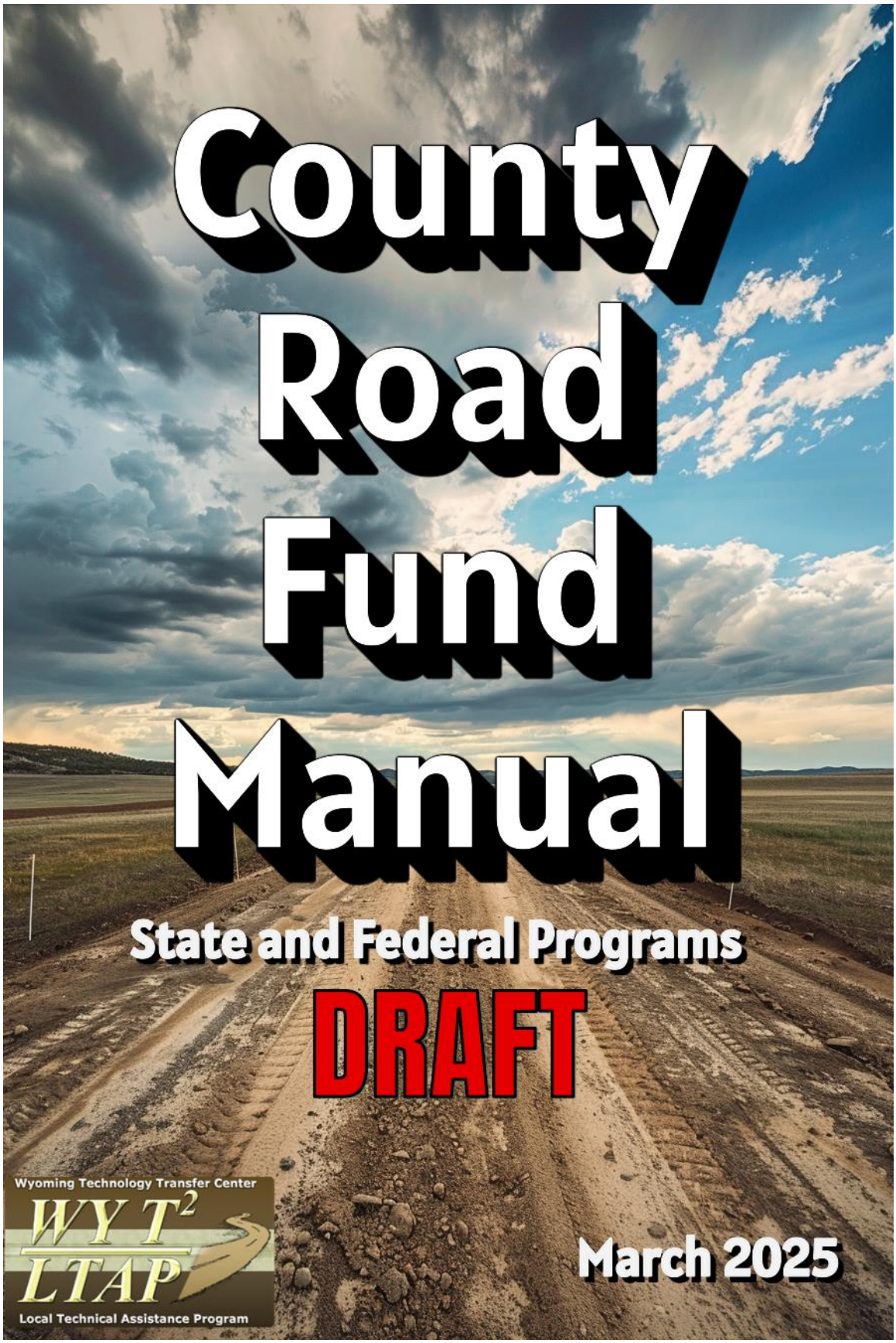
County
Road
Fund
Manual
State and Federal Programs
DRAFT
Wyoming Technology Transfer Center
WY T2
LTAP
Local Technical Assistance Program
March 2025

Notice

The contents of this report reflect the views of the author(s) who are responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the Wyoming Department of Transportation (WYDOT). This report does not constitute a standard, specific, or regulation.

The State of Wyoming does not endorse products or manufacturers. Trademarks or manufacturers' names appear in this report only because they are considered essential to the objectives of the document.

Quality Assurance Statement

WYDOT provides high-quality information to serve Government, industry, and the public in a manner that promotes public understanding. Standards and policies are used to ensure and maximize the quality, objectivity, utility, and integrity of its information. WYDOT periodically reviews quality issues and adjusts its programs and processes to ensure continuous quality improvement.

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Section 100 Introduction

100.1
Introduction

This County Road Fund Manual has been developed and is intended to serve two separate but related purposes: primarily to serve as a reference guide for each county in its use of County Road Construction Funds (W.S. § 24-2-110 et. al) (400.8 Definitions) and to serve as a reference guide for the counties, the Wyoming Department of Transportation (WYDOT), and the Federal Highway Administration for numerous state-funded and federally funded transportation programs.

The County Road Construction and Maintenance Fund (CRCMF) provides for the construction, improvement, and maintenance of county roads. The CRCMF is a supplement to federal aid, primary and secondary road programs in each county. The Board of County Commissioners (BOCC) is responsible for using these funds to design and construct, reconstruct, resurface, and maintain a county road system. These responsibilities are best accomplished with an understanding of related duties.

100.1.1 County Commissioner Duties and Responsibilities

- Establish a road construction account separate from other county fund accounts.
- Administer the development of a county road system and develop a project priority list with technical input from the County Engineer and/or Road & Bridge Superintendent.
- Explore, secure, and administer funding sources including but not limited to CRCMF, and state- and federally funded transportation programs.
- Administer the procurement of professional engineering, surveying, and/or construction services for highest priority projects.
- Administer and assure compliance with given funding requirements.
- Develop projects—from planning to design to contract plans and specifications—using professional resources, either in-house resources or private sector consultants.
- Advertise contract documents for bidding and project contract award.

- Ensure construction supervision, inspection, measurement, and acceptance of materials; final inspection; and acceptance of project.
- Ensure progress payments, final payment, and final accounting of project costs.

100.1.2 County Engineer Duties and Responsibilities

- Assist the BOCC in administering the County road and bridge system while establishing priorities for improvements, rehabilitation, and/or maintenance.
- Provide professional engineering oversight for the planning, design, construction, and acceptance of county road and bridge projects in accordance with this Manual and applicable state and federal requirements.
- Develop and apply design criteria and design values appropriate to the selected project type, functional classification, terrain, traffic volumes, and funding source, including identification and documentation of any required design exceptions.
- Prepare, review, or supervise the preparation of engineering documents, including project reports, plans, specifications, estimates, environmental documentation, and supporting technical analyses.
- Ensure compliance with applicable engineering standards and references, including this Manual, AASHTO publications, WYDOT policies, MUTCD, and other adopted technical guidance.
- Coordinate technical aspects of projects with WYDOT, FHWA, regulatory agencies, utility owners, and consultants, as required by funding source or project scope.
- Oversee construction engineering activities, including construction inspection, material acceptance, measurement of quantities, change orders, and resolution of field design issues.
- Certify project compliance with approved plans, specifications, and contract documents, including review and approval of project completion and acceptance documentation.
- Support financial accountability by verifying quantities, pay items, and engineering-related documentation required for progress payments and final payment.

- Provide professional engineering judgment and recommendations to the Board of County Commissioners regarding technical feasibility, risk, safety, lifecycle performance, and long-term maintenance considerations.

100.1.3 Road & Bridge Superintendent Duties and Responsibilities

- Assist the BOCC and/or the County Engineer (if applicable) in administering the County road and bridge system while establishing priorities for improvements, rehabilitation, and/or maintenance.

- Develop and implement maintenance programs for county roads and bridges to protect infrastructure investment while ensuring that roads and bridges are as safe as possible and practical for the users.

- Assist the BOCC and the County Engineer (if applicable) in planning specific projects.

- Assist the BOCC and the County Engineer (if applicable) in procuring professional engineering, surveying, and construction services for specific construction and maintenance projects.

- Assist the BOCC and the County Engineer (if applicable) in administering and overseeing the implementation of specific construction and maintenance projects.

- Assist the BOCC and the County Engineer in ensuring that all specific funding requirements are adhered to in executing specific construction and maintenance projects.

The Manual has been developed to assist each county, the Wyoming Department of Transportation, and the Federal Highway Administration as a reference guide for numerous state- and federally funded transportation programs. Current funding programs, directed to the construction and maintenance of roads and streets and available for use on the county road system, are presented in Road and Bridge Funding Programs, along with cited references to assist in understanding eligible project costs and agency requirements. Minimum requirements and guidelines are presented for these programs.

100.2

Using This Manual

This Manual has been developed as a resource guide and is not intended to provide all technical or legal information and requirements outlined in Wyoming statutes or state and federal funding programs. Selected Wyoming statutes have been referenced throughout the Manual with a brief description of content and are summarized in 400.8 Definitions. The requirements of state and federal funding programs have been incorporated and/or references provided to assist the Manual user in gaining familiarity with those program requirements.

This Manual has been divided into two sections: Administrative Section and Engineering Section. The Administrative Section is intended to server as a reference for the BOCC, administrative staff, policy and decision makers, consultants, or those seeking to understand the legal and administrative requirements applicable to the CRCMF. The Engineering Section contains the necessary engineering and construction guidance and requirements.

For navigating this manual, see 100.2.1 Project Phase Explanation and Figure 100-1 County Road Project Manual Navigation Guide for Project Phase chapters guidance.

100.2.1 Project Phase Explanation

Early Project Planning - A project type is selected, a cooperative agreement is executed, a preliminary report is completed, and administrative actions are completed.

Preliminary Engineering - A final project report, preliminary design, design exceptions and environmental documentation are completed. Right-of-way agreements and utility agreements, if needed, are initiated. Administrative actions are completed.

Final Engineering - Right-of-way agreements and utility agreements are finalized. Right-of-way certificates, utility certificates, and contract documents (including additional documents) are completed. Administrative actions are completed.

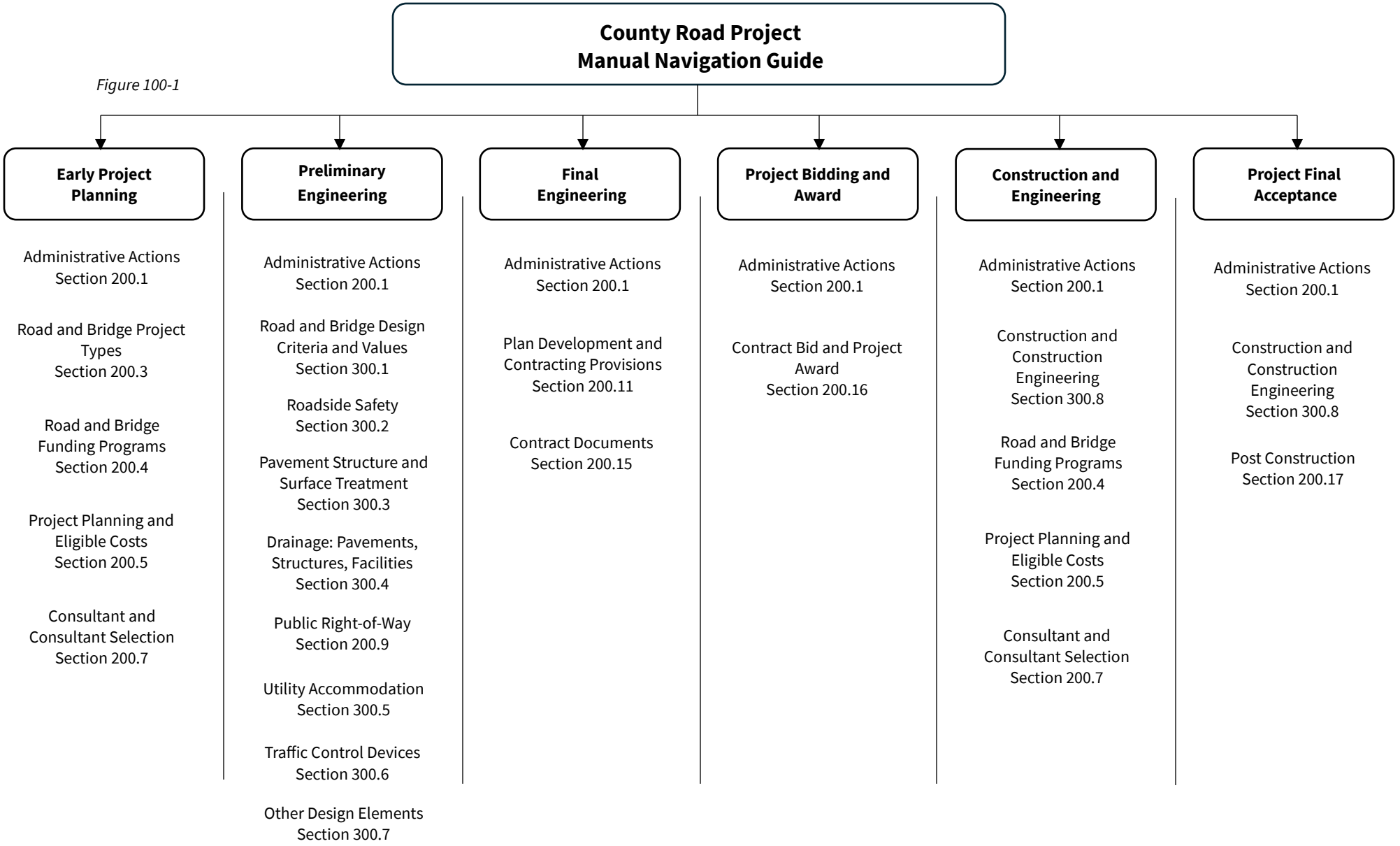
Project Bidding and Award - Project is awarded. Administrative actions are completed

Construction and Construction Engineering - Daily and monthly documentation is completed to certify that the project has been constructed in conformance with contract documents. Daily and monthly documentation is completed to assure compliance with

contracting provisions. Daily and monthly documentation is completed to assure final payment to the contractor and project financial accounting. Administrative actions are completed.

Project Final Acceptance - Project is final inspected and accepted. County certifies completion to WYDOT, see 400.6 Project Acceptance Certificate, for State and Federal funded projects.

Figure 100-1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100.3

Statement of Continuing Review

This manual is be considered a “living document” and shall be reviewed and updated (if necessary (at least annually to consider any additions, updates, or deletions occurring due to changes in law, regulation or policy from governing authorities. Additionally, corrections, clarifications, questions, and/or and suggestions may be submitted to the Wyoming Local Technical Assistance Program / Technology Transfer office website at the University of Wyoming. Submissions will be reviewed and answered in a timely and appropriate fashion.

The CRCMF Committee will review any requests for additions, updates, revisions, or deletions at their annual meeting and will work with LTAP to incorporate updates as needed. The latest version of the manual will be available for reference and download on the LTAP website.

Link:

Phone Number:

Support Email:

Section 200 Administrative Section

200.1

Administrative Actions

This section outlines the necessary administrative actions. These actions are summarized for quick reference and ease of compliance.

200.1.1 Board of County Commissioners

(All projects) The Board, or as delegated to a public employee, is responsible for completion of the authorizations or approval actions in the following table. For state and federally funded projects, any deviations should be documented in the Project Report. For further guidance on where to find information in the Manual, see Table 200-1.

Table 200-1: Authorizations or Approvals / Manual References

Authorization or Approval	Manual Reference
Project Report	Project Report
Design Exceptions	Road and Bridge Design Criteria and Design Values
Cooperative (Project) Agreements	Requires the use of this Manual
Contract Documents	Contract Documents
Environmental Documentation	Environmental Documentation
Right-of-Way Certificates	Public Right-of-Way
Utility Certifications	Utility Accommodations
State and Federal Permits	Other Design Elements
Contract Bidding	Contract Bidding and Project Award
Project Award	Contract Bidding and Project Award
Construction and Engineering	Construction and Construction Engineering
Financial Accounting	Construction and Construction Engineering
Maintenance	Post-Construction
Remain-in-Service	Post-Construction

200.1.2 Wyoming Department of Transportation (WYDOT)

(State and federally funded projects) WYDOT will retain authority, by cooperative/project agreement, for the following actions. For further guidance on where to find information in the Manual regarding State and federally funded projects, see Table 200-2.

Table 200-2: Reference Chapter Location of Actions

Action	Manual Reference
Executive Cooperative (project) Agreement	Requires the use of this Manual
Concur in project report	Project Report
Concur in design exceptions	Road & Bridge Design Criteria and Design Values
Approval of bridges/structures	Administrative Actions; Engineering Services
Approval of contract documents	Contract Documents
Approval of environmental document	Environmental Documentation
Receipt of right-of-way certifications	Public Right-of-Way
Receipt of utility certifications	Utility Accommodation
Concur in project award	Contract Bidding and Project Award
Final acceptance of project construction	Construction and Construction Engineering
Require financial accounting (audit)	Construction and Contract Administration
Require perpetual maintenance	Post-Construction
Require perpetual remain-in-service	Post-Construction

200.2

Wyoming Registered Professional Engineers:

200.2.1 All Public Works

Wyoming Statute 33-29-603(a) stipulates that all drawings, plans, specifications, and estimates for public works undertaken by the state or any political subdivision thereof that involve professional engineering must be prepared by, or under the personal direction of, a licensed professional engineer. 33-29-603(a) requires that the construction of such works be carried out under the direct supervision of a professional engineer.

Projects limited to restoring an existing functioning structure or facility to its original condition—without deviation from the original design —are classified as maintenance and do not fall under this requirement under 33-29-603(a). Conversely, any restoration due to failure, alteration, or reconfiguration is public works construction, as such decisions on these efforts constitute new engineering work and mandates compliance with the statute's provisions. Historic bridges, culverts, and similar structures have been designed and constructed for different and typically lesser loads, non-redundant support systems, and often lower runoff values than may be encountered. A professional engineer should be consulted for input and design, as appropriate, before repairs and replacement of affected infrastructure.

For situations, such as maintenance projects, the counties and other local jurisdictions retain discretion in determining the extent of engineering involvement on maintenance projects and, by extension, the degree of risk they are willing to assume in the absence of a professional engineer's supervision.

200.2.2 State-Funded and State-Administered Federally Funded Projects

Contract documents will be developed under the direct supervision of a professional engineer who holds a valid license granted by the Wyoming Board of Professional Engineers and Professional Land Surveyors, and all contract plans will be stamped and signed by a professional engineer who holds a valid license granted by the Wyoming Board of Professional Engineers and Professional Land Surveyors tasked with responsible charge for the project.

200.2.3 Bridge Projects

W.S. § 24-1-132(b) defines a "bridge" as a structure, including supports, erected over a depression or an obstruction, such as water, highway or railway, having a track or

passageway for carrying traffic or other moving loads and having an opening measured along the center of the roadway of more than twenty (20) feet between undercopings of abutments, or spring lines of arches, or extreme ends of openings for multiple barrel box culverts. W.S. § 24-1-132(d) requires all bridges to be constructed shall be designed by a professional engineer who holds a valid license granted by the Wyoming Board of Professional Engineers and Professional Land Surveyors. No final payment upon any contract shall be made until the bridge is examined and approved by the professional engineer supervising the construction of the bridge and the payment is approved by the county commissioners or governing body of the city or town or their designees W.S. § 24-1-132 (f). Within ninety (90) days of the bridge being opened to traffic the board of county commissioners or governing body of the city or town shall notify and provide the design, plans, specifications and load rating for the bridge to the chief engineer of the department of transportation so that the department may comply with national bridge inspection standards (W.S. § 24-1-132 (f)).

200.2.4 Wyoming-Registered Professional Land Surveyor

W.S. § 33-29-603(b) stipulates that surveys and maps for public works of the state or a political subdivision of the state shall be prepared by or under the personal direction of a professional land surveyor. The surveying work shall be executed under the direct supervision of a professional land surveyor.

200.2.5 Final Payment (Bridges)

No final payment upon any contract shall be made until the bridge is examined and approved by the professional engineer supervising the construction of the bridge and the payment is approved by the county commissioners or governing body of the city or town or their designees (W.S. § 24-1-132 (f)).

200.2.3 Bridge Emergencies

W.S. § 24-1-132(g) states whenever an emergency arises requiring expenditure of funds for the repair or rebuilding of bridges or approaches to bridges the board of county commissioners or governing body of any city or town may enter into contract for any building or rebuilding of bridges or approaches without advertising for the letting of any contract. An emergency is an occasion requiring repair or rebuilding of a bridge or a portion of a bridge when, on short notice, the bridge has become unsafe or impassable due to events which are beyond the control of the county, city, or town.

200.3

Road and Bridge Project Types

Five project types are presented in this Manual to guide both funding programs and project development procedures. Four project types are defined and will be used to develop project development procedures including geometric design values to be used during development of contract plans and cost estimates, and to develop program requirements based on funding programs. Three project types are defined by the pavement or bridge design strategy proposed, and the fourth type is defined as safety improvements. A fifth project type is presented as Other and is presented only for informational purposes.

200.3.1 New Construction on New Alignment

This project type covers those projects that will be constructed on a new alignment to better serve a county's projected growth or development, and those projects that will provide an improved roadway and bridge alignment using a new centerline. This project type will analyze a full range of new pavement design strategies and new bridge structures, including the replacement of existing structures, and will evaluate other needs, such as capacity, intersection operations, and safety clear zones.

200.3.2 Reconstruction on Existing Alignment

This project type covers those projects that will be constructed on existing alignments, including minor adjustments to existing centerline for improved horizontal or vertical alignment and widening for lane widths or shoulder widths. This project type will analyze a range of pavement design strategies (most of which will use the existing pavement structure), structural improvements to existing bridge structures, and upgrade of geometric, operational, and safety roadway elements.

200.3.3 Resurfacing and Preservation (Maintenance) on Existing Alignment

This project type covers the broadest range of projects that will improve existing roads and bridges to extend the service life of the facility. This project type will analyze pavement, and bridge needs to provide additional pavement structure (structural overlays) or extended service life (resurfacing), bridge deck repair or overlay and other repairs, and limited improvements to other operational or roadside features.

200.3.4 Safety Improvements

This project type covers the full range of safety-type improvements, from signing to improvements to horizontal and vertical alignments. These improvements are based on crash history and/or the potential to reduce the frequency or severity of specific crash types, resulting in a higher crash modification factor (an estimate of reduction in crashes expected after construction of a safety improvement).

200.3.5 Other

Projects covered typically do not involve construction of roadway improvements and are presented for information only. Guidance and standards are not presented, in this Manual, for these project types.

The remainder of this Manual will only refer to the first four project types.

200.4

Road and Bridge Funding Programs

Four project types are presented for discussion of currently available funding programs. These project types influence the availability of funding as many funding programs, especially federal and state, are directed to legislative or regulatory program purposes, goals, or strategies.

Typically, legislated or regulatory programs are continuously extended as part of subsequent legislative actions, such as new transportation legislation or funding authorizations, and as a result warrant identification with the understanding that new programs or program revisions not listed may be implemented during the life of this Manual.

The following abbreviations are used: SA are WYDOT-administered state funds and programs; FA are WYDOT- and FHWA-administered federally funded programs; USC is the United States Code; Infrastructure Investment and Jobs Act, 2005 SAFETEA-LU is the 2005 Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users; OP is WYDOT operating policies.

200.4.1 New Construction on New Alignment

County Road Funds—established by Wyoming Statute, W.S. § 24-2-110
SA—Industrial Roads Program—established by Wyoming Statute, W.S. § 24-5-118, OP 2-5
FA—Commission Road Improvement Program (CRIP) —authorized by WYDOT, OP 2-1
FA—Highway Bridge Replacement and Rehabilitation Program—FAPO:23-1-G-650, OP 2-6
FA - National Highway Performance Program - 23 U.S.C. § 119
FA – Surface Transportation Grant Block Program - 23 U.S.C. § 133
FA—Urban System Program— OP 2-4
FA—Emergency Relief Program—23 U.S.C. § 101, 120, 125, 315

200.4.2 Reconstruction or Rehabilitation on Existing Alignment

County Road Funds—established by Wyoming Statute, W.S. § 24-2-110

SA—Industrial Roads Program—established by Wyoming Statute, W.S. § 24-5-118, OP 2-5
FA—Commission Road Improvement Program (CRIP) —authorized by WYDOT, OP 2-1
FA—Highway Bridge Replacement and Rehabilitation Program— FAPO:23-1-G-650, OP 2-6
FA - National Highway Performance Program - 23 U.S.C. § 119
FA – Surface Transportation Grant Block Program - 23 U.S.C. § 133
FA—Urban System Program—OP 2-4
FA—High Risk Rural Roads Program (limited application)—Section 1404 of the 2005 SAFETEA-LU
FA—Congestion Mitigation and Air Quality Improvements (CMAQ)—23 U.S.C. § 149
FA—Emergency Relief Program—23 U.S.C. § 101, 120, 125, 315
FA—Public Transportation Capital Investment Program, 49 U.S.C. § 5309

200.4.3 Resurfacing and Preservation (Maintenance) on Existing Alignment

FA—County Road Funds—established by Wyoming Statute, W.S. § 24-2-110
FA—Commission Road Improvement Program (CRIP) —authorized by WYDOT, OP 21
FA—Highway Bridge Replacement and Rehabilitation Program— FAPO:23-1-G-650, OP 2-6
FA—Urban System Program—OP 2-4
FA—High Risk Rural Roads Program (limited application)—Section 1404 of the 2005 SAFETEA-LU
FA—Highway Safety Improvement Program (HSIP)—23 U.S.C. § 148; OP 13-9
FA—Congestion Mitigation and Air Quality (CMAQ) —23 U.S.C. § 149
FA—Emergency Relief Program—23 U.S.C. § 101, 120, 125, 315

200.4.4 Safety Improvements

County Road Funds—established by Wyoming Statute, W.S. § 24-2-110
FA—Urban System Program—OP 2-4
FA—High Risk Rural Roads Program—Section 1404 of the 2005 SAFETEA-LU

FA—Highway Safety Improvement Program (HSIP)—23 U.S.C. § 148; OP 13-9
FA—Transportation Alternatives Program—23 U.S.C § 133(h) STPBG Set-Aside, OP 3-3
FA—Railroad-Highway Crossing Protection Program, 23 CFR 646, Subpart B, OP 13-1

200.5

Project Planning and Eligible Costs

200.5.1 Project Planning

Early project planning is needed, first—to identify and compile available information and second—to use this information to clearly define the roadway corridor's existing and future needs and to establish the purpose of the project, leading to selection of a project type.

Project planning should include evaluation of information presented in road and bridge funding programs.

The selection of a project type should be supported by analysis of information gained from existing planning studies or completing those studies in advance or concurrent with early project development.

200.5.2 Planning Studies

County's Comprehensive or Transportation Plan. County's adopted Land Use Plan.
Roadway corridor Functional Classification.
Current Traffic Volumes and Future Year Traffic Projections. Design Vehicle.
Bridge Evaluation (see 400.4 Bridge Evaluation).
Inventory of Environmental Resources: Wetlands, Cultural, Others. Crash History.
County's Need Analysis or Management Programs, if Available.
Funding Program (County, State, Federal) & County Share of Project Cost.
Availability of Funds (Year of Construction).
Funding Program Eligible Costs. As-Constructed Plans.
Field Reconnaissance.

200.5.3 Project Planning Deliverables—Project Description

Selection of Project Type. Project Limits.
Preliminary selection of Design Criteria and Values, design practices, and design elements (Roadside Safety, Drainage, Others) from this Manual.
Preliminary determination of Environmental Document Type.
Preliminary determination of Utility Accommodations and Right-of-Way limits.
Selection of Professional Engineering Services and Consultant Services.

Preliminary determination of Total Project Cost.
Funding Plan—Program, Funds Available and County Share of Project Cost.
Funding Program—Eligible Costs and Basis for Reimbursement.
Funding Agency Requirements and Cooperative (Project) Agreement Provisions.

200.6

Eligible Costs—County Road Funds

W.S. § 24-2-110(a) County Road Fund monies are to be used to design and construct any of the four project types. These monies may be expended for the following types of work:

- Development of planning studies.
- Surveys for both the location (terrain) and acquisition of right-of-way (land ownership) for county roads; surveys for location, design, and construction projects.
- Mapping required for county roads.
- Direct design management of County Road Fund projects.
- Location, investigation, and testing of surface pits, including borrow pits. Preparation of contract documents.
- Preparation of environmental analysis and documentation.
- Relocation of utilities on county roads when the utility companies have prior right-of- way.
- Acquisition of right-of-way.
- Grading, draining, fencing, cattle guards, pavements, structures, and all other items for construction of any of the four project types.
- Signing, striping, and delineation.
- Direct construction management of County Road Fund projects.
- Matching funds for state and federal-aid funded projects.
- Those costs needed to develop construction projects consistent with an accepted Project Report.

200.6.1 Eligible Costs—State-Funded and Federally Funded Projects

Eligible costs for each funded program or project are based on legislative or regulatory program purposes, goals, or strategies. To understand each program's eligible costs, consult references cited in the road and bridge funding programs and this Manual and contact state and federal agency representatives.

200.7
Engineering Services—Consultant Services and Consultant Selection

200.7.1 Consultant Services

WYDOT's Engineering Services Section will assist the county in determining if consultant services are needed to complete the project design and construction efforts. These services could include: planning services to develop planning studies; Wyoming-registered professional engineering services for roadway design, hydraulic and scour analysis, bridge design, contract plans, construction, or contract administration; professional land surveyor services for terrain, land ownership, recordation, and construction surveying/staking (terrain surveys and construction surveying/staking can be completed under the direct supervision of and be stamped and signed by a Wyoming-registered professional engineer); environmental planning services for environmental analysis and documentation; other specialized services, such as geotechnical, pavement design, drainage design, and right-of-way acquisition.

200.7.2 Consultant Services and Selection

For all projects, the selection of a consultant for any project-required service should follow a competitive qualification-based selection process.

A formal process, with a Request for Qualifications/Request for Proposal (RFQ/RFP), can be used for consultant service agreements of sufficient work scope, complexity, or cost ($50,000.00 or more). The RFP may require submission of a preliminary cost estimate and scope of work consistent with the county’s description of proposed work; however, for state- and federally funded projects, initial consultant selection must be qualification based. The preliminary cost estimate should be submitted under a separate cover from the RFP and evaluated only after the qualification-based ranking has been completed.

A Request for Qualifications/ Statement of Interest is a less formal but still competitive process that can be used for all other consultant services. This is often referred to as a Small Purchase Agreement, which can be used for all funding sources.

For services with a total cost less than $7,500.00 and that will use County Road Funds or state funds (not federal funds), a service agreement/purchase order can be used.

An alternate procedure and template may be used for all state- and federally funded projects, and is recommended for use on all projects. The template policy may be adopted as written, or the template can be revised consistent with program requirements and developed as a county procurement policy, subject to WYDOT approval.

The template policy and instructions may be found in Operating Policy 40-1 or at www.dot.state.wy.us then selecting "Business with WYDOT," then selecting "Local Public Agencies," and then selecting "Template Policy."

The Wyoming Procurement Act is another alternative consultant procurement procedure that is available for projects funded with County Road Funds but is not applicable to state and federal funds. This procedure is provided by state statute and is directed to state agencies, and is not required of counties, but does provide an acceptable procedure for County Road Fund projects. See 400.2 Chapter 23 - Professional Architectural, Engineering and Land Surveying Services Procurement Act.

Additional information is available from WYDOT at:
http://www.dot.state.wy.us/wydot/business_with_wydot/consultants

200.8

Project Environmental Documentation and Public Involvement

The National Environmental Protection Act (NEPA) requires federal agencies to assess the social, economic, and environmental effects of their proposed actions, and disclose the results of the environmental analysis to the public prior to making decisions. The Federal Highway Administration (FHWA) has designated WYDOT to oversee some NEPA documentation. Although the governing rules and regulations change infrequently, the associated processes and required forms are updated periodically. Users should refer to the Wyoming T2 Center website (https://www.uwyo.edu/wyt2/lpa.html) for the most current LPA NEPA guidance and documentation requirements.

The design and construction of each of the four project types must comply with applicable state and federal environmental regulations, (Table 200-3 Project Type and Required Impact Report), including public involvement actions. Those projects using state funds or federal funds (FA) or requiring a permit from a federal agency will require completion of an impact assessment and environmental document. The county will need to coordinate with WYDOT representatives to determine the impact assessments and type of document required for compliance with environmental regulations.

Table 200-3 Project Type and Required Impact Report

Project Type	Necessary Environmental Impact Report
New Construction on New Alignment	No Significant Impact, or Type 3,
Reconstruction on Existing Alignment	No Significant Impact, Type 3, or Type 2
Resurfacing	Type 3, or Type 2
Safety Improvement	Type 3, Type 2, or Type 1

200.8.1 New Construction on New Alignment

Projects constructed with County Road Funds must comply with state and federal environmental and/or permitting requirements when construction is in or adjacent to streams or drainages. Water quality permits may be needed from the U.S. Army Corp of Engineers and the Wyoming Department of Environmental Quality; additional information on these permits is presented in the Drainage section of this Manual. These projects, if located adjacent to federally owned lands, may require coordination and compliance with environmental requirements if additional right-of-way or easements are needed through the federal agency managing those lands.

For projects funded with state funds or federal funds, the county will need to coordinate with WYDOT to determine the type of document required for compliance with environmental regulations.

200.8.2 Reconstruction on Existing Alignment

Projects constructed with County Road Funds must comply with state and federal environmental and/or permitting requirements when construction is in or adjacent to streams or drainages. Water quality permits may be needed from the U.S. Army Corp of Engineers and the Wyoming Department of Environmental Quality; additional information on these permits is presented in the Drainage section of this Manual.

These projects, if located adjacent to federally owned lands, may require coordination and compliance with environmental requirements, if additional right-of-way or easements are needed through the federal agency managing those lands.

For projects funded with state and/or federal funds, the county will need to coordinate with WYDOT and FHWA representatives to determine the type of document required for compliance with environmental regulations. Required environmental documents, typical to this project type, are briefly described as follows:

200.8.3 Resurfacing and Preservation (Maintenance) on Existing Alignment

Projects constructed with County Road Funds must comply with state and federal environmental and/or permitting requirements when construction is in or adjacent to streams or drainages. Water quality permits may be needed from the U.S. Army Corp of Engineers and the Wyoming Department of Environmental Quality; additional information on these permits is presented in the Drainage section of this Manual.

These projects, if located adjacent to federal-owned lands, may require coordination and compliance with environmental requirements if additional right-of-way or easements are needed through the federal agency managing those lands.

For projects funded with state and/or federal funds, the county will need to coordinate with WYDOT representatives to determine the type of document required for compliance with environmental regulations.

200.8.4 Safety Improvements

Projects constructed with County Road Funds must comply with state and federal environmental and/or permitting requirements when construction is in or adjacent to streams or drainages. Water quality permits may be needed from the U.S. Army Corp of Engineers and the Wyoming Department of Environmental Quality. Additional information on these permits is presented in the Drainage section of this Manual.

These projects, if located adjacent to federally owned lands, may require coordination and compliance with environmental requirements if additional right-of-way or easements are needed through the federal agency managing those lands.

For projects funded with state and/or federal funds, the county will need to coordinate with WYDOT representatives to determine the type of document required for compliance with environmental regulations.

The environmental document must be completed in advance of right-of-way/ easement acquisition and the bid and award of a construction contract.

200.8.5 Types of Environmental Impact Reports

Environmental Assessment and Finding of No Significant Impact

This document may be required when the analysis of project impacts to environmental resources present in the project area, or coordination with federal and state regulatory agencies, concludes that there will be a substantial adverse impact to protected resources or requires right-of-way acquisition involving substantial relocations or adverse impacts to abutting properties. The analysis and documentation required by an environmental assessment (EA) will require extensive coordination with WYDOT, FHWA and state and federal regulatory agencies. The analysis should identify all impacts and the efforts made to avoid or minimize impacts, including any proposed mitigation. Public involvement during the development of this project type will follow the WYDOT Operating Policy 17-8, Public Involvement Policy. The EA and finding of no significant impact (FONSI) are completed in advance of easement/right-of-way acquisition and bidding and awarding a construction contract and must be signed by WYDOT and FHWA.

200.8.6 Categorical Exclusion (Type 3)

This document may be used for a project or safety improvement that will require new or additional right-of-way, will require ground disturbance for cuts or fills, and may require work in or adjacent to streams or drainages. Environmental requirements are satisfied when the county completes analysis of project impacts to environmental resources present in the project area and coordination with federal and state regulatory agencies, and provides WYDOT with a letter and a copy of any technical reports presenting the project description and, typically, addressing the following: 1) impacts to water quality and wetlands if the project includes excavation or fill into or adjacent to streams for drainages (proposed work must qualify for a Nationwide 404 Permit by the U.S. Army Corps of Engineers); 2) impacts to threatened or endangered species or habitat if the project includes excavation or fill into or adjacent to streams or drainages; and 3) impacts to cultural resources, including a cultural survey and compliance under Section 106 of the National Historic Preservation Act. Bridge structures also need to be evaluated for historical significance. Each analysis should identify all impacts and the efforts made to avoid or minimize impacts, including any proposed mitigation. Public involvement during the development of this project type will follow WYDOT Operating Policy 17-8, Public Involvement Policy. The categorical exclusion is completed in advance of easement/right-of-way acquisition and bidding and awarding a construction contract and must be signed by WYDOT and FHWA prior to construction.

200.8.7 Categorical Exclusion (Type 2)

This document is available for a project or safety improvement constructed within existing right-of-way, minimal ground disturbance, and not in proximity to a stream or drainage. Public involvement will follow WYDOT Operating Policy 17-8, Public Involvement Policy. Environmental requirements are satisfied when the sponsor provides WYDOT with a letter presenting the project description followed by "This project is a Programmatic Categorical Exclusion under 23 CFR § 771.117 (d)."

200.8.8 Categorical Exclusion (Type 1)

This document is available for use on safety improvement from Table 300-4 Safety Improvements and Crash Reduction Factors/CMF), as these project types are all within existing rights-of-way, require minimal ground disturbance, and are not associated with any stream or drainage. For these types of projects, environmental requirements are satisfied when the sponsor provides WYDOT with a letter presenting the project description followed by "This project is a Programmatic Categorical Exclusion under 23 CFR § 771.117 (c) or (d)."

200.9

Public Right-Of-Way

The design and construction of each of the four project types may require that the county establish the existence and description of county-owned public right-of-way. Establishing public right-of-way requires research of county records and either securing or preparing legal descriptions.

W.S. § 24-1-105 establishes a minimum right-of-way width at 60 feet and not more than 100 feet for county roads. For those project types that cannot be constructed within existing right-of-way previously established, the acquisition of private property must provide for the uniform and equitable treatment of all landowners whose property is acquired for public use. Acquisition is defined as the process of acquiring real property or an interest (partial acquisition or easement) in that property. Once the county identifies the need and legal description of additional right-of-way, acquisition will follow general steps, which include property appraisal with initial contact with the property owner; determination of fair market value for the property or interest; negotiation leading to a written offer of compensation, including contact with the property owner to explain the acquisition process; an agreement to purchase or acquire by easement the property supported by legal description; and payment for the property or interest.

If federal funds and/or state funds are used, the county is to follow the procedures required by the Uniform Relocation Assistance and Real Property Act, required by 49 CFR § Part 24. It is recommended that these procedures be followed in all acquisitions. When an agreement with the landowner cannot be reached through negotiations, the county will need to pursue the acquisition of the property through County Road Establishment procedures as outlined in “Establishment, Vacation, or Alteration of County Highways”, W.S. § 24-3-101+ or through “Eminent Domain”, W.S. § 01-26-501+.

Those projects using state funds (SA) and/or federal funds (FA) will require a certification statement that all right-of-way needed to construct the proposed project is county-owned (public ownership). This certification is completed in advance of bidding and awarding a construction contract.

A representative Right-of-Way Certificate is presented in 400.5 Right-of-Way and Utility Certificates.

200.10

Project Report

It is recommended that a project report be prepared for two project types: New Construction on New Alignment and Reconstruction on Existing Alignment, as these projects will require a significant expenditure of funds, are expected to provide satisfactory service through a design life, and must meet the design values for each design criteria presented in this Manual and other Manual provisions.

A brief and concise project report is recommended for the remaining two project types: Resurfacing and Preservation (Maintenance) on Existing Alignment and Safety Improvements. The recommended report content for each project type follows:

Level of documentation is dependent on project type and project description.

200.10.1 New Construction on New Alignment and Reconstruction on Existing Alignment

The selection of these two project types will be supported by a brief summary for each of the following project components, consistent with the requirements of this Manual and identifying additional studies needed to support project decisions.

- Project Planning Deliverables – Selection of Project Type and Project Description.
- Road and Bridge, Design Criteria and Design Values: From this Manual.
  Design Exceptions.
- Survey and Mapping: Terrain, Land Ownership, Construction, Recordation.
- Earthwork Design.
- Environmental Resource Inventory and Document Type.
  Wetlands.
  Floodplains.
  Cultural – Historic and Archaeological. Threatened and Endangered Species and Wildlife. Hazardous Materials.
  Wildlife Movement and Habitat – Needed if project requires right-of-way or is adjacent to federal or state-owned land.
  Section (4f) Evaluation.

An Environmental Impact Evaluation, 400.5 Right-of-Way and Utility Certificates, provides a comprehensive listing of resources that may require analysis/impact evaluation.

- Roadside Safety:
  Clear Recovery Area.
  Fore-slope rates.
  Safety Hardware.

- Pavement Structure or Surface Treatment Selection and Design:
  Design Year Traffic and ESAL Conversion.
  Geotechnical Investigations.
  Existing base and pavement surface analysis, including thicknesses. Drainage Investigations.
  Material Sources – Locally Available. Established Design Procedure.

- Drainage Structures and Facilities Roadway
  Cross-Slope.
  Roadside Drainage.
  Project area hydrology resulting in a hydraulics analysis and report and scour analysis.
  Geotechnical Foundation Investigations.
  Bridges, Culverts and Pipe ≥ 20 Feet in length.
  Drainage: Type, Size, Location, Design Vehicle, Design Specification. Highway or Railroad Overpass/Underpass: Type, Size, Location, Design Vehicle, Design Specification.
  Culverts and Pipe < 20 Feet in Length: Type, Size, Location. Safety Considerations.

- Project Right-of-Way:
  Acquisitions and Relocations.
  Certificate.

- Utility Considerations: Survey.
  Relocations or Accommodations.
  Certificate.

- Traffic Control Devices.
  Permanent Signing and Delineation Design. Pavement Striping Design.
  Intersection Design.

- Other Design Elements.

Material Sources – Agreements with landowner, private or public. Water Sources – Agreements with landowner, private or public.
Water Quality Permits and required Plans. Traffic Control Plans.

- Project Planning Deliverables – Funding Plan:
  Funding Program – Total Funds Available and County Share of Cost.
  Availability of Funds (Year of Construction).

- Funding Agency Requirements:
  Cooperative (Project) Agreements.
  Environmental Documentation.
  Right-of-Way and Utility Certificates.
  Contract Documents.
  Project Bidding and Award of Contract. Construction and Contract Administration.
  Maintenance and Remain-in-Service.

- Deviations from the requirements and recommendations of this Manual.

The project report will document each of the above, when relevant to the proposed work categories, pavements, bridge, safety, and operational improvements. A preliminary project report should be prepared to guide preliminary design (see Plan Development and Contracting Requirements), and a final project report should be prepared, following preliminary engineering, to guide final engineering. The final project report should be reviewed and accepted by a Wyoming-registered professional engineer.

200.10.2 Resurfacing and Preservation (Maintenance) on Existing Alignment, and Safety Improvements

The selection of these two project types will be supported by a brief preliminary and/or final project report that summarizes each of the above project components, as applicable and consistent with the requirements of this Manual. The final project report will support project decisions and should be reviewed and accepted by a Wyoming-registered professional engineer.

200.11

Plan Development and Contracting Provisions

Plan development recommendations are provided for each of the four project types to establish a systematic approach to the issuance of varying levels of plan development. These levels are often referred to as 35 - 90 percent plans, resulting in the completion of contract documents.

Contracting provisions are those contracting requirements incorporated into contract documents that are inherent to the contract work but are not biddable items of work. The following requirements and recommendations must be addressed concurrent with the requirements and recommendations in the Contract Documents—Plans and Specifications section of this Manual.

200.11.1 Plan Development for New Construction on New Alignment and Reconstruction on Existing Alignment

Development of these two project types, requiring a significant expenditure of funds, should be supported with both preliminary design functions and final design functions. Preliminary plans should be developed to address each of the project components listed in the project report, including support for any design exceptions, completion of environmental documents, and estimated work quantities.

Final design, leading to contract documents, should finalize project components from the project report, finalize utility accommodation and acquisition of right-of-way or easements, finalize work quantities and an engineer's estimate of project costs, and produce final plans, specifications, and contracting provisions.

Interim plan sets are recommended for complex projects to ensure that project components are fully addressed, presented, and accepted.

Addendums are those revisions to Contract Documents that are developed and issued after public advertisement for receipt of bids. All addendums should be finalized and issued to all prospective bidders in sufficient time to be addressed during contract bid and prior to contract award.

200.11.2 Plan Development for Resurfacing and Preservation (Maintenance) on Existing Alignment, and Safety Improvements

Development of these two project types will generally follow an abbreviated plan development process that addresses each of the project components from the project report.

A preliminary and final design function should be used if the project requires design exceptions (project construction will result in the reduction of existing lane or shoulder widths), requires an environmental assessment, or requires the acquisition of right-of-way. Otherwise, each project type will require final design functions leading to contract documents, including final plans, specifications, and contracting provisions.

200.12

County Funded Project Contracting Provisions

Table 200-4 County Funded Contract Related Documents shows the minimum and necessary contracting provisions required when using only county funds for a project.

Table 200-4 County Funded Contract Related Documents

Provision	Description	Reference
*Advertisement (Invitation) to Bid	Project Information	County
Bidder Preference: In-State 5% bidder preference will be used	Certified resident's bid is not more than five percent (5%) higher than that of the lowest responsible nonresident bidder.	W.S. § 16-6-102(a)
Resident Labor	Employ Wyoming laborers	W.S. § 16-6-203
Wage Compliance	Incorporate provisions of Wyoming Prevailing Wage Act of 1967.	W.S. § 27-4-401 through W.S. § 27-4-413
Quantity Summaries and Bid Units of Work	Often referred to as a Bid Schedule or Total Estimated Quantities (TEQ).	Contract Documents
General Conditions	A list of general contract conditions (provisions) should be developed and maintained by each county: Delivery of Bonds and Insurance, Notice to Proceed, Contractor's Responsibilities, Owner's Responsibilities during Construction, Changes in Work, Contract Time, and/or Contract Cost, Payments and Completion, Suspension or Termination of Work.	General Conditions of the Construction Contract
Supplementary Conditions	A list of supplementary contract conditions (provisions) should be developed and maintained by each county, specific to the project.	Supplementary Conditions of the Construction Contract

**These are not contracting provisions, but are required contract-related documents.*

200.13

State Funded Project Contracting Provisions

Table 200-5 State Funded Contract Related Documents shows the minimum and necessary contracting provisions required when using a combination of county and state funds for a project.

Table 200-5 State Funded Contract Related Documents

Provision	Description	Reference
Supervising Agency (Note, this is required but is not a contract-related document)	A full-time employee of the county must be in responsible charge of the project, including those services performed by agreement with consultant firms.	Standard Practice
Qualification of Construction Contractors	Requirements for bonding, insurance, licensing, or pre-qualification (no requirement can be used if such use would restrict competition or disallow submission of a responsive bid).	Standard Practice
Bidder Preference: In-State 5% bidder preference will be used.	Certified resident's bid is not more than five percent (5%) higher than that of the lowest responsible nonresident bidder.	W.S. § 16-6-102(a)
*Invitation to Bid	Project Information	WYDOT
Competitive Bidding Reserved to Private Construction Contractors	Contract work must be performed by private construction contractors (not by a public agency including subcontracting).	Standard Practice
Contract Time	The county must have procedures for determining contract time.	Standard Practice
Required Contract Provisions	Application and Definitions. Employment Provisions. Subletting or Assigning the Contract. Safety and Accident Prevention.	ST-4 Supplementary Document
Resident Labor	Employ Wyoming laborers	W.S. § 16-6-203
Wage Compliance	Incorporate provisions of Wyoming Prevailing Wage Act of 1967.	W.S. § 27-4-401 through W.S. § 27-4-413
Programmed Funds	Limits overrun of programmed funds, adjusts project for under-run of funds.	ST-3 Supplementary Document

Method of Measurement and Basis of Payment	Contract documents must provide for the accurate measurement of quantities of completed work as the basis for payment.	Standard Practice
Extra Work and Change orders	Contract clause providing definition and execution of extra work and contract time.	Standard Practice
Acceptance of Contract Work	The county must final accept all contract work, and contract documents should identify the point and method of acceptance.	Certificate, see 400.6 Project Acceptance Certificate

**These are not contracting provisions, but are required contract-related documents.*

200.14

Federally Funded Project Contracting Provisions

Table 200-6 Federal Funded Project Contract Related Documents shows the minimum and necessary contracting provisions required when using federal funds in combination of state and county funds for a project.

Table 200-6 Federal Funded Project Contract Related Documents

Provision	Brief Description	Reference
Supervising Agency (Note, this is required but is not a contract-related document)	When a project exists on a street or highway not under the State DOT jurisdiction, a local public agency having jurisdiction may perform the work with its own forces or by contract, including those services performed by agreement with consultant firms. The State DOT is not relieved of overall responsibility.	23 CFR § 635.105(c)(1-4)
Qualification of Construction Contractors	Requirements for bonding, insurance, licensing, or pre-qualification (no requirement can be used if such use would restrict competition or disallow submission of a responsive bid).	23 CFR § 635.110(b)
*Invitation to Bid	Project information.	WYDOT
Bidder Preference (In-State 5% preference is not allowed)	Award to lowest responsive bidder; an In- State Preference is not allowed.	23 CFR § 635.114 23 CFR § 635.110(f)(21
Competitive Bidding Reserved to Private Construction Contractors	Contract work must be performed by private construction contractors (not by a public agency including subcontracting).	23 CFR § 635.112(e)
Contract Time	The State DOT must have procedures for determining contract time.	23 CFR § 635.121
FHWA-1273, Required Contract Provisions	Prohibits Hiring Preferences and Convict Labor (partial). Prohibits discrimination, including facilities; Predetermined Minimum wages (Davis- Bacon). Requires Certified Payrolls. Limits subcontracting. Requires construction safety standards. Prohibits false statements/fraud. Implements federal clean air and water quality legislation. Requires certifications for debarment and lobbying.	23 CFR § 633 Form FHWA-1273 must be incorporated (not by reference) into the contract documents.
**Job Site Posters	A job site bulletin board must be in place with a series of required posters.	Job Site Posters

Contractor-Provided Labor (Also applies to subcontractors)	Contract documents cannot require any state or local hiring preferences (except as noted for Indian Employment Preference). State DOT may require contractor to set up local office after contract awarded	23 CFR § 635.110(f)(2)
Contractor-Provided Materials (Also applies to subcontractors)	Contract documents will require that the private construction contractor furnish all materials needed to complete contract work.	23 CFR § 635.407
Patented/Proprietary Materials and Products	Materials and products to be incorporated into the project should be described using generic specifications. Trades names or brand names can be listed only if the material or product cannot be generically specified; at least three equal materials or products are to be listed.	23 CFR 635
Contractor-Provided Equipment (Also applies to subcontractors)	Contract Documents will require that the private construction contractor furnish all equipment needed to complete contract work.	23 CFR § 635.106
Method of Measurement and Basis of Payment	The State DOT shall have procedures in effect which will provide adequate assurance that the quantities of completed work are determined accurately and on a uniform basis throughout the State. All such determinations and all related source documents upon which payment is based shall be made a matter of record.	23 CFR § 635.123(a)
Force Account - payment for the direct performance of work based on labor, materials, and equipment	In establishing the method of payment for contract changes or extra work orders, force account procedures shall only be used when strictly necessary, such as when agreement cannot be reached with the contractor on the price of a new work item, or when the extent of work is unknown or is of such character that a price cannot be determined to a reasonable degree of accuracy. The reason or reasons for using force account procedures shall be documented.	23 CFR § 635.120(d)
Buy America Contract Clause	All iron and steel products, including coatings, must be supplied, including the manufacturing process, from within the United States.	23 CFR § 635.410
Restrictions Upon Materials	In conjunction with the Buy American Contract, no requirement shall be imposed and no procedure shall be enforced by any State transportation department in	23 CFR § 635.409

	connection with a project which may operate: to require the use of or provide a price differential in favor materials and articles produced in that State nor to restrict the use of articles and materials not produced in that State.	
Disadvantaged Business Enterprise (DBE)	Contract documents must ensure that those DBE firms, certified by WYDOT, have an opportunity to participate, typically by subcontract, in contract work.	23 CFR § 635.107
Contractor Compliance – opportunities for females and minorities in contractor workforce	Required Special Provision.	23 CFR § 230 Appendix A (2)
Indian Employment Preference	An Indian Employment Preference is allowed in contracts for projects located on roads on within or providing access to an Indian reservation or other Indian lands as defined under the term “Indian Reservation Roads” in 23 U.S.C. 101 and regulations issued there under. May apply to the Wind River Indian Reservation and the Crow Indian Reservation (southern Montana at Wyoming state line).	23 CFR 635.117(e)
Tribal Employment Rights Office (TERO) Tax.	A TERO tax is allowed in contracts for projects located on an Indian reservation. May apply to the Wind River Reservation.	25 CFR § 170.916
Non-collusion Statement	A non-collusion statement is required from all bidders; failure to certify results in non-responsive bid (ineligible for contract award).	23 CFR § 635.112(f)
Lobbying Certification	A lobby (no prohibited payments) certification is required from all bidders.	49 CFR § 20.100(a) and (b)
Suspension or Debarment Certification	A suspension and debarment certification is required from all bidders.	2 CFR §180
Changed Condition Contract Clauses	The standardized changed condition clauses, in 23 USC § 109, must be included, verbatim, in all contract documents.	23 CFR § 635.109
Prompt Payment Clause for satisfactory performance of work and retainage	Contract clause requiring prime contractor to pay subcontractors within 30 days of receipt of payment from county, for all satisfactory subcontract work performed, and retainage.	49 CFR § 26.29(b)
Extra Work and Change orders	Contract clause providing definition and execution of extra work and contract time.	23 CFR § 635.120

Warranty or Guaranty Clause	Warranty or guaranty clauses are not allowed for any work item that would be defined as future routine maintenance. Warranty or guaranty clauses are allowed as the basis for acceptance of work and workmanship during the terms of the contract. Landscape establishment periods, beyond contract time, are acceptable.	23 CFR § 635.413
Acceptance of Contract Work Materials Certification	The county must final accept all contract work and materials; Contract documents must identify the point and method of acceptance.	Certificate, see 400.6 Project Acceptance Certificate

*These are not contracting provisions, but are required contract-related documents.

** A board of required job posters must be available on-site. A listing of posters, and reproducible copies, is at http://www.dot.state.wy.us/wydot/business_with_wydot/civil_rights.

200.15

Contract Documents—Plans and Specifications

Contract documents are those plans, specifications, and contracting provisions developed to describe, in detail, all work (labor, materials, equipment) needed to complete a project and are made available at time of the public advertisement for contract bids. They are often referred to as PS&E (Plans, Specifications, & Estimate). These documents also include the agreement (contract) between the county and the contractor, specifying other contractual requirements, including the completion date/contract time, bid and payment and performance bonds, and certifications.

The requirements and recommendations for the Contract Documents—Plans and Specifications section are a summary of the requirements and recommendations of all other project development sections of this Manual.

200.15.1 New Construction on New Alignment and Reconstruction on Existing Alignment:

Contract documents include all detailed plan sheets, specifications, and required contracting provisions. Detailed plan sheets can include title sheets, plan and profile sheets, typical sections, quantity summaries, specific detail sheets, pit layout, soils profile, earthworks, cross- sections, and standard plans. Specifications can include standard, supplementary, and special specifications. Contracting provisions are presented in this Manual. Contract plans and specifications must, at a minimum, identify bid units (quantity summaries) with method of measurement and basis of payment and include specifications that identify the method of acceptance of all materials incorporated in the project. Acceptance can be by certifications, sampling and testing, in-place measurements, and inspections.

Specifications are used by both the county and the construction contractor to establish the contract work to be performed, conditions or restrictions on work performance, the method of measurement and basis of payment of work performed, and the quality or basis of acceptance for all materials incorporated and all work performed. Specifications, including standard specifications, supplementary specifications, and special provisions, are contractual documents and should be written clearly and concisely using a standard format. The most common format uses five major divisions: Description, Materials

(including sampling and testing for acceptance), Equipment, Construction Requirements, and Measurement and Payment.
An estimate of project cost, referred to as an engineer's estimate (EE), is developed based on contract plan quantity summaries. The intent of an EE is to establish the monetary value of the project to the county. The EE should consider numerous factors, including bid item cost history, current market price and price trends, project size and location, work type, and specialty work required. Project costs are determined using bid items, as required by the quantity summaries, their units of measurement and payment, and their planned quantities, resulting in an estimate of bid item costs that are extended to arrive at the project cost. The EE is retained by the county and is not made available as part of contract documents during contract bidding.

The required contracting provisions outlined in this Manual must be incorporated into contract documents and made part of the contractual agreement.

Contract documents must be complete, and a standardized listing of all inclusions is beyond the scope of this Manual. Generally, contract documents will include the following:

- Agreement between the county and the contractor.
- General and supplementary conditions.
- Detailed plan sheets & drawings.
- Standard specifications, supplementary specifications, and special provisions.
- Contracting provisions.

Additional documents are typically used to complete the bid proposal made available for the public advertisement and receipt of bids as outlined in the Contract Bid and Project Award section of this Manual. These documents may include the following:

- Advertisement for bids (Invitation to Bid).
- Instruction to bidders.
- Bonding requirements—bidding, payment, and contract performance.
- Notice of Award and Notice to Proceed.
- Addendums (see Plan Development and Contracting Provisions section).
- Supporting documentation for extra work change orders.

200.15.2 Resurfacing and Preservation (Maintenance) on Existing Alignment, and Safety Improvements:

A complete set of contract documents, including all required contracting provisions, are needed prior to advertising for bids.

Contract plans and specifications must, at a minimum, identify bid units (quantity summaries) with method of measurement and basis of payment and include specifications that identify the method of acceptance of all materials incorporated in the project. Acceptance can be by certifications, sampling and testing, in-place measurements, and inspections. These bid units and quantities are supported by any needed plans and specifications described above. An engineer's estimate should be developed and retained by the county as it is not made available as part of contract documents during contract bidding.

200.16

Contract Bid and Project Award

The contract bid and project award will be completed by the county or by WYDOT. The requirements and recommendations for contract bid and project award should be considered concurrent with the requirements and recommendations in the Project Development and Contracting Provisions and Contract Documents—d and Specifications section of this Manual.

200.16.1 Public Advertisement

200.16.1.1 County Road Fund Projects

Contract bidding will follow accepted local government bidding procedures for open and public competitive bidding. W.S. § 24-2-110 requires that the board of county commissioners of any county will ensure that notices for contract bidding, when the estimated cost of the project exceeds $75,000.00 for a road project or $25,000.00 for a bridge project (construction or reconstruction/rehabilitation) W.S. § 24-1-132(c). The board of county commissioners of any county or governing body of any city or town shall cause notices of the contract to be published for two consecutive weeks in a newspaper having general circulation within the state and to take any other means available to achieve as wide a notice as possible, but in no case will any letting (public reading of bids or project award) of the contract be held within 15 days of the last published notice (W.S. § 24-1-132(e)). A contract cannot be divided for the purpose of avoiding public advertisement and competitive bidding.

The construction work may be described in the published call for bids by stating general requirements, and contract plans and specifications will be available to prospective bidders. Projects with an estimated cost at or less than the $75,000.00 (road project) and $25,000.00 (bridge project) limits noted above, or projects to restore the use of roadways under emergency, can be constructed with a negotiated contract.

200.16.1.2 State-Funded and Federally Funded Projects

Those projects that are administered by the county by cooperative agreement with WYDOT will follow accepted local government bidding procedures, except all projects regardless of estimated cost will follow procedures for open and public competitive bidding. Those projects that WYDOT retains for engineering and construction will follow WYDOT procedures, and an invitation to bid will be published in one newspaper with a

general circulation that is statewide. (WYDOT uses the Casper Star- Tribune). The advertisement will generally appear once a week for three consecutive weeks with a period of one week between the last advertisement and the bid opening. At WYDOT's discretion, a two-week advertisement period may be used for small, relatively simple projects or when there is some urgency to place the project under contract.

200.16.2 Competitive Bid

200.16.2.1 County Road Fund Projects

Construction will typically be performed by private construction firms.

200.16.2.2 State and Federally Funded Projects

Those projects that are administered by the county, by cooperative agreement with WYDOT, will follow accepted local government requirements for competitive bids. Construction will typically be performed by private construction firms. Those projects that WYDOT retains for engineering and construction will follow WYDOT procedures (see Section 102 of the Wyoming Standard Specifications for Road and Bridge Construction, 2021 Edition.)

200.16.3 Bid Analysis

An engineer’s estimate (EE) will be available to the county for use in analyzing contractor bids received in response to public advertisement. A contractor’s unit bid should reflect the reasonable actual cost for completing the work plus a reasonable share of anticipated profit, overhead, and other indirect costs associated with highway construction. Bid analysis compares contractor unit bid prices against the EE for unusually high or low prices. A contractor’s unusually high or low prices may reflect an unbalanced bid or be an indicator of an inaccurate estimate of planned quantities. The result of bid analysis is to conclude that the contractor’s bid, if determined to be the lowest responsible bidder, will deliver the project at the lowest cost to the county.

200.16.4 Project Award

200.16.4.1 County Road Fund Projects and State-Funded Projects

Statute requires that all contracts be awarded to the lowest responsible bidder, consistent with W.S. § 16-6-102. That statute provides that the contract shall be let to a responsible certified resident making the lowest bid if the certified resident's bid is not more than 5

percent higher than that of the lowest responsible nonresident bidder. Project award by the Board of County Commissioners is a required administrative action and requires concurrence from WYDOT for state-funded projects.

The county commissioners do reserve the right to reject any and all bids and to waive irregularities and informalities in the bidding.

200.16.4.2 Federally Funded Projects

All contracts must be awarded to the lowest responsible bidder. W.S. § 16-6-102 does not apply to federally funded projects (W.S. § 16-6-108). Project award by the Board of County Commissioners is a required administrative action and requires concurrence from WYDOT for federally funded projects.

The county commissioners do reserve the right to reject any and all bids and to waive irregularities and informalities in the bidding (W.S. § 16-6-119, W.S. § 24-1-132(f)).

200.17

Post Construction

State- and federally funded projects will require that the county accept provisions of a cooperative agreement for project maintenance and remain in service requirements. The executed cooperative agreement will require that the county comply with the following post- construction provisions:

200.17.1 Maintenance

Upon completion and acceptance of the project by the county and WYDOT, the county will maintain, at its sole expense, the roadway in compliance with all applicable state and federal standards and regulations. Maintenance will include all repairs necessary to keep the improvement in its original constructed condition.

200.17.2 In-Service

The county will agree to maintain the public road in service and not permanently close or abandon the public road without WYDOT's written consent.

Section 300 Engineering Section

300.1

Road and Bridge Design Criteria and Design Values

Geometric design criteria and values for roads and bridges are presented for four project types: New Construction on New Alignment, Reconstruction on Existing Alignment, Resurfacing and Preservation (Maintenance) on Existing Alignment, and Safety Improvements. The design values are then adjusted, as needed, by the functional classification of the roadway, terrain features, and design traffic volumes.

300.1.1 New Construction on New Alignment:

Work Categories

The design criteria and design values are based on the following project work categories:

Pavements

Construction of a new pavement structure, to include all pavement types from plant mix or Portland cement pavements to blended aggregates, using a selected design life (design year), design year traffic volumes, established design procedures, and construction practices.

Bridges

Construction of a new bridge structure greater than 20 feet in length and includes the replacement of existing structures.

Safety: This work category should include roadside design features to reduce the potential for and/or the severity of crashes. Safety work should include construction of a safety clear zone (clearance to obstructions) with widths from *AASHTO Roadside Design Guide* and construction of roadside safety hardware, including guardrail and sign mounting hardware, that meets current safety design standards (see 400.8 Definitions). See the Roadside Safety Section of this Manual for additional discussion of safety design features.

Operational: Construction of intersections serving design year traffic movements.

Design Practices

Design criteria and design values are based on use of the following design practices:

Design Life: A design life (design year) will be selected with a 20-year design life, from year constructed, recommended for this project type.

Design Speed: A range of design speeds are available. The design speed will be selected based on the functional classification of the roadway, terrain features, design year traffic volumes, and funding agency legislative requirements or policy. In general, higher functional classification and traffic volumes warrant a higher selected design speed with adjustment for terrain features. The selected design speed will be set at or within 10 mph of the regulatory posted maximum speed limit.

Regulatory posted maximum speed limit: W.S. § 31-5-301(b)(iv) establishes the default maximum speed limit at 65 miles per hour for paved roadways and 55 miles per hour for unpaved roadways. W.S. § 31-5-303(b) authorizes local authorities in their respective jurisdictions, in compliance with department rules consistent with national practices, to establish a maximum speed limit which differs from W.S. § 31-5-301(b)(iv) is reasonable and safe but not less than 35 mph. The department shall not require a speed study before a local authority establishes a maximum speed limit for unpaved roads pursuant to W.S. § 31-5-303(f). Additionally, W.S. § 31-5-303(f) establishes that the maximum speed limit may be set lower than 35 mph without requiring a speed study a period not exceeding 1 year or less, provided the action is done in consultation with the local authority's engineer and law enforcement.

Design Criteria and Design Values: Selected design criteria and design values are presented to guide the geometric design elements. Based on proper selection of design speed, certain design criteria and design values, such as horizontal and vertical alignment, can be set to meet that design speed while other design criteria and design values, such as travel lane and shoulder widths, can be based on design year traffic volumes.

The design values have been set to provide increased flexibility in the selection of values that both satisfy transportation safety and mobility needs while considering project cost, limited funding, and community or environmental concerns. As a

result, the use of the least conservative values only for all project-related design values and design practices is not recommended.

A design exception is an administrative action that may be appropriate when it is difficult or cost prohibitive to achieve full compliance with a design value, as presented in this Manual. These actions must be fully documented (see 400.4 Bridge Evaluation) with a comprehensive presentation describing the basis for selecting a design value that does not meet the requirements of this Manual.

Horizontal Alignment: The horizontal alignment will meet the selected design speed based on both the combination of curve radius and super elevation and sight distance. Super elevations of emax = 6%, with emax = 8% are recommended for major collectors with higher design year traffic volumes. Local/residential roads and streets with low speeds, adjacent development, frequent intersections with cross roads, and other urban-type features should make use of lesser super elevation rates emax = 4%, and in some locations, the use of super elevation may not be practicable.

Vertical Alignment: The vertical alignment will meet the selected design speed based on both the combination of curve length and grades (K-factor) and sight distance. Vertical alignments, coordinated with horizontal alignment, should be evaluated for passing sight distance and include frequent passing sections.

Bridge Design Values: For state- and federally funded bridges, the minimum bridge roadway widths are set to match with the approach roadway widths, which are the combination of travel lane and shoulder widths. For those functional classifications, adjusted by traffic volumes, that do not require a shoulder, the minimum bridge width is set at the travel way (lane) widths plus a 2-foot shy distance to the bridge curb/rail. For county funded bridges, the minimum bridge roadway widths are set to match with the approach roadway widths, which are the combination of travel lane and shoulder widths. For those functional classifications, adjusted by traffic volumes, that do not require a shoulder, the minimum bridge width is set at the travel way (lane) widths plus a 1-foot shy distance to the bridge curb/rail.

Bridge vertical clearances and structural capacities are applicable to all Funding Programs.

Table 300-1 presents design criteria and values for New Construction on New Alignment by functional classification. The design criteria and design values are based on the following project work categories and design practices:

*Table 300-1. New Construction on New Alignment—Design Criteria and Design Values**

Design Criteria	Functional Classification Major Collector	Functional Classification Minor Collector	Functional Classification Local
Design Speed (DS) – County			
Level Terrain	Select 60 mph to 40 mph	Select 60 mph to 40 mph	Select 50 mph to 30 mph
Rolling Terrain	Select 50 mph to 30 mph	Select 50 mph to 30 mph	Select 40 mph to 20 mph
Mountainous Terrain	Select 40 mph to 20 mph	Select 40 mph to 20 mph	Select 30 mph to 20 mph
Design Speed (DS) – SA & FA			
Level Terrain	Same as County	Same as County	Same as County
Rolling Terrain	Same as County	Same as County	Same as County
Mountainous Terrain	Same as County	Same as County	Same as County
Travel Lane Width – County			
Vehicles/day, Under 400	10 Feet Minimum	10 Feet Minimum	9 Feet Minimum
Vehicles/day, 400-2000	11 Feet Minimum	11 Feet Minimum	10 Feet Minimum
Vehicles/day, Over 2000	12 Feet	12 Feet	11 Feet Minimum
Lane Width – SA & FA			
Vehicles/day, Over 2000	11 Feet Minimum 12 Feet	11 Feet Minimum 12 Feet	11 Feet Minimum 11 Feet Minimum
Shoulder Width – County			
Vehicles/day, Under 400	2 Feet Minimum	2 Feet Minimum	2 Feet Minimum
Vehicles/day, 400-2000	2 Feet Minimum	2 Feet Minimum	3 Feet Minimum
Vehicles/day, Over 2000	4 Feet Minimum	4 Feet Minimum	6 Feet Minimum
Shoulder Width – SA & FA			
Vehicles/day, Under 400	2 Feet Minimum	2 Feet Minimum	2 Feet Minimum
Vehicles/day, 400-2000	4 Feet Minimum	4 Feet Minimum	3 Feet Minimum
Vehicles/day, Over 2000	6 Feet Minimum	6 Feet Minimum	6 Feet Minimum
Horizontal Alignment – County	Meet Design Speed	Meet Design Speed	Meet Design Speed
Horizontal Alignment - SA & FA	Meet Design Speed	Meet Design Speed	Meet Design Speed
Vertical Alignment – County	Meet Design Speed	Meet Design Speed	Meet Design Speed
Vertical Alignment – SA & FA	Meet Design Speed	Meet Design Speed	Meet Design Speed
Grades (Maximum) – County			
Level Terrain	5-7% (60 to 40 MPH DS)	5-7% (60 to 40 MPH DS)	6-8% (50 to 20 MPH DS)
Rolling Terrain	6-9% (50 to 30 MPH DS)	6-9% (50 to 30 MPH DS)	10-11% (40 to 20 MPH DS)

Mountainous Terrain	10-12% (40 to 20 MPH DS)	10-12% (40 to 20 MPH DS)	14-16% (30 to 20 MPH DS)
Grades (Maximum) – SA & FA Level Terrain Rolling Terrain Mountainous Terrain	 Same as County Same as County Same as County	 Same as County Same as County Same as County	 Same as County Same as County Same as County
Bridge Roadway Width – County Vehicles/day, Under 400 Vehicles/day, 400-2000 Vehicles/day, Over 2000 **Bridge Roadway Width–SA & FA**	Traveled Way (+) +2 ft each side +4ft each side Approach roadway width Same as county	Traveled Way (+) +2 ft each side +4ft each side Approach roadway width Same as County	Traveled Way (+) +3 ft each side +4ft each side Approach roadway width Same as County
Bridge Vertical Clearance ** Over Public Road** Over NHS** Over Railroad	 14 Feet Minimum 16 Feet Minimum 23.5 Feet	 14 Feet Minimum 16 Feet Minimum 23.5 Feet	 14 Feet Minimum 16 Feet Minimum 23.5 Feet
Structural Capacity * – County** Design Vehicle/ Design Specification **Structural Capacity*** – SA & FA** Design Vehicle and Design Specification	 HL-93/ LRFD HL-93/ LRFD	 HL-93/ LRFD HL-93/ LRFD	 HL-93/ LRFD HL-93/ LRFD

*Design Values are taken from AASHTO referenced documents but do not necessarily use the same controlling limits, including design speeds, traffic volumes, and terrain features.

**An additional 0.5 feet of vertical clearance for an overpass of a state highway is recommended to allow for future surfacing.

***See 400.8 Definitions.

300.1.2 Reconstruction on Existing Alignment

Error! Reference source not found. presents design criteria and design values for Reconstruction on Existing Alignment by functional classification. The design criteria and design values are based on the following project work categories and design practices.

*Table 300-2 Reconstruction on Existing Alignment—Design Criteria and Design Values**

Design Criteria	Functional Classification Major Collector	Functional Classification Minor Collector	Functional Classification Local
Design Speed (DS) – County Level Terrain Rolling Terrain Mountainous Terrain	 Select 60 mph to 40 mph Select 50 mph to 30 mph Select 40 mph to 20 mph	 Select 60 mph to 40 mph Select 50 mph to 30 mph Select 40 mph to 20 mph	 Select 50 mph to 30 mph Select 40 mph to 20 mph Select 30 mph to 20 mph

Design Speed (DS) – SA & FA Level Terrain Rolling Terrain Mountainous Terrain	 Same as County Same as County Same as County	 Same as County Same as County Same as County	 Same as County Same as County Same as County
Travel Lane Width – County Vehicles/day, Under 400 Vehicles/day, 400-2000 Vehicles/day, Over 2000 **Travel Lane Width – SA & FA** Vehicles/day, Over 2000	 10 Feet Minimum 11 Feet Minimum 12 Feet 11 Feet Minimum 12 Feet	 10 Feet Minimum 11 Feet Minimum 12 Feet 11 Feet Minimum 12 Feet	 9 Feet Minimum 10 Feet Minimum 11 Feet Minimum 11 Feet Minimum 11 Feet Minimum
Shoulder Width – All Funding Programs	Minimum is Existing Widths for all Traffic Volumes	Minimum is Existing Widths for all Traffic Volumes	Minimum is Existing Widths for all Traffic Volumes
Horizontal Alignment – County Isolated Curves **Horizontal Alignment - SA & FA** Isolated Curves	Meet Design Speed Meet Reduced DS Meet Design Speed Meet Reduced DS	Meet Design Speed Meet Reduced DS Meet Design Speed Meet Reduced DS	Meet Design Speed Meet Reduced DS Meet Design Speed Meet Reduced DS
Vertical Alignment – County Isolated Curves **Vertical Alignment – SA & FA** Isolated Curves	Meet Design Speed Meet Reduced DS Meet Design Speed Meet Reduced DS	Meet Design Speed Meet Reduced DS Meet Design Speed Meet Reduced DS	Meet Design Speed Meet Reduced DS Meet Design Speed Meet Reduced DS
Grades (Maximum)–All Funding Programs	Existing Grades for all Terrains	Existing Grades for all Terrains	Existing Grades for all Terrains
Bridge Roadway Width–All Funding Programs	Approach Roadway Width	Approach Roadway Width	Approach Roadway Width
Bridge Vertical Clearance Over Public Road & RR	Maintain Existing	Maintain Existing	Maintain Existing
Structural Capacity **	Minimum Inventory Load Rating Factor of 0.8	Minimum Inventory Load Rating Factor of 0.8	Minimum Inventory Load Rating Factor of 0.8

*Design Values are taken from AASHTO referenced documents but do not necessarily use the same controlling limits, including design speeds, traffic volumes, and terrain features.
**See 400.8 Definitions.

Work Categories

The design criteria and design values are based on the following project work categories:

Pavements: Reconstruction of an existing pavement structure and may include widening to improve travel lane or shoulder widths. This work category should use a selected design life (design year), design year traffic volumes, and established design procedures and construction practices.

Bridges: Bridge structures should be evaluated (see 400.4 Bridge Evaluation) to determine elements in an advanced state of deterioration and determine the best course of action. This work category includes rehabilitation of an existing bridge structure greater than 20 feet in length to restore the structural integrity or to upgrade to current safety standards. (The replacement of a bridge would be a New Construction on New Alignment project type). Work can include widening to match approach roadway improvements to travel lane or shoulder widths, with any proposed widening consistent with the design values required for New Construction; work can include any improvement needed to extend the functional life of the structure and upgrades to current safety standards.

Safety: This work category will require an evaluation of a minimum five-year crash history. Based on that evaluation, safety work could include replacement or additional roadside safety hardware, including guardrail and sign mounting hardware that meets current safety design standards (see 400.8 Definitions). This work category could also include construction of a safety clear zone (clearance to obstructions) with widths from AASHTO Roadside Design Guide and fore slope rates, minimum 1V:4H, recommended. See the Roadside Safety Section of this Manual for additional discussion of safety design elements.

Operational: Improvements to all intersections legs to serve design year traffic movements.

Design Practices

The design criteria and design values are based on use of the following design practices:

Design Life: A design life (design year) will be selected, typically 10 or 15 years, from year to be constructed.

Design Speed: A design speed will be selected based on the functional classification of the roadway, the terrain features, and funding agency legislative requirements or policy. The selected design speed will be set at or within 10 mph of the regulatory posted maximum speed limit.

Regulatory posted maximum speed limit: : W.S. § 31-5-301(b)(iv) establishes the default maximum speed limit at 65 miles per hour for paved roadways and 55 miles

per hour for unpaved roadways. W.S. § 31-5-303(b) authorizes local authorities in their respective jurisdictions, in compliance with department rules consistent with national practices, to establish a maximum speed limit which differs from W.S. § 31-5-301(b)(iv) is reasonable and safe but not less than 35 mph. The department shall not require a speed study before a local authority establishes a maximum speed limit for unpaved roads pursuant to W.S. § 31-5-303(f). Additionally, W.S. § 31-5-303(f) establishes that the maximum speed limit may be set lower than 35 mph without requiring a speed study a period not exceeding 1 year or less, provided the action is done in consultation with the local authority's engineer and law enforcement.

Design Criteria and Design Values: Selected design criteria and design values are presented to guide the geometric design elements. Based on proper selection of design speed, certain design criteria and design values, such as horizontal and vertical alignment, can be set to meet that design speed while other design criteria and design values, such as travel lane and shoulder widths, can be based on design year traffic volumes.

The design values have been set to provide increased flexibility in the selection of values that both satisfy transportation safety and mobility needs while considering project cost, limited funding, and community or environmental concerns. As a result, the use of minimum values only for all project related design criteria and design practices is not recommended.

A design exception is an administrative action that may be appropriate when it is difficult or cost prohibitive to achieve full compliance with a design value, as presented in this Manual. These actions must be fully documented (see 400.3 Design Exceptions) with a comprehensive presentation describing the basis for selecting a design value that does not meet the requirements of this Manual.

Horizontal Alignment: The horizontal alignment will meet the selected design speed based on both the combination of curve radius and super elevation and the sight distance. Super elevations of emax = 6%, with emax = 8% are recommended for major collectors with higher design year traffic volumes. Local/residential roads and streets with low speeds, adjacent development, frequent intersections with cross roads, and other urban-type features should make use of lesser super

elevation rates, emax = 4%, and in some locations, the use of super elevation may not be practicable.

For this project type, isolated horizontal curve/curves can remain-in-place if both the combination of curve radius and super elevation and the sight distance meet a reduced design speed within 10 mph of the selected design speed. Advance curve warning signing for these curves should be in accordance with the Manual on Uniform Traffic Control Devices.

Vertical Alignment: The vertical alignment will meet the selected design speed based on both the combination of curve length and grades (K-factor) and the sight distance. Vertical alignments, coordinated with horizontal alignment, should be evaluated for passing sight distance. For this project type, isolated vertical curve/curves can remain- in-place if both the combination of curve length and grade, and sight distance meet a reduced design speed within 10 mph of the selected design speed.

300.1.3 Resurfacing and Preservation (Maintenance) on Existing Alignment:

Table 300-3 presents design criteria and values for Resurfacing and Preservation on Existing Alignment by functional classification. The design criteria and design values are based on the following project work categories and design practices:

Table 300-3 Resurfacing or Preservation on Existing Alignment—Design Criteria and Design Values

Design Criteria	Functional Classification Major Collector	Functional Classification Minor Collector	Functional Classification Local
Design Speed (DS) – All Funding Programs Paved Roadway Unpaved Roadway	Maintain Existing Maximum 65 MPH Maximum 55 MPH	Maintain Existing Maximum 65 MPH Maximum 55 MPH	Maintain Existing Maximum 65 MPH Maximum 55 MPH
Travel Lane Width – All Funding Programs	Maintain Existing	Maintain Existing	Maintain Existing
Shoulder Width – All Funding Programs	Maintain Existing Widths	Maintain Existing Widths	Maintain Existing Widths
Roadway Alignment – All Funding Programs	Maintain Existing	Maintain Existing	Maintain Existing
Grades – All Funding Programs	Maintain Existing	Maintain Existing	Maintain Existing

Bridge Roadway Width and Vertical Clearance – All Funding Programs	Maintain Existing	Maintain Existing	Maintain Existing

Work Categories

The design criteria and design values are based on the following project work categories:

Pavements: Resurfacing or preservation of an existing pavement structure, which includes a broad range of pavement improvements from a maximum 2-inch plant mix pavement (PMP) overlay (paved roadway) to reshaping followed by a blended aggregate base and surface treatment (unpaved roadway). This work category has an upper limit defined as construction of a single pavement lift, maximum 2-inch plant mix pavement (PMP) overlay, and does not require the use of a selected design life. A Reconstruction on Existing Alignment type of project should be used if the roadway requires construction of a pavement structure exceeding this upper limit.

Bridges: Bridge structures should be evaluated (see 400.4 Bridge Evaluation) to determine elements in an advanced state of deterioration and determine the best course of action. This work category provides for preservation strategies to extend the service life or to upgrade to current safety design standards on an existing bridge structure greater than 20 feet in length.

Safety: This work category can include replacing or constructing additional roadside safety hardware, including guardrail and sign mounting hardware, to meet current safety design standards (see 400.8 Definitions). Any safety concerns resulting from project construction, including pavement edge drop-offs or non-standard guardrail heights, will be corrected.

Operational: Improvements to all intersection legs to improve the pavement structure and better delineate traffic movements.

Design Practices

The design criteria and design values are based on use of the following design practices:

Design Life: A design life is not required.

Design Speed: The roadway horizontal alignment should be evaluated against a theoretical design speed using alignment criteria, including the recommendation that the theoretical design speed be within 10 mph of the regulatory posted maximum speed limit. This recommendation is for those roadways with a regulatory posted maximum speed limit at or above 55 mph.

Regulatory posted maximum speed limit: W.S. § 31-5-301(b)(iv) establishes the default maximum speed limit at 65 miles per hour for paved roadways and 55 miles per hour for unpaved roadways. W.S. § 31-5-303(b) authorizes local authorities in their respective jurisdictions, in compliance with department rules consistent with national practices, to establish a maximum speed limit which differs from W.S. § 31-5-301(b)(iv) is reasonable and safe but not less than 35 mph. The department shall not require a speed study before a local authority establishes a maximum speed limit for unpaved roads pursuant to W.S. § 31-5-303(f). Additionally, W.S. § 31-5-303(f) establishes that the maximum speed limit may be set lower than 35 mph without requiring a speed study a period not exceeding 1 year or less, provided the action is done in consultation with the local authority's engineer and law enforcement.

Roadway Alignment: It is recommended that the horizontal alignment be within 10 mph of the theoretical design speed or the project include installation of horizontal alignment advance curve warning signs in accordance with the Manual on Uniform Traffic Control Devices. This project type will not improve the roadway vertical alignment.

A design exception is an administrative action that may be appropriate when it is difficult or cost prohibitive to achieve full compliance with a design value, as presented in this Manual. These actions must be fully documented (see 400.3 Design Exceptions) with a comprehensive presentation describing the basis for selecting a design value that does not meet the requirements of this Manual. For this project type, a design exception would only be required when the proposed project design would not maintain the existing roadway or traveled way widths (lane widths, shoulder widths, bridge roadway widths), or when the proposed project design would not maintain bridge vertical clearance.

300.1.4 Safety Improvements

Table 300-4 Safety Improvements and Crash Reduction Factors/CMF presents a list of safety improvements applicable to all roadway functional classifications. Potential crash reduction factors (CRF) are identified along with applicable design references. The CRFs and Crash Modification Factors (CMFs) presented in Table 300-4 Safety Improvements and Crash Reduction Factors/CMF are intended to be used to evaluate the comparative value of safety improvements for their potential to reduce crash types and rates. These factors can often be additive as multiple safety improvements are combined, but a cumulative CMF cannot exceed 40 percent, and the CRF should be held to the highest value of any one of the combined safety improvements.

Table 300-4 Safety Improvements and Crash Reduction Factors/CMF

Safety Improvement	Crash Type	CRF Fatal	CRF Injury	CRF PDO	Service Life
Install guide signs (general)	All	15%	15%	15%	5
Install advance warning signs (positive guidance)	All	15%	15%	15%	5
Install chevron signs on horizontal curves	All	20%	20%	20%	5
Install curve advance warning signs	All	10%	10%	10%	5
Install delineators (general)	All	15%	15%	15%	4
Install delineators (on bridges)	All	20%	20%	20%	4
Install edgelines, centerlines & delineators	All	45%	45%	45%	4
Install centerline markings	All	13%	13%	13%	2
Improve sight distance to intersection	All	25%	25%	25%	15
Flatten crest vertical curve	All	35%	35%	35%	15
Flatten horizontal curve	All	42%	42%	42%	15
Improve horizontal and vertical alignments	All	50%	50%	50%	15
Flatten side slopes	All	25%	25%	25%	15
Install guardrail (at bridge)	All	20%	20%	20%	10
Install guardrail (at embankment)	All	29%	29%	29%	10
Install guardrail (outside curves)	All	29%	29%	29%	10
Improve guardrail	All	9%	9%	9%	10
Improve superelevation	All	6%	6%	6%	15
Widen bridge	All	20%	20%	20%	15
Install shoulder	All	20%	20%	20%	5
Pave shoulder	All	15%	15%	15%	5
Install transverse rumble strips on approaches	All	20%	20%	20%	3
Improve pavement friction	All	10%	10%	10%	5
Install animal fencing	All	25%	25%	25%	10
Install snow fencing	All	10%	10%	10%	10

300.2

Roadside Safety

The design and construction of each of the four project types should address roadside safety design elements as part of an overall direction, during project development and delivery, to reduce the frequency and severity of traffic crashes. Highway safety is improved when roadside hazards are removed, relocated farther from the traveled way, modified such as "breakaway" sign mounts, or shielded with guardrail. The recommendations for roadside safety should be considered concurrent with the requirements and recommendations addressed in the Road and Bridge Design Criteria and Design Values, Traffic Control Devices, and Drainage—Pavements, Structures and Facilities sections of this Manual.

300.2.1 New Construction on New Alignment:

This project type should evaluate constructing a clear recovery area (clear zone) adjacent to the roadway. For purposes of this Manual, the recommendations for a clear recovery area will also satisfy requirements for horizontal clearance to obstructions. A clear recovery area is clear of all hazards including trees, rock outcroppings, headwalls, utility poles, and traffic sign supports that do not meet current "breakaway" safety design standards. Recommended clear recovery area widths, measured from the edge of the traveled way, are presented in the AASHTO Roadside Design Guide and are based on traffic volumes, speeds, and fore slope and backslope rates. For this project type, a minimum clear recovery area of 10 feet is recommended with minimum 1V:4H fore slope rates. Roadside safety hardware, including guardrail, bridge rail, and traffic sign supports, if located within the clear recovery area, must meet current safety design standards (see 400.8 Definitions). For this project type, it is recommended that all safety hardware constructed within the project limits, both within and outside the clear recovery area, meet current safety design standards.

Roadside safety should include implementing construction and maintenance practices that prevent pavement edge drop-off. Drop-offs are the vertical height differences between a paved traveled way and the adjacent shoulder blended material or a paved roadway and the fore slope graded material. Construction practices are available—a shoe mounted on an asphalt paver that shapes the edge of pavement to 30 degrees, eliminating a vertical drop-off. A similar edge should be used for portland cement concrete

pavement (PCCP) traveled way or roadway. Maintenance practices should provide for the reshaping of blended aggregate shoulders or graded fore-slopes, as needed to prevent vertical drop-offs.

300.2.2 Reconstruction on Existing Alignment:

This project type should evaluate constructing a clear recovery area (horizontal clearance to obstructions) that is a minimum of 10 feet in width and a minimum of 1V:4H fore slope rates. Recommended widths, typically exceeding the minimum 10 feet, are presented in the AASHTO Roadside Design Guide and are based on traffic volumes, speeds, and fore slope and backslope rates.

Roadside safety hardware, including guardrail, bridge rail, and traffic sign supports, if located within the clear recovery area, should be replaced to meet current safety design standards (see 400.8 Definitions). For this project type, it is recommended that all safety hardware reset or replaced both within and outside the clear recovery area meet current safety design standards.

Roadside safety should include implementing construction and maintenance practices that prevent pavement edge drop-off. Drop-offs are the vertical height differences between a paved traveled way and the adjacent shoulder blended material or a paved roadway and the fore slope graded material. Construction practices are available—a shoe mounted on an asphalt paver that shapes the edge of pavement to 30 degrees, eliminating a vertical drop-off. A similar edge should be used for portland cement concrete pavement (PCCP) traveled way or roadway. Maintenance practices should provide for the reshaping of blended aggregate shoulders or graded fore-slopes, as needed to prevent vertical drop-offs.

200.2.3Resurfacing and Preservation (Maintenance) on Existing Alignment:

For this project type, all safety hardware removed, reset, or replaced as part of this project must meet current safety design standards (see 400.8 Definitions). Construction and maintenance practices, discussed above, should be implemented to prevent pavement edge drop-off.

300.2.3 Safety Improvements:

This project type provides funding for a list of safety improvements to construct roadside features, which have a proven record of reducing the frequency or severity of traffic crashes. These safety improvements must meet current safety design standards (see 400.8 Definitions) and/or the Road and Bridge Design Criteria and Design Values presented in this Manual.

300.3

Pavement Structure and Surface Treatment

Pavement design is an important consideration for most project plans.

300.3.1 New Construction on New Alignment and Reconstruction on Existing Alignment

It is recommended that the pavement structure, including mix design and thicknesses, be selected and documented in the project report using established design procedures and construction practices for New Construction on New Alignment and Reconstruction on Existing Alignment project types, as these projects will require a significant expenditure of funds and are expected to provide satisfactory service through a design life. This recommendation recognizes that either of these project types may be constructed with either a paved or unpaved roadway or traveled way. When the project proposes a pavement surface treatment rather than a pavement structure, that selection process should be documented in the project report.

300.3.2 Resurfacing and Preservation (Maintenance) on Existing Alignment and Safety Improvements

For these project types, Resurfacing and Preservation (Maintenance) on Existing Alignment and Safety Improvements (those that require improvements to the travel way or roadway surface), it is recommended that the pavement structure or pavement surface treatment be selected and documented in the project report using proven design procedures and construction practices.

300.3.3 All Project Types and all Funding Sources

The Manual user is advised that W.S. § 31-5-102(a)(lxiv) defines "paved" as a roadway that is covered by hot-rolled asphalt or concrete but is not constructed solely of recycled asphalt. W.S. § 31-5-102(a)(lxv) defines “unpaved" as a roadway that is not paved.

300.3.4 Paved Roads

Paved roads have a roadway pavement structure designed for long-term serviceability and can include a paved traveled way with shoulders constructed with blended aggregates.

Hot-Rolled Asphalt (Plant Mix Pavement (PMP))—is a pavement structure consisting of a layer/layers of a hot mixture of an asphalt binder and sized aggregates, each layer compacted to a specified thickness and placed over an aggregate or stabilized base.
PMP may also be referred to as Hot Mix Asphalt (HMA).

Concrete (Portland Cement Concrete Pavement (PCCP))—is a pavement structure consisting of a binder paste, portland cement, water, and sized aggregates constructed to a specified thickness and placed over an aggregate or stabilized base.

Recycled Asphalt (RAP)—is in-place PMP that is excavated and pulverized. It is used like an aggregate in the pavement structure, or with heating and addition of a binder it can be compacted to a pavement structure at a specified thickness and placed over a stabilized base. Cold in-place recycling of PMP is another available pavement strategy. Consistent with W.S. § 31-5-102, a paved roadway cannot be constructed solely of recycled asphalt; an asphalt paved roadway can only incorporate a selected percentage of recycled asphalt.

Surface Treatments—involve the application of blended aggregates with an asphalt or cement binder compacted to provide a ride surface for friction, smoothness, drainage, and resistance to rutting. Common surface treatments include chip seals and may be referred to as cover coats or invert penetration. Consistent with W.S. § 31-5-102, a paved roadway cannot be constructed solely with surface treatments; a paved roadway must be constructed with hot-rolled asphalt or concrete.

300.3.5 Unpaved Roads

Unpaved roads have a roadway pavement surface that is useable and safe for lower traffic volumes.

Surface Treatment—Binder—involves the application of blended aggregates with an asphalt or cement binder compacted to provide a ride surface for friction, smoothness, drainage, and resistance to rutting. Common surface treatments include chip seals and may be referred to as cover coats or invert penetration.

Surface Treatment—Seal—involves the application of blended aggregates with a magnesium chloride seal and compacted to provide a ride surface for friction, smoothness, drainage, and resistance to rutting.

Surface Treatment—Crushed Stone—involves aggregates crushed to different sizes that are then blended, spread, and compacted across a shaped roadway base.
Moisture in the aggregate, along with the fine materials (mineral filler), acts as the binder to hold the material in place.

Surface Treatment—Gravel and Sands—involves aggregates that are readily available and are blended and spread across a shaped roadway base.

300.4

Drainage—Pavements, Structures, and Facilities

Drainage design elements are an important consideration for all project plans and should be supported with the project area hydrology resulting in a hydraulics analysis and report. A scour analysis (see 400.8 Definitions) should also be completed. Recommendations for the consideration of drainage facilities to remove water from the roadway and carry water across roadway right- of-way are presented for each project type. The recommendations for drainage should be considered concurrent with the requirements and recommendations addressed in the Pavement Structure and Surface Treatment and Roadside Safety sections of this Manual.

300.4.1 New Construction on New Alignment

Roadway Cross Slope: The roadway surface cross slope should be selected to ensure adequate drainage of the roadway surface. Paved roadways should be designed with a cross slope rate of 1.5 to 2.5 percent. If greater cross slope rates are used for the paved shoulders than for the traveled way, the cross slope break, especially in areas of super elevation, will need to be checked. Unpaved roadways may need a greater cross slope rate, from 2 to 6 percent, to improve drainage and minimize absorption of water into the surface treatment.

Roadside Drainage: Rural ditch sections—ditches located alongside the roadway in cut sections—should be designed to carry both roadway and adjacent area runoff and of sufficient depth to drain the roadway subgrade. Fore slope rates, ditch shapes, and backslope rates should be selected to accommodate drainage and improve roadside safety. Fore slope rates (minimum 1V:4H), rounded ditch shapes, and traversable (minimum 1V:3H) backslopes are recommended when adequate rights-of-way are available. Urban curb and gutter sections— curb and gutter sections, including storm drain systems—may be necessary in areas of limited rights-of-way.

Bridges, Culverts and Pipe: This project type provides for the construction of new structures or the full replacement of existing structures. At all stream/drainage crossings, a hydraulics analysis and report is needed to support the hydraulic capacities and selection of a design flood consistent with the county's requirements for maintaining traffic on the roadway, for maintaining a regulatory floodway, and/or for minimizing upstream and

downstream property damage. This project type should select a minimum 25- year design flood (see 400.8 Definitions) for roads functionally classified as collectors and a minimum 10-year design flood for roads functionally classified as local. Additional analysis such as an in-depth structural and hydraulic assessment along with scour analysis is needed for bridges greater than 20 feet long should be performed.

Culvert/pipe end treatments, for both cross-drainage and parallel (under intersecting roads and driveways), should be beveled to match the fore slope or protected with a traversable end- section, unless the culvert/pipe end is beyond an established clear recovery area.

300.4.2 Reconstruction on Existing Alignment

Roadway Cross Slope: The roadway surface cross slope should be selected to ensure adequate drainage of the roadway surface. Paved roadways should be designed with a cross slope rate of 1.5 to 3.5 percent. If greater cross slope rates are use for the shoulders then the traveled way, the cross slope break, especially in areas of super elevation, will need to be checked. Unpaved roadways may need a greater cross slope rate, from 2 to 6 percent, to improve drainage and minimize absorption of water into the surface treatment.

Roadside Drainage: Rural ditch sections—ditches located alongside the roadway in cut sections—should be designed to carry both roadway and adjacent area runoff and of sufficient depth to drain the roadway sub grade. Fore slope rates, ditch shapes, and backslope rates should be selected to accommodate both drainage and improve roadside safety. Fore slope rates (minimum 1V:4H), rounded ditch shapes, and traversable (minimum 1V:3H) backslopes are recommended when adequate rights-of-way are available. Urban curb and gutter sections—curb and gutter sections, including storm-drain systems—may be necessary in areas of limited rights-of-way.

Bridges, Culverts and Pipe: This project type does not provide for the construction of a new bridge structure or the full replacement of existing structures; work is limited to rehabilitation of existing structures (see 400.4 Bridge Evaluation). For these existing drainage facilities, a hydraulics analysis and report may be needed to support any proposed structure widening and/or channel modifications or bank protection, consistent with the county's requirements for conveying an existing design flood, maintaining a regulatory floodway, and/or minimizing upstream and downstream property damage.

Existing drainage facilities that have a history of frequent flooding which has interrupted traffic service should be evaluated for New Construction on New Alignment. Additional analysis such as an in-depth structural and hydraulic assessment along with scour analysis is needed for bridges greater than 20 feet long should be performed.

Culvert/pipe end treatments, for both cross-drainage and parallel (under intersecting roads and driveways), should be beveled to match the fore slope or protected with a traversable end- section, unless the culvert/pipe end is beyond an established clear recovery area.

300.4.3 Resurfacing and Preservation (Maintenance) on Existing Alignment:

Roadway Cross Slope: The roadway surface cross slope should be selected to ensure adequate drainage of the roadway surface. Cross slope rates, as presented above, are recommended for both paved and unpaved roadways, but it is recognized that this type of project may include only shaping of the roadway base, and existing cross slope rates may be retained.

Roadside Drainage: This type of project may include only ditch shaping and pipe (culvert) cleaning with limited or no improvements to the roadside drainage or safety.

Bridges > 20 Feet in Length, Culverts and Pipe: This project type only provides for work needed to extend the service life or make safety improvements to an existing bridge structure. For these existing drainage facilities, a hydraulics analysis and report may be needed to support any proposed channel modifications or bank protection, consistent with the county's requirements for conveying an existing design flood, maintaining a regulatory floodway, and/or minimizing upstream and downstream property damage.

Culverts and Pipe ≤ 20 Feet in Length: This type of project may include only pipe (culvert) cleaning with limited or no improvements to the roadside drainage. Safety improvements could include culvert/pipe end treatments for both cross-drainage and parallel (under intersecting roads and driveways), either beveled to match the fore slope or protected with a traversable end-section.

300.4.4 Safety Improvements:

This project type provides funding for safety improvements that may require modifying existing roadside drainage. For those projects, the recommendations for Reconstruction on Existing Alignment projects are applicable.

300.5

Utility Accommodation

The design and construction of each of the four project types may require that the county adjust or relocate utilities that occupy public right-of-way under county jurisdiction. Preliminary engineering, for all project types, may require locating public and privately owned utilities within the public right-of-way, including overhead facilities and the horizontal and vertical location of sub-surface utilities. These utility locates are needed to ensure that construction of the project does not require the adjustment or relocation of existing utilities or that these adjustments and relocations are either completed prior to construction or are incorporated in the contract plans as biddable contract work.
Those projects using state funds (SA) and/or federal funds (FA) require a certification statement that all utility adjustments or relocations needed to construct the proposed project have been completed or are included in the project's contract plans as biddable work. This certification is completed in advance of bidding and awarding a construction contract.

A representative Utility Certificate is presented in 400.5 Right-of-Way and Utility Certificates.

300.6

Traffic Control Devices

Traffic control devices, including traffic signs, pavement markings, delineators, and intersection traffic control, signalized and non-signalized, should be considered with each of the four project types to provide for motorist guidance, improved traffic operations, and roadway safety. These requirements and recommendations for traffic control devices should be considered concurrent with the requirements and recommendations addressed in the Road and Bridge Design Criteria and Design Values and Roadside Safety sections of this Manual.

300.6.1 New Construction on New Alignment

This project type, regardless of funding source, must provide for traffic signs, pavement markings if it is a paved roadway, delineators, and intersection traffic control. These devices must meet Manual on Uniform Traffic Control Devices (MUTCD) standards and adherence to MUTCD guidance is also recommended.

300.6.2 Reconstruction on Existing Alignment

This project type, regardless of funding source, must provide for traffic signs, pavement markings if it is a paved roadway, delineators, and intersection traffic control. These devices must meet Manual on Uniform Traffic Control Devices (MUTCD) standards and adherence to MUTCD guidance is also recommended.

300.6.3 Resurfacing and Preservation (Maintenance) on Existing Alignment

This project type typically can be constructed without the removal, reset, or replacement of existing traffic control devices. It is recommended that traffic signs, pavement markings if it is a paved roadway, delineators, and intersection traffic control devices be inspected. Those devices, especially regulatory signs and warning signs, that no longer meet the Manual on Uniform Traffic Control Devices (MUTCD) standards and guidance should be repaired or replaced with this project type.

300.6.4 Safety Improvements

This project type provides funding for the installation of traffic signs, pavement markings if it is a paved roadway, delineators, and intersection traffic control devices. These devices

must meet Manual on Uniform Traffic Control Devices (MUTCD) standards and adherence to MUTCD guidance is also recommended.

300.7

Other Design Elements

There are numerous design elements to be considered during project development. The recommendations for these Other Design Elements should be considered concurrent with the requirements and recommendations addressed in Road and Bridge Design Criteria and Design Values, Project Report, Roadside Safety and Project Environmental Documentation.

300.7.1 Surveys

Surveys for terrain, land ownership, construction surveying/staking, and as- constructed survey and recordation may be needed for project development and construction. These surveys should be completed under the direct supervision of and be stamped and signed by a Wyoming-registered professional land surveyor. Terrain surveys and construction surveying/staking can be completed under the direct supervision of and be stamped and signed by a Wyoming-registered professional engineer.

300.7.2 Geotechnical Engineering

Geotechnical investigations and reporting are recommended for soils sampling/soil profile to support the design of a pavement structure, foundation and design criteria for bridges and other major structures, and foundation and design criteria for other structures, including drainage and retaining walls but are not needed for walls such as modular block walls for landscaping. Geotechnical surveys and reports should be completed under the direct supervision of and be stamped and signed by a professional engineer who holds a valid license granted by the Wyoming Board of Professional Engineers and Professional Land Surveyors. Geological portions, if any, of geotechnical surveys and reports should be completed under the direct supervision of and be stamped and signed by a Wyoming-registered professional geologist.

300.7.3 Earthwork and Subgrade

A major design element is the development of plans and specifications for the removal and placement of earthwork to construct the planned earth grade cross section through the subgrade needed to support the pavement structure. Typical construction practice is to excavate earth materials and replace them with suitable materials with both moisture

and density (compaction) controls to provide a stable roadway foundation. Additional earthwork and materials are needed to provide for recommended roadside safety.

300.7.4 Intersections

Intersection design should recognize that an intersection location is a driver decision point and is often a likely location for vehicle-vehicle crashes. The operational work category for each of the project types proposes improvements to all intersection legs to serve and delineate traffic movements. Improved intersection design should also provide for 90-degree alignment of the intersecting road, provide separate left- and right-turn lanes, provide sight distance consistent with the design speed of the major roadway, and provide traffic control devices in accordance with the MUTCD.

300.7.5 Material Sources

Construction contracts may require that the contractor furnish all materials to be incorporated in the required contract work. Earthwork and aggregates (natural materials) used for the pavement structure or surface treatment will be obtained from sources generally stated as "contractor furnished," "available sources," or "commercial sources." These sources, other than commercial, should be evaluated with material testing to support use in construction of earthwork or the pavement structure or surface treatment. Additionally, these sources, other than commercial, may require clearance during environmental documentation and be seen as "site of work" requiring compliance with state or federal pre-determined wage rates.

300.7.6 Water Sources

The county should determine if it will take responsibility for obtaining the rights to a water source for the amount of water needed to construct the project, such as grading operations, including any pre-wetting, crushing and plant sites, dust control, topsoil, or landscaping. Water sources secured by the county should be by agreement to supply the needed quantities and should address any other right holders and priorities. Coordination with the State Engineers Office may be needed.

300.7.7 Water Quality Permits and Permitting Conditions

The Wyoming Department of Environmental Quality (DEQ) issues Storm Water Permits, which may be required prior to construction. The DEQ should be consulted to assure compliance with permitting requirements. Permit types are based on acreage of disturbance, and the type of permit and permitting conditions will follow consultation with the DEQ.

The U.S. Army Corps of Engineers (COE) issues 404 permits, permitting the dredge or fill of materials into waters of the United States. Both individual and nationwide permits are used, depending on the project type and the level of environmental documentation. Generally, a Nationwide Permit 14 can be used for roadway projects that impact ≤ ½ acre of water of the U.S.; Nationwide Permit 23 can be used for projects using categorical exclusion (CE) environmental documentation. An individual permit is typically used for projects using environmental assessment (EA) environmental documentation and for any project that does not meet the criteria of a nationwide permit. Each of these permits has a series of criteria for its use, and the COE should be consulted to ensure compliance with permitting requirements.

300.7.8 Siltation and Erosion Control Plans

Storm water permits, issued by the DEQ, will typically require that the county ensure the development of a Storm Water Pollution Prevention Plan (SWPPP) for inclusion in contract plans. The SWPPP is a plan, specific to the construction site that describes "best management practices" that will be used to keep pollutants on site and out of adjacent surface waters and wetlands.

300.7.9 Traffic Control Plans

Temporary traffic control during the construction of each of the four project types and when construction is on or adjacent to any public road will need to be in conformance with the Manual on Uniform Traffic Control Devices. Temporary traffic control should provide for the safe and efficient movement of road users through and around construction areas while protecting workers; this can be accomplished with site specific traffic control plans or the use of applicable standard plans.

300.8

Construction & Construction Engineering

Each of the four project types (200.3 Road and Bridge Project Types) for all funding sources, will typically be constructed with work performed by a private construction firm by contractual agreement with the County.

Construction Engineering and Contract Administration, for the project, will be performed by or under the immediate direction, control, and supervision of the County. The requirements and recommendations for Construction and Construction Engineering should be addressed concurrent with the requirements and recommendations in the Contract Documents—Plans and Specifications section of this Manual.

300.8.1 Project Construction

Construction of the project will be completed in accordance with the contract documents and approved addendums (see Plan Development and Contracting Provisions). During construction, extra work change orders (contract modifications) may be needed and are approved written changes to contract documents, including contract time and needed extra work that is within the intended scope of the contract documents but beyond or varying from that provided in the original contract documents and addendums. All extra work change orders must be within the established project limits and project funding limitations.

300.8.2 Construction Engineering

Construction engineering generally addresses each of the following activities in substantial conformance with contract documents and as required by the funding agency:

- Pre-construction conference.
- Records and documentation.
- Job-site bulletin board/job posters.
- Working relationship between county and contractor.
- Acceptance of contract work, determined satisfactory:
    - Certifications—from material's supplier, when required.
    - In-Place Measurement—field measurement or plan quantity.
    - Inspection—from general or supplementary conditions or specifications.

    - Sampling and Testing—in accordance with specifications and including quality control and assurance.

- Contractor compliance with water quality permits and permit conditions.
- Contractor progress and progress payments for accepted contract work.
- Extra work change orders (contract modifications) and documentation.
- Project inspections.
- Public safety—road users and pedestrians—through the project.
- Complaint resolution—supplier, contractor (employees), and public.
- Claim avoidance or claim documentation and resolution.
- Final inspection and final acceptance.
- As-built plans, as needed.
- Bridge construction projects— No final payment until examined and approved by the professional engineer supervising the construction of the bridge and payment is approved by county commissioners or government body of the city or town or their designees, W.S. § 24-1-132.
- Final settlement and payment to contractor; required notices, W.S. § 16-6-116.
- Final contractor payment.
- Project financial accounting.

300.8.3 Contract Administration

Administration of Contracting Provisions, for All Project Types by Funding Source, is presented in the Sections 300.9, 300.10, and 300.11, using the following methods:

300.8.3.1 Verification—Contract Documents and/or Contract Bid and Award

Will be completed through development of a completed package of contract documents prior to construction.

300.8.3.2 Verification—Construction

Requires periodic actions (construction engineering) and must be recorded in the project's records and documentation.

300.8.3.3 Receipt

Requires taking possession and must be retained as project records and documentation throughout project construction. No additional contract administration is required.

300.8.3.4 Complaint Resolution

Requires that a complaint received during project construction, supplier, contractor (employees), and public must be satisfactorily resolved and must be retained as project records and documentation; coordination with WYDOT is recommended. No additional contract administration is required.

300.9

County Funded Project Contracting Provisions

Contract provisions when using county funds only for a project can be found in Table 300-5 County Road Fund Contracting Provisions

Table 300-5 County Road Fund Contracting Provisions

Provision	Description	Contract Administration
Advertisement (Invitation) to Bid	Project information.	County Administrative Requirements—for the selected methods
Bidder Preference: In-State 5% bidder preference will be used.	Certified resident's bid is not more than five percent (5%) higher than that of the lowest responsible nonresident bidder.	County Administrative Requirements—for the selected methods
Resident Labor	W.S. § 16-6-203	County Administrative Requirements—for the selected methods
Wage Compliance	W.S. § 27-4-401 through W.S. § 27-4-413	County Administrative Requirements—for the selected methods
Quantity Summaries and Bid Units of Work	Often referred to as Total Estimated Quantities (TEQ).	County Administrative Requirements—for the selected methods
General Conditions	A listing of general contract conditions (provisions) should be developed and maintained by each county: Delivery of Bonds and Insurance, Notice to Proceed, Contractor's Responsibilities, Owner's Responsibilities during Construction; Changes in Work, Contract Time, and/or Contract Cost; Payments and Completion, Suspension or Termination of Work.	County Administrative Requirements—for the selected methods

Supplementary Conditions	A listing of supplementary contract conditions (provisions) should be developed and maintained by each County, specific to the Project.	County Administrative Requirements—for the selected methods

300.10

State Funded Project Contracting Provisions

Contract provisions when using county funds only for a project can be found in Table 300-6 State -Funded Project Contracting Provisions

Table 300-6 State -Funded Project Contracting Provisions

Provision	Description	Contract Administration
Supervising Agency	A full-time employee of the county must be in responsible charge of the project, including those services performed by agreement with consultant firms.	Verification - Construction
Qualification of Construction Contractors	Requirements for bonding, insurance, licensing, or pre-qualification (no requirement can be used if such use would restrict competition or disallow submission of a responsive bid).	Verification - Contract Documents and Contract Bid and Award
Bidder Preference: In-State 5% bidder preference will be used.	Certified resident's bid is not more than 5% higher than that of the lowest responsible nonresident bidder.	Verification - Contract Documents and Contract Bid and Award
Invitation to Bid	Project information.	NA
Competitive Bidding Reserved to Private Construction Contractors	Contract work must be performed by private construction contractors (not by a public agency including subcontracting).	Verification - Contract Documents and Contract Bid and Award
Contract Time	The county must have procedures for determining contract time.	Verification - Contract Documents and Contract Bid and Award
Required Contract Provisions	Application and Definitions. Employment Provisions. Subletting or Assigning the Contract. Safety and Accident Prevention.	Complaint Resolution Complaint Resolution Verification - Construction Complaint Resolution
Resident Labor	W.S. § 16-6-203	Complaint Resolution

Wage Compliance	W.S. § 27-4-401 through W.S. § 27-4-413	Complaint Resolution
Programmed Funds	Limits overrun of programmed funds, adjusts project for under-run of funds.	Verification - Contract Documents and Contract Bid and Award
Method of Measurement and Basis of Payment; Extra Work - Change orders	Contract documents must provide for the accurate measurement of quantities of completed work as the basis for payment.	Verification - Construction
Acceptance of Contract Work	The county must final accept all contract work, and contract documents should identify the point and method of acceptance.	Verification - Construction

300.11

Federally Funded Project Contracting Provisions

Contract provisions when using county funds only for a project can be found in Table 300-7 Federally Funded Project Contracting Provisions

Table 300-7 Federally Funded Project Contracting Provisions

Provision	Brief Description	Contract Administration
Supervising Agency	A full-time employee of the county must be in responsible charge of the project, including those services performed by agreement with consultant firms.	Verification - Construction
Qualification of Construction Contractors	Requirements for bonding, insurance, licensing, or pre-qualification (no requirement can be used if such use would restrict competition or disallow submission of a responsive bid).	Verification - Contract Documents and Contract Bid and Award
Invitation to Bid	Project information.	NA
Bidder Preference (In-State 5% preference is not allowed)	Award to lowest responsive bidder; an In- State Preference is not allowed.	Verification - Contract Documents and Contract Bid and Award
Competitive Bidding Reserved to Private Construction Contractors	Contract work must be performed by private construction contractors (not by a public agency including subcontracting).	Verification - Contract Bid and Award
Contract Time	The county must have procedures for determining contract time.	Verification - Contract Documents and Contract Bid and Award
FHWA-1273, Required Contract Provisions	Prohibits Hiring Preferences and Convict Labor (partial). Prohibits discrimination, including facilities; Predetermined Minimum wages (Davis- Bacon).	Complaint Resolution Complaint Resolution Complaint Resolution Receipt Verification - Construction Complaint Resolution

	Requires Certified Payrolls. Limits subcontracting. Requires construction safety standards. Prohibits false statements/fraud. Implements federal clean air and water quality legislation. Requires Certifications for debarment and lobbying.	Verification - Construction Complaint Resolution Verification - Contract Documents
Job Site Posters	A job site bulletin board must be in-place with a series of required posters.	Verification - Construction
Contractor Provided Labor (Also applies to subcontractors)	Contract documents cannot require any state or local hiring preferences (except as noted for Indian Employment Preference).	Verification - Contract Documents
Contractor Provided Materials (Also applies to subcontractors)	Contract documents will require that the private construction contractor furnish all materials needed to complete contract work.	Verification - Contract Documents
Patented/Proprietary Materials and Products	Materials and products to be incorporated into the project should be described using generic specifications. Trades names or brand names can only be listed if the material or product cannot be generically specified; at least three equal materials or products are to be listed.	Verification - Contract Documents
Contractor Provided Equipment (Also applies to subcontractors)	Contract documents will require that the private construction contractor furnish all equipment needed to complete contract work.	Verification - Contract Documents

Method of Measurement and Basis of Payment Extra Work - Change orders	Contract documents must provide for the accurate measurement of quantities of completed work as the basis for payment.	Verification - Construction
Force Account - payment for the direct performance of work based on labor, materials, and equipment	The use of force account should only be used for work that cannot be clearly defined or accurately estimated in the original contract documents.	Verification - Contract Documents
Buy America Contract Clause	All iron and steel products, including coatings, must be supplied, including the manufacturing process, from within the United States.	Verification - Contract Documents Verification - Construction (Certifications)
Disadvantaged Business Enterprise (DBE)	Contract documents must ensure that those DBE firms, certified by WYDOT, have an opportunity to participate, typically by subcontract, in contract work.	Verification - Construction
Contractor Compliance – opportunities for females and minorities in contractor workforce	Required special provision.	Verification - Contract Documents Complaint Resolution
Indian Employment Preference	An Indian Employment Preference is allowed in contracts for projects located on roads on or near Indian reservations. May apply to the Wind River Indian Reservation and the Crow Indian Reservation (Montana at Wyoming State Line).	Verification - Contract Documents Complaint Resolution
Tribal Employment Rights Office (TERO) Tax.	A TERO tax is allowed in contracts for projects located on an Indian Reservation. May apply to the Wind River Reservation.	Verification - Contract Documents Complaint Resolution
Non-collusion Statement	A non-collusion statement is required from all bidders; failure to certify results in non-	Verification - Contract Documents

	responsive bid (ineligible for contract award).	
Lobbying Certification	A lobby (no prohibited payments) certification is required from all bidders.	Verification - Contract Documents
Suspension or Debarment Certification	A suspension and debarment certification is required from all bidders.	Verification - Contract Documents
Changed Condition Contract Clauses	The standardized changed condition clauses, in 23 CFR § 109, must be included, verbatim, in all contract documents.	Verification - Contract Documents
Prompt Payment Clause for satisfactory performance of work, and retainage	Contract clause requiring prime contractor to pay subcontractors within 30 days of receipt of payment from county for all satisfactory subcontract work performed and retainage.	Verification - Contract Documents & Complaint Resolution
Warranty or Guaranty Clause	Warranty or guaranty clauses are not allowed for any work item that would be defined as future routine maintenance. Warranty or guaranty clauses are allowed as the basis for acceptance of work and workmanship during the terms of the contract. Landscape establishment periods, beyond contract time, are acceptable.	Verification - Contract Documents
Acceptance of Contract Work Materials Certification	The county must final accept all contract work and materials; contract documents must identify the point and method of acceptance.	Verification - Construction

Administrative Actions for State- and Federally Funded Projects: The county must certify to WYDOT that these projects have been completed in substantial conformance with the plans and specifications. The certification is presented in 400.6 Project Acceptance Certificate. As presented in the Administrative Actions section of this Manual,

WYDOT representatives may inspect these projects at their discretion and/or may participate or make final inspections at their discretion.

Section 400 Additional Information

400.1

Referenced Wyoming Statutes

This Manual has been developed as a resource guide for technical or legal information and is not intended to serve as a code book or replace official statutory sources. Every effort has been made to cite the most specific and relevant paragraph, subparagraph, and clause by using the exact or near exact wording in the reference. Generalized Wyoming statutory references in this Manual can quickly be found here. Each reference is listed in order by title and then by chapter with a brief definition of the section. Detailed legal inquiries using this section will require the user of this Manual to look further into the official statutory sources.

Title 1 – Code of Civil Procedure
Chapter 26 – Eminent Domain

Title 9 – Administration Of The Government
Chapter 23 - Professional Architectural, Engineering and Land Surveying Services Procurement Act

TITLE 16 – CITY, COUNTY, STATE AND LOCAL POWERS
CHAPTER 6 - PUBLIC PROPERTY

Title 24 – Highways
CHAPTER 1 - GENERAL PROVISIONS
CHAPTER 2 - DEPARTMENT OF TRANSPORTATION
CHAPTER 3 - ESTABLISHMENT, VACATION OR ALTERATION OF COUNTY HIGHWAYS
CHAPTER 5 - INDUSTRIAL ROAD PROGRAM

Title 27 Labor and Employment
Chapter 4 - Wages

Title 31 – Motor Vehicles
Chapter 5 - Regulation Of Traffic On Highways

Title 33 – Professions And Occupations
Chapter 29 - Professions And Occupations

400.2

Chapter 23 - Professional Architectural, Engineering and Land Surveying Services Procurement Act

9-23-101. Short title.

This act is known and may be cited as the "Professional Architectural, Engineering and Land Surveying Services Procurement Act".

9-23-102. Definitions.

(a) As used in this act:

(i) "Agency" means any school district, state office, department, board, council, commission, separate operating agency, institution or other instrumentality or operating unit of the state excluding the University of Wyoming, community college districts, the Wyoming business council and the Wyoming department of transportation;

(ii) "Department" means the state construction department;

(iii) "Firm" means an individual, corporation, partnership, business trust, association, firm or any other legal entity permitted by law to practice in a specified profession;

(iv) "Principal representative" means the governing board of an agency or its designated representative, or if there is no governing board, the executive head of an agency;

(v) "Professional services" means:

(A) The practice of architecture pursuant to W.S. 33-4-101 through 33-4-117;

(B) The practice of professional engineering or professional land surveying pursuant to W.S. 33-29-201 through 33-29-801.

(vi) "Resident firm" means a firm that:

(A) Possesses a physical office within the state that is staffed by individuals with professional and technical expertise who are employed in the state; and

(B) Certifies in the firm's current statement of qualifications or application that if selected for the project the percentage of professional services specified in this subparagraph shall be performed by individuals or consultants employed in the state who will perform their labor or professional services provided under the contract within the boundaries of the state. The individuals who will perform the professional services shall possess the professional and technical qualifications necessary to perform the work required by the contract. The following percentages shall apply to this subparagraph:

(I) For any projects with negotiated fees for professional services in an amount equal to one million five hundred thousand dollars ($1,500,000.00) or less - fifty percent (50%) of the professional services provided under the firm's contract;

(II) For any projects with negotiated fees for professional services in an amount greater than one million five hundred thousand dollars ($1,500,000.00) but less than three million dollars ($3,000,000.00) - forty percent (40%) of the professional services provided under the firm's contract;

(III) For any projects with negotiated fees for professional services in an amount equal to three million dollars ($3,000,000.00) or more - thirty percent (30%) of the professional services provided under the firm's contract.

(vii) "Negotiated fee" means the fee specified in a written contract for professional services entered into in accordance with W.S. 9-23-106;

(viii) "State procurement website" means a website that the department designates to host information and notices related to procurement under this act;

(ix) "This act" means W.S. 9-23-101 through 9-23-107.

9-23-103. General duties.

(a) The department shall:

(i) Develop and maintain approved lists of qualified architects, engineers and land surveyors for selection under this act; and

(ii) Develop and administer notification procedures for obtaining professional services under this act.

9-23-104. Qualification procedures; notice.

(a) Any firm desiring to provide professional services to an agency, shall submit to the department or the agency a detailed statement of qualifications and performance data, and any other information required by the department or the agency. Each firm shall submit the statement not less than every two (2) years. The department or the agency may request the firm to update its statement before submission in order to reflect changed conditions in the status of the firm.

(b) For any professional services fee estimated by the agency to exceed fifty thousand dollars ($50,000.00), the agency or the department shall give notice of the need for professional services in a newspaper of general circulation in the state at least once each week for two (2) consecutive weeks and on the state procurement website for not less than two (2) consecutive weeks prior to initiation of selection procedures in accordance with W.S. 9-23-105. All notifications under this subsection shall contain a general description of the proposed project, and shall indicate the procedures by which interested firms may apply for consideration for a contract to provide professional services for the proposed project.

9-23-105. Selection procedures; emergency waiver.

(a) For each proposed project, the principal representative of the agency for which the project is proposed shall evaluate current statements of qualifications and performance data of firms on file with the department or the agency, together with any applications submitted by other qualified firms, and shall select in accordance with subsection (f) of this section not less than three (3) firms considered qualified to perform the required

professional services. The agency shall provide a complete description of the work to the firms selected. These firms shall submit an unpriced proposal to do the work.

(b) In addition to the requirements of subsection (a) of this section, for any professional services fee estimated by the agency to exceed fifty thousand dollars ($50,000.00) the principal representative shall interview not less than three (3) firms selected from those which have submitted proposals to do the work. The interview may include discussion of each firm's projections of project costs, qualifications, approaches to the project, ability to furnish required professional services, use of alternative methods for furnishing required professional services and an estimated fee based on the agency's description of the work. The agency shall keep a record of the interview. The estimated fee, if requested by the agency, may be used as a basis, along with the considerations and requirements of subsection (f) of this section for selection by the principal representative of the most qualified firm for contract negotiations. If unsatisfied with the results of such interviews, the principal representative may select not less than three (3) additional firms for interviews as provided by subsection (a) of this section.

(c) In addition to the requirements of subsection (a) of this section, for any professional services fee estimated by the agency to be fifty thousand dollars ($50,000.00) or less, the principal representative shall select three (3) firms from which a project specific submittal shall be requested. The information provided by the firm may include an estimated fee and preliminary scope of services based on the agency's description of the work. The estimated fee, if requested by the agency, may be used as a basis along with considerations and requirements of subsection (f) of this section for selection by the principal representative of the most qualified firm for contract negotiations.

(d) Nothing in this section prohibits a principal representative from determining that fewer than three (3) firms with current statements on file or which have submitted applications before selection are qualified to perform the required professional services. If a principal representative makes that determination, subsections (b) and (c) of this section apply with respect to the firms the principal representative considers qualified.

(e) The department, in conjunction with the agencies, shall adopt rules and regulations necessary to implement the selection process provided by this section.

(f) Every agency, the University of Wyoming, each community college district, the Wyoming business council and the Wyoming department of transportation shall base selection of a firm for professional services in accordance with the following:

(i) Except as provided in paragraph (ii) of this subsection and subsection (g) of this section, the agency, the University of Wyoming, each community college district, the Wyoming business council and the Wyoming department of transportation shall select firms that are resident firms as defined by this act. Consideration between firms shall be based upon:

(A) The ability of professional personnel;

(B) Past performance;

(C) Ability to meet time requirements;

(D) Location;

(E) Current and projected work loads;

(F) The volume of work previously awarded to the firm by the agency;

(G) The equitable distribution of contracts among the firms considered qualified.

(ii) Nonresident firms may be selected if no firms on file, together with any applications submitted for the project, are resident firms as defined by this act or if the resident firms are determined not qualified by the agency, the University of Wyoming, each community college district, the Wyoming business council or the Wyoming department of transportation. Consideration of qualified nonresident firms shall be based upon the considerations listed in subparagraphs (i)(A) through (G) of this subsection.

(iii) Repealed by Laws 2020, ch. 30, § 2.

(g) The provisions of this act requiring selection of resident firms shall not apply if:

(i) Any part of the proposed project is to be paid or has the potential to be paid with funds from the federal government or other nonstate source; and

(ii) The federal government or the other nonstate source has applicable requirements concerning residency preferences that are inconsistent with this act.

(h) Whenever an emergency arises requiring professional services, the principal representative of an agency, the University of Wyoming, the community college district, the Wyoming business council and the Wyoming department of transportation may waive any applicable requirement of W.S. 9-23-104 and this section if the requirement endangers the health, welfare or safety of the public.

9-23-106. Contract procedure.

(a) After completing the selection process, the principal representative shall negotiate a written contract with the selected firm as determined by W.S. 9-23-105 for the provision of services. The principal representative shall consider the estimated value, scope, complexity and professional nature of the services to be rendered when determining a reasonable compensation.

(b) If the principal representative is unable to negotiate a satisfactory contract with the selected firm at a price he determines fair and reasonable, negotiations with that firm shall be terminated. The principal representative shall then begin negotiations with the firm ranked second in order of preference pursuant to W.S. 9-23-105. If the principal representative fails to negotiate a contract with the second ranked firm, he shall terminate negotiations. The principal representative shall then begin negotiations with the firm ranked third in order of preference.

(c) If the principal representative is unable to negotiate a satisfactory contract with any of the selected firms, he shall:

(i) Select additional firms in order of their competence and qualifications and continue negotiations in accordance with this section and W.S. 9-23-105, until a contract is reached; or

(ii) Review the contract under negotiation to determine the possible cause for failure to achieve a negotiated contract.

(d) Each contract for professional services entered into by the principal representative shall contain a prohibition against gratuities, kickbacks and contingent fees. The person providing professional services shall certify that he has not in any way been involved in any gratuities, kickbacks or contingent fees in connection with his selection or ultimate performance of the contract.

(e) Each contract for professional services entered into by the principal representative shall contain a prohibition against payment based upon a percentage of the construction cost.

(f) This act shall not prohibit continuing contracts between any person providing professional services and any agency.

(g) If selection of a resident firm is required under this act, the contract for professional services entered into by an agency, the University of Wyoming, each community college district, the Wyoming business council or the Wyoming department of transportation shall contain a certification by the resident firm providing professional services that the firm will comply with W.S. 9-23-102(a)(vi)(B). This subsection shall not be construed to require a firm to comply with W.S. 9-23-102(a)(vi)(B) if the proposed project is exempt from residence firm selection by W.S. 9-23-105(g) or if selection of a resident firm is waived in accordance with W.S. 9-23-105(h).

9-23-107. Prohibited acts; civil penalty; initiation of action.

(a) No person, including any agency official or employee, shall:

(i) In any way be involved in any gratuities, kickbacks, or contingent fees in connection with the selection procedure set forth in this act;

(ii) If providing professional services, pay any fee, commission, gift or other consideration contingent upon the award of a contract for professional services pursuant to this act.

(b) Any person violating subsection (a) of this section or W.S. 9-23-106 is liable for a penalty not to exceed five thousand dollars ($5,000.00). The penalty may be recovered in a civil action and damages shall be assessed by the court.

(c) Any action pursuant to this section shall be initiated in Laramie County by the attorney general.

400.3

Design Exceptions

A design exception is an administrative action that may be appropriate when it is difficult or cost prohibitive to achieve full compliance with a design value as presented in Design Criteria and Design Values (Table 300-1, **Error! Reference source not found.**, and **Error! Reference source not found.**) from the Road and Bridge Design Criteria and Design Values section of this Manual.

Design exception requests must provide a project description, clearly state the proposed exception, address conditions dictating the need for the exception, present alternatives considered, and provide any other supporting information or data that further justifies the request. Each request should consider the effect of a differing design value on the overall purpose of the project, the resultant roadway operations, and the resultant roadway safety. A cost analysis may also be used to support the design exception.

Certain design exceptions, such as bridged vertical clearance, may require coordination with other owners or agencies, including WYDOT and operating railroads.

Evaluation and documentation for a design exception should be completed under the direct supervision of and be stamped and signed by a Wyoming-registered professional engineer or be reviewed and accepted by a Wyoming-registered professional engineer. Documentation for a design exception, for all projects, will be presented to the Board of County Commissioners for its approval and submitted to WYDOT for its concurrence on state- and federally funded projects.

Documentation and approval or concurrence for a design exception should be completed prior to initiating final design.

400.4

Bridge Evaluation

When a bridge is evaluated for replacement, widening, or rehabilitation, the following items should be considered. This list is not all inclusive but should used as a starting point. As always, a Wyoming-licensed professional engineer should be consulted to determine the appropriate scope of work.

- Minimum load rating.
  Bridges not meeting the minimum criteria and left in place will likely require load posting.

- New versus old roadway width.
  Roadway width—Adequate for design year traffic?
  Pedestrian use—Are sidewalks needed?

- Cost of rehabilitation/widening versus replacement.
  Does the cost to rehabilitate or widen match or exceed the cost to replace?

- Structure type and the ability to strengthen or widen.
  Can the existing substructures carry additional load from a widened or replaced superstructure?
  Can the existing girders be strengthened to meet current design load standards?

- Hydraulic issues.
  Scour protection.
  Is the bridge designated scour critical?
  Change in headwater depths that can affect developed property.
  Change in land use.
  Drainage area.
  Waterway type.

- Foundations.
  Capacity—Can the existing foundation carry additional load? Type—Is the current foundation type known?
  Is the foundation protected from scour based on hydraulic scour analysis?

- Land use.
  Roadway Width—A new bridge being designed under the LRFD specification has an anticipated life of 75 years with appropriate maintenance. Is there any anticipated development in the area that would require a wider roadway? Will trucks and/or farm equipment be using this route? Is this a school bus route?
  Roadway alignment to match future development.

- Rehabilitation.
  Many times, rehab work may not increase the structure appraisal ratings, including the sufficiency rating. The WYDOT Bridge Program can provide help looking at the bridge inspection report and can help provide guidance on areas that can be worked on to improve the structure assessment.

- Bridge railing and transitions
  Do they meet current safety design standards?

400.5

Right-of-Way and Utility Certificates

Right-of-Way Certificate

The County of _____, Wyoming, hereby certifies to the Wyoming Department of Transportation and the Federal Highway Administration this _____(day) of _____ (month), _____, (year) that it owns or has acquired all right-of-way necessary for construction of Project _____ _____ and has complied with the policies set forth in Title 42, Chapter 61, The Federal Uniform Relocation Assistance and Land Acquisition Act.

_____

County Representative Date

Utility Certificate

The County of _____, Wyoming, hereby certifies to the Wyoming Department of Transportation and the Federal Highway Administration this _____ day of _____ month, _____year that it has provided for removal of any and all utilities or other encroachments on or within land as necessary for construction of Project _____ _____. Utilities relocations/adjustments within the project limits of construction have been completed or are incorporated in the contract plans as biddable work.

_____

County Representative Date

400.6

Project Acceptance Certificate

LPA must submit a Final Acceptance Certificate to WYDOT prior to reimbursement for project completion.

Final Acceptance Certificate

Project Information

Project Number:		Project Name:	
Project Sponsor:		Contact Name:	
Telephone Number:		Email Address:	

Instructions

Local Public Agencies (LPAs) are required to submit a certification of project completion to WYDOT prior to reimbursement of the final 10% of project funds. To do so, the LPA must provide the following attachment and information :

******Failure to attach the required documents may result in a delay of project.******

Required Attachments

**Affidavit for publication for final settlement and project completion*

Please fill-in the sections highlighted in gray

The aforementioned project has been completed in accordance with the plans and specifications dated: _____ and agrees to accept full maintenance thereof, this _____ day of _____ _____.

_____ Chairman of governing body, Signature

_____ Attest Signature

The aforementioned project has been designed and constructed according to accepted engineering and architectural standards.

_____ Signature

_____ Name of Architectural or Engineering Firm

_____ License Number (if applicable)

_____ Printed Name

The aforementioned project is accepted as complete as certified above by the sponsoring entity and its professional consulting engineer and is hereby approved for final payment.

_____ WYDOT

Once completed, email a copy of this signed document along with the supporting documentation to your WYDOT LGC Contact.

400.7

Wyoming County Roads Standard Committee

W.S. § 24-2-110(f) creates a Wyoming County Standards Committee and (g) gives that committee the responsibility to furnish standards for the construction and maintenance of county roads to a board of county commissioners, upon request, and to advise with respect to highway construction, maintenance, and improvements. Committee representatives are as follows:

Chad Reed
American Council of Engineering Companies of Wyoming
Sheridan County
creed@wwcengineering.com

Gene Legerski, P.E.
County Commissioners Association
Sweetwater County
legerskig@sweetwatercountywy.gov

John Ramage, CPC, AIC
Contractors Association
Natrona County
jramage@71construction.com

Matt McCloud
Wyoming Association of County Engineers and Road Superintendents
Lincoln County
mattmccloud@lincolncountywy.gov

Nick Siddle
County Commissioners Association
Sheridan County
nsiddle@sheridancountywy.gov

Travis Conklin, P.E.
American Council of Engineering Companies of Wyoming
Park County
travisco@eaengineers.com

Willing “John” Johnson
County Commissioners Association
Carbon County
johnjohnson@carboncountywy.gov

400.8

Definitions

400.8.1 INTRODUCTION

County Road: A road that is open to the public; serves as access to farms, ranches, residences, businesses, and other local properties; and has been established in accordance with the provisions of W.S. § 24-2-203 et.al.

400.8.2 PROJECT PLANNING

Functional Classification: WYDOT functionally classifies all public roads in Wyoming by rural and urban and by arterial, collector road, or local road.

- **Rural major collectors** primarily serve intra-county travel that involves shorter trips with moderate speeds and serve as links to arterial roads.

- **Rural minor collectors** primarily serve short trips at moderate speeds with these trips connecting rural areas with towns and serve as links to major collector or arterial roads.

- **Local roads** provide access to adjacent lands with short trips at lower speeds.

Design Vehicle: Four classes of vehicles have been established: passenger cars, buses, trucks, and recreational vehicles. Selection of a design vehicle, for example a school bus or single-unit truck with its dimensions and operating characteristics, is used to assist in project design. A "review or check" design vehicle—for example, a large school bus or a combination truck—should be used to evaluate the proposed design when the project type requires selection of a design year ≥ 10 years.

400.8.3 ROAD and BRIDGE DESIGN CRITERIA AND DESIGN VALUES

Bridge: A structure, including supports, erected over a depression or an obstruction, such as water, highway, or railway, having a track or passageway for carrying traffic or other moving loads and having an opening measured along the center of the roadway of more than 20 feet between under copings of abutments, or spring lines of arches, or extreme

ends of openings for multiple barrel box culverts. It may include multiple pipes, where the clear distance between openings is less than one-half of the smaller contiguous opening.

Bridge Structural Capacity:

- **New Structures** (Including the replacement of existing structures):

- **Bridge Design Vehicle**—The design vehicle (HL-93) to be used for all bridge construction and replacements.

- **Bridge Design Specification**—Load Resistance Factor Design (LRFD)—Latest edition of the AASHTO LRFD Bridge Design Specifications with applicable interim revisions.

- **Rehabilitation of Existing Bridges**:

    - **Bridge Design Vehicle**—The design vehicle (HS-20 or HL-93) to be used for all bridge rehabilitations or widening.

    - **Bridge Design Specification**—Standard specifications from latest version of the AASHTO Standard Specifications for Highway Bridges with applicable interim revisions. Load Resistance Factor Design (LRFD)—Latest edition of the AASHTO LRFD Bridge Design Specifications with applicable interim revisions.

    - **Minimum Inventory Load Rating Factor**—The minimum inventory rating factor that should be considered before a bridge is replaced. The inventory rating should be determined according to the Allowable Stress Rating (ASR) or Load Factor Rating (LFR) procedures outlined in the latest edition of the AASHTO Manual for Bridge Evaluation with applicable interim revisions. Bridges not meeting this design criteria and left in place will likely require load posting.

    - **Inventory Rating**—Load ratings based on the inventory level allow comparisons with the capacity for new structures and, therefore, result in a live load that can safely utilize an existing structure for an indefinite period of time.

- **Load Rating**—The determination of the live-load carrying capacity of an existing bridge.

- **Posting**—Signing a bridge for load restriction.

- **Operating Rating (ASR, LFR)—**The load ratings based on the operating rating level generally describe the maximum permissible live load to which the structure may be subjected. Allowing unlimited numbers of vehicles to use the bridge at operating level may shorten the life of the bridge.

Bridge Scour Analysis: Scour is defined as the erosion or removal of river, streambed, or bank material from bridge foundations due to flowing water. To minimize potential bridge damage or failure, a scour analysis/inspection is completed to determine vulnerability to scour, using 100-year and 500-year design flood events.

Design Criteria and Design Values: (See the tables in the Road and Bridge Design Criteria and Design Values section of this Manual.) These design values must be met or a differing value must be supported with a design exception. The selection and use of these design values are also subject to the design practice that recommends against the use of all minimum design values.

Design Practices: (See the Road and Bridge Design Criteria and Design Values section of this Manual.) These practices for horizontal and vertical alignment must be met or any revisions must be supported with a design exception. The selection and use of these practices are also subject to the design practice that recommends against the use of all minimum design values.

Design Elements: Design elements are included within this Manual; for example, see the Roadside Safety and Drainage—Pavements, Structures, and Facilities and Other Design Elements sections of this Manual. These design elements should be addressed, as needed, in each project type but are not subject to design exception administrative actions or to the design practice for minimum design values.

Current Safety Design Standards: The Manual for Assessing Safety Hardware (MASH) provides current methodology for evaluating new safety hardware and is currently in use as provided by a phase-in schedule. When phased in, MASH supersedes Report 350,

Recommended Procedures for the Safety Performance Evaluation of Highway Features. For those MASH safety design standards with a delayed phase-in, the standards from Report 350, Recommended Procedures for the Safety Performance Evaluation of Highway Features remain as the current practice.
Roadway: That portion of the highway, including shoulders, for vehicular use.
Traveled Way: The roadway portion that does not include the shoulders.

400.8.4 ROADSIDE SAFETY

Clear Recovery Area: Also referred to as Clear Zone and Horizontal Clearance to Obstructions. Defined as an area adjacent to the traveled way in which the slope, surface, and an absence of fixed obstacles can permit recovery of an errant vehicle.

Current Safety Design Standards: The Manual for Assessing Safety Hardware (MASH) provides current methodology for evaluating new safety hardware and is currently in use as provided by a phase-in schedule. When phased in, MASH supersedes Report 350, Recommended Procedures for the Safety Performance Evaluation of Highway Features. For those MASH safety design standards with a delayed phase-in, the standards from Report 350, Recommended Procedures for the Safety Performance Evaluation of Highway Features remain as the current practice.

Traversable and Recoverable Fore slopes: Fore slopes at 1V:4H or flatter are considered both traversable and recoverable, meaning that an errant vehicle can be both controlled and redirected (steered or braked). Slopes at 1V:3H are considered traversable but not recoverable, meaning that an errant vehicle can be controlled but cannot be redirected (steered or braked).

400.8.5 DRAINAGE STRUCTURES AND FACILITIES

Roadway Cross-Slope (or Traveled Way Cross-Slope): The rate of downward slope from the crown to the edge of roadway or traveled way.

Cross-Slope Break: A maximum algebraic difference in the pavement cross-slope rate of the traveled way verses the cross slope rate of the paved or unpaved shoulder. This break may be referred to as cross-slope rollover.

Design Flood: The flood or storm used to size a drainage facility. Based on this design, the roadway will not be subjected to frequent overtopping, and traffic service will not be interrupted. As required in the Drainage—Pavements, Structures, and Facilities section of this Manual, drainage design elements are an important consideration for all project plans and should be supported with the project area hydrology resulting in a hydraulics analysis and report. The drainage area above the bridge structure and the type of drainage—river, stream, drainage channel—needs to be considered when selecting the design flood. For example, rivers such as the North Platte should be evaluated for a larger design flood event, exceeding the 15-year minimum or 10-year minimum. Typically, a 50-year or 100-year runoff event with significant clear distance from the top of structure to pass debris should be used.

Regulatory Floodway: The flood-plain area that is reserved in an open manner by federal, state, or local government requirements to provide (maintain) discharge of the base flood without a cumulative increase in the water surface elevation, exceeding 1 foot. Reference: National Flood Insurance Program.