Addendum No. 1

1. The specifications for the Video Detection System are located in the Special Specifications of the Contract Book. (Page T-15)

2. Addendum No. 1, includes additional specifications for the installation of signal poles and mast arms.

3. Addendum No. 1, includes additional specifications for the installation of signal poles and foundations. The contractor is required to provide a design to be approved by the Project Engineer.

4. The Department of Public Works will obtain Building Permit from the Department of Planning & Natural Resources. No EPA permit is required for this project.

5. A SWPPP is not required for this project.

6. Addendum includes a revised Bid Schedule. An updated Schedule of Quantities construction plan sheet will be provided to the successful bidder.

7. The parking lot paving work is outside the Temporary Construction Easement. The property is owned by the Government of the Virgin Islands.

8. The reconstruction of the 4 x 6 Junction Box and all work associated with this item as shown on Plan sheet C4 have been eliminated from this project. This work is already completed.

9. All reference in the plans and specifications to 6” Crushed Gravel Base should be substituted with 6” Aggregate Base, Grading C or D.

10. All reference in the plans and specifications to 10” Crushed Gravel Base should be substituted with 10” Aggregate Base, Grading A.

11. For roadway excavation see Typical Section on Plan Sheet C5. The roadway is required to be excavated to accommodate the installation of 16 inches of base material and 4 inches of asphalt.

12. The following items have been added to the revised bid schedule in Addendum No. 1:

    (a) Remove & Dispose of Hedge
    (b) Relocate Utility Poles
    (c) Relocate Light Pole
    (d) Extend Existing Raised Median
    (e) Construct Concrete Driveways
    (f) Loam and Seeding.
    (g) Remove and Relocate Signs
    (h) Remove Bollards
    (i) Apply New Parking Stall Markings

13. Relocation of Parking Bumpers is noted "as necessary" in the construction plans and is incidental to the installation of new concrete sidewalk.

14. Ignore all references to concrete stamping on sidewalks.

15. All Crosswalk markings shall be 12" wide and spaced 24".

Section 636.—SIGNAL, LIGHTING, AND ELECTRICAL SYSTEMS

636.01. Add the following:

This work includes designing traffic signal system and lighting system.

636.02. Add the following:

Structural steel	717.01

Furnish material conforming to the 2015 edition of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction Book, found at http://www.dot.state.fl.us/programmanagement/Implemented/SpecBooks/default.shtm.

Furnish video detection system conforming to the Supplemental Specification for Video Detection System.

636.04. Delete the third paragraph and substitute the following:

The locations of the traffic system and lighting system shown in the plans are approximate. Establish the exact locations and submit to the Project Engineer for approval.

636.04. Add the following:

Furnish 35-foot high round tapered aluminum pole with a 12-foot single elliptical truss arm, manufactured by Valmont Industries, Inc., 28800 Ida Street, PO Box 358, Valley, Nebraska 68064.

Make the necessary arrangements with the serving utility companies to complete the service connections.

Coordinate the placement of the electric meters with the Project Engineer and the Virgin Islands Water and Power Authority.

Prior to trenching or boring operations, locate utilities in accordance with Section 645.

636.05. Add the following:

Install conduits a minimum of 3 feet below finished grade. Replace pavement structure removed to install conduit in kind.

636.06. Add the following:

Perform the design of the traffic signal system and lighting system by or under the supervision of a Professional Engineer licensed in the State of Florida or in the United States Virgin Islands.
Submit preliminary drawings of the proposed traffic signal system and lighting system to the Project Engineer for pre-approval of shape, member sizes, and clearances. Design traffic signal and lighting structures in accordance with the current edition of the "AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals". Use a design wind speed of 150 miles per hour. Submit the final traffic signal and lighting systems design package to the Project Engineer for approval according to Subsection 104.03.

Provide galvanized steel traffic signal pole and mast arm, manufactured by Valmont Industries, Inc., 28800 Ida Street, PO Box 358, Valley, Nebraska 68064.

Furnish traffic controller assembly consisting of a traffic controller, controller cabinet, and traffic controller accessories that meet or exceed the operational characteristics of the existing controller assembly.

Furnish 12-inch diameter vehicular signal heads with LED displays. Install louvered back plates on all signal heads and equip each signal indication with a tunnel visor.

Mount signal heads in accordance with the MUTCD. Use rigid mounts for signal heads.

636.08. Add the following:

Notify the Project Engineer at least 72 hours in advance of commencing the demonstration tests of the traffic signal system, in order that adequate precautions may be taken with respect to traffic on the street system. During this testing period, ensure the safe movement of vehicles where traffic is being maintained through the project and new and existing systems are not in operation at the same time.

SPECIAL SPECIFICATION
Traffic Adaptive Control System

1. **Description.** Furnish all labor, equipment and material to install an Adaptive Control System designed for transportation and traffic applications. The system must include an adaptive control system closed loop master field processor, upgrade existing traffic signal controllers, installation of additional detectors (if required), adaptive control system software, integration and training of the adaptive control system.

2. **Materials.** Provide new materials that meet the requirements of the plans and this specification.

3. **General.**
   - **A.** The adaptive control system software is designed to adapt the splits and offsets of signal control patterns/plans in a "closed-loop" master-based traffic control system. Changes to cycle time are handled on a time-of-day schedule like traditional traffic control systems. At each optimization step, which occurs about every 10 minutes, the system changes the splits and offsets a small amount (2-5 seconds) to accommodate changes in traffic flows.
   - **B.** The adaptive control system performs its optimizations by polling each local controller for detection and phase status data once per minute. This allows the adaptive control system management computer system to manage local controllers, depending upon communications rates. A minimum of 115Kbps is required to run local controllers.
   - **C.** The adaptive control system must support both serial and Internet Protocol (IP) communications with controllers using any communications media, i.e. fiber, wireless, hard wire. It must be capable of utilizing both serial and IP communication in one adaptive control system.
   - **D.** The adaptive control system must be configurable through a web-based user interface from a laptop computer connected to the adaptive control system field processor. The configuration data must be uploaded directly from the local controllers with no additional user data entry, allowing the user to configure links, ring sequences and detectors so the system can begin processing the data for traffic adaptive control.
   - **E.** As the adaptive control system is running, web pages must be updated each cycle to provide the status of each intersection performance and the changes that the adaptive control system makes to the splits and offsets. The performance measures must then be archived to a data store (up to a month of data must be stored on the field processor in compressed files) for future analysis and retrieval.

4. **Functional Requirements.** The principal adaptive control system must consist of:
   - **A.** An adaptive control system central hardened PC in a field cabinet or a Standard PC in an office environment if Ethernet is available to the local controllers.
   - **B.** Field hardware controllers
   - **C.** Central Communications Equipment (i.e. Server Hardware for the System)
   - **D.** Remote workstations with Internet access to the adaptive control system central.
   - **E.** Field communications
   - **F.** The central office must support the distributed client/server architecture via a local area network (LAN).
   - **G.** NTCIP communications protocols must be used for all interfaces between controllers and central and between central and other external systems.

5. **Technical Requirements.**
   - **A.** The system must be provided with an environmentally hardened PC processor for field deployment with adaptive control system software installed. The PC, as a minimum, must have 3.0 GHz Intel i5(or equivalent) processor, 16GB RAM, Windows 7 Professional, 500 GB HD, USB port, Ethernet port and a Serial port. The system server must run on Windows Server 2003 or later.
   - **B.** The system client applications(s) must be network-deployable.
   - **C.** The system must provide a browser-based client application, Microsoft Internet Explorer 9 or higher.
   - **D.** The system must be provided with 115Kbps or faster hardened multi-drop serial modems or IP network communications.
   - **E.** There must be an IP connection to the field master cabinet location for viewing status and configuration web pages on the adaptive control system processor.
   - **F.** Provide traffic detection as required on the plans.
   - **G.** Provide IP addressable modem or other IP communication media for upload/download of controller databases, remote web-page viewing for configuration and status and for remote management and support.
   - **H.** The system must provide time synchronization between the server and field devices using GPS, WWV or NTP.
   - **I.** Contractor will provide a new signal controller assembly that meets the requirements of the details shown on the plans. Provide controller assemblies from manufactures prequalified by the Department. The Division of Transportation maintains a list of prequalified controller assembly manufacturers.
   - **J.** Currently the Controllers located in this district are McCain running McCain 233 RV2 Software. To run ASC, for example, software would have to be McCain 233 MC1 or McCain 2033RV or McCain Omni Ex)

6. **Operational Requirements**

A. There must be 7 operational modes for the adaptive control system; Configuration mode, Synchronization mode, Validation mode, Monitoring mode, Analysis mode, Control mode and Shutdown mode.

B. The adaptive control system must be configured so the timing plans will adjust to traffic fluctuations without the need for operator over-ride.

C. The adaptive control system must have the capability to be manually turned off and on.

D. The adaptive control system must operate on a time-of-day schedule or through manual commands.

E. The adaptive control system must provide real time adaptive control information for cycle times, offsets, split allocation, phase length, demand dependent phase activation and detector fault warnings.

F. The adaptive control system must provide for the capability of pre-emption of the controller for emergency vehicles and signal-timing optimization must automatically recover after pre-emption.

G. The adaptive control system must recover automatically after a power outage, power surge, or communications failure.

H. The system must use existing traffic detectors, where available, for data collection and performance tuning.

I. The adaptive control system must provide status displays for monitoring the traffic adaptive operation for split tuning, offset tuning, pattern history and phase timing history.

J. The adaptive control system must maintain once per minute communications from the field processor and local controllers.

7. **Construction.** The contractor must upgrade existing controllers, provide and install the adaptive control system field processor, establish communications with local intersection controllers, provide communications with system workstations, and configure all operational parameters to complete an operational adaptive control system.

8. **Training.**

A. Upon successful operation of the adaptive control system the contractor must provide two days training. The training must consist of classroom and hands on field training for up to 6 maintenance personnel. Training must include field controller and firmware training, detector system operation and adaptive control system master controller operation.

B. In addition, three (3) manuals supporting the system must be included. As a minimum, these manuals must consist of adaptive control system operations manual, controller hardware operations guide, hardware and software manuals from any third party system provider, i.e. Windows, modem manuals, computer manuals, etc.

9. **Warranty.** The contractor must provide a warranty statement that provides a minimum of three (3) years technical support for the adaptive control system. The support must include

phone, e-mail and hyper-link connections from the manufacturer to the system. In addition, the manufacturer must provide a designated representative for additional support.

10. **Measurement.** This Item will be measured as each signalized intersection controlled by a single traffic signal controller.

11. **Payment.** The work performed and materials furnished in accordance with this item and measured as provided under "Measurement" will be paid for at the unit price bid for "Traffic Adaptive Control System". This price is full compensation for furnishing, installing, and testing the completed installation of the adaptive control system, (1) one license for the master signalized intersection and additional licenses as called out in the general notes or plans for future intersections controlled by the master intersection. The Department will pay for electrical energy consumed by the traffic signal.

SPECIFICATIONS

NEMA P – TS2/Type 1 Traffic Signal Controller Cabinet Specifications

1. INTRODUCTION

This specification sets forth the minimum requirements for a Type P NEMA TS 2 Type 1 traffic-actuated controller cabinet assembly with eight vehicle phase, four pedestrian phase, and two overlaps and fully operational with all components and plug-ins including: malfunction management unit (MMU), bus interface unit (BIU), cabinet power supply, load switches, flash transfer relays, flashers and Iteris video detection system. The controller cabinet assembly shall meet all applicable sections of the NEMA Standards Publication TS 2-2003.

2. CABINET

The controller cabinet shall be a new fully-wired Type P aluminum cabinet, TS 2 Type 1. The interior of the cabinet shall be painted powder coat white. The exterior of the cabinet shall be treated with an anti-graffiti coating. The anti-graffiti coating shall be a clear material and shall not distort or change the exterior painted color of the cabinet.

The cabinet shall be wired to provide both a 55-pin "A" connector and a 10-pin "A" connector for interface to the controller unit. Either one will then be used to interface with the controller unit providing flexibility on the controller unit type (NEMA TS2-Type 1 or a NEMA TS2-Type 2 controller unit) to be used in the cabinet. Harness connectors shall have at least two (2) feet of slack for easy connection to the traffic signal controller.

Test switches shall be provided to place test calls for each of the eight vehicle phases, four pedestrian phases, and the four emergency vehicle preemption channels on the cabinet door. On the inside of the traffic signal cabinet door, in addition to the specified vehicle/pedestrian/preemption toggle switches, toggle switches for the Auto/Flash, Controller On/Off, and Auto Stop Time/Manual Stop Time shall also be provided and protected against accident contact and switching using a toggle switch cover.

The cabinet shall also be provided with the following:

(a.) Roll out stainless steel document drawer mounted under the second/middle shelf. This drawer shall have a hinged top cover, and it shall be of sufficient size and strength to serve as a working surface and to hold a complete set of cabinet wiring drawings and equipment programming manuals for all modules applicable to the cabinet. When the cover is closed, the drawer shall double as a resting place for documents or a laptop computer.

(b.) Roll out minimum size 15-Inch LCD Color Display Unit mounted under the second/middle shelf. The LCD Display Unit shall be capable of accepting BNC and RCA video inputs.

(c.) Thermostatically controlled ventilation fan system.

(d.) LED lighting fixture mounted on the inside top of the cabinet near the front edge that is activated through a door switch that automatically turns on the LED lighting fixture when the door is opened and turns off the LED lighting fixture when the door is closed.

(e.) Exterior police panel and technician test panel with the specified test switches discussed in this section

(f.) The cabinet shall include a 120 VAC quad power receptacle on the right side of the cabinet adjacent to the top shelf of the cabinet for use by ancillary cabinet equipment.

(g.) The cabinet shall include a 120 VAC quad power receptacle with surge suppression mounted on the left side of the cabinet adjacent to the top shelf of the cabinet for use by ancillary cabinet equipment.

(h.) The cabinet shall include an Emergency Power Generator plug on the right side of the cabinet located at the top of the cabinet with a low-profile exterior access panel.

3. CABINET RISER

A 12-Inch riser shall be provided with each traffic signal cabinet. The rise shall be painted internally and externally to match the traffic signal cabinet assembly including painted powder coated white for the interior. The riser shall be manufactured of the same aluminum and material thickness as the traffic signal cabinet assembly and manufactured so that anchor mounting align with the anchor mounting supports of the traffic signal cabinet.

4. CABINET DIMENSIONS

The NEMA P Traffic Signal Cabinet dimensions, not including the 12-Inch Cabinet Riser, shall comply with the following minimum requirements:

- Height: 39-Inches
- Width: 24-Inches
- Depth: 26-Inches
- Cabinet: 46-Inches H x 24-Inches W

Spacing

- Anchor Bolt: ¾ - Inch x 16-Inches

Size

The door of the traffic signal cabinet shall be supported using a “Piano Hinge” style mount that runs continuously along the edge of the door onto the traffic signal cabinet structure.

5. EMERGENCY VEHICLE PREEMPTION RACK

The cabinet shall be wired to support the installation of emergency vehicle preemption (EVP) systems and include one 4-Channel Optical Phase Selector Card that supports GPS technology. The cabinet shall be wired to support four optical-based EVP channels through the provision of rack positions for insertion of either two two-channel EVP card modules or one four-channel EVP card module but one 4-Channel card shall be supplied with the cabinet. The rack positions may be either a separate two-position rack located next to the detector rack or incorporated as two individual positions within the detector rack. EVP wiring within the cabinet shall allow the user to select any of the six preemption channels within TS 2 to be used.

6. MALFUNCTION MONITORING UNIT (MMU)

The cabinet shall be furnished with an EDI brand 16LEip MMU for malfunction monitoring of the traffic signal cabinet as required by NEMA Standard TS2-2003 (R2008) including NEMA Amendment #4-2012 for Flashing Yellow Arrow (MMU2) operations. The MMU shall include an LCD display for easy user-interface for programming and monitoring and provide Ethernet connectivity for remote monitoring.

7. BUS INTERFACE UNIT (BIU)

The cabinet shall be furnished with BIUs that meet all applicable sections of the NEMA TS 2 specification. The BIUs shall be rack-mountable and solid-state.

8. CABINET POWER SUPPLY

The cabinet power supply shall meet all applicable sections of the NEMA TS 2 specification. One power supply unit shall be provided.

9. LOAD SWITCH

The load switch shall be solid state and meet all applicable sections of the NEMA TS 2 specification. The load switch shall have indicator lights that show the output side of the relay for the red, yellow and green indications.

10. FLASHER

The flasher shall be solid state and meet all applicable sections of the NEMA TS 2 specification. It shall have indicator lights that show the output side of the relay.

11. FLASH TRANSFER RELAYS

The flash transfer relay shall be mechanical with indicator status lights and meet all applicable sections of the NEMA TS 2 specification.

12. TRAFFIC SIGNAL CONTROLLER AND COMMUNICATIONS

See Adaptive Signal Control Specification

13. DOCUMENTATION

All cabinet wiring shall be incorporated into one schematic drawing. Each cabinet shall be provided with three schematic drawings. Drawings shall indicate the intersection name and phasing.

Operational/repair manuals for each component and plug-in shall be provided with each cabinet.

14. TESTING

Each traffic signal cabinet assembly shall be tested and certified by the manufacturer. The controller cabinet shall be tested as a complete unit (including all plug-ins provided) under signal load for a minimum of 48 hours. For testing by the manufacturer a manufacturer's controller or test box may be used but the serial numbers for each unit noted on the test certification for future reference. Standard vehicle detectors may be used for the cabinet testing.

For cabinet assemblies provided through a secondary vendor, no modification of existing traffic signal cabinets within the inventory of the vendor to satisfy these specifications shall be allowed. Cabinet assemblies must be brand new from the manufacturer built to comply with these specifications including auxiliary equipment. The manufacturer's certifications shall note compliance with these specifications including the installation of auxiliary equipment.

15. WARRANTY

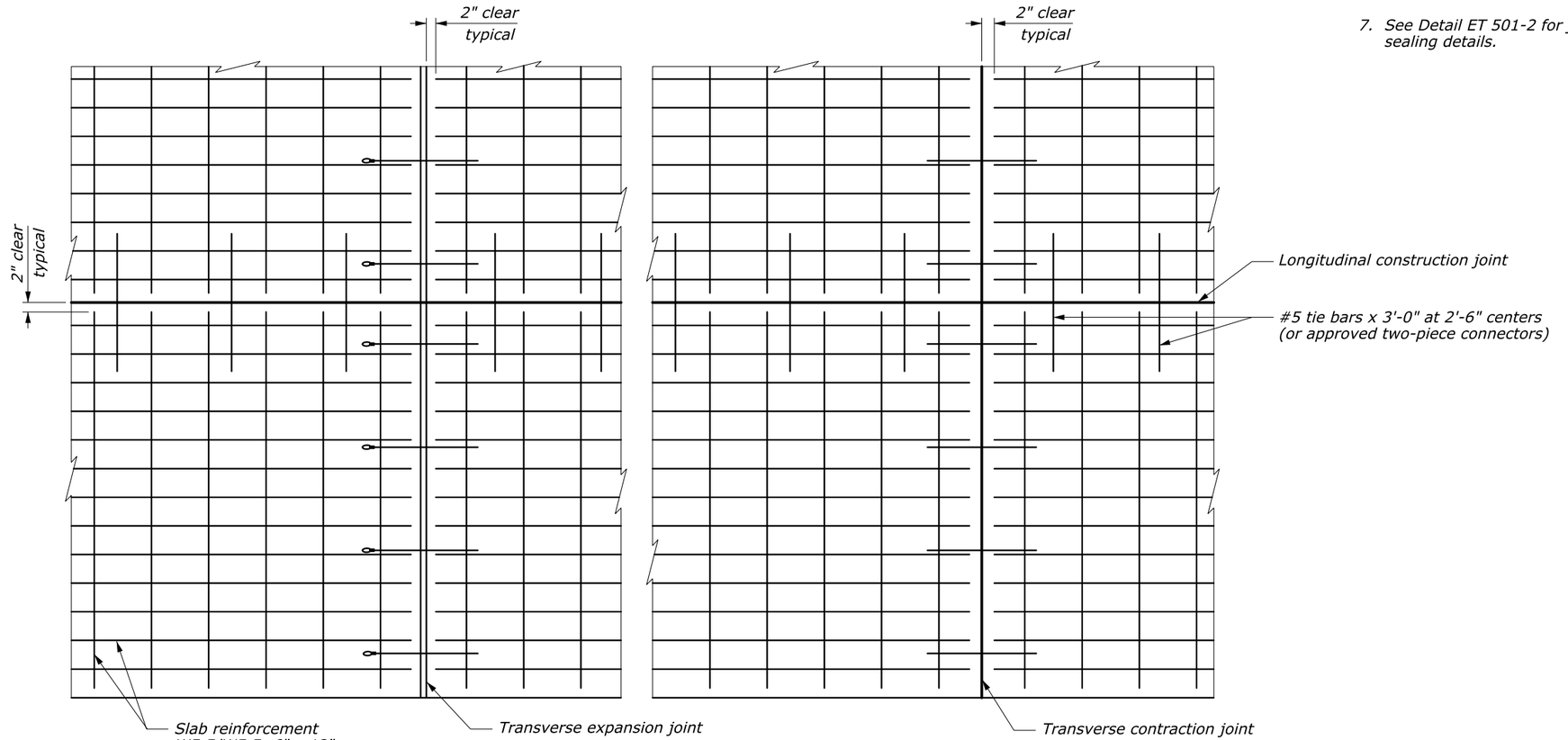
The cabinet assembly including all the electronic components shall be warranted by the manufacturer against mechanical and electrical defects for a minimum period of 2 years. The manufacturer's warranty shall be supplied in writing with the cabinet.

Any defects in design, workmanship or material shall be corrected by the supplier during the warranty period at no cost to the Government of the Virgin Islands. All cost of labor, parts and transportation to and from the vendor shall be borne by the vendor for the duration of the warranty period. The vendor shall provide all revisions to any equipment furnished under these specifications, at no cost to the Government of the Virgin Islands.

STATE	PROJECT	SHEET NUMBER

NOTE:

1. *Lap longitudinal reinforcement not less than 13-inches.*
2. *Lap transverse reinforcement not less than 9-inches.*
3. *Eliminate all longitudinal and transverse reinforcing steel, wire, or bars where plain portland cement concrete pavement or base is required.*
4. *Provide the same type of dowel assemblies and tie bars for joints in plain portland cement concrete pavement as shown for joints in reinforced pavement.*
5. *Space transverse expansion joints at a minimum of 280 feet.*
6. *Space transverse contraction joints for reinforced concrete pavement at not more than 40 foot intervals and for plain concrete pavement or base at not more than 20 foot intervals.*
7. *See Detail ET 501-2 for joint details and joint sealing details.*



PLAN

NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

U.S. CUSTOMARY DETAIL

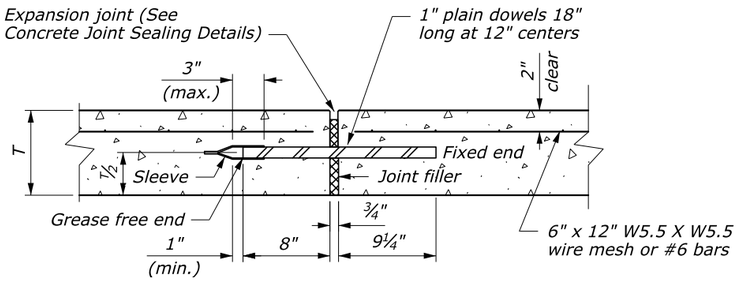
PORTLAND CEMENT CONCRETE PAVEMENT

DETAIL APPROVED FOR USE

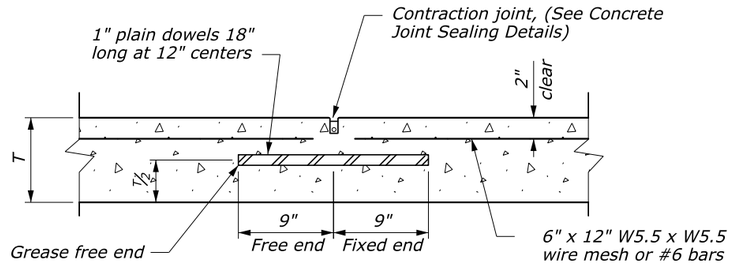
APPROVED: MAY 2011
REVISED: SEPTEMBER. 2014

DETAIL
ET 501-1

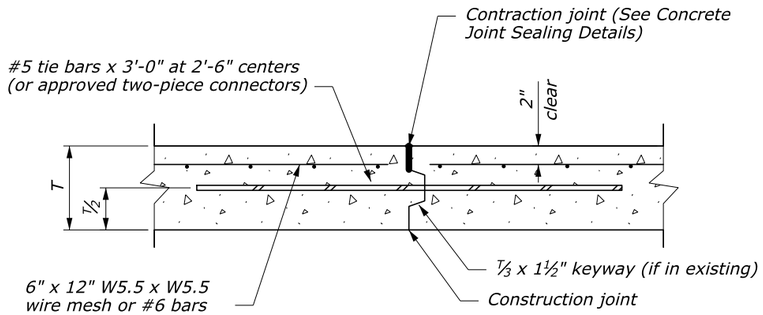
STATE	PROJECT	SHEET NUMBER



TRANSVERSE EXPANSION JOINT



TRANSVERSE CONTRACTION JOINT

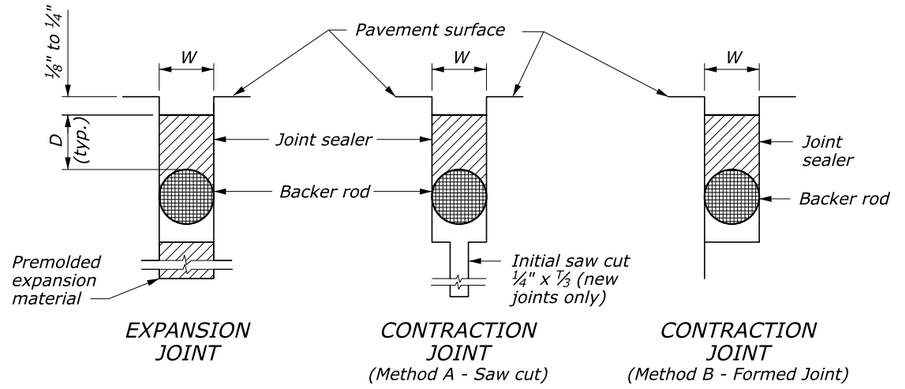


LONGITUDINAL CONTRACTION JOINT

REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT JOINT DETAILS

NOTES:

1. *Anchor tie bars and dowels into existing concrete pavement with epoxy resin adhesive.*
2. *Space expansion joints a minimum of 280 feet.*
3. *W= ⅜" for longitudinal contraction joints and ¾" for transverse expansion and contraction joints field conditions require larger openings.*
4. *Maintain joint sealant shape factor of 1:1 except that when silicone sealant is used, the width to depth (W:D) shape factor is 1:2.*



EXPANSION JOINT

CONTRACTION JOINT (Method A - Saw cut)

CONTRACTION JOINT (Method B - Formed Joint)

REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT JOINT SEALING DETAILS

NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
EASTERN FEDERAL LANDS HIGHWAY DIVISION

U.S. CUSTOMARY DETAIL

PORTLAND CEMENT CONCRETE PAVEMENT JOINTS

DETAIL APPROVED FOR USE	DETAIL
APPROVED: MAY 2011 REVISED: SEPTEMBER 2014	ET 501-2

Bid Schedule

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY AND UNIT	UNIT PRICE (Figs.)	TOTAL PRICE (Figs.)
15101-0000	Mobilization	1 LS	$ _____	$_____
	Unit Price (Words)_____			Dollars _____Cents
15401-0000	Contractor Testing	1 LS	$ _____	$_____
	Unit Price (Words)_____			Dollars _____Cents
15701-0000	Soil Erosion Control	1 LS	$ _____	$_____
	Unit Price (Words)_____			Dollars _____Cents
20221-1000	Remove & Dispose of Hedge	1 LS	$ _____	$_____
	Unit Price (Words)_____			Dollars _____Cents
20301-0000	Demolish, Remove and Dispose of Existing Pavement	2450 SQ YD	$ _____	$_____
	Unit Price (Words)_____			Dollars _____Cents
20301-0100	Removal of Bollard	8 EA	$ _____	$_____
	Unit Price (Words)_____			Dollars _____Cents

Bid Schedule

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY AND UNIT	UNIT PRICE (Figs.)	TOTAL PRICE (Figs.)
20301-0200	Remove & Dispose of Curb	1665 LN FT	$ _____	$_____
	Unit Price (Words)_____Dollars _____Cents			
20301-0900	Remove and Reset Hydrant	2 EA	$ _____	$_____
	Unit Price (Words)_____Dollars _____Cents			
20301-2400	Removal of Sign	1 EA	$ _____	$_____
	Unit Price (Words)_____Dollars _____Cents			
20301-2800	Remove Signal Poles, Foundations, Mast Arms and Heads	2 EA	$ _____	$_____
	Unit Price (Words)_____Dollars _____Cents			
20301-3200	Remove and Dispose of Sidewalk	480 SQ YD	$ _____	$_____
	Unit Price (Words)_____Dollars _____Cents			
20302-1200	Removal of Guardrail	25 LN FT	$ _____	$_____
	Unit Price (Words)_____Dollars _____Cents			

Bid Schedule

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY AND UNIT	UNIT PRICE (Figs.)	TOTAL PRICE (Figs.)
20401-0000	General Excavation	1960 CU YD	$ _____	$_____
	Unit Price (Words)_____Dollars _____Cents			
21201-0000	Parking Lot Grading	1 LS	$ _____	$_____
	Unit Price (Words)_____Dollars _____Cents			
30102-0200	6" Aggregate Base, Grade C or D	620 CU YD	$ _____	$_____
	Unit Price (Words)_____Dollars _____Cents			
30102-0400	10" Aggregate Base, Grade A	830 CU YD	$ _____	$_____
	Unit Price (Words)_____Dollars _____Cents			
40201-0000	2" Bit Pavement (Base)	345 TONS	$ _____	$_____
	Unit Price (Words)_____Dollars _____Cents			
40201-1000	2" Bit Pavement (Finish)	1100 TONS	$ _____	$_____
	Unit Price (Words)_____Dollars _____Cents			

Bid Schedule

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY AND UNIT	UNIT PRICE (Figs.)	TOTAL PRICE (Figs.)
40201-2000	1" Bit Pavement (Parking Lot Overlay)	85 TONS	$ _____	$_____
	Unit Price (Words)_____			Dollars _____Cents
41201-0000	Tack Coat	900 GAL	$ _____	$_____
	Unit Price (Words)_____			Dollars _____Cents
41301-0000	2" Milling (Full Width)	6110 SQ YD	$ _____	$_____
	Unit Price (Words)_____			Dollars _____Cents
41803-0000	Sawcut Existing Pavement	800 LN FT	$ _____	$_____
	Unit Price (Words)_____			Dollars _____Cents
60401-0000	Adjust Manhole Rim Elevation	5 EA	$ _____	$_____
	Unit Price (Words)_____			Dollars _____Cents
60401-1000	Curb Inlets	2 EA	$ _____	$_____
	Unit Price (Words)_____			Dollars _____Cents

Bid Schedule

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY AND UNIT	UNIT PRICE (Figs.)	TOTAL PRICE (Figs.)
60401-2000	Adjust and Fortify Utility Vault Cover	1 EA	$ _____	$_____
	Unit Price (Words)_____Dollars _____Cents			
60905-0000	Concrete Curb (Type D)	280 LN FT	$ _____	$_____
	Unit Price (Words)_____Dollars _____Cents			
60905-1000	Concrete Curb & Gutter (Type F)	1525 LN FT	$ _____	$_____
	Unit Price (Words)_____Dollars _____Cents			
60905-2000	Valley Gutter	255 LN FT	$ _____	$_____
	Unit Price (Words)_____Dollars _____Cents			
61101-0000	Adjust Water Valve Cover Elevation	3 EA	$ _____	$_____
	Unit Price (Words)_____Dollars _____Cents			
61501-0100	4" Thick Concrete Sidewalk (6" @ Depressed Section along Route 304)	830 SQ YD	$ _____	$_____
	Unit Price (Words)_____Dollars _____Cents			

Bid Schedule

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY AND UNIT	UNIT PRICE (Figs.)	TOTAL PRICE (Figs.)
61501-0200	Raised Island (4" - Concrete)	1260 SQ FT	$ _____	$_____
	Unit Price (Words)_____			Dollars _____Cents
61501-1000	6-inch Concrete Drivepads	60 SQ YD	$ _____	$_____
	Unit Price (Words)_____			Dollars _____Cents
61503-1000	Extend Existing Raised Median	18 SQ YD	$ _____	$_____
	Unit Price (Words)_____			Dollars _____Cents
61504-0100	Handicap Sidewalk Ramps/Tip Downs (Tactile Warning Pads)	17 EA	$ _____	$_____
	Unit Price (Words)_____			Dollars _____Cents

Bid Schedule

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY AND UNIT	UNIT PRICE (Figs.)	TOTAL PRICE (Figs.)
61904-0000	Install Bollards	4 EA	$ _____	$_____
	Unit Price (Words)_____			Dollars _____Cents
62510-1000	Loam & Seed	1 LS	$ _____	$_____
	Unit Price (Words)_____			Dollars _____Cents
63305-0100	R1-1, Stop Sign	2 EA	$ _____	$_____
	Unit Price (Words)_____			Dollars _____Cents
63305-0200	R1-2, Yield Sign	1 EA	$ _____	$_____
	Unit Price (Words)_____			Dollars _____Cents
63305-0300	R3-8a, Turn Only	1 EA	$ _____	$_____
	Unit Price (Words)_____			Dollars _____Cents

Bid Schedule

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY AND UNIT	UNIT PRICE (Figs.)	TOTAL PRICE (Figs.)
63305-0400	R10-12, Right Turn Yield (For Traffic Signals)	2 EA	$ _____	$_____
	Unit Price (Words)_____			Dollars _____Cents
63305-0500	M1-4, Route Sign	2 EA	$ _____	$_____
	Unit Price (Words)_____			Dollars _____Cents
63305-0600	M2-1, Junction Sign	2 EA	$ _____	$_____
	Unit Price (Words)_____			Dollars _____Cents
63305-0700	M6-3, Route Arrow	1 EA	$ _____	$_____
	Unit Price (Words)_____			Dollars _____Cents
63305-0800	M6-4, Route Arrow	1 EA	$ _____	$_____
	Unit Price (Words)_____			Dollars _____Cents
63306-0000	4-Foot Delineator Posts	12 EA	$ _____	$_____
	Unit Price (Words)_____			Dollars _____Cents

Bid Schedule

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY AND UNIT	UNIT PRICE (Figs.)	TOTAL PRICE (Figs.)
63309-0000	Apply Parking Stall Markings (Thermoplastic)	1 LS	$ _____	$_____
	Unit Price (Words)_____			Dollars _____Cents
63316-1000	Remove & Reset Sign	5 EA	$ _____	$_____
	Unit Price (Words)_____			Dollars _____Cents
63401-1000	Retroreflective Pavement Marking (symbol/Word)	32 EA	$ _____	$_____
	Unit Price (Words)_____			Dollars _____Cents
63401-1500A	Pavement Markings, 4" (Double Yellow/White) 4,426' Yellow 356' White	4782 LN FT	$ _____	$_____
	Unit Price (Words)_____			Dollars _____Cents
63401-1500B	Pavement Markings 12" (Medians)	65 LN FT	$ _____	$_____
	Unit Price (Words)_____			Dollars _____Cents
63401-1500C	Pavement Markings 12" (Crosswalks)	672 LN FT	$ _____	$_____
	Unit Price (Words)_____			Dollars _____Cents

Bid Schedule

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY AND UNIT	UNIT PRICE (Figs.)	TOTAL PRICE (Figs.)
63401-1500C	Pavement Markings 18" (Stop Bars)	190 LN FT	$ _____	$_____
	Unit Price (Words)_____			Dollars _____Cents
63501-0000	Maintenance of Traffic	1 LS	$ _____	$_____
	Unit Price (Words)_____			Dollars _____Cents
63601-0000	Signal Pole and Foundation	2 EA	$ _____	$_____
	Unit Price (Words)_____			Dollars _____Cents
63601-0100	28' Mast Arm	1 EA	$ _____	$_____
	Unit Price (Words)_____			Dollars _____Cents
63601-0200	30' Mast Arm	1 EA	$ _____	$_____
	Unit Price (Words)_____			Dollars _____Cents
63601-0300	44' Mast Arm	1 EA	$ _____	$_____
	Unit Price (Words)_____			Dollars _____Cents

Bid Schedule

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY AND UNIT	UNIT PRICE (Figs.)	TOTAL PRICE (Figs.)
63601-0400	46' Mast Arm	1 EA	$ _____	$_____
	Unit Price (Words)_____Dollars _____Cents			
63601-0500	Pedestrian Signal Pole & Foundation	2 EA	$ _____	$_____
	Unit Price (Words)_____Dollars _____Cents			
63601-0600	Pedestrian Signal Head, Push Button & Sign Assembly	7 EA	$ _____	$_____
	Unit Price (Words)_____Dollars _____Cents			
63601-0700	3-Section LED Signal Head	11 EA	$ _____	$_____
	Unit Price (Words)_____Dollars _____Cents			
63601-0800	Traffic Signal Controller, Cabinet & Foundation	1 EA	$ _____	$_____
	Unit Price (Words)_____Dollars _____Cents			

Bid Schedule

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY AND UNIT	UNIT PRICE (Figs.)	TOTAL PRICE (Figs.)
63605-0000	Traffic Signal Conduit	375 LN FT	$ _____	$_____
	Unit Price (Words)_____Dollars _____Cents			
63605-1000	Pull Box for Traffic Signal	5 EA	$ _____	$_____
	Unit Price (Words)_____Dollars _____Cents			
63606-0000	Adaptive Signal Control System	1 LS	$ _____	$_____
	Unit Price (Words)_____Dollars _____Cents			
63606-1000	Systems Installation, Traffic w/Camera Detection	1 LS	$ _____	$_____
	Unit Price (Words)_____Dollars _____Cents			
63640-0400	Relocate Utility Pole	2 EA	$ _____	$_____
	Unit Price (Words)_____Dollars _____Cents			
63641-0700	Relocate Light Pole	1 EA	$ _____	$_____
	Unit Price (Words)_____Dollars _____Cents			

Bid Schedule

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY AND UNIT	UNIT PRICE (Figs.)	TOTAL PRICE (Figs.)
Add Alternates				
40201-0100	Reconstruct Intersection in Asphalt - 6 inch (4in Base Course, 2in Wearing Course) Includes Removal of Existing Pavement	490 Tons	$ _____	$_____
	Unit Price (Words)_____Dollars _____Cents			
50101-0000	Reconstruct Intersection in 9-inch Concrete Pavement (Includes Removal of Existing Pavement)	1450 SY	$ _____	$_____
	Unit Price (Words)_____Dollars _____Cents			

TOTAL AMOUNT OF BASE BID (Figs): $ _____

_____
(AMOUNT IN WORDS)

I hereby certify that this bid is made without prior understanding, agreement or connection with any corporation, firm or person submitting a bid for the same materials, submitting a bid for the same materials, supplies or equipment and is in all respects fair and without collusion or fraud. I hereby agree to abide by all terms and conditions of this bid and certify that I am authorized to sign this bid for the bidder.

_____ _____
Authorized Signature Title

_____ _____
Phone Date

(Seal – if Bid is by a Corporation)

Attest_____

SUPPLEMENTAL SPECIFICATIONS

(As Applicable)

The following FP 14, Sections of Division 100, in whole or as written in part below, shall be utilized in the administration of the construction contract:

Section 101. – Terms, Format, and Definitions

Subsection 101. Delete the entire subsection. See the General Provisions for Terms, Format, and Definitions.

Section 102. — BID, AWARD, AND EXECUTION OF CONTRACT

102.01 Acquisition Regulations. Delete the text and substitute the following:

Contract Book, Section I, "*Bidding Information & Contract Documents*".

Subsection 102.02 thru 102.06. Delete the entire subsection.

Section 103. — SCOPE OF WORK

Subsections 103.03 and 103.04. Delete the entire subsection.

103.05 Partnering. Delete the last two paragraphs and substitute the following:

103.05 Partnering. To facilitate this contract, the Government offers to participate in a formal partnership with the contractor. This partnership draws on the strengths of each organization to identify and achieve reciprocal goals. Partnering strives to resolve problems in a timely, professional, and non-adversarial manner. If problems result in disputes, partnering encourages, but does not require alternative dispute resolution instead of the formal claim process, see General Provisions No. 53, Disputes, concerning disputes arising under this contract. The objective is effective and efficient contract performance to achieve a quality project within budget and on schedule.

Section 104. — CONTROL OF WORK

Subsection 104.03 and 104.04. Delete the entire subsection.

104.03(a). Add the following to the third paragraph:

Drawings will be reviewed in the order they are received.

Job site visits by the Department of Public Works / Office of Highway Engineering (DPW/OHE) do not constitute an official inspection unless specifically ordered.

104.03(b). Add the following after 104.03(b):

(c) As-built working drawings. Furnish one set of as-built working drawings to be used exclusively for recording the as-built details of the project.

Keep the as-built working drawings current on a weekly basis and have that set available on the jobsite at all times. Accurately and neatly record changes from the contract plans, which are made in the work. This includes any additional information, which might be uncovered in the course of construction, as they occur by means of details and notes. Maintain a log of all changes made to the as-built working drawings monthly. At the estimate cutoff date, make the as-built working drawings and logs available for review by the Project Engineer.

Note all additions or revisions to the location, character, and dimensions of the prescribed work must be shown on the contract drawings. Line out all details shown that are not applicable to the completed work. Use the redline process (red pencil or red ink) to record on the as-built working drawings and final as-built drawings. The information below describes the minimal guidelines for working drawing submittals:

(1) Typical section(s)

(a) Revisions in dimensions; and

(b) Revisions in materials.

(2) Plan and profile

(a) Plan

(1) Revisions to the alignment;

(2) Changes in the construction limits;

(3) Revisions in location, type, and grade of road approaches;

(4) Location and type of utilities;

(5) Location, size, and type of underdrains;

(6) Skew of culverts;

(7) Channel changes;

(8) Location of monuments and permanent references;

(9) Elevations for all aerial and underground crossings of utilities; and

(10) Location, length, and type of fencing.

(b) Profile

(1) Revisions to grades, elevations, and stationing of intersection PIs;

(2) Equations;

(3) Culvert diameter, length, type, and stationing;

(4) Length of culvert extension, and length of existing culvert;

(5) Location, length, stationing, and type of retaining walls; and

(6) Location, length, stationing, and end treatment of guardrail.

(3) Bridge

(a) Stationing of bridge ends;

(b) Elevations including footing, bearing pads, deck, and top of walls;

(c) Pile driving record with pile length, size, type, and tip elevation;

(d) Post-tensioning records including stressing sequence, jacking force, and duct size and layout;

(e) Construction and concrete placement sequences;

(f) Bearing details with orientation;

(g) Expansion joints including actual clearance with atmospheric temperature; and (h) any changes in plan or dimensions including any major changes in reinforcing.

(4) Miscellaneous

(a) Revisions to parking areas or turnouts;

(b) Final location, type and length of curbs, sidewalks, etc.;

(c) Fencing type and limits; and

(d) Landscaping and planting.

(5) Special Contract Procedures

(a) Method of excavation, concrete placement, structure repairs, etc.

Prepare final as-built drawings after the completion of each definable feature of work as listed in the Contractor Quality Control Plan (Foundations, Utilities, Structural Steel, etc., as appropriate for the project). The Project Engineer and the contractor will jointly review the as-built working drawings and final as-built drawings for accuracy and completeness prior to submission of each monthly pay estimate.

If the monthly review finds that the contractor is not maintaining the as-built working drawings, payment of the contractor's invoice will be withheld until the as-built working drawings are brought up-to-date.

Furnish the as-built working drawings to the Project Engineer before the final inspection. Correct all details found during the final inspection that are not shown on the as-built working drawings and return to the Project Engineer within 5 working days for approval.

Final payment per the General provision No. 43 "Scope of Payment" will not be made until the final as-built drawings have been reviewed and approved by the Project Engineer.

(a) No direct payment will be made for maintaining and furnishing as-built working drawings.

104.05 Load Restrictions. Delete the entire Subsection and replace with the following:

104.05 Load Restrictions. General Provision No. 20 is supplemented by the following requirements. "*Laws to be observed"*.

Comply with all legal load restrictions when hauling material and equipment on public roads to and from the project. A special permit does not relieve the contractor of liability for damage resulting from the moving of material or equipment.

Unless otherwise permitted, do not operate equipment or vehicles that exceed the legal load limits over new or existing structures, or pavements within the project except those pavements intended to be removed.

Operate loaded vehicles hauling material at speeds not exceeding 35 miles per hour, or the posted speed limit whichever is lower, and spaced at 500-foot minimum intervals.

Section 105. — CONTROL OF MATERIAL

105.01 Source of Supply and Quality Requirements. Delete the first paragraph and substitute the following:

105.01 Source of Supply and Quality Requirements. General Provision No. 16 "*Sources of Supply and of Material"* is supplemented by the following requirements.

105.04 Storing and Handling Material. Add the following:

The contractor shall provide all space outside the construction limits needed for storage of materials if not provided for through the contract at the expense of the contractor.

Section 106. — ACCEPTANCE OF WORK

106.01 Conformity with Contract Requirements. Delete the entire subsection and substitute the following:

106.01 Conformity with Contract Requirements. General Provision No. 13 "Inspection" and General Provision No. 17 "Samples and Tests" is supplemented by the following requirements.

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

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

Incorporate manufactured materials into the work according to the manufacturer's recommendations or to these specifications, whichever is stricter.

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.

As an alternative to removal and replacement, the contractor may submit a written request to:

(a) have the work accepted at a reduced price; or

(b) 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 Project Engineer will determine disposition of the nonconforming work.

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.

106.03 Certification. Delete the second paragraph.

Section 107. — LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

107.01 Laws to be observed. Delete the entire subsection and substitute the following:

107.01 Laws to Be Observed. General Provision No. 20 is supplemented by the following requirements. "*Laws to be Observed*" and General Provision No. 21. "*Permits and Licenses".*

Comply with all applicable laws, ordinances, safety codes, regulations, orders, and decrees. Protect and indemnify the Government and its representatives against any claim or liability arising from or based on the alleged violation of the same.

Comply with all permits and agreements obtained by the Government for performing the work that is included in the contract. All additional permits or agreements and modifications to Government-obtained permits or agreements that are required by the contractor's methods of operation must also be obtained. Furnish copies of all permits and agreements to the Project Engineer.

107.02 Protection and Restoration of Property and Landscape. Delete the entire subsection and substitute the following:

107.02 Protection and Restoration of Property and Landscape. General Provision No. 22 *"Restoration of Surfaces Opened by Permit"* is supplemented by the following:

Protection of Existing Vegetation, Structures, Equipment, Utilities, and Improvements.

Preserve public and private property and protect monuments established for the purpose of perpetuating horizontal, vertical, cadastral, or boundary control. When necessary to destroy a monument, reestablish the monument according to applicable Virgin Islands statutes or by the direction of the agency or individual who established the monument.

Do not disturb the area beyond the construction limits. Replace trees, shrubs, or vegetated areas damaged by construction operations as directed and at no cost to the Government. Remove any damaged limbs of existing trees by an approved arborist.

Do not excavate, remove, damage, alter, or deface any archeological or paleontological remains or specimens. Control the actions of employees and subcontractors on the project to ensure that protected sites are not disturbed or damaged. Should any of these items be encountered, suspend operations at the discovery site, notify the Project Engineer, and continue operations in other areas. The Project Engineer will inform the contractor when operations may resume at the discovery site.

When utilities are to be relocated or adjusted, the Government and/or the contractor will notify all utility owners affected by the relocations or adjustments. The relocations or adjustments will be performed by others or will be included in the contract work.

Before beginning work in an area, the contractor shall have all utility owners locate their utilities. Protect utilities from construction operations. Cooperate with utility owners to expedite the relocation or adjustment of their utilities to minimize interruption of service and duplication of work.

If utility services are interrupted as a result of damage by the construction, immediately notify the utility owner, the Project Engineer, and other proper authorities. Cooperate with them until service is restored. Do not work around fire hydrants until provisions for continued service are made and approved by the local fire authority.

If utility adjustment work, not included in the contract, is required, compensation for the work will be provided under applicable clauses of the contract. Satisfactorily repair damage due to the fault or negligence of the contractor at no cost to the Government.

Subsection 107.04 Railroad Protections. Delete the entire subsection.

107.11 Protection of Forests, Parks, and Public Lands. Delete the entire subsection and substitute the following:

107.11 Protection of Forests, Parks, and Public Lands. Comply with all regulations of the territory fire marshal, conservation commission, or other authority having jurisdiction governing the protection of land including or adjacent to the project.

Section 108. — PROSECUTION AND PROGRESS

108.01 Commencement, Prosecution, and Completion of Work. Delete the first sentence.

108.02 Subcontracting. Delete the entire subsection and substitute the following:

108.02 Subcontracting. General Provision No. 72 "*Subcontractors and Suppliers"* is supplemented by the following requirements:

Subcontracting does not relieve the contractor of liability and responsibility under the contract and does not create any contractual relation between subcontractors and the

Government. The contractor is liable and responsible for any action or lack of action of subcontractors.

Within 14 days of subcontract award, submit an **SF 1413- Statement and Acknowledgement** with Part I completed and **FHWA 1775 – Notice of Subcontract Award – Supplemental Information**. Complete other forms that may be provided by the Government to clearly show the work subcontracted and the total dollar amount of the subcontract. For subcontracts involving on-site labor, require the subcontractor to complete Part II of the SF 1413 and complete other forms that may be provided by the Government. Submit a separate statement documenting the cumulative amount of all on-site subcontracts to date as a percentage of the original contract amount. Furnish this information on all subcontracts at lower tiers.

Performance of Work by the contractor. The percentage of work performed on-site by the contractor will be computed as 100 percent less the combined initial dollar amount of all subcontracts involving on-site labor.

108.03 Determination and Extension of Contract Time. Delete the first paragraph and substitute the following:

108.03 Determination and Extension of the Contract Time. Follow the requirements of General Provision No. 39 “Determination and Extension of Contract Time for Completion”.

Section 109. — MEASUREMENT AND PAYMENT

109.01 Measurement of Work. Delete the first paragraph and substitute the following:

109.01 Measurement of Work. The following requirements supplements the General Provision No. 42 *“Measurement of Quantities”,* No. 43 “Scope of Payment”, and No. 44 “*Payment for Increased or Decreased Quantities”*.

The contractor shall check, review and verify all plans, dimensions, and site conditions prior to construction, any discrepancies or omissions noted on the drawings or in the specification or any variations needed in order to conform to code, rules and regulations shall be reported in writing to the Project Engineer. Any such discrepancies, omissions, or variation not reported during the bidding period shall be the responsibility of the contractor who shall perform the work as per the Project Engineer instruction.

109.05 Scope of Payment. Delete the first paragraph and add the following:

109.05 Scope of Payment. General Provision No. 43 “Scope of Payment” is supplemented by the following requirements:

Payment for all contract work is provided, either directly or indirectly, under the pay items shown in the bid schedule.

109.08 Progress Payment. Delete the first sentence.

109.08(b) Add the following:

Submit invoices by the 7th day after the closing date. Invoices received after the 16th day following the closing date will not be accepted for payment processing that month. Include late, unprocessed invoice submittals in the following month's invoice.

Section 151. — MOBILIZATION

151.03 (a). Delete the sentence and substitute the following:

(a) Bond premiums will be reimbursed after receipt of the evidence of payment.

Section 152.—CONSTRUCTION SURVEY AND STAKING

152.02 Delete the paragraph and substitute the following:

Furnish technically qualified licensed professional land surveyors capable of performing in a timely and accurate manner. A licensed professional surveyor shall be on the project whenever surveying/staking is in progress.

152.04(a). Delete the paragraph and substitute the following:

Furnish technically qualified licensed professional land surveyors capable of performing in a timely and accurate manner. A licensed professional surveyor shall be on the project whenever surveying/staking is in progress.

152.04. Delete the after Sub Section (a) and substitute the following:

152.04. Include staking activities in the construction schedule submitted according to Section 155. Include the dates and sequence of each staking activity. The contractor will set initial reference lines, will set horizontal and vertical control points, and will furnish the data for use in establishing control for completion of each element of the work. Data relating to horizontal and vertical alignment, theoretical slope stake, catch points, and other design data will be furnished to the Project Engineer for approval.

Before beginning construction, notify the Project Engineer of any missing initial reference lines, control points, or stakes. The contractor will reestablish initial reference lines, control points, and stakes missing before the beginning of construction.

Preserve all initial reference and control points. After beginning construction, replace all destroyed or disturbed initial reference or control points necessary to the work.

Before surveying or staking, discuss and coordinate the following with the Project Engineer:

(a) Surveying and staking methods;

(b) Stake marking;

(c) Grade control for courses of material;

(d) Referencing;

(e) Structure control; and

(f) Any other procedures and controls necessary for the work.

Survey and establish controls within the tolerances shown in Table 152-1.

Prepare field notes in an approved format. Furnish all survey notes at least weekly. All field notes and supporting documentation become the property of the Government upon completion of the work.

Start work only after staking for the affected work is accepted.
The construction survey and staking work may be spot-checked for accuracy, and unacceptable portions of work may be rejected. Resurvey rejected work, and correct work that is not within the tolerances specified in Table 152-1. Acceptance of the construction staking does not relieve the

Contractor of responsibility for correcting errors discovered during the work and for bearing all additional costs associated with the error.

Remove and dispose of all flagging, lath, stakes, and other staking material after the project is complete.

Furnish a practicable schedule of staking activities with the construction schedule, submitted to the Project Engineer for approval, according to Section 155. Include the dates and sequence of each staking activity.

152.05. Delete the text of paragraphs **(h)**, and **(k)**.

152.05(a). Add the following:

Set bench marks (at least every 500 ft of roadway). Replace any missing control points.

152.05(e). Add the following:

(e)Reestablish centerline as many times as necessary to construct the work.

Section 154.--CONTRACTOR SAMPLING AND TESTING

154.04. Add the following:

When there is a contract pay item for Contractor testing, furnish technically qualified Materials Lab / Technician capable of performing in a timely and accurate manner for material testing. A Materials Technician shall be on the project whenever any earthwork, concrete, and asphalt are in progress.

Furnish test results to the CO immediately after completing the test. The requirements for furnishing test results do not include sample aging or curing time; therefore, reporting times will be extended accordingly.

Submit proposals for using alternate AASHTO or State approved test methods in writing for approval. Alternate methods may be allowed based on documented equivalence to the method specified.

154.05. Add the following:

Report test results on forms containing all sample information required by Subsection 154.03. Label clearly all interim measurements used to determine the results. Attach work sheets used to determine test values to the test result forms when submitted.

Section 155.--SCHEDULES FOR CONSTRUCTION CONTRACTS

Add the following after the third paragraph:

Weather Delays.

(a) Definitions.

(1) Reasonably, Predictable Weather is defined as the number of workdays that can expect to be lost in any month due to rainfall based on ten-year historical weather data.

(2) A Rain Day is defined as a potentially lost workday on which rainfall is equal to or greater than 0.10 inch.

(3) A Drying Day is defined as a work day(s) immediately following a rainfall equal to or greater than 1.00 inch, which is potentially lost because of wet ground conditions.

(4) A Workday is a day not excluded from work by Section 108.

(5) Unusually Severe Weather. When the number of Actual Workdays Lost is greater than the calculated Total Lost Days for the month in question.

(b) Reasonably Predictable Weather. The Contractor shall determine Reasonably Predictable Weather for this contract by completing Table R1. Data for Table R1 shall be calculated as follows:

(1) Using the last ten (10) years of historical weather data from the nearest NOAA weather data collection station, compute the average number of workdays lost (rain days plus drying days) for each month and the standard deviation from the average. Add the average number of workdays lost to the standard deviation.

(2) The Total number of Lost Days (Average Workdays Lost plus one Standard Deviation, rounded to whole days) will be considered normal for each month.

(3) Submit a completed Table R1 with the initial construction schedule.

(c) Unusually Severe Weather the Contractor can request time for a delay due to Unusually Severe Weather. For this contract, Unusually Severe Weather due to rainfall is defined as when the number of Actual Workdays Lost is greater than the calculated Total Lost Days for the month in question.

The number of Actual Workdays Lost is calculated by first totaling the actual Rain Days plus the actual Drying Days occurring in the month in question. From this total, deduct any workdays meeting the following conditions:

(1) The Rain Day or Drying Day occurred on a non-work weekday such as a holiday.

(2) Rainfall occurred at a time when no weather dependent work was in progress or occurred during planned or unplanned shutdowns due to other circumstances such as equipment failure, strikes, material supplies, delays, etc.

(3) The Contractor was still working or able to work on weather dependent activities to the extent that less than 50% of the workday was lost due to weather.

If the net number of Actual Workdays Lost is greater than the Total Lost Days, than Unusually Severe Weather will have occurred in the month in question.

(d) Time Adjustments for Rain Delays If the net number of Actual Workdays Lost to rain is less than the Total Lost Days for the month in question, no

time adjustments will be made. If the net number of Actual Workdays Lost is more, then an excusable time extension may be granted. The Contractor must submit a Weather Time Impact Analysis supporting any alleged delays due to Unusually Severe Weather.

(e) Delays Due To Other Weather Conditions Delays due to other unusually severe weather conditions (heat, high winds, etc.) must be supported with a Weather Time Impact Analysis using historical weather data.

155.06. Add the following:

No progress payment will be made for any work until an updated construction schedule has been submitted and approved by the CO.

155.08. Delete the paragraph and substitute the following:

Schedules for Construction Contracts will not measure directly for payment.

Add the following at the end of the Subsection:

TABLE R1

Project Number _____

Location of NOAA Data Collection Station _____

Data Years (10-year history): 20_____ through 20_____

REASONABLY PREDICTABLE WEATHER

MONTH	AVERAGE WORKDAYS LOST	STANDARD DEVIATION	TOTAL LOST DAYS
JANUARY			
FEBRUARY			
MARCH			
APRIL			
MAY			
JUNE			
JULY			
AUGUST			
SEPTEMBER			
OCTOBER			
NOVEMBER			
DECEMBER			

156.07. Limitations on Construction Operations.

(i) Delete the text and substitute the following:

Limit construction caused delays to public traffic to a maximum of 15 minutes through any work zone and a maximum 30-minute delay through the entire project length.

(j) Add the following:

Limit length of construction area as approved by Project Engineer.

156.08. Traffic and Safety Supervisor. Add the following after the third sentence in the first paragraph:

The traffic control supervisor(s) must be on-site during all work hours.

Delete Subsection (e) and replace with the following:

(e) The Traffic control supervisor(s) will inspect all work zone traffic control devices on the project, including those in staging areas, on-site storage areas, materials sources, and disposal/waste areas as follows:

(1) Daily during daylight hours when daylight work is being performed.
(2) Weekly during the hours of darkness when only daylight work is being performed.
(3) Weekly during hours of darkness when work is suspended for periods more than one week, except when the project has been shut down for other issues.
(4) Additional inspections, day, or night, as directed by the Project Engineer.

The Traffic Safety Supervisor and Erosion Control Supervisor can be designated as the same person and will be available 24 hours a day including weekends for the duration of the project.

Section 157. - SOIL EROSION CONTROL

157.04. General. Delete the second paragraph and substitute the following:

Standard erosion control devices are provided in the contract. For detail site-specific measures for controlling erosion, submit to the Project Engineer details for acceptance prior to implementation. Provide working drawings and associated data that do not exceed 24 by 36-inches in size. Allow 7 days for acceptance of the drawings or a return for corrections. Include the following in the detailed design:

(1) Comply with for storm water runoff applicable laws and or permits,

environmental commitments, and other permit requirements here or in the General Provisions and Subsection 107.01 or 107.10.

(2) Location of each proposed erosion control measure.

(3) Type of each erosion control measure.

(4) Quantities of proposed temporary erosion control devices to be implemented during construction. A schedule detailing coordination of erosion control measures with the various construction operations or stages. Include the furnishing, installation, maintaining and removing of temporary devices and the installation of permanent erosion control features.

(6) A schedule outlining proposed clearing and grubbing, excavation, embankment, and culvert operations such that the area of disturbed or erodible material is minimized. Schedule the work such that temporary and permanent erosion measures can be incorporated at the earliest practical time.

(7) Construction methods used in various items of work to minimize erosion.

Add the following:

At least 5 days prior to the preconstruction conference, designate in writing an Erosion Control Supervisor who is responsible for implementing the requirements of this Section. Do not designate the project superintendent as the Erosion Control Supervisor.

When temporary erosion control measures are required due to the contractor's negligence, carelessness, or failure to install permanent controls as part of the work in a timely manner, provide temporary measures at no cost to the Government.

Coordinate with the Project Engineer on location and placement of silt fence.

157.16. Acceptance. Add the following:
Soil erosion control will be evaluated under Subsection 106.02 based on the demonstrated ability of the erosion control measures to result in minimal soil erosion, sedimentation and/or siltation, and turbidity increases within or adjacent to the project limits.

Section 204. - Roadway Excavation

Section 204.02. (a) (1) Roadway Excavation. Add the following:

This item shall include removal and disposal of asphalt pavement.

204.14. Disposal of Unsuitable or Excess Material. Delete the Subsection and substitute the following:

Dispose of excavated material or excess material legally off the project.

Section 301.--UNTREATED AGGREGATE COURSES

301.02. Add the following:

If an alternate State gradation is produced as provided in Subsection 703.05, notify the Project Engineer in writing. The target values with respect to the State gradation will be the midpoint of the allowable State specification band. The allowable deviation (D) will be one-half the State specification bandwidth.

301.03. Delete the second paragraph.

301.08. Delete the text and substitute the following:

Aggregate for untreated aggregate courses will be evaluated and accepted under Section 2, Section 2, Contract Requirements, No. 13. Inspection (Ref. V Rule 242-58).The upper and lower specification limits for gradation are the approved target values plus or minus the allowable deviations. For surface courses, the upper and lower specification limits for plasticity index are shown in Table 703-3. The aggregate will be tested for acceptance on samples taken from its final location immediately prior to compaction. Obtain and test three samples in accordance with AASHTO T 27 and T 11. The Project Engineer will determine sampling locations.

Construction of untreated aggregate courses will be evaluated under Section 2, Contract Requirements No. 13. - Inspection and Section 2, Contract Requirements No.17 (c) - Samples and Tests. Preparation of the surface on which the aggregate course is placed will be evaluated under Section 204 or 303 as applicable.

301.10. Delete the first paragraph and substitute the following:
The accepted quantities will be paid at the contract price per unit of measurement for the pay items shown in the bid schedule. Payment will be full compensation for the work prescribed in this Section. See Subsection 109.05.

Section 402.—HOT ASPHALT CONCRETE PAVEMENT

402.01. Add the following:

Furnish asphalt binder AC-30.

402.03. Add the following:

If an alternate Marshall designed mixture with the same maximum size aggregate as the specified grading meets the requirements for the location and type of facility being constructed as designated by the current USVI DPW specification. Submit the aggregate quality, graduation requirements, and mixture criteria for the asphalt concrete mix for approval before production.

402.03(b). Add the following:

For alternate job-mixes, submit a job-mix formula that is currently approved and has been tested by the USVI DPW or other Government agencies within a year of the date of intended use. Include documentation from a State highway official certifying that it is an approved State mix.

402.18. Add the following:

Sawcutting and removal will not be measured. Payment for Sawcutting and removal is paid for indirectly under the above pay item show in the bid schedule.

Location and Station of begin and end construction shown in plans is approximate and may need to be adjusted in the field.

Section 412. - ASPHALT TACK COAT

412.02. Add the following material:

Emulsified Asphalt (RS-1)	702.03

Section 601.--MINOR CONCRETE STRUCTURES

601.03. Delete the first sentence and substitute the following:

Conform to Table 601-1 or furnish a concrete mix used locally by either a Federal or Local agency for the construction of minor concrete structures. The mix shall meet the minimum 28-day compressive strength requirement of Table 601-1.

601.07. Add the following:

See Table 601-2 for sampling and testing requirements.

Table 601-2
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
Concrete	Measured and tested for conformance (106.04)	Unit mass	—	AASHTO T 121	1 set per 30 yd^3 but not less than 1 per day	Point of discharge	—	Upon completing tests
		Air content	—	AASHTO T 152 or T 196	"	"	—	"
		Slump	—	AASHTO T 119	"	"	—	"
		Temperature	—	Field measured	"	"	—	"
		Compressive strength	—	AASHTO T 23 & T 22	"	Discharge stream at point of placing	—	"

Section 617.—GUARDRAIL

617.01(d). Add the following:

Provide a terminal section, which meets NCHRP 350, Test Level III criteria. Refer to the following internet web site for the latest approved hardware:

http://safety.fhwa.dot.gov/programs/roadside_hardware.htm.

Obtain the CO's approval prior to ordering or installing an NCHRP-350 terminal section.

617.02. Add the following:

Use steel guardrail, type 2.

Use steel guardrail posts with W-beam type guardrail.

617.03. Posts. Delete this subsection and substitute the following:

617.03. Posts. Where pavement is within 3-feet of the guardrail, set posts before placing the pavement where it is not possible to maintain a 2-foot minimum distance between the back of the guardrail post and the top of a slope 1:2 or steeper, increase the post length to 8-feet. Where an impenetrable object is encountered, use a short post. Treat field cuts for wood posts with two coats of preservative treatment applied with a brush or a sprayer. Do not place field cuts in contact with the ground. Anchor short posts in concrete. Backfill and compact the remaining hole with acceptable material. Do not use long or short posts in terminal sections. Drive posts into pilot holes that are punched or drilled. The dimensions of the pilot hole shall not exceed the dimensions of the post by more than 6-inchs. Set posts plumb, backfill, and compact.

The locations of guardrail are estimated only. After field stakeout and before ordering, submit exact lengths, locations, curved sections and end treatments in writing to the CO for verification. Guardrail blockouts for steel post guardrail shall meet NCHRP 350, Test Level III criteria and be accepted for use by the FHWA for use on the National Highway System as manufactured or licensed for manufacture by:

Valley Rubber, L.L.C., Hartselle, Alabama; Millennium Plastic Wood, L.L.C., Wichita, Kansas; CAMMCO, INC., Anniston, Alabama; R&P Products, Paris, Ohio; Bryson Products, Inc., Bethlehem, Pennsylvania; Aloha Plastic Recycling, Inc., Kahului, Hawaii; Consource Plastic Recycling Corporation, Tampa, Florida; Polywood Plastic and Lumber, Inc., South Planfield, New Jersey; Central Fabricators, Inc., Kosciusko, Mississippi; Mondo Polymer Technologies, Inc., Reno, Ohio; Creative Building

Products, Fort Wayne, Indiana; Ramco International, Pittsburgh, Pennsylvania; or approved equal.

617.05. Terminal Sections. Delete the third paragraph and substitute the following:

When flared or tangent terminals are required, submit drawings from the manufacturer for the terminals according to Subsection 104.03.

617.10. Add the following to the first paragraph:

This includes curved guardrail sections.

Section 625.—TURF ESTABLISHMENT

625.01. Add the following:

The work does not include areas previously protected by soil erosion control measures according to Section 157, and upon which permanent suitable vegetation has started growth.

625.03. Delete the first sentence and substitute the following:

Apply turf establishment to finished slopes and ditches within 14 days after completion of construction on that portion of the site.

625.11. Measurement. Add the following:

Turf Establishment will not be measured for payment.

Section 633. - PERMANENT TRAFFIC CONTROL

633.01. Add the following:

Place permanent traffic control signs as directed by the Project Engineer.

633.04. Add the following:

Fabricate posts from steel.

633.05 (a) Panels. Add the following:

Fabricate sign panels from aluminum.

Section 634.--PERMANENT PAVEMENT MARKINGS

634.03. General. Add the following:

Remove all conflicting pavement markings according to subsection 635.13.

Section 635. — TEMPORARY TRAFFIC CONTROL

635.11. Add the following after the second sentence of the first paragraph:

Use temporary barriers that meet test level use TL-2 for speeds less than or equal to 45 mph criteria, per NCHRP Report 350 for crashworthiness standards.

635.11. Delete the second paragraph and substitute the following:

Mount flexible plastic 6-inch by 6-inch delineators with Type III or IV retroreflective sheeting to the top of concrete barriers on 25-foot centers. Furnish white sheeting when the delineator is to the left of traffic and yellow when to the right.

635.11B. Add the following:

Use water filled plastic barriers as approved by the CO. Provide current standards and specifications to the CO for approval 14 days prior to installation of the barriers.

Final location of barriers will be determined in the field and approved by the CO. Terminate barrier ends outside the minimum clear zone limits.

Section 701.--HYDRAULIC CEMENT

701.01. Portland Cement and Masonry Cement. Add the

following: For pipe culverts, use one of the following:

(a) Low alkali Portland cement. Conform to AASHTO M 85, limiting alkalies according to Table 1A in AASHTO M 85.

(b) Blended hydraulic cement. Use AASHTO M 240, type 1S, 1S-A, 1P, or 1P-A cement.

Section 702.–ASPHALT MATERIAL

702.01. Delete the first sentence and substitute the

following:

Asphalt binders, including those with antistripping additives and binder blends with hot recycled mixtures, shall conform to AASHTO M 226, Table 2, for viscosity graded binders and AASHTO MP 1 for performance graded binders.

Section 703.—AGGREGATE

703.02. Add the following:

Gravel will not be permitted.

703.05(a). Delete items (3) and (4).

703 .05(a) (5). Delete and substitute the following:

(5) Fractured faces, ASTM D 5821 50% min.

703.05(b). Add the following:

(3) Plasticity Index, AASHTO T90 3 Max

703.05(b). Add the following:

Material shall have a minimum California Bearing Ratio of 70% as determined by AASHTO T 193 at 95% of maximum dry density in accordance with AASHTO T 180 (Method D).

703.05(b). Delete Table 703-2 and substitute the following:

Table 703-2
Target Value Range for Subbase and Base Gradation

Sieve Size	Percent by Mass Passing Designated Sieve (AASHTO T 27 and T 11)				
	Grading Designation				
	A (Subbase)	B (Subbase)	C (Base)	D (Base)	E (Base)
2 1/2 in.	100 (1)				
2 in.	97-100 (1)	100 (1)	100 (1)		
1 1/2 in.		97-100 (1)			
1 1/4 in.					
1 in.	65-79 (6)		80-100 (6)	100 (1)	

3/4 in.			64-94 (6)	86-100 (6)	100 (1)
1/2 in.	45-59 (7)				
3/8 in.			40-69 (6)	5 1-82 (6)	62-90 (6)
No. 4	28-42 (6)	40-60 (8)	3 1-54 (6)	36-64 (6)	36-74 (6)
No. 40	9-17 (4)			12-26 (4)	12-26 (4)
No. 200	4.0-8.0 (3)	4.0-12.0 (4)	4.0-7.0 (3)	4.0-7.0 (3)	4.0-7.0 (3)

( ) Allowable deviations (+/-) from the target values.

703.07(a). Delete line (3) and substitute the following:

(3) Fractured faces, ASTM D 5821 75 min.

703.07(a). Delete item (4).

703.07(b). Delete item (1).

Add the following:

703.19. Reclaimed Asphalt Pavement (RAP). Furnish RAP that is processed in some form (by crushing and screening, or milling) to produce a uniform gradation and AC content. Process RAP so that no particle in the final mixture will exceed the maximum aggregate size at the time of production and discharge into the transport vehicle. Provide RAP material with a maximum of 2 percent deleterious materials.

Section 705.--ROCK

705.02. Riprap Rock. Delete the text and substitute the following:

705.02. Riprap Rock. Furnish hard, durable, angular rock that is resistant to weathering and water action and free of organic or other unsuitable material. Do not use shale, rock with shale seams, or other fissile or fissured rock that may break into smaller pieces in the process of handling and placing. Conform to the following:

(a) Apparent specific gravity, AASHTO T 85	2.50 min.
(b) Absorption, AASHTO T 85	4.2% max.
(c) Coarse durability index, AASHTO T 210	50 min.
(d) Gradation for the class specified	Table 705-1

Section 709.--REINFORCING STEEL AND WIRE ROPE

709.01(b). Delete the text of this subsection and substitute the following:

Furnish deformed, grade 60 bars conforming to AASHTO M31.

709.01(c). Add the following:

Furnish bars conforming to Subsection 709.01(b).

709.01(d). Delete the text of this subsection and substitute the

following: Furnish deformed, grade 60 bars conforming to

AASHTO M 31.

709.01(e). Delete the first sentence of text in this subsection and substitute the following:

Furnish plain, grade 60 bars conforming to AASHTO M 31 with M14 rolled threads or M16 cut threads.

709.01. Add the following after 709.01(l):

(m) Spiral Reinforcement. Conform to AASHTO M32, or to the strength and elongation requirements of AASHTO M3 1, Grade 60.

Section 711.--CONCRETE CURING MATERIAL AND ADMIXTURES

711.03. Delete the text of this subsection and substitute the following:

711.03. Chemical Admixtures. Furnish water-reducing, retarding, set accelerating, and hydration stabilizing admixtures, or combinations thereof, conforming to AASHTO M 194. For hydration stabilizing admixtures, conform to AASHTO M 194, type B or D.

Add the following after Subsection 711.04:

711.05. Fiber Reinforcement. Furnish a polypropylene fiber conforming to ASTM C 116, Type 3, and compatible with the constituents of the concrete mixture. Furnish documentation of compatibility from the manufacturer.

Section 725.--MISCELLANEOUS MATERIAL

725.11. Delete the text and substitute the following:

725.11. Precast Concrete Units and Accessories.

(a) Reinforced concrete manholes sections. Conform to AASHTO M 1 99M.

(b) Concrete barrier. Conform to ASTM C 825.

(c) Reinforced concrete crib wall members. Conform to ASTM C 915.

(d) Underground concrete utility structures. Conform to ASTM C 858.

(e) Concrete water and waste water structures. Conform to ASTM C 913.

(f) Solid concrete interlocking paving units. Conform to ASTM C 936.

(g) Other precast concrete units not covered by the preceding requirements. Cast the units in substantial permanent steel forms. When reinforcing steel is required, conform to Section 709. Provide additional reinforcement as necessary for handling the units. Use concrete conforming to the following:

(1) 28-day strength, AASHTO T 22 3500 psi min.
(2) Air content by volume, when required
3/8 inch max. Size aggregate 5% min.
> 3/8 inch max. Size aggregate 4% min.

Cure the units according to AASHTO M 170M.

Cast a sufficient number of concrete cylinders from each unit or lot of units to permit compression tests at 7, 14 and 28 days. Make at least 3 cylinders for each test. If the strength requirement is met at 7 or 14 days, the units can be certified for use 14 days from date of casting.

Do not use precast concrete units when:

*Cylinders that are properly sampled, cast, and cured, do not meet the strength requirement by an age of 28 days.

*Cracks, honeycombed, or patched areas are larger than 30 in 2.

Supplemental Provisions

(FHWA Funded Construction Contract Continues) [2]

Add the following Definitions of Terms:

1. **Backfill** — Material used to replace or the act of replacing material removed during construction. Material placed or the act of placing material adjacent to structures.
2. **Base** — the layer or layers of material placed on a Subbase or Subgrade to support a surface course.
3. **Bidder** — any individual or legal entity submitting a bid.
4. **Clear Zone** — the portion of the roadside, including the shoulder, available for the safe use by an errant vehicle in which the driver may regain control of the vehicle. Recommended distances for the clear zone are in the AASHTO Roadside Design Guide.
5. **Construction Limits** — the limits on each side of the project that establish the area disturbed by construction operations and beyond which no disturbance is permitted. Typically the construction limits are the same as the clearing limits, except when additional clearing is required.
6. **Contracting Officer (CO) —** An official of the Government (Property and Procurement) with the authority to enter into, administer, and terminate contracts and make related determinations and findings. The term includes certain authorized representatives of the CO acting within the limits of their authority as delegated by the Commissioner.
7. **Contract Modification —** Any written change in the terms of the contract. Contract modifications are of the following forms:
    (a) **Administrative change.** A unilateral contract change, in writing, that does not affect the substantive rights of the parties (e.g., a change in the paying office or the appropriation data).
    (b) **Change order.** A written order, signed by the Commissioner, directing the contractor to make a change without the Contractor's consent.
    (c) **Supplemental agreement.** A contract modification that is accomplished by the mutual action of the parties.

8. **Cross-Section** — a vertical section of the ground or structure at right angles to the centerline or baseline of the roadway or other work.

9. **Day** — Each and every day shown on the calendar, beginning and ending at midnight.

10. **Density** — Mass per unit volume of material. Specific gravity multiplied by the unit mass of water.

11. **Detour** — A temporary rerouting of public traffic onto alternate existing roadways in order to avoid the work or part of the work.

12. **Diversion** — a temporary rerouting of public traffic onto a temporary alignment within the project limits in order to bypass the work or a portion of the work.

13. **Drawings** — Design sheets or fabrication, erection, or construction details submitted to the Government by the contractor according to the Specifications and Drawings for Construction. Also refers to submissions and submittals.

14. **Layer** — See "lift."

15. **Lift** — Defined as follows:

When placing and compacting soils and aggregates, a lift is any single, continuous layer of material that receives the same compactive effort throughout during a single work operation.

When installing culvert pipe less than or equal to 48 inches in diameter, the backfill material placed on both sides of the pipe is considered to be contained in the same lift when the material is placed to the same elevation on both sides of the culvert, the compactive effort applied to one side of the culvert is the same as that applied to the other, and the compactive effort is applied to both sides of the pipe in a continuous operation.

16. **Measurement** — the process of identifying the dimensions, quantity, or capacity of an item. See Section 109 for measurement methods, terms, and definitions.

17. **Production Certification** — for material manufactured off-site, use a manufacturer with an ISO 9000 certification or an effective testing and inspection system. Require the manufacturer to clearly mark the material or packaging with a unique product identification or specification standard to which it is produced.

18. **Shoulder** — the portion of the roadway continuous to the traveled way for accommodation of stopped vehicles, for emergency use, and for lateral support of the pavement structure.

19. **Special Contract Requirements** — Additions and revisions to the standard specifications applicable to an individual project.

20. **Standard Forms** — Numbered forms issued by DPW/OHE for use as contract documents.

21. **Station** — (1) a measure of distance used for highways and railroads. A station is equal to 100 feet. (2) A precise location along a survey line.

22. **Subbase** — the layer or layers of material placed on a Subgrade to support a base.

23. **Suitable Material** — Rock or earth material that will provide stable foundations, embankments, or roadbeds, and is reasonably free of organic matter, roots, muck, sod, or other detrimental material. Suitable material may require drying or adding water, root picking, and other methods of manipulation before use. Suitable material includes the classifications of materials for which the project was designed.

24. **Surface Course** — the top layer or layers of a pavement structure designed to accommodate the traffic load and resist skidding, traffic abrasion, and weathering.

25. **Target Value (TV)** — a number established as a center for operating a given process. Once established, adjustments should be made in the process as necessary to maintain a central tendency about the target value. Test results obtained from a well-controlled process should cluster closely around the established target value and the mean of the test results should be equal to or nearly equal to the established target value.

26. **Unsuitable Material** — Material not capable of creating stable foundations, embankments, or roadbeds. Unsuitable material includes muck, sod, or soils with high organic contents.