SECTION 101
DEFINITIONS OF TERMS

101-1 GENERAL
Whenever the terms defined in this section are used in the contract, in any of the contract documents, or in the plans, the intended meaning of such terms shall be as defined in this section.

101-2 ABBREVIATIONS
AASHTO ______ American Association of State Highway and Transportation Officials
ABC _________ Aggregate Base Course
ACI __________ American Concrete Institute
AFAD _________ Automated Flagger Assistance Device
AISC_________ American Institute of Steel Construction
ANSI_________ American National Standards Institute, Inc.
APL __________ Approved Products List
ASC __________ Approved Supplier Certification
ASB _________ Aggregate Shoulder Borrow
ASTM_________ American Society for Testing and Materials
AWG ________ American Wire Gauge
AWS _________ American Welding Society
AWWA_______ American Water Works Association
AWPA _______ American Wood-Preservers’ Association
CAPWAP______ CAse Pile Wave Analysis Program
CFR _________ Code of Federal Regulations
CIE __________ International Commission on Illumination
CRSI _________ Concrete Reinforcing Steel Institute
C.S. __________ Corrugated Steel
CSI __________ Cumulative Straightedge Index
CSL__________ Crosshole Sonic Logging
EIA/TIA ______ Electronics Industries Alliance/Telecommunications Industry Association
ESAL ________ Equivalent Single Axis Load
FHWA _______ Federal Highway Administration, U.S. Department of Transportation
HDPE ________ High Density Polyethylene
HMA_________ Hot Mix Asphalt
ID ___________ Identification
IES __________ Illuminating Engineering Society
IRI___________ International Roughness Index
IMSA ________ International Municipal Signal Association
JMF__________ Job Mix Formula
LED __________ Light Emitting Diode
LL ___________ Liquid Limit
LLC _________ Limited Liability Company
LRFD ________ Load and Resistance Factor Design
MIL__________ Military Standard
MRAS________ Manufactured Waste Reclaimed Asphalt Shingles
MRI _________ Mean Roughness Index
MSDS ________ Material Safety Data Sheet
MTV__________ Material Transfer Vehicle
Section 101

MUTCD Manual on Uniform Traffic Control Devices and the North Carolina Supplement thereto
NCAC North Carolina Administrative Code
NCDENR North Carolina Department of Environment and Natural Resources
NCDOT North Carolina Department of Transportation
NCGS North Carolina General Statutes
NEC National Electrical Code
NEMA National Electrical Manufacturers Association
NESC National Electrical Safety Code
NTPEP National Transportation Product Evaluation Program
OGAFC Open-Graded Asphalt Friction Course
OSHA Occupational Safety and Health Administration
OTDR Optical Time Domain Reflectometer
PADC Permeable Asphalt Drainage Course
PDA Pile Driver Analyzer
PDF Portable Document Format
PI Plasticity Index (Material), Public Information Plan (Traffic Management)
PIT Pile Integrity Testing
POC Purchase Order Contract
PMEM Polymer-Modified Emulsion Membrane
PRAS Post Consumer Reclaimed Asphalt Shingles
PVC Polyvinyl Chloride
PVCO Molecularly Oriented Polyvinyl Chloride
QA Quality Assurance
QC Quality Control
QMS Quality Management System
RAP Reclaimed Asphalt Pavement
RAS Reclaimed Asphalt Shingles
RUS Rural Utilities Service
SCTE Society of Cable Telecommunications Engineers
SMFO Single Mode Fiber Optic (Cable or Connector)
SSPC Society of Protective Coatings
SWG Steel Wire Gauge
TIP Transportation Improvement Plan
TMP Traffic Management Plan
TO Transportation Operations Plan
TSR Tensile Strength Ratio
TTC Temporary Traffic Control Plan
TTF Temperature-Time Factor
UBWC Ultra-thin Bonded Wearing Course
UL Underwriters' Laboratories, Inc.
UST Underground Storage Tank
UV Ultraviolet
VEP Value Engineering Proposal
VMA Voids in Mineral Aggregate
VTM Voids in Total Mix
WBS Work Balance Sheet
WTAT Wet Track Abrasion Test
WMA Warm Mix Asphalt
### TABLE 101-1
MEASUREMENT SYMBOLS

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Unit Name</th>
<th>Symbol</th>
<th>Unit Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;</td>
<td>Inch, Inches</td>
<td>kbps</td>
<td>Kilobit per Second</td>
</tr>
<tr>
<td>%</td>
<td>Percent</td>
<td>lb</td>
<td>Pound, Pounds</td>
</tr>
<tr>
<td>±</td>
<td>Plus or Minus</td>
<td>lbf</td>
<td>Pound(s) Force</td>
</tr>
<tr>
<td>°</td>
<td>Degree, Degrees</td>
<td>nm</td>
<td>Nanometer(s)</td>
</tr>
<tr>
<td>&gt;</td>
<td>Greater Than</td>
<td>mcd/lux/m²</td>
<td>Millicandellas per Lux per Square Meter</td>
</tr>
<tr>
<td>≥</td>
<td>Greater Than or Equal to</td>
<td>mg-cm</td>
<td>Milligram-Centimeter</td>
</tr>
<tr>
<td>&lt;</td>
<td>Less Than</td>
<td>mm</td>
<td>Millimeter, Millimeters</td>
</tr>
<tr>
<td>≤</td>
<td>Less Than or Equal to</td>
<td>mph</td>
<td>Mile(s) per Hour</td>
</tr>
<tr>
<td>µ</td>
<td>Micro</td>
<td>oz</td>
<td>Ounce, Ounces</td>
</tr>
<tr>
<td>A, amp</td>
<td>Ampere, Amperes</td>
<td>ppm</td>
<td>Parts per Million</td>
</tr>
<tr>
<td>cf</td>
<td>Cubic Foot, Cube Feet</td>
<td>psi</td>
<td>Pounds per Square Inch</td>
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<td>cu.in.</td>
<td>Cubic Inch, Cubic Inches</td>
<td>qt</td>
<td>Quart, Quarts</td>
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<tr>
<td>cy</td>
<td>Cubic Yard, Cubic Yards</td>
<td>rpm</td>
<td>Rotations per Minute</td>
</tr>
<tr>
<td>dB</td>
<td>Decibel, Decibels</td>
<td>sec</td>
<td>Second, Seconds</td>
</tr>
<tr>
<td>F</td>
<td>Fahrenheit</td>
<td>sf</td>
<td>Square Foot, Square Feet</td>
</tr>
<tr>
<td>ft</td>
<td>Foot, Feet</td>
<td>SFS</td>
<td>Saybolt Furol Seconds</td>
</tr>
<tr>
<td>ft-lb</td>
<td>Foot-Pounds</td>
<td>sq.in.</td>
<td>Square Inch, Square Inches</td>
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<tr>
<td>gal</td>
<td>Gallon, Gallons</td>
<td>sy</td>
<td>Square Yard, Square Yards</td>
</tr>
<tr>
<td>gpm</td>
<td>Gallon(s) per Minute</td>
<td>tsf</td>
<td>Tons per Square Foot</td>
</tr>
<tr>
<td>Gₘₙ@Nₘᵢ</td>
<td>Maximum Specific Gravity at Initial Number of Gyrotions</td>
<td>V, VAC</td>
<td>Voltage, Voltage of Alternating Current</td>
</tr>
<tr>
<td>hr</td>
<td>Hour, Hours</td>
<td>vpm</td>
<td>Vibrations per Minute</td>
</tr>
<tr>
<td>Hz</td>
<td>Hertz</td>
<td>W</td>
<td>Watt, Watts</td>
</tr>
<tr>
<td>J</td>
<td>Joule, Joules</td>
<td>Yd</td>
<td>Yard, Yards</td>
</tr>
</tbody>
</table>

### 101-3 DEFINITIONS

1. **ACT OF GOD:** Events in nature so extraordinary that the history of climate variations and other conditions in the particular locality affords no reasonable warning of them.

2. **ADDITIONAL WORK:** Additional work is that which results from a change or alteration to the contract and for which there are existing contract unit prices.

3. **ADMINISTRATOR:** The State Highway Administrator.

4. **ADVERTISEMENT:** The public advertisement inviting bids for the construction of specific projects.

5. **AMOUNT BID:** The amount bid for a particular item of work in a proposal.

6. **ARTICLE:** A primary numbered subdivision of a section of the *Standard Specifications*.

7. **AWARD:** The decision of the Department of Transportation to accept the bid of the lowest responsible responsive bidder for work that is subject to the furnishing of payment and performance bonds and such other conditions as may be otherwise provided by law, the proposal and these specifications.

8. **BASE COURSE:** That portion of the pavement structure of planned thickness placed immediately below the pavement or surface course.

9. **BID (OR PROPOSAL):** *Paper Bid:* The offer of a bidder on the proposal furnished by the Department to perform the work and to furnish the labor and materials at the prices quoted. *Electronic Bid:* The electronic offer of a bidder via Bid Express® to the Department to perform the work and to furnish the labor and materials at the prices quoted.
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**BID BOND OR BID DEPOSIT:** The security furnished by the bidder with his bid as guaranty that he will furnish the required bonds and execute such documents as may be required if his bid is accepted.

**BIDDER:** An individual, partnership, firm, corporation, LLC or joint venture formally submitting a bid for the work contemplated.

**BOARD OR BOARD OF TRANSPORTATION:** The Board created by the provisions of NCGS § 143B-350 for formulating policies for the Department of Transportation and awarding all transportation construction contracts.

**BRIDGE:** A structure including supports, erected over a depression or an obstruction such as water, highway or railway, and having a track or passage way for carrying traffic or other moving loads and having a length measured along the center of the roadway of more than 20 ft between undercopings of end supports, spring lines of arches or between extreme ends of openings for multiple reinforced concrete box structures.

**BRIDGE LENGTH:** The length of a bridge structure is the overall length measured along the line of survey stationing back to back of backwalls of abutments, if present, otherwise end to end of the bridge floor.

**BRIDGE WIDTH:** The clear width measured at right angles to the longitudinal centerline of the bridge between the bottom of curbs, guard timbers or face of parapets, or in the case of multiple heights of curbs, between the bottoms of the lower risers.

**CALENDAR DAY:** A day shown on the calendar beginning and ending at midnight.

**CHIEF ENGINEER:** The Chief Engineer, Operations, Division of Highways, North Carolina Department of Transportation acting directly or through his duly authorized representatives.

**COMPLETION DATE:** That date established as set forth in the contract or as revised by authorized extensions, by which it is required that the work set forth in the contract be satisfactorily completed. When observation periods are required by the Specifications, they are not a part of the work to be completed by the completion date or intermediate contract times stated in the contract unless otherwise noted.

**CONSTRUCTION EASEMENT:** A right owned by the Department of Transportation in a parcel of land owned by a third party outside the highway right of way for containing construction that exceeds the right of way.

**CONTRACT:** The executed agreement between the Department and the successful bidder, covering the performance of and compensation for the work.

The term contract is all inclusive with reference to all written and electronic agreements affecting a contractual relationship and all documents referred to therein. The contract shall include, but not be limited to, the proposal, the printed contract form and attachments, contract bonds, plans, standard specifications and supplemental specifications, standard special provisions and project special provisions contained in the proposal and all executed supplemental agreements.

All references to contracts shall include electronic agreements and printed paper agreements. These may include, but not be limited to, the electronic bid bond, Non-Collusion Affidavit, Debarment Certification, Gift Ban Certification and award limits.

The contract shall constitute one instrument.

**CONTRACT ITEM:** A specifically described unit of work for which a unit or lump sum price is provided in the contract. Synonymous with Pay Item.

**CONTRACT LUMP SUM PRICE:** The amount bid for a lump sum item that has been submitted by the Contractor in his proposal.
CONTRACT PAYMENT BOND: A bond furnished by the Contractor and his corporate surety securing the payment of those furnishing labor, materials and supplies for the construction of the project.

CONTRACT PERFORMANCE BOND: A bond furnished by the Contractor and his corporate surety guaranteeing the performance of the contract.

CONTRACT TIME: The number of calendar days inclusive between the date of availability and the completion date, said dates being established as set forth in the special provisions, including authorized extensions to the completion date.

CONTRACT UNIT PRICE: The unit bid price for a unit item that has been submitted by the Contractor in his proposal.

CONTRACTOR: The successful bidder to whom the contract has been awarded, and who has executed the contract and furnished acceptable contract bonds.

CULVERT: Any structure not classified as a bridge that provides an opening under the roadway.

CURRENT CONTROLLING OPERATION OR OPERATIONS: Any operation or operations, as determined by the Engineer, that if delayed would delay the completion of the project.

DATE OF AVAILABILITY: That date, established as set forth in the special provisions, by which it is anticipated that sufficient work sites within the project limits will be available for the Contractor to begin his controlling operations that are not otherwise limited by moratoriums, listed third party conflicts, or by weather conditions.

DEPARTMENT or DEPARTMENT OF TRANSPORTATION: A principal department of the Executive Branch that performs the functions of planning, design, construction and maintenance of an integrated statewide transportation system.

DIVISION OF HIGHWAYS: The division of the Department of Transportation that, under the direction of the Secretary of Transportation, carries out state highway planning, design, construction and maintenance functions assigned to the Department of Transportation.

DRAINAGE EASEMENT: A right, owned by the Department of Transportation, in a parcel of land owned by a third party outside the highway right of way, to construct and maintain ditches, channels, or structures for directing the course and flow of water outside the highway right of way.

EASEMENT: A property right to use or control real property of another.

ENGINEER: The State Highway Administrator of the North Carolina Department of Transportation, acting directly or through a duly authorized representative, such representative acting within the scope of particular assigned duties or authority.

EQUIPMENT: All machinery and equipment, together with the necessary supplies, tools and apparatus for upkeep and maintenance, all of which are necessary for the proper construction and acceptable completion of the work.

EXTRA WORK: Work found necessary or desirable to fully complete the work as contemplated in the contract for which payment is not provided for by the contract unit or lump sum prices in the original contract. Extra work shall not be work that in the terms of the contract is incidental to work for which there is a contract price or work that payment is included in some other contract unit or lump sum price.

FINAL ACCEPTANCE DATE: That date on which all work set forth in the contract and work modified by the Engineer is satisfactorily completed excluding any observation periods not specifically made a part of the work by the specifications or special provisions.
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**FINAL ESTIMATE:** The document that contains a final statement of all quantities and total dollar amount for each item of work performed during the life of the contract including any adjustments to those amounts made under the terms of the contract. The final statement will be titled The Final Estimate and will be the document used to document final payment to the Contractor. Receipt of this document by the Contractor will begin the time frame for filing of a verified claim with the Department as provided for in NCGS § 136-29.

**FINAL ESTIMATE ASSEMBLY:** As constructed plans and other project records that establish the final statement of quantities to be paid and document work performed on the project.

**FORCE ACCOUNT NOTICE:** A written notice to the Contractor that extra work ordered by the Engineer will be paid as force account work.

**FORCE ACCOUNT WORK:** Work that is paid in accordance with Article 109-3 or on the basis of the force account formula provided in the contract.

**HIGHWAY:** A general term denoting a public way for purposes of vehicular travel, including the entire area within the right of way. Synonymous with Road and Street.

**HOUR:** One of the 24 equal parts of a day.

**INSPECTOR:** The authorized representative of the Engineer assigned to make a detailed inspection of any or all portions of the work and materials.

**INTERMEDIATE COMPLETION DATE:** That date established as set forth in the special provisions or as revised by authorized extensions, by which date it is required that the portion of work set forth in the contract be satisfactorily completed.

**INTERMEDIATE COMPLETION TIME:** The time established as set forth in the special provisions or as revised by authorized extensions, by which it is required that the portion of work set forth in the contract be satisfactorily completed.

**INTERMEDIATE CONTRACT TIME (DAYS):** The number of calendar days inclusive between the date of availability and the completion date, said days being established as set forth in the special provisions, or as revised by authorized extensions, by which it is required that a portion of that work set forth in the contract be satisfactorily completed.

**INTERMEDIATE CONTRACT TIME (HOURS):** The number of hours inclusive between the time of availability and the intermediate completion time, said times being established as set forth in the special provisions, including authorized extensions to the intermediate completion time.

**INVERT:** The lowest point in the internal cross section of a pipe or other culvert.

**INVITATION TO BID:** The notification that bids will be received for the construction of specific projects.

**LABORATORY:** The testing laboratory of the Department of Transportation or any other testing laboratory that may be designated or approved by the Engineer.

**LOCAL TRAFFIC:** Traffic that must use the facility under construction to reach its destination.

**MAJOR AND MINOR CONTRACT ITEMS:** Major contract items are listed as such in the project special provisions. All other original contract items and extra work shall be considered as minor items.

**MATERIALS:** Any substances that may be incorporated into the construction of the project.

**MEDIAN:** The center section of a divided highway that separates the traffic lanes in one direction from the traffic lanes in the opposite direction.

**MOBILIZATION:** The work described in Article 800-1.
PAVEMENT STRUCTURE: The combination of base and surface courses placed on a subgrade to support the traffic load and distribute it to the roadbed.

PAY ITEM: Synonymous with Contract Item.

PLANS: The approved plans, profiles, typical roadway sections, appropriate standard drawings, supplemental plans and working drawings, or exact reproductions thereof, that show the location, dimensions and details of the work to be done and that are a part of the contract.

PREBID CONFERENCE: A conference held before bids are accepted on a project at which representatives of the Department will provide information and accept and answer questions from interested parties.

PROJECT: The work specified under the contract.

PROJECT SPECIAL PROVISIONS: Special provisions peculiar to the project and not otherwise thoroughly or appropriately set forth in the standard specifications or plans.

PROPOSAL: The electronic or paper document provided by the Department that the bidder uses to develop his electronic or paper offer to perform the work at designated bid prices.

RIGHT OF WAY: The land area shown in the plans as right of way to be furnished by the Department of Transportation within which the project is to be constructed.

ROAD: Synonymous with Highway and Street.

ROADBED: The graded portion of a highway usually considered as the area between the intersections of top and side slopes, upon which the base course, surface course, shoulders and medians are constructed.

ROADSIDE: A general term denoting the area within the limits of the right of way adjoining the outer edge of the roadway. Extensive areas between the roadways of a divided highway may be considered roadside.

ROADWAY: The portion of a highway within limits of construction.

SECTION: A numbered chapter of the standard specifications.

SHOULDER: The portion of the roadway adjacent to the traveled way for accommodation of stopped vehicles, for emergency use and for lateral support of base and surface courses.

SIDEWALK: That portion of the roadway primarily constructed for pedestrian traffic.

SKEW ANGLE: The angle between the centerline of the project and the centerline of a pipe, culvert, bridge pier, bent, abutment, or other drainage feature, measured to the right of the project centerline facing in the direction of progressing stations.

SPECIAL PROVISIONS: Project special provisions and standard special provisions taken together as one body of special provisions.

SPECIFICATIONS: The general term comprising all the directions, provisions and requirements contained or referred to in the Standard Specifications, including the Supplemental Specifications, together with such additional directions, provisions and requirements that may be added or adopted as special provisions.

STANDARD DRAWINGS: The general term comprising all the directions, provisions and requirements contained or referred to in the book entitled Roadway Standard Drawings and in any subsequent revisions or additions to such book that are issued as Detail Drawings.

STANDARD SPECIAL PROVISIONS: Special directions or requirements not otherwise thoroughly or appropriately set forth in the standard specifications and that are peculiar to a selected group of projects.
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STANDARD SPECIFICATIONS: The general term comprising all the directions, provisions and requirements contained or referred to in this book entitled Standard Specifications for Roads and Structures and in any subsequent revisions or additions to such book that are issued as Supplemental Specifications.

STATE: The State of North Carolina.

STATION: A station, when used as a term of measurement, will be 100 linear feet measured horizontally. When used as a location, it will be a designated point on the project.

STREET: Synonymous with Highway and Road.

SUBCONTRACTOR: An individual, partnership, firm, joint venture, LLC or corporation to whom the Contractor, with the written consent of the Engineer, sublets any part of the contract.

SUBGRADE: That portion of the roadbed prepared as a foundation for the pavement structure including curb and gutter. On portions of projects that do not include the construction of a base course or pavement, the presence of the subgrade will not be recognized during the life of such contract.

SUBSTRUCTURE: All of that part of the structure below the bearings of simple and continuous spans, spans, skew back of arches and tops of footings of rigid frames, together with the backwalls and wingwalls.

SUCCESSFUL BIDDER: The bidder awarded a contract.

SUPERINTENDENT: The representative of the Contractor authorized to supervise and direct the construction for the Contractor and to receive and fulfill directions from the Engineer.

SUPERSTRUCTURE: All of the part of the structure exclusive of the substructure.

SUPPLEMENTAL AGREEMENT: A written agreement between the Contractor and the Department of Transportation covering amendments to the contract.

SUPPLEMENTAL SPECIFICATIONS: Specifications, regulations, standards, manuals or codes referenced in the contract or general revisions or additions to this book of standard specifications that are issued under the title of Supplemental Specifications. Supplemental Specifications shall be considered part of the Standard Specifications.

SURETY: A corporate bonding company furnishing the bid bond or furnishing the contract payment and performance bonds.

TEMPORARY CONSTRUCTION EASEMENT: A temporary right, owned by the Department of Transportation, in a parcel of land owned by a third party outside the highway right of way, for the use of the Department of Transportation during the construction and that reverts to the third party on completion of construction.

THROUGH TRAFFIC: Traffic that can reach its destination by a route or routes other than the facility under construction.

TIME OF AVAILABILITY: That time established as set forth in the special provisions, by which it is anticipated that sufficient work sites within the project limits will be available for the Contractor to begin his controlling operations.

TOTAL AMOUNT BID: Same as total price bid. The total amount bid will be considered to be the correct sum total obtained by adding together the amounts bid for every item in the proposal other than items that are authorized alternates to those items for which an amount bid has been established.

UNBALANCED BID: A bid that includes any unbalanced bid price.
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UNBALANCED BID PRICE: A unit or lump sum bid price that does not reflect reasonable actual costs that the bidder anticipates for the performance of the item in question along with a reasonable proportionate share of the bidder's anticipated profit, overhead costs and other indirect costs.

WORK: Work shall mean the furnishing of all labor, materials, equipment and incidentals necessary or convenient to the successful completion of the project, or any part, portion or phase thereof, and the carrying out of all duties and obligations imposed by the contract.

WORKING DRAWINGS: Stress sheets, shop drawings, erection drawings, falsework drawings, cofferdam drawings, catalog cuts, or any other supplementary drawings or similar data that the Contractor is required to submit to the Engineer for review or approval.

SECTION 102

BIDDING REQUIREMENTS AND CONDITIONS

102-1 INVITATION TO BID

After the advertisement has been made, an Invitation to Bid will be made available on the Department’s website to interested parties, informing them that bids will be received for the construction of specific projects. Such invitations will indicate the contract identification number, length, locations and descriptions; a general summary of the items and approximate quantities of work to be performed; and the time and place for the public opening and reading of the bids received. Information concerning the cost and availability of plans and proposals will be indicated in the Invitation to Bid.

All projects will be advertised in daily newspapers throughout the state before the bid opening.

102-2 CONTRACTOR PREQUALIFICATION

Contractors desiring to perform work on Department projects shall prequalify with the Department. Upon prequalification, contractors will be placed on the Department’s Prequalified Contractors’ List. The requirements for prequalification are as follows:

(A) Bidder Prequalification

(1) Applicant shall submit a completed Bidder Experience Questionnaire, along with any additional supporting information requested by the Department, as noted in the experience questionnaire package. Additional requirements for prequalification may be set forth in the bid proposal.

(2) Applicant shall demonstrate that he has sufficient ability and experience in related transportation construction projects to perform the work specified in the Department’s contracts, including the type and dollar value of previous contracts.

(3) Applicant shall demonstrate a history of successful performance and completion of projects in a timely manner, subject to contract time adjustments.

(4) Applicant shall demonstrate the financial ability to furnish bonds as specified in NCGS § 44A-26 and any other relevant statutes.

(5) Applicant shall demonstrate sufficient and readily available equipment to perform transportation construction contracts in a timely manner.

(6) Applicant shall demonstrate sufficient available experienced personnel to perform transportation construction contracts. The identities and qualifications of both management and labor work force shall be provided.

(7) Applicant shall provide names and addresses of persons for whom the firm has performed related work. Responses from the references shall be on Department forms and shall be received by the Department before evaluating the request for prequalification.