

INFORMATION: FP-03 U. S. Customary Version
 Federal Lands Highway (FLH)
 FLH Supplemental Specifications

March 10, 2005

J. B. Wlaschin
 Director, Office of Program Development

HFPD-3

Federal Lands Highway Division Engineers

TRANSMITTAL No. 2

The following are additions and revisions to the FLH Supplemental Specifications to the *Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects* (FP-03) U. S. Customary Version. These specification additions and revisions were coordinated through the FLH specification process and are approved by this office.

Each Division shall incorporate the FLH supplemental specifications into its library of specifications. These supplemental specifications shall be used in the special contract requirements of all FLH projects according to the instructions for each supplemental specification and will be incorporated into the next FP.

REMOVE		INSERT		DESCRIPTION
Page(s)	Dated	Page(s)	Dated	
1	7/2/04	1	3/10/05	Contents
106.01-1,2, & 3	7/2/04	106.01-1,2, & 3	3/10/05	Conformity with Contract Requirements
		107.03(g)	3/10/05	“Beck” poster
		401.08	3/10/05	Asphalt Preparation
		402.03	3/10/05	Composition of Mix (Job-Mix Formula)
		402.03(c)(4)	3/10/05	Voids in mineral aggregate
409.12-1&2	7/2/04	409.12-1&2	3/10/05	Table 409-2 Approximate Quantities of Material for Double Course Surface Treatments and Table 409-3 Approximate Quantities of Material for Triple Course Surface Treatments
		409.13	3/10/05	Table 409-4 Sampling & Testing Requirements
		602.06	3/10/05	Soil-tight bell & spigot joints
		703.17	3/10/05	Table 703-13 Allowable Deviations for Target Value Gradations
		709.01	3/10/05	Reinforcing bars, Tie bars, & Hook bolts
		718.08(b)(2)	3/10/05	Square tubular steel signposts

The Specification Coordination Group (SCG) is working on other specification additions and

revisions that will be issued as part of the next FP when approved.

If you have comments on the FP-03 or the FLH Supplemental Specifications, please contact Mr. Dave Green at 202-366-9477 or one of the other SCG members listed on Page 1 of the FLH Supplemental Specifications.

Attachment

FHWA:HFPD-1:DGGreen:dlw:69477:3/10/05:G:Shared/Pshared/Constuction Standards/X-T2
U.S. Customary.doc.

cc: File - HFPD-1 (FLH Supplemental Specifications – U.S. Customary Version)
Reader - HFL-1 Green - HFPD-3

FP-03

U. S. Customary Version

FLH SUPPLEMENTAL SPECIFICATIONS

These additions and revisions to the *Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects (FP-03) U. S. Customary Version* are approved by Federal Lands Highway (FLH). They will be used in the special contract requirements of all FLH projects according to the instructions for each specification. They may also be incorporated into the next update of the FP.

For additions and revisions to the FP-03 and these FLH Supplemental Specifications, please contact one of the following members of the Specification Coordination Group:

Jeffrey Slater	Eastern Federal Lands Highway Division jeffery.slater@fhwa.dot.gov	703-404-6327
Mike Peabody	Central Federal Lands Highway Division micheal.peabody@fhwa.dot.gov	303-716-2175
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106.01 Conformity with Contract Requirements (3/10/05)	106.01-1,2,&3 (3/10/05)
107.03(g) "Beck" poster (3/10/05)	107.03(g) (3/10/05)
401.08 Asphalt Preparation (3/10/05)	401.08 (3/10/05)
401.16(b) International roughness index (IRI) (7/2/04)	401.16(b) (7/2/04)
Table 401-4 Type IV Pavement Roughness (7/2/04)	401.16(b)(2) (7/2/04)
402.03 Composition of Mix (Job-Mix Formula) (3/10/05)	402.03 (3/10/05)
402.03(b) Submission (7/2/04)	402.03(b) (7/2/04)
402.03(c)(4) Voids in mineral aggregate (3/10/05)	402.03(c)(4) (3/10/05)
Table 409-1 Approximate Quantities of Material for Single-Course Surface Treatments (7/2/04)	409.11 (7/2/04)
Table 409-2 Approximate Quantities of Material for Double Course Surface Treatments and Table 409-3 Approximate Quantities of Material for Triple Course Surface Treatments (3/10/05)	409.12-1&2 (3/10/05)
Table 409-4, Sampling and Testing Requirements (3/10/05)	409.13 (3/10/05)
Table 552-3 Required Average Compressive Strength (7/2/04)	552.03(v) (7/2/04)
602.06 Soil-tight bell and spigot joints (3/10/05)	602.06 (3/10/05)
Table 703-2 Target Value Ranges for Subbase & Base Gradation (7/2/04)	703.05 (7/2/04)
Table 703-7 Target Value Ranges for Single & Multiple Course Surface Treatment Aggregate Gradation (7/2/04)	703.10 (7/2/04)
Table 703-13 Allowable Deviations for Target Value Gradations (3/10/05)	703.17 (3/10/05)
704.02 Bedding Material (7/2/04)	704.02 (7/2/04)
718.08(b)(2) Square tubular steel posts (3/10/05)	718.08(b) (3/10/05)
709.01 Reinforcing bars, Tie bars, & Hook bolts (3/10/05)	709.01 (3/10/05)
718.14(g) Waterborne traffic paint daylight reflectance (7/2/04)	718.14(g) (7/2/04)

Include the following with all projects:

(3/10/05)

Delete subsection 106.01 and substitute the following:

106.01 Conformity with Contract Requirements. Follow the requirements of FAR Clause 52.246-12 Inspection of Construction.

References to standard test methods of AASHTO, ASTM, GSA, and other recognized standard authorities refer to the methods in effect on the date of solicitation for bids.

Perform all work to the lines, grades, cross-sections, dimensions, and processes or material requirements shown in the contract documents.

Incorporate manufactured material into the work according to the manufacturer's recommendations or to these specifications, whichever is more strict.

Plan dimensions and contract specification values are the values to be strived for and complied with as the design values from which any deviations are allowed. Perform work and provide material that is uniform in character and reasonably close to the prescribed value or within the specified tolerance range. The purpose of a tolerance range is to accommodate occasional minor variations from the median zone that are unavoidable for practical reasons.

When standard manufactured items are specified (such as fence, wire, plates, rolled shapes, pipe conduits, etc., that are identified by gauge, unit mass, section dimensions, etc.), the identification will be considered to be nominal masses or dimensions. Unless specific contract tolerances are noted, established manufacturing tolerances will be accepted.

The Government may inspect, sample, or test all work at any time before final acceptance of the project. When the Government tests work, copies of test reports are furnished to the Contractor upon request. Government tests may or may not be performed at the work site. If Contractor testing and inspection is verified by the Government, the Contractor's results may be used by the Government to evaluate work for acceptance. Do not rely on the availability of Government test results for process control.

Acceptable work conforming to the contract will be paid for at the contract unit bid price. Four methods of determining conformity and accepting work are described in Subsections 106.02 to 106.05 inclusive. The primary method of acceptance is specified in each Section of work. However, work may be rejected at any time it is found by any of the methods not to comply with the contract.

Remove and replace work that does not conform to the contract, or to prevailing industry standards where no specific contract requirements are noted, at no cost to the Government.

(a) Disputing Government test results. If the accuracy of Government test results is disputed, promptly inform the CO. If the dispute is unresolved after reasonable steps are taken to resolve the dispute, further evaluation may be obtained by written request. Include a narrative describing the dispute and a proposed resolution protocol that addresses the following:

- (1) Sampling method;
- (2) Number of samples;
- (3) Sample transport;
- (4) Test procedures;
- (5) Testing laboratories;
- (6) Reporting;
- (7) Estimated time and costs; and
- (8) Validation process.

If the evaluation requires additional sampling or testing be performed, mutually agree with the Government on witnessing procedures and on sampling and testing by a third party laboratory. Use a third party laboratory accredited by the AASHTO accreditation program. Provide proof of the laboratory's accreditation for the test procedures to be used. Do not use the same laboratory that produced the disputed Government test results or that produced the test results used as a basis for the dispute.

The CO will review the proposed resolution protocol and may modify it before final approval and execution.

The Government will use the approved resolution protocol test results to determine the validity of the disputed testing. If the Government test results are validated, the Contractor will be responsible for all costs associated with developing and performing the resolution protocol. If the Government test results are not validated, the Government will be responsible for all costs associated with developing and performing the resolution protocol. If the validity of the Government test results cannot be determined, the Contractor and Government will equally share all costs associated with developing and carrying out the resolution protocol.

(b) Alternatives to removing and replacing non-conforming work. As an alternative to removal and replacement, the Contractor may submit a written request to:

- (1) Have the work accepted at a reduced price; or
- (2) Be given permission to perform corrective measures to bring the work into conformity.

The request must contain supporting rationale and documentation. Include references or data justifying the proposal based on an evaluation of test results, effect on service life, value of material or work, quality, aesthetics, and other tangible engineering basis. The CO will determine disposition of the nonconforming work.

{REASON: During the March 2004 MTT meeting Bruce Wasill was asked to develop a supplemental spec for addressing disputed test results. He distributed a draft to the MTT on 3/16/04 and addressed various comments from MTT members in a final draft that was distributed to Dave Green on 5/12/04. Subsection 106.01 was reorganized and the new disputed test results material was added in 106.01(a) and distributed to the MTT and SCG on 5/17/04. The only comment received was from Jose Ramirez, who asked for a time requirement on the process. The word “promptly was added to the first sentence of 106.01(a) to address this comment. 6/30/04 comments from WFL and CFL were incorporated into the final wording that was issued as an FLH supplemental spec on 7/2/04. On 12/29/04, Jeffrey suggested a wording change in the third paragraph of 106.01 to change “shown on the plans or specified in the contract” to “shown in the contract documents” and this change was incorporated into Transmittal No. 2}

(FP-03 U. S. Customary version, p. 22 & 23)

Include the following with all projects:

(3/10/05)

Add the following paragraph after subsection 107.03(f):

(g) “Beck” poster, according to FAR Clause 52.222-39 Notification of Employee Rights Concerning Payment of Union Dues or Fees.

{REASON: In a 1/24/05 e-mail, Wade noted that WFLD CO’s had informed him that a new “Beck” poster is required on project bulletin boards. For more information, see <http://www.dol.gov/esa/regs/compliance/olms/beckca.htm>. This change was incorporated into Transmittal No. 2}

(FP-03 U. S. Customary version, p. 34)

When Superpave hot asphalt concrete pavement is required, include the following: (3/10/05)

Delete the first paragraph of subsection 401.08 and substitute the following:

401.08 Asphalt Preparation. Uniformly heat the asphalt binder to provide a continuous supply of the heated asphalt binder from storage to the mixer. Do not heat asphalt binder above 365 °F.

{REASON: Pete Bolander of the Forest Service questioned the different maximum temperature values in Subsection 401.08 and Table 702-1. Bruce Wasill reviewed the question found that the value in Subsection 401.08 needed to be changed to match the one in Table 702-1. This change was incorporated into Transmittal No. 2.}

(FP-03 U. S. Customary version, p. 227)

When a Hveem or Marshall hot asphalt concrete pavement design is required, include the following:
(3/10/05)

Delete the first paragraph of subsection 402.03 and substitute the following:

402.03 Composition of Mix (Job-Mix Formula). Furnish mixes of aggregate, asphalt binder, recycled asphalt pavement, and additives that meet the applicable material requirements, appropriate design parameters in Tables 402-1 and 402-2, and are capable of being placed and compacted as specified.

{REASON: On 12/8/04, Jeffrey pointed out that Table 402-2 is not referenced in Section 402 and the VMA subsection refers to Section 401. On 12/13/04, Jeffrey proposed FLH supplemental specs for 402.03 and 402.03(c)(4) to address this problem. This change was incorporated into Transmittal No. 2.}

(FP-03 U. S. Customary version, p. 241)

When a Hveem or Marshall hot asphalt concrete pavement design is required, include the following:
(3/10/05)

Delete subsection 402.03(c)(4) and substitute the following:

(4) Voids in mineral aggregate (VMA). The Contractor's VMA result is verified if the CO's result is not below the minimum specification limit.

{REASON: On 12/8/04, Jeffrey pointed out that Table 402-2 is not referenced in Section 402 and the VMA subsection refers to Section 401. On 12/13/04, Jeffrey proposed FLH supplemental specs for 402.03 and 402.03(c)(4) to address this problem. This change was incorporated into Transmittal No. 2.}

(FP-03 U. S. Customary version, p. 244)

When a double- or triple-course surface treatment is required, include the following: (3/10/05)

Delete Tables 409-2 and 409-3 and substitute the following:

Table 409-2
Approximate Quantities of Material for
Double Course Surface Treatments

Designation (Thickness)	Nominal Maximum Size of Aggregate	Aggregate Gradation⁽¹⁾	Estimated Quantity of Aggregate⁽²⁾ pounds/yd²	Estimated Quantity of Emulsified Asphalt⁽³⁾ gallons/yd²	Estimated Quantity of Asphalt Binder⁽³⁾ gallons/yd²
2A (1/2 inch)					
1 st Application	3/8 inch	D	26 – 35	0.20 – 0.31	0.11 – 0.22
2 nd Application	No. 4	E	9 – 15	0.31 – 0.40	0.18 – 0.29
2B (5/8 inch)					
1 st Application	1/2 inch	C	29 – 40	0.31 – 0.40	0.18 – 0.29
2 nd Application	No. 4	E	14 – 20	0.40 – 0.51	0.24 – 0.33
2C (3/4 inch)					
1 st Application	3/4 inch	B	40 – 49	0.35 – 0.51	0.22 – 0.33
2 nd Application	3/8 inch	D	20 – 26	0.51 – 0.60	0.33 – 0.42

(1) See Table 703-7 for aggregate gradations.

(2) Aggregate masses are for aggregates having a bulk specific gravity of 2.65, as determined by AASHTO T 84 and T 85. Make proportionate corrections when the aggregate furnished has a bulk specific gravity above 2.75 or below 2.55.

(3) Adjust the asphalt content of the first application for the condition of the road.

**Table 409-3
 Approximate Quantities of Material for
 Triple Course Surface Treatments**

Designation (Thickness)	Nominal Maximum Size of Aggregate	Aggregate Gradation⁽¹⁾	Estimated Quantity of Aggregate⁽²⁾ pounds/yd²	Estimated Quantity of Emulsified Asphalt⁽³⁾ gallons/yd²	Estimated Quantity of Asphalt Binder⁽³⁾ gallons/yd²
3A (1/2 inch)					
1 st Application	3/8 inch	D	26 – 35	0.20 – 0.31	0.11 – 0.22
2 nd Application	No. 4	E	9 – 15	0.24 – 0.35	0.15 – 0.27
3 rd Application	Sand	F	9 – 15	0.20 – 0.31	0.11 – 0.22
3B (5/8 inch)					
1 st Application	1/2 inch	C	29 – 40	0.20 – 0.31	0.11 – 0.22
2 nd Application	3/8 inch	D	15 – 20	0.31 – 0.40	0.18 – 0.29
3 rd Application	No. 4	E	9 – 15	0.20 – 0.31	0.11 – 0.22
3C (3/4 inch)					
1 st Application	3/4 inch	B	35 – 46	0.24 – 0.35	0.15 – 0.27
2 nd Application	3/8 inch	D	20 – 26	0.31 – 0.40	0.18 – 0.29
3 rd Application	No. 4	E	9 – 15	0.24 – 0.35	0.15 – 0.27

(1) See Table 703-7 for aggregate gradations.

(2) Aggregate masses are for aggregates having a bulk specific gravity of 2.65 as determined by AASHTO T 84 and T 85. Make proportionate corrections when the aggregate furnished has a bulk specific gravity above 2.75 or below 2.55.

(3) Adjust the asphalt content of the first application for the condition of the road.

{REASON: Pete Bolander of the Forest Service pointed out that the conversions from liters per square meter to gallons per square yard in Tables 409-1, 409-2, and 409-3 were in error. Further checking revealed that the conversion factor for imperial gallons had been used. These new tables have the corrected values for the estimated quantities of emulsified asphalt and asphalt binder. In an 8/5/04 e-mail, Jeffrey noted an error in Transmittal No. 1 that referred to Tables 409-2 and –3 for single course surface treatments. This was corrected in Transmittal No. 2.}

(FP-03 U. S. Customary version, p. 273 & 274)

When an asphalt surface treatment is required, include the following:

(3/10/05)

Delete Table 409-4, Sampling and Testing Requirements, and substitute the following:

**Table 409-4
 Sampling and Testing Requirements**

Material or Product	Type of Acceptance (Subsection)	Characteristic	Category	Test Methods Specifications	Sampling Frequency	Point of Sampling	Split Sample	Reporting Time
Aggregate surface treatment source quality ⁽¹⁾ (703.10)	Measured and tested for conformance (106.04 & 105)	LA abrasion	—	AASHTO T 96	1 per type & source of material	Source of material	Yes, when requested	Before using in work
		Sodium sulfate soundness loss (course & fine)	—	AASHTO T 104	“	“	“	“
		Fractured faces	—	ASTM D 5821	“	“	“	“
		Flat & elongated particles	—	ASTM D 4791	“	“	“	“
		Durability index (course & fine)	—	AASHTO T 210	“	“	“	“
		Clay lumps & friable particles	—	AASHTO T 112	“	“	“	“
		Gradation. See Table 703-7 for applicable sieves.	I	AASHTO T 27 & T 11	1 per 750 tons	Production belt or spreader discharge	Yes	24 hours
Aggregate surface treatment aggregate ⁽¹⁾	Measured and tested for conformance (106.04 & 106.05)	Fractured faces	—	ASTM D 5821	1 per 750 tons	Production belt or spreader	Yes	24 hours
		Liquid limit ⁽²⁾	—	AASHTO T 89	“	“	“	“
	Measured and tested for conformance (106.04)	Quality	—	Subsection 409.13	1 per tanker truck including trailer	Point of shipment delivery	2 - 1-quart samples 1 - 4-quart sample	—
Asphalt binder ⁽³⁾ (702.01) or Emulsified asphalt ⁽³⁾ (702.03)		“	—	“	“	“	“	

- (1) Applies to each aggregate grade furnished.
- (2) For blotter material only.
- (3) Applied to each asphalt material furnished.

{REASON: Pete Bolander of the Forest Service pointed out that AASHTO T 40 requires a 1-quart asphalt binder or 4-quart emulsified asphalt sample. Bruce Wasill review this question on 7/13/04 and determined that we should be requiring 2 - 1-quart asphalt binder or 1 – 4-quart emulsified asphalt binder samples. This change was incorporated into Transmittal No. 2.}
 (FP-03 U. S. Customary version, p. 276)

When plastic pipe is permitted, include the following:

(3/10/05)

Delete the second paragraph of subsection 602.06 and substitute the following:

Provide soil-tight bell and spigot joints for plastic pipe culverts.

{REASON: On 8/5/04, Jeffery pointed out that the word bell had been omitted from this sentence in the FP-03. This restores the wording of the FP-96 FLH supplemental spec and was incorporated into Transmittal No. 2.}

(FP-03 U. S. Customary version, p. 477)

When Superpave asphalt concrete pavement is permitted, include the following: (3/10/05)

Delete Table 703-13, Allowable Deviations for Target Value Gradations, and substitute the following:

Table 703-13
Allowable Deviations for Target Value Gradations

Gradation Range		Allowable Deviation
Minimum	Maximum	
70.1	89.9	4
60.1	70.0	5
55.1	60.0	6
45.1	55.0	7
40.1	45.0	6
30.1	40.0	5
21.1	30.0	4
8.1	21.0	3
0	8.0	2

{REASON: In a 7/14/04 e-mail, Bruce Wasill pointed out that the values in Table 703-13 of the FP-03 U. S. Customary version are incorrect and should exactly match the values in Table 703-13 of the FP-03 Metric version. This change was incorporated into Transmittal No. 2.}
(FP-03 U. S. Customary version, p. 610)

When reinforcing bar are required, include the following: (3/10/05)

Delete subsection 709.01(b), and substitute the following:

(b) Reinforcing bars. Furnish deformed, grade 60 bars conforming to AASHTO M 31.

When tie bars are required, include the following: (3/10/05)

Delete subsection 709.01(d), and substitute the following:

(d) Tie bars. Furnish deformed, grade 60 bars conforming to AASHTO M 31.

When hook bolts are required, include the following: (3/10/05)

Delete subsection 709.01(e), and substitute the following:

(e) Hook bolts. Furnish plain, grade 60 bars conforming to AASHTO M 31 with M14 rolled threads or M16 cut threads. Furnish a threaded sleeve nut capable of sustaining a minimum axial load of 15,000 pounds.

{REASON: In a 12/22/04 e-mail, Jeffrey noted that AASHTO M 42 and M 53 were deleted from the AASHTO Standard Specifications for Transportation Materials and Methods of Sampling and Testing, 24th Edition 2004. In this Transmittal No. 2, FLH Supplemental Spec, the references to these specifications are deleted.}

(FP-03 U. S. Customary version, p. 628)

When square tubular steel signposts are permitted, include the following: (3/10/05)

718.08(b)(2)(c) Delete the existing subsection and substitute the following:

(c) Galvanizing after punching
(inside and outside of post)

ASTM A 653,
coating Z275 designation

{REASON: This corrects the ASTM designation in Subsection 718.08(b)(2)(c).}
(FP-03 Metric version, p. 672)