BDM TECHNICAL RESOURCE LIST

Last Update: April-2024

Link to Bridge Section Specialty List

BDM Section	Section Title	Technical Resource	Technical Resource Backup
	1.1		
1.1	Introduction	Emily Clyburn	Alex Lim
	1.2 Bridge Design, General		
1.2.1	Bridge Design Standards	Emily Clyburn	All
1.2.1.1	Standard Specifications and Standard Drawing Manuals	Emily Clyburn	All
1.2.1.2	Use of Oregon Standard Drawing and Standard Details	Emily Clyburn	Alex Lim/Tanarat Potisuk
1.2.2	Bridge Design Deviations (DD) and Roadway Design Exceptions (DE)	Emily Clyburn	Alex Lim
1.2.3	Bridge Design Categories	Emily Clyburn	Alex Lim/Zach Beget
1.2.3.6	Local Agency	Holly Winston	Emily Clyburn
1.2.4	Bridge Location and Environment	Emily Clyburn	Fred Gomez
1.2.5	Structure Appearance and Aesthetics	Emily Clyburn	Robert Grubbs
1.2.6	Bridge Types & Selection Guidance	Alex Lim	Tanarat Potisuk
1.2.7	Bridge Layout		
1.2.7.1	ADA Considerations	Emily Clyburn	Jennifer Pearce
1.2.7.2	Spans and Proportions	Alex Lim	Tanarat Potisuk
1.2.7.3	Bridge Length	Alex Lim	Tanarat Potisuk
1.2.7.4	Substructure Guidance	Albert Nako	Tom Grummon
1.2.8	Bridge Security Design Considerations		
1.2.8.1	Bridge Security Design Considerations	Albert Nako	Alex Lim
1.2.8.2	Placing Buildings Beneath ODOT Bridges	Emily Clyburn	Orren Jennings
1.2.9	Bridge Name Plates & Markers		
1.2.9.1	Existing Bridge Name Plates	Emily Clyburn	Vacant
1.2.9.2	Bridge ID Markers	Emily Clyburn	Alex Lim
1.2.10	Safety and Accessibility Requirements	Emily Clyburn	John Adkins
	1.3 Loads and Distributions		
1.3.1	Ductility, Redundancy and Operational Importance (LRFD 1.3.3, 1.3.4 & 1.	Alex Lim	Tanarat Potisuk
1.3.2	Dead Loads	Alex Lim	Tanarat Potisuk
1.3.3	Live Loads	Tanarat Potisuk	Jon Rooper
1.3.4	Temporary and Construction Loads	Alex Lim	Fred Gomez
1.3.5	Sidewalk Loading	Alex Lim	Emily Clyburn
1.3.6	Vehicular Collision Forces: CT	Emily Clyburn	Alex Lim
1.3.7	Change in Foundations Due to Limit State for Scour	Tom Grummon	Wesley Nickerman
1.3.8	Thermal Forces	Tanarat Potisuk	Alex Lim
1.3.9	Wind Load	Alex Lim	Scott Jollo
	1.4 Structural Analysis		
1.4.1	Live Load Distribution Factors	Tanarat Potisuk	Jon Rooper
	1.5 Concrete		
1.5.1	Concrete, General	Emily Clyburn	Tanarat Potisuk
1.5.2	Concrete Finish	Emily Clyburn	Andrew Blower
1.5.3	Concrete Bonding Agents	Emily Clyburn	Tanarat Potisuk
1.5.4	Curing Concrete	Emily Clyburn	Dave Dobson
1.5.5	Reinforcement	Tanarat Potisuk	Albert Nako
1.5.5.17	FRP Reinforcement	Tanarat Potisuk	Matthew Stucker/Paul Strauser
1.5.6	Precast Prestressed Concrete Elements	Tanarat Potisuk	Alex Lim
1.5.7	Cast-In-Place Superstructure	Tanarat Potisuk	Emily Clyburn
1.5.8	Post-Tensioned Structures	Tanarat Potisuk	Alex Lim, Dave Dobson
1.5.9	Camber Diagrams	Tanarat Potisuk	Alex Lim
1.5.10	Pour Schedules	Tanarat Potisuk	Alex Lim
1.5.11	Concrete Anchors	Tanarat Potisuk	Emily Clyburn
	1.6 Steel Structure Design and Detailing		
1.6.1	Structural Steel, General	Alex Lim	Michael Jacobson
1.6.2	Structural Steel, Design	Alex Lim	Michael Jacobson/Tanarat Potisuk
1.6.3	Welding	Alex Lim	Steve Lovejoy
1.6.4	Galvanizing and Painting	Alex Lim	Corey Withroe/Andrew Blower
1.6.5	Bolts and Connections	Alex Lim	Dave Dobson/Steve Lovejoy
	1.7 (Reserved)		
	1.8 Timber Bridge Design and Detailing		

BDM TECHNICAL RESOURCE LIST

Last Update: April-2024

1.8.1	Timber Bridge Locations	Emily Clyburn	Holly Winston
1.8.2	Timber Design and Details	Emily Clyburn	Tanarat Potisuk
1.8.3	Timber Connections	Emily Clyburn	Holly Winston
1.8.4	Timber Rails	Emily Clyburn	Alex Lim
1.8.5	Preservative Treatments	Emily Clyburn	Orren Jennings
1.8.6	Field Installation	Emily Clyburn	Holly Winston
	1.9 Decks and Slabs		
1.9.1	Design Considerations	Emily Clyburn	Alex Lim
1.9.2	Deck Systems		
1.9.2.1	Deck Slabs	Emily Clyburn	Alex Lim
1.9.2.1.1	Skew Decks	Emily Clyburn	Alex Lim
1.9.2.1.2	Reinforcing	Emily Clyburn	Alex Lim
1.9.2.1.3	Reinforcement Protection	Tanarat Potisuk	Corey Withroe
1.9.2.1.4	Inlaid Durable Striping	Emily Clyburn	Dave Dobson
1.9.2.2	Deck Overhangs		
1.9.2.2.1	Reinforcement of Deck Overhangs	Tanarat Potisuk	Alex Lim, Dave Dobson
1.9.2.2.2	Overhang Capacity	Emily Clyburn	Alex Lim
1.9.2.2.3	Post –Tensioned Deck Overhangs	Tanarat Potisuk	Alex Lim, Dave Dobson
1.9.2.3	Precast Concrete Deck Panels	Tanarat Potisuk	Alex Lim
1.9.2.4	Bridge Approach Systems	Emily Clyburn	Clayton Davey
1.9.2.5.1	Approach Slabs	Emily Clyburn	Clayton Davey
1.9.2.5.2	Sleeper Slabs	Emily Clyburn	Clayton Davey
1.9.3	Existing Decks	Emily Clyburn	Dave Dobson
1.9.3.1	Deck Overlays	Emily Clyburn	Dave Dobson
1.9.3.1.1	Field Investigation	Emily Clyburn	Fred Gomez
1.9.3.1.2	Warrants for Overlays	Emily Clyburn	Fred Gomez
1.9.3.1.3	Overlay Selection	Emily Clyburn	Fred Gomez
1.9.3.1.4	Structural Overlays	Emily Clyburn	Fred Gomez
1.9.3.1.5	Non-Structural Overlays	Emily Clyburn	Fred Gomez
1.9.3.1.6	ACP Overlays	Emily Clyburn	Dave Dobson
1.9.3.1.6.1	Waterproofing Membranes	Emily Clyburn	Dave Dobson
1.9.3.2	Corrosion Considerations	Emily Clyburn	Corey Withroe
1.9.3.3	Partial Depth Deck Removal	Emily Clyburn	Dave Dobson
1.9.3.4	Deck Replacements	Alex Lim	Fred Gomez
1.9.4	Construction Considerations		
1.9.4.1	Deck Screeding	Emily Clyburn	Alex Lim
1.9.4.2	Deck Closure Pours	Emily Clyburn	Alex Lim
1.9.4.3.1	Deck Pour Sequence - Prestressed Concrete Girder Bridges	Tanarat Potisuk	Alex Lim
1.9.4.3.2	Deck Pour Sequence - Steel Girder Bridges	Alex Lim	Emily Clyburn
1.9.4.4	Vibrations	Emily Clyburn	Alex Lim
1.9.4.5	TP&DT/Stage Construction	Emily Clyburn	Alex Lim
1.9.4.6	Quantity Estimates	Emily Clyburn	Dave Dobson
1.9.5	Bridge Drainage	Wesley Nickerman	Emily Clyburn
	1.10 Foundation Considerations		
1.10.1	Foundations, General	Tom Grummon	Tanarat Potisuk
1.10.2	Lateral Earth Restraint	Tom Grummon	Albert Nako
1.10.3	Underwater Construction	Tom Grummon	Wesley Nickerman
1.10.4	Foundation Modeling (Foundation Springs)	Tanarat Potisuk	Tom Grummon
1.10.5	Foundation Design	Tom Grummon	Tanarat Potisuk
1.10.5.4.1	Protection for Steel Piling	Tom Grummon	Andrew Blower/Corey Withroe
	1.11 Substrutures		
1.11.1	Retaining Structures, General	Sophie Brown	Tom Grummon
1.11.2	End Bents	Tanarat Potisuk	Tom Grummon
1.11.2.1.1	Slope Paving	Emily Clyburn	John Adkins
1.11.3	Interior Bents	Tanarat Potisuk	Tom Grummon
	1.12 Other Structures		
1.12.1	Culvert Design, General	Sophie Brown	George Bornstedt
1.12.2	Tunnels (structural elements)	Albert Nako	Tom Grummon
1.12.3	Soundwalls	Sophie Brown	Tom Grummon
1.12.3.1	Soundwalls Mounted on Bridges	Emily Clyburn	Alex Lim

BDM TECHNICAL RESOURCE LIST

Last Update: April-2024

1.12.4	Traffic Structures		
1.12.4.1	On-Bridge Sign & Illumination Mounts	Tanarat	Scott Jollo
1.12.3.1.1	On-Bridge Sign Mounts	Tanarat	Scott Jollo
1.12.3.1.2	On-Bridge Illumination Mounts	Tanarat	Scott Jollo
1.12.4.2	Truss and Monotube Cantilever Sign Bridges, General	Scott Jollo	Tom Grummon
1.12.5	Retaining Structures	Sophie Brown	Tom Grummon
1.12.6	Utilities	Tanarat Potisuk	Alex Lim
	1.13 Rails, Impact Attenuators, and Protective Screening		
1.13		Emily Clyburn	Alex Lim
	1.14 Bearings and Expansion Joints		
1.14.1	Bearings	Alex Lim	Albert Nako/Dave Dobson
1.14.2	Expansion Joints	Tanarat Potisuk	Dave Dobson/Albert Nako
	1.15 Repair and Strengthening		
1.15.1	Strengthening of Bridges, General	Tanarat Potisuk	Orren Jennings/Mats Halvardson
1.15.1.1	Strengthening Methods and Details	Tanarat Potisuk	Orren Jennings/Mats Halvardson
1.15.1.2	Existing Rebar and Concrete Cover Investigation	Emily Clyburn	Fred Gomez
1.15.1.3	Epoxy Injection	Tanarat Potisuk	Mats Halvardson
1.15.2	Concrete Repair	Tanarat Potisuk	Mats Halvardson
1.15.3	Joint Repair	Tanarat Potisuk	Mats Halvardson
1.15.4	Keyway Repair	Tanarat Potisuk	Mats Halvardson
1.15.5	Inspection and Maintenance Accessibility	Emily Clyburn	John Adkins
	1.16 Construction		
1.16.1	Bridge Raising	Tanarat Potisuk	Alex Lim
1.16.2	Accelereated Bridge Construction (ABC) Guidelines	Alex Lim	Albert Nako
1.16.2.6	Concrete Structures	Tanarat Potisuk	Alex Lim
1.16.2.7	Full Depth Deck Panels, Approach Slabs or Approaches and Wingwalls	Tanarat Potisuk	Alex Lim
1.16.2.8	Precast Connections in Seismic Regions	Tanarat Potisuk	Albert Nako
1.16.2.9	Use of Self-Propelled Modular Transporters (SPMT)	Alex Lim	Albert Nako
1.16.2.10	Geotechnical Considerations	Tom Grummon	Alex Lim
1.16.2.11	Accelerated Embankment Construction	Tom Grummon	Alex Lim
1.16.2.12	QA/QC, Quality Control for Prefabricated Concrete Elements	Tanarat Potisuk	Alex Lim
1.16.2.13	Cost Considerations	Alex Lim	Albert Nako/Tanarat Potisuk
1.16.2.14	Listing of bridges replaced using ABC techniques	Alex Lim	Albert Nako
1.16.3	Bridge Temporary Works	Alex Lim	Tom Grummon
1.16.3.1	Design Considerations	Alex Lim	Tom Grummon
1.16.3.2	Diversion Bridges	Alex Lim	Albert Nako
1.16.3.3	Falsework	Alex Lim	Tom Grummon
1.16.3.4	Shoring	Tom Grummon	George Bornstedt
1.16.3.5	Cofferdams	Tom Grummon	Wesley Nickerman
	1.17 Sesimic Design		
1.17.1	Design Philosophy	Albert Nako	Tanarat Potisuk/Tom Grummon
1.17.2	Specification Interpretations and Modifications	Albert Nako	Tanarat Potisuk/Tom Grummon
1.17.3	Reserved	Albert Nako	Tanarat Potisuk/Tom Grummon
1.17.4	Liquefaction Evaluation and Mitigation Procedures	Tom Grummon	Albert Nako
1.17.5	Costs	Albert Nako	Tanarat Potisuk
1.17.6	Instrumentation	Tom Grummon	Albert Nako
1.17.7	Dynamic Isolators	Albert Nako	Tanarat Potisuk
1.17.8	Seismic Restrainer Design (New Design and Retorfits)	Albert Nako	Alex Lim
1.17.8.6	Structural Wire Rope (Cables) and Turnbuckles	Alex Lim	Albert Nako
1.17.9	Tsunami Design	Albert Nako	Tanarat Potisuk
	Appendix		
	Glossary	Emily Clyburn	All
	Appendix		
	Abbreviations	Emily Clyburn	All
	Appendix 1.2		
A1.2	AASHTO/BDM Cross-Reference	Emily Clyburn	All
	Appendix A1.5.11.2.2		
A1.5.11.2.2	Resin Anchor Design	Tanarat Potisuk	Emily Clyburn
	Appendix A1.11		
A1.11	Substructures	Tanarat Potisuk	Tom Grummon

BDM TECHNICAL RESOURCE LIST			
Last Update: April-2024			
A1.11.1.7	End Bent Details for Prestressed Slabs and Boxes	Tanarat Potisuk	Tom Grummon
A1.11.2.2	Interior Bent Details for Prestressed Slabs and Boxes	Tanarat Potisuk	Tom Grummon
Appendix A1.16.3			
A1.16.3	Bridge Temporary Works	Alex Lim	Tom Grummon

BDM Section	Section Title	Technical Resource	Technical Resource Backup
2.1	**Introduction**	Zach Beget	Vacant
2.2	**Bridge Design Software**	Zach Beget	Vacant
2.3	**Bridge Design Process (Design-Bid-Build), Overview**	Zach Beget	Vacant
2.4	**Bridge Design Deliverables**	Zach Beget	Vacant
2.5	**Quality**	Zach Beget	Vacant
2.6	**(Reserved)**	Zach Beget	Vacant
2.7	**QPL/Research**	Zach Beget	Vacant
2.8	**(Reserved)**	Zach Beget	Vacant
2.9	**Project Development Phase**	Zach Beget	Vacant
2.10	**Project Design/PS&E**	Zach Beget	Vacant
2.10.1	Introduction	Zach Beget	Vacant
2.10.2	Sealing & Signing Requirements	Zach Beget	Vacant
2.10.3	Contract Plans	Zach Beget	Vacant
2.10.4	Specifications & Special Provisions	Zach Beget	Vacant
2.10.5	Engineer's Estimate	Zach Beget	Vacant
2.10.6	Engineer's Estimate of Probable Construction Schedule	Zach Beget	Vacant
2.10.7	Calculations & Calculation Books	Zach Beget	Vacant
2.10.8	Bridge Load Rating	Jon Rooper	Vacant
2.10.9	Operations and Maintenance Manuals	Orren Jennings	Vacant
2.11	**PS&E to Award**	Zach Beget	Vacant
2.12 Construction Support			
2.12.1	Introduction	Zach Beget	Vacant
2.12.2	Communications during Construction	Zach Beget	Vacant
2.12.3	Shop Drawing Review	Zach Beget	Vacant
2.12.4	Temporary Works Review	Zach Beget	Vacant
2.12.5	Construction Support Close-Out	Zach Beget	Vacant
2.13	**(Reserved)**	Zach Beget	Vacant
2.14	**Coordination with Other Project Team Members**	Vacant	Zach Beget
2.14.1	General	Vacant	Zach Beget
2.14.2	Project Management	Vacant	Zach Beget
2.14.3	Survey and Mapping, & Right-of-Way	Vacant	Zach Beget
2.14.4	Roadway	Vacant	Zach Beget
2.14.5	Traffic and Mobility	Vacant	Zach Beget
2.14.6	Foundations and Geotechnical	Tom Grummon	Zach Beget
2.14.7	Hydraulics and Scour	Vacant	Wesley Nickerman
2.14.8	Environmental	Vacant	Zach Beget
2.14.9	Storm Water	Vacant	Zach Beget
2.14.10	Utilities – Roles and Responsibilities	Vacant	Zach Beget
2.14.11	Railroad	Vacant	Zach Beget
2.14.12	Public Involvement	Vacant	Zach Beget

Link to Bridge Section Specialty List