EAST AZTEC ARTERIAL ROUTE, PHASE IB

City of Aztec
Public Works Department
610 Western Dr
Aztec, New Mexico

Phone (505) 334-7660
Fax (505) 334-7669

Project Manual & Construction Agreement
for

East Aztec Arterial Route, Phase IB Construction Project

City of Aztec Project Re-Bid #2014-406

NMDOT CN #F100090

Prepared by:

WILSON & COMPANY
ENGINEERS & ARCHITECTS
4900 Lang Ave
Albuquerque, NM 87109
505.348.4000

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The technical material and data contained in the specifications were prepared under the supervision and direction of the undersigned, whose seal as a Professional Engineer, licensed to practice in the state of New Mexico, is affixed below.

BRIGITTE FULLER
NEW MEXICO
15102
REGISTERED PROFESSIONAL ENGINEER
1-14-15
PMPE #15102

Brigitte Fuller, PE

Approved by City of Aztec:

BILL WATSON

Jan 14, 2015
Date

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A. Bidding Documents

A.1 Advertisement for Bids

CITY OF AZTEC, NEW MEXICO

INVITATION TO BID:	**SEALED BID FOR: EAST AZTEC ARTERIAL ROUTE, PHASE IB** COA PROJECT NO: Re-Bid #2014-406
TO BE OPENED AT:	City of Aztec Administrative Offices 201 West Chaco Aztec, New Mexico 87410
TIME:	2:00 p.m. (Local Prevailing Time)
DATE:	May 12, 2015
ADDRESSED TO:	Kathy Lamb Purchasing Office 201 West Chaco Aztec, New Mexico 87410

Bids will be received until the above time, then opened publicly at City of Aztec Commission Room, 201 West Chaco, Aztec, New Mexico and read aloud. **BIDS RECEIVED AFTER THE ABOVE TIME WILL BE RETURNED UNOPENED.**

Plans, Specifications and other Contract Documents, including instructions to Bidders and Bid Forms, are available online by accessing the City's purchasing webpage through www.aztecnm.gov or by contacting Kathy Lamb at (505) 334-7653; klamb@aztecnm.gov.

Bids for the project will be presented in the form of a unit price bid. The bidder shall bid all items listed.

Each bidder must conform to the conditions specified in the section entitled "Instructions for Bidders".

OWNERS RIGHTS RESERVED: The City of Aztec reserves the right to reject any or all bids and to waive any formality or technicality in any bid in the best interest of the City.

NON-MANDATORY PRE-BID CONFERENCE: A pre-bid conference will be held on April 21, 2015 at 3:00 p.m. (local prevailing time) at the City of Aztec Commission Room, 201 West Chaco, Aztec, New Mexico 87410. The purpose of this conference will be for the clarification of the project requirements.

The work to be performed with this project consists of 2.8 miles of earthwork, base course, HMA, drainage structures, metal barrier, riprap erosion control, signing and striping. 0.7 miles of asphalt overlay and striping, and furnishing all equipment, labor and materials for the construction of the East Aztec Arterial Route, Phase 1B Project, in accordance with the drawings, specifications, and other Contract Documents.

EQUAL OPPORTUNITY IN EMPLOYMENT: All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation or national origin. Bidders on this work will be required to comply with the Presidents Executive Order No. 11246 as amended.

ATTEST:

Kathy Lamb
Purchasing Officer
201 West Chaco
Aztec, New Mexico 87410

A.2 Instructions For Bidders

Bids are requested by City of Aztec for Construction of the East Aztec Arterial Route, Phase IB, COA Project No: 2014-406 in accordance with the drawings, specifications and other contract documents prepared by Wilson & Company, Inc., Engineers & Architects.

1. LOCATION AND DESCRIPTION OF WORK: The work under this contract is located in or adjacent to the City of Aztec, New Mexico. The work consists of 2.8 miles of earthwork, base course, HMA, drainage structures, metal barrier, riprap erosion control, signing and striping. 0.7 miles of asphalt overlay and striping, and furnishing all equipment, labor and materials for the construction of the East Aztec Arterial Route, Phase IB, as specified in the construction documents.

2. TIME AND PLACE OF RECEIVING AND OPENING BIDS: This information will be found in the "Advertisement for Bids" form attached hereto. A bid received after the specified time will not be considered and will be returned to the bidder unopened.

3. SPECIFICATIONS AND CONTRACT DOCUMENTS

    3.1. SPECIFICATIONS: The construction of this project will be in accordance with the Standard Specifications for Highway and Bridge Construction, 2014 Edition (NMDOT) and the New Mexico Standard Specifications for Public Works Construction, 2006 Edition (APWA, NM Chapter). Division 100 of NMDOT Specifications shall govern Construction of this Project.

    3.2. PLANS AND CONTRACT DOCUMENT DEPOSIT: The deposit for each set of bidding forms and documents as required in the "Advertisement for Bids" will be refunded to each bidder provided such documents are returned in good condition to the Engineer within ten (10) days after the bid opening date. An additional four (4) sets of bidding documents will be furnished to the successful bidder at no additional charge. Any additional sets requested will be issued to the successful bidder by the Engineer at the cost of reproduction.

4. DEFINED TERMS: Terms used in these Instructions to Bidders have the meanings assigned to them in Section 101 of the NMDOT Standard Specifications as modified for the City of Aztec.

5. EXAMINATION OF BIDDING DOCUMENTS AND SITE: Before submitting his/her bid, each bidder must (a) examine the bidding documents thoroughly, (b) visit the site to familiarize himself/herself with local conditions that may in any manner affect performance of the work, (c) familiarize himself/herself with federal, state and local laws, ordinances, rules and regulations affecting performance of the work; and (d) carefully correlate his/her observations with the requirements of the contract documents. The submission of a Bid constitutes representation by Bidder that Bidder has complied with every requirement of this section and that the contract documents are sufficient in scope to indicate and convey understanding of all terms and conditions for performance of the work.

6. THE COMPLETE CONTRACT DOCUMENTS CONTAIN THE FOLLOWING: Everything that is bound herein, project plans and any standard specifications referenced herein, supplemental specifications and special provisions.

7. ADDENDA AND INTERPRETATIONS:

   7.1. No oral interpretations of the meaning of the specifications or other pre-bid documents will be binding. Oral communications are permitted in order to make an assessment of need for an addendum. ANY QUESTIONS CONCERNING THE BID SHOULD BE ADDRESSED PRIOR TO BID OPENING DATE.

   7.2. Every request for such interpretations should be in writing addressed to Brigitte Fuller with Wilson & Company faxed 505.348.4072 or emailed and to be given consideration must be received at least (5) five days prior to the date fixed for the opening of bids.

   7.3. Any and all such interpretations and any supplemental instructions will be in the form of written addenda to the specifications which, if issued, will be delivered to all prospective bidders not later than three days prior to the date fixed for the opening of the bids. Failure of any bidder to receive any such addendum or interpretations shall not relieve such bidder from any obligation under his bid as submitted. All addenda so issued shall become part of the contract documents.

   7.4. The City reserves the right to not comply with these time frames if a critical addendum is required or if the proposal deadline needs to be extended due to a critical reason in the best interest of the City of Aztec.

8. BID SECURITY: Bid security in the amount of 5% of the amount of the bid shall accompany the bid submittal and must be in the form of a certified or bank cashier's check made payable to the City or a bid bond issued by a surety licensed to conduct business in the State of New Mexico, or other supplies in a form satisfactory to the City. The Bid Security of the successful bidder will be retained until he/she has executed the Construction Agreement and furnished the required Contract Security, whereupon it will be returned. If he/she fails to execute and deliver the Construction Agreement and furnish the required Contract Security within 10 days of the Notice of Award, the City may annul the Notice of Award and the Bid Security of that bidder will be forfeited. The Bid Security of any bidder whom the City believes to have a reasonable chance of receiving the award may be retained by the City until either the seventh day after the executed Construction Agreement is delivered by the City to Contractor and the required Contract Security is furnished or the sixty-first day after the bid opening, whichever is earlier. Bid security of other bidders will be returned within thirty days of the bid opening, or sooner.

9. CONTRACT TIME: The number of days for the completion of work (the contract time) is set forth in the Bid Form and will be included in the executed Construction Agreement.

10. SUBCONTRACTORS, SUPPLIERS AND OTHERS: The Contractor, in the bid documents, must identify in writing to the City those portions of the work that he/she proposes to subcontract and after the Notice of Award, may only subcontract other portions of the work with the City's written consent.

11. PREQUALIFICATION OF BIDDERS: Prime contractors and subcontractors will not be allowed to work on any NMDOT construction projects or compete in the bidding process until they have been properly prequalified with the NMDOT. Subcontract packages will not be approved unless the subcontractor has been prequalified

11.1. Contractor will not be required to employ any other subcontractor, other person or organization against whom he/she has reasonable objection.

11.2. The Contractor shall list all subcontractor names, addresses and type of work to be performed.

11.3. The threshold amount for this project is $5,000. The General contractor must list all subcontractors who will perform work in excess of this threshold. Only one sub-contractor may be listed for each category as defined by the contractor. The Subcontractor Fair Practice Act (13-4-31 thru 14-3-43 NMSA 1988) shall apply.

12. The bidder shall list the subcontractor or material suppliers he/she proposes to use for all trades or items on the Subcontractor Listing Form attached to the Bidding Documents. If awarded the contract, the Bidder shall use the firm listed, or himself/herself if "General Contractor" has been listed, unless a request for a change or substitution is approved by the Owner of any reason as outlined herein. If the contractor does not specify a subcontractor, he/she represents that he/she shall perform the work.

13. SUB-CONTRACTOR SUBSTITUTIONS: Prior to approval of the contractor's request for substitution, the City shall give notice to the listed subcontractor by certified mail. The subcontractor shall have five working days to submit written objections to the City. Failure to respond shall constitute subcontractor's consent to the substitution. If written objections are received, the City shall give five working days notice of a hearing. Substitutions must be in compliance with Subcontractor Fair Practice Act.

13.1. No other substitution of subcontractors may be permitted by the contractor, other than for requested change orders in the scope of the work or unless the contractor can show that no bids were received.

13.2. If the contractor is claiming an inadvertent clerical error, notice shall be given to the City and to the involved subcontractor within two working days of the bid opening. The subcontractor shall have six working days from the bid opening to submit written objections. Failure to respond shall constitute subcontractor's agreement that an error was made.

14. BID FORM:

14.1. The Bid Form is included in the bidding documents; additional copies may be obtained from Engineer.

14.2. Bid Forms must be completed in either ink or typewritten. The bid price of each item on the form must be stated in numerals and written words; in case of an error in extensions in the unit price schedule the unit price shown in written words shall govern.

14.3. Bids by corporations must be executed in the corporate name by the president or a vice president (or other corporate office accompanied by evidence of authority to sign) and the corporate seal shall be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown below the signature.

14.4. Bids by partnerships must be executed in the partnership name and signed by a partner, his/her title must appear under his/her signature and the official address of the partnership must be shown below the signature.

14.5. All names must be typed or printed below the signature.

14.6. The bid shall contain an acknowledgement of receipt of all Addenda (the numbers of which shall be filled in on the Bid Form).

15. QUALIFICATION OF BIDS: All bidders must have a valid New Mexico Contractor's License appropriate to the work herein specified. Bidders must have a New Mexico Contractor's License in one of the following classifications: G-F98 or other satisfaction to the owner.

16. SUBMISSION OF BIDS: Bids shall be submitted at the time and place indicated in the Advertisement for Bids and shall be enclosed in a sealed envelope, marked with the project title, name and address of the bidder, N.M. License Number, and accompanied by the Bid Security, list of subcontractors and other required documents. The bid submittal shall not be detached from the bound set of bidding documents. All blanks must be filled in. Conditional bids will not be considered. The envelope shall be addressed to:

Kathy Lamb
Purchasing Office
201 West Chaco
Aztec, New Mexico 87410

No late bids will be accepted whether hand delivered, mailed or special delivery. Do not rely on "overnight delivery" without including some lead-time. "Overnight delivery" will be determined to be non-responsive if delivered late, no matter whose fault it was. It is recommended that extra days be included in the anticipated delivery date to ensure delivery is timely. The outside of the envelope shall clearly be marked as stated above.

17. MODIFICATION AND WITHDRAWAL OF BIDS: Bids may be modified or withdrawn by an appropriate document duly executed and delivered to the place where bids are to be submitted at any time prior to the opening of bids.

18. BID OPENING PROCEDURE: The person or persons opening the bids will adhere to the following procedure:

18.1. Bid - Name the Bidder and the Number of Bidder's New Mexico Contractor's License with a check for proper signatures
18.2. Check for bid bond
18.3. Submittal, acknowledgement of Addenda, if any
18.4. Properly executed Bid Form
18.5. Subcontractor's and Material Suppliers Listing (as applicable)

If any of the above requirements have not been met, the bid shall be disqualified and considered a non-responsive bid. Any disqualified bids will not be read.

19. BIDS TO REMAIN OPEN: All bids shall remain open for sixty (60) days after the day of the bid opening, but the City may, in its sole discretion, release any bid and return the Bid Security prior to that date.

20. AWARD OF CONTRACT: The City reserves the right to reject any and all bids and waive any and all informalities or technicalities and the right to disregard all nonconforming or conditional bids or counter bids.

    The City reserves the right to award bid based upon the lowest base bid only or if alternates are to be awarded, the low bid for any combination of base bid and alternate(s). (Note that the listed order of alternates is not prioritized).

    If a contract is to be awarded, it will be awarded to the lowest responsible bidder whose evaluation indicates to the City that the award will be in the best interests of the project and the City.

    Simultaneously with delivery of the executed counterparts of the Agreement to the City, contractor shall deliver to the City the required Contract Bonds.

    If a contract is to be awarded, the City will give the apparent successful bidder a Notice of Award within sixty (60) days after the day of the bid opening.

21. WAGE RATES: The Bidder's attention is directed to the fact that wages to be paid on this project shall not be less than the higher of the two prevailing wage rates as listed by the New Mexico State Labor and Industrial Commission and the U.S. Department of Labor Wage Decision. It shall be the successful Bidder's responsibility to inform himself/ herself thoroughly of all state, federal and local laws and statutes pertaining to the employment of labor, the freedom of organization and the conditions of employment and shall strictly adhere to such laws and regulations as are applicable. There shall be no discrimination because of race, creed, color, national origin or legal political affiliation in the employment of persons qualified by training and experience for work under this contract.

22. REQUIRED SUBMITTALS:

    Bid Form
    Bid Schedule
    Bid Bond
    Non-Collusion Affidavit of Prime Bidder
    Non-Collusion Affidavit of Sub-Contractor
    Notices to Contractors
    - Bidders List of Quoters for the Disadvantaged Business Enterprise (DBE) Program (Form BL-DBE)
    - Subcontractors Fair Practices Act Compliance (SFPA-1)
    - Disadvantaged Business Enterprise (DBE) Program Race-Conscious Measures (Form A-585A)
    - Disadvantaged Business Enterprise (DBE) Participation (Form A-644)
    - Non-Debarment Certification
    - Certification for Federal-Aid Contracts
    - Disclosure of Lobbying Activities

    If any of the above requirements have not been met, the bid shall not be read.

23. SUBSTITUTIONS: The bid shall not be qualified by the proposal of substitutions for specified materials or equipment.

24. PERFORMANCE BOND AND LABOR AND MATERIAL PAYMENT BOND: The contractor will be required to furnish surety bonds in an amount at least equal to one hundred percent (100%) each of the total contract price as security for faithful performance of the contract and payment for all labor and materials. The surety company must be authorized to do business in the State of New Mexico and must be acceptable to the City of Aztec.

25. ADDENDUM: Each addendum shall be made a part of the contract documents to the same extent as though contained in the original documents and itemized listing thereof. Each bidder shall acknowledge receipt of each addendum in the space provided on the bid submittal form.

26. POWER OF ATTORNEY: Attorneys in fact who sign bonds must attach certified effective copies of their Power of Attorney to all bonds.

27. COLLUSION: No bidder shall be interested in more than one bid. Collusion among bidders or the submission of more than one bid under different names by any firms or individual shall be cause for rejection of all bids in question without consideration.

28. QUANTITIES: The quantities set forth in the bid submittal are estimated quantities on which bids will be compared and which will be the basis for award of contract. Payment will be made for the work actually performed.

29. MANDATORY PRE-BID CONFERENCE: A Mandatory Pre-Bid Conference will be held on March 24, 2015 at 9:00 a.m. at the City of Aztec Commission Room, 201 West Chaco, Aztec, New Mexico 87410. The purpose of this conference will be for the clarification of the project requirements.

30. PROTEST PROCEDURE: Any bidder, offeror, or contractor who is aggrieved in connection with a procurement may protest to the City Purchasing Agent. The protest must be in writing and be submitted within fifteen (15) days after the facts or occurrences.

    The complete procedures and requirements regarding protests and resolution of protests are available from the Purchasing Office upon request.

31. ON-THE-JOB TRAINING: No OJT hours are required.

32. CONSIDERATION OF BIDS

    32.1. Receipt, Opening and Recording

        32.1.1. Bids received on time will be opened publicly and will be read aloud, and an abstract of the amounts of the Base Bids and Alternates or Bid Items, if any, will be made available to the Bidders. Each Bid shall be open to public inspection.

    32.2. Bid Evaluation and Award

        32.2.1. It is the intent of the City to award a contract to the lowest responsible Bidder, provided the Bid has been submitted in accordance with the requirements of the Bidding Documents. The unreasonable failure of a Bidder to promptly supply information in connection with an inquiry with respect to responsibility is grounds for a determination that the Bidder is not responsible Bidder.

32.2.2. If the Base Bid is within the amount of funds available to finance the construction contract, contract award will be made to the responsible Bidder submitting the low Bid Lot; except that, if sufficient funds are available to fund alternates, the City may award the contract to the responsible Bidder submitting the low combined Bid within the amount of funds available (Bid Lots). Note that the listed order of alternates is not prioritized.

32.2.3. Discrepancies in the Bid form between words and figures will be resolved in favor of words. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

32.3. Competitive Sealed Bids

32.3.1. Contracts solicited by competitive sealed bids shall require that the bid amount exclude applicable New Mexico Gross Receipts Taxes or applicable local option taxes, but that the City shall be required to pay the applicable taxes, including any increase in the applicable tax which becomes effective after the date the contract is entered into. The applicable Gross Receipts Tax shall be computed and shown as a separate amount on the Bid Submittal and on each request for payment made under the contract.

32.4. Notice of Award

32.4.1. A written Notice of Award shall be issued by the City after review and approval of the Bid and related documents by the Governing Authority, as defined in the Supplementary Conditions, with reasonable promptness.

32.5. Identical Bids

32.5.1. When two or more of the Bids submitted are identical in price and are the low Bid, the City Purchasing Agent or the City may:

Award pursuant to Section 103.1 of the standard specifications by determining the successful bidder by coin flip.

32.6. Cancellation of Award

32.6.1. When in the best interest of the public, the City may cancel the award of any contract at any time before the execution of said contract by all parties without any liability against the City.

33. POST-BID INFORMATION

33.1. Return of Bid Security

33.1.1. All Bid Security in the form of checks, except those of the three lowest Bidders, will be returned immediately following the opening and checking of

the Bids. The retained Bid Security of the unsuccessful of the three lowest Bidders, if in the form of a check, will be returned within fifteen (15) days following the award of contract. The retained Bid Security of the Successful Bidder, if in the form of a check, will be returned after a satisfactory contract bond has been furnished and the contract has been executed. Bid Securities in the form of Bid Bonds will be returned only upon the request of the unsuccessful Bidder, but will be released by the City Purchasing Agent after the Notice of Award is sent by the City.

33.2. Notice to Proceed

33.2.1. The City will issue a written Notice to Proceed to the Contractor stipulating the date from which Contract time will be charged and the date Contract Time is to expire, subject to valid modifications of the Contract authorized by Change Order.

33.3. Failure to Execute Contract

33.3.1. Failure to return the signed Contract with acceptable Contract Bonds and Certificate of Insurance within ten (10) calendar days after the date of the Notice of Award shall be just cause for the cancellation of the award and the forfeiture of the bid security, which shall become damages sustained. Award may then be made to the next lowest responsible Bidder, or the work may be re-advertised and constructed under contract or otherwise, as the Owner may decide.

33.4. Contractor's Qualification Statement

33.4.1. Bidder to whom award of a Contract is under consideration shall submit, upon request, information and data to prove that their financial resources, production or service facilities, personnel, and service reputation and experience are adequate to make satisfactory delivery of the services, construction, or items of personal property described in the Bidding Documents and form of Statement of Bidder's Qualifications.

33.5. Contract Bonds Requirements

33.5.1. The Successful Bidder, where the Contract Price exceeds five hundred dollars ($500), shall post a one hundred percent (100%) Performance Bond and one hundred percent (100%) Labor and Material Payment Bond. Bonds shall be executed on Performance Bond and Labor and Material Payment Bond forms attached hereto, with amount payable confirming to the terms of the Contract. Surety shall be a company licensed to do business in the State of New Mexico and acceptable to the Owner.

33.6. Insurance Requirements

33.6.1. The Contractor shall carry insurance to protect the City of Aztec from and against all claims, demands, actions, judgments, costs, expenses and liabilities which may arise or result directly or indirectly from or by reasons of loss, injury or damage related to the Project. The Contractor shall file

with the City of Aztec current certificates evidencing public liability insurance with limits as provided in the New Mexico Tort Claims Act, Section 41-4-19 NMSA 1978, and as that section or successors section may be amended from time to time. The contractor shall also carry such insurance as it deems necessary to protect it from all claims under any workmen's compensation law in effect that may be applicable to the Contractor. All insurance required by this Agreement shall be kept and remain in full force and effect for the entire life of this Agreement.

33.6.2. The insurance coverage shall include worker's compensation, employers liability, comprehensive general liability (Premises-Operations, independent contractors, products and completed operations, broad form property damage, contractual liability, explosion and collapse hazard, underground Hazard, personal injury) comprehensive automobile liability (owned and hired), excess liability (umbrella form), and all-risk builder's risk.

33.6.3. All insurance coverage must be maintained for the entire life of the Project. Products and completed operations coverage shall be maintained for a minimum period of one (1) year after final payment.

33.6.4. A valid certificate of insurance must be submitted to the Owner prior to issuance of a Notice-to-Proceed.

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A.3 Bid Submittal

Name: _____ Telephone: (___) _____

Address: _____

_____

To the City of Aztec, State of New Mexico, Owner:

The undersigned proposes to construct this new project in accordance with the current Standard Specifications for Highway and Bridge Construction (2014 Edition), the Plans, the Bid Schedule, the Special Provisions, Supplemental Specifications, the Disadvantaged Business Enterprise (DBE) Program and all other contract documents incorporated by reference herein, and certifies to furnish an deliver all the materials and to do all work and labor required for the construction of the **East Aztec Arterial Route, Phase IB** , COA PROJECT NO: 2014-406, City of Aztec, in San Juan County, State of New Mexico, at the prices stated in the Bid Schedule. The undersigned also certifies that he/she has examined the site of the proposed work, the material pits, the haul roads, the Standard Specifications, the Plans, the Bid Schedule, the Special Provisions, Supplemental Specifications and all other contract documents before submitting the bid and is satisfied as to the requirements therein. As further consideration for the award of this contract, the undersigned agrees to the following terms, conditions and acknowledgements:

1. To execute this Contract and to furnish contract payment and performance bonds in the amount of One Hundred Percent (100%) of the total price of this bid within fifteen (15) days after receiving notification of the acceptance of this bid, and failing to do so, to forfeit the accompanying check or bid bond to the City as liquidated damages, and the City may proceed to award the contract to others.

2. To commence work within **10** days, or such additional time as may be allowed in writing by the City, after notification of Notice to Proceed of contract, and to complete the contract, as awarded, in **240 Calendar days**.

3. The Owner will give the Bidder a Notice to Proceed no later than sixty (60) days after the Notice of Award is issued.

4. The undersigned declares that it is the only entity or party interested in the bid as principal and that its officers, employees, subsidiaries or parent corporations (check box a. or b. as appropriate):

( ) a. have not in any way participated in any activities in restraint of trade, or been debarred with relation to public contracts either in the State of New Mexico or any other State of the United States or on any federally-assisted contract during the five-year period immediately preceding this bid or either directly or indirectly entered into any agreement, participated in any collusion or otherwise taken any action in restraint of free competitive bidding in connection with this contract.

( ) b. have participated in activities in restraint of trade with relation to public contracts either in the State of New Mexico or any other State of the United States or on any federally assisted contracts during the five –year period immediately preceding this bid or entered into collusion, or restraint of free competitive bidding on this contract, and are of the opinion that they are a responsible bidder entitled to the award of a contract involving public moneys and attach hereto

an explanation of their activities in restraint of free trade, restraint of free competitive bidding or collusion.

5. In accordance with the contract, plans and specifications to repair, maintain and guarantee all work performed thereunder until accepted by the City of Aztec.

6. The Bidder, hereby certifies that it has ( ), has not ( ) participated in a previous contract or subcontract subject to the equal opportunity clause, as required by Executive Orders 11246, 10925 and 11114 as amended, and that is has ( ), has not ( ) filed with the Office of Federal Contract Compliance Program all reports due under the applicable filing requirements.

7. We acknowledge the receipt of the following Addenda:

No.	Date	No.	Date

8. The undersigned agrees that any and all claims that the undersigned may have for overcharges resulting from antitrust violations as to goods, services and materials purchased in connection with this bid are hereby assigned to the City of Aztec, but only to the extent that such overcharges are passed on to the City. The undersigned further agrees to require its Subcontractors to assign any and all such claims for overcharges to the City of Aztec, but only to the extent such overcharges are passed on to the City, by executing an assignment on a form obtainable from the Engineer prior to the commencement of work by a Subcontractor. The undersigned retains all rights to any such antitrust claims to the extent of any overcharges not passed on to the City.

9. The undersigned tenders herewith, as a Bid Guarantee for which receipt has been given, a certified check, Bid Bond, cashier's check, postal money order or bank money order in the amount of at least **5%** of the amount bid drawn to the order of the City of Aztec.

10. Bidder agrees to perform all of the improvements described in the specifications and shown on the Plans for the following unit prices: (Amounts are to be shown in both words and figures. In case of discrepancy, the amount shown in words shall govern).

11. The Contractor shall be assessed liquidated damages of $2,500.00 for each consecutive Calendar Day in excess of this date in accordance with Section 108.8, Liquidated Damages, in the Standard Specifications.

BASE BID

ITEM NO	SPEC NO	ITEM DESCRIPTION	UNIT	ESTIMATED QTY	UNIT COST	AMOUNT ($)
		ROADWAY				
1	201000	CLEARING & GRUBBING	LS	1		
2	203000	UNCLASSIFIED EXCAVATION	CY	16,490		
3	203110	CITY FURNISHED BORROW	CY	63,000		
4	203205	SUBEXCAVATION AND RECOMPACTION	SF	25,000		
5	207000	SUBGRADE PREPARATION	SY	27,000		
6	303160	BASE COURSE	TON	6,755		
7	407000	ASPHALT MATERIAL FOR TACK COAT	TON	13		
8	408100	PRIME COAT MATERIAL	TON	44		
9	416000	MINOR PAVING (DRIVEWAYS)	SY	293		
10	417000	MISCELLANEOUS PAVING	SY	2,545		
11	417100	ASPHALT CURB	LF	230		
12	423282	HMA SP-III COMPLETE	TON	8,588		
13	601110	REMOVAL OF SURFACING	SY	1,700		
14	606001	METAL BARRIER, W-BEAM	LF	1,494		
15	606051	END TREATMENT TYPE TL-3 END TERMINAL	EA	2		
16	606052	END TREATMENT TYPE TL-2 END TERMINAL (37.5')	EA	3		
17	606053	END TREATMENT W-BEAM END ANCHOR	EA	3		
18	606055	END TREATMENT DRIVEWAY END ANCHOR	EA	6		
19	609200	HEADER CURB	LF	48		
20	609318	CONC MOUNTABLE CURB & GUTTER (6" X 18")	LF	655		
21	632000	CLASS A SEEDING	AC	7		
22	632030	CLASS D SEEDING	AC	1		
		SUBTOTAL ROADWAY				
		CONSTRUCTION ENGINEERING				
23	603280	SWPPP MANAGEMENT	LS	1		
24	618000	TRAFFIC CONTROL MANAGEMENT	LS	1		
25	621000	MOBILIZATION	LS	1		
26	801000	CONSTRUCTION STAKING BY CONTRACTOR	LS	1		
27	802000	POST CONSTRUCTION PLANS	LS	1		
		SUBTOTAL CONSTRUCTION ENGINEERING				$
		PERMANENT SIGNING & STRIPING				
28	606600	TEMPORARY CONCRETE WALL BARRIER	LF	30		
29	701000	PANEL SIGNS	SF	148		
30	701010	EXTRUDED PANEL SIGNS	SF	275		
31	701100	STEEL POST AND BASE POST FOR PANEL SIGN	LF	275		

ITEM NO	SPEC NO	ITEM DESCRIPTION	UNIT	ESTIMATED QTY	UNIT COST	AMOUNT ($)
32	701108	STEEL I-BEAM POST TYPE S4X7.7	LF	80		
33	702238	BARRICADE, TYPE III - 8' (PERMANENT)	EA	6		
34	703002	OBJECT MARKER TYPE 2	EA	18		
35	704000	RETROREFLECTORIZED PAINTED 4" MARKINGS	LF	38,379		
36	704224	RETROREFLECTORIZED PAINTED 24" MARKINGS	LF	43		
37	704310	RETROREFLECTORIZED PLASTIC COMBINATION THRU AND LEFT ARROW	EA	4		
38	704320	RETROREFLECTORIZED PLASTIC RIGHT ARROW	EA	8		
39	704330	RETROREFLECTORIZED PLASTIC LEFT ARROW	EA	2		
40	704400	RETROREFLECTORIZED PLASTIC WORD (ONLY)	EA	5		
41	721000	REMOVAL OF PAVEMENT STRIPE	LF	934		
		SUBTOTAL PERMANENT SIGNING & STRIPING				$
		CONSTRUCTION TRAFFIC CONTROL				
42	702000	CONSTRUCTION SIGNING	SF	120		
43	702110	PORTABLE SIGN SUPPORT	EA	13		
44	702238	BARRICADE, TYPE III - 8'	EA	6		
45	702525	CHANNELIZATION DEVICES TYPE DRUM	EA	58		
46	702600	SEQUENTIAL ARROW DISPLAY	EA	2		
		SUBTOTAL CONST TRAFFIC CONTROL DEVICES				$
		DRAINAGE & EROSION CONTROL				
47	511000	STRUCTURAL CONCRETE, CLASS A	CY	14		
48	511030	STRUCTURAL CONCRETE CLASS AA	CY	455		
49	515000	REINFORCED CONC FOR MINOR STRUCTURES	CY	5		
50	516000	FLOWABLE FILL	CY	150		
51	540060	REINFORCING BARS GRADE 60	LB	126,240		
52	570018	18" CULVERT PIPE	LF	15		
53	570019	18" CULVERT PIPE END SECTION	EA	1		
54	570024	24" CULVERT PIPE	LF	266		
55	570025	24" CULVERT PIPE END SECTION	EA	8		
56	570036	36" CULVERT PIPE	LF	58		
57	570037	36" CULVERT PIPE END SECTION	EA	2		
58	570078	78" STORM DRAIN CULVERT PIPE	LF	240		
59	601000	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LS	1		
60	602000	RIP-RAP CLASS A	CY	53		
61	602040	RIP-RAP CLASS E	CY	420		
62	602060	RIP-RAP CLASS G	CY	14		
63	602200	GABIONS	CY	450		
64	603200	SILT FENCE	LF	5,575		

ITEM NO	SPEC NO	ITEM DESCRIPTION	UNIT	ESTIMATED QTY	UNIT COST	AMOUNT ($)
65	603221	CHECK DAM, TYPE II, 18"	EA	80		
66	603250	DROP INLET PROTECTION TYPE I	EA	4		
67	603262	COMPOSTED MULCH SOCK	LF	1,555		
68	614014	PIPE CASING, 14" STEEL, 1/4" WALL THICKNESS	LF	603		
69	614018	PIPE CASING, 18" STEEL, 1/4" WALL THICKNESS	LF	80		
70	623045	MODIFIED MDI, TYPE I (VALLEY/URBAN) H=3'1" TO 6"0"	EA	2		
71	623071	MODIFIED MDI, TYPE III (VALLEY/URBAN)	EA	2		
72	623321	CURB DROP INLET TYPE I-A, OVER 4'	EA	1		
73		10" HDPE WATERLINE W/CAPS INCLUDE TRENCHING	LF	400		

TOTAL AMOUNT BASE BID 1 - 73 (in words and figures): _____

_____

_____

Organization: _____

By: _____

Title: _____

STATE OF _____)

) ss

COUNTY OF _____)

SUBSCRIBED AND SWORN TO BEFORE ME ON THIS:

_____ DAY OF _____, 2015

_____

NOTARY PUBLIC

My Commission Expires: _____

New Mexico Contractor's Classification and License No.:_____

A.4 Bid Bond

Date of Bid Opening: Date Bond Executed:

_____ _____

Principal: _____

Surety: _____

KNOW ALL MEN BY THESE PRESENTS, that we, the **PRINCIPAL**, and **SURETY** above named, are held and firmly bound unto the **City of Aztec**, in the sum of 5% of the amount bid as shown on the Bid Form prepared by the Principal and submitted by him concurrently with this bond, and for the payment of such sum we bind ourselves, our heirs, executors, administrators, successors, jointly and severally by these presents.

THE CONDITION OF THIS BOND IS THAT the Principal has submitted a sealed bid for the following City of Aztec construction project, to wit:

EAST AZTEC ARTERIAL ROUTE, PHASE IB

and this bid is incorporated herein by reference. **NOW, THEREFORE, if this bid is submitted by the Principal is accepted, and the contract is awarded to the Principal, and if the Principal executes the contract and furnishes contract payment and performance bonds as required by the City of Aztec within fifteen (15) days after being notified in writing of the award, then this obligation shall be null and void, otherwise it shall remain and be in full force and effect.**

IN WITNESS WHEREOF, the Principal and Surety have caused this instrument to be signed and sealed this _____day of _____, 20___.

_____
Individual or Partnership Principal

_____
Corporate Principal

_____
Business Address

_____
Title

_____
Corporate Surety

_____
Business Address

_____
Title

(This page left blank)

A.5 Non-Collusion Affidavit of Prime Bidder

STATE OF NEW MEXICO

COUNTY OF: _____

_____ being first duly sworn, deposes and says that:

(1) He/she is the _____ of _____ the Bidder that has submitted the attached Bid Submittal;

(2) He/she is fully informed respecting the preparation and contents of the attached Bid Submittal and of all pertinent circumstances respecting such bid;

(3) Such bid is genuine and is not a collusive or sham bid;

(4) Neither the said Bidder nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this affiant, has in any way colluded, conspired, connived or agreed, directly or indirectly with any other Bidder, firm or person to submit a collusive or sham bid in connection with the Contract for which the attached bid has been submitted or to refrain from bidding in connection with such Contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communications or conference with any other Bidder, or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against the Contracting Agency or any person interested in the proposed Contract; and

(5) The price or prices quoted in the attached bid are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees, or parties in interest, including this affiant.

(SIGNED) _____

TITLE _____

SUBSCRIBED AND SWORN to before me this ____day of _____, 2015.

_____
NOTARY PUBLIC
My Commission Expires:

_____

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A.6 Non-Collusion Affidavit of Subcontractor

STATE OF NEW MEXICO

COUNTY OF: _____

_____ being first duly sworn, deposes and says that:

(1) He/she is the _____ of _____, hereinafter referred to as the "Subcontractor";

(2) He/she is fully informed respecting the preparation and contents of the Subcontractor's bid submitted by the Subcontractor to _____, the Contractor, for certain work in connection with the construction contract pertaining to the **East Aztec Arterial Route, Phase IB** project in Aztec, NM ;

(3) Such Subcontractors bid submittal is genuine and is not a collusive or sham bid submittal;

(4) Neither the Subcontractor nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this affiant, has in any way colluded, conspired, connived or agreed, directly or indirectly with any other Bidder, firm or person to submit a collusive or sham bid in connection with the Contract for which the attached bid has been submitted or to refrain from bidding in connection with such Contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communications or conference with any other Bidder, or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against the Contracting Agency or any person interested in the proposed Contract; and

(5) The price or prices quoted in the Subcontractor's bid are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees, or parties in interest, including this affiant.

(SIGNED): _____

TITLE: _____

SUBSCRIBED AND SWORN to before me this ___ day of _____, 20___.

_____
NOTARY PUBLIC

My Commission Expires:

_____

SUBCONTRACTS

A. The Contractor shall not execute an agreement with any subcontractor or permit any subcontractor to perform any work included in this contract until he/she has submitted a Non-Collusion Affidavit from the subcontractor, in substantially the form shown below, and has received written approval of such subcontractor from the City of Aztec.

B. No proposed subcontractor shall be disapproved by the City of Aztec except for cause.

C. The Contractor shall be as fully responsible to the City of Aztec for the acts and omissions of his/her subcontractors and of persons either directly or indirectly employed by them, as he/she is for the acts and omissions of persons directly employed by him/her.

D. The Contractor shall cause appropriate provision to be inserted in all subcontracts relative to the work to require compliance by each subcontractor with the applicable provisions of the Contract for the improvements embraced.

Nothing contained in the Contract shall create any contractual relation between any subcontractor and the City of Aztec.

A.7 Subcontractor and Material Suppliers Listing

Note: A Contractor that submits a Bid valued at more than sixty thousand for a City Project, that is subject to the public works minimum wage act 13-4-10 NMSA 1978 shall be registered with the labor and industrial division of the Labor Department.

Trade:	Name of Subcontractor:	
Address:		
Telephone No.:	License No.:	NM Dept. of Labor Regist. No.:
Signature of Subcontractor (to be obtained after award of contract):		

Trade:	Name of Subcontractor:	
Address:		
Telephone No.:	License No.:	NM Dept. of Labor Regist. No.:
Signature of Subcontractor (to be obtained after award of contract):		

Trade:	Name of Subcontractor:	
Address:		
Telephone No.:	License No.:	NM Dept. of Labor Regist. No.:
Signature of Subcontractor (to be obtained after award of contract):		

Trade:	Name of Subcontractor:	
Address:		
Telephone No.:	License No.:	NM Dept. of Labor Regist. No.:
Signature of Subcontractor (to be obtained after award of contract):		

Trade:	Name of Subcontractor:	
Address:		
Telephone No.:	License No.:	NM Dept. of Labor Regist. No.:
Signature of Subcontractor (to be obtained after award of contract):		

Trade:	Name of Subcontractor:	
Address:		
Telephone No.:	License No.:	NM Dept. of Labor Regist. No.:
Signature of Subcontractor (to be obtained after award of contract):		

Trade:	Name of Subcontractor:	
Address:		
Telephone No.:	License No.:	NM Dept. of Labor Regist. No.:
Signature of Subcontractor (to be obtained after award of contract):		

Trade:	Name of Subcontractor:	
Address:		
Telephone No.:	License No.:	NM Dept. of Labor Regist. No.:
Signature of Subcontractor (to be obtained after award of contract):		

Trade:	Name of Subcontractor:
Address:	
Telephone No.:	License No.:
Signature of Subcontractor (to be obtained after award of contract):	

A.8 Notices to Contractors

A.8.1 Bidders List of Quoters for the Disadvantaged Business Enterprise (DBE) Program

CN/PROJECT NUMBER: CN F100090

In accordance with 49 CFR Part 26, the Department will establish the State DBE goal using a Bidders List. The Bidders List will be a compilation of all quotes received by the Contractor during the advertising period. The Bidders List will be used to determine the relative availability of DBE's.

At the time the Bid is submitted to the Department, the Contractor shall list, on this Form BL-DBE, the quotes received for the project, using additional sheets as necessary. The listing shall include EACH quoter's name, business address, and telephone number and whether the quoter is a New Mexico certified DBE. **FAILURE TO COMPLY WITH THIS REQUIREMENT SHALL RENDER A BID NON-RESPONSIVE AND THE BID SHALL BE REJECTED**.

The term "quoter" shall include subcontractors and suppliers of materials with whom the Contractor has direct contact.

Providing the listing of quoters in compliance with the Provisions, shall not be a substitute for the requirements of the Subcontractors Fair Practices Act, Chapter 18, Laws of 1988, NMSA 1978, Section 13-4-31 through 13-4-43.

BIDDER: _____

ADDRESS: _____

TELEPHONE: _____ **FAX NO:** _____

EMAIL ADDRESS: _____

LISTING OF QUOTERS

NAME	ADDRESS	TELEPHONE	DBE / NON-DBE

PROJECT NUMBER: CN F100090

BIDDER: _____

LISTING OF QUOTERS (Continued)

NAME	ADDRESS	TELEPHONE	DBE / NON-DBE

NOTICE TO CONTRACTORS
A.8.2 DISADVANTAGED BUSINESS ENTERPRISE (DBE) PROGRAM RACE-RACE -CONSCIOUS MEASURES
October 18, 2010

This Project is subject to race-conscious measures. The established DBE Goal for this project is **3.5** %.

At the time the bid is submitted to the Department, **ALL BIDDERS** as indicated below, shall establish whether it can or cannot meet the established DBE goal and shall complete, sign and submit Form No. A-585, DBE A-1 Pages 1 and 2 indicating the subcontractors/suppliers that it will use if awarded the project. Each Bidder is responsible for confirming that each DBE it intends to utilize is currently certified. To do so, Bidders should confirm the DBE firm's status by accessing the DBE Directory at http://nmdot.dbesystem.com. Any questions about accessing the Directory or properly completing the forms can be addressed to the NMDOT Office of Equal Opportunity Programs (OEOP) at 1.800.544.0936 or 505.827.1774.

In addition, within five (5) working days after the bid opening, by 4:00 PM, **ALL BIDDERS** shall submit written confirmation from each DBE of its intent to participate in the contract as provided in the Bidder's commitment. See the Notice to Contractors for Disadvantaged Business Enterprise (DBE) Program Race-Conscious Measures- Form A-644 for specific instructions and the required form (Form No. A-644).

If the bidder cannot meet the established DBE goal, the bidder shall submit documentation evidencing its "Good Faith Efforts" to obtain DBE participation. This documentation shall be submitted to the OEOP located at Aspen Plaza, 1596 Pacheco Street, Suite 107, Santa Fe NM, 87505. Documentation will be accepted until 4:00 PM within (5) five working days after the bid opening. The *Selected DBE Program Provisions Disadvantaged Business Participation in USDOT Assisted Contracts* provides a detailed listing of the types of actions that the NMDOT will consider as evidence of a Bidder's "Good Faith Efforts" to obtain DBE participation. At a minimum, the Bidder shall provide evidence that it: solicited through all reasonable and available means the interest of all certified DBE firms that have the capability to perform the work on the contract; and, determined with certainty whether DBE firms were interested by taking appropriate steps to follow up on initial solicitations. Evidence shall include copies of newspaper advertisements, fax logs, telephone logs, or other means utilized to solicit and follow up with the DBE firms.

If a Bidder is submitting "Good Faith Efforts" documentation, this Notice to Contractors; Form No. A-585A, DBE A-1; and Form No. A-644 shall be completed and submitted in accordance with the time frames indicated above. If the OEOP determines that the apparent low bidder has failed to provide adequate evidence of "Good Faith Efforts", the Department will notify the apparent low bidder of that determination and provide the apparent low bidder with the opportunity to request administrative reconsideration of that determination pursuant to 49 CFR 26.53(b)(3)(d).

FAILURE TO COMPLY WITH THESE REQUIREMENTS SHALL RENDER A BID NON- RESPONSIVE AND THE BID SHALL BE REJECTED.

In accordance with 49 CFR Part 26, the Department's Disadvantaged Business Assistance Program, and the applicable Special Provisions, the bidder (Check box a., b. or c. as appropriate):

( ) a. Assures to meet or exceed the established DBE goal.

( ) b. Cannot meet the established DBE goal. Assures to submit "Good Faith Efforts" documentation.

( ) c. Is a certified DBE contractor. Shall list itself and any other DBE subcontractor(s) on Form No. A-585A, DBE A-1.

NEW MEXICO DEPARTMENT OF TRANSPORTATION
RACE CONSCIOUS MEASURE PROJECT
CONTRACT GOAL FOR DISADVANTAGED BUSINESS ENTERPRISE PROGRAM

For the purpose of this contract, a goal of **3.5%** percent has been established for certified Disadvantaged Business Enterprise (DBE) Participation.

Type or print legibly

*Name of DBE	DBE Address	Description of Work	Proposed Amount
		Total DBE Participation	**$**

1. Control No. CN F100090/____
2. Contractor's DBE Liaison Officer _____
3. Total Amount of the Bid $_____

**4. DBE Participation _____

Dollar Estimate and Participation: $_____ or _____ % of line 3.

*Written confirmation from the DBE that is participating in the contract is required. See Form No. A-644.
** If the contract goal is not met, evidence of "Good Faith Efforts" must be provided. The bidder must show that it took all necessary and reasonable steps to achieve a DBE goal or other requirement by the scope, intensity and appropriateness

I will abide by the Disadvantaged Business Enterprise (DBE) goal set forth for this project and hereby submit the names of the DBE firms that will participate in this project. Substitution(s) will not be allowed without prior submission of written justification to the Project Manager for approval. I understand that failure to meet the goal may result in Liquidated Damages for the difference between the DBE goal and the actual DBE participation achieved.

This statement is my assurance that _____ agrees to comply with the
(Name of firm)
Requirements of 49 CFR Part 26, and the New Mexico Department of Transportation's Disadvantaged Business Enterprise Program, and all the requirements contained therein.

_____ _____
Date **Signature of Company Official**

A.8.3 NOTICE TO CONTRACTORS

DISADVANTAGED BUSINESS ENTERPRISE (DBE) PROGRAM
RACE-CONSCIOUS MEASURES
FORM No. A-644

July 21, 2010

CN F100090

This Project is subject to race-conscious measures. The established DBE Goal for this project is 3.5%.

Within five (5) working days after the bid opening, ALL BIDDERS shall submit written confirmation from each DBE listed on their Form A-585, DBE A-1 that it is participating in the contract. All Bidders shall provide the required information as indicated on Form No. A-644.

These forms shall be submitted to Office of Equal Opportunity Programs (OEOP) located at Aspen Plaza, 1596 Pacheco Street, Suite 107, Santa Fe NM, 87505. OEOP can be contacted at Telephone No. 1.800.544.0936 or 505.827.1774 and FAX No. 505.827.1779. Forms will be accepted until 4:00 PM within five (5) working days after the bid opening.

FAILURE TO COMPLY WITH THIS REQUIREMENT SHALL RENDER A BID NON-RESPONSIVE AND THE BID SHALL BE REJECTED.

New Mexico Department of Transportation

DISADVANTAGED BUSINESS ENTERPRISE (DBE) PARTICIPATION

Control No. CN F100090/

DBE Name & Address	Line #	Item Description	Amount
		Total:	

*IF ANY FIRM LISTED ABOVE IS A MATERIAL SUPPLIER, BUT NOT THE MANUFACTURER, THE CONTRACTOR MAY CREDIT ONLY 60% OF THE EXPENDITURE TO THE SUPPLIER, FOR FINAL PAYMENT. THE PRIME CONTRACTOR MAY CERTIFY THAT FINAL PAYMENT WILL BE MADE TO DBE UPON HIS RECEIPT OF PAYMENT.

I affirm that I am an authorized representative of _____, hereinafter "DBE Firm"
Name of DBE Firm

_____
Signature of Authorized DBE Representative

_____
Printed Name of Authorized DBE Representative

Subscribed and sworn to be me this _____day of _____, 20_____.

Notary Seal

_____
Notary Public

My commission Expires: _____

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A.8.4 Non-Debarment Certification

New Mexico
State Highway and Transportation Department

NON-DEBARMENT CERTIFICATION

I. Instructions For Certification

1. By signing and submitting this proposal, the prospective primary participant is providing the certification set out below.

2. The inability of a person to provide the certification required below will not necessarily result in denial of participation in this covered transaction. The prospective participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective primary participant to furnish a certification or an explanation shall disqualify such person from participation in this transaction.

3. The certification in this clause is a material representation of fact upon which reliance was placed when the department or agency determined to enter into this transaction. If it is later determined that the prospective primary participant knowingly rendered an erroneous certification in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

4. The prospective primary participant shall provide immediate written notice to the department or agency to whom this proposal is submitted if at any time the prospective primary participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

5. The terms "covered transactions," "debarred," "suspended," "ineligible," "lower tier covered transaction." "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage

sections of the rules implementing Executive Order 12540. You may contact the department or agency to which this proposal is being submitted for assistance in obtaining a copy of those regulations.

6. The prospective primary participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

7. The prospective primary participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," provided by the department or agency entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

8. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it it not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List (Tel. (505) 827-5570).

9. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

10. Except for transactions authorized under paragraph 6 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended,

debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

II. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion.

STATE OF _____)
) ss
COUNTY OF _____)

_____ being first
(President or duly authorized Company official

duly sworn deposes and says that he is _____

_____ of _____
(official capacity)

_____ with the intention of becoming
(name of Company)

a primary participant on New Mexico Highway Construction

Project _____
(Project Number)

and that he certifies to the best of his knowledge and belief that said company and its principals:

(a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

(b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract

under a public transaction, violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (b) of this certification; and

(d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

Further affiant sayeth not.

_____
(Signature)

_____
(Print Name)

SUBSCRIBED AND SWORN to before me a notary public this _____ day of _____, 19____

_____
Notary Public

My commission expires: _____

A.8.5 Certification for Federal-Aid Contract

NOTICE TO CONTRACTORS

March 14, 1990

CERTIFICATION FOR FEDERAL-AID CONTRACT

The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal Agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

The prospective participant also agrees by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such subrecipients shall certify and disclose accordingly.

A.8.6 Disclosure of Lobbying Activities

DISCLOSURE OF LOBBYING ACTIVITIES

Approved by OMB
0348-0046

Complete this form to disclose lobbying activities pursuant to 31 U.S.C. 1352
(See reverse for public burden disclosure.)

1. Type of Federal Action: a. contract b. grant c. cooperative agreement d. loan e. loan guarantee f. loan insurance	2. Status of Federal Action: a. bid/offer/application b. Initial award c. post-award	3. Report Type: a. initial filing b. material change For Material Change Only: year _____ quarter _____date of last report_____

4. Name and Address of Reporting Entity: ☐ Prime ☐ Subawardee Tier_____, if known: Congressional District, if known:	5. If Reporting Entity in No. 4 is Subawardee, Enter Name and Address of Prime Congressional District, if known:
6. Federal Department/Agency:	7. Federal Program Name/Description CFDA Number, if applicable:
8. Federal Action Number, if known:	9. Award Amount, if known: $
10. a. Name and Address of Lobbying Entity (if individual, last name, first name, MI): (attach Continuation Sheet(s)	b. Individual Performing Services (including address if different from No. 10a) (last name, first name, MI) SF-LLL-A, if necessary)
11. Amount of Payment (check all that apply): $_____ ☐ actual ☐ planned	13. Type of Payment (check all that apply): ☐ a. retainer ☐ b. one-time fee ☐ c. commission ☐ d. contingent fee ☐ e. deferred ☐ f. other; specify: _____
12. Form of Payment (check all that apply): ☐ a. cash ☐ b. in-kind; specify: nature_____ value	

14. Brief Description of Services Performed or to be Performed and Date(s) of Service, including officer(s), employee(s), or Member(s) contacted, for payment indicated in Item 11:

(attach Continuation Sheet(s) SF-LLL-A, if necessary)

15. Continuation Sheet(s) SF-LLL-A attached: Yes No

16. Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when this transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to the Congress semi-annually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each failure.	Signature:_____ Print Name:_____ Title:_____ Telephone No.:_____ Date:_____
	Authorized for Local Reproduction Standard Form--LLL

INSTRUCTIONS FOR COMPLETION OF SF-LLL, DISCLOSURE OF LOBBYING ACTIVITIES

This disclosure form shall be completed by the reporting entity, whether subawardee of prime Federal recipient, at the initiation or receipt of a covered Federal action, or a material change to a previous filing, pursuant to title 31 U.S.C. section 1352. The filing of a form is required for each payment or agreement to make payment to any lobbying entity for influencing of attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with a covered Federal action. Use the SF-LLL-A Continuation Sheet for additional information if the space on the form is inadequate. Complete all items that apply for both the initial filing and material change report. Refer to the implementing guidance published by the Office of Management and Budget for additional information.

1. Identify the type of covered Federal action for which lobbying activity is and/or has been secured to influence the outcome of a covered Federal action.

2. Identify the status of the covered Federal action.

3. Identify the appropriate classification of this report. If this is a follow-up report caused by a material change to the information previously reported, enter the year and quarter in which the change occurred. Enter the date of the last previously submitted report by this reporting entity for this covered Federal action.

4. Enter the full name, address, city, state and zip code of the reporting entity. Include Congressional District, if known. Check the appropriate classification of the reporting entity that designates if it is, or expects to be, a prime or subaward recipient. Identify the tier of the subawardee, e.g., the first subawardee of the prime is the 1st tier. Subawards include but are not limited to subcontracts, subgrants and contract awards under grants.

5. If the organization filing the report in item 4 checks "Subawardee," then enter the full name, address, city, state and zip code of the prime Federal recipient. Include Congressional District, if known.

6. Enter the name of the Federal agency making the award or loan commitment. Include at least one organizational level below agency name, if known. For example, Department of Transportation, United States Coast Guard.

7. Enter the Federal program name or description for the covered Federal action (item 1). If known, enter the full Catalog of Federal Domestic Assistance (CFDA) number for grants, cooperative agreements, loans, and loan commitments.

8. Enter the most appropriate Federal identifying number available for the Federal action identified in item 1 (e.g., Request for Proposal (RFP) number, Invitation for Bid (IFB) number, grant announcement number, the contract, grant, or loan award number, the application/proposal control number assigned by the Federal agency). Include prefixes, e.g., "RFP-DE-90-001."

9. For a covered Federal action where there has been an award or loan commitment by the Federal agency, enter the Federal amount of the award/loan commitment for the prime entity identified in item 4 or 5.

10. (a) Enter the full name, address, city, state and zip code of the lobbying entity engaged by the reporting entity identified in item 4 to influence the covered Federal action.

(b) Enter the full names of the individual(s) performing services, and include full address if different from 10(a); Enter Last Name, First Name, and Middle Initial (MI).

11. Enter the amount of compensation paid or reasonably expected to be paid by the reporting entity (item 4) to the lobbying entity (item 10). Indicate whether the payment has been made (actual) or will be made (planned). Check all boxes that apply. If this is a material charge report, enter the cumulative amount of payment made or planned to be made.

12. Check the appropriate box(es). Check all boxes that apply. If payment is made through an in-kind contribution, specify the nature and value of the in-kind payment.

13. Check the appropriate box(es). Check all boxes that apply. If other, specify nature.

14. Provide a specific and detailed description of the services that the lobbyist has performed, or will be expected to perform, and the date(s) of any services rendered. Include all preparatory and related activity, not just time spent in actual contact with Federal officials. Identify the Federal official(s) or employee(s) contacted or the officer(s), employee(s), or Member(s) of Congress that were contacted.

15. Check whether or not a SF-LLL-A Continuation Sheet(s) is attached.

16. The certifying official shall sign and date the form, print his/her name, title and telephone number.

Public reporting burden for this collection of information is estimated to average 30 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0046), Washington, D.C. 20503.

DISCLOSURE OF LOBBYING ACTIVITIES
CONTINUATION SHEET

Approved by OMB
0348-0046

Reporting Entity:_____ Page _____ of _____

Authorized for Local Reproduction
Standard Form--LLL-A

New Mexico Pay Equity Reporting Acknowledgement
Executive Order 2009-049

Contractor: _____
Control No.: CN F100090/

Note: The Executive Order and required forms can be obtained from the following link:
http://www.generalservice.state.nm.us/spd/pay_e.html

Contractor agrees if it has ten (10) or more employees OR eight (8) or more employees in the same job classification, at anytime during the term of this contract, to complete and submit the required reporting form (PE10-249 or PE250, depending on their size at the time) either within thirty (30) calendar days of contract award (if the contract did not result from a solicitation) or on the annual anniversary of the initial report submittal for contracts up to one (1) year in duration (if the contract did result from a solicitation).

For contracts that extend beyond one (1) calendar year, or are extended beyond one (1) calendar year, contractor also agrees to complete and submit the required form annually within thirty (30) calendar days of the annual contract anniversary date of the initial submittal date and, if more than 180 calendar days has elapsed since submittal of the last report, at the completion of the contract.

Should contractor not meet the size requirement for reporting at contract award but subsequently grows such that they meet or exceed the size requirement for reporting, contractor agrees to provide the required report within ninety (90) Calendar days of meeting or exceeding the size requirement. That submittal date shall serve as the basis for submittals required thereafter.

Contractor also agrees to levy these reporting requirements on any subcontractor(s) performing more than 10% of the dollar value of the contract if said subcontractor (s) meets, or grows to meet, the stated employee size threshold during the term of the contract. Contractor further agrees that, should one or more subcontractor not meet the size requirement for reporting at contract award but subsequently grows such that they meet or exceed the size requirement for reporting, contractor will submit the required report, for each such subcontractor, within ninety (90) calendar days of that subcontractor meeting or exceeding the size requirement. Subsequent report submittals, on behalf of each such subcontractor, shall be due on the annual anniversary of the initial report submittal. Contractor shall submit the required form(s) to the State Purchasing Division of the General Services Department, and other departments as may be determined, on behalf of the applicable subcontractor(s) in accordance with the schedule contained in the paragraph. Contractor acknowledges that this subcontractor requirement applies even though contractor itself may not meet the size requirement for reporting and be required to report itself.

Contractor shall not be required to report more frequently that annually unless more than 180 calendar days has elapsed since submittal of the last report and the contract has reached completion. The requirement for reporting at contract completion shall not apply in the case of a one-time fulfillment of a purchase order.

By singing this form Contractor acknowledges that it will comply with these requirements.

_____ _____
Signature Date

B. Contract Documents

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B.1 Construction Agreement

THIS AGREEMENT dated _____, 20___, is made and entered into by and between the City of Aztec, a New Mexico municipal corporation, hereinafter called the "City" and _____ hereinafter called the "Contractor" for construction of the East Aztec Arterial Route, Phase IB, COA Project No: 2014-406

The City and the Contractor agree as follows:

1. To perform this contract and construct the work in accordance with the terms and conditions of these Contract Documents, including the following documents:
   a. Agreement (this instrument);
   b. Addenda to Contract Documents, if any;
   c. Bid Documents;
   d. Supplemental General Provisions;
   e. Special Provisions;
   f. Supplemental Specifications;
   g. Bonds;
   h. Performance Bond;
   i. Labor and Material Payment Bond;
   j. Bid Guarantee;
   k. The "New Mexico State Highway and Transportation Department Standard Specifications for Highway and Bridge Construction, 2014";
   l. The "New Mexico Standard Specifications for Public Works Construction, 2006 Edition";
   m. Plans and Drawings;
   n. These Contract Documents;
   o. The sequence of construction and traffic control plan.

2. There are 2 original signed copies of this agreement.

3. Compensation:
   a. Base Bid Amount: _____ to which applicable New Mexico Gross Receipt Taxes will be added.

The contract time for this Contract Two Hundred and Forty **(240) Calendar Days** from the date specified in the Notice to Proceed. All the work in the contract shall be completed by this date in accordance with the definition for "Physical Completion" in Section 101 of the Standard Specifications. For purposes of this contract, this date shall be known as the "Contract Completion Date." The Contractor shall be assessed liquidated damages of $2,500.00 for each consecutive Calendar Day in excess of this date in accordance with Section 108.8, Liquidated Damages, in the Standard Specifications

The terms of this agreement are contingent upon sufficient appropriations and authorizations being made by the City for the performance of this Agreement. If sufficient appropriations and authorization are not made by the City, this agreement shall terminate upon written notice being

given by the City to the Contractor. The City's decision as to whether sufficient appropriations are available shall be accepted by the Contractor and shall be final.

This Agreement incorporates all the agreements, covenants, and understandings between the parties hereto concerning the subject matter hereof, and all such covenants, agreements, and understandings have been merged into this written Agreement. No prior agreement or understanding, verbal or otherwise, of the parties or their agents shall be valid or enforceable unless embodied in this Agreement.

IN WITNESS whereof the parties have executed this contract.

CONTRACTOR:

_____

_____
NAME OF COMPANY

By: _____

Title: _____

And

By: _____

Title: _____

(Seal)

_____
New Mexico Contractor's License No. and Type

CITY OF AZTEC
AZTEC, NEW MEXICO

By: _____
Mayor

(Seal)

ATTEST: _____
Karla Sayler, City Clerk

APPROVED AS TO FORM:

_____
City Attorney

N.M. Taxation & Revenue CRS #: _____

City of Aztec Business Registration #: _____

B.2 Performance Bond

1. KNOW ALL MEN BY THESE PRESENTS, that

_____

(here insert the name and address or legal title of the Contractor)
as Principal, hereinafter called Contractor, and

_____

(here insert the legal title of Surety)
as Surety, hereinafter called Surety, are held firmly bound unto the City of Aztec, a New Mexico municipal corporation as Obligee, hereinafter called City, in the amount of _____ _____ DOLLARS, ($_____) for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents;

B. WHEREAS, the Contractor has by written agreement dated _____, 20__, entered into a contract with the City of Aztec for the **East Aztec Arterial Route, Phase IB** in accordance with drawings and specifications prepared by the City of Aztec which contract is by reference made a part hereof, and is hereinafter referred to as the contract.

C. NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if Contractor shall promptly and faithfully perform said contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

1. The Surety hereby waives notice of any alteration or extension of time made by the City.

2. Whenever Contractor shall be, and declared by the City to be in default under the contract, the City having performed City's obligations thereunder, the surety may promptly remedy the default or shall promptly:

    a. Complete the contract in accordance with its terms and conditions or;

    b. Obtain a bid or bids for submission to City for completing the contract in accordance with its terms and conditions, and upon determination by City and Surety of the lowest responsible bidder, arrange for a contract between such bidder and City, and make available as work progresses (even though there should be a default or a secession of defaults under the contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the contract price, but not exceeding, including other costs and damages for which the surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term "balance of the contract price" as used in this paragraph, shall mean the total amount payable by City to Contractor under the contract and any amendments thereto, less the amount properly paid by City to Contractor.

3. Any suit under this bond must be instituted before the expiration of two (2) years from the date on which final payment under the contract falls due.

4. No right of action shall accrue on this bond to or for the use of any person or corporation other than the City named herein or the heirs, executors, administrators or successors of the City.

SIGNED AND SEALED ON _____, 20___.

_____
Notary Public

My Commission Expires:

_____

_____
Contractor – Principal

By: _____

Title: _____

Approved as to form:

_____

_____
Surety

Title: _____

Countersigned: _____

_____
Surety's Authorized New Mexico Agent

B.3 Labor and Material Payment Bond

A. KNOW ALL MEN BY THESE PRESENTS, that

_____

(here insert the name and address or legal title of the Contractor)
as Principal, hereinafter called Contractor, and

_____

(here insert the legal title of Surety)
as Surety, hereinafter called Surety, are held firmly bound unto the City of Aztec, a New Mexico municipal corporation as Obligee, hereinafter called City, in the amount of _____ _____ DOLLARS, ($_____) for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents;

B. WHEREAS, Principal has by written agreement dated _____, 20____, entered into a contract with the City of Aztec for the **East Aztec Arterial Route, Phase IB** in accordance with drawings and specifications prepared by the City of Aztec which contract is by reference made a part hereof, and is hereinafter referred to as the contract.

C. NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if the Principal shall promptly make payment to all claimants as hereinafter defined, for all labor and material used or reasonably required for use in the performance of the contract, than this obligation shall be void; otherwise, it shall remain in full force, subject, however, to the following conditions.

1. A claimant is defined as one having a direct contract with the principal or with a subcontractor of the principal for labor, material, or both, used or reasonably required for use in the performance of the contract, labor and material being construed to include that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental of equipment directly applicable to the contract.

2. The above named Principal and Surety hereby jointly and severally agree with the City that every claimant as herein defined, who has not been paid in full before the expiration of a period of ninety (90) days after the date on which the last of such claimant's work or labor was done or performed, or materials were furnished by such claimant, prosecute the suit to final judgment for such sum or sums as may be justly due claimant, and have execution thereon. The City shall not be liable for payment of any cost or expenses of any such suit.

3. No suit or action shall be commenced hereunder by any claimant:

    a. Unless claimant, or other than one having a direct contract with the principal, shall have written notice to any two of the following: the Principal, the City, or the surety above named, within ninety (90) days after such said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the work or labor was done or performed.

b. Such notice shall be served by mailing the same by registered mail or certified mail, postage prepaid, in an envelope addressed to the Principal, City or surety at any place where an office is regularly maintained for the transaction of business, or revised in any manner in which legal process may be served in the state in which the aforesaid project is located, save that such services need not be made by a public officer.

c. After the expiration of one (1) year following the date on which Principal ceased work on said Contract, it being understood, however, that if any limitation embodied in this bond is prohibited by any law controlling the construction hereof, such limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.

d. Other than in a state court of competent jurisdiction in and for the county or other political subdivision of the state in which the project, or any part thereof, is situated, or in the United States District Court for the district in which the project, or any part thereof, is situated, and not elsewhere.

4. The amount of this bond shall not be reduced by and to the extent of any payments made in good faith hereunder, inclusive of the payment by Surety of mechanics liens, which may be filed of record against said improvement, whether or not claim for the amount of such lien be presented under and against this bond.

SIGNED AND SEALED ON _____, 20___.

_____
Notary Public

My Commission Expires:

_____

_____
Contractor – Principal

By: _____

Title: _____

Approved as to form:

_____

_____
Surety

Title: _____

Countersigned: _____

_____
Surety's Authorized New Mexico Agent

This bond is issued simultaneously with Performance Bond in favor of contracting agency for the faithful performance of the contract.

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C. Standard Specifications

Standard Specification
For

East Aztec Arterial Route, Phase IB,
City of Aztec Project No: 2014-406

The New Mexico State Highway Department Standard Specifications, 2014 Edition, shall govern construction of this project except where revised or amended by the Supplemental General Provisions, Special Provisions and Supplemental Specifications.

The Special Provisions and Supplemental Specifications shall govern over the Standard Specifications and are hereby made a part of the Contract Documents.

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D. Special Provisions

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D.1 Section 210 Excavation and Backfill for Major Structures

NEW MEXICO DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISIONS MODIFYING

SECTION 210
EXCAVATION AND BACKFILL FOR MAJOR STRUCTURES

All provisions of SECTION 210 – **EXCAVATION AND BACKFILL FOR MAJOR STRUCTURES** of the New Mexico Department of Transportation's Standard Specifications shall apply except as modified herein:

Delete Subsection **210.5.1 Work Included in Payment** line 4. and replace with the following;

4. Select backfill**,** A-1-a or Base Course.

END OF SECTION

March 12, 2008

D.2 Section 303 Base Course (QLA)

NEW MEXICO DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISIONS MODIFYING

SECTION 303
BASE COURSE (QLA)

All provisions of SECTION 303 – BASE COURSE (QLA) of the New Mexico Department of Transportation's Standard Specifications shall apply except as modified herein:

303.3 CONSTRUCTION REQUIREMENTS

Delete Subsection **303.3.2 Mixing and Placing** and replace with the following;

Mix the Base Course Material to a homogenous mixture. Place maximum 6 in (compacted) lifts, unless specified otherwise. Do not place on frozen Subgrade. Compact Base Course to at least 96% of maximum density as determined by AASHTO T 180, Method D (TTCP Modified). Take field density tests at locations shown in the Contractor's quality control plan. Use nuclear testing methods to determine densities in accordance with AASHTO T 310. Correct nuclear moisture contents for residual hydrocarbons before computing in-place dry densities when using RAP.

END OF SECTION

November 4, 2011
Revised May 30, 2012

D.3 Section 401 Pavement Smoothness Measurement

NEW MEXICO DEPARTMENT OF TRANSPORTATION
SUPPLEMENTAL SPECIFICATIONS FOR

PAVEMENT SMOOTHNESS MEASUREMENT
SECTION 401

All Provisions of the New Mexico Department of Transportation Standard Specifications for Highway and Bridge Construction shall apply in addition to the following:

Delete SECTION 401- PAVEMENT SMOOTHNESS MEASUREMENT in its entirety and substitute the following:

401.1 DESCRIPTION

This Work consists of providing and using profile testing Equipment that incorporates the Mean Roughness Index (MRI) measurement.

This specification applies to new construction and full reconstruction projects, overlay/inlay, rehabilitation, and pavement preservation projects. Pay adjustments for projects with two or more courses of HMA/WMA will be based on table 401.5.1.1:1 “MRI Based Profile Pay Adjustment Schedule for Multiple Course HMA/WMA Projects”. Pay adjustments for projects with only one course of HMA/WMA will be based on table 401.5.1.1:2 “MRI Based Profile Pay Adjustment Schedule for Single Course HMA/WMA Projects”. Pay adjustments for projects with PCCP will be based on table 401.5.1.2:1 “MRI Based Pay Adjustment Schedule for PCCP Pavement”.

401.2 MATERIALS—Vacant

401.3 CONSTRUCTION REQUIREMENTS

401.3.1 Profile Measurements

Process all raw data in the University of Michigan Transportation Research Institute’s Engineering Research Division (ERD) format using the specified Butterworth filter settings. For HMA/WMA data collection use a Butterworth Band-pass Filter short cutoff wavelength of 0.01 feet and a long cutoff wavelength of 300.00 feet. For PCCP data collection use a Butterworth Band-pass Filter short cutoff wavelength of 7.00 feet and a long cutoff wavelength of 300.00 feet.

Submit all ERD files and the current calibration documentation to the accompanying Department representative, within 1 hour after the data has been collected, on either a CD or Universal Serial Bus (USB) memory storage device. Provide additional data files or text files upon request. If the Contractor does not submit the profile measurements files within this time period, the Department will reduce the pay adjustments resulting from Table 401.5.1.1:1, “MRI Based Profile Pay Adjustment Schedule for Multiple Course HMA/WMA Projects”, Table 401.5.1.1:2 “MRI Based Pay Adjustment Schedule Single Course HMA/WMA Projects”, or Table 401.5.1.2:1, “MRI Based Profile Pay Adjustment Schedule for PCC Pavements by five additional percentage points for the Profiled area in question.

401.3.1.1 Profile Measurement Device

Provide, operate, and maintain a profile measurement device that uses equipment and computer programs in accordance with AASHTO M 328 “Inertial Profiler”, or an equal approved by the State Materials Bureau.

401.3.1.2 Profile Measurement Device Calibration and Certification

Certify the profile measurement device in accordance with the Department’s *Standard Practice “Certification of Inertial Profilers”*. Profile measurement devices used for acceptance testing on NMDOT projects shall have a current TTCP annual calibration sticker or manufacturer’s calibration and certification certificate. The manufacturer’s certificate is valid only until the date of the next TTCP sponsored profile measuring device certification.

Verify calibration of the profile measurement device. Verify both horizontal and vertical calibration before each use. Perform verifications in the presence of the Department’s representative as determined by the Project Manager and in accordance with the manufacturer’s approved procedures and maintain copies of the verification documentation and manufacturer’s procedures with the machine and provide the calibration documentation and verification documentation to the Project Manager. The Project Manager may require additional calibrations or verifications.

Remove the profile measurement device from the project if it does not meet manufacturer’s calibration requirements. The Project Manager will report the TTCP profile measurement device certification number to the TTCP Administrator in order to provide notification that the Contractor cannot use the machine on other projects until the Contractor obtains re-certification. Once the manufacturer re-certifies the profile measurement device, provide a copy of the certificate to the Department’s TTCP Administrator. The TTCP Administrator will provide a temporary TTCP certification valid until the next scheduled certification.

401.3.1.3 Technician Certification

The Department’s TTCP will certify individuals performing profile measurement. The Department will base certification on demonstrated ability and a written test. The TTCP will establish the term and expiration date of certification and requirements for renewal. The Department State Materials Engineer, through the TTCP, will investigate any concerns submitted in writing as to the competence of a certified individual and implement corrective action if necessary in accordance with the TTCP Board of Directors established procedures.

401.3.1.4 Profile Measurement Operations

The Department will consider profile testing as part of the paving operation. Include the proposed frequency and schedule for profile testing with the paving plan submittal at the pre-paving conference. Allow the Department’s Representative to witness the collection of raw data by riding in the vehicle while collecting the data.

Obtain the Project Manager’s written approval and sweep the Roadway surface before beginning profile operations.

Measure the longitudinal smoothness of the final surface of HMA/WMA, OGFC, and PCCP using a Department certified profile measurement device. Operate the profile measurement device in accordance with AASHTO R 57 “Operating Inertial Profiling Systems” and manufacturer’s recommendations. Using dual-sensors, with single point lasers or bar lasers 1.0 inch or less, measure the profile traces for each wheel path. Locate outside trace 3 ft from and

parallel to the approximate location of the pavement edge line. Ensure the centerline distance between sensors is 70.0 in ± 1.0 in. At transverse joints, commence profile traces at the joint location. Operate the device on the driving surface of the roadway at the manufacturer's recommended speed without interfering with traffic or its own operation.

On HMA/WMA projects, perform profile measurements and corrective actions on the final surface of HMA/WMA. On PCCP projects, perform profile measurements and corrective actions on the finished surface.

The Department will use the FHWA's "ProVal" software to determine the MRI for each 0.1 mile section of each lane, reported to the nearest 0.1 inch per mile using the average of each wheel path Mean Roughness Index (MRI).

Maintain the profile data files. Take additional profiles to retest paved surfaces that have received corrective work. The Project Manager may require additional profiles to check previously submitted data or to identify the limits of surface irregularities. Include the following information for each data file:

1. Project number,
2. Date,
3. Lane profiled,
4. Beginning and ending stations,
5. Net total linear feet of each lane,
6. Filter settings, and
7. Operator's signature.

401.3.2 Straightedge Measurements

Test the final surface of HMA/WMA, OGFC, or PCCP not subject to profile measurement with an approved 10-foot straightedge at both right angles and parallel to the centerline. Correct surface deviations greater than 1/8 in within 10 ft, as directed by the Project Manager. Exclude the following from profile measurement and evaluate using a straightedge:

1. Miscellaneous HMA/WMA, ramps, tapers, shoulders, turnouts, median lanes, bridge approaches and departures, and other areas less than 0.5 mi as designated by the Project Manager during the pre-paving conference;
2. Concrete pavement slab removal and replacement, and intersections not paved integrally with the main line;
3. A single lift of HMA/WMA over Base Course or Cold In-Situ recycle; and
4. Other projects as specified in the plans by the Department.

401.3.3 Evaluation for Must Grind Work and Corrective Work

Evaluate the pavement in 0.1-mile sections for determining needed Must Grind Work, Corrective Work and pay adjustments.

401.3.4 Must Grind Work

Identify Must Grind locations using "Ride Quality Analysis" with the Continuous Input feature of the latest version of the FHWA's "ProVAL" software. Use a "MRI threshold (in/mi)" of 105.00 and a "Sliding Base Length" of 25.00 feet. Identify Must Grind locations for each lane using the "MRI" Ride Quality Index feature of ProVAL. Perform Must Grind Work prior to evaluating and performing Corrective Work.

Develop and submit an appropriate written corrective action plan, including methods and procedures, to the Project Manager for review and written approval. Do not begin Must Grind Work until the Project Manager approves the methods and procedures in writing. The Project Manager's approval does not relieve the Contractor of the responsibility to comply with the specifications.

Correct all Must Grind locations on the project identified by ProVAL, regardless of the smoothness value for the 0.1 mile section. Use a Roadway planing device to perform diamond grinding to bring the reported average measured smoothness value to an acceptable level.

Do not reduce planned pavement thickness by more than 0.3 inches without written approval of the Project Manager.

Grind localized roughness areas across the lane width to produce a smooth transition to the surrounding pavement.

For HMA/WMA, if the Contract does not require an OGFC, or OGFC will not be placed before project suspension, apply a fog seal to the ground areas as approved by the Project Manager. Fog seal and all operations necessary to apply it is included in the Bid Item Unit Price for HMA/WMA, the Department will make no separate payment.

401.3.5 Corrective Work

Develop and submit an appropriate written corrective work plan, including methods and procedures, to the Project Manager for review and written approval if the measured smoothness value falls within the "Corrective Work Required" value of Table 401.5.1.1:1, "MRI Based Profile Pay Adjustment Schedule for Multiple Course HMA/WMA Projects", Table 401.5.1.1:2 "MRI Based Pay Adjustment Schedule for Single Course HMA/WMA Projects", or Table 401.5.1.2:1, "MRI Based Profile Pay Adjustment Schedule for PCC Pavements. If approved, complete elected corrective work, including necessary traffic control, at no additional cost to the Department. After completion of the approved corrective work, re-profile the corrected area to verify compliance with specification requirements.

Limit corrective work to diamond grinding, overlaying, or removing and replacing rejected 0.1-mile sections. Do not begin corrective work until the Project Manager approves the methods and procedures in writing. The Project Manager's approval does not relieve the Contractor of the responsibility to comply with the specifications.

Perform corrective work in accordance with the following:

1. Diamond Grinding. Use a Roadway planing device to perform diamond grinding to bring the reported average measured smoothness value to an acceptable level in accordance with Table 401.5.1.1:1, "MRI Based Profile Pay Adjustment Schedule for Multiple Course HMA/WMA Projects", Table 401.5.1.1:2 "MRI Based Pay Adjustment Schedule for Single Course HMA/WMA Projects", or Table 401.5.1.2:1, "MRI Based Profile Pay Adjustment Schedule for PCC Pavements". \

Do not reduce planned pavement thickness by more than 0.3 inches without written approval of the Project Manager.

Grind corrective work areas to produce a smooth transition to the surrounding pavement Grinding of the wheel paths alone is not allowed.

For HMA/WMA, if the Contract does not require an OGFC, or OGFC will not be placed before project suspension, apply a fog seal to the ground areas as approved by the Project Manager. Fog seal and all operations necessary to apply it is incidental to the Bid Item Unit Price for HMA/WMA, the Department will make no separate payment.

For PCCP, perform additional diamond grinding as necessary in the following situations:

1.1. The transverse direction, so the lateral grinding limits are at a constant offset from and parallel to the nearest lane line or pavement edge; and

1.2. The longitudinal direction, so the grinding begins and ends at lines perpendicular to the pavement centerline. Maintain diamond ground locations as neat rectangular areas of uniform appearance. The Project Manager may require skid resistance testing to ensure skid resistance comparable to adjacent sections that do not require grinding. If the ground area is deficient, the Contractor shall improve the skid resistance at no cost to the Department.

2. Overlaying. If the Contractor uses an additional lift of HMA/WMA to correct rough pavement, it shall meet the requirements of the appropriate specification. Extend the overlay lift the full width of the underlying pavement surface to a finished compacted thickness sufficient to correct the existing pavement roughness.

The Department will not allow a second overlay if the first overlay does not meet the longitudinal smoothness requirement.

Correct a corrective overlay that does not meet the smoothness requirement by diamond grinding or removing and replacing as specified in Section 401.3.5 Corrective Work.

3. Removing and Replacing. Remove pavement the full width of the lane and the full thickness of the course. The removal area shall begin and end with a transverse saw cut perpendicular to centerline. Use the type of approved HMA/WMA or PCCP as originally specified in the Contract as replacement Material.

Re-profile the 0.1 mile section of travel lane after performing corrective work and use the re-profile's reported measured smoothness data to represent the particular section for pay adjustment purposes. The resulting roadway surface shall comply with Sections 401.3.3, 401.3.4 and 401.3.5. This corrective work shall be performed at no additional cost to the Department.

401.3.6 OGFC Placement and Profile Measurement

Ensure all HMA/WMA profile measurements and corrective work has been completed before placing OGFC. Pay adjustment will be based on the MRI of the HMA/WMA unless the measured average MRI of the OGFC is greater (rougher) than the measured average MRI of the HMA/WMA on the same 0.1 mile section. If the MRI of the OGFC is greater (rougher) than the MRI of the HMA/WMA, the pay adjustment will be based on the MRI of the OGFC.

401.4 METHOD OF MEASUREMENT

The Department will determine smoothness pay adjustments on the calculated square yards of the surface area of the travel lane bound by the plan typical section travel lanes and 0.1-mile lane length.

401.5 BASIS OF PAYMENT

Surface smoothness testing, must grinding and corrective work to bring the final surface within specification smoothness is incidental to the Bid Item Unit Price for HMA/WMA or PCCP; the Department will make no separate payment. All traffic control required to determine and correct pavement smoothness is incidental to the HMA/WMA or PCCP item.

401.5.1 Pay Adjustments

The Department will calculate a pay adjustment for each 0.1 mile section of travel lane. The pay adjustments will apply to the total accepted area of each 0.1 mile section of HMA/WMA or PCCP constructed for the plan typical section travel lane width and roadway length.

The Department will not include Shoulder and turnout areas for payment purposes. If the pay adjustment for a 0.1 mile section is not equal to CWR but less than 0.00, the Contractor shall accept the designated pay adjustment.

401.5.1.1 Pay Adjustment for Multiple Course HMA/WMA Projects

The Department will base pay adjustments on the final average MRI for each 0.1mile section in accordance with Table 401.5.1.1:1, "MRI Based Profile Pay Adjustment Schedule for Multiple Course HMA/WMA Projects", after the Contractor performs and measures corrective work.

Table 401.5.1.1:1
MRI Based Profile Pay Adjustment Schedule
for Multiple Course HMA/WMA Projects

Pay Adjustment ($ per square Yard)				
MRI			Interstate-NHS-US Routes	NM Routes*
<52.1			0.00	0.00
52.1	to	53.0	-0.14	-0.14
53.1	to	54.0	-0.28	-0.28
54.1	to	55.0	-0.42	-0.42
55.1	to	56.0	-0.56	-0.56
56.1	to	57.0	-0.70	-0.70
57.1	to	58.0	-0.84	-0.84
58.1	to	59.0	-0.98	-0.98
59.1	to	60.0	-1.12	-1.12
>60.0			Corrective Work Required	

*Some NM Routes, as specified in the Contract, will use the Interstate-NHS-US Route Adjustments.

401.5.1.1.2 Pay Adjustment for Single Course HMA/WMA Projects

Measure the longitudinal smoothness of the original roadway prior to beginning any work on the roadway surface and submit all ERD files to the accompanying Project Manager or his designee within 1 hour after the data has been collected, on either a CD or Universal Serial Bus (USB) memory storage device. The Department will make no separate payment for this testing. If the Contractor does not submit the profile measurements files within this time period, the Department will reduce the pay adjustments resulting from Table 401.5.1.1:1, "MRI Based Profile Pay Adjustment Schedule for Multiple Course HMA/WMA Projects", Table 401.5.1.1:2

"MRI Based Pay Adjustment Schedule Single Course HMA/WMA Projects", or Table 401.5.1.2:1, "MRI Based Profile Pay Adjustment Schedule for PCC Pavements by five additional percentage points for the Profiled area in question.

The Department will base pay adjustments on the percent improvement in MRI in accordance with Table 401.5.1.1:2, "MRI Based Profile Pay Adjustment Schedule for Single Course HMA/WMA Projects", after the Contractor performs and measures corrective work.

The Contractor may elect to use Table 401.5.1.1:1 "MRI Based Profile Pay Adjustment Schedule for Multiple Course HMA/WMA Projects" to calculate pay adjustments in lieu of Table 401.5.1.1:2; "MRI Based Profile Pay Adjustment Schedule for Single Course HMA/WMA Projects", by providing written notification at the Pre-Construction Conference. If the Contractor elects to use Table 401.5.1.1:1, the requirements of Section 401.5.1.1, "Pay Adjustment for Multiple Course HMA/WMA Projects" shall be met.

If the final MRI value for a 0.1 mile section is less than or equal to 52.0 inches per mile, and the final MRI value is less than or equal to the initial MRI value for the same 0.1 mile section, the pay adjustment will be 0.00.

% MRI improvement for each 0.1 mile section will be calculated as follows:

$$\% \text{ MRI Improvement} = \left[\frac{\text{MRI of Original Surface} - \text{MRI of Final HMA/WMA}}{\text{MRI of Original Surface}} \right] * 100$$

Table 401.5.1.1:2
MRI Based Profile Pay Adjustment Schedule
for Single Course HMA/WMA Projects

Pay Adjustment ($ per square Yard)				
MRI % Improvement			Interstate-NHS-US Routes	NM Routes*
>45.0			0.00	0.00
38.9	to	45.0	-0.06	-0.06
32.6	to	38.8	-0.12	-0.12
26.3	to	32.5	-0.18	-0.18
20.0	to	26.2	-0.24	-0.24
<20.0			Corrective Work Required	

401.5.1.2 Pay Adjustment for PCC Pavement

The Department will base pay adjustments on the final average MRI for each 0.1 mile section in accordance with Table 401.5.1.2:1, "MRI Based Profile Pay Adjustment Schedule for PCC Pavements, after the Contractor performs and measures corrective work.

Table 401.5.1.2:1
MRI Based Pay Adjustment Schedule for PCC Pavement

Pay Adjustment ($ per square Yard)				
MRI			Interstate -NHS-US Routes	NM Routes*
<59.3			0.00	0.00
59.3	to	60.2	-0.14	-0.14
60.3	to	61.2	-0.28	-0.28
61.3	to	62.3	-0.42	-0.42
62.4	to	63.3	-0.56	-0.56
63.4	to	64.3	-0.70	-0.70
64.5	to	65.4	-0.84	-0.84
65.5	to	66.4	-0.98	-0.98
66.5	to	67.5	-1.12	-1.12
>67.5			Corrective Work Required	

END OF SECTION

October 6, 2011

D.4 Section 423 Hot-Mix Asphalt – Superpave

NEW MEXICO DEPARTMENT OF TRANSPORTATION
SUPPLEMENTAL SPECIFICATIONS FOR

HOT-MIX ASPHALT — SUPERPAVE (QLA and Non-QLA)
SECTION 423

All Provisions of the New Mexico Department of Transportation Standard Specifications for Highway and Bridge Construction shall apply in addition to the following:

Delete SECTION 423- HOT-MIX ASPHALT — SUPERPAVE (QLA and Non-QLA) in its entirety and substitute the following:

423.1 DESCRIPTION

This Work consists of constructing one or more courses of hot-mix asphalt (HMA) on a prepared base.

423.2 MATERIALS

423.2.1 General

HMA is a mixture of asphalt binder, aggregate, blending sand, mineral filler, and hydrated lime or anhydrite based material. Unless otherwise prohibited in the Contract, the Department will allow Recycled Asphalt Pavement (RAP) in HMA mixtures as long as the resulting mixture conforms to all specification requirements.

Size, uniformly grade, and combine aggregate fractions in accordance with the Contract. Test Materials in accordance with applicable AASHTO methods, as modified by the Department (if applicable) or other test procedures as directed by the Department. The State Materials Bureau will decide all questions pertaining to the interpretation of test procedures.

423.2.2 Aggregate

Ensure the aggregate gradation of the HMA mixture meets the requirements of Table 423.2.2.1:1, “HMA Aggregate Gradation Control Points.” The Project Manager may require, at no additional cost to the Department, wet preparation, per AASHTO T 146, Method A, if the Project Manager believes there are Deleterious Materials present in the aggregate stockpiles before aggregate gradation testing. The Contract will specify the type of HMA the Contractor is to use. The Department will allow the Contractor to combine Materials from two or more sources to produce aggregate only when each individual aggregate source meets all applicable quality requirements.

423.2.2.1 Gradation and Quality Requirements

Table 423.2.2.1:1
D.4.1.1.1 HMA Aggregate Gradation Control Points

	% passing per HMA type					
	SP-II		SP-III		SP-IV	
Sieve size	**Min**	**Max**	**Min**	**Max**	**Min**	**Max**
2 in	—	—	—	—	—	—
1 1/2 in	100	—	—	—	—	—
1 in	90	100	100	—	—	—
3/4 in	—	90	90	100	100	—
1/2 in	—	—	—	90	90	100
3/8 in	—	—	—	—	—	90
No. 8	19	45	23	49	28	58
No. 200	1.0	7.0	2.0	8.0	2.0	10.0

423.2.2.1.1 Aggregate Quality

For each Material source, ensure the HMA coarse aggregate has an AI of 25 or less when calculated in accordance with Section 910, “Aggregate Index.”

Regulate the crushing of aggregate stockpiles so that the minimum Fractured Faces content of the plus No. 4 Material complies with the requirements of Table 423.2.2.1.2:1, “Fractured Faces, Sand Equivalent, and Fine Aggregate Angularity,” and evaluation by NMDOT Method FF-1, “*Fractured Face Determination for Coarse Aggregate*.” Ensure the plus 3/8 in material contains a maximum of 20% flat, elongated particles with a dimensional ratio of 3:1 or greater as determined by ASTM D 4791 (TTCP Modified). Ensure the combined material, excluding RAP, passing the No. 40 sieve is non-plastic. Ensure that before the addition of hydrated lime or anhydrite based material, the minimum sand equivalent value and the minimum fine aggregate angularity value of the combined aggregate, excluding RAP, complies with the requirements of Table 423.2.2.1.2:1, “Fractured Faces, Sand Equivalent, and Fine Aggregate Angularity.” Determine the sand equivalent value in accordance with AASHTO T 176, Alternate Method No. 1 and the fine aggregate angularity value in accordance with AASHTO T 304, Method A.

423.2.2.1.2 Fractured Faces

The Department will consider a face to be fractured when at least one-half of the projected particle area exhibits a rough, angular, or broken texture with well defined edges.

Table 423.2.2.1.2:1
Minimum Fractured Faces, Sand Equivalent, and Fine Aggregate Angularity for Virgin Aggregates

Design Traffic, ESALs[a] x 10^6	Fractured Faces[b]	Sand Equivalent (%)	Fine Aggregate Angularity
< 3.0	**75.0 / —**	**45.0**	**40.0**
≥ 3.0 – < 10.0	**85.0 / 80.0**	**45.0**	**45.0**
≥ 10.0 – < 30.0	**95.0 / 90.0**	**45.0**	**45.0**
≥ 30.0	**99.0 / 95.0**	**50.0**	**45.0**

[a]ESALs are based on a 20-year design life for all scenarios.
[b]Under “Fractured Faces”, 85.0 / 80.0 denotes that 85.0% of the coarse aggregate has at least 1 Fractured Face and 80.0% has at least two Fractured Faces.
Ensure RAP provided from sources outside the project has at least 75% Fractured Faces (one fractured face), however Sand Equivalent and Fine Aggregate Angularity do not apply.

423.2.2.2 Production

When producing aggregates for HMA, remove natural fines by screening and stockpiling separately. Use a No. 4 screen, minimum, or a larger screen if needed to properly control the crushing and screening operation. Crush the aggregate retained on the scalping screen and separate the crushed Material into at least two stockpiles of fine and coarse aggregates. Regulate crushing operations to produce Material within the specified gradation band.

423.2.2.3 Stockpiling

The following requirements apply to stockpiles:

1. Place stockpiles upon prepared sites;
2. Make stockpiles neat and regular to prevent segregation;
3. Provide enough storage space for each size of aggregate;
4. Separate the aggregate stockpiles far enough apart to prevent mixing, or with walls or partitions;
5. Prevent contamination (store stockpiles away from vehicular and Equipment traffic);
6. Keep the storage yard neat and orderly and keep the stockpiles accessible for sampling; and
7. Keep the aggregate sizes separated until delivered to the cold feed system that feeds the drier.

423.2.2.4 Combining

When combining crushed Materials from different stockpiles, including RAP (if in the mixture), ensure the product is in accordance with the mix design gradation requirements. Use controlled feeders from each stockpile to combine crushed Material.

423.2.3 Asphalt Binder

The Contract will specify the type and grade of asphalt binder. Provide asphalt binders in accordance with Section 402, “Asphalt Materials, Hydrated Lime, and Anhydrite Based Material.” Do not change the asphalt source after approval of the mix design without written approval of the State Materials Bureau.

423.2.4 Hydrated Lime or Anhydrite Based Material

Provide hydrated lime or anhydrite based material in accordance with Section 402, “Asphalt Materials, Hydrated Lime, and Anhydrite Based Material.”

423.2.5 Blending Sand

Blending sand consists of the following:

1. Natural fines from the scalping process;
2. Concrete sand;
3. Sandy Material; or
4. A combination of these, graded to the mix design requirements.

Determine the need for and percentage (a maximum of 20.0%) of blending sand using mix design tests on samples taken from stockpiles during crushing operations and submitted to an approved testing Laboratory.

423.2.6 Mineral Filler

Provide mineral filler in accordance with AASHTO M 17 and approved by the State Materials Bureau. The Department will not allow fly ash as mineral filler for HMA.

423.2.7 Reclaimed Asphalt Pavement

Unless otherwise specified in the Contract, the Contractor may use RAP removed under the Contract consisting of salvaged, milled, pulverized, broken, or crushed asphalt pavement. The Contractor may use RAP produced from outside sources provided evidence of ownership is supplied and the following is met: After the Contractor obtains sufficient quantities of RAP aggregate samples in accordance with AASHTO T 308, the Department will accept RAP for which each fraction of coarse aggregate has a percent wear of 40.0 or less, at 500 revolutions, when tested in accordance with AASHTO T 96. Provide plus No. 4 RAP Material with a minimum of 75% Fractured Faces content (one face)

The Contractor may use a maximum of 15% RAP (by weight) in the production of HMA mixtures without changing the asphalt binder. For quantities greater than 15% to 25% RAP, lower the asphalt binder's high and low temperature grades by one grade (e.g. lower a PG 76-22 to a PG 70-28). For quantities greater than 25% to 35% RAP, extract, recover, and combine the RAP's asphalt binder with a virgin asphalt binder per AASHTO M 323, Appendix A. Ensure the resultant binder meets the entire AASHTO M 320 required project PG asphalt binder properties indicated on the approved mix design. The Department will not allow the Contractor to use more than 35% RAP in the production of HMA mixtures. For projects of entirely new construction, limit the RAP to 15% in the top mat or extract, recover and combine the RAP's asphalt binder with a virgin asphalt binder per AASHTO M323, Appendix A. Ensure the resultant binder meets the entire AASHTO M320 required project PG asphalt binder properties indicated on the approved mix design.

Process RAP so that 100% passes a 1-1/2-inch sieve. For HMA mixtures containing greater than 15% RAP, maintain adequate stockpile management (i.e. sufficient quantities and shaping of the stockpiles) and fractionation (divide the RAP into a minimum of two stockpiles), so they are uniform throughout the stockpiles. Address in the Quality Control Plan how RAP will be controlled, such as which screen will be used to split into two stockpiles, or by what method the RAP will be controlled to keep the resultant mix within acceptable limits. Account for the weight of the binder in the RAP when batching aggregates. Provide RAP that is free of Deleterious Materials. If the Contractor decides to use RAP in the production of HMA mixtures, the Department will make no additional payment for the asphalt binder in the RAP or asphalt binder due to asphalt binder grade adjustment. As RAP is produced and prepared for inclusion in the HMA, perform Process Control testing in accordance with Section 901, Quality Control/Quality Assurance, Table 901.7:3, Minimum Process Control Guidelines for Aggregates and Base Course.

If problems with HMA consistency or compliance with project specifications occur, additional efforts taken to achieve acceptable levels of consistency and compliance with Contract specifications, at the Contractor's discretion (at no additional cost to the Department), include, but are not limited to:

- Reduce the top size of the RAP from 1-1/2" to 1";
- Fractionate the aggregates on a second screen, such as the 3/8" or 1/4" Screen so that the RAP is maintained in two stockpiles, one being Coarse RAP and the second being Fine RAP;

- Ensure that the RAP used in the HMA mix design is representative of the RAP available on the project;
- Cover the RAP pile(s) so that ambient moisture is not absorbed;
- Process and maintain the stockpiles so that the RAP material is equally and uniformly distributed throughout the entire stockpile(s) and is withdrawn such that uniform, non-segregated RAP is delivered to the hoppers;

423.2.8 Mix Design

Provide a mix design developed by a Department-approved testing Laboratory. A list of approved private testing laboratories is available from the State Materials Bureau. Develop the mix design at no additional cost to the Department. The Contractor may develop the mix design at any time prior to the project pre-paving conference. Submit at least five independent aggregate gradation test results from each stockpile to the Project Manager.

Provide the Department with a copy of the request to the testing Laboratory to develop a mix design, along with supporting documents in accordance with AASHTO R 35, to the Project Manager and the State Materials Bureau. Include the proposed aggregate combination and copies of all stockpile test results. Summarize the mix design results from the Department-approved testing Laboratory in a format approved by the State Materials Bureau and submit them to the Project Manager and State Materials Bureau for review and concurrence. Include the results and design worksheets of testing calculations in accordance with AASHTO R 35, for the mix components as well as the mixture itself and in accordance with State Materials Bureau procedures. Department concurrence of a mix design will not relieve the Contractor of full responsibility for producing an acceptable mixture. The mix design may require adjustment in accordance with Section 423.2.8.1, “Mix Design Adjustment.”

Create the JMF gradation in accordance with Table 423.2.2.1:1, “HMA Aggregate Gradation Control Points.” The Department will require at least 1.0% hydrated lime or anhydrite based material in all mix designs. Include the hydrated lime or anhydrite based material in the gradation for developing the mix design. The mix design shall establish a single percentage of the aggregate passing each sieve size and a single percentage of asphalt binder the Contractor is to add to the aggregate. Develop the mix design using the Strategic Highway Research Program (SHRP) gyratory compactor in accordance with AASHTO R 35. AASHTO TP 77 may be used in lieu of AASHTO T 84/T 85. The mix design shall be in accordance with Table 423.2.8:1, “HMA Superpave Design Requirements for Aggregates with Less Than 3.0% Absorption,” or Table 423.2.8:2, “HMA Superpave Design Requirements for Aggregates with 3.0% or Greater Absorption.”

Test the HMA with at least 1.0% hydrated lime or anhydrite based material in accordance with AASHTO T 283, as modified below:

- Use 6 inch by 3.75 inch specimens for all prisms;
- Compact all test specimens in accordance with AASHTO T 312 to an air content of 7% +/- 0.5%;
- On the AASHTO T283 Section 11.3 scale of 0-5, with 5 exhibiting the most damage from moisture, visually estimate the amount of damage caused by moisture on the interior surfaces of each broken prism.
- Use a minimum of 1% hydrated lime or anhydrite based material and ensure the design amount results in a tensile stress ratio of at least 85%, and that no visual rating is

greater than 1, as determined by AASHTO T283 Section 11.3.. Provide a mixture that meets all applicable criteria. If tests indicate the need for additives or modifiers not specified in the Contract or a change in source of binder to satisfy mix design requirements, perform the required changes at no additional cost to the Department.

Table 423.2.8:1

D.4.1.1.2 HMA Superpave Design Requirements for Aggregates with Less Than 3.0% Absorption

20-year design ESALs (a)	N initial	N design (b)	N max	Percent Voids in the Mineral Aggregate (VMA) per nominal maximum aggregate size			Voids Filled with Asphalt (VFA) Range, % (c)	Dust to Binder Ratio Range
				1 in (SP-II)	3/4 in (SP-III)	1/2 in (SP-IV)		
< 0.3	<91.5	96.0	< 98.0	12.5–14.0	13.5 – 15.0	14.5 – 16.0	72.0–80.0	0.6 to 1.4
0.3–<3.0	<90.5						68.0–78.0	
≥3.0	<89.0						68.0–75.0	

[a]In Millions
[b]Design Air Void Content of 4%
[c]For 1 in nominal maximum size mixtures, the specified lower limit of the VFA shall be 70% for the design traffic level <0.3 million ESALs.

Table 423.2.8:2

D.4.1.1.3 HMA Superpave Design Requirements for Aggregates with 3.0% or Greater Absorption

20-year design ESALs (a)	N initial	N design (b)	N max	Percent Voids in the Mineral Aggregate (VMA) per nominal maximum aggregate size			Voids Filled with Asphalt (VFA) Range, % (c)	Dust to Binder Ratio Range
				1 in (SP-II)	3/4 in (SP-III)	1/2 in (SP-IV)		
<0.3	<91.5	96.5	< 98.0	12.0–14.0	13.0 – 15.0	14.0 – 16.0	70.0–80.0	0.6 to 1.4
0.3–<3.0	<90.5						65.0–78.0	
≥3.0	<89.0						65.0–75.0	

[a]In Millions
[b]Design Air Void Content of 3.5%
[c]For 1 in nominal maximum size mixtures, the specified lower limit of the VFA will be 70% for the design traffic level <0.3 million ESALs.

When Department Reviewed Commercial Mix Designs are used on the project, submit a copy of proposed commercial mix design to the State Materials Bureau with project information to verify the proposed commercial mix design is appropriate to use and meets all the requirements for the specific project. .If the proposed commercial mix design meets all the requirements for the specific project, the State Materials Bureau may re-issue the proposed commercial mix design for that specific project.

The State Materials Bureau may allow the Contractor to use a mix design for one year from the date of review by the State Materials Bureau. The Contractor may use or re-submit the design before the expiration of the one year time frame. Do not use a Mix Design beyond one year after the State Materials Bureau's review date. Submit acceptable evidence to the State Materials Bureau verifying that the component Materials have not changed. Submit a new mix design if changing the source of Materials. Obtain concurrence from the State Materials Bureau before using the new Materials.

423.2.9 Job Mix Formula

The Job Mix Formula (JMF) must be in accordance with all aggregate gradation requirements and result in a mix that meets all specified mix design requirements. The Department will refer to the result of the laboratory mix design developed in accordance with Section 423.2.8, "Mix Design," as JMF1.

Prepare the aggregate gradation of the calibration samples for analysis per AASHTO T 308. Individually calibrate each oven used to perform AASHTO T 308 in accordance with the State Materials Bureau's, *Ignition Oven Calibration Factors* procedure including a set for the Referee Lab. Provide a minimum of five sets of calibration samples. Do not combine the elements of the calibration samples prepared for the Referee Lab, and provide them, with the Project Number, Contractor and Project Manager clearly identified to the Project Manager who will forward them to the State Asphalt Engineer. All quality control, quality assurance and independent assurance ovens must be calibrated by this procedure prior to start of production of a JMF. New calibration samples may be required for new JMF's, as determined by the District Lab Supervisor or the State Asphalt Engineer. The Project Manager will suspend paving operations until calibration of the ovens has been completed. No additional time or compensation will be granted for completion of this requirement.

423.2.9.1 Job Mix Formula Adjustment

The Contractor may request a modification to the JMF based on field testing of Material produced through the plant. It is expected that minor adjustments will be necessary and the Project Manager (with the concurrence of the Department's District Laboratory Supervisor) may approve a new JMF if the adjustment results in a new TV that is within the tolerance from the design TV. (Example: If design TV for No. 4 sieve is 30%, then a new TV may be approved in the field from 23% - 37%). Test results and calculations that verify a proposed JMF adjustment complies with the specifications will be required prior to being reviewed by the Project Manager and concurred by the State Materials Bureau. Review and concurrence of a JMF adjustment can only be made after:

- The Quality Control Plan (including checks on specific gravity) has been submitted and concurred by the Project Manager and the District Lab Supervisor for use on the project;
- Confirmation by the Project Manager that the Quality Control Plan is being followed;
- Concurrence of the proposed changes from Project Manager and District Lab Supervisor,

- Submittal by the Testing Laboratory responsible for the original mix design to the Project Manager with a copy to the State Asphalt Engineer.

If the JMF is adjusted after the Shakedown Period, terminate the previous lot when the adjusted JMF has been reviewed and concurred with by the Project Manager and the State Materials Bureau. Terminated lot will be added to the previous lot for evaluation by QLA. Begin a new lot for the QLA with the adjusted JMF. During the Shakedown Period, make JMF adjustments in accordance with Section 423.3.5.7, Test Strip and Shakedown Period.

423.3 CONSTRUCTION REQUIREMENTS

423.3.1 General

Provide sufficient storage space for each size of aggregate and RAP. Keep the different sizes separate until delivery to the cold feed system feeding the drier. While storing and moving the coarse and fine aggregate, ensure that segregation, degradation, or combination of Materials of different grades does not occur. Re-screen or waste segregated or degraded Material. Provide separate storage and bin feeder for mineral filler if the Contract requires mineral filler. Stockpile aggregates and RAP that contain gravitational water and allow them to drain before mixing. After introducing the required amounts of aggregate, RAP (if used), and asphalt binder into the mixer, mix them until the aggregate particles are completely and uniformly coated with asphalt binder. If the Project Manager determines that uncoated aggregate exists, take corrective action. Ensure that the moisture content of the HMA at discharge from the mixer does not exceed 0.5%.

423.3.2 Mix Temperature Requirements

Do not allow the temperature of the HMA discharged from the mixer into the transport vehicle to be greater or less than the target mixing temperature specified in the mix design by more than 10% F, not to exceed 350° F, unless written concurrence by the oil supplier and design lab are provided to the Project Manager. HMA delivered to the project with mix temperatures outside the acceptable range shall, at the sole discretion of the Project Manager, be removed and replaced at no cost to the Department.

423.3.3 Addition of Hydrated Lime or Anhydrite Based Material

Add the hydrated lime or anhydrite based material to the aggregate in an enclosed pug mill immediately after leaving the cold feed and just before introduction into the drier drum or aggregate drier. Minimize the loss of hydrated lime or anhydrite based material while adding to the aggregate. Use an enclosed conveyor belt to prevent blowing or loss of hydrated lime or anhydrite based material if necessary. During production, if necessary to counteract loss, increase the percentage of hydrated lime or anhydrite based material.

Equip the out feed of the hydrated lime or anhydrite based material silo with a vane feeder and install a flow sensor on the discharge from the vane feeder. Ensure that the sensor activates audible and visual signals at the control panel upon interruption of hydrated lime or anhydrite based material flow.

Equip the hydrated lime or anhydrite based material silo with an approved means of metering the addition of hydrated lime or anhydrite based material to the mix at typical discharge rates with an accuracy of ± 3.0 %, by weight. Approved means of metering hydrated lime or anhydrite based material include load cell weighing devices placed beneath each leg of the silo, or a weigh belt feeder between the silo discharge and the pug mill. Obtain Project Manager's approval for other means of metering the addition of hydrated lime or anhydrite based material

before use. Do not use external strain gauges affixed to the legs of the silo. If the Contractor uses load cell weighing devices for hydrated lime or anhydrite based material metering, use a cast-in-place concrete foundation pad to support the silo. Place grout between the foundation and the load cells to ensure contact between the load cell and the foundation. Control the hydrated lime or anhydrite based material content such that at a minimum the amount added is equal to the Target Value on the Job Mix Formula.

When mixing the aggregate and hydrated lime or anhydrite based material, maintain the moisture content of the combined aggregate at the recommended saturated surface dry moisture content, plus an additional 1.5 % ± 0.5 %, by weight. The Project Manager may increase the moisture content of the coarse and fine aggregates to properly coat the aggregates with hydrated lime or anhydrite based material and to eliminate dust pollution. Provide a method to measure the amount of moisture added to the hydrated lime or anhydrite based material-aggregate mix. On a daily basis, record the average amount of added moisture to verify specification compliance. Supply the recorded moisture information to the Project Manager upon request.

423.3.4 Equipment

423.3.4.1 Mixing Plants

423.3.4.1.1 Plant Scales

Ensure that the scales are accurate to 0.5% of the maximum allowable load in accordance with the Federal Motor Carrier Safety Administration (FMCSA) publication. A licensed scale serviceman must certify the scales. Submit a copy of the certification to the Project Manager.

423.3.4.1.2 Equipment for Preparation of Asphalt Materials

Provide storage tanks for asphalt binder capable of heating and holding the asphalt at the required temperatures and measuring the temperature of the asphalt in the tank. Use approved heating methods that do not allow flames in contact with the tank. Design the circulating system for the asphalt binder to ensure proper and continuous circulation during the operating period. Allow measuring and sampling of asphalt binder from the delivery truck upon arrival.

423.3.4.1.3 Feeder for Drier

Equip the plant with an accurate feeding mechanism to deliver the aggregate into the drier and maintain uniform production and temperature.

423.3.4.1.4 Drier

Equip the plant with a system to continuously agitate the aggregate during the heating and drying process. Use a drier that can dry and heat the aggregate and prevent fuel oil or carbon from coating the aggregate. Take corrective action if the aggregate becomes coated with burner fuel.

423.3.4.1.5 Bins

Equip the plant with storage bins large enough to supply the mixer when it is operating at full capacity. Arrange the bins to ensure separate and adequate storage of the appropriate fractions of the mineral aggregates. When necessary, use separating boards. Provide separate dry storage for hydrated lime or anhydrite based material. Ensure that the gates on the bins do not leak. Equip the bins with warning devices that notify the control panel when the bins are low.

423.3.4.1.6 Asphalt Binder Control Unit

Equip the plant with the following:

1. A scale or meter to obtain the proper amount of asphalt binder in the mix, within the allowable tolerances; and
2. A meter for checking the quantity or rate of flow of asphalt binder put in the mixer.

423.3.4.1.7 Thermometers

Equip the asphalt feed line, near the charging valve at the mixer unit, with an approved recording thermometer with a range of from 100 °F to 400 °F. Equip the discharge chute of the drier with an approved recording thermometer to automatically register the temperature of the heated aggregates or mix, as necessary. Provide the Project Manager with a record of discharge temperatures at the end of each week's production and when requested by the Project Manager during the course of production.

423.3.4.1.8 Truck Scales

Weigh the HMA on approved scales (provided by the Contractor) or public scales in accordance with Section 109.1, "Measurement of Quantity."

423.3.4.1.9 Requirements for Batching Plants

423.3.4.1.9.1 Weigh Box or Hopper

Provide a batching plant that can accurately weigh aggregate in a weigh box or hopper suspended on scales. Use a weigh box or hopper that can hold a full batch. Ensure that the gate of the weigh box or hopper does not allow material to leak into the mixer while being weighed. Test the scales in accordance with Section 109.1, "Measurement of Quantity."

423.3.4.1.9.3 Mixer

Provide a batch mixer with a capacity of at least 2,000 lb, capable of producing a uniform mixture within specified tolerances.

423.3.4.1.9.4 Control of Mixing Time

Equip the mixer with an accurate timing device that signals the end of the mixing time.

423.3.4.1.10 Drum Mix Plants

Equip the drum mix plant with the following auxiliary Equipment and capabilities:

1. Separate cold feed controls for each Material.
2. An automatic interlocking device for cold feed, asphalt, and additive.
3. A means for determining moisture content of aggregate so the dry weight of cold feed can be determined for proper setting of asphalt and additive flow. Determine the moisture content of the aggregate at least twice daily and adjust the moisture correction Equipment accordingly.
4. A means for sampling individual cold feeds and provisions for sequential sampling of

aggregate, RAP, asphalt binder, and additives while under full production.

5. Measure the temperature of the mix at the discharge and the automatic burner controls.
6. A surge storage system having a minimum capacity of 40 ton, designed and equipped to prevent segregation. Equip the surge storage system bins with mechanical or electrical devices that provide an audible or visual warning when the bins are less than 1/4 full.
7. Equip the bin containing fine aggregate and filler, if required, with a device that prevents material hang-up during plant operation.
8. A minimum of one cold feed bin for each aggregate fraction in the mix.
9. Equip the cold feed with mechanical or electrical devices that indicate when the bins are empty or when the cold feed belt is not carrying the proper amount of Material. The device shall automatically lock the cold feed belt and provide an audible or visual warning.
10. A separate cold feed for RAP Material. Introduce RAP so that it does not come into direct contact with the burner flame.
11. Equip the feeding mechanism with an individual belt feeder with a variable speed feeder drive controlled by electronically operated actuators. Couple the asphalt feed control with the total-aggregate-weight measurement device to automatically vary the asphalt feed rate to maintain the required proportion.

423.3.4.2 Haul Equipment

Haul asphalt mixtures with trucks that have tight, clean, smooth metal beds and a thin coat (a minimal amount) of a Department-approved release agent to prevent the mixture from adhering to the bed. Do not use release agents derived from petroleum derivatives, including but not limited to diesel fuel that contaminate or alter the characteristics of the mix.

Be prepared to cover and insulate hauling beds. Equip each truck with a waterproof and windproof cover of suitable material and sufficient size to protect the mix from the weather. Securely fasten covers when necessary to maintain temperature. Ensure that covers do not allow water to enter the bed, paver or mix material transfer device during mix unlading. Use insulated truck beds when necessary to maintain temperature.

423.3.4.3 Pavers

Use self-contained, self-propelled pavers, with activated screeds or strike-off assemblies, heated if necessary, and capable of spreading and finishing courses of HMA in accordance with the Plans.

423.3.4.4 Compaction Equipment

Provide a sufficient number, weight, and type of rollers to obtain the required compaction and specified pavement density while the HMA is in a workable condition. All rollers must be capable of reversing direction without shoving or tearing the mixture

423.3.5 Placement Operations

For cold milled surfaces, prepare the surface in accordance with Section 414, Cold Milling. Clean the existing surfaces and apply a tack coat in accordance with Section 407, “Tack Coat.” Place the HMA on the approved surface, then spread, and strike off to the specified grade and elevation. Spread and compact the HMA in layers in accordance with the Plans.

For new construction and reconstruction, prepare the Subgrade or Base Course as follows:

1. Clean of loose or Deleterious Materials;
2. Free of frozen material; and
3. Meet the moisture and density requirements.
4. Place prime coat, as required in the plans unless otherwise approved by the Project Manager, in accordance with Section 408, Prime Coat.

Place the HMA on the approved surface, then spread, and strike off to the specified grade and elevation. Spread and compact the HMA in layers in accordance with the Plans.

On all prepared surfaces, dump the HMA from the haul equipment directly into a Material Transfer Device capable of re-mixing the HMA; into the paving machine hopper or onto the paving surface and then, load it into the paving machine with an appropriate windrow elevator. Do not dump the HMA more than 250 ft in front of the paving machine or allow the loading equipment to exert any vertical load on the paver. Pick up and load all of the HMA into the paver. Consistently overloading the HMA mix into the paving machine is not acceptable. Coordinate the speed of the paving machine with the production of the plant and keep enough haul equipment available to achieve continuous operation.

Use the control system on the paving machine to control the grade and the transverse slope by either of the following methods:

1. One end directly and the other indirectly through controlling the transverse slope; or
2. Each end independently, including screed attachments.

Suspend operations if the control system does not achieve the typical section in accordance with the Plans. Place, spread, and finish the courses of HMA according to the following:

1. Without segregation or tearing ;
2. True to the line, grade, and crown in accordance with the Plans; and
3. With self-propelled pavers, except as otherwise directed.

On areas where irregularities or unavoidable obstacles make the use of mechanical spreading and finishing Equipment impracticable, dump, spread, and level the HMA by other methods to achieve the required compacted thickness.

423.3.5.1 Weather Limitations

Do not place HMA on wet or frozen surfaces or if weather conditions prevent proper handling, finishing, and compacting. Place HMA when the Chill Factor is at least 40 °F and rising. If the air temperature is 60 °F or warmer, do not consider the Chill Factor.

423.3.5.2 Compaction

Compact the HMA thoroughly and uniformly immediately after placement. Operate rollers at speeds slow enough to minimize displacement of the HMA, including the lines and grades of the asphalt edges. Remove marks from pneumatic rollers and immediately correct any displacement. The Department will not allow the use of equipment that crushes the aggregate excessively.

Prevent the HMA from sticking to the roller wheels by keeping the wheels moistened with water; water mixed with very small quantities of detergent or other approved material. Do not use diesel fuel or other petroleum diluents. At locations inaccessible to the rollers, compact the HMA with hot hand tampers, smoothing irons, or mechanical tampers. The Contractor may use a trench roller or cleated compression strips under the roller to transmit compression to depressed areas.

Remove areas that become loose, broken, mixed with dirt, segregated or defective, replace with fresh HMA, and compact to match the surrounding area, at no additional cost to the Department. Immediately correct areas that have excessive or deficient asphalt binder.

423.3.5.3 Not Used

423.3.5.4 Joints

Place the HMA as continuously as possible. Do not pass rollers over the unprotected end of a freshly laid mixture. When placing open-graded friction course over HMA, stagger longitudinal joints at least 6 in relative to the longitudinal joints of the underlying course. Unless otherwise specified, taper transverse and longitudinal joints as follows:

1. At least a 3 ft taper for transverse joints, with a taper slope no steeper than 24:1.
2. At least a 1 ft taper or a notched taper, for longitudinal joints, with a taper slope no steeper than 6:1 or a notched taper with a one inch vertical edge at the top of the taper connected to a slope no steeper than 6:1.
3. Cut and square off transverse tapers before commencing new Work.
4. Clean and tack coat longitudinal joints from previous operations.
5. Avoid placing longitudinal joints in the wheel paths, unless approved by the Project Manager.

Completely bond joints. Smooth the surface of each course at the joints. The Department will not allow deviations greater than 3/16 in when tested with a 10 ft straightedge in any direction. When paving under traffic, schedule the daily surfacing operations so that tapered longitudinal joints are not exposed for longer than 7 Days.

423.3.5.5 Surface Tolerances

Smooth the surface of each completed course and prevent deviations larger than 1/8 in using a 10 ft straightedge in any direction. Immediately correct deviations exceeding this tolerance. Provide a final HMA surfacing course that conforms to Section 401, “Pavement Smoothness Measurement,” if applicable.

423.3.5.6 Plan Surfacing Depths

Provide pavement at the depth specified in the Contract. Monitor depths by calculating continuous production yields using the formula found in the MT-1, as maintained by the State Construction Bureau. Calculate the required yield and the corresponding yields for 0.25 inch increase (upper limit) and decrease (lower limit). The Project Manager may adjust the required yield to fit field conditions. If adjusted, the new target yield will be communicated to the Contractor in writing. Control production to keep yield within the upper and lower limits. Correct deficiencies at no cost to the State. Correct deficient depths during placement. Address Plan Surfacing Depths in the Quality Control Plan.

423.3.5.7 Test Strip & Shakedown Period

Construct a maximum 1,000 ton test strip for each HMA mix design with a minimum of three Contractor and three agency samples to evaluate the JMF, process control, and placement operations. Construct test strip on shoulder, low volume segments of the pavement, or area approved by the Project Manager. Correct and modify non-complying placement operations and produce necessary process control adjustments. Develop a revised JMF if necessary based on the results of the test strip. Production and placement operations prior to approval of the revised JMF and placement operations are at the Contractor's risk. For purposes of payment, the test strip will be evaluated in conformance with Section 416, Minor Paving. If accepted, the test strip will have a pay factor of 1.0. If rejected, said material shall be handled in accordance with Section 423.3.6.1.3 Adherence to Specifications and Rejection of Non-specification Material. Remove unaccepted test strip material placed within the roadway prism at no cost to the Department. If the Contractor disagrees with removing and replacing unacceptable material placed in test strips outside the roadway prism, the Assistant District Engineer for Construction, based on engineering judgment, will decide if the material can remain in place with a maximum pay factor of 50%, or shall be removed and replaced at no cost to the Department. If the test strip is rejected, construct a subsequent test strip. Do not proceed to full production until an accepted test strip is produced. After the test strip is placed, continue to evaluate the mix properties and the JMF during the placement of the first two sublots in the first lot. Changes may be made to either the JMF or the mix proportions and/or properties with the concurrence of the Assistant District Engineer for Construction. For changes made prior to the completion of the first two sublots, the adjustments will be applied to the entire lot for purposes of payment.

The Project Manager may waive test strip requirements for the project, if requested by the Contractor based on prior experience with the JMF.

For QLA projects, the Shakedown Period is defined as the first two sublots produced in the first lot.

For non-QLA projects, the Shakedown Period is defined as the test strip. As the test strip is placed, evaluate the mix properties and the JMF. Changes may be made to either the JMF or the mix proportions and/or properties with the concurrence of the Assistant District Engineer for Construction.

423.3.6 Sampling and Testing

Sample and test the aggregate production and HMA mixture in accordance with Section 901, Quality Control /Quality Assurance (QC/QA), and the Department's "Minimum Testing Requirements for Non QLA Hot Mix Asphalt". Department personnel may test locations other than the random locations generated for statistical analysis. These tests will not be used for pay factor determination, but may be used to determine acceptance or rejection of localized material.

423.3.6.1 Contractor Quality Control

Administer a Quality Control Plan, referred to hereafter as "the Plan," to provide a product in accordance with the Contract. Ensure the Plan conforms to Section 901.2, "Contractor Quality Control." Submit the Plan a minimum of two weeks prior to commencement of crushing operations and at a minimum comply with "Contractor Quality Control Plan Guidelines". No HMA operations are allowed until the Plan has been approved by the Project Manager and the District Lab Supervisor. Address changes in the job mix formula in conformance with Section 423.2.9.1, Job Mix Formula Adjustments.

The Plan shall do the following:

1. Address elements that affect the quality of the asphalt concrete including, but not limited to, the following:

- 1.1. Mix design;
- 1.2 . Sampling and Testing;
- 1.3. Aggregate production;
  - 1.3a Gradation,
  - 1.3b Minus 200 wash,
  - 1.3c Plasticity index,
  - 1.3d Sand equivalent,
  - 1.3e Fine aggregate angularity,
  - 1.3f Flat and elongated particles count, and
  - 1.3g Fractured Face count.
- 1.4. RAP (if used)
- 1.5. Quality of components;
- 1.6. Stockpile management;
- 1.7. Proportioning;
  - 1.7a Gradation,
  - 1.7b Minus 200 wash,
  - 1.7c Plasticity index,
  - 1.7d Sand equivalent,
  - 1.7e Fine aggregate angularity,
  - 1.7f Flat and elongated particles count, and
  - 1.7g Fractured Face count.
- 1.8. Mixing, including addition of hydrated lime or anhydrite based material, and/or asphalt additive, if required;
- 1.9. Transporting;
- 1.10. Placing and finishing;
- 1.11. Joints;
- 1.12. Compaction;
- 1.13. Smoothness;
- 1.14. Plan Surfacing Depths
- 1.15. Shakedown period.
- 1.16 Corrective Action Processes
- 1.17 Proposed lot size and sublot size in accordance with Section 423.3.6.2.1.2 QLA

For the properties listed in 1.3 above, specifically address the requirements of Table 423.2.2.1.2:1 in the Plan. Define planned corrective action if the requirements are not met.

- 1.3a and 1.3b are for informational purposes during aggregate production.
- 1.3c through 1.3g, if three consecutive tests fail, address what will change in production. Failure to adjust will result in ceasing operations until a corrective action plan is approved by the Project Manager.

For the properties listed in 1.7 above, specifically address the requirements of Table 423.2.2.1.2:1 in the Plan. Define planned corrective action if the requirements are not met.

- 1.7a and 1.7b are to be evaluated against the Job Mix Formula.
- For properties listed in 1.7c through1.7d, if any three consecutive tests fail, the

Contractor is to cease operations until a corrective plan is approved by the Project Manager and implemented.

- For properties listed in 1.7e through 1.7g, any test failing by more than 5 percentage points, or if three consecutive tests fail by an average of 0 to 5 percentage points, cease operations until a corrective plan is approved by the Project Manager and implemented.

2. Employ sampling and testing personnel who are either under the direct supervision of a TTCP certified technician or who are themselves currently certified to perform the required quality control testing. Provide the Project Manager with a listing of all testing personnel that summarizes their TTCP certifications or, if they are not TTCP certified to perform a particular test, which TTCP certified technician is supervising their testing. Keep the Project Manager notified, by providing an updated listing, of any changes.

Provide testing equipment that meets all applicable ASTM and AASHTO requirements to accomplish required sampling and testing. Establish a Laboratory for the project separate and distinct from the Department's Laboratory and quality assurance facilities. Submit verification that all quality control and assurance testing Equipment meets the applicable standards and has been calibrated per the requirements of AASHTO R-18. Remove any Equipment that does not meet the applicable standards or calibration requirements.

On projects designated as QLA projects, sample and test HMA in accordance with Section 901, "Quality Control/Quality Assurance (QC/QA)."

2.1. The Contractor is responsible for inspection performed at the crushing operations, hot mix plant and at the Contractor's field Laboratory; using the Laboratory test results and other quality control practices to ensure the quality of aggregate sources and other mix components. Adjust and control mix proportioning to meet the mix design. Be responsible for periodically inspecting all Equipment used in proportioning and mixing to ensure its proper operating condition and to ensure that proportioning and mixing is in conformance with the mix design and other requirements.

2.2 Be responsible for inspection, sampling, and testing performed at the paving site, ensuring that the delivered Materials meet Contract requirements and for periodically inspecting all Equipment used in transporting, placing, finishing, and compacting to ensure its proper operating condition. Ensure that placing, finishing, joint construction, compaction, and thickness, when required, are as specified.

3. Define and document the coordination of activities between the Contractor's management and all Contractor testing personnel including the frequency of each type of test, the criteria used by the Contractor's management and technicians to recognize deficiencies and reject or correct unacceptable Materials, and a description of proposed corrective actions.

4. In the Plan, describe, in detail, the proposed process control sampling and testing programs. Include the method by which random sampling locations are to be determined. Develop sample locations for process control tests so that the center of the sample is at least 12 inches from a joint or edge of the pavement layer.

423.3.6.1.1 Contractor Quality Control of Aggregate

Obtain samples in accordance with Section 901.2.4 Sampling
Take representative samples as required, either at the stockpile or after the aggregate material is combined but before the addition of hydrated lime or anhydrite based material and mixing with asphalt binder. Test these samples for conformance with the approved Job Mix Formula and: (excluding RAP)

1. Gradation,
2. Minus 200 wash,
3. Plasticity index,
4. Sand equivalent,
5. Fine aggregate angularity,
6. Flat and elongated particles count, and
7. Fractured Face count.

The Project Manager may sample and test the aggregate at any time during production or stockpiling, or may request to split samples with the Contractor. If testing indicates corrections are necessary, make corrections in conformance with the Plan. The Department will base evaluation of RAP aggregate in accordance with Section 423.2.7, "Reclaimed Asphalt Pavement."

423.3.6.1.2 Contractor Quality Control for Compaction

Monitor the compaction process by determining the density of the HMA with a portable densometer in accordance with the Plan. Establish calibration of the portable densometer from cut pavement samples. Determine the density readings of the cut pavement samples in accordance with AASHTO T 166 (weight, volume method) and determine the density readings of the pavement with the portable densometer. Correlate these test results. Conduct Quality Control testing in accordance with Section 901, "Quality Control/Quality Assurance (QC/QA)," and provide test results to the Project Manager. Perform quality control density testing while the asphalt mixture is hot enough to permit further compaction. Do not roll for compaction when it becomes ineffective or damages the HMA. Do not use vibratory mode when the temperature of the mix is below 200 °F.

423.3.6.1.3 Adherence to Specifications and Rejection of Non-specification Material

Produce Material in compliance with all specification requirements. Evaluate test results for specification compliance and treatment of Material that does not meet specifications in accordance with Section 423 in its entirety. All Material that is rejected shall, at the sole discretion of the Department, be removed and replaced with specification Material at the Contractor's expense.

423.3.6.2 Department Quality Assurance

The Department will conduct Quality Assurance Testing in accordance with Table 423.3.6.2:1. Assurance Testing is performed to verify that the Contractor's testing program is accurately determining the quality of the materials and is being used to monitor and adjust the mix to meet the Mix Design criteria. If the Department's tests are out of the below tolerances for three consecutive tests for the same characteristic, or if any two or more characteristics are out for three consecutive days, the Contractor and the Project Manager will investigate the cause of the discrepancy. The Project Manager may direct the Contractor to cease production until the discrepancy is corrected. Results of Quality Assurance Testing will be provided to the Contractor no later than 48 hours after sampling. Results of Quality Assurance testing shall not be included in the Quality Level Analysis used to determine pay factors or for determining acceptance.

Table 423.3.6.2:1
Assurance Testing Tolerances[a]

Characteristic	Specification limit, percentage points from TV
Air Voids, %	± 1.4
Pavement Density %	± 2.5
Hydrated Lime or Anhydrite Based Material %[e]	Minimum of JMF Target Value
Nominal Sieve, %[c]	± 5
3/8 in Sieve, %[a]	± 8
No. 4 Sieve, %[a]	± 7
No. 200 Sieve, %[a]	± 1.4
Voids in the Mineral Aggregate (VMA), %[d]	± 1.6
Asphalt Content %[a,b]	± 0.50

[a]All gradation, Asphalt Content, VMA, and VFA values will be determined using the AASHTO T 308 testing results.
[b] HMA will not be rejected based on Asphalt Content Determined by AASHTO T 308
[c]The "Nominal Maximum Sieve" is the sieve above the first sieve retaining 10% or more material.
[d] If Gmm fluctuates more than ±0.03 on a consistent basis, it is recommended that the Specific Gravity of the aggregates be checked in order to verify VMA.
[e]If Hydrated Lime or Anhydrite Based Material is below Design TV cease hot mix production, investigate and correct.

423.3.6.2.1 Acceptance

The Department will evaluate Materials for acceptance in accordance with this section. Sample and test the mixture and pavement on a statistically random basis in accordance with Table 901.7:6, "Minimum Acceptance Guidelines." The Project Manager may reject material that appears to be defective based on visual inspection.

Table 423.3.6.2.1:1
Acceptance Testing Tolerances[a]

Characteristic	Specification limit, percentage points from TV
Air Voids, %	± 1.4
Pavement Density %[c]	± 2.5
Hydrated Lime or Anhydrite Based Material %[e]	Minimum of JMF Target Value
Voids in the Mineral Aggregate (VMA), %[a,d]	± 1.6
Asphalt Content %[a,b]	± 0.50

[a] All gradation, Asphalt Content, VMA, and VFA values shall be determined using the AASHTO T 308 testing results.
[b] HMA will not be rejected based on Asphalt Content Determined by AASHTO T 308
[c] Density payment will be adjusted in accordance with Section 901.5
[d] If Gmm fluctuates more than ±0.03 on a consistent basis, it is recommended that the Specific Gravity of the aggregates be checked in order to verify VMA.
[e] If Hydrated Lime or Anhydrite Based Material is below Design TV cease hot mix production, investigate and correct.

423.3.6.2.1.1 Non-QLA

The Department will evaluate test results from projects with Bid quantities less than 15,000 tons for specification compliance in accordance with the following procedures: If the mean of the test results for each property is within the Acceptance Tolerances as listed in Table 423.3.6.2.1:1, "Acceptance Testing Tolerances," the Material will be accepted at full Contract price except that Roadway density will be adjusted in price in accordance with Section 901.5, Quality Level Analysis. If the mean of the test results for any of the listed properties is outside of the tolerances as listed in Table 423.3.6.2.1:1, "Acceptance Testing Tolerances," then the Department will determine acceptance of the Material in accordance with 901.1.3, "Acceptance Sampling and Testing," and Section 901.5, "Quality Level Analysis." A composite pay factor of more than 1.00 is not allowed for projects with Bid quantities less than 15,000 tons. Remove and replace rejected Material with specification Material at no additional cost to the Department.

423.3.6.2.1.1.1 Acceptance of Pavement Density

The target density for acceptance of HMA will be 94.5% of the theoretical maximum density as determined from AASHTO T 209. For determination of maximum specific gravity, obtain and test a minimum of two samples and ensure the Department obtains and tests a minimum of one sample for each day that the HMA is placed. Each individual density test value obtained must be from 92.0% to 97.0% of the theoretical maximum density.

To be prepared for dispute resolution, the Contractor is to provide one additional core for each core tested by the Department for acceptance of density. The additional core is to be from the same lot as the initial core and shall be generated from the random sample plan. If the Contractor believes the Department's cut pavement samples have been damaged they may invoke Section 423.3.7 Dispute Resolution. The Referee Lab results will replace the initial core in determining pay factor. The Assistant District Engineer for Construction will make the final decision on accepting or rejecting material, based on the Referee Laboratory's result(s) by:

1. Accepting the section or sublot if the density falls between 92.0% - 97.0%;
2. Determining that a portion, based on visual determination, or all of the Material in that section or sublot shall be removed or replaced at no additional cost to the Department;
3. Determining that a portion, based on visual determination, of the Material in that section or sublot will be paid for at a 50% pay factor.

For purposes of acceptance and pay factor determination, determine the density from cut pavement sections (cores) with 6-inch diameters extending through the full thickness of the HMA. Determine the pay factor in accordance with Section 901.5, Quality Level Analysis. Use a minimum of ten cores to determine the pay factor, unless otherwise directed by the Assistant District Engineer for Construction. Determine the theoretical maximum density using an average of the maximum specific gravity values obtained by the Department and the Contractor the day the core's Material was placed. If a composite pay factor of more then 1.00 is calculated, the composite pay factor will be a 1.00 for the purposes of payment.

For projects consisting of single lift overlays or mill and inlay with a single lift of two and a half inches or less, the Project Manager may grant an exception to the mean density target requirement of at least 94.5% of the theoretical maximum density if the Contractor can demonstrate that a minimum of 92.0% cannot be reasonably obtained because of the existing conditions of the Pavement Structure or Subgrade materials. The Contractor demonstrates this by providing density results obtained during paving operations witnessed by a state inspector at

the location in question. If the Project Manager grants this exemption, construct a roadway test strip and develop an HMA compaction process to get the highest possible density based on an approved roller's density gain per pass, in accordance with Section 423.3.4.4, Compaction Equipment. The Project Manager will approve the process, establish a new target value for density and establish a new acceptance lot only for the portion of the project addressed herein (except for the roadway test strip) before paving begins or continues. Density shall not fall below 91%. If a lot does not meet either of the revised density requirements, the Project Manager will, with the concurrence of the Assistant District Engineer for Construction, do the following:

1. Accept and pay for the lot of HMA at 50% of the Bid Item Unit Price; or
2. Reject the in-place material and require the Contractor to remove and replace.

423.3.6.2.1.2 QLA

On projects with Bid quantities of 15,000 tons or more, the Department will determine acceptance of the Materials in accordance with Section 901.5, "Quality Level Analysis," using the acceptance limits in Table 423.3.6.2.1:1, "Acceptance Testing Tolerances". Acceptance lots shall be between 15,000 tons and 30,000 tons, as determined at the pre-paving conference. Table 423.3.6.2.1:2 indicates properties that will be tracked for purposes of Quality Assurance. For all QLA projects, if a composite pay factor of more than 1.00 is calculated, the composite pay factor will be a 1.00 for the purposes of payment.

423.3.6.2.1.2.1 Acceptance of Pavement Density

The target density for acceptance of HMA will be 94.50% of the theoretical maximum density as determined from AASHTO T 209. For determination of maximum specific gravity, obtain and test a minimum of two samples and ensure the Department obtains and tests a minimum of one sample for each day that the HMA is placed, in accordance with the random sampling plan. Each individual density test value obtained must be from 92.0% to 97.0% of the theoretical maximum density.

For purposes of acceptance and pay factor determination, determine the density from cut pavement sections (cores) with 6-inch diameters extending through the full thickness of the HMA. Determine the pay factor in accordance with Section 901.5, Quality Level Analysis. Use a minimum of ten cores to determine the pay factor, unless otherwise directed by the Assistant District Engineer for Construction. To be prepared for dispute resolution, the Contractor is to provide one additional core for each core tested by the Department for acceptance of density. The additional core is to be from the same lot as the initial core and shall be generated from the random sample plan. If the Contractor or Department believes the Department's cut pavement samples have been damaged they may invoke Section 423.3.7 Dispute Resolution. The Referee Lab results will replace the initial core in determining pay factor. Determine the theoretical maximum density using an average of the maximum specific gravity values obtained by the Department and the Contractor the day the core's Material was placed. If a composite pay factor of more then 1.00 is calculated, the composite pay factor will be a 1.00 for the purposes of payment.

For projects consisting of single lift overlays or mill and inlay with a single lift of two and a half inches or less, the Project Manager may grant an exception to the mean density target requirement of at least 94.5% of the theoretical maximum density if the Contractor can demonstrate that a minimum of 92.0% cannot be reasonably obtained because of the existing conditions of the Pavement Structure or Subgrade materials. The Contractor demonstrates this by providing non-destructive density results obtained during paving operations witnessed by a

state inspector at the location in question. If the Project Manager grants this exemption, construct a roadway test strip and develop an HMA compaction process to get the highest possible density based on an approved roller's density gain per pass, in accordance with Section 423.3.4.4, Compaction Equipment. The Project Manager will approve the process, establish a new target value for density and establish a new acceptance lot only for the portion of the project addressed herein (except for the roadway test strip) before paving begins or continues. Lot density shall not fall below 91%. If a lot does not meet either of the revised density requirements, the Project Manager will, with the concurrence of the Assistant District Engineer for Construction do the following:

1. Accept and pay for the lot of HMA at 50% of the Bid Item Unit Price; or
2. Reject the in-place material and require the Contractor to remove and replace at no cost to the Department.

423.3.6.3 Independent Assurance Testing

The Department will perform independent assurance sampling and testing in accordance with Section 901.3, "Independent Assurance Testing."

423.3.7 Dispute Resolution

For any test incorporated into the pay factor, if a dispute exists between the Department and the Contractor about the validity of the test result, either party may invoke a referee lab. The State Asphalt Engineer will maintain a list of labs that are willing and capable of performing referee testing. All referee labs shall be AASHTO Materials Reference Laboratory (AMRL) certified for the test(s) to be performed. Neither the Department's project staff, nor the Contractor will know who is performing the referee testing. The State Asphalt Engineer will select a laboratory, without disclosing the name of the lab to Department Project Personnel or Contractor personnel, from the following, not in priority order:

1. A district laboratory not from the district in which the project resides; or
2. A private laboratory currently listed on the State Material's Bureau's list of approved private labs not involved in the subject project in any manner, such as mix design submittal, preliminary testing for design, etc. Only laboratories that are in the routine business of providing testing and designs will be considered. Contractor owned laboratories will not be allowed.

When a referee lab is used, the referee lab's test results will be used in determining the pay factor. The referee lab must be invoked in writing within seven calendar days of receiving the test results from the other party. If not invoked within seven calendar days, the test results are deemed accepted. The results will be used to determine pay factors. The Department's prior test results or the Contractor's prior test results for the test in question will be discarded. If the composite pay factor decreases from applying the referee lab's results, the Contractor shall pay for the testing performed by the referee lab. If the composite pay factor increases from applying the referee lab's results, the Department will pay for the testing performed by the referee lab. If the composite pay factor remains unchanged, the cost shall be split with each party responsible for 50% of the total cost.

For all testing incorporated into the pay factor, each party shall generate an additional split sample from the Department's Acceptance Samples and the Contractor's Quality Control Samples used in pay factor analysis. Failure to provide the referee samples prior to testing the initial sample will result in the Project Manager suspending the project at no cost to the Department. Additional time will not be added to the Contract for project suspension caused by

failure to comply with Dispute Resolution Process. Work shall not resume until the Contractor provides the delayed sample(s) and satisfies the Project Manager, in writing, that future samples will be provided in compliance with this requirement. The extra sample(s) is (are) to be retained by the Department. The Department will retain the samples at the project location inside a locked cargo container, provided by the Contractor at no cost to the state. The state will provide the lock for the cargo container. Once the pay factor is determined dispose of the unused samples at no cost to the Department. In no case will the unused samples be disposed of prior to the seven calendar day period in which the Dispute Resolution process may be invoked.

For Pavement Density, the Contractor shall provide an additional core only for each core provided to the Department for Acceptance. The additional core will be stored and retained in the provided container. Should the Contractor invoke the Dispute Resolution Process for Density, the second core will be provided to the Referee Lab. The density pay factor for the material in question will be based solely on the Referee Lab result, not including Department or Contractor results.
Failure to comply with the requirements contained herein will result in the pay factor being calculated in accordance with the applicable Sections of 423, Superpave (QLA and Non-QLA), and 901, Quality Control/Quality Assurance (QC/QA). No test results will be replaced by referee results.

423.4 METHOD OF MEASUREMENT

If the Department measures *HMA* by the square yard, the Department will use the average width of the HMA in place and the length from station to station along the centerline of the Roadway when calculating quantities.

423.5 BASIS OF PAYMENT

Pay Item	**Pay Unit**
HMA Complete	Ton or Square Yard
HMA	Ton or Square Yard

The Department will pay for accepted quantities at the Bid Item Unit Price, adjusted in accordance with Section 423.5.1, “Price Adjustments.” Providing and transporting all cores, samples and storage containers shall be incidental to the Pay Items above.

423.5.1 Price Adjustments

423.5.1.1 Projects with Bid Quantities of 15,000 Tons or Greater

The Department will pay for accepted quantities of *HMA* or HMA Complete at the Bid Item Unit Price, adjusted in accordance with Section 901.5, “Quality Level Analysis.” The HMA will be evaluated on a lot-by-lot basis at a price determined by multiplying the Bid Item Unit Price by the weighting factor. The Department will use Table 423.5.1.1:1, “Weighting Factors,” to calculate each lot’s composite pay factor. The pay factor for the entire project will be calculated by applying weighted averages, based on tonnage contained within each lot, to each lot’s composite pay factor. If the composite pay factor for a lot is greater than 1.0, the pay factor will be set at 1.0.

Table 423.5.1.1:1
Weighting Factors

Characteristic	"f" Factor (%)
Mat Density	35
Air voids	35
Voids in the mineral aggregate (VMA)	20
Asphalt Content*	10

***** If the individual pay factor for asphalt content is less than 0.75, it will be set at 0.75 for the purpose of calculating payment.

423.5.1.2 Projects with Bid Quantities Less than 15,000 Tons

The Department will pay for accepted quantities of *HMA* or HMA Complete at the Bid Item Unit Price if the mean of the test results for each property is within the testing tolerances as listed in Table 423.3.6.2.1:1, "Acceptance Testing Tolerances." If the mean of the test results for any of the listed properties is outside of the testing tolerances as listed in Table 423.3.6.2.1:1, "Acceptance Testing Tolerances," then the Department will determine the price adjustment for the Material in accordance with the Department's *Price Reduction Procedures* current at the time of the Project letting. In no case will the pay factor be greater than 1.00.

423.5.1.2.1 Price Adjustment for Pavement Density (Bid Quantities Less than 15,000 Tons)

The Department will adjust the Bid Item Unit Price for the HMA or *HMA Complete* Pay Item, based on the Roadway density, in accordance with Section 901, Quality Control/Quality Assurance (QC/QA), specifically Section 901.5, Quality Level Analysis. If the composite pay factor for a lot is greater than 1.0, the composite pay factor will be set at 1.0 for purposes of payment. The Department will apply the price adjustments to the HMA pay item for each lot. The Department will base price adjustments on the average of all density tests for the lot.

END OF SECTION

D.5 Section 509 Portland Cement Concrete Mix Design

NEW MEXICO DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISIONS MODIFYING

SECTION 509:
PORTLAND CEMENT CONCRETE MIX DESIGNS

509.1 DESCRIPTION

This Work consists of developing, submitting and getting approval to use PCC mix designs on Department projects.

509.2 MATERIALS

Test Materials in accordance with AASHTO and ASTM methods or other test procedures designated by the Department. The State Materials Bureau will decide questions about test procedure interpretation. Correct or remove and dispose of improperly graded or segregated material that fails to meet the requirements as directed by the Project Manager and at no additional cost to the Department.

Use pre-approved Materials in accordance with the current Department's *Approved Products List*. The Department will not allow changes in the source or character of the Materials without notifying the State Materials Bureau and obtaining written approval.

509.2.1 Reserved

509.2.2 Portland Cement

Use Type II, low-alkali portland cement in accordance with ASTM C 150 unless otherwise specified. If the results of the alkali-silica reactivity (ASR) mitigation tests required in Section 509.2.4.5 "Alkali-Silica Reactivity" are less than 0.10% for each of the individual aggregates in the mixture, the Department will waive the low-alkali requirement.

509.2.2.1 Source Approval and Acceptance

The Department will accept portland cement based on certification of the approved sources and satisfactory test results from project verification samples. The State Materials Bureau must approve cement from a particular source or Contractor before use. Include the following information in the request for source approval:

1. The Supplier or company;
2. Cement plant location;
3. Storage facility type and capacity;
4. Average and maximum production capabilities;
5. Production procedures;
6. Details regarding the in-house quality control program information:
   - 6.1 Routine sampling and testing frequency;
   - 6.2 Documentation that the Laboratory responsible for the certified ASTM C 150, ASTM C 595, and ASTM C 1157 test results is currently participating in the Cement and Concrete Reference Laboratory (CCRL) proficiency sample and the pozzolan inspection programs;
   - 6.3 A copy of the Laboratory letter authorizing CCRL to send copies of the CCRL inspection programs and proficiency result reports directly to the State Materials Bureau;
   - 6.4. Documentation of measures taken to ensure that the Supplier keeps unacceptable cement separated from acceptable cement;
7. Copies of quality control program test reports for the previous six months, including at least one comprehensive ASTM C 150 analysis for each month.

The Department will maintain a list of approved sources.

509.2.2.2 Sources on Approved List

Provide the following information from approved sources to the State Materials Bureau monthly:

1. Copies of routine quality control program test results; and
2. A certified ASTM C 150 or ASTM C 595 analysis for each lot tested. An average over a period of time or over several different test lots will not be acceptable.

509.2.2.3 Withdrawal of Source Approval

The State Materials Bureau may withdraw source approval for any of the following reasons:

1. A change in Equipment or production procedure from that on the original request for approval.
2. Project sample failure to comply with specification requirements.
3. Chemistry or physical properties that vary more than allowed.
4. A source becomes inactive for a period of 3 months, or
5. A source does not provide cement to the Department for a period of 1 year.
6. The appropriate mill certificates are not regularly received.

Manufacture cement at the same production facility unless otherwise approved by the State Materials Bureau. Obtain approval for changes in cement sources. Submit a written source change request to the Project Manager. The State Materials Bureau will issue a written decision within 7 Days of receipt.

Provide documentation that the proposed source will provide cement that produces concrete with hardened properties equal to or better than the original source. Compliance with ASTM C 150 is not sufficient documentation.

509.2.2.4 Blended Portland-Fly Ash Cement

Use blended portland-fly ash cement in accordance with ASTM C 595 or ASTM C 1157. Blend or inter-grind portland cement with fly ash. Provide proof that the blended portland-fly ash cement contains the appropriate percentage of the proper fly ash by weight of the cement only, to mitigate ASR concerns for the aggregates used.

509.2.2.4.1 Approval of Blended Portland-Fly Ash Cement Source

Provide test data showing that the proposed source can provide blended portland fly ash cement that produces concrete in accordance with Table 509.2.8.1:1 "Concrete Classes for Laboratory Design of Concrete Mixtures" and Section 509.2.8.4, "Concrete Mix Design Development."

509.2.2.5 Packaging

Mark portland cement and blended portland-fly ash cement packages with the name brand, the source manufacturing facility, and the cement type. Provide the same information on the shipping documents for bulk cement deliveries.

509.2.2.6 Storage

Protect cement from moisture. Store different brands or types of cement, or cement from different production facilities separately. Provide separate, identifiable blended portland-fly ash cement storage at the project or plant site. Store portland cement and portland-fly ash cement separately.

509.2.2.7 Cement Rejection

The Department will reject cement if it:

1. Has come in contact with moisture, fly ash, or other cements; or
2. Has partially set or is lumpy.

509.2.3 Fly Ash

Use fly ash that complies with the physical and chemical requirements of ASTM C 618 and the optional requirements for available alkalis and reactivity with cement alkalis as modified by Table 509.2.3:1, "Fly Ash Requirements." Use Class F fly ash if either the coarse or the fine aggregate is reactive. If both the coarse and the fine aggregate are non-reactive, the Contractor may use a C/F blend fly ash or a Class C fly ash.

Table 509.2.3:1
Fly Ash Requirements

Characteristics	Class C	Class F
Sum of Al_2O_3, SiO_2, and Fe_2O_3	—	>85%
Moisture content, maximum %	1.0	1.0
Loss on ignition, maximum %	3.0	3.0
Magnesium Oxide (MgO), maximum %	5.0	5.0
Available Alkalis, maximum %	1.5	1.5
Calcium Oxide (CaO), maximum %[a]	50.0	8.0

[a]NMDOT will only consider a fly ash as Class F if the CaO is less than 8%. Fly ash meeting the requirements of ASTM C 618 and containing more than 8% by weight of bulk CaO is considered as Class C fly ash and can only be used in concrete that is not exposed to sulfate environments or with "potentially reactive", or "reactive" aggregate.

Use waterproof and clearly labeled bags when supplying fly ash in bags. Label with the name brand, the manufacturer, type, and source. Provide an executed Certificate of Compliance with each fly ash shipment. Permission for blending Class C and Class F fly ash depends upon approval by the State Materials Bureau. Ensure the blended fly ash is in accordance with ASTM C 618 and is limited to concrete mixes in which the coarse and fine aggregates are non-reactive.

509.2.3.1 Source Approval and Acceptance

The Department will accept fly ash based on certification of approved sources and satisfactory test results on project verification samples. Obtain approval from the State Materials Bureau before using fly ash from a particular source or Supplier in PCC. Include the following in source approval requests:

1. Supplier or company name;
2. Source power plant location;
3. Coal type and origin;
4. Combustion process;
5. Storage facilities and capacity;
6. Production procedures;
7. Details regarding the Supplier's quality control program including the following:
   - 7.1. Routine sampling and testing frequency;
   - 7.2. Documentation showing that the Laboratory responsible for the certified ASTM C 618 test results is currently participating in the CCRL proficiency sample and pozzolan inspection programs. Submit a letter authorizing CCRL to send the Laboratory's inspection and proficiency reports directly to the State Materials Bureau; and
   - 7.3. Measures taken to ensure that fly ash not meeting specification requirements are kept separate from Material meeting the requirements;
8. Copies of the quality control program test reports for each lot tested for the previous six months including at

least one complete ASTM C 618 analysis for each month.

The Department will maintain an approved products list. Do not substitute the approved Material source for a different source without prior Department approval. The Department will consider a fly ash source change only after receiving a written request. The State Materials Bureau will review the request and provide written approval once they have verification of the equivalency of the proposed Material. Compliance with ASTM C 618 is not sufficient documentation to permit a change of sources. Provide information that verifies the proposed source Material performs equally as Material from the original source.

509.2.3.2 Sources on Approved List

Sources on the approved list are required to provide the State Materials Bureau with the following information on a monthly basis:

1. Test results obtained in their routine quality control program; and
2. A certified ASTM C 618 analysis for each lot tested.

509.2.3.3 Withdrawal of Source Approval

The Department may withdraw source approval for any of the following reasons:

1. If there is a change in Equipment or production procedures from what was shown in the original request for approval;
2. If a project sample fails to comply with specification requirements;
3. If a source becomes inactive for 3 consecutive months or more; or
4. If a source does not furnish fly ash to the Department for a period of 1 year.

509.2.3.4 Storage

Protect fly ash from moisture. Store different brands or types of fly ash, or fly ash from different production facilities separately. Provide separate, identifiable blended portland-fly ash cement storage at the project or plant site. Store portland cement and portland-fly ash cement separately.

509.2.4 Aggregate

The Department will allow the Contractor to combine aggregates from two or more approved sources based on the following criteria:

1. Each source complies with Material requirements other than gradation; and
2. The blended Material meets all requirements.

509.2.4.1 Aggregate Testing

Test coarse and fine aggregate in accordance with the methods shown in Table 509.2.4.1:1, "Aggregate Test Methods." Concrete mixture design approval involving a designated source will remain in effect as long as annual test results for specific gravity, absorption, gradation, and sand equivalent (for fine aggregate only) and annual tests for other requirements (except ASR) demonstrate Material compliance.

Table 509.2.4.1:1
Aggregate Test Methods

Aggregate test	Method
Sampling	AASHTO T 2
Clay lumps	AASHTO T 112
Amount of Material passing No. 200 sieve	AASHTO T 11
Absorption & Specific Gravity of Coarse Aggregate	AASHTO T-85 or TP 77
Absorption & Specific Gravity of Fine Aggregate	AASHTO T-84 or TP 77
Sieve analysis	AASHTO T 27
Soundness with magnesium sulfate	AASHTO T 104
Sand equivalent	AASHTO T 176
Soft fragments	AASHTO T 112
Flat and elongated pieces	ASTM D 4791
Alkali-Silica Reactivity	AASHTO T303 or ASTM C1293

509.2.4.2 Coarse Aggregate

Coarse aggregate is crushed stone, crushed gravel, or natural washed gravel. Unless otherwise specified, ensure that at least 50% of the aggregate by weight has a minimum of 1 Fractured Face. Ensure that Class G mixes are composed of at least 50% particles with no Fractured Faces. The Department may waive the Fractured Face requirement for mixes other than Class G mixes if less than 1.0% of the Material passes the No. 200 sieve.

509.2.4.2.1 Deleterious Materials

Do not exceed the deleterious substance tolerances in accordance with Table 509.2.4.2.1:1, "Deleterious Materials Tolerances for Coarse Aggregate." Perform tests in accordance with Table 510.2.4.1:1, "Aggregate Test Methods."

Table 509.2.4.2.1:1
Deleterious Materials Tolerances for Coarse Aggregate

Substance	Maximum % by weight
Soft fragments	2.0
Coal and lignite	0.25
Clay lumps	2.5
Materials passing No. 200 sieve	2.0
Flat and elongated pieces	[a]

[a] Ensure that Material larger than 3/8 in contains no more than 15% flat or elongated particles with a 3:1 or greater dimensional ratio in accordance with TTCP. Add the percentage of flat pieces to the percentage of elongated pieces to determine specification compliance. Count pieces that are both flat and elongated only once.

Provide aggregate that is free of organic matter. The Department will reject contaminated aggregate.

509.2.4.2.2 Coarse Aggregate Quality Requirements

Provide coarse aggregate with an AI of 25 or less, calculated in accordance with Section 910, "Aggregate Index." The Department will reject aggregates with an AI greater than 25.

509.2.4.2.3 Coarse Aggregate Gradation Requirements

If the combined gradation procedure detailed in Section 509.2.8.3.1, "Combined Gradation" has been chosen by the Contractor, then the gradation requirements specified below do not apply. Comply with all other aggregate properties and characteristics, including the amount of Material passing the No. 200 sieve.

Use coarse aggregate that complies with Table 509.2.4.2.3:1, "Coarse Aggregate Gradation Requirements."

Table 509.2.4.2.3:1
Coarse Aggregate Gradation Requirements

	% of aggregate passing sieve				
Sieve size	1.5 in	1.0 in	0.75 in	0.5 in	Class G
2.0 in	100	—	—	—	—
1.5 in	95–100	100	—	—	—
1.0 in	—	95–100	100	—	100
3/4 in	35–70	—	90–100	100	90–100
0.5 in	—	25–60	—	90–100	—
3/8 in	10–30	—	20–55	40–70	20–55
No. 4	0–5	0–10	0–10	0–15	0–10
No. 8	—	0–5	0–5	0–5	0–5
No. 200	0.0–2.0	0.0–2.0	0.0–2.0	0.0–2.0	0.0–2.0

Provide coarse aggregate that meets the following:

1. 50% of the Material has at least 1 Fractured Face; and
2. 2.0% or less (by weight) of the Material passes a No. 200 sieve.

The Department may accept coarse aggregate with more than the maximum percent passing the No. 200 sieve if the combined gradation of the coarse and fine aggregate percent passing the No. 200 sieve does not exceed 3.0%.

509.2.4.2.4 Portland Cement Concrete Pavement (PCCP) Gradations

Meet the coarse aggregate gradation requirements shown in Table 509.2.4.2.3:1, "Coarse Aggregate Gradation Requirements," for PCCP, unless using the combined gradation procedure. Additionally, except when the gradation of the coarse and fine aggregate combined has less than 1.0% passing the No. 200 sieve, all of the particles retained on or above the 3/8 in sieve must have at least 1 Fractured Face. The Contractor may eliminate the Fractured Face requirement by washing the aggregate to produce a combined aggregate of which less than 1.0% passes a No. 200 sieve. Provide proof that the mix design meets performance and minimum specified hardened properties.

509.2.4.3 Fine Aggregate

Use fine aggregate that consists of natural sand, manufactured sand, or a combination of both.

509.2.4.3.1 Deleterious Materials

Provide fine aggregates in accordance with Table 509.2.4.3.1:1, "Deleterious Material Tolerances for Fine Aggregate."

Table 509.2.4.3.1:1
Deleterious Material Tolerances for Fine Aggregate

Substance	Maximum % by weight
Soft fragments	2.0
Coal and lignite	1.0
Clay lumps	3 0
Materials passing No. 200 sieve	3.0

509.2.4.3.2 Fine Aggregate Quality Requirements

Provide fine aggregate with the following properties:

1. A soundness loss of 12 or less when tested in accordance with AASHTO T 104 using magnesium sulfate solution and a test duration of 5 cycles; and
2. A sand equivalent of at least 75 when tested in accordance with AASHTO T 176.

509.2.4.3.3 Fine Aggregate Gradation Requirements

If the combined gradation procedure detailed in Section 509.2.8.3.1, "Combined Gradation" has been chosen by the Contractor, then the gradation requirements specified below do not apply. Comply with all other aggregate properties and characteristics, including the amount of Material passing the No. 200 sieve.

Use well-graded fine aggregate in accordance with Table 509.2.4.3.3:1, "Fine Aggregate Gradation Requirements." The gradation requirements represent the limits that the Department will use to determine source acceptability.

The Department will not approve fine aggregate that has more than 45% passing any sieve and retained on the next finer sieve shown in Table 509.2.4.3.3:1, "Fine Aggregate Gradation Requirements." Use a fineness modulus, calculated in accordance with AASHTO M 6, to determine the degree of uniformity between representative samples. If the combined gradation procedure has not been chosen, the Department may reject fine aggregate from designated sources with variation in fineness modulus greater than 0.20 above or below the fineness modulus shown on the approved concrete mix designs. Variations in excess of these tolerances may be cause for rejection. The Department may accept the aggregate once the Contractor assures the State Materials Bureau that the source maintains the designated production tolerances.

Table 509.2.4.3.3:1
Fine Aggregate Gradation Requirements

Sieve size	% Passing
3/8 in	100
No. 4	90–100
No. 8	70–95
No. 16	45–80
No. 30	25–60
No. 50	5–30
No. 100	0–8
No. 200	0.0–3.0

The Department may accept fine aggregate with more than 3% percent passing the No. 200 sieve, but not more than 5% passing the No. 200 sieve if the combined fine and coarse aggregates passing the No. 200 sieve does not exceed 3.0%.

509.2.4.4 Alkali-Silica Reactivity

Prevent damage from ASR in accordance with the following procedures.

Perform the initial proof-of-reactivity-potential test using standard Rio Grande Type I-II low alkali cement from the Rio Grande Cement plant located at Tijeras, New Mexico. Use cement with an alkali content of from 0.5% to 0.6%. The Department considers aggregates with mean mortar bar expansions of greater than 0.10% at 14 Days potentially reactive and those less than 0.10% as non-reactive. Expansions greater than 0.20% are considered "Reactive." If tested using ASTM C 1293, the Department will consider aggregate non-reactive if the average expansion at the end of one year is less than 0.04%. Once the State Materials Bureau decides a particular aggregate source is non-reactive, it will not require the source to reevaluate for three years unless concerns arise from possible aggregate source changes. Obtain a list of reactive, potentially reactive, and non-reactive aggregate sources tested to date from the State Materials Bureau.

If the results of the initial proof-of-potential-reactivity test show the aggregate to be "potentially reactive" or "reactive", repeat the test procedure using the actual cement, fly ash and, if desired, any of the ASR inhibiting admixtures shown in Table 509.2.4.4:1 "ASR Inhibiting Admixtures." Report the minimum amount of Class F fly ash, and the minimum amount of ASR inhibiting admixture required to provide a maximum expansion at 14 Days that is less than 0.10%. Report the Fly Ash required as a percentage of the cement weight.

Table 509.2.4.4:1
ASR Inhibiting Admixtures

Material	Requirement
Fly ash (Class F)	Section 510.2.9, "Fly Ash"
Blended cement (Only Class F Fly Ash may be used)	Section 510.2.4.4, "Blended Portland Fly-Ash Cement"
Ground granulated blast furnace slag (GGBFS), Grade 100 and 200	AASHTO M 302
Silica fume	AASHTO M 307
Lithium nitrate ($LiNO_3$)	Section 510.2.11, "Lithium"

Use admixtures in accordance with Table 509.2.4.4:2, "ASR Mitigation Dosage Rate Requirements," unless it is determined that larger dosages are required to control the expansion.

Table 509.2.4.4:2
ASR Mitigation Dosage Rate Requirements

Material	Dosage Rate
Fly ash (Class F)	As required to mitigate ASR expansion, but not less than 20% by weight of cement only for binary blends; not less than 12% by weight for ternary blends as long as the total pozzolan dosage is at least 20%
Blended cement	As required, but not less than 20% by weight of cement only
GGBFS	As required, but not less than 25% by weight of cement only
Silica fume	As required, but not less than 10% by weight of cement only
Lithium nitrate	0.55 gal/yd³ of solution for each pound of cement sodium equivalent

509.2.4.4.1 ASR Mitigation Evaluation Criteria

The Department will consider an admixture effective if the mean mortar bar expansion at 14 Days is less than or equal to 0.10%, when tested in accordance with Section 509.2.4.4 "Alkali-Silica Reactivity." Retest aggregates classified as "potential reactive" or "reactive" for ASR mitigation each time the comprehensive mix evaluation is performed. If the test results from AASHTO T 303 or ASTM C 1293 indicate "potentially reactive" or "reactive" Material, but the Contractor believes that the aggregates are non-reactive, submit the following documentation as proof of non-reactivity:

1. A letter signed and sealed by an engineer registered in New Mexico confirming direct knowledge of the fundamentals of ASR in concrete and stating that the subject aggregates have never caused ASR concrete deterioration; and
2. A report from an approved petrographer. The report will confirm that at least two different concrete core samples obtained from different 15-year old exposed structures that used the subject aggregates in a cement-only mixture were examined and that there is no evidence of ASR reactivity.

After receipt of a stamped letter from the registered professional engineer indicating no evidence of ASR gel found in either of the cores, the Department will consider the aggregate sources non-reactive.

509.2.5 Admixtures

Ensure the total admixture, or combinations of admixtures, of soluble and insoluble chloride content does not exceed 1,000 ppm. Use only admixtures on the Department's *Approved Products List*.

509.2.5.1 Air Entraining Admixtures

Use air-entraining admixtures that comply with AASHTO M 154.

509.2.5.2 Chemical Admixtures

Use water-reducing and set-controlling admixtures set retarding admixtures, and non-chloride set accelerating admixtures, that comply with Section 509.2.5, "Admixtures," and AASHTO M 194.

509.2.6 Water

Test non-potable water before use in accordance with AASHTO T 26. Use water for mixing and curing concrete or washing concrete aggregates that does not contain acid, oil, alkali, organic matter, or other Deleterious Material that will adversely affect the concrete. Use water with a pH value of from 6.0 to 8.5 in accordance with AASHTO T 26. Do not use water with a sulfate content or chloride content that exceeds 1,000 ppm. Prevent contamination from silt, clay, organic matter, or other Deleterious Material. Do not use residual water, wash water, or recycled water generated by Equipment, mixer trucks, or central mixers in concrete mixtures.

509.2.7 Fibrous Concrete Reinforcement

Use fibers in the concrete mix at a minimum dosage rate of 1.5 lb per cubic yard of concrete. Use only 100% virgin polypropylene fibrillated fibers, containing no reprocessed olefin materials, and specifically manufactured for use in PCC.

509.2.8 PCC Mixture Design and Approval

509.2.8.1 Classifications

The classes of PCC are shown in Table 509.2.8.1:1, "Concrete Classes for Laboratory Design of Concrete Mixtures," and as specified:

Table 509.2.8.1:1
Concrete Classes for Laboratory Design of Concrete Mixtures

Class	Use	Specified compressive strength at 28 Days, (psi)	Laboratory design slump[a] (in)	Percent air content[b]
A	Cast in-place structural	3,000	4.5 to 5.5	—
AA	Cast in-place structural	4,000	4.5 to 5.5	—
D	Non-structural	2,500	4.5 to 5.5	—
E	Slip form structural	2,500[c]	2.0 to 2.5	—
F	Slip form structural	3,000[c]	2.0 to 2.5	—

Table 509.2.8.1:1
Concrete Classes for Laboratory Design of Concrete Mixtures

Class	Use	Specified compressive strength at 28 Days, (psi)	Laboratory design slump[a] (in)	Percent air content[b]
F-LS	PCCP Low Shrinkage	3,000	2.0 to 2.5	No entrained air agent allowed
G	Drilled shafts	3,000	—	
HPD	Bridge decks and other low shrinkage applications	4,000	4.5 to 5.5	—
Special	The *Contract Requirements* for the individual project will address special mix requirements.			

[a]As determined by AASHTO T 119.
[b]Project risk zone requirements apply; see Section 510.3.2, "Freeze-Thaw Risk Zones."
[c]The specified age for Class E and Class F is 14 Days.

509.2.8.1.1 Details for Table 510.2.9.1:1, "Concrete Classes for Laboratory Design of Concrete Mixtures"

Use Table 509.2.8.1:1, "Concrete Classes for Laboratory Design of Concrete Mixtures," only for designing concrete mixes. Do not use to evaluate concrete delivered to Department projects.

Use the minimum air content shown below in the Laboratory mix:

1. High Risk Zones: 7.0%
2. Medium Risk Zones: 6.5%
3. Low Risk Zones: 6.0%

Use a minimum compressive strength over-design at least 1,200 psi greater than the specified compressive strength for new mixes if there is no additional information available. For existing mixes with at least 15 compressive strength tests, or for plants which can provide at least 15 consecutive compressive strength tests for a similar mix (same entrained air and same specified compressive strength) determine the minimum allowable average compressive strength using one of the following equations. Use the equation that produces the largest value to determine the minimum allowable compressive strength.

$$f'_{cr} = f'_c + (1.34 \times k \times s) \quad (1)$$

$$f'_{cr} = f'_c + (2.33 \times k \times s) - 500 \quad (2)$$

where

f'_{cr} is the minimum laboratory compressive strength at the specified age

f'_c is the specified compressive strength

k is the k-factor from Table 509.2.8.1.1:1, "k-Factor for Increasing Standard Deviation," for standard deviation increase if the total number of tests is less than 30, but equal to or greater than 15

s is the standard deviation for the compressive strength tests submitted of the same specified strength

Table 509.2.8.1.1:1
k-Factor for Increasing Standard Deviation

Total number of tests	k-Factor
15	1.16
20	1.08
25	1.03
≥30	1.00

The Department will allow linear interpolation for an intermediate number of tests. A mix that was developed from a history of 15 or more test results from the preceding 12-month period is considered an existing mix. A mix developed without historical test results is considered a new mix.

Class E and Class F concrete must attain minimum strength at 14 Days. The minimum Class F over-design is 800 psi at 14 Days unless a lower value is calculated using the greater value from either Equation (1) or Equation (2). The minimum Class E over-design is 600 psi at 14 Days, unless a lower number is calculated using the greater value from either Equation (1) or Equation (2).

Class G shall have the following characteristics:

1. A minimum cementitious content of at least 611 lb;
2. A maximum water/cementitious ratio no greater than 0.44;
3. A maximum sized aggregate no greater than 0.75 in;
4. A sand/aggregate ratio between 40% and 42% by total aggregate volume;
5. A maximum air content no greater than 3.0%;
6. No air entrainment agent;
7. A slump range of 7.0 in ± 1.0 in, except when placing under a drilling fluid;
8. A slump range of 8.0 in ± 1.0 in for placement under a drilling fluid; and
9. Adjust admixtures for the job site conditions encountered so that the concrete remains workable and plastic for the 2 hr placement limit.

509.2.8.2 Freeze-Thaw Risk Zones

Design the concrete mixture for use in the freeze-thaw zone in which the project is located. One freeze/thaw cycle is defined as a day in which the lowest recorded temperature is equal to or less than 25 °F as recorded on the Western Regional Climate Center database. The web address is www.wrcc.dri.edu. The risk levels are defined as follows:

1. **Low-Risk**. The annual average number of freeze/thaw cycles is equal to or less than 30 cycles per year;
2. **Medium-Risk**. The annual average number of freeze/thaw cycles is greater than 30 but less than or equal to 130 cycles per year;
3. **High-Risk**. The annual average number of freeze/thaw cycles is greater than 130 cycles per year.

Obtain the number of freeze/thaw cycles using the closest weather station to the project with the most similar environmental conditions. Use Table 509.2.8.2:1, "Statewide Concrete Risk Zones," to determine the required risk zone.

Table 509.2.8.2:1
Statewide Concrete Risk Zones

District no.	County name	Station name	Concrete risk zone
1	Dona Ana	(County wide)	Low
1	Grant	(County wide)	Low
1	Hidalgo	(County wide)	Low
1	Luna	(County wide)	Low
1	Sierra	(County wide)	Low
1	Socorro	(County wide)	Medium
2	Chaves	(County wide)	Low
2	Curry	(County wide)	Medium
2	De Baca	(County wide)	Medium
2	Eddy	(County wide)	Low
2	Lea	(County wide)	Low
2	Lincoln	(County wide)[a]	Medium
2	Lincoln	Ruidoso	High
2	Otero	(County wide)	Medium
2	Roosevelt	(County wide)	Medium
3	Bernalillo	(County wide)[a]	Medium
3	Bernalillo	Sandia Crest	High
3	Sandoval	(County wide)	Medium
3	Valencia	(County wide)	Medium
4	Colfax	(County wide)	High
4	Guadalupe	(County wide)	Medium
4	Harding	(County wide)	Medium
4	Mora	(County wide)	High
4	Quay	(County wide)	Medium
4	San Miguel	(County wide)	Medium
4	Union	(County wide)	Medium
5	Los Alamos	(County wide)	Medium
5	Rio Arriba	(County wide)[a]	Medium
5	Rio Arriba	Chama	High
5	Rio Arriba	Dulce	High
5	Rio Arriba	El Vado Dam	High
5	Rio Arriba	Gavilan	High
5	Rio Arriba	Lindrith	High
5	Rio Arriba	Tres Piedras	High
5	San Juan	(County wide)	Medium
5	Santa Fe	(County wide)	Medium
5	Taos	(County wide)	High
5	Torrance	(County wide)	Medium
6	Catron	(County wide)	High
6	Cibola	(County wide)	High
6	McKinley	(County wide)[a]	High
6	Sandoval	(County wide)	High

[a]Except as otherwise listed

The minimum allowable air content for mix design submittal purposes is:

1. 6.0% for low-risk zones;
2. 6.5% for medium-risk zones;
3. 7.0% for high-risk zones.

Confirm these contents by the pressure method and the volumetric method in accordance with Section 509.2.8.4.3, "Mix Design Submittal."

509.2.8.3 PCC Mixture Development

Submit representative samples of all proposed Materials to a PTL that is pre-approved to design PCC mixtures by the State Materials Bureau. Provide a professional civil engineer licensed by the State of New Mexico with a minimum of

3 years experience in proportioning and testing PCC mixes to directly supervise all testing.

509.2.8.3.1 Combined Gradation

The combined gradation procedure is optional for all concrete mixes except for Class F-LS and High Performance Deck (HPD) mixes. Class F-LS and HPD mixes must be prepared using the combined gradation procedure. Evaluate aggregates for concrete mixtures prepared for the combined gradation procedures in accordance with the following:

1. **Coarseness Factor.** Determine the Coarseness Factor in accordance with the following equation:

$$CF = \frac{Q}{Q+I} \times 100 \qquad (3)$$

where

CF is the Coarseness Factor

Q is the weight of the aggregate retained on or above the 3/8-inch sieve

I is the weight of the aggregate passing the 3/8 in sieve, but retained on the No. 8 sieve

2. **Workability Factor.** The weight of the aggregate passing the No. 8 sieve divided by the weight of the combined gradation, represented as a percent.
3. **Mortar Factor.** The volume of the cement, fly ash, water, air, other pozzolans, and aggregate passing the No. 8 sieve divided by the volume of the entire concrete mixture, represented as a percent.
4. **Paste Factor.** The volume of the cement, fly ash, water, air, and other pozzolans divided by the volume of the entire concrete mixture, represented as a percent.

Combine aggregates to produce a uniform gradation. Ensure that combined aggregates comply with the required individual physical and chemical properties. Individual gradation requirements will not apply. Use the .45 Power Curve to blend the aggregates to achieve the densest grading possible. Approximate targets for the Coarseness Factor and the Workability Factor are shown in Table 509.2.8.3.1:1, "Recommended Workability Factor and Coarseness Factor Targets," for concrete mixtures designed using combined gradation.

Table 509.2.8.3.1:1
Recommended Workability Factor and Coarseness Factor Targets

Nominal Maximum Aggregate Size	Workability Factor	Coarseness Factor
3/4 in	32 - 36	65 - 75
1/2 in	40–42	10–20

509.2.8.4 Concrete Mix Design Development

Use fly ash in all concrete mixtures. If fly ash is the only pozzolan used, add at a minimum of 20%, by weight of cement only. Only use Class C or C/F blended fly ash with non-reactive aggregate. When using Class C or C/F blended fly ash instead of the Class F fly ash, use at a minimum dosage rate of 25%, by weight of cement. When using additional pozzolans, such as silica fume, metakaolin, or GGBFS, the minimum amount of fly ash required is 12% for mixtures using Class F fly ash and 15% for mixtures using Class C fly ash. When using multiple pozzolans, ensure that the total pozzolan content is at least 20% with Class F fly ash and 25% with Class C or C/F blend fly ash.

509.2.8.4.1 Concrete Mix Design Documentation

Submit documentation to the State Materials Bureau that verifies:

1. All Materials used comply with Section 510.2, "Materials;"
2. The PTL prepared and tested a proof mix using the designated Materials and batch weights;
3. A complete companion set of compressive strength test cylinders was delivered to the Department District Laboratory for comparison testing.
4. The cylinders were cured for at least 48 h after casting, and the cylinders were transported upright in protected and cushioned containers to the Department District Laboratory.

509.2.8.4.2 Concrete Mix Design Designing & Proportion

Design and proportion the concrete mixtures to comply with the following performance requirements:

1. Except for concrete mixtures to be used exclusively in pre-stressed applications, all structural concrete mixtures must demonstrate strength gain characteristics as follows:
   1.1 28-Day strength of at least 130% of the 7-Day strength;
   1.2 56-Day strength at least 108% of the 28-Day test;
2. For Class F-LS Concrete mixtures, the minimum average flexural strength for 3 beams cast in the laboratory shall be 650 psi at 28 days, when tested in accordance with AASHTO T-97
3. Structural concrete mixtures must achieve a minimum durability index:
   3.1 Greater than or equal to 85 for Low-Risk Zones;
   3.2 Greater than or equal to 90 for Medium-Risk Zones; and
   3.3 Greater than or equal to 95 for High-Risk Zones;
1. Determine the durability index from at least one prism tested at 28 Days for 300 cycles, in accordance with ASTM C 666, Method A. Cure prisms tested for durability index by bathing in lime saturated water at a temperature of 73.3 °F ± 3.0 °F for the first 7 Days followed by 21 Days in lime saturated water at a temperature of 100.0 °F ± 3.0 °F.
2. If the specimen cannot be tested immediately after curing, place immediately in a freezer at a maximum

temperature of 10.0 °F until testing;

3. Hardened air void system characteristics required of all structural concrete classes, when examined in accordance with the ASTM C 457 linear traverse method include:
   3.1 A minimum air content of 5.0%;
   3.2 A specific surface greater than 600 in-1; and
   3.3 A spacing factor less than 0.008 in;
4. Ensure that concrete complies with Section 509.2.4.4, "Alkali-Silica Reactivity," and Section 509.2.4.5.1, "ASR Mitigation Evaluation Criteria," as determined by the State Materials Bureau;
5. Provide chloride ion permeability at 28 Days for structural concrete tested in accordance with ASTM C 1202 that is:
   5.1 Less than or equal to 3,000 coulombs for Low-Risk Zones; or
   5.2 Less than 2,500 coulombs for Medium-Risk Zones, or
   5.3 Less than 2,000 coulombs for High-Risk Zones;
6. Cure concrete for chloride ion permeability the same way as the durability index specimens in accordance with #2, above;
7. The maximum shrinkage value for Class F-LS concrete mixtures and for HPD concrete mixtures is 0.05% at 56 Days when tested with 3 in x 4 in x 16 in prism or 3 in x 3 in x 10 in prism and cured in a standard cure for the first 7 Days. Following the 7 Day initial cure, cure in a relative humidity of 50% and test in accordance with AASHTO T 160;
8. For Class G mixtures, provide trial mix and slump loss test results that verify compliance with the concrete slump requirements for Class G.

Only technicians who are currently certified by TTCP-Concrete or ACI Concrete Field Technician, Level I shall determine concrete fresh properties in accordance with the appropriate AASHTO procedures. Laboratories approved by the Department's State Materials Bureau shall determine hardened properties. Technicians performing tests on aggregates and aggregate gradations shall be certified by TTCP or ACI Concrete Laboratory Level I. Those technicians performing strength tests on hardened concrete must be certified as an ACI Level I Laboratory Technician or by TTCP for *Compressive Strength Testing of Concrete*.

Develop concrete mixtures with compressive strengths as close as possible to the over-design strengths calculated in accordance with Section 509.2.8.1.1, "Details for Table 509.2.8.1:1, 'Concrete Classes for Laboratory Design of Concrete Mixtures.'" Concrete with strengths substantially in excess of these over-design strengths will be rejected and returned to the submitting Laboratory for the appropriate adjustments.

509.2.8.4.3 Mixture Design Submittal

Submit a completed electronic copy of the NMDOT *Concrete Mix Design Submittal Form* to the Concrete Unit of the State Materials Bureau. Ensure that the following information is included:

1. Company name of the requestor;
2. Company address, telephone number and e-mail address;
3. PTL's name and signature; and
4. The New Mexico registration number of the professional engineer who is responsible for the concrete mixture design work;

Ensure that the following information and the required documentation is provided electronically and through back-up documentation:

5. A comprehensive materials list and the properties of each component, including:
   5.1. Aggregates:
      5.1.1. Source names;
      5.1.2. Specific source locations;
      5.1.3. For sources not on the Department approved list, provide a complete ASTM C 295 "Petrographic Examination of Aggregates for Concrete" and an ASTM C 294, *Constituents of Natural Mineral Aggregates* for both the coarse and fine aggregate Material after completing processing and manufacturing procedures and the aggregate is ready for use; include the geologic origin of the Material; perform and certify the analysis using a petrographer previously approved by the Department;
      5.1.4. Soundness loss with calculations;
      5.1.5. Percent of Fractured Faces for the coarse aggregate;
      5.1.6. Gradations, including AASHTO T 11;
      5.1.7 Bulk saturated surface dry specific gravities;
      5.1.7. Los Angeles wear abrasion;
      5.1.8. Fineness modulus;
      5.1.9. Aggregate absorption;
      5.1.10. Aggregate correction factor;
      5.1.11. Sand equivalent of fine aggregate;
      5.1.12. Dry-rodded coarse aggregate unit weight;
      5.1.13. Fine aggregate clay lumps content; and
      5.1.14. Organic impurity content, including soft fragments, coal and lignite, flat or elongated pieces, and other deleterious substances.
   5.2. Cement:
      5.2.1. ASTM C 150 Analysis;
      5.2.2. Chemical and physical cement properties, including the amount of C3S, C2S, C3A, the amount finer than the No. 325 sieve, and the Blaine Fineness; and
      5.2.3. Cube strengths;

5.3. Fly Ash:
- 5.3.1. ASTM C 618 Analysis;
- 5.3.2. Specific gravity;
- 5.3.3. Material retained on a No. 325 sieve;
- 5.3.4. Moisture content;
- 5.3.5. Loss on ignition;
- 5.3.6. Magnesium oxide content; and
- 5.3.7. Calcium oxide content.

5.4. Blended Cement:
- 5.4.1. ASTM C 595 and ASTM C 1157 analyses;
- 5.4.2. Chemical and physical cement properties, including the percent of C3S, C2S, C3A, the amount finer than a No. 325 sieve, and the Blaine Fineness;
- 5.4.3. Total alkalis;
- 5.4.4. ASTM C 618 Analysis; and
- 5.4.5. Percent of fly ash;

5.5. Admixtures:
- 5.5.1. Documentation of compliance with appropriate ASTM requirements; and
- 5.5.2. Verification of supply availability;

5.6. Water:

6. Concrete mixture proportions; state clearly if submitting request under the combined gradation provisions;
7. Water/cementitious ratios;
8. Type and amount of admixtures; use admixtures on the Department's *Approved Products List*;
9. Water source and location; include pH, available alkalis, and a full chemical analysis, if the water source is not a certified NMED public potable water supply;
10. Plastic Concrete Properties:
    - 10.1 Air temperature;
    - 10.2 Concrete temperature;
    - 10.3 Slump; when using super-plasticizer, document the slump before and after addition of the super-plasticizer;
    - 10.4 Unit weight; and
    - 10.5 Air content measured in accordance with AASHTO T 152 or AASHTO T 121;
    - 10.6 When using super-plasticizer, document the measured air content before and after adding the super-plasticizer);
11. Hardened Concrete Properties:
    - 11.1 New Concrete Mixtures:
        - 11.1.1 Compressive strength tests (the average of three cylinders tested at 7 Days, 28 Days, and 56 Days, except for Class E ,Class F and Class F-LS mixes which shall have two cylinders tested at 7, 14, 28 and 56 Days);
        - 11.1.2 Type of fracture of each cylinder;
        - 11.1.3 Flexural strength test results for Class F-LS(average of three beams)
        - 11.1.4 Durability index (for structural mixes only);
        - 11.1.5 Hardened air void analysis (for structural mixes only);
        - 11.1.6 Rapid Chloride Permeability (for structural mixes only); and
        - 11.1.7 Expansion data from AASHTO T 303;
    - 11.2 Existing Concrete Mixtures:
        - 11.2.1 Consecutive compressive strength data with individual specimen test results from 7 Days, 28 Days, and 56 Days (at least 15 tests required); Present this data in chronological order;
        - 11.2.2 Durability index (for structural mixes only);
        - 11.2.3 Hardened air void analysis (for structural mixes only);
        - 11.2.4 Rapid Chloride Permeability (for structural mixes only); and
        - 11.2.5 Expansion data from AASHTO T 303;
    - 11.3 Incidental Concrete Mixtures (Only for specific Projects) Concrete mixes intended for projects that anticipate less than 300 yd^3 of each concrete class, but not more than 750 yd^3 for concrete used on the project:
        - 11.3.1 Compressive strength data (field performance data if using the mix within the previous 12 months, or laboratory mix performance data not using it in the field); and
        - 11.3.2 Air content, as measured by the pressure method or the volumetric method; when using superplasticizer, show the air content before and after adding superplasticizer.

509.2.8.5 Mixture Design Approval

The Department will require at least 14 Days to review the submittal packages after receipt by the State Materials Bureau of all required information. The Department will approve designs for a period of 1 year from the date of issuance if the documentation verifies compliance with all requirements. At least 30 Days before the 1-year approval expires, the Contractor may request that the mix design be reissued. The Contractor must provide test reports showing that the mix design met specification requirements during the issue period. Mix designs may be re-approved for no more than 4 additional years. The Department will grant each approval period if the documentation verifies the following:

1. Constituent Material sources and the Material's properties remain the same;
2. The compressive strength performance data verifies compliance with Section 510.3.5.3, "Acceptance of Concrete Based on Cylinders;"
3. Compliance with other fresh and hardened properties is verified where the mixture was used;

4. The coefficient of variation (CV), determined in accordance with ACI 214, is less than 12%; and
5. When field performance data shows the CV exceeds 12%, a "Comprehensive Operations QC/QA Manual" that shows how the Contractor will reduce the variability and improve the consistency of its production process will be required.

At the discretion of the State Concrete Engineer, a mixture can be adjusted without re-batching by using "cement efficiency" calculations to determine the amount of change to the cement and the total cementitious content that is necessary to achieve the desired level of performance. When this procedure is allowed, the ratio of pozzolan to cement ratio will remain unchanged, the water content will remain unchanged, and the aggregates will be adjusted without changing the overall gradation to accommodate the changes in volume from changes made to the cement. All changes made by this method must be approved by the State Concrete Engineer before being implemented in the field.

If the constituent Materials change, immediately provide documentation to the State Materials Bureau describing how to resolve the problem. Return the affected Material to an approved condition or submit a new concrete mixture design package. If the compressive strengths do not comply with Department requirements, describe the needed adjustments. Submit a written summary of the adjustments to achieve compressive strength to the State Materials Bureau for approval. Do not use the concrete mixture on Department projects before receipt of written approval from the State Materials Bureau.

The Department will not consider the addition of more cement a sufficient explanation or resolution without additional documentation explaining why other measures are not appropriate.

509.3 CONSTRUCTION REQUIREMENTS – Vacant

509.4 METHOD OF MEASUREMENT – Vacant

509.5 BASIS OF PAYMENT

The Department will pay for concrete in accordance with the section of these *Standard Specifications* for which the concrete is used.

END OF SECTION

July 2, 2012

D.6 Section 510 Portland Cement Concrete

NEW MEXICO DEPARTMENT OF TRANSPORTATION
SUPPLEMENTAL SPECIFICATIONS FOR

PORTLAND CEMENT CONCRETE
SECTION 510

All Provisions of the New Mexico Department of Transportation Standard Specifications for Highway and Bridge Construction shall apply in addition to the following:

Delete SECTION 510- PORTLAND CEMENT CONCRETE in its entirety and substitute the following:

510.1 DESCRIPTION

This work consists of placing Portland Cement Concrete (PCC).

510.2 MATERIALS

Test materials in accordance with AASHTO and ASTM methods or other test procedures designated by the Department. The State Materials Bureau will decide questions about test procedure interpretation. Correct or remove and dispose of improperly graded or segregated material that fails to meet the requirements as directed by the Project Manager and at no additional cost to the Department.

Use pre-approved materials in accordance with the current Department's *Approved Products List*. The Department will not allow changes in the source or character of the materials without notifying the State Materials Bureau and obtaining written approval.

510.2.1 Portland Cement Concrete Mixture

Use a portland cement concrete mixture that has been reviewed and approved in accordance with Section 509 for the freeze-thaw risk zone in which the project is located.

510.2.2 Aggregate

Use aggregates that are the same as those used on the approved mixture design. Do not use aggregate from a different source as that shown on the approved mix design.

If the concrete mixture is approved under the conventional stockpile procedures, ensure the gradations comply with Table 509.2.4.2.3:1 “Coarse Aggregate Gradation Requirements” and Table 509.2.4.3.3:1 “Fine Aggregate Gradation Requirements.”

If the concrete mixture is approved under the combined gradation procedures, ensure that the most current gradations have been reviewed, and the Coarseness Factor and the Workability Factor comply with Section 509.2.8.3.1 “Combined Gradations.”

510.2.3 Curing Materials

510.2.3.1 Liquid Membrane Forming Compounds

Use Type 1-D or Type 2 liquid membrane-forming concrete curing compounds that comply with AASHTO M 148.

510.2.3.2 Linseed Oil Emulsion

Do not use linseed oil emulsion-curing agent.

510.2.3.3 Sheet Materials for Curing Concrete

Use concrete curing sheet materials in accordance with AASHTO M 171. The Department will only allow the white reflective type.

510.2.3.4 Fogging System

Use a fogging system which uniformly applies a constant uniform fog of water comprised of droplets that are too small visually discern any individual droplets, and that does not splash or mark the surface of the concrete.

510.2.4 Water

See Section 509.2.6, “Water.”

510.3 CONSTRUCTION REQUIREMENTS

510.3.1 General Use

510.3.1.1 Freeze-Thaw

Use a concrete mixture which has been approved for use in a freeze-thaw zone of equal or greater risk than the zone in which the project is located.

510.3.1.2 Class Substitution

The Contractor may substitute an approved structural class of concrete with a higher compressive strength than that of the specified class of concrete, as long as the design slump characteristics remain the same (i.e. Class AA for Class A, Class F for Class E). Do not substitute Class A for Class E or Class AA for Class F concrete mixtures.

Perform concrete field-testing with Concrete Field Testing Technicians certified by ACI or TTCP.

510.3.1.3 Alternate Batching Facilities

A request may be made to the State Materials Bureau to allow a currently approved concrete mixture to be batched out of facilities not under the direct control of the Contractor to whom the concrete mixture approval is granted. The Department will permit off-site batching of an approved concrete mixture when the following occur:

1. Use the same materials as those used at the plant where the mixture is approved and as shown on the approved mix design;
2. Use the same admixtures as those used at the plant where the mixture is approved and as shown on the approved mix design;
3. Prepare a written QC plan for the alternate batch facilities, personnel and operations that adequately addresses how the alternate batch plant will assure the quality of the mixture;
4. The operations at the alternate batch facility has confirmed compliance with the approved QC plan with other mixtures;

5. Provide concrete performance statistics that assure the same level of performance can be achieved from the alternate batch facilities.

510.3.1.4 Plastic Properties

The allowable slump range for non-superplasticized Class AA, Class HPD and Class A concrete is 3.5 in ± 1.0 in. The allowable slump range for Class E and Class F Slip-Formed Concrete is 1.5 in ± 1.0 in. All test procedures and frequencies will be performed in accordance with the Minimum Testing Requirements. Measure the air content in accordance with AASHTO T 121. The air content determined by AASHTO T 121 will be used to confirm compliance with the specified air content for structural concrete.

1. Low Risk Freeze/Thaw Zone – from 4.5% to 8.0%; or
2. Medium Risk Freeze/Thaw Zone – from 5.0% to 8.0%; or
3. High Risk Freeze/Thaw Zone – from 6.0% to 8.0%.

510.3.1.5 Troubleshooting

If the approved mixture design fails to meet requirements, the Project Manager will immediately contact the PTL that designed the mixture and the State Concrete Engineer. The PTL shall work with the State Concrete Engineer to make the necessary changes to resolve the problems. Efforts to evaluate problems with the concrete does not relieve the Contractor of the responsibility to provide a concrete mixture that meets project requirements.

510.3.2 Batching

Produce ready-mixed concrete and site-mixed concrete in accordance with AASHTO M 157, Section 9 to 11. Ensure that production facilities are certified in accordance with the National Ready Mix Concrete Association (NRMCA) criteria for concrete production facilities.

510.3.2.1 Batching Plant

The Department will review and approve facilities and equipment before batching operations begin.

Ensure that batching plants have clearly separated aggregate bins or stockpiles; silos for cement and fly ash; weighing hoppers; and scales. Ensure that the batch plants are equipped to proportion aggregates, bulk cement and fly ash using calibrated weighing devices. Weigh aggregates on separate scales or accumulatively on a single scale. If weighing fly ash on the same scale as the portland cement, weigh the cement first, then add the fly ash.

Ensure that the batch plant operator has a direct view or live video of each scale and admixture sight tube while preparing batches of concrete. It is not sufficient to be able to see only the computer measurements. Ensure that the batch plant is capable of:

1. Accurately weighing and batching materials for the portland cement or portland cement/fly ash concrete mixture within the tolerances specified;
2. Providing readily visible scale dials or instrumentation devices for admixture bottles, beam scales and load cells, even if using a computer to prepare the batch;
3. Using weighing hoppers of sufficient size to contain the material without loss or spillage; and

4. Properly combining and re-combining various mixture components to obtain the required uniformity and consistency.

Use weighing hoppers that efficiently discharge weighed materials for each batch. Ensure that the material charging equipment can deliver the batch to the mixer without loss or spillage. Provide scales for weighing aggregates, cement, water, and fly ash in accordance with Section 109.1, "Measurement of Quantity."

510.3.2.2 Portland Cement and Fly Ash

Use cement and fly ash in bulk or in sacks. Weigh fractions of sacks before using cement or fly ash in a concrete batch. Measure cement and fly ash by weight. Weigh bulk cement and fly ash on an approved scale, except when using continuous proportioning and mixing equipment.

Provide cement, and combined cementitious weights within ± 1% of the required weights. If the weight of cementitious materials is expected to weigh less than 1,000 lb, ensure that those materials weigh within 30 lb of the target weight.

If the material varies from the target weight by more than ± 1.0%, the Department will immediately notify the Contractor to take corrective action. If the weight is no more than 2.0% above or 1.5% below the target weight, the Department may, at the Project Manager's discretion, accept a maximum of 5 loads out of the first 10 consecutive loads of concrete delivered of any continuous placement with these weight discrepancies, regardless of whether the discrepancies are for the same material or for other weighed materials. Any batches of concrete produced after the first 10 have been batched that have cement or total cementitious weights that are more than ± 1.0% will be rejected and not allowed to be placed on the project. Dispose of rejected loads at no additional cost to the Department.

Equip cement and fly ash scales and hoppers with a device that indicates the complete discharge of cement and fly ash into the mixer. Contain bulk cement and fly ash in weather tight bins and weighing hoppers. Do not suspend discharge chutes from the weighing hoppers. Arrange the discharge chutes so that cement and fly ash do not lodge in or leak from them.

Protect cement and fly ash from moisture. Store different brands or types of cement/fly ash, or cement/fly ash from different production facilities separately. Provide separate, identifiable blended portland-fly ash cement storage at the project or plant site. Store portland cement and portland-fly ash cement separately.

510.3.2.3 Water

Mixing water consists of free water, ice added to the batch and surface moisture on the aggregates. Measure the added water by weight or volume to ensure that the amount of water in the mixture design is not exceeded. Measure added ice by weight. For truck mixers, discharge the wash water before loading the next batch of concrete.

510.3.2.4 Aggregates

510.3.2.4.1 Stockpiles

Ensure the separation of stockpiles of different sizes or from different sources. Stockpile aggregates so that the coarse and fine particles do not separate. Provide stockpiles that can produce enough concrete for the section constructed during a scheduled operation. Ensure that aggregates are not contaminated by material from adjacent stockpiles or from contact with the

ground, dust, or other deleterious materials. Do not use aggregates that become segregated or mixed with deleterious material. Do not use frozen lumps of aggregate in concrete batching.

Ensure that a “sacrificial” layer of the same size aggregate at least 6 inches deep is maintained below the bottom of the stockpile so that the front-end loader will not pick up non-complying materials that would contaminate the concrete mixture.

510.3.2.4.2 Gradations

The Project Manager may cancel concrete placements that have gradation data that is more than 7 Days old.

1. If the mixture design is approved with the Conventional Stockpile Procedure, ensure that the stockpile gradations comply with the standard gradation requirements for each sieve size shown in Table 509.2.4.2.3:1, "Coarse Aggregate Gradation Requirements," and Table 509.2.4.3.3:1, "Fine Aggregate Gradation Requirements."
2. If the mixture design is approved with the combined gradation procedure, it is the Contractor’s responsibility to continuously monitor the gradation of each of the stockpiles. Provide new gradation results to the Project Manager, in one of the following ways:
   - 2.1 If placing more than 1000 yd^3 per week, provide new gradation results every 1000 yd^3;
   - 2.2 If regularly making placements that total less than 1000 yd^3 per week, provide new gradation results once per week.
   - 2.3 If placements are irregular and limited to no more than two placements in a single week, provide new gradation results at least 24 hours before the first scheduled placement in any week.
3. The Contractor’s responsibilities to monitor gradations are not related to the QC/QA testing requirements. The Department considers these responsibilities to be part of the standard operation and maintenance of the batching facilities.
4. Determine if the combined gradation is within the following limits:
   - 4.1 Coarseness factor is ± 3 percentage points of the value in the approved mixture design;
   - 4.2 Workability factor is ± 2 percentage points of the value in the approved mixture design;
5. The aggregate batch weights will automatically be adjusted when the gradation information determined by the supplier is entered into the Field Report form. The supplier will be required to use the most recent gradations to determine if the Coarseness Factor or the Workability Factor does not comply with 4.1 or 4.2 above. If the Coarseness Factor or the

   Workability Factor do not comply with 4.1 or 4.2 above, the mix batch weights must be adjusted to bring these factors into compliance. When adjusting these factors, adjust them to the tolerances in 5.1 and 5.2, below.

   - 5.1 Coarseness factor is ± 2 percentage points of the value in the approved mixture design;
   - 5.2 Workability factor is ± 1.5 percentage points of the value in the approved mixture design;

6. If the gradation tolerances in 4.1 and 4.2 can not be met, do not place concrete until the gradations are corrected to meet the designated tolerances.

510.3.2.4.3 Batch Weights

Batch aggregate target weights over 1,000 lb to within ± 2% of the target weight. For target weights less than 1,000 lb, batch to within ± 50 lb of the target weight.
If any of the first 10 loads of concrete have a fine or coarse aggregate weight that differs from the target weight by more than 2%, but not more than ± 3%, the Department may, at the Project Manager's discretion accept the concrete. The Department will allow no more than five loads out of the first 10 consecutive loads of concrete of any continuous placement to exceed the maximum allowable weight tolerances. Any batches produced after the first ten that differ from the target weight by more than ± 2% will be rejected from the project and can not be placed on the project. Dispose of rejected loads at no additional cost to the Department.

510.3.2.4.4 Moisture Control

1. For a manually operated facility or for hoppers not equipped with automatic moisture sensors, measure the moisture content of each stockpile not monitored by automatic moisture sensors at least every 4 hours, or as required by changing moisture conditions within the stockpiles

2. For plants equipped with automatic moisture probes, for each stockpile monitored by an automatic moisture probe, measure moisture content manually at least once a day. Compare the manual measurement immediately before preparing the first concrete load to the measurement shown by the moisture sensing equipment. If the measurements differ by more than 0.5%, re-correlate the moisture probe.

   For stockpiles not monitored by an automatic moisture probe, follow the requirements of 510.3.2.4.4(1).

3. Send a certificate showing the moisture content determined by manual methods in accordance with Paragraph 4 below, and the moisture correlation to the Project Manager with the first load of concrete. If this information is not included with the first load of concrete delivered to the project, that load of concrete and all subsequent loads of concrete are subject to rejection until the information is received at the project.

4. Determine the aggregate moisture content to the nearest 0.5% in accordance with one of the following procedures:

   4.1 AASHTO T 217: The shelf life of the calcium carbide is relatively short. Closely monitor the age of the calcium carbide and replace it in strict accordance with the manufacturer's recommendations
   4.2 AASHTO T 255: The Department will allow the hot-plate or microwave methods for this purpose, as long as no material is lost and the pan is continuously agitated during the drying process.

5. Provide the following information on the moisture certificate to the Project Manager:

   5.1 Pan weight (it is not acceptable to tare out the pan weight on scales equipped to do so);
   5.2 Wet weight of the pan and the sample;

5.3 First dry weight of the pan and the sample;
5.4 Second dry weight of the pan and the sample;
5.5 Third dry weight of the pan and the sample (if necessary);
5.6 Absolute moisture content of the sample;
5.7 The moisture probe reading from the tested sample (if equipped); and
5.8 The calculated difference between the actual moisture content test and that shown by the moisture sensing equipment.

Allow washed aggregates to drain before use. The Project Manager may require the aggregates to remain in the stockpile or storage area for longer, if the moisture contents are excessive.

510.3.2.5 Air-Entraining and Chemical Admixtures

Store admixtures in separate containers to avoid contamination, evaporation, and damage. Protect liquid admixtures from freezing and from damaging temperatures. For admixtures used as suspensions in non-stable solutions, provide agitating equipment to ensure the thorough distribution of the ingredients. Measure liquid admixtures within ± 3% of the target amount.

510.3.2.6 Mixing

Ensure that the uniformity of the concrete mixture complies with AASHTO M 157, Section 10.2. If using a central plant mixer it must have a rated mixing capacity of at least 3 yd^3. Batch and deliver concrete in accordance with NRMCA standards.

510.3.3 Transporting

Transport mixed concrete in non-agitating trucks only when the slump is less than 2 in. Revolving-drum mixer trucks must be used to transport concrete with a slump in excess of 2 in. Transport concrete produced in a dry-batched concrete plant in revolving-drum mixer trucks.

510.3.3.1 Non-Agitator Trucks

Use only non-agitating trucks with bodies that are smooth, mortar-tight metal containers capable of discharging the concrete at a satisfactory controlled rate without segregation. Provide covers needed for protection.

510.3.3.2 Truck Mixers and Agitators

Equip agitator trucks with a plate directly attached to the truck in a readily visible location, labeled with the specific truck properties, including the designated drum mixing speed.

Keep documentation for review by Department personnel upon request to show that the mixers and agitators have been inspected in accordance with NRMCA Guidelines within the last 12 months.

Department personnel will check the water tank site tube when the truck arrives at the project site. If there is water missing from the tank, the Department will reject the truck unless the Driver can account for the missing water.

510.3.3.3 Upon Arrival at the Project

Re-mix the concrete that arrives at the project site in agitator trucks as follows:

1. For concrete mixed in a central mix plant: mix at the designated mixing speed for a minimum of 2 min, before discharging;
2. For concrete mixed inside an Agitator Truck: mix at the designated mixing speed for a minimum of 5 min, before discharging;

3. If any water, water-reducing admixtures, entrained air, or other ingredients are added to the concrete, mix the additional material at the designated mixing speed for at least 5 min before discharging.

510.3.4 Placing

510.3.4.1 Temperature and Weather Limitations

See Section 511.3.3, "Temperature and Weather Limitations."

510.3.4.2 Mixing Time

"Mixing time" is the elapsed time from when the cement is exposed to the aggregates until the concrete has been placed into its final location. Do not use concrete mixed less than the minimum specified time. The maximum mixing time for concrete hauled in truck mixers or truck agitators is 90 min. Do not exceed 60 min of mixing time when:

1. The concrete temperature is 80 °F or above for bridge decks or approach slabs,
2. The concrete temperature is 85 °F for other concrete.

When hauling the concrete in non-agitating trucks, all concrete must be placed into its final location within 45 min of initial mixing. If the concrete temperature is 80 °F or above, place concrete within 30 min from initial mixing.

Concrete arriving at the project with a temperature greater than 90 ^{o}F can not be used.

510.3.4.2.1 Extended Mixing Time

In rural and remote areas of the State where mixing time cannot be met, submit a written request to the Assistant District Engineer for additional time. Include the following information:

1. The reason for requesting additional time;
2. The additional time needed in excess of the specified mixing time;
3. The proposed procedures, methods, and type of materials or admixtures to be used so that the concrete will meet required fresh and hardened properties; and
4. Documentation to prove that the additional time will not damage the quality of the concrete.

This information will be forwarded to the State Concrete Engineer for review. The State Concrete Engineer will issue a written recommendation within 10 Working Days from receipt of the request.

If the Department allows a mixing time extension, prepare a trial batch consisting of at least one full load of concrete at the designated production facility and haul to the project site. Batch the concrete in the same quantities as anticipated for the project. Place the trial batch in a non-critical application to assess the mixture. If the dosage used is found to provide a final setting time within 20 – 30 minutes after the concrete has been unloaded, then the contractor will be approved for the use of the designated hydration stabilizder at the dosage determined from this trial.

510.3.4.3 Concrete Sampling and Testing

The Contractor shall test for Quality Control; and the Department will test for acceptance.

1. Measure concrete for specification compliance only by the test methods shown in the Minimum Testing Requirements. The Department will not accept results from the in-place test methods described in Section 510.3.5.2, "In-Place Concrete Strength Measurements" as an alternative to these requirements. Obtain representative samples of concrete from the approximate middle of the truck being tested for the required properties from the point of discharge into the structure being placed. The Department will provide test results to the Contractor after the final compressive strength tests for each set of test specimens is completed with a copy to the supplier on a weekly basis;
2. Mold and cure concrete cylinders for compressive strength tests in accordance with AASHTO T 23, *Making and Curing Concrete Test Specimens in the Field* using 4 in × 8 in single use plastic cylinder molds with plastic lids. Use cylinder molds that are 6 in × 12 in if the nominal maximum size of the aggregate is equal to or greater than 1.5 in
3. Use a rod to consolidate the concrete for all slump, air content and unit weight tests and all compressive strength test cylinders cast with normal slump concrete (Class A, Class AA, Class G and Class D). Use a vibrator to consolidate the concrete in all air content and unit weight tests and all test cylinders cast from slip form concrete (Class E and Class F). Do not use a rod to consolidate slip-form concrete
4. Provide all necessary support for all testing and to maintain sufficient safe storage space**,** including but not limited to water bath container, water for initial curing of concrete cylinders, heating or cooling as necessary, generators (and alternate power sources, as needed) and all vibratory equipment and all equipment required to operate the vibratory equipment as required by Section 510.3.4.3.
5. Immediately after molding, begin curing of test cylinders by submerging in a water bath with a temperature of 70 °F ± 10 °F. Do not exceed 25 min from the time the concrete was sampled to the start of initial curing. Use water that complies with Section 510.2.4, "Water," for the initial curing.

   All cylinder curing containers for testing of the concrete must be in the same location, and within 50 ft of the testing site, chosen in advance by Department inspection personnel unless an alternative location has been approved by the Project Manager prior to the placement. The Project Manager can not authorize any location that does not provide sufficient time for the casting of the test specimens and subsequent delivery to the initial curing location within the 25 minutes allowed to begin initial curing of the test specimens.

   Maintain the water-filled containers with the test cylinders undisturbed for a minimum of 21 h, but not more than 48 h, from the time of placement. Ensure that the level of water never drops below the tops of the cylinders.
6. After initial curing, strip the concrete cylinders and place into a standard curing tank (or moist room) in accordance with AASHTO T 23, Section 10.1.3. If the cylinders are to be shipped to an off-site laboratory for testing, maintain the cylinders in the standard curing environment at a temperature of 73 +/- 3 ^{0}F until they are ready to be transported. Do not ship test cylinders until they are at least 48 h old.
7. The party that prepared the test specimens is responsible for transporting them from the initial curing environment to the final curing location. Protect the test specimens from being damaged in any way. Specific attention will be paid to protection from sun, wind, rain, vibrations, moisture loss and any sudden drops or impacts during transport.

510.3.4.3.1 Testing Frequency

Department personnel will perform all testing in accordance with the Minimum Testing Requirements.

510.3.4.4 Superplasticizers

If using a superplasticizer, measure the initial slump before adding the superplasticizer, and again immediately after the super-plasticizer has been properly mixed into the load. Do not exceed slump specifications defined on the approved mixture design before introducing the super-plasticizer. Do not exceed a slump of 8 in after adding the super-plasticizer. Check super-plasticized concrete for segregation before and during placement. Do not place segregated concrete.

510.3.5 Acceptance

510.3.5.1 Concrete Strength

Determine the compressive strength for compliance by averaging two or more concrete cylinder test results from the same concrete sample and tested at the specified age. Make, handle, and store in accordance with AASHTO T 23 and test in accordance with AASHTO T 22. Consider the result from a single cylinder only as an indicator. It will not be considered an actual strength measurement.

510.3.5.1.1 Individual Strength Test

Unless otherwise specified, verify compliance with the specifications by determining the concrete strength at the age designated in Table 509.2.8.1:1, “Concrete Classes for Laboratory Design of Concrete Mixtures.” Make at least 4 cylinders for each set. Test the first cylinder at 7 Days for use as an early concrete compressive strength indicator. Test the second and third cylinders to determine the Individual Strength Test result. Reserve the fourth cylinder for testing if the Within-Test-Coefficient-of-Variation exceeds 5%, in accordance with ACI 214.3.4.1. If the fourth cylinder is tested, average all of the cylinders tested at that age to determine the Individual Strength Test, unless any of the following conditions exist:

1. There is a visible cylinder defect or a defect in the capping.
2. A significant irregularity occurred while loading the test specimen to failure, such as a sudden load burst, cyclic or pulsating loads, or a loading rate not in accordance with AASHTO T 22.

510.3.5.2 In-Place Concrete Strength Measurements

If the Contractor requests measurement of in-place concrete strength for construction-related purposes, the Contractor must provide testing equipment and perform strength tests at no additional cost to the Department. Field cured test cylinders will be tested by a PTL approved by the State Materials Bureau. Use one of the following procedures to determine the in-place concrete strength:

1. **Core Testing.** Perform in accordance with AASHTO T 24, and Section 510.3.5.4, "Investigation of Low Strength Cylinder Test Results";

2. **The Maturity Method, ASTM C1074**. Integrates the heat of hydration and the time since the concrete was batched, correlated for the specific concrete mixture before use in the field;
3. **The Windsor Probe, ASTM C803**. Measures the penetration depth of a specially fabricated probe into the concrete, calibrated to the concrete mixture;
4. **The Pull-Out Test, ASTM C900**. Measures the pull-out resistance of a plug cast into the concrete, calibrated to the concrete mixture;
5. **The Match-Cure Method**. Places additional cylinders into a specially controlled chamber that maintains the temperature of the cylinders to that of the concrete represented;
6. **The Cast-in-Place Cylinder Method, ASTM C873**. Tests a cylinder that was cast into the concrete being evaluated and subsequently removed for testing. The hole remaining after removal of the cast-in-place-cylinder must be filled with a non-shrink grout or a Type K cement;
7. **The Rebound Test, ASTM C 805** (as modified herein) This procedure must be performed in accordance with directions from the State Concrete Engineer. At a minimum, a test shall consist of at least 14 credible rebounds obtained from an area approximately 18 inches in diameter. The highest two and the lowest two rebounds will be deleted and the remaining 10 rebound results averaged to determine the rebound number from the test location.
8. **Field Curing**. Cast cylinders in accordance with AASHTO T 23, and cure in accordance with AASHTO T 23, Section 9.4.1.

Before using any method of measuring in-place concrete strength in the field (with the exception of Method 8 - “Field Curing”), submit complete supporting documentation for the method proposed for use and intended procedures to be followed to the Project Manager for approval by the State Materials Bureau.

Do not use field cured cylinders to determine the in-place strength for any structural applications. The Department will not permit any test samples to be extracted from bridge decks, prestressed members or approach slabs. Prohibited testing for these structures includes core testing, pull-out tests, or cast-in place cylinder test methods.

If the in-place compressive strength is at least equal to the strength required for the intended application, the Contractor may strip forms or allow traffic on the structure or pavement.

510.3.5.3 Compressive Strength Compliance of Concrete Based on Cylinders

The Department will accept concrete based on the compressive strength cylinder tests when the compliance tests equal or exceed the specified strength. If the compliance test is less than the specified strength, the test will be considered acceptable if both of the following requirements are met:

1. The running average of three consecutive individual strength tests meets or exceeds the specified strength; and,
2. No Individual Strength Test as defined in 510.3.5.1.1 falls below the specified strength by more than 500 psi.

If the compliance test does not meet cylinder-based acceptance requirements, the Department will review the strength tests and notify the Contractor whether the concrete will be accepted at a reduced price, or if the Contractor has to replace it.

510.3.5.4 Investigation of Low Strength Cylinder Test Results

Do not use the following test procedures as a substitute for the compliance test program in Section 510.3.4.3, "Concrete Sampling and Testing." The procedures described below will not be allowed more than twice during the course of the project.

If problems with low strength cylinder tests persist, the Department may suspend the project at no additional cost or time to the Department and require the Contractor to comply with Section 510.3.1.5, “Troubleshooting”. If the corrective actions taken are insufficient, the Department may suspend work again, at no additional cost or time to the Department, until the Contractor determines acceptable action.

The Contractor may use any of the in-place strength-test methods in accordance with Section 510.3.5.2, "In-Place Concrete Strength Measurements," to investigate areas of concern. if normal acceptance tests do not comply with Section 510.3.5.3, "Acceptance of Concrete Based on Cylinders." However, the Schmidt Hammer test shown in Section 510.3.5.2.7 can not be used for final acceptance or to determine the pay factor. Do not use core testing, pull-out testing, or cast-in place cylinder test methods for any investigation of concrete contained in bridge decks, prestressed members or approach slabs.

510.3.5.4.1 Testing Cores

If the Contractor uses cores to determine in-place compressive strength, obtain cores in accordance with AASHTO T 24, and immediately seal each core in an air tight plastic bag. Test cores in accordance with AASHTO T 22.

If the concrete structure will be dry under normal service conditions, cure the cores inside the plastic bags at a temperature range between 60 °F to 80 °F for 7 Days before testing. Test the cores dry.

If the concrete structure will be more than superficially wet under normal service conditions, cure the cores in lime-saturated water for at least 40 h before testing. Test the cores wet.

Obtain the cores 49 Days after concrete placement (21 days for Class E or Class F concrete). Take at least three cores from any area of concern to evaluate the area of that had low strength test results. The Department will approve core locations before the cores are obtained. Test for compressive strength of the concrete cores at 56 Days (28 Days for Class E or Class F concrete).

For bridge concrete (exclusive of bridge decks) with low strength test results, the Bridge Design Section will develop a coring plan within 38 Days of the initial concrete placement. Obtain, cure and test cores in accordance with the previous paragraph.

The Department will accept the concrete when the average of the cores representing each area of concern equals or exceeds the specified strength. `

510.3.5.4.2 Alternate Testing

As an alternative to using cores for testing in-place compressive strength, Method 2,3,4,5,6 or 7 can be used to investigate the in-place strength of the concrete in question. For bridge decks, prestressed members and approach slabs, use only in-place strength-test methods 2, 3, 5 or 7

described in Section 510.3.5.2, "In-Place Concrete Strength Measurements." Submit a written request to the Project Manager for permission to use the selected method. Do not proceed until receipt of written approval from the State Materials Bureau. Method 7 can only be used to investigate the areas of concern, and can not be used for final acceptance of for determination of the pay factor.

The Department will accept the concrete when the average of the tests is equal to or greater than the 108% of the specified strength.

510.3.5.4.3 State Concrete Engineer Analysis

If the in-place strengths are not adequate for acceptance at full price, the State Concrete Engineer will evaluate the concrete. After reviewing the State Concrete Engineer's recommendations, the Department will take one of the following actions:

1. Direct the Contractor to remove and replace the failed concrete at no additional cost to the Department; or,
2. Pay the Contractor for the concrete in accordance with Flow Chart 510.3.5.5.1:1, "Price Adjustment Percentages for Low Strength Concrete Based on Lab-Cured Cylinders."

510.3.5.5 Price Adjustments

The Department will make price adjustments for non-compliance with concrete strength specifications based on lab-cured strength tests unless alternate in-place strength tests have been previously approved.

If the compliance strength test is 85% or more of the specified strength then the Contractor may choose to have a Hardened Air Content Test on a core obtained from the concrete in question performed by a Department approved Petrographer in accordance with ASTM C-457, linear traverse method. If the result of the hardened air content analysis meets the requirements below, the concrete will be paid for at full price.

1. A minimum air content of 5.0%;
2. A specific surface greater than 600 in^{-1}; and
3. A spacing factor less than 0.008 in.

510.3.5.5.1 Cylinder Based Price Adjustments

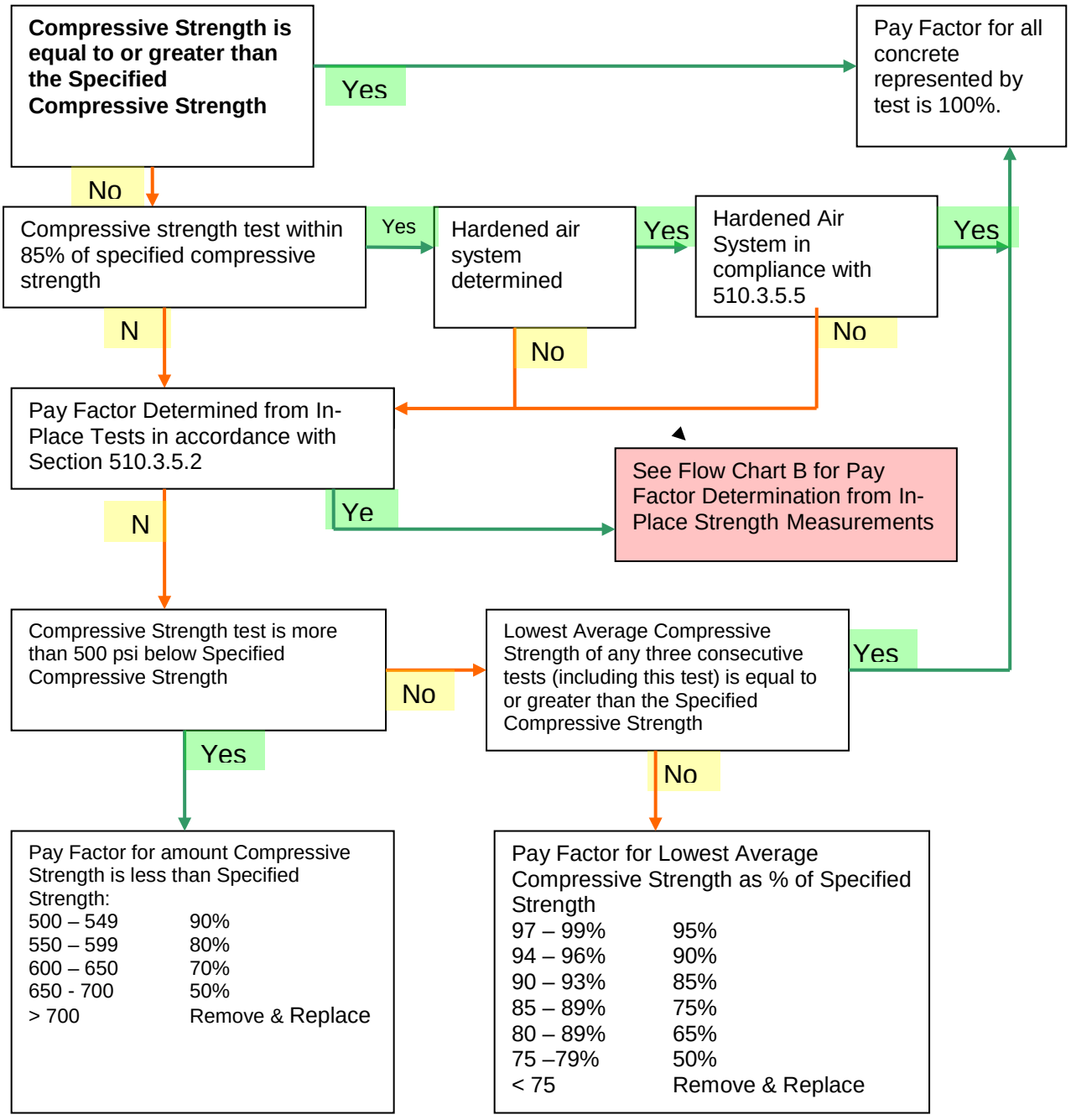
If low strength concrete is accepted based on lab-cured cylinders, the Department will pay for concrete in the lot represented by the low strength tests in accordance with Flow Chart A:, "Price Adjustment Percentages for Low Strength Concrete Based on Lab-Cured Cylinders."

510.3.5.5.2 Price Adjustments based on In-Place Strength Tests

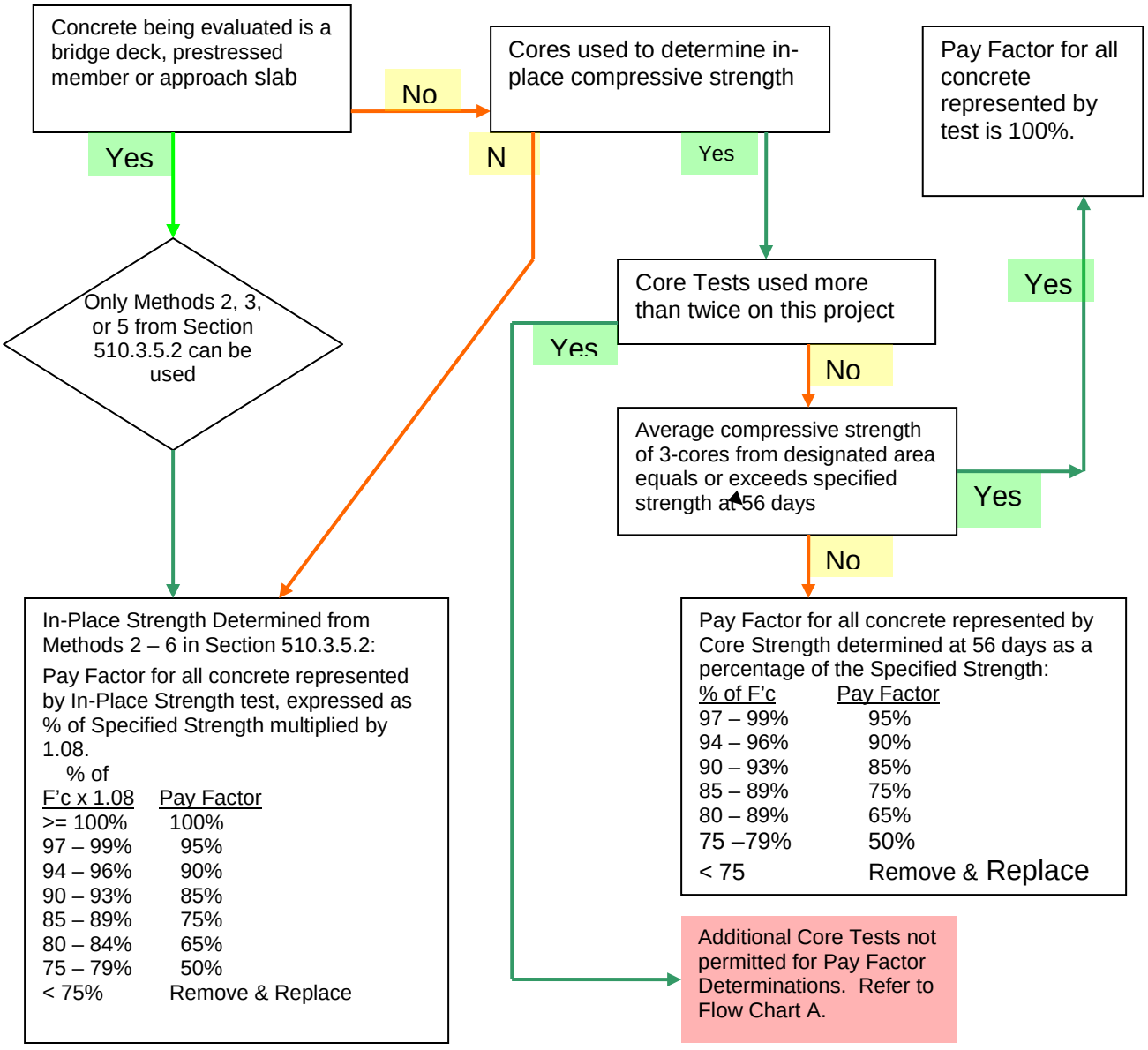
1. If the Department accepts low strength concrete based on core tests, the Department will pay for the concrete represented by the cores in accordance with "Flowchart B: Pay Factor Determination for Portland Cement Concrete by In-Place Strength Tests"
2. If the concrete strength is based on one of the in-place test methods specified in Section 510.3.5.2, "In-Place Concrete Strength Measurements", methods 2 through 6, The Price Adjustment Factor will be determined by first multiplying the specified strength by 1.08. This value will then be used as the denominator to determine the percentage of the measured in-place strength compared to the adjusted specified strength. The pay factor shown in Flow Chart B: Price Adjustment Percentages for Low Strength Concrete

Based on In-Place Strength Tests for that percentage will be applied to all of the affected concrete. The Department will not allow use of field cured cylinders to determine price adjustments.

Flowchart A: Price Adjustment Percentages for Low Strength Concrete Based on Lab-Cured Cylinders



Flowchart B: Pay Factor Determination for Portland Cement Concrete by In-Place Strength Tests



510.4 METHOD OF MEASUREMENT—Vacant

The Department will measure concrete or concrete items in accordance with the section of these *Standard Specifications* for which the concrete is used.

510.5 BASIS OF PAYMENT—Vacant

The Department will pay for concrete in accordance with the section of these *Standard Specifications* for which the concrete is used.

Revised November 2, 2012
June 16, 2011

D.7 Section 540 Steel Reinforcement

NEW MEXICO DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISIONS MODIFYING

SECTION 540
STEEL REINFORCEMENT

All provisions of SECTION 540 – STEEL REINFORCEMENT of the New Mexico Department of Transportation's Standard Specifications shall apply except as modified herein:

540.2 MATERIAL

Subsection 540.2.6 Coating Material

Delete the last two paragraphs and replace with:

Provide a fusion-bonded powdered epoxy resin coating material that meets the requirements of AASHTO M 284.

Subsection 540.2.14 Uncoated Corrosion Resistant Bar Reinforcement

Replace the second paragraph with:

Uncoated corrosion resistant bar reinforcement may be Grade 316 stainless steel or other manufactured steels meeting the above chemistry and AASHTO MP 18 (ASTM A 1035).

540.3 CONSTRUCTION REQUIREMENTS

Delete **Subsection 540.3.1.3 Splicing** and replace with the following:

540.3.1.3 Splicing

Splice bars only in accordance with the plans unless otherwise approved by the Bridge Engineer.

Place and tie bars in lapped splices to maintain minimum reinforcing cover.

Splice spiral reinforcement by lapping. Ensure that laps are at least 48 bar or wire diameters, but not less than 1ft with 90° hooks around longitudinal bars at ends.

The Department will allow mechanical couplers for AASHTO M 31, Grade 60, deformed bar if the splice strength, verified by tests, is greater than or equal to 125% of the yield strength of the spliced reinforcing bars and develops the specified tensile strength of the bars. ACI 318 “Type 2” mechanical couplers meet the above splice strength requirements. Submit documentation to the Bridge Engineer showing where mechanical couplers are proposed to be used, what type of coupler (manufacturer and model number) will be used, and certified test results from an approved testing service showing that the couplers meet these requirements. Show splice locations and coupler clearance dimensions in the request and submit before fabricating the reinforcing bars that will be coupled. Allow at least two weeks for review and approval.

Unless otherwise specified, ensure that welded wire fabric and bar-mat reinforcement overlap is at least one spacing of cross wires plus 2 inches when measured between the outer-most cross wires of each sheet.

Subsection 540.3.2 Requirements for Epoxy-Coated Reinforcing Bars

Delete the last two paragraphs.

Subsection 540.3.2.4 Coating Inspection and Tagging.

Delete the entire Subsection.

540.4 METHOD OF MEASUREMENT

The Department will measure reinforcing bar weight in accordance with Table 540.2.1:1, "Nominal Dimensions of Reinforcement," whether it is black steel, epoxy-coated, galvanized, stainless steel, stainless steel clad, or low-carbon, chrome steel. The Department will not include unscheduled splice overlaps in the measurement for payment. The computed weights of reinforcing bars will be based on the nominal weights of the bars before application of the epoxy-coating, or galvanizing of the bars. When splice overlaps are made for the convenience of the Contractor, and are approved by the State Bridge Engineer at locations not shown in the contract, the extra steel required for splice overlaps will not be included in computing the weight of the bars for payment.

540.5 BASIS OF PAYMENT

Subsection **540.5.1 Work Included in Payment**

Add the following item:

D. Mechanical reinforcing bar couplers.

END OF SECTION

D.8 Section 632 – Seeding

January 2009

SPECIAL PROVISIONS MODIFYING SECTION 632 – SEEDING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Preparation of subsoil.
2. Placing topsoil.
3. Seeding, Hydroseeding, Seed Drilling.
4. Mulching.
5. Maintenance.

B. Related Sections:
1. Section 31 22 13 - Rough Grading: Rough grading of site.
2. Section 31 23 17 - Trenching: Rough grading over cut.
3. Section 31 23 23 - Backfill

1.2 UNIT PRICE - MEASUREMENT AND PAYMENT

A. Grassed Areas:
1. Basis of Measurement: By acre.
2. Basis of Payment: Includes preparation of subsoil, topsoil, placing topsoil, seeding, watering and maintenance to specified time limit.

1.3 REFERENCES

A. Federal Specifications:
1. OF-241 - Fertilizers, Mixed, Commercial.

B. ASTM International:
1. ASTM C602 - Standard Specification for Agricultural Liming Materials.

1.4 DEFINITIONS

A. Weeds: Vegetative species other than specified species to be established in given area.

1.5 SUBMITTALS

A. Section 01 00 00 - Submittal Procedures: Requirements for submittals.

B. Product Data: Submit data for seed mix, fertilizer, mulch, and other accessories.

1.6 QUALITY ASSURANCE

A. Provide seed mixture in containers showing percentage of seed mix, germination percentage, inert matter percentage, weed percentage, year of production, net weight, date of packaging, and location of packaging.

B. Perform Work in accordance with NMDOT and City of Aztec Public Work's standards.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Product storage and handling requirements shall be as specified in applicable sections of these Specifications and in accordance with recommendations of the supplier.

B. Deliver grass seed mixture in sealed containers. Seed in damaged packaging is not acceptable.

C. Deliver fertilizer in waterproof bags showing weight, chemical analysis, and name of manufacturer.

1.8 COORDINATION

A. Section 01 00 00 - Administrative Requirements: Requirements for coordination.

B. Coordinate seeding dates to October 15th through April 15th, or July 1st through August 15th to take advantage of the time of best moisture availability. Other dates to be approved by Owner and Engineer. Final seeding shall occur 4-6 weeks after the last killing frost.

1.9 MAINTENANCE SERVICE

A. Section 01 00 00 - Execution Requirements: Requirements for maintenance service.

B. Maintain seeded areas for three months from Date of Substantial Completion. Maintenance shall include weekly watering.

PART 2 PRODUCTS

2.1 SEED MIXTURE

A. Furnish materials in accordance with BLM standards.

B. Disturbed portions of the site will be stabilized with seed and mulch no later than 14 days from the last construction activity in that area. The seed mixture shall be BLM Mix #2 at recommended rates per acre. After seeding, each area shall be mulched with 4,000 pounds per acre of straw. The straw mulch is to be tacked into place by a disk with blades set nearly straight. Fertilizer shall be applied per seed mixture recommendations.

C. BLM Seed Mixture #2:

1.	Bottlebrush Squirreltail (Sitanion hystrix)	0.50 lb/acre.
2.	Galleta (Hilaria jamesii)	1.00 lb/acre.
3.	Big sagebrush (Artemisia tridentata)	0.10 lb/acre.
4.	Antelope bitterbrush (Purshia tridentate)	1.00 lb/acre.
5.	Indian Ricegrass (Oryzopsis hymenoides)	3.00 lbs/acre.
6.	Western Wheatgrass (Agropyron smithii)	2.50 lbs/acre.
7.	Common Sunflower (Helianthus annuus)	1.00 lb/acre.
8.	Small Burnett (Sanguisorba minor)	1.00 lb/acre.

2.2 SOIL MATERIALS

A. Topsoil: Excavated from site and free of weeds.

2.3 ACCESSORIES

A. Mulching Material: Dry oat or wheat straw, free from weeds, foreign matter detrimental to plant life, and dry. Hay or chopped cornstalks are not acceptable.

B. Water: Clean, fresh and free of substances or matter capable of inhibiting vigorous growth of grass.

C. Erosion Fabric: Jute matting, open weave.

D. Herbicide: If required, Owner and Engineer’s approval must be obtained prior to use.

E. Stakes: Softwood lumber, chisel pointed.

F. String: Inorganic fiber.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify prepared soil base is ready to receive the Work of this section.

3.2 PREPARATION OF SUBSOIL

A. Prepare sub-soil to eliminate uneven areas and low spots. Maintain lines, levels, profiles and contours. Make changes in grade gradual. Blend slopes into level areas.

B. Remove foreign materials, weeds and undesirable plants and their roots. Remove contaminated sub-soil.

C. Scarify subsoil to depth of 6 inches where topsoil is to be placed. Repeat cultivation in areas where equipment, used for hauling and spreading topsoil, has compacted sub-soil.

3.3 PLACING TOPSOIL

A. Spread topsoil to minimum depth of 6 inches over area to be seeded. Rake until smooth.

B. Place topsoil during dry weather and on dry unfrozen subgrade.

C. Remove vegetable matter and foreign non-organic material from topsoil while spreading.

D. Grade topsoil to eliminate rough, low or soft areas, and to ensure positive drainage.

3.4 SEEDING

A. Apply seed at rates specified in 2.1.B of this Section. Rake in lightly and use a light harrow or log chain to drag over area to incorporate seed approximately ½ inch deep.

B. Do not seed areas in excess of that which can be mulched on same day.

C. Planting Season: See 1.8.B of this Section.

D. Do not sow immediately following rain, when ground is too dry, or when winds are over 12 mph.

E. Immediately following seeding and dragging, apply mulch to thickness of 1/8 inch. Maintain clear of shrubs and trees.

F. Apply water with a fine spray immediately after each area has been mulched. Saturate to 4 inches of soil.

3.5 HYDROSEEDING

A. Apply fertilizer, mulch and seeded slurry with hydraulic seeder at an approved rate evenly in one pass.

B. After application, apply water with fine spray immediately after each area has been hydroseeded. Saturate to 4 inches of soil and maintain moisture levels two to four inches.

3.6 SEED DRILLING

A. If a seed drill (planter) is used; the specified rates of application should be reduced by one-half of those listed in 2.1.B of this Section.

3.7 SEED PROTECTION

A. Cover seeded slopes where grade is 4 inches per foot or greater with erosion fabric. Roll fabric onto slopes without stretching or pulling.

B. Lay fabric smoothly on surface, bury top end of each section in 6 inch deep excavated topsoil trench. Overlap edges and ends of adjacent rolls minimum 12 inches. Backfill trench and rake smooth, level with adjacent soil.

C. Secure outside edges and overlaps at 36 inch intervals with stakes.

D. Lightly dress slopes with topsoil to ensure close contact between fabric and soil.

E. At sides of ditches, lay fabric laps in direction of water flow. Lap ends and edges minimum 6 inches.

3.8 MAINTENANCE

A. Immediately reseed areas showing bare spots.

B. Repair washouts or gullies.

C. Protect seeded areas with warning signs during maintenance period.

3.9 SCHEDULE

A. All utility routes disturbed areas, vault areas, and non-traveled areas in road rights-of-way to be reseeded when Work is completed in affected areas.

END OF SECTION

Revised August 24, 2012
June 7, 2012
August 19, 2011, August 16, 2011

D.9 Section 704-A Hot Thermoplastic Pavement Marking

NEW MEXICO DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISIONS FOR

HOT THERMOPLASTIC PAVEMENT MARKINGS
SECTION 704-A

(M-TPC-THERMOPLASTIC
WHITE AND YELLOW TRAFFIC MARKING MATERIALS)

All provisions of the New Mexico Department of Transportation's (NMDOT) Standard Specifications for Highway and Bridge Construction shall apply in addition to the following:

1. SCOPE:

The work under this section shall consist of cleaning and preparing pavement surfaces and furnishing and applying either white or yellow thermoplastic reflectorized pavement markings using extrusion, ribbon or spray dispensing devices of the required shape and thickness to the prepared pavement surface at the locations and in accordance with the details shown on the project plans, the manufacturer's specifications, and the requirements of these specifications.

2. MATERIALS:

2.1 General Requirements

The thermoplastic reflectorized material shall consist of a solid mixture of heat-stable resins, white or yellow pigment, inter-mixed glass beads, filler, and other materials in granular or block form specifically compounded for reflectorized pavement markings to be applied to the pavement in a molten state. The characteristics of the liquefied material shall be such that complete and even coverage of specified areas to the required thicknesses is provided by the required application method and rate. Upon cooling to normal pavement temperature, this material shall produce an adherent reflectorized marking capable of resisting deformation and wear in the roadway.

2.2 Composition:

The thermoplastic composition shall conform to the following requirements:

	Percent by Weight	
	White	**Yellow**
Binder	20 min	20 min
Titanium dioxide (for white)	10 min	-
Yellow Lead Free Pigment (for yellow)	-	1.5 min
Reflective Glass Inter-mix beads	30 – 45	30 – 45
Calcium carbonate or equivalent filler	20 – 42	20 – 42

The ingredients of the thermoplastic composition shall be thoroughly mixed and in a solid or sectionalized block, or free-flowing granular form. When heated in a melting apparatus, the material shall readily liquefy into a uniform solution. This solution shall be free from all skins,

dirt, foreign objects or any other ingredient which would cause bleeding, staining, blotting, or discoloration when applied to the bituminous or concrete pavement surfaces.

The thermoplastic shall be based on the following binder composition:

Alkyd: Shall consist of a mixture of synthetic resins, at least one of which is solid at room temperature, and of high-boiling-point plasticizers. At least one third of the binder composition and no less than eight percent by weight of the entire material formulation shall be solid maleic-modified glycerol ester resin or maleic modified pentaerythritol ester resin. The alkyd binder shall not contain any petroleum-based hydrocarbon resins.

An alkyd thermoplastic formulation may be used for symbols, legends, and transverse lines, including stop bars and crosswalks.

An alkyd thermoplastic formulation may be used for longitudinal lines, including lane lines and edge lines, unless otherwise shown on the project plans or specified herein. Extrusion or spray formulations shall be used in accordance with requirements of the application equipment used to install the markings.

2.2.1 Reflective Glass Beads:

The inter-mix glass beads shall conform to AASHTO M 247 Type I, and may be coated or uncoated as recommended by the manufacturer. If uncoated beads are used, the thermoplastic formulation shall be configured to minimize settling of the inter mix beads when the material is heated and applied.

In addition to incorporating glass beads in the thermoplastic mix, glass beads shall be applied to the surface of the molten material immediately after application. The drop-on beads shall be in accordance with New Mexico State Department of Transportation Standards and Specifications for Highway and Bridge Construction section 704.2.2 and shall be applied at a minimum rate of 10 pounds of glass beads per 100 square feet of line (ex. 300 linear feet of four inch stripe and 200 linear feet of six inch stripe).

2.2.2 Filler:

The filler shall be a white calcium carbonate or equivalent filler with a compressive strength of at least 5,000 pounds per square inch.

2.2.3 Titanium Dioxide:

Titanium Dioxide shall conform to the requirements of ASTM D 476 for Type II (92 percent).

2.2.4 Yellow Pigment:

The yellow pigment shall be heat resistant and be lead and heavy metal free. The type of yellow pigment shall be at the option of the manufacturer provided that the material conforms to all color requirements in a stable and durable fashion as specified herein.

2.3 Physical Characteristics of the Composition:

2.3.1 General Requirements:

The thermoplastic material shall not exude fumes which are toxic, injurious, or require specialized breathing apparatus when heated to the temperature range specified by the manufacturer for application. The material shall remain stable when held for four hours at this temperature, or when subjected to four re-heatings, not exceeding a total of four hours, after cooling to ambient temperature. The temperature viscosity characteristics of the plastic material shall remain constant throughout the re-heatings and shall show like characteristics from batch to batch. There shall be no obvious change in color of the thermoplastic material as a result of reheating, and the color of the material shall not vary from batch to batch.

2.3.2 Color:

The thermoplastic material, after heating for four hours ± five minutes at 425 ± three degrees F and cooled to 77 ± three degrees F, shall meet the following:

White: Daylight reflectance at 45 degrees - 0 degrees shall be 75 percent minimum.

Color shall match Federal Test Standard Number 595, color chip no. 17925.

Yellow: Daylight reflectance at 45 degrees - 0 degrees shall be 45 percent minimum.

Color shall match Federal Test Standard Number 595, color chip no. 13538.

2.3.3 Retroreflectance:

Product	Retroreflectance (millicandelas)
White	250
Yellow	175

The white and yellow thermoplastic materials shall have the following minimum retroreflectance values at 86.5 degrees illumination angle and 1.5 degrees observation angle as measured by a Mirolux 12 portable retroreflectometer or similar approved device within 30 days after application to the roadway surface:

2.3.4 Softening Point:

After heating the thermoplastic material for four hours ± five minutes at 425 ± three degrees F and testing in accordance with ASTM D 36, the thermoplastic materials shall have a softening point of 215 +- 15 degrees F.

2.3.5 Water Absorption and Specific Gravity:

The thermoplastic material shall not exceed 0.5 percent by weight of retained water when tested in accordance with the requirements of ASTM D 570.
The specific gravity of the material, as determined by Section 16 of AASHTO T 250, shall be between 1.85 and 2.15.

2.3.6 Impact Resistance:

After heating the thermoplastic material for four hours ± five minutes at 425 ± three degrees F and forming test specimens, the impact resistance shall be not less than 10 inch-pounds when tested in accordance with Section 9 of AASHTO T 250.

2.3.7 Bond Strength:

After heating the thermoplastic material for four hours ± five minutes at 425 ± three degrees F, the bond strength to Portland cement concrete shall be not less than 180 pounds per square inch. The bond strength shall be determined in accordance with the procedures specified in Section 7 of AASHTO T 250.

2.3.8 Abrasion Resistance:

The abrasion resistance of the thermoplastic material shall be determined by forming a representative lot of the material at a thickness of 0.125 inches on a four-inch square monel panel (thickness 0,050 ± 0.001 inches), on which a suitable primer has been previously applied, and subjecting it to 200 revolutions on a Taber Abraser at 25 °C, using H-22 calibrated wheels weighted to 250 grams. The wearing surface shall be kept wet with distilled water throughout the test. The maximum loss of thermoplastic material shall be 0.5 grams.

2.3.9 Cracking Resistance at Low Temperature:

After heating the thermoplastic material for four hours ± five minutes at 425 ± three degrees F, applying to concrete blocks, and cooling to 15 ± three degrees, the material shall show no cracks when observed from a distance exceeding 12 inches. Testing for low temperature crack resistance shall be in accordance with the procedures specified in Section 8 of AASHTO T 250.

2.3.10 Flowability:

After heating the thermoplastic material for four hours ± five minutes at 425 ± three degrees F, and testing for flowability in accordance with Section 6 of AASHTO T 250, the white thermoplastic shall have a maximum percent residue of 18, and the yellow thermoplastic shall have maximum percent residue of 21.

2.3.11 Yellowness Index:

The white thermoplastic material shall not exceed a yellowness index of 0.12 when tested in accordance with Section 4 of AASHTO T 250.

2.3.12 Flowability (Extended Heating):

After heating the thermoplastic material for eight ± 1/2 hours at 425 ± three degrees, with stirring the last six hours, and testing for flowability in accordance with Section 12 of AASHTO T 250, the thermoplastic shall have a maximum percent residue of 28.

2.3.13 Flash Point:

The thermoplastic material shall have a flash point not less than 475 degrees F when tested in accordance with the requirements of ASTM o 92.

2.3.14 Storage Life:

The materials shall meet the requirements of this specification for a period of one year from the date of manufacture. The month and year of manufacture shall be clearly marked on all packages of thermoplastic material. The thermoplastic material must also melt uniformly with no evidence of skins or unmelted particles for this one year period. Any material which does not meet the above requirements, or which is no longer within this one year period at the time of application, shall not be used. The contractor shall replace any outdated material with material meeting the above performance and time requirements at no additional cost to the Department.

2.3.15 Primer-Sealer:

Primer-sealers shall be used on Portland cement concrete surfaces and existing aged asphalt with exposed aggregate. Primer-sealer should not be used on new asphalt surfaces. The primer sealer shall be applied as recommended by the thermoplastic material manufacturer. The primer-sealer shall be compounded specifically for use with the specified thermoplastic material.

2.3.16 Color Stability:

Using accelerated weathering per ASTM G155 cycle 1, white color stability shall be measured for no color change after 500 hours of exposure, and for yellow color shall be measured for no color change after 1000 hours of exposure.

2.4 Physical Requirements for Glass Beads:

Drop-on beads shall conform to the requirements of Standard Section 704 PAVEMENT MARKINGS; subsection Reflectorized Glass Beads.

If recommended by the manufacturer, the drop-on beads shall have an adherence coating.

3. QUALITY ASSURANCE PROVISIONS:

3.1 Sampling and Testing:

Contractor shall supply a letter of certification from the manufacturer with each batch certifying the material meets the requirements of the NMDOT's, "HOT THERMOPLASTIC PAVEMENT MARKINGS, SECTION 704-A".

Test Methods – All tests shall be performed according to ASTM, AASHTO, Federal Test Method Standard Number 141 or methods designated by the State.

4. CONSTRUCTION METHODS:

4.1 Moisture:

All surfaces shall be inspected for moisture content prior to application of thermoplastic. Approximately two square feet of a clear plastic of tarpaper shall be laid on the road surface and held in place for 15 to 20 minutes. The underside of the plastic or tarpaper shall then be inspected for a build up of condensed moisture from the road surface. If the amount of condensed moisture is of a sufficient amount to result in water dripping from the plastic or tarpaper when held in a vertical position, thermoplastic shall not be applied. This moisture test shall be repeated until the moisture in the road surface has been allowed to evaporate to a level whereby there is not excessive build up of condensed moisture on the underside of the plastic or tarpaper.

4.2 Cleaning:

All surfaces shall be clean and dry before thermoplastic can be applied. Loose dirt and debris shall be removed by blowing compressed air over the area to be striped. If the thermoplastic is to be applied over existing paint lines that are determined to have poorly adhered painted markings, the paint markings shall be swept with a mechanical sweeper or wire brush to remove any such areas that would interfere with the proper bonding of the thermoplastic. Curing compound and loosely adhered surface film shall be removed from all new Portland cement concrete surfaces by loose grain abrasive pressure blasting, mechanical abrasion, wire

brushing or high pressure water blasting. When primer sealer is required insure that all dust and grinding debris is removed completely prior to applying the primer sealer. Open graded roadways may require sweeping to ensure cleanliness.

4.3 Layout:

The pavement markings shall be placed in proper alignment with guidelines established on the roadway. Deviation from the alignment established shall not exceed two inches per 200 feet of roadway nor shall any deviation be abrupt. Longitudinal markings shall be offset at least two inches from construction joints of Portland cement concrete surfaces and joints and shoulder breaks of asphalt surfaces.

If interim or temporary striping is required on final mat and water borne traffic paint is utilized, 7-15 wet mils with beads reduced accordingly can be used or as per manufactures recommendation. This interim or temporary striping shall be paid for as specified in the contract.

4.4 Primer Application:

The primer shall be applied to the road surface in a continuous film at a thickness as recommended per manufacturer's product data sheet. Before the Thermoplastic is applied, the primer shall be allowed to dry to a tacky state. The Thermoplastic shall be applied within and not exceed 5 hours after the primer application.

4.5 Ambient Conditions:

The ambient air and road surface shall be 60 degrees F and rising before application of thermoplastic can begin.

4.6 Material Requirements:

The pavement marking material shall be installed in a molten state by the conventional extrusion or ribbon extrusion method at a minimum temperature of 400ºF and a maximum temperature of 450º F. Scorching or discoloration of material shall be cause for rejection by the Engineer. The machinery shall be constructed so that all mixing and conveying parts, up to and including the extrusion die or spray head, maintain the material in the molten state, at the required application temperature.

4.7 Application Film Thickness:

The pavement marking material shall be applied at a thickness of not less than 90 mils for long line markings on all roads and not less than 120 mils for cross walks, stop bars, legends & symbols.

Inlay of markings should be taken into consideration in snow plow areas or areas where aggressive traffic shear is a concern. If inlay of markings is required, payment for inlay shall be paid for separately.

5.0 PACKAGING

5.1 Containers:

The thermoplastic material shall be delivered in cardboard containers or plastic bags of sufficient strength to permit normal handling during shipment and handling on the job without loss of material. The net weight of each container shall be approximately 50 – 55 pounds.

When supplied in bags the construction of the bag shall be such that it can be placed into the melter with the thermoplastic striping material to become part of the finished product.

5.2 Labeling:

Each container shall be clearly marked to indicate the color of the material, the process batch number, the manufacturer's product number, the manufacturer's name and address and the date of manufacture.

6.0. METHOD OF MEASUREMENT.

Hot thermoplastic reflectorized pavement striping will be measured by the linear foot along the centerline of the pavement stripe and will be based on a 4 inch basic wide stripe or a 6 inch basic wide stripe.

No payment will be made for the number skips (spaces) in the line. No Payment will be made for defective thermoplastic reflectorized pavement markings. No additional payment shall be made for repaired or replaced thermoplastic material.

Hot Thermoplastic Pavement Marking, Words/Symbols will be measured by the unit per each.

7.0. BASIS OF PAYMENT.

The accepted quantities of hot thermoplastic pavement markings will be paid for at the contract unit price per linear foot, which shall include the cost for furnishing all labor materials and equipment to satisfactorily complete the work. The cost for maintaining and protecting the markings from traffic during the marking operations shall be included in the contract unit price.

Hot Thermoplastic Pavement Marking, Words/Symbols will be paid for at the contract unit price per each, which shall include the cost for furnishing all labor materials and equipment to satisfactorily complete the work. The cost for maintaining and protecting the markings from traffic during the marking operations shall be included in the contract unit price.

Pay Item	**Pay Unit**
Hot Thermoplastic Pavement Markings	Linear Foot
Hot Thermoplastic Pavement Marking, Words/Symbols	Each

NOTE : The Department will not pay for striping until the Project Manager receives the required certification and documentation.

END OF SECTION

May 6, 2008
Revised January 30, 2009

D.10 Section 802 Post Construction Plans

NEW MEXICO DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISIONS MODIFYING

SECTION 802
POST CONSTRUCTION PLANS

All provisions of SECTION 802 – POST CONSTRUCTION PLANS of the New Mexico Department of Transportation's Standard Specifications shall apply except as modified herein:

Delete Subection **802.3 BASIS OF PAYMENT** and replace with the following;

802.3 BASIS OF PAYMENT

Post Construction Plans will be paid for the actual cost incurred, not to exceed the fixed amount entered by the Department into the Bid Schedule.

Provide the Project Manager with a detailed cost breakdown, including receipts and invoices of actual costs incurred.

For the purpose of bidding, the Department will enter into the Bid Schedule a fixed amount for Post Construction Plans.

Pay Item	**Pay Unit**
Post Construction Plans	Lump Sum

END OF SECTION

November 4, 2011

D.11 Section 901 Quality Control/Quality Assurance (QC/QA)

NEW MEXICO DEPARTMENT OF TRANSPORTATION
SUPPLEMENTAL SPECIFICATIONS FOR

QUALITY CONTROL/QUALITY ASSURANCE (QC/QA)
SECTION 901

All Provisions of the New Mexico Department of Transportation Standard Specifications for Highway and Bridge Construction shall apply in addition to the following:

Delete SECTION 901- QUALITY CONTROL/QUALITY ASSURANCE (QC/QA) in its entirety and substitute the following:

DEFINITIONS:

Direct Supervision. The required supervision of a TTCP trainee by a certified TTCP technician who is on a project with the trainee and who is both signing off and is personally responsible for all of that trainee's sampling and testing procedures, results and reports.

Qualified Sampling and Testing Technician. A technician who has been certified under TTCP to independently perform inspections, sampling, and testing in specified Materials testing area(s) for either quality control or acceptance testing. The term "qualified" and "certified" have the same meaning.

TTCP Trainee. A technician who has attended the appropriate TTCP training class and has a certificate of completion, and is receiving required "on-the-job-training" under the direct supervision of a TTCP certified technician, as such is eligible to take a particular TTCP certification exam.

Validation. A procedure using statistical methods to compare the Contractor's and the Department's test results, specifically, the *F-test* to compare variances and *T-test* to compare means.

901.1 INSPECTIONS AND TESTING OF MATERIALS

901.1.1 General

Materials are subject to inspection, sampling, and testing before acceptance of the work. References in the Contract to test methods or specifications are to the latest versions as of the Bid Advertisement date, unless otherwise noted. Test methods may be subject to modification at the discretion of the State Materials Bureau. The Department's current *TTCP Manual* contains AASHTO and ASTM test method modifications. Testing frequency must be equal to or greater than the Minimum Testing Requirements, available here:
http://nmshtd.state.nm.us/main.asp?secid=15344

The Department will sample and test Materials for acceptance unless otherwise specified in the Contract. The Department will provide acceptance test results to the Contractor within 2 Working Days after sampling, but only after Contractor QC tests have been received for the same sublot, and will provide other test results to the Contractor upon request. Department testing is not intended for quality control.

901.1.2 Technician Certification

Ensure that testing is performed under the direct supervision of an individual certified by the State Materials Bureau's TTCP. Certification is based on demonstration of abilities for test methods and procedures, and a written test. The TTCP Board of Directors, in conjunction with the State Materials Bureau and the State Construction Bureau, will establish term and expiration date of certification and requirements for renewal of certification. If the competence of a certified individual is questioned, the question of competence must be documented in accordance with the *TTCP Manual*. The *TTCP Manual* requires a written complaint be addressed to the TTCP Administrator or the State Materials Engineer. The State Materials Bureau will investigate the concern through the TTCP. If this investigation substantiates the concern, disciplinary action such as probation, revocation, or suspension of certification will be implemented in accordance with procedures established by the TTCP Board of Directors.

901.1.3 Acceptance Sampling and Testing

The Department will sample and test in accordance with Table 901.7:6, "Minimum Acceptance Guidelines," or at a lesser sublot size for acceptance purposes as determined by the Project Manager before production of material begins. If Material appears defective, or if the Project Manager determines that a change in the process or product has occurred, additional sampling and testing may occur. When additional informational sampling and testing is performed, the results will be used only to determine if corrective actions need to be taken by the Contractor and will not be incorporated into the quality level analysis.

The Department will conduct acceptance testing independently from the Contractor's quality control testing. If the Department's acceptance testing validates in method and property to the Contractor's quality control testing, the Department will use both for acceptance and pay factor determination. Use of the Contractor's test results is dependent on the following conditions:

1. The Contractor uses quality control procedures as described in Section 901.2, "Contractor Quality Control."

2. The Department validates the Contractor's test results against the Department's test results using the *F-test* and *T-test*, conducted at a level of significance of 0.01.

3. The Contractor shall use all test results from the Contractor's random sampling plan as detailed in the quality control plan per Section 901.2.1, "Quality Control Plan." Do not include informational test data obtained by test results beyond the Contractor's random sampling plan locations. If a split sample is taken to determine deviations between Contractor and Department process, only data obtained from a random sampling plan location can be utilized in the quality level analysis. If a split sample is tested by the Contractor and Department for informational purposes and the location does not represent either the Contractor's or Department's random sampling plan locations, neither test data results are to be included in the quality level analysis.

If the Department cannot validate the Contractor's test data at any time during the project, the Project Manager and quality control technician will investigate to determine why and make corrections if possible. If the discrepancy cannot be resolved, then, unless otherwise approved by the Assistant District Engineer for Construction, the Department will determine the pay factor using the Department's test values only for all characteristics.

901.2 CONTRACTOR QUALITY CONTROL

Perform quality control sampling, testing, and inspection in accordance with Table 901.7:3, "Minimum Process Control Guidelines for Aggregates and Base Course," Table 901.7:4, " Minimum Process Control Guidelines for Hot/Warm Mix Asphalt," and Table 901.7:5, "Minimum Process Control Guidelines for Portland Cement Concrete Pavement."

901.2.1 Quality Control Plan

Provide a quality control plan to control the quality of the product. At the pre-construction conference, be prepared to discuss quality control responsibilities for specific Contract Items. Submit the quality control plan to the Project Manager at least two weeks before starting work. Itemize inspections, testing procedures, sampling and testing frequencies, and corrective action strategies that the Contractor will use to control the work. Develop the quality control plan using the Department's *Contractor Process Quality Control Plan Guidelines* available from the Project Manager or State Construction Bureau. Do not begin work that requires quality control testing for acceptance without a quality control plan that has been reviewed and approved by the Project Manager and the District Laboratory Supervisor. Provide written certification that testing Equipment is calibrated and meets the applicable specifications.

901.2.2 Quality Control Laboratory

Perform the quality control testing using a private testing Laboratory or a Contractor provided Laboratory. Use a portable or permanent quality control Type II Laboratory in accordance with Section 622.3.2.2, "Field Office Equipment." Calibrate or check testing equipment in accordance with AASHTO R 18 and any time the equipment is moved. Maintain calibration documentation at the Laboratory and provide this to the Project Manager upon request. The Project Manager in conjunction with the District Lab Supervisor will determine acceptability of the quality control Laboratory. Allow the Department unrestricted access to the Laboratory. The Department will conduct independent inspection of the Contractor's field Laboratory. The Project Manager will provide the Contractor a written accounting of Laboratory deficiencies.

901.2.3 Plan Administration and Technician Qualification

Identify the individual who will administer the plan. The individual shall have full authority to take actions necessary for the successful operation of the plan. Quality Control Technicians (QCT's) performing the actual sampling, testing, or inspection shall be TTCP certified as described in Section 901.1.2, "Technician Certification." Cease production if certified personnel are unavailable on the project.

901.2.4 Sampling

The sampling plan shall contain a random sampling selection technique in accordance with specified Department, AASHTO, or ASTM procedures, as modified by the State Materials Bureau. Allow the Project Manager to witness all sampling and testing. Take additional samples if directed by the Project Manager.

901.2.5 Testing

The Department will use test results from the random sampling plan only in the quality level analysis for pay factor determination. Additional informational test results will not be used in the quality level analysis. The Contractor shall provide original quality control test results (on approved forms including all original supporting handwritten worksheets and notes) to the Project Manager within 1 Working Days of sampling. The Technician performing the testing

shall sign and certify the results as “true and accurate to the best of my belief and knowledge” prior to providing the results to the Department. Failure to provide the results within 1 working day of sampling may result in the Project Manager ordering the Contractor to cease HMA/WMA operations until said results are provided to the Project Manager.

901.2.6 Records

Maintain copies of the complete set of original quality control test records (including supporting documents (calculations, scratch sheets, internal forms etc.)and, upon request, make them available to the Project Manager within 24 hours. No hard copy laboratory testing documentation shall be destroyed for any reason, even after the data is entered into the computer spreadsheet for analysis. If complete records are not provided as requested, the Department may determine the pay factor using the Department’s test values only for all testing characteristics. Maintain copies of test documentation for a minimum of three years after the Physical Completion Date of the project

901.2.7 Control Charts

Update Department-approved test control charts daily on all tests in accordance with Table 901.7:3, “Minimum Process Control Guidelines for Aggregates and Base Course,” Table 901.7.4, “Minimum Process Control Guidelines for Hot/Warm-Mix Asphalt,” and Table 901.7:5, “Minimum Process Control Guidelines for Portland Cement Concrete Pavement.” Keep at a location approved by the Project Manager. Provide at least the following information on the charts:

1. Project number;
2. Contract Item number;
3. Test number;
4. Each test parameter;
5. Upper and lower specification limit applicable to each test parameter; and
6. The Contractor's test results.

Use the charts for identifying product and Equipment problems, and potential pay factor reductions. Notify the Project Manager of any identified problems within 4 hours.

901.3 INDEPENDENT ASSURANCE TESTING

TTCP certified independent personnel will perform independent assurance testing on split samples from quality control and acceptance programs to ensure that the Contractor and Department field personnel are using correct and accurate procedures and the proper Equipment. These personnel will not have direct responsibility for quality control or acceptance testing.

901.4 EVALUATION OF MATERIALS FOR ACCEPTANCE

The Department will analyze lot acceptance test results collectively and statistically using the Quality Level Analysis method. Quality Level Analysis is a statistical procedure for estimating the percent compliance with a specification; it is affected by shifts in the arithmetic mean, and by the sample standard deviations. The Department will use this analysis to estimate the total percent of the lot that is within specification limits. The maximum pay factor per lot is 1.0**.**

The Department may accept a lot containing Material below a pay factor of 1.00 at a reduced price, in accordance with the following criteria:

1. The composite pay factor is at least 0.75;
2. There are no rejectable individual criteria (Agency, Contractor or Combined); and
3. The Project Manager does not identify isolated defects (i.e., segregation, or other construction related material defects).

The Department will consider a written request to accept a Material lot below the Target Value (TV) that does not meet the above criteria, but at a composite pay factor not to exceed 0.50. The Contractor shall include an engineering analysis showing expected Material performance. The Assistant District Engineer for Construction will decide if the Material may remain in place and determine the final pay factor for the material in question. If less than three samples are obtained at the time a lot is terminated, they shall be incorporated in the prior lot. If no prior lot exists, the disposition of the material shall be decided by the Assistant District Engineer for Construction after evaluating with non-QLA criteria in accordance with Section 423.3.6.2.1.1

The Project Manager may reject Material that appears to be defective based on visual inspection.

901.5 QUALITY LEVEL ANALYSIS (QLA)

Use the following steps to calculate the standard deviation:

1. Do not include test results for Material not used in the Work;
2. Calculate the arithmetic mean of the test results using the following equation:

$$\bar{x} = \frac{\sum x}{n} \quad (1)$$

where

$\bar{x}$ is the arithmetic mean
$\sum$ is the summation of
x is the individual test value
n is the number of test values

3. Calculate the sample standard deviations using the following equation:

$$s = \sqrt{\frac{\sum (x - \bar{x})^2}{(n-1)}} \quad (2)$$

where

s is the sample standard deviation
$\sum$ is the summation of
x is the individual test value
$\bar{x}$ is the arithmetic mean
n is the number of test values

4. Calculate the upper quality index using the following equation:

$$Q_U = \frac{USL - \bar{x}}{s} \quad (3)$$

where

Q_U is the upper quality index

USL is the upper specification limit, or TV plus allowable deviation above TV

$\bar{x}$ is the arithmetic mean

s is the sample standard deviation

TV is the Target Value

5. Calculate the lower quality index using the following equation:

$$Q_L = \frac{\bar{x} - LSL}{s} \quad (4)$$

where

Q_L is the lower quality index

$\bar{x}$ is the arithmetic mean

LSL is the lower specification limit, or TV minus allowable deviation below TV

s is the sample standard deviation

6. Determine P_U (the percent of test values below the upper specification limit, which corresponds to a given Q_U) from Table 901.7:1, "Quality Level Analysis by the Standard Deviation Method Upper Quality Index QU or Lower Quality Index QL." If a USL is not specified, P_u is 100.

7. Determine P_L (the percent of test values above the lower specification limit, which corresponds to a given Q_L) from Table 901.7:1, "Quality Level Analysis by the Standard Deviation Method Upper Quality Index QU or Lower Quality Index QL." If an LSL is not specified, P_L is 100.

8. Calculate the quality level (the total percent within specification limits) using the following equation:

$$Q = (P_U + P_L) - 100 \quad (5)$$

where

Q is the quality level

P_U is the percent of test values above the upper specification limit which corresponds to a given upper quality index (Q_U)

P_L is the percent of test values above the lower specification limit which corresponds to a given lower quality index (Q_L)

9. Using the quality level, determine the lot pay factor from Table 901.7:2, "Pay Factors."

10. Calculate the composite pay factor for each lot, using the following equation:

$$CPF = \frac{\lfloor f_1(PF_1) + f_2(PF_2) \ldots f_j(PF_j) \rfloor}{\lceil f_1 + f_2 \ldots f_j \rceil} \quad (6)$$

where

CPF is the composite pay factor

f is the price adjustment factor specified for the applicable Material

j is the number of evaluated components

PF is the individual pay factor determined for each component

Carry the numbers in the above calculations to significant figures and round them in accordance with AASHTO R 11.

901.6 METHOD OF MEASUREMENT—Vacant

901.7 BASIS OF PAYMENT

The Department will pay for *Contractor Process Quality Control* on QLA projects as follows:

1. 25% of the lump sum pay item or 0.5% of the Total Original Contract Amount, whichever is less upon approval of the quality control plan; and
2. The remaining lump sum prorated based on total job progress.

The Department will withhold payment if the Contractor does not provide test result documentation in accordance with the Contract.

Pay Item	**Pay Unit**
Contractor Process Quality Control	Lump Sum

Table 901.7:1
QUALITY LEVEL ANALYSIS BY THE STANDARD DEVIATION METHOD
UPPER QUALITY INDEX QU OR LOWER QUALITY INDEX QL

	n=														
Pu or Pl	3	4	5	6	7	8	9	10 to 11	12 to 14	15 to 17	18 to 22	23 to 29	30 to 42	43 to 66	67 to x∞
100	1.16	1.49	1.72	1.88	1.99	2.07	2.13	2.20	2.28	2.34	2.39	2.44	2.48	2.51	2.56
99	—	1.46	1.64	1.75	1.82	1.88	1.91	1.96	2.01	2.04	2.07	2.09	2.12	2.14	2.16
98	1.15	1.43	1.58	1.66	1.72	1.75	1.78	1.81	1.84	1.87	1.89	1.91	1.93	1.94	1.95
97	—	1.40	1.52	1.59	1.63	1.66	1.68	1.71	1.73	1.75	1.76	1.78	1.79	1.80	1.81
96	—	1.37	1.47	1.52	1.56	1.58	1.60	1.62	1.64	1.65	1.66	1.67	1.68	1.69	1.70
95	1.14	1.34	1.42	1.47	1.49	1.51	1.52	1.54	1.55	1.56	1.57	1.58	1.59	1.59	1.60
94	—	1.31	1.38	1.41	1.43	1.45	1.46	1.47	1.48	1.49	1.50	1.50	1.51	1.51	1.52
93	1.13	1.28	1.33	1.36	1.38	1.39	1.40	1.41	1.41	1.42	1.43	1.43	1.44	1.44	1.44
92	1.12	1.25	1.29	1.31	1.33	1.33	1.34	1.35	1.35	1.36	1.36	1.37	1.37	1.37	1.38
91	1.11	1.22	1.25	1.27	1.28	1.28	1.29	1.29	1.30	1.30	1.30	1.31	1.31	1.31	1.31
90	1.10	1.19	1.21	1.23	1.23	1.24	1.24	1.24	1.25	1.25	1.25	1.25	1.25	1.26	1.26
89	1.09	1.16	1.18	1.18	1.19	1.19	1.19	1.19	1.20	1.20	1.20	1.20	1.20	1.20	1.20
88	1.07	1.13	1.14	1.14	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15
87	1.06	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.11	1.11	1.11	1.11	1.11	1.11	1.11
86	1.04	1.07	1.07	1.07	1.07	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
85	1.03	1.04	1.03	1.03	1.03	1.03	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
84	1.01	1.01	1.00	0.99	0.99	0.99	0.99	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
83	0.99	0.98	0.97	0.96	0.95	0.95	0.95	0.95	0.94	0.94	0.94	0.94	0.94	0.94	0.94
82	0.97	0.95	0.93	0.92	0.92	0.92	0.91	0.91	0.91	0.91	0.90	0.90	0.90	0.90	0.90
81	0.95	0.92	0.90	0.89	0.88	0.88	0.88	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
80	0.93	0.89	0.87	0.86	0.85	0.85	0.84	0.84	0.84	0.83	0.83	0.83	0.83	0.83	0.83
79	0.91	0.86	0.84	0.82	0.82	0.81	0.81	0.81	0.80	0.80	0.80	0.80	0.80	0.80	0.79
78	0.88	0.83	0.81	0.79	0.79	0.78	0.78	0.77	0.77	0.77	0.76	0.76	0.76	0.76	0.76
77	0.86	0.80	0.77	0.76	0.75	0.75	0.74	0.74	0.74	0.73	0.73	0.73	0.73	0.73	0.73
76	0.83	0.77	0.74	0.73	0.72	0.72	0.71	0.71	0.70	0.70	0.70	0.70	0.70	0.70	0.70
75	0.81	0.74	0.71	0.70	0.69	0.69	0.68	0.68	0.67	0.67	0.67	0.67	0.67	0.67	0.66
74	0.78	0.71	0.68	0.67	0.67	0.65	0.65	0.65	0.64	0.64	0.64	0.64	0.64	0.64	0.63
73	0.75	0.68	0.65	0.64	0.63	0.62	0.62	0.62	0.61	0.61	0.61	0.61	0.61	0.61	0.60
72	0.73	0.65	0.62	0.61	0.60	0.59	0.59	0.59	0.58	0.58	0.58	0.58	0.58	0.58	0.57
71	0.70	0.62	0.59	0.58	0.57	0.57	0.56	0.56	0.55	0.55	0.55	0.55	0.55	0.55	0.54
70	0.67	0.59	0.56	0.55	0.54	0.54	0.53	0.53	0.52	0.52	0.52	0.52	0.52	0.52	0.52
69	0.64	0.56	0.53	0.52	0.51	0.51	0.50	0.50	0.50	0.49	0.49	0.49	0.49	0.49	0.49
68	0.61	0.53	0.50	0.49	0.48	0.48	0.48	0.47	0.47	0.47	0.46	0.46	0.46	0.46	0.46
67	0.58	0.50	0.47	0.46	0.45	0.45	0.45	0.44	0.44	0.44	0.44	0.43	0.43	0.43	0.43
66	0.55	0.47	0.45	0.43	0.43	0.42	0.42	0.42	0.41	0.41	0.41	0.41	0.41	0.41	0.40
65	0.51	0.44	0.42	0.40	0.40	0.39	0.39	0.39	0.38	0.38	0.38	0.38	0.38	0.38	0.38

Table 901.7:1
QUALITY LEVEL ANALYSIS BY THE STANDARD DEVIATION METHOD
UPPER QUALITY INDEX QU OR LOWER QUALITY INDEX QL

Pu or Pl	n= 3	4	5	6	7	8	9	10 to 11	12 to 14	15 to 17	18 to 22	23 to 29	30 to 42	43 to 66	67 to x∞
64	0.48	0.41	0.39	0.38	0.37	0.37	0.36	0.36	0.36	0.36	0.35	0.35	0.35	0.35	0.35
63	0.45	0.38	0.36	0.35	0.34	0.34	0.34	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.32
62	0.41	0.35	0.33	0.32	0.32	0.31	0.31	0.31	0.30	0.30	0.30	0.30	0.30	0.30	0.30
61	0.38	0.30	0.30	0.30	0.29	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28
60	0.34	0.28	0.28	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
59	0.31	0.27	0.25	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23
58	0.30	0.25	0.23	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
57	0.25	0.20	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
56	0.20	0.18	0.16	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
55	0.18	0.15	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
54	0.15	0.13	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
53	0.10	0.10	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
52	0.08	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
51	0.05	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Note: For negative values of Qu or Ql, Pu or Pl is equal to 100 minus the table value for Pu or Pl. If the value of Qu or Ql does not correspond exactly to a figure in the table, use the next lower figure.

Table 901.7:2
Pay Factors

Pay factor	**Minimum Required Percent of Work Within Specifications Limits for a Given Pay Factor (Pu+PL) – 100** n= 3	4	5	6	7	8	9	10 to 11	12 to 14	15 to 17	18 to 22	23 to 29	30 to 42	43 to 66	67 to ∞
1.05	—	—	—	—	—	100	100	100	100	100	100	100	100	100	100
1.04	—	—	—	—	100	99	97	95	96	96	96	97	97	97	97
1.03	—	—	—	100	98	96	94	92	93	93	94	95	95	96	96
1.02	—	—	—	99	97	94	91	89	90	91	92	93	93	94	94
1.01	100	100	100	98	95	92	89	87	88	89	90	91	92	92	93
1.00	69	75	78	80	82	83	84	85	86	87	88	89	90	91	92
0.99	66	72	76	78	80	81	82	83	84	85	86	87	89	90	91
0.98	64	70	74	76	78	79	80	81	82	84	85	86	87	88	90
0.97	63	68	72	74	76	77	78	79	81	82	83	84	86	87	88
0.96	61	67	70	72	74	75	76	78	79	81	82	83	84	86	87
0.95	59	65	68	71	72	74	75	76	78	79	80	82	83	84	86

0.94	58	63	67	69	71	72	73	75	76	78	79	80	82	83	85
0.93	57	62	65	67	69	71	72	73	75	76	78	79	80	82	84
0.92	55	60	63	66	68	69	70	72	73	75	76	78	79	81	82
0.91	54	59	62	64	66	68	69	70	72	74	75	76	78	79	81
0.90	53	57	61	63	65	66	67	69	71	72	74	75	77	78	80
0.89	51	56	59	62	63	65	66	68	69	71	72	74	75	77	79
0.88	50	55	58	60	62	64	65	66	68	70	71	73	74	76	78
0.87	49	53	57	59	61	62	63	65	67	68	70	71	73	75	77
0.86	48	52	55	58	59	61	62	64	66	67	69	70	72	74	76
0.85	46	51	54	56	58	60	61	62	64	66	67	69	71	72	75
0.84	45	49	53	55	57	58	60	61	63	65	66	68	70	71	73
0.83	44	48	51	54	56	57	58	60	62	64	65	67	69	70	72
0.82	43	47	50	53	54	56	57	59	61	62	64	66	67	69	71
0.81	41	46	49	51	53	55	56	58	59	61	63	64	66	68	70
0.80	40	44	48	50	52	54	55	56	58	60	62	63	65	67	69
0.79	39	43	46	49	51	52	54	55	57	59	61	62	64	66	68
0.78	38	42	45	48	50	51	52	54	56	58	59	61	63	65	67
0.77	36	41	44	46	48	50	51	53	55	57	58	60	62	64	66
0.76	35	39	43	45	47	49	50	52	54	56	57	59	61	63	65
0.75	33	38	42	44	46	48	49	51	53	54	56	58	60	62	64
Reject	Values less than those shown above														
Note: If the value of (Pu+PL) – 100 does not correspond to a (Pu+PL) – 100 value in this table, use the next lower (Pu+PL) – 100 value															

Table 901.7:3
Minimum Process Control Guidelines for Aggregates, Base Course and RAP

Item	Property	Testing frequency	Test method
Aggregate for Base Course, Hot/Warm Mix Asphalt, PCCP, and Open Graded Friction Course	Sampling	As specified	AASHTO T 2, 248
	Gradation	1 per 1,000 ton	AASHTO T 11, 27, 146[a]
	Fractured Faces		NMDOT Method FF 1
	Sand Equivalent		AASHTO T 176[c]
	Plasticity Index		AASHTO T 89, 90
	Moisture Content	As needed to control operations	AASHTO T 255
RAP (Recycled Asphalt Pavement) used in HMA/WMA and Base Course	Sampling	As specified	AASHTO T2, 248
	Gradation	2 per day (on RAP that is prepared for inclusion in the Base Course or HMA/WMA	AASHTO T30, 164, 308
	Asphalt Content		AASHTO T308
HMA/WMA	Los Angeles Wear	As needed to confirm quality	AASHTO T 96
	Soundness	Based on AASHTO TP 58 Testing results	AASHTO T 104
	Loss		AASHTO T 85
	Adsorption		
Aggregate for PCCP	Sampling	As specified	AASHTO T 2, 248
	Gradation	1 per 1,000 ton	AASHTO T 11, 27
	Sand Equivalent		AASHTO T 176
	Moisture Content	As needed to control operations	AASHTO T 255
Base Course	Sampling	As specified	AASHTO T 2, 248
	Moisture Content	1 per 1,000 ton	AASHTO T 255
	Density		AASHTO T 180
	Gradation		AASHTO T 11, 27
	Thickness		[b]

[a]For gradations to control crushing operations, the Contractor may, at its own risk, modify AASHTO T 146 to improve the test result timelines. Modified method tests will not be considered in acceptance determinations by the Project Manager.
[b]Take measurements at a randomly selected location. Determine thickness by removing all of the in-place compacted Material, placing a straight edge tool (i.e. a survey lath) across the hole, measuring the thickness to the nearest 1/4 in using a measuring tape, and then replacing and recompacting the removed material.
[c]This test will not be done for base course.

Table 901.7:4
Minimum Process Control Guidelines for Hot/Warm Mix Asphalt

Item	Property	Testing frequency	Test method
HMA/WMA	Sampling	As specified	AASHTO T 168 / Agency Method AS-1
	Hydrated Lime or Anhydrite Based Material Content	Daily	Totalizing Weighing Device
	Flat/Elongated Particles	Daily	ASTM D 4791
	Fine Aggregate Angularity	Daily	AASHTO T 304
	Asphalt Content	1 per 1,000 ton[c]	AASHTO T 308
	Gradation		AASHTO T 30, 164, 308
	Air Voids		AASHTO T 166, 209, 269
	Voids in Mineral Aggregate (VMA)		AASHTO R 35
	Voids Filled with Asphalt (VFA)		AASHTO R 35
	Dust to Binder Ratio		AASHTO R 35
	Gyratory Tests		AASHTO T 312
	Thickness[a]		
	Mat Density, Cores[b]		AASHTO T 166, 209
	Density (Nuclear)	As needed to control operations	AASHTO T 310
	Temperature	As needed to control operations	—

[a]Take measurement at a randomly selected location. Determine thickness by coring the in-place compacted Material and measuring the thickness to the nearest 1/4 inch using a measuring tape.
[b]Density calculation will use the daily average of Contractor and Department maximum specific gravity as validated by *F-test* and *T-test* in the daily calculation.
[c]Minimum of one test per day and three tests per sublot, except for maximum specific gravity. Obtain a minimum of two tests per day for maximum specific gravity.

Table 901.7:5
Minimum Process Control Guidelines for Portland Cement Concrete Pavement

Item	Property	Testing frequency	Test method
Fresh Concrete for PCCP	Unit Weight	1 per 125 yd^3	AASHTO T 121
	Air Entrainment	1 per 125 yd^3	AASHTO T 152
	Slump	1 per 125 yd^3	AASHTO T 119
	Compressive Strength	1 per 125 yd^3	AASHTO T 22, 23, 231
PCCP in Place	Thickness[a]	2 per 2,500 yd^2 [b]	—

[a]Complete corrective work specified in Section 450.3.5.2, "Surfacing Smoothness Requirements," before determining pavement thickness
[b]Determine thickness by actual survey conducted before and after the construction of the PCCP at fixed, randomly selected locations.

Table 901.7:6
Minimum Acceptance Guidelines

Item	Property	Point of acceptance	Sublot size	Lot size	Test method
Base Course	Sampling	As specified	—	—	AASHTO T 2, 248
	Gradation	Processed Windrow	1 per 2,000 ton	20,000 tons	AASHTO T 11, 27
	Thickness	After compaction			[c]
	Density				AASHTO T 180, 238, 239
HMA/WMA	Sampling	As specified	—	—	AASHTO T 168
	Asphalt Content	Behind Laydown Machine, Before compaction	One tenth of the lot size[f]	15,000 to 30,000 tons	AASHTO T 308
	Gyratory Tests				AASHTO T 312
	Gradation				AASHTO T 30, 308
	Air Voids				AASHTO T 166, 209, 269
	Voids in Mineral Aggregate (VMA)				AASHTO R 35
	Dust to Binder Ratio				AASHTO R 35
	Thickness	After compaction			[d]
	Mat Density Cores[a]				AASHTO T 166, 209

Table 901.7:6
Minimum Acceptance Guidelines

Item	Property	Point of acceptance	Sublot size	Lot size	Test method
Fresh Concrete for PCCP	Air Content	Deliver to grade	1 per 500 yd^3	5,000 yd^3	AASHTO T 152
	Compressive Strength				AASHTO T 22, 23, 231
In-Place PCCP	Thickness[b]	—	2 per 10,000 yd^2	30,000 yd^2	[e]

[a]Density calculation will utilize daily average of Contractor and Department maximum specific gravity as validated by *F-test* and *T-test*. The Department will obtain a minimum of one maximum specific gravity sample per day.
[b]Complete corrective work specified in Section 450.3.5.2, "Surfacing Smoothness Requirements," before determining pavement thickness
[c]Take measurement at a randomly selected location. Determine the thickness by removing all of the in-place compacted Material, placing a straight edge tool (i.e. a survey lath) across the hole and measuring the thickness to the nearest 1/4 in using a measuring tape.
[d]Take measurements at a randomly selected location. At that location, the thickness shall be determined by coring the in-place compacted Material and measuring the thickness to the nearest 1/4 in using a measuring tape.
[e]Determine thickness by actual survey conducted before and after the construction of the PCCP at fixed, randomly selected locations.
[f]A lesser sublot size for acceptance purposes as determined by the Project Manager before production of material begins can be established.

END OF SECTION

D.12 Section 910 Aggregate Index

NEW MEXICO DEPARTMENT OF TRANSPORTATION
SUPPLEMENTAL SPECIFICATIONS FOR

AGGREGATE INDEX
SECTION 910

All Provisions of the New Mexico Department of Transportation Standard Specifications for Highway and Bridge Construction shall apply in addition to the following:

Delete SECTION 910- AGGREGATE INDEX in its entirety and substitute the following:

910.1 DESCRIPTION

The AI combines test values from the Los Angeles Wear Test, Soundness Loss Test, and Absorption Test. The AI is a single value representing the overall quality of the source from which the aggregates are obtained. Do not use to evaluate individual aggregate stockpile quality.

910.2 Sampling and Testing Procedures

Determine Los Angeles wear, soundness loss, and absorption values for the AI equation using at least five random test samples obtained from all stockpiles at the source in accordance with AASHTO T 2. Submit all of the samples to a Department approved private Laboratory for combination into a single sample. The Project Manager or the State Materials Bureau will have a list of approved private laboratories. Extract a representative test sample from the single sample to determine the Los Angeles wear and absorption values. Prepare the sample used to determine the absorption as follows:

Plus 3/4 in	1000 grams
3/4 in to 1/2 in	1000 grams
1/2 in to 3/8 in	1000 grams
3/8 in to #4	1000 grams

Separate the remaining amount of the single sample into five test samples using the procedures in AASHTO T 248. Calculate a soundness loss value for each of these five samples using Table 910.2:1, “Standard Gradation for Soundness Loss Testing.”

Table 910.2:1
Standard Gradation for Soundness Loss Testing

Sieve size	% passing
1 1/4 in	100
1 in	100
3/4 in	79
1/2 in	53
3/8 in	34
No. 4	0

Average the five soundness loss results to obtain the overall soundness loss value for the subject aggregate pit.

910.2.2 Testing of Aggregates

Perform the following tests using a Department-approved private Laboratory or the State Materials Bureau:

1. Los Angeles Wear (in accordance with AASHTO T 96, Method B),
2. Soundness loss (in accordance with AASHTO T 104), and
3. Absorption (in accordance with AASHTO T 85 or NMDOT 001 (2006)).

Use the same private Laboratory for the entire project unless otherwise approved (in writing) by the Project Manager.

Obtain samples under the observation of the Project Manager or Department designee. Split samples into two samples in accordance with AASHTO T 248, if requested by the Project Manager. The private Laboratory and the State Materials Bureau will each test one sample. Send copies of test reports to the Project Manager.

910.2.3 Frequency of Testing

Submit samples at least once every year to maintain continuous approval of Commercial Material Sources.

910.2.4 Equation

Calculate the AI of a coarse aggregate to the nearest whole number in accordance with the following equation**:**

$$AI = \frac{1}{3}\sqrt{LA^{2.2} + SL^{3.0} + A^{4.0}} \qquad (1)$$

where:

- AI is the aggregate index
- LA is the Los Angeles Wear, the percent of aggregate wear at 500 revolutions if tested in accordance with AASHTO T 96
- SL is the soundness loss of the sample if tested in accordance with AASHTO T 104 using magnesium sulfate with a test duration of 5 cycles and a standard gradation
- A is the absorption, the amount of moisture retained if tested in accordance with AASHTO T 85

Example:

1. Determine the L.A. Wear as a whole number – for example, 25.
2. Determine the Soundness Loss as a whole number – for example, 15.
3. Determine the Absorption as a whole number – for example, 3.
4. Calculate the value of the L.A. Wear taken to the 2.2 power – that is, 25^(2.2) = 1189.8.
5. Calculate the value of the Soundness Loss taken to the 3rd power – that is, 15^(3) = 3375.

6. Calculate the value of the Absorption taken to the 4th power – that is, 3^(4) = 81.0.
7. Add the value obtained from steps 4, 5, and 6 – that is, 11.89.8 + 3375 + 81.0 = 4645.8.
8. Determine the square root of Step 7 – that is, √(4658.8) = 68.2
9. Divide the result from Step 8 by 3 – that is, 68.2 ÷ 3 = 22.7.

The A.I. for this sample is 22.7.

END OF SECTION

D.13 Wage Rates

New Mexico Department of Workforce Solutions
Public Works
121 Tijeras Ave. NE, Suite 3000, Albuquerque, NM 87102
Phone: (505)-841-4400 fax to: (505) 841-4424 or Email to: public.works@state.nm.us

Wage Decision **# SJ-14-1770 A**

NOTIFICATION OF AWARD (NOA)

THIS WAGE DECISION # EXPIRES FOR BIDS ON **04/11/15**

***Description and Location of Work*:** East Aztec Arterial Route Phase 1B Construction Project
3,853 feet of two lane asphalt roadway with multipurpose trail to include earthwork, base course, asphalt, concrete box structure and erosion control.

City of Aztec County of San Juan US 550 South

REMINDER for Agency Conducting BID Process:
After the Contracting Agency awards this project the Wage Rate Poster, Sub-List and the Project Requirement Document, excluding this NOA must be delivered to the ***GENERAL/PRIME CONTRACTOR.*** The Contracting Agency or its agent must complete this form and submit with the sub-list listing all of the subcontractors including all tiers of subcontractors and fax or email it to the address above. ***If the project is canceled***, this form must be completed by the Contracting agency conducting the bid process and the wording "Cancelled" written on the form and send to the Labor Relations Division. Failure to submit the NOA in a timely manner is a violation of paragraph 11.1.2.9.B (3) of the Public Works Minimum Wage Act Policy Manual.

General/Prime Contractor Company Name:_____ License#:_____

Address:_____ City:_____ State:_____ Zip:_____

Telephone: _____ Fax:_____

Project Contact's name:_____E-Mail:_____

Approximate Date Work to Start:_____

Estimated Completion Date:_____

Estimated Cost of Project:_____

Bid Opening Date:_____

Note: The General/Prime Contractor **MUST** mail/fax in their Statement of Intent to Pay Prevailing Wages to the Contracting Agency or its agent before beginning work on the project. Each Subcontractor (and all tiers of subcontractors) **MUST** also mail/fax their Statement of Intent to Pay Prevailing Wages to the General/Prime Contractor 3 days after award of project. After work on the project is completed **and before, final payment,** is made to subcontractors and all tiers of subcontractors, the contractor and sub-contractors must mail/fax their Affidavit of Wages paid to the Contracting Agency for final payment.

Signature for Contracting Agency (or agent) _____
Printed Name_____
Email address for Contracting Agency (not agent)_____**Required Field**
Date _____

8/29/13

Page 1 of 2

SUBCONTRACTOR LIST

DO NOT list suppliers or professional services (such as surveyors)
INCLUDE individual subcontractor dollar amount for project
Email to: public.works@state.nm.us or fax to: (505) 841-4424

Please include **2nd & 3rd Tier** subcontractors. Make extra copies of form if necessary.
Wage Decision. # **SJ-14-1770 A**

General Contractor:

Company Name:_____
Address:_____ City:_____ State:____ Zip:_____
E-Mail Address:_____ License No.:_____
Phone No.:_____ Fax No.:_____ Sub ____ 2nd TIER ____ (To Whom) 3rd TIER ___ (To Whom)
Work to be performed: Start Date: Amount ($):

Company Name:_____
Address:_____ City:_____ State:____ Zip:_____
E-Mail Address:_____ License No.:_____
Phone No.:_____ Fax No.:_____ Sub ____ 2nd TIER ____ (To Whom) 3rd TIER ___ (To Whom)
Work to be performed: Start Date: Amount ($):

Company Name:_____
Address:_____ City:_____ State:____ Zip:_____
E-Mail Address:_____ License No.:_____
Phone No.:_____ Fax No.:_____ Sub ____ 2nd TIER ____ (To Whom) 3rd TIER ___ (To Whom)
Work to be performed: Start Date: Amount ($):

Company Name:_____
Address:_____ City:_____ State:____ Zip:_____
E-Mail Address:_____ License No.:_____
Phone No.:_____ Fax No.:_____ Sub ____ 2nd TIER ____ (To Whom) 3rd TIER ___ (To Whom)
Work to be performed: Start Date: Amount ($):

Company Name:_____
Address:_____ City:_____ State:____ Zip:_____
E-Mail Address:_____ License No.:_____
Phone No.:_____ Fax No.:_____ Sub ____ 2nd TIER ____ (To Whom) 3rd TIER ___ (To Whom)
Work to be performed: Start Date: Amount ($):

Company Name:_____
Address:_____ City:_____ State:____ Zip:_____
E-Mail Address:_____ License No.:_____
Phone No.:_____ Fax No.:_____ Sub ____ 2nd TIER ____ (To Whom) 3rd TIER ___ (To Whom)
Work to be performed: Start Date: Amount ($):

East Aztec Arterial Route Phase 1B Construction Project: WAGE DECISION #: SJ-14-1770 A
3,853 feet of two lane asphalt roadway with multipurpose trail to include earthwork, base course, asphalt, concrete box structure and erosion control.

TYPE "A" - STREET, HIGHWAY, UTILITY & LIGHT ENGINEERING

Effective January 1, 2014

Trade Classification	Base Rate	Fringe Rate
Bricklayer/Blocklayer/Stonemason	17.74	0.26
Carpenter/Lather	15.99	0.44
Cement Mason	15.52	0.26
Ironworker	21.77	6.03
Painter (Brush/Roller/Spray)	17.56	0.44
Electricians (outside)		
Groundman	26.79	11.03
Equipment Operator	29.61	11.03
Lineman/Wireman or Tech	30.20	11.03
Cable Splicer	31.38	11.03
Plumber/Pipefitter	28.30	4.07
Laborers		
Group I	13.73	0.35
Group II	14.03	0.35
Group III	14.43	0.35
Operators		
Group I	15.74	0.26
Group II	15.94	0.26
Group III	16.52	0.26
Group IV	16.54	0.26
Group V	16.53	0.26
Group VI	16.69	0.26
Group VII	16.74	0.26
Group VIII	16.89	0.26
Group IX	17.39	0.26
Group X	18.19	0.26
Truck Drivers		
Group I	13.32	0.26
Group II	13.52	0.26
Group III	13.72	0.26
Group IV	13.92	0.26

NOTE: SUBSISTENCE AND INCENTIVE PAY DO NOT APPLY TO TYPE "A" CONSTRUCTION.

SUSANA MARTINEZ
GOVERNOR

JOHN SANCHEZ
LT. GOVERNOR

CELINA BUSSEY
SECRETARY

STATE OF NEW MEXICO
DEPARTMENT OF WORKFORCE SOLUTIONS
121 Tijeras Ave NE Suite 3000
Albuquerque, NM 87102
Telephone (505) 841-4405
Fax (505) 841-4424

PUBLIC WORKS PROJECT REQUIREMENTS

As a participant in a Public Works project valued at more than $60,000 in the State of New Mexico, the following list addresses many of the responsibilities that are assigned by statute to each project stakeholder.

Contracting Agency

- Ensure that all contractors/prime contractors wishing to bid on a Public Works project when the project is $60,000 or more are actively registered with the Labor Relations Division, Labor Enforcement Fund (LEF) prior to bidding.
- Provide completed Notice of Award (NOA) and Sub-Contractor list to Labor Relations Division promptly after the project is awarded.
- Provide updates to the Sub-Contractor list to the Labor Relations Division

General Contractor

- Provide to the Contracting Agency within 3 (Three) days of award a complete sub-contractor list and Statements of Intent (SOI) to pay Prevailing Wages for each contractor.
- Ensure that all sub-contractors wishing to bid on a Public Works project when their portion is over $60,000 are actively registered with the Labor Relations Division prior to bidding.
- Submit bi-weekly certified payrolls to the owner/contracting agency.
- Make certain NM Apprenticeship and Training Fund payments are to be paid either to an approved Apprenticeship program or to the Labor Relations Division.
- Confirm the Wage Rate poster, provided by the Labor Relations Division, is displayed at the job site in an easily accessible place.
- Make sure, when a project has been completed, the Affidavits of Wages Paid (AWP) is sent to the Contracting Agency.

Sub-Contractor

- Ensure that all sub-contractors wishing to bid on a Public Works project when their portion is over $60,000 are actively registered with the Labor Relations Division prior to bidding.
- Submit bi-weekly certified payrolls to the General Contractor(s).
- Make certain NM Apprenticeship and Training Fund payments are to be paid either to an approved Apprenticeship program or to the Labor Relations Division.

"AN EQUAL OPPORTUNITY EMPLOYER"

Additional Information

Reference material and forms for these requirements are available through the following New Mexico Workforce Solutions Web Link.
www.dws.state.nm.us/new/Labor_Relations/publicworks.html.

Additional Information

Additional information, requirements, and documents on these topics can be found through the Public Works web pages.

- Labor Enforcement Fund (LEF)
- Weekly Certified Payroll
- Public Works Apprenticeship and Training Fund (PWAT)
- Forms: Statement of Intent (SOI), Affidavit of Wages Paid (AWP)
- Prevailing Wage Rates (Base Rates, Fringe, and Apprenticeship Contributions)

CONTACT INFORMATION

Contact us for any questions relating to Public Works Projects.

Kim Kew at Kim.Kew@state.nm.us or 505-841-4405
Otis Caddy LynnO.Caddy@state.nm.us 505-841-4406
Stacey Lowrey Stacey.Lowrey@state.nm.us 505-841-4412
Violet Miera Violet.Miera2@state.nm.us 505-841-4418

"AN EQUAL OPPORTUNITY EMPLOYER" **Revision Date 8/23/13**

NOTICE TO CONTRACTORS
WAGE RATES

August 22, 2014

You are hereby advised that wherever differences exist between the minimum wage rates shown under Wage Decisions of the Office of the New Mexico Department of Workforce Solutions, Santa Fe, and those shown under U.S. Department of Labor Wage Decision No. NM 14-49 dated August 22, 2014, and any modifications thereto noted in the contract assembly, the higher wage rates shall govern.

General Decision Number: NM140049 08/22/2014 NM49

Superseded General Decision Number: NM20130049

State: New Mexico

Construction Type: Highway

Counties: Dona Ana and San Juan Counties in New Mexico.

HIGHWAY CONSTRUCTION PROJECTS (excluding tunnels, building structures in rest area projects & railroad construction; bascule, suspension & spandrel arch bridges designed for commercial navigation, bridges involving marine construction; and other major bridges).

Modification Number	Publication Date
0	01/03/2014
1	08/22/2014

* ELEC0611-003 07/01/2014

	Rates	Fringes
ELECTRICIAN (Boom Operator)	$ 29.79	12.74

TEAM0492-003 04/01/2013

SAN JUAN

	Rates	Fringes
TRUCK DRIVER (Dump)	$ 14.65	6.00

SUNM2011-003 08/25/2011

	Rates	Fringes
CARPENTER (Includes Form Work)		
Dona Ana	$ 14.15	0.44
San Juan	$ 13.42	0.44
CEMENT MASON/CONCRETE FINISHER	$ 13.65	0.26
ELECTRICIAN (Includes Traffic Signalization and Installation)		
Dona Ana	$ 25.91	9.45
San Juan	$ 24.46	8.56
HIGHWAY/PARKING LOT STRIPING: Includes Highway Line/Parking Lot Line Striping and Line		

Striping Truck Driver		
Dona Ana	$ 15.44	0.35
San Juan	$ 14.39	0.35
IRONWORKER, REINFORCING		
Dona Ana	$ 22.61	6.03
San Juan	$ 16.41	5.85
LABORER		
Common or General		
Dona Ana	$ 11.95	0.35
San Juan	$ 11.48	0.35
Flagger/Cone Setter	$ 14.27	0.35
Mason Tender-		
Cement/Concrete	$ 10.25	0.35
Pipelayer	$ 17.13	5.04
POWER EQUIPMENT OPERATOR:		
Backhoe/Excavator/Trackhoe		
Dona Ana	$ 17.74	0.26
San Juan	$ 16.27	1.51
Bobcat/Skid Loader	$ 14.56	0.26
Broom Sweeper	$ 16.67	1.57
Grader/Blade	$ 17.64	1.51
Loader(Front End)	$ 16.53	0.26
Mechanic	$ 23.24	1.51
Oiler	$ 22.08	8.72
Piledriver	$ 16.26	0.26
Roller (Asphalt and Dirt)		
Dona Ana	$ 16.27	1.51
San Juan	$ 12.91	1.60
Trencher		
Dona Ana	$ 15.22	0.26
San Juan	$ 15.93	0.26
TRUCK DRIVER		
Dump Truck		
Dona Ana	$ 15.04	0.26
Flatbed Truck	$ 13.30	0.26
Pickup Truck		
Dona Ana	$ 12.14	0.26
San Juan	$ 12.95	0.26
Water Truck	$ 13.51	1.51

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is union or non-union.

Union Identifiers

An identifier enclosed in dotted lines beginning with characters other than "SU" denotes that the union classification and rate have found to be prevailing for that classification. Example: PLUM0198-005 07/01/2011. The first four letters , PLUM, indicate the international union and the four-digit number, 0198, that follows indicates the local union number or district council number where applicable , i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2011, following these characters is the effective date of the most current negotiated rate/collective bargaining agreement which would be July 1, 2011 in the above example.

Union prevailing wage rates will be updated to reflect any changes in the collective bargaining agreements governing the rates.

0000/9999: weighted union wage rates will be published annually each January.

Non-Union Identifiers

Classifications listed under an "SU" identifier were derived from survey data by computing average rates and are not union rates; however, the data used in computing these rates may include both union and non-union data. Example: SULA2004-007 5/13/2010. SU indicates the rates are not union majority rates, LA indicates the State of Louisiana; 2004 is the year of the survey; and 007 is an internal number used in producing the wage determination. A 1993 or later date, 5/13/2010, indicates the classifications and rates under that identifier were issued as a General Wage Determination on that date.

Survey wage rates will remain in effect and will not change until a new survey is conducted.

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WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

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D.14 Notices to Contractors

NOTICE TO CONTRACTORS

CN F100090
May 27, 2009

Monthly Asphalt Binder Price Adjustment Procedures

An adjustment will be made to the original Contract for asphalt binder if the industry monthly price index of asphalt binder fluctuates. Adjustment is not optional.

Items subject to adjustment are: Asphalt Binder (in HMA Complete and OGFC Complete)

Submit applicable mix designs, including percentage of asphalt binder, for inclusion in the price adjustment for the pay item listed above in the Contract.

For **increasing prices** (The monthly adjustment shall apply on those contracts whose monthly fluctuations have a (B / C) ratio greater than 1.1). Use Equation (1).

Equation (1): $A = (B - (1.1 \times C)) \times D$

For **decreasing prices** (The monthly adjustment shall apply on those contracts whose monthly fluctuations have a (B / C) ratio less than 0.9). Use Equation (2).

Equation (2): $A = (B - (0.9 \times C)) \times D$

Where:

- A - Monthly adjustment to the Contract for asphalt binder
- B - Average monthly price index per ton of asphalt binder (based on the published NM index price corresponding to the month the binder was actually placed on a project).
- C - Base Price Index (average selling price per ton of asphalt binder at time of bid opening based on the published NM index price).
- D - Tons of asphalt binder placed for the subject month.

Monthly Adjustment: The asphalt binder tonnage shall have an adjustment determined above by either Equations (1) or (2), as appropriate. All adjustments shall be based on the average monthly price index per ton of asphalt binder corresponding to the date (month) the binder was actually placed on a project.

For the purposes of making these calculations, the Department's State Materials Bureau will maintain a database of monthly price indexes. This index will be based on the average of the major suppliers in New Mexico. This index will be maintained by the NMDOT and published on the NMDOT Plan, Specifications & Estimates (PS&E) Bureau website. The published monthly base price index will be calculated using the following formula:

Price Index = Average of the reported average weekly selling prices using the last four reported weeks on or prior to the last day of a given month as published by the New Mexico price index.

A twenty-four month (24) month running summary of the published monthly price index will be sent, by Department e-mail, to each District Engineer, Assistant District Engineer, State Construction Bureau, the Albuquerque office of the Associated Contractors of New Mexico for distribution to their members, and other interested parties at the beginning of each week.

Quarterly Departmental (Internal) Validation Process

The Department internally will validate its price index on a quarterly basis against published regional market indices and trends. The Department will use the average weekly selling price for the Rocky Mountain region, as reported by the "Asphalt Weekly Monitor©," published by Paten and Partners, Inc., New York, New York for this validation process. The Department will adjust its index and/or revert to the information published by Paten and Partners, Inc to ensure the indexed price for asphalt binder represents the New Mexico market as accurately as possible.

NOTICE TO CONTRACTORS

DISADVANTAGED BUSINESS ENTERPRISE (DOE) PROGRAM RACE-CONSCIOUS MEASURES

FORM No. A-644

July 21, 2010

CN F100090

This Project is subject to race-conscious measures. The established DBE Goal for this project is 3.5 %.

Within five (5) working days after the bid opening, ALL BIDDERS shall submit written confirmation from each DBE listed on their Form A-585, DBE A-1 that it is participating in the contract. All Bidders shall provide the required information as indicated on Form No. A-644.

These forms shall be submitted to Office of Equal Opportunity Programs (OEOP) located at Aspen Plaza, 1596 Pacheco Street, Suite 107, Santa Fe NM, 87505. OEOP can be contacted at Telephone No. 1-800.544.0936 or 505.827. 1774 and FAX No. 505.827.1779. Forms will be accepted until 4:00 PM within five (5) working days after the bid opening.

FAILURE TO COMPLY WITH THIS REQUIREMENT SHALL RENDER A BID NON- RESPONSIVE AND THE BID SHALL BE REJECTED.

Form No. A-644
Rev 7.21.2010

New Mexico Department of Transportation

DISADVANTAGED BUSINESS ENTERPRISE (DBE) PARTICIPATION

Control No. F100090

DBE Name & Address	Line #	Item Description	Amount
		Total:	

*IF ANY FIRM LISTED ABOVE IS A MATERIAL SUPPLIER, BUT NOT THE MANUFACTURER, THE CONTRACTOR MAY CREDIT ONLY 60% OF THE EXPENDITURE TO THE SUPPLIER, FOR FINAL PAYMENT. THE PRIME CONTRACTOR MAY CERTIFY THAT FINAL PAYMENT WILL BE MADE TO DBE UPON HIS RECEIPT OF PAYMENT.

I affirm that I am an authorized representative of _____,hereinafter "DBE Firm".
Name of DBE Firm

_____
Signature of Authorized DBE Representative

_____
Printed Name of Authorized DBE Representative

Further, I affirm my participation in the contract for _____.
Name of Contractor

Subscribed and sworn to before me this _____ day of _____, 20_____.

Notary Seal

_____
Notary Public

My Commission expires: _____

NEW MEXICO DEPARTMENT OF TRANSPORTATION
ON THE JOB TRAINING PROGRAM AND SPECIAL PROVISION
JANUARY 1, 2012

I. PROGRAM

DESCRIPTION A. Purpose

The New Mexico Department of Transportation (NMDOT) created its On the Job Training Program and Special Provision (OJT Program) to fulfill the Training Special Provision requirements of federal-aid construction contracts included in 23 CFR 230, Appendix B to Subpart A. The purpose of the OJT Program is to address the underrepresentation of minority and female workers in the construction trades through the assignment of OJT goals. To that end, the primary objective of the OJT Program is the training and upgrading of minorities and females to journeyman status on NMDOT federal-aid contracts.

B. Program Summary

The OJT Program fulfills its objective by: (1) fostering long-term relationships between contractors and trainees, (2) encouraging contractors to assist trainees in fully attaining journeyman status, and (3) offering contractors abundant flexibility in fulfilling their training obligations. The OJT Program assigns contractors an annual training goal based on past dollar amounts awarded to the contractor as an NMDOT federal-aid prime contractor.

Contractors may assign eligible trainees that are enrolled in an approved training program, as outlined in Section II A, to any construction project on which the contractor is a prime, including non-NMDOT projects. Contractors may also assign trainees to be trained by subcontractors on any project, so long as the prime contractor retains the primary responsibility for fulfilling its federal-aid training requirements.

Contractors shall make every effort to meet their OJT Program goals by enrolling minority and female trainees (i.e. by conducting systematic and direct recruitment through public and private sources likely to yield minority and female trainees) to the extent that such persons are available within a reasonable area of recruitment. When a contractor cannot meet its annual training goal with minorities and females, it is responsible for demonstrating its Good Faith Efforts taken to meet the goal. Examples of what actions constitute Good Faith Efforts are set forth in Section III below. NMDOT will make compliance determinations regarding the OJT Program based upon either attainment of the annual goal or the Good Faith Efforts to meet it.

No employee shall be employed as an apprentice or trainee in any classification in which he or she has successfully completed a training course leading to journeyman status or in which he or she has been employed as a journeyman. The contractor shall satisfy this requirement by including appropriate questions in the employment application or by other suitable means. Regardless of the method used, the contractor’s records shall document the findings in each case.

Such records shall be available for inspection by authorized representatives of NMDOT and the

Federal Highway Administration (FHWA).

The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the approved training program being utilized. When a specific ratio is not provided, the ratio of apprentices and trainees to journeymen expected to be on the contractor's work force during normal operations shall, pursuant to 23 CFR 230.111(c)(10), fall between 1:10 and 1:4.

C. Annual Training Goal

The NMDOT Office of Equal Opportunity Programs will notify contractors assigned an annual training goal prior to the beginning of the calendar year (January 1 to December 31) within which they must participate. Contractors are assigned an annual training goal based on the dollar amount awarded to the contractor as an NMDOT federal-aid prime contractor during the previous state fiscal year (July 1 through June 30). More specifically, each contractor cumulatively awarded ten million dollars or more as a prime contractor on NMDOT federal-aid projects during the previous state fiscal year is assigned and shall commit to train, certify and advance one trainee to journeyman worker status during and before the expiration of the calendar year. The trainee must begin training during the calendar year within which the contractor must participate and trainee time cannot "roll-over" from one calendar year to another for purposes of meeting the annual goal.

While NMDOT strongly encourages contractors to independently provide on the job training on their projects, only those contractors who have reached the above-mentioned threshold are required to participate in and are bound by the provisions of this OJT Program. When a contractor is not assigned an annual training goal but still utilizes trainees/apprentices on a federal-aid project, the contractor will not be reimbursed for training hours under the OJT pay item, but the contractor may pay the trainees/apprentices the wages allowed in the approved training program, which may be less that the minimum pay rate for the classification. The contractor is still required to use an approved training program, register its trainees in the program, pay trainees according to the program, and show trainees on its payrolls as required by FHWA-1273, Sections IV and V.

II. PROGRAM

REQUIREMENTS A. Use of

Approved Training Program

NMDOT recognizes four types of contractor based training programs. Those programs are: contractor in-house training programs that have received prior approval from both FHWA and NMDOT; training programs approved in other states subject to proof of approval; the approved Workforce Development Program provided through the Associated Contractors of New Mexico (ACNM); and the New Mexico Department of Workforce Solutions' State Apprenticeship Council programs (e.g. union apprenticeships, if the contract employees are otherwise eligible). If a contractor wants to use a training program other than one of the four mentioned above, the contractor must have the program approved by NMDOT and FHWA prior to commencing work. All training programs must be administered in a manner consistent with the equal employment

obligations of federal-aid highway construction contracts. NMDOT reserves the right to request documentation that a program fulfills these obligations. Contractors must ensure that each trainee does not exceed the maximum number of training hours required for the completion of the selected training program.

B. Wage Requirements

Contractors must pay each approved trainee at the appropriate percentage of journeyman's wage rate based on the approved training program and consistent with applicable State and Federal regulations and guidance.

C. Reporting Requirements

Contractors must submit the following documents to the administrator of the approved training program being utilized, the NMDOT Office of Equal Opportunity Programs, and, for NMDOT federal-aid projects, to the Project Manager:

1. Contractors shall complete and submit Form A-2201, Contractor OJT Enrollment Form, within seven business days of the contractor's intent to assign a trainee(s) to a project.

2. For NMDOT federal-aid projects, Contractors shall complete and submit form A-2203, OJT Program Labor Classification Request within seven business days of the contractor's intent to assign a trainee(s) to a project.

3. Contractors shall complete and submit Form A-2202, OJT Program Monthly Reporting Form, on or before the 10th of each month, reporting on the preceding month.

Contractors shall submit to the NMDOT Office of Equal Opportunity Programs an Annual Summary Report by January 20th of the following calendar year. The report must give an accurate account of all trainee hours; identifying each trainee by name, ethnicity and gender and identifying each project and/or contract and the trainee hours attributed thereto.

Contractors should also note that:

a. Monthly reports submitted after January 10th of the following year will not be accepted or considered towards goal attainment for the previous calendar year.

b. If a contractor did not attain its annual goal, it must submit, with its Annual Summary Report, documentation of its Good Faith Efforts to attain the goal (see Section III below).

Contactors should only submit paperwork for individuals accepted and enrolled in an approved training program as outlined in Section II A, and not for individuals participating in other training and/or apprenticeship programs.

D. Contractor Participation

The contractor's Equal Employment Opportunity Officer (EEO Officer) shall be responsible for monitoring and administering the trainees' progress. The EEO Officer shall serve as the point of contact for NMDOT representatives regarding information, documentation, and conflict resolution. The contractor shall furnish each trainee a copy of the Training Program and other documentation related to the training program. The contractor shall further make every reasonable effort to provide training that develops skills as required by the training program. The contractor shall furnish to each trainee, upon successful completion of their training program, a certificate showing the type and length of training satisfactorily completed.

E. Contractor Reimbursement

Except as otherwise noted below, NMDOT will reimburse the contractor 80 cents per hour of training given an employee on a State or Federal-aid project in accordance with an approved training program. Reimbursements will be made upon submission to and approval by the Project Manager of a request for change order with the properly completed OJT monthly reporting forms attached. Reimbursement will not be made for a trainee's hours that exceed the maximum number of training hours required for the completion of the selected classification in the training program.

III. Good Faith Efforts

If a contractor does not or can not achieve its annual training goal with female or minority trainees, it must produce adequate Good Faith Efforts documentation. Good Faith Efforts are those efforts designed to achieve equal opportunity through positive, aggressive, and continuous result-oriented measures. (23 CFR 230.409(g)(4)). Good Faith Efforts should be taken as trainee hiring opportunities arise. Whenever a contractor requests NMDOT approval of someone other than a minority or a female for credit towards its annual training goal, the contractor must submit documented evidence of its Good Faith Efforts to fill that position with a minority or female.

NMDOT will consider all contractors' documentation of Good Faith Efforts on a case-by-case basis, and take into account the following:

- Availability of minorities and females for training;
- The potential for effective training;
- Duration of the contract;
- Dollar value of the contract;
- Total normal work force that the average bidder could be expected to use
- Geographic location;
- Type of work;
- The need for journey level individuals in the area.

Good Faith Efforts may include, but are not limited to, documentation of efforts to:

- Contact minority and female employees to gain referrals on other minority and female applicants;
- Upgrade minority and female unskilled workers into the skilled classifications when possible;
- Accept applications at the project site or at the contractor's office;
- Review and follow up on previously received applications from minorities and females when hiring opportunities arise;
- Maintain evaluations that monitor efforts made to achieve diversity on federal-aid projects and the contractor's workforce in general (i.e. significant numbers of minorities and females employed on a company wide basis);

NMDOT may reject utilization of non-minority male trainees for credit toward meeting the annual goal if it determines that the contractor failed to make sufficient Good Faith Efforts to hire minorities or female trainees and/or the contractor failed to document or submit evidence of its Good Faith Effort to do so.

IV. NMDOT PROGRAM MONITORING

A. Site Visits

NMDOT may conduct periodic site visits to a contractor's worksite to review OJT Program compliance along with other contract compliance issues related to the project. NMDOT will make every effort to ensure minimal disruption to a contractor's work.

B. End of Year Audits and Sanctions for Non-Compliance

NMDOT will perform an end of year audit of each contractor to verify attainment of the annual OJT goal. If a contractor, through its Annual Summary Report, can demonstrate that it attained its annual OJT Program goal or made adequate Good Faith Efforts to do so, then NMDOT will determine that the contractor is in compliance with the OJT Program requirements.

If a contractor has neither attained its goal nor submitted adequate Good Faith Efforts documentation, NMDOT will issue a Show Cause Notice outlining its findings of non-compliance and providing its determination of sanctions attributed thereto. Within thirty (30) days of receiving the Show Cause Notice, the contractor may submit a written response to the Show Cause Notice providing argument and evidence in opposition to the NMDOT findings of non-compliance and/or its determination of sanctions

If a contractor fails to submit a written response to the Show Cause Notice within the specified period or the written response to the Show Cause Notice does not cause NMDOT to change its findings of non-compliance and/or its determination of sanctions, NMDOT will issue its Final Order to the contractor regarding the non-compliance and assessing sanctions.

Sanctions for non-compliance may include, but are not limited to: liquidated damages, suspension of any payment in whole or in part, termination or cancellation of contracts in whole

or in part, and/or suspension or debarment of the contractor.

FOR MORE INFORMATION CALL OR WRITE:

New Mexico Department of Transportation
Office of Equal Opportunity Programs
1596 Pacheco Street, Suite 107
Santa Fe, New Mexico 87505
1-800-544-0936

SELECTED DBE (DBE) PROGRAM PROVISIONS
DISADVANTAGED BUSINESS PARTICIPATION IN USDOT ASSISTED CONTRACTS

June 11, 2009

Objective:

The purpose of the DBE Program is to implement the provisions of 49 CFR Part 26, other pertinent regulations, and source legislation. The objectives are: (a) To ensure nondiscrimination in the award and administration of USDOT assisted contracts in the USDOT's highway, transit, and airport financial assistance programs; (b) To create a level playing field on which DBEs can compete fairly for USDOT-assisted contracts; (c) To ensure that USDOT's DBE program is narrowly tailored in accordance with applicable law; (d) To ensure that only firms that fully meet the eligibility standards specified in 49 CFR Part 26 are permitted to participate as DBEs; (e) To help remove barriers to the participation of DBEs in USDOT-assisted contracts; (f) To assist the development of firms that can compete successfully in the marketplace outside the DBE program; and (g) To provide appropriate flexibility to recipients of Federal financial assistance in establishing and providing opportunities for DBEs; and (h) to comply with the New Mexico Procurement Code §13-1-28 through §13-1-199, NMSA 1978, as amended, and any applicable regulations thereto.

The New Mexico Department of Transportation (NMDOT) will strive to meet the annual State Goal for DBE participation in federal-aid construction and consultant design programs and activities in New Mexico. The long-range objective of the Department will be to establish a level playing field for DBE contractors to compete for federally assisted highway construction projects as prime contractors, subcontractors, design consultants, and other consultants. It is the intent of the NMDOT to provide opportunities to DBE firms so they can in time graduate from the DBE Program and perform as prime contractors and subcontractors without DBE Program assistance.

Statutory Authority:

The following is a brief history of the Regulations, which implement the DBE Program.

USDOT Regulations (49 CFR Part 23 and 26) published in the Federal Register, Volume 45, No.63 dated March 31, 1980 established a requirement that all recipients of Federal-Aid highway program funds establish a Minority Business Enterprise (MBE) Program. The regulations were applicable both to Federal-Aid construction and to its non-construction activities. USDOT published further regulations in the Federal Register, Volume 48, No. 141 on July 21, 1983. This regulation implemented Section 105(f) of the Surface Transportation Assistance Act (STAA) of 1982, which provided that not less than a fixed percentage of the amounts authorized to be appropriated under the Act should be expended with small business concerns owned and controlled by socially and economically disadvantaged individuals. USDOT published regulations in the Federal Register, Volume 52, No. 203 on October 21, 1987 implementing Section 106(c) of the Surface Transportation and Uniform Relocation Assistance Act (STURAA) of 1987.

As a result of the decision by the United States Supreme Court in Adarand Constructors Inc. v. Pena, 513 U.S. 1108, 115 S.Ct. 896, 103 L.Ed.2d 781 (1995), and its progeny in federal district courts across the country, USDOT promulgated new regulations to meet the strict scrutiny test

for affirmative action programs announced in Adarand. These new regulations, 49 CFR Part 26, which were published in the Federal Register, February 2, 1999, 64 Fed. Reg. 5095 repeal the former regulations found at 49 CFR Part 23. These regulations are effective March 4, 1999, and require each primary recipient of specified federal-aid, including NMDOT, to develop and implement a DBE Program consistent with Part 26 by September, 1999, as a condition to receiving federal-aid funding. The regulations observe a national aspirational goal of 10% DBE participation in federal-aid public works construction; require primary recipients to establish yearly overall goals based on local availability of DBEs ready, willing and able to participate in public works construction; require primary recipients to use race-neutral means to achieve annual DBE participation goals, and mandate size limits on certified DBEs.

USDOT's legal authority for 49 CFR Part 23 (as amended) and Part 26, includes sundry Executive Orders, 23 U.S.C. 324,42 U.S.C. 2000d et seq., and 49 U.S.C. 1615, 47107, 47113, and 47123.

Policy Statement:

It is the policy of the New Mexico Department of Transportation on, acting through the NMDOT's OEOP, to encourage and support the DBE Program and its objectives to the maximum extent possible. This rule will be circulated throughout the NMDOT, Construction Organizations, DBE and non-DBE business communities that perform work with the NMDOT and other interested parties.

The NMDOT and all recipients of USDOT-assisted contracts will not discriminate on the basis of race, color, national origin or sex in the award and performance of any USDOT-assisted contract or in the administration of its DBE Program or the requirements of 49 CFR Part 26. The NMDOT and all recipients will further ensure that the NMDOT and/or all recipients of USDOT-assisted contracts will not discriminate in the development, implementation and administration of the DBE Program. Implementation of the DBE Program by the NMDOT is a legal obligation and failure to carry out its terms will be treated as a violation whereby sanctions may be imposed as provided for under 49 CFR Part 26. The DBE Program is accorded the same priority as compliance with all other legal obligations incurred by the NMDOT in its financial assistance agreements with USDOT.

No person will be excluded from participation in or denied the benefits of, or otherwise discriminated against in connection with the award and performance of any contract covered by this DBE Program or 49 CFR Part 26 on the basis of race, color, sex or national origin.

In administering the DBE Program, the NMDOT will not use criteria or methods that would have the effect of defeating or substantially impairing accomplishment of the objectives of the program with respect to individuals of a particular race, color, sex or national origin.

From time to time NMDOT will receive interpretations from USDOT, which will be binding on NMDOT, sub-recipients, and contractors.

Definitions:

AFFILIATION - has the same meaning the term has in the Small Business Administration (SBA) regulations, 13 CFR part 121, except as otherwise provided in 13 CFR part 121, concerns are affiliates of each other when either directly or indirectly one concern controls or has the power to control the other; or a third party or parties controls or has the power to control both; or an identity of interest between or among parties exists that affiliation may be found.

In determining whether affiliations exist, it is necessary to consider all appropriate factors, including common ownership, common management, and contractual relationships. Affiliates must be considered together in determining whether a concern meets small business size criteria and statutory cap on the participation of firms in the DBE program.

ALASKA NATIVE - a citizen of the United states who is a person of one fourth (1/4) degree or more Alaskan Indian (including Tsimshian Indians not enrolled in the Metlaktla Indian Community), Eskimo, or Aleut blood, or a combination of those bloodlines. The term includes, in the absence of proof of a minimum blood quantum, any citizen whom a Native village or Native group regards as an Alaska Native if their father or mother is regarded as an Alaska Native.

ALASKA NATIVE CORPORATION (ANC) - any Regional Corporation, Village Corporation, Urban Corporation, or Group Corporation organized under the laws of the state of Alaska in accordance with the Alaska Native Claims Settlement Act, as amended (43 U.S.C. 1601, et seq.).

COMMERCIALY USEFUL FUNCTION (CUF) - means that a DBE is responsible for execution of a distinct element of the work of a contract or subcontract and carries out its responsibilities by actually performing, managing and supervising the work involved, or provides professional services.

COMPLIANCE - means that a recipient has correctly implemented the requirements of this part.

CONTRACT - means a legally binding relationship obligating a seller to furnish supplies or services (including, but not limited to, construction and professional services) and the buyer to pay for them.

CONTRACT GOAL - means the percentage of DBE participation established by NMDOT, if required, for a USDOT- Assisted Contract.

CONTRACTOR - means one who participates, through a contract or subcontract (at any tier), in a USDOT-assisted highway, transit, or airport program.

DEPARTMENT - means the U.S. Department of Transportation, including the Office of the Secretary, the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), and the Federal Aviation Administration (FAA).

DESIGN AND BUILD PROJECT DELIVERY SYSTEM - means a procurement process by which a using agency contracts with one firm who has responsibility for the design, construction and delivery of a project under a single contract with the using agency.

DESIGN CONSULTANT (OR OTHER CONSULTANTS) - means an individual, firm or

partnership that contracts with the NMDOT to provide services for engineering, surveying, environmental, hazardous materials, subsurface utility engineering, and other services which require a rigorous, logical, science based approach for data acquisition to be used in the development of NMDOT highway construction plans. Other consultants include providers of any other professional services funded with FHWA monies and FTA and FAA grant recipients receiving $250,000 or more in aggregate.

DISADVANTAGED BUSINESS ENTERPRISE OR DBE - means a for-profit small business concern that is at least 51 percent owned by one or more individuals who are both socially and economically disadvantaged or, in the case of a corporation, in which 51 percent of the stock is owned by one or more such individuals; and whose management and daily business operation are controlled by one or more of the socially and economically disadvantaged individuals who own it.

GOOD FAITH EFFORTS (GFE) - means efforts to achieve a DBE goal or other requirement of the DBE Program which, by their scope, intensity, and appropriateness to the objective, can reasonably be expected to fulfill the program requirements.

IMMEDIATE FAMILY MEMBER - means father, mother, husband, wife, son, daughter, brother, sister, grandmother, grandfather, grandson, granddaughter, mother-in-law or father-in-law.

INDIAN TRIBE - means any Indian tribe, band, nation, or other organized group or community of Indians, including any ANC, recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians, or are recognized as such by the state in which the tribe, band, nation, group, or community resides.

JOINT VENTURE - means an association of a DBE firm and one or more other firms to carry out a single, for-profit business enterprise for which the parties combine their property, capital, efforts, skills and knowledge, and in which the DBE is responsible for a distinct, clearly defined portion of the work of the contract and whose share in the capital contribution, control, management, risks, and profits of the joint venture are commensurate with its ownership interest.

LOSP - Liaison Outreach and Services Program - means a contractor who enters into Cooperative Agreements with chambers of commerce and trade associations to provide liaison services between the USDOT, its grantees, recipients, contractors, subcontractors and minority-owned and disadvantaged business enterprises.

NAICS - North American Industrial Classification System - replaces the Standard Industrial Classification Code (SIC) designation which best describes the primary business of a firm.

NATIVE HAWAIIAN - means any individual whose ancestors were natives, prior to 1778, of the area which now comprises the state of Hawaii.

NATIVE HAWAIIAN ORGANIZATION - means any community service organization serving Native Hawaiians in the state of Hawaii which is a not-for-profit organization chartered by the state of Hawaii, is controlled by Native Hawaiians, and whose business activities will principally benefit such Native Hawaiians.

NMDOT - means New Mexico Department of Transportation .

NONCOMPLIANCE - means that a recipient has not correctly implemented the requirements of 49 CFR Part 26.

OEOP - means Office of Equal Opportunity Programs.

OPERATING ADMINISTRATION (OA) - means any of the following parts of USDOT: the Federal Aviation Administration (FAA), Federal Highway Administration (FHWA), The Federal Transit Administration (FTA). The "Administrator" of any OA includes his or her designees.

OVER-CONCENTRATION - means a condition in which DBE firms are being utilized in certain types of work to the extent that non-DBEs are unduly burdened from participating in this same type of work.

PERSONAL NET WORTH - means the net value of the assets of an individual remaining after total liabilities are deducted. An individual's personal net worth does not include the individual's ownership interest in an applicant or participating DBE firm; or the individual's equity in his or her primary place of residence. An individual's personal net worth includes only his or her own share of assets held jointly or as community property with the individual's spouse.

PRIMARY INDUSTRY CLASSIFICATION - means the six digit NAICS designation which best describes the primary business of a firm. The NAICS code designations are described in the North American Industry Classification Manual.

PRIMARY RECIPIENT - means a recipient to which USDOT financial assistance is given and passes some or all of it on to another recipient

PRINCIPAL PLACE OF BUSINESS - means the business location where the individuals who manage the firm's day-to-day operations spend most working hours and where top management's business records are kept. If the offices from which management is directed and where business records are kept are in different locations, the recipient will determine the principal place of business for DBE program purposes.

PROCUREMENT CODE - means §13-1-28 through §13-1-199, NMSA 1978, as amended and any applicable regulations thereto.

PROCUREMENT CODE REGULATIONS - means 1 NMAC 5.2, as amended.

PROFESSIONAL SERVICES - means the services of architects, archeologists, engineers, surveyors, landscape architects, medical arts practitioners, scientists, management and systems analysts, certified public accountants, registered public accountants, lawyers, psychologists, planners, researchers, construction managers and other persons or businesses providing similar professional services, which may be designated as such by a determination issued by the state purchasing agent or a central purchasing office.

PROGRAM - means any undertaking on a recipient's part to use USDOT financial assistance, authorized by the laws to which this part applies.

PROPOSAL - means an offer compiled and developed by an offeror in response to a Request for Proposal.

RACE-CONSCIOUS MEASURE - means a program that is focused specifically on assisting

only DBEs, including women-owned DBEs.

RACE-NEUTRAL MEASURE - means a program that is, or can be, used to assist all small businesses. For purposes of this part, race-neutral includes gender-neutrality.

READY, WILLING AND ABLE - means, for the purpose of setting annual DBE goals, in the context of a DBE or non-DBE business, that it has the necessary license to perform work on USDOT-assisted contracts in its home state, is not currently suspended or debarred, and has demonstrated its interest in performing work on USDOT-assisted contracts by submitting a bid, proposal, or quotation as a prospective prime contractor, subcontractor, supplier, trucker, consultant, or other relevant business entity, on a New Mexico USDOT-assisted contract within the current or two (2) previous federal fiscal years, or such shorter duration as established by the NMDOT.

RECIPIENT - means any entity, public or private, to which USDOT financial assistance is extended, whether directly or through another recipient, through the programs of the FAA, FHWA or FTA or who has applied for such assistance.

REGULAR DEALER - means a firm that owns, operates, or maintains a store, warehouse, or other establishment in which the materials, supplies, articles or equipment of the general character described by the specifications and required under the contract are bought, kept in stock, and regularly sold or leased to the public in the usual course of business. To be a regular dealer, the firm must be an established, regular business that engages, as its principal business and under its own name, in the purchase and sale or lease of the products in question. A person may be a regular dealer in such bulk items as petroleum products, steel, cement, gravel, stone, or asphalt without owning, operating, or maintaining a place of business, if the person both owns and operates distribution equipment for the products. Any supplementing of regular dealer's own distribution equipment will be by a long-term lease agreement and not on an ad hoc or contract-by-contract basis. Packagers, brokers, manufacturer's representatives, or other persons who arrange or expedite transactions are not regular dealers.

REQUEST FOR PROPOSALS (RFP) - means all documents, including those attached or incorporated by reference, used for soliciting proposals.

RESPONSIBLE BIDDER - means a bidder who submits a responsive bid and who has furnished, when required, information and data to prove that his financial resources, production or service facilities, personnel, service reputation and experience are adequate to make satisfactory delivery of the services, construction or items of tangible personal property described in the invitation for bids.

RESPONSIBLE OFFEROR - means an offeror who submits a responsive proposal and who has furnished, when required, information arid data to prove that his financial resources, production or service facilities, personnel, service reputation and experience are adequate to make satisfactory delivery of the services or items of tangible personal property described in the proposal.

RESPONSIVE BID - means a bid which conforms in all material respects to the requirements set forth in the invitation forbids. Material respects of a bid include but are not limited to price, quality, quantity or delivery requirements

RESPONSIVE OFFER - means an offer which conforms in all material respects to the requirements set forth in the request for proposals. Material respects of a request for a proposal include, but are not limited to, price quality, quantity, or delivery requirements.

SECRETARY - means the Secretary of the U.S. Department of Transportation or designee.

SERVICES - means the furnishing of labor, time or effort by a contractor not involving the delivery of a specific end product other than reports and other materials which are merely incidental to the required performance. "Services" includes the furnishing of insurance but does not include construction or the services of employees of a state agency or a local public body.

SET-ASIDE - means a contracting practice restricting eligibility for the competitive award of a contract solely to DBE firms.

SMALL BUSINESS ADMINISTRATION (SBA) - means the United States Small Business Administration.

SMALL BUSINESS CONCERN - means with respect to firms seeking to participate as DBEs in USDOT-assisted contracts, a small business concern as defined pursuant to section 3 of the Small Business Act and Small Business Administration Regulations implementing it (13 CFR Part 121) that also does not exceed the cap on average annual gross receipts specified in 49 CFR Part 26.65(b).

SOCIALLY AND ECONOMICALLY DISADVANTAGED INDIVIDUAL - means any individual who is a citizen (or lawfully admitted permanent resident) of the United States and who is –

An individual whom the NMDOT finds to be a socially and economically disadvantaged individual on a case-by-case basis.

Any individual in the following groups, members of which are rebuttably presumed to be socially and economically disadvantaged;

(a) "Black Americans," which includes persons having origins in any of the Black racial groups of Africa;

(b) "Hispanic Americans," which includes persons of Mexican, Puerto Rican, Cuban, Dominican, Central or South American, or other Spanish or Portuguese culture or origin, regardless of race;

(c) "Native Americans," which includes persons who are American Indians, Eskimos, Aleuts, or Native Hawaiians;

(d) "Asian-Pacific Americans," which includes persons whose origins are from Japan, China, Taiwan, Korea, Burma (Myanmar), Vietnam, Laos, Cambodia (Kampuchea), Thailand, Malaysia, Indonesia, the Philippines, Brunei, Samoa, Guam, the U.S. Trust Territories of the Pacific islands (Republic of Palau), the Commonwealth of the Northern Marianas Islands, Macao, Fiji, Tonga, Kiribati, Tuvalu, Nauru, Federated States of Micronesia, or Hong Kong;

(e) "Subcontinent Asian Americans," which includes persons whose origins are from India, Pakistan, Bangladesh, Bhutan, the Maldives islands, Nepal or Sri Lanka;

(f) Women; and

(g) Any additional groups whose members are designated as socially and economically disadvantaged by the SBA, at such time as the SBA designation becomes effective.

SOFTWARE-The entire set of programs, procedures, and related documentation associated with a computer programs used for the purpose of reporting Contract/Labor compliance and diversity (DBE related data) information as designated by the Office of Equal Opportunity Programs (OEOP).

STATE GOAL - means the percentage of DBE participation in New Mexico USDOT Assisted contracts that the NMDOT expects absent the effects of discrimination. The NMDOT sets the state goal annually

TRIBALLY OWNED CONCERN - means any concern at least 51 percent owned by an Indian tribe as defined in this section.

UNIFIED CERTIFICATION PROGRAM (UCP) - means an entity that provides a one-stop shopping service to applicants seeking DBE certification. The entity must comply with all provisions of this rule concerning certification and nondiscrimination.

USDOT - means U.S. Department of Transportation.

USDOT-ASSISTED CONTRACT - means any contract between a recipient and a contractor (at any tier) funded in whole or in part with USDOT financial assistance, including letters of credit or loan guarantees, except a contract solely for the purchase of land.

Pre-Bid:

Pre-bid services and Requests for Proposals, to inform the certified Disadvantaged Business Enterprises of contract opportunities will include, but not be limited to, the following:

All certified DBE's will be placed on the NMDOT's regular and/or electronic mailing list to receive Invitations for Bid, Plan Holders List, Requests or Proposals and other NMDOT procurement mailings.

Plans, Specifications, and Invitations for Bid will be available for inspection by certified DBE firms at the OEOP and the PSE Bureau of the NMDOT.

Requests for Proposals (RFP's) will be available for inspection by certified DBE firms at the OEOP and the Contracts Unit of the NMDOT.

Award of Contract Procedures:

The NMDOT Award of Contract Procedures will include, but not be limited to, the following:

The NMDOT will include appropriate DBE contract provisions, or summaries thereof, in the Plans, Specifications, Invitations for Bids, and Requests for Proposals and Contract Proposals for all Federal-Aid contracts. Selected DBE - Program Provisions - DBE Participation in USD0T-Assisted Contracts will be included in appropriate contracts.

For all projects using race-neutral measures, the following DBE forms, as appropriate, are required to be submitted for award of contract:

(a) The Participating Contractor's and Consultant's Annual Profile Registration Form A-1012 is to be submitted to the OEOP annually

(b) The Notice to Construction Contractors Bidder's List of Quoters for the DBE Program BL-DBE is to be submitted by all construction bidders with the contract bid at the time of the bid letting

(c) The Design and Other Consultant Offeror's List- Form A-1013- is to be submitted by all consultants at the time of the proposal submittal

(d) A fully executed Certification of Consultant or Offeror for DBE Annual State Goal Form A-1014 is to be submitted at the time a proposal is submitted

In the event projects use race-conscious measures, the following DBE forms, as appropriate, are required to be submitted for award of contract:

(a) The Participating Contractor's and Consultant's Annual Profile Registration-Form A-1012- is to be submitted to the OEOP annually.

(b) The Notice to Construction Contractors Bidder's List of Quoters for the DBE Program BL-DBE- is to be submitted by all construction bidders with contract bid at the lime of the bid letting.

(c) The Design and Other Consultant Offeror's List Form A-1013 is to be submitted at the time the proposal is submittal.

(d) A fully executed Certification of Consultant or Offeror for DBE Annual State Goal Form A-1014 is to be submitted at the time a proposal is submitted.

(e) For construction projects, the apparent low bidder will complete and sign Form A-585A-DBE A-1 at the time of the Bid Opening. All listed DBE firm(s) must be certified by the NMDOT prior to submission of Form A-585DBE A-1.

(1) The construction contract will be awarded to the lowest qualified and responsible bidder who gives written assurance to meet the established DBE contract goal or who can satisfactorily demonstrate good faith efforts why it cannot do so. Failure to meet the goal or demonstrate good faith efforts will render the bid non-responsive.

(f) For design or other consultant proposals, all responsible offerors will complete and sign Form A-585B-DBE A-2 (Appendix L) and include it with other required documents of the offeror's "Proposal Package" upon successful negotiations for consulting services. All offeror's written assurance will be considered binding.

(1) The design or other consultant contract will be awarded to the best qualified and responsible offeror who gives this written assurance to meet the established DBE contract goal or who can satisfactorily demonstrate good faith efforts why it cannot do so. Failure to meet the goal or demonstrate good faith efforts will

render the consultants proposal non-responsive.

(2) The design consultant and other consultants will be selected in accordance with the requirements of NMSA 1978, § 13-1-115 and NMSA 13-1-120.

(g) The information required by Form A-585 DBE A-1 and form A-585B DBE A-2 must be complete and accurate in every detail and in final form at the time it is submitted to the NMDOT for approval. This form will be evaluated prior to the award of the contract. Failure to submit either document in proper form and accuracy will render the bid or proposal non-responsive. All bidders or offerors are required to list on Form A-585 DBE A-1 or Form A-585B-DBE A-2, the following information:

(1) The names of DBE subcontractors/subconsultants and suppliers that will participate in the contract;

(2) A description of the work that each DBE will perform;

(3) The dollar amount of the participation of each DBE firm listed; and

(4) Written documentation of the bidder's or offeror's commitment to use a DBE subcontractor/subconsultant/supplier whose participation it submits to meet the DBE contract goal;

(5) If the contract goal is not met, evidence of good faith efforts must be documented and submitted with appropriate Form A-585- DBE A-1 or Form A-585B A-2.

Good Faith Efforts (GFEs):

Good Faith Efforts. When race conscious measures are used and a project goal is established NMDOT will consider the quality, quantity, and intensity of the different kinds of efforts that the contractor or bidder or offeror has made. The efforts employed by the contractor or bidder or offeror should be those that one could reasonably expect a contractor or a bidder or offeror to make if they were actively and aggressively trying to obtain DBE participation sufficient to meet the DBE contract goal. Mere pro forma efforts are not good faith efforts to meet the DBE contract requirements. On the other hand, NMDOT will count bona fide good faith effort making a determination to award a contract.

The following is a list of types of actions, which the NMDOT will consider as part of the bidder's or offeror's good faith efforts to obtain DBE participation. This list is not intended to be a mandatory checklist, nor is it intended to be exclusive or exhaustive, as other factors or types of efforts may be relevant in appropriate cases. This demonstration should include, but not be limited to, the following:

(a) Soliciting through all reasonable and available means (e.g. attendance at pre-bid, pre-proposal meetings, advertising and/or written notices) the interest of all certified DBEs who have the capability to perform the work of the contract The bidder or offeror must solicit this interest within sufficient time to allow DBEs to respond to the solicitation. The bidder or offeror must determine with certainty if the DBEs are interested by taking appropriate steps to follow up initial solicitations.

(b) Selecting portions of the work to be performed by DBEs in order to increase the likelihood that the DBE goals will be achieved. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate DBE participation, even when the prime contractor or prime consultant might otherwise prefer to perform these work items with its own forces.

(c) Providing interested DBEs with adequate information about the construction plans, construction specifications, design scope of work and requirements of the contract in a timely manner to assist them in responding to a solicitation.

(d) Negotiating in good faith with interested DBEs. It is the bidder's or offerors's responsibility to make a portion of the work available to DBE subcontractors, subconsultants and suppliers and to select those portions of the work or material needs consistent with the available DBE subcontractors, subconsultants and suppliers, so as to facilitate DBE participation. Evidence of such negotiation includes the names, addresses and telephone numbers of DBEs that were considered, a description of the information provided regarding the construction plans and specifications for the work selected for subcontracting or requirements and design scope of work of the RFP and subconsulting; and evidence as to why additional agreements could not be reached for DBEs to perform the work. A bidder or offeror using good business judgment would consider a number of factors in negotiating with subcontractors including DBE subcontractors, and would take a firm's price and capabilities as well as contract goals into consideration. However, the fact that there may be some additional costs involved in finding and using DBEs is not in itself sufficient reason for a bidder's or offerors's failure to meet the contract DBE goal, as long as such costs are reasonable. Also, the ability or desire of the prime contractor or consultant to perform the work of a contract with its own organization does not relieve the bidder or offeror of the responsibility to make good faith efforts. Prime contractors are not, however, required to accept higher quotes from DBEs if the price difference is excessive or unreasonable. Excessive or unreasonable will be deemed 10% or more than any bid received for that item of work by a non DBE. Prime consultants will evaluate subconsultants on quality of submittal of subconsultant services. Prime consultants are not required to accept subconsultants offers of lower quality with respect to other subcounsultants offers.

(e) Prime contractors and consultants will not reject DBEs as being unqualified without sound reasons which will be based on a thorough investigation of their capabilities. The contractor's or consultant's standing within its industry, membership in specific groups, organizations, or associations and political or social affiliations (for example union vs. non-union employee status) are not legitimate causes for the rejection or non-solicitation of bids or proposals in the contractor's or design consultant's efforts to meet the project goal.

(f) Making efforts to assist interested DBEs in obtaining bonding, lines of credit, or insurance as required by the recipient, contractor or consultant.

(g) Making efforts to assist interested DBEs in obtaining necessary equipment, supplies, materials, or related assistance or services.

(h) Effectively using the services of available minority/women community organizations; minority/women contractor's groups; local, state, and Federal minority/women business

assistance offices; and other organizations as allowed on a case-by-case basis to provide assistance in the recruitment and placement of DBEs.

In determining whether a bidder or offeror has made good faith efforts, the NMDOT may take into account the performance of other bidders or offerors in meeting the contract. For example, when the apparent successful bidder or offeror fails to meet the contract goal, but others meet it, the NMDOT may reasonably raise the question of whether with additional reasonable efforts; the apparent successful bidder or offeror could have met the goal. If the apparent successful bidder or offeror fails to meet the goal, but meets or exceeds the average DBE participation obtained by other bidders or offerors, the NMDOT may view this, in conjunction with other factors, as evidence of the apparent successful bidder or offeror having made good faith efforts.

If the NMDOT determines that the contractor or bidder or offeror has failed to meet the requirements outlined in paragraph 20.3.1, the NMDOT will, provide the contractor or bidder or offeror the opportunity for administrative reconsideration before awarding the contract or proposal. As part of this reconsideration, the following guidelines apply:

(a) The contractor or bidder or offeror will have the opportunity to provide written documentation or argument concerning the issue of whether the bidder or offeror met the DBE contract goal or made adequate good faith efforts to do so.

(b) The NMDOT's decision on reconsideration will be made by an official who did not take part in the original determination that the bidder or offeror failed to meet the DBE contract goal or make adequate good faith efforts to do so.

(c) The contractor or bidder or offeror will have the opportunity to meet in person with the NMDOT's reconsideration official to discuss the issue of whether it met the DBE contract goal or made adequate good faith efforts to do so.

(d) The NMDOT will send a written decision on the reconsideration, explaining the basis for finding that the contractor or bidder or offeror did or did not meet the DBE contract goal or make adequate good faith efforts to do so.

(e) The result of this reconsideration process is not administratively appealable to the USDOT.

If the NMDOT lets a master contract for "design-build" or "turnkey" contract or similar legally binding instrument, to a contractor or consultant, who in turn lets subsequent subcontracts for the work of the project, the NMDOT may establish a DBE contract goal for the project. The master contractor or consultant then establishes DBE contract goals, as appropriate, for the subcontracts it lets. The NMDOT will maintain oversight of the master contractor's or consultant's activities to ensure that they are conducted consistent with the requirements of the NMDOT's DBE Program and 49 CFR Parts 23 (as amended) and 26.

The NMDOT requires that the successful bidder or offeror, or subsequently the prime contractor or consultant, not terminate for convenience a DBE subcontractor or subconsultant listed in Form A-585A DBE A-1, or A-585B DBE A-2 or an approved substitute DBE firm, and then perform the work of the terminated subcontract with its own forces or those of an affiliate, without the NMDOT's prior written consent See the Termination / Substitution / Replacement of Listed DBE Firms for projects having Race conscious Measures in paragraph 27 of this

program.

(a) When a DBE subcontractor or subconsultant is terminated, or fails to complete its work on the contract for any reason, the NMDOT will require the prime contractor to make good faith efforts to find another DBE subcontractor or subconsultant to substitute for the original DBE. These good faith efforts will be directed at finding another DBE to perform at least the same amount of work under the contract as the DBE that was terminated, to the extent needed to meet the contract goal established.

(b) The NMDOT will apply the requirements of this section to DBE contractors or bidders or offerors for prime contracts. In determining whether a DBE contractor or bidder or offeror for a prime contract has met a contract goal, NMDOT will count the work the DBE has committed to performing with its own forces as well as the work that it has committed to be performed by DBE subcontractors and DBE suppliers.

Counting DBE Participation Toward Goals:

When a DBE participates in a contract, only the value of the work actually performed by the DBE will be credited towards DBE project goals.

The entire amount of the portion of a construction contract or design or other consultant contract that is performed by the DBE's own forces will be credited. Included are the cost of supplies and materials obtained by the DBE for the work of the contract, including supplies purchased or equipment leased by the DBE (except supplies and equipment the DBE subcontractor or subconsultant purchases or leases from the prime contractor or its affiliate).

Credit will be allowed for the entire amount of fees or commissions charged by a DBE firm for providing a bona fide service, such as professional, technical, consultant, or managerial services or for providing bonds or insurance specifically required for the performance of a USDOT-assisted contract. Credit will be allowed for fees considered reasonable and not excessive as compared with fees customarily allowed for similar services.

When a DBE subcontracts part of the work of its contract to another firm, the value of the subcontracted work may be counted only if the DBEs subcontractor or subconsultant is itself a DBE. Work that a DBE subcontracts to a non-DBE firm does not count toward meeting the DBE project goal.

When a DBE performs as a participant in a joint venture, credit for a portion of the total dollar value of the contract equal to the distinct, clearly defined portion of the work of the contract that the DBE performs with its own forces will be allowed.

Credit to a DBE contractor will be allowed only if the DBE is performing a commercially useful function on the contract.

A DBE performs a commercially useful function when it is responsible for execution of the work of the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. To perform a commercially useful function, the DBE must also be responsible, with respect to materials and supplies used on the contract, for negotiating price, determining quality and quantity, ordering the material and installing (where applicable) and paying for the material itself. To determine whether a DBE is performing a commercially useful

function, an evaluation will be made of the amount of work subcontracted, industry practices, whether the amount the firm is to be paid under the contract is commensurate with the work it is actually performing and the DBE credit claimed for its performance of the work and other relevant factors.

A DBE does not perform a commercially useful function if its role is limited to that of an extra participant in a transaction, contract, or project through which funds are passed in order to obtain the appearance of DBE participation. In determining whether a DBE is such an extra participant, an examination of similar transactions, particularly those in which DBEs do not participate will be performed.

If a DBE construction contractor does not perform or exercise responsibility for at least the percentage determined in the NMDOT's Standard Specifications for Highway and Bridge Construction of the total cost of its contract with its own forces, or the DBE subcontracts a greater portion of the work of a contract than would be expected on the basis of normal industry practice for the type of work involved, it will be presumed that the DBE is not performing a commercially useful function.

If a DBE design consultant or other consultant does not perform or exercise responsibility for at least 30% of the total cost of it's contract with its own forces, or the DBE subcontracts a greater portion of the work of a contract than would be expected on the basis of normal industry practice for the type of work involved, it will be presumed that the DBE is not performing a commercially useful function.

When a DBE is presumed not to be performing a commercially useful function as provided above, the DBE may present evidence to rebut this presumption. It may be determined that the firm is performing a commercially useful function given the type of work involved and normal industry practices.

Decisions concerning commercially useful function matters are not administratively appealable to USDOT.

To determine whether a DBE trucking firm is performing a commercially useful function, the NMDOT will evaluate the amount of work subcontracted, industry practices and other relevant factors.

The DBE must be responsible for the management and supervision of the entire trucking operation for which it is responsible on a particular contract, and there cannot be a contrived arrangement for the purpose of counting DBE participation.

The DBE must itself own and operate at least one fully licensed, insured and operational truck used on the contract The DBE receives credit for the total value of the transportation services it provides on the contract using trucks it owns, insures and operates using drivers it employs.

The DBE may lease trucks from another DBE firm, including an owner-operator who is certified as a DBE. The DBE who leases trucks from another DBE receives credit for the total value of the transportation services the lessee DBE provides on the contract.

The DBE may also lease trucks from a non-DBE firm, including an owner-operator. The DBE who leases trucks from a non-DBE is entitled to credit only for the fee or commission it receives

as a result of the lease arrangement. The DBE does not receive credit for the total value of the transportation services provided by the lessee, since these services are not provided by a DBE.

A lease arrangement or agreement will indicate that the DBE has exclusive use of and control over the truck. This does not preclude the leased truck from working for others during the term of the lease with the consent of the DBE, so long as the lease gives the DBE absolute priority for use of the leased truck. Leased trucks will display the name and identification number of the DBE.

Prior to beginning work on a contract, the DBE must submit valid lease agreements to the NMDOT on leased trucks and written agreements with owner/operators. Whether the agreement is with an owner/operator or trucks hired from a trucking firm, the agreement must include the:

(a) Operator's Name;

(b) Social Security number;

(c) Federal Identification Number (FIN);

(d) Cab Card Number of the Truck;

(e) Description of the Truck and the Method of Payment

Credit for DBE Truck Owner/Operators:

An Owner/Operator must own one (1) fully operational truck and operate it himself/herself for hire. The individual must possess a Commercial Driver's License and the truck must have a warrant certificate to run for hire. If required, the firm must have the appropriate operating license and insurance. The individual must be an independent owner/operator and cannot be in an employee/employer relationship with a prime contractor.

Owner/Operator trucks may be utilized by the prime contractor to meet a DBE goal and must be covered by a fully executed written agreement.

For each owner/operator to be credited, the contractor or subcontractor must submit to the NMDOT an agreement that includes or has attached the following information:

(a) Operator or Owner/operator's name;

(b) Social Security Number;

(c) Copy of Vehicle registration receipts;

(d) Current Vehicle license numbers;

(e) Truck Numbers;

(f) Method of payment (hour, ton, load).

The prime contractor may count towards its DBE participation; the total dollar value paid to an owner/operator for the haul. Payments to owner/operators must be certified to by the prime contractor prior to finalizing the project or as work progresses, as required by the NMDOT. If required, the owner/operators must be shown on the prime contractor's certified payroll.

Termination/Substitution/Replacement of DBE Firms for Projects Having Race-Conscious Measures:

The NMDOT requires that the prime contractor or consultant not terminate for convenience a DBE subcontractor or subconsultant or an approved substitute DBE firm, and then perform the work of the terminated subcontract with its own forces or those of an affiliate, without a justification letter written to the NMDOT.

If a DBE subcontractor or subconsultant is terminated, or the DBE firm fails to complete its work on the contract for any reason, the NMDOT requires the prime contractor or consultant to make good faith efforts to find another certified DBE subcontractor or subconsultant to substitute for the original DBE firm. These good faith efforts will be documented and directed at finding another certified DBE to perform at least the same amount of work under the contract as the DBE that was terminated, to the extent needed to count DBE participation.

If a DBE subcontractor or subconsultant is unwilling or unable to perform the work to meet the established goal for the prime contractor or consultant, the prime contractor or consultant will immediately notify the NMDOT's appropriate project manager in writing, and request to be relieved of meeting the established goal with the named DBE. The prime contractor or consultant Department will include with this request a justification and the efforts made to deal with the named DBE.

If the prime contractor's or consultant's request to be relieved is approved by the NMDOT, and a DBE contract goal shortfall exists, the prime contractor or consultant will immediately attempt to obtain sufficient DBE participation by subcontracting or subconsulting with other certified DBEs.

If the prime contractor or consultant is unable to replace the DBE with another or other certified DBE firms, the prime contractor or consultant will evaluate the remaining items of work and will document and submit the good faith efforts made to subcontract or subconsultant work with certified DBEs or to purchase materials or supplies from certified DBE suppliers for such remaining items. The NMDOT may allow a DBE contract goal waiver, adjust the DBE goal in accordance submitted and accepted good faith efforts, or assess construction contract liquidated damages or design contract liquidated damages as may be appropriate, depending on the individual project's overall circumstances.

Prompt Payment Mechanism to Subcontractors:

To ensure that all obligations under contracts awarded to DBEs are met, the NMDOT will review the construction contractor's or design consultant's and other consultant's DBE involvement efforts during the performance of the contract. Prime contractors or design consultants and other consultants will pay all subcontractors or subconsultants their respective subcontract amount by electronic transfer, if available, for NMDOT undisputed acceptable work within ten

(10) calendar days after the contractor or consultant receives payment for such work from the NMDOT. The construction contractor will be required to submit information as provided for in the supporting software system by indicating when payments made to DBEs and non-DBEs within ten (10) calendar days after the contractor receives payment for such work. A prime contractor, design consultant or other consultant will be required to fully document any alleged disputes with its subcontractors or subconsultants. The prime contractor, design consultant, or other consultant will ensure that all situations in which regularly scheduled payments are not made to subcontractors or subconsultants are reported to the NMDOT. If the prime contractor, design consultant, or other consultant is found to be in violation or fails to abide by the prompt payment mechanisms, the NMDOT will impose sanctions as stated under paragraph 30 Compliance Procedures. The prime contractor, design consultant, or other consultant will further be required to release retain age payments to the subcontractors or subconsultants within thirty (30) calendar days of satisfactory completion of the entire subcontractor's or sub consultant's work and final payment of such work by the NMDOT.

Record Keeping Requirements:

The prime contractor or consultant will keep such records as necessary to ensure compliance with its DBE utilization obligations.

As requested, the prime contractor or consultant will submit all subcontracts and other financial transaction documentation executed with DBEs in such form, manner and content as prescribed by the NMDOT.

All such records must be retained by the prime contractor or consultant for at least three (3) years after project acceptance by the FHWA following the completion of the contract. These records will be available for inspection by the NMDOT, the FHWA, the USDOT or other appropriately sanctioned New Mexico State Agencies or Federal Agencies or Departments.

The prime contractor's or design consultant's or other consultant's DBE liaison officer or designee will be responsible for ensuring DBE's complete Form A-644, Disadvantage Business Enterprise (DBE) Participation, and submit the form to the NMDOT, OEOP.

The NMDOT will conduct at a minimum an annual audit on selected construction and consultant projects to verify actual participation reported on Form A-644 Disadvantage Business Enterprise (DBE) Participation.

The NMDOT will maintain, provide data and monitor DBE participation through the following:

Any information related to the operation of NMDOT's DBE Program as directed by USDOT administration.

NMDOT will create and maintain a Participating Contractor or Consultant Annual Profile Registration list consisting of all firms bidding on prime construction and prime consultant design contracts and bidding on quoting as subcontractors and subconsultants, suppliers on USDOT-assisted projects. For every firm, the following information will be annually collected and maintained:

(a) Firm's name

(b) Firm's address (including phone, fax and e-mail)

(c) Race/Gender

(f) Firm's status as a DBE or non-DBE

(g) Age of firm

(h) The annual gross receipts of firm

(i) Primary NAICS Codes

(j) Secondary NAICS Codes

A Notice to Construction Contractors Bidders List of Quoter's and Design or Other Consultant Offeror's List of Quoters will be one method used in determining the availability of DBE and non-DBE firms; and therefore the relative availability of ready, willing and able DBEs, for the purpose of establishing and monitoring the NMDOT's state goal.

The NMDOT will require all construction bidders to submit Form BL-DBE-Bidders List of Quoters at the bid letting. Failure to submit this form will render the bidder non-responsive.

The NMDOT will require all design or other consultant offeror's to submit the Design or Other Consultant Offeror's List of Quoters Form. No A-1013 at the time of submittal of the offeror or other consultant proposal. Failure to submit this form will render the offeror's or other consultant's proposal non-responsive.

Compliance Procedures:

Whenever the NMDOT believes the construction contractor, design consultant or other consultant, or any subcontractor or supplier on a USDOT-assisted contract may not be operating in compliance with the terms, conditions or requirements of this DBE Program, including but not limited to, encouraging fronting, brokering or the circumstance of a DBE not performing a commercially useful function as defined, the NMDOT will conduct an investigation. If it is found that the construction contractor, design consultant or other consultant, any subcontractor or supplier is not in compliance with the DBE Program, the non-compliant party will be notified in writing by the NMDOT. A compliance conference to discuss the area(s) of non-compliance may be held between the NMDOT and the non-compliant party or parties. In the event that the non-compliant party or parties fails or refuses to perform in compliance with the DBE Program or these Selected DBE Program Provisions, a "Notice of Non-Compliance" will be transmitted. If the non-compliant parry or parties corrects the deficiencies, the "Notice of Non-Compliance" will be rescinded and the party or parties will be notified as to compliance. If the deficiencies are not corrected, the NMDOT will initiate administrative action against the non-compliant party or parties, which may include but not be limited to;

(a) Termination of the contract.

(b) For construction, withholding an appropriate percentage of partial payments pursuant to Section 109 of the Standard Specifications for Highway and Bridge Construction. This appropriate percentage may be the amount of any proposed monetary sanction.

(c) Initiation of appropriate debarment or decertification proceedings.

(d) Referral of any unlawful actions to the appropriate enforcement agencies.

(e) Other actions as appropriate, at the discretion of the NMDOT.

Recipient/Contractor Assurances:

Each contract the NMDOT enters into with a construction contractor, design consultants, other consultants or recipient on a USDOT-assisted project will ensure that such contract and subcontracts Department will include the following assurance:

Recipient will not discriminate on the basis of race, color, national origin, or sex in the award and performance of any DOT assisted contract or in the administration of its DBE Program or the requirements of 49 CFR part 26. The NMDOT will take all necessary and reasonable steps under 49 CFR part 26 to ensure nondiscrimination in the award and the administration of DOT assisted contracts. The NMDOTs DBE Program, as required by 49 CFR Part 26 and as approved by DOT, is incorporated by reference in this agreement Implementation of this program a legal obligation and failure to carry out its terms will be treated as a violation of this agreement. Upon notification to the recipient of its failure to carry out its approved program, the USDOT may impose sanctions as provided for under part 26 and may, in appropriate cases, refer the matter for enforcement under 18 U.S.C. 1001 and/or the Program Fraud Civil Remedies Act of 1986 (31 U.S.C. 3801 et seq.).

The contractor/sub recipient or subcontractor will not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor will carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as recipient deems appropriate.

NOTICE TO CONTRACTORS

Incorporated in this contract are three Special Provisions on Equal Employment Opportunity designated as PR-1273 Supplements. These are: (1) Specific Equal Employment Opportunity Responsibilities (23 USC 140); (2) Notice of Requirements for Affirmative Action to Ensure Equal Employment Opportunity (Executive Order 11246); and (3) Standard Federal Equal Employment Opportunity Construction Contract Specifications (Executive Order 11246). This notice is to clarify the responsibilities for review of compliance and enforcement for these separate special provision requirements.

The first of the special provisions cited above covers the requirements for the equal employment opportunity program under Title 23 for which the New Mexico Department of Transportation (NMDOT) is responsible. The NMDOT performs the necessary compliance review and enforcement of this special provision which is applicable to all contractors holding Federal-Aid highway contracts.

The latter two special provisions are for the specific equal opportunity requirements for Executive Order 11246 which is the sole responsibility of the Office of Federal Contract Compliance Program (OFCCP), Department of Labor. Review and enforcement under these special provisions is performed by OFCCP.

OFCCP has, under Paragraph 8 of the Standard Federal Equal Employment Opportunity Construction Contract Specifications (Executive Order 11246) recognized the Associated Contractors of New Mexico's Heavy Highway Affirmative Action Plan as meeting the provisions of that special provision and special provision (2) cited above. With this recognition, those contractors signatory to the ACNM Plan have been waived from individual review of OFCCP. However, OFCCP retains the right to review any such contractors whenever circumstances warrant. Also, contractor's non-signatory to the ACNM Plan are subject to OFCCP review under EO 11246.

FHWA-1273 -- Revised May 1, 2012

REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of $10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding $10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under

this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are

applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurance Required by 49 CFR 26.13(b):

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor

will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of $10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding $2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH–1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b.(1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or

will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b.(1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g. , the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH–347 is available for this purpose from the Wage and Hour Division Web site at http://www.dol.gov/esa/whd/forms/wh347instr.htm or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH–347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility.

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

3. Withholding for unpaid wages and liquidated damages. The FHWA or the contacting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
(2) the prime contractor remains responsible for the quality of the work of the leased employees;
(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.
2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost $25,000 or more – as defined in 2 CFR Parts 180 and 1200.

1. **Instructions for Certification – First Tier Participants:**

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (https://www.epls.gov/), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. **Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost $25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (https://www.epls.gov/), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the

department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed $100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such recipients shall certify and disclose accordingly.

ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS ROAD CONTRACTS

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

SPECIAL PROVISION

SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140)

1. GENERAL

a. Equal employment opportunity requirements not to discriminate and to take affirmative action to assure equal employment opportunity as required by Executive Order 11246 and Executive Order 11375 are set forth in Required Contract Provisions (Form PR-1273 and Supplements) and these Special Provisions which are imposed pursuant to Section 140 of Title 23, U.S.C., as established by Section 22 of the Federal-Aid Highway Act of 1968. The requirements set forth in these Special Provisions shall constitute the specific affirmative action requirements for project activities under this contract and supplement the equal employment opportunity requirements set forth in the Required Contract Provisions. The initial measure of the Contractor's good faith efforts to comply with these Special Provisions shall be its efforts to meet the goals set forth in the "Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity (Executive Order 11246)" for minority and female participation expressed in percentage terms for the Contractor's work force in each trade on this project.

b. The contractor will work with the New Mexico Department of Transportation and the Federal Government in carrying out equal employment opportunity obligations and in their review of his/her activities under the contract.

c. The contractor and all his/her subcontractors holding subcontracts not including material suppliers, of $10,000 or more, will comply with the following minimum specific requirement activities of equal employment opportunity: (The equal employment opportunity requirements of Executive Order 11246, as set forth in Volume 6, Chapter 4, Section 1, Subsection 1 of the Federal-Aid Highway Program Manual, are applicable to material suppliers as well as contractors an subcontractors.) The contractor will include these requirements in every subcontract of $10,000 or more with such modification of language as is necessary to make them binding on the subcontractor.

2. Equal Employment Opportunity Policy

The contractor will accept as his operating policy the following statement which is designed to further the provision of equal employment opportunity to all persons without regard to their race, color, religion, sex, or national origin, and to promote the full realization of equal employment opportunity through a positive continuing program:

It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, or national origin. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, preapprenticeship, and/or on-the-job training.

3. **Equal Employment Opportunity Officer**

The contractor will designate and make known to the New Mexico Department of Transportation contracting officers an equal employment opportunity officer (hereinafter referred to as the EEO Officer) who will have the responsibility for and must be capable of effectively administering and promoting an active contractor program of equal employment opportunity and who must be assigned adequate authority and responsibility to do so.

4. **Dissemination of Policy**

a. All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's equal employment opportunity policy and contractual responsibilities to provide equal employment opportunity in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

1) Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's equal employment opportunity policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer or other knowledgeable company official.

2) All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer or other knowledgeable company official covering all major aspects of the contractor's equal employment opportunity obligations within thirty days following their reporting for duty with the contractor.

3) All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer or appropriate company official in the contractor's procedures for locating and hiring minority group employees.

b. In order to make the contractor's equal employment opportunity policy known to all employees, prospective employees and potential sources of employees, i.e., schools, employment agencies, labor unions (where appropriate), college placement officers, etc., the contractor will take the following actions:

1) Notices and posters setting forth the contractor's equal employment opportunity policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

2) The contractor's equal employment opportunity policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

5. Recruitment

a. When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be published in newspapers or other publications having a large circulation among minority groups in the area from which the project work force would normally be derived.

b. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employees referral sources likely to yield qualified minority group applicants, including, but not limited to, State employment agencies, schools, colleges and minority groups organizations. To meet this requirement, the contractor will, through his EEO Officer, identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority group applicants may be referred to the contractor for employment consideration.

In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, he is expected to observe the provisions of that agreement to the extent that the system permits the contractor's compliance with equal employment opportunity contract provisions. (The U.S. Department of Labor has held that where implementation of such agreements have the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Executive Order 11246, as amended).

c. The contractor will encourage his present employees to refer minority group applicants for employment by posting appropriate notices or bulletins in areas accessible to all such employees. In addition, information and procedures with regard to referring minority group applicants will be discussed with employees.

6. Personnel Actions

Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with his obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of his avenues of appeal.

7. **Training and Promotion**

a. The contractor will assist in locating, qualifying, and increasing the skills of minority group and women employees, and applicants for employment.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training. In the event the Training Special Provision is provided under this contract, this subparagraph will be superseded as indicated in Attachment 2.

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirement for each.

d. The contractor will periodically review the training and promotion potential of minority group and women employees and will encourage eligible employees to apply for such training and promotion.

8. **Unions**

If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use his/her best efforts to obtain the cooperation of such unions to increase opportunities for minority groups and women within the unions, and to effect referrals by such unions of minority and female employees. Actions by the contractor either directly or through a contractor's association acting as agent will include the procedures set forth below:

a. The contractor will use best efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minority group members and women for membership in the unions and increasing the skills of minority group employees and women so that they may qualify for higher paying employment.

b. The contractor will use best efforts to incorporate an equal employment opportunity clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, or national origin.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the New Mexico Department of Transportation and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of minority and women referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, or national origin, making full efforts to obtain qualified and/or qualifiable minority group persons and women. (The U.S. Department of Labor has held that it shall be no excuse that the union with which the contractor has a collective bargaining agreement providing for exclusive referral failed to refer minority employees.) In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the New Mexico Department of Transportation.

9. Subcontracting

a. The contractor's attention is called to the Special Provision on Minority Business Enterprise in Federal-Aid Highway Construction.

b. The contractor will use his best efforts to ensure subcontractor compliance with their equal employment opportunity obligations.

10. Records and Reports

a. The contractor will keep such records as are necessary to determine compliance with the contractor's equal employment opportunity obligations. The records kept by the contractor will be designed to indicate:

1) the number of minority and non-minority group members and women employed in each work classification on the project,

2) the progress and efforts being made in cooperation with unions to increase employment opportunities for minorities and women (applicable only to contractors who rely in whole or in part on unions as a source for their work force),

3) the progress and efforts being made in locating, hiring, training, qualifying, and upgrading minority and female employees, and

4) the progress and efforts being made in securing the services of minority group subcontractors or subcontractors with meaningful minority and female representation among their employees.

b. All such records must be retained for a period of 3 years following completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of the New Mexico Department of Transportation and the Federal Highway Administration.

c. The contractors will submit an annual report to the New Mexico Department of Transportation each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form PR 1391. If on-the-job training is being required by "Training Special Provisions", the contractor will be required to furnish form FHWA 1409.

Revised 6/27/06

STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS* (EXECUTIVE ORDER 11246)

1. As used in these specifications:

   a. "Covered area" means the geographical area described in the solicitation from which this contract resulted;

   b. "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority;

   c. "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941

   d. "Minority" includes:

      (i) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);

      (ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);

      (iii) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and

      (iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining indentifiable tribal affiliations through membership and participation or community identification).

2. Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of $10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.

3. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan.

Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors or Subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.

4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7 a though p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered Construction contractors performing construction work in geographical areas where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The Contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.

5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications. Executive Order 11246, or the regulations promulgated pursuant thereto.

6. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:

Standard EEO Specifications (6/27/06)

a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.

b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available, and maintain a record of the organization's responses.

c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefor, along with whatever additional actions the Contractor may have taken.

d. Provide immediate written notification to the Director when the union or unions with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority person or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.

e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The contractor shall provide notice of these programs to the sources complied under 7 b above.

f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with on-site supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the Contractor's EEO policy with other Contractors and Subcontractors with whom the Contractor does or anticipates doing business.

i. Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screenings procedures, and tests to be used in the selection process.

j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's workforce.

k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.

l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

m. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.

n. Ensure that all facilities and company activities are nonsegregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

p. Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7a through p). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through p of these Specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.

9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is underutilized).

10. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.

11. The Contractor shall not enter into any Subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.

12. The Contractor shall carry out such sanctions and penalties for violations of these specifications and of the Equal Opportunity Clause, including suspension, termination and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.

13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.

14. The Contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

Revised 10/27/83

NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY * (EXECUTIVE ORDER 11246)

1. The Offeror's or bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set for herein.

2. The goals and timetables for minority and female participation, expressed in percentage terms for the contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

   Goals for female participation in each trade:
   6.9%

   Goals for minority participation for each trade:
   38.3% - (SMSA Counties: Bernalillo and Sandoval)

   45.9% - (Non SMSA Counties: Catron; Colfax; De Baca; Guadalupe; Lincoln, Los Alamos; McKinley; Mora; Rio Arriba; San Juan; San Miguel; Santa Fe; Socorro; Taos; Torrance; Valencia and Cibola)

   49% - (Non SMSA Counties: Chaves; Dona Ana; Eddy; Grant; Hidalgo; Luna; Otero and Sierra)

   19.5% - (Non SMSA Counties: Lea and Roosevelt)

   11% - (Non SMSA Counties: Curry, Harding, Quay and Union)

   These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both its federally involved and non-federally involved construction.

   The Contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in a 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall

make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within 10 working days of award of any construction subcontract in excess of $10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address, and telephone number of the subcontractor; employer identification number; estimated dollar amount of the subcontract; estimated starting and completion date of the subcontract; and the geographical area in which the contract is to be performed.

4. As used in this Notice, and in the contract resulting from this solicitation, the "covered area" means the geographical area described in the solicitation from which this contract resulted.

*THIS NOTICE SHALL BE INCLUDED IN, AND SHALL BE A PART OF, ALL SOLICITATIONS FOR OFFERS AND BIDS ON ALL FEDERAL AND FEDERALLY ASSISTED CONTRUCTION CONTRACTS OR SUBCONTRACTS IN EXCESS OF $10,000 TO BE PERFORMED IN GEOGRAPHICAL AREAS DESIGNATED BY THE DIRECTOR OF OFCCP. EXECUTION OF THE CONTRACT BY THE SUCCESSFUL BIDDER AND ANY SUBSEQUENT SUBCONTRACTS WILL BE CONSIDERED THE CONTRACTOR'S AND SUBCONTRACTOR'S COMMITMENT TO THE EEO PROVISIONS CONTAINED IN THIS NOTICE.

NOTICE TO CONTRACTORS

March 7, 2014

Professional Services

Reference is made to New Mexico Department of Transportation's 2014 Edition of the Standard Specifications for Highway and Bridge Construction, Subsection 101.4 – Terms and Definitions. The following has been added to the definition for Professional Service:

A Professional Service provider is not considered a Subcontractor unless Work is performed within the Project limits.

A Professional Service provider shall be pre-qualified in accordance with NMAC 18.27.5 when utilized as a Subcontractor as indicated above.

NOTICE TO CONTRACTORS

Work Zone Safety and Mobility Rules
October 13, 2011

In accordance with 23 CFR 630 Subpart J-Work Zone Safety and Mobility, the following Memorandum establishes requirements to be implemented and provides guidance for systematically addressing the safety and mobility impacts of work zones, and developing strategies to help manage these impacts on highway projects.

New Mexico DEPARTMENT OF TRANSPORTATION

MEMORANDUM

To: All Contractors working on NMDOT and federally supported projects for NMDOT

From: Alvin Dominguez PE, Cabinet Secretary NMDOT

Date: June 6, 2011

RE: Work Zone safety and Mobility Rules

NMDOT's policy is to plan, design, construct and maintain highways while providing for the safe and efficient movement of all modes of transportation through or around a temporary traffic control zone and to ensure safety of the workers (both NMDOT and contractor). The goal of this policy is to promote a commitment to implement the requirements of the Work Zone Safety and Mobility Policy (23 CFR 630 Subpart J) by:

1. Providing safe work zones for workers and motorists.
2. Reducing the number of crashes and deaths in work zones
3. Improve training for all project staff involved in plan development and construction administration related to work zones
4. Improve work zone procedures over time by using knowledge and observations gained from past work zones.
5. Develop and implement Transportation Management (TMP's) for work zones.

In order for NMDOT to implement this policy, NMDOT is reaching out to all contractors to communicate our policy for "Federal Highway Administration 23 CFR Part 630 Work Zone Safety and Mobility Rule" NMDOT's policy is in the form of design directive to comply with the rules. They are as follows

1. IDD-2009-2 Work Zone Traffic Control

http://nmshtd.state.nm.us/upload/images/Contracts_Unit/IDD-2009-02.pdf

General Office P. O. Box 1149 Santa Fe, NM 87504

2. IDD-2009-05- Temporary Traffic Control Devices Rule- Subpart - K

http://nmshtd.state.nm.us/upload/images/Contracts_Unit/IDD-2009-05.pdf

Strict compliance to NMDOT/MUTCD policies is required by all contractors working on NMDOT and Local Government projects. In addition to compliance of NMDOT/MUTCD polices, all contractors shall adhere to Section 618 "Traffic Control Management", Section 702 "Construction Traffic Control Devices" of the NMDOT Standard Specifications and all applicable Section 700's of the Contract Special Provisions for all NMDOT projects.

As the result of our design directives several key points are emphasized:

- "Truth in signing" program and policy
- Quality of traffic control devices to follow NMDOT quality standards
- Training and certification for traffic control Design Specialists, technicians, and supervisors
- Proper documentation and maintenance of the traffic control diary
- Improve worker visibility
- Adherence to NMDOT policy for positive protection devices
- Proper installation and maintenance of temporary traffic control devices during construction
- Positive protective barriers between workers and the motorized traveling public
- Safe entry/exit for work vehicles and equipment
- Use of uniformed law enforcement

NMDOT recognizes the importance of working with our contractors to provide safe work zones for workers and the traveling public. It is imperative that all contractors working on NMDOT and Local Government Projects fully understand the Work Zone Safety and Mobility Policy (23 CFR 630 Subpart J) in order to provide safe work zones through their construction projects for the traveling public and workers.

Your cooperation to implement these rules is required.

Primary Points of Contact on Compliance at NMDOT are as follows:

- State Traffic Engineer (Design Standards & Policies, technical Support)
- District Traffic Engineers (Maintenance & Construction Operations Support, Data Analysis, Work Zone Implementation)
- State Construction Engineer (Construction Support)

NOTICE TO CONTRACTORS

June 23, 2011

NMDOT Office of Inspector General

New Mexico Department of Transportation/Office of Inspector General. As specified in New Mexico State Transportation Commission Policy Number 30 (CP-30), dated June 2006, the Department's Office of Inspector General (OIG) has the authority to carry out all duties required to collect information, conduct audits, special studies and investigations. The duties are the same as those specified in federal law: Office of Inspector General, 23 USC §302 (the capability to carry out the duties required by law); 23 USC §112 (contracting for engineering and design services); 23 USC §106 (project approval); 23 USC 112 - Sec. 112, (letting of contracts); 23 USC 113 - Sec. 113 (prevailing rate of wage); 23 USC 114 - Sec. 114 (construction); 23 CFR 635 & 23 CFR 636 (design build); 23 CFR 637 (construction inspection approval). The duties of the Department's OIG also arise from the responsibility all state Departments of Transportation have for ensuring that all federal-aid projects are carried out in accordance with federal requirements. This responsibility was specifically clarified in 23 U .S.C. 106, as amended by Section 1904(a) of the Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU, Public Law 109-59).

Notice to Contractors

November 8, 2010

Equal Employment Opportunity (EEO) Software Programs

Federal-aid Projects

The prime contractor and all subcontractors working on federal-aid projects shall use the following EEO Software Programs to report specific EEO, Labor Compliance and Disadvantaged Business Enterprise (DBE) information as required by the contract and as specified by the NMDOT's Office of Equal Opportunity Programs. The two software programs are:

- B2Gnow software
- LCPtracker software

B2Gnow – (Business to Government Now), is a web-based software program used to collect, verify and manage payment information for prime contractors and subcontractors working on federal-aid projects. Additionally, the software is used to collect and report DBE participation and utilization on federal-aid projects.

LCPtracker – (Labor Compliance Program Tracker) – LCPtracker is a web-based software program used to collect, verify and manage prevailing wage certified payrolls and related labor compliance documentation for prime contractors and subcontractors on federal-aid projects.

Use of B2Gnow and LCPtracker software programs is required and shall be considered incidental to the contract. Failure of a contractor or subcontractor to use the required software programs to report specific EEO, Labor Compliance and DBE information may result in NMDOT withholding future progress payments until such time as compliance with this requirement is achieved. Weekly submission of hard copy certified payrolls remains mandatory.

Information on access to the software programs, log-on information, use of the programs, available training, user manuals, etc. can be obtained by contacting:

New Mexico Department of Transportation
Office of Equal Opportunity Programs
1596 Pacheco Street, Suite 107
Santa Fe, NM 87505
(505) 827-1774 or Toll Free (800) 544-0936

NOTICE TO CONTRACTORS

February 7, 2008

New Mexico Employees Health Coverage

1. For all contracts solicited and awarded on or after January 1, 2008: If the offeror has, or grows to, six (6) or more employees who work, or who are expected to work, an average of at least 20 hours per week over a six (6) month period during the term of the contract, offeror must agree to:

(a) have in place, and agree to maintain for the term of the contract, health insurance for those employees and offer that health insurance to those employees no later than July 1, 2008 if the expected annual value in the aggregate of any and all contracts between Contractor and the State exceed one million dollars or;

(b) have in place, and agree to maintain for the term of the contract, health insurance for those employees and offer that health insurance to those employees no later than July 1, 2009 if the expected annual value in the aggregate of any and all contracts between Contractor and the State exceed $500,000 dollars or

(c) have in place, and agree to maintain for the term of the contract, health insurance for those employees and offer that health insurance to those employees no later than July 1, 2010 if the expected annual value in the aggregate of any and all contracts between Contractor and the State exceed $250,000 dollars.

2. Offeror must agree to maintain a record of the number of employees who have (a) accepted health insurance; (b) declined health insurance due to other health insurance coverage already in place; or (c) declined health insurance for other reasons. These records are subject to review and audit by a representative of the state.

3. Offeror must agree to advise all employees of the availability of State publicly financed health care coverage programs by providing each employee with, as a minimum, the following web site link to additional information: http://insurenewmexico.state.nm.us/.

4. For Indefinite Quantity, Indefinite Delivery contracts (price agreements without specific limitations on quantity and providing for an indeterminate number of orders to be placed against it); these requirements shall apply the first day of the second month after the offeror reports combined sales (from state and, if applicable, from local public bodies if from a state price agreement) of $250,000, $500,000 or $1,000,000.

For all contracts exceeding one million dollars, the Awarded Contractor will be required to provide a letter stating that they currently offer, or that they will offer by July 1, 2008, health insurance to its New Mexico employees.

For all contracts exceeding $500,000 dollars, the Awarded Contractor will be required to provide a letter stating that they currently offer, or that they will offer by July 1, 2009, health insurance to its New Mexico employees.

For all contracts exceeding $250,000, the Awarded Contractor will be required to provide a letter stating that they currently offer, or that they will offer by July 1, 2010, health insurance to its New Mexico employees.

NOTICE TO CONTRACTORS
August 10, 2012

Planholders

YOU ARE HEREBY ADVISED OF THE FOLLOWING:

Section 102.7 of the Standard Specifications mandates that bidders inspect and become familiar with the plans and specifications for the work in advance of bidding. In order for a bidder to verify that it has complied with this mandate it must seek and obtain from Wilson & Company . status as a "Planholder" for the project on which it intends to bid. To obtain such status, a bidder must do any one of the following: (1) Request a set of contract documents including the plans for the project on which the contractor anticipates bidding by calling 505-348-4000, or (2) Submit via fax (505-348-4072) written confirmation that the bidder has obtained a copy of the contract documents and plans from a source other than the Wilson & Company Under option (2), such written confirmation by fax must be received by the Wilson & Company. no later than 72 hours preceding the bid opening. Failure of a bidder to seek status as a "Planholder" in one of the two ways identified herein will render its bids non-responsive and its bid shall be rejected.

August 26, 2005

NEW MEXICO DEPARTMENT OF TRANSPORTATION

NOTICE TO CONTRACTORS

SUBCONTRACTOR PAYMENT AND PERFORMANCE BONDS

YOU ARE HEREBY ADVISED OF THE FOLLOWING:

Senate Bill 814, passed during the New Mexico 47th Legislature, requires a payment and performance bond for all subcontractors with contracts of $50,000 or more on a public works building project. The New Mexico Department of Transportation interprets this provision to mean that such bonds are required for public works projects or portions thereof involving construction of "buildings" or similar habitable structures, not highway or bridge construction. Accordingly, please be advised that SB 814 shall not apply to this project.

NOTICE TO CONTRACTORS

December 9, 2005

Environmental and Archaeological Approvals for Pit Areas

The NMDOT, in consultation with the State Historic Preservation Officer (SHPO) has determined that any pit activity, excluding commercial pits, requires formal tribal consultation. This includes any additional pit clearances during construction, and may extend the approval time beyond 30 days if concerns are expressed by the affected tribes. Contact the NMDOT Environmental Section at (505)827-5224 for a list of relevant tribes.

Therefore, it is highly recommended that comprehensive environmental and archaeological approvals be obtained for any potential pit areas as early as possible.

If additional time beyond 30 days is required for environmental or archaeological approval and the Contractor's critical path is affected, the Contract time will be extended for that additional time. However, no payment of additional monetary compensation due to this delay will be considered.

NOTICE TO CONTRACTORS

22-July-2003

YOU ARE HEREBY ADVISED OF THE FOLLOWING:

The official name for the Department has been changed to **New Mexico Department Of Transportation**. Henceforth, all Special Provisions, drawings and construction documents shall apply to the revised name.

NOTICE TO CONTRACTORS

Borrow and Surfacing Status

August 15, 2007

Borrow and surfacing material may be obtained from any acceptable source where the materials conform to requirements indicated on the Plans and/or Specifications.

The New Mexico Department of Transportation is under no obligation to purchase excess stockpiled material from the Contractor that is not required for the completion of the project.

This project may be eligible for free use materials in accordance with 23 CFR 710.601 Federal Land Transfer. In order to accommodate the Federal Land Transfer, should the Contractor elect to pursue the free use material source(s), the Contractor shall contact the Department (Mary Pacheco at 505-827-3763) as soon as they have been identified as the Apparent Low Bidder. The Contractor shall be responsible for performing all necessary actions to achieve the Federal Land Transfer.

There is no assurance that a Federal Land Transfer will be granted.

A free use permit will **not** be considered valid to secure a federally funded NMDOT project. **Only** an FHWA/NMDOT approved Federal Land Transfer will be considered valid.

NOTICE TO CONTRACTORS

January 13, 1994

You are hereby advised that Form FHWA-1273, Required Contract Provisions - Federal Aid Construction Contracts is supplemented by the addition of the following:

"II. NONDISCRIMINATION

PREFERENCE EMPLOYMENT OF INDIAN TRIBES

Preference shall be given to members of the Indian Tribe in every aspect of employment including, without limitation of the foregoing, initial hiring, training, promotions, and in situations of termination and reductions in force.

This contract requirement is an expansion of the special provisions pertaining to the specific equal employment opportunity responsibilities for Contractors contained elsewhere in this contract and the provisions contained under FHWA-1273. It is the intent that preferential treatment will be given to Indians. The Contractor will be required to establish liaison for contact persons with local tribal employment offices. The tribal office will then assist contractors in providing Indians with skills and experience."

The above preferential clause will be interpreted to mean that the Contractor will be allowed to move in with his normal supervisory construction force and other specially experienced individuals. Indian preference in employment, training and promotions will be in effect for all other positions or classifications provided there are Indians available who can do the work required. Verification of the availability will be made with the local tribal office.

In addition to the Special Provision for submission of weekly payrolls, all contractors and subcontractors shall be required to submit one (1) additional certified copy of the project weekly payrolls to the state's project manager.

This Notice to Contractors will be deemed as supplemental to and not in conflict with 41 CFR 60-1.5(a)(6) which provides as follows.

"(6) Work on or near Indian Reservations---It shall not be a violation of the equal opportunity clause for a construction or nonconstruction contractor to extend a publicly announced preference in employment to Indians living on or near an Indian reservation in connection with employment opportunities on or near an Indian reservation. The use of the word "near" would include all that area where a person seeking employment could reasonably be expected to commute to and from in the course of a work day. Contractors or Subcontractors extending such a preference shall not, however, discriminate among Indians on the basis of religion, sex, or tribal affiliation, and the use of such a preference shall not excuse a contractor from complying with the other requirements contained in this chapter. (Subsection 6, as added, effective February 17, 1977)."

NOTICE TO CONTRACTORS

April 26, 1988

In submitting their Bid Bond, it is not mandatory that Contractors use Bid Bond form No. A-100. The Department strongly encourages all Contractors to use this form, but if the Contractor elects not to use it, the Bid Bond must be submitted on a form acceptable in the construction industry.

NOTICE TO CONTRACTORS

September 14, 1994

To report bid rigging activities call:

1-800-424-9071

The U.S. Department of Transportation (DOT) operates the above toll-free "Hotline" Monday through Friday, 8:00 A.M. to 5:00 P.M., eastern time. Anyone with knowledge of possible bid rigging, bidder collusion, or other fraudulent activities should use the "Hotline" to report such activities.

The "Hotline" is part of the DOT's continuing effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the DOT Inspector General. All information will be treated confidentially and caller anonymity will be respected.

NOTICE TO CONTRACTORS
LABOR REPORTING AND SUBMISSION OF WEEKLY PAYROLLS
June 1, 2012

The New Mexico Department of Workforce Solutions (DWS) mandates tracking construction project weekly payrolls and the process by which this reporting is accomplished by the Contractor. Knowledge of the DWS rules and procedures is attributed to the Contractor prior to its bid submission. The latest forms posted in the DWS website, http://www.dws.state.nm.us, must be used for submittals. All outdated forms submitted will be rejected and the contractor/subcontractors will be required to resubmit the current DWS forms.

NMDOT shall send the DWS "Notification of Award" (NOA), "Subcontractor List", "Statement of Intent to Pay Prevailing Wages" and "Affidavit of Wages Paid" forms to the Contractor together with the Preliminary Notice of Award. Additionally, the "Statement of Intent" form, "Affidavit of Wages Paid" form, and instructions are available directly from DWS.

Before any work starts, the Contractor shall fully and properly complete the DWS NOA and "Subcontractor List" forms. The Contractor shall submit the NOA and "Subcontractor List" forms to the Project Manager at the pre-construction conference. Failure to do so may delay the start of the Project. The Project Manager shall sign the NOA and fax or mail both the NOA and "Subcontractor List" forms to the DWS Public Works Bureau. The Project Manager shall place a copy of both the NOA and "Subcontractor List" forms in the Project EEO files and shall forward a copy of both to the NMDOT Office of Equal Opportunity Programs (OEOP), the District Engineer (for District Files) and the Prime Contractor.

The Contractor and each Subcontractor (at all tiers) shall complete one (1) original DWS "Statement of Intent to Pay Prevailing Wages" form and shall submit it to and obtain approval of it from DWS prior to starting any work on the job site. Three (3) copies of the approved form shall be submitted to the Project Manager at the pre-construction conference for the Contractor and each known Subcontractor. The Project Manager will place one of the copies of the "Statement of Intent to Pay Prevailing Wages" in the EEO section of the Project files and will forward the other copies to OEOP and the District Engineer. The Project Manager will ensure that the Contractor includes copies with each Subcontract submitted for approval. For subcontracts established later on in the Project, the DWS approved "Statement of Intent to Pay Prevailing Wages" form shall be submitted with the NMDOT "Request for Permission to Subcontract" forms. No subcontracts shall be approved without the submittal of the approved "Statement of Intent to Pay Prevailing Wages" forms along with the "Request for Permission to Subcontract" forms.

Once construction begins, the Contractor and all Subcontractors shall submit weekly payroll information as follows:

- On Federally funded and Federal-aid projects, the Contractor and all Subcontractors shall submit weekly payroll information into the LCPtracker software program.
- On 100% State funded projects, the Contractor and all Subcontractors shall submit one (1) certified hard copy of the Project weekly payroll to the Project Manager's office. Utilization of LCPtracker is not available for 100% State funded projects.

All payrolls for the Project shall be submitted no later than five (5) working days following the close of the second payroll period. When payrolls are required by DWS, the Contractor shall be responsible for submitting certified copies of payrolls for the Prime Contractor and all Subcontractors.

Prior to release of the final pay estimate, the Contractor and each Subcontractor (at all tiers) shall complete one (1) original DWS "Affidavit of Wages Paid" form and shall submit it to and obtain approval of it from DWS. The Contractor shall then submit a copy of its and all its Subcontractors' approved "Affidavit of Wages Paid" forms to the Project Manager.

Each Contractor and Subcontractor shall preserve its weekly payroll records for a period of four (4) years from the date of completion of the contract.

On state funded projects, the Rules and Regulations under the New Mexico Public Works Minimum Wage Act are, by this reference, made a part of this Contract. On Federally-funded projects, these provisions hereby supplement Paragraph V, Part 2 of the Required Contract Provisions on all Federal Aid Construction Contracts, FHWA-1273.

NOTICE TO CONTRACTORS

APPRENTICES/TRAINEES
(Program of Department of Labor)

April 14, 2003

YOU ARE HEREBY ADVISED OF THE FOLLOWING:

Before using apprentices/trainees of this project, the Contractor shall present to the Contracting Officer written evidence of registration of such employees. All apprentices shall be properly indentured and in compliance under registered apprenticeship standards and written apprenticeship agreements. All trainees must be properly enrolled in a bona fide training program approved for application on construction projects by the appropriate state and/or federal agency(ies). Written evidence of apprenticeship registration from the U.S. Department of Labor, Bureau of Apprenticeship and Training, Bank of America Building, 500 4th St., N.W., Suite 401, Albuquerque, New Mexico 87102, Telephone No. (505) 245-2155 is required for apprentices. Certification from the registered program Administrator showing enrollment status of trainees is required for trainees. If the apprentice/trainee is not registered in a bona fide apprenticeship/training program as mentioned above, the journeyman's wage rate for that particular classification in which he/she is working is applicable.

NOTICE TO CONTRACTORS

REQUIRED CONTRACT PROVISIONS
TITLE VI - CIVIL RIGHTS ACT

July 28, 2006

YOU ARE HEREBY ADVISED OF THE FOLLOWING:

The New Mexico Department of Transportation in accordance with Title VI of the Civil Rights Act of 1964, 78 Stat. 252, 42 U.S.C. 2000d- 2000d-4 and Title 49, Code of Federal Regulations, Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Nondiscrimination in Federally-assisted programs of the Department of Transportation issued pursuant to such Act, hereby notified all bidders that it will affirmatively insure that in any contract entered into pursuant to this advertisement, minority and women business enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, sex, national origin or handicap in consideration for an award.

Reference is made to the Department's Title VI Plan, Appendix A and Title VI assurances.

For further information, contact the Office of Equal Opportunity Programs Bureau located at 1596 Pacheco St., Aspen Plaza Building, PO Box 1149, Santa Fe, New Mexico, 87504-1149, Telephone Number (505)827-1777.

NOTICE TO CONTRACTORS

April 6, 2009

HELP STOP FRAUD, WASTE & ABUSE

CALL

1-800-671-STOP
(1-800-671-7867)

The New Mexico Department of Transportation (NMDOT), Office of Inspector General (OIG), has established the above toll free "Hotline" which is in operation 7 days a week, 24 hours a day.

Anyone with knowledge of an instance of fraud, waste or abuse, or any similar illegal or unethical activity perpetrated by another contractor or employee, NMDOT employee, or other person, which may affect the cost, completion or correct and safe construction of any New Mexico highway project may use this number to report such activity.

The "Hotline" is part of the NMDOT'S continuing effort to ensure that once a project is completed the motoring public can be assured that they are traveling on a safe and sound roadway.

All information will be treated confidentially and caller anonymity will be respected.

The New Mexico Fraud Against Taxpayers Act:

The New Mexico Fraud Against Taxpayers Act, (44-9-12 NMSA 1978) has been in effect since July 1, 2007 and provides civil penalties for submitting a claim to a state agency based on false, fraudulent or misleading information. The Act also includes a financial incentive for parties with knowledge of such a claim to come forward.

NOTICE TO CONTRACTORS

November 17, 2003

Pursuant to Section 13-1-108 NMSA 1978 (1987 Cum. Supp.) you are hereby notified that all bids submitted are to exclude the applicable state gross receipts tax or applicable local option tax. The New Mexico Department of Transportation will pay the applicable tax including any increase in the applicable tax becoming effective after the date the contract is entered into. The applicable gross receipts tax or applicable local option tax will be shown as a separate amount on each billing or request for payment made under the contract.

NOTICE TO CONTRACTORS

AIR QUALITY PERMITS

November 8, 2011

YOU ARE HEREBY ADVISED OF THE FOLLOWING:
In accordance with 20 NMAC 2.72 of the Air Quality Control Regulations, an air Quality Permit is required for the operation of any asphalt plant or gravel crushing or screening facility prior to commencement of construction. In accordance with 20 NMAC 2.73, a Notice of Intent is required for the operation of a concrete batch plant. Permits and Notices of Intent are administered by the Environment Department's Air Pollution Control Bureau.

In accordance with 20 NMAC 20.41 of the Albuquerque / Bernalillo County Air Quality Control Board regulations, an air quality permit is required for the operation of any asphalt plant or gravel crushing or screening facility or concrete batch plant prior to commencement of construction when operating in Bernalillo County on non Tribal lands. In Bernalillo County, the air quality permits are administered by the City of Albuquerque / Bernalillo County Air Quality Program.

The Contractor is advised that in addition to the documentation required to execute the contract, as indicated on the Preliminary Notice of Award, a copy of the Air Quality Construction Permit or "Ruled Complete" letter or Notice of Intent letter from the Environment Department is also required. The Permit or Notice of Intent letter shall be for the operation of EACH type of plant to be used on the awarded project. This does not apply to relocation notices. Failure to submit the documentation within fifteen days after the Preliminary Notice of Award has been received by the Contractor shall be just cause for the cancellation of the award of contract and the forfeiture of the proposal guaranty which shall become the property of the Highway and Transportation department, not as a penalty, but in liquidation of damages sustained.

For information on Air quality construction permits and Notices of Intent, contact:

Ted Schooly
New Source Review Unit/Air Pollution Control Bureau
New Mexico Environment Department
1301 Siler Road Building B
Santa Fe, New Mexico 87505
Telephone: 505.476.4348

Isreal Tavarez
City of Albuquerque/Environmental Health Department
Air Quality Division
PO Box 1293
Albuquerque, New Mexico 87103
Telephone: 505.768.1972

NOTICE TO CONTRACTORS

November 26, 2013

Subcontractor Prompt Payment Provisions, Clarification of Good Cause and Prohibition of Cross-Project Offset

Pursuant to 49 CFR 26.29, as implemented by Section 108.1, paragraph 6 of the New Mexico Department of Transportation Standard Specifications and Notice to Contractors "Selected DBE(DBE) Program Provisions Disadvantaged Business Participation in USDOT Assisted Contracts, June 11, 2009, "Prompt Payment Mechanism to Subcontractors", Contractors SHALL pay Subcontractors and Suppliers for satisfactory performance of their contracts no later than seven (7) Days from receipt of each Progress Payment the Department makes to the Contractor. The Contractor SHALL ensure the Subcontractor or Supplier RECEIVES payment within the above-mentioned timeline.

A Subcontractor's or Supplier's work is satisfactorily completed when all the tasks called for in the subcontract have been accomplished, documented and Accepted by the Department. When the Department makes an incremental Acceptance of a portion of the Work, the Work of a Subcontractor or Supplier covered by that Acceptance is deemed to be satisfactorily completed, triggering the Contractor's obligation to promptly pay for that portion of the Work.

The Contractor has the burden of proving compliance with these prompt payment provisions and SHALL do so through its timely B2GNow reporting obligation. The Department may recognize supporting documentation of such payment in one or more of the following forms: (1) proof of the timely deposit of funds into the Subcontractor's or Supplier's bank account, (2) proof of hand delivery of timely payment to the Subcontractor or Supplier, or (3) proof of mailing payment to the Subcontractor or Supplier, postmarked no less than three (3) Days prior to the expiration of the seven (7) Day period.

The ONLY good cause recognized by the Department to excuse a payment beyond the timing set in Section 108.1, paragraph 6, is a claim concerning the Subcontractor's or Supplier's Work. Within a project, the Contractor may only withhold a Subcontractor's or Supplier's payment for Work undisputed and Accepted by the Department upon proof of a claim between the Contractor and Subcontractor for the work at issue. Such proof must be submitted in accordance with Contract provisions, including but not limited to the Notice to Contractors, "Selected DBE (DBE) Program Provisions Disadvantage Business Participation in USDOT Assisted Contracts". The Contractor has the burden of proof to support the Contractor's assertion of good cause and must submit verifiable explanation and proof of the claim between the parties to the Project Manager within the same timeframe for prompt payment, seven (7) Days.

The Contractor is further advised that due to recent federal (FHWA) interpretations of 49 C.F.R Part 26, concerning prompt payment obligations to Subcontractors and Suppliers,

the Department can no longer Accept cross-project offsets as "good cause" excusing untimely payment for undisputed Accepted Work. As a result, the Contractor's contract with Subcontractors or Suppliers shall NOT contain any provision that allows the Contractor to withhold payment from the Subcontractor or Supplier as a result of the Subcontractor's or Supplier's performance on separate contract(s). Any such provision will be without effect, and shall NOT provide good cause excusing a failure to make prompt payment in accordance with the Contract.

This Notice does not alter the sole discretion of the Office of Equal Opportunity Programs to make good cause determinations concerning Contractor prompt payment matters.

NOTICE TO CONTRACTORS

October 23, 2013

Cooperation With Utilities

This work shall be considered incidental to the completion of the project and no separate measurement or payment will be made.

Contractors shall comply with their legal obligation to follow all of the NM One-Call provisions Chapter 62 Article 14 NMSA 1978 - Excavation Law. Those provisions can be located at:

http://www.nmprc.state.nm.us/transportation/pipeline/docs/Excavator%20Manual%202013-Eng_Web.pdf.

Specific to those provisions are the requirements for an excavator to preserve line location markings or provide an offset mark before obliterating a locate mark. Also included in those provisions are restrictions on the appropriate use of emergency line locates. Specifically, an emergency is defined as an excavation that must be performed due to circumstances beyond the control of the excavator (UFO) and that affects public health, safety or welfare. Additionally, an emergency locate request should not be used to circumvent poor job planning or economic consequences. Abuse of emergency location requests is a violation of the excavation law and is subject to significant administrative fines.

If a Contractor's activities destroys, obliterates, covers or in any way alters utility markings put in place by the NMDOT (or by a third party on behalf of the NMDOT), the Contractor shall ensure that those line markings are reestablished before they begin or any Sub-Contractor to them (including tiered Sub-Contractors) begins work in the affected area. The Contractor shall either re-mark the utility alignments or provide offset markings to the utility alignment that clearly define the utility alignment. The Contractor shall both photo-document the utility markings in their construction area prior to disturbing those markings and photo-document the remarked utility alignment or the offset markings to ensure accuracy to the original markings. Photos will clearly identify distances and/or recognizable features needed to ensure re-marks or offset marks are accurate.

If, as a result of failure by the Contractor or Sub-Contractor to accurately reestablish previously placed line markings damage occurs to any NMDOT-owned utility infrastructure (including but not limited to electrical service lines, DSL lines, and fiber optics communication lines, associated conduits/pull boxes/manholes, pull tapes and locate wires), the Contractor shall be responsible for all associated repair costs. All damaged infrastructure will be repaired as an emergency repair (within 24-hours), and shall be in accordance with NMDOT standards and specifications. In addition, any delays associated with the project schedule as a result of repairing such damage shall be absorbed by the Contractor not by the project.

Because utility clearance is directly associated with the Contractor's project activities, costs to repair any damage to NMDOT-owned utilities from failing to comply with the provisions of NM One Call can, and if necessary will, be recovered from the Contractor's project performance bond. Recoverable expenses shall also include any costs incurred by the Department while performing emergency line locates resulting from the Contractor's request of such locates, if those requests are not consistent with the definition established by NM One-call provisions.

NOTICE TO CONTRACTORS

January 15, 2014

Department Supplied Electronic Data Files

The New Mexico Department of Transportation ("Department") will only provide electronic data files in the format and software version in which the files were produced and subject to the conditions set out in this Notice to Contractors. The Department will make available the following electronic data files for this Project:

A) Survey Data, in accordance with the New Mexico Department of Transportation's 2014 Edition of the Standard Specifications for Highway and Bridge Construction, Subsection 801.1.2 - Department Supplied Documents and Services:

1. Existing Computer Aided Design Drafting (CADD) Survey files;
2. Any Supplemental CADD Survey files; and,
3. Existing Digital Terrain Model files (DTM).

B) Design Files, subject to the terms and conditions below:

1. Centerline Alignment Files ("CAF"), including horizontal and vertical alignment files for all alignments referenced in the plans; and,
2. Portable Document Format (PDF) copies of the sealed plan set.

The electronic data provided in sub-section "B" is for information purposes only. **The data is furnished in "as is" condition without any warranty as to fitness for a particular use beyond information purposes. The requestor accepts all risks associated with the use of the data provided in sub-section "B" as modifications may have been made to the official hard copy Contract documents which do not appear in the electronic data files**. The Contractor is solely responsible for confirming, conforming and correlating the accuracy and completeness of the electronic data files to the official Contract documents.

This Notice to Contractors does not alter the definition of the Contract. In accordance with the New Mexico Department of Transportation's 2014 Edition of the Standard Specifications for Highway and Bridge Construction, Subsection 105.4 - Coordination of Contract Documents, the official Contract documents are exclusively the printed hard copy drawings, specifications, special provisions, notices, documents, and addenda issued for the project.

The electronic data referenced in sub-sections "A" and "B" will be available to the requestor on discs and will be available at the P.S&E. Bureau Office, NMDOT General Office, Room 223.

The provision of this electronic data files under this Notice to Contractors the Contractor's obligations found in the New Mexico Department of Transportation's 2014 Edition of the Standard Specifications for Highway and Bridge Construction, Subsection 102.7 - Examination of Contract, Plans, Specifications, Special Provisions, and Site of Work. Any omissions or errors found by the Contractor in the electronic data files should be immediately brought to the attention of the Department in accordance with Subsection 102.7.

NOTICE TO CONTRACTORS

January 15, 2014

Department Supplied Electronic Data Files

The New Mexico Department of Transportation ("Department") will not provide electronic data files in accordance the New Mexico Department of Transportation's 2014 Edition of the Standard Specifications for Highway and Bridge Construction, Subsection, 801.1.2 - Department Supplied Documents and Services for this project as no electronic files were developed.

NOTICE TO CONTRACTORS
August 4th, 2014

YOU ARE HEREBY ADVISED OF THE FOLLOWING:

This project will utilize specifications from the New Mexico Department of Transportation Standard Specifications for Highway and Bridge Construction
Any reference to Project Manager, District Construction Engineer, District Traffic Engineer, Material Lab Supervisor or any other NMDOT personnel identified within the NMDOT Standard Specifications shall be substituted with; Director, Public Works Department; City of Aztec

NOTICE TO CONTRACTORS

March 24, 2015

Item 203000

Borrow

Control Number F100090

YOU ARE HEREBY ADVISED OF THE FOLLOWING:

General; Deliverables

This project will utilize Borrow material provided by the City of Aztec. The Borrow material shall be available to the contractor at the following address and contact;_____.

The Contractor shall provide loading of Borrow at the Borrow site, haul to the project, placement, and construction efforts as delineated within Section 203 of the 2014 NMDOT Standard Specifications. The contractor shall coordinate the placement of material from within the Roadway Section from Unclassified Material placed and the Borrow imported. Water for the project is available thru the City of Aztec. The Contractor shall be responsible for dust abatement within the Borrow site and any and all haul roads utilized. All equipment, labor, scheduling, and water are considered inclusive to the Bid Item for Borrow. The Contractor is responsible for coordinating placement of imported Borrow material and material relocated and placed from within the project from Unclassified Excavation. Unclassified Excavation material shall not be paid for as imported Borrow material

Basis of Payment; Cubic Yards placed and compacted within Roadway Sub-Grade

Payment for Borrow shall be made for measured and approved roadway embankment imported and placed in accordance with Section 203 of the Standard Specifications, within the roadway Sub grade.

The Contractor shall provide to the City of Aztec, X-sections at 50’ (fifty) foot intervals, or as delineated by the Project Manager, and volume calculations between adjacent intervals of the total volume of Borrow imported to the project, placed and compacted to final sub grade elevations as delineated within the construction plan set. The contractor shall coordinate all placement of imported Borrow material against material placed from Unclassified Excavation, and provide stationing and X-sections, and volumes for material imported.

The work for the X-sectioned areas and the volume calculations shall be performed and verified, and submitted by a Licensed New Mexico Professional Surveyor.

The work performed for X-sectioning and Volume calculations shall be considered incidental to Item 801000 Construction Staking.

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E. Supplemental Specifications and Special Provisions

The New Mexico State Highway and Transportation Department Standard Specifications for Highway and Bridge Construction, 2014 Edition, are incorporated by reference, the same as if fully rewritten therein, in the contract, proposal, bond, and other contract documents for work to be performed under this contract for the City of Aztec. Said New Mexico State Highway and Transportation Department Standard Specifications for Highway and Bridge Construction, 2014 Edition, are for the purpose of the contract, proposal, bond, and other contract documents, supplemented, modified, and amended as follows, and as may be hereinbefore and hereinafter provided.

Whenever, in the Special Provisions and Supplemental Specifications the word “Section” is followed by a number and a caption (such as “Section 102.4 – Rejection of Proposals”) reference is made to that specific section of the New Mexico State Highway and Transportation Department Standard Specifications for Highway and Bridge Construction, 2014 Edition. The Supplemental General Conditions, Special Provisions and Supplemental Specifications shall govern over the Standard Specifications and are hereby made a part of the Contract Documents.

Where a conflict occurs between Standard Specifications and Special Provisions or City of Aztec Instructions to Bidders, the Contract Special Provisions and Instructions to Bidders shall control.

The Standard Specifications, Special Provisions, and Supplemental Specifications shall be interpreted using the following list where not covered by the Supplemental General Conditions contained herein. References listed to the right are to replace those on the left where those on the left appear in the text.

REFERENCE:	REPLACE WITH:
Commission, Department, District, Engineer, The State Commission or Department, Cabinet Secretary or Secretary Mexico State Highway and Transportation Department, The Department	The City of Aztec except District where such reference is to Highway rules, codes, or regulations, or pre-qualification of bidders New of the City or its Consultant as applicable
Engineer	The City of Aztec Public Works Project Engineer, Project Manager or Consulting Engineer.
Project Manager	The individual designated by the Engineer who is responsible for observing construction and the administration of the project.
State	City of Aztec or Owner
Inspector	Replace the wording "Project Manager's" with "Engineer's".
Laboratory	Delete entire definition and replace with '"an approved testing laboratory under the supervision and responsibility of a New Mexico Registered Professional Engineer".

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E.1 New Mexico Department of Transportation Special Provisions

Special Provisions Modifying Sections:

303 Base Course
403 Open Graded Friction Course (Non-QLA)
412 Hot In-Place Recycling of Asphalt Pavement
413 Single-Machine Hot In-Place surface Repaving
415 Pavement Surface Restoration
416 Minor Paving
417 Miscellaneous Paving
451 Portland Cement Concrete
517 Precast Concrete Structures
518 Pre-Stressed Concrete Members
203 Excavation, Borrow, and Embankment
405 Detour Pavements
408 Prime Coat
605 Drains
608 Sidewalks, Drive Pads And Concrete Median Pavement
609 Curb And Gutter
201 Clearing & Grubbing
210 Excavation & Backfill For Major Structures
423 Hot Mix Asphalt- Superpave (Qla & Non-Qla)
606 Metal & Concrete Wall Barrier
632 Revegetation
802 Post Construction Plans
901 Quality Control Quality Assurance (Qc/Qa)

February 12, 2014

NEW MEXICO DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISIONS MODIFYING

SECTIONS:
303 BASE COURSE
403 OPEN GRADED FRICTION COURSE (NON-QLA)
412 HOT IN-PLACE RECYCLING OF ASPHALT PAVEMENT
413 SINGLE-MACHINE HOT IN-PLACE SURFACE REPAVING
415 PAVEMENT SURFACE RESTORATION
416 MINOR PAVING
417 MISCELLANEOUS PAVING
451 PORTLAND CEMENT CONCRETE PAVEMENT
517 PRECAST CONCRETE STRUCTURES
518 PRE-STRESSED CONCRETE MEMBERS

All provisions of these sections in the New Mexico State Department of Transportation Standard Specifications for Highway and Bridge Construction, 2014 Edition, shall apply in addition to the following:

303.5.1 WORK INCLUDED IN PAYMENT

The development of the Contractor Quality Control Plan shall be included in the payment and is considered incidental to the completion of this Bid Item. All references to 901.2 "Contractor Quality Control" is for reference only and no separate measurement will be made.

403.5.2 WORK INCLUDED IN PAYMENT

The development of the Contractor Quality Control Plan shall be included in the payment and is considered incidental to the completion of this Bid Item. All references to 901.2 "Contractor Quality Control" is for reference only and no separate measurement will be made.

412.5.1 WORK INCLUDED IN PAYMENT

The development of the Contractor Quality Control Plan shall be included in the payment and is considered incidental to the completion of this Bid Item. All references to 901.2 "Contractor Quality Control" is for reference only and no separate measurement will be made.

413.5.1 WORK INCLUDED IN PAYMENT

The development of the Contractor Quality Control Plan shall be included in the payment and is considered incidental to the completion of this Bid Item. All references to 901.2 "Contractor Quality Control" is for reference only and no separate

measurement will be made.

415.5.2 WORK INCLUDED IN PAYMENT

The development of the Contractor Quality Control Plan shall be included in the payment and is considered incidental to the completion of this Bid Item. All references to 901.2 "Contractor Quality Control" is for reference only and no separate measurement will be made.

416.5.1 WORK INCLUDED IN PAYMENT

The development of the Contractor Quality Control Plan shall be included in the payment and is considered incidental to the completion of this Bid Item. All references to 901.2 "Contractor Quality Control" is for reference only and no separate measurement will be made.

417.5.1 WORK INCLUDED IN PAYMENT

The development of the Contractor Quality Control Plan shall be included in the payment and is considered incidental to the completion of this Bid Item. All references to 901.2 "Contractor Quality Control" is for reference only and no separate measurement will be made.

451.5.2 WORK INCLUDED IN PAYMENT

The development of the Contractor Quality Control Plan shall be included in the payment and is considered incidental to the completion of this Bid Item. All references to 901.2 "Contractor Quality Control" is for reference only and no separate measurement will be made.

517.5.1 WORK INCLUDED IN PAYMENT

The development of the Contractor Quality Control Plan shall be included in the payment and is considered incidental to the completion of this Bid Item. All references to 901.2 "Contractor Quality Control" is for reference only and no separate measurement will be made.

518.5.1 WORK INCLUDED IN PAYMENT

Add the following:

The development of the Contractor Quality Control Plan shall be included in the payment and is considered incidental to the completion of this Bid Item. All references to 901.2 "Contractor Quality Control" is for reference only and no separate measurement will be made.

February 24, 2014

NEW MEXICO DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISIONS MODIFYING

SECTIONS:
203 EXCAVATION, BORROW, AND EMBANKMENT
405 DETOUR PAVEMENTS
408 PRIME COAT
605 DRAINS
608 SIDEWALIKS, DRIVE PADS AND CONCRETE MEDIAN PAVEMENT
609 CURB AND GUTTER

All provisions of these sections in the New Mexico State Department of Transportation Standard Specifications for Highway and Bridge Construction, 2014 Edition, shall apply in addition to the following:

Delete reference to **304 Base Course** and replace with **303 Base Course** for the following subsections:

203.3.3 Rock Cuts

405.3.1 General

408.3.3 Preparation of Surface

605.2.3 Granular Materials

608.2.3 Bed Course Material

609.2.3 Bed Course Material

609.3.1 Foundation

Delete reference to **304 Base Course** and replace with **303 Base Course**

February 12, 2014

NEW MEXICO DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISIONS MODIFYING

SECTION 201
CLEARING AND GRUBBING

All provisions of SECTION 201 – CLEARING AND GRUBBING of the New Mexico State Department of Transportation Standard Specifications for Highway and Bridge Construction, 2014 Edition, shall apply in addition to the following:

Add the following to **201.3 CONSTRUCTION REQUIREMENTS**

201.3.1 GENERAL

The Contractor shall comply with Section 620 of the New Mexico State Department of Transportation Standard Specifications for Highway and Bridge Construction 2014 Edition for herbicide application.

201.5.1 Work Included in Payment

Selective / Non-Selective Herbicide Application will be paid only if the Plans list this item in the Estimated Quantities table.

April 8, 2014

NEW MEXICO DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISIONS MODIFYING

SECTION 210
EXCAVATION AND BACKFILL FOR MAJOR STRUCTURES

All provisions of SECTION 210 – EXCAVATION AND BACKFILL FOR MAJOR STRUCTURES of the New Mexico State Highway and Transportation Department Standard Specifications for Highway and Bridge Construction, 2014 Edition, shall apply except as modified herein:

Replace the following sub-section with:

210.2.1 Select Backfill

Use Base Course or select backfill Material composed of stone, crushed stone, crushed or screened gravel, caliche, sand or a combination thereof. Use Material that is free of Deleterious Materials and that does not contain lumps or stones with diameters larger than two (2) inches. Provide select backfill Materials in accordance with AASHTO Soil Classifications A-1, A-2-4 or A-1-a as determined by AASHTO M 145, unless otherwise shown in the Contract.

Do not use Recycled Asphalt Pavement (RAP) as select backfill Materials. Do not use RAP in Base Course used for select backfill.

Replace the following sub-section with:

210.2.2 Approach Slab

Use AASHTO Soil Classifications A-1-a Material or Base Course under the approach slab and extending ten (10) feet beyond the end of the approach for the full width of the abutment and to the depth indicated in the Plans and in accordance with Section 210.3.2 "Compaction".

Add the following to sub-section:

210.5.1 Work Included in Payment

Add the following to the list of incidentals:

5. Select backfill or Base Course.

Revised April 7, 2014
February 13, 2014

NEW MEXICO DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISIONS MODIFYING

SECTION 403
OPEN GRADED FRICTION COURSE (NON-QLA)

All provisions of SECTION 403 – OPEN GRADED FRICTION COURSE (NON-QLA) of the New Mexico State Highway and Transportation Department Standard Specifications for Highway and Bridge Construction, 2014 Edition, shall apply except as modified herein:

Delete Subsection **403.2.5 Mix Design** and replace with the following:

403.2.5 Mix Design

A Department approved Private Testing Lab will develop the OGFC mix design in accordance with ASTM D 7064, "Standard Practice for Open Graded Friction Course (OGFC) Mix Design", as modified by the New Mexico Department of Transportation State Asphalt Engineer. The mix design shall be signed by a professional Engineer licensed by the NM Board of Registration for Professional Engineers and Land Surveyors. The JMF gradation will be within the master range for the specified type of OGFC. The mix design will establish a single percentage of aggregate passing each required sieve size and a single percentage of asphalt Material to be added to the aggregate. The mix design will specify whether to add hydrated lime or anhydrite based material and how much to use. The Mix Design shall identify the minimum and maximum mixing and placement temperatures of the mix. Add a minimum of one percent (1%) hydrated lime or anhydrite based material, include it in the gradation for establishing the mix design.

Delete Subsection **403.3.6.1.1 Suspension of Operations** and replace with the following:

403.3.6.1.1 Suspension of Operations

If one (1) or more properties listed in Subsection 403.3.6.2, Department Quality Assurance, fail to meet the specification requirements for a period of one (1) Day or a maximum production of 1000 tons; the production will be halted by the Project Manager. Use the gradation information to determine causes or factors that may be a contribution to the problem and prepare a plan to solve the problem. Approval of the plan must be obtained from the Project Manager before resumption of paving operations. Upon approval of the proposed plan, the Contractor may resume operations to determine if the actions taken have corrected the problem. Limit production to 1000 tons that will be tested in 500 ton increments. If that testing indicates that the problem has been corrected, the Contractor may resume full operations. If the problem has not been

corrected, further trial runs and testing as described herein will be required. Take corrective action to remedy any property of the mix that is out of specification. Contractors who elect to produce Material that is not within the specification limits do so at their own risk. Price reductions due to out of specification Material being placed will be deducted from the unit price of the item in accordance with the Department's current Acceptance and Price Reduction Procedures. All Material that is rejected shall be removed and replaced with specification Material at the Contractor's expense. Material that is improperly graded or segregated or fails to meet the requirements herein provided shall be corrected or removed and disposed of immediately as directed by the Project Manager at the Contractor's expense.

February 13, 2014

NEW MEXICO DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISIONS MODIFYING

SECTION 423
HOT MIX ASPHALT – SUPERPAVE (QLA AND NON-QLA)

All provisions of SECTION 423 – HOT MIX ASPHALT – SUPERPAVE (QLA AND NON-QLA) of the New Mexico State Department of Transportation Standard Specifications for Highway and Bridge Construction, 2014 Edition, shall apply except as modified herein:

Amend Subsection **423.3.7 DISPUTE RESOLUTION** to include the following:

423.3.7 Dispute Resolution

The State Asphalt Engineer will select a Laboratory, without disclosing the name of the lab to Department Project personnel or Contractor personnel, from the following, not in priority order:

3. State Materials Bureau Laboratory.

February 13, 2014

NEW MEXICO DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISIONS MODIFYING

SECTION 424
WARM MIX ASPHALT

All provisions of SECTION 424 – WARM MIX ASPHALT of the New Mexico State Department of Transportation Standard Specifications for Highway and Bridge Construction, 2014 Edition, shall apply except as modified herein:

Amend Subsection **424.3.7 DISPUTE RESOLUTION** to include the following:

424.3.7 Dispute Resolution

The State Asphalt Engineer will select a Laboratory, without disclosing the name of the lab to Department Project personnel or Contractor personnel, from the following, not in priority order:

3. State Materials Bureau Laboratory.

Revised June 16, 2014
June 2, 2014
May 14, 2014

NEW MEXICO DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISIONS MODIFYING

SECTION 606
METAL AND CONCRETE WALL BARRIER

All provisions of SECTION 606 – METAL AND CONCRETE WALL BARRIER of the New Mexico State Department of Transportation Standard Specifications for Highway and Bridge Construction, 2014 Edition, shall apply except as modified herein:

Delete Section 606 METAL AND CONCRETE WALL BARRIER in its entirety and replace with the following:

606.1 DESCRIPTION

This Work consists of constructing guardrail (also referred to as metal barrier), cable barrier, concrete wall barrier (CWB), end treatments, transitions, and protection systems.

606.2 MATERIALS

606.2.1 Guardrail

The types of guardrail are as follows:

Single face W-beam guardrail;
Double faced W-beam guardrail;
Single face Thrie beam guardrail; and
Double faced Thrie beam guardrail.

Each guardrail type shall have galvanized rail elements unless corrosion-resistant "weathering" rail is specified. Use Materials for guardrail installations in accordance with the AASHTO Task Force 13 *Guide to Standardized Highway Barrier Hardware*.

If double nested W-beam or thrie beam guardrail is specified, a second rail element shall be added to each face.

606.2.1.1 Rail Elements

606.2.1.1.1 Galvanized Guardrail

Provide W-beam and thrie beam rail elements with a corrugated beam in accordance with AASHTO M 180, Type 2, Class A.

Galvanize steel rail elements before or after fabrication in accordance with AASHTO M 180 if necessary.

Provide required hardware and fittings in accordance with AASHTO M 30 for the specified

diameter and strength class.

606.2.1.1.2 Weathering Guardrail

Provide corrosion-resistant "weathering" W-beam and thrie beam Materials if specified in the Contract. Weathering W-beam and thrie beam Materials shall consist of A 606 Type 4 steel, be in accordance with AASHTO M 180, Class A, Type 4 standards, and shall ensure they have a corrosion resistance at least four times that of plain carbon steel.

606.2.1.1.3 Double Nested Guardrail

Provide a second rail element attached to each face as specified in the Contract. The second rail element shall have the same galvanization or "weathering" properties as that of the exterior rail element.

606.2.1.2 Fasteners

Unless otherwise specified, galvanize fasteners in accordance with AASHTO M 111 or ASTM A 153. Galvanize after fabrication.

Provide bolts in accordance with ASTM A 307 and nuts in accordance with ASTM A 563, Grade A or better.

Provide fasteners for weathering guardrail in accordance with AASHTO M 180 for Type 4 steel.

606.2.1.3 Posts

606.2.1.3.1 Wood Posts

Do not use wood posts for guardrail unless specifically stipulated in the Contract. Wood posts may be used as part of End Treatments and Transitions if specified by the manufacturer as an integral component of the design. Wood posts shall be southern yellow pine, western larch, ponderosa pine, douglas fir, or lodgepole pine and either rough sawn (unplaned) or S4S with nominal dimensions specified and with a stress grade of at least 1,200 psi.

Use straight posts, without defects, that do not vary more than 1 in. from a straight line connecting both ends.

Perform cutting, framing, routing, and boring before applying preservative treatment to the timber. Use pressure treated wood posts and blocks with petroleum-pentachlorophenol consisting of a maximum of 95% by weight of petroleum oil and a minimum of 5% by weight of pentachlorophenol, with ammoniacal copper arsenite, or with chromated copper arsenate. Use the empty-cell process for petroleum-pentachlorophenol treatment. Retain a pentachlorophenol amount of at least 0.3 lb. of dry salt per cubic foot of wood. Perform treatment with ammoniacal copper arsenite or chromated copper arsenate in accordance with AWPA C14.

Revised June 16, 2014
June 2, 2014
May 14, 2014

Provide wood preservatives in accordance with AASHTO M 133.

606.2.1.3.2 Structural Shape Posts

Provide structural shape posts in accordance with ASTM A 36 and galvanize them in accordance with ASTM A 123. Do not perform punching, drilling, or cutting after galvanizing. Provide posts for guardrail in accordance with NCHRP Report 350 Recommended Procedures for the Safety Performance Evaluation of Highway Features and the AASHTO Manual for Assessing Safety Hardware (MASH).

606.2.1.4 Offset Blocks

606.2.1.4.1 Wood Offset Blocks

Provide wood offset blocks as specified for the guardrail and end treatment type. Wood offset blocks shall be southern yellow pine, western larch, ponderosa pine, douglas fir, or lodgepole pine and either rough sawn (unplaned) or S4S with nominal dimensions specified and with a stress grade of at least 1,200 psi.

The size tolerance of rough-sawn blocks in the direction of the bolt holes will be within ± 1/4 in. of specified dimensions. Only use one combination of post and block for any one continuous length of barrier.

Perform cutting, framing, routing, and boring before applying preservative treatment to the timber. Use pressure treated wood posts and blocks with petroleum-pentachlorophenol consisting of a maximum of 95% by weight of petroleum oil and a minimum of 5% by weight of pentachlorophenol, with ammoniacal copper arsenite, or with chromated copper arsenate. Use the empty-cell process for petroleum-pentachlorophenol treatment. Retain a pentachlorophenol amount of at least 0.3 lb. of dry salt per cubic foot of wood. Perform treatment with ammoniacal copper arsenite or chromated copper arsenate in accordance with AWPA C14.

Provide wood preservatives in accordance with AASHTO M 133.

606.2.1.4.2 Plastic and Composite Offset Blocks

Provide plastic or composite offset blocks as specified for the guardrail and end treatment type and in accordance with the Department's Approved Products List.

Ensure Suppliers of plastic or composite blocks proposed for inclusion on the Department's Approved Products List submit certification to the Project Manager for approval by the State Traffic Engineer.

606.2.2 Cable Barrier

Reserved.

606.2.3 Concrete Wall Barrier (CWB)

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The types of CWB are as follows:

1. Slip-formed CWB;
2. Cast-in-place CWB; and
3. Precast CWB.

Use Class A concrete in accordance with Section 509, "Portland Cement Concrete Mix Designs." Provide reinforcing steel in accordance with Section 540, "Steel Reinforcement." Provide preformed asphalt joint filler in accordance with AASHTO M 213. Provide penetrating water repellent in accordance with Section 532, "Penetrating Water Repellent Treatment."

606.2.3.1 CWB Steel Access Panel

Provide and install CWB steel access panels in accordance with the Plans or as directed by the Project Manager.

Contour the steel access panel to the shape of and flush with the CWB. The Department will not allow the steel access panel to compromise the structural integrity and performance of the CWB assembly. Provide steel in accordance with AASHTO M 270, Grade 36. Coat the steel access panel in accordance with Section 545, "Protective Coating of Miscellaneous Structural Steel."

606.2.4 End Treatments

The types of end treatments are as follows:

End Treatment – W-beam TL-3 end terminal (for all speeds);
End Treatment – W-beam TL-2 end terminal (for speeds of 40 mph or less);
End Treatment – W-beam end anchor;
End Treatment – Thrie beam end anchor; and
End Treatment – W-beam driveway end anchor (for curved guardrail for minor approaches and driveways).

Provide End Treatments on the Department's *Approved Products List* that have been tested in accordance with NCHRP Report 350 and the AASHTO Manual for Assessing Safety Hardware (MASH). The manufacturer will sign and notarize certification stating that the Materials have met testing requirements.

Suppliers of guardrail end treatments proposed for inclusion on the Department's *Approved Products List* shall submit certification for approval by the State Traffic Engineer.

W-Beam TL-3 End Terminals shall be FHWA accepted for Test Level 3 (TL-3) and may be used for all posted speeds.

W-Beam TL-2 End Terminals shall be FHWA accepted for Test Level 2 (TL-2) and may be used for posted speeds of 40 mph or less.

W-Beam End Anchors are end anchors that have been FHWA accepted for use on the

downstream end of W-beam guardrail runs when a crash-worthy TL-3 or TL- 2 terminal is not required.

Thrie Beam End Anchors are end anchors that have been FHWA accepted for use on the downstream end of thrie beam guardrail runs when a crash-worthy TL-3 or TL-2 end terminal is not required.

Driveway End Anchors are end anchors that have been FHWA accepted for use on curved W-beam guardrail installations at minor roadway intersections such as low speed driveways and roadway approaches to the main highway. Driveway End Anchors should only be used when there is insufficient room to properly install a TL-2 End Treatment on the minor approaches and driveways. Driveway End Anchors shall not be used on the mainline. Refer to FHWA Technical Advisory T-5040.32 for additional details.

606.2.5 Transitions

Transition types may include the following or others as specified in the Contract:

Transition from W-Beam to thrie beam;
Transition from guardrail to rigid barrier;
Transition from existing barrier to 31" barrier.

The manufacturer will sign and notarize certification stating that the Materials used in the transitions have met testing requirements.

Transitions shall be measured and paid by each as detailed in the Contract. Transitions that are integral to the design of End Treatments shall be considered to be part of the end treatment design and shall not be measured or paid separately.

606.2.6 Protection Systems

Protection Systems may include the following or others as specified in the Contract:

Median Protection System;
Drainage Structure Protection System.

Each system is comprised of W-beam, thrie beam, and expansion/reducer sections working in conjunction to provide increased protection for bridge piers, fixed objects and drainage structures. The minimum lengths required for each component of the system, as well as the required post spacing, shall be as indicated in the Contract.

Protection Systems shall be measured and paid by the linear foot as detailed in the Contract.

606.2.7 Materials Certification

Provide MTRs, and other test reports of the metal and the coating, to the Project Manager, certifying that the Materials and fabrication are in accordance with these specifications. Fabrication shall be done by an identifiable source.

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606.2.8 Member Identification and Marking

Ensure the manufacturer permanently stamps the specific type of guardrail end treatment at each location to correspond with those shown on the shop drawings provided to the Project Manager, so that each is readily identifiable in the field.

606.2.9 Reflective Barrier Delineators

Provide amber-colored reflective barrier delineators for median barriers and white reflectors for shoulder-side barriers in accordance with the Contract and Section 703, "Traffic Markers."

Place reflective barrier delineators back to back on median barriers.

606.3 CONSTRUCTION REQUIREMENTS

During construction, prevent exposed metal or concrete barrier ends from creating a hazard to the traveling public.

606.3.1 Guardrail Installation

Position steel parts stored in transit, in open cars or trucks, or outside in yards or at job sites to allow free drainage and air circulation. Handle fabricated steel parts to avoid gouges, scratches, and dents.

Keep the steel clean of Deleterious Material. If the Contract specifies a weathering guardrail, the Department will not consider natural oxidation (mill scale) to be Deleterious Material and will not allow galvanizing, blast cleaning, or pickling of weathering guardrail to remove the mill scale.

Draw bolts tight (except adjustment bolts). Use bolts that are long enough to extend beyond the nuts.

606.3.1.1 Posts

Set posts plumb, in hand-dug or mechanically made holes, or by driving. If upward vertical adjustment of posts is necessary, remove and reinstall the post.

When driving, avoid battering or distorting the posts. For steel posts, drive post to within 1 in. maximum above the top of the rail. The Department will allow the Contractor to drive steel posts through asphalt surfacing but a leaveout must be constructed. The Contractor shall not drive wooden posts through asphalt surfacing, unless the Contractor precuts or drills guide holes through the asphalt Material and a leaveout is provided.

When foundation tubes used with the Wood Breakaway Post are driven, they shall be driven prior to installing the wood post.

Perform post drilling and driving that does not cause bulging, distressing, or other disturbance of the asphalt surface.

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Should bulging or other distress of the asphalt surfacing occur when driving steel posts, remove and reinstall these posts using guide holes drilled through the asphalt surfacing. Make the guide holes with a maximum diameter in accordance with Table 606.3.1.1:1, "Required Guide Hole Diameter."

Table 606.3.1.1
Required Guide Hole Diameter

Type	Maximum diameter
Round wood	Diameter of post
Square wood	Dimension of side
Steel shape	Dimension of least side

After precutting or drilling the guide holes, if bulging or other distress of the asphalt surfacing occurs or if posts cannot be driven to the specified depths, cease the driving, remove the posts, and extend the guide holes as necessary.

Backfill and compact postholes with acceptable Material, such as base course or cold mix, placed in thin layers, to within 2 in. of the surface grade. When posts are restrained by rock, asphalt, or concrete, construct a leaveout area that extends a minimum of 7" behind the post. Fill the leaveout cavity with a lean grout material with a 28-day compressive strength of 120 psi or less. When posts are not restrained by rock, asphalt, or concrete, continue filling and compacting the cavity with soil.

606.3.1.2 Metal Rail

Erect smooth and continuous rail elements. Overlap rails in the same direction as the traffic flow of the nearest lane. The Department will only allow such drilling or cutting that is necessary for special connections and for sampling in the field.

Shop-fabricate curved rails having a radius of 150 ft. or less to the appropriate curvature specified in the Plans.

606.3.1.3 Repair of Damaged Coating

If the galvanizing of guardrail or appurtenances is damaged, repair the coating by galvanizing or by coating with two coats of zinc dust-zinc oxide paint in accordance with Federal Specification TT-P-641 or Military Specification ML-P-21035.

606.3.2 Cable Barrier Installation

Reserved.

606.3.3 Concrete Wall Barrier Installation

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606.3.3.1 Concrete Wall Barrier Fabrication

Fabricate CWB in accordance with Section 510, "Portland Cement Concrete," and Section 511, "Concrete Structures."

Construct temporary precast CWB in accordance with the Plans.

Construct permanent CWB in accordance with the Plans. Ensure that the top of the completed barrier does not deviate from the Plans more than ± 0.19 in. Give the CWB a Class 2, Rubbed Surface Finish, or Class 4, Special Surface Finish, in accordance with Section 511.3.8, "Finishing."

If the manufacturer requires sandblasting, do not displace mortar used in the surface finish from the bubble pockets, pits, depressions, and honeycombs.

Cure CWB in accordance with Section 511.3.9, "Curing."

Treat the entire exposed surfaces of CWB with penetrating water-repellent treatment in accordance with Section 532, "Penetrating Water Repellent Treatment."

When called for in the Contract, apply penetrating water repellent first, then the Special Surface Finish.

The Department will not require fly ash in the PCC used to fabricate temporary traffic control CWB.

606.3.3.2 Concrete Wall Barrier Joint Treatment

When sawing transverse weakened-plane joints, perform the sawing after the concrete has hardened enough to prevent raveling, crumbling, or shape deformation. Saw control joints at 10 ft. intervals. After completing the sawing operations, clean the sawed area of debris.

Make a construction joint after the day's permanent placement operations and at locations when concrete placement is interrupted for 30 min or more.

606.3.3.3 Concrete Wall Barrier Installation

Construct footings and foundations, and prepare the Subgrade as necessary, before placing the CWB.

Construct vertically offset (atypical) CWB as specified in the Plans.

606.3.3.3.1 Temporary Concrete Wall Barrier Requirements

Precast temporary CWB as specified in the Plans. Do not intermix CWB of different designs. Set temporary CWB in accordance with the Contract and the approved traffic control plan. Provide necessary loading, hauling, and unloading at designated sites.

The Contractor shall reset the CWB during construction, as required by the Contract.

After completing the project, remove, load, haul, unload, and stockpile the State-retained or State-provided CWB at the locations required in the Contract or as directed by the Project Manager.

Ensure that State-retained CWB, State-provided CWB, and Contractor-retained temporary CWB are in accordance with Section 606.3.2, "Concrete Wall Barrier."

606.3.3.3.2 Temporary Concrete Wall Barrier (Contractor-Retained CWB)

If the Contract specifies Contractor-retained temporary CWB, provide new or used CWB. Contractor-retained temporary CWB will remain the property of the Contractor upon completion of the project.

Provide connecting hardware for the CWB assembly.

606.3.3.3.3 Temporary Concrete Wall Barrier (State-Retained Concrete Wall Barrier)

If the Contract specifies State-retained CWB, provide new CWB.

Temporary CWB (State-retained CWB), including shop drawings and connecting hardware, as approved by the Project Manager, will become the property of the Department upon completion of the project.

Remove and dispose of state retained CWB that is not, in the opinion of the Project Manager, in satisfactory condition at or before final stockpile location.

606.3.3.3.4 State-Provided Concrete Wall Barrier

If the Contract specifies State-provided CWB, load, haul, and unload State-provided CWB from origins to destinations.

State-provided CWB will remain the property of the Department upon completion of the project.

If using State-provided CWB, provide connecting hardware for the CWB assembly, if missing from the CWB units.

606.3.4 End Treatment Installation

Fabricate and install end treatment systems in accordance with the manufacturer's recommendations and approved shop drawings.

Install posts in accordance with Section 606.3.1.1, with the following exceptions:

1. Confirm site grading is as specified;
2. Set end treatment breakaway posts plumb in hand-dug or mechanically made holes;
3. Backfill postholes with existing soil materials or Base Course;
4. Backfill postholes in 6 in. lifts and rod each lift to within 2 in. of the surface grade;

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5. Construct leaveouts when posts are restrained by rock, asphalt, or concrete.
6. Fill and crown the remaining depth of the hole with acceptable Material per the manufacturer's recommendations. Do not crown more than 2 in. above final grade; and
7. Ensure that foundation tubes do not project more than 4 in. above the ground.

Immediately repair traffic damage to barrier components.

606.3.5 Transition Installation

Fabricate and install Transitions in accordance with project plans and approved drawings. Install posts in accordance with Section 606.3.1.1 and Section 606.3.4.

606.3.6 Protection System Installation

Fabricate and install Protection Systems in accordance with the project plans and approved drawings.

Install posts in accordance with Section 606.3.1.1 and Section 606.3.4. Assembly and installation of each component of the Protection System shall be supervised at all times by the Contractor's representative.

606.3.7 Embankment Grading Requirements

Compact Embankment Material to 95% of maximum Proctor density. Unless otherwise specified in the Contract, the ground surface between the edge of the shoulder and the hinge point of the slope behind the guardrail shall be graded at 10:1 (H:V) or flatter. Warp all grade transitions to create smooth surface contours.

Include the cost of the embankment material, placement, and grading in the cost of the guardrail.

606.3.8 Drainage Requirements

Provide guardrail drainage components as specified in the Contract. Drainage features may include asphalt paving beneath the guardrail and an asphalt curb to direct surface runoff.

When asphalt paving is specified in the project plans, a minimum thickness of 1 ½ inches of hot mix asphalt shall be placed and compacted beneath the guardrail area. Leaveouts shall be constructed at the post locations.

Asphalt curbs may be used to direct surface runoff as specified in the project plans. Concrete or metal curbs are not allowed. For Transitions from guardrail to rigid barrier, do not extend the asphalt curb beyond the thrie beam to W-beam reducer element. If additional curb length is needed, then extend the curb through the entire Transition and add 12.5 ft. of nested W-beam adjacent to and upstream of the thrie beam to W-beam reducer element. All asphalt curbs shall be placed below the guardrail offset block and directly in front of the post.

Include the cost of the drainage elements in the cost of the guardrail.

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606.3.9 Vegetation Management Requirements

Provide vegetation management as specified in the Contract. Vegetation management may consist of asphalt paving, asphalt or concrete mow strips, or application of an approved herbicide.

When asphalt paving is specified in the project plans, a minimum thickness of 1 ½ inches of hot mix asphalt shall be placed and compacted beneath the guardrail area. Leaveouts shall be constructed at the post locations.

When mow strips are specified in the project plans, the mow strip shall consist of either asphalt pavement or concrete reinforced with either wire mesh or synthetic fibers. Mow strips shall be a minimum of 3 in. and a maximum of 8 in. in thickness. Leaveouts shall be constructed at the post locations.

Include the cost of the vegetation management elements in the cost of the guardrail.

606.4 METHOD OF MEASUREMENT

606.4.1 Guardrail Measurement

Guardrail will be measured and paid in linear feet of guardrail that has been satisfactorily completed and accepted, exclusive of that length of guardrail that is within the pay limits of end treatments and transitions, as specified. Measurement will be made along the centerline of the barrier.

Weathering Guardrail will be measured and paid in linear feet of guardrail that has been satisfactorily completed and accepted, exclusive of that length of guardrail that is within the pay limits of end treatments and transitions, as specified. Measurement will be made along the centerline of the barrier.

Curved Guardrail will be measured and paid as linear feet of standard *Guardrail*.

606.4.2 Cable Barrier Measurement

Cable Barrier will be measured and paid in linear feet of barrier that has been satisfactorily completed and accepted, exclusive of that length of barrier that is within the pay limits of end treatments and transitions, as specified. Measurement will be made from center to center of the outermost post in the length of cable barrier being measured.

606.4.3 Concrete Wall Barrier Measurement

Concrete Wall Barrier will be measured along the centerline of the barrier.

606.4.4 End Treatment Measurement

End Treatments will be measured and paid in units of each completed and accepted, inclusive of integral transition sections connecting the End Treatment to the corresponding guardrail, cable barrier, or concrete wall barrier. Each End Treatment is inclusive of all necessary posts, blocks, connections, anchorage, fasteners, grading, drainage elements, and vegetation

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management components.

606.4.5 Transition Measurement

Transitions will be paid by each for transitions that have been satisfactorily completed and accepted. Measurement will be made along the transition centerline and exclusive of that length of barrier that is within the pay limits of end treatments or the corresponding guardrail, cable barrier, or concrete wall barrier. Each Transition is inclusive of all necessary anchorage fasteners, grading, drainage elements, and vegetation management components.

606.4.6 Protection System Measurement

Protection Systems will be measured and paid in units of linear feet of the protection system that has been satisfactorily completed and accepted. Measurement will be made along the protection system centerline and exclusive of that length of barrier that is within the pay limits of end treatments. Each Protection System is inclusive of all necessary anchorage, fasteners, grading, drainage elements, and vegetation management components.

606.4.7 Removal and Reinstall Guardrail

Remove and Reinstall Guardrail will be measured and paid in linear feet of guardrail that has been satisfactorily removed, replaced, and accepted exclusive of end treatments and transitions. Measurement will be made along the railing face center to center of the outermost post in the length of guardrail being measured.

606.5 BASIS OF PAYMENT

Pay Item	Pay Unit
Guardrail	Linear Foot
Weathering Guardrail	Linear Foot
End Treatments	Each
Transitions	Each
Protection Systems	Linear Foot
Remove and Reinstall Guardrail	Linear Foot
Concrete Wall Barrier	Linear Foot
Temporary Concrete Wall Barrier	Linear Foot
Resetting of CWB	Linear Foot
State-Furnished CWB	Linear Foot
Temporary CWB Retained by the Contractor	Linear Foot
Concrete Wall Barrier (Modified)	Linear Foot
Concrete Wall Barrier (Half Section)	Linear Foot

606.5.1 Work Included in Payment

The following work and items will be considered as included in the payment for the main item(s) and will not be measured or paid for separately:

A. All loading, hauling, unloading, stockpiling, or disposal;

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B. Moving or removal of temporary barrier;
C. Footings and foundations;
D. Offset Blocks;
E. Reflective sheeting and reflectors installed on guardrail, cable barrier, end treatments, and transitions;
F. End treatment posts, sleeves, anchors, barrier rail and impact head;
G. Cable tensioning;
H. Backfilling and compacting of holes created by removal and installation of posts;
I. Embankment material and grading;
J. Placement and compaction of asphalt material;
K. Construction of mow strips;
L. Construction of post leaveouts;
M. Construction of asphalt curbs;
N. Patching material at posts;
O. All connecting hardware;
P. Reflective barrier delineators installed on permanent and temporary CWB;
Q. Curing of CWB and application of penetrating water-repellent treatment;
R. Connection pins for temporary CWB;
S. Concrete wall barrier access panel; and
T. Reinforcing Steel.

March 3, 2014

NEW MEXICO DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISIONS MODIFYING

SECTION 632
REVEGETATION

All provisions of SECTION 632– REVEGETATION of the New Mexico State Department of Transportation Standard Specifications for Highway and Bridge Construction, 2014 Edition, shall apply except as modified herein:

632.3 CONSTRUCTION REQUIREMENTS

Delete 2. at the bottom of **Table 632.3.2:1 Material and Operations for Classes of Seeding** and replace with the following;

2. Class C = seeding with hydroseeder; soil preparation, BFM (slopes steeper than 3:1)

April 4, 2014

NEW MEXICO DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISIONS MODIFYING

SECTION 705
GENERAL REQUIREMENTS FOR TRAFFIC SIGNAL AND LIGHTING SYSTEMS

All provisions of SECTION 705 – GENERAL REQUIREMENTS FOR TRAFFIC SIGNAL AND LIGHTING SYSTEMS of the New Mexico State Department of Transportation Standard Specifications for Highway and Bridge Construction, 2014 Edition, shall apply except as modified herein:

Delete Subsection **705.5 BASIS OF PAYMENT** and replace with the following;

705.5 BASIS OF PAYMENT

Signal/Lighting System Start-up Costs will be paid for the actual cost incurred, not to exceed the fixed amount entered by the Department into the Bid Schedule.

Provide the Project Manager with a detailed cost breakdown, including receipts and invoices of actual costs incurred.

For the purpose of bidding, the Department will enter into the Bid Schedule a fixed amount for Signal/Lighting System Start-up Costs.

Pay Item	**Pay Unit**
Signal/Lighting System Start-up Costs	Allowance

Revised January 30, 2009
May 6, 2008

NEW MEXICO DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISIONS MODIFYING

SECTION 802
POST CONSTRUCTION PLANS

All provisions of SECTION 802 – POST CONSTRUCTION PLANS of the New Mexico State Department of Transportation Standard Specifications for Highway and Bridge Construction, 2014 Edition, shall apply except as modified herein:

Delete Subection **802.3 BASIS OF PAYMENT** and replace with the following;

802.3 BASIS OF PAYMENT

Post Construction Plans will be paid for the actual cost incurred, not to exceed the fixed amount entered by the Department into the Bid Schedule.

Provide the Project Manager with a detailed cost breakdown, including receipts and invoices of actual costs incurred.

For the purpose of bidding, the Department will enter into the Bid Schedule a fixed amount for Post Construction Plans.

Pay Item	**Pay Unit**
Post Construction Plans	Lump Sum

January 27, 2014

NEW MEXICO DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISIONS MODIFYING

SECTION 901
QUALITY CONTROL/QUALITY ASSURANCE (QC/QA)

All provisions of SECTION 901 – QUALITY CONTROL/QUALITY ASSURANCE (QC/QA) of the New Mexico State Department of Transportation Standard Specifications for Highway and Bridge Construction, 2014 Edition, shall apply in addition to the following:

Add subsection **901.4.1 AGGREGATE INDEX** to follow **901.4 EVALUATION OF MATERIALS FOR ACCEPTANCE.**

901.4.1 AGGREGATE INDEX

901.4.1.1 DESCRIPTION

The AI combines test values from the Los Angeles Wear Test, Soundness Loss Test, and Absorption Test. The AI is a single value representing the overall quality of the source from which the aggregates are obtained. Do not use to evaluate individual aggregate stockpile quality.

901.4.1.2 Sampling and Testing Procedures

Determine Los Angeles wear, soundness loss, and absorption values for the AI equation using at least five random test samples obtained from all stockpiles at the source in accordance with AASHTO T 2. Submit all of the five samples to a Department approved private Laboratory for combination into a single sample. The Project Manager or the State Materials Bureau will have a list of approved private laboratories. Extract a representative test sample from the single sample to determine the Los Angeles wear and absorption values. Prepare the sample used to determine the absorption as follows:

Plus 3/4 in	1000 grams
3/4 in to 1/2 in	1000 grams
1/2 in to 3/8 in	1000 grams
3/8 in to #4	1000 grams

Separate the remaining amount of the single sample into five test samples using the procedures in AASHTO T 248. Calculate a soundness loss value for each of these five samples using Table 910.2:1, "Standard Gradation for Soundness Loss Testing."

Table 901.4.1.2:1
Standard Gradation for Soundness Loss Testing

Sieve size	% passing
1 1/4 in	100
1 in	100
3/4 in	79
1/2 in	53
3/8 in	34
No. 4	0

Average the five soundness loss results to obtain the overall soundness loss value for the subject aggregate pit.

901.4.1.3 Testing of Aggregates

Perform the following tests using a Department-approved private Laboratory or the State Materials Bureau:

1. Los Angeles Wear (in accordance with AASHTO T 96, Method B);
2. Soundness loss (in accordance with AASHTO T 104); and
3. Absorption (in accordance with AASHTO T 85 or NMDOT 001 (20066)).

Use the same private Laboratory for the entire project unless otherwise approved (in writing) by the Project Manager.

Obtain samples under the observation of the Project Manager or Department designee. Split samples into two samples in accordance with AASHTO T 248, if requested by the Project Manager. The private Laboratory and the State Materials Bureau will each test one sample. Send copies of test reports to the Project Manager.

901.4.1.4 Frequency of Testing

Submit samples at least once every year to maintain continuous approval of Commercial Material Sources.

901.4.1.5 Equation

Calculate the AI of a coarse aggregate to the nearest whole number in accordance with the following equation:

$$AI = \frac{1}{3}\sqrt{LA^{22} + SL^{30} + A^{40}} \qquad (1)$$

January 27, 2014

Where:

- AI is the aggregate index
- LA is the Los Angeles Wear, the percent of aggregate wear at 500 revolutions if tested in accordance with AASHTO T 96
- SL is the soundness loss of the sample if tested in accordance with AASHTO T 104 using magnesium sulfate with a test duration of 5 cycles and a standard gradation
- A is the absorption, the amount of moisture retained if tested in accordance with AASHTO T 85

Example:

1. Determine the L.A. Wear as a whole number – for example, 25;
2. Determine the Soundness Loss as a whole number – for example, 15;
3. Determine the Absorption as a whole number – for example, 3;
4. Calculate the value of the L.A. Wear taken to the 2.2 power – that is, 25^(2.2) = 1189.8;
5. Calculate the value of the Soundness Loss taken to the 3rd power – that is, 15^(3) = 3375;
6. Calculate the value of the Absorption taken to the 4th power – that is, 3^(4) = 81.0;
7. Add the value obtained from steps 4, 5, and 6 – that is, 11.89.8 + 3375 + 81.0 = 4645.8;
8. Determine the square root of Step 7 – that is, √(4658.8) = 68.2;
9. Divide the result from Step 8 by 3 – that is, 68.2 ÷ 3 = 22.7; The A.I. for this sample is 22.7.

EXHIBIT ‘A’

GEOTECH REPORT

October 6, 2008

Terracon
Consulting Engineers & Scientists

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Wilson and Company, Inc.
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Attention: Mr. Steve J. Salazar, P.E.

Regarding: Addendum to Geotechnical Engineering Report
East Aztec Arterial Route
Aztec, New Mexico
Terracon Project No. 69085011, Addendum No. 1

Reference: "Geotechnical Engineering Report
East Aztec Arterial Route
Aztec, New Mexico
Terracon Project No. 69085011"
Dated August 28, 2008

Ladies and Gentlemen:

This addendum summarizes additional engineering analysis and research performed by Terracon Consultants, Inc. (Terracon) which was requested by Mr. Steve Salazar, P.E. with Wilson and Company. Terracon reviewed the referenced report and performed additional engineering analyses and research relative to slopes and alternative pavement recommendations

SITE CONDITIONS: The site is characterized as being rural, undeveloped land vegetated by trees, shrubs, and grasses native to the area. The area is crossed by several dirt roads used by oil field traffic to access the well sites scattered throughout the area. The topography of the west and north portions of the project is gently sloping with rolling hills and variable sized washes. The middle portion of the project is higher in elevation with more rugged terrain, steeper hillsides and deeper washes. Cut and fill slopes will be constructed during the grading operations for the road. Generally, the cut and fill slopes should be constructed in accordance with the following recommendations.

SLOPES: For permanent slopes in compacted fill areas, recommended maximum configurations for on-site materials are 3:1 (horizontal to vertical). If steeper slopes are required for site development, stability analyses should be completed to design the grading plan. The face of all fill slopes should be compacted to the minimum specification for fill embankments. Alternately, fill slopes can be over-built and trimmed to compacted material.

For permanent slopes in cut areas, cut slopes in soil areas should not exceed a maximum of 3:1 (horizontal to vertical). Slopes in competent shale areas should not exceed a maximum slope of 2:1 (horizontal to vertical) with the approval of the project geotechnical engineer. Slopes in competent sandstone areas should not exceed a maximum slope of 1:1 (horizontal to vertical) with the approval of the project geotechnical engineer.

Excavations should be sloped in the interest of safety following local and federal regulations, including current OSHA excavation and trench safety standards.

PAVEMENT SUBGRADE: The tables on pages 5 and 6 in the referenced report for the second alternative in the subgrade R-value column list an R-value of 33 for imported sand soils. This column should have indicated imported sand soils and/or native in-place soils meeting or exceeding the design R-value of 33. Based on the Logs of Test Pits, laboratory testing and correlation of R-values with sieve analyses and Atterberg Limit test results using approved NMDOT correlation methods, the following table is provided for use in determining locations of materials meeting or exceeding the higher R-value of 33. The actual lateral extent of the higher R-value materials along the alignment, away from the stations noted in the table, should be determined during construction. In the areas where the R-value meets or exceeds the design of 33, the materials should be removed to a depth of two feet below the pavement subgrade section and re-compacted in accordance with NMDOT specifications. In areas where the subgrade soils have a R-value (actual or correlated) of less than 33, the unacceptable soils should be removed to a depth of two feet below the proposed pavement section and replaced with materials meeting or exceeding the 33 R-value used for the design.

Drainage will be critical in areas where shale is encountered and where shale will remain below the roadway after imported fill is placed for pavement section subgrade. Positive drainage to carry surface water to drainage channels, ditches or natural water courses should be provided during construction and maintained throughout the life of the proposed project. Infiltration of water into construction excavations and below pavement into the subgrade soils must be prevented during construction and for the life of the project. Prevention of water infiltrating into the subsurface soils underling the roadway will be necessary for long-term satisfactory structure performance.

As presented in the table below, areas that meet or exceed an R-value of 33 were encountered in Test Pits TP-3, TP-11, TP-12, TP-14, TP-16, TP-17 and TP-19. The materials encountered in the other test pits had either tested or correlated R-values that were less than 33.

Test Pit	Location	Correlated R-Value	Soil Type	Elevation	Depth (feet)
TP-1	13+50	10	CL w/ sand (sandy shale)	5707	5-8
TP-2	39+75	23	SM (sandstone)	5765	4-6
TP-3	44+00	38	SC-SM (sandstone)	5788	1-3
TP-4	46+50	< 5 (11 tested)	SC (sandstone)	5805	2-4
TP-5	60+25	8	sandy CL (shale)	5849	1-3
TP-6	62+75	6	CL w/ sand (shale)	5845	10-12
TP-7	65+00	7	sandy CL (shale)	5850	5-7
TP-8	67+00	5 (18 tested)	CL w/ sand (shale)	5853	5-7
TP-9	69+25	9	sandy CL (shale)	5865	9-11
TP-10	77+75	11(10 tested)	sandy CL (shale)	5861	10-12
TP-11	83+75	36	SM (sandstone)	5873	4-6
TP-12	86+00	34	SM (sandstone)	5863	4-6
TP-13	96+00	15 (21tested)	SC (sandstone)	5886	0-2
TP-14	99+50	45	SM (sandstone)	5906	0-2
TP-15	112+00	13	SC (sandstone)	5922	7-9
TP-16	126+00	40	SC-SM	5859	10-12
TP-17	141+00	36	SC	5799	12-15
TP-18	154+00	12 (11 tested)	sandy CL (sandstone)	5805	12-14
TP-19	East Branch to Hwy 173	35	SC	5810	14-16

ADDITIONAL PAVEMENT RECOMMENDATIONS: The client and the owner have requested additional alternatives for pavement structural design so that the project can be constructed in stages to accommodate the cyclical acquisition of available funding for this project. As a result, Terracon has developed pavement alternatives for a 10-year design input into the NMDOT Plant Mix Bituminous Pavement (PMBP) pavement design analyses program and a 20-year Portland Cement Concrete Pavement (PCCP) alternative for the intersection of the new Arterial Route and State Highway 173. These alternatives are presented in the following two tables.

Flexible (PMBP) Pavement Design: Based on the NMDOT procedure, the recommended 10-year design life pavement structural section alternatives for asphaltic concrete over aggregate base course placed on compacted subgrade soils is as follows:

PROPOSED EAST ARTERIAL ROUTE 10 YEAR DESIGN LIFE ALTERNATIVE AZTEC, NEW MEXICO				
Pavement Structural Section	**Plant-Mix Bituminous Pavement (PMBP) (inches)**	**Compacted Aggregate Base Course (ABC) (inches)**	**Subgrade R-Value**	**Scarified, Moisture Conditioned and Compacted Subgrade Soils (inches)**
Flexible (PMBP)	3½	15	33 (Acceptable Native Soils or Replacement Imported Soils)	6
Flexible (PMBP)	4	13	33 (Acceptable Native Soils or Replacement Imported Soils)	6
Flexible (PMBP)	5¾	6	33 (Acceptable Native Soils or Replacement Imported Soils	6

The intent of using the 10-year design life analyses was that this pavement structural design could be constructed as the first stage of the final 20-year design life structural section.

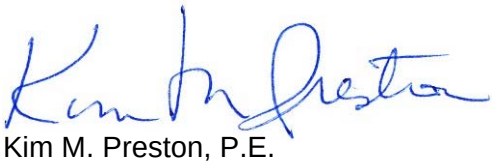
Rigid (PCCP) Pavement Design: Based on the NMDOT procedure, the recommended pavement structural section for Portland Cement Concrete Pavement (PCCP) over aggregate base course placed on compacted subgrade soils is as follows:

PROPOSED EAST ARTERIAL ROUTE INTERSECTION WITH STATE HIGHWAY 173 AZTEC, NEW MEXICO				
Pavement Structural Section	**Portland Cement Concrete Pavement (PMBP) (inches)**	**Compacted Aggregate Base Course (ABC) (inches)**	**Subgrade R-Value**	**Scarified, Moisture Conditioned and Compacted Subgrade Soils (inches)**
Rigid (PCCP)	10½	6	33 (Acceptable Native Soils or Replacement Imported Soils	6

All other recommendations presented in the referenced report remain the same. This addendum shall be attached to and made a permanent part of all copies of the referenced report.

We appreciate being of service to you in the geotechnical engineering phase of this project, and are prepared to assist you during the construction phases as well. If you have any questions concerning this report or any of our testing, inspection, design and consulting services, please do not hesitate to contact us.

Sincerely,
TERRACON CONSULTANTS, INC.



Kim M. Preston, P.E.
Flora Vista Office Manager

Mary E. Wells, P.E.
Principal

Distribution: Addressee (3)

GEOTECHNICAL ENGINEERING REPORT

EAST AZTEC ARTERIAL ROUTE
AZTEC, NEW MEXICO

Terracon Project No. 69085011
August 28, 2008

Prepared for:

WILSON & COMPANY, INC., ENGINEERS & ARCHITECTS
2600 American Road, Suite 100
Rio Rancho, New Mexico 87124

Attention: Mr. Steve J. Salazar, P.E.

Prepared by:

TERRACON CONSULTANTS, INC.
#4A County Road 3499
Flora Vista, New Mexico 87415
Phone: (505) 334-2900
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Terracon

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August 28, 2008

Wilson and Company, Inc.
2600 American Road, Suite 100
Rio Rancho, New Mexico 87124

Attention: Mr. Steve J. Salazar, P.E.

Regarding: Geotechnical Engineering Report
East Aztec Arterial Route
Aztec, New Mexico
Terracon Project No. 69085011

Ladies and Gentlemen:

Terracon Consultants, Inc. (Terracon) has completed a geotechnical engineering exploration and evaluation for the proposed construction of the East Aztec Arterial Route in Aztec, New Mexico. This study was performed in general accordance with our proposal number G08-505, dated January 16, 2008. The results of our engineering evaluation, including the site plan, laboratory test results, logs of test pits, geotechnical recommendations to be used in the design and construction of the pavement sections, and other geotechnically-related phases of this project are attached.

Nineteen test pits were excavated and sampled along the proposed roadway alignment on June 23, 2008. The test pits were excavated to approximate depths ranging from 2½ to 17 feet below existing ground surface where the excavations were terminated. Refusal on sandstone and shale occurred at the shallower depths. The subsurface materials encountered generally consisted of silty sand, clayey sand, clayey silty sand, lean clay with varying amounts of sand, shale and sandstone. No ground water was encountered during the site exploration. For detailed soil conditions at a specific location, please refer to the Logs of Test Pits presented in Appendix A.

Based on the geotechnical engineering analyses, subsurface exploration and laboratory test results, it is our opinion that the site is suitable for the proposed construction. The design and construction recommendations, based upon geotechnical conditions, are included in this report. It is understood that the project is to be designed and constructed in accordance with NMDOT guidelines.

We appreciate being of service to you in the geotechnical engineering phase of this project, and are prepared to assist you during the construction phases as well. If you have any questions concerning this report or any of our testing, inspection, design and consulting services, please do not hesitate to contact us.

Sincerely,
TERRACON CONSULTANTS, INC.

Heather M. Dawson
Staff Geologist

Kim M. Preston, P.E.
Four Corners Area Manager

Mary E. Wells, P.E.
Principal

Distribution: Addressee (3)

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GEOTECHNICAL ENGINEERING REPORT

EAST AZTEC ARTERIAL ROUTE
AZTEC, NEW MEXICO

Terracon Project No. 69085011
August 28, 2008

INTRODUCTION

This report contains the results of Terracon's geotechnical engineering exploration and evaluation for the proposed construction of the East Aztec Arterial Route in Aztec, New Mexico.

The purpose of these services is to provide information and geotechnical engineering recommendations relative to:

- Subsurface soil conditions;
- Groundwater conditions;
- Pavement structural section design and construction;
- General earthwork; and
- Geotechnically-related drainage.

The recommendations contained in this report are based upon the results of field and laboratory testing, engineering analyses, experience with similar soil conditions and structures, and our understanding of the proposed project.

PROPOSED CONSTRUCTION

The project will consist of the construction of approximately two and a half miles of new roadway and approximately one mile of reconstructed roadway proposed as the East Aztec Arterial Route for the City of Aztec, New Mexico. This new roadway will connect US Highway 550 southwest of the city to New Mexico State Highway 173 east of the city. Approximately one mile of New Mexico State Highway 173 will be reconstructed from the new roadway west to US Highway 550. The design for the reconstruction of the portion of New Mexico State Highway 173 will be performed by New Mexico Department of Transportation (NMDOT) and is not included in this study. It is our understanding that that no below grade or earth retention structures are included in the development of this project. The project is to be designed and constructed in accordance with New Mexico Department of Transportation (NMDOT) guidelines.

SITE EXPLORATION

The scope of the services performed for this project included site reconnaissance by a staff geologist, a subsurface exploration program, laboratory testing and engineering analyses.

Field Exploration: Nineteen test pits were excavated and sampled on June 23, 2008. The test pits were advanced by an utilizing a subcontracted, track-mounted excavator (track-hoe) to approximate depths ranging from 2½ to 17 feet below existing ground surface. Refusal on sandstone and shale occurred at the shallower depths. No groundwater was encountered at the time of exploration. The approximate locations of the exploratory borings are shown on the Boring Location Plan in Appendix A.

The test pits were located in the field by measuring from existing site features by using a measuring wheel or pacing at right angles, and locations are therefore estimated. The accuracy of boring locations should only be assumed to the level implied by the methods used to determine locations.

A lithologic log of each test pit was recorded by the field engineer during the excavation operations. Bulk samples of subsurface materials were obtained from each test pit.

Laboratory Testing: Samples retrieved during the field exploration were taken to the laboratory for observation by the project geotechnical engineer and were classified in general accordance with the Unified Soil Classification System described in Appendix C. At that time an applicable laboratory testing program was formulated to determine engineering properties of the subsurface materials.

Laboratory tests were conducted on selected soil samples and are presented in Appendix B and on the Logs of Test Pits in Appendix A. The test results were used for the geotechnical engineering analyses, pavement structural section design, and earthwork and drainage recommendations. Laboratory tests were performed in general accordance with the applicable local or other accepted standards.

Selected soil samples were tested for the following engineering properties:

- Moisture content
- Plasticity index
- Corrosivity
- Grain size distribution
- R-value

Upon completion of the laboratory testing, the field descriptions were confirmed or modified as necessary and Logs of Test Pits were prepared and are presented in Appendix A.

SITE CONDITIONS

The site is characterized as being rural, undeveloped land vegetated by trees, shrubs, and grasses native to the area. The area is crossed by several dirt roads used by oil field traffic to access the well sites scattered throughout the area. The topography of the west and north portions of the project is gently sloping with rolling hills and variable sized washes. The middle portion of the project is higher in elevation with more rugged terrain, steeper hillsides and deeper washes.

SUBSURFACE CONDITIONS

Geology: The project area is located within the San Juan Basin of the Colorado Plateau physiographic providence. The San Juan Basin, formed during the Laramide Orogeny of Tertiary time, is a structurally complex feature characterized by a broad, gently downwarping interior which is flanked by numerous uplifts and platforms. It is rimmed by older Cretaceous rock that gradually proceeds to younger Tertiary rock towards the center of the basin. The project site area lies on the Tertiary Nacimiento Formation, locally consisting of sandstone, shale and conglomerates.

Soil Conditions: As presented on the Logs of Test Pits, the subsurface materials encountered generally consisted of silty sand, clayey sand, clayey silty sand, lean clay with varying amounts of sand, shale and sandstone. The shale was commonly sandy and the sandstone commonly clayey. Bedrock was often encountered at a shallow depth with the exception of Test Pits TP-17 and TP-19 where no sandstone or shale was encountered to the total explored depth of 17 feet below ground surface.

Field and Laboratory Test Results: The results of field exploration and laboratory testing completed for this evaluation indicate the surficial site soils range from silty and clayey sands to sandy lean clays. Five representative samples submitted for laboratory testing indicate that project soils have R-values ranging from 10 to 21. NMDOT method correlations of sieve analyses and plasticity index test results indicated correlated R-values ranging from less than 5 to 45.

Groundwater Conditions: Groundwater was not encountered in the test pits at the time of field exploration. These observations represent groundwater conditions at the time of the field exploration, and may not be indicative of other times, or at other locations. Groundwater levels can be expected to fluctuate with varying seasonal weather conditions and other factors.

Zones of perched and/or trapped groundwater may also occur at times in the subsurface soils overlying the moderate to high plasticity clayey sand soils. The location and amount of

perched water is dependent upon several factors, including hydrologic conditions, type of site development, irrigation demands on or adjacent to the site, fluctuations in water features, seasonal and weather conditions.

ENGINEERING ANALYSES AND RECOMMENDATIONS

Geotechnical Considerations: The site appears suitable for construction of the proposed construction based upon geotechnical conditions encountered in the exploratory test pits. Design and construction recommendations for the Plant-Mix Bituminous Pavement (PMBP) and Portland Cement Concrete Pavement (PCCP) structural sections and other geotechnically-related earthwork connected phases of the project are outlined below.

There are a significant number of very heavy trucks associated with the nearby gas industry field work in the area that are anticipated to use this roadway on a daily basis. Based on experience in the area with similar projects the use of rigid Portland Cement Concrete Pavement (PCCP) is recommended for the new roadway. The heavy traffic loading, the current relative costs associated with the procurement of oil for asphalt products and conversations with NMDOT pavement personnel resulted in this recommendation. PMBP pavement sections are also provided for use by the project engineer and the owner in selecting the pavement material and structural section for the project. **It is important that the owner understands that due to the volume of heavy truck traffic, using the Flexible Pavement (PMBP) option will likely result in rutting in the future, which will require milling and inlay to repair the rutting.**

Pavement Design: The pavement structural section design for the project is based on the New Mexico Department of Transportation (NMDOT) Pavement Type Selection and Design Guideline, Revision III, dated July 21, 2008. Traffic 18-kip equivalent single axle load (ESAL) criteria for nearby roadways was provided by NMDOT personnel for use in the pavement thickness design process. The ESAL criteria used was developed from the provided NMDOT information.

Laboratory test results and correlated R-values were input into the NMDOT program in addition to NMDOT designated parameters for the project type and the local area. Input parameters and regional factors are presented in the following table.

PARAMETER AND/OR AREA FACTOR	PMBP VALUE	PCCP VALUE
Design R-Value	13/33	13/33
Regional Factor	1.8	
Initial Serviceability	4.2	4.2
Terminal Serviceability	2.0	2.0
Design ESAL Years	20	20

PARAMETER AND/OR AREA FACTOR	PMBP VALUE	PCCP VALUE
Design Structural Number	4.55	
Design ESAL	SN1 5,054,141	10,000,000
	SN2 5,363,090	
	SN3 5,701,746	
	SN4 5,327,255	
	SN5 5,461,550	
	SN6 4,778,103	
PMBP Type	SP-III	
PG Base Grade	64-22	
PCCP 28-Day Compressive Strength		Class F 3,000 psi @14 days*
Load Transfer Coefficient		2.9**

***Slip-formed Pavements**

****Tied P.C.C. Shoulders per NMDOT Specifications**

Flexible (PMBP) Pavement Design: Based on the NMDOT procedure, the recommended pavement structural section alternatives for asphaltic concrete over aggregate base course placed on compacted subgrade soils is as follows:

PROPOSED EAST ARTERIAL ROUTE AZTEC, NEW MEXICO				
Pavement Structural Section	**Plant-Mix Bituminous Pavement (PMBP) (inches)**	**Compacted Aggregate Base Course (ABC) (inches)**	**Subgrade R-Value**	**Scarified, Moisture Conditioned and Compacted Subgrade Soils (inches)**
Flexible (PMBP)	9½	6.0	14 (Native Clayey Soils)	6.0
Flexible (PMBP)	7½	6.0	33 (Imported Sand Soils)	6.0

The subgrade soils below the aggregate base course, should be scarified to a minimum depth of 6 inches, moisture conditioned within optimum to 5 percent below optimum for subgrade soils with Plasticity Index less than 15 and optimum to 4 percent above optimum for plasticity Index greater than or equal to 15 and compacted to a minimum of 100 percent of the maximum laboratory dry density as evaluated by AASHTO T 99 (Standard Proctor).

Aggregate base course should consist of a blend of sand and gravel that meets strict specifications for quality and gradation. Use of materials meeting New Mexico State Highway and Transportation Department Class IB or IIB specifications is recommended.

Aggregate base course material should be tested to determine compliance with these specifications prior to importation to the site.

Plant-Mix Bituminous Pavement and Bituminous Treated Base design and construction should conform to the requirements of the New Mexico State Highway and Transportation Standard Specifications for Highway and Bridge Construction. Aggregate used in asphalt concrete should meet specifications for SP-III PMBP using a 64-22 PG base grade asphalt binder. If the project design speed is 40 miles per hour (mph) or greater, either an open graded friction course or other approved alternative material is required. The mix design should be submitted prior to construction to verify its adequacy.

Rigid (PCCP) Pavement Design: Based on the NMDOT procedure, the recommended pavement structural section for Portland Cement Concrete Pavement (PCCP) over aggregate base course placed on compacted subgrade soils is as follows:

PROPOSED EAST ARTERIAL ROUTE AZTEC, NEW MEXICO				
Pavement Structural Section	**Portland Cement Concrete Pavement (PMBP) (inches)**	**Compacted Aggregate Base Course (ABC) (inches)**	**Subgrade R-Value**	**Scarified, Moisture Conditioned and Compacted Subgrade Soils (inches)**
Rigid (PCCP)	10½	6.0	14 (Native Clayey Soils)	6.0
Rigid (PCCP)	10½	6.0	33 (Imported Sand Soils)	6.0

Where rigid pavements are used, the New Mexico State Highway and Transportation Department Standard Specifications for Highway and Bridge Construction should be followed.

The performance of all pavements can be enhanced by minimizing excess moisture which can reach the subgrade soils. The following recommendations should be considered at minimum:

- Site grading at a minimum 2 percent grade away from the pavements;
- Compaction of any utility trenches for landscaped areas to the same criteria as the pavement subgrade;
- Sealing all landscaped areas in, or adjacent to pavements to minimize or prevent moisture migration to subgrade soils;
- Placing compacted backfill against the exterior side of curb and gutter; and,

- Placing curb, gutter and/or sidewalk directly on subgrade soils without the use of base course materials.

Preventative maintenance should be planned and provided for through an on-going pavement management program in order to enhance future pavement performance. Preventative maintenance activities are intended to slow the rate of pavement deterioration, and to preserve the pavement investment.

Preventative maintenance consists of both localized maintenance (e.g. crack sealing and patching) and global maintenance (e.g. surface sealing). Preventative maintenance is usually the first priority when implementing a planned pavement maintenance program and provides the highest return on investment for pavements.

Earthwork:

General Considerations: The following presents recommendations for site preparation, excavation, subgrade preparation and placement of engineered fills on the project. Earthwork should be in accordance with Section 200 of the New Mexico State Highway and Transportation Department Standard Specifications for Highway and Bridge Construction.

Earthwork on the project should be observed and tested by Terracon. These services should include observation and testing of engineered fill, subgrade preparation and other geotechnical conditions exposed during the construction of the project.

Clearing and Grubbing: Clearing and Grubbing should be in accordance with Section 201 of the New Mexico State Highway and Transportation Department Standard Specifications for Highway and Bridge Construction.

Excavation, Borrow and Embankment: Excavation, Borrow and Embankment should be in accordance with Section 203 of the New Mexico State Highway and Transportation Department Standard Specifications for Highway and Bridge Construction.

Subgrade Preparation: Subgrade Preparation should be in accordance with Section 207 of the New Mexico State Highway and Transportation Department Standard Specifications for Highway and Bridge Construction.

Excavation and Trench Construction: Excavations into the on-site soils will encounter a variety of conditions. However, caving soils may be encountered on the site. The individual contractor(s) should be responsible for designing and

constructing stable, temporary excavations as required to maintain stability of both the excavation sides and bottom. All excavations should be sloped or shored in the interest of safety following local, and federal regulations, including current OSHA excavation and trench safety standards.

As a safety measure, it is recommended that all vehicles and soil piles be kept to a minimum lateral distance from the crest of the slope equal to no less than the slope height. The exposed slope face should be protected against the elements.

The contractor should retain a geotechnical engineer to monitor the soils exposed in all excavations and provide engineering services for slopes. This will provide an opportunity to monitor the soil types encountered and to modify the excavation slopes as necessary. It also offers an opportunity to verify the stability of the excavation slopes during construction.

Additional Design and Construction Considerations:

Surface Drainage: Positive drainage should be provided during construction and maintained throughout the life of the proposed project. Infiltration of water into the subgrade soils and utility excavations must be prevented during construction and maintained throughout the life of the proposed project. Backfill in utility trenches should be well compacted and free of all construction debris to reduce the possibility of moisture infiltration.

Corrosion Protection: Experience with the soils in the project area indicates that ASTM Type II Portland cement is suitable for concrete on and below grade. Foundation concrete should be designed in accordance with the provisions of the ACI Design Manual, Section 318, Chapter 4.

GENERAL COMMENTS

Construction of the new roadway following recommendations provided in this report will help to minimize future movement of the pavement sections. However, due to the inconsistent and unpredictable nature of the in-situ soils at the site, some movement and cracking in the new Portland cement concrete curb and gutter as well as the PMBP and PCCP structure could occur in the future. **The owner needs to understand that the Flexible Pavement choice will likely result in rutting in the future and will require milling and inlay to repair the rutting.**

Terracon should be retained to review the final design plans and specifications so comments can be made regarding interpretation and implementation of our geotechnical recommendations in the design and specifications. Terracon also should be retained to

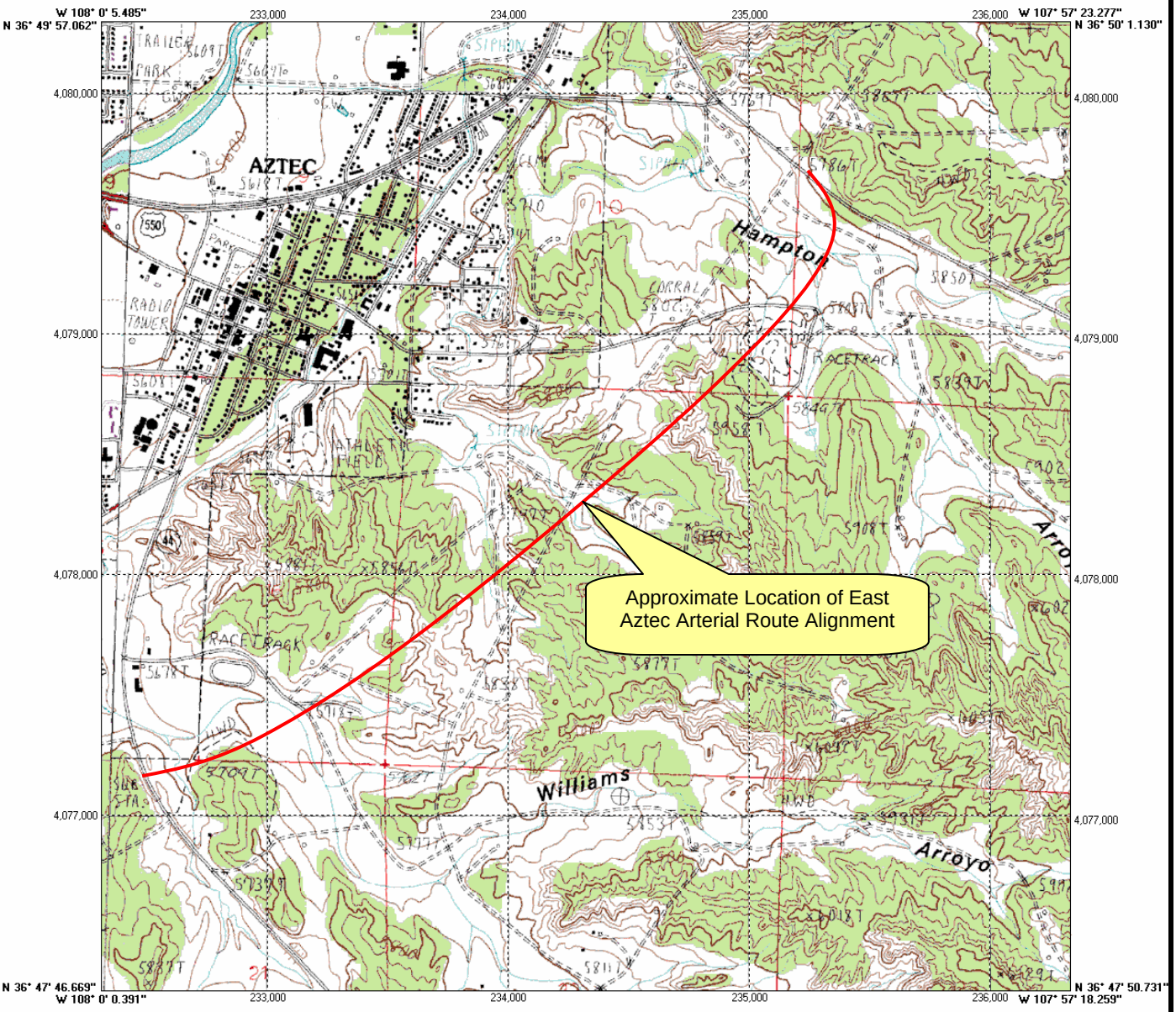
provide testing and observation during excavation, grading, and construction phases of the project.

The analysis and recommendations presented in this report are based upon the data obtained from the test pits performed at the indicated locations and from other information discussed in this report. This report does not reflect variations that may occur between test pits, across the site, or due to the modifying effects of weather. The nature and extent of such variations may not become evident until during or after construction. If variations appear, we should be immediately notified so that further evaluation and supplemental recommendations can be provided.

The scope of services for this project does not include either specifically or by implication any environmental assessment of the site or identification of contaminated or hazardous materials or conditions. If the owner is concerned about the potential for such contamination, other studies should be undertaken.

This report has been prepared for the exclusive use of our client for specific application to the project discussed and has been prepared in accordance with generally accepted geotechnical engineering practices. No warranties, either express or implied, are intended or made. Site safety, excavation support, and de-watering requirements are the responsibility of others. In the event that changes in the nature, design, or location of the project as outlined in this report are planned, the conclusions and recommendations contained in this report shall not be considered valid unless Terracon reviews the changes and either verifies or modifies the conclusions of this report in writing.

MAP



1927 North American Datum; 1,000-meter UTM grid zone 13
Generated by BigTopo (www.igage.com)
Map compiled from USGS Quads: Flora Vista; NM Aztec; NM

0 ¼ ½ 1 Mile
0 1000 2000 3000 5000 Feet
0 0.5 1 Kilometer

Site Plan

Project Mngr:	KMP
Drawn By:	HMD
Checked By:	KMP
Approved By:	KMP

Project No.	68085011
Scale	~ 1:24,000
File No.	Site Map.doc
Date:	08/15/08

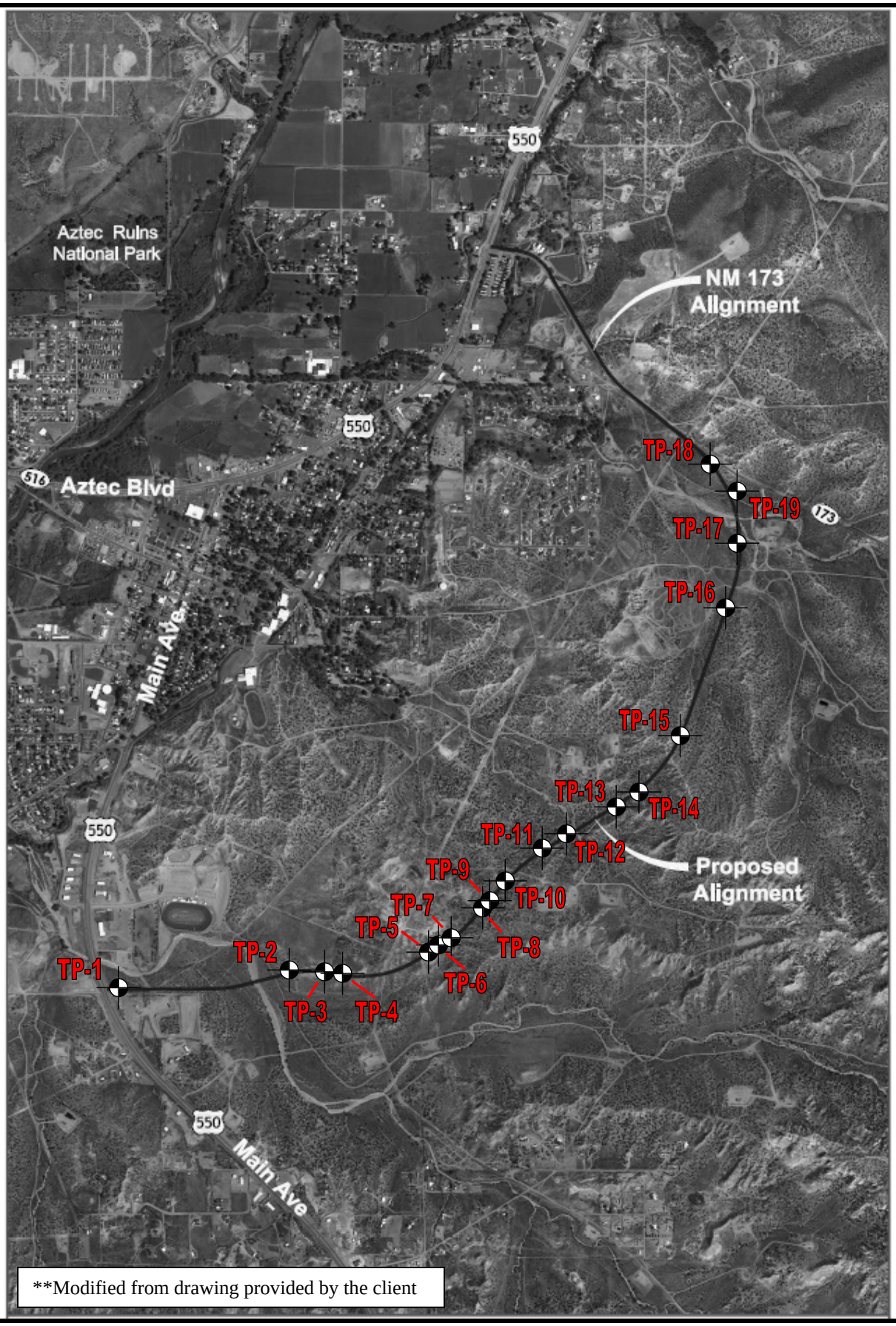
Terracon
Consulting Engineers & Scientists
#4A CR 3499
Flora Vista, New Mexico
505.334.2900 Fax: 505.334.9703

Site Location Map

East Aztec Arterial Route
Aztec, New Mexico

FIG No.

1



**Modified from drawing provided by the client

Project Mngr:	KMP
Drawn By:	HMD
Checked By:	KMP
Approved By:	KMP

Project No.	68085011
Scale	~ 1:24,000
File No.	Borings.doc
Date:	08/15/08

Terracon
Consulting Engineers & Scientists
#4A CR 3499
Flora Vista, New Mexico
505.334.2900 Fax: 505.334.9703

Test Pit Location Plan

East Aztec Arterial Route
Aztec, New Mexico

FIG No.

2

LOG OF BORING NO. TP-1

CLIENT
Wilson & Company, Inc.

SITE
Aztec, New Mexico

PROJECT
East Aztec Arterial Route

Boring Location: 13+50

Approx. Surface Elev.: 5707 ft

GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES: CORE SIZE	SAMPLES: TYPE	SAMPLES: RECOVERY	SAMPLES: BLOW COUNTS, n	TESTS: WATER CONTENT, %	TESTS: DRY UNIT WT pcf	TESTS: UNCONFINED STRENGTH, psi
	LEAN CLAY WITH SAND; tan, dry.									
	1.5 5705.5									
	SANDY SHALE; tan to light gray, dry to moist, complete to slight weathering, very soft to moderately hard.									
		5	CL		GRAB			13.0		
		10								
	11.5 5695.5									
	12 **SANDSTONE**; tan, moist, very slight weathering, moderately hard. 5695									
	Exploration terminated at 12 feet below existing ground surface due to equipment refusal on sandstone. No groundwater encountered.									

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Elevations are interpolated from drawing provided by client and are approximate.

WATER LEVEL OBSERVATIONS, ft		
WL	▽	▼
WL	▼	▽
WL		

Terracon

BORING STARTED	6-23-08		
BORING COMPLETED	6-23-08		
RIG	CME-75	FOREMAN	HMD
APPROVED	KMP	JOB #	69085011

BOREHOLE_99 LOG OF BORING.GPJ TERRACON.GDT 8/18/08

LOG OF BORING NO. TP-2

CLIENT
Wilson & Company, Inc.

SITE
Aztec, New Mexico

PROJECT
East Aztec Arterial Route

Boring Location: 39+75

Approx. Surface Elev.: 5765 ft

GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES: CORE SIZE	SAMPLES: TYPE	SAMPLES: RECOVERY	SAMPLES: BLOW COUNTS, n	TESTS: WATER CONTENT, %	TESTS: DRY UNIT WT pcf	TESTS: UNCONFINED STRENGTH, psi
	SILTY SAND; tan, dry.									
	2	5763								
	SANDSTONE; tan, dry to moist, complete to slight weathering, very soft to hard.		SM		GRAB			8.0		
		5								
	7	5758								
	Exploration terminated at 7 feet below existing groundsurface due to equipment refusal on sandstone. No groundwater encountered.									

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Elevations are interpolated from drawing provided by client and are approximate.

WATER LEVEL OBSERVATIONS, ft		
WL	▽	▼
WL	▼	▽
WL		

Terracon

BORING STARTED	6-23-08		
BORING COMPLETED	6-23-08		
RIG	CME-75	FOREMAN	HMD
APPROVED	KMP	JOB #	69085011

LOG OF BORING NO. TP-3

CLIENT
Wilson & Company, Inc.

SITE
Aztec, New Mexico

PROJECT
East Aztec Arterial Route

Boring Location: 44+00

Approx. Surface Elev.: 5788 ft

GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES: CORE SIZE	SAMPLES: TYPE	SAMPLES: RECOVERY	SAMPLES: BLOW COUNTS, n	TESTS: WATER CONTENT, %	TESTS: DRY UNIT WT pcf	TESTS: UNCONFINED STRENGTH, psi
	SANDSTONE; tan and orange, dry to moist, complete to slight weathering, very soft to hard.		SC SM		GRAB			6.0		
	3	5785								
	Exploration terminated at 3 feet below existing ground surface due to equipment refusal on sandstone. No groundwater encountered.									

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Elevations are interpolated from drawing provided by client and are approximate.

WATER LEVEL OBSERVATIONS, ft		
WL	▽	▼
WL	▼	▽
WL		

Terracon

BORING STARTED			6-23-08
BORING COMPLETED			6-23-08
RIG	CME-75	FOREMAN	HMD
APPROVED	KMP	JOB #	69085011

BOREHOLE_99 LOG OF BORING.GPJ TERRACON.GDT 8/18/08

LOG OF BORING NO. TP-4

CLIENT
Wilson & Company, Inc.

SITE
Aztec, New Mexico

PROJECT
East Aztec Arterial Route

Boring Location: 46+50

GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES: CORE SIZE	SAMPLES: TYPE	SAMPLES: RECOVERY	SAMPLES: BLOW COUNTS, n	TESTS: WATER CONTENT, %	TESTS: DRY UNIT WT pcf	TESTS: UNCONFINED STRENGTH, psi
	Approx. Surface Elev.: 5805 ft									
	SANDSTONE; grayish tan, clayey, dry to moist, very severe to moderate weathering, soft to hard.									
			SC		GRAB			9.0		
		4 5801								
	Exploration terminated at 4 feet below existing ground surface due to equipment refusal on sandstone. No groundwater encountered.									

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Elevations are interpolated from drawing provided by client and are approximate.

WATER LEVEL OBSERVATIONS, ft		
WL	▽	▼
WL	▼	▽
WL		

Terracon

BORING STARTED			6-23-08
BORING COMPLETED			6-23-08
RIG	CME-75	FOREMAN	HMD
APPROVED	KMP	JOB #	69085011

BOREHOLE_99 LOG OF BORING.GPJ TERRACON.GDT 8/18/08

LOG OF BORING NO. TP-5

CLIENT
Wilson & Company, Inc.

SITE
Aztec, New Mexico

PROJECT
East Aztec Arterial Route

Boring Location: 50+25

Approx. Surface Elev.: 5849 ft

GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES: CORE SIZE	SAMPLES: TYPE	SAMPLES: RECOVERY	SAMPLES: BLOW COUNTS, n	TESTS: WATER CONTENT, %	TESTS: DRY UNIT WT pcf	TESTS: UNCONFINED STRENGTH, psi
	LEAN CLAY WITH SAND; tan, dry.									
	1.5	5847.5	CL		GRAB			7.0		
	SHALE; gray, sandy, moist, complete to moderate weathering, very soft to medium hardness.									
	3.5	5845.5								
	4 **SANDSTONE**; gray, clayey, slight weathering, hard to very hard.	5845								
	Exploration terminated at 4 feet below existing ground surface due to equipment refusal on sandstone. No groundwater encountered.									

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Elevations are interpolated from drawing provided by client and are approximate.

WATER LEVEL OBSERVATIONS, ft		
WL	▽	▼
WL	▼	▽
WL		

Terracon

BORING STARTED	6-23-08		
BORING COMPLETED	6-23-08		
RIG	CME-75	FOREMAN	HMD
APPROVED	KMP	JOB #	69085011

BOREHOLE_99 LOG OF BORING.GPJ TERRACON.GDT 8/18/08

LOG OF BORING NO. TP-6

CLIENT
Wilson & Company, Inc.

SITE
Aztec, New Mexico

PROJECT
East Aztec Arterial Route

Boring Location: 62+75

Approx. Surface Elev.: 5845 ft

GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES: CORE SIZE	SAMPLES: TYPE	SAMPLES: RECOVERY	SAMPLES: BLOW COUNTS, n	TESTS: WATER CONTENT, %	TESTS: DRY UNIT WT pcf	TESTS: UNCONFINED STRENGTH, psi
	LEAN CLAY WITH SAND; light gray, dry.	1								
		5844								
	SHALE; dark to light gray, dry to moist, complete to very slight weathering, very soft to moderately hard.	5								
		10	CL		GRAB			7.0		
		12								
		5833								
	Exploration terminated at 12 feet below existing ground surface due to equipment refusal on possible sandstone. No groundwater encountered.									

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Elevations are interpolated from drawing provided by client and are approximate.

WATER LEVEL OBSERVATIONS, ft		
WL	▽	▼
WL	▼	▽
WL		

Terracon

BORING STARTED	6-23-08		
BORING COMPLETED	6-23-08		
RIG	CME-75	FOREMAN	HMD
APPROVED	KMP	JOB #	69085011

BOREHOLE_99 LOG OF BORING.GPJ TERRACON.GDT 8/18/08

LOG OF BORING NO. TP-7

CLIENT
Wilson & Company, Inc.

SITE
Aztec, New Mexico

PROJECT
East Aztec Arterial Route

Boring Location: 65+00

Approx. Surface Elev.: 5850 ft

GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES: CORE SIZE	SAMPLES: TYPE	SAMPLES: RECOVERY	SAMPLES: BLOW COUNTS, n	TESTS: WATER CONTENT, %	TESTS: DRY UNIT WT pcf	TESTS: UNCONFINED STRENGTH, psi
	SANDY LEAN CLAY; tan, dry.									
	2 — 5848									
	SHALE; tan to gray, sandy, dry to moist, complete to slight weathering, very soft to hard.									
		5	CL		GRAB			5.0		
	7.5 — 5842.5									
	Exploration terminated at 7.5 feet below ground surface due to equipment refusal on shale. No groundwater encountered.									

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Elevations are interpolated from drawing provided by client and are approximate.

WATER LEVEL OBSERVATIONS, ft		
WL	▽	▼
WL	▼	▽
WL		

Terracon

BORING STARTED	6-23-08		
BORING COMPLETED	6-23-08		
RIG	CME-75	FOREMAN	HMD
APPROVED	KMP	JOB #	69085011

BOREHOLE_99 LOG OF BORING.GPJ TERRACON.GDT 8/18/08

LOG OF BORING NO. TP-8

CLIENT
Wilson & Company, Inc.

SITE
Aztec, New Mexico

PROJECT
East Aztec Arterial Route

Boring Location: 67+00

Approx. Surface Elev.: 5853 ft

GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES: CORE SIZE	SAMPLES: TYPE	SAMPLES: RECOVERY	SAMPLES: BLOW COUNTS, n	TESTS: WATER CONTENT, %	TESTS: DRY UNIT WT pcf	TESTS: UNCONFINED STRENGTH, psi
	SHALE; light to dark gray, sandy, dry to moist, complete to slight weathering, massive to thin bedded.									
	4 — 5849									
	SANDSTONE; yellow, dry, medium grained, slight weathering, moderately hard.	5	CL		GRAB			5.0		
	5.5 — 5847.5									
	SHALE; light gray to gray, moist to dry, very slight weathering, moderately hard to hard.									
	7.5 — 5845.5									
	Exploration terminated at 7.5 feet below existing ground surface due to equipment refusal on shale. No groundwater encountered.									

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Elevations are interpolated from drawing provided by client and are approximate.

WATER LEVEL OBSERVATIONS, ft		
WL	▽	▼
WL	▼	▽
WL		

Terracon

BORING STARTED	6-23-08		
BORING COMPLETED	6-23-08		
RIG	CME-75	FOREMAN	HMD
APPROVED	KMP	JOB #	69085011

BOREHOLE_99 LOG OF BORING.GPJ TERRACON.GDT 8/18/08

LOG OF BORING NO. TP-9

CLIENT
Wilson & Company, Inc.

SITE
Aztec, New Mexico

PROJECT
East Aztec Arterial Route

Boring Location: 69+25

Approx. Surface Elev.: 5865 ft

GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES: CORE SIZE	SAMPLES: TYPE	SAMPLES: RECOVERY	SAMPLES: BLOW COUNTS, n	TESTS: WATER CONTENT, %	TESTS: DRY UNIT WT pcf	TESTS: UNCONFINED STRENGTH, psi
	SHALE; tan to gray, sandy, dry to moist, complete to slight weathering, very soft to medium hardness.									
	7	5858								
	7.5 **SANDSTONE**; yellow, dry, medium grained, slight weathering, moderately hard.	5857.5								
	SHALE; gray to dark gray, dry to moist, very slight weathering, medium to hard.	5	CL		GRAB			6.0		
	11	10 5854								
	Exploration terminated at 11 feet below existing ground surface due to equipment refusal on sandstone. No groundwater encountered.									

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Elevations are interpolated from drawing provided by client and are approximate.

WATER LEVEL OBSERVATIONS, ft		
WL	▽	▼
WL	▼	▽
WL		

Terracon

BORING STARTED	6-23-08		
BORING COMPLETED	6-23-08		
RIG	CME-75	FOREMAN	HMD
APPROVED	KMP	JOB #	69085011

BOREHOLE_99 LOG OF BORING.GPJ TERRACON.GDT 8/18/08

LOG OF BORING NO. TP-10

CLIENT
Wilson & Company, Inc.

SITE
Aztec, New Mexico

PROJECT
East Aztec Arterial Route

Boring Location: 77+25

Approx. Surface Elev.: 5861 ft

GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES: CORE SIZE	SAMPLES: TYPE	SAMPLES: RECOVERY	SAMPLES: BLOW COUNTS, n	TESTS: WATER CONTENT, %	TESTS: DRY UNIT WT pcf	TESTS: UNCONFINED STRENGTH, psi
	SHALE; tan to light gray, sandy, dry to moist, complete to very slight weathering, very soft to hard.	5								
		10	CL		GRAB			4.0		
	12	5849								
	Exploration terminated at 12 feet below existing ground surface due to equipment refusal on shale. No groundwater encountered.									

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Elevations are interpolated from drawing provided by client and are approximate.

WATER LEVEL OBSERVATIONS, ft		
WL	▽	▼
WL	▼	▽
WL		

Terracon

BORING STARTED	6-23-08		
BORING COMPLETED	6-23-08		
RIG	CME-75	FOREMAN	HMD
APPROVED	KMP	JOB #	69085011

BOREHOLE_99 LOG OF BORING.GPJ TERRACON.GDT 8/18/08

LOG OF BORING NO. TP-11

CLIENT
Wilson & Company, Inc.

SITE
Aztec, New Mexico

PROJECT
East Aztec Arterial Route

Boring Location: 83+75

Approx. Surface Elev.: 5873 ft

GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES: CORE SIZE	SAMPLES: TYPE	SAMPLES: RECOVERY	SAMPLES: BLOW COUNTS, n	TESTS: WATER CONTENT, %	TESTS: DRY UNIT WT pcf	TESTS: UNCONFINED STRENGTH, psi
	CLAYEY SILTY SAND; white tan, dry.	1								
		5872								
	SANDSTONE; tan, dry, complete to slight weathering, very soft to hard.		SM		GRAB			4.0		
		5								
		6								
		5867								
	Exploration terminated at 6 feet below existing ground surface due to equipment refusal on sandstone. No groundwater encountered.									

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Elevations are interpolated from drawing provided by client and are approximate.

WATER LEVEL OBSERVATIONS, ft		
WL	▽	▼
WL	▼	▽
WL		

Terracon

BORING STARTED			6-23-08
BORING COMPLETED			6-23-08
RIG	CME-75	FOREMAN	HMD
APPROVED	KMP	JOB #	69085011

LOG OF BORING NO. TP-12

CLIENT
Wilson & Company, Inc.

SITE
Aztec, New Mexico

PROJECT
East Aztec Arterial Route

Boring Location: 86+00

Approx. Surface Elev.: 5863 ft

GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES: CORE SIZE	SAMPLES: TYPE	SAMPLES: RECOVERY	SAMPLES: BLOW COUNTS, n	TESTS: WATER CONTENT, %	TESTS: DRY UNIT WT pcf	TESTS: UNCONFINED STRENGTH, psi
	CLAYEY SILTY SAND; white tan, dry.	1								
		5862								
	SANDSTONE; tan, dry, complete to slight weathering, very soft to hard.		SM		GRAB			4.0		
		5								
		6								
		5857								
	Exploration terminated at 6 feet below existing ground surface due to equipment refusal on sandstone. No groundwater encountered.									

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Elevations are interpolated from drawing provided by client and are approximate.

WATER LEVEL OBSERVATIONS, ft		
WL	▽	▼
WL	▼	▽
WL		

Terracon

BORING STARTED			6-23-08
BORING COMPLETED			6-23-08
RIG	CME-75	FOREMAN	HMD
APPROVED	KMP	JOB #	69085011

BOREHOLE_99 LOG OF BORING.GPJ TERRACON.GDT 8/18/08

LOG OF BORING NO. TP-13

CLIENT
Wilson & Company, Inc.

SITE
Aztec, New Mexico

PROJECT
East Aztec Arterial Route

Boring Location: 96+00

Approx. Surface Elev.: 5886 ft

GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES: CORE SIZE	SAMPLES: TYPE	SAMPLES: RECOVERY	SAMPLES: BLOW COUNTS, n	TESTS: WATER CONTENT, %	TESTS: DRY UNIT WT pcf	TESTS: UNCONFINED STRENGTH, psi
	SANDSTONE; grayish white, clayey, dry, complete to slight weathering, soft to hard.									
			SC		GRAB			4.0		
	3	5883								
	Exploration terminated at 3 feet below existing ground surface due to equipment refusal on sandstone. No groundwater encountered.									

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Elevations are interpolated from drawing provided by client and are approximate.

WATER LEVEL OBSERVATIONS, ft		
WL	▽	▼
WL	▼	▽
WL		

Terracon

BORING STARTED			6-23-08
BORING COMPLETED			6-23-08
RIG	CME-75	FOREMAN	HMD
APPROVED	KMP	JOB #	69085011

BOREHOLE_99 LOG OF BORING.GPJ TERRACON.GDT 8/18/08

LOG OF BORING NO. TP-14

CLIENT
Wilson & Company, Inc.

SITE
Aztec, New Mexico

PROJECT
East Aztec Arterial Route

Boring Location: 99+50

Approx. Surface Elev.: 5906 ft

GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES: CORE SIZE	SAMPLES: TYPE	SAMPLES: RECOVERY	SAMPLES: BLOW COUNTS, n	TESTS: WATER CONTENT, %	TESTS: DRY UNIT WT pcf	TESTS: UNCONFINED STRENGTH, psi
	SILTY SAND; tan, dry.	1 (5905)	SM		GRAB			6.0		
	SANDSTONE; light gray, dry, complete to slight weathering, very soft to hard.	2.5 (5903.5)								
	Exploration terminated at 2.5 feet below existing ground surface due to equipment refusal on sandstone. No groundwater encountered.									

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Elevations are interpolated from drawing provided by client and are approximate.

WATER LEVEL OBSERVATIONS, ft		
WL	▽	▼
WL	▼	▽
WL		

Terracon

BORING STARTED	6-23-08		
BORING COMPLETED	6-23-08		
RIG	CME-75	FOREMAN	HMD
APPROVED	KMP	JOB #	69085011

BOREHOLE 99 LOG OF BORING.GPJ TERRACON.GDT 8/18/08

LOG OF BORING NO. TP-15

CLIENT
Wilson & Company, Inc.

SITE
Aztec, New Mexico

PROJECT
East Aztec Arterial Route

Boring Location: 112+00

Approx. Surface Elev.: 5922 ft

GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES: CORE SIZE	SAMPLES: TYPE	SAMPLES: RECOVERY	SAMPLES: BLOW COUNTS, n	TESTS: WATER CONTENT, %	TESTS: DRY UNIT WT pcf	TESTS: UNCONFINED STRENGTH, psi
	LEAN CLAY WITH SAND; tan to light gray, dry.	2								
		5920								
	SANDSTONE; tan to gray, clayey, dry to moist, complete to slight weathering, very soft to hard.	5								
			SC		GRAB			9.0		
		9								
		5913								
	Exploration terminated at 9 feet below existing ground surface due to equipment refusal on sandstone. No groundwater encountered.									

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Elevations are interpolated from drawing provided by client and are approximate.

WATER LEVEL OBSERVATIONS, ft		
WL	▽	▼
WL	▼	▽
WL		

Terracon

BORING STARTED			6-23-08
BORING COMPLETED			6-23-08
RIG	CME-75	FOREMAN	HMD
APPROVED	KMP	JOB #	69085011

BOREHOLE_99 LOG OF BORING.GPJ TERRACON.GDT 8/18/08

LOG OF BORING NO. TP-16

CLIENT
Wilson & Company, Inc.

SITE
Aztec, New Mexico

PROJECT
East Aztec Arterial Route

Boring Location: 126+00

Approx. Surface Elev.: 5859 ft

GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES: CORE SIZE	SAMPLES: TYPE	SAMPLES: RECOVERY	SAMPLES: BLOW COUNTS, n	TESTS: WATER CONTENT, %	TESTS: DRY UNIT WT pcf	TESTS: UNCONFINED STRENGTH, psi
	CLAYEY SILTY SAND; tan, dry to moist.									
		5								
		10	SC SM		GRAB			4.0		
	13	5846								
	SANDSTONE; white tan, moist, medium grained, complete to slight weathering, very soft to hard.									
	15	5844								
	Exploration terminated at 15 feet below existing ground surface due to equipment refusal on sandstone. No groundwater encountered.	15								

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Elevations are interpolated from drawing provided by client and are approximate.

WATER LEVEL OBSERVATIONS, ft		
WL	▽	▼
WL	▼	▽
WL		

Terracon

BORING STARTED	6-23-08		
BORING COMPLETED	6-23-08		
RIG	CME-75	FOREMAN	HMD
APPROVED	KMP	JOB #	69085011

BOREHOLE_99 LOG OF BORING.GPJ TERRACON.GDT 8/18/08

LOG OF BORING NO. TP-17

CLIENT
Wilson & Company, Inc.

SITE
Aztec, New Mexico

PROJECT
East Aztec Arterial Route

Boring Location: 141+00

GRAPHIC LOG	DESCRIPTION	DEPTH, ft.	USCS SYMBOL	SAMPLES: CORE SIZE	SAMPLES: TYPE	SAMPLES: RECOVERY	SAMPLES: BLOW COUNTS, n	TESTS: WATER CONTENT, %	TESTS: DRY UNIT WT pcf	TESTS: UNCONFINED STRENGTH, psi
	Approx. Surface Elev.: 5799 ft									
	CLAYEY SAND; tan, dry to moist.									
		5								
		10								
			SC		GRAB			4.0		
		15								
	17	5782								
	Exploration terminated at 17 feet below existing ground surface. No groundwater encountered.									

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Elevations are interpolated from drawing provided by client and are approximate.

WATER LEVEL OBSERVATIONS, ft		
WL	▽	▼
WL	▼	▽
WL		

Terracon

BORING STARTED	6-23-08		
BORING COMPLETED	6-23-08		
RIG	CME-75	FOREMAN	HMD
APPROVED	KMP	JOB #	69085011

BOREHOLE_99 LOG OF BORING.GPJ TERRACON.GDT 8/18/08

LOG OF BORING NO. TP-18

CLIENT
Wilson & Company, Inc.

SITE
Aztec, New Mexico

PROJECT
East Aztec Arterial Route

Boring Location: 154+00

Approx. Surface Elev.: 5805 ft

GRAPHIC LOG	DESCRIPTION	DEPTH, ft.		USCS SYMBOL	SAMPLES: CORE SIZE	SAMPLES: TYPE	SAMPLES: RECOVERY	SAMPLES: BLOW COUNTS, n	TESTS: WATER CONTENT, %	TESTS: DRY UNIT WT pcf	TESTS: UNCONFINED STRENGTH, psi
	CLAYEY SAND; tan, dry to moist.										
	7		5798								
	SHALE; light to dark gray, sandy, dry to moist, severe to slight weathering, very soft to moderately hard.	5									
	10		5795								
	SANDSTONE; white tan, moist, slight weathering, moderately hard to hard.	10		CL		GRAB			11.0		
	14		5791								
	Exploration terminated at 14 feet below existing ground surface due to equipment refusal on sandstone. No groundwater encountered.										

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Elevations are interpolated from drawing provided by client and are approximate.

WATER LEVEL OBSERVATIONS, ft		
WL	▽	▼
WL	▼	▽
WL		

Terracon

BORING STARTED			6-23-08
BORING COMPLETED			6-23-08
RIG	CME-75	FOREMAN	HMD
APPROVED	KMP	JOB #	69085011

BOREHOLE_99 LOG OF BORING.GPJ TERRACON.GDT 8/18/08

LOG OF BORING NO. TP-19

CLIENT
Wilson & Company, Inc.

SITE
Aztec, New Mexico

PROJECT
East Aztec Arterial Route

Boring Location: East Branch to Hwy 170

DESCRIPTION

Approx. Surface Elev.: 5810 ft

GRAPHIC LOG	DEPTH, ft.	USCS SYMBOL	SAMPLES: CORE SIZE	SAMPLES: TYPE	SAMPLES: RECOVERY	SAMPLES: BLOW COUNTS, n	TESTS: WATER CONTENT, %	TESTS: DRY UNIT WT pcf	TESTS: UNCONFINED STRENGTH, psi	DESCRIPTION
	0									**CLAYEY SAND**; tan, dry to moist.
	5									
	10									
	15	SC		GRAB			7.0			
	17									Exploration terminated at 17 feet below existing ground surface. No groundwater encountered.

5793

The stratification lines represent the approximate boundary lines between soil and rock types: in-situ, the transition may be gradual.

*Elevations are interpolated from drawing provided by client and are approximate.

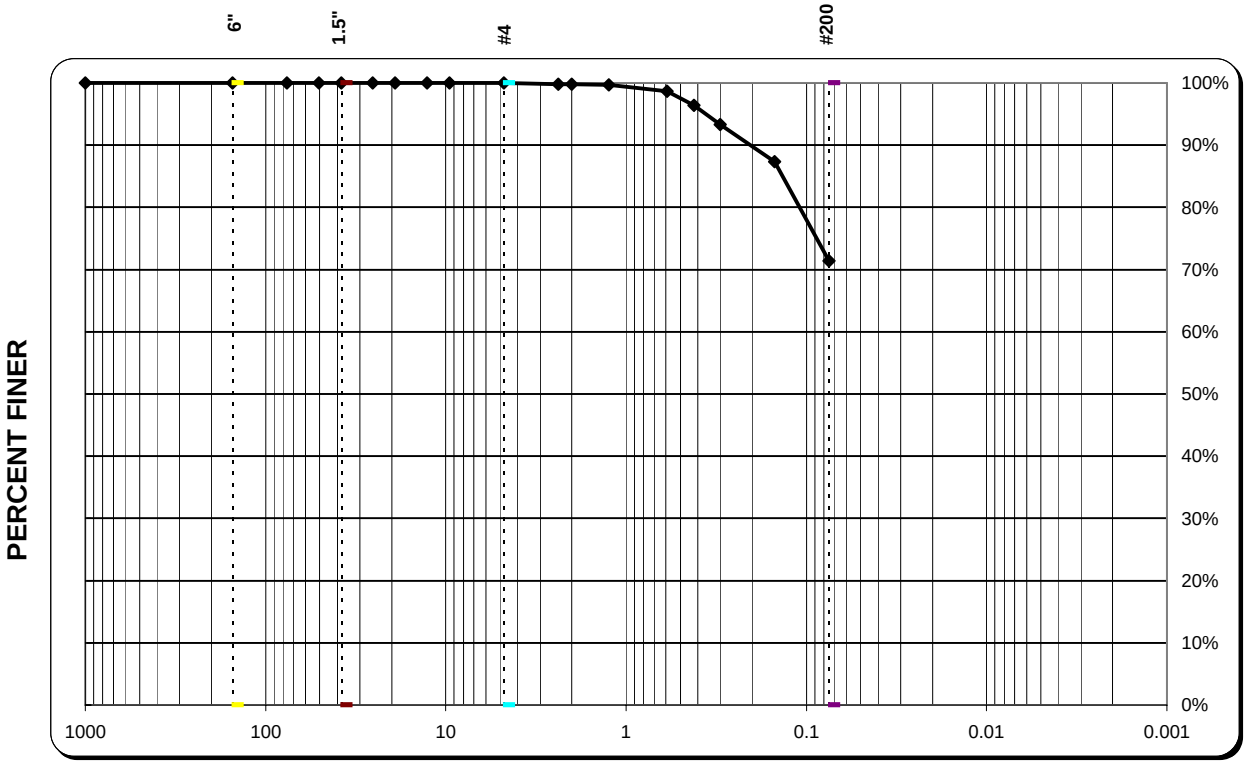
WATER LEVEL OBSERVATIONS, ft		
WL	▽	▼
WL	▼	▽
WL		

Terracon

BORING STARTED	6-23-08		
BORING COMPLETED	6-23-08		
RIG	CME-75	FOREMAN	HMD
APPROVED	KMP	JOB #	69085011

BOREHOLE_99 LOG OF BORING.GPJ TERRACON.GDT 8/18/08

GRAIN SIZE DISTRIBUTION GRAPH



TEST SUMMARY

Sieve Size	1 1/2"	3/4"	3/8"	#4	#10	#40	#100	#200
% Passing (Cumulative)	100	100	100	100	100	96	87	71.4
Specification								

% GRAVEL =	0.0	**D_{85} =** 0.1	**D_{15} =**
% SAND =	28.6	**D_{60} =**	**D_{10} =**
% SILT & CLAY =	71.4	**D_{50} =**	**C_U =**
		D_{30} =	**C_C =**

Sample Date: 6/23/2008

Project No.: 69085011

Project Name: East Aztec Arterial Route

Report Date: 8/28/2008

Sample Location: TP-1 @ 5-8'

Liquid Limit: 34

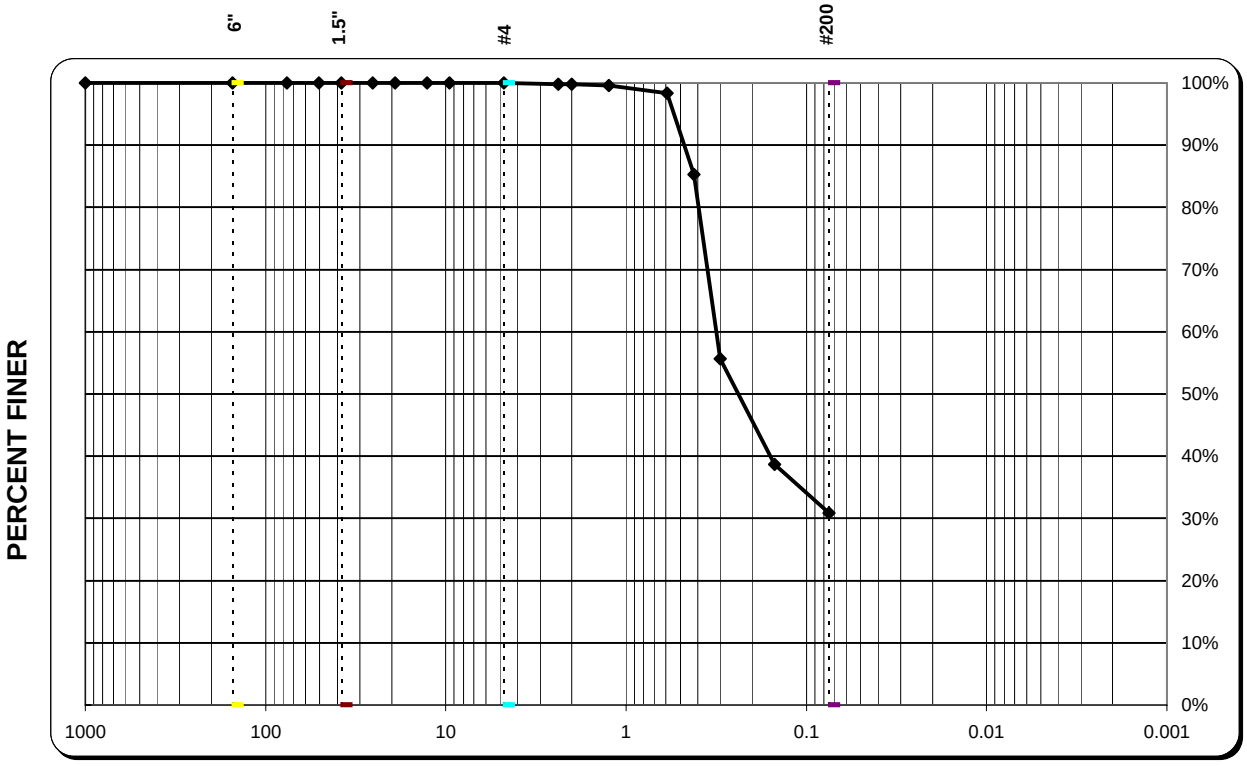
Plasticity Index: 18

USCS Classification: CL

Material Description: Lean Clay with Sand

Terracon

GRAIN SIZE DISTRIBUTION GRAPH



TEST SUMMARY

Sieve Size	1 1/2"	3/4"	3/8"	#4	#10	#40	#100	#200
% Passing (Cumulative)	100	100	100	100	100	85	39	30.9
Specification								

% GRAVEL =	0.0	**D_{85} =**	0.4	**D_{15} =**	
% SAND =	69.1	**D_{60} =**	0.3	**D_{10} =**	
% SILT & CLAY =	30.9	**D_{50} =**	0.2	**C_U =**	
		D_{30} =		**C_C =**	

Sample Date: 6/23/2008

Project No.: 69085011

Project Name: East Aztec Arterial Route

Report Date: 8/28/2008

Sample Location: TP-2 @ 4-6'

Liquid Limit: 38

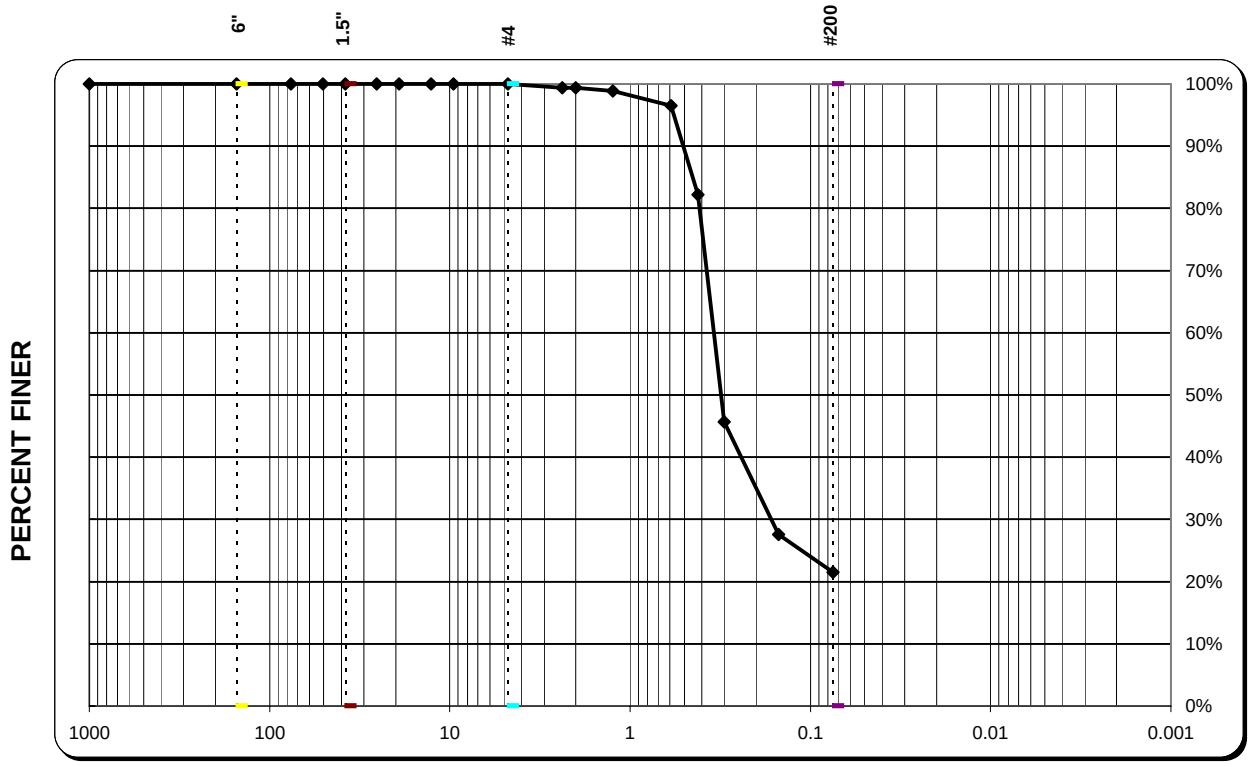
Plasticity Index: 10

USCS Classification: SM

Material Description: Silty Sand

Terracon

GRAIN SIZE DISTRIBUTION GRAPH



TEST SUMMARY

Sieve Size	1 1/2"	3/4"	3/8"	#4	#10	#40	#100	#200
% Passing (Cumulative)	100	100	100	100	99	82	28	21.5
Specification								

% GRAVEL =	0.0	**D_{85} =**	0.4	**D_{15} =**	
% SAND =	78.4	**D_{60} =**	0.3	**D_{10} =**	
% SILT & CLAY =	21.5	**D_{50} =**	0.3	**C_U =**	
		D_{30} =	0.2	**C_C =**	

Sample Date: 6/23/2008

Project No.: 69085011

Project Name: East Aztec Arterial Route

Report Date: 8/28/2008

Sample Location: TP-3 @ 1-3'

Liquid Limit: 29

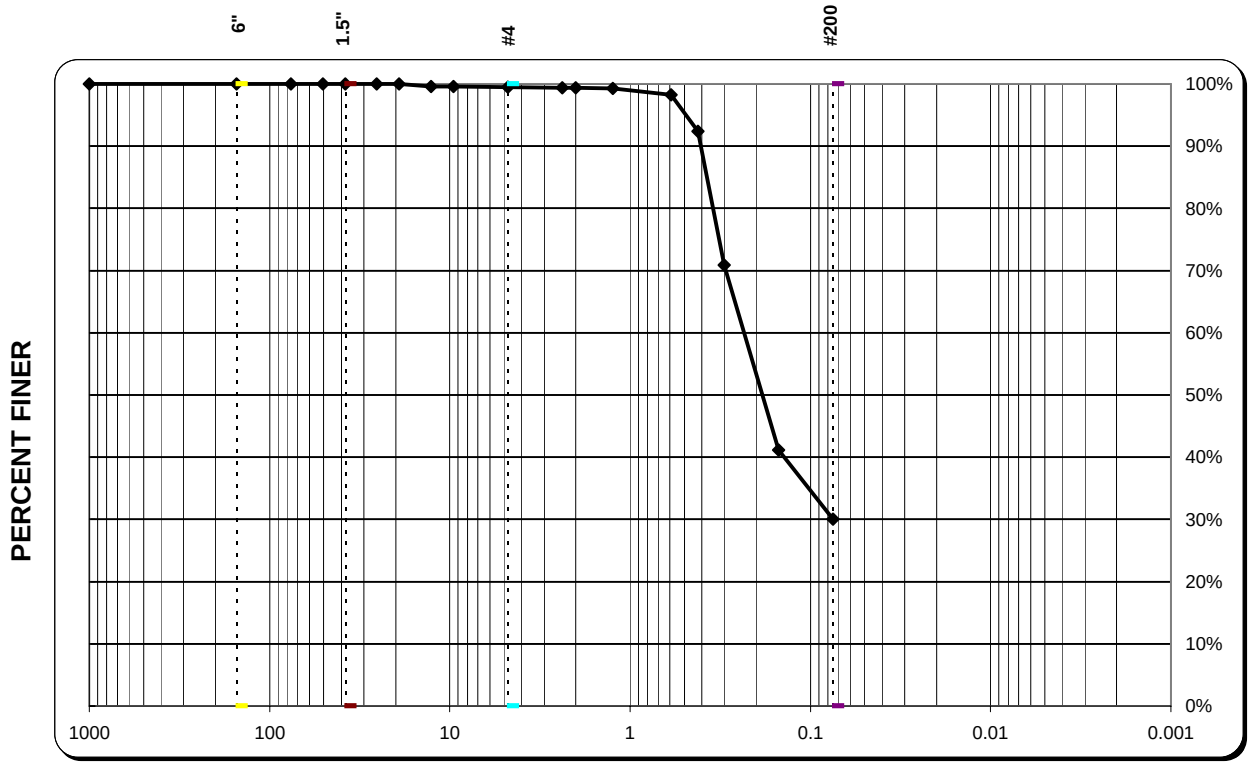
Plasticity Index: 7

USCS Classification: SC-SM

Material Description: Clayey Silty Sand

Terracon

GRAIN SIZE DISTRIBUTION GRAPH



TEST SUMMARY

Sieve Size	1 1/2"	3/4"	3/8"	#4	#10	#40	#100	#200
% Passing (Cumulative)	100	100	100	100	99	92	41	30.1
Specification								

% GRAVEL =	0.5	**D_{85} =**	0.4	**D_{15} =**	
% SAND =	69.5	**D_{60} =**	0.2	**D_{10} =**	
% SILT & CLAY =	30.1	**D_{50} =**	0.2	**C_U =**	
		D_{30} =		**C_C =**	

Sample Date: 6/23/2008

Project No.: 69085011

Project Name: East Aztec Arterial Route

Report Date: 8/28/2008

Sample Location: TP-4 @ 2-4'

Liquid Limit: 50

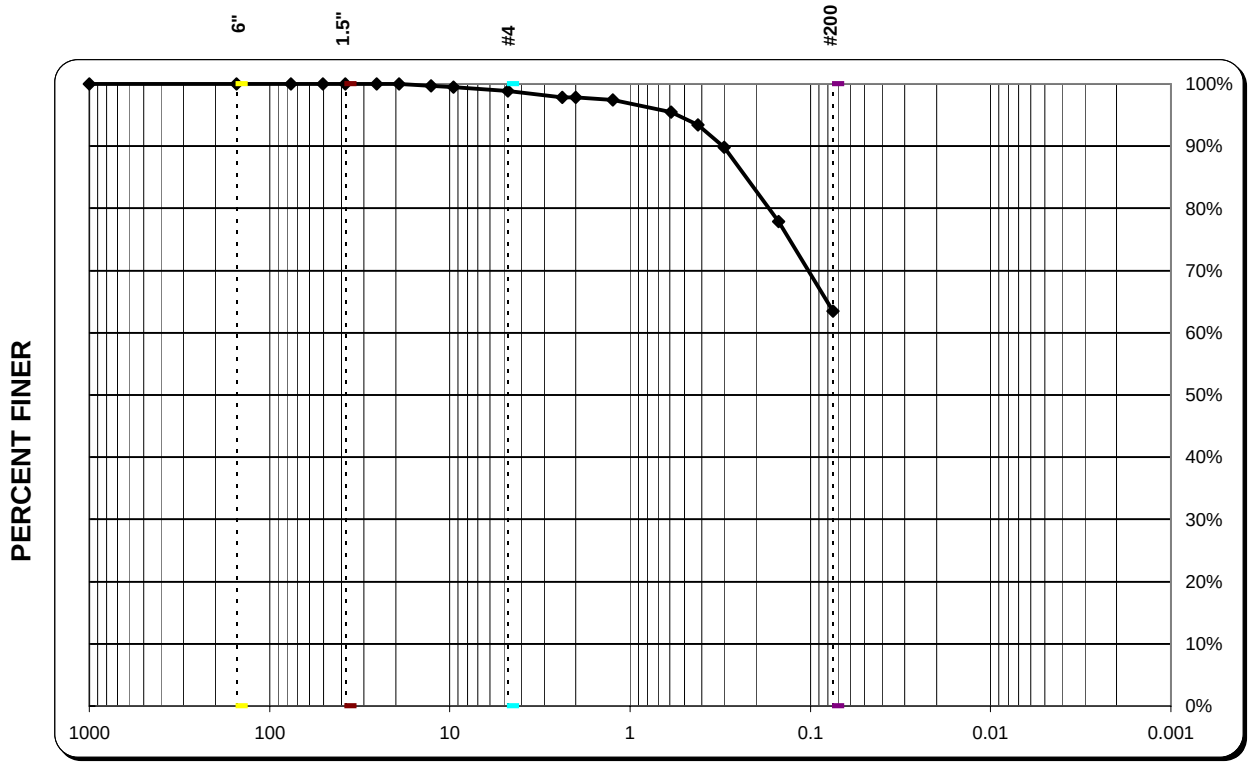
Plasticity Index: 32

USCS Classification: SC

Material Description: Clayey Sand

Terracon

GRAIN SIZE DISTRIBUTION GRAPH



GRAIN SIZE - mm

TEST SUMMARY

Sieve Size	1 1/2"	3/4"	3/8"	#4	#10	#40	#100	#200
% Passing (Cumulative)	100	100	100	99	98	93	78	63.5
Specification								

% GRAVEL =	1.2	**D_{85} =** 0.2	**D_{15} =**
% SAND =	35.4	**D_{60} =**	**D_{10} =**
% SILT & CLAY =	63.5	**D_{50} =**	**C_U =**
		D_{30} =	**C_C =**

Sample Date: 6/23/2008

Project No.: 69085011

Project Name: East Aztec Arterial Route

Report Date: 8/28/2008

Sample Location: TP-5 @ 1-3'

Liquid Limit: 39

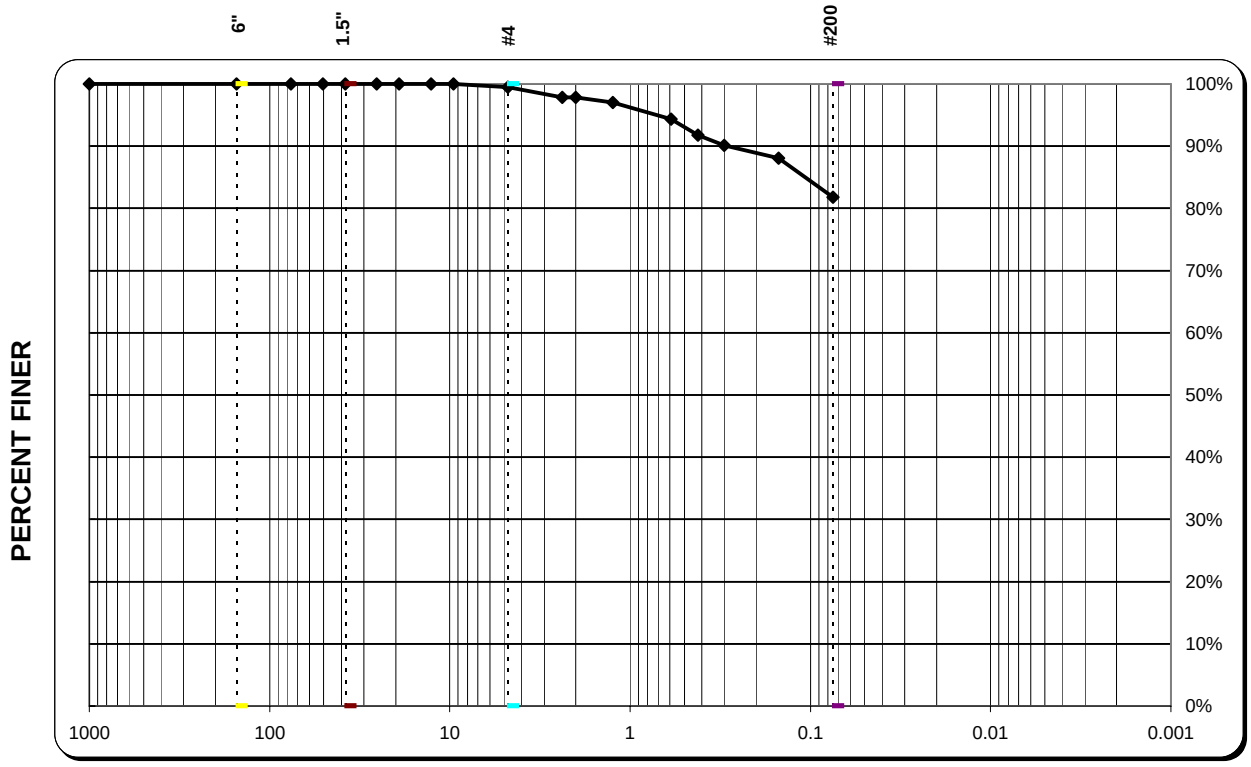
Plasticity Index: 23

USCS Classification: CL

Material Description: Sandy Lean Clay

Terracon

GRAIN SIZE DISTRIBUTION GRAPH



GRAIN SIZE - mm

TEST SUMMARY

Sieve Size	1 1/2"	3/4"	3/8"	#4	#10	#40	#100	#200
% Passing (Cumulative)	100	100	100	99	98	92	88	81.8
Specification								

% GRAVEL =	0.6	**D_{85} =**	0.1	**D_{15} =**	
% SAND =	17.7	**D_{60} =**		**D_{10} =**	
% SILT & CLAY =	81.8	**D_{50} =**		**C_U =**	
		D_{30} =		**C_C =**	

Sample Date: 6/23/2008

Project No.: 69085011

Project Name: East Aztec Arterial Route

Report Date: 8/28/2008

Sample Location: TP-6 @ 10-12'

Liquid Limit: 41

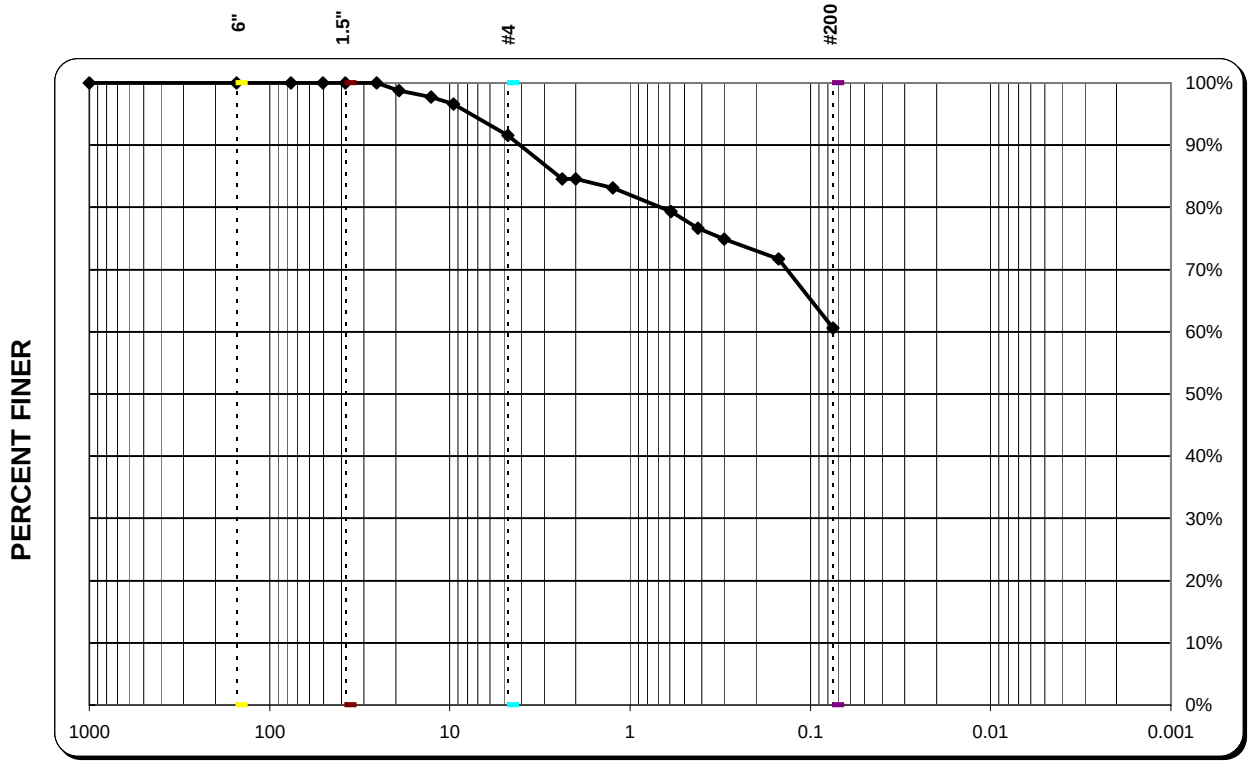
Plasticity Index: 24

USCS Classification: CL

Material Description: Lean Clay with Sand

Terracon

GRAIN SIZE DISTRIBUTION GRAPH



GRAIN SIZE - mm

TEST SUMMARY

Sieve Size	1 1/2"	3/4"	3/8"	#4	#10	#40	#100	#200
% Passing (Cumulative)	100	99	97	92	85	77	72	60.6
Specification								

% GRAVEL =	8.5	**D_{85} =** 2.1	**D_{15} =**
% SAND =	30.9	**D_{60} =**	**D_{10} =**
% SILT & CLAY =	60.6	**D_{50} =**	**C_U =**
		D_{30} =	**C_C =**

Sample Date: 6/23/2008

Project No.: 69085011

Project Name: East Aztec Arterial Route

Report Date: 8/28/2008

Sample Location: TP-7 @ 5-7'

Liquid Limit: 39

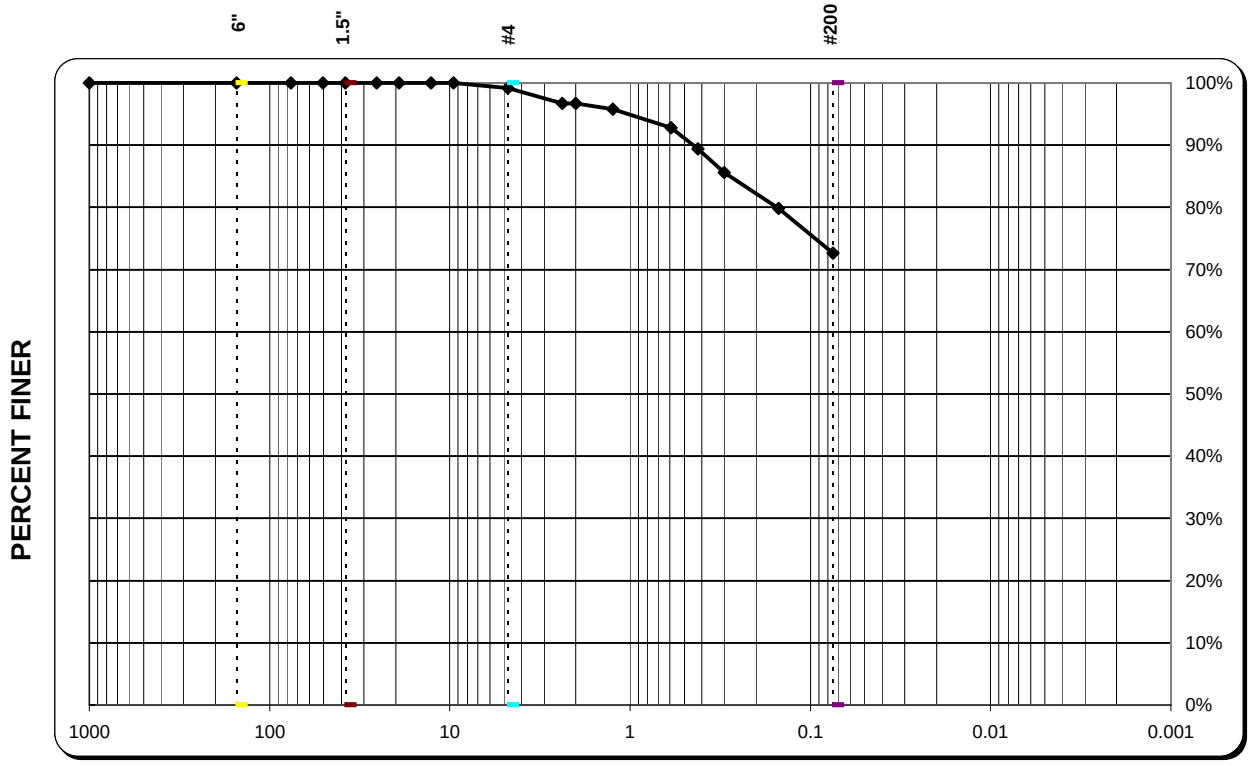
Plasticity Index: 24

USCS Classification: CL

Material Description: Sandy Lean Clay

Terracon

GRAIN SIZE DISTRIBUTION GRAPH



GRAIN SIZE - mm

TEST SUMMARY

Sieve Size	1 1/2"	3/4"	3/8"	#4	#10	#40	#100	#200
% Passing (Cumulative)	100	100	100	99	97	89	80	72.6
Specification								

% GRAVEL =	0.8	**D_{85} =**	0.3	**D_{15} =**	
% SAND =	26.5	**D_{60} =**		**D_{10} =**	
% SILT & CLAY =	72.6	**D_{50} =**		**C_U =**	
		D_{30} =		**C_C =**	

Sample Date: 6/23/2008

Project No.: 69085011

Project Name: East Aztec Arterial Route

Report Date: 8/28/2008

Sample Location: TP-8 @ 5-7'

Liquid Limit: 42

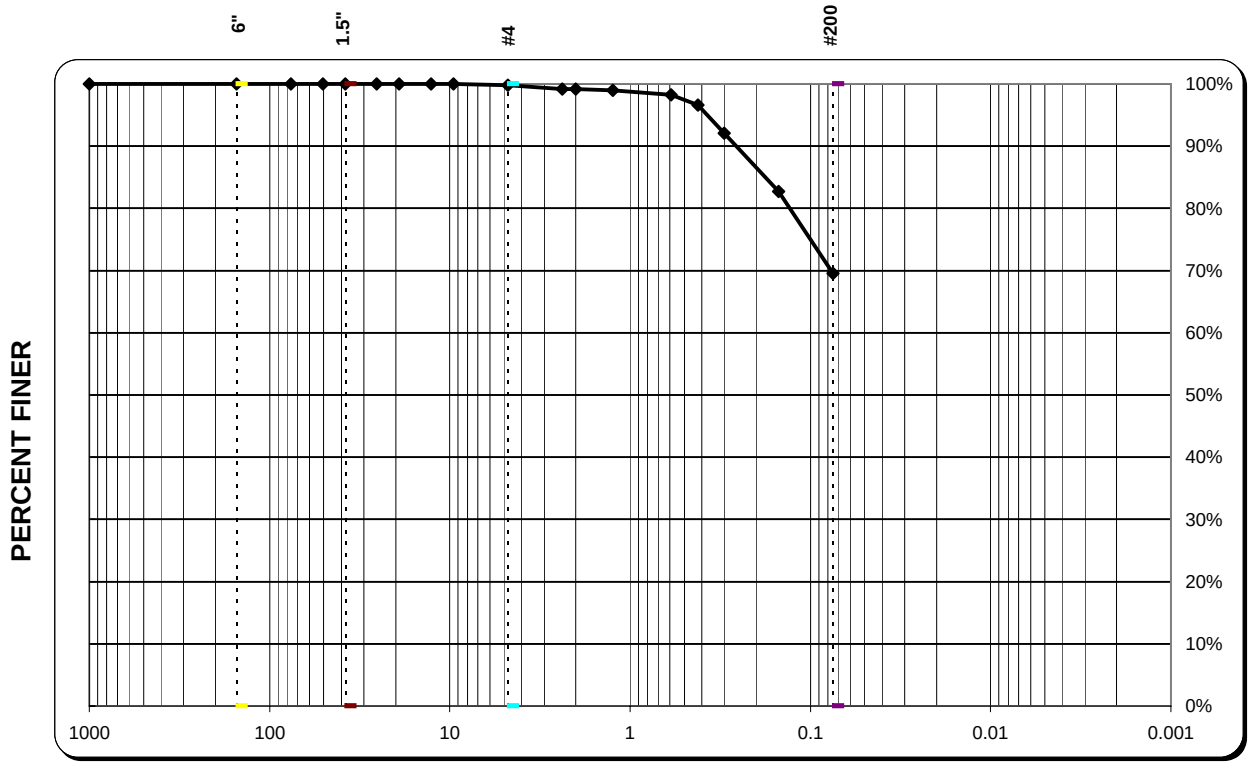
Plasticity Index: 28

USCS Classification: CL

Material Description: Lean Clay with Sand

Terracon

GRAIN SIZE DISTRIBUTION GRAPH



GRAIN SIZE - mm

TEST SUMMARY

Sieve Size	1 1/2"	3/4"	3/8"	#4	#10	#40	#100	#200
% Passing (Cumulative)	100	100	100	100	99	97	83	69.5
Specification								

% GRAVEL =	0.2	**D_{85} =** 0.2	**D_{15} =**
% SAND =	30.3	**D_{60} =**	**D_{10} =**
% SILT & CLAY =	69.5	**D_{50} =**	**C_U =**
		D_{30} =	**C_C =**

Sample Date: 6/23/2008

Project No.: 69085011

Project Name: East Aztec Arterial Route

Report Date: 8/28/2008

Sample Location: TP-9 @ 9-11'

Liquid Limit: 33

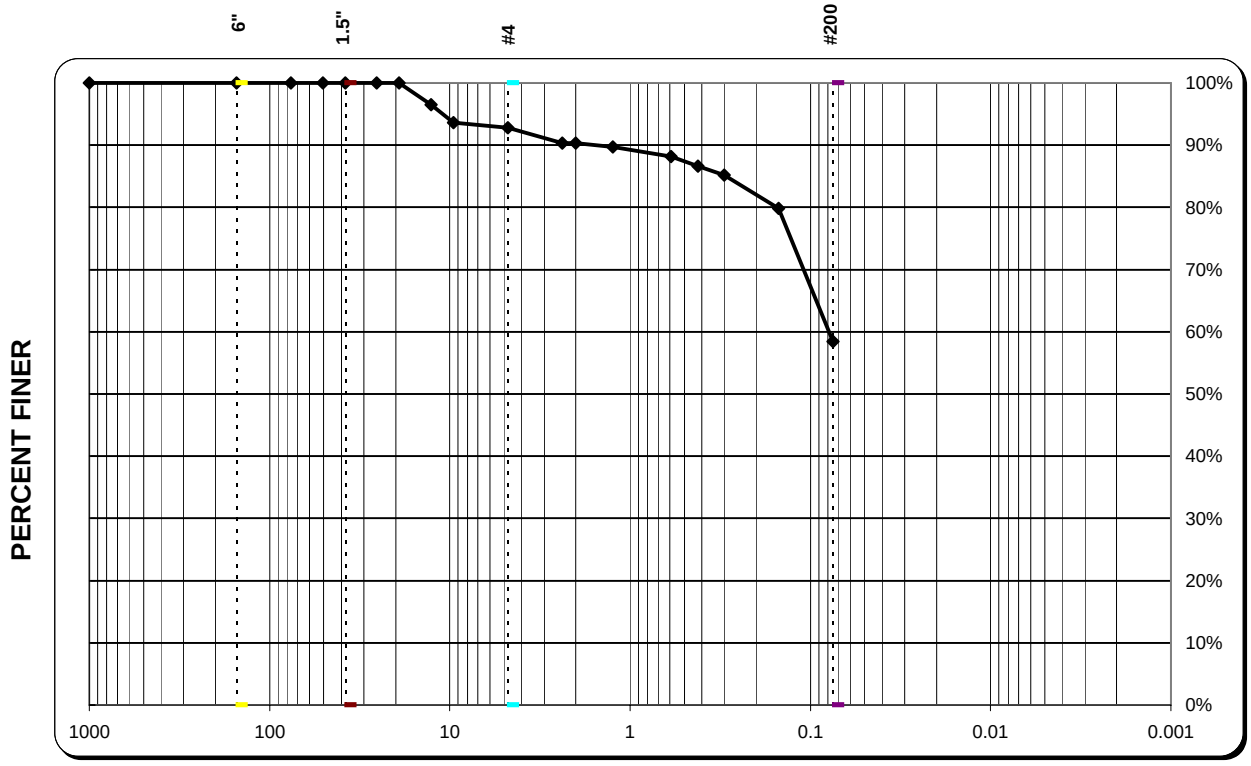
Plasticity Index: 21

USCS Classification: CL

Material Description: Sandy Lean Clay

Terracon

GRAIN SIZE DISTRIBUTION GRAPH



GRAIN SIZE - mm

TEST SUMMARY

Sieve Size	1 1/2"	3/4"	3/8"	#4	#10	#40	#100	#200
% Passing (Cumulative)	100	100	94	93	90	87	80	58.4
Specification								

% GRAVEL =	7.2		**D_{85} =** 0.3	**D_{15} =**	
% SAND =	34.4		**D_{60} =** 0.1	**D_{10} =**	
% SILT & CLAY =	58.4		**D_{50} =**	**C_U =**	
			D_{30} =	**C_C =**	

Sample Date: 6/23/2008

Project No.: 69085011

Project Name: East Aztec Arterial Route

Report Date: 8/28/2008

Sample Location: TP-10 @ 10-12'

Liquid Limit: 30

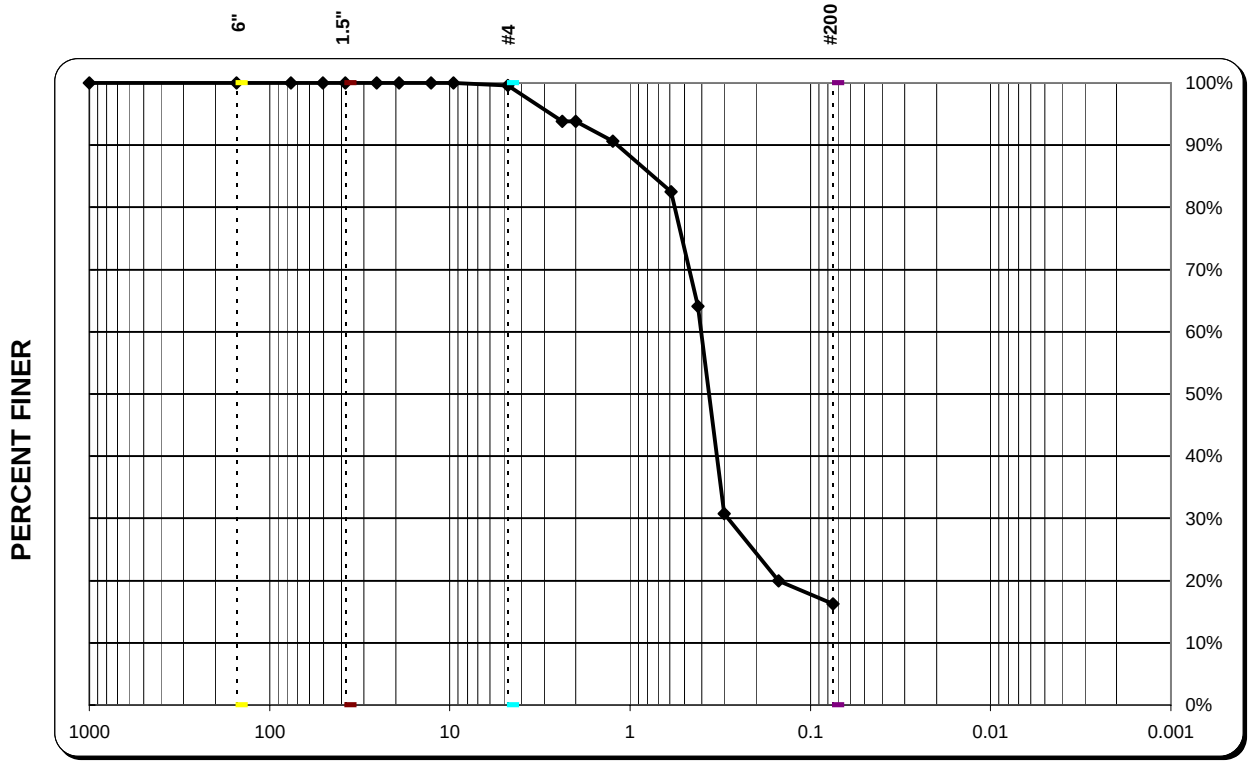
Plasticity Index: 17

USCS Classification: CL

Material Description: Sandy Lean Clay

Terracon

GRAIN SIZE DISTRIBUTION GRAPH



TEST SUMMARY

Sieve Size	1 1/2"	3/4"	3/8"	#4	#10	#40	#100	#200
% Passing (Cumulative)	100	100	100	100	94	64	20	16.3
Specification								

% GRAVEL =	0.4	**D_{85} =**	0.8	**D_{15} =**	
% SAND =	83.3	**D_{60} =**	0.4	**D_{10} =**	
% SILT & CLAY =	16.3	**D_{50} =**	0.4	**C_U =**	
		D_{30} =	0.3	**C_C =**	

Sample Date: 6/23/2008

Project No.: 69085011

Project Name: East Aztec Arterial Route

Report Date: 8/28/2008

Sample Location: TP-11 @ 4-6'

Liquid Limit: 33

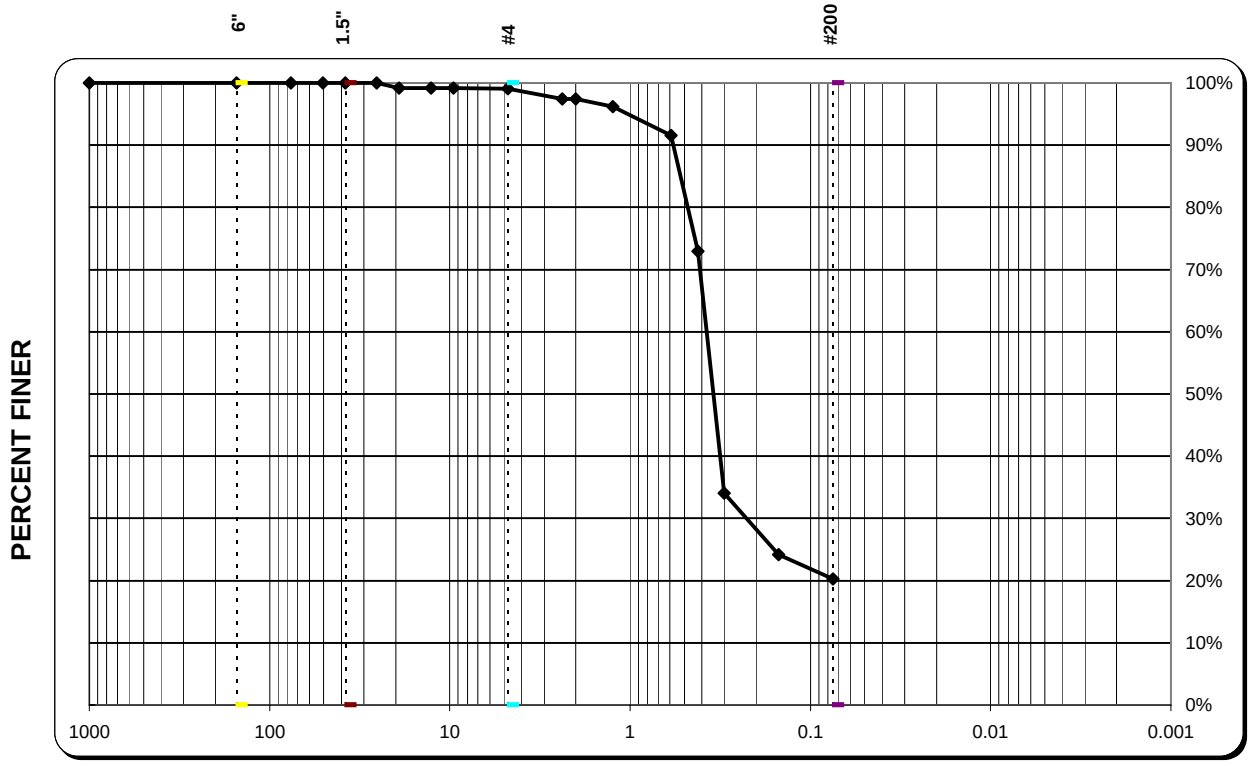
Plasticity Index: 8

USCS Classification: SM

Material Description: Silty Sand

Terracon

GRAIN SIZE DISTRIBUTION GRAPH



TEST SUMMARY

Sieve Size	1 1/2"	3/4"	3/8"	#4	#10	#40	#100	#200
% Passing (Cumulative)	100	99	99	99	97	73	24	20.3
Specification								

% GRAVEL =	0.9	**D_{85} =**	0.5	**D_{15} =**	
% SAND =	78.8	**D_{60} =**	0.4	**D_{10} =**	
% SILT & CLAY =	20.3	**D_{50} =**	0.3	**C_U =**	
		D_{30} =	0.2	**C_C =**	

Sample Date: 6/23/2008

Project No.: 69085011

Project Name: East Aztec Arterial Route

Report Date: 8/28/2008

Sample Location: TP-12 @ 4-6'

Liquid Limit: 38

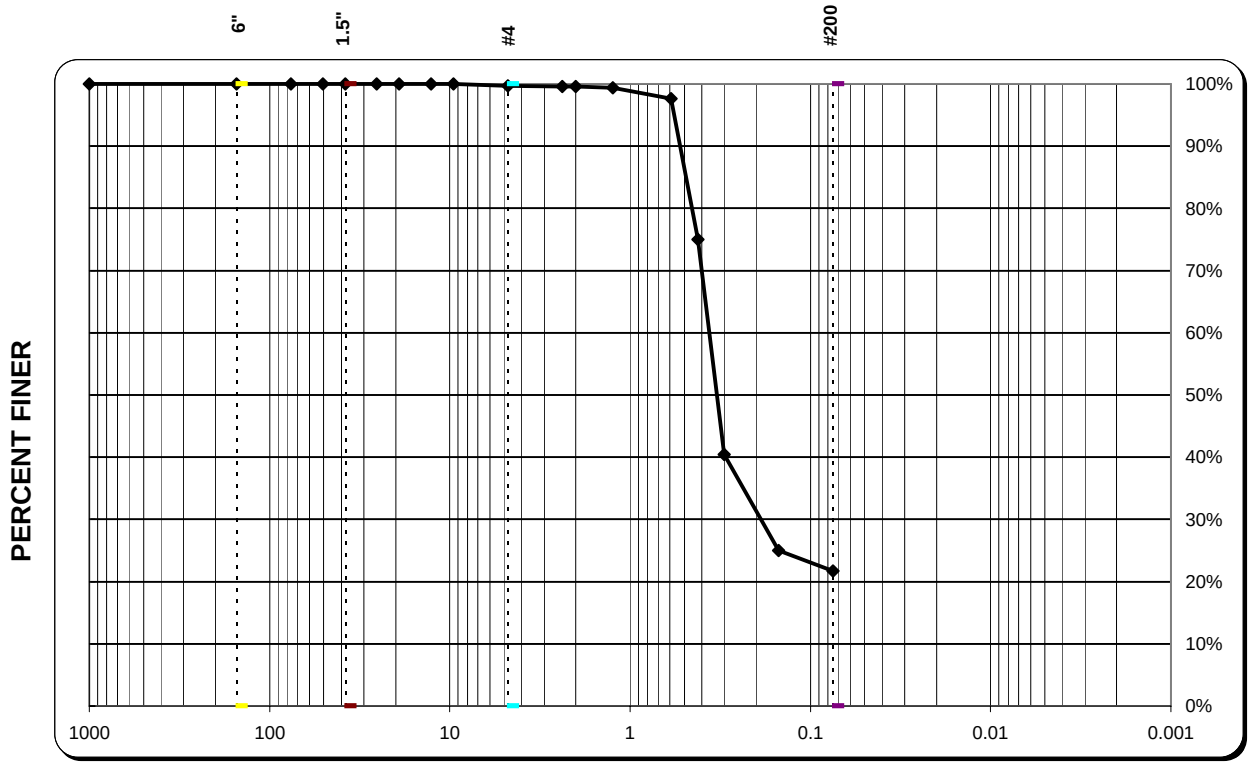
Plasticity Index: 11

USCS Classification: SM

Material Description: Silty Sand

Terracon

GRAIN SIZE DISTRIBUTION GRAPH



GRAIN SIZE - mm

TEST SUMMARY

Sieve Size	1 1/2"	3/4"	3/8"	#4	#10	#40	#100	#200
% Passing (Cumulative)	100	100	100	100	100	75	25	21.7
Specification								

% GRAVEL =	0.3	**D_{85} =**	0.5	**D_{15} =**	
% SAND =	78.0	**D_{60} =**	0.4	**D_{10} =**	
% SILT & CLAY =	21.7	**D_{50} =**	0.3	**C_U =**	
		D_{30} =	0.2	**C_C =**	

Sample Date: 6/23/2008

Project No.: 69085011

Project Name: East Aztec Arterial Route

Report Date: 8/28/2008

Sample Location: TP-13 @ 1-3'

Liquid Limit: 37

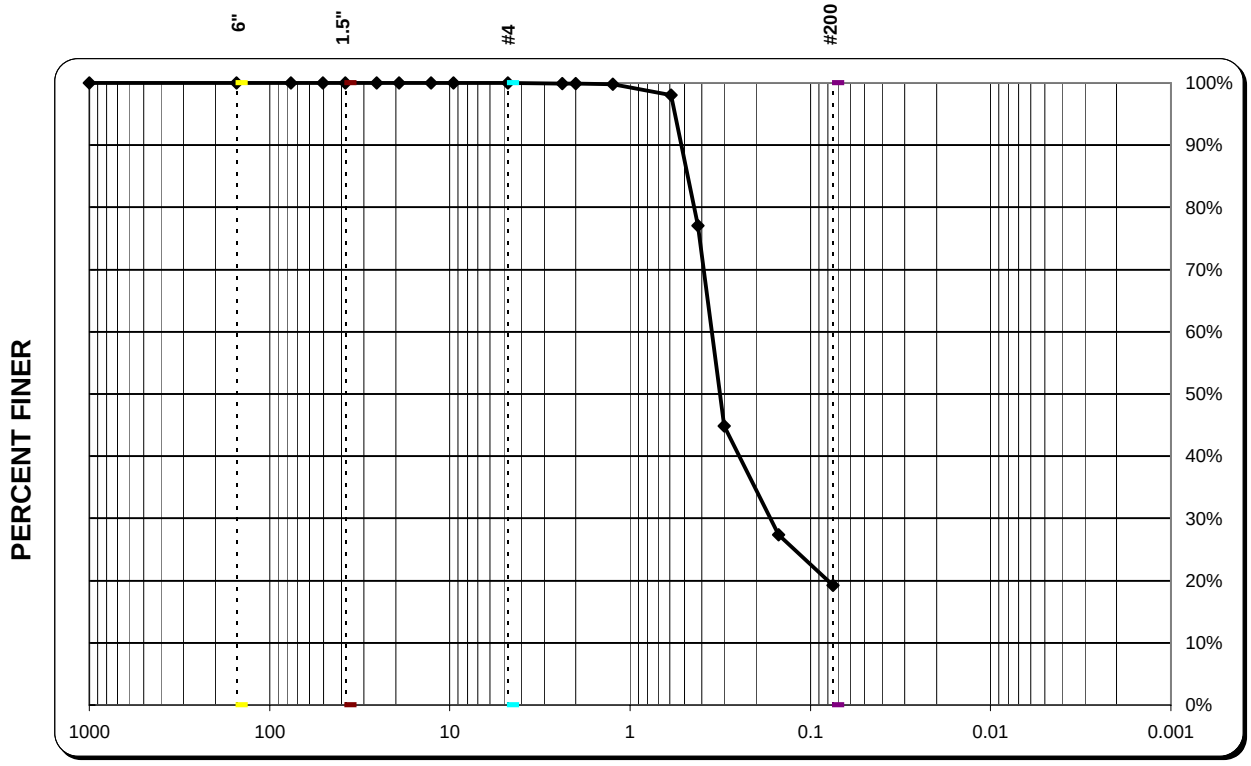
Plasticity Index: 23

USCS Classification: SC

Material Description: Clayey Sand

Terracon

GRAIN SIZE DISTRIBUTION GRAPH



GRAIN SIZE - mm

TEST SUMMARY

Sieve Size	1 1/2"	3/4"	3/8"	#4	#10	#40	#100	#200
% Passing (Cumulative)	100	100	100	100	100	77	27	19.2
Specification								

% GRAVEL =	0.0		**D_{85} =** 0.5	**D_{15} =**	
% SAND =	80.8		**D_{60} =** 0.4	**D_{10} =**	
% SILT & CLAY =	19.2		**D_{50} =** 0.3	**C_U =**	
			D_{30} = 0.2	**C_C =**	

Sample Date: 6/23/2008

Project No.: 69085011

Project Name: East Aztec Arterial Route

Report Date: 8/28/2008

Sample Location: TP-14 @ 0-2'

Liquid Limit: 24

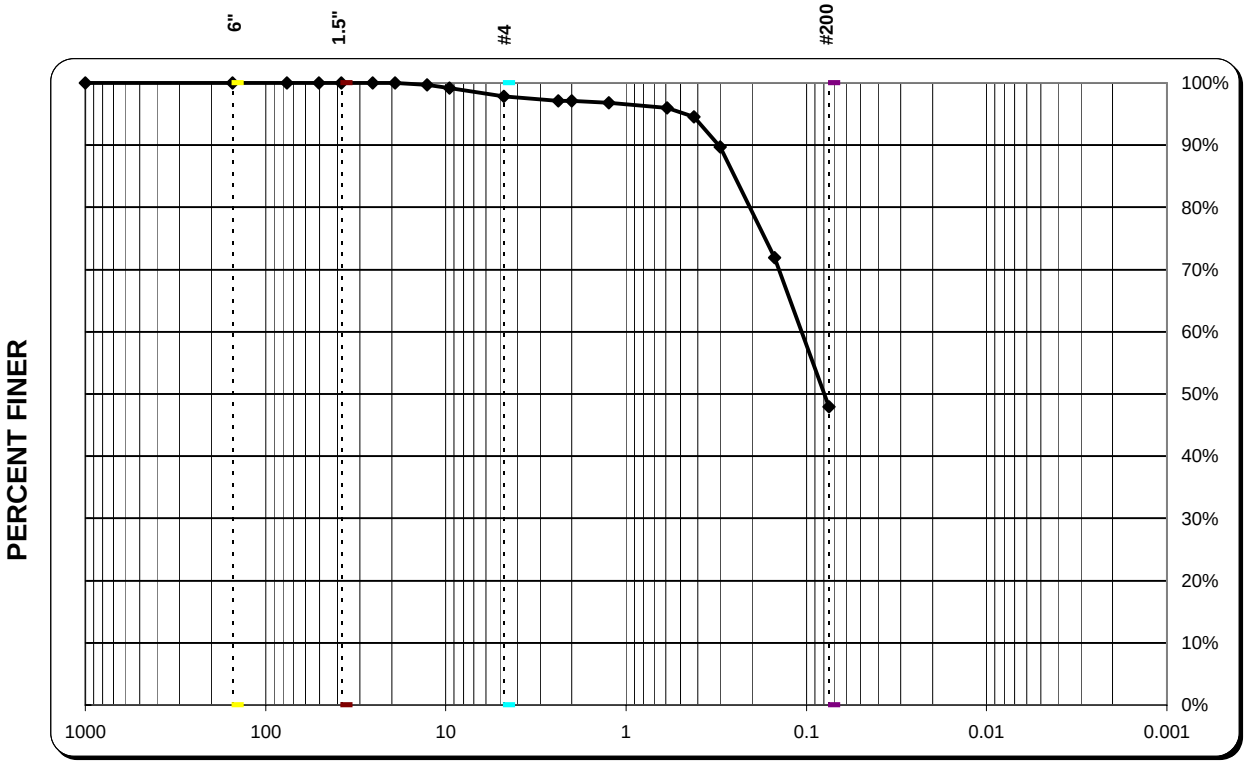
Plasticity Index: 3

USCS Classification: SM

Material Description: Silty Sand

Terracon

GRAIN SIZE DISTRIBUTION GRAPH



GRAIN SIZE - mm

TEST SUMMARY

Sieve Size	1 1/2"	3/4"	3/8"	#4	#10	#40	#100	#200
% Passing (Cumulative)	100	100	99	98	97	95	72	47.9
Specification								

% GRAVEL =	2.2		**D_{85} =** 0.2	**D_{15} =**	
% SAND =	49.9		**D_{60} =** 0.1	**D_{10} =**	
% SILT & CLAY =	47.9		**D_{50} =** 0.1	**C_U =**	
			D_{30} =	**C_C =**	

Sample Date: 6/23/2008

Project No.: 69085011

Project Name: East Aztec Arterial Route

Report Date: 8/28/2008

Sample Location: TP-15 @ 7-9'

Liquid Limit: 31

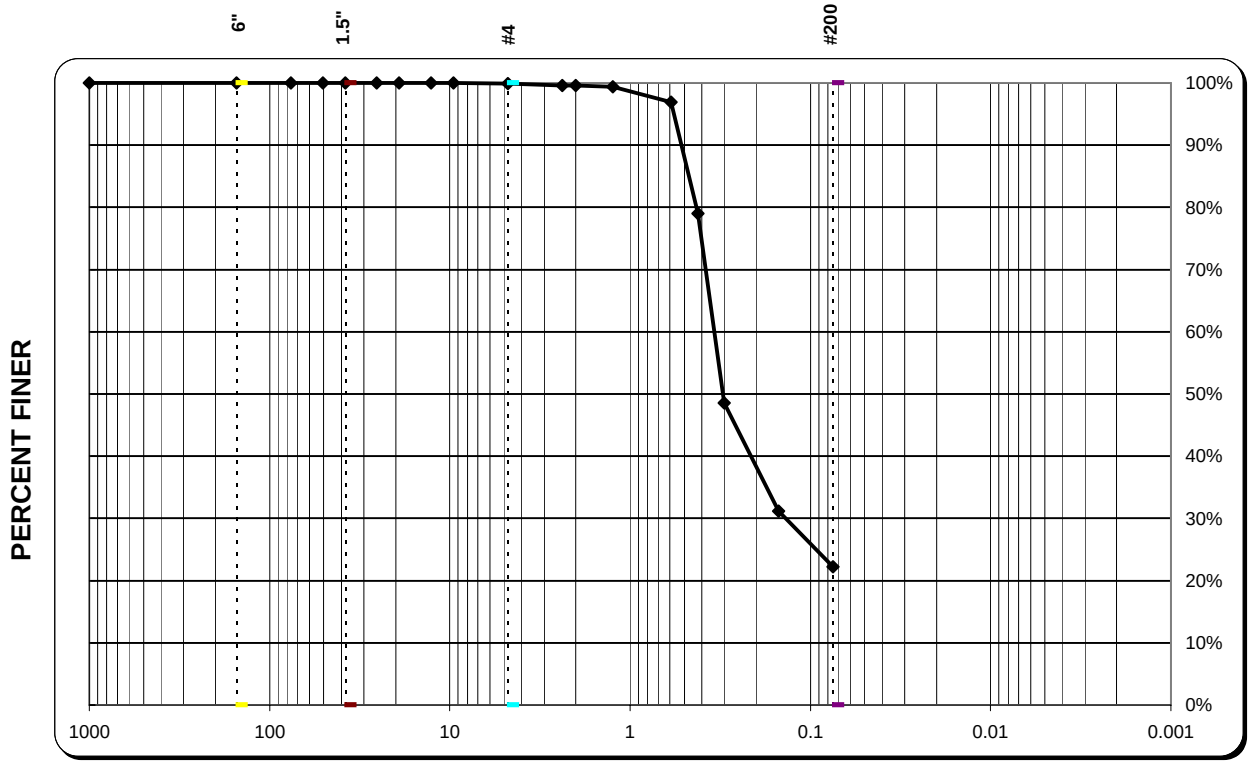
Plasticity Index: 13

USCS Classification: SC

Material Description: Clayey Sand

Terracon

GRAIN SIZE DISTRIBUTION GRAPH



GRAIN SIZE - mm

TEST SUMMARY

Sieve Size	1 1/2"	3/4"	3/8"	#4	#10	#40	#100	#200
% Passing (Cumulative)	100	100	100	100	100	79	31	22.2
Specification								

% GRAVEL =	0.1		**D_{85} =** 0.5	**D_{15} =**	
% SAND =	77.6		**D_{60} =** 0.3	**D_{10} =**	
% SILT & CLAY =	22.2		**D_{50} =** 0.3	**C_U =**	
			D_{30} = 0.1	**C_C =**	

Sample Date: 6/23/2008

Project No.: 69085011

Project Name: East Aztec Arterial Route

Report Date: 8/28/2008

Sample Location: TP-16 @ 10-12'

Liquid Limit: 25

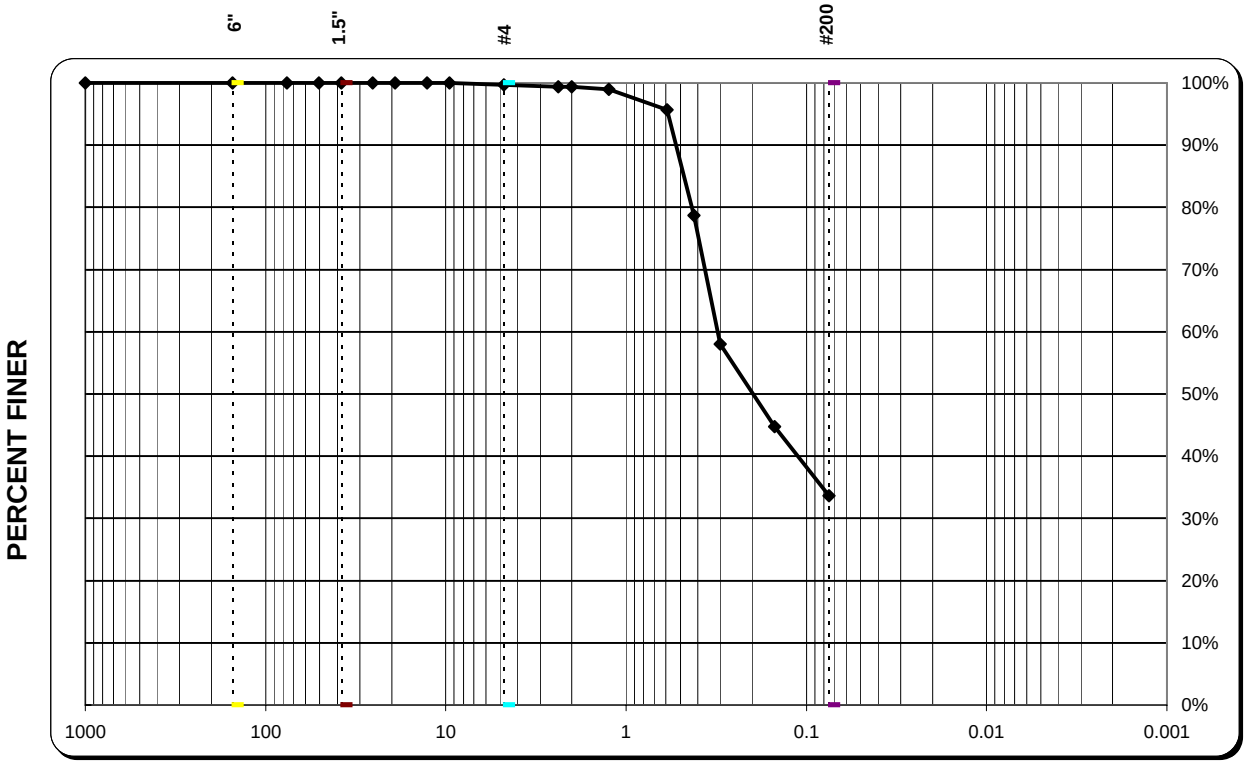
Plasticity Index: 6

USCS Classification: SC-SM

Material Description: Clayey Silty Sand

Terracon

GRAIN SIZE DISTRIBUTION GRAPH



GRAIN SIZE - mm

TEST SUMMARY

Sieve Size	1 1/2"	3/4"	3/8"	#4	#10	#40	#100	#200
% Passing (Cumulative)	100	100	100	100	99	79	45	33.6
Specification								

% GRAVEL =	0.3		**D_{85} =** 0.5	**D_{15} =**	
% SAND =	66.1		**D_{60} =** 0.3	**D_{10} =**	
% SILT & CLAY =	33.6		**D_{50} =** 0.2	**C_U =**	
			D_{30} =	**C_C =**	

Sample Date: 6/23/2008

Project No.: 69085011

Project Name: East Aztec Arterial Route

Report Date: 8/28/2008

Sample Location: TP-17 @ 12-15'

Liquid Limit: 24

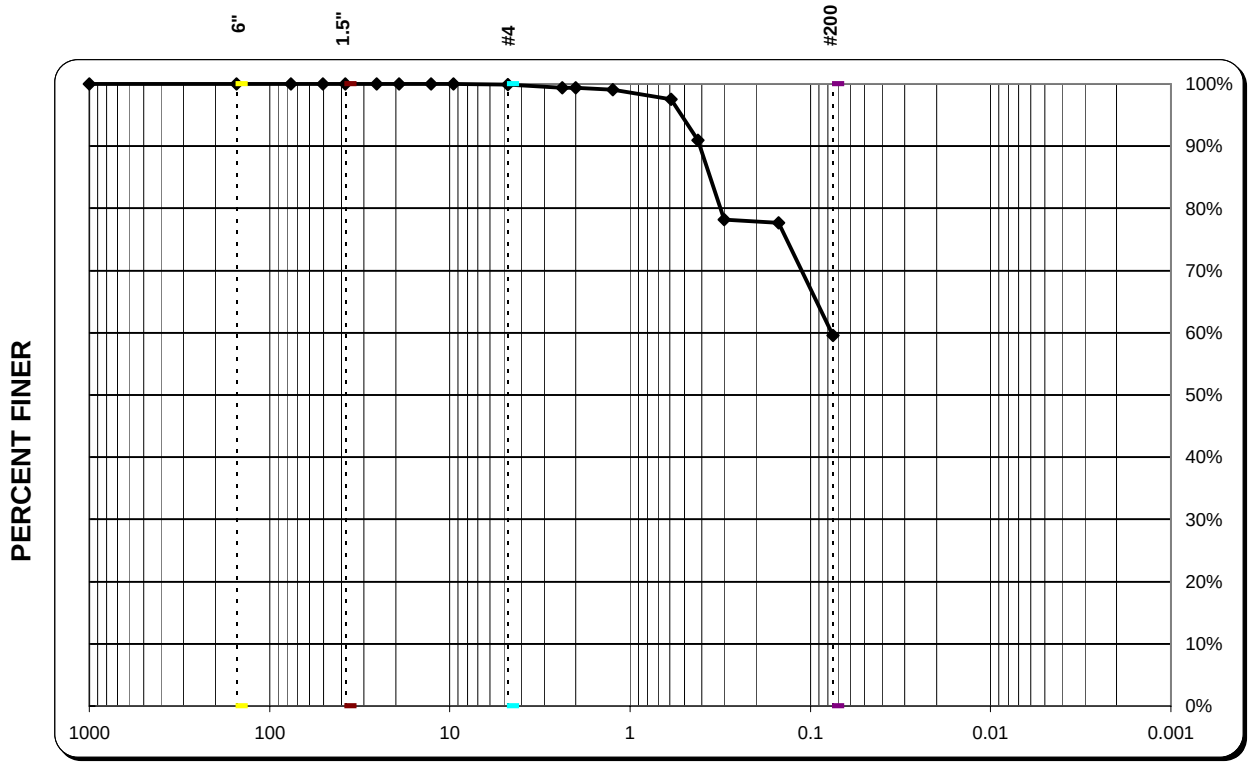
Plasticity Index: 8

USCS Classification: SC

Material Description: Clayey Sand

Terracon

GRAIN SIZE DISTRIBUTION GRAPH



GRAIN SIZE - mm

TEST SUMMARY

Sieve Size	1 1/2"	3/4"	3/8"	#4	#10	#40	#100	#200
% Passing (Cumulative)	100	100	100	100	99	91	78	59.6
Specification								

% GRAVEL =	0.1		**D_{85} =** 0.4	**D_{15} =**	
% SAND =	40.4		**D_{60} =** 0.1	**D_{10} =**	
% SILT & CLAY =	59.6		**D_{50} =**	**C_U =**	
			D_{30} =	**C_C =**	

Sample Date: 6/23/2008

Project No.: 69085011

Project Name: East Aztec Arterial Route

Report Date: 8/28/2008

Sample Location: TP-18 @ 12-14'

Liquid Limit: 28

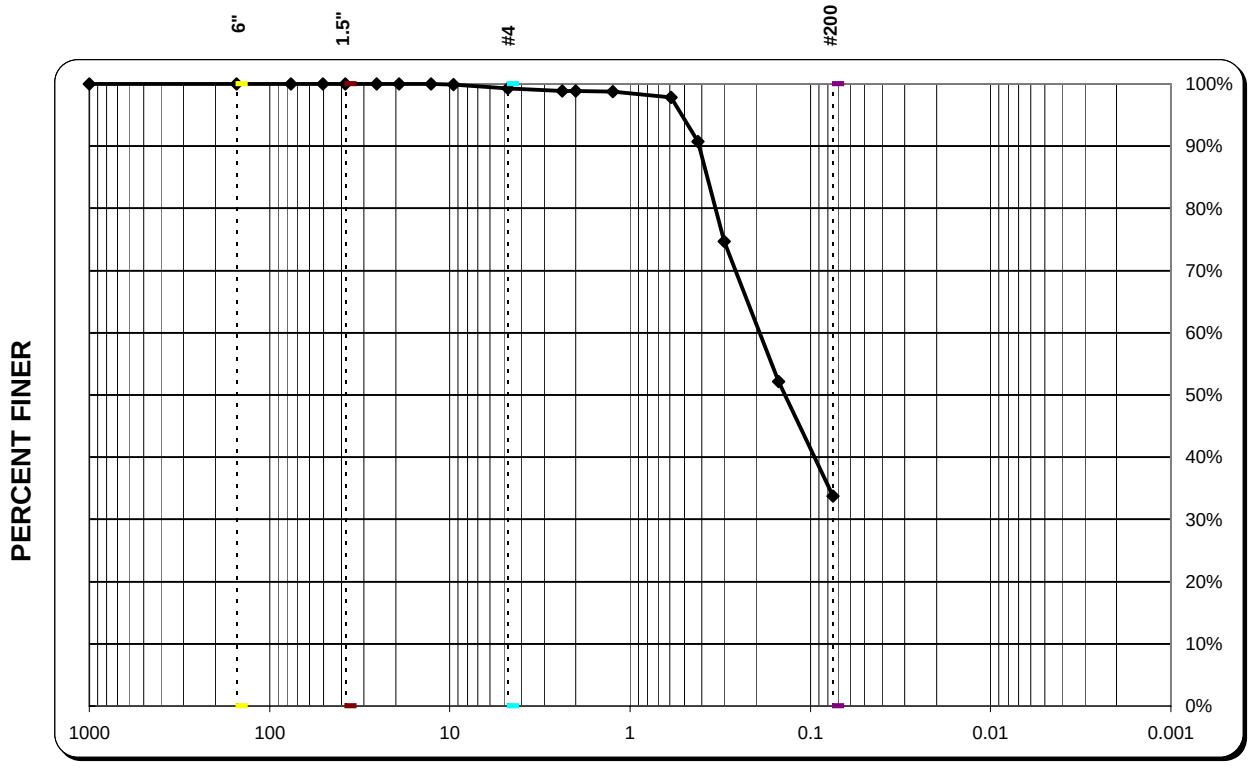
Plasticity Index: 14

USCS Classification: CL

Material Description: Sandy Lean Clay

Terracon

GRAIN SIZE DISTRIBUTION GRAPH



TEST SUMMARY

Sieve Size	1 1/2"	3/4"	3/8"	#4	#10	#40	#100	#200
% Passing (Cumulative)	100	100	100	99	99	91	52	33.7
Specification								

% GRAVEL =	0.7	**D_{85} =**	0.4	**D_{15} =**	
% SAND =	65.6	**D_{60} =**	0.2	**D_{10} =**	
% SILT & CLAY =	33.7	**D_{50} =**	0.1	**C_U =**	
		D_{30} =		**C_C =**	

Sample Date: 6/23/2008

Project No.: 69085011

Project Name: East Aztec Arterial Route

Report Date: 8/28/2008

Sample Location: TP-19 @ 14-16'

Liquid Limit: 25

Plasticity Index: 9

USCS Classification: SC

Material Description: Clayey Sand

Terracon

Terracon

P.O. Box 503
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(970) 484-0359 FAX (970) 484-0454

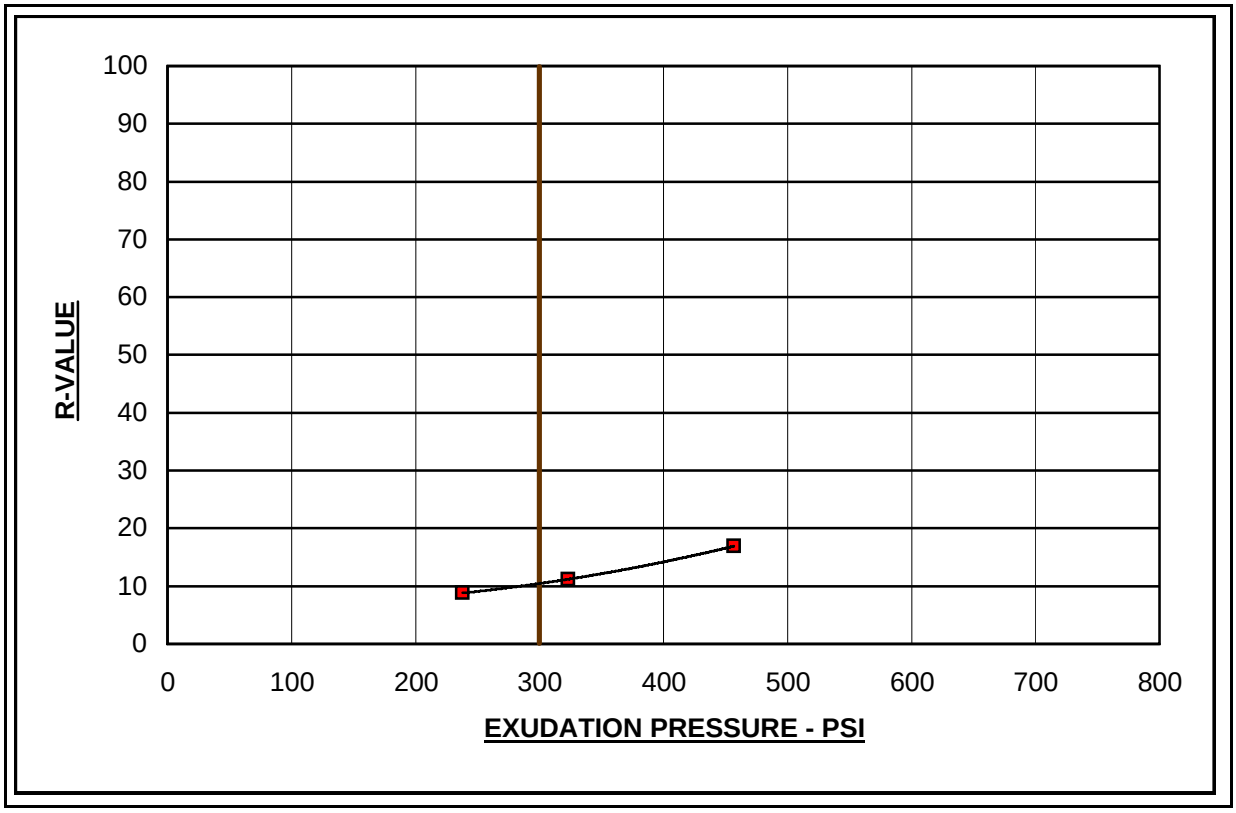
RESISTANCE R-VALUE & EXPANSION PRESSURE OF COMPACTED SOIL ASTM D2844

CLIENT:	Wilson & Company, Inc.	**DATE OF TEST:**	11-Jul-08
PROJECT:	East Aztec Arterial Route		
LOCATION:	TP-4 @ 2'-4'		
TERRACON NO.	69085011	**CLASSIFICATION:**	Clayey Sand

SAMPLE DATA TEST RESULTS

TEST SPECIMEN NO.	1	2	3
COMPACTION PRESSURE (PSI)	110	130	240
DENSITY (PCF)	109.9	113.1	117.0
MOISTURE CONTENT (%)	17.8	16.7	14.8
EXPANSION PRESSURE (PSI)	0.50	0.06	1.86
HORIZONTAL PRESSURE @ 160 PSI	136	131	121
SAMPLE HEIGHT (INCHES)	2.57	2.54	2.49
EXUDATION PRESSURE (PSI)	237.9	323.0	456.6
CORRECTED R-VALUE	8.8	11.2	16.9
UNCORRECTED R-VALUE	8.6	11.2	16.9

R-VALUE @ 300 PSI EXUDATION PRESSURE = **11**



Terracon

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301 North Howes Street
FORT COLLINS, COLORADO 80521
(970) 484-0359 FAX (970) 484-0454

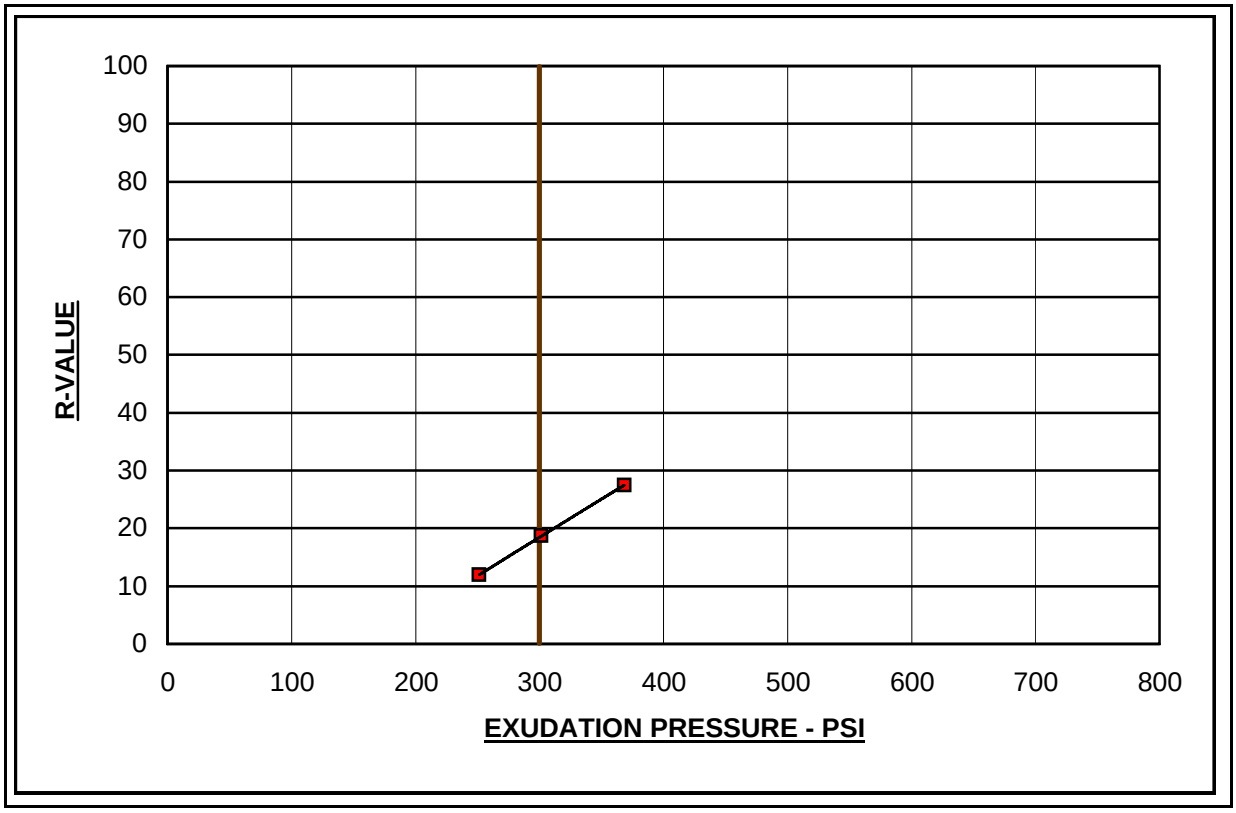
RESISTANCE R-VALUE & EXPANSION PRESSURE OF COMPACTED SOIL ASTM D2844

CLIENT:	Wilson & Company, Inc.	**DATE OF TEST:**	11-Jul-08
PROJECT:	East Aztec Arterial Route		
LOCATION:	TP-8 @ 5.5'-7"		
TERRACON NO.	69085011	**CLASSIFICATION:**	Lean Clay with Sand

SAMPLE DATA TEST RESULTS

TEST SPECIMEN NO.	1	2	3
COMPACTION PRESSURE (PSI)	120	180	280
DENSITY (PCF)	107.4	113.2	118.0
MOISTURE CONTENT (%)	20.1	18.0	14.5
EXPANSION PRESSURE (PSI)	1.49	3.16	5.02
HORIZONTAL PRESSURE @ 160 PSI	132	121	110
SAMPLE HEIGHT (INCHES)	2.53	2.47	2.45
EXUDATION PRESSURE (PSI)	251.4	301.5	368.3
CORRECTED R-VALUE	12.0	18.7	27.5
UNCORRECTED R-VALUE	12.0	18.7	27.5

R-VALUE @ 300 PSI EXUDATION PRESSURE = **18**



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301 North Howes Street
FORT COLLINS, COLORADO 80521
(970) 484-0359 FAX (970) 484-0454

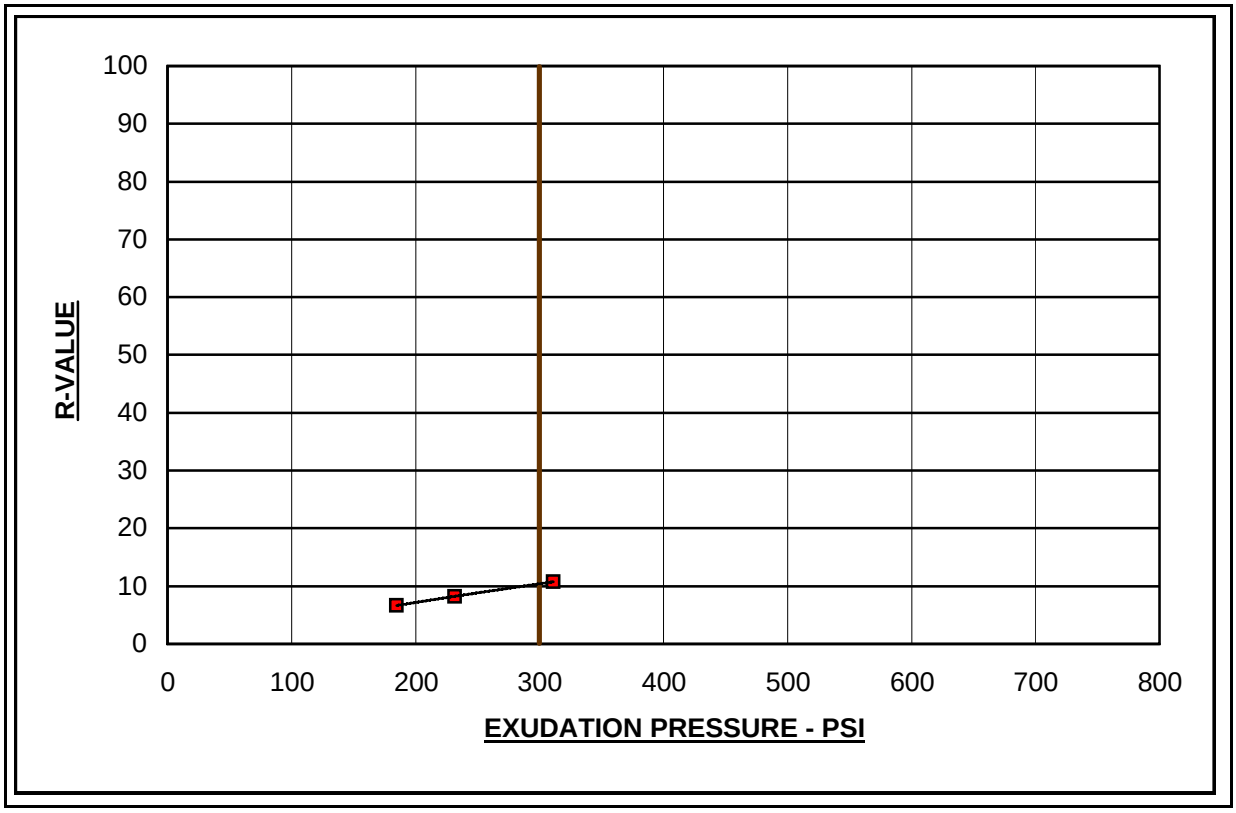
RESISTANCE R-VALUE & EXPANSION PRESSURE OF COMPACTED SOIL ASTM D2844

CLIENT:	Wilson & Company, Inc.	**DATE OF TEST:**	11-Jul-08
PROJECT:	East Aztec Arterial Route		
LOCATION:	TP-10 @ 10'-12'		
TERRACON NO.	69085011	**CLASSIFICATION:**	Sandy Lean Clay

SAMPLE DATA TEST RESULTS

TEST SPECIMEN NO.	1	2	3
COMPACTION PRESSURE (PSI)	100	170	270
DENSITY (PCF)	108.3	112.1	115.3
MOISTURE CONTENT (%)	19.9	17.9	16.7
EXPANSION PRESSURE (PSI)	0.53	0.68	2.29
HORIZONTAL PRESSURE @ 160 PSI	142	139	134
SAMPLE HEIGHT (INCHES)	2.55	2.52	2.48
EXUDATION PRESSURE (PSI)	184.6	231.5	311.1
CORRECTED R-VALUE	6.6	8.2	10.7
UNCORRECTED R-VALUE	6.6	8.2	10.7

R-VALUE @ 300 PSI EXUDATION PRESSURE = **10**



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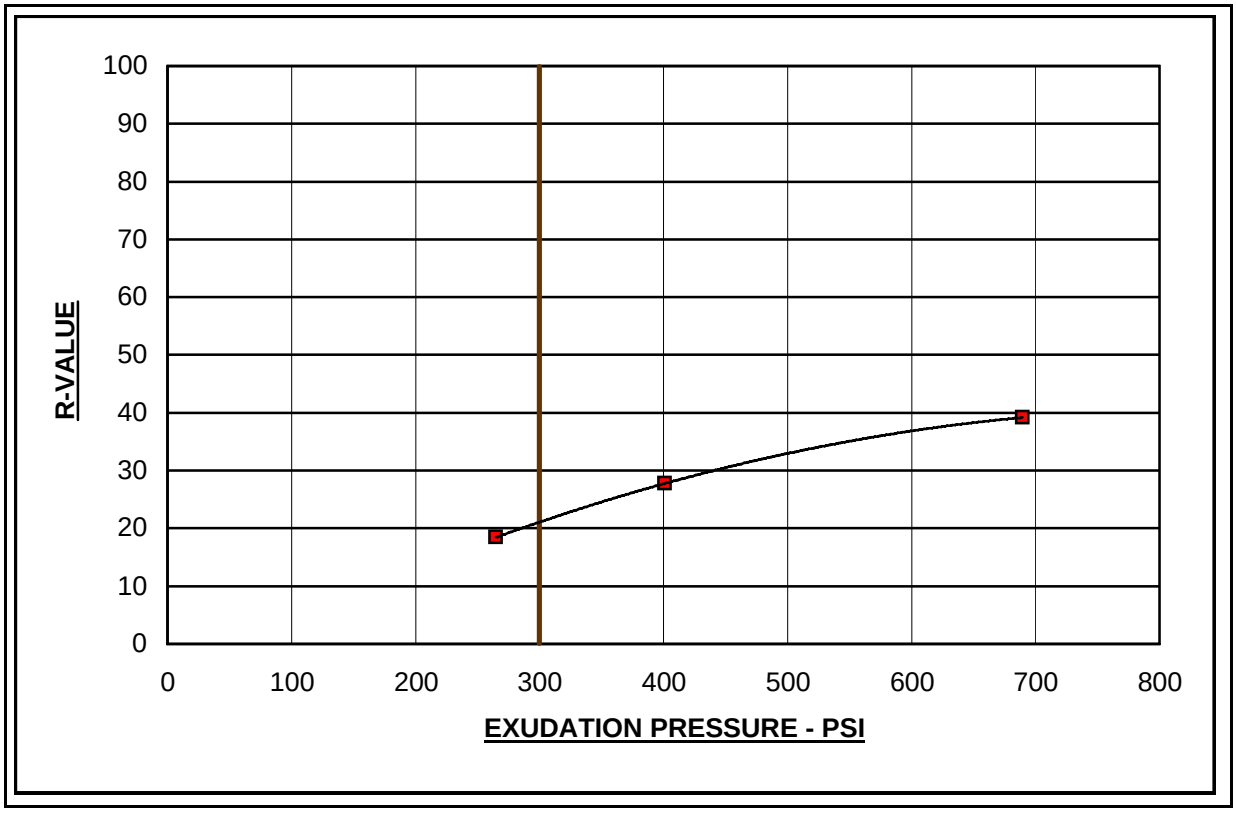
RESISTANCE R-VALUE & EXPANSION PRESSURE OF COMPACTED SOIL ASTM D2844

CLIENT:	Wilson & Company, Inc.	**DATE OF TEST:**	10-Jul-08
PROJECT:	East Aztec Arterial Route		
LOCATION:	TP-13 @ 1'-3'		
TERRACON NO.	69085011	**CLASSIFICATION:**	Clayey Sand

SAMPLE DATA TEST RESULTS

TEST SPECIMEN NO.	1	2	3
COMPACTION PRESSURE (PSI)	290	350	350
DENSITY (PCF)	115.0	115.9	118.2
MOISTURE CONTENT (%)	15.3	14.4	13.7
EXPANSION PRESSURE (PSI)	-0.06	0.34	0.84
HORIZONTAL PRESSURE @ 160 PSI	119	101	83
SAMPLE HEIGHT (INCHES)	2.51	2.49	2.47
EXUDATION PRESSURE (PSI)	264.9	401.0	689.7
CORRECTED R-VALUE	18.4	27.8	39.2
UNCORRECTED R-VALUE	18.4	27.8	39.2

R-VALUE @ 300 PSI EXUDATION PRESSURE = **21**



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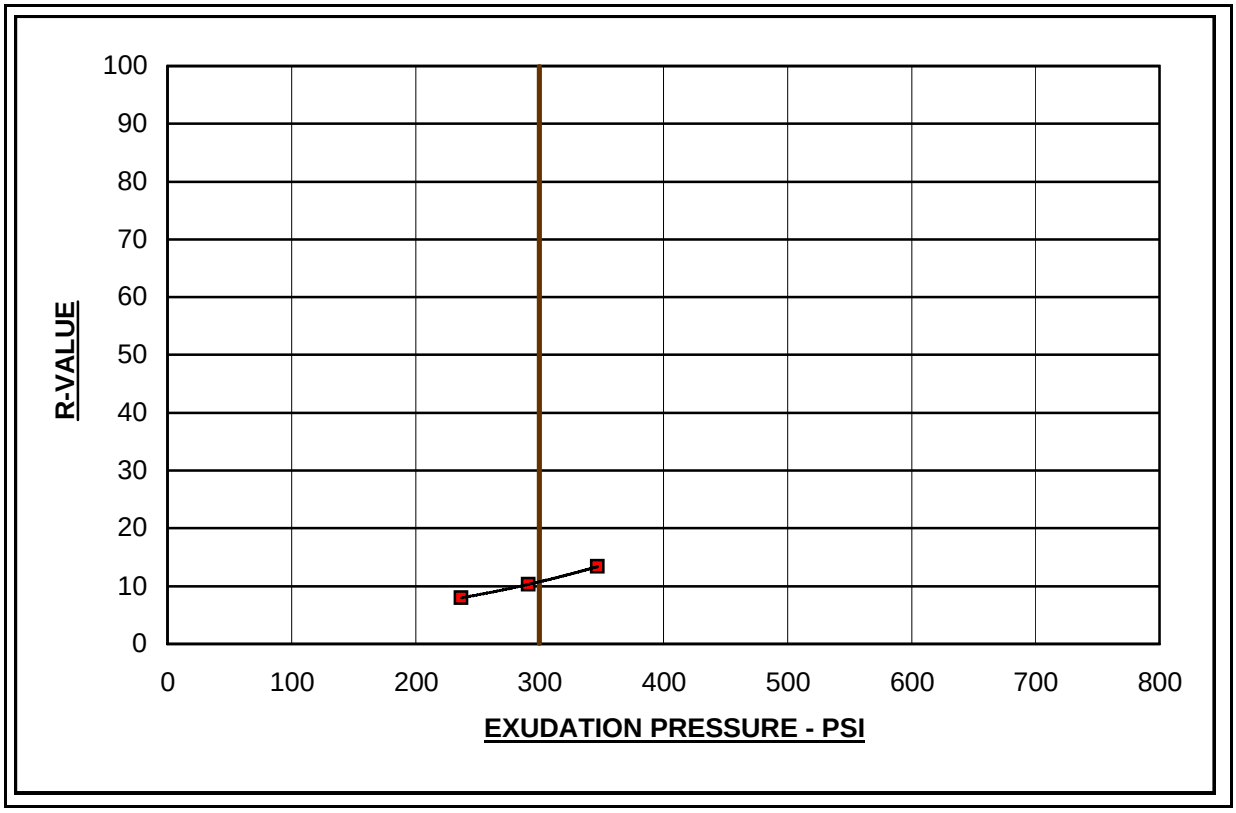
RESISTANCE R-VALUE & EXPANSION PRESSURE OF COMPACTED SOIL ASTM D2844

CLIENT:	Wilson & Company, Inc.	**DATE OF TEST:**	10-Jul-08
PROJECT:	East Aztec Arterial Route		
LOCATION:	TP-18 @ 12'-14'		
TERRACON NO.	69085011	**CLASSIFICATION:**	Sandy Lean Clay

SAMPLE DATA TEST RESULTS

TEST SPECIMEN NO.	1	2	3
COMPACTION PRESSURE (PSI)	90	13	210
DENSITY (PCF)	108.0	110.2	114.2
MOISTURE CONTENT (%)	20.4	19.1	17.3
EXPANSION PRESSURE (PSI)	-0.06	-0.03	0.34
HORIZONTAL PRESSURE @ 160 PSI	141	137	132
SAMPLE HEIGHT (INCHES)	2.56	2.60	2.58
EXUDATION PRESSURE (PSI)	237.1	291.2	346.9
CORRECTED R-VALUE	8.0	10.3	13.4
UNCORRECTED R-VALUE	7.8	9.9	13.0

R-VALUE @ 300 PSI EXUDATION PRESSURE = **11**



WELD LABORATORIES, INC.
1527 First Avenue • Greeley, Colorado 80631
Phone: (970) 353-8118 • Fax: (970) 353-1671
www.weldlabs.com

July 22, 2008

Terracon
#4A CR 3499
Flora Vista, NM 87415

Project No.: 69085011

Results

Sample ID:	TP-18 @ 12-14'	TP-13 @ 1-3'	TP-4 @ 2-4'	TP-10 @ 10-12'	TP-8 @ 5.5-7'
Laboratory No.:	S8192-72	S8192-73	S8192-74	S8192-75	S8192-76
pH	7.23	7.26	7.63	7.46	7.36
Min. Lab Resistivity (ohm-cm)	250	647	400	275	137
Sulfate (mg/kg)	1970	279	350	1130	2550
Chloride (mg/kg)	426	177	106	355	248

Project Manager

7/22/08
Date

Sampling procedures can affect the value of analytical results – customers are advised to use appropriate sampling protocol to insure samples are truly representative of the bulk sample.

New Mexico Department of Transportation
Engineering Support Division - Pavement Design Buerau
Probablistic Flexible Pavement Design (English) - Release 2.0

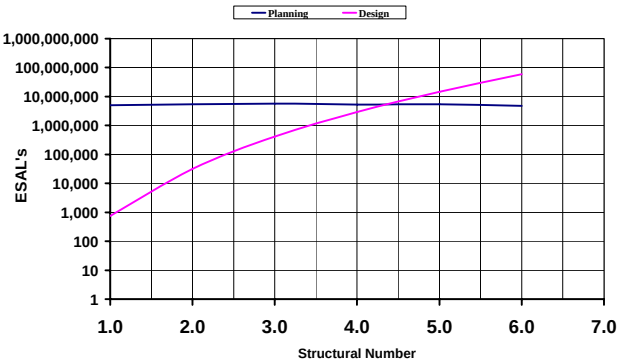
Project Information

Date: 28-Aug-08

Project Number: 69085011
Control Number: N/A

Location: East Aztec Arterial Route

District Number: 5
County: SAN JUAN
Designer: MRM
PDE:
Type of Construction: NEW CONSTRUCTION



Flexible Pavement Structural Number Computation Worksheet

Design Factor Summary

Design R-Value: 13.8
Regional Factor (R): 1.8
Initial Serviceability (Pi): 4.2
Terminal Serviceability (P_t): 2.0
Design ESAL (years): 20.0

DESIGN STRUCTUAL NUMBER : 4.35
DESIGN ESAL : 5,274,796

Design ESAL Summary

Assumed Structural Number	Calculated Flexible ESALs	
	Planning	Design
1.0	5,054,141	746
2.0	5,363,090	31,746
3.0	5,701,746	417,065
4.0	5,327,255	2,916,931
5.0	5,461,550	14,568,486
6.0	4,778,103	58,614,537
	Planning Uncertainty Percentage =	25%

English Units Version

Pavement Type	Design Depth (Inches)	Design Structural Coefficient	Thickness Uncertainty	Layer Structural Number
New Rubberized Open Graded Friction Course	0.00	0.00	--------	--------
New Open Graded Friction Course	0.625	0.00	--------	--------
Stone Matrix Asphalt	0.00	0.40	10%	0.00
New Plant Mix Bituminous Pavement	9.50	0.44	10%	4.18
New Aggregate Base Course	6.00	0.11	10%	0.66
New Cement Treated Base Course	0.00	0.27	0%	0.00
New Asphalt Treated Base Course	0.00	0.27	0%	0.00
Geo-Grid (Effective Base Course)	0.00	0.11	0%	0.00
New Cement Treated Subgrade	0.00	0.20	0%	0.00
New Lime Treated Subgrade	0.00	0.10	0%	0.00
	0.00	0.00	0%	0.00
Hot Recycle	0.00	0.30	0%	0.00
In-Situ Cold Recyle of Existing PMBP	0.00	0.30	10%	0.00
Cold Milling of Existing PMBP	0.00	-0.27	0%	0.00
Existing Plant Mix Bituminous Pavement	0.00	0.27		0.00
Existing Aggregate Base Course	0.00	0.08		0.00
Existing Cement Treated Base Course	0.00	0.05		0.00
Existing Asphalt Treated Base Course	0.00	0.05		0.00
Existing Cement Treated Subgrade	0.00	0.08		0.00
Existing Lime Treated Subgrade	0.00	0.08		0.00

Proposed Structural Number: 4.84
Design Structural Number: 4.35

Design Reliability: 65%
Reliability For Constructability: 75%

Proposed Structural Number MEETS Minimum Design Requirements

New Mexico Department of Transportation
Engineering Support Division - Pavement Design Buerau
Probablistic Flexible Pavement Design (English) - Release 2.0

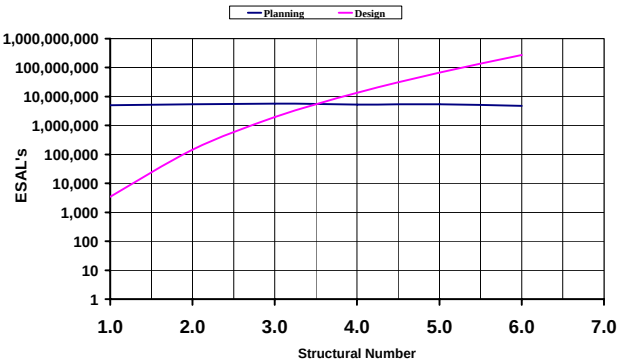
Project Information

Date: 28-Aug-08

Project Number: 69085011
Control Number: N/A

Location: East Aztec Arterial Route

District Number: 5
County: SAN JUAN
Designer: MRM
PDE:
Type of Construction: NEW CONSTRUCTION



Flexible Pavement Structural Number Computation Worksheet

Design Factor Summary

Design R-Value: 33.5
Regional Factor (R): 1.8
Initial Serviceability (Pi): 4.2
Terminal Serviceability (P_t): 2.0
Design ESAL (years): 20.0

DESIGN STRUCTUAL NUMBER : 3.51
DESIGN ESAL : 5,512,924

Design ESAL Summary

Assumed Structural Number	Calculated Flexible ESALs	
	Planning	Design
1.0	5,054,141	3,458
2.0	5,363,090	147,244
3.0	5,701,746	1,934,456
4.0	5,327,255	13,529,486
5.0	5,461,550	67,572,429
6.0	4,778,103	271,869,469
Planning Uncertainty Percentage =		25%

English Units Version

Pavement Type	Design Depth (Inches)	Design Structural Coefficient	Thickness Uncertainty	Layer Structural Number
New Rubberized Open Graded Friction Course	0.00	0.00	--------	--------
New Open Graded Friction Course	0.625	0.00	--------	--------
Stone Matrix Asphalt	0.00	0.40	10%	0.00
New Plant Mix Bituminous Pavement	7.50	0.44	10%	3.30
New Aggregate Base Course	6.00	0.11	10%	0.66
New Cement Treated Base Course	0.00	0.27	0%	0.00
New Asphalt Treated Base Course	0.00	0.27	0%	0.00
Geo-Grid (Effective Base Course)	0.00	0.11	0%	0.00
New Cement Treated Subgrade	0.00	0.20	0%	0.00
New Lime Treated Subgrade	0.00	0.10	0%	0.00
	0.00	0.00	0%	0.00
Hot Recycle	0.00	0.30	0%	0.00
In-Situ Cold Recyle of Existing PMBP	0.00	0.30	10%	0.00
Cold Milling of Existing PMBP	0.00	-0.27	0%	0.00
Existing Plant Mix Bituminous Pavement	0.00	0.27		0.00
Existing Aggregate Base Course	0.00	0.08		0.00
Existing Cement Treated Base Course	0.00	0.05		0.00
Existing Asphalt Treated Base Course	0.00	0.05		0.00
Existing Cement Treated Subgrade	0.00	0.08		0.00
Existing Lime Treated Subgrade	0.00	0.08		0.00

Proposed Structural Number: 3.96
Design Structural Number: 3.51

Design Reliability: 65%
Reliability For Constructability: 75%

Proposed Structural Number MEETS Minimum Design Requirements

New Mexico Department of Transportation
Context Sensitive Solutions Bureau - Pavement Design Solutions

Probablistic Rigid Pavement Slab Thickness Computation Worksheet
for Jointed Plain Concrete Pavement

Release (1.81)

8/28/2008 13:39

Control Number:	**N/A**	**Pavement Designer:**	**KMP/MRM**
Project Number:	**69085011**	**Project Development Engineer:**	
District Number:	**5**	**Type of Construction:**	**New Construction**
County Name:	**San Juan**	**Design Period (Years):**	**20**

Design Factor Summary

	Value	Units
Initial Serviceability Index (P_i):	4.2	
Termininal Serviceability Index (P_t):	2.5	
28-Day Compressive Strength (f'_c):	3000	psi
Base Thickness (D_B):	4.00	inches
Base Thickness Variation:	10.0	%
Base Modulus (M_{SB}):	15,000	psi
Loss of Base Support:	1.0	
Subgrade R-Value (RV_S):	14	
Bedrock Depth:	15.0	feet
Reliability Level (R):	75	%
Load Transfer Coefficient (J):	3.2	
Overall Drainage Coefficient (C_d):	1.0	

Design ESAL Summary

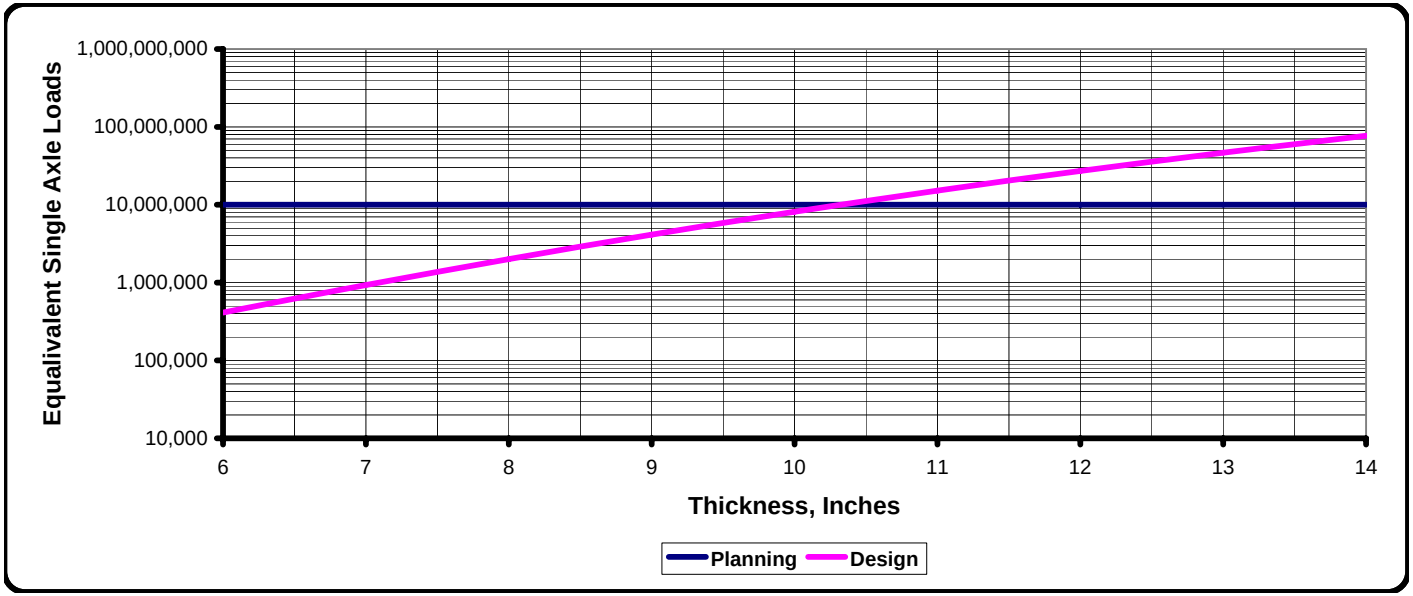
Slab Thickness (Inches)	Calculated Rigid ESALs	
	Planning	Design
6	10,000,000	411,648
7	10,000,000	929,346
8	10,000,000	2,002,255
9	10,000,000	4,138,087
10	10,000,000	8,135,148
11	10,000,000	15,207,793
12	10,000,000	27,145,203
13	10,000,000	46,504,479
14	10,000,000	76,843,745

Planning Uncertainty Percentage = **25%**

DESIGN PCCP THICKNESS => **10.32** **inches**

DESIGN ESAL => **9,991,323**

Corrected K-Value (psi/in) = **63**



New Mexico Department of Transportation
Context Sensitive Solutions Bureau - Pavement Design Solutions

Probablistic Rigid Pavement Slab Thickness Computation Worksheet
for Jointed Plain Concrete Pavement

Release (1.81)

8/28/2008 13:40

Control Number:	**N/A**	**Pavement Designer:**	**KMP/MRM**
Project Number:	**69085011**	**Project Development Engineer:**	
District Number:	**5**	**Type of Construction:**	**New Construction**
County Name:	**San Juan**	**Design Period (Years):**	**20**

Design Factor Summary

	Value	Units
Initial Serviceability Index (P_i):	4.2	
Termininal Serviceability Index (P_t):	2.5	
28-Day Compressive Strength (f'_c):	3000	psi
Base Thickness (D_B):	4.00	inches
Base Thickness Variation:	10.0	%
Base Modulus (M_{SB}):	15,000	psi
Loss of Base Support:	1.0	
Subgrade R-Value (RV_S):	33	
Bedrock Depth:	15.0	feet
Reliability Level (R):	75	%
Load Transfer Coefficient (J):	3.2	
Overall Drainage Coefficient (C_d):	1.0	

Design ESAL Summary

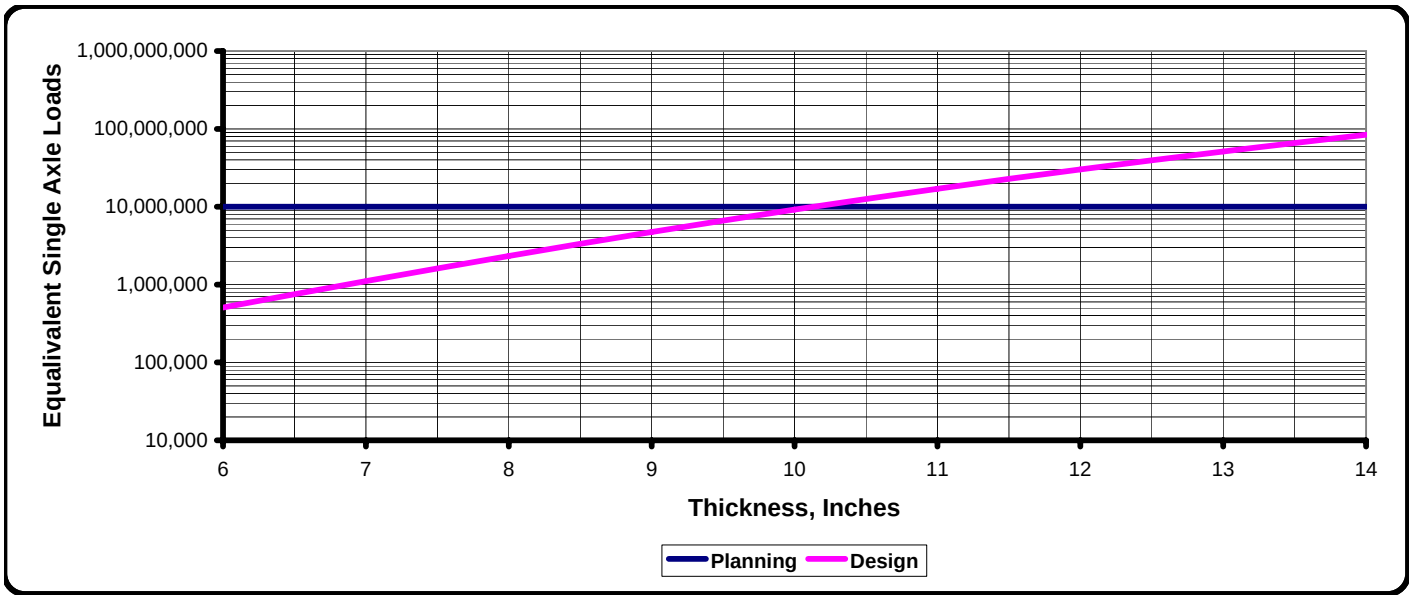
Slab Thickness (Inches)	Calculated Rigid ESALs	
	Planning	Design
6	10,000,000	507,527
7	10,000,000	1,108,702
8	10,000,000	2,333,804
9	10,000,000	4,740,377
10	10,000,000	9,194,483
11	10,000,000	17,003,588
12	10,000,000	30,082,997
13	10,000,000	51,156,969
14	10,000,000	84,000,729

Planning Uncertainty Percentage = **25%**

DESIGN PCCP THICKNESS => **10.13** **inches**

DESIGN ESAL => **9,985,974**

Corrected K-Value (psi/in) = **101**



GENERAL NOTES

DRILLING & SAMPLING SYMBOLS:

SS:	Split Spoon - 1-3/8" I.D., 2" O.D., unless otherwise noted	HS:	Hollow Stem Auger
ST:	Thin-Walled Tube - 2" O.D., unless otherwise noted	PA:	Power Auger
RS:	Ring Sampler - 2.42" I.D., 3" O.D., unless otherwise noted	HA:	Hand Auger
DB:	Diamond Bit Coring - 4", N, B	RB:	Rock Bit
BS:	Bulk Sample or Auger Sample	WB:	Wash Boring or Mud Rotary

The number of blows required to advance a standard 2-inch O.D. split-spoon sampler (SS) the last 12 inches of the total 18-inch penetration with a 140-pound hammer falling 30 inches is considered the "Standard Penetration" or "N-value". For 3" O.D. ring samplers (RS) the penetration value is reported as the number of blows required to advance the sampler 12 inches using a 140-pound hammer falling 30 inches, reported as "blows per foot," and is not considered equivalent to the "Standard Penetration"or "N-value".

WATER LEVEL MEASUREMENT SYMBOLS:

WL:	Water Level	WS:	While Sampling	N/E:	Not Encountered
WCI:	Wet Cave in	WD:	While Drilling	WE:	While Excavating
DCI:	Dry Cave in	BCR:	Before Casing Removal		
AB:	After Boring	ACR:	After Casing Removal		

Water levels indicated on the boring logs are the levels measured in the borings at the times indicated. Groundwater levels at other times and other locations across the site could vary. In pervious soils, the indicated levels may reflect the location of groundwater. In low permeability soils, the accurate determination of groundwater levels may not be possible with only short-term observations.

DESCRIPTIVE SOIL CLASSIFICATION: Soil classification is based on the Unified Classification System. Coarse Grained Soils have more than 50% of their dry weight retained on a #200 sieve; their principal descriptors are: boulders, cobbles, gravel or sand. Fine Grained Soils have less than 50% of their dry weight retained on a #200 sieve; they are principally described as clays if they are plastic, and silts if they are slightly plastic or non-plastic. Major constituents may be added as modifiers and minor constituents may be added according to the relative proportions based on grain size. In addition to gradation, coarse-grained soils are defined on the basis of their in-place relative density and fine-grained soils on the basis of their consistency.

CONSISTENCY OF FINE-GRAINED SOILS

Unconfined Compressive Strength, Qu, psf	Standard Penetration or N-value (SS) Blows/Ft.	Consistency
< 500	<2	Very Soft
500 – 1,000	2-3	Soft
1,001 – 2,000	4-6	Medium Stiff
2,001 – 4,000	7-12	Stiff
4,001 – 8,000	13-26	Very Stiff
8,000+	26+	Hard

RELATIVE DENSITY OF COARSE-GRAINED SOILS

Standard Penetration or N-value (SS) Blows/Ft.	Ring Sampler (RS) Blows/Ft.	Relative Density
0 – 3	0-6	Very Loose
4 – 9	7-18	Loose
10 – 29	19-58	Medium Dense
30 – 49	59-98	Dense
50+	99+	Very Dense

RELATIVE PROPORTIONS OF SAND AND GRAVEL

Descriptive Term(s) of other constituents	Percent of Dry Weight
Trace	< 15
With	15 – 29
Modifier	> 30

GRAIN SIZE TERMINOLOGY

Major Component of Sample	Particle Size
Boulders	Over 12 in. (300mm)
Cobbles	12 in. to 3 in. (300mm to 75 mm)
Gravel	3 in. to #4 sieve (75mm to 4.75 mm)
Sand	#4 to #200 sieve (4.75mm to 0.075mm)
Silt or Clay	Passing #200 Sieve (0.075mm)

RELATIVE PROPORTIONS OF FINES

Descriptive Term(s) of other constituents	Percent of Dry Weight
Trace	< 5
With	5 – 12
Modifiers	> 12

PLASTICITY DESCRIPTION

Term	Plasticity Index
Non-plastic	0
Low	1-10
Medium	11-30
High	30+

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GENERAL NOTES
Description of Rock Properties

WEATHERING

Fresh	Rock fresh, crystals bright, few joints may show slight staining. Rock rings under hammer if crystalline.
Very slight	Rock generally fresh, joints stained, some joints may show thin clay coatings, crystals in broken face show bright. Rock rings under hammer if crystalline.
Slight	Rock generally fresh, joints stained, and discoloration extends into rock up to 1 in. Joints may contain clay. In granitoid rocks some occasional feldspar crystals are dull and discolored. Crystalline rocks ring under hammer.
Moderate	Significant portions of rock show discoloration and weathering effects. In granitoid rocks, most feldspars are dull and discolored; some show clayey. Rock has dull sound under hammer and shows significant loss of strength as compared with fresh rock.
Moderately severe	All rock except quartz discolored or stained. In granitoid rocks, all feldspars dull and discolored and majority show kaolinization. Rock shows severe loss of strength and can be excavated with geologist's pick.
Severe	All rock except quartz discolored or stained. Rock "fabric" clear and evident, but reduced in strength to strong soil. In granitoid rocks, all feldspars kaolinized to some extent. Some fragments of strong rock usually left.
Very severe	All rock except quartz discolored or stained. Rock "fabric" discernible, but mass effectively reduced to "soil" with only fragments of strong rock remaining.
Complete	Rock reduced to "soil". Rock "fabric" not discernible or discernible only in small, scattered locations. Quartz may be present as dikes or stringers.

HARDNESS (for engineering description of rock – not to be confused with Moh's scale for minerals)

Very hard	Cannot be scratched with knife or sharp pick. Breaking of hand specimens requires several hard blows of geologist's pick.
Hard	Can be scratched with knife or pick only with difficulty. Hard blow of hammer required to detach hand specimen.
Moderately hard	Can be scratched with knife or pick. Gouges or grooves to ¼ in. deep can be excavated by hard blow of point of a geologist's pick. Hand specimens can be detached by moderate blow.
Medium	Can be grooved or gouged 1/16 in. deep by firm pressure on knife or pick point. Can be excavated in small chips to pieces about 1-in. maximum size by hard blows of the point of a geologist's pick.
Soft	Can be gouged or grooved readily with knife or pick point. Can be excavated in chips to pieces several inches in size by moderate blows of a pick point. Small thin pieces can be broken by finger pressure.
Very soft	Can be carved with knife. Can be excavated readily with point of pick. Pieces 1-in. or more in thickness can be broken with finger pressure. Can be scratched readily by fingernail.

Joint, Bedding and Foliation Spacing in Rock[a]

Spacing	Joints	Bedding/Foliation
Less than 2 in.	Very close	Very thin
2 in. – 1 ft.	Close	Thin
1 ft. – 3 ft.	Moderately close	Medium
3 ft. – 10 ft.	Wide	Thick
More than 10 ft.	Very wide	Very thick

Rock Quality Designator (RQD)[b]		Joint Openness Descriptors	
RQD, as a percentage	Diagnostic description	Openness	Descriptor
Exceeding 90	Excellent	No Visible Separation	Tight
90 – 75	Good	Less than 1/32 in.	Slightly Open
75 – 50	Fair	1/32 to 1/8 in.	Moderately Open
50 – 25	Poor	1/8 to 3/8 in.	Open
Less than 25	Very poor	3/8 in. to 0.1 ft.	Moderately Wide
		Greater than 0.1 ft.	Wide

a. Spacing refers to the distance normal to the planes, of the described feature, which are parallel to each other or nearly so.
b. RQD (given as a percentage) = length of core in pieces 4 in. and longer/length of run.

References: American Society of Civil Engineers. Manuals and Reports on Engineering Practice - No. 56. Subsurface Investigation for Design and Construction of Foundations of Buildings. New York: American Society of Civil Engineers, 1976.
U.S. Department of the Interior, Bureau of Reclamation, Engineering Geology Field Manual.

Terracon

UNIFIED SOIL CLASSIFICATION SYSTEM

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests[A]					Soil Classification	
					Group Symbol	Group Name[B]
Coarse Grained Soils More than 50% retained on No. 200 sieve	Gravels More than 50% of coarse fraction retained on No. 4 sieve	Clean Gravels Less than 5% fines[C]	$Cu \geq 4$ and $1 \leq Cc \leq 3$[E]		GW	Well-graded gravel[F]
			$Cu < 4$ and/or $1 > Cc > 3$[E]		GP	Poorly graded gravel[F]
		Gravels with Fines More than 12% fines[C]	Fines classify as ML or MH		GM	Silty gravel[F,G,H]
			Fines classify as CL or CH		GC	Clayey gravel[F,G,H]
	Sands 50% or more of coarse fraction passes No. 4 sieve	Clean Sands Less than 5% fines[D]	$Cu \geq 6$ and $1 \leq Cc \leq 3$[E]		SW	Well-graded sand[I]
			$Cu < 6$ and/or $1 > Cc > 3$[E]		SP	Poorly graded sand[I]
		Sands with Fines More than 12% fines[D]	Fines classify as ML or MH		SM	Silty sand[G,H,I]
			Fines Classify as CL or CH		SC	Clayey sand[G,H,I]
Fine-Grained Soils 50% or more passes the No. 200 sieve	Silts and Clays Liquid limit less than 50	inorganic	PI > 7 and plots on or above "A" line[J]		CL	Lean clay[K,L,M]
			PI < 4 or plots below "A" line[J]		ML	Silt[K,L,M]
		organic	Liquid limit - oven dried	< 0.75	OL	Organic clay[K,L,M,N]
			Liquid limit - not dried			Organic silt[K,L,M,O]
	Silts and Clays Liquid limit 50 or more	inorganic	PI plots on or above "A" line		CH	Fat clay[K,L,M]
			PI lots below "A" line		MH	Elastic Silt[K,L,M]
		organic	Liquid limit - oven dried	< 0.75	OH	Organic clay[K,L,M,P]
			Liquid limit - not dried			Organic silt[K,L,M,Q]
Highly organic soils	Primarily organic matter, dark in color, and organic odor				PT	Peat

[A] Based on the material passing the 3-in. (75-mm) sieve

[B] If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.

[C] Gravels with 5 to 12% fines require dual symbols: GW-GM well-graded gravel with silt, GW-GC well-graded gravel with clay, GP-GM poorly graded gravel with silt, GP-GC poorly graded gravel with clay.

[D] Sands with 5 to 12% fines require dual symbols: SW-SM well-graded sand with silt, SW-SC well-graded sand with clay, SP-SM poorly graded sand with silt, SP-SC poorly graded sand with clay

[E] $Cu = D_{60}/D_{10}$ $\quad Cc = \dfrac{(D_{30})^2}{D_{10} \times D_{60}}$

[F] If soil contains ≥ 15% sand, add "with sand" to group name.

[G] If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.

[H] If fines are organic, add "with organic fines" to group name.

[I] If soil contains ≥ 15% gravel, add "with gravel" to group name.

[J] If Atterberg limits plot in shaded area, soil is a CL-ML, silty clay.

[K] If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel," whichever is predominant.

[L] If soil contains ≥ 30% plus No. 200 predominantly sand, add "sandy" to group name.

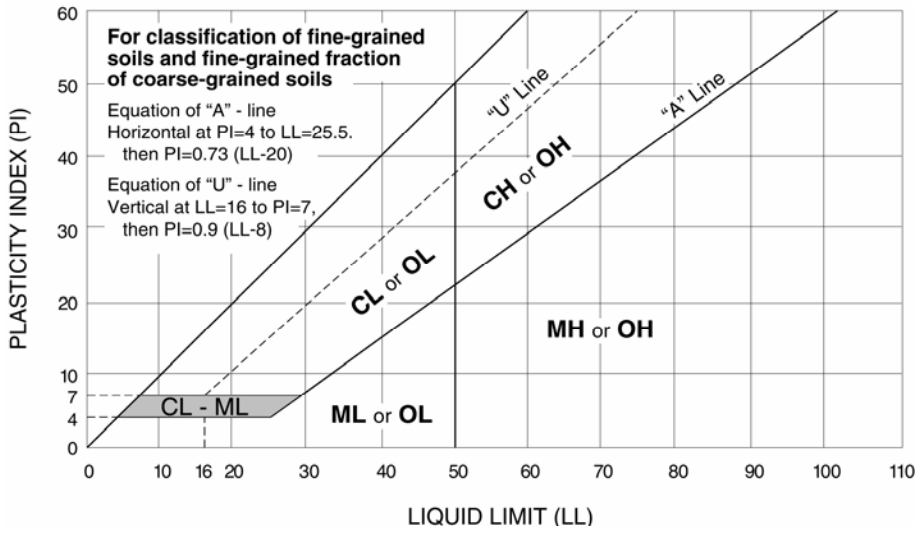
[M] If soil contains ≥ 30% plus No. 200, predominantly gravel, add "gravelly" to group name.

[N] PI ≥ 4 and plots on or above "A" line.

[O] PI < 4 or plots below "A" line.

[P] PI plots on or above "A" line.

[Q] PI plots below "A" line.



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