

		BDM TECHNICAL RESOURCE LIST		Last Update: April 2025			
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		All	
1.2.3		Bridge Design Categories		Emily Clyburn		Zach Beget	
1.2.3.6		Local Agency		Holly Winston		Bert Hartman	
1.2.4		Bridge Location and Environment		Emily Clyburn		Dave Dobson	
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 Spans and Proportions		Alex Lim		Tanarat Potisuk	
		1.2.7.2 Bridge Length		Alex Lim		Tanarat Potisuk	
		1.2.7.3 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		Albert Nako		Orren Jennings	
1.2.9		Bridge Name Plates & Markers		Emily Clyburn			
1.2.10		Accessibility		Emily Clyburn		John Adkins/Orren Jennings	
		1.3 Loads and Distributions					
1.3.1		Ductility, Redundancy and Operational Importance (LRFD 1.3.3, 1.3.4 & 1.3.5)		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		Vacant	
1.3.5		Sidewalk Loading		Alex Lim		Vacant	
1.3.6		Vehicular Collision Forces: CT		Emily Clyburn		Alex Lim	
1.3.7		Thermal Forces		Tanarat Potisuk		Alex Lim	
1.3.8		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		Tanarat Potisuk		Tanarat Potisuk	
1.5.2		Concrete Finish		Tanarat Potisuk		Andrew Blower	
1.5.3		Concrete Bonding Agents		Tanarat Potisuk		Tanarat Potisuk	
1.5.4		Curing Concrete		Tanarat Potisuk		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		Vacant	
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		Vacant	
1.5.12		Diaphragm Beams		Tanarat Potisuk		Alex Lim	
		1.6 Steel Structure Design and Detailing					
1.6.1		Structural Steel, General		Alex Lim		Desire Giraneza	
1.6.2		Structural Steel, Design		Alex Lim		Desire Giraneza	
1.6.3		Welding		Alex Lim		Desire Giraneza	
1.6.4		Galvanizing and Painting		Alex Lim		Andrew Blower	
1.6.5		Bolts and Connections		Alex Lim		Dave Dobson	
		1.7 (Reserved)					
		1.8 Timber Bridge Design and Detailing					
1.8.1		Timber Bridge Locations		Alex Lim		Holly Winston	
1.8.2		Timber Design and Details		Alex Lim		Tanarat Potisuk	
1.8.3		Timber Connections		Alex Lim		Holly Winston	
1.8.4		Timber Rails		Alex Lim		Alex Lim	
1.8.5		Preservative Treatments		Alex Lim		Orren Jennings	
1.8.6		Field Installation		Alex Lim		Holly Winston	
		1.9 Decks and Slabs					
1.9.1		Design Considerations		Alex Lim		Emily Clyburn	
1.9.2		Deck Systems					
1.9.2.1		Deck Slabs		Alex Lim		Emily Clyburn	
		1.9.2.1.1 Skew Decks		Alex Lim		Emily Clyburn	
		1.9.2.1.2 Reinforcing		Alex Lim		Emily Clyburn	
		1.9.2.1.3 Reinforcement Protection		Tanarat Potisuk		Dave Dobson	
		1.9.2.1.4 Inlaid Durable Striping		Alex Lim		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	

		BDM TECHNICAL RESOURCE LIST	Last Update: April 2025	
Link to Bridge Section Specialty List				
1.9.2.3	1.9.2.2.3	Post –Tensioned Deck Overhangs	Tanarat Potisuk	Alex Lim, Dave Dobson
1.9.2.4		Precast Concrete Deck Panels	Tanarat Potisuk	Alex Lim
		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	Jason Rice	Dave Dobson
	1.9.3.1	Deck Overlays	Jason Rice	Dave Dobson
	1.9.3.1.1	Field Investigation	Jason Rice	Dave Dobson
	1.9.3.1.2	Warrants for Overlays	Jason Rice	Dave Dobson
	1.9.3.1.3	Overlay Selection	Jason Rice	Dave Dobson
	1.9.3.1.4	Structural Overlays	Jason Rice	Dave Dobson
	1.9.3.1.5	Non-Structural Overlays	Jason Rice	Dave Dobson
	1.9.3.1.6	ACP Overlays	Jason Rice	Dave Dobson
	1.9.3.1.6.1	Waterproofing Membranes	Jason Rice	Dave Dobson
	1.9.3.1.7	Quantity Estimates	Jason Rice	Dave Dobson
	1.9.3.2	Corrosion Considerations	Jason Rice	Dave Dobson
	1.9.3.3	Partial Depth Deck Removal	Jason Rice	Dave Dobson
	1.9.3.4	Deck Replacements	Emily Clyburn	Vacant
1.9.4		Construction Considerations		
1.9.4.1		Deck Screeding	Alex Lim	Emily Clyburn
1.9.4.2		Deck Closure Pours	Alex Lim	Emily Clyburn
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	Alex Lim	Emily Clyburn
1.9.4.5		TP&DT/Stage Construction	Alex Lim	Emily Clyburn
1.9.5		Bridge Drainage	Wesley Nickerman	Alex Lim
	1.9.5.1	Design Considerations	Wesley Nickerman	Alex Lim
	1.9.5.2	Detailing	Wesley Nickerman	Alex Lim
		1.10 Foundation Considerations		
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
1.10.5.8		Scour Design Requirements	Wesley Nickerman	Tom Grummon
		1.11 Substructures		
1.11.1		Retaining Structures, General	Tom Grummon	Vacant
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	Tom Grummon	George Bornstedt
1.12.2		Tunnels (structural elements)	Albert Nako	Tom Grummon
1.12.3		Soundwalls	Tom Grummon	Emily Clyburn
	1.12.3.1	Soundwalls Mounted on Bridges	Emily Clyburn	Alex Lim
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	Tom Grummon	Vacant
1.12.6		Utilities	Tanarat Potisuk	Alex Lim
		1.13 Rails, Impact Attenuators, and Protective Screening	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/Stephen Chaffee
	1.15.1.1	Strengthening Methods and Details	Tanarat Potisuk	Orren Jennings/Stephen Chaffee
	1.15.1.2	Existing Rebar and Concrete Cover Investigation	Tanarat Potisuk	Vacant
	1.15.1.3	Epoxy Injection	Tanarat Potisuk	Stephen Chaffee
1.15.2		Concrete Repair	Tanarat Potisuk	Stephen Chaffee
1.15.3		Joint Repair	Tanarat Potisuk	Stephen Chaffee
1.15.4		Keyway Repair	Tanarat Potisuk	Stephen Chaffee
1.15.5		Inspection and Maintenance Accessibility	Emily Clyburn	John Adkins/Joel Boothe
		1.16 Construction		
1.16.1		Bridge Raising	Tanarat Potisuk	Alex Lim
1.16.2		Accelerated Bridge Construction (ABC) Guidelines	Alex Lim	Albert Nako
	1.16.2.1	ODOT encourages and supports ABC projects	Alex Lim	Albert Nako
	1.16.2.2	Contracting Methods Allowed	Alex Lim	Albert Nako
	1.16.2.3	Decision Making Framework	Alex Lim	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

		BDM TECHNICAL RESOURCE LIST		Last Update: April 2025
Link to Bridge Section Specialty List				
1.16.3	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
		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 Seismic 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
	1.21.2	General Notes for Structural Wire Rope, Turnbuckles and Connections	Alex Lim	Albert Nako
	1.21.3	Special Provisions for Wire Rope	Alex Lim	Albert Nako
	1.21.4	Special Provisions for Turnbuckles and Socket Conections	Alex Lim	Albert Nako
		Appendix		
		Abbreviations	Standards Unit	All
		Appendix 1.2		
A1.2		AASHTO/BDM Cross-Reference	Standards Unit	All
		Appendix A1.5.11.2.2		
A1.5.11.2.2		Resin Anchor Design	Tanarat Potisuk	
		Appendix A1.11		
A1.11		Substructures	Tanarat Potisuk	Tom Grummon
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	Emily Clyburn
2.2	Bridge Design Software	Zach Beget	Emily Clyburn
3.2.1	Design Software	Zach Beget	Emily Clyburn
3.2.2	Software Verification	Alex Beget	Emily Clyburn
3.2.3	MathCAD Template Library	Zach Beget	Emily Clyburn
3.3.3	Design Verification Package (End of Project Initiation Phase)	Zach Beget	Emily Clyburn
3.5.2	Definitions	Zach Beget	Emily Clyburn
3.5.3	Design Quality Plans	Zach Beget	Emily Clyburn
3.7.2	Research	Zach Beget	Emily Clyburn
2.8	(Reserved)	Zach Beget	Emily Clyburn
3.9.2	Bridge Design Criteria & Standards Assessment	Zach Beget	Emily Clyburn
3.9.3	Design Deviations and Exceptions	Zach Beget	Emily Clyburn
2.10.3	Contract Plans	Zach Beget	Emily Clyburn
2.10.4	Specifications & Special Provisions	Zach Beget	Emily Clyburn
2.10.5	Engineer's Estimate	Zach Beget	Emily Clyburn
2.10.6	Engineer's Estimate of Probable Construction Schedule	Zach Beget	Emily Clyburn
2.10.7	Calculations & Calculation Books	Zach Beget	Emily Clyburn
2.10.8	Bridge Load Rating	Jon Rooper	Emily Clyburn
2.10.9	Operations and Maintenance Manuals	Orren Jennings	Emily Clyburn
2.11	PS&E to Award	Zach Beget	Emily Clyburn
3.11.1	Introduction	Zach Beget	Emily Clyburn
3.11.2	Changes to Bridge Deliverables after PS&E	Zach Beget	Emily Clyburn
3.11.3	Bridge Design Project Close-Out	Zach Beget	Emily Clyburn
2.12.3	Shop Drawing Review	Zach Beget	Emily Clyburn
2.12.4	Temporary Works Review	Zach Beget	Emily Clyburn
2.12.5	Construction Support Close-Out	Zach Beget	Emily Clyburn
2.13	(Reserved)		
2.14	Coordination with Other Project Team Members		
2.14.1	General	Zach Beget	Emily Clyburn
2.14.2	Project Management	Zach Beget	Emily Clyburn
2.14.3	Survey and Mapping, & Right-of-Way	Zach Beget	Emily Clyburn
2.14.4	Roadway	Zach Beget	Emily Clyburn
2.14.5	Traffic and Mobility	Zach Beget	Emily Clyburn
2.14.6	Foundations and Geotechnical	Tom Grummon	Zach Beget

	BDM TECHNICAL RESOURCE LIST			Last Update: April 2025
Link to Bridge Section Specialty List				
	2.14.7	Hydraulics and Scour	Wesley Nickerman	Zach Beget
	2.14.8	Environmental	Zach Beget	Emily Clyburn
	2.14.9	Storm Water	Zach Beget	Emily Clyburn
	2.14.10	Utilities – Roles and Responsibilities	Zach Beget	Emily Clyburn
	2.14.11	Railroad	Zach Beget	Emily Clyburn
	2.14.12	Public Involvement	Zach Beget	Emily Clyburn
Link to Bridge Section Specialty List				