

BOARD OF COUNTY COMMISSIONERS OF DOUGLAS COUNTY, KANSAS

FRIDAY, DECEMBER 16, 2016

-3:00-5:00 p.m. Open House for Renovated Fairgrounds Facility in Meeting Hall

WEDNESDAY, DECEMBER 21, 2016

4:00 p.m.

CONSENT AGENDA

- (1) (a) Consider approval of Commission Orders;
- (b) Consider approval of amended 2016 Budget (Cammy Owens);
- (c) Consider approval of construction contract for Replacement of Bridge No. 00.64N-05.50E, DGCO Project No. 2015-68 (Keith Browning)

REGULAR AGENDA

- (2) Update on ONESolution ERP project (Marni Penrod)

- (3) (a) Consider approval of Accounts Payable (if necessary)
- (b) Appointments
- Board of Construction Codes Appeals (1) position 12/15**
- Planning Commission (1) position to fill unexpired term**
- MPO Bicycle Advisory Committee0 (2) positions**
- (c) Public Comment
- (d) Miscellaneous

- (4) Adjourn

WEDNESDAY, DECEMBER 28, 2016 - Cancelled

WEDNESDAY, JANUARY 4, 2017

3:00 p.m. – Recognition of Service for Commissioner Jim Flory

4:00 p.m. – County Commission Meeting

MONDAY, JANUARY 9, 2017

9:00 a.m. – Swearing in of elected County Commissioners

WEDNESDAY, JANUARY 11, 2017

-Appointment of positions.

WEDNESDAY, JANUARY 18, 2017 – (Light or cancelled)

WEDNESDAY, JANUARY 25, 2017

***Note:** The Douglas County Commission meets regularly on Wednesdays at 4:00 P.M. for administrative items and 6:00 P.M. for public items at the Douglas County Courthouse. Specific regular meeting dates that are not listed above have not been cancelled unless specifically noted on this schedule.*

Notice of Budget Hearing for Amending the 2016 Budget

The governing body of **Douglas County** will meet on the day of December 21, 2016 at 4:00 p.m. at County Court-house Meeting Room for the purpose of hearing and answering objections of taxpayers relating to the proposed amended use of funds. Detailed budget information is available at the Budget Office, 1100 Massachusetts Lawrence KS and will be available at this hearing.

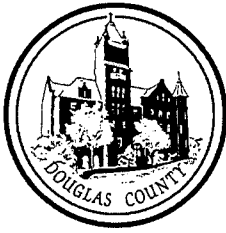
Summary of Amendments

2016 Adopted Budget

Fund	Actual Tax Rate	Amount of Tax that was Levied	Expenditures	2016 Proposed Amended Expenditures
General	25.917	31,392,581	45,594,346	46,492,738
Road & Bridge	3.202	3,878,136	5,985,931	5,998,221
Ambulance	2.879	3,487,284	5,231,560	5,739,060
Employee Benefits	7.338	8,948,499	10,109,518	10,244,377
Grants			0	625,000

Jamie Shew

Official Title: County Clerk



DOUGLAS COUNTY PUBLIC WORKS

3755 E. 25th Street
Lawrence, KS 66046
(785) 832-5293 Fax (785) 842-1201
dgcopubw@douglascountyks.org
www.douglascountyks.org

Keith A. Browning, P.E.
Director of Public Works/County Engineer

MEMORANDUM

To : Board of County Commissioners

From : Keith A. Browning, P.E., Director of Public Works/County Engineer *KAB*

Date : December 16, 2016

Re : Consent Agenda approval of construction contract
Replacement of Bridge No. 00.64N-05.50E
DGCO Project No. 2015-68

Bids were opened December 12 for the referenced project. We received three bids as shown on the attached bid tabulation and as follows:

Bidder	Total Bid
Bryan-Ohlmeier Const.	\$478,536.65
Ebert Construction	\$516,292.54
King Construction	\$531,064.42
<i>Engineer's Estimate</i>	<i>\$625,143.50</i>

The referenced bridge is on Route 1029 approximately 0.6 miles north of the Franklin County line. The project will replace the existing two-span, 47'-long bridge constructed in 1935 and rehabilitated in 1972. The new bridge will be a three-span, 92.5'-long bridge with a 32 foot roadway width. Construction will begin in February 2017. The CIP includes \$725,000 for this project.

We recommend accepting the low bid and contracting with Bryan-Ohlmeier Construction for this bridge replacement project. We request authorization to approve change orders totaling up to 10% of the contract amount.

Action Required: Consent Agenda approval of a construction contract with Bryan-Ohlmeier Construction in the low bid amount of \$478,536.65 for Project No. 2015-68, replacement of Bridge No. 00.64N-05.50E, and authorization for the Public Works Director to approve change orders totaling up to 10% of the contract amount.

DOUGLAS COUNTY, KANSAS
OFFICE OF THE COUNTY ENGINEER
SPECIFICATIONS AND CONTRACT DOCUMENTS
FOR
DOUGLAS COUNTY PROJECT NO. 2015-68
BRIDGE 00.64N – 05.50E REPLACEMENT

BID # 16-F-0017

Douglas County Commissioners

James E. Flory, Chairman

Mike Gaughan, Member

Nancy Thellman, Member

Approved By:

Keith A. Browning, P.E.
Director of Public Works
and County Engineer

Date: 11/4/16

DOUGLAS COUNTY, KANSAS
PROJECT NO. 2015-68
BID # 16-F-0017

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<http://www.ksdot.org/bureaus/burConsMain/specprov/2015specprov.asp>

DOUGLAS COUNTY, KANSAS
PROJECT NO. 2015-68
BID # 16-F-0017
NOTICE TO CONTRACTORS

Notice is hereby given that sealed proposals for the performance of the contract above noted will be received in the Office of the Douglas County Clerk until 3:00 P.M., Monday, December 12, 2016, and then publicly opened in the Courthouse, 1100 Massachusetts Street, Lawrence, Kansas.

Douglas County Project 2015-68 consists of Removal of Existing Structure (2 @ 23' steel beam spans on concrete substructure), Grading, Bridge Construction (27'-36'-27' RC Haunched Slab RCHS), Piling, Slope Protection, HMA-Base, HMA-Surfacing, Guardrail, Seeding, and Traffic Control.

Douglas County Project 2015-68 is located on Douglas County Route 1029 approximately 2 ½ miles south of Globe, KS.

All bids must be submitted on forms obtainable at the Office of the Director of Public Works/County Engineer, 3755 E. 25th Street, Lawrence, Kansas 66046 or Demand Star @ www.demandstar.com, and are open for public inspection. Proposals shall be submitted in sealed envelopes, addressed to the Office of the County Clerk, Courthouse, 1100 Massachusetts, Lawrence, Kansas 66044, upon which is clearly written or printed "Proposal for Douglas County Project No. 2015-68", and the name and address of the bidder. Any bids received after the closing time will be returned unopened.

Copies of the Contract Documents and Specifications are available from the Office of the Director of Public Works and County Engineer of Douglas County, Kansas. A Fifty Dollar (\$50.00) non-refundable deposit is required per set, which includes one "11 x 17" set of plans and a copy of the contract documents and specifications. The contract documents, specifications, and plans become the property of the prospective bidder and are not returnable. Copies of the contract documents, specifications, and plans are on file and open for public inspection at the Office of the County Engineer.

All bids must be accompanied by a CERTIFIED CHECK, CASHIER'S CHECK or a BID BOND for not less than Five Percent (5%) of the base bid as a guarantee that if awarded the Contract, the bidder will enter into a Contract and give bond as required. Said check or bond shall be made payable to the Board of County Commissioners, Douglas County, Kansas.

Contracts will be awarded only to such bidders as are on the list of Pre-Qualified Contractors for the Kansas Department of Transportation on the date established for receiving and opening of bids.

The Board of County Commissioners of Douglas County, Kansas reserve the right to reject any or all bids and to waive technicalities, and to award the contract to the bidder that the Commission deems best suited to accomplish the work.

DOUGLAS COUNTY PUBLIC WORKS
Keith A. Browning, P.E.
Director of Public Works
Date: 11/4/16

Publication Date: Thursday, November 10, 2016
Saturday, November 19, 2016

cc: Lawrence Journal World
Douglas County Commission
Douglas County Clerk

Douglas County Administrator
Douglas County Purchasing
Douglas County Operations

DOUGLAS COUNTY, KANSAS
PROJECT NO. 2015-68
BID # 16-F-0017

INFORMATION FOR BIDDERS

1. Proposals must be submitted on duly executed copy of the Proposal Forms obtained at the Office of the Director of Public Works, 3755 E. 25th Street, Lawrence, Kansas 66046 or Demand Star.
2. Proposals must be in sealed envelopes, addressed to the Office of the County Clerk, Courthouse, Lawrence, Kansas, upon which is clearly written, or printed, "Proposal for Douglas County Project No. 2015-68" and the name and address of the bidder.
3. Each bidder shall state in his Proposal, his name, place of residence and his exact post office address, and the names and addresses of all persons or parties interested with him therein. Anyone signing a Proposal as an agent for another must file, with the Proposal, acceptable evidence of his authority to do so.
4. Each bidder is required to deposit with his Proposal a Certified Check, Cashier's Check or Bid Bond in the amount of five percent (5%) of the base bid. The above required deposit will serve as a guarantee that the bidder will file all bonds required and enter into the Contract, should it be awarded to him, according to the terms of his bid, within twenty-one (21) days after the certification of the award. Should the Contractor fail to file approved surety bonds or enter into Contract with Douglas County, Kansas, the bid security shall be forfeited as liquidated damages, and the money realized therefrom turned into the County Treasury.
5. Contracts will be let only to such bidders as are on the list of Pre-Qualified Contractors for the Kansas Department of Transportation on the date established for receiving and opening of bids.
6. Bidders must show their unit prices, make extensions based on the unit price bid for each item and total the bid for all items.
7. In the event any discrepancy occurs between the unit prices and the gross sum bid, the unit price shall apply.
8. Proposals must be signed:
9. Failure to comply with one or all of the above stated requirements will be considered sufficient grounds for rejection of the Proposal.
10. The winning bidder shall, within twenty-one (21) days of the Award of the Contract, file an approved Statutory Bond and an approved Performance and Maintenance Bond in an amount equal to the total bid.

DOUGLAS COUNTY, KANSAS
PROJECT NO. 2015-68
BID # 16-F-0017

SPECIFICATIONS

THE STANDARD SPECIFICATIONS FOR STATE ROAD AND BRIDGE CONSTRUCTION OF THE KANSAS DEPARTMENT OF TRANSPORTATION, EDITION OF 2015, shall be the Specifications for this Contract except the Sections and Articles which shall be deleted from the STANDARD SPECIFICATIONS and shall be revised as hereinafter shown.

DIVISION 100

GENERAL CLAUSES AND COVENANTS

Section 101.3

DEFINITIONS

BID BOND – DELETE item and ADD – The approved form of security, executed by the bidder and his surety or sureties, guaranteeing the execution of a satisfactory contract and the filing of an acceptable contract bond if the bidder's offer is accepted. The bid bond shall be a Certified Check, Cashier's Check or Bid Bond in the amount of five percent (5%) of the base bid. Said check or bond shall be made payable to the Board of County Commissioners, Douglas County, Kansas.

CONTRACT - DELETE item and ADD - The written agreement between the Board of County Commissioners of Douglas County, Kansas, and the Contractor setting forth the obligations of the parties thereunder, including, but not limited to, the performance of the work, the furnishing of labor and materials, and the basis of payment.

The Contract shall include the Contract Documents, which shall include the Proposal, Plans, Specifications, Contract Drawings, Supplemental Specifications, Special Provisions, Contract, Performance and Maintenance Bond, and the Statutory Bond, and also any change orders and agreements that are required to complete the construction of the work in an acceptable manner, including authorized extensions thereof, all of which constitute one instrument.

CONTRACT BOND - DELETE item and ADD - The Statutory Bond and the Performance and Maintenance Bond executed by the Contractor and his Surety, guaranteeing execution of the Contract and all Supplemental Agreements pertaining thereto and the payment of all legal debts pertaining to the construction of the Project.

DEPARTMENT - ADD - Douglas County, Kansas, represented by its Board of County Commissioners.

ENGINEER - DELETE item and ADD - Douglas County, Kansas, or the Director of Public Works of Douglas County, Kansas, acting directly or through his authorized representatives on behalf of Douglas County, Kansas.

LABORATORY - ADD - The testing laboratory designated by the Engineer.

SPECIFICATIONS
(Continued)

RETAINAGE – ADD – From the grand total of the work completed as estimated by the Engineer, there shall be deducted five (5) percent to be retained by the County as required by KSA 68-1120 until full and satisfactory completion of the Contract, Specifications and Contract Documents and the Engineer shall certify the balance to the Commission for payment; except that no amount less than Five Hundred Dollars (\$500.00) will be paid unless the total amount of the Contract remaining unpaid is less than Five Hundred Dollars (\$500.00).

SECRETARY - DELETE item and ADD - COUNTY - Douglas County, Kansas, represented by its Board of County Commissioners.

STATE - DELETE item and ADD - COUNTY - Douglas County, Kansas represented by its Board of County Commissioners.

Section 102

BIDDING REQUIREMENTS AND CONDITIONS

102.1 NOTICE TO CONTRACTORS (ADVERTISEMENT), DELETE item and ADD – Douglas County will publish a Notice to Contractor's to notify prospective Contractors of a letting. This notice describes the contemplated work, informs the Contractor how to obtain Bidding Proposal Forms, identifies the location of plans and specifications, identifies the time and place for receiving bids, and reserves Douglas County's right to reject bids. All proposal blanks shall be obtained by prequalified bidders from the Office of the Director of Public Works of Douglas County, 3755 E. 25th Street, Lawrence, Kansas 66046. Proposal forms will be issued up to, but not after the close of business on the day preceding the opening of bids.

102.2(a) Prequalification Requirements. - DELETE the first sentence beginning with "Before...." and ending with "....work" and ADD - Bidders shall be prequalified for the type and magnitude of work covered by this Contract with the Kansas Department of Transportation as of the date established for receiving and opening of bids and shall give signed permission, if requested by the Engineer, to Douglas County, Kansas, to obtain the bidder's qualification from the Kansas Department of Transportation. Bidders will be classified under one or more of the classifications listed under section 102.2(b).

102.11 BID BONDS - DELETE item and ADD - No Proposal will be accepted unless accompanied by a certified check, cashier's check or a bid bond in the amount of five percent (5%) of the base bid and made payable to the Board of County Commissioners, Douglas County, Kansas. The full amount of the proposed guaranty shall be forfeited to the County in liquidation of damages sustained in the event the bidder (or bidders) fail to execute a satisfactory Contract and file Contract Bonds within twenty-one (21) days after the notice of the award of Contract.

The Guarantees of the two (2) lowest responsible bidders shall remain in full force until such time as the execution of a Contract has been completed by the successful bidder and satisfactory Contract Bonds have been furnished. The Guarantees will be returned after the above has been accomplished.

SPECIFICATIONS (Continued)

102.12 SUBMITTING PROPOSALS - DELETE item and ADD - Each Proposal must be submitted on forms obtainable at the Office of the Director of Public Works, 3755 E. 25th Street, Lawrence, Kansas 66046, and must be submitted in sealed envelopes, addressed to the Office of the County Clerk, Courthouse, Lawrence, Kansas, upon which is clearly written or printed "Proposal for Douglas County Project No. 2015-68", and the name and address of the bidder. When a Proposal is sent by mail, the above mentioned envelope shall be enclosed in another envelope addressed to the County Clerk, Courthouse, Lawrence, Kansas. All Proposals shall be filed prior to the time and at the place specified in the Notice to Contractors. Proposals received after the stated time for filing will be returned to the bidders unopened. Faxed bids will not be accepted. Douglas County is not responsible for lost or misdirected bids, whether lost or misdirected by the postal or courier service of the bidder or the Douglas County mail room.

102.13 WITHDRAWING PROPOSALS BEFORE THE LETTING - DELETE item and ADD - A Proposal may be withdrawn after it has been delivered to the Office of the County Clerk, Courthouse, Lawrence, Kansas, by a letter or by written request of the bidder or his authorized representative in person, provided the request is in the hands of the County Clerk or Board of County Commissioners before the stipulated time for the opening of the Proposals.

102.14 REVISING PROPOSALS - DELETE item and ADD - A withdrawn Proposal may be corrected or altered in person by the bidder or his authorized representative and resubmitted before the stipulated time for opening of the Proposals.

Proposals cannot be altered or corrected by wire or letter.

Section 103

AWARD AND EXECUTION OF CONTRACT

103.3 CONTRACT BOND REQUIREMENTS - DELETE item and ADD - The successful bidder before entering into a Contract and within twenty-one (21) days after notice of the award of the Contract, shall execute a Statutory Bond and a Performance and Maintenance Bond in the form prescribed by the County and in the penal sum of the amount of the Contract, with a Surety to be approved by the County. The Statutory Bond and the Performance and Maintenance Bond shall be conditioned upon the faithful performance of the Contract and the payment of all indebtedness incurred for all labor, materials and supplies furnished therefore. The Bonds must be kept in full force for the time required by law and, if longer, during the applicable warranty periods. In the event the Surety or Bonding Company fails or becomes financially insolvent, then the Contractor shall, within five (5) business days of such failure or insolvency, file new and sufficient bonds in the amount designated by the County.

103.4 (a) EXECUTING THE CONTRACT - DELETE this section and ADD - The successful bidder shall furnish satisfactory Bonds, certificate(s) of insurance, and sign the contract within twenty-one (21) days after notice of the award of Contract.

SPECIFICATIONS
(Continued)

103.5 FAILING TO EXECUTE THE CONTRACT - DELETE item and ADD - The failure of the successful bidder to execute a Contract and file Contract Bonds within twenty-one (21) days from the date of the notice of the award shall, at the option of the County, be just cause for the annulment of the award and for the forfeiture of the proposal guaranty to the County, not as a penalty but in liquidation damages sustained through delay.

In the event that the County opts to annul the award, the Contract may be reawarded to the next lowest responsible bidder, or Proposals may again be received at some later date.

Section 109

MEASUREMENT AND PAYMENT

109.2 SCOPE OF PAYMENT – ADD the following paragraph 109.2(f)RETAINAGE –: From the grand total of the work completed as estimated by the Engineer, there shall be deducted five (5) percent to be retained by the County as required by KSA 68-1120 until full and satisfactory completion of the Contract, Specifications and Contract Documents and the Engineer shall certify the balance to the Commission for payment; except that no amount less than Five Hundred (\$500.00) will be paid unless the total amount of the Contract remaining unpaid is less than Five Hundred Dollars (\$500.00).

109.5 PROGRESS PAYMENTS, DELETE the last sentence of subsection 109.5(a) “Work Accomplished” and replace with the following – “The Engineer may withhold from progress payments, liquidated damages, reimbursement for remedial work under subsection 105.5f., excess costs for breach of contract, final cleanup work expenses, five (5) percent contract retainage as required by KSA 68-1120, and other deducts the Contract Documents specify.

DOUGLAS COUNTY, KANSAS
PROJECT NO. 2015-68
BID # 16-F-0017
PROPOSAL

TO THE BOARD OF COUNTY COMMISSIONERS OF
DOUGLAS COUNTY, KANSAS
COURTHOUSE
LAWRENCE, KANSAS 66044

1. Proposal of Bryan-Ohlmeier Construction Co., Inc. for the performance of "Douglas County Project No. 2015-68", in Douglas County, Kansas, by the construction of the work as described in the specifications and contract documents for the above mentioned project as set forth in the "Schedule of Prices".
2. The undersigned agrees to execute a contract for the proposed work within twenty-one (21) days after notice of the award of the Contract and to complete the work, if the proposal is accepted, within seventy (70) working days. The earliest anticipated date for the "Notice to Proceed" is January 17, 2016. The latest anticipated date for the Notice to Proceed is January 23, 2016.
3. In conformity with Article 108.8 of the Specifications, the liquidated damages for this Contract shall be as stated in TABLE OF LIQUIDATED DAMAGES.
4. In submitting this bid, the undersigned declares that he is the only person interested in said bid; that is made without any connection with any person or persons making another bid for the same Contract; that is in all respects fair and without collusion, fraud or misrepresentation.
5. The undersigned further declares that he has carefully examined the specifications, form of contract, and special provisions, and that he has inspected the actual location of the work, together with the local sources of supplies, and has satisfied himself as to all quantities and conditions, and understands that in signing this proposal he waives all right to plead any misunderstanding regarding the same.
6. The undersigned acknowledges receipt of the following Addenda:

Addendum No.

Dated

NA

Bryan-Ohlmeier Construction Co., Inc.
Name of Organization

By:

Craig Ohlmeier

DOUGLAS COUNTY, KANSAS
PROJECT NO. 2015-68
BID # 16-F-0017

SCHEDULE OF PRICES

<u>LINE ITEM NO.</u>	<u>ROAD ITEMS</u>	<u>UNIT</u>	<u>QUANTITY</u>	<u>UNIT COST</u>	<u>AMOUNT</u>
1	CLEARING AND GRUBBING	L.S.	1	5,000 ⁰⁰	5,000 ⁰⁰
2	REMOVAL OF EXISTING STRUCTURES	L.S.	1	8,500 ⁰⁰	8,500 ⁰⁰
3	COMMON EXCAVATION (CONTRACTOR FURNISHED) (VMF=0.75)	C.Y.	2,454	7 ³⁰	17,914.20
4	UNCLASSIFIED EXCAVATION (VMF=0.75)	C.Y.	666	9 ⁰⁰	5,994.00
5	COMPACTION OF EARTHWORK (TYPE B) (MR-90)	C.Y.	2,070	1 ⁷⁰	3,519.00
6	COMPACTION OF EARTHWORK (TYPE AA) (MR 5-5)	C.Y.	270	5 ⁰⁰	1,350.00
7	ROCK EXCAVATION (EXISTING ASPHALT PAVEMENT)	C.Y.	287	18 ⁰⁰	5,166.00
8	WATER (GRADING) (SET)	MGAL	1	\$35.00	\$35.00
9	GUARDRAIL STEEL PLATE	L.F.	100	78 ⁰⁰	7,800.00
10	GUARDRAIL END TERMINALS (SRT) (ALT. NO. 1)	EA.	4	—	—
11	GUARDRAIL END TERMINALS (FLEAT) (ALT. NO. 2)	EA.	4	2,600 ⁰⁰	10,400.00
12	OBJECT MARKER (TYPE III)	EA.	4	100 ⁰⁰	400.00
13	FIELD OFFICE & LABORATORY (TYPE B)	EA.	1	2,300 ⁰⁰	2,300.00
14	MOBILIZATION	L.S.	1	30,000 ⁰⁰	30,000.00
15	FOUNDATION STABILIZATION (SET)	C.Y.	1	\$35.00	\$35.00
16	TEMPORARY SURFACING MATERIAL (AGGREGATE) (SET)	C.Y.	1	\$35.00	\$35.00
17	CONCRETE FOR SEAL COURSE (SET)	C.Y.	1	\$175.00	\$175.00
18	TEMPORARY SEEDING	L.S.	1	1,500 ⁰⁰	1,500.00
19	FERTILIZING, SEEDING AND MULCHING	L.S.	1	2,800 ⁰⁰	2,800.00
20	HMA COMMERCIAL GRADE (CLASS A) (SURFACE)	TON	178	70 ⁰⁰	12,460.00
21	HMA COMMERCIAL GRADE (CLASS A) (BASE)	TON	717	67 ⁰⁰	48,039.00
22	AGGREGATE FOR SHOULDERS (AS-1) (6")	S.Y.	281	6 ²⁵	1,756.25
23	WATER (AGGREGATE SHOULDERS) (SET)	MGAL	1	\$35.00	\$35.00
24	TRAFFIC CONTROL	L.S.	1	6,300 ⁰⁰	6,300 ⁰⁰

LINE ITEM NO.	ROAD ITEMS	UNIT	QUANTITY	UNIT COST	AMOUNT
25	CONTRACTOR CONTRUCTION STAKING	L.S.	1	4,500 ⁰⁰	4,500 ⁰⁰
26	CONCRETE PAVEMENT (10" UNIFORM) (AE)	S.Y.	92.4	180 ⁰⁰	16,632.00
27	BRIDGE APPROACH SLAB FOOTING	C.Y.	19	250 ⁰⁰	4,750.00
28	CURING ENVIRONMENT	L.S.	1	500 ⁰⁰	500.00
29	TEMPORARY BERM (SET)	L.F.	1	\$1.00	\$1.00
30	SILT FENCE	L.F.	103	4 ⁰⁰	412.00
31	BIODEGRADABLE LOG (9")	L.F.	58	5 ⁵⁰	319.00
32	BIODEGRADABLE LOG (12")	L.F.	58	6 ⁰⁰	348.00
33	CLASS I EXCAVATION	C.Y.	124	40 ⁰⁰	4,960.00
34	CLASS II EXCAVATION	C.Y.	170	85 ⁰⁰	14,450.00
35	CONCRETE GRADE 4.0 (AE)	C.Y.	38.1	700 ⁰⁰	26,670.00
36	CONCRETE GRADE 4.0 (AE) (SA)	C.Y.	203.3	600 ⁰⁰	121,980.00
37	REINFORCING STEEL (GRADE 60)	LBS.	5,990	0 ⁸⁶	5,151.40
38	REINFORCING STEEL (GRADE 60) (EPOXY COATED)	LBS.	51,490	1 ⁰²	52,519.80
39	PILE (STEEL) (HP 10x42)	L.F.	160	35 ⁰⁰	5,600.00
40	PRE DRILLED PILE HOLE	L.F.	116	150 ⁰⁰	17,400.00
41	ABUTMENT STRIP DRAIN	S.Y.	35	45 ⁰⁰	1,575.00
42	BRIDGE BACKWALL PROTECTION SYSTEM	S.Y.	41	35 ⁰⁰	1,435.00
43	SLOPE PROTECTION (RIPRAP STONE)	C.Y.	535	52 ⁰⁰	27,820.00

NOTE: Bidder shall extend all items and total bid.

TOTAL BID #478,536.65

CONTRACTOR Bryan-Ohlmeier Construction Co., Inc.

DOUGLAS COUNTY, KANSAS
PROJECT NO. 2015-68
BID # 16-F-0017

CONTRACT

THIS CONTRACT, made and entered into this _____ day of _____, 2016, by and between the BOARD OF COUNTY COMMISSIONERS OF DOUGLAS COUNTY, KANSAS, Party of the First Part, hereinafter referred to as the COUNTY, and _____, Party of the Second Part, hereinafter referred to as the CONTRACTOR.

WITNESSETH:

Article 1: It is hereby mutually agreed, that for and in consideration of the sum or sums to be paid the Contractor by the County as set forth in the General Clauses, the said Contractor shall furnish all labor, equipment, accessories and materials (except materials salvaged or otherwise furnished as specified) and shall perform all work necessary to construct and complete the improvements in a good, substantial and workmanlike manner, ready for use, and in strict accordance with the Specifications and Contract Drawings as approved and filed pursuant to law in the Office of the County Clerk of Douglas County, Kansas.

Article 2: It is hereby further agreed, that, in consideration of the faithful performance of the work by the Contractor, the County shall pay the Contractor the sum or sums due him by reason of said faithful performance of the work, at stated intervals and in amounts certified by the Engineer, in accordance with the Specifications and Contract Documents, and set forth in the Proposal as accepted by the County, subject to compliance with K.S.A 68, Article 11.

Article 3: It is hereby further agreed that Contractor will, for a period of twelve (12) months following the County's acceptance of the Contractor's work, at the request of County, correct any defects in the work due to faulty or defective materials or workmanship, without additional cost to the County; provided that neither final payment by the County nor the acceptance of the Contractor's work shall relieve Contractor, or its surety under the Performance and Maintenance Bond, from such obligation to cure any such defects.

Article 4: It is hereby further agreed that, at the completion of the work; and its acceptance by the County, all sums due the Contractor by reason of his faithful completion of the work, taking into consideration additions to or deductions from the contract price by reasons of alterations or modifications of the original contract or by reasons of "Force Account" work authorized under the Contract in accordance with the provisions of the General Clauses, will be paid the Contractor by the County within sixty (60) days after said completion and acceptance.

Article 5: It is hereby further agreed, that the "he" or "him" wherever used herein as referring to the Contractor shall be deemed to referring to the Contractor, his-her-theirs heirs, executors, administrators, successors, or assigns.

DOUGLAS COUNTY, KANSAS
PROJECT NO. 2015-68
BID # 16-F-0017

CONTRACT (continued)

Article 6: It is hereby further agreed that any reference herein to the "Contract Documents" shall include all "Contract Documents" as specifically set out in the Specifications and are hereby made a part of this Contract as fully as if set out in length herein.

IN WITNESS WHEREOF, the Party of the First Part and Party of the Second Part, respectively, have caused this agreement to be duly executed the day and year first hereinwritten, in quadruplicate, all copies of which to all intents and purposes shall be considered as the original.

ATTEST:

BOARD OF COUNTY COMMISSIONERS OF
DOUGLAS COUNTY, KANSAS

County Clerk

Chairman

Date

Commissioner

Commissioner

Approved as to Legality:

Douglas County Counselor

Name of Organization

Date

By: _____

Title of Signature

BOND NO. _____

DOUGLAS COUNTY, KANSAS
PROJECT NO.2015-68
BID # 16-F-0017

STATUTORY (PAYMENT) BOND

KNOW ALL MEN BY THESE PRESENTS THAT:

We, _____, as
Principal, and _____, a
surety company duly authorized to do business in the State of Kansas, as Surety, are
held and firmly bound unto the State of Kansas in the penal sum of

_____ Dollars (\$_____) (the current amount of the
contract price between Principal and Owner) lawful money of the United States of America, for
the payment of which sum well and truly to be made, bind ourselves and our respective heirs,
executors, administrators, successors, and assigns, jointly and severally, firmly by these
presents.

THE CONDITION OF THE FOREGOING OBLIGATION IS SUCH THAT, WHEREAS,
the Principal has on the _____ day of _____, 20____, entered into a
written Agreement with the Board of County Commissioners of Douglas County, Kansas,
hereinafter called the Owner, for furnishing labor, equipment, material, and supplies used or
consumed in connection with the installation, construction of, or in making such improvements,
equipment, and services described in said Agreement, all in accordance with the plans,
specifications and other Contract Documents described therein and as supplemented and
otherwise changed during the project (the "Undertaking"). The Agreement (including but not
limited to the plans, specifications and other Contract Documents) is by reference made a part
hereof, and is hereinafter called the Contract.

NOW, THEREFORE, if the Principal or any Subcontractor or Subcontractors of the
Principal shall pay all indebtedness incurred for the Undertaking as required under the Contract,
then this obligation shall become null and void; otherwise, it shall remain in full force and effect.
If the Principal or any Subcontractor or Subcontractors of the Principal fails to duly pay all
indebtedness incurred for the Undertaking as required under the Contract, then the Surety shall
pay the same in any amount not exceeding the amount of this obligation, together with any
interest and attorneys' fees as provided by law.

PROVIDED, FURTHER, that the Surety hereby stipulates and agrees, for value
received, that no change, extension of time, modification, supplement, alteration or addition to
the undertakings, covenants, terms or conditions of the Contract or the Undertaking, shall in any
way affect its obligations on this bond. The Surety does hereby waive notice of any change,
extension of time, modification, supplement, alteration or addition to the terms or conditions of
the Contract or Undertaking. The Surety stipulates and agrees that the penal sum of this bond
shall be automatically increased or decreased by any change order(s) to the Contract as
approved by the Owner.

Nonpayment of the bond premium will not invalidate this bond nor shall the Owner be obligated for the payment of any bond premium.

The Surety and Principal agree that any persons interested shall have a direct right of action hereunder against the Principal and Surety.

IN WITNESS WHEREOF, the Principal and Surety have caused this bond to be duly signed this ____ day of _____, 20__.

Principal

By _____

(Official Title)

Surety Company

By: _____
(Attorney-In-Fact)

By: _____
(Kansas Agent)

(A certified copy of the Attorney-in-Fact's Power of Attorney from the Surety, to include the date and amount of the bond, must be attached to this bond).

BOND NO. _____

DOUGLAS COUNTY, KANSAS
PROJECT NO. 2015-68
BID # 16-F-0017

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS THAT:

We, _____, as
Principal, and _____, a
surety company duly authorized to do business in the State of Kansas, as Surety, are held and
firmly bound unto the Board of County Commissioners of Douglas County, Kansas, as Obligee,
in the penal sum of _____
Dollars (\$_____) (the current amount of the contract price between Principal
and Obligee), lawful money of the United States of America, for the payment of which sum well
and truly to be made, bind ourselves, and our respective heirs, executors, administrators,
successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THE FOREGOING OBLIGATION IS SUCH THAT, WHEREAS,
the Principal has, on _____, 20____, entered into a written Agreement
with the Obligee for furnishing labor, equipment, material, and supplies in connection with the
installation, construction of or in making such improvements, equipment, and services described
in said Agreement, all in accordance with the plans, specifications and other Contract
Documents described therein and as supplemented and otherwise changed during the project.
The Agreement (including but not limited to the plans, specifications and other Contract
Documents) is by reference made a part hereof, and is hereinafter called the Contract.

NOW, THEREFORE, if the Principal shall and will, in all particulars, well, duly and
faithfully observe, perform and abide by each and every covenant, condition, obligation and part
of the Contract, according to the true intent and meaning in each case, and hold the Obligee
harmless against all claims, loss or damage which it may sustain or suffer by reason of any
breach of said Contract by said Principal or by reason of any injury to persons or property
occasioned by the action of said Principal or its employees, and if said Principal maintains the
improvement, equipment, and service as provided for in said Contract and make good all
defects in materials and workmanship as required under the Contract, then this obligation shall
be and become null and void; otherwise, it shall remain in full force and effect. Whenever the
Principal is, and is declared by the Obligee to be, in default under the Contract, the Surety shall
remedy the default at its expense by promptly (a) completing the Contract in accordance with its
terms and conditions, through its agents or independent contractors; or (b) obtaining a bid or
bids for completing the Contract in accordance with its terms and conditions, and, upon
determination by the Obligee of the lowest and best bid, arrange for an agreement between
such bidder and the Obligee, secured by payment and performance bonds, and pay to Obligee
the final cost of such agreements 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 as the same may be increased by change order(s) to the
Contract as approved by the Obligee; or (c) work out such other arrangements as are accepted
by Obligee in writing. The term "balance of the Contract Price," as used herein, shall mean the
total amount payable by the Obligee to the Principal under the Contract, and any amendments
thereto, less the amount paid by the Obligee to the Principal.

PROVIDED, FURTHER, that the Surety hereby stipulates and agrees, for value received, that no change, extension of time, modification, supplement, alteration or addition to the undertakings, covenants, terms or conditions of the Contract or the Undertaking, shall in any way affect its obligations on this bond. The Surety does hereby waive notice of any change, extension of time, modification, supplement, alteration or addition to the terms or conditions of the Contract or Undertaking. The Surety stipulates and agrees that the penal sum of this bond shall be automatically increased or decreased by any change order(s) to the Contract as approved by the Obligee. Principal and Surety further stipulate and agree that acceptance, approval or certification of completion of work under the Contract and/or payment (final or otherwise) by Obligee shall not relieve the Principal or Surety from any liability for any failure to fully perform the Contract or any other obligation on this bond.

Nonpayment of the bond premium will not invalidate this bond nor shall the Obligee be obligated for the payment of any bond premium.

IN WITNESS WHEREOF, the Principal and Surety have caused this bond to be duly signed this ____ day of _____, 20____.

Principal

By _____

(Official Title)

Surety Company

By: _____

(Attorney-In-Fact)

By: _____

(Kansas Agent)

(A certified copy of the Attorney-in-Fact's Power of Attorney from the Surety, to include the date and amount of the bond, must be attached to this bond).

Sufficiency of the Bond Approved by:

Chairperson of Board of County Commissioners

Date: _____

Attest:

County Clerk

Date: _____

Form and Amount of Bond Approved By:

County Counselor

Date: _____

NOTE:

1. Date of bond must not be prior to date of Agreement.
2. If Principal is a partnership, all partners should execute bond.
3. Surety companies executing bonds must appear on the U.S. Department of the Treasury's most current listing of approved sureties (Department Circular 570, as amended), and be authorized to transact business in the State of Kansas.
4. Accompany this bond with Attorney-in-Fact's authority from the Surety certified to include the date of the bond.

SPECIAL PROVISIONS
TO THE
STANDARD SPECIFICATIONS
EDITION OF 2015

NOTE: Whenever this special provision conflicts with the Plans, Supplemental Specifications or Standard Specifications, this Special Provision shall govern.

SALES TAX EXEMPTION

In accordance with the provisions of K.S.A. 79-3606 (b), this Douglas County Project qualifies for Sales Tax Exemption. A sales tax exemption certificate number will be furnished to the Contractor following award of the Contract. The Contractor shall furnish to the Engineer copies of invoices on all materials incorporated in this project.

SPECIAL PROVISIONS
TO THE
STANDARD SPECIFICATIONS
EDITION OF 2015

NOTE: Whenever this special provision conflicts with the Plans, Supplemental Specifications or Standard Specifications, this Special Provision shall govern.

DOUGLAS COUNTY
CONTRACTUAL PROVISIONS ATTACHMENT

- (a) Terms Herein Controlling Provisions: It is expressly agreed that the terms of each and every provision in this attachment shall prevail and control over the terms of any other conflicting position in any other document relating to and a part of the contract in which this attachment is incorporated. As used herein, the term "Douglas County" shall refer to Douglas County and any of its agencies, offices, and departments entering into the contract.
- (b) Agreement With Kansas Law: All contractual agreements shall be subject to, governed by, and construed according to the laws of the State of Kansas.
- (c) Termination Due to Lack of Funding Appropriation: If, in the judgment of the County Administrator, sufficient funds are not appropriated to continue the function performed in this agreement and for the payment of the charges hereunder, Douglas County may terminate this agreement at the end of its current fiscal year. Douglas County agrees to give written notice of termination to vendor/contractor at least 30 days prior to the end of its current fiscal year, and shall give such notice for a greater period prior to the end of such fiscal year as may be provided in the contract, except that such notice shall not be required prior to 90 days before the end of such fiscal year. Vendor/contractor shall have the right, at the end of such fiscal year, to take possession of any unpaid equipment provided Douglas County under the contract. Douglas County will pay to the vendor/contractor all regular contractual payments incurred through the end of such fiscal year, plus contractual charges incidental to the return of any such equipment. Upon termination, of the agreement by Douglas County, title to any such unpaid equipment shall revert to vendor/contractor at the end of Douglas County's current fiscal year. The termination of the contract pursuant to this paragraph shall not cause any penalty to be charged to Douglas County or the vendor/contractor.
- (d) Disclaimer of Liability: Douglas County shall not hold harmless or indemnify any vendor/contractor beyond that liability under the Kansas Tort Claims Act (K.S.A 75-6101 et seq.).
- (e) Arbitration, Payment Due, Interest, Warranties: Notwithstanding any language to the contrary, no interpretation shall be allowed to find Douglas County has agreed to binding arbitration, or the payment of damages or penalties upon the occurrence of a contingency.

Payment from Douglas County to vendor/contractor shall not be due sooner than 30 days after the delivery of an invoice from vendor/contractor to Douglas County. Further, Douglas County does not agree to pay attorney fees or late payment charges beyond those available under K.S.A. 16-201, and no provision will be given effect which attempts to exclude, modify, disclaim or otherwise attempt to limit implied warranties of merchantability and fitness for a particular purpose.

- (f) Representative's Authority To Contract: By signing this contract, the representative of the vendor/contractor hereby represents that such person is duly authorized by the vendor/contractor to execute this contract on behalf of the vendor/contractor and that the vendor/contractor agrees to be bound by the provisions thereof.
- (g) Responsibility For Taxes: Douglas County shall not be responsible for, nor indemnify vendor/contractor for, any federal, state, or local taxes which may be imposed or levied upon the subject matter of this contract.
- (h) Anti-Discrimination Clause: The vendor/contractor agrees: (a) to comply with the Kansas Act Against Discrimination (K.S.A. 44-1001 et seq.) and the Kansas Age Discrimination in Employment Act (K.S.A. 44-1111 et seq.) and the applicable provisions of the Americans with Disabilities Act (42 U.S.C. 12101 et seq.) (ADA) and to not discriminate against any person because of race, religion, color sex, disability, national origin or ancestry, or age in the admission or access to, or treatment or employment in, its programs or activities; (b) to include in all solicitations or advertisements for employees, the phrase "equal opportunity employer"; (c) to comply with the reporting requirements set out at K.S.A. 44-1031 and K.S.A. 44-1116; (d) to include those provisions in every subcontract or purchase order so that they are binding upon such subcontractor or vendor; (e) that a failure to comply with the reporting requirements of (c) above or if the vendor/contractor is found guilty of any violation of such acts by the Kansas Human Rights Commission, such violation shall constitute a breach of contract and the contract may be cancelled, terminated or suspended, in whole or in part, by Douglas County; (f) if it is determined that the vendor/contractor has violated applicable provisions of ADA, such violation shall constitute a breach of contract and the contract may be cancelled, terminated or suspended, in whole or in part by Douglas County.

Parties to this contract understand that the provisions of this paragraph (h) (with the exception of those provisions relating to the ADA) are not applicable to a vendor/contractor who employs fewer than four employees during the term of such contract or whose contracts with Douglas County cumulatively total \$5,000 or less during the fiscal year of Douglas County.

SPECIAL PROVISIONS
TO THE
STANDARD SPECIFICATIONS
EDITION OF 2015

NOTE: Whenever this special provision conflicts with the Plans, Supplemental Specifications or Standard Specifications, this Special Provision shall govern.

GENERAL DESCRIPTION:

Douglas County Project 2015-68 consists of Removal of Existing Structure (2 @ 23' steel beam spans on concrete substructure), Grading, Bridge Construction (27'-36'-27' RC Haunched Slab RCHS), Piling, Slope Protection, HMA-Base, HMA-Surfacing, Guardrail, Seeding, and Traffic Control.

Douglas County Project 2015-68 is located on Douglas County Route 1029 approximately 2 ½ miles south of Globe, KS.

SPECIAL PROVISIONS
TO THE
STANDARD SPECIFICATIONS
EDITION OF 2015

NOTE: Whenever this special provision conflicts with the Plans, Supplemental Specifications or Standard Specifications, this Special Provision shall govern.

PLANS: The following plans accompany and supplement the Specifications:

<u>Sheet No.</u>	<u>Sheet Title</u>
1	TITLE SHEET
2	TYPICAL GRADING SECTION
3	PLAN AND PROFILE SHEET
4-6	CONCRETE APPROACH PAVEMENT
7-11	GUARDRAIL DETAILS
12	SUMMARY OF BRIDGE QUANTITIES AND NOTES
13	CONTOUR MAP
14	CONSTRUCTION LAYOUT
15-22	BRIDGE DETAILS
23	STANDARD PILE DETAILS
24	BRIDGE EXCAVATION
25	SUPPORTS AND SPACER FOR REINFORCING STEEL
26	SUMMARY OF QUANTITIES
27	SUMMARY OF QUANTITIES (SURFACING)
28-35	TEMPORARY EROSION AND POLLUTION CONTROL
36	SUMMARY OF SEEDING QUANTITIES
37-42	TRAFFIC CONTROL PLANS AND DETAILS
43-48	CROSS SECTIONS

SPECIAL PROVISIONS
TO THE
STANDARD SPECIFICATIONS
EDITION OF 2015

NOTE: Whenever this special provision conflicts with the Plans, Supplemental Specifications or Standard Specifications, this Special Provision shall govern.

ENGINEER:

For the performance of work under this Contract, Douglas County, Kansas will perform the duties of the Engineer, as defined in the Specifications and hereinafter is referred to as the Engineer.

SPECIAL PROVISIONS
TO THE
STANDARD SPECIFICATIONS
EDITION OF 2015

NOTE: Whenever this special provision conflicts with the Plans, Supplemental Specifications or Standard Specifications, this Special Provision shall govern.

OPERATIONS OF OTHERS:

The right is reserved by the County to have other work performed by other Contractors and to permit public utility companies and others to do work during the construction of and within the limits of or adjacent to the Project. The Contractor shall conduct his operations and cooperate with such other parties so that interference with such other work will be reduced to a minimum. The Contractor shall agree, and hereby does agree, to make no claims against the County for additional compensation due to delays or other conditions created by the operations of other such parties. Should a difference of opinion arise as to the rights of the Contractor and others working within the limits of or adjacent to the Project, the Engineer will decide as to the respective rights of the various parties involved in order to assure the completion of the work in general harmony and in a satisfactory manner and his decision shall be final and binding upon the Contractor.

To expedite the completion of the over-all Project, it will be necessary for the work under this Contract to be coordinated with the construction under other contracts and by others. As far as possible, each Contractor shall so plan and conduct his operations and dispose of his materials as not to interfere with the operations of or damage the work of others engaged upon the construction of the overall Project. The Contractor shall perform his work in proper sequence with relation to that of the other Contractors and as the Engineer may direct. Each Contractor starting work while construction under other Contracts is in progress within the limits of the Project shall begin his work at certain locations which the Engineer may designate or approve and thereafter shall prosecute the work at such locations and in such order as the Engineer may from time to time prescribe or approve.

SPECIAL PROVISIONS
TO THE
STANDARD SPECIFICATIONS
EDITION OF 2015

NOTE: Whenever this special provision conflicts with the Plans, Supplemental Specifications or Standard Specifications, this Special Provision shall govern.

INSPECTION:

The Contractor shall furnish access to all parts of the Project for inspection by the Engineer or authorized representative of the Engineer. The Contractor shall notify the Engineer twenty-four (24) hours in advance of beginning work which requires inspection.

SPECIAL PROVISIONS
TO THE
STANDARD SPECIFICATIONS
EDITION OF 2015

NOTE: Whenever this special provision conflicts with the Plans, Supplemental Specifications or Standard Specifications, this Special Provision shall govern.

RIGHT-OF-WAY:

The right-of-way will be available for use by the Contractor for access roads and storage space; provided that such use does not interfere with the permanent construction of the overall Project under this or any other contract and shall be subject to similar use by other Contractors working on various parts of the Project. Such use shall not impair the safety of the traveling public. Right-of-way shall be restored by the Contractor to its original condition before final payment will be made.

SPECIAL PROVISIONS
TO THE
STANDARD SPECIFICATIONS
EDITION OF 2015

NOTE: Whenever this special provision conflicts with the Plans, Supplemental Specifications or Standard Specifications, this Special Provision shall govern.

SPECIFICATIONS:

The bidder and/or Contractor(s) are required to furnish their own copies of the Standard Specifications for State Road and Bridge Construction of the Kansas Department of Transportation, Edition of 2015.

<http://www.ksdot.org/bureaus/burConsMain/specprov/2015specprov.asp>

SPECIAL PROVISIONS
TO THE
STANDARD SPECIFICATIONS
EDITION OF 2015

NOTE: Whenever this special provision conflicts with the Plans, Supplemental Specifications or Standard Specifications, this Special Provision shall govern.

INDEMNITY PROVISION:

The Contractor hereby agrees to indemnify and hold harmless the County for any liability resulting from the injury or death of any person, including Contractor's employees, arising from unsafe conditions at the work site. "Unsafe" shall mean a failure by the Contractor to adhere to any applicable federal, state or local government standards established to protect the health, safety and welfare of the Contractor's employee, other persons at the work site, and the public in general.

SPECIAL PROVISIONS
TO THE
STANDARD SPECIFICATIONS
EDITION OF 2015

NOTE: Whenever this Special Provision conflicts with the Plans, Supplemental Specifications or Standard Specifications, this Special Provision shall govern.

SECTION 804
MAINTENANCE AND RESTORATION
OF HAUL ROADS

SUBSECTION 804.1, DESCRIPTION, Page 800-11, Delete the second paragraph and replace with the following:

For the purpose of this specification, Douglas County has designated Route 1029 (E550 Rd) from US 56 Highway to the north project limits and from the south project limits to the Franklin County Line (N1 Rd) as the haul road. This designation includes any material both commercially delivered and Contractor produced.

(Note: The following sentence has been deleted from Subsection 804.1: "The most direct route to the nearest state highway that is used for hauling commercial material into or from a commercially established plant site is not designated as part of the haul road. Roads into and from quarries are not designated as part of the haul road.")

SUBSECTION 804.4, MEASUREMENT AND PAYMENT, Page 800-11, Delete the first paragraph and replace with the following:

If the Contractor is obligated to perform maintenance and restoration as stated within Section 804, with exception of dust control, the item will be subsidiary to other bid items.

Labor, Equipment, Materials and incidentals necessary to reduce dust on active haul roads including return routes, in pits and staging areas, and on the project will not be measured directly but shall be considered subsidiary to other items in the contract.

SECTION 401

GENERAL CONCRETE

401.1 DESCRIPTION

Provide the grades of concrete specified in the Contract Documents.
See **SECTION 402** for specific requirements for Structural Concrete.
See **SECTION 403** for specific requirements for On Grade Concrete.
See **SECTION 404** for specific requirements for Prestressed Concrete.

401.2 MATERIALS

Provide materials that comply with the applicable requirements.

Aggregate	DIVISION 1100
Admixtures and Plasticizers	DIVISION 1400
Grade 2 Calcium Chloride.....	DIVISION 1700
Cement, Fly Ash, Silica Fume, Slag Cement and Blended Supplemental Cementitious.....	DIVISION 2000
Water	DIVISION 2400

ADD THE FOLLOWING -

401.25 CONCRETE USED ON DOUGLAS COUNTY PROJECTS

a. ALL CONCRETE USED ON DOUGLAS COUNTY PROJECTS MUST BE PREVIOUSLY APPROVED BY KDOT (SECTION 401 – LATEST EDITION) FOR A SIMILAR PROJECT OR USE, AND HAVE AN ASSIGNED KDOT MIX DESIGN NUMBER.

b. ALL MIX DESIGN SUBMITTALS SHALL BE FILLED OUT ON KDOT FORM 694 AND ALL REQUIRED ATTACHMENTS WITH DOUGLAS COUNTY PROJECT AND BID NUMBERS ALONG WITH THE KDOT MIX DESIGN NUMBER AND SUBMITTED TO DOUGLAS COUNTY.

401.3 CONCRETE MIX DESIGN

a. **General.** Design the concrete mixes specified in the Contract Documents.
Do not place any concrete on the project until the Engineer approves the concrete mix designs. Once the Engineer approves the concrete mix design, do not make changes without the Engineer's approval.

Take full responsibility for the actual proportions of the concrete mix, even if the Engineer assists in the design of the concrete mix.

Provide aggregate gradations that comply with **DIVISION 1100** and Contract Documents.

If desired, contact the DME for available information to help determine approximate proportions to produce concrete having the required characteristics on the project.

Submit all concrete mix designs to the Engineer for review and approval. Submit completed volumetric mix designs on KDOT Form No. 694 and all required attachments at least 60 days prior to placement of concrete on the project. The Engineer will provide an initial review of the design within 5 business days following submittal.

Include the following with the mix design data:

(1) Test data.

(a) Test data from KT-73 tested at 28 days, KT-79 tested at 28 days or AASHTO T-277 tested at 56 days for all bridge overlays, Moderate Permeability Concrete, and any project with over 250 cubic yards of concrete (this includes structural concrete, on grade concrete etc.). Provide the test data for each mix, tested at the highest paste content (cementitious and water) that meets **subsection 401.3h**. Submit accelerated cure procedures for the Engineer's approval. The field verification test procedure must be the same test procedure as the mix design approval test.

(b) Test data from ASTM C 1567 for field blended cements meeting **subsection 401.3d.(6)** for all concrete utilizing all actual materials proposed for use on the project at designated percentages.

(2) Single point grading for the combined aggregates along with a plus/minus tolerance for each sieve. Use plus/minus tolerances to perform quality control checks and by the Engineer to perform aggregate grading verification testing. The tests may be performed on the combined materials or on individual aggregates, and then theoretically combined to determine compliance.

(3) Laboratory 28 day compressive strength test results on a minimum of 1 set of 3 cylinders produced from the mix design with the highest water to cementitious ratio for the project, utilizing all actual materials proposed for use on the project at designated percentages.

(4) Historical mix production data for the plant producing concrete for the project to substantiate the standard deviation selected for use in **subsection 401.3b**.

(5) Necessary materials to enable the Engineer to test the mix properties and Surface Resistivity, if applicable.

After initial review, the Engineer will perform any testing necessary to verify the design. This may include a 3 cubic yard test batch at the producing plant.

Mix designs will remain approved when verification testing for strength and permeability conducted within the last 12 months indicate continued compliance with the specifications and percentages of constituents including aggregate and cementitious materials and product, type and supplier of admixtures remain the same. Test results on the same mix from other sources are acceptable. Provide ASTM C 1567 results on an annual basis if the mix includes supplemental cementitious materials (SCM).

Improvements in concrete strength, workability, durability and permeability are possible if the combined aggregate grading is optimized. Procedures found in ACI 302.1 or other mix design techniques, approved by the Engineer, are acceptable in optimizing the mix design.

A water-reducing admixture for improving workability may be required. Adjust the designated slump accordingly.

With the exception of concrete for pavement as shown in **SECTION 403**, use the middle of the specified air content range of $6\frac{1}{2} \pm 1.5\%$ for the design of air entrained concrete.

Maximum air content is 10%. Take immediate steps to reduce the air content whenever the air content exceeds 8%.

Determine air content by KT-19 (Volumetric Method). A regularly calibrated KT-18 (Pressure Method) meter may be used for production with random verification by the Volumetric Method. See KT-19 for special requirements when using the Volumetric

Delay the commencement of tests from 4 to 4½ minutes after the sample has been taken from a continuous mixer. If a batch type mixer is used, take the tests at the point of placement and begin testing immediately.

b. Concrete Mix Design Based On Previous Data. Provide concrete mix designs based on previous 28-day compressive strength test data from similar concrete mixtures. Similar mixtures are within 1000 psi of the specified 28-day compressive strength, and are produced with the same type and sources of cementitious materials, admixtures and aggregates.

Consider sand sources the same, provided they are not more than 25 miles apart on the same river and no tributaries enter the river between the 2 points. Consider crushed locations similar if they are mined in one continuous operation, and there is no significant change in geology. Mixes that have changes of more than 10% in proportions of cementitious materials, aggregates or water content are not considered similar.

Air entrained mixes are not considered similar to non-air entrained mixes.

Mixes tested with admixtures are not the same as mixes tested without those admixtures.

Test data should represent at least 30 separate batches of the mix. One set of data is the average of at least 2 cylinders from the batch. The data shall represent a minimum of 45 days of production within the past 12 months.

Do not include data over 1 year old. When fewer than 30 data sets are available, the standard deviation of the data must be corrected to compensate for the fewer data points.

Provide a concrete mix design that will permit no more than 5% of the 28-day compressive strength tests to fall below the specified 28-day compressive strength (f_c) based on equation A, and no more than 1% of the 28-day compressive strength tests to fall below the specified 28-day compressive strength (f_c) by more than 500 psi based on equation B.

Equation A: $f_{cr} = f_c + 1.62 \cdot k \cdot s$

Equation B: $f_{cr} = (f_c - 500) + 2.24 \cdot k \cdot s$

Where: f_{cr} = average 28-day compressive strength required to meet the above criteria.

f_c = specified 28-day compressive strength

s = standard deviation of test data

k = constant based on number of data points

n = number of data points

$k = 1.3 - n / 100$, where $15 < n < 30$

$k = 1$, where $n > 30$

Provide a concrete mix design that has an average compressive strength that is equal to the larger of Equation A or Equation B. Submit all supporting test data with the mix design.

All other concrete mix designs.

For concrete mixes that have fewer than 15 data points, or if no statistical data is available, use Equations A and B to calculate f_{cr} using the following values.

c. Portland Cement and Blended Hydraulic Cement. Unless specified otherwise in the Contract Documents, select the type of portland cement or blended hydraulic cement according to **TABLE 401-1**.

Design concrete with a maximum water to cementitious ratio of 0.50 and minimum cementitious content of 480 lbs per cubic yard except for concrete for pavement and shoulders.

TABLE 401-1: PORTLAND CEMENT & BLENDED HYDRAULIC CEMENT	
Concrete for:	Type of Cement Allowed
On Grade Concrete	Type IP(x) Portland-Pozzolan Cement Type IS(x) Portland- Slag Cement Type IT(Ax)(By) Ternary Blended Cement Type II Portland Cement
All Concrete other than On Grade Concrete.	Type I Portland Cement Type IP(x) Portland-Pozzolan Cement Type IS(x) Portland- Slag Cement Type IT(Ax)(By) Ternary Blended Cement Type II Portland Cement
High Early Strength Concrete	Type III Portland Cement Type I, IP(x), IS(x), IT(Ax)(By), or II Cement may be used if strength and time requirements are met.

d. Blended Cement Concrete. When approved by the Engineer, the concrete mix design may include SCMs such as fly ash, slag cement, silica fume or blended SCM from an approved source as a partial replacement for portland cement or blended hydraulic cement. Obtain the Engineer's approval before substituting SCMs for Type III cement. Changes in SCM or cement will require a new mix design approval.

(1) Cements meeting **SECTION 2001** are not field blended cements.
(2) Cements with SCMs added at the concrete mixing plant are field blended cements.

(3) Supplementary materials can be combined with cement to create field blended cements. Do not exceed allowable substitution rates noted in **TABLE 401-2**. Substitute 1 pound of SCM for 1 pound of cement.

(4) SCMs in prequalified cements are to be included in the total combined substitution rate.

TABLE 401-2: ALLOWABLE SUBSTITUTION RATE FOR SUPPLEMENTARY CEMENTITIOUS MATERIAL.	
Material	Substitution Rate*
Slag Cement	40% Maximum
Fly Ash	25% Maximum
Blended SCM	25% Maximum
Silica Fume	5% Max
Total Combined	50%

(5) Design field blended cement concrete meeting the applicable requirements for Volume of Permeable Voids, Surface Resistivity, or Rapid Chloride Permeability using the parameters described in **subsection 401.3a**.

(6) For field blended cementitious material provide mortar expansion test results from ASTM C 1567 using the project's mix design concrete materials at their designated percentages. Provide a mix with a maximum expansion of 0.10 % at 16 days after casting.

ASTM C 1567 is not necessary for concrete modified with **only** silica fume.

When used, add silica fume with other cementitious materials during batching procedures. If the silica fume cannot be added to the cementitious materials, add the loose silica fume to the bottom of the stationary drum that is wet, but has no standing water, before adding the dry materials. The Engineer may approve shreddable bags on a performance basis, only when a central batch mixing process is used. If so, add the bags to half of the mixing water and mix before adding cementitious materials, aggregate and remainder of water.

Mix silica fume modified concrete for a minimum of 100 mixing revolutions.

(7) Submit complete mix design data including proportions and sources of all mix ingredients, and the results of strength tests representing the mixes proposed for use. The strength data may come from previous KDOT project records or from a laboratory regularly inspected by Cement and Concrete Reference Laboratory (CCRL), and shall equal or exceed the strength requirements for the Grade specified in the Contract Documents as determined by **subsection 401.3b**. Perform compressive strength tests according to KT-76.

e. Strength. Design concrete to meet **TABLE 401-3**.

TABLE 401-3: CONCRETE STRENGTH REQUIREMENTS	
Specified 28 Day Compressive Strengths, minimum, psi f'_c	
Grade of Concrete:	Non Air Entrained/Air Entrained Concrete
Grade 7.0	7,000
Grade 6.0	6,000
Grade 5.0	5,000
Grade 4.5	4,500
Grade 4.0	4,000
Grade 3.5	3,500
Grade 3.0	3,000
Grade 2.5	2,500

f. High Early Strength Concrete. Design the high early strength concrete mix to comply with strength and time requirements specified in the Contract Documents.

Unless otherwise specified, design high early strength concrete for pavement at a minimum of 1 of the Contractor's standard deviations above 2400 psi (cylinders) at 24 hours.

Submit complete mix design data including proportions and sources of all mix ingredients, and the results of time and strength tests representing the mixes proposed for use. The strength and time data may come from previous KDOT project records or from an independent laboratory, and shall equal or exceed the strength and time requirements listed in the Contract Documents..

g. Slump. Designate a slump for each concrete mix design that is required for satisfactory placement of the concrete application not to exceed 5 inches except where controlled by maximum allowable slumps stated in **SECTIONS 402, 403 and 404**. Reject concrete with a slump that limits the workability or placement of the concrete.

h. Permeability. Except for Structural Concrete as shown in **SECTION 402**, supply a concrete with either a maximum 28 day Volume of Permeable Voids of 12.0% as per KT-73, a minimum 28 day surface resistivity of 9.0 k Ω -cm as per KT-79, or a maximum 56 day Rapid Chloride Permeability of 3,000 Coulombs as per AASHTO T-277. The field verification test procedure must be the same test procedure as the mix design approval test.

i. Admixtures for Acceleration, Air-Entraining, Plasticizing, Set Retardation and Water Reduction. Verify that the admixtures used are compatible and will work as intended without detrimental effects. Use the dosages recommended by the admixture manufacturers. Incorporate and mix the admixtures into the concrete mixtures according to the manufacturer's recommendations. Determine the quantity of each admixture for the concrete mix design. The Engineer will allow minor adjustments to the dose rate of admixtures to compensate for environmental changes during placement without a new concrete mix design or trial batch.

Redosing is permitted to control slump or air content in the field, when approved by the Engineer, time and temperature limits are not exceeded, and at least 30 mixing revolutions remain before redosing. Redose according to manufacturer's recommendations.

If another admixture is added to an air-entrained concrete mixture, determine if it is necessary to adjust the air-entraining admixture dosage to maintain the specified air content.

(1) Accelerating Admixture. When specified in the Contract Documents, or in situations that involve contact with reinforcing steel and require early strength development to expedite opening to traffic, a non-chloride accelerator may be approved. The Engineer may approve the use of a Type C or E accelerating admixture. A Grade 2 calcium chloride accelerator may be used when patching an existing pavement more than 10 years old.

Add the calcium chloride by solution (the solution is considered part of the mixing water).

- For a minimum cure of 4 hours at 60°F or above, use 2% (by dry weight of cement) calcium chloride.
- For a minimum cure of 6 hours at 60°F or above, use 1% (by dry weight of cement) calcium chloride.

(2) Air-Entraining Admixture. When specified, use an air-entraining admixture in the concrete mixture.

(3) Water-Reducers and Set-Retarders. If unfavorable weather or other conditions adversely affect the placing and finishing properties of the concrete mix, the Engineer may allow the use of water-reducers and set-retarders. Verify that the admixtures will work as intended without detrimental effects. If the Engineer approves the use of water-reducers and set-retarders, their continued use depends on their performance. If at any point, a water-reducer is used to produce a slump equal to or greater than 7 ½ inches, comply with **subsection 401.3g**.

(4) Plasticizer Admixture. A plasticizer is defined as an admixture that produces flowing concrete, without further addition of water, and/or retards the setting of concrete. Flowing concrete is defined as having a slump equal to or greater than 7 ½ inches while maintaining a cohesive nature.

Include a batching sequence in the concrete mix design. Consider the location of the concrete plant in relation to the job site, and identify when and at what location the water reducer or plasticizer is added to the concrete mixture.

Manufacturers of plasticizers may recommend mixing revolutions beyond the limits specified in **subsection 401.8**. If necessary, address the additional mixing revolutions in the concrete mix design. The Engineer may allow up to 60 additional revolutions when plasticizers are designated in the mix design.

Before the concrete mixture with a slump equal to or greater than 7 ½ inches is used on the project, conduct tests on at least 1 full trial batch of the concrete mix design in the presence of the Engineer to determine the adequacy of the dosage and the batching sequence of the plasticizer to obtain the desired properties. Determine the air content of the trial batch both before and after the addition of the plasticizer. Monitor the slump, air content, temperature and workability at regular intervals of the time period from when the plasticizer is added until the estimated time of completed placement. At the discretion of the Engineer, if all the properties of the trial batch remain within the specified limits, the trial batch may be used in the project.

Do not add water after plasticizer is added to the concrete mixture.

401.4 REQUIREMENTS FOR COMBINED MATERIALS

a. Measurements for Proportioning Materials.

(1) Cement. Measure cement as packed by the manufacturer. A sack of cement is considered as 0.04 cubic yards weighing 94 pounds net. Measure bulk cement by weight. In either case, the measurement must be accurate to within 0.5% throughout the range of use.

(2) Supplemental Cementitious Materials. Supplemental cementitious materials proportioning and batching equipment is subject to the same controls as required for cement. Provide positive cut off with no leakage from the cut off valve. Cementitious materials may be weighed accumulatively with the cement or separately. If weighed accumulatively, weigh the cement first.

(3) Water. Measure the mixing water by weight or by volume accurate to within 1% throughout the range of use.

(4) Aggregates. Measure the aggregates by weight, accurate to within 0.5% throughout the range of use.

(5) Admixtures. Measure liquid admixtures by weight or volume, accurate to within 3% of the quantity required. If liquid admixtures are used in small quantities in proportion to the cement as in the case of air-entraining agents, use readily adjustable

b. Testing of Aggregates.

(1) Production of On Grade Concrete Aggregate (OGCA). If OGCA is required, notify the Engineer in writing at least 2 weeks in advance of producing the aggregate. Include the source of the aggregate and the date production will begin. Failure to notify the Engineer, as required, may result in rejection of the aggregate for use as OGCA. Maintain separate stockpiles for OGCA at the quarry and at the batch site and identify them accordingly.

(2) Testing Aggregates at the Batch Site. Provide the Engineer with reasonable facilities at the batch site for obtaining samples of the aggregates. Provide adequate and safe laboratory facilities at the batch site allowing the Engineer to test the aggregates for compliance with the specified requirements.

KDOT will sample and test aggregates from each source to determine their compliance with specifications. Do not batch the concrete mixture until the Engineer has determined that the aggregates comply with the specifications. KDOT will conduct sampling at the batching site, and test samples according to the Sampling and Testing Frequency Chart in Part V. For QC/QA contracts, establish testing intervals within the specified minimum frequency.

After initial testing is complete, and the Engineer has determined that the aggregate process control is satisfactory, use the aggregates concurrently with sampling and testing as long as tests verify compliance with specifications. When batching, sample the aggregates as near the point of batching as feasible. Sample from the stream as the storage bins or weigh hoppers are loaded. If samples cannot be taken from the stream, take them from approved stockpiles, or use a template and sample from the conveyor belt. If test results indicate an aggregate does not comply with specifications, cease concrete production using that aggregate. Unless a tested and approved stockpile for that aggregate is available at the batch plant, do not use any additional aggregate from that source and specified grading until subsequent testing of that aggregate indicate compliance with specifications. When tests are completed and the Engineer is satisfied that process control is satisfactory, production of concrete using aggregates tested concurrently with production may resume.

c. Handling of Materials.

(1) Approved stockpiles are permitted only at the batch plant and only for small concrete placements or for maintaining concrete production. Mark the approved stockpile with an "Approved Materials" sign. Provide a suitable stockpile area at the batch plant so that aggregates are stored without detrimental segregation or contamination. At the plant, limit stockpiles of tested and approved coarse, fine and intermediate aggregate to 250 tons each, unless approved for more by the Engineer. If mixed aggregate is used, limit the approved stockpile to 500 tons, the size of each being proportional to the amount of each aggregate to be used in the mix.

Load aggregates into the mixer such that no material foreign to the concrete or material capable of changing the desired proportions is included.

(2) Segregation. Do not use segregated aggregates. Previously segregated materials may be thoroughly re-mixed and used when representative samples taken anywhere in the stockpile indicated a uniform gradation exists.

(3) Cement and Supplemental Cementitious. Protect cement and supplemental cementitious materials in storage or stockpiled on the site from any damage by climatic conditions which would change the characteristics or usability of the material.

(4) **Moisture.** Provide aggregate with a moisture content of $\pm 0.5\%$ from the average of that day. If the moisture content in the aggregate varies by more than the above tolerance, take whatever corrective measures are necessary to bring the moisture to a constant and uniform consistency before placing concrete. This may be accomplished by handling or manipulating the stockpiles to reduce the moisture content, or by adding moisture to the stockpiles in a manner producing uniform moisture content through all portions of the stockpile.

For plants equipped with an approved accurate moisture-determining device capable of determining the free moisture in the aggregates, and provisions made for batch to batch correction of the amount of water and the weight of aggregates added, the requirements relative to manipulating the stockpiles for moisture control will be waived. Any procedure used will not relieve the producer of the responsibility for delivering concrete of uniform slump within the limits specified.

(5) **Separation of Materials in Tested and Approved Stockpiles.** Only use KDOT Approved Materials. Provide separate means for storing materials approved by KDOT. If the producer elects to use KDOT Approved Materials for non-KDOT work, during the progress of a project requiring KDOT Approved Materials, inform the Engineer and agree to pay all costs for additional material testing.

Clean all conveyors, bins and hoppers of any unapproved materials before beginning the manufacture of concrete for KDOT work.

401.5 MORTAR AND GROUT

a. General. Follow the proportioning requirements in **subsection 401.5b.** and **c.** for mortar and grout unless otherwise specified in the Contract Documents, including altering the proportions when a minimum strength is specified.

b. Mortar. Mortar is defined as a mixture of cementitious materials, FA-M aggregate and water, which may contain admixtures, and is typically used to minimize erosion between large stones or to bond masonry units.

Proportion mortar for laying stone for stone rip-rap, slope protection, stone ditch lining or pavement patching at 1 part of portland cement and 3 parts of FA-M aggregate by volume with sufficient water to make a workable and plastic mix.

Proportion mortar for laying brick, concrete blocks or stone masonry at $\frac{1}{2}$ part masonry cement, $\frac{1}{2}$ part portland cement and 3 parts FA-M aggregate, either commercially produced masonry sand or FA-M, by volume with sufficient water to make a workable and plastic mix.

Do not use air-entraining agents in mortar for masonry work.

The Engineer may visually accept the sand used for mortar. The Engineer may visually accept any recognized brand of portland cement or masonry cement that is free of lumps.

c. Grout. Grout is defined as a mixture of cementitious materials with or without aggregate or admixtures to which sufficient water is added to produce a pouring or pumping consistency without segregation of the constituent materials and meeting the applicable specifications.

401.6 COMMERCIAL GRADE CONCRETE

If the Contract Documents allow the use of commercial grade concrete for designated items, then use a commercial grade mixture from a ready mix plant approved by the Engineer.

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The Engineer must approve the commercial grade concrete mixture. Approval of the commercial grade mixture is based on these conditions:

- All materials are those normally used for the production and sale of concrete in the vicinity of the project.
- The mixture produced is that normally used for the production and sale of concrete in the vicinity of the project.
- The mixture produced contains a minimum cementitious content of 6 sacks (564 lbs) of cementitious material per cubic yard of concrete.
- The water-cementitious ratio is as designated by the Engineer. The maximum water-cementitious ratio permitted may not exceed 0.50 pounds of water per pound of cementitious material including free water in the aggregate.
- Type I, II, III, IP, IS or IT cement may be used unless otherwise designated. Fly ash, slag cement and blended supplemental materials may be substituted for the required minimum cement content as specified in **subsection 401.3**. No additives other than air entraining agent will be allowed. The Contractor will not be required to furnish the results of strength tests when submitting mix design data to the Engineer.
- In lieu of the above, approved mix designs (including optimized) for all other grades of concrete, Grade 3.0 or above, are allowable for use as commercial grade concrete, at no additional cost to KDOT.

Exercise good engineering judgment in determining what equipment is used in proportioning, mixing, transporting, placing, consolidating and finishing the concrete.

Construct the items with the best current industry practices and techniques.

Before unloading at the site, provide a delivery ticket for each load of concrete containing the following information:

- Name and location of the plant.
- Time of batching concrete.
- Mix proportions of concrete (or a mix designation approved by the Engineer).
- Number of cubic yards of concrete batched.

Cure the various items placed, as shown in **DIVISION 700**.

The Engineer may test commercial grade concrete by molding sets of 3 cylinders. This is for informational purposes only. No slump or unit weight tests are required.

401.7 CERTIFIED CONCRETE

If KDOT inspection forces are not available on a temporary basis, the Engineer may authorize the use of concrete from approved concrete plants. Approval for this operation is based on certification of the plant and plant personnel, according to KDOT standards. KDOT's approval may be withdrawn any time that certification procedures are not followed. Contact the DME for additional information.

The Engineer will not authorize the use of certified concrete for major structures such as bridges, RCB box bridges, RCB culverts, permanent main line and ramp pavement or other structurally, critical items.

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Each load of certified concrete must be accompanied by a ticket listing mix proportions, time of batching and setting on revolution counter, total mixing revolutions and must be signed by certified plant personnel.

401.8 MIXING, DELIVERY AND PLACEMENT LIMITATIONS

a. Concrete Batching, Mixing and Delivery. Batch and mix the concrete in a central mix plant, in a truck mixer or in a drum mixer at the work site. Provide plant capacity and delivery capacity sufficient to maintain continuous delivery at the rate required. The delivery rate of concrete during concreting operations must provide for the proper handling, placing and finishing of the concrete.

Seek the Engineer's approval of the concrete plant/batch site before any concrete is produced for the project. The Engineer will inspect the equipment, the method of storing and handling of materials, the production procedures and the transportation and rate of delivery of concrete from the plant to the point of use. The Engineer will grant approval of the concrete plant/batch site based on compliance with the specified requirements. The Engineer may, at any time, rescind permission to use concrete from a previously approved concrete plant/batch site upon failure to comply with the specified requirements.

Clean the mixing drum before it is charged with the concrete mixture. Charge the batch into the mixing drum such that a portion of the water is in the drum before the aggregates and cementitious material. Uniformly flow materials into the drum throughout the batching operation. All mixing water must be in the drum by the end of the first 15 seconds of the mixing cycle. Keep the throat of the drum free of accumulations restricting the flow of materials into the drum.

Do not exceed the rated capacity (cubic yards shown on the manufacturer's plate on the mixer) of the mixer when batching the concrete. The Engineer may allow an overload of up to 10% above the rated capacity for central mix plants and drum mixers at the work site, provided the concrete test data for strength, segregation and uniform consistency are satisfactory, and no concrete is spilled during the mixing cycle.

Operate the mixing drum at the speed specified by the mixer's manufacturer (shown on the manufacturer's plate on the mixer).

Mixing time is measured from the time all materials, except water, are in the drum. If it is necessary to increase the mixing time to obtain the specified percent of air in air-entrained concrete, the Engineer will determine the mixing time.

If the concrete is mixed in a central mix plant or a drum mixer at the work site, mix the batch between 1 to 5 minutes at mixing speed. Do not exceed the maximum total 60 mixing revolutions. Mixing time begins after all materials, except water, are in the drum, and ends when the discharge chute opens. Transfer time in multiple drum mixers is included in mixing time. Mix time may be reduced for plants utilizing high performance mixing drums provided thoroughly mixed and uniform concrete is being produced with the proposed mix time. Performance of the plant must conform to Table A1.1 of ASTM C 94, Standard Specification for Ready Mixed Concrete. Five of the 6 tests listed in Table A1.1 must be within the limits of the specification to indicate that uniform concrete is being produced.

If the concrete is mixed in a truck mixer, mix the batch between 70 and 100 revolutions of the drum or blades at mixing speed. After the mixing is completed, set the truck mixer drum at agitating speed. Unless the mixing unit is equipped with an accurate device indicating and controlling the number of revolutions at mixing speed, perform the mixing at the batch plant and operate the mixing unit at agitating speed while travelling from the plant to the work site. Do not exceed 300 total revolutions (mixing and agitating). An additional 60 mixing revolutions may be allowed by the Engineer when plasticizers are designated in the mix design.

If a truck mixer or truck agitator is used to transport concrete that was completely mixed in a stationary central mixer, agitate the concrete while transporting at the agitating speed specified by the manufacturer of the equipment (shown on the manufacturer's plate on the equipment). Do not exceed 200 total revolutions (additional re-mixing and agitating).

Provide a batch slip including batch weights of every constituent of the concrete and time for each batch of concrete delivered at the work site, issued at the batching plant that bears the time of charging of the mixer drum with cementitious materials and aggregates. Include quantities, type, product name and manufacturer of all admixtures on the batch ticket.

On paving projects and other high volume work, the Engineer will evaluate the haul time, and whether tickets will be collected for every load. Thereafter, random checks of the loads will be made. Maintain all batch tickets when not collected.

When non-agitating equipment is used for transportation of concrete, place within 30 minutes of adding the cement to the water. Provide approved covers for protection against the weather when required by the Engineer.

When agitating equipment is used for transportation of the concrete, place concrete within the time and temperature conditions shown in **TABLE 401-5**.

TABLE 401-5: AMBIENT AIR TEMPERATURE AND AGITATED CONCRETE PLACEMENT TIME		
T = Ambient Air Temperature at Time of Batching (°F)	Time limit agitated concrete must be placed within, after the addition of cement to water (hours)	Admixtures
$T < 75$	1 ½	None
$75 \leq T$	1	None
$75 \leq T < 90$	1 ½	Set Retarder

In all cases, if the concrete temperature at time of placement is 90°F or above, or under conditions contributing to quick stiffening of the concrete, place the concrete within 45 minutes of adding the cement to the water. Do not use concrete that has developed its initial set. Regardless of the speed of delivery and placement, the Engineer will suspend the concreting operations until corrective measures are taken, if there is evidence that the concrete cannot be adequately consolidated.

Weather conditions and the use of admixtures can affect the set times for the concrete. Do not use the time limits and total revolutions as the sole criterion for

rejection of concrete. Exceed the time limits and total revolutions only after demonstrating that the properties of the concrete can be improved. Evaluation of the consistency and workability should be taken into consideration. Reject concrete that cannot be adequately consolidated.

Adding water to concrete after the initial mixing is prohibited, with this exception: If the concrete is delivered to the work site in a truck mixer, the Engineer will allow water (up to 2 gallons per cubic yard) be withheld from the mixture at the batch site, and if needed, added at the work site to adjust the slump to the specified requirements. Determine the need for additional water as soon as the load arrives at the construction site. Use a calibrated water-measuring device to add the water, and add the water to the entire load. Do not add more water than was withheld at the batch site. After the additional water is added, turn the drum or blades an additional 20 to 30 revolutions at mixing speed. The Engineer will supervise the adding of water to the load, and will allow this procedure only once per load. Conduct all testing for acceptance and produce any required cylinders after all water or admixtures have been added.

Do not add water at the work site if the slump is within the designated slump tolerance, even if water was withheld.

Do not add water at the work site if the percent air is above 8%, regardless of the slump, even if water was withheld.

Do not withhold and add water if plasticizer is added to the concrete mixture at the batch site.

If at any time during the placement of concrete it is determined that redosing with water is adversely affecting the properties of the concrete, the concrete will be rejected and the Engineer will suspend the practice.

b. Placement Limitations.

(1) Placing Concrete at Night. Do not mix, place or finish concrete without sufficient natural light, unless an adequate, artificial lighting system approved by the Engineer is provided.

(2) Placing Concrete in Cold Weather. Unless authorized by the Engineer, discontinue mixing and concreting operations when the descending ambient air temperature reaches 40°F. Do not begin concreting operations until an ascending ambient air temperature reaches 35°F and is expected to exceed 40°F.

If the Engineer permits placing concrete during cold weather, aggregates may be heated by either steam or dry heat system before placing them in the mixer. Use an apparatus that heats the mass uniformly and is so arranged as to preclude the possible occurrence of overheated areas which might injure the materials. Do not heat aggregates directly by gas or oil flame or on sheet metal over fire. Aggregates that are heated in bins, by steam-coil or water-coil heating, or by other methods not detrimental to the aggregates may be used. The use of live steam on or through binned aggregates is prohibited. Unless otherwise authorized, maintain the temperature of the mixed concrete between 50 to 90°F at the time of placing. Do not, under any circumstances, continue concrete operations if the ambient air temperature is less than 20°F.

If the ambient air temperature is 35°F or less at the time the concrete is placed, the Engineer may require that the water and the aggregates be heated to between 70 and 150°F.

Do not place concrete on frozen subgrade or use frozen aggregates in the concrete.

Make adjustments for potential longer set time and slower strength gain for concrete with SCMs. Adjust minimum time requirements as stated in **SECTION 710** for

concrete used in structures. For concrete paving, be aware of the effect that the use of SCMs (except silica fume) may have on the statistics and moving averages.

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401.9 INSPECTION AND TESTING

Unless otherwise designated in the Contract Documents or by the Engineer, obtain samples of fresh concrete for the determination of slump, weight per cubic yard and percent of air from the final point of placement.

The Engineer will cast, store and test strength test specimens in sets of 3.

KDOT will conduct the sampling and test the samples according to **DIVISION 2500** and the Sampling and Testing Frequency Chart in Part V. For QC/QA contracts, establish testing intervals within the specified minimum frequency.

The Engineer will reject concrete that does not comply with specified requirements.

The Engineer will permit occasional deviations below the specified cementitious content, if it is due to the air content of the concrete exceeding the designated air content, but only up to the maximum tolerance in the air content.

Continuous operation below the specified cementitious content for any reason is prohibited.

As the work progresses, the Engineer reserves the right to require the Contractor to change the proportions if conditions warrant such changes to produce a satisfactory mix. Any such changes may be made within the limits of the specifications at no additional compensation to the Contractor.

APPENDIX A – NON-MANDATORY INFORMATION

GENERAL CONCRETE

Design general concrete according to **TABLE 401-A1** meeting the applicable requirements for Volume of Permeable Voids, Surface Resistivity, or Rapid Chloride Permeability as required in **subsection 401.3h**.

TABLE 401-A1: GENERAL CONCRETE		
Grade of Concrete	lb. of Cementitious per yd of Concrete, minimum	lb. of Water per lb. of Cementitious, maximum
Grade 7.0(**):MA Gradation	700	0.35
Grade 6.0(**):MA Gradation	650	0.35
Grade 5.0(**):MA Gradation	602	0.35
Grade 4.5(**):MA Gradation	602	0.40
Grade 4.0(**):MA Gradation	602	0.44
Grade 3.5 and 3.0(**):MA Gradation	564	0.46
Grade 2.5(**):MA Gradation	526	0.50

General Concrete (*) (**)

*Grade as specified in the Contract Documents

Air Entrained meeting **subsection 401.3a.

Air entrained concrete with a target air of 6.5 ± 1.5 percent.

Maximum water to cementitious ratio of 0.50 and a minimum cementitious content of 480 lbs per cubic yard. Maximum limit of lb. of water per lb. of cementitious material includes free water in aggregates, but excludes water of absorption of the aggregates.

The SPC requirements may be met without the use of optimized mix designs, blended cements or SCMs.

With certain aggregates, 25% slag cement will be required to pass the ASR testing. With other aggregates, a minimum of 30% slag cement by weight of total cementitious materials is usually needed. Some fly ashes require a minimum of 18% to 20% of the total cementitious material to pass the ASR test. Class C fly ash will react differently than Class F fly ash.

Some people believe that lower absorption aggregates have a better chance of meeting the permeability specification, but higher absorption aggregates have been used in concrete mixes utilizing these guidelines and have met the SPC specifications. KDOT has found that the properties of the concrete are often more important than the absorption of the aggregate when meeting this specification.

Moderate Permeability Concrete (MPC) Requirements:

Volume of Permeable Voids 11.0% max, or
Surface Resistivity 13.0 k Ω -cm min, or
RCPT 2000 Coulombs max.

Concrete mixes for MPC will require aggregates with a minimum Soundness of 0.95, a maximum LA Wear of 40, and a minimum Acid Insoluble Residue of 85%. These aggregates, by nature, are harder aggregates with very low absorption. MPC may rely more heavily on optimized gradations, blended cements or SCMs in order to meet the specification. Consideration could be given to ternary blends of cementitious materials, using more than one SCM, or combining a blended cement with an additional SCM. Combinations of 25% to 30% slag cement with as little as 10% to 25% Class C fly ash have been very effective in keeping permeabilities below the level required for MPC. Incorporation of 20% Class F Fly Ash will often satisfy the requirements of the MPC specification.

Low Permeability Concrete (LPC) Requirements:

Volume of Permeable Voids 9.5% max, or
Surface Resistivity 27.0 k Ω -cm min, or
RCPT 1000 Coulombs max.

LPC will also use harder aggregates with very low absorption. These mixes must be optimized with the MA-6 gradation. Mix designs with 5% silica fume and 95% Type I/II cement often meet the LPC requirements. These mixes have traditionally been known as silica fume concrete. Ternary mix designs are useful in meeting these requirements. Consider using 3% to 5% silica fume with 25% to 30% slag cement, or 25% to 30% slag cements with 10% to 25% Class C fly ash. Class F fly ash alone may also be effective in reducing the permeability to these levels.

Contact KDOT's Bureau of Research or the District Office for additional guidance in meeting the Permeability Specifications.



JAMIE SHEW
DOUGLAS COUNTY CLERK
1100 Massachusetts
Lawrence, KS 66044

Marni Penrod-Chief Deputy Clerk
Heather Dill-Deputy Clerk Elections

MEMORANDUM

TO: Board of County Commissioners
FROM: ERP Steering Committee
DATE: December 16, 2016
RE: Update on ONESolution ERP project

ACTION REQUIRED: none

The ERP Steering Committee would like to update the Commissioners regarding Douglas County's ONESolution ERP finance system. Also, we would like to recognize the employees whose work was key to the success of our implementation.

Project Team:

Julie Clouse	Administrative Services
Julie Dahlem	Clerk's Office
Bev Gardner	Information Technology
Laura Glass	Public Works
Julie Gray	Information Technology
Kim Hertach	Sheriff's Office
Julie Jacob	Clerk's Office
Stacy Kurtz	Treasurer's Office
Cindy Monshizadeh	Treasurer's Office
Candice Norman	Treasurer's Office
Cammy Owens	Administrative Services
Brooke Sauer	Administrative Services
Sowji Seetala	Information Technology
Kari Wempe	Administrative Services
Ollie Wenger	Information Technology

Change Manager: Amy Barnes, Information Technology

Project Manager: Marni Penrod, Clerk's Office

Steering Committee: Paula Gilchrist, Treasurer; Jim Lawson, Information Technology Director; Sarah Plinsky, Asst. County Administrator and Jamie Shew, County Clerk.

ONESolution ERP replaced Douglas County's legacy finance system that had been in use since 1999. After writing and releasing the RPF in 2013, Douglas County began working with SunGard in the summer of 2014. By June 1, 2015 we were live in the Finance modules of ONESolution and as of April 1, 2016 we went live in the Human Resources/Payroll modules. We are pleased with the implementation Douglas County achieved. The goals that we set for the project are met, including:

- The use of Purchase Orders across all departments and Accounts Receivable invoicing allows us to have a more complete and up to date picture of the County's financial position.
- Staff mapped every process involved and then with input from SunGard consultants and Government Finance Officers Association (GFOA) made changes to update and improve our business practices. For example: approvals and authorizations are now made via an electronic workflow stored in ONESolution.
- This is the largest software implementation project Douglas County has undertaken to date. With a framework and support from GFOA and the work of dedicated staff, we were able to successfully complete this project. There were some obstacles, but we stayed within budget and now have an up to date, fully functioning ERP system.
- As of April 1, 2016 the Payroll and Human Resources are operating via ONESolution. Previously, payroll, HR and finance were in separate software databases.
- In the past dual entry occurred in HR/payroll (as mentioned above), deposits and accounts payable invoices. Now all of these processes are single entry in ONESolution, which saves considerable staff time.
- We have improved the departments' access to their own data. Now each department can directly access their finance and HR/Payroll information. This is a more efficient and transparent method for our county government.
- Douglas County now uses our document management system OnBase to store images of almost all documentation related to ONESolution. This saves paper and physical storage space. Plus more users have direct access to the information.

The Steering Committee appreciates and applauds the efforts of the Project Team and all of the other county employees who contributed. This was a long and laborious process undertaken while still completing their regular daily work. Douglas County relies on our quality employees to serve the citizens and be good stewards of their tax dollars.