



FACTUAL REPORT OF INVESTIGATION
FACTUAL REPORT ATTACHMENT

ATTACHMENT: MDSHA Reference Document List

Woodlawn, MD

HWY23FH010

(15 pages)

TC 3.08 GUIDELINES AND REFERENCES

All Project services shall be provided in accordance with these specifications and the relevant requirements of the Guidelines and References listed in Table 1 unless otherwise stipulated in these specifications. Unless noted, the most recent version as of the date of issuance of this RFP for each Guideline and Reference shall apply. Guidelines and references in Table 1 are listed alphabetically by Author or Agency and the order is not intended to imply a priority of one document over any other. Should the requirements in any Guideline conflict with those in another or any other requirement in the Contract Documents, the strictest requirement as determined by the Administration shall govern. It is the Design-Builder’s responsibility to obtain clarification for any unresolved or perceived ambiguity prior to proceeding with design or construction.

Table 1
Design-Build Guidelines and References

Author or Agency	Title
AASHTO	A Guide for Transportation Landscape and Environmental Design
AASHTO	A Policy on Design Standards Interstate System
AASHTO	A Policy on Geometric Design of Highways and Streets, 8 th Edition
AASHTO	DARWin Pavement Design Software
AASHTO	Guide for Design of Pavement Structures, 1993
AASHTO	Guide for the Development of Bicycle Facilities
AASHTO	Guide for the Planning, Design, and Operation of Pedestrian Facilities
AASHTO	Guide Specifications for Structural Design of Sound Barriers
AASHTO	Guide Specifications for Wind Loads on Bridges During Construction
AASHTO	Guide Design Specification for Bridge Temporary Works
AASHTO	Highway Safety Design and Operations Guide
AASHTO	Highway Safety Manual
AASHTO	Standard Specifications for Highway Bridges, 17th Edition, 2002, with current interim specifications
AASHTO	LRFD Bridge Design Specification, 8th Edition
AASHTO	LRFD Bridge Construction Specification
AASHTO	M140 - Standard Specification for Emulsified Asphalt
AASHTO	M208 - Standard Specification for Cationic Emulsified Asphalt

AASHTO	M288 – Standard Specification for Geotextile Specification for Highway Applications
AASHTO	M316 - Polymer-Modified Emulsified Asphalt
AASHTO	M320 - Performance-Graded Asphalt Binder
AASHTO	M323 - Superpave Volumetric Mix Design
AASHTO	M332 - Standard Specification for Performance-Graded Asphalt Binder Using Multiple Stress Creep Recovery (MSCR) Test
AASHTO	Manual for Assessing Safety Hardware, 2nd Edition
AASHTO	Manual for Bridge Evaluation, 3 rd Edition
AASHTO	Manual for Bridge Element Inspection
AASHTO	Manual on Subsurface Investigations, 1st Edition
AASHTO	R35 - Superpave Volumetric Design for Hot-Mix Asphalt
AASHTO	Roadside Design Guide, 4th Edition
AASHTO	Roadway Lighting Design Guide
AASHTO	Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, 3rd Edition for traffic signal structures 4th Edition for sign structures (overhead, cantilever, and ground mounted)
AASHTO	Standard Specifications for Transportation Materials and Methods of Sampling and Testing, 2019 Edition
AASHTO	T 194 - Standard Method of Test for Determination of Organic Matter in Soils by Wet Combustion
AASHTO	T 88 - Standard Method of Test for Particle Size Analysis of Soils
AASHTO/AWS	D1.5M/D1.5: Bridge Welding Code
ACI	ACI 318 - Building Code Requirements for Structural Concrete
ACI	ACI 350 – Environmental Engineering Concrete Structures
ACOE	HEC-RAS Software, Version 5.0.7
ADA	Americans with Disabilities Act Accessibility Guidelines
AISC	Steel Construction Manual
ANSI	ANSI A300 (Part 1) - American National Standard for Tree Care Operations - Tree, Shrub and Other Woody Plant Management - Standard Practices (Pruning)

ANSI	ANSI A300 (Part 2) - American National Standard for Tree Care Operations - Tree, Shrub and Other Woody Plant Management - Standard Practices (Soil Management)
ANSI	ANSI A300 (Part 3) - American National Standard for Tree Care Operations - Tree, Shrub and Other Woody Plant Management - Standard Practices (Supplemental Support Systems)
ANSI	ANSI Z133.1 - Safety Requirements
ANSI	ANSI Z60.1 - American Standard for Nursery Stock
AREMA	Manual for Railway Engineering, latest revision
AREMA	Portfolio of Trackwork Plans, latest revision
ASTM	Annual Books of ASTM Standards
ASTM	D4694 - Standard Test Method for Deflections with a Falling-Weight-Type Impulse Load Device
ASTM	D6433 - Standard Practice for Roads and Parking Lots Pavement Condition Index Surveys
ASTM	E274 - Standard Test Method for Skid Resistance of Paved Surfaces Using a Full-Scale Tire
ASTM	E501 - Standard Specification for Standard Rib Tire for Pavement Skid-Resistance Tests
ASTM	E950 - Standard Test Method for Measuring the Longitudinal Profile of Traveled Surfaces within an Accelerometer Established Inertial Profiling Reference
ASTM	Standards in Building Codes
ATSSA	Quality Guidelines for Temporary Traffic Control Devices and Features
AWS	American Welding Society Standards
Baltimore County Department of Public Works	Baltimore County Design Manual
CFR	Code of Federal Regulations (CFR)
COMAR	Code of Maryland Regulations (COMAR)
COMAR	COMAR 09.12.91 – Railroad Safety and Health
COMAR	COMAR 09.13.06 – Minimum Standards of Practice

COMAR	COMAR 15.20.07 – Agricultural Operation Nutrient Management Plan Requirements
COMAR	COMAR 15.20.10 – Fertilizer Application Law
CSXT	Public Project Manual, latest revision
DNR	COMAR Article 5-103 – Reforestation Law
DNR	COMAR Article 5-401 to 5-423 – Roadside Tree Law
DNR	COMAR 08.07.02 - Roadside Tree Care
DNR	COMAR 08.19 - Forest Conservation
EPA	Clean Water Act Section 404 Compensatory Mitigation Requirements
FEMA	44 CFR Part 10 - Environmental Considerations
FEMA	44 CFR Part 9 - Floodplain Management and Protection of Wetlands, October 2011
FEMA	Conditional Letter of Map Revision (CLOMR)
FHWA	"Bridge Rails" Memorandum
FHWA	23 CFR 940.11 - Project Implementation
FHWA	FHQ-RD-01-050 Durability of Geosynthetics for Highway Applications
FHWA	FHWA NHI-01-031 - Subsurface Investigations (Geotechnical Site Characterization)
FHWA	FHWA-ED-88-053 Checklist and Guidelines for Review of Geotechnical Reports and Preliminary Plans
FHWA	FHWA-HI-97-013 - Design and Construction of Driven Pile Foundations – Volume I
FHWA	FHWA-HI-97-014 - Design and Construction of Driven Pile Foundations – Volume II
FHWA	FHWA-HI-98-034 - Geotechnical Instrumentation
FHWA	FHWA-HOP-07-001 – Developing and Using a Concept of Operations in Transportation Management Systems
FHWA	FHWA-HOP-15-023 – Use of Freeway Shoulders for Travel – Guide for Planning, Evaluating, and Designing Part-Time Shoulder Use as a Traffic Management Strategy
FHWA	FHWA-NHI-00-043 - Mechanically Stabilized Earth Walls and Reinforced Soil Slopes Design and Construction Guidelines

FHWA	FHWA-NHI-05-037 - Geotechnical Aspects of Pavements
FHWA	FHWA-NHI-09-087 - Corrosion/Degradation of Soil Reinforcements for Mechanically Stabilized Earth Walls and Reinforced Soil Slopes
FHWA	FHWA-NHI-10-016 - Drilled Shafts: Construction Procedures and LRFD Design Methods
FHWA	FHWA-RD-03-031 - Distress Identification Manual for the Long-Term Pavement Performance Program
FHWA	FHWA-SA-91-048 - Laterally Loaded Pile Analysis Program for the Microcomputer, (COM624P) Version 2.0
FHWA	FHWA-SA-94-035 The Osterberg Load Cell for Load Testing Drilled Shafts and Driven Piles
FHWA	FHWA-SA-97-070 - Micropile Design and Construction Guidelines
FHWA	FHWA-NHI-16-027 & NHI-16-028 - Geotechnical Engineering Circular No. 13: Ground Modification Methods Reference Manual Volume I & II
FHWA	FHWA NHI-07-092 – Geosynthetic Design and Construction Guidelines,
FHWA	Manual for Design & Construction of Soil Nail Walls
FHWA	Geotechnical Engineering Circular No. 1: Dynamic Compaction
FHWA	FHWA NHI-07-071: Earth Retaining Structures
FHWA	Geotechnical Engineering Circular No. 4: Ground Anchors and Anchored Systems
FHWA	Geotechnical Engineering Circular No. 5: Evaluation of Soil and Rock Properties
FHWA	Geotechnical Engineering Circular No. 6: Shallow Foundations
FHWA	Geotechnical Engineering Circular No. 7: Soil Nail Walls
FHWA	Geotechnical Engineering Circular No. 8: Design and Construction of Continuous Flight Auger Piles
FHWA	Interstate Access System Informational Guide
FHWA	Manual on Uniform Traffic Control Devices (MUTCD)
FHWA	Maryland Division Standard Operating Procedure (SOP) for the New or Revised Access Points

SPECIAL PROVISIONS
SCOPE OF WORK FOR DESIGN-BUILD

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FHWA	NCHRP Report 350 - Recommended Procedures for the Safety Performance Evaluation of Highway Features
FHWA	NCHRP Report 553 - Crashworthy Work Zone Traffic Control Devices
FHWA	NCHRP Report 672 - Roundabouts: An Informational Guide, 2nd Edition
FHWA	NCHRP 07-20 Guidance For Implementation Of Traffic Incident Management Performance Measurement
FHWA	Policy on Access to Interstate System
FHWA	Standard Highway Signs
FHWA	Systems Engineering For Intelligent Transportation Systems
FHWA	Traffic Noise Model, Version 2.5.
IEEE	Guide for Concept of Operations Document
IEEE	Guide for Developing System Requirements Specifications
IEEE	Independent Verification and Validation
IEEE	National Electric Safety Code
IES	DG-5-94 Recommended Lighting for Walkways and Class 1 Bikeways
IES	RP-19-01 Roadway Sign Lighting
IES	RP-22-11, American National Standard for Tunnel Lighting
IES	RP-8-00, American National Standard Practice for Roadway Lighting
ITE	Manual of Transportation Engineering Studies, 2nd Edition
ITE	Traffic Engineering Handbook, 7th Edition
ITS MD	Maryland Statewide ITS Architecture
MDE	2000 Maryland Stormwater Design Manual, Appendix A, Landscaping Guidance for Stormwater BMPs
MDE	2000 Maryland Stormwater Design Manual, Volumes I and II
MDE	2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control
MDE	Antidegradation Review Checklist Major Linear Project Review Form
MDE	Antidegradation Applicant Review Checklist Enhanced Best Management Practices for Tier 2 Waters

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MDE	Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated - Guidance for National Pollutant Discharge Elimination System
MDE	COMAR 26.08.02 - Water Quality
MDE	COMAR 26.08.02.10 - Water Quality Certification
MDE	COMAR 26.17.01 - Erosion and Sediment Control
MDE	COMAR 26.17.02 - Stormwater Management
MDE	COMAR 26.17.04 - Construction on Nontidal Waters and Floodplains
MDE	COMAR 26.23 – Nontidal Wetlands
MDE	COMAR 26.24 – Tidal Wetlands
MDE	Dam Safety Guidelines and Policies: Policy Memorandum No.1 - Maintenance and Repair, Trees and Woody Vegetation
MDE	Dam Safety Guidelines and Policies: Policy Memorandum No. 2 - Roadway and Railroad Embankments with Culvert Crossings
MDE	Dam Safety Guidelines and Policies: Policy Memorandum No. 3 - Impoundments Adjacent to Steep Slopes
MDE	Dam Safety Guidelines and Policies: Policy Memorandum No.4 - Hazard Classification: Small Impoundments
MDE	Dam Safety Guidelines and Policies: Policy Memorandum No. 7 - Impoundment Filling Plans
MDE	Dam Safety Guidelines and Policies: Policy 93-2: Landscape Plantings on Dam
MDE	Dam Safety Guidelines and Policies: Policy: Roadway Embankment Design Criteria
MDE	Embankment Retrofit Design
MDE	Environmental Site Design Process & Computations
MDE	Environmental Site Design Redevelopment Examples
MDE	Guidance for Completing a Dam Breach Analysis for Small Ponds and Dam in Maryland
MDE	Maryland Nontidal Wetland Mitigation Guidance
MDE	Maryland’s Waterway Construction Guidelines
MDE	National Pollutant Discharge Elimination System General Permit for Construction Activity

MDE	Navigating Maryland's Resource Access and Permitting Process for Broadband Projects
MDE	Performance Standards and Monitoring Protocol for Permittee-Responsible Nontidal Wetland Mitigation Sites
MDE	Phase II Mitigation Plan – Required Information
MDE	Stormwater Design Guidance – Addressing Quantity Control Requirements
MDE	Stormwater Design Guidance – Submerged Gravel Wetland
MDE	Stormwater Design Guidance – Green Roofs & Runoff Curve Numbers
MDE	Environmental Site Design and Innovative Technology
MDE	Unified Innovative Technologies Policy
MDE	MDE's List of Reviewed Alternative/Innovative Technology
MDE	Sediment and Stormwater Plan Review Division, Water and Science Administration Technical Memorandum #1: Standard Items to Include on Erosion & Sediment Control Plans
MDE	Sediment and Stormwater Plan Review Division, Water and Science Administration Technical Memorandum # 2 - Alternative Surfaces and Artificial Turf
MDE	Sediment and Stormwater Plan Review Division, Water and Science Administration Technical Memorandum #3 - Stormwater Management and Erosion and Sediment Control Review and Approval Process for State/Federal MS4 Restoration Projects
MDE	Sediment and Stormwater Plan Review Division, Water and Science Administration Technical Memorandum #4 - What is meant by "Redevelopment", "Reconstruction", "New Development", and "Maintenance"
MDE	Sediment and Stormwater Plan Review Division, Water and Science Administration Technical Memorandum # 5 - Determination of Approval Authority
MDE	Sediment and Stormwater Plan Review Division, Water and Science Administration Technical Memorandum # 6 - Stormwater Management for Bridge Decks

MDE	Sediment and Stormwater Plan Review Division, Water and Science Administration Technical Memorandum # 7 - Soils Investigation Requirements
MDE	Sediment and Stormwater Plan Review Division, Water and Science Administration Technical Memorandum # 9 - Maintenance Schedules
MDE	Sediment and Stormwater Plan Review Division, Water and Science Administration Technical Memorandum # 10 - SWM Overview
MDE	Sediment and Stormwater Plan Review Division, Water and Science Administration Technical Memorandum # 11 - MDE Spreadsheet Instructions
MDE	Sediment and Stormwater Plan Review Division, Water and Science Administration Technical Memorandum # 12 - Grass Swales
MDE/USACE	MDSPGP – 5 and Nationwide #27
MTA	Design Criteria Manual
MTA	Design Development Manual
MTA	Facilities Inspection Manual
NCHRP	Geotechnical Instrumentation for Monitoring Field Performance
NEMA	National Electrical Manufacturers Association Standards
NFPA	502: Standard for Road Tunnels, Bridges and Other Limited Access Highways
NFPA	70: National Electrical Code
NFPA	National Fire Protection Association
NRCS	Pond Code MD-378
NTCIP	National Transportation Communications for ITS Protocol
OSHA	29 CFR 1910 - Occupational Safety and Health Standards
OSHA	29 CFR 1926 - Safety and Health Regulations for Construction
SHA	2035 LOS Wiring Diagram – Design Forecast Volumes
SHA	ABSCOUR Program
SHA	Accessibility Policy and Guidelines for Pedestrian Facilities Along State Highways
SHA	Accessible Pedestrian Signals Design Guidelines
SHA	Advance Street Name Sign Policy and Guidelines
SHA	Approved Proprietary Noise Barrier Systems
SHA	Articulating Traffic Detector Mount

SHA	Bicycle Policy and Design Guidelines
SHA	Book of Standards for Highways, Incidental Structures and Traffic Control Applications
SHA	Design Request Form Instructions and Guidelines
SHA	DMS Signface Layouts: CCTV
SHA	Exit Gore Sign Guidelines
SHA	Field Guide for Erosion and Sediment Control
SHA	Field Procedure Manual
SHA	Flagger Policy at Signalized Intersections
SHA	Form Single Lane Application Guidelines
SHA	Guidance for the Use of Portable Changeable Message Signs (PCMS) in Work Zones
SHA	Guidance on Maintenance of Traffic Alternatives Analysis (MOTAA)
SHA	Guidelines for Application of Rumble Strips and Rumble Stripes
SHA	Guidelines for the Use of Dynamic Lane Merging Strategies
SHA	Guidelines for Traffic Barrier Placement and End Treatment Design
SHA	High Visibility Apparel Policy
SHA	Highway Design Policy and Procedure Manual
SHA	Highway Drainage Manual Design Guidelines
SHA	Highway Drainage Manual
SHA	Hinged CCTV Camera Pole Details
SHA	Integrated Vegetation Management Manual for Maryland Highways, February 28, 2012
SHA	Intelligent Transportation Systems (ITS) Design Manual
SHA	Landscape Design Guide, December 2016
SHA	Landscape Construction Cost Estimating Manual – Category 700, December 2016
SHA	Lighting Guidelines
SHA	Line Striping Material Selection Policy
SHA	List of Qualified Detectable Warning Surface
SHA	List of Qualified Loop Sealants
SHA	List of Qualified Permanent Pavement Markings

SHA	List of Qualified Removable Preformed Pavement Marking Material for Maintenance of Traffic
SHA	Manual for the Inspection of Highway Right of Way in Karst Areas
SHA	Maryland High Voltage Line Act
SHA	Maryland Manual on Uniform Traffic Control Devices- (MD MUTCD)
SHA	Maryland Standard Sign Book
SHA	Maryland State Police Criteria for Use in Work Zones
SHA	Maryland Statewide ITS Architecture
SHA	MSMT 410 – Laboratory and Field Strip Test for HMA
SHA	MSMT 412 – Design Procedure for Asphalt Mixes Containing RAP and RAS
SHA	MSMT 416 – Laboratory Method of Predicting Frictional Resistance of A Blend of Aggregates
SHA	MSMT 563 – Operation of the Inertial Profiler
SHA	MSMT 732 – Geotextile Acceptance and Quality Assurance Procedures
SHA	MSMT 735 – Statistical Analysis of Material Using Quality Level Analysis Determination for Pay Factors And Mix Design Verification
SHA	NEMA Size 5 UPS Battery Cabinet Details (ITS-24 and ITS-25)
SHA	Office of Highway Development, Plans and Surveys Division Field Procedures Manual 2018 Consultant Version
SHA	Office of Structures Guide for Completing Structure Asset Management Input Forms
SHA	Office of Structures Manual on Hydrologic and Hydraulic Design
SHA	Office of Structures Guidelines and Procedure Memorandums (GPMs) and Draft Manuals found online at time of FINAL RFP, including Draft GPMs included which shall be considered final for this Contract
SHA	Office of Structures Structural Details found online at time of FINAL RFP, including Draft Details included which shall be considered final for this Contract
SHA	Structures Inventory and Appraisal Input Forms
SHA	Office of Traffic and Safety Approved Product List for Temporary Traffic Control Devices and Miscellaneous Items

SHA	Office of Traffic and Safety Capacity/Queuing Analysis Procedures for Intersections
SHA	OOTTS TEDD Traffic Control Devices Design Manual
SHA	Overhead DMS Structure and Access
SHA	Pavement and Geotechnical Design Guide, July 2018
SHA	Pavement Marking Material Selection Guidelines & New Snowplowable Raised Pavement Marker Guidelines
SHA	Pedestal DMS Access System
SHA	Policy for the Use of Temporary Traffic Barrier in Work Zones
SHA	Preferred Plants List (PPL), 2018
SHA	Quality Assurance Toolkit Field Manual
SHA	Recommended Procedure for Determining Types of Left Turn Phasing
SHA	Roadway Delineation Policy
SHA	Roundabout Design Guidelines
SHA	Roundabout Traffic Design Manual
SHA	Sediment and Stormwater Guidelines and Procedures for MDOT State Highway Administration
SHA	SHA Office of Structures Standards for Ground Mounted Concrete Noise Barriers
SHA	SHA Office of Structures Standards for Retaining Wall Mounted Concrete Noise Barriers
SHA	SHA-MSP InterAgency Work Zone Service Agreement
SHA	Special Provisions and Special Provision Inserts to the Standard Specifications
SHA	Specifications for Consulting Engineer's Services, Volume II, Section VIII
SHA	Standard Office of Traffic and Safety Shelf Typical
SHA	Standard Specifications for Construction and Materials, July 2019
SHA	Standard Specifications for Subsurface Explorations
SHA	Stormwater Management Site Development Criteria
SHA	Stormwater NPDES Program – Standards Procedures Manual
SHA	Transportation Management Plans: Guidelines for Development, Implementation and Evaluation

SHA	Type 332/334 Cabinet Details
SHA	Type 332/334 Cabinet Foundation Detail
SHA	Turfgrass Management Guidelines, February 28, 2012 (excerpt of Integrated Vegetation Management Manual for Maryland Highways)
SHA	Utility Policy
SHA	V004-10 Surveyor
SHA	VISSIM Modeling Guidance
SHA	Work Zone Lane Closure Analysis Guidelines
SHA	Work Zone Safety and Mobility Policy
SHA	Work Zone Safety Policy
SHA	Work Zone Safety Tool Box
SHA	Work Zones on 65/60 mph Roadways
SHA	Highway Noise Policy & Implementation Guidelines, Final
SHA	Highway Noise Policy Amendment on Noise Analysis for Part-Time Shoulder Use, June 20, 2019
SHA/MDE	Application of Hydrologic Methods in Maryland
SHA/MDE	Stormwater Management Process Agreements and Interpretations
SHA/MDE	Stormwater Quality Management Banking Agreement
TRB	Accessible Pedestrian Signals: Synthesis and Guide to Best Practices, June 2007
TRB	Highway Capacity Manual, 5th Edition
TRB	TCRP Report 19 - Guidelines for the Location and Design of Bus Stops
USACE	33 CFR Part 332 Compensatory Mitigation Requirements
USACE	Clean Water Act Section 404 Permit Application and Authorization
USACE	ETL No. 1110-2-307 Flotation Stability Criteria for Concrete Hydraulic Structures
USACE	National Wetland Plant List
USACE	Regulatory Guidance Letter – Minimum Requirements for Compensatory Mitigation Projects Involving Restoration, Establishment, and/or Enhancement of Aquatic Resources
USACE	Regulatory Sourcebook
USDA	The PLANTS Database Error! Hyperlink reference not valid. (https://plants.sc.egov.usda.gov/java/)

SPECIAL PROVISIONS
SCOPE OF WORK FOR DESIGN-BUILD

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USDOT	National ITS Architecture
US F&WS	Native Plants for Wildlife Habitat and Conservation Landscaping Chesapeake Bay Watershed
