

TABLE OF CONTENTS

Section	Title	Page
SECTION 100 -- GENERAL PROVISIONS		
SECTION 101 -- DEFINITIONS AND TERMS		
101.01	Abbreviations	
101.02	Above Normal Rainfall	
101.03	Blank	
101.04	Bid Bond	
101.05	Bidder	
101.06	Bridge	
(a)	Length	
(b)	Roadway Width	
101.07	Calendar Day	
101.08	Blank	
101.09	Change Order	
101.10	Construction Limits	
101.11	Contract	
101.12	Contract Information Book	
101.13	Contract Item (Pay Item)	
101.14	Contract Time	
101.15	Contractor	
101.16	Culvert	
101.17	Department	
(a)	Materials and Tests Division	
(b)	Contract Services Section	
(c)	Procurement and Distribution Division	
101.18	Commissioner	
101.19	Engineer	
101.20	Equipment	
101.21	Extra Work	
101.22	Force Account Work	
101.22.1	Frequency Manual	
101.23	Holidays	
101.24	Invitation for Bids	
101.25	Itemized Proposal	
101.26	Laboratory	
101.27	Major and Minor Contract Items	
101.28	Materials	
101.29	Notice to Proceed	
101.30	Open to Unrestricted Traffic	
101.31	Pavement Structure	
101.32	Performance Bond	
101.33	Plans	
101.33.1	Professional Engineer	
101.34	Profile Grade	
101.35	Project	
101.36	Proposal	
101.37	Proposal Book	
101.38	Reasonably Close Conformance	
101.39	Right-of-Way	
101.40	Road	
101.41	Roadbed	
101.42	Roadside	
101.43	Roadside Development	
101.44	Roadway	
101.45	Schedule of Pay Items	

TABLE OF CONTENTS

Section	Title	Page
101.46	Shoulder	
101.47	Sidewalk	
101.48	Special Provisions	
101.49	Specifications	
101.50	Specified Completion Date	
101.51	State	
101.52	Street	
101.53	Structures	
101.53.1	Substantial Completion	
101.54	Blank	
101.55	Subcontractor	
101.56	Subgrade	
101.57	Substructure	
101.58	Superintendent	
101.59	Superstructure	
101.60	Supplemental Specifications	
101.61	Surety	
101.62	Technician or Inspector	
101.63	Titles (Headings)	
101.64	Township, Town, City	
101.65	Traveled Way	
101.66	Work	
101.67	Work Day	
101.68	Working Drawings	
SECTION 102 -- BIDDING REQUIREMENTS AND CONDITIONS		
102.01	Prequalification and Bidding	
102.02	Certification Regarding Lobbying for Contracts, Grants, Loans, and Cooperative Agreements	
SECTION 103 -- AWARD AND EXECUTION OF CONTRACT		
103.01	Disadvantaged Business Enterprise Program	
(a)	General Requirements	
(b)	Definitions	
1.	DBE	
2.	Small Business Concern	
3.	Socially and Economically Disadvantaged Individuals	
4.	Certified DBE	
(c)	Goal	
1.	DBE Joint Venture Type A	
2.	DBE Joint Venture Type B	
(d)	Affirmative Actions	
(e)	Guidelines for Determining Good Faith Efforts	
(f)	Affirmative Action Certification	
(g)	Subcontracts	
(h)	Leases and Rentals	
(i)	Records and Reports	
103.02	Specific Equal Employment Opportunity Responsibilities	
103.03	Blank	
103.04	Insurance	
(a)	Worker's Compensation and Employer's Liability	
(b)	Commercial General Liability	
(c)	Business Automobile Liability	
(d)	Railroad's Protective Liability	
(e)	Owner's and Contractor's Protective Liability Insurance Coverage for Operations of Designated Contractor	
(f)	Basis of Payment	
103.05	Waiver of Damages	

TABLE OF CONTENTS

Section	Title	Page
103.06	Wage and Labor Requirements	
(a)	Nondiscrimination of Employees	
(b)	Affidavits and Payrolls	
(c)	Wage Stipulations	
1.	General Decision Included in Contract Information Book	
2.	General Decision Not Included in Contract Information Book	
103.07	Accident Prevention and Safety	
SECTION 104 -- SCOPE OF WORK		
104.01	Intent of Contract	
104.02	Differing Site Conditions, Suspension of Work and Significant Changes in the Character of Work	
(a)	Differing Site Conditions	
(b)	Suspensions of Work Ordered by the Engineer	
(c)	Significant Changes in the Character of Work	
(d)	Pre-established Remedies to Changed Conditions	
104.03	Extra Work	
104.04	Maintenance of Traffic	
(a)	Special Detours	
(b)	Maintenance Directed by the Engineer	
(c)	Blank	
(d)	Traffic Control for Patching on a Two-Lane Roadway	
104.05	Removal and Disposal of Structures and Obstructions	
104.06	Removal and Disposal of Regulated Materials	
(a)	For Such Materials which are Identified in the Proposal Book as Being Present on the Project Site	
(b)	For Such Materials which are not Identified in the Proposal Book as Being Present on the Project Site	
104.07	Rights in and Use of Materials Found in the Project Site	
104.08	Final Clean-Up	
SECTION 105 -- CONTROL OF WORK		
105.01	Authority of the Engineer	
105.02	Plans and Working Drawings	
105.03	Conformance with Plans and Specifications	
105.04	Coordination of Plans, Standard Specifications, Supplemental Specifications, and Special Provisions	
105.05	Cooperation by Contractor	
105.06	Cooperation with Utilities	
105.07	Cooperation Between Contractors	
105.08	Construction Stakes, Lines, and Grades	
(a)	Construction Engineering by the State	
(b)	Construction Engineering by the Contractor	
(c)	Production Staking by the Contractor	
105.09	Duties of Technician and Inspector	
105.10	Inspection of Work	
105.11	Removal of Unacceptable and Unauthorized Work	
105.12	Load Restrictions	
105.13	Maintenance During Construction	
105.14	Failure to Maintain Roadway, Structures, Barricades, and Construction Signs	
105.15	Acceptance and Final Inspection	
(a)	Partial Acceptance	
(b)	Final Acceptance	
105.16	Claims for Adjustment and Disputes	
105.17	Field Office	
105.18	Method of Measurement	
105.19	Basis of Payment	
SECTION 106 -- CONTROL OF MATERIAL		
106.01	Source of Supply and Quality Requirements	
(a)	Approved or Prequalified Materials	

TABLE OF CONTENTS

Section	Title	Page
(b)	Material Records	
1.	Documentation of Material Delivery	
2.	Delivery Ticket Information	
3.	Payment Procedures	
(c)	Buy American Requirement	
106.02	Samples, Tests, Cited Specifications	
106.03	Plant Inspection	
106.04	Field Laboratory	
106.05	Storage of Materials	
106.06	Handling Materials	
106.07	Unacceptable Materials	
106.08	Hazard Communication Program	
106.09	Department Furnished Materials	
106.10	Proportioning Materials	
106.11	Sample Asbestos Exclusion Letter	
SECTION 107 -- LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC		
107.01	Laws to be Observed	
107.02	Permits, Licenses, and Taxes	
107.03	Patented Devices, Materials, and Processes	
107.04	Restoration of Surfaces Opened by Permit	
107.05	Federal Aid Provisions	
107.06	Equal Employment Opportunity Trainees	
107.07	Sanitary Conditions Requirements	
107.08	Public Convenience and Safety	
(a)	Employee Safety	
(b)	Dust and Air Pollution	
(c)	Protection to Traffic	
(d)	Notice to Local Public Officials	
(e)	Convenience to Traffic and Property Owners	
107.09	Railroad-Highway Requirements	
(a)	Protection of Track Ballast	
(b)	Hold Harmless Clause	
107.10	Blank	
107.11	Bridges over Navigable Waters	
107.12	Traffic Control Devices	
107.13	Use of Explosives	
107.14	Protection and Restoration of Property and Landscape	
107.14.1	Erosion Control Plan and Proof of Publication	
107.15	Forest Protection	
107.16	Responsibility for Damage Claims	
107.17	Opening Sections of Project to Traffic	
107.18	Contractor's Responsibility for Work	
107.19	Contractor's Responsibility for Utility Property and Services	
107.20	Furnishing Right-of-Way	
107.21	Personal Liability of Public Officials	
107.22	Waiver of Legal Rights	
107.23	Governing Law	
107.24	Severability	
SECTION 108 -- PROSECUTION AND PROGRESS		
108.01	Subletting of Contract	
108.02	Notice to Proceed	
108.03	Prosecution of the Work	
108.04	Prephase Site Construction Meetings	
108.05	Limitation of Operations	

TABLE OF CONTENTS

Section	Title	Page
108.06	Character of Workers, Methods, and Equipment	
108.07	Determination and Extension of Contract Time	
108.08	Failure to Complete on Time	
108.09	Default and Termination of Contract	
108.10	Termination of Contractor's Responsibility	
108.11	Contract Documentation	
SECTION 109 -- MEASUREMENT AND PAYMENT		
109.01	Measurement of Quantities	
(a)	General Requirements	
(b)	Scales and Measurement by Mass (Weight)	
(c)	Measurement by Volume	
(d)	Measurement of Asphalt Materials	
(e)	Measurement of PCC	
(f)	Measurement of Aggregates	
(g)	Measurement of Timber or Lumber	
(h)	Rental of Equipment	
(i)	Manufactured Materials	
109.02	Scope of Payment	
109.03	Compensation for Altered Quantities	
109.04	Cost Reduction Incentive	
(a)	Cost Reduction Incentive Proposal Requirements	
(b)	Approval of Proposal	
(c)	Method of Measurement	
(d)	Basis of Payment	
109.05	Extra Work and Force Account Work	
(a)	Labor Costs	
(b)	Bond and Insurance	
(c)	Materials	
(d)	Equipment	
(e)	Miscellaneous	
(f)	Subcontracting	
(g)	Compensation	
(h)	Statements	
(i)	Cost Breakdown	
109.06	Eliminated Pay Items	
109.07	Partial Payments	
109.08	Final Payment	
SECTION 110 -- MOBILIZATION AND DEMOBILIZATION		
110.01	Description	
110.02	Limitations	
110.03	Method of Measurement	
110.04	Basis of Payment	
SECTION 111 -- STOCKPILED MATERIALS		
111.01	Description	
111.02	General Requirements	
111.03	Structural Steel and Concrete Structural Members	
(a)	Delivered to the Job Site	
(b)	Acceptably Stored at the Fabricator's or Manufacturer's Storage Facilities	
111.04	Dowel Bar Assemblies	
111.05	Granular Base, Subbase Materials, and Aggregates for HMA and Concrete Pavements	
111.06	Bridge Expansion Joints	
(a)	Type SS	
(b)	Type M	
111.07	Structural Supports for Signals, Signs and Luminaries	

TABLE OF CONTENTS

Section	Title	Page
111.08	Precast Concrete Median Barrier	
111.09	Additional Requirements	
111.10	Method of Measurement	
111.11	Basis of Payment	
SECTION 200 -- EARTHWORK		
SECTION 201 -- CLEARING AND GRUBBING		
201.01	Description	
201.02	General	
201.03	Clearing and Grubbing	
201.04	Scalping	
201.05	Hedge Removal	
201.06	Method of Measurement	
	(a) Area Basis	
	(b) Lump Sum Basis	
	(c) Linear Basis	
	(d) Individual Unit Basis	
201.07	Basis of Payment	
	(a) Area Basis	
	(b) Lump Sum Basis	
	(c) Linear Basis	
	(d) Individual Unit Basis	
	(e) Clearing Right-of-Way	
	(f) Exclusions	
SECTION 202 -- REMOVAL OF STRUCTURES AND OBSTRUCTIONS		
202.01	Description	
202.02	General Requirements	
	(a) Type X Waste	
	(b) Type Y Waste	
	(c) Type Z Waste	
202.03	Removal of Bridges, Culverts, and Other Drainage Structures	
	(a) Complete	
	(b) Portions	
	(c) Disposal of Concrete	
202.04	Removal of Pipe and Tile Drains	
202.05	Removal of Pavement, Sidewalks, Curbs, Surface, Surface Milling, etc	
202.06	Removal of Houses and Buildings	
202.06.1	Inspection and Removal of Asbestos	
202.07	Removal of Underground Storage Tanks Containing Petroleum Products or Other Hazardous Chemicals	
	(a) Type A Waste	
	(b) Type B Waste	
	(c) Type C Waste	
202.08	Remediation of Contaminated Soil and Groundwater	
202.09	Remediation of Other Regulated Materials	
202.10	Transportation and Disposal of Regulated Materials	
202.11	Blank	
202.12	Method of Measurement	
202.13	Basis of Payment	
SECTION 203 -- EXCAVATION AND EMBANKMENT		
203.01	Description	
203.02	Common Excavation	
203.03	Rock Excavation	
203.04	Unclassified Excavation	
203.05	Peat Excavation	

TABLE OF CONTENTS

Section	Title	Page
203.06	Waterway Excavation	
203.07	Class Y Excavation	
203.08	Borrow or Disposal	
203.09	General Requirements	
203.10	Disposal of Excavated Material (Except Waterway and Peat Excavation)	
203.11	Disposal of Waterway Excavation	
203.12	Disposal of Peat	
203.13	Slides	
203.14	Drainage	
203.15	Excavating Rock	
203.16	Peat Deposit Treatment	
	(a) Treatment of Existing Fills	
	(b) Treatment by Removal	
	(c) Treatment by Displacement	
203.17	Cased Test Holes	
203.18	Embankment Construction	
203.19	Embankment Over and Around Structures	
203.20	Rock and Shale Embankment	
	(a) Rock Embankment	
	(b) Shale, Shale and Soft Rock Mixtures, or Soft Rock	
	(c) Shale and Thinly Layered Limestone	
203.21	Embankment on Hillsides or Slopes	
203.22	Embankment Over Existing Roadbeds	
203.23	Embankment Other Than Rock and Shale, With Density Control	
203.24	Method of Making Density Tests	
	(a) Laboratory	
	(b) Field	
203.25	Embankment Without Density Control	
203.26	Proofrolling	
203.27	Method of Measurement	
	(a) Contract Quantity	
	(b) Measured Quantities	
	(c) Measurement on a Linear Basis	
	(d) Measurement of Excavation Items on a Weight Basis	
	(e) Measurement of Embankments	
	(f) Measurement of Borrow	
	(g) Measurement of Subgrade Treatment	
	(h) Measurement of Water for Shale, Shale and Soft Rock Mixtures, or Soft Rock	
	(i) Lump Sum	
	(j) Measurement of Exploratory Cores	
203.28	Basis of Payment	
SECTION 204 – GEOTECHNICAL INSTRUMENTATION		
204.01	Description	
204.02	Materials	
204.03	Settlement Plates	
	(a) Installation of Settlement Plates	
	(b) Instrument Readings and Settlement Period	
204.04	Method of Measurement	
204.05	Basis of Payment	
SECTION 205 – TEMPORARY EROSION AND SEDIMENT CONTROL		
205.01	Description	
205.02	Materials	
205.03	Temporary Perimeter Protection	
	(a) Straw Bales	

TABLE OF CONTENTS

Section	Title	Page
	(b) Silt Fence	
205.04	Temporary Slope Protection	
205.05	Sediment Control in Side Ditches	
205.06	Sediment Basin	
205.06.1	Fish Pool and Sediment Trap	
205.07	Temporary Inlet Protection	
205.08	Maintenance of Erosion and Sediment Control Measures	
205.09	Removal of Temporary Erosion and Sediment Control Measures	
205.10	Method of Measurement	
205.11	Basis of Payment	
SECTION 206 -- STRUCTURE EXCAVATION		
206.01	Description	
206.02	Class X Excavation	
	(a) General Excavation	
	(b) Excavation for Foundations of Traffic Support Structures	
206.03	Wet Excavation	
206.04	Dry Excavation	
206.05	Foundation Excavation, Unclassified	
206.06	General Requirements	
206.07	Disposal of Excavated Material	
206.08	Preparation of Foundation Surfaces	
206.09	Cofferdams and Temporary Construction Dikes	
206.10	Method of Measurement	
206.11	Basis of Payment	
	(a) Culverts and Retaining Walls	
	(b) Bridges	
	(c) Traffic Structure Supports	
SECTION 207 -- SUBGRADE		
207.01	Description	
207.02	General Requirements	
207.03	Subgrade for HMA Base Courses	
207.04	Subgrade for Approaches	
207.05	Subgrade for Cement Concrete Base and Pavement	
207.06	Special Subgrade Treatment	
207.07	Method of Measurement	
207.08	Basis of Payment	
SECTION 208 -- FINISHING SHOULDERS, DITCHES, AND SLOPES		
208.01	Description	
208.02	Finishing Shoulders	
208.03	Finishing Ditches	
208.04	Finishing Slopes	
208.05	Blank	
208.06	Finishing at Contract Drainage Structures	
208.07	Method of Measurement	
208.08	Basis of Payment	
SECTION 209 -- FINISHING EARTH GRADED ROADS		
209.01	Description	
209.02	Construction Requirements	
209.03	Method of Measurement	
209.04	Basis of Payment	
SECTION 210 -- FINAL TRIMMING AND CLEANING		
210.01	Description	
210.02	Construction Requirements	

TABLE OF CONTENTS

Section	Title	Page
210.03	Method of Measurement	
210.04	Basis of Payment	
SECTION 211 -- B BORROW FILL AND BACKFILL		
211.01	Description	
211.02	Materials	
(a)	Gradation for Structure Backfill	
(b)	Gradations for Other Types of Backfill	
(c)	Flowable Mortar Substitution	
211.03	General Requirements	
211.04	Mechanical Compaction	
211.05	Blank	
211.06	Embankment for Bridges	
211.07	B Borrow Around Bents	
211.08	Spandrel Filling	
211.09	Method of Measurement	
211.10	Basis of Payment	
SECTION 212 -- STOCKPILED SELECTED MATERIALS		
212.01	Description	
212.02	Materials	
212.03	Construction Requirements	
212.04	Method of Measurement	
212.05	Basis of Payment	
SECTION 213 -- FLOWABLE MORTAR		
213.01	Description	
213.02	Materials	
213.03	Proportioning	
213.04	Mix	
(a)	Flow	
(b)	Average Penetration Resistance	
(c)	Mixing Equipment	
(d)	Placement	
(e)	Limitation of Operations	
213.05	Blank	
213.06	Method of Measurement	
213.07	Basis of Payment	
SECTION 214 -- DETENTION PONDS		
214.01	Description	
214.02	Materials	
214.03	Construction Requirements	
214.04	Method of Measurement	
214.05	Basis of Payment	
SECTION 215 -- CHEMICAL MODIFICATION OF SUBGRADE SOILS		
215.01	Description	
215.02	Materials	
215.03	Testing And Mix Design	
215.04	Storage and Handling	
215.05	Weather Limitations	
215.06	Preparation Of Subgrade	
215.07	Spreading of Chemical Modifiers	
215.08	Mixing	
215.09	Compaction	
215.10	Method of Measurement	
215.11	Basis of Payment	

TABLE OF CONTENTS

Section	Title	Page
SECTION 300 -- BASES		
SECTION 301 -- Blank		
SECTION 302 -- Blank		
SECTION 303 -- COMPACTED AGGREGATE BASE, SURFACE, OR SHOULDERS		
303.01	Description	
(a)	Type O Mix	
(b)	Type P Mix	
303.02	Materials	
303.03	Preparation of Type P Mixture	
(a)	Mixer Unit	
(b)	Conveyors and Feeders	
(c)	Water Pump and Meter	
(d)	Mixing	
303.04	Calcium Chloride	
303.05	Preparation of Subgrade or Subbase	
303.06	Handling and Transporting Mixtures	
303.07	Spreading Mixtures	
303.08	Control of Width	
303.09	Compacting Aggregate	
303.10	Checking and Correcting Surface	
303.11	Temperature Limitations	
303.12	Priming Compacted Aggregate Base	
303.13	Blank	
303.14	Protection of Surface	
303.15	Method of Measurement	
303.16	Basis of Payment	
SECTION 304 -- SUBBASE		
304.01	Description	
304.02	Materials	
304.03	Subgrade Preparation	
304.04	Spreading	
304.05	Compacting	
304.06	Surface Requirements	
304.07	Method of Measurement	
304.08	Basis of Payment	
SECTION 305 -- RECONDITIONING		
305.01	Description	
305.02	Materials	
305.03	Repairing	
305.04	Rubblizing Existing PCCP	
305.05	Patching Asphalt Pavement	
305.06	Patching PCCP or PCCP Base	
(a)	Patching with PCC	
(b)	Patching with HMA Mixture	
305.07	Retrofit Load Transfer for PCCP	
305.08	Sealing Cracks and Joints in Asphalt Pavement	
305.09	Filling Cracks and Joints in Concrete Pavement	
305.10	Widening	
(a)	Widening with HMA Mixture	
(b)	Widening with PCC	
(c)	Widening with Compacted Aggregate	
305.11	Method of Measurement	

TABLE OF CONTENTS

Section	Title	Page
305.12	Basis of Payment	
SECTION 306 -- Blank		
SECTION 307 -- PORTLAND CEMENT CONCRETE BASE		
307.01	Description	
307.02	Materials	
307.03	General Requirements	
307.04	Joints	
307.05	Blank	
307.06	Final Finish	
307.07	Curing	
307.08	Monolithic Curb	
307.09	Method of Measurement	
307.10	Basis of Payment	
SECTION 308 -- BLANK		
SECTION 309 -- BLANK		
SECTION 310 -- BLANK		
SECTION 400 -- ASPHALT PAVEMENTS		
SECTION 401 -- QUALITY CONTROL/QUALITY ASSURANCE, QC/QA, HOT MIX ASPHALT, HMA, PAVEMENT		
401.01	Description	
401.02	Quality Control	
401.03	Materials	
401.04	Design Mix Formula	
401.05	Volumetric Mix Design	
	(a) Gradation Table for Design ESAL Equal To or Greater Than 10,000,000	
	(b) Gradation Table for Design ESAL Less Than 10,000,000	
401.06	Recycled Materials	
401.07	Lots and Sublots	
401.08	Job Mix Formula	
401.09	Acceptance of Mixtures	
401.10	General	
401.11	Preparation of Surfaces to be Overlaid	
401.12	Process Control	
401.13	Weather Limitations	
401.14	Spreading and Finishing	
401.15	Joints	
401.16	Density	
	(a) Mainline ESAL Equal To or Greater Than 3,000,000	
	(b) Blank	
	(c) Mainline ESAL Less Than 1,000,000	
401.17	Shoulder Corrugations	
	(a) Formed Corrugations	
	(b) Milled Corrugations	
401.18	Pavement Smoothness	
401.19	Adjustment Points	
	(a) Mixture	
	(b) Density	
	1. Mainline ESAL Equal To or Greater Than 3,000,000	
	2. Blank	
	(c) Smoothness	
401.20	Appeals	
	(a) Mixture	

TABLE OF CONTENTS

Section	Title	Page
(b)	Density	
1.	Mainline ESAL Equal To or Greater Than 3,000,000	
2.	Blank	
401.21	Method of Measurement	
401.22	Basis of Payment	
SECTION 402 -- HOT MIX ASPHALT, HMA, PAVEMENT		
402.01	Description	
402.02	Materials	
402.03	Job Mix Formula	
402.04	Mix Criteria	
(a)	Composition Limits for Base Mixtures	
(b)	Composition Limits for Intermediate Mixtures	
(c)	Composition Limits for Surface Mixtures	
(d)	Composition Limits for HMA Rumble Strip Mixtures	
(e)	Composition Limits for HMA Wedge and Leveling Mixtures	
402.05	Recycled Materials	
402.06	Acceptance of Mixtures	
(a).	Mainline and Shoulders	
(b)	Wedge and Leveling and Rumble Strips	
402.07	Preparation of Mixtures	
402.08	General	
402.09	Preparation of Surfaces to be Overlaid	
402.10	Weather Limitations	
402.11	Spreading and Finishing	
402.12	Joints	
402.13	Compaction	
402.14	Low Temperature Density Requirements	
402.15	Shoulder Corrugations	
(a)	Formed Corrugations	
(b)	Milled Corrugations	
402.16	Pavement Smoothness	
402.17	Method of Measurement	
402.18	Basis of Payment	
SECTION 403 -- COLD MIX ASPHALT, CMA, PAVEMENT		
403.01	Description	
403.02	Materials	
403.03	Weather Limitations	
403.04	Equipment	
403.05	Preparation of Mixtures	
403.06	Preparation of Subgrade or Base	
403.07	Spreading Mixture	
403.08	Curing	
403.09	Compaction	
403.10	Surface Tolerances	
403.11	Method of Measurement	
403.12	Basis of Payment	
SECTION 404 -- SEAL COAT		
404.01	Description	
404.02	Asphalt Material	
404.03	Cover Aggregate	
404.04	Weather Limitations	
404.05	Equipment	
404.06	Preparation of Surface	
404.07	Applying Asphalt Material	

TABLE OF CONTENTS

Section	Title	Page
404.08	Application of Cover Aggregate	
404.09	Method of Measurement	
404.10	Basis of Payment	
SECTION 405 -- PRIME COAT		
405.01	Description	
405.02	Asphalt Material	
405.03	Cover Aggregate	
405.04	Weather Limitations	
405.05	Equipment	
405.06	Preparation of Surface	
405.07	Application of Asphalt Material	
405.08	Cover Aggregate	
405.09	Method of Measurement	
405.10	Basis of Payment	
SECTION 406 -- TACK COAT		
406.01	Description	
406.02	Asphalt Material	
406.03	Equipment	
406.04	Preparation of Surface	
406.05	Application of Asphalt Material	
406.06	Method of Measurement	
406.07	Basis of Payment	
SECTION 407 -- DUST PALATIVE		
407.01	Description	
407.02	Asphalt Material	
407.03	Weather Limitations	
407.04	Equipment	
407.05	Preparation of Surface	
407.06	Application of Asphalt Material	
407.07	Method of Measurement	
407.08	Basis of Payment	
SECTION 408 -- EQUIPMENT		
408.01	Production, Transportation, and Laydown of Asphalt Mixtures	
408.02	Mixing Plant	
(a)	HMA Mixing Plant	
1.	Plant Inspection	
2.	Proportioning Systems	
3.	Material Storage	
a.	Aggregates	
b.	Asphalt	
4.	Aggregate Feed System	
5.	Drier Unit	
6.	Dust Collector	
7.	Mixing Unit	
8.	Mix Load-out Scales	
9.	Hot Surge Bins	
10.	Sampling Point Requirements	
(b)	CMA Mixing Plant	
408.03	HMA Laydown Operations	
(a)	Distributor	
(b)	Hauling Equipment	
(c)	Laydown Equipment	
1.	Paver	

TABLE OF CONTENTS

Section	Title	Page
	2. Widener	
	3. Other Mechanical Devices	
(d)	Compaction Equipment	
	1. Tandem Roller	
	2. Three Wheel Roller	
	3. Pneumatic Tire Roller	
	4. Vibratory Roller	
	5. Trench Roller	
	6. Speciality Roller/Compactor	
(e)	Miscellaneous Equipment	
	1. Aggregate Spreader	
	2. Rotary Power Broom	
(f)	Smoothness Equipment	
	1. Profilograph	
	2. Straightedge - 4.9 m (16 ft)	
	3. Straightedge - 3 m (10 ft)	

SECTION 409 -- Blank.

SECTION 410 -- Blank

SECTION 500 -- CONCRETE PAVEMENT

SECTION 501 -- QUALITY CONTROL/QUALITY ASSURANCE, QC/QA, PORTLAND CEMENT CONCRETE PAVEMENT, PCCP

501.01 Description

501.02 Quality Control

501.03 Materials

501.04 Concrete Mix Design

501.05 Concrete Mix Criteria

501.06 Trial Batch

501.07 Lots and Sublots

501.08 Acceptance

501.09 General

501.10 Preparation of Grade

501.11 Preparation of Subbase

501.12 Placement

501.13 Process Control

501.14 Concrete Mixing and Transportation

501.15 Weather Limitations

501.16 Placing Concrete

501.17 CMD Adjustments

501.18 Joints

501.19 Finishing

501.20 Curing

501.21 Form Removal

501.22 Pavement Inspection

501.23 Opening to Traffic

(a) Construction

(b) Non-Construction

501.24 Shoulder Corrugations

(a) Formed Corrugations

(b) Milled Corrugations

501.25 Pavement Smoothness

501.26 Pavement Thickness

(a) PCCP Removal

(b) PCCP Non-Payment

TABLE OF CONTENTS

Section	Title	Page
	(c) PCCP Thickness	
501.27	Tolerance	
	(a) Plastic Unit Weight	
	(b) Water to Cementitious Ratio	
	(c) Flexural Strength	
	(d) Air Content	
501.28	Adjustment Points	
	(a) Flexural Strength	
	1. Lots	
	2. Sublots	
	(b) Air Content	
	1. Lots	
	2. Sublots	
	(c) Thickness	
	(d) Smoothness	
501.29	Appeals	
	(a) Flexural Strength	
	(b) Air Content	
501.30	Method of Measurement	
501.31	Basis of Payment	
SECTION 502 -- PORTLAND CEMENT CONCRETE PAVEMENT, PCCP		
502.01	Description	
502.02	Materials	
502.03	Concrete Mix Design	
502.04	Concrete Mix Criteria	
	(a) Portland Cement Concrete	
	(b) High-Early Strength Concrete	
502.05	Job Control	
502.06	General	
502.07	Preparation of Grade	
502.08	Preparation of Subbase	
502.09	Placement	
502.10	Concrete Mixing and Transportation	
	(a) Central Mixed Concrete	
	(b) Shrink Mixed Concrete	
	(c) Transit Mixed Concrete	
502.11	Weather Limitations	
502.12	Placing Concrete	
502.13	Joints	
502.14	Finishing	
502.15	Curing	
502.16	Form Removal	
502.17	Pavement Inspection	
502.18	Opening to Traffic	
	(a) Construction	
	(b) Non-Construction	
502.19	Shoulder Corrugations	
	(a) Formed Corrugations	
	(b) Milled Corrugations	
502.20	Pavement Smoothness	
502.21	Pavement Thickness	
	(a) Sections	
	(b) PCCP Adjusted Payment	
	(c) PCCP Non-Payment	
	(d) PCCP Removal	

TABLE OF CONTENTS

Section	Title	Page
	(e) PCCP Thickness	
502.22	Method of Measurement	
502.23	Basis of Payment	
SECTION 503 – PCCP JOINTS		
503.01	Description	
503.02	Materials	
503.03	Joints	
	(a) Type D-1 Contraction Joint	
	(b) Longitudinal Joint	
	(c) Transverse Construction Joints	
	(d) Longitudinal Construction Joint	
	(e) Terminal Joints	
	(f) Expansion Joints	
	(g) Retrofitted Tie Bars	
503.04	Dowel Bar Assemblies	
503.05	Sealing Cracks and Joints	
503.06	Random Crack Remediation	
	(a) Transverse	
	1. Retrofit Load Transfer	
	2. PCCP Replacement	
	(b) Longitudinal	
503.07	Method of Measurement	
503.08	Basis of Payment	
SECTION 504 – PCCP FINISHING AND CURING		
504.01.	Description	
504.02	Materials	
504.03	Finishing	
504.04	Curing	
	(a) Liquid Membrane Forming Compounds	
	(b) Double Burlap	
	(c) Waterproof Covers	
	(d) Straw	
504.05	Method of Measurement	
504.06	Basis of Payment	
SECTION 505 – TESTS AND PROCEDURES		
505.01	Test Methods and Procedures	
	(a) Exceptions to AASHTO T 23	
	(b) Exceptions to AASHTO T 97	
	(c) Exceptions to AASHTO T 121	
	(d) Exceptions to AASHTO T 141	
	(e) Exceptions to AASHTO T 152	
SECTION 506 – PCCP PATCHING		
506.01	Description	
506.02	Materials	
506.03	Concrete Mix Design	
506.04	Concrete Mix Criteria	
506.05	Trial Batch	
506.06	Job Control	
506.07	PCCP Removal	
	(a) Partial Depth Removal	
	(b) Full Depth Removal	
506.08	Concrete Mixing and Transportation	
	(a) Central Mixed Concrete	

TABLE OF CONTENTS

Section	Title	Page
	(b) Shrink Mixed Concrete	
	(c) Transit Mixed Concrete	
506.09	Weather Limitations	
506.10	Placing Concrete	
	(a) Partial Depth	
	(b) Full Depth	
506.11	Opening to Traffic	
506.12	Method of Measurement	
506.13	Basis of Payment	
SECTION 507 -- EQUIPMENT		
507.01	Production, Transportation, and Placement of PCC Mixtures	
507.02	Mixing Plant	
	(a) Plant Inspection	
	(b) Proportioning System	
	(c) Material Storage	
	1. Aggregates	
	2. Cementitious Materials	
	3. Admixtures	
	(d) Hoppers	
	(e) Mixing System	
	1. Central or Stationary Mixers	
	2. Truck Mixers	
507.03	Transportation	
	(a) Truck Mixers and Truck Agitators	
	(b) Non-Agitator Trucks	
507.04	Placement Equipment	
	(a) Slipform	
	(b) Form Riding Equipment	
	(c) Hand Placement	
	1. Steel Forms	
	2. Wood Forms	
	3. Finishing Equipment	
	4. Vibrators	
507.05	Curing	
507.06	Texturing Equipment	
507.07	Sawing Equipment	
507.08	Miscellaneous Equipment	
	(a) Hand Tools	
	(b) Joint Sealing	
	(c) Grinding	
507.09	Testing Facility and Equipment	
	(a) Testing Facility	
	(b) Testing Equipment	
	(c) Profilograph	
	(d) Straightedge - 4.9 m (16 ft)	
	(e) Straightedge - 3 m (10 ft)	
SECTION 600 -- INCIDENTAL CONSTRUCTION		
SECTION 601 -- GUARDRAIL		
601.01	Description	
601.02	Materials	
601.03	General Requirements	
601.04	Guardrail Erection	
601.05	Curved W-Beam Guardrail Systems	

TABLE OF CONTENTS

Section	Title	Page
601.06	Guardrail Transitions	
601.07	Guardrail End Treatments	
601.07.1	Impact Attenuators	
601.08	Extension of Existing Guardrail	
601.09	Removal of Existing Guardrail	
601.10	Adjusting Existing Guardrail Height	
601.11	Resetting Guardrail	
601.12	Method of Measurement	
601.13	Basis of Payment	
SECTION 602 – CONCRETE BARRIER		
602.01	Description	
602.02	Materials	
602.03	Concrete Barrier and Concrete Glare Screen	
(a)	Precast Concrete Barrier and Concrete Glare Screen	
(b)	Cast-in-Place Concrete Barrier and Concrete Glare Screen	
(c)	Finishing	
(d)	Sealing	
(e)	Joints	
(f)	Reflectorization	
602.04	Temporary Concrete Barrier	
(a)	Placement	
(b)	Connection	
(c)	Anchorage	
(d)	Delineation	
602.05	Method of Measurement	
602.06	Basis of Payment	
SECTION 603 – FENCES		
603.01	Description	
603.02	Materials	
603.03	General Requirements	
603.04	Setting Posts	
603.05	Placing Barbed and Tension Wire and Fabric	
603.06	Resetting Fence	
603.07	Method of Measurement	
603.08	Basis of Payment	
SECTION 604 – SIDEWALKS, CURB RAMPS AND STEPS		
604.01	Description	
604.02	Materials	
604.03	Portland Cement Concrete Sidewalks and Curb Ramps	
(a)	General Requirements	
(b)	Excavation	
(c)	Forms	
(d)	Placing Concrete	
(e)	Finishing	
(f)	Joints	
(g)	Curing	
604.04	Portland Cement Concrete Steps	
604.05	Reconstructed Portland Cement Concrete Sidewalk	
604.06	Re-Laid Portland Cement Concrete Sidewalk	
604.07	HMA Sidewalk	
(a)	Excavation and Forms	
(b)	Bed Course	
(c)	Placing HMA Sidewalk	
604.08	Backfilling and Finishing Shoulders and Slopes	

TABLE OF CONTENTS

Section	Title	Page
604.09	Method of Measurement	
604.10	Basis of Payment	
SECTION 605 -- CURBING		
605.01	Description	
605.02	Materials	
605.03	Precast Cement Concrete Curbing	
(a)	Excavation	
(b)	Installation	
(c)	Joints	
(d)	Backfilling	
605.04	Cast in Place Cement Concrete Curbing	
(a)	Excavation	
(b)	Forms	
(c)	Proportioning and Placing	
(d)	Curb Turnouts and Combined Concrete Curb and Gutter Turnouts	
(e)	Joints	
(f)	Curing	
(g)	Backfilling	
(h)	Curb Machine	
(i)	Integral Curb Walk	
605.05	Reflecting Cement Concrete Curbing	
605.06	Cement Concrete Center Curbing	
605.07	HMA Curbing	
(a)	Excavation	
(b)	Preparation of Bed	
(c)	Mixture	
(d)	Placing	
(e)	Painting and Sealing	
605.08	Resetting Curbing	
(a)	Salvage of Curbing	
(b)	Curb Removal	
(c)	Excavation	
(d)	Resetting	
(e)	Backfilling	
605.09	Method of Measurement	
605.10	Basis of Payment	
SECTION 606 -- Blank		
SECTION 607 -- PAVED SIDE DITCH OR CONCRETE GUTTER		
607.01	Description	
607.02	Materials	
607.03	General Requirements	
607.04	Cement Concrete Gutter and Turnout	
607.05	Method of Measurement	
607.06	Basis of Payment	
SECTION 608 -- SHOULDER DRAINS		
608.01	Description	
608.02	Materials	
608.03	General Requirements	
608.04	Method of Measurement	
608.05	Basis of Payment	
SECTION 609 -- Blank		
SECTION 610 -- SURFACES FOR APPROACHES		

TABLE OF CONTENTS

Section	Title	Page
610.01	Description	
610.02	Materials	
610.03	General Requirements	
610.04	Existing Approaches and Crossovers	
610.05	Reinforced Concrete Bridge Approach	
	(a) Machine Method	
	(b) Hand Method	
610.06	Method of Measurement	
610.07	Basis of Payment	
SECTION 611 – CROSSOVERS, DRIVEWAYS AND MAILBOX INSTALLATIONS		
611.01	Description	
611.02	Materials	
611.03	General Requirements	
611.04	Temporary Crossovers	
611.05	Mailbox Assembly	
611.06	Method of Measurement	
611.07	Basis of Payment	
SECTION 612 – UNDERSEALING		
612.01	Description	
612.02	Materials	
612.03	Shoulders	
612.04	Drilled Holes	
612.05	Pumping Asphalt	
612.06	Method of Measurement	
612.07	Basis of Payment	
SECTION 613 – SALVAGED ROAD MATERIALS		
613.01	Description	
613.02	Materials	
613.03	Construction Requirements	
613.04	Method of Measurement	
613.05	Basis of Payment	
SECTION 614 – CONCRETE HEADER		
614.01	Description	
614.02	Materials	
614.03	PCC Header	
614.04	Reconstructed Cement Concrete Header	
614.05	Method of Measurement	
614.06	Basis of Payment	
SECTION 615 – MONUMENTS, MARKERS AND PARKING BARRIERS		
615.01	Description	
615.02	Materials	
615.03	Reinforced Cement Concrete Right-of-Way Markers	
615.04	Monuments	
615.05	Bench Mark Posts	
615.06	Parking Barriers	
615.07	Setting Right-of-Way Markers	
615.08	Resetting Right-of-Way Markers	
615.09	Setting Monuments	
615.10	Re-Established Monuments	
615.11	Setting Bench Mark Posts and Tablets	
615.12	Reset Bench Mark Posts	
615.13	Method of Measurement	
615.14	Basis of Payment	

TABLE OF CONTENTS

Section	Title	Page
SECTION 616 -- RIPRAP AND SLOPEWALL		
616.01	Description	
616.02	Materials	
616.03	Placing Dumped Riprap	
616.04	Placing Revetment, Class 1, and Class 2 Riprap	
616.05	Placing Uniform Riprap	
616.06	Blank	
616.07	Placing Grouted Riprap	
616.08	Placing Precast Cement Concrete Riprap	
616.09	Slopedwall	
616.09.1	Undermined Paved Side Ditch	
616.10	Installation of Geotextile Under Riprap	
616.11	Method of Measurement	
616.12	Basis of Payment	
SECTION 617 -- GEOGRID FOR SUBGRADE STABILIZATION OR MODIFICATION		
617.01	Description	
617.02	Materials	
617.03	Foundation Preparation	
617.04	Geogrid Placement	
617.05	Fill Placement	
617.06	Method of Measurement	
617.07	Basis of Payment	
SECTION 618 -- Blank		
SECTION 619 -- PAINTING BRIDGE STEEL		
619.01	Description	
619.02	Materials	
619.03	Quality Control and Quality Assurance	
(a)	Acceptance Testing Definitions	
1.	Lot	
2.	Series	
3.	Phase	
(b)	Testing Procedure	
(c)	Test Methods and Procedures	
619.04	Prosecution of Work	
619.05	Inspection Access to Bridges	
619.06	Maintaining Traffic	
619.07	Environmental and Safety Requirements	
(a)	Pollution Control	
(b)	Waste Disposal	
1.	Laws to be Observed	
2.	Time Limitations	
3.	Marking of Spent Material Containers	
4.	Instruction for Disposal of Paint Waste	
5.	Instructions for Disposal of Other Project Generated Waste	
619.08	Surface Preparation	
(a)	Pressure Washing	
(b)	Solvent Cleaning	
(c)	Near-White Blast Cleaning	
(d)	Commercial Blast Cleaning	
(e)	Hand Tool Cleaning.	
(f)	Brush-Off Blast Cleaning	
(g)	Power Tool Cleaning	
(h)	Power Tool Cleaning to Bare Metal	
619.09	Paint Systems	

TABLE OF CONTENTS

Section	Title	Page
	(a) Structural Steel Paint System	
	(b) Partial Paint System	
619.10	Painting	
	(a) Weather Limitations	
	(b) Storage	
	(c) Mixing	
	(d) Thinning	
	(e) Application of Paint	
	(f) Curing Time	
	(g) Stencil Identification	
619.11	Shop Painting	
619.12	Field Painting New Steel Bridge	
619.13	Painting Existing Steel Bridges	
619.14	Drain Castings Treatment	
619.15	Claims	
619.16	Responsibility for Damage	
619.17	Method of Measurement	
619.18	Basis of Payment	
SECTION 620 -- Blank		
SECTION 621 -- SEEDING AND SODDING		
621.01	Description	
621.02	Materials	
621.03	Preparation of Ground Before Seeding	
621.04	Preparation of Ground Before Applying Erosion Control Blankets	
621.05	Applying Fertilizer, Seed, and Mulch	
	(a) Fertilizer	
	(b) Seed	
	(c) Mulch	
	1. Method A	
	2. Method B	
	3. Method C	
	4. Method D	
	5. Method E	
	(d) Excelsior Blankets	
	(e) Paper Mat	
	(f) Straw Mat	
	(g) Wood Cellulose Fiber Mulch	
621.06	Seed Mixtures	
	(a) Seed Mixture R	
	(b) Seed Mixture U	
	(c) Seed Mixture P	
	(d) Seed Mixture CV	
	(e) Seed Mixture D	
	(f) Seed Mixture T	
	1. Conventional Mix	
	2. Color Mix	
	(g) Seed Mixture Grass	
	1. Type 1	
	2. Type 2	
	(h) Seed Mixture Legume	
	1. Type 1	
	2. Type 2	
621.07	Mulched Seeding	
621.08	Preparation of Ground Before Sodding	

TABLE OF CONTENTS

Section	Title	Page
621.09	Laying Sod	
621.10	Watering Sod	
621.11	Seasonal Limitations	
621.12	Method of Measurement	
621.13	Basis of Payment	
	(a) Warranty Bond	
	(b) Changed Fertilizer	
	(c) Mulching	
SECTION 622 -- PLANTING TREES, SHRUBS, AND VINES		
622.01	Description	
622.02	Materials	
622.03	Care and Handling of Plants	
	(a) Bare Rooted Plants	
	(b) Balled and Burlapped Plants and Container Grown Plants	
622.04	Collected Plants	
622.05	Excavation for Plant Holes	
622.06	Planting Season	
622.07	Pruning	
622.08	Planting, Backfilling, and Watering	
	(a) Plants with Bare Roots	
	(b) Balled and Burlapped Plants	
	(c) Seedlings for Wildlife Habitat	
622.09	Liquid Fertilizer Application	
622.10	Mulching	
622.11	Guying and Staking	
622.12	Plant Protection	
	(a) Borer Control Coatings	
	(b) Wrapping for Rodent Protection	
622.13	Retaining Walls and Tree Wells	
622.14	Tree Root Protection	
622.15	Pipe Underdrains	
622.16	Damage to Plants	
622.17	Grass and Weed Control	
622.18	Care, Inspection, and Replacement	
	(a) Care	
	(b) Inspection and Replacement	
622.19	Crown Vetch Plants and Seedlings	
622.20	"Do Not Mow or Spray" Signs and "Do Not Disturb" Signs	
622.21	Method of Measurement	
622.22	Basis of Payment	
SECTION 700 -- STRUCTURES		
SECTION 701 -- DRIVEN PILING		
701.01	Description	
701.02	Materials	
701.03	Handling of Epoxy Coated Piles	
701.04	Equipment for Driving Piles	
	(a) Approval of Pile Driving Equipment	
	1. Wave Equation Analysis Method	
	2. Alternate Method	
	(b) Pile Hammers	
	1. Gravity Hammers	
	2. Steam and Air Hammers	
	3. Diesel Hammers	

TABLE OF CONTENTS

Section	Title	Page
	4. Pile Driving Aids	
	(c) Pile Driving Appurtenance	
	1. Hammer Cushion	
	2. Pile Drive Head	
	3. Pile Cushion	
	4. Leads	
	5. Followers	
	6. Jets	
701.05	Test Piles	
701.06	Driven Pile Capacity	
	(a) Wave Equation Analysis Program, or WEAP	
	(b) Dynamic Formula	
	(c) Dynamic Pile Load Test	
	(d) Static Load Test	
	1. Load Test Procedure	
	2. Hydraulic Jacks and Load Gages	
	3. General Requirements	
701.07	Piling Length	
701.08	Required Bearing Capacity	
701.09	Preparation and Driving	
	(a) Pilot Holes	
	(b) Location and Alignment Tolerance	
	(c) Heaved Piles	
	(d) Installation Sequence	
	(e) Inspection	
	(f) Pouring Concrete	
701.10	Unsatisfactory Piles	
701.11	Splicing Piles	
	(a) Precast Prestressed Concrete Piles	
	(b) Steel Piles and Steel Shells for Cast-in-Place Concrete Piles	
701.12	Steel H Pile Tips	
701.13	Cut-Off Lengths	
701.14	Method of Measurement	
701.15	Basis of Payment	
	(a) Timber Piles Furnished	
	(b) Timber Piles Driven	
	(c) Epoxy Coated Piles	
	(d) Prestressed Concrete Piles	
SECTION 702 -- STRUCTURAL CONCRETE		
702.01	Description	
702.02	Classes of Concrete	
702.03	Materials	
702.04	Shipping and Storage	
702.05	Proportioning	
702.06	Batching	
	(a) Portland Cement	
	(b) Water	
	(c) Aggregates	
	(d) Bins and Scales	
	(e) Batching	
702.07	Mixing	
702.08	Mixing at Site of Work	
702.09	Ready-Mixed Concrete	
	(a) General Requirements	
	(b) Mixers and Agitators	

TABLE OF CONTENTS

Section	Title	Page
	(c) Mixing and Delivery	
	(d) Non-Agitating Equipment	
702.10	Pumping Concrete	
702.11	Cold Weather Concrete	
702.12	Consistency	
702.13	Forms	
	(a) Construction	
	(b) Ties	
	(c) Walls	
	(d) Surface Treatment	
	(e) Metal Forms	
	1. Removable	
	2. Permanent	
	a. General	
	b. Construction Requirements	
	(f) Removal and Re-Use of Forms	
	(g) Test Beams	
702.14	Falsework and Centering	
	(a) Design and Construction	
	(b) Removal	
702.15	Joints	
	(a) Construction Joints	
	(b) Expansion Joints	
	(c) Folded Metal Joints	
	(d) Sliding Joints	
702.16	Drainage Pipes Through Concrete Masonry	
702.17	Incased Pipes and Conduits	
702.18	Roadway Surface Drainage	
702.19	Pouring Bent Caps	
702.20	Placing Concrete	
	(a) General Requirements	
	(b) Chutes and Troughs	
	(c) Vibrating	
	(d) Depositing Concrete Under Water	
	(e) Placing Footing Concrete	
	(f) Concrete Foundation Seal	
702.21	Finishing Concrete Surfaces	
	(a) Class 1 Finish	
	(b) Class 2 Finish	
	(c) Class 3 Finish	
702.22	Curing Concrete	
	(a) Protective Covering Curing Methods	
	(b) Membrane Forming Curing Compound	
	(c) Curing-Sealing Materials	
702.23	Waterproofing	
702.24	Application of Loads to and Acceptance of New Concrete	
702.25	Field Drilled Holes in Concrete	
702.26	Artificial Lighting	
702.27	Method of Measurement	
702.28	Basis of Payment	
SECTION 703 – REINFORCING BARS		
703.01	Description	
703.02	Materials	
703.03	Bar List	
703.04	Protection of Materials	

TABLE OF CONTENTS

Section	Title	Page
703.05	Bending	
703.06	Placing and Fastening	
703.07	Method of Measurement	
703.08	Basis of Payment	
SECTION 704 -- CONCRETE FLOOR SLABS		
704.01	Description	
704.02	Materials	
704.03	Forms	
704.04	Placing Reinforcement and Concrete	
704.05	Finishing Concrete	
704.06	Curing	
704.07	Method of Measurement	
704.08	Basis of Payment	
SECTION 705 -- SIDEWALKS ON STRUCTURES		
705.01	Description	
705.02	Materials	
705.03	Construction Requirements	
705.04	Method of Measurement	
705.05	Basis of Payment	
SECTION 706 -- RAILINGS		
706.01	Description	
706.02	Materials	
706.03	Concrete Railing	
706.04	Pipe Railing	
706.05	Aluminum and Steel Railings	
706.06	Method of Measurement	
706.07	Basis of Payment	
SECTION 707 -- PRECAST AND PRESTRESSED CONCRETE STRUCTURAL MEMBERS		
707.01	Description	
707.02	Materials	
707.03	General Requirements	
707.04	Steel and Concrete Requirements	
	(a) Reinforcing Steel	
	(b) Welding Reinforcing Steel	
	(c) Concrete	
707.05	Forms	
707.06	Placing and Finishing Cement Concrete	
707.07	Removal of Forms and Curing	
707.08	Handling and Shipping	
707.09	Placing Structural Members	
707.10	Method of Measurement	
707.11	Basis of Payment	
SECTION 708 -- PNEUMATICALLY PLACED MORTAR		
708.01	Description	
708.02	Materials	
708.03	Preparing Surface	
708.04	Reinforcement	
708.05	Proportioning and Mixing	
708.06	Placing Mortar	
708.07	Finishing	
708.08	Method of Measurement	
708.09	Basis of Payment	

TABLE OF CONTENTS

Section	Title	Page
SECTION 709 -- PORTLAND CEMENT CONCRETE SEALERS		
709.01	Description	
709.02	Materials	
709.03	Surface Preparation	
709.04	Environmental Requirements	
	(a) General Requirements	
	(b) Epoxy Penetrating Sealers	
	(c) Other Portland Cement Concrete Sealers	
	(d) Low Temperature Epoxy Penetrating Sealer	
709.05	Sealer Application	
	(a) General Requirements	
	(b) Epoxy Penetrating Sealer	
	(c) Other Portland Cement Concrete Sealers	
	(d) Clear Sealers	
	(e) Alternate To Concrete Sealers	
709.06	Safety Precautions	
709.07	Method of Measurement	
709.08	Basis of Payment	
SECTION 710 -- REPOINTING MASONRY IN STRUCTURES		
710.01	Description	
710.02	Materials	
710.03	Repointing Concrete Masonry	
710.04	Repointing Rubble Masonry	
710.05	Repointing Dressed Stone and Brick Masonry	
710.06	Method of Measurement	
710.07	Basis of Payment	
SECTION 711 -- STEEL STRUCTURES		
711.01	Description	
711.02	Materials	
711.03	General Requirements	
711.04	Certification of Fabricators	
711.05	Shop Drawings	
711.06	Storage of Materials	
711.07	Mill Orders and Shipping Statements	
711.08	Mill Test Reports	
711.09	Notice of Beginning Work	
711.10	Facilities for Inspection	
711.11	Straightening Material	
711.12	Finish	
711.13	Flame Cutting	
711.14	Edge Planing	
711.15	Abutting Joints	
711.16	End Connection Angles	
711.17	Blank	
711.18	Blank	
711.19	Bent Plates	
711.20	Fit of Stiffeners	
711.21	Bolt Holes	
	(a) High Tensile Strength Bolts, and Unfinished Bolts	
	(b) Ribbed Bolts, Turned Bolts, or other Approved Bearing-Type Bolts	
711.22	Punched Holes	
711.23	Reamed or Drilled Holes	
711.24	Subpunching and Reaming of Field Connections	
711.25	Accuracy of Punched or Subdrilled Holes	

TABLE OF CONTENTS

Section	Title	Page
711.26	Accuracy of Reamed Holes and Holes Drilled Full Size	
711.27	Fitting for Bolting	
711.28	Filler Plates	
711.29	Toothed Expansion Plates	
711.30	Blank	
711.31	Blank	
711.32	Welds	
(a)	AWS Requirements	
(b)	Edge Blocks	
711.33	Stud Shear Connectors	
711.34	Annealing and Stress Relieving	
711.35	Eyebars	
711.36	Facing of Bearing Surfaces	
711.37	Pins and Rollers	
711.38	Boring Pin Holes	
711.39	Pin Clearances	
711.40	Threads for Bolts and Pins	
711.41	Pilot and Driving Nuts	
711.42	Finishing Cast Steel	
711.43	Finished Members	
711.44	Shop Assembling	
(a)	Full Truss or Girder Assembly	
(b)	Progressive Beam or Girder Assembly	
(c)	Full Chord Assembly	
(d)	Progressive Chord Assembly	
(e)	Special Complete Structure Assembly	
711.45	Drifting of Holes	
711.46	Match Marking	
711.47	Shop Cleaning and Painting	
711.47.1	Shop Cleaning and Storage of ASTM A 709M Grade 345W (ASTM A 709 Grade 50W) Steel	
(a)	Hot Rolled Products	
(b)	Welded Areas	
711.48	Furnishing Bolts	
711.49	Weighing of Members	
711.50	Full Size Tests	
711.51	Acceptance	
711.52	Shipping	
711.53	General Requirements	
711.54	Delivery of Materials	
711.55	Handling and Storing	
711.56	Falsework	
711.57	Bearings and Anchorages	
711.58	Field Straightening Material	
711.59	Field Assembly of Steel	
711.60	Misfits	
711.61	Pin Connections	
711.62	Blank	
711.62.1	Diaphragm Connections	
711.63	Bolted Connections Using High Strength Bolts	
(a)	General	
(b)	Bolts, Nuts, and Washers	
(c)	Bolted Parts	
(d)	Installation	
1.	Bolt Tension	
2.	Washers	

TABLE OF CONTENTS

Section	Title	Page
	3. Calibrated Wrench Tightening	
	4. Turn-of-Nut Tightening	
	(e) Inspection	
711.64	Bolted Connections Using Other Than High Strength Bolts	
711.65	Final Clean-Up	
711.66	Structural Steel Cutting, Rivet and Bolt Removal, and Drilled Bolt Holes in Repair Projects	
711.67	Jacking and Supporting Beams	
711.67.1	Field Cleaning and Storage of ASTM A 709M Grade 345W (ASTM A 709 Grade 50W) Steel	
711.68	Painting	
711.69	Method of Measurement	
711.70	Basis of Payment	
	(a) Lump Sum Basis	
	(b) Unit Weight Basis	
SECTION 712 -- TIMBER STRUCTURES		
712.01	Description	
712.02	Materials	
712.03	General Requirements	
712.04	Caps	
712.05	Stringers	
712.06	Bents	
712.07	Wheel Guards and Railings	
712.08	Painting	
712.09	Single-Ply Plank Floors	
712.10	Two-Ply Plank Floors	
712.11	Method of Measurement	
712.12	Basis of Payment	
SECTION 713 -- TEMPORARY BRIDGES AND APPROACHES		
713.01	Description	
713.02	Materials	
713.03	General Requirements	
713.04	Temporary Bridge	
713.05	Temporary Approaches	
713.06	Maintenance	
713.07	Removal	
713.08	Method of Measurement	
713.09	Basis of Payment	
SECTION 714 -- CONCRETE CULVERTS AND RETAINING WALLS		
714.01	Description	
714.02	Materials	
714.03	General Requirements	
714.04	Extension of Existing Culverts	
	(a) Precast Concrete Box Sections Extension	
	(b) Cast-In-Place Concrete Culvert Extension	
714.04.1	Precast Reinforced Concrete Box Section Joints	
714.05	Sealing Existing Culverts	
714.06	Method of Measurement	
714.07	Basis of Payment	
SECTION 715 -- PIPE CULVERTS, AND STORM AND SANITARY SEWERS		
715.01	Description	
715.02	Materials	
	(a) Type 1 Pipe	
	(b) Type 2 Pipe	
	(c) Type 3 Pipe	

TABLE OF CONTENTS

Section	Title	Page
	(d) Type 4 Pipe	
	(e) Type 5 Pipe	
	(f) Slotted Drain Pipe	
	(g) Slotted Vane Drain Pipe	
	(h) End Bent Drain Pipe	
	(i) Underdrain Outlet Pipe	
	(j) Grated Box End Sections	
715.02.1	General Requirements	
715.03	Excavation	
715.04	Laying Pipe	
715.05	Joining Pipe	
715.06	Tee and Stub-Tee Connections	
715.07	Blank	
715.08	Backfilling	
715.09	Pipe End Sections, Anchors, Grated Box End Sections, and Safety Metal End Sections	
715.10	Re-Laid Pipe	
715.11	Method of Measurement	
715.12	Basis of Payment	
SECTION 716 -- JACKED PIPE		
716.01	Description	
716.02	Materials	
716.03	General Requirements	
	(a) Jacking	
	(b) Boring	
716.04	Jacking Steel Pipe	
716.05	Jacking Concrete Pipe	
716.06	Method of Measurement	
716.07	Basis of Payment	
SECTION 717 -- STRUCTURAL PLATE PIPE, PIPE-ARCHES, AND ARCHES		
717.01	Description	
717.02	Materials	
717.03	General Requirements	
717.04	Backfill	
717.05	Re-Laid Pipe and Pipe-Arch	
717.06	Blank	
717.07	Concrete Paved Inverts	
717.08	Method of Measurement	
717.09	Basis of Payment	
SECTION 718 -- UNDERDRAINS		
718.01	Description	
718.02	Materials	
718.03	Pipe Installation	
718.04	Geotextile	
718.05	Underdrain Outlets	
718.06	Underdrain Outlet Protectors	
718.07	Method of Measurement	
718.08	Basis of Payment	
SECTION 719 -- TILE DRAINS		
719.01	Description	
719.02	Materials	
719.03	Trench Excavation	
719.04	Laying Tile	
719.05	Backfilling	

TABLE OF CONTENTS

Section	Title	Page
719.06	Blank	
719.07	Method of Measurement	
719.08	Basis of Payment	
SECTION 720 -- MANHOLES, INLETS, AND CATCH BASINS		
720.01	Description	
720.02	Materials	
720.03	General Requirements	
720.04	Grade Adjustment of Existing Structures	
720.05	Method of Measurement	
720.06	Basis of Payment	
SECTION 721 -- AUTOMATIC DRAINAGE GATES		
721.01	Description	
721.02	Materials	
721.03	Construction Requirements	
721.04	Method of Measurement	
721.05	Basis of Payment	
SECTION 722 -- LATEX MODIFIED CONCRETE BRIDGE DECK OVERLAYS		
722.01	Description	
722.02	Materials	
722.03	Storage and Handling of Materials	
722.04	Proportioning	
722.05	Preparation of the Bridge Floor	
(a)	Concrete Removal	
1.	Deck Surface	
2.	Bridge Floor	
(b)	Cleaning	
722.06	Patching of the Bridge Floor	
(a)	Full Depth Patching	
1.	Patching with Bridge Deck Patching Concrete	
2.	Patching with Latex Modified Concrete	
(b)	Partial Depth Patching	
1.	Patching with Bridge Deck Patching Concrete	
2.	Patching with Latex Modified Concrete	
722.06.1	Overlay Dam	
722.07	Mixing	
722.08	Placing and Finishing	
722.09	Texturing	
722.10	Curing	
722.11	Calibration of Continuous Mixers	
(a)	Frequency	
(b)	Equipment	
(c)	Pre-calibration	
(d)	Calibration	
1.	Cement Meter	
2.	Water Flow Meter	
3.	Aggregate Bin Gates	
4.	Latex Throttling Valve	
5.	Admixture Dispensers	
722.12	Patching an Existing Bridge Deck Overlay	
(a)	Materials	
(b)	Storage and Handling of Materials	
(c)	Proportioning	
(d)	Preparation of the Bridge Floor	
(e)	Patching	

TABLE OF CONTENTS

Section	Title	Page
	(f) Mixing	
	(g) Placing and Finishing	
	(h) Texturing	
	(i) Curing	
	(j) Calibration of Continuous Mixers	
722.13	Method of Measurement	
722.14	Basis of Payment	
SECTION 724 -- STRUCTURAL EXPANSION JOINTS		
724.01	Description	
	(a) Structural Expansion Joint	
	(b) Replacement of Existing Structural Expansion Joint	
	(c) Replacement of Existing Structural Expansion Joint Seal	
724.02	Materials	
	(a) Expansion Joint SS	
	(b) Expansion Joint M	
724.03	General Requirements	
	(a) Expansion Joint SS	
	(b) Expansion Joint BS	
	(c) Expansion Joint M	
	(d) Replacement of Existing Structural Expansion Joint	
	(e) Replacement of Existing Structural Expansion Joint Seal	
724.04	Method of Measurement	
724.05	Basis of Payment	
SECTION 800 -- TRAFFIC CONTROL DEVICES AND LIGHTING		
SECTION 801 -- TRAFFIC CONTROLS FOR CONSTRUCTION AND MAINTENANCE OPERATIONS		
801.01	Description	
801.02	Materials	
801.03	General Requirements	
801.04	Construction Signs	
	(a) Type A	
	(b) Type B	
	(c) Type C	
	(d) Type D	
	(e) Temporary Panel Sign	
801.05	Detour Route Marker Assembly	
801.06	Road Closure Sign Assembly	
801.07	Barricades	
	(a) Type III-A Barricade	
	(b) Type III-B Barricade	
	(c) Permanent Type III Barricade	
801.08	Cones, Flexible Channelizers, and Tubular Markers	
801.09	Drums	
801.10	Temporary Pavement Marking	
	(a) Temporary Pavement Marking Materials	
	1. Temporary Pavement Marking Tape	
	a. Type I	
	b. Type II	
	2. Temporary Raised Pavement Marker	
	3. Temporary Buzz Strips	
	(b) Quality Assurance Unit	
801.11	Temporary Illumination	
801.12	Construction Warning Lights	
	(a) Type A	

TABLE OF CONTENTS

Section	Title	Page
	(b) Type B	
	(c) Type C	
	(d) Vehicle Warning Lights	
801.13.	Electronic Devices	
	(a) Flashing Arrow Sign	
	(b) Changeable Message Signs	
	(c) Temporary Worksite Speed Limit Sign Assembly	
	(d) Temporary Traffic Signals	
801.14	Temporary Traffic Control Zone	
	(a) Temporary Traffic Control Signs	
	(b) Maintenance of Traffic for Mobile Operations	
	(c) Traffic Control for Temporary Traffic Stoppage	
	1. On Multi-Lane Divided Highways	
	2. On Non-Divided Highways	
801.15	Method of Measurement	
801.16	Basis of Payment	
SECTION 802 -- GROUND MOUNTED SIGNS		
802.01	Description	
802.02	Materials	
802.03	Location of Signs	
802.04	Excavation	
802.05	Installing Posts and Signs	
802.06	Removal or Relocation of Signs or Support Assemblies	
802.07	Remove and Reset Roadway and Bridge Reference Signs	
802.08	Shop Drawings of Signs and Sign Structures	
802.09	Final Clean-Up	
802.10	Method of Measurement	
802.11	Basis of Payment	
SECTION 803 -- OVERHEAD SIGN STRUCTURES		
803.01	Description	
803.02	Materials	
803.03	Shop Drawings	
803.04	Excavation	
803.05	Placing Concrete	
803.06	Erection	
	(a) Under Traffic	
	(b) Trusses	
	(c) Monotube	
	(d) Cantilever	
	(e) Bridge Brackets	
803.07	Welding Aluminum Alloys for Highway Structures	
	(a) Base Metals	
	(b) Welding Processes	
	(c) Filler Metal	
	(d) Shielding Gases	
	(e) Preparation of Materials	
	(f) Welding Procedure	
	(g) Weld Quality	
	(h) Inspection	
	(i) Corrections	
	(j) Qualification of Procedures, Welders, and Welding Operators	
803.08	Removal of Overhead Signs and Sign Structures	
803.09	Final Clean-Up	
803.10	Method of Measurement	

TABLE OF CONTENTS

Section	Title	Page
803.11	Basis of Payment	
SECTION 804 -- DELINEATORS		
804.01	Description	
804.02	Materials	
804.03	Delineators and Barrier Delineators	
804.04	Posts	
804.05	Flexible Delineator Posts	
804.06	Method of Measurement	
804.07	Basis of Payment	
SECTION 805 -- TRAFFIC SIGNALS		
805.01	Description	
805.02	Materials	
805.03	General Requirements	
805.04	Pole Installation	
805.05	Placing Signal Heads	
805.06	Grounding	
805.07	Wire and Cable Installations	
805.08	Controller Cabinet, Signal Service, and Detector Housing Installation	
805.09	Loop Wire Detector Installation	
	(a) Megohm Test Before Splice is Made at Detector Housing for Loop Wire	
	(b) Megohm Test Before Splice is Made at Detector Housing for Lead-in Cable	
	(c) Megohm Test After Splice is Completed at Cabinet	
	(d) Vehicle Simulator Test	
	(e) Acceptance Criteria	
805.10	Magnetometer and Microloop Detectors	
805.11	Steel Conduit	
805.12	PVC Conduit	
805.13	Foundations	
805.14	Final Clean-Up	
805.15	Method of Measurement	
805.16	Basis of Payment	
SECTION 806 -- BLANK		
SECTION 807 -- HIGHWAY ILLUMINATION		
807.01	Description	
807.02	Maintenance of Highway Illumination	
807.03	Materials	
807.04	Excavation	
	(a) Trench Excavation	
	(b) Foundation Excavation	
	(c) Landscape Replacement	
807.05	Backfilling	
807.06	Placing Conduit	
807.07	Connections in Base of Lighting Standards	
807.08	Placing Wire and Cable	
	(a) Underground Through Cable-duct	
	1. Cable-duct	
	2. Cable Markers	
	(b) Underground Through Conduit	
	1. Cable-duct	
	2. Cable Markers	
	(c) In Conduit Risers	
	(d) Through Conduit in Bridge Copping	
	(e) Aerial Cable	

TABLE OF CONTENTS

Section	Title	Page
807.09	Lighting Handholes	
807.10	Concrete Foundations For Lighting Standards	
(a)	Cast-in-Place Foundations	
(b)	Precast Foundations	
(c)	Grading of Foundations	
807.11	Placing Lighting Standards	
(a)	Lighting Standards Under 24 m (80 ft) in Height	
(b)	High Mast Lighting Standards of 24 m (80 ft) Height and Over	
807.12	Grounding	
807.13	Luminaire Installation	
(a)	Roadway Luminaires	
(b)	Sign Luminaires	
(c)	Underpass Luminaires	
(d)	High Mast Luminaires	
807.14	Sign, Underpass, Roadway, and High Mast Lighting Location Identification	
807.15	Service Point Power Entry	
(a)	Types of Service Points	
1.	Type I Service Point	
2.	Type II Service Point	
(b)	Sign and Underpass Circuits	
(c)	Multiple Relay Switches	
807.16	Testing of Highway Lighting System	
(a)	Testing Lighting Circuitry	
(b)	Testing and Inspecting Luminaires	
807.17	Pay Item and Installation Summary Sheets	
807.18	Method of Measurement	
(a)	From the Face of the Concrete Foundation to the Center of the Handhole or Face of the Next Concrete Foundation	
(b)	From Lighting Standard Bases or Handholes to Switch Boxes at Underpasses	
(c)	From End to End of the Conduit when the Cable is in Conduit under a Roadway Surface or Shoulder	
807.19	Basis of Payment	
SECTION 808 -- PAVEMENT TRAFFIC MARKINGS		
808.01	Description	
808.02	Materials	
808.03	General Requirements	
808.04	Longitudinal Markings	
(a)	Center Lines	
(b)	Lane Lines	
(c)	Edge Lines	
(d)	Barrier Lines	
808.05	Transverse Markings	
808.05.1	Curb Markings	
808.06	Pavement Marking Material Application and Equipment	
(a)	Traffic Paint	
1.	Application	
2.	Equipment	
(b)	Durable Pavement Marking Material	
1.	Thermoplastic	
a.	Application	
b.	Equipment	
2.	Preformed Plastic	
a.	Application	
b.	Equipment	
3.	Epoxy	
a.	Application	
b.	Equipment	

TABLE OF CONTENTS

Section	Title	Page
808.07	Marking Protection and Maintenance of Traffic	
(a)	Vehicle Signs	
(b)	Vehicle Warning Lights	
(c)	Cones	
(d)	Front Escort Vehicles	
(e)	Marking Application Vehicles	
(f)	Rear Escort Vehicles	
808.08	Warranty for Durable Pavement Marking Material	
808.09	Removal of Pavement Markings	
808.10	Snowplowable Raised Pavement Markers	
(a)	Surface Preparation	
(b)	Location	
(c)	Reflector Color	
(d)	Installation	
(e)	Removal of Markers	
(f)	Replacement of Prismatic Reflectors	
808.11	Method of Measurement	
808.12	Basis of Payment	

SECTION 900 -- MATERIALS DETAILS

SECTION 901 -- HYDRAULIC CEMENT AND POZZOLANS

901.01	Hydraulic Cement	
(a)	General	
(b)	Portland Cement	
1.	Requirements	
2.	Acceptance Criteria	
a.	General Requirements	
b.	Requirements for Domestic Source Qualification	
c.	Requirements for Foreign Source Qualification	
d.	Certification	
(c)	Masonry Cement	
901.02	Fly Ash Used as a Pozzolan	
(a)	General	
(b)	Acceptance Criteria	
1.	Requirements	
2.	Test and Calibration Procedure	
3.	Documentation	
901.03	Ground Granulated Blast Furnace Slag Used as a Pozzolan	
(a)	General	
(b)	Acceptance Criteria	
1.	Requirements	
2.	Test and Calibration Procedure	
3.	Documentation	
901.04	Microsilica Used As a Pozzolanic Mineral Admixture	
(a)	General	
(b)	Acceptance Criteria	
1.	Requirements	
2.	Frequency of Testing	
3.	Test and Calibration Procedure	
4.	Documentation	

SECTION 902 -- ASPHALT MATERIALS

902.01	Asphalt	
(a)	Performance Graded Asphalt Binders	
(b)	Asphalt Emulsions	

TABLE OF CONTENTS

Section	Title	Page
(c)	Cutback Asphalts	
1.	Medium Curing Asphalts With and Without Additives	
2.	Slow Curing Asphalts With and Without Additives	
(d)	Utility Asphalt	
(e)	Asphalt for Coating Corrugated Metal Pipe	
902.02	Sampling and Testing Asphalt Materials	
902.03	Application Temperatures	
SECTION 903 -- CLASSIFICATION OF SOILS		
903.01	Definitions	
903.02	Soils Having 0 to 19 Percent Retained on 2.00 mm (No. 10) Sieve	
903.03	Soils Having 20 Percent or More Retained on 2.00 mm (No. 10) Sieve and More Than 20 Percent Passing 75 μm (No. 200) Sieve	
903.04	Soils Having 20 Percent or More Retained on 2.00 mm (No. 10) Sieve and Less Than 20 Percent Passing 75 μm (No. 200) Sieve	
903.05	Organic Soils	
903.06	Marly Soils	
SECTION 904 -- AGGREGATES		
904.01	Fine Aggregates	
(a)	For Portland Cement Concrete	
(b)	For HMA Mixtures	
(c)	For Pneumatic Placement	
(d)	For Mortar	
(e)	Mineral Filler	
(f)	Snow and Ice Abrasives	
(g)	Sizes of Fine Aggregates	
(h)	Sampling and Testing	
904.02	Coarse Aggregates	
(a)	General Requirements	
(b)	Classification of Aggregates	
(c)	Coarse Aggregate Angularity	
(d)	Surface Aggregate Requirements	
(e)	Sizes of Coarse Aggregates	
(f)	Sampling and Testing	
904.03	Exceptions to AASHTO Standard Methods	
(a)	Exceptions to AASHTO T 2	
(b)	Exceptions to AASHTO T 11, T 27, and T 37	
(c)	Exceptions to AASHTO T 27 for Coarse Aggregates	
(d)	Blank	
(e)	Exceptions to AASHTO T 103 and T 104	
(f)	Exceptions to AASHTO T 85	
904.04	Riprap	
(a)	Dumped Riprap	
(b)	Revetment, Class 1, and Class 2 Riprap	
(c)	Grouted Riprap	
(d)	Uniform Riprap	
(e)	Precast Cement Concrete Riprap	
SECTION 905 -- MASONRY UNITS		
905.01	Clay or Shale Brick	
(a)	Sewer Brick	
(b)	Manhole Brick	
(c)	Building Brick	
905.02	Concrete Brick	
905.03	Concrete Masonry Blocks	

TABLE OF CONTENTS

Section	Title	Page
SECTION 906 -- JOINT MATERIALS		
906.01	Joint Fillers	
906.02	Joint Sealing Materials	
(a)	Joint Sealers	
1.	Silicone Joint Sealants	
a.	Physical Requirements	
b.	Field Evaluation	
c.	Specific Requirements for Installation of Silicone Joint Sealant	
d.	Certification	
2.	Hot Poured Joint Sealant	
a.	General Requirements	
b.	Packaging and Marking	
c.	Requirements for Installation	
d.	Sampling and Testing	
3.	Preformed Elastomeric Joint Seals	
(b)	Backer Rod	
1.	Requirements	
2.	Certification	
906.03	Joint Mortar	
906.04	Rubber Type Gaskets	
906.05	Bituminous Mastic Pipe Joint Sealer	
(a)	General Requirements	
(b)	Detail Requirements	
(c)	Certification	
906.05.1	Joint Membrane System for Precast Reinforced Concrete Box Sections	
906.06	Bridge Expansion Joints	
(a)	Type SS	
(b)	Type BS2, BS6, BS8, BS9, BS11, and 1-A	
(c)	Type M	
SECTION 907 -- CONCRETE, CLAY, AND PLASTIC DRAINAGE COMPONENTS		
907.01	Non-Reinforced Concrete Pipe	
907.02	Reinforced Concrete Pipe	
907.03	Reinforced Concrete Horizontal Elliptical Pipe	
907.04	Precast Concrete Manholes, Inlets, and Catch Basins	
907.05	Precast Reinforced Concrete Box Sections	
907.06	Blank	
907.07	Blank	
907.08	Clay Pipe	
907.09	Perforated Clay Pipe	
907.10	Blank	
907.11	Drain Tile	
907.12	Blank	
907.13	Blank	
907.14	Blank	
907.15	Blank	
907.16	Plastic Pipe Manufacturer Requirements	
907.17	Corrugated Polyethylene Drainage Tubing	
907.18	Perforated Polyvinyl Chloride Semicircular Pipe	
907.19	Corrugated Polyethylene Pipe	
907.20	Ribbed Polyethylene Pipe	
907.21	Smooth Wall Polyethylene Pipe	
907.22	Profile Wall Polyvinyl Chloride Pipe	
907.23	Smooth Wall Polyvinyl Chloride Pipe	
907.24	Smooth Wall Pipe for Outlets	
(a)	Type PSM Polyvinyl Chloride Pipe and Fittings	

TABLE OF CONTENTS

Section	Title	Page
	(b) Schedule 40 Polyvinyl Chloride Pipe	
907.25	Solvent Cements for Polyvinyl Chloride Pipe and Pipe Fittings	
907.26	Elastomeric Seals	
SECTION 908 -- METAL PIPE		
908.01	Blank	
908.02	Corrugated Steel Pipe and Pipe-Arches	
908.03	Blank	
908.04	Corrugated Aluminum Alloy Pipe and Pipe-Arches	
908.05	Blank	
908.06	Metal End Sections	
908.07	Fiber Bonded Fully Bituminous Coated Corrugated Steel Culvert Pipe and Pipe-Arches	
908.08	Polymer Precoated Galvanized Corrugated Steel Culvert Pipe and Pipe-Arches	
908.09	Structural Plate Pipe, Pipe-Arches, and Arches	
	(a) Steel	
	(b) Aluminum Alloy	
908.10	Cast Iron Soil Pipe	
908.11	Steel Pipe	
908.12	Straps, Hook Bolts and Nuts Used in Anchors	
908.13	Fully Bituminous Coated and Lined Corrugated Steel Pipe and Pipe-Arches.	
908.14	Slotted Drain or Slotted Vane Drain Pipe	
SECTION 909 -- PAINT AND LIQUID EPOXY		
909.01	General Requirements	
909.02	For Metal	
	(a) Zinc Primers	
	1. Two Component and Multi-Component Inorganic Zinc Silicate Primer	
	2. Single Package Inorganic Zinc Silicate Primer	
	3. Organic Zinc Primer	
	4. Approval of Formulation	
	5. Reapproval of Formulation	
	(b) Epoxy Intermediate Paint	
	(c) Polyurethane Finish Coat	
	(d) Waterborne Finish Paint	
	1. Vehicle Component	
	2. Pigment Component	
	3. Mixed Paint Properties	
	4. Color	
	5. Approval of Formulation	
	(e) Finish Coat for Weathering Steel	
909.03	Structural Steel Coating System	
	(a) Toxicity	
	(b) Resistance	
	(c) Approval of Structural Steel Coating System	
	(d) Structural Steel Coating System Re-approval.	
909.04	Field Paint for Wood or Metal	
909.05	White and Yellow Traffic Paint	
	(a) Standard Traffic Paint	
	1. General Requirements	
	2. Specific Requirements	
	(b) Fast Dry Traffic Paint	
	1. General Requirements	
	2. Specific Requirements	
	(c) White and Yellow Waterborne Traffic Paint	
	1. Composition Requirements	
	2. Specific Requirements	

TABLE OF CONTENTS

Section	Title	Page
	3. Formulation Approval	
	4. Formulation Reapproval	
909.06	Blank	
909.07	Miscellaneous Paints and Ingredients	
	(a) Stencil Paint	
	(b) Zinc Chromate Paint	
909.08	Blank	
909.09	Epoxy Penetrating Sealers	
	(a) Polysulfide Type	
	(b) Unmodified Type	
	(c) Specific Requirements	
	(d) Low Temperature Epoxy Penetrating Sealer	
	(e) Packaging and Marking	
	(f) Approval of Formulation	
909.10	Proprietary Portland Cement Concrete Sealers	
909.11	Epoxy-Resin-Base System for Bonding Plastic Concrete to Hardened Concrete	
SECTION 910 -- METAL MATERIALS		
910.01	Reinforcing Bars and Dowel Bars	
	(a) General	
	(b) Specific Requirements	
	1. Billet Steel Bars	
	2. Threaded Tie Bar Assembly	
	3. Splicing Systems	
	4. Blank	
	5. Welded Steel Wire Fabric for Concrete Reinforcement	
	6. Welded Deformed Steel Wire Fabric for Concrete Reinforcement	
	7. Uncoated 7 Wire Strand for Prestressed Concrete	
	8. Steel Spiral Reinforcement	
	9. Epoxy Coated Reinforcing Bars	
	10. Dowel Bars	
	(c) Inspection, Sampling, and Testing	
910.02	Structural Steel	
	(a) Structural Steel	
	(b) High Strength Structural Steel	
	(c) Charpy V-Notch Toughness Tests	
	(d) Mill Test Reports	
	(e) High Strength Bolts, Nuts, and Washers	
	1. General Use	
	2. Assembly of Structural Steel in Bridges	
	a. Bolts	
	b. Nuts	
	c. Tests	
	(1) Rotational Capacity	
	(2) Proof Loads	
	(3) Wedge Tension Test	
	d. Certification	
	(f) Bolts other than High Strength Bolts	
	1. General	
	2. Unfinished Bolts	
	3. Turned Bolts	
	4. Ribbed Bolts	
910.03	Permanent Metal Forms	
910.04	Steel Forgings and Steel Shafting	
	(a) Carbon Steel Forgings	
	(b) Cold Finished Carbon Steel Shafting	

TABLE OF CONTENTS

Section	Title	Page
	(c) Alloy Steel Forgings	
	(d) Certification	
910.05	Castings	
	(a) Steel Castings	
	1. Steel Castings for Highway Bridges	
	2. Chromium Alloy Steel Castings	
	(b) Iron Castings	
	(c) Ductile Iron Castings	
	(d) Malleable Castings	
	(e) Carbon Steel Castings	
910.06	Bronze and Copper Alloy	
	(a) Bronze Castings	
	(b) Copper Alloy Plates	
910.07	Steel Drain Pipe	
910.08	Blank	
910.09	Guardrail	
	(a) Steel Beam Rail	
	(b) Aluminum Rail	
910.10	Guardrail Posts	
	(a) Steel Guardrail Posts	
	(b) Aluminum Guardrail Posts	
	(c) Wood Guardrail Posts	
910.11	Guardrail Accessories, Fittings, and Hardware	
	(a) For Steel Beam Guardrail	
	(b) For Aluminum Guardrail	
	(c) For Steel Tube Guardrail	
910.12	Samples and Certification of Guardrail, Posts, Accessories, Fittings, and Hardware	
	(a) Control Procedure for Furnishing Steel Beam Guardrail and Accessories	
	(b) Aluminum Guardrail	
910.13	Steel Fence Posts	
	(a) Tubular Steel Fence Posts	
	1. Group 1	
	2. Group 2	
	(b) Fence Fastenings	
910.14	Sign Posts	
	(a) Steel, Flanged, Channel Posts	
	1. General Requirements	
	2. Deflection Test Requirements	
	3. Type of Posts	
	(b) Wide Flange Posts	
	(c) Structural Steel Posts	
	(d) Structural Aluminum Posts	
	(e) Square Steel Posts	
	1. Steel	
	2. Fabrication	
	3. Protective Coating	
	(f) Portable Construction Sign Trailer	
910.15	Delineator Posts	
910.16	Copper Flashing	
910.17	Bronze or Copper Alloy Plates	
910.18	Fence, Fittings, and Gates	
	(a) Farm Field or Woven Wire Fence	
	(b) Steel Fabric Chain Link Fence	
	1. Tension Wire	
	2. Stretcher Bars, Truss Rods, and Turnbuckles	

TABLE OF CONTENTS

Section	Title	Page
	3. Braces	
	4. Barbed Wire	
	(c) Aluminum Fabric Chain Link Fence	
	(d) Gates	
	1. Steel Gates	
	2. Aluminum Gates	
	(e) Control Procedures for Furnishing Fence and Accessories	
	1. General Requirements	
	2. Suppliers of Pretested Approved Stockpiled Material	
	3. Suppliers Not Furnishing Pretested Approved Stockpiling Material	
910.19	Overhead Sign Structures	
	(a) Aluminum Overhead Sign Structures, Box Truss and Bridge Attached	
	(b) Steel Overhead Sign Structures, Box Truss, Cantilever, Monotube, and Bridge Attached	
910.20	Blank	
910.21	Steel Sheet Piling	
SECTION 911 -- WOOD MATERIALS		
911.01	Untreated Lumber	
	(a) General	
	1. Boards	
	2. Dimension Lumber	
	3. Structural Lumber	
	4. Timbers	
	5. Timbers, Round	
	6. Yard Lumber	
	7. Surfaced or Dressed Lumber	
	8. Rough Lumber	
	(b) Species and Grade	
	(c) Inspection	
	(d) Tolerances	
	(e) Untreated Piling	
911.02	Treated Lumber	
	(a) General	
	(b) Bridge Lumber	
	(c) Piling	
	(d) Guardrail Posts, Braces, and Battens	
	(e) Sign Posts	
	(f) Sawed Timber Posts and Blocks for Thrie-Beam and W-Beam Guardrail	
	1. Species and Grades	
	2. Department Grade GRP	
	a. Splits	
	b. Checks	
	c. Shakes	
	d. Stains	
	e. Slope of Grain	
	f. Wane	
	g. Knots	
	3. Department Grade GRB	
	a. Splits	
	b. Checks	
	c. Shakes	
	d. Stains	
	e. Wane	
	f. Knots	
	4. General Requirements	
	a. Decay	

TABLE OF CONTENTS

Section	Title	Page
	b. Unsound Wood	
	c. Crook or Bow	
	d. Dimensional Tolerances	
5.	Pressure Treating Posts and Blocks	
	a. Machining	
	b. Blank	
	c. Inspection Before Treatment	
	d. Test for Moisture Content	
	e. Preservative Treatment	
	f. Material for Preservative Treatments	
	g. Treatment Methods	
	h. Sorting and Spacing	
	i. Conditioning	
	j. Treatment	
	k. Inspection During Treatment	
	l. Retentions	
	m. Penetration	
	n. Inspection After Treatment	
	o. Branding	
	p. Conformance	
	q. Records	
	r. Independent Inspections	
6.	Field Treatment of Posts and Blocks	
7.	Rejection for Degrade After Treatment	
(g)	Preservatives	
	1. Waterborne Preservatives	
SECTION 912 -- CONCRETE CURING MATERIALS AND ADMIXTURES		
912.01 Curing Materials		
	(a) Burlap Cloth made from Jute or Kenaf	
	(b) Waterproof Paper Blankets	
	(c) White Polyethylene Sheeting, Film	
	(d) White Burlap Polyethylene Sheet	
	(e) Liquid Membrane Forming Compounds	
	(f) Polyethylene Film.	
912.02 Curing-Sealing Materials		
912.03 Admixtures for Use in Concrete		
	(a) Air Entraining Admixtures	
	(b) Chemical Admixtures for Concrete	
	1. Type A	
	2. Type B	
	3. Type C	
	4. Type D	
	5. Type E	
	6. Type F	
	7. Type G	
	8. High Range Water Reducing and High Range Water Reducing and Retarding Admixture Systems	
	(c) Certification	
	(d) Approved Admixtures	
	(e) Performance of Admixtures	
912.04 Latex Modifiers		
912.05 Mineral Admixtures		
SECTION 913 -- MISCELLANEOUS		
913.01 Water		
913.02 Calcium Chloride		

TABLE OF CONTENTS

Section	Title	Page
913.03	Sodium Chloride	
913.04	Lime	
(a)	Hydrated Lime for Masonry	
(b)	Lime for Soil Modification	
1.	Hydrated Lime and Quicklime	
2.	Lime By-Products	
913.05	Precast Concrete Curbing	
913.06	Precast Concrete Units Not Otherwise Covered	
913.07	Flexible Delineator Posts	
913.07.1	Flexible Channelizer and Flexible Tubular Marker	
913.08	Delineators	
(a)	Acrylic Plastic Delineators	
(b)	Reflective Sheeting Delineators	
(c)	Barrier Delineators	
913.09	Glass Beads	
913.10	Traffic Signs	
(a)	Sheet Signs	
(b)	Panel Signs	
(c)	Flexible Roll-Up Prismatic Reflective Sign	
1.	Reflectivity	
2.	Color	
3.	Sheeting	
4.	Durability	
5.	Impact Resistance	
6.	Sign Face Backing Fabric	
7.	Cross Brace Assembly and Attaching Fasteners	
8.	General Characteristics and Packaging	
9.	Basis of Use	
(d)	Reflective Sheeting	
1.	General	
a.	Reflectivity	
b.	Color	
c.	Adhesive	
d.	Sheeting	
e.	Durability	
f.	Impact Resistance	
g.	General Characteristics and Packaging	
2.	Enclosed Lens, Engineer Grade, and Super Engineer Grade, Reflective Sheeting	
a.	Reflectivity	
b.	Color	
c.	Adhesive	
d.	Sheeting	
e.	Durability	
f.	Impact Resistance	
g.	General Characteristics and Packaging	
3.	Encapsulated Lens, High Intensity, Reflective Sheeting	
a.	Reflectivity	
b.	Color	
c.	Adhesive	
d.	Sheeting	
e.	Durability	
f.	Impact Resistance	
g.	General Characteristics and Packaging	
4.	Flexible Encapsulated Lens Reflective Sheeting, High Intensity	
a.	Reflectivity	

TABLE OF CONTENTS

Section	Title	Page
	b. Color	
	c. Adhesive	
	d. Sheeting	
	e. Durability	
	f. Impact Resistance	
	g. General Characteristics and Packaging	
5.	Prismatic Lens, High Intensity, Reflective Sheeting	
	a. Reflectivity	
	b. Color	
	c. Adhesive	
	d. Sheeting	
	e. Durability	
	f. Impact Resistance	
	g. General Characteristics and Packaging	
6.	Prismatic Lens, Super High Intensity, Reflective Sheeting	
	a. Reflectivity	
	b. Color	
	c. Adhesive	
	d. Sheeting	
	e. Durability	
	f. Impact Resistance	
	g. General Characteristics and Packaging	
(e)	Letters, Numerals, Symbols, and Accessories	
	1. Embossed Reflective Sheeting Type	
	2. Acrylic Plastic Type	
(f)	Fiberglass Reinforced Plastic Sign Panels	
	1. Mechanical Properties	
	2. Physical Properties	
	a. Thickness	
	b. Length and Width	
	(1) Panel Length of 3660 mm (144 in.) or Less	
	(2) Panel Length Exceeding 3660 mm (144 in.)	
	(3) Panel Width of 3660 mm (144 in.) or Less	
	c. Squareness	
	d. Weather Resistance	
	e. Fire Resistance	
	f. Impact Resistance	
	g. Coefficient of Linear Thermal Expansion	
	h. Panel Smoothness	
	i. Flatness	
	(1) Test Purpose	
	(2) Test Procedure	
	j. Color	
(g)	Samples and Tests	
	1. Reflective Sheeting	
	2. Traffic Signal Materials	
913.11	Highway Illumination Materials	
(a)	Lighting Standards and Mast Arms, under 80 feet (24.4 m)	
	1. General Requirements	
	2. Aluminum Lighting Standards	
	a. Round Seamless	
	b. Single Longitudinal Welded	
	3. Stainless Steel Lighting Standards	
	4. Galvanized Steel Lighting Standards	
	5. Wood Pole Lighting Standards	

TABLE OF CONTENTS

Section	Title	Page
	6. Frangible Breakaway Bases	
	a. Cast Aluminum Transformer Base	
	b. Breakaway Coupling	
	7. Anchor Bolts	
(b)	High Mast Standards of 24.5 m (80 ft) and Over	
	1. High Mast Poles	
	2. Welding	
	3. Handholes	
	4. Luminaire Ring Assembly	
	5. Head Frame Assembly	
	6. Winch Assembly	
	7. External Drive System	
	8. Cable Terminator	
	9. Lightning Rod Assembly and Grounding System	
	10. Anchor Bolts	
(c)	Wire and Cable	
	1. Polyethylene Conduit	
	2. Conductors in Cable-Duct	
	3. Lighting Standard Circuit Wiring	
	4. Sign and Underpass Wiring	
	5. Aerial Cable	
	6. High Mast Tower Luminaire Ring Conductors	
	7. Power Cable-High Mast Poles	
	8. Electrical Connectors	
(d)	Luminaires	
	1. General Requirements	
	2. Roadway Lighting Luminaires	
	3. Sign Luminaires	
	4. Underpass Luminaires	
	5. High Mast Luminaires	
(e)	Circuit Breakers and Enclosure	
	1. Circuit Breakers for Type II Service Point	
	2. Circuit Breakers for Sign and Underpass Circuits	
	3. Circuit Breakers for High Mast Poles	
	4. E-Series Magnetic Circuit Breakers	
(f)	Multiple Relay Switches with Photocell Receptacles	
(g)	Shop Drawings	
(h)	Materials Certification	
913.12	Construction Warning Lights	
(a)	Flash Requirements	
	1. Flash Rate	
	2. On-Time	
	a. Type A	
	b. Type B	
(b)	Optical Requirements	
	1. Effective Intensity	
	2. Lens Illumination	
	3. Reflex-Reflective Performance	
	4. Testing Procedure	
(c)	Lens Requirements	
	1. Size of Lens	
	2. Directional Lenses	
	3. Lens Chromaticity	
	4. Lens Luminous Transmittance	
	5. Lens Material	

TABLE OF CONTENTS

Section	Title	Page
	(d) Head and Case	
	1. Swivel Head	
	2. Case	
	(e) Photoelectric Controls	
913.13	Flashing Arrow Sign	
	(a) Solar Powered	
	(b) Diesel Powered	
	(c) AC Powered	
913.13.1	Temporary Worksite Speed Limit Sign Assembly	
913.14	Pavement Marking Material	
	(a) Traffic Paint	
	(b) Durable Marking Material	
	1. Thermoplastic	
	a. Material Requirements	
	(1) Reflectorization	
	(2) Set Time	
	(3) Water Absorption	
	(4) Softening Point	
	(5) Specific Gravity	
	(6) Impact Resistance	
	(7) Low Temperature Stress Resistance	
	(8) Bond Strength	
	(9) Hardness	
	b. Packaging	
	c. Basis for Use	
	2. Preformed Plastic	
	a. Material Requirements	
	(1) Tensile Strength	
	(2) Adhesive Stability Test	
	(3) Adhesive Shear Strength	
	(4) Bend Test	
	b. Packaging	
	c. Basis For Use	
	3. 100 Percent Solids Epoxy	
	a. Material Requirements	
	(1) Glass Beads	
	(2) Abrasion Resistance	
	(3) Hardness	
	(4) Tensile Strength	
	(5) Compressive Strength	
	(6) Weather Resistance	
	(7) Laboratory Drying Time	
	(8) Viscosity	
	b. Materials Preparation	
	c. Packaging and Storage	
	d. Basis For Use	
	(c) Temporary Pavement Marking Tape	
	(d) Raised Pavement Marker	
	1. Snowplowable Raised Pavement Marker	
	a. Prismatic Reflector	
	(1) Optical Performance	
	(2) Seal Test	
	(3) Heat Resistance Test	
	(4) Strength Test	
	(5) Impact Test	

TABLE OF CONTENTS

Section	Title	Page
	(6) Temperature Cycling Test	
	(7) Adhesive Tensile Strength Test	
	(8) Basis for Use	
	b. Cast Metal Base	
	(1) Epoxy Adhesive	
	(2) Basis for Use	
	c. Precast Cement Concrete Base	
	(1) Adhesive for Precast Concrete Base	
	(2) Packaging	
	(3) Basis for Use	
2.	Temporary Raised Pavement Marker	
	a. Optical Requirements	
	b. Strength Requirements	
	c. Adhesive	
	d. Acceptance Evaluation	
	e. Basis for Use	
913.15	Traffic Signal Materials and Equipment	
(a)	Traffic Signal Controller and Cabinet	
	1. Model Approval	
	2. Controllers or Control Units Furnished and Installed by the Contractor	
	3. Blank	
	4. Bench Testing	
	5. Pretimed Solid State Digital Controller	
	a. General	
	b. Controller Requirements	
	c. Spare Modules	
	d. Controller Enclosure	
	e. Power Requirements	
	f. Certification of Traffic Control Units	
	g. Warranty	
	6. Traffic Actuated Solid State Digital Controller	
	a. General	
	b. Controller Requirements	
	c. Spare Modules	
	d. Controller Enclosure	
	e. Power Requirements	
	f. Certification of Traffic Control Units	
	(1) Certification of a Production Run Model	
	(2) Certification of Environmental Testing	
	g. Warranty	
	7. Cabinet Requirements for Traffic Signal Controllers	
	a. General	
	b. G Cabinet	
	(1) Cast Aluminum Pedestal Base	
	(2) Pedestal Pole	
	(3) Pole Cap	
	c. M Cabinet	
	d. P-1 Cabinet	
	8. Two Circuit Alternating Flasher	
	a. General	
	b. Cabinet Requirements	
(b)	Interconnection Equipment.	
	1. Hardwire Interconnection	
	a. Electro-Mechanical Dial Coordination Unit	
	(1) General	

TABLE OF CONTENTS

Section	Title	Page
	(2) Additional Requirements for Master Locations	
	(3) Additional Requirements for Secondary Locations	
(c)	Blank	
(d)	Signal Head Components	
1.	Vehicle Signal Face	
a.	General	
b.	Housing, Door, and Visor	
c.	Lens	
d.	Reflector Assembly	
e.	Lamp Receptacle and Wiring	
f.	Section Coupling	
g.	Terminal Block	
h.	Material Requirements	
(1)	Polycarbonate Signal Head	
(2)	Die-Cast Aluminum Signal Head	
i.	Certification	
2.	Pedestrian Signal Head	
a.	Housing, Door, and Visor	
b.	Optical Unit	
c.	Lens	
d.	Message	
e.	Reflector Assembly	
f.	Light Distribution	
g.	Electrical	
3.	Disconnect Hanger Junction Box	
4.	Signal Bulbs	
5.	Free Swinging Signal Support Assemblies	
6.	Mid-Mast Arm Mount Signal Bracket	
7.	Pedestal Mounted Control Cabinets or Pedestrian Signal Heads	
(e)	Signal Support	
1.	Steel Strain Pole	
a.	Maximum Load 35.6 kN (8000 lbs)	
2.	Wood Strain Pole	
3.	Signal Cantilever Structures	
a.	General	
b.	Signal Support	
c.	Combination Signal-Luminaire Support	
d.	Pole Requirements	
(1)	General	
(2)	Deflection	
(3)	Materials	
(4)	Hardware	
(5)	Anchor Base	
e.	Arm Requirements	
(1)	Signal Cantilever Arm	
(2)	Luminaire Mast Arm for Combination Support	
(3)	Materials	
f.	Anchor Bolts	
g.	Finish	
h.	Certification	
i.	Shop Drawings	
4.	Downguys, Anchors, Rods, and Guards	
(f)	Messenger Cable	
1.	Messenger Cable	
2.	Span, Catenary, and Downguy Cable	

TABLE OF CONTENTS

Section	Title	Page
3.	Tether and Support Cable	
4.	Cable Hardware	
a.	Messenger Hangers	
b.	Cable Ring	
c.	Clamps	
d.	Servi-Sleeves	
e.	Straight Eye-Bolts	
f.	Hub-Eyes	
5.	Signal Cable	
a.	Hook-up Wire	
b.	Signal Control Cable	
c.	Integral Messenger Interconnect Cable	
d.	6 Pair/19 Telemetry Cable	
e.	Fiber Optic Interconnect Cable	
f.	Service Cable	
g.	Detection Wire and Sealant	
(1)	Loop Detector Lead-in Cable	
(2)	Roadway Loop Wire	
(3)	Sealant	
h.	Ground Wire	
i.	Splicing Kit	
(g)	Ground Rod and Connections	
(h)	Castings for Handholes	
(i)	Entrance Switch	
(j)	Conduit and Fittings	
1.	Steel Conduit	
2.	Polyvinyl Chloride Conduit	
(k)	Detector Housing	
(l)	Certification	
913.16	Fabric for Waterproofing	
913.17	Packaged, Dry, Combined Materials for Mortar and Concrete	
913.18	Geotextile for Use Under Riprap	
913.19	Geotextile for Use with Underdrains	
913.20	Geotextile for Silt Fence	
913.21	Geogrid for Stabilization or Modification	
SECTION 914 -- ROADSIDE DEVELOPMENT MATERIALS		
914.01	Special Topsoil for Roadside Development	
914.02	Blank	
914.03	Fertilizer	
914.04	Grass and Legume Seed	
914.05	Mulch	
(a)	Mulch for Seeding	
1.	Excelsior Mulch	
2.	Wood Cellulose Fiber	
3.	Excelsior Blanket	
4.	Paper Mat	
5.	Straw Mat	
(b)	Mulch for Plants	
914.06	Leguminous Inoculants	
914.07	Sod	
914.08	Plant Materials	
(a)	Quality of Plant Materials	
(b)	Plant Names	
(c)	Substitutions	
(d)	Grading Standards	

TABLE OF CONTENTS

Section	Title	Page
	(e) Nursery Inspection and Plant Quarantine	
	(f) Balled and Burlapped Plants	
	(g) Container Grown Plants	
	(h) Bare Rooted Plants	
	(i) Collected Plants	
	(j) Forms, Shapes, and Condition of Plants	
	(k) Inspection	
	(l) Shipment	
	(m) Certification	
914.09	Miscellaneous Material	
	(a) Water	
	(b) Stakes for Bracing and Anchoring	
	(c) Tree Wound Dressing	
	(d) Porous Material	
	(e) Pipe	
	(f) Staples	
	(g) Plastic Net	
SECTION 915 -- BRIDGE PILES AND BEARINGS		
915.01	Steel Shell Encased Concrete Piles and Epoxy Coated Steel Shell Encased Reinforced Concrete Piles	
	(a) General Requirements	
	(b) Fluted Steel Pile Shells	
	(c) Rounded Steel Pipe Shells	
	(d) Epoxy Coating for Piles	
	1. Prequalification of Organic Coatings for Steel Piles	
	a. Product Data Sheet	
	b. Fingerprint	
	c. Materials Safety Data Sheets	
	d. Laboratory Report	
	(1) Tensile Strength and Elongation	
	(2) Impact Resistance	
	(3) Abrasion Resistance	
	(4) Salt Fog	
	2. Application	
	a. Surface Preparation	
	b. Coating Application	
	(1) Thickness	
	(2) Cure	
	(3) Continuity of Coating	
	3. Certification	
915.02	Steel H Piles and Epoxy Coated Steel H Piles	
915.03	Wood Piles	
915.04	Elastomeric Bearings	
	(a) Description	
	(b) Materials	
	(c) Manufacturing Requirements	
	(d) Appearance and Dimensions	
	(e) Quality Assurance	
	(f) Certification	
SECTION 916 -- MATERIALS CERTIFICATIONS		
916.01	General	
916.02	Types of Certifications	
	(a) Type A	
	(b) Type B	
	(c) Type C	

TABLE OF CONTENTS

Section	Title	Page
	(d) Type D	
	(e) Other Types	
	(f) Requirements for Small Quantities of Materials	
	(g) Buy American Requirement	
916.03	Sample Forms	
	(a) For Buy American Requirement	
	(b) Sample Type A Certification Form	
	(c) Sample Type B Certification Form	
	(d) Sample Type C Certification Form	
	(e) Sample Type D Certification Form	
	(f) Sample Asbestos Exclusion Letter	
SECTION 917 – QUALITY ASSURANCE AGGREGATE CERTIFICATION		
917.01	General Requirements	
917.02	Quality Control Plan	
917.03	Source Approval Requirements	
	(a) Step 1	
	(b) Step 2	
	(c) Step 3	
917.04	Removal from Certified Producer Status	
917.05	Appeals	