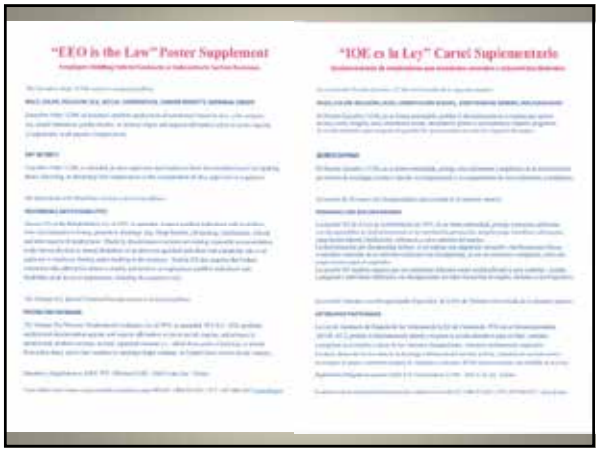
- Equal Employment Opportunity (EEO) Site Inspection (continued)
  - The board should be reviewed first thing when a project starts
    - Issue a Non-Compliance Notice and withhold payments if the board is not posted when work begins
  - One of the fastest ways to lose Federal-aid funding is to not have an EEO board posted on the project!



Contract Administration and Inspection Documents

- Equal Employment Opportunity (EEO) Site Inspections
  - FHWA has issued two new supplemental posters for the EEO board
  - These posters must be included on all EEO boards as of 2/8/2016
  - Document on the EEO board review form
  - Pictures are always good documentation





Knowledge Check #7

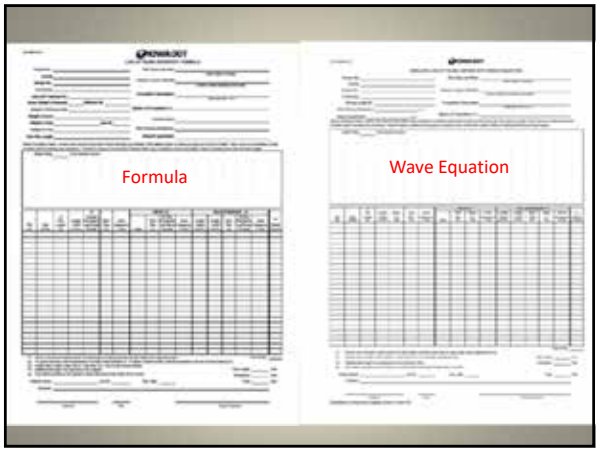
Take me out to the ballgame…

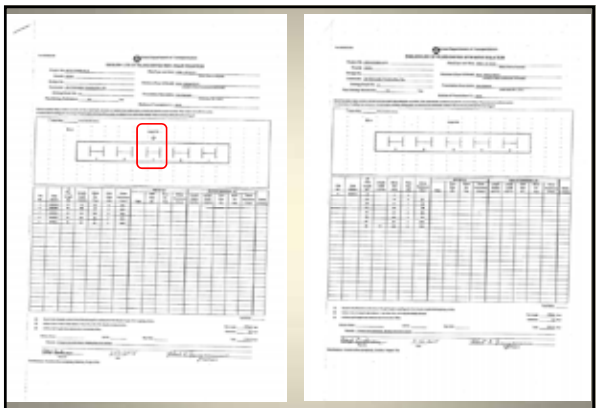
Contract Administration and Inspection Documents

- Log of Piling Driven
  - Required for any project that has an item for piling on the contract
  - Should be submitted to the Regional Office as soon as possible after the piling has been driven
  - Use Form 830210 when using the formula to determine bearing
  - Use Form 830209 when using the wave equation to determine bearing

Contract Administration and Inspection Documents

- Log of Piling Driven (continued)
  - All pile logs must be signed by the Project Engineer
  - Each foundation (abutments, piers) of the bridge substructure also requires one log of the entire driving process
  - See Construction Manual Chapter 11.22 and Appendix 11-22 for guidance





Log the entire driving process of one pile per foundation

Contract Administration and Inspection Documents

- Change Order for Local Public Agency Projects
  - Your project file must contain a copy of all fully executed Change Orders
    - To be considered fully executed, the Change Order must be signed by the Contractor, Project Engineer, and Regional Local Systems Engineer
    - If a project is being administered by a consultant, the City or County must also sign the document for it to be considered fully executed (Person in Responsible Charge)

Contract Administration and Inspection Documents

- Change Order for Local Public Agency Projects (cont.)
  - It is highly recommended that a draft of <u>all</u> change orders be emailed to the Regional Local Systems Technician for review/comment prior to sending them out for signatures
  - Use Form 831240 for non-electronic documentation projects
  - If using electronic documentation, use Fieldmanager/Appia to create contract modifications

Contract Administration and Inspection Documents

- Change Order for Local Public Agency Projects (cont.)
  - All change orders must be clearly marked as Substantial or Non-Substantial
    - For guidance on whether a change order is Substantial or Non-Substantial, see Section 2.36 of either:
      - the Construction Manual Chapter 2 for IDOT projects or
      - Local Agency IM 6.000 Attachment D for Local projects
  - Change orders must note any Federal or State funding that is requested for the work

Contract Administration and Inspection Documents

- Change Order for Local Public Agency Projects (cont.)
  - All change orders must state the effect the change order has on contract time (if any)
    - Any time adjustments need to be justified on the change order
      - The time being added is based upon the actual quantity of time needed by the Contractor to perform the work;
      - The time being added is based upon the Engineer's estimate of time needed to perform the extra work- see project file.

Contract Administration and Inspection Documents

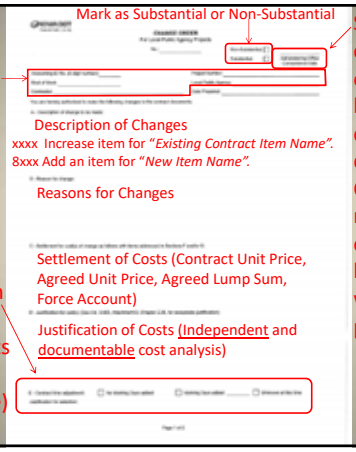
- Change Order for Local Public Agency Projects (cont.)
  - New items being added to a contract will have an 8xxx change number, starting with 8001
    - Only exceptions are 8998 for Liquidated Damages and 8999 for Stockpiled Materials
  - Adjustments to existing contract item quantities do not require a change number
    - Depends on the version of change order form

Contract Administration and Inspection Documents

- Change Order for Local Public Agency Projects (cont.)
  - All items added to a contract by change order, that are Federal-aid or State-aid Participating items, require a Justification of Cost (independent cost analysis that determines the cost being paid is fair and reasonable).

This info is found on Page 1 of the Contract

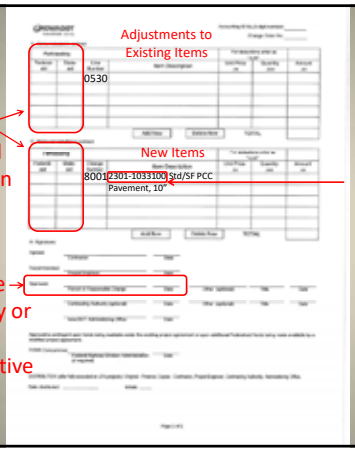
Effect on contract time and justification for time adjustments (add or delete time)



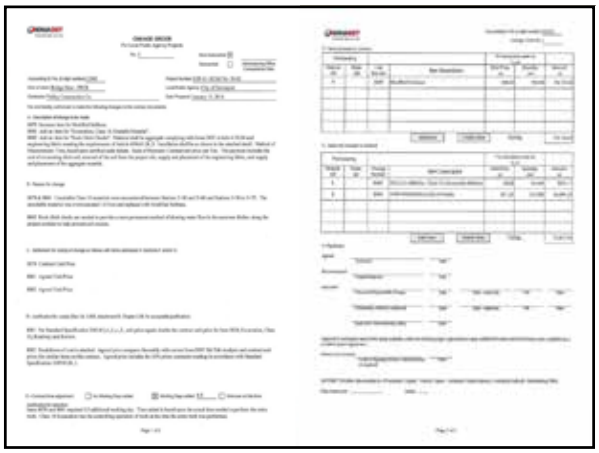
Substantial change orders must have DOT concurrence date noted. Concurrence must be obtained before the work is performed.

Check boxes for Federal or State Aid Participation

Person in Responsible Charge (City or County Representative

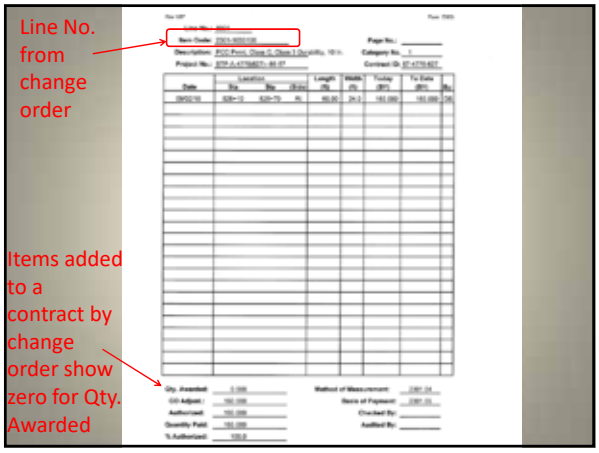


Add Item Number to Item Description so specification for the work is defined



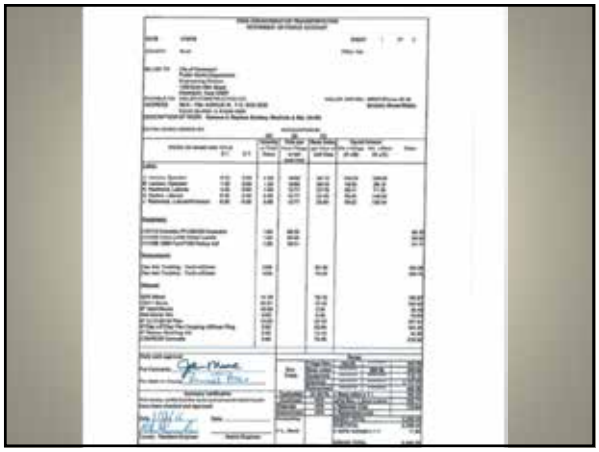
Contract Administration and Inspection Documents

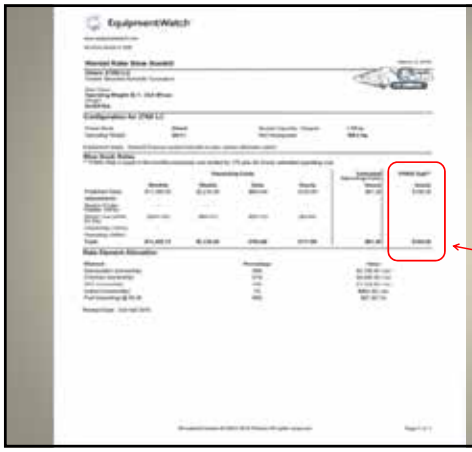
- Change Order for Local Public Agency Projects
  - For non-electronic document contracts, new items added to the contract by change order require a quantity sheet just like any other item
  - If using Fieldmanager/Appia, the item will be added when the Change Order is processed



Contract Administration and Inspection Documents

- Change Order for Local Public Agency Projects
  - Change order work performed under force account needs to have the supporting force account documentation in the project file
    - Statement of Force Account (Form 181213)
    - Material receipts
    - Equipment Watch rental rate printouts





Always use the FHWA hourly operational rate for force account work

Contract Administration and Inspection Documents

- Change Order for Local Public Agency Projects
  - If adding a lump sum item by change order (8xxx change), show the unit price as 1.000 and the quantity as the value of the lump sum
    - Allows more flexibility in making payments
      - If lump sum is $1795 and you wanted to make partial payment of $1000, you can just pay $1000 rather than 0.557 of the lump sum (equals $998.82)

Contract Administration and Inspection Documents

- Change Order for Local Public Agency Projects
  - If adding a lump sum item by change order (8xxx change), show the unit price as 1.000 and the quantity as the value of the lump sum (continued)
    - Allows easier adjustment to the value of the lump sum by a xxxx change order increase/decrease
      - Can just increase/decrease by the dollar amount rather than a portion of a lump sum
      - Initial lump sum = $1795, want to add $800 to the lump sum, can add $800 rather than 0.446 of a lump sum (equals $800.57)

Contract Administration and Inspection Documents

- ADA (Americans with Disabilities Act)
  - Any project that includes sidewalks or recreational trails must document ADA compliance
  - Document per Materials I.M. 363
  - Contractor documents all constructed slopes per the I.M.

Contract Administration and Inspection Documents

- ADA (Americans with Disabilities Act) (cont.)
  - Contracting Authority checks at least 10% for correlation with Contractor's checks
  - If S Sheets are in the project plans, document slopes there
  - Otherwise, document using attachment to Materials I.M. 363

Materials I.M. 363 Attachment

Contract Administration and Inspection Documents

- As-Built Plans
  - If your project includes any work to be performed within the right of way of a primary road or interstate, you are required to submit three sets of as-built plans to the Regional Office
  - It is recommended, but not required, that you follow the guidance in Section 2.72 of either the Construction Manual Chapter 2 or Local Agency IM 6.000 Attachment D for what should be documented in your as-builts
  - The as-builts should be stamped by the Engineer and noted as As-Built Plans

Contract Administration and Inspection Documents

- Statement of Completion and Final Acceptance of Field Work (Form 830435)
  - This was covered previously in my presentation
  - Most of the time, this form will be fully signed prior to the Regional Audit being performed and a copy should be in your project file

Contract Administration and Inspection Documents

- Certificate of Completion and Final Acceptance of Agreement Work (Form 640003, commonly called "the triple 03 form")
  - This form is used for projects using non-DOT specifications and State-aid only projects (TSF, USTEP, CSTEP, etc.)
  - For Federal-aid projects, it will only be used for projects administered by Systems Planning

Knowledge Check #8

Review of Quantities and Payments

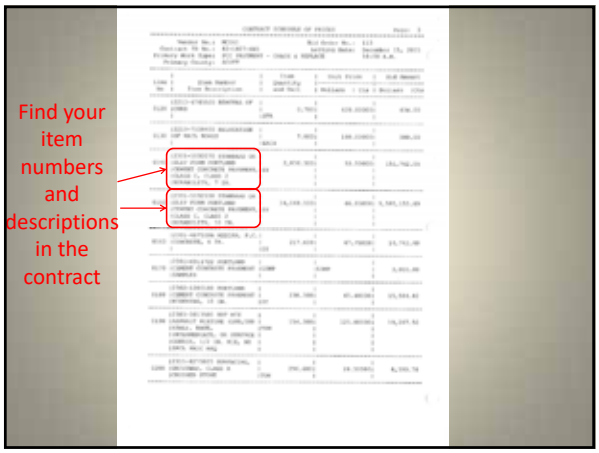
- To set up your quantity field books, you need to start by reviewing the items in your contract
- Each contract item has a unique Item Number
- Once you have the Item Number, you can look up which Iowa DOT quantity forms should be used to document the quantities for that item (see next slide for web address)

Review of Quantities and Payments

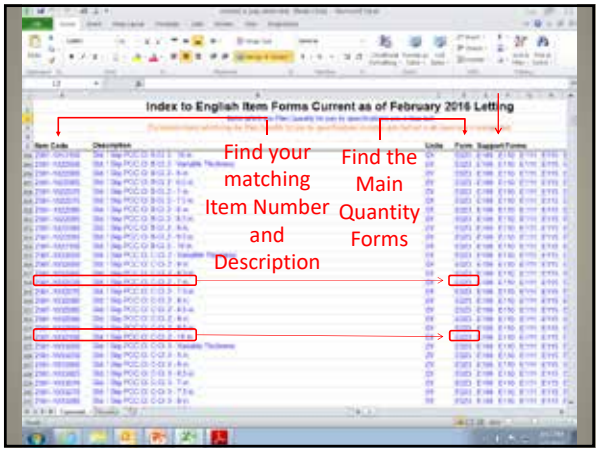
- For Fieldmanager/Appia projects, the quantity forms come loaded in the program for the items in the contract
- The next step is to visit https://iowadot.gov/local_systems/project-inspection-and-administration#469231685-inspection-worksheets-excel-format

Review of Quantities and Payments

- Click on the option titled "Index"
- Find your Item Number in the listing of items
- The first "E" number (Form Exxx) following the item description is the quantity form for that item

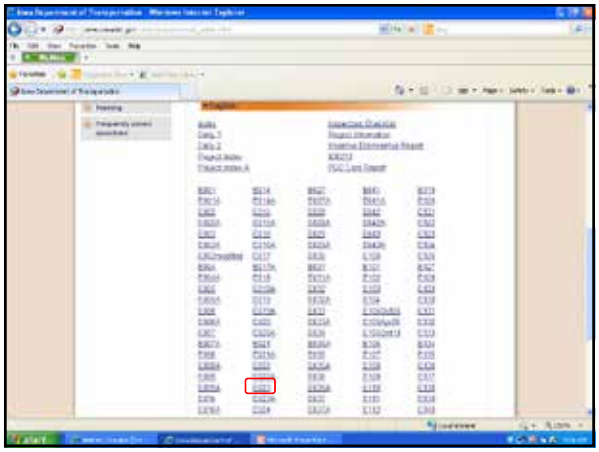

Find your item numbers and descriptions in the contract

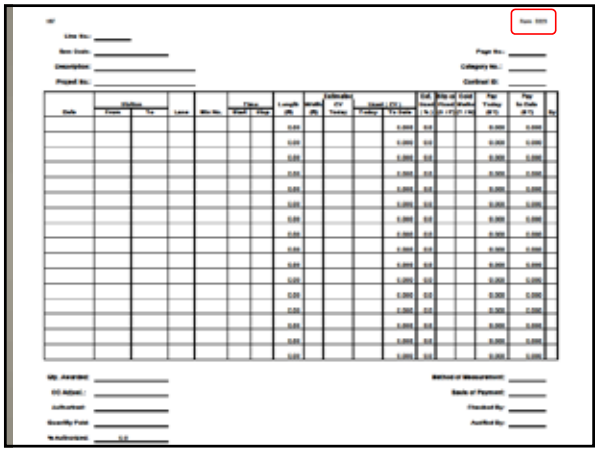
http://www.iowadot.gov/Construction_Materials/inspection.html
Use the Index to select fieldbook forms based on item numbers


Index to English Item Forms Current as of February 2016 Letting
Find your matching Item Number and Description
Find the Main Quantity Forms

Review of Quantities and Payments

- Once you know the correct quantity form to use, find the matching quantity form "E" number in the same website area as the "Index" file





Review of Quantities and Payments

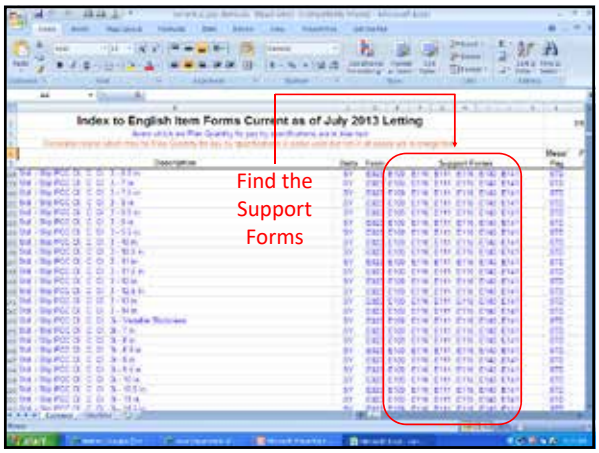
- Item Quantity Forms and Support Forms
  - The main quantity form and support forms are intended to help you remember most of the information that needs to be documented for a contract item
  - You are not required to use the DOT quantity forms, however, if you don't you are still expected to document the information that would be required on the quantity form and support forms

Review of Quantities and Payments

- Item Quantity Forms and Support Forms (cont.)
  - Most items also reference supporting forms to the right of the main quantity form
  - Not all support forms will apply in all situations (ex. recording concrete maturity readings would only apply if the Contractor is using the maturity method for determining strength)

Review of Quantities and Payments

- Important note for Fieldmanager/Appia users:
  - The DOT support forms are not built into the program, only the main quantity sheets are. You are still required to have all of the information from the support forms in your project file

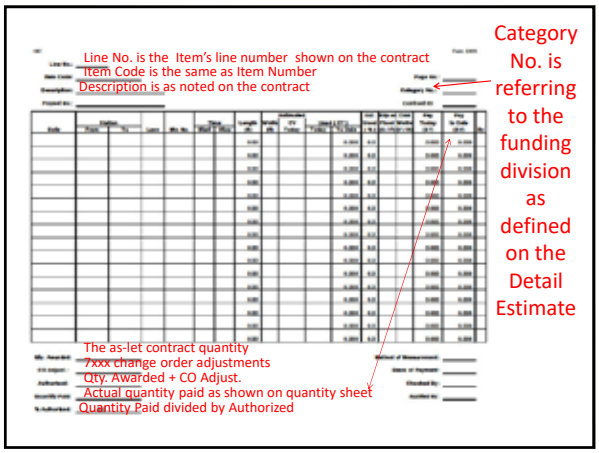


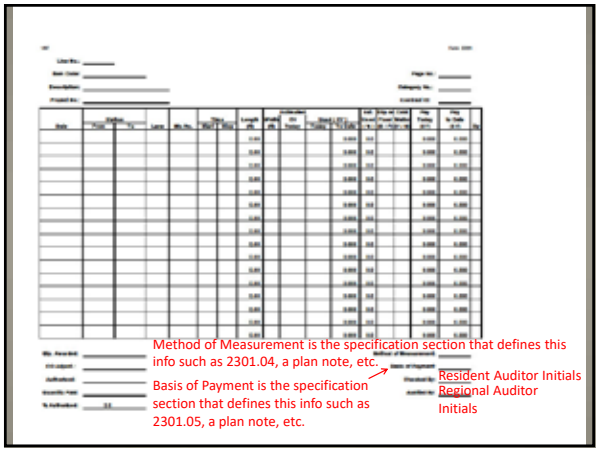
Review of Quantities and Payments

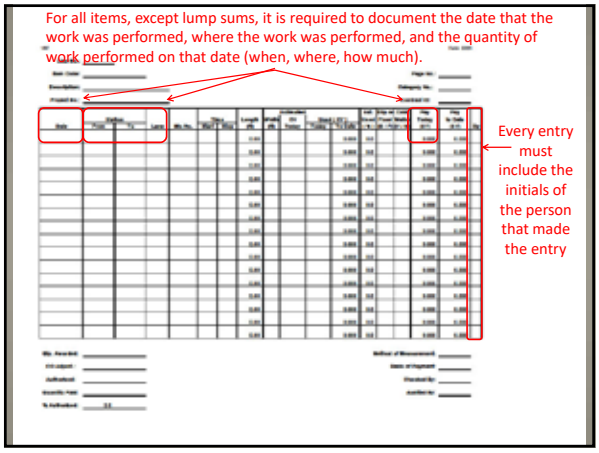
- As an example, the PCC Paving item has Form E023 as its main quantity form. The support forms for this item include:
  - E109: Subgrade/Final Grade Check
  - E110: Depth Checks
  - E111: PC Concrete Item Checklist
  - E115: Air and Slump Tests
  - E140: Grooving Depth Checks
  - E141: Maturity Record

Review of Quantities and Payments

- All applicable information should be filled out on the main quantity form and support sheets. If it isn't, you will likely be cited for a deficiency during the audit
- Let's take a look at the main quantity sheet to discuss the intent of the various information being documented


Line No. is the Item's line number shown on the contract
Item Code is the same as Item Number
Description is as noted on the contract
Category No. is referring to the funding division as defined on the Detail Estimate
The as-let contract quantity
7xxx change order adjustments
Qty. Awarded + CO Adjust.
Actual quantity paid as shown on quantity sheet
Quantity Paid divided by Authorized


Method of Measurement is the specification section that defines this info such as 2301.04, a plan note, etc.
Basis of Payment is the specification section that defines this info such as 2301.05, a plan note, etc.
Resident Auditor Initials
Regional Auditor Initials


For all items, except lump sums, it is required to document the date that the work was performed, where the work was performed, and the quantity of work performed on that date (when, where, how much).
Every entry must include the initials of the person that made the entry

Review of Quantities and Payments

- Contract quantity items
  - Some items are to be paid at contract quantity
    - By Specification (look at Method of Measurement or plan notes)
    - By Contract Quantity Agreement (Form 830230)

Review of Quantities and Payments

- Contract quantity items (continued)
  - Typical wording in the specifications:
    - Payment will be made for the quantity of Class 10 excavation shown in the contract documents
    - Square yards (square meters), of the type specified, shown in the contract documents
    - Aprons: quantity shown in the contract documents

Review of Quantities and Payments

- Contract quantity items (continued)
  - If you have a contract quantity item, it is not necessary to measure the work performed for that item
  - You still need to document the date the work was performed, where the work was performed, and an <u>estimated</u> quantity of work performed on that day (when, where, how much)

Review of Quantities and Payments

- Contract quantity items (continued)
  - In the end, the intent is to pay the contract quantity
    - May require a "balancing" quantity entry (to **increase** the paid quantity to a plan quantity)

Review of Quantities and Payment

- Contract quantity items (continued)
  - What if something **changes** in the field?
    - Example: Extend or reduce work to meet an existing pavement joint
    - You only need to measure the area of work that is affected by the change
    - The remaining work for that item is still paid per contract quantity

Review of Quantities and Payment

- Contract quantity items (continued)
  - What if something **changes** in the field?
    - A change order will be required to increase or decrease the contract quantity to match the measured quantity
    - Let's look at an example…

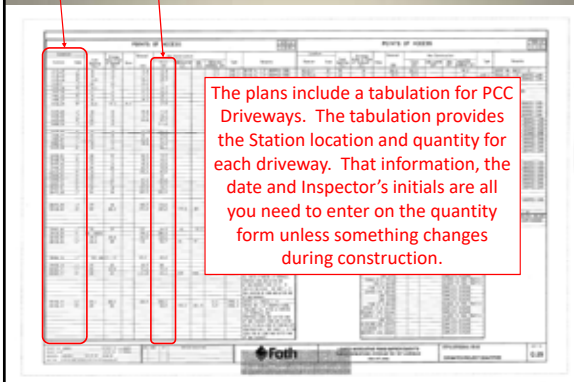
Review of Quantities and Payment

- Contract quantity items (continued)
  - Item of work- Driveway, P.C. Concrete, 6 In.
  - Item Number is 2515-2475006
  - Method of Measurement for Specification 2515 (Article 2515.04)
    - Square yards (square meters), to the nearest square foot (0.1 m^2), shown on the contract documents for each paved driveway of the thickness specified.

Review of Quantities and Payment

- Contract quantity items (continued)
  - Item is to be paid at contract quantity per the specifications
  - Using the Item Number, the correct "E" form to document quantities is E003

Location Quantity



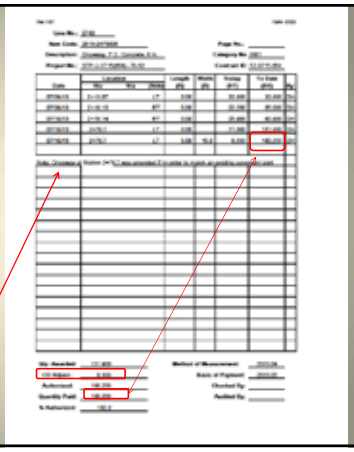
The plans include a tabulation for PCC Driveways. The tabulation provides the Station location and quantity for each driveway. That information, the date and Inspector's initials are all you need to enter on the quantity form unless something changes during construction.

Review of Quantities and Payment

- Contract quantity items (continued)
  - The driveway at Station 2+78.7 was extended 5' in order to match an existing joint in the pavement
  - You have two options to enter this area
    - Enter just one quantity entry that exceeds the quantity shown in the plans, but attach a drawing showing the measurements and calculations of the added area
    - Have two quantity entries for this location- one showing the contract quantity and one for the added area

A Change Order will need to be processed for this change. 151.000 + 8.333 = 160.233 SY will be the new contract quantity.

Add an explanation to your documentation to explain what was done and why



Knowledge Check #9

Score is tied, on to the 10th Inning...

Review of Quantities and Payment

- For items that require measurements, the Method of Measurement will be worded differently
  - Pipe culvert: measured length, in feet (meters), of culvert installed, excluding aprons, to the nearest foot (0.1 m) with no deductions for elbows, tees, and other fittings.
  - Surface areas of Sodding: squares of 100 square feet (square meters) calculated from measurements to the nearest foot (0.1 m).

Review of Quantities and Payment

- For items that require measurements, the Method of Measurement will be worded differently
  - Removal of Intakes and Utility Accesses. By count.
  - You need to document the date, location of work, measurements/quantities, initials of inspector

Review of Quantities and Payments

- Items requiring measurements
  - If you have any area item that requires measurements (SY, SF, Acre, Squares, etc.) that cannot be defined as rectangular or square (LXW), you need to attach drawings/measurements/calculations of the work performed and reference them to your quantity sheet
    - CAD drawings/calculations are allowed as long as the points are defined and the program calculates the areas- you have to keep and be able to produce the CAD drawings/calculations of asked
  - Let's look at an example…

Review of Quantities and Payments

- Contract Item is Removal of Pavement
  - Item Number 2510-6745850
    - Based on the first four digits of the Item Number, the Method of Measurement will be found in Article 2510
      - Specifically Article 2510.05 Method of Measurement

Review of Quantities and Payments

- Contract Item is Removal of Pavement
  - Method of Measurement from Article 2510.05
    - Square yards (square meters). This includes areas of utility accesses and intakes within the pavement area, and integral and separate curb. Removal of reinforcing steel will be incidental to removal of pavement and will not be measured for payment.
    - Based upon the method of measurement, the item is to be measured
  - Using the Item Number 2510-6745850, the correct "E" form to use to document quantities is E003

Form E003

Line No.: 0670

Item Code: 2510-6745850

Description: Removal of Pavement

Project No.: STP-U-3715(854)--70-52

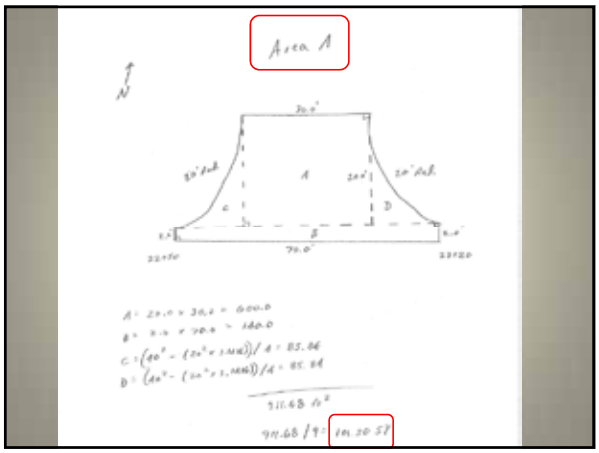
Page No.:

Category No. 0001

Contract ID: 52-3715-854

Date	Location Sta	Location Sta	Location (Side)	Length (ft)	Width (ft)	Today (SY)	To Date (SY)	By
06/17/13	1+86	12+25	RT	1039.00	12.0	1,385.333	1,385.333	DH
06/17/13	12+25	20+50	RT	825.00	15.0	1,375.000	2,760.333	DH
06/18/13	20+50	34+00	RT	1350.00	15.0	2,250.000	5,010.333	DH
06/18/13	22+50	23+20	RT	See Area A		101.300	5,111.633	DH

This is an irregular area based on calculations supported by a dimensional labeled drawing of the area.



Review of Quantities and Payments

- The main thing to remember on documenting quantities is that the Regional Auditor, Ames DOT Staff, FHWA or anybody else should be able to look at the records and "re-create" the project from what is documented
- **There must be a way to verify the documented quantities!**

Review of Quantities and Payments

- How to document change orders on the quantity sheets
  - New Items (8xxx changes) will require their own quantity sheet just like any other contract item, based upon the Item Number shown on the change order (we covered this earlier)
  - Adjustments in existing item quantities (xxxx changes) are documented on the bottom left area of the quantity sheets under "CO Adjust."

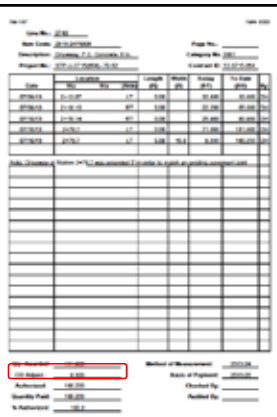
7					
7					
7					
7					
				TOTAL	$1,736.70

E – ITEMS NOT INCLUDED IN CONTRACT

Change No.	Item Description	Item Number	Function Code	Unit Price .xxx	Quantity xxx (If Credit, Add "CR")	Amount xx
8001	Modified Subbase	2115-0100000		42.000	173.670	7,294.14
8002	Intake, SW-501	2435-0250100		2475.000	2.000	4,950.00
8003	Storm Sewer Gravity Main, Trenched, 12"	2503-0110012		75.750	69.000	5,226.75
8						
8						
8						
				TOTAL		$17,473.

8xxx changes are documented on their own quantity form just like any other item based upon the Item Number on the change order

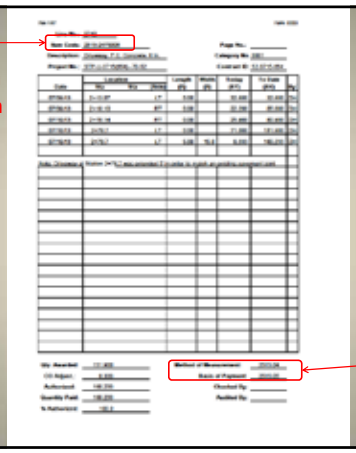
xxxx changes are documented on the bottom left area of the quantity sheet for the item that the change order adjusted



Review of Quantities and Payments

- Method of Measurement (MOM) and Basis of Payment (BOP)
  - The MOM and BOP need to be defined on each quantity sheet
  - If the specification section identifies this information (ex. 2102 for Class 10 Excavation), only the item number needs to be noted
  - Otherwise, info needs to be noted on bottom right of quantity form

If the item number references a specification that defines the MOM and BOP, only the item number needs to be referenced



If the item number does not define the MOM and BOP, note it here. Examples: Section in special provision, estimate reference note in the plans, etc.

Review of Quantities and Payments

- Items paid by weight
  - When there is an item paid by weight, Specification 2001.07 applies
    - Please read through specification <u>before</u> the project starts!
    - Discuss the specification at the preconstruction meeting

Review of Quantities and Payments

- Items paid by weight (continued)
  - For non-proportioned aggregates (continued):
    - New tare weights need to be determined for each truck
      - You should either receive a scale ticket with just a tare weight printed or a scale ticket that indicates that the tare weight is newly determined
      - Make sure that the quarry actually updates the tare in their system when printing subsequent weigh tickets

Review of Quantities and Payments

- Items paid by weight (continued)
  - For Non-Proportioned Aggregates (continued)
    - Perform at least one verification weigh on quarry scale
      - A verification weigh is weighing the same load on the same scale twice. The load is driven off the scale and then driven back on and re-weighed.
      - The second weigh must be within 0.1% of the initial weigh
      - A separate scale ticket needs to be produced for the second weigh and identified by the quarry as a verification weigh (to prevent double payment

Review of Quantities and Payments

- Items paid by weight (continued)
  - For Non-Proportioned Aggregates (continued)
    - Perform at least one check weigh (checking platform scales)
      - A check weigh is a second weigh of a load on a different scale (certified by the Dept. of Agriculture)
      - The second weigh must be within 0.3% of the initial weigh
      - A scale ticket needs to be produced by the second scale

Review of Quantities and Payments

- Items paid by weight (continued)
  - For Non-Proportioned Aggregates (continued)
    - If either the check or verification weighs do not meet the specification allowances, issue a Non-Compliance Notice to the contractor and notify the Regional Office
      - **You** will likely need to weigh at a third certified scale to determine which scale is non-complying and then have that scale re-calibrated before it can be used again

Review of Quantities and Payments

- Items paid by weight (continued)
  - For Non-Proportioned Aggregates (continued)
    - It is required to run an adding tape or Excel summary to verify the daily quantities of tickets delivered

Review of Quantities and Payments

- Items paid by weight (continued)
  - For HMA items
    - Since most HMA is batched through a hopper, a verification weigh is typically not required
    - You still need to perform a check weigh with the same specification tolerances as listed for aggregates
    - Adding tapes are not required as long as the batch tickets are sequentially numbered, all accounted for, and have a running quantity total on the tickets

Review of Quantities and Payments

- General comments regarding non-proportioned aggregate tickets
  - Must include:
    - The quarry's "A Number" as listed in Materials I.M. T-203
    - Project Number
    - Gradation Number / Product Name
    - Quantity
    - Source name

Review of Quantities and Payments

- General comments regarding non-proportioned aggregate tickets (continued)
  - Must include:
    - Delivery Date
    - A signed certification statement stating the product meets the specifications for the project
    - Initialed by Inspector- signifies the above information was reviewed and complies
    - Non-automated scaled tickets require signature of a weighmaster

Review of Quantities and Payments

- Ready mix tickets
  - The ready mix tickets issued by the plant must include all of the information found on Form 830212 (the old school, little white delivery ticket)
    - This includes the maximum water that can be added to the mix on the grade
  - All tickets should document water added to the concrete on the grade, even if it is zero
    - Communicate to plant (Certified Plant Inspector)

Review of Quantities and Payments

- Ready mix tickets (continued)
  - Note revolutions of the drum that are counted when water is added (30 revs each time water is added)
  - Tickets are signed by Certified Plant Inspector
  - Need to be initialed by the Inspector
  - Occasionally note the discharge time (when load has been fully deposited) to verify that it is 90 minutes or less

READY MIX CONCRETE

Plant

Truck No. _____ Ticket No. _____

Date _____ Des. No. _____

Proj. No. _____

Mix No. _____ Retarder/Water Reducer? ☐ Yes ☐ No

Conc. This Truck _____ C.Y./m³

Air agent added this truck _____ oz./mL

Time Batched _____ Discharged _____

Rev. Mixed (Plant) _____ Grade _____

Water (gal./L or lbs./kg This Truck) 8.33lbs./gal.

In Aggregate	_____ gal./L	_____ lbs./kg
Added (Plant)	_____ gal./L	_____ lbs./kg
Subtotal	_____ gal./L	_____ lbs./kg
Added Grade	_____ gal./L	_____ lbs./kg
TOTAL WATER	_____ gal./L	_____ lbs./kg

Maximum Water Allowed _____ gal./L _____ lbs./cy or kg/m³

Air _____ Slump _____

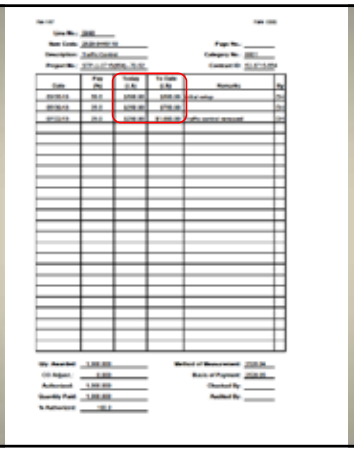
Plant Insp. _____

Receiving Insp. _____

Review of Quantities and Payments

- Lump Sum Items
  - The "item progress" on a lump sum item is considered when payments are made on that item
  - On the quantity sheet, document the dollar values paid rather than a decimal of the lump sum
    - These dates typically correlate with when the work was started, intermediate progress, and when the work was completed

Show dollar value paid rather than a decimal of the lump sum



Review of Quantities and Payments

- Price Adjustments
  - Make sure all price adjustments have been addressed before requesting the final audit. These include:
    - Liquidated damages
    - Pavement Smoothness Incentive/Disincentive
      - Requires a note in the plans to apply
    - PCC Pavement Thickness Incentive/Disincentive
    - HMA Lab Voids, Field Voids, Film Thickness
    - Resolution/Price Adjustments for Non-Compliance Notices
    - Incentives/Disincentives for Early Completion

Review of Quantities and Payments

- Progress Vouchers (Contractor Pay System), Pay Estimates (Locally Paid Projects), Checks or Warrants
  - Your project file needs to include a copy of all payments issued to the contractor and a copy of the check or payment receipt proving the payment was made

Review of Quantities and Payments

- Reimbursement Requests
  - Any project that payments are not made to the Contractor through a county's FM account must include a copy of all reimbursement requests submitted to the DOT

Review of Quantities and Payments

- Semi-final Voucher or Pay Estimate
  - Prior to requesting the Regional audit, you must have a semi-final voucher or pay estimate in your file that shows a preliminary agreement of final quantities
    - Must be signed by the Contractor and Project Engineer
    - The Contractor needs to be notified in writing that these are the proposed final quantities, but may change based upon the Iowa DOT audit findings

Project Engineer Comments

- The blank area is intended for noting any deficiencies found during the pre-audit, or other information that the Regional Auditor should be aware of prior to the audit
- Project Engineer's Certification
  - This is what it says…
    - Must be signed by PE
    - Certifies file has been reviewed and is ready for DOT final audits

Knowledge Check #10

You just made it through the Pre-Audit Checklist!
Now let's review some common audit issues….
On to the 11th Inning…

Common Audit Items

- Class 10 Excavation, Roadway and Borrow
  - You are required to document verification of compaction
    - To be done at least once daily

Common Audit Items

- Class 10 Excavation, Roadway and Borrow (continued)
  - Per Specification 2107, compaction is typically verified by roller walkout
    - Roller feet only penetrate 3" or less on an 8" lift
    - This only applies to a standard sheepsfoot roller- it <u>does not</u> apply for a self propelled sheepsfoot roller

Common Audit Items

- Class 10 Excavation, Roadway and Borrow (continued)
  - Per Specification 2107, compaction is typically verified by roller walkout (continued)
    - Requires verifying the weight of the roller
      - Scale ticket or manufacturer's specification sheet
    - Requires measuring the roller pegs (See Construction Manual 6.41 and Appendix 6-2)

Common Audit Items

- Class 10 Excavation, Roadway and Borrow (continued)
  - If any compaction equipment is used, other than a standard sheepsfoot roller, the contractor is required to demonstrate that their methods of compaction achieve at least 95% density (Specification 2107.03, G.)
    - Requires the contractor to run a proctor
    - Whatever method the contractor used to achieve 95% density (number of passes, etc.) becomes your "specification" to verify and document compaction

Common Audit Items

- Depth Checks (Form E110)
  - This support form is used for several items (grading, paving, subbase, bridge decks, etc.)
  - It can be used for maximum depths (8" lifts for grading) or for minimum depths (concrete specified thickness)
  - All SY paving items (PCC & HMA Pavements, Sidewalks, Driveways, etc.) require this form
  - All individual pours should have depth checks documented prior to the area being poured
    - A low yield determined after the pour is too late to correct

Common Audit Items

- Initialing tickets
  - Generally speaking, all tickets received in the field need to be signed/initialed by the Inspector
    - PCC, HMA, Non-Proportioned Aggregates
  - When you sign/initial those tickets, you are verifying that the correct product is being delivered/placed and the tickets contain all of the required information

Items Not on the Pre-Audit Checklist

- We will look for certain items in your file that are not on the Pre-Audit Checklist
  - Contractor's Proof of Insurance (Articles 1103.04 & 1107.02)
  - Contractor's Bond (Article 1103.05)
  - Listing of Material Sources (Article 1106.01,A.)
    - http://www.iowadot.gov/Construction_Materials/inspection.html

Items Not on the Pre-Audit Checklist

- We will look for certain items in your file that are not on the Pre-Audit Checklist (cont.)
  - Vendor Ranking Sheets (Bid Tabs)
    - Provided by Office of Contracts after the letting
  - Project Information Sheet

PROJECT INFORMATION SHEET

What's Next in the Closeout Process?

- The Materials Dept. will notify you of any items they are missing
- The Regional audit items will be documented on Form 830301 and mailed to the Project Engineer
  - After all items have been addressed, the Engineer signs and dates the form certifying that the items were corrected

What's Next in the Closeout Process?

- The final pay estimate is uploaded to DocExpress (or paper copy is forwarded to the Contractor) for their signature to indicate agreement of the final quantities
  - Includes any audit quantity adjustments and/or price adjustments

Attachment F
Final Forms Packet Checklist

- It is now time to assemble your final paperwork to submit to the DOT
  - Final Pay Estimate
    - For project paid directly by the LPA
    - Submit a copy of the proposed final pay estimate that includes the Contractor's and Project Engineer's signature

Attachment F
Final Forms Packet Checklist

- It is now time to assemble your final paperwork to submit to the DOT (cont.)
  - Final Progress Voucher
    - For projects paid through the DOT Contractor Pay System (Farm to Market routes)
    - Submit final voucher that includes the Contractor, County Engineer, and Board of Supervisor signature

Attachment F
Final Forms Packet Checklist

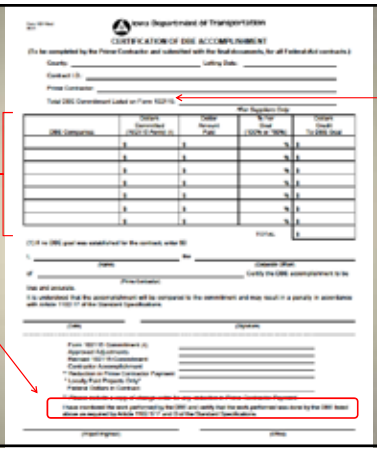
- Certification of DBE Accomplishments (Form 102116)
  - Required to be submitted by the Prime Contractor for <u>all</u> federal aid projects
  - Requires signature of the Project Engineer on the bottom of the form

Attachment F
Final Forms Packet Checklist

- Certification of DBE Accomplishments (Form 102116) (continued)
  - If any DBE Commitments are not met, this would have been addressed during construction and an explanation needs to be submitted
    - Item underruns
    - Different DBE performed the work (requires Office of Employee Services- Civil Rights Team approval)
    - DBE commitments are contractor specific, not as a whole

Make sure that all DBE's that performed work on the project are listed (commitment or not)

FHWA requires this statement on the form. If the Contractor submits the form without this statement, have them re-submit



Amount should match the amount found on the top right of the first page of the contract

Attachment F
Final Forms Packet Checklist

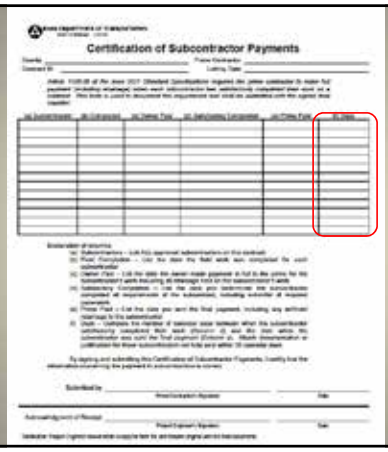
- Certification of DBE Accomplishments (Form 517013)
  - Only required if the project was not let through the Office of Contracts

Attachment F
Final Forms Packet Checklist

- Certification of Subcontractor Payments (Form 518002)
  - Required to be submitted by the Prime Contractor for all projects let through the DOT
  - Make sure that all approved subcontractors are listed on the form

Attachment F
Final Forms Packet Checklist

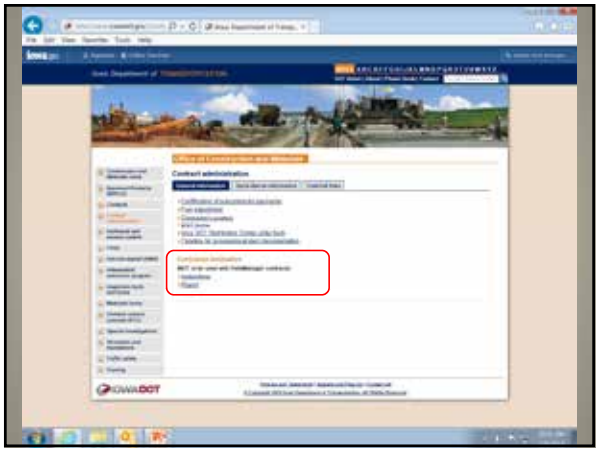
- Certification of Subcontractor Payments (Form 518002) (continued)
  - If any subcontractors are not paid within 30 days of satisfactory completion (Column F), a written explanation must be attached by the Prime Contractor
  - The Engineer is required to sign the bottom of the form



If any final payments exceed 30 days, the Prime Contractor must attach an explanation

Attachment F
Final Forms Packet Checklist

- Contractor Evaluations
  - Must be submitted electronically (by email) as described on the Office of Construction website or by using Fieldmanager/Appia
    - http://www.iowadot.gov/Construction_Materials/contract_admin.html
  - Submit for the Prime Contractor and all subcontractors with work equals to $20,000 or greater
  - It is not required to copy the Regional Office on the submittal of the evaluations

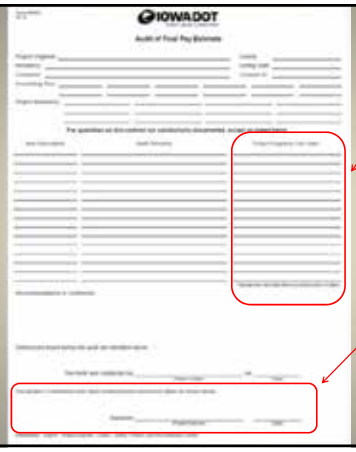


Attachment F
Final Forms Packet Checklist

- Interest Payment Form (Form 830236)
  - We will skip this form for now and will come back to it later in the presentation.

Attachment F
Final Forms Packet Checklist

- Audit of Final Pay Estimate (Form 830301)
  - My audit report that is sent to the Project Engineer
  - Requires a date that each item on the report was corrected
  - Requires signature of the Engineer certifying that all corrective actions have been taken

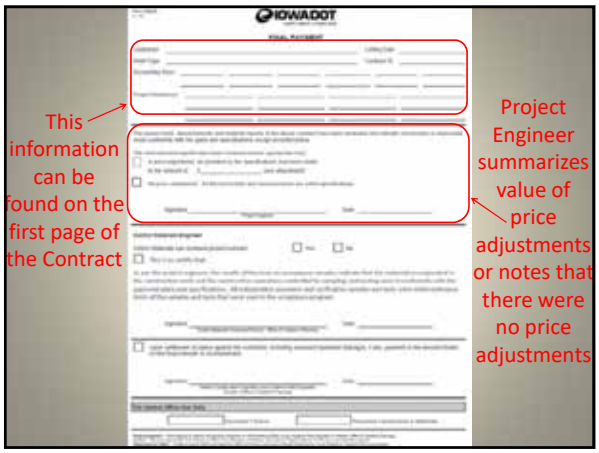


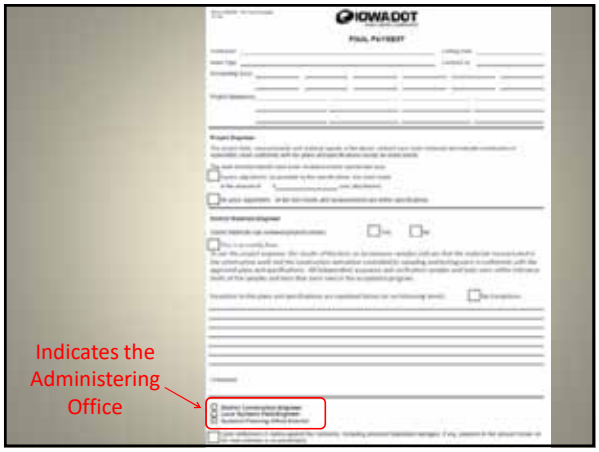
Note date that corrective actions are taken

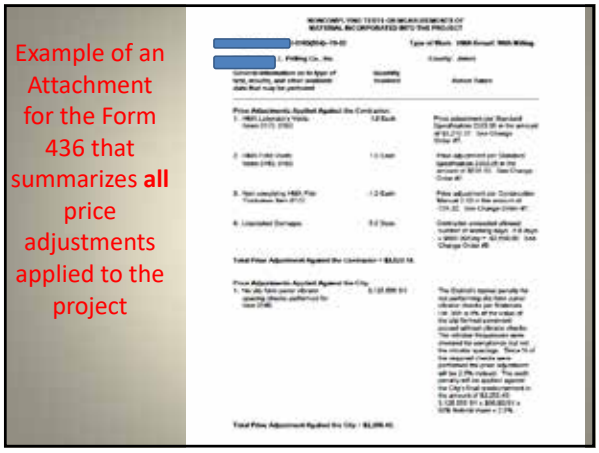
Engineer certifies that corrective actions have been taken

Attachment F
Final Forms Packet Checklist

- Final Payment (Form 830436)
  - Commonly referred to as "436"
  - Project Engineer certifies that all tests and measurements on the project meet the specifications
  - Any exceptions are noted on an attachment to the 436 and the value of the exceptions are noted on the form
  - All price adjustments (due to non-complying work) need to be summarized on the 436


This information can be found on the first page of the Contract
Project Engineer summarizes value of price adjustments or notes that there were no price adjustments


Indicates the Administering Office

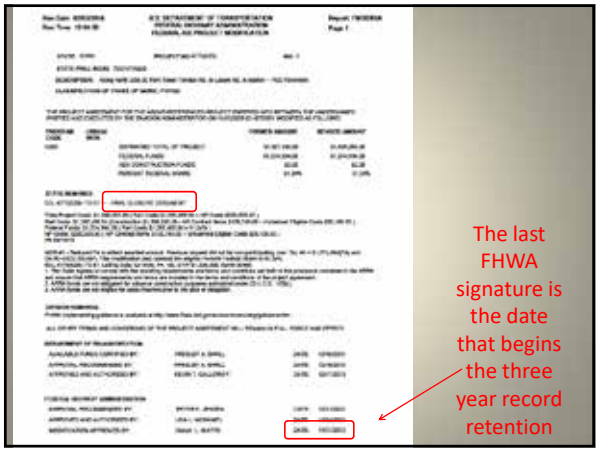

Example of an Attachment for the Form 436 that summarizes **all** price adjustments applied to the project

I.M. 6.110

- For projects paid directly through the Office of Finance (Farm to Market routes), you will know that final payment has been authorized when you receive the signed 436 back from the Region
- For projects paid by the LPA, you will know it is okay to release final payment to the Contractor when you receive the signed 436 back from the Region
  - After final payment has been issued to the Contractor, you can submit your final reimbursement request

I.M. 6.110

- Record Retention
  - Federal code requires that all project records are retained for a minimum of three years following final acceptance by FHWA
  - The Region will distribute FHWA's final acceptance printout so that you will know when the three year file retention begins



The last FHWA signature is the date that begins the three year record retention

Knowledge Check #11

Time to send in the closer…

I.M. 6.130
Interest Payment Procedures

- Interest Payment Information (Form 830236)
- I.M. 6.130 describes the process to determine whether or not the Contractor is due interest on a project
- There are two key dates that are used to determine if interest is due
  - Final Acceptance Date (FAD)
  - Day Zero Date

I.M. 6.130
Interest Payment Procedures

- Final Acceptance Date
  - Date that the Project Engineer signs the Statement of Completion (Form 830435)
  - This is why it is important that the 435 is not signed prior to the Region notifying the Engineer that the field work is accepted

I.M. 6.130
Interest Payment Procedures

- Day Zero Date
  - Date that the last form, certification, change order, etc. (that is necessary for project closeout) is received from the Contractor

I.M. 6.130
Interest Payment Procedures

- In order for interest to be due, two conditions have to be met
  - Final Acceptance Date + 50 calendar days
  - Day Zero Date + 31 Calendar days
- If final payment is made to the contractor past FAD+50, interest starts to accrue on the Day Zero Date+ 31 days + Suspensions in Day Zero count

I.M. 6.130
Interest Payment Procedures

- When counting the calendar days, do not skip weekends or holidays
- If you already have everything that you need from the Contractor prior to the FAD, the Day Zero Date = the FAD

I.M. 6.130
Interest Payment Procedures

- There are three situations in which the Day Zero count can be suspended
  1. Items needed from the Contractor are discovered after Day Zero was already determined
     - May be items found missing during DOT audits
     - Notify the Contractor in writing of the missing items
     - Day Zero is suspended as of the date of notification until the missing items are received

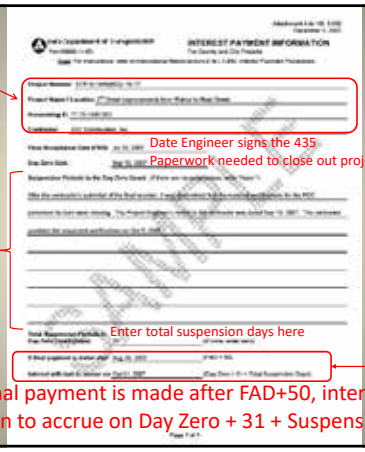
I.M. 6.130
Interest Payment Procedures

- There are three situations in which the Day Zero count can be suspended (continued)
  2. Final Pay Voucher/Estimate is not received back from the Contractor by FAD+50
     - Day Zero count is suspended as of FAD+51 until the final voucher/estimate is received

I.M. 6.130
Interest Payment Procedures

- There are three situations in which the Day Zero count can be suspended (continued)
  3. Change order is issued after Day Zero was already determined
     - If Contractor does not return the change order within 10 calendar days, Day Zero is suspended beginning on the 11th day
     - Day Zero count resumes when the change order is received

This information can be found on the first page of the Contract



Date Engineer signs the 435 Paperwork needed to close out project

Summarize any suspensions in Day Zero count

Enter total suspension days here

If final payment is made after FAD+50, interest will begin to accrue on Day Zero + 31 + Suspension Days

WHAT QUESTIONS DO YOU HAVE??

Congratulations, you won!!!
Now on to the postgame…

Contract Administration and Inspection Documents

- Materials Review
  - To start the Materials final review, submit the Materials 101 sheets to the Regional Office
  - http://www.iowadot.gov/Construction_Materials/materials_forms.html
  - And now Ladies and Gentleman….

The Materials Audit!

LOCAL AGENCY (IM'S) INSTRUCTIONAL MEMORANDUMS

Instructional Memorandums to Local Public Agencies
Table of Contents

Some I.M.s are written either to counties or cities; others are written to both counties and cities. The intended audience is indicated in the "To:" field of the I.M. as well as the Table of Contents below. Many of the I.M.s are referenced by the Federal-aid Project Development Guide (Guide). These I.M.s are marked with an asterisk (*). For more information about the relationship between the Guide and I.M.s, refer to the Guide and I.M.s web page. The funding type is listed in the Table of Contents below, and will be labeled for Federal-aid (F.A.), Federal-aid Swap (Swap), State-aid (State), Farm-to-Market (F.M.) or Local; if the I.M. applies to all types of funding, "All" will be used as the Funding type.

Note: The I.M.s have been transitioned into a new numbering system; please see the I.M. Renumbering Conversion Chart. Some of the I.M.s are not yet complete, as shown in light grey text. Some incomplete I.M.s will be based on an existing Project Development Information Packet document, and some will include entirely new content. Where applicable, a reference and link to the existing Packet document is provided. Most of the links to the Code of Federal Regulations (CFR) and the United States Code (USC) have been removed from the individual I.M.s below. To get to the general CFR and USC, you can click on the links above and search each respective page.

Chapter 1 – Administration
Chapter 2 – County Road System
Chapter 3 – Project Development
Chapter 4 – Environmental Regulations
Chapter 5 – Letting and Contracts
Chapter 6 – Construction
Chapter 7 – Maintenance
Chapter 8 – Miscellaneous Information

Chapter 1 – Administration

No.	Subject	Revision Date	Funding	Written To
Section 1.0 -- General				
1.010	Acronym List	August 8, 2018	All	Both
1.020	References to the Iowa Code	February 13, 2018	All	Counties
1.070*	Title VI and Nondiscrimination Requirements	June 29, 2018	F.A.	Both
1.080*	ADA Requirements	October 1, 2013	All	Both
	Attachment A – Sample Curb Ramp Transition Plan (Word)	August 24, 2012	All	Both
Section 1.1 -- Programs				
1.100*	Highway Bridge Programs for Cities and Counties	April 24, 2018	All	Both
	Attachment A – City Bridge Priority Point Rating Worksheet (Word)	April 24, 2018	F.A., Swap	Cities
	Attachment B – County Bridge Priority Point Rating Worksheet (Word)	April 24, 2018	All	Counties
	Attachment C – Touchdown Points and Limits of Participation	July 18, 2011	F.A., Swap	Both
	Attachment D – County HBP Fiscal Constraint Requirements	July 18, 2011	F.A., Swap	Counties
1.180	Procedures for Developing and Administering Emergency Relief (ER) Projects	August 22, 2017	F.A.	Both
Section 1.2 -- Finance				
1.200	Federal Funds Management	July 3, 2017	F.A.	Both
	Attachment A - Procedures for Estimating Project End Dates	July 3, 2017	F.A.	Both

No.	Subject	Revision Date	Funding	Written To
Section 1.3 -- Agreements				
1.300	Construction Agreements Between City and County on Secondary Road Extensions	April 2002	All	Both
	Attachment A - Resolution for Construction Agreement between City and County on Secondary Road Extensions (Word)	April 2002	All	Both

Chapter 2 – County Road System

Section 2.0 -- General				
2.010	Requirements for the County Secondary Road Construction Program and Budget	August 8, 2018	All	Counties
	Attachment A - Construction vs. Maintenance	August 8, 2018	All	Counties
	Attachment B - Paving Point Determination	August 8, 2018	All	Counties
	Attachment C - Sample Notice of Public Hearing (Word)	August 8, 2018	All	Counties
	Attachment D - Sample Resolution for Paving Points (Word)	August 8, 2018	All	Counties
2.050	Procedure to Amend a County Secondary Road Construction Program and Budget	June 29, 2018	All	Counties
	Attachment A - Example of Resolution to Add, Modify, or Advance a Project	November 26, 2013	All	Counties
2.070	Secondary Road Budget Accounting Code Series	July 2005	All	Counties
2.080	Requirements for the County Annual Report	August 8, 2018	All	Counties
Section 2.1 -- Farm-to-Market (FM) System				
2.100	Farm-to-Market Program	December 19, 2014	F.M.	Counties
2.120	Temporary Allocation of Farm-to-Market Funds	March 17, 2017	F.M.	Counties
2.130	Transfer of Local Funds to the Farm-to-Market Fund	June 29, 2018	F.M.,Local	Counties
	Attachment A - Local to FM Fund Transfer Resolution (Word)	May 2, 2016	F.M.,Local	Counties
2.140	Transfer of Farm-to-Market Funds to the Local Secondary Road Fund	May 2, 2016	F.M.,Local	Counties
2.160	Procedures to Modify the Secondary Road Route Numbering System	May 26, 2017	All	Counties
2.170	Modification of the Farm-to Market (FM) System	August 10, 2011	F.M.	Counties
2.180	Farm-to-Market Review Board Advisory Opinions on Proposed Jurisdictional Transfers	March 17, 2017	F.M.	Counties
Section 2.2 -- Local Secondary Road Systems				
2.220	Establishing and Signing Area Service Roads	December 31, 2015	Local	Counties
	Attachment A - Area Service “B” Road Maintenance Ordinance (Sample) (Word)	May 12, 2014	Local	Counties
	Attachment B - Resolution for Reduced Level of Maintenance to Area Service “B” Road (Sample) (Word)	December 31, 2015	Local	Counties
	Attachment C - Area Service “C” Road Maintenance Ordinance (Sample) (Word)	May 12, 2014	Local	Counties
	Attachment D - Resolution for Reduced Level of Maintenance to Area Service “C” Road (Sample) (Word)	December 31, 2015	Local	Counties
	Attachment E - Resolution for Increased Level of Maintenance to Area Service Road (Sample) (Word)	December 31, 2015	Local	Counties
2.230	Signing for Low Cost Stream Crossings	June 2002	Local	Counties

No.	Subject	Revision Date	Funding	Written To
	Attachment A - Resolution for Low-Water Stream Crossing (Word)	June 2002	Local	Counties
2.270	County Road Vacations	May 26, 2017	All	Counties
	Attachment A - Resolution for Road Vacation Public Hearing (Word)	May 26, 2017	All	Counties
	Attachment B - Notice of Public Hearing (Word)	May 26, 2017	All	Counties
	Attachment C - Resolution to Vacate a County Road (Word)	May 26, 2017	All	Counties

Chapter 3 – Project Development

Section 3.0 -- General

3.000*	Federal-aid Project Scheduling	February 16, 2007	F.A.	Both
3.010*	Project Development Submittal Dates and Information	February 13, 2018	All	Both
	Attachment A - Submittal Dates for Non-Federal-aid Local Public Agency projects let by the Iowa DOT	January 11, 2019	All but F.A.	Both
	Attachment B - Submittal Dates for Federal-aid Local Public Agency projects and projects involving the Primary Highway System	January 11, 2019	F.A.	Both
3.020*	Concept Statement Instructions (see Packet, Index No. 6, Concept Statement Instructions)	(future)	F.A.	Both
	Attachment A – Example Concept Statement	(future)	F.A.	Both
3.050*	In-Kind Contributions	October 1, 2018	F.A.	Both
3.060	Project Numbers	December 2002	All	Both

Section 3.1 -- (Reserved)

Section 3.2 -- Design Guidelines and Exceptions

3.210*	Rural Design Guidelines	April 24, 2018	All	Counties
3.220*	3R Guidelines	October 1, 2013	All	Both
3.230*	Traffic Barriers (Guardrail and Bridge Barrier Rail)	April 24, 2018	All	Both
3.240*	Clear Zone Guidelines	May 18, 2018	All	Both
3.250*	Economic Analysis (Benefit-to-Cost Ratio)	October 1, 2013	All	Both
3.260*	Design Exception Process	May 18, 2018	All	Both
	Attachment A – Design Exception Process Flowchart	October 1, 2013	All	Both

Section 3.3 -- Consultant and In-House Design

3.300	State-aid Participation in Consultant Costs	(future)	All	Both
3.310*	Federal-aid Participation in Consultant Costs	October 22, 2018	F.A.	Both
	Attachment A – Federal-Aid Consultant Checklist	October 22, 2018	F.A.	Both
	Attachment B – Requirements for Federal-Aid Consultant Contracts	February 13, 2018	F.A.	Both
	Attachment C – Payment Methods	December 19, 2014	F.A.	Both
	Attachment D – Sample Consultant Contract (Word)	May 26, 2017	F.A.	Both
	Attachment E – Errors and Omissions	December 19, 2014	F.A.	Both
3.320	Consultant Evaluations	December 29, 2016	F.A.	Both
3.330*	Federal-aid Participation in In-House Services	October 1, 2018	F.A.	Both
	Attachment A - Scope of Work and Budget Worksheet	October 1, 2018	F.A.	Both

Section 3.4 -- Preliminary Design

3.400*	Preliminary Plans	April 24, 2018	F.A.	Both
	Attachment A – Preliminary Plan Guidelines	February 18, 2013	F.A.	Both
	Attachment B – Preliminary Plan Checklist (Word)	December 19, 2014	F.A.	Both
	Attachment C – Preliminary Plan Process Flowchart	February 18, 2013	F.A.	Both

Section 3.5 -- Bridge Design

3.500*	Bridge or Culvert Plans	June 29, 2018	All	Both
	Attachment A – Bridge or Culvert Supplementary Checklist (Word)	June 29, 2018	All	Both
	Attachment B – Instructions for Completing the Hydraulic Design of Bridges (Culverts) Form	June 29, 2018	All	Both

Section 3.6 -- Right-of-Way, Utilities, and Railroads

3.600*	Right-of-Way Acquisition	November 27, 2017	All	Both
	Attachment A – Waiver Valuation Provision	November 27, 2017	All	Both
	Attachment B – FHWA Authorization of Right-of-Way Costs Flowchart	June 18, 2007	F.A.	Both
	Attachment C – Early Right-of-Way Acquisition Process Flowchart	June 18, 2007	F.A.	Both
3.640*	Utility Accommodation and Coordination	May 2, 2016	All	Both
	Attachment A – Utility Coordination Flowchart	December 11, 2008	All	Both
	Attachment B – Utility Coordination Checklist (Word)	February 11, 2014	All	Both
3.650*	Federal-aid Participation in Utility Relocations	May 2, 2016	F.A.	Both
	Attachment A – Utility Relocation Federal-Aid Eligibility Flowchart	February 11, 2014	F.A.	Both
	Attachment B – FHWA Authorization of Utility Relocation Costs Flowchart	February 11, 2014	F.A.	Both
3.670*	Work on Railroad Right-of-Way	June 29, 2018	All	Both
	Attachment A –Work in Railroad Right-of-Way Flowchart	April 24, 2018	All	Both
3.680*	Federal-aid Projects Involving Railroads	November 27, 2017	F.A.	Both
	Attachment A – FHWA Authorization of Railroad Costs Flowchart	May 7, 2015	F.A.	Both

Section 3.7 -- Final Design

3.700*	Check and Final Plans	May 18, 2018	All	Both
	Attachment A – Check and Final Plan Guidelines	April 27, 2018	All	Both
	Attachment B – Check and Final Plan Checklist (Word)	October 1, 2018	All	Both
	Attachment C – Check and Final Plan Process Flowchart	February 18, 2013	All	Both
3.720*	Electronic Bid Item Information	February 18, 2013	All	Both

Chapter 4 - Environmental Regulations

Section 4.0 -- General

4.010*	Environmental Process for non-Federal-aid Projects	(future)	F.A.	Both
4.020*	NEPA Class of Action Process (see Packet, Index No. 6, NEPA Project Classification Process)	(future)	F.A.	Both
	Attachment A - Environmental Concurrence Process Overview (see Packet, Flowcharts, Chart No. 6 – Environmental Process Overview)	(future)	F.A.	Both

	Attachment B - Environmental Assessment / FONSI Process (see Packet, Flowcharts, Chart No. 6A – Environmental Assessment / FONSI Process)	(future)	F.A.	Both
	Attachment C - Environmental Impact Statement / ROD Process (see Packet, Flowcharts, Chart No. 6B – Environmental Impact Statement / ROD Process)	(future)	F.A.	Both
	Attachment D - Section 106 Process (see Packet, Flowcharts, Chart No. 6C – Section 106 Process)	(future)	F.A.	Both
	Attachment E - Section 4(f) Process (see Packet, Flowcharts, Chart No. 6D – Section 4(f) Process)	(future)	F.A.	Both
4.030*	Environmental Data Sheet Instructions (see Packet, Index No. 6, Environmental Data Sheet Instructions)	(future)	F.A.	Both

Section 4.1 -- Environmental Reviews and Permits

4.110	Threatened and Endangered Species	February 13, 2018	All	Both
	Attachment A - Section 10 Process for Non-Federal-aid Projects Flowchart	February 13, 2018	All but F.A.	Both
	Attachment B - Section 7 Process for Federal-aid Projects Flowchart	February 13, 2018	F.A.	Both
	Attachment C - Avoidance and Minimization Measures for Threatened and Endangered Bats	February 13, 2018	All	Both
4.120*	Cultural Resource Regulations	December 21, 2018	All	Both
	Attachment A - Cultural Resource Process for Swap Projects Flowchart	February 13, 2018	Swap	Both
	Attachment B - Cultural Resource Process for Federal-aid Projects Flowchart	February 13, 2018	F.A.	Both
4.130*	404 Permit Process	June 29, 2018	All	Both
	Attachment A – 404 Permit Determination Process Flowchart	June 29, 2018	All	Both
	Attachment B – 404 Permit Checklist	June 29, 2018	All	Both
	Attachment C – Commonly Used NWPs for Transportation Projects	June 29, 2018	All	Both
4.140	Storm Water Permits	June 29, 2018	All	Both
4.150	Iowa DNR Floodplain Permits and Regulations	June 29, 2018	All	Both
4.160*	Asbestos Inspection, Removal, and Notification Requirements	May 2, 2016	All	Both
4.170*	Farmland Protection Policy Act	November 8, 2016	F.A.	Both
	Attachment A - Farmland Protection Policy Act Process Flowchart	August 22, 2017	F.A.	Both
	Attachment B – Instructions for Completing the Farmland Conversion Rating Form	November 8, 2016	F.A.	Both
4.190*	Highway Improvements in the Vicinity of Airports or Heliports	September 13, 2016	All	Both

Chapter 5 - Letting and Contracts

Section 5.0 -- Iowa DOT Lettings

5.010*	DBE Guidelines	February 29, 2016	F.A.	Both
5.020	TSB Guidelines	(future)	All	Both
5.030*	Iowa DOT Letting Process	May 26, 2017	All	Both
	Attachment A - Iowa DOT Pre-Letting Process Flowchart	October 1, 2013	All	Both
	Attachment B – Iowa DOT Post-Letting Process Flowchart	October 1, 2013	All	Both
5.050*	Project Development Certification Instructions	April 24, 2018	All	Both
	Attachment A – Project Development Certification Process Flowchart	April 24, 2018	All	Both

	Attachment B - Sample Project Development Certification Form	April 24, 2018	All	Both
5.060*	Public Interest Findings	May 12, 2014	All	Both

Section 5.1 -- Local Lettings

5.100	Local Letting Process – State or Local Funded	November 8, 2016	State,Local	Both
	Attachment A – Sample Bidding Proposal Form (Word)	November 8, 2016	State,Local	Both
	Attachment B – Sample Notice to Bidders Form (Word)	November 8, 2016	State,Local	Both
	Attachment C – Sample Contract Form (Word)	November 8, 2016	State,Local	Both
5.120*	Local Letting Process – Federal-aid	October 1, 2018	F.A.	Both
	Attachment A – Pre-Award Checklist and Certification (Word)	October 1, 2018	F.A.	Both
	Attachment B – Post-Award Checklist and Certification (Word)	October 1, 2018	F.A.	Both
	Attachment C – Local Letting (Federal-aid) Pre-audit Checklist (Word)	October 1, 2018	F.A.	Both

Chapter 6 - Construction

Section 6.0 -- General

6.000*	Construction Inspection	February 13, 2018	All	Both
	Attachment A - Preconstruction Inspection Process Flowchart	December 31, 2015	All	Both
	Attachment B - Construction Inspection Process Flowchart	December 31, 2015	All	Both
	Attachment C - Subcontract Review and Authorization Process - Post Award Flowchart	December 31, 2015	All	Both
	Attachment D - Local Public Agency Construction Contract Administration Guidance	January 11, 2019	All	Both
	Attachment E - Iowa DOT Field Inspection Review Report (Word)	January 26, 2017	All	Both
	Attachment F - Doc Express Instructions for Local Public Agencies	July 17, 2018	All	Both
	Attachment G - Scope of Services for Consultant Construction Inspection (Sample)	(future)	All	Both
6.010*	Federal-aid Construction by Local Agency Forces	February 29, 2016	F.A.	Both

Section 6.1 -- Project Close-out and Audits

6.110*	Final Review, Audit, and Close-out Procedures for Federal-aid, Federal-aid Swap, and Farm-to-Market Projects	December 21, 2018	All	Both
	Attachment A – Project Close-out Process Overview Flowchart	December 21, 2018	All	Both
	Attachment B – Final Review and Audit Process Flowchart – Highway or Bridge Construction	December 21, 2018	All	Both
	Attachment C – Final Review and Audit Process Flowchart – Non-highway Construction, DOT Specifications	December 21, 2018	All	Both
	Attachment D – Final Review and Audit Process Flowchart – Non-highway Construction, Non-DOT Specifications	December 31, 2015	All	Both
	Attachment E – Pre-audit/Project Review Close-out Checklist (Word)	December 21, 2018	All	Both
	Attachment F – Final Forms Packet Checklist (Word)	December 21, 2018	All	Both
6.120	Final Review, Audit, and Close-out Procedures for State-aid Projects	(future)	State	Both
6.130*	Interest Payment Procedures	December 3, 2007	All	Both
	Attachment A – Sample Interest Payment Information Form	December 3, 2007	All	Both
6.140	Resolution to allow County Engineer to Certify Completion of Work on Construction Contracts	August 28, 2014	All	Counties

	Attachment A – Sample Resolution (Word)	December 3, 2007	All	Counties

Chapter 7 – Maintenance

Section 7.0 -- General

7.020*	Bridge Inspections	January 11, 2019	All	Both
	Attachment A - Bridge Scour Stability Worksheet - Level A Evaluation (Word)	April 24, 2018	All	Both
	Attachment B - Intermediate Scour Assessment - Level B Evaluations	January 11, 2017	All	Both
	Attachment C - Intentionally left blank	December 31, 2015	All	Both
	Attachment D - Scope of Services for NBI Bridge Inspection Services (Word)	April 24, 2018	All	Both
	Attachment E - Iowa Legal Trucks Diagrams	July 18, 2013	All	Both
	Attachment F - Routine Permit Trucks Diagrams	July 18, 2013	All	Both
	Attachment G - USGS Hydrologic Region Map with Region Descriptions	July 18, 2013	All	Both
	Attachment H - Unknown Foundations Guidance, Flowchart, Risk Assessment, Worksheet, and Plan of Action (POA) - Level A Evaluation (Word)	April 24, 2018	All	Both
	Attachment I - Unknown Foundations Flowchart - Level B Evaluation	July 18, 2013	All	Both
	Attachment J - Quality Assurance Field Review Worksheet (Word)	April 24, 2018	All	Both
	Attachment K - Fracture Critical Member Locations and Conditions for Trusses form (Word)	July 18, 2013	All	Both
	Attachment L - Fracture Critical Member Locations and Conditions for Thru/Two Girders form (Word)	July 18, 2013	All	Both
	Attachment M - Sample Fracture Critical Member Locations and Conditions for Trusses form	July 18, 2013	All	Both
	Attachment N - Berm Stability Criteria	December 31, 2015	All	Both
	Attachment O - Highly Erodible Soils	December 31, 2015	All	Both

Section 7.1 -- County Road System

7.110	Maintenance of Secondary Roads at Intersections, Interchanges, and Grade Separations with the Primary Highway System	May 12, 2014	All	Counties
	Attachment A – Iowa DOT PPM 630.01, Rural Intersection and Destination Lighting	October 11, 2013	All	Counties
	Attachment B – Iowa DOT PPM 630.03, Interchange and Freeway Lighting	September 15, 2016	All	Counties

Chapter 8 – Miscellaneous Information

8.020	Pavement Friction Evaluation Program	January 11, 2017	All	Both
8.210	Engineering and Traffic Investigations – Speed Limit Study	January 11, 2017	All	Counties
	Attachment A - Speed Restriction Ordinance (Word)	January 11, 2017	All	Counties
	Attachment B - Amendment to Speed Restriction Ordinance (Word)	January 11, 2017	All	Counties
	Attachment C - Resolution for Establishing Speed Limits (Word)	January 11, 2017	All	Counties
8.240	Iowa DOT Traffic Counts	(future)	All	Both

IM 6.110
FINAL REVIEW

IM 6.110
FINAL REVIEW

INSTRUCTIONAL MEMORANDUMS
To Local Public Agencies

To:	Counties and Cities	Date: December 21, 2018
From:	Office of Local Systems	I.M. No. 6.110
Subject:	Final Review, Audit, and Close-out Procedures for Federal-aid, Federal-aid Swap, and Farm-to-Market Projects	

Contents: This Instructional Memorandum (I.M.) provides guidelines and procedures for closing-out Local Public Agency (LPA) Federal-aid projects, including field inspections, final project review, final audits, final Federal-aid, Federal-aid Swap, and Farm-to-Market (FM) reimbursement and reviews, and records retention. This I.M. includes the following attachments:

Attachment A – Project Close-out Process Overview Flowchart. This attachment illustrates the entire project close-out process. It also directs the reader to the appropriate flow chart for the final review, audit, and payment of construction work, depending on the type of project.

Attachment B – Final Review and Audit Process Flowchart – Highway or Bridge Construction. This attachment illustrates the final review, audit, and payment process for traditional highway and bridge construction contracts that are let by the Iowa DOT and use the Iowa DOT Standard Specifications.

Attachment C – Final Review and Audit Process Flowchart – Non-highway Construction, DOT Specifications. This attachment illustrates the final review, audit, and payment process for non-highway type construction contracts that use the Iowa DOT Standard Specifications. These may be let at the Iowa DOT or locally*. They may include trails or landscaping / scenic improvement projects, such as those funded by the Transportation Enhancement, Federal Recreational Trails, Scenic Byways, and Safe Routes To School programs.

Attachment D – Final Review and Audit Process Flowchart – Non-highway Construction, Non-DOT Specifications. This attachment illustrates the final review, audit, and payment process for non-highway construction contracts that do not use the Iowa DOT Specifications. These may be let at the Iowa DOT or locally*. In addition to the kinds of projects listed for Attachment C above, these may include building restoration or renovation projects.

*For more information on the types of contracts that may be let locally, refer to I.M. 5.120, Local Lettings – Federal-aid.

Attachment E – Pre-audit Checklist (Word). This attachment includes a checklist and instructions to guide the LPA's Project Engineer through the pre-audit process and prepare for a final audit. This checklist will also be used by the Iowa DOT staff when performing the final construction contract audit.

Attachment F – Final Forms Packet Checklist (Word). This attachment includes a checklist and instructions that describe the necessary forms and documents that should accompany the Project Engineer's request for approval of final payment to the Contractor.

Introduction

The primary objective of this I.M. is to document the process for closing-out Federal-aid, Federal-aid Swap, and FM projects, and set expectations, for both LPA and Iowa DOT staff, concerning the amount of time required to complete this process. Timely completion of the close-out process is very important because of Federal and State laws or regulations that pertain to prompt payment to contractors and subcontractors. The flowcharts included as Attachments A, B, C, and D of this I.M. provide an estimate of the *minimum* amount of time required to complete each step. However, depending on the circumstances of each project, more time may be required.

Another important objective of this I.M. is to outline the documentation necessary to ensure that the project was constructed in accordance with the approved plans and specifications. In order to effectively carry-out its responsibilities to oversee the use of Federal funds and state funds, the Iowa DOT reviews some of this documentation. If such documentation is lacking, the Iowa DOT has the responsibility and the authority to deny Federal or state participation in some or all of the project costs.

Besides reviewing the construction documentation, the Iowa DOT is also responsible to ensure that the LPA is adequately staffed and equipped to undertake a Federal-aid or Federal-aid Swap project. If the Iowa DOT's reviews of an LPA's projects during the close-out process consistently indicate that the LPA is not adequately staffed or equipped, the Iowa DOT has the responsibility and the authority to withhold letting of future Federal-aid, Federal-aid Swap and FM projects until the LPA makes the necessary corrections. Iowa Code 310.9 gives the Iowa DOT authority to withhold letting of future FM projects.

The best way to make the project close-out process run smoothly and quickly is to ensure that proper documentation and records are kept during construction. Some of the documentation reviewed during the close-out process is discussed in I.M. 6.000, Construction Inspection. Therefore, the information contained in I.M. 6.000 should be thoroughly reviewed before beginning either construction or the project close-out process.

Besides I.M. 6.000, the Iowa DOT's Construction Manual should also be consulted as a resource for construction inspection and close-out procedures. The current version of the Construction Manual is available on-line as part of the Iowa DOT's Electronic Reference Library. In many places throughout this I.M., references to the Construction Manual are provided for additional explanation or information.

> Note: LPA and consultant staff should be aware that the Construction Manual is written primarily for use by Iowa DOT staff. Therefore, the terminology it uses reflects the Iowa DOT's organizational structure. For example, references in the Construction Manual to the Resident Construction Engineer (RCE) should be interpreted as referring to the LPA's Project Engineer. Likewise, references to the District Construction Engineer (DCE) correspond to the Local Systems Field Engineer, or in the case of projects administered by the Office of Systems Planning, the appropriate Grant Program Manager or their designee. In addition, the LPA should also recognize that some of the procedures described in the Construction Manual are internal to the Iowa DOT and therefore may not be applicable for LPA administered projects. If you have any questions concerning the applicability of procedures in the Construction Manual, contact the Administering Office for assistance.

While not detailed extensively in this I.M., timely completion and review of other non-construction contracts that have Federal-aid, Federal-aid swap, or FM funds, such as consultant, railroad, or utility relocation contracts, are also very important to the project close-out process. When such Federal-aid, Federal-aid swap, or FM work is complete, the LPA should forward a request for final reimbursement for that work to the Iowa DOT as soon as possible. This enables the final review or audit process, if necessary, for such contracts to begin prior to completion of the construction contract, when possible. Sometimes the final reviews or audits of consultant, railroad, or utility work can take a significant amount of time, and therefore have potential to delay close-out of the project as a whole. For more information regarding these procedures, refer to I.M. 3.310, Federal-aid Participation in Consultant Costs; I.M. 3.650, Federal-aid Participation in Utility Costs; and I.M. 3.680, Federal-aid Projects Involving Railroads.

The attachments referenced above provide an outline of the entire process for closing-out Federal-aid, Federal-aid Swap and FM projects. The remainder of this I.M. provides additional explanation for each major part of this process. These parts include the following:

Completion of Field Work

The project field work is considered complete when all the Contractor's items of physical work have been completed. In other words, unless some of the work is found to be defective, the Contractor will not need to come back to the project site.

Completion of field work requires some, but not all of the paperwork that will eventually be required from the Contractor. Before accepting the field work as complete, the Project Engineer should obtain the following from the Contractor, as applicable: survey books, the Contractor's Daily Traffic Control Diary, Abandoned Water Well Plugging Record (DNR Form 542-1226), corrected profilometer reports, and plant reports. In addition, any non-compliances related to field work should be resolved before accepting the field work as complete.

Inspection of Field Work

The Project Engineer shall notify the Administering Office when it appears the Contractor is approximately 1 week from substantial completion of the field work. The Project Engineer shall schedule a final inspection with the Contractor, the Administering Office, and themselves. The goal is to complete the final inspection within 2 weeks of substantial completion of the project, weather permitting. While every effort will be made to meet this goal, it is possible that staff availability will not allow this goal to be met for every project. In such cases, the final inspection will be scheduled as soon as possible. During the final inspection, a Final Inspection Punch List will be developed

listing all items of work that have not been completed in reasonable close conformity to the contract documents. The Project Engineer shall deliver to the Contractor the Final Inspection Punch List and specify the corrective action that must be taken. A copy of the Final Inspection Punch List shall also be sent to the Administering Office. Once the Project Engineer determines all of the work is satisfactorily completed, including any corrective actions, the Project Engineer shall send a copy of the final Weekly Report of Working Days (Form 830238 (Word)) and documentation of completion of the Final Inspection Punch List to the Administering Office.

The Project Engineer should not accept the field work as complete by signing the Statement of Completion and Final Acceptance of Work (Form 830435) or Certificate of Completion and Final Acceptance of Agreement Work (Form 640003), as applicable, until both the Project Engineer and the Administering Office agree the field work is complete and in reasonably close conformance with the contract documents.

Statement of Completion and Final Acceptance of Work

After the field inspections have been completed, and any required corrective actions completed, the Project Engineer shall notify the Administering Office in writing. This notice shall specify the corrective actions that have been taken, if any, and include the appropriate form to document the completion and acceptance of the work. The Administering Office staff, at its discretion, may spot check these corrections. The form used to document the completion and acceptance of the work depends on the type of specifications used:

For projects using the Iowa DOT Standard Specifications, the Project Engineer shall sign and date the Statement of Completion and Final Acceptance of Work (Form 830435) and send the original to the Administering Office. For Federal-aid and Federal-aid Swap, the Administering Office will sign and date Form 830435, return a copy to the Project Engineer, forward the original to the Office of Finance, Project Accounting and Payables Section, and retain a copy for the Administering Office's file. The Project Engineer shall then send a copy to the Contractor. For FM projects, the Administering Office will forward the original to the Office of Finance.

If the contract requires the use of Doc Express, the Project Engineer shall sign and date the Statement of Completion and Final Acceptance of Work (Form 830435) and notify the Administering Office that the document is available for review. For Federal-aid and Federal-aid Swap, the Administering Office will sign and date Form 830435, update the file in Doc Express and forward a hard copy to the Office of Finance, Project Accounting and Payables Section. For FM projects, the Administering Office will forward the original to the Office of Finance.

For projects that use other specifications, the Project Engineer shall sign and date the *top portion only* of the Certificate of Completion and Final Acceptance of Agreement Work (Form 640003), send a copy to the Administering Office and the Contractor, and keep the original in the LPA's file. The only purpose of this submittal is to document the date of completion of the work. It is not intended to be the LPA's approval for final payment. Approval for final payment occurs later, at which time the original Form 640003 shall be sent to the Administering Office as part of the Final Forms Packet submittal. For more information, refer to Attachment D and Attachment F.

The date of the Project Engineer's signature on Form 830435 or 640003 is important, because this date marks the beginning of a 50 day count that is used to determine whether interest may be due to the Contractor. For more information, refer to I.M. 6.130, Interest Payment Procedures.

A County Board of Supervisors may authorize its County Engineer to sign either the Form 830435 or 640003 on its behalf, provided, that it has passed and executed a resolution authorizing the County Engineer to do so. For more information, refer to I.M. 6.140, Resolution to allow County Engineer to Certify Completion of Work on Construction Contracts.

Federal-aid / Federal-aid Swap / FM Pre-audit Process

Prior to requesting a review and determination of final audit/review from the Administering Office, the Project Engineer shall conduct a pre-audit. Within 90 days of completion of construction and/or other activities authorized by the project agreement, the Recipient shall provide the completed pre-audit/review checklist to the Department and request a review and determination of final audit/review; however, if there is an anticipated delay the pre-audit could be started when the project is substantially completed. The pre-audit/review consists of a thorough review of the construction contract documentation, as specified in the Pre-audit/review Checklist (Attachment E to this I.M.). The purpose of the pre-audit/review is to prepare for a possible audit/review by the Administering Office staff. Therefore, when conducting the pre-audit/review, the Project Engineer shall ensure that all of the

documentation associated with the construction contract is complete, correct, and well organized. If the Administering Office finds that the documentation is not complete, correct, or well organized, it may defer the final audit, if the audit is determined to be needed, until the Project Engineer addresses these issues.

As part of the pre-audit/review process, the Project Engineer shall also prepare the proposed final quantities, including all applicable price adjustments, such as incentives / disincentives, liquidated damages, or adjustments due to non-compliance with the contract documents. Additional guidance for each of these items is provided in I.M. 6.000, Construction Inspection, and the Construction Manual sections referenced by the Pre-audit/review Checklist (Attachment E to this I.M.).

When the pre-audit/review is complete, the Project Engineer shall notify the Administering Office that the project is ready for review and determination of audit/review. This notification shall include a completed Pre-audit/review Checklist (Attachment E to this I.M.), and a completed Materials I.M. 101 to verify that all materials documentation requirements per specification have been met. The applicability of the materials audit process is discussed in the Final Audits section below.

Semi-final Voucher or Semi-final Pay Estimate

After the pre-audit/review is complete, the Project Engineer shall send the proposed final quantities, including any price adjustments, to the Contractor for review and acceptance. For contracts that are paid by the Iowa DOT through its Contractor Pay System (CPS), this submittal consists of the semi-final voucher, which is documented using the Construction Contract Progress Voucher form produced by the Iowa DOT Office of Finance, or if Field Manager or Appia software is used, a similar computer generated form. For contracts where the LPA makes payment to the Contractor directly, this submittal consists of a semi-final pay estimate, which may be documented using either the Final Estimate of Road or Bridge Work on Non-State Roads / Streets (Form 181235 (Word)) or an equivalent form.

The submittal of the semi-final voucher or semi-final pay estimate to the Contractor should be made at the same time a final audit/review is requested from the Administering Office. Therefore, the Project Engineer should make it clear to the Contractor that the proposed final quantities are subject to change by an Iowa DOT audit.

Also as part of the semi-final voucher or semi-final pay estimate submittal, the Project Engineer shall provide the Contractor with a complete list of any missing documentation that will be required in order to receive final payment, as determined by the Project Engineer's Pre-audit.

If any quantities or price adjustments are in dispute, the Project Engineer and the Contractor shall negotiate a mutually acceptable resolution. If the parties are unable to reach an agreement, the Project Engineer or the Contractor may contact the Administering Office for assistance. If requested, the Administering Office will attempt to mediate an acceptable solution to both parties.

After the Project Engineer and the Contractor have reached agreement on the semi-final voucher or semi-final pay estimate, the Project Engineer shall approve the semi-final voucher or semi-final pay estimate and the Contractor should be paid in full, less any retainage withheld.

If informal discussions between the Project Engineer, the Contractor, and if requested, the Administering Office, are unable to reach an agreement on any quantities or price adjustments, the Project Engineer shall approve the semi-final voucher or semi-final pay estimate, less any retainage and pay adjustments for items that are being disputed. The Project Engineer shall document the reason for the items that are being disputed and what actions were taken to resolve the dispute.

Final Audits for Federal-aid and Final Reviews for Federal-aid Swap and FM Projects

The Administering Office, at its discretion, may audit any construction contract let through the Iowa DOT. Some Administering Offices have elected to audit all Federal-aid contracts; others have elected to select Federal-aid contracts using a systems approach which is described below. Federal-aid Swap and FM projects will be reviewed at a minimum rate of one project every three years, per LPA, or more frequently if deemed necessary by the Office of Local Systems or the Administering Office. If an LPA has a new Engineer that will be providing project certification, the first DOT let project administered by the new Engineer will be selected for review by the Administering Office. If a project is selected for audit or review, the construction audit or review will take place at the Contracting Authority's Office, as shown in the contract documents, or at a mutually agreed to alternate location.

Using the systems approach, from among those contracts that have been completed at the time projects are selected for audit, the Administering Office will select at least one contract for each LPA. If the LPA only has one contract, that contract will be selected. If the LPA has more than one contract, the contract will be selected at random. If the audit of the selected contract does not reveal any significant problems, the Administering Office may waive the final audits for the LPA's other contracts let during that Federal fiscal year.

If a project is not selected for an audit or review, the Administering Office will simply review the Pre-audit Checklist for completeness, notify the Project Engineer that a final audit/review will not be conducted, and send a completed copy of the Pre-audit Checklist to the Project Engineer.

The audit/review of LPA projects can be done at more frequent intervals at the request of the LPA to the Office of Local Systems, Urban Engineer or Secondary Roads Engineer, depending on the roadway system affected by the project. Upon request, the Office of Local Systems will determine the availability of staff to perform the audit/review and make a determination of availability of staff.

If a contract is Federal-aid and is selected for a final audit, the Administering Office will forward the materials review forms and associated documentation to the District Materials staff. The materials and construction audits will proceed as follows:

Materials Audit Process (highway and bridge projects only)

A materials audit will be performed only for Federal-aid highway or bridge projects only those projects determined to be reviewed using the systems approach by the Administering Office. Materials audits will not be performed for non-highway projects, such as those funded by the Transportation Alternatives Program, Transportation Enhancement, Federal Recreational Trails, Scenic Byways, and Safe Routes to School programs.

For projects selected for audit, after receipt of the materials review forms and associated documentation, the District Materials staff will perform a materials audit in accordance with procedures outlined in Materials I.M. 101 and 103. After their audit is complete, District Materials staff will notify the Project Engineer of any deficiencies in the materials testing, certification, or other required documentation and specify the corrective action that must be taken. If needed, the District Materials staff will provide a copy of this request to the Administering Office. The District Materials Engineer will only sign the Materials I.M. 101 on Federal-aid projects selected for audit, and once documentation is deemed acceptable.

After the requested corrective actions have been taken and / or obtaining the requested documentation, the Project Engineer shall forward this information to the District Materials staff.

For Federal-aid Swap and FM projects, the material review sheets shall be filled out and sent to the Administering Office for review of completeness. Material review sheets can be found on the Construction an Materials Office website http://www.iowadot.gov/Construction_Materials/materialsforms/auditforms.xlsx. The District Materials Engineer will not sign the review sheets for Federal-aid Swap or FM projects, but will be available for consultation on materials related documentation efforts.

The Administering Office will review the materials documentation for completeness as a part of the audit, if the project is selected for audit.

Construction Audit Process

After substantial completion of the project that requires audit/review, the Project Engineer shall submit to the Administering Office the Pre-audit Checklist (see Attachment E to this I.M.). The Administering Office will review the Pre-audit Checklist and determine if the project will be audited/reviewed.

For projects selected for audit/review, the Administering Office will examine samples of the supporting documentation contained in the Project Engineer's files in order to verify that the item was completed as indicated on the Pre-audit Checklist. Those items for which supporting documentation was reviewed will be noted as such on the Pre-audit Checklist by the Administering Office staff. Any deficiencies identified by their review will be recorded on the Audit of Final Pay Estimate (Form 830301). The Administering Office staff will provide a partially completed Form 830301 to the Project Engineer. If needed, the Administering Office staff will provide a copy of Form 830301 to the District Materials staff. The Administering Office staff will also sign and date the Pre-Audit Checklist, provide a copy to the Project Engineer, and retain the original for the Administering Office's file.

After the requested corrections have been completed, the Project Engineer shall indicate the date corrective actions were taken, and sign and date Form 830301. A copy of the completed form shall be returned to the Administering Office, along with any requested documentation, as part of the Final Forms Packet submittal (see Attachment F to this I.M.). The original Form 830301 shall be retained in the LPA's file.

If the contract requires the use of Doc Express, the Project Engineer shall sign and date Form 830301 place the form within the appropriate drawer in Doc Express.

Preparation of the Final Voucher or Final Pay Estimate

After the materials and construction audits are complete, or upon notice by the Administering Office that a final audit will not be conducted, the Project Engineer may begin preparing the final voucher or final pay estimate. The final voucher or final pay estimate shall incorporate the corrections to final quantities or price adjustments, if required by the final materials or construction audits.

Note: For counties using the Field Manager software on contracts paid through the CPS, any changes to quantities required by the final audits will require re-issuing a semi-final voucher before preparing a final voucher. This is because the final voucher is only used to release retainage; it cannot process changes in quantities.

The Project Engineer shall send the final voucher or final pay estimate to the Contractor and request the Contractor's approval of the final quantities, including any price adjustments that may apply. If acceptable, the Contractor signs the final voucher or final pay estimate and returns it to the Project Engineer. The Contractor shall also submit to the Project Engineer all required paperwork for final payment, if not already provided. This submittal marks the beginning of a 30 day count, referred to as the Day Zero count, which is used to determine when interest may begin to accrue. For more information, refer to I.M. 6.130, Interest Payment Procedures. If all required paperwork is not provided, the Project Engineer shall promptly inform the Contractor which items are still needed and that final payment will not be processed until those items are received.

Submittal of Final Forms Packet

For Federal-aid, Federal-aid Swap and FM projects, after the Contractor has signed the final voucher or final pay estimate and provided all the required paperwork, the Project Engineer shall **submit the Final Forms Packet to the Administering Office**. The Final Forms Packet includes the final voucher or final pay estimate and all other required documentation for final payment. Use Attachment F to this I.M., Final Forms Packet Checklist, as a complete list of required forms and documentation.

Upon receipt of the Final Forms Packet, it will be reviewed by the Administering Office within 30 days to ensure all the applicable forms and documentation has been included. If any forms or documentation are missing, the Administering Office will promptly notify the Project Engineer and specify the items that are not complete. Once acceptable, the Administering Office routes the appropriate forms and documentation as needed. For Federal-aid contracts let under the Iowa DOT Specifications, or for Federal-aid Swap or FM projects that are audited/reviewed, the Iowa DOT documents approval for final payment by signing the Final Payment (Form 830436). For Federal-aid Swap and FM projects that are not reviewed, the Iowa DOT does not sign the Final Payment (Form 830436). For contracts let under other specifications, the Iowa DOT documents approval for final payment by signing the bottom part of Form 640003.

Final Payment to the Contractor

After the Administering Office has approved the Final Forms Packet, final payment to the Contractor will be processed as follows:

For contracts that are paid by the LPA, the Administering Office notifies the Project Engineer that final payment may be processed and provides a copy of the signed Form 830436 or Form 640003 as appropriate. Upon receipt, the LPA makes final payment to the Contractor in accordance with the approved final pay estimate, including release of all retainage that is due.

For contracts paid using the CPS, the Administering Office forwards Form 830436 and the Final Forms Packet to the Office of Finance. Upon receipt, the Office of Finance processes the final payment to the Contractor, including a release of all retainage that is due.

Final Federal-aid or Federal-aid Swap Reimbursement

For contracts paid by the LPA, the LPA may request final Federal reimbursement of project costs after all payments have been made, including the construction contract and any other project costs for which Federal reimbursement will be requested. This request shall be made using the reimbursement claim form provided by the Administering Office, if applicable, and shall include copies of all warrants and pay estimates for which reimbursement has not yet been requested. The Administering Office will review the LPA's final Federal reimbursement request, and if acceptable, will forward to the Office of Finance for processing, along with the Final Forms Packet.

For contracts paid by the CPS, the Office of Finance will process the Federal reimbursement of participating contract costs. Federal funds reimbursement will be deposited in the fund from which payments were originally made (e.g., the county's Farm-to-Market account for a Federal-aid project on the Farm-to-Market System). If there are any other Federal reimbursable project costs that were not paid through the CPS, the LPA shall request final reimbursement for these costs as described in the paragraph above.

Upon receipt of the final reimbursement request from the Administering Office, the Office of Finance will issue a warrant to the LPA for the final amount of Federal reimbursement that is due. If the final audits or reviews reveal that the LPA has been overpaid, the LPA shall reimburse the Iowa DOT accordingly.

Project Close-out and Records Retention

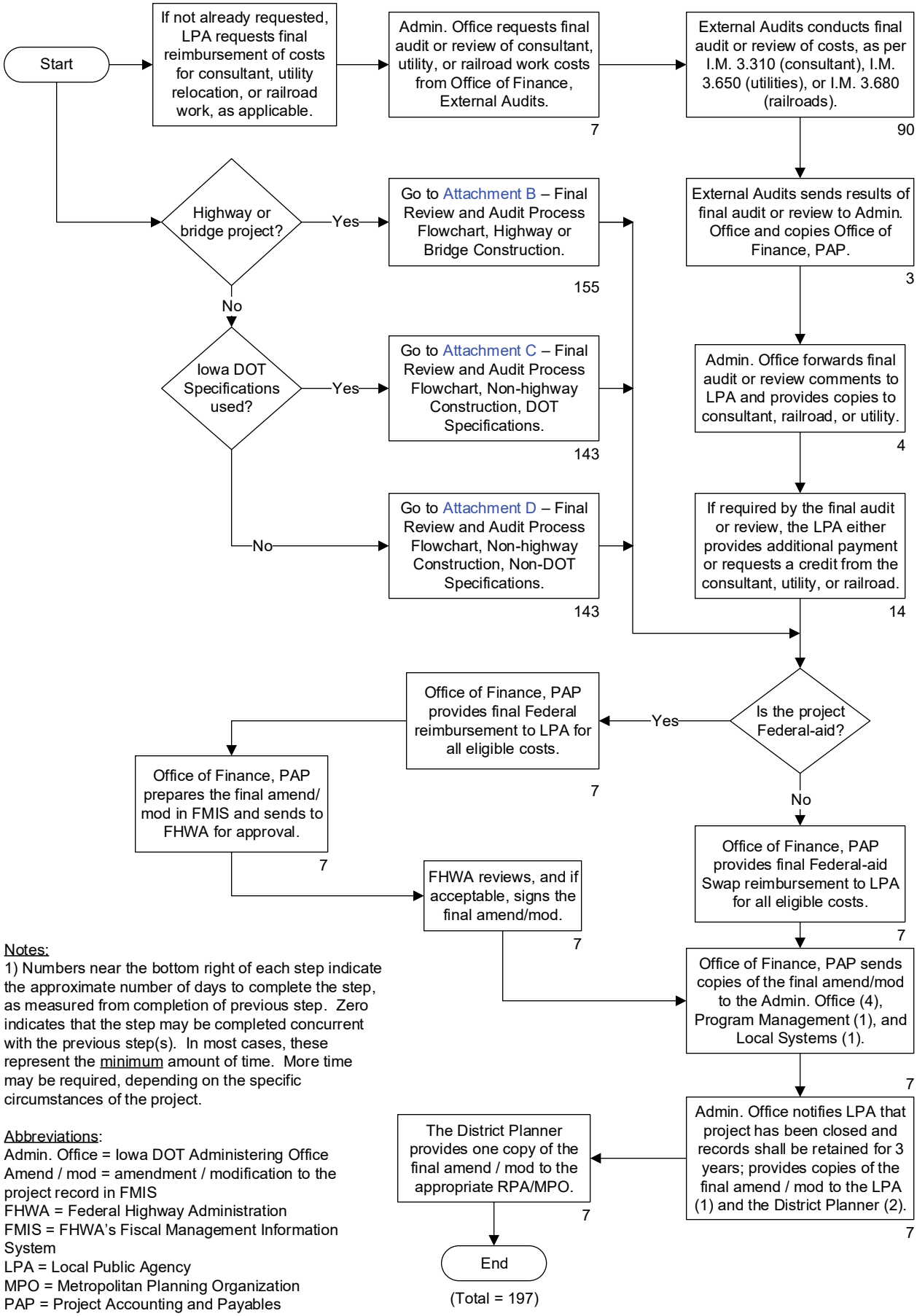
After processing the final Federal-aid reimbursement to the LPA, the Office of Finance will prepare a final amendment / modification (amend / mod) to the project authorization in the Federal Highway Administration's Fiscal Management Information System (FMIS). The final amend / mod is sent to FHWA electronically for its review and approval.

Once approved by FHWA, the Office of Finance distributes 6 copies of the final FMIS amend / mod document to the Administering Office (4), Program Management (1), and the Office of Local Systems (1). In turn, the Administering Office distributes copies to the LPA (1) and the District Planner (2). Finally, the District Planner forwards one copy to the appropriate Metropolitan Planning Organization (MPO) or Regional Planning Affiliation (RPA).

Upon receipt of the final amend / mod, the LPA shall retain its project records for not less than 3 years from the date of FHWA's signature on the final FMIS amend / mod document. These records shall be available for inspection by authorized Iowa DOT or FHWA personnel at any time during the retention period.

Project Close-out Process Overview Flowchart

For LPA Federal-aid, Federal-aid Swap and Farm-to-Market Projects

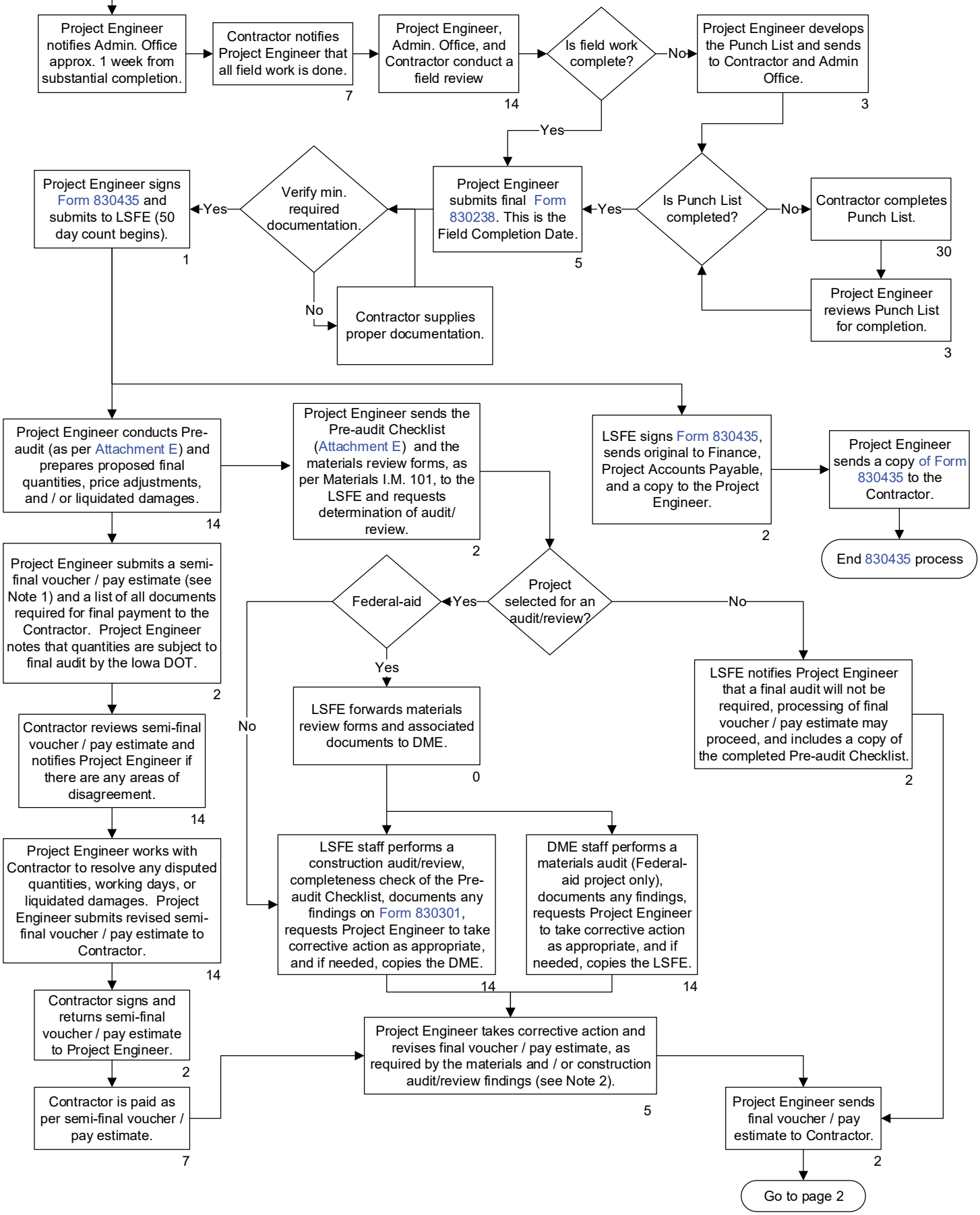


Notes:
1) Numbers near the bottom right of each step indicate the approximate number of days to complete the step, as measured from completion of previous step. Zero indicates that the step may be completed concurrent with the previous step(s). In most cases, these represent the minimum amount of time. More time may be required, depending on the specific circumstances of the project.

Abbreviations:
Admin. Office = Iowa DOT Administering Office
Amend / mod = amendment / modification to the project record in FMIS
FHWA = Federal Highway Administration
FMIS = FHWA's Fiscal Management Information System
LPA = Local Public Agency
MPO = Metropolitan Planning Organization
PAP = Project Accounting and Payables
RPA = Regional Planning Affiliation

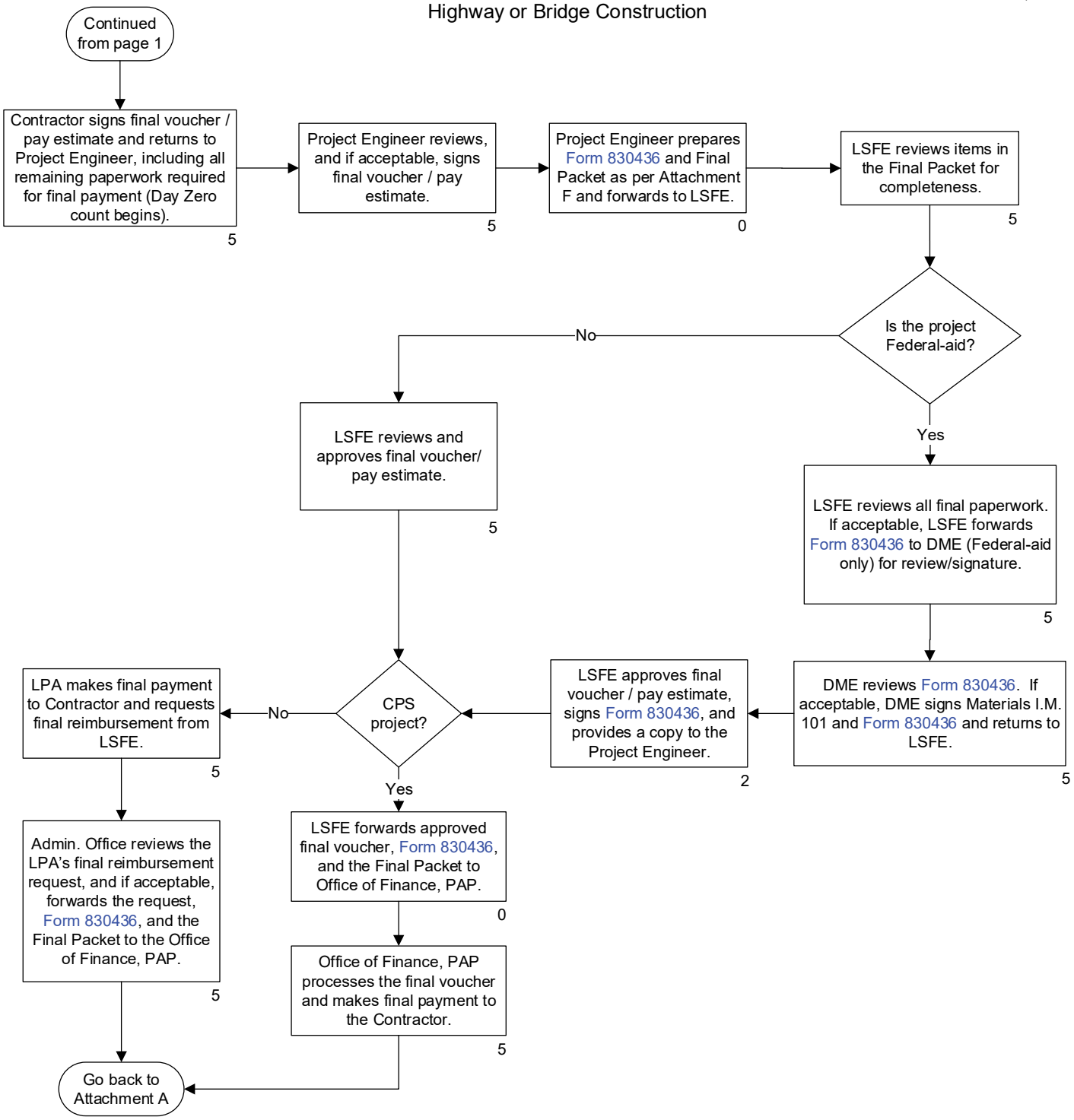
Final Review and Audit Process Flowchart

Highway or Bridge Construction



Final Review and Audit Process Flowchart

Highway or Bridge Construction



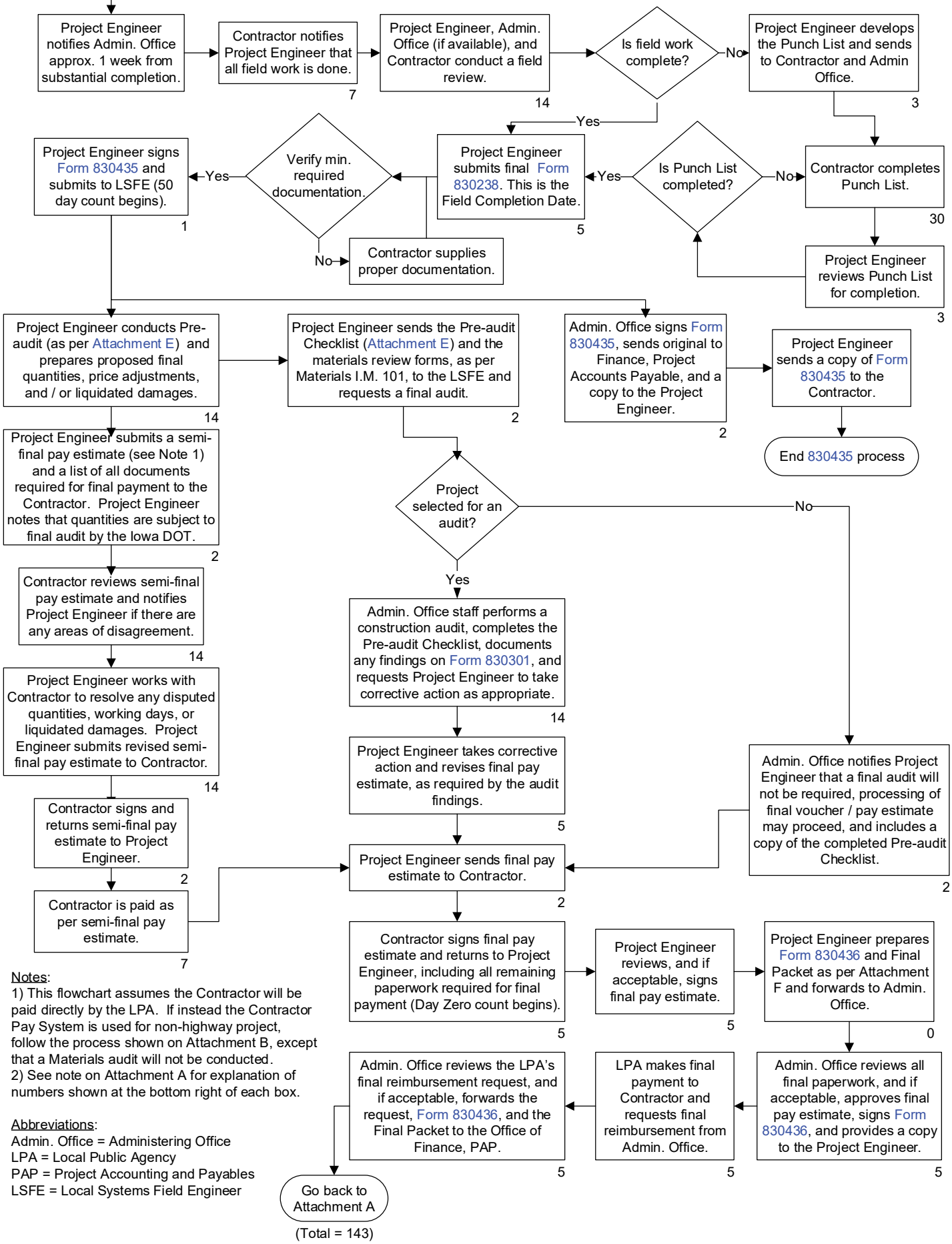
(Total = 155 days)

Notes:
1) Vouchers refer to projects using the Contractor Pay System (CPS); pay estimates refer to projects where the Contractor is paid directly by the LPA (reimbursement projects).
2) For contracts using the Field Manager software, a revised semi-final voucher must be prepared.
3) See note on Attachment A for explanation of numbers shown at the bottom right of each box.

Abbreviations:
DME = District Materials Engineer (or delegate)
LPA = Local Public Agency
PAP = Project Accounting and Payables
LSFE = Local Systems Field Engineer

Final Review and Audit Process Flowchart

Non-highway Construction, DOT Specifications



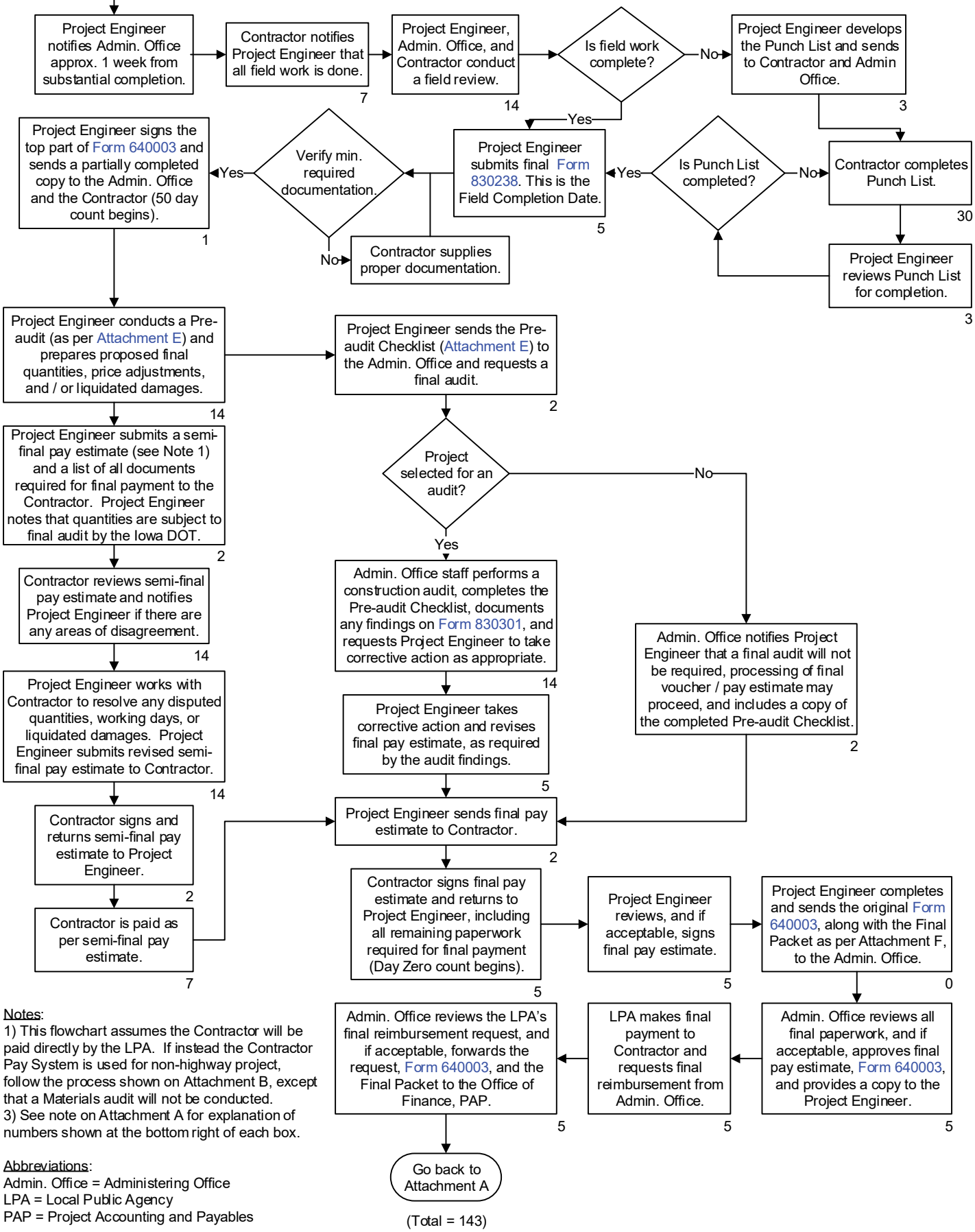
(Total = 143)

Notes:
1) This flowchart assumes the Contractor will be paid directly by the LPA. If instead the Contractor Pay System is used for non-highway project, follow the process shown on Attachment B, except that a Materials audit will not be conducted.
2) See note on Attachment A for explanation of numbers shown at the bottom right of each box.

Abbreviations:
Admin. Office = Administering Office
LPA = Local Public Agency
PAP = Project Accounting and Payables
LSFE = Local Systems Field Engineer

Final Review and Audit Process Flowchart

Non-highway Construction, Non-DOT Specifications



(Total = 143)

Notes:
1) This flowchart assumes the Contractor will be paid directly by the LPA. If instead the Contractor Pay System is used for non-highway project, follow the process shown on Attachment B, except that a Materials audit will not be conducted.
3) See note on Attachment A for explanation of numbers shown at the bottom right of each box.

Abbreviations:
Admin. Office = Administering Office
LPA = Local Public Agency
PAP = Project Accounting and Payables

Pre-audit/Project Review and Close-out Checklist

Project Number: _____ Project Name / Location: _____
Contract Number: _____ Contracting Authority: _____
Accounting Number: _____ Contractor: _____

Instructions: **All** of the applicable documents, steps, or reviews represented by this checklist should be complete and correct **before** submitting this checklist to the Iowa DOT Administering Office for review and determination of final audit by the Iowa DOT Administering Office. All primary, interstate and DOT maintenance projects will be audited, with no exceptions.

Review and complete this checklist as indicated below, and as indicated by the instructions for each item:

- If the question(s) associated with an item can be answered "yes", and the project file contains documentation to support this answer, check the box.
- If the item does not apply, check the "N/A" box.
- If any items need additional explanation, place a note adjacent to that item, add remarks in the "comments" section below, or attach additional documents as necessary.
- Project file can be defined as paper copy files, or electronic file systems such as Field Manager, Doc Express or Appia. All projects let through the Iowa DOT are required to use Doc Express.

For many of the checklist items below, references have been provided to the appropriate Iowa DOT form number, Iowa DOT Standard Specifications Section or Article number, Construction Manual (C.M.) section, Materials Instructional Memorandum (Materials I.M.s), or Instructional Memorandums to Local Public Agencies (I.M.). Such references are included in parenthesis immediately after the checklist item title. Consult these references for additional instructions and information.

The Iowa DOT Standard Specifications, C.M., and the Materials I.M.s are all available on-line as part of the Iowa DOT's Electronic Reference Library. Most of the Iowa DOT forms referenced below are also available on the Iowa DOT Forms web page. Finally, some of the forms or documents included in this checklist are also discussed as part of the C.M., Chapter 2 and I.M. 6.000, Construction Inspection.

This checklist is not an all-inclusive list. It should be used as a starting point for the project review and final audit. Additional documents and documentation may be required as part of the project records.

Contract Documents (All Projects Let at DOT)

YES N/A

☐ ☐ **Local Agency Funding Agreement:** For local projects only. Does the file include a copy of the fully-executed Iowa DOT/Local agency funding agreement including all addendums to the agreement?

YES N/A

☐ ☐ **Haul road agreements:** Does the project file include copies of any haul road agreements?

YES N/A

☐ ☐ **Right-of-Way, temporary or permanent easement agreements:** For local projects only. Does the project file include copies of property acquisition documents, temporary and/or permanent easement agreements?

YES

☐ **Estimating Proposal:** Does the project file include a copy of the Estimating Proposal and all attachments to the proposal?

YES N/A

☐ ☐ **Addendums:** Does the project file include copies of each addendum?

YES

☐ **Contract:** Does the project file include a copy of the fully-executed construction contract? with FHWA Form 1273 attached?

YES

☐ **Plans:** Does the project file include a copy of the plans?

YES N/A

☐ ☐ **Plan Revisions:** If the plans were revised after the contract award, are copies of such plan revisions, including transmittals to the Contractor, included in the project file?

YES

☐ **Specifications:** Is a copy (electronic or paper) of the contract specifications (Iowa DOT Standard Specifications plus the applicable General Supplemental Specifications, or other specifications as applicable) located in the project file or can they be produced when requested?

YES N/A

☐ ☐ **Specification Modifications:** If the contract was let using the Iowa DOT Standard Specifications, does the project file include copies of all applicable Special Provisions, Developmental Specifications, and Supplemental Specifications? If the contract was let using other specifications, does the project file include copies of all similar special provisions or modifications to those specifications?

YES

☐ **Subcontract Request and Authorization** (I.M. 6.000, Att. D, Section 2.25, Article 1108.01)**:** If the Contractor used subcontractors, does the project file contain evidence that the subcontractors were authorized by the Iowa DOT Office of Contracts?

Contract Administration and Inspection Documents (All Projects Let at DOT)

YES

☐ **Final Highway Funding Sources. Final Detail Estimate Cost Summary, and Final Highway Detail Construction Estimate (if applicable):** Does the project file include a copy of these documents? These documents are distributed by the Iowa DOT Office of Finance after a contract is awarded by the LPA. Together, these document the Contractor, awarded contract amount, the funding sources that will be used to pay for the contract costs, and if applicable, a breakdown of costs and funding by bid item categories.

YES

☐ **Pre-construction Meeting Minutes:** If a pre-construction meeting was held, does the project file include a copy of these notes, including a list of attendees?

YES

☐ **Inspector's Daily Diary:** Does the project file contain a copy of the project inspector's daily diary of construction operations, including the date and name or initials for each diary entry? Or are there entries within Field Manager for primary road projects or Doc Express or Appia.

YES N/A

☐ ☐ **Property Used by Contractor** (For primary road projects, C.M. 2.26, for local projects I.M. 6.000, Att. D, section 2.26)**:** If the Contractor requires the use of property, other than the existing right-of-way or easements provided by the Contracting Authority:

- ☐ Does the project file contain copies of the Contractor's agreements for purchase, lease, or temporary easements with the property owner(s)?

YES

☐ **Traffic Control Documentation** (C.M. 5.40, Article 2528.01)**:** If the contract includes an item for traffic control, does the project file include:

- ☐ A copy of the Contractor's Traffic Control Daily Diary?
- ☐ Records to verify that the Contractor has a technician on staff that has attended and passed the exam in an American Traffic Safety Services Association (ATSSA) or International Municipal Signal Association (IMSA) Work Zone Traffic Control training class?

YES N/A

☐ ☐ **Noncompliance Notice** (Form 830245, C.M. 3.21)**:** If any of the contract items, test results for incorporated materials, or work activities were not in compliance with the contract documents, was the Contractor issued a noncompliance notice for each, and does the project file include complete copies of this form?

YES N/A

☐ ☐ **Weekly Report of Working Days:** Does the project file include these reports for each week that the Contractor or subcontractors performed or should have performed work?

YES N/A

☐ ☐ **Weekly Report of Working Days** (Form 830238 (Word) (PDF) for primary projects C.M. 2.33, for local projects I.M. 6.000, Att. D, section 2.33)

YES N/A

☐ ☐ **Weekly Report of Working Days for Incentive/Disincentive** (Form 830241 (Word)) for primary projects C.M. 2.33, for local projects I.M. 6.000, Att. D, section 2.33)

YES N/A

☐ ☐ **Notice of Suspension or Resumption of Work** (Form 810036, C.M. 3.06)**:** If the Contractor was directed to stop work by the Project Engineer at any time during the project, does the project file include a completed copy of this form?

YES

☐ **Equal Employment Opportunity (EEO) Site Inspections** (Form 650170, I.M. 6.000, Att. D, section 2.22)**:** Does the project file contain completed copies of this form to document the EEO site inspections? These inspections shall be completed at least once, and if the contract extends more than 6 months, approximately once every 6 months for the duration of the contract. Note: If Davis-Bacon wage rates do not apply for the contract, only the top portion and sections 1 and 2 must be completed for each site inspection.

YES

☐ **As-built Plans** (I.M. 6.000, Att. D, section 2.72)**:** If the contract involves work on an Interstate or Primary Highway, has the Project Engineer prepared 3 sets of as-built plans and forwarded a copy to the appropriate Administering Office?

YES N/A

☐ ☐ **Statement of Completion and Final Acceptance of Work** (Form 830435, for primary projects C.M. 2.37, for local projects, I.M. 6.110)**:** If the contract was let using Iowa DOT Specifications, is a copy of this form included in the project file, signed and dated by the Project Engineer?

YES N/A

☐ ☐ **Certificate of Completion and Final Acceptance of Agreement Work** (Form 640003), I.M. 5.120)**:** If the contract was let using non-DOT specifications, is a copy of this form included in the project file, signed and dated by the Project Engineer?

Review of Quantities and Payments

YES

☐ **Field Book(s):** Are the quantities for all items documented in a field book, loose leaf binder, or if recorded electronically (Field Book, Field Manger, Appia), available as a computer print-out or report? Does the item quantity documentation include:

Yes N/A

☐ ☐ Added Change Order items (8000 “Change Number” series)?

Yes

☐ Dates and initials of the person who entered the quantity?

Yes

☐ Initials of the person who checked the quantity?

Yes

☐ Locations specified where each quantity was placed?

Yes No

☐ ☐ Are there contract items deleted with original project costs of by $100,000 or greater for primary projects or $50,000 or greater for local projects? If yes, a change order is required.

Yes No

☐ ☐ Are there contract items that increased or decreased in value by $100,000 or greater for primary projects or $50,000 or greater for local projects? If yes, a change order is required.

YES N/A

☐ ☐ **Change Orders** (Form 831240); for primary projects C.M. 2.36, for local projects, I.M. 6.000, Att. D, section 2.36)**:** If the contract had any Change Orders, has the following been completed for each Change Order:

☐ Marked as either "Substantial" or "Non-substantial"?

☐ Completed quantities recorded in the appropriate field book?

☐ Does the Change Order include a Justification of Cost? Refer to the "Checklist for Change Orders" included in I.M. 6.000, Att. D, section 2.36 for additional guidance related to supporting documentation. Note: Supporting documentation is not required for changes in cost based on existing contract prices.

☐ Is the Change Order's effect on contract time noted on the document?

☐ If any work was performed on a force account basis, does the project file contain a Statement of Force Account with supporting documentation attached? (Form 181213; I.M. 6.000, Att. D, section 2.35; Article 1109.03, B)

☐ **Method of Measurement and Basis of Payment:** Do all items have a method of measurement and basis of payment specified? This information is usually contained in the specifications (including any applicable Special Provisions, Developmental Specifications, Supplemental Specifications, etc.) but may also be located on the plans.

Note: If the bid item number indicates the Standard Specification Section where this information can be found, the bid item number is a sufficient reference for this information.

YES N/A

☐ ☐ **Items Paid by Length:** Do all items paid on the basis of length show the actual measured quantity, including the date and initials of the person that performed the measurement?

YES N/A

☐ ☐ **Items Paid by Count:** Do all items paid on the basis of count (per each) show the actual count, including the date and initials of the person that performed the count?

YES N/A

☐ ☐ **Items Paid by Weight** (Article 2001.07)**:** Do all items paid on the basis of weight include:

☐ Scale tickets that are certified by the producer?

☐ Scale tickets that are signed by the originator and the receiver?

☐ Ticket totals that are supported by adding machine tapes, computer print-outs, or other documentation?

☐ Dates and locations where the material was placed?

☐ Documentation of scale checks (verification and/or check weights)?

☐ Documentation that tare weights were newly determined (if applicable)?

YES N/A

☐ ☐ **Ready Mix Tickets:** If ready mix concrete is used, are copies of all ready mix tickets meeting the requirements of C.M. 9.03 available in the project file?

YES N/A

☐ ☐ **Items Paid as Lump Sum:** Do all items paid as a lump sum include the date the work was started, dates of intermittent progress (if applicable), the date the work was completed, and initials of the person who verified the work was completed?

YES N/A

☐ ☐ **Items Paid by Volume:** Do all items paid by volume include supporting calculations, such as original and final cross sections, or other methods that indicate how the volume was calculated?

YES N/A

☐ ☐ **Items Paid by Area:** Do all items paid by area include supporting calculations, such as sketches with dimensions, or other methods that indicate how the area was calculated? **NOTE: sketches must be drawn and dimensioned clearly for verification of calculation.**

YES N/A

☐ ☐ **Items Paid by Plan / Contract Quantity** (I.M. 6.000, Att. D, section 2.27, Article 1109.01)**:** For each item paid for on the basis of plan / contract quantities:

☐ Does each quantity entry include the date and location of the work performed and an estimated quantity of work performed at that location?

☐ If the item is not plan / contract quantity by specification, does the item have a completed and approved Contract Quantity Agreement (Form 830230)?

☐ **Materials Review:** For all materials incorporated into projects let using the Iowa DOT Standard Specifications:

☐ All materials been reviewed for compliance with the materials testing, sampling, and acceptance requirements of the Iowa DOT Standard Specifications and Materials I.M.s 101, 204, and 205?

☐ **Materials I.M. 101 Review Sheets:** Materials review sheets have been completed, all required materials certifications, and requirements and test reports are contained in the project file and a copy of these sheets has been attached to this document. (http://www.iowadot.gov/Construction_Materials/materialsforms/auditforms.xlsx)

☐ Has a summary statement of non-compliant tests or measurements of material incorporated into the project been completed by the Project Engineer? (C.M. Appendix 2-33)

☐ If the contract included HMA and / or PCC from a plant, does the project file include copies of the HMA and / or PCC Plant Reports?

YES N/A

☐ ☐ **ADA (Materials I.M. 363):** If project contains any construction or reconstruction of sidewalk or recreational trails, has the work been documented as required by Materials I.M. 363?

YES N/A

☐ ☐ **Price Adjustments:** Have all appropriate price adjustments been documented by a completed Change Order (Form 831240), including those related to:

YES N/A

☐ ☐ Non-compliance with the contract documents? (I.M. 6.000, Att. D, section 2.53)

YES N/A

☐ ☐ Incentive / disincentive specifications, including, but not limited to:

YES N/A
☐ ☐ Pavement smoothness, if required by the contract documents? (C.M. 3.60)

YES N/A
☐ ☐ PCC Pavement thickness? (C.M. 9.65, Materials I.M. 346)

YES N/A
☐ ☐ HMA Lab Voids, Field Voids? (Section 2303)

YES N/A
☐ ☐ Early completion? (Section 1111)

YES N/A
☐ ☐ Liquidated damages? (I.M. 6.000, Att. D, section 2.34)

☐ **Progress Vouchers / Pay Estimates:** Does the project file contain copies of all progress vouchers or pay estimates prepared by the Project Engineer and approved by the LPA?

YES N/A

☐ ☐ **Reimbursements:** If the Contractor was paid directly by the LPA, does the project file contain the following:

☐ Copies of all checks or warrants issued to the Contractor or copy of a check register showing all payments that have been made to-date?

☐ Copy(s) of the one of the following:

☐ Claim for Reimbursement of Project Costs (Form 517050 or equivalent)?

☐ Claim for Reimbursement of Federal Grant Program Project Costs (Form 240007)?

☐ Claim for Reimbursement of Safe Routes to School Project Costs (Form 240009)?

☐ Claim for Reimbursement of State Grant Program (RISE, RT) Project Costs (Form 240011)?

☐ **Proposed Semi-final Voucher / Pay Estimate:** Does the project file contain a copy of the semi-final voucher or pay estimate, including the final quantities and price adjustments proposed by the Project Engineer?

YES N/A

☐ ☐ For primary projects, Fieldbook Field Manager balance reports complete?

Contract Administration and Inspection Documents (Additional Items for Federal-aid Projects Let at DOT)

YES

☐ **Contract:** Does the project file include a copy of the fully-executed construction contract with FHWA Form 1273 attached?

YES N/A

☐ ☐ **DBE Commitment Report** (For primary road projects C.M. 2.24, for local projects, I.M. 6.000, Att. D, section 2.23)**:** If the contract was let by the Iowa DOT and if the Contractor made a DBE commitment. Does the project file include a completed copy of this report? This report is provided to the LPA by the Office of Employee Services, Civil Rights Section, after the contract has been let. It shows a summary of the Contractor's DBE commitment(s), including the proposed DBE Contractor and/or subcontractor(s), and the committed amounts of each.

YES N/A

☐ ☐ **Certification of DBE Accomplishment** (Form 102116; Article 1102.17, G; I.M. 6.000, Att. D, section 2.25)**:** This form shall be submitted on all Federal-aid contracts and shall list the dollar amounts paid to all DBE firms on the contract (even if there is no commitment). Does the project file include a completed copy of this form?

YES N/A

☐ ☐ **DBE Commercially Useful Function** (Form 517014 ; I.M. 6.000, Att. D, section 2.25)**:** Does the file include a copy of the DBE Commercially Useful Function form or documentation the DBE did a commercially useful function on the project?

YES N/A

☐ ☐ **Davis-Bacon Compliance** (I.M. 6.000, Att. D, section 2.24)**:** If Davis-Bacon wage requirements apply to the contract, does the project file contain the following:

Note: Federal-aid routes include all Federal Functional Classifications, except Local Roads and Rural Minor Collectors. This item also generally applies to contracts for construction of bicycle or pedestrian trails, if at least 50% of the trail is located within the right-of-way of a Federal-aid route. Projects including Safe Routes to School (SRTS) or Transportation Alternatives Program (TAP) funds require compliance with Davis-Bacon regardless of project location. For contracts let by the Iowa DOT, applicability of the Davis-Bacon requirements is indicated on the bid proposal and contract.

YES N/A

☐ ☐ Completed Wage Rate Reports (Form 650170) for the Contractor and all subcontractors with contracts greater than $10,000 to document the wage rate interviews? The wage rate interviews should be completed at least once, and if the contract extends more than 6 months, approximately once every 6 months for the duration of the contract. Note: Wage rate interviews do not need to be completed for Contractor or subcontractors if they participate in the Association of General Contractors (AGC) Prevailing Wage Notification Program.

☐ Copies of the Certified Transcript of Labor Payroll (Form 830176) that are:

☐ Signed and dated by the Contractor, for each week that the Contractor or subcontractors performed work?

☐ Dated by the Project Engineer upon receipt?

☐ Checked and initialed by the Project Engineer for compliance? (This is only required for the first few submitted; if no compliance problems are noted, subsequent submittals will only require spot checking.)

☐ A copy of the applicable Predetermined Wage Rate?

Contract Administration and Inspection Documents (MAY Apply to Project)

YES N/A

☐ ☐ **Statement of DBE Commitments for Locally-Procured Federal-aid Contracts** (Form 517012, I.M. 5.120)**:** If the contract was let by the LPA, does the project file include a completed copy of this form?

YES N/A

☐ ☐ **Storm Water Permit** (I.M. 4.140)**:** If the contract work required a National Pollutant Discharge Elimination System (NPDES) General Permit No. 2 from the Iowa DNR, does the project file include completed copies of the following:

☐ Iowa DNR's Notice to Proceed form and a copy of the required newspaper notice? (Local projects only)

☐ Copy of the Storm Water Permit?

☐ Storm Water Site Inspection Reports (Form 830214) every 7 days starting with initial ground disturbance and continuing until 70% permanent vegetative growth is established?

- ☐ Are the site inspections signed by a representative of the Contracting Authority and the Contractor's Erosion and Sediment Control Basics trained individual?
- ☐ Does the file contain the name of the Erosion and Sediment Control Basics (ESC Basics) and Erosion Control Technician (ECT) trained individuals on the Contractor's staff?
- ☐ Was the ECIP submitted by the Contractor's ESC Basics trained individual?

☐ Does the project file include a copy of the Contractor's certification statement for storm water discharge associated with industrial activity for construction activities?

☐ Does the project file include signed affidavits from affected subcontractors identifying them as co-permittees?

☐ If the seeding or other permanent ground cover has been established, the Iowa DNR's Notice of Discontinuation (NOD) form? (If the site has not yet been stabilized, this form may be submitted later.)

YES N/A

☐ ☐ **Iowa DNR Notification of Completion of Construction** (DNR Form 37, I.M. 3.500)**:** If the project required an Iowa Department of Natural Resources (Iowa DNR) Flood Plain Permit, was this form completed and sent to the Iowa DNR and does the project file include a copy of this form?

YES N/A

☐ ☐ **Contractor's Erosion Control Implementation Plan** (ECIP) (Article 2602.03)**:**

☐ Does the Contractor's ECIP include stages for erosion control work to address the Contractor's time table and sequence of major activities or stages on the contract?

☐ For projects with a NPDES permit:

☐ If Erosion Control Mobilizations apply to the contract, did the ECIP include the anticipated number of erosion control mobilizations for the project?

☐ Did the contracting authority approve the ECIP?

N/A

☐ ☐ **Log of Piling Driven** (if by formula, Form 830210, if by wave equation, Form 830209); C.M. 11.25, C.M. Appendix 11-22)**:** If the contract included an item of work for driving piles, such as on a bridge project, does the project file include a completed copy of this form? This form should be completed as piles are driven and uploaded to SIIMS.

YES N/A

☐ ☐ If the project is a bridge, has the Bridge Survey Report, (commonly referred to as Form 107) been submitted to Iowa DOT Office of Bridges and Structures? Form 107 must be filled out to show record of the new bridge. Instructions for the Bridge Survey Report are here: https://siims.iowadot.gov/Form107InstGuide.pdf. The Bridge Survey Report is here: https://siims.iowadot.gov/inspector_form.aspx.

Project Engineer's Comments

Project Engineer's Certification: I have reviewed and verified each of the applicable items shown above. The supporting documentation associated with each applicable item is in the project file. The project file is organized and ready for Iowa DOT and / or FHWA inspection.

Printed Name: _____ Date: _____

Signature: _____

Iowa DOT Review: As the authorized representative of the Iowa DOT:

☐ I have reviewed this checklist and performed a final audit of this contract. For the Davis-Bacon Compliance and EEO Site Inspection items, and for all other items indicated by my initials above, I have reviewed a sample of the supporting documentation and found it to be in substantial conformance with the contract documents and / or project requirements, except as noted on the Audit of Final Pay Estimate (Form 830301).

☐ I have reviewed this checklist only. This contract was not selected for a final audit.

Printed Name: _____ Date: _____

Signature: _____ Initials: _____

Final Forms Packet Checklist

Project Number: _____ Project Name / Location: _____
Contract Number: _____ Contracting Authority: _____
Accounting Number: _____ Contractor: _____

Instructions: Attach the following documents, as applicable, to this checklist and send with your request for approval of the final voucher or pay estimate to the Iowa DOT Administering Office. Check the box to indicate which documents are being submitted. If the document doesn't apply, check the "N/A" box. Include the original and / or number of copies, as indicated for each item. If any of the items are not complete or correct, the final voucher or pay estimate will not be processed until all applicable documents are provided. Keep a copy of this completed checklist, including all attached documents, in the project file.

For many of the checklist items below, references have been provided to the appropriate Iowa DOT form number, Standard Specification Article number, Construction Manual (C.M.) section, Materials Instructional Memorandum (Materials I.M.), or Instructional Memorandum to Local Public Agencies (I.M.). Such references are included in parenthesis immediately after the checklist item title. Consult these references for additional instructions and information.

The Iowa DOT Standard Specifications, Construction Manual, and the Materials I.M.s are all available on-line as part of the Iowa DOT's Electronic Reference Library. Most of the Iowa DOT forms referenced below are also available on the Iowa DOT Forms web page. Finally, many of the forms or documents included in this checklist are also discussed as part of I.M. 6.000, Construction Inspection.

Document	Number	
	Original	Copies
Include for all contracts paid directly by the LPA:		
☐ **Final Pay Estimate** (Form 181235 (Word) or acceptable substitute) - Include if the Contractor was paid directly by the LPA. The final pay estimate reflects the final quantities and price adjustments, as corrected by the Iowa DOT final audits/review (if applicable), and has been signed by the Contractor and the Project Engineer.	1	
☐ **N/A** ☐ **Claim for Reimbursement of Project Costs** – Include Claim for Reimbursement of Projects Costs, signed by the Person in Responsible Charge, and a copy of all proof of payments, invoices, and pay estimates not submitted with a previous Claim for Reimbursement of Project Costs. For information on which Claim for Reimbursement of Projects Costs form to use, contact your Administering Office.		
Include for all contracts paid by the Iowa DOT using the Contractor Pay System (CPS):		
☐ **Final Contract Construction Progress Voucher** (Form 181013, C.M. 2.37) - The final voucher includes all Change Orders, reflects the final quantities and price adjustments, as corrected by the Iowa DOT final audit/review (if applicable), and has been signed by the Project Engineer, Chairman of the Board of Supervisors, District Local Systems Engineer, and the Contractor. Note: If the Field Manager software is used, the computer generated final voucher may be used instead of Form 181013.	1	
For all contracts that apply:		
☐ **N/A** ☐ **Certification of DBE Accomplishments** (Form 102116, C.M. 2.25, Article 1102.03) - Include if the contract was let by the Iowa DOT, even if no DBE firms were used. This certificate shall be submitted on all Federal-aid contracts and shall list the dollar amounts paid to all DBE firms on the contract. The certification shall be dated and signed by a responsible official legally representing the Contractor. Falsification of this certification will result in suspension of bidder qualifications according to Article 1102.03.		1
☐ **N/A** ☐ **Certification of DBE Accomplishments** (Form 517013, I.M. 5.120) - Include if the contract was let by the LPA, even if no DBE firms were used. If no DBE firms were used, the Project Engineer shall complete the applicable portions of the form.	1	

Document	Number	
	Original	Copies
☐ **Certification of Subcontractor Payments** (Form 518002) - Include if the Contractor utilized any subcontractors.	1	
☐ **Contractor Evaluations** Evaluation Report form, Evaluation Report Instructions) - These have to be submitted electronically to the Office of Contracts for the Contractor and any subcontractors with subcontract amounts of $20,000 or more. If using FieldManager, use instructions in the FieldManager Guide. All other projects, use the instructions on the Evaluation Report Instructions web page. At the Project Engineer's option, these may be submitted for subcontracts of lesser value.	1	
☐ **Interest Payment Information** (Form 830236, I.M. 6.130) - Include for all contracts.		1
☐ **Audit of Final Pay Estimate** (Form 830301) - Include if the contract was audited/reviewed by the Iowa DOT. The form identifies the date corrective actions were taken and is signed and dated by the Project Engineer.		1
☐ **Final Payment** (Form 830436, C.M. 2.37) - Include if the contract used the Iowa DOT Standard Specifications.		1

Project Engineer's Certification: I have reviewed and / or approved each of the applicable items shown above and have approved the final voucher or pay estimate. The applicable documents, including supporting documentation as required, are attached.

Printed Name: _____ Date: _____

Signature: _____

IM 6.130
INTEREST PAYMENT PROCEDURES

INSTRUCTIONAL MEMORANDUMS
To Local Public Agencies

To:	Counties and Cities	Date: December 3, 2007
From:	Office of Local Systems	I.M. No. 6.130
Subject:	Interest Payment Procedures	

Contents: This Instructional Memorandum (I.M.) describes the procedures for a Local Public Agency (LPA) to comply with the interest payment requirements associated with construction contracts. This I.M. includes the following attachments:

Attachment A – Sample Interest Payment Information Form

Note: The procedures outlined in this I.M. are required only for Federal-aid contracts; however, the interest payment requirements of section 573.14 of the Code of Iowa apply to all public agency contracts, regardless of the funding source. Therefore, the Iowa Department of Transportation (Iowa DOT) recommends that LPAs follow a similar procedure for non-Federal-aid contracts; however, no submittals to the Iowa DOT are required for such contracts. If interest is due for non-Federal-aid contracts, the LPA may contact the Iowa DOT Office of Finance, Project Accounting and Payables at 515-239-1703 to obtain the appropriate interest rate.

Introduction

Section 573.14 of the Code of Iowa requires that interest be paid on retained funds under certain conditions. For contracts let by the Iowa DOT, these conditions are specified in Article 1109.09 of the Iowa DOT Standard Specifications (available on-line as part of the Iowa DOT's Electronic Reference Library). For Federal-aid contracts that are let locally, these conditions are specified in the Proposal Notice for Locally Procured Federal-aid Contracts (for more information, see I.M. 5.120, Local Lettings – Federal-aid).

Preparing the Interest Payment Information

The information required to determine if interest will be due shall be documented on the *Interest Payment Information* (Form 830236). A sample form is provided as Attachment A to this I.M. The Project Engineer shall complete Form 830236 according to the instructions provided below:

Project Number, Project Name / Location, Accounting I.D., and Contractor: Complete these fields as appropriate for the contract being submitted.

Final Acceptance Date (FAD): For projects let using the Iowa DOT Standard Specifications, this date is when the LPA's Project Engineer signs the *Statement of Completion and Final Acceptance of Work* (Form 830435). For projects that are let using other specifications, this date is when the LPA's Project Engineer signs the top portion of the *Certificate of Completion and Final Acceptance of Agreement Work* (Form 640003).

Day Zero: This is the date the LPA's Project Engineer receives the final paperwork from the Contractor. The final paper work includes all forms, certifications, Change Orders, or other documentation required by the contract documents for final payment. The Day Zero date cannot occur before the FAD. If the Contractor provides all the final paperwork before the FAD, Day Zero Date will be equal to the FAD.

Suspension Periods in Day Zero Count: Enter each suspension period in the Day Zero count that applies, including the beginning and ending dates of the suspension period and the reason(s) for the suspension. The Day Zero count starts the day following Day Zero and stops as of the date shown on the final payment warrant. After the Day Zero count has started, it may be suspended in the following situations:

1. If at any time after the Contractor submits the final paperwork it is determined, either by the Project Engineer or the Iowa DOT, that any of the required final paperwork is missing. In such cases, the Project Engineer shall notify the Contractor in writing and specify the documentation that must be submitted. The Day Zero count will be suspended as of the date of the Project Engineer's notice to the Contractor and shall be resumed on the date the requested documentation is received by the Project Engineer.

2. If the Project Engineer has not received a signed final voucher or final pay estimate from the Contractor by FAD + 50, the Day Zero count will be suspended on the following day (FAD + 51). It will resume on the date the signed final voucher or pay estimate is received by the Project Engineer.

3. If after receipt of the final paperwork from the Contractor, the Project Engineer initiates a Change Order. In such cases, if the Change Order is not signed and returned to the Project Engineer by within 10 days after it was sent to the Contractor, the Day Zero count will be suspended on the 11th day and resume when the signed Change Order is received by the Project Engineer.

Total Suspension Periods in Day Zero Count: Enter the total number of days the Day Zero count was suspended, as indicated above. If there were no suspensions, enter "None" in the space provided.

If final payment is dated after: Enter the date which is 50 calendar days after the FAD.

Interest will start to accrue on: Beginning with Day Zero, add 31 calendar days, then add the total number of suspension days in the Day Zero Count, if any, and enter this date.

To illustrate how the various dates and suspension periods affect the interest period calculation, consider the following examples:

Example 1:

FAD = Jul 10, 2007
FAD + 50 = Aug 29, 2007
Day Zero = Jul 20, 2007
Day Zero + 31 = Aug 20, 2007
Total Day Zero Count Suspensions = 0 days
Date of Final Warrant = Sep 22, 2007

Result: The final warrant is dated after Aug 29, 2007 (FAD + 50) so interest will be paid for a period of 34 days, beginning Aug 20, 2007 (Day Zero + 31 + 0) and ending Sep 22, 2007 (date of final warrant).

Example 2:

FAD = Jul 10, 2007
FAD + 50 = Aug 29, 2007
Day Zero = Sep 10, 2007
Day Zero + 31 = Oct 11, 2007
Total Day Zero Count Suspensions = 0 days
Date of Final Warrant = Oct 5, 2007

Result: The final warrant is dated after Aug 29, 2007 (FAD + 50), but is before Oct 11, 2007 (Day Zero + 31 + 0), so no interest is due.

Example 3: (as shown on the sample form included as Attachment A)

FAD = Jul 10, 2007
FAD + 50 = Aug 29, 2007
Day Zero = Sep 10, 2007
Day Zero + 31 = Oct 11, 2007
Total Day Zero Count Suspensions = 20 days
Date of Final Warrant = Oct 15, 2007

Result: The final warrant is dated after Aug 29, 2007 (FAD + 50) but is before Oct 31, 2007 (Day Zero + 31 + 20), so no interest is due.

Submittal and Review of Interest Payment Information

After completing Form 830236, the Project Engineer shall submit it to the Iowa DOT Administering Office with the final voucher or pay estimate, along with the other paperwork required for Iowa DOT approval of final payment. Upon receipt, the Administering Office will review Form 830236 for completeness. If any of the information is incorrect or incomplete, the Administering Office will contact the Project Engineer. The Project Engineer shall revise and resubmit the form as required.

Payment of Interest

If the date of the final warrant to the Contractor is 50 calendar days or less from the Final Acceptance Date, no interest will be paid. If it is more than 50 calendar days, interest will begin to accrue as of the date indicated on Form 830236. If interest is due, it will be paid according to one of the following procedures:

1. For contracts paid using the Contractor Pay System (CPS): The Iowa DOT Office of Finance will calculate the appropriate amount of interest to be paid, if any. If the amount is over $25, the Office of Finance will issue a warrant to the Contractor for that amount. An interest payment voucher will not be prepared or sent to the LPA for review and approval. Payment will be made from the same account from which the earlier contract payments were made.

2. For contracts paid directly by the LPA: If Form 830236 indicates that interest is due, the LPA shall calculate the amount of interest to be paid using the interest rate as established by Code of Iowa section 12C.6. The LPA may contact the Iowa DOT Office of Finance, Project Accounting and Payables at 515-239-1703 to obtain the current interest rate, as established by this Code section. After calculating the appropriate interest payment, the LPA shall make payment to the Contractor accordingly.

Note: Regardless of which method is used to make the interest payment to the Contractor, such payments are not eligible for reimbursement with Federal funds.

Retention Release

The process for reviewing the final paperwork can be lengthy. Therefore, to reduce the chance that interest will be due to the Contractor, the Project Engineer should submit the final paper work to the Administering Office on or before FAD + 29. Submittal of the final paperwork on or before this date will usually allow enough time for the Iowa DOT to review and approve the final voucher and make final payment to the Contractor for contracts paid using the CPS; or for contracts paid directly by the LPA, for the Iowa DOT to review and approve the final pay estimate and notify the LPA that final payment to the Contractor can be made.

If at any time it appears that submittal of the final paperwork cannot be made on or before FAD + 29, the Project Engineer should consider preparing a Retention Release Voucher for CPS contracts; or for contracts paid directly by the LPA, pay the retainage due, less an amount double any claims on file. This will reduce or eliminate the amount retained and thereby reduce the amount of interest that may be due.

Iowa Department of Transportation

Form 830236 (11-07)

INTEREST PAYMENT INFORMATION

For County and City Projects

Note: For instructions, refer to Instructional Memorandum (I.M.) 3.930, Interest Payment Procedures.

Project Number STP-U-1945(602)--70-77

Project Name / Location 2nd Street Improvements from Walnut to Main Street.

Accounting ID 77-70-1945-602

Contractor XYZ Construction, Inc.

Final Acceptance Date (FAD): Jul 10, 2007

Day Zero Date: Sep 10, 2007

Suspension Periods in the Day Zero Count: (If there are no suspensions, write "None.")

After the contractor's submittal of the final voucher, it was determined that the material certifications for the PCC pavement tie-bars were missing. The Project Engineer's notice to the contractor was dated Sep 15, 2007. The contractor provided the requested certifications on Oct 5, 2007.

Total Suspension Periods in Day Zero Count (days): 20 (if none, enter zero)

If final payment is dated after Aug 29, 2007 (FAD + 50)

Interest will start to accrue on Oct 31, 2007 (Day Zero + 31 + Total Suspension Days)

SAMPLE