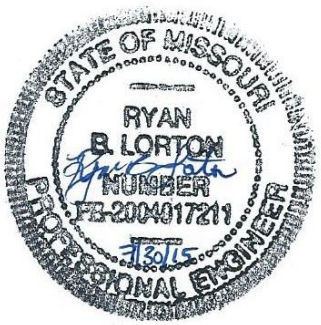
JVIATION®

July 30, 2015

To: Plan Holders for Improvements to the
Rosecrans Memorial Aiport
St. Joseph, Missouri
MoDOT Project No. 13-012A-2
Air National Guard Project No. ULYB132006

Transmitted herewith is Addendum **No. 5** to the Issued for Bid Contract Documents, Specifications and Plans dated June 23, 2015 for Improvements to the Rosecrans Memorial Airport.

Schedule I: Replacement of Assault Strip Runway 13/31



Sincerely,

Jviation, Inc.

Ryan B. Lorton, P.E.
Project Manager

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ADDENDUM NO. 5
TO
CONTRACT DOCUMENTS, SPECIFICATIONS AND PLANS
FOR IMPROVEMENTS TO THE
ROSECRANS MEMORIAL AIRPORT
ST. JOSEPH, MISSOURI
MODOT PROJECT NO. 13-012A-2
AIR NATIONAL GUARD PROJECT NO. ULYB132006

Bidders are informed that the above referenced Contract Documents, Specifications and Plans are modified as follows as of July 30, 2015:

1. TECHNICAL SPECIFICATIONS

32 11 33: PERMEABLE CEMENT STABILIZED BASE COURSE AT AIRFIELDS AND ROADS
Pages: All
Revision: Delete Technical Specification in its entirety.

32 11 10: DRAINAGE LAYER
Page: All
Revision: Add new Technical Specification SECTION 32 11 10 DRAINAGE LAYER.
See attached SECTION 32 11 10 DRAINAGE LAYER specification.

P-CS: CHOKE STONE INTERLAYER
Page: P-CS-2.1 AGGREGATE
Revision: Delete Table 1 in its entirety and replace with the following:

Table 1. Aggregate gradation for CHOKE STONE material.

Sieve Size	Percentage by Weight Passing Sieves
	Choke Stone
½ in (13 mm)	100
⅜ in (9.5 mm)	80 - 100
No. 4 (4.75 mm)	10 - 100
No. 8 (2.36 mm)	5 - 40
No. 16 (1.18 mm)	0 - 10

P-CS: CHOKE STONE INTERLAYER
Page: P-CS-3.2 PLACEMENT
Revision: Delete this section in its entirety and replace with the following:
"The choke stone aggregate shall be spread into a single uniform layer of such width and thickness that, following compaction, it conforms to the required grade and cross-section. The choke stone shall be placed after the underlying stabilized permeable base layer has cured per the requirements of specification 32 11 10 Drainage Layer. The choke stone shall be spread in a thin layer no thicker than ½ in using spreading equipment approved by the Engineer."

2. PLAN SET

Sheet: C601
Title: Proposed Typical Sections
Revision: Revised the Cement Treated Permeable Base Course UFGS Section to: "UFGS SECTION 32 11 10"
See attached revised sheet C601.

****END OF ADDENDUM NO. 5****

SECTION 32 11 10

DRAINAGE LAYER
08/08

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)

AASHTO M 320	(2010) Standard Specification for Performance-Graded Asphalt Binder
AASHTO T 102	(2009; R 2013) Standard Method of Test for Spot Test of Asphaltic Materials

ASTM INTERNATIONAL (ASTM)

ASTM C117	(2013) Standard Test Method for Materials Finer than 75-um (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C131/C131M	(2014) Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
ASTM C136/C136M	(2014) Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
ASTM C150/C150M	(2012) Standard Specification for Portland Cement
ASTM C29/C29M	(2009) Standard Test Method for Bulk Density ("Unit Weight") and Voids in Aggregate
ASTM C595/C595M	(2014) Standard Specification for Blended Hydraulic Cements
ASTM C88	(2013) Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
ASTM D1250	(2008) Standard Guide for Use of the Petroleum Measurement Tables
ASTM D140/D140M	(2014) Standard Practice for Sampling

	Bituminous Materials
ASTM D2172/D2172M	(2011) Quantitative Extraction of Bitumen from Bituminous Paving Mixtures
ASTM D2487	(2011) Soils for Engineering Purposes (Unified Soil Classification System)
ASTM D3381/D3381M	(2013) Viscosity-Graded Asphalt Cement for Use in Pavement Construction
ASTM D4791	(2010) Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate
ASTM D6307	(2010) Asphalt Content of Hot Mix Asphalt by Ignition Method
ASTM D6938	(2010) Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)
ASTM D75/D75M	(2014) Standard Practice for Sampling Aggregates
ASTM D946/D946M	(2009a) Penetration-Graded Asphalt Cement for Use in Pavement Construction

1.2 SUMMARY

Build a drainage layer under the pavements, as indicated, consisting of Open Graded Material stabilized with cement.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for Contractor Quality Control approval. Submittals with an "S" are for inclusion in the Sustainability Notebook, in conformance to Section 01 33 29 SUSTAINABILITY REPORTING. Submit the following:

SD-03 Product Data

Waybills and Delivery Tickets

SD-06 Test Reports

Sampling and Testing
Approval of Materials; G
Evaluation

1.4 QUALITY ASSURANCE

1.4.1 Sampling and Testing

Conduct sampling and testing; performed by an approved testing laboratory. Perform tests at the specified frequency.No work requiring testing will be permitted until the testing laboratory has been inspected and approved. Test drainage layer materials to establish compliance with the specified requirements.

1.4.2 Sampling

Take aggregate samples in accordance with ASTM D75/D75M. Take cement stabilized mixture samples using methods approved by the Contracting Officer.

1.4.3 Test Methods

1.4.3.1 Sieve Analyses

Make sieve analyses in accordance with ASTM C117 and ASTM C136/C136M.

1.4.3.2 Density Tests

Not used.

1.4.3.3 Soundness Test

Perform soundness tests in accordance with ASTM C88.

1.4.3.4 Los Angeles Abrasion Test

Perform Los Angeles abrasion tests in accordance with ASTM C131/C131M.

1.4.3.5 Flat or Elongated Particles Tests

Perform flat and/or elongated particles tests in accordance with ASTM D4791.

1.4.3.6 Fractured Faces Tests

When aggregates are supplied from crushed gravel, use approved test methods to ensure the aggregate meets the requirements for fractured faces in paragraph AGGREGATES.

1.4.3.7 Bitumen Content

Not used.

1.4.4 Initial Tests

Perform one of each of the following tests on the proposed material, prior to commencing construction, to demonstrate that the proposed material meets all specified requirements when furnished. If materials from more than one source are going to be utilized, complete the following tests for each source.

a. Sieve Analysis including 75 µm No. 200 sieve size material.

b. Flat and/or elongated particles

c. Fractured Faces

d. Los Angeles abrasion.

e. Soundness.

1.4.5 Testing Frequency

1.4.5.1 Aggregate Layer

Not used.

1.4.5.2 Stabilized Layer

Perform sieve analyses on aggregates prior to addition of portland cement, at a rate of at least one test for every 6000 square yards of completed area and not less than one test for each days production.

Perform soundness tests, Los Angeles abrasion tests, fractured faces tests, and flat and/or elongated particles tests at the rate of one test for every 12,000 square yards of production.

1.4.6 Approval of Materials

Submit material sources and material test results prior to field use.

1.4.6.1 Aggregate

Select the aggregate source at least 60 days prior to field use in the test section. Tentative approval of the source will be based on certified test results to verify that materials proposed for use meet the contract requirements. Final approval of both the source and the material will be based on test section performance and tests for gradation, soundness, Los Angeles abrasion, flat and/or elongated particles tests and fractured faces tests. For cement stabilized drainage layer material, perform these tests on aggregate samples taken prior to addition of cementitious material and subsequent placement in the test section.

1.4.6.2 Cementitious Materials

Submit cementitious sources and certified material test results for approval not less than 60 days prior to field use in the test section.

1.5 ENVIRONMENTAL REQUIREMENTS

Place drainage layer material when the atmospheric temperature is above 35 degrees F. Correct areas of completed drainage layer or underlying courses that are damaged by freezing, rainfall, or other weather conditions or by contamination from sediments, dust, dirt, or foreign material to meet specified requirements.

PART 2 PRODUCTS

2.1 GOVERNMENT APPROVAL

Cement stabilized material will require Government notification and delivery of approved materials in accordance with paragraph CEMENT STABILIZED JOB-MIX FORMULA.

2.2 EQUIPMENT

All plant, equipment, and tools used in the performance of the work will be subject to approval before the work is started and shall be maintained in satisfactory working condition at all times.

2.2.1 Placement Equipment

Use an asphalt paving machine to place drainage layer material. Alternate methods may be used if it can be demonstrated in the test section that these methods obtain the specified results.

2.2.2 Compaction Equipment

Use a dual or single 5 to 10 ton vibratory drum roller, which provides a maximum compactive effort without crushing the drainage layer aggregate, to compact drainage layer material.

2.2.3 Bituminous Mixing Plant

Not used.

2.2.4 Cementitious Mixing Plant

Provide a cementitious mixing plant that is an automatic or semiautomatic controlled, commercially manufactured unit capable of producing a cement stabilized aggregate mixture consistent with the job mix formula determined by the Government. Aggregate and cement shall be dry mixed sufficiently to prevent cement balls from forming when water is added.

2.3 AGGREGATES

Provide aggregates consisting of clean, sound, hard, durable, angular particles of crushed stone, crushed slag, or crushed gravel which meet the specification requirements. Slag shall be an air-cooled, blast-furnace product having a dry weight of not less than 65 pcf determined by ASTM C29/C29M.Provide aggregates free of silt and clay as defined by ASTM D2487, vegetable matter, and other objectionable materials or

coatings. The use of recycled crushed concrete will not be allowed.

2.3.1 Aggregate Quality

The aggregate shall have a soundness loss not greater than 18 percent weighted averaged at 5 cycles when tested in magnesium sulfate in accordance with ASTM C88 and a percentage of loss on abrasion not to exceed 40 after 500 revolutions as determined by ASTM C131/C131M. Determine the percentage of flat and/or elongated particles by ASTM D4791 with the following modifications: 1) The aggregates shall be separated into 2 size fractions, particles greater than 1/2 inch sieve and particles passing the 1/2 inch sieve and retained on the No. 4 sieve. 2) The percentage of flat and/or elongated particles in either fraction shall not exceed 20. 3) A flat particle is one having a ratio of width to thickness greater than 3; an elongated particle is one having a ratio of length to width greater than 3. 4) When the aggregate is supplied from more than one source, aggregate from each source shall meet the specified requirements. When the aggregate is supplied from crushed gravel it shall be manufactured from gravel particles, 90 percent of which by weight are retained on the maximum-size sieve listed in TABLE I. In the portion retained on each sieve specified, the crushed gravel shall contain at least 90 percent by weight of crushed pieces having two or more freshly fractured faces with the area of each face being at least equal to 75 percent of the smallest midsectional area of the face. When two fractures are contiguous, the angle between planes of the fractures must be at least 30 degrees in order to count as 2 fractured faces.

2.3.2 Gradation Requirements

Drainage layer aggregates must be well graded within the limits specified in TABLE I.

TABLE I GRADATION OF DRAINAGE LAYER MATERIAL	
Open Graded Material (OGM) Stabilized	
Sieve Designation	Percentage by Weight Passing Square-Mesh Sieve
1-1/2 in.	100
1 in.	95-100
3/4 in.	--
1/2 in.	25-80
3/8 in.	---
No. 4	0-10
No. 8	0-5
No. 16	---

NOTE 1: The values are based on aggregates of uniform specific gravity, and the percentages passing the various sieves may require appropriate correction by the Contracting Officer when aggregates of varying specific gravities are used.

NOTE 2: Portland cement will be required to stabilize the OGM.

2.4 BITUMINOUS MATERIALS

Not used.

2.5 CEMENTITIOUS MATERIALS

Portland cement to be mixed with aggregates shall conform to ASTM C150/C150M, Type I, IA, II or IIA.

2.6 CEMENT STABILIZED JOB-MIX FORMULA

The cement stabilized mix shall consist of OGM and a minimum of 200 pounds of portland cement per cubic yard with a water/cement ratio of 0.37. Based on the test section performance, the Contractor shall be responsible for adjustments (increases) in portland cement quantities to ensure the stabilized drainage layer will not rut or be disturbed by the Contractor's proposed paving method. Submit a job-mix formula (JMF) with the test

section report for Contracting Officer approval. PART 3 EXECUTION

3.1 STOCKPILING AGGREGATES

Stockpile aggregates at locations designated by the Contracting Officer. Clear and level stockpile areas prior to stockpiling aggregates to prevent segregation and contamination. Separately stockpile aggregates obtained from different sources.

3.2 TEST SECTION

3.2.1 Data

Construct a test section to evaluate the ability to carry traffic, including placement of overlaying material (choke stone or fabric) and the constructability of the drainage layer including required mixing, placement, and compaction procedures. Test section data will be used by the Contracting Officer to validate the required number of compaction passes given in paragraph Compaction Requirements for full scale production.

3.2.2 Schedule/Evaluation

Construct the test section a minimum of 30 days prior to the start of full scale production to provide sufficient time for an evaluation of the proposed materials, equipment and procedures including Government QA testing.

3.2.3 Location and Size

Place the test section inside the production paving limits. The underlying courses and subgrade preparation, required for the pavement section, shall be completed, inspected and approved in the test section prior to constructing the drainage layer. The test section shall be a minimum of 100 feet long and two full paving lanes wide side by side.

3.2.4 Initial Testing

Provide certified test results, approved by the Contracting Officer prior to the start of the test section, to verify that the materials proposed for use in the test section meet the contract requirements.

3.2.5 Mixing, Placement, and Compaction

Accomplish mixing, placement, and compaction using equipment meeting the requirements of paragraph EQUIPMENT. Compaction equipment speed shall be no greater than 1.5 mph. Start compaction from the outside edges of the paving lane and proceed to the centerline of the lift being placed. The roller shall stay a minimum of one half the roller width from the outside edge of the drainage layer being placed until the desired density is obtained. The outside edge shall then be rolled.

3.2.6 Procedure

3.2.6.1 RDM Aggregate Drainage Layer Tests

Not used.

3.2.6.2 Cement Stabilized Drainage Layer

Construct the test section with the same equipment used for production. Designate three separate areas within the test section for sampling. Complete all testing in the middle third of the test section being placed. The Contracting Officer will perform visual examination of each sample to determine if and when crushing of aggregate occurs. Take one sample before compaction and after each subsequent compaction pass at three separate locations as directed by the Contracting Officer. Continue compaction for a maximum of 6 passes. Define a pass as the movement of a roller over the drainage layer area for one direction only. Placement procedures and equipment shall be as described herein. The Contracting Officer will determine the number of passes required for compaction from the test section.

3.2.7 Evaluation

Within 10 days of completion of the test section, submit to the Contracting Officer a Test Section Construction Report complete with all required test data and correlations. The Contracting Officer will evaluate the data and validate the required number of passes of the roller, the need for a final static pass of the roller.

3.3 PREPARATION OF UNDERLYING COURSE

Prior to constructing the drainage layer, clean the underlying course of all foreign materials. During construction, the underlying course shall contain no frozen material. Correct ruts or soft yielding spots in the underlying courses having inadequate compaction and deviations of the surface from the requirements set forth herein by loosening and removing soft or unsatisfactory material and by adding approved material, reshaping to line, and grade, and recompacting to specified density. The finished underlying course shall not be disturbed by traffic or other operations and shall be maintained in a satisfactory condition until the drainage layer is placed.

3.4 TRANSPORTING MATERIAL

3.4.1 Aggregate Drainage Layer Material

Not used.

3.4.2 Bituminous Stabilized Material

Not used.

3.4.3 Cement Stabilized Material

Transport cement stabilized material from the mixing plant to the site in trucks equipped with protective covers. Loads that have crusts of

unworkable material or have become excessively wet will be rejected. Hauling over freshly placed material will not be permitted.

3.5 PLACING

3.5.1 General Requisites

Place drainage layer material on the underlying course in lifts of uniform thickness using equipment meeting the requirements of paragraph EQUIPMENT. When a compacted layer 6 inches or less in thickness is required, place the material in a single lift. When a compacted layer in excess of 6 inches is required, place the material in lifts of equal thickness. No lift shall exceed 6 inches or be less than 3 inches when compacted. The lifts when compacted after placement shall be true to the grades or levels required with the least possible surface disturbance. Where the drainage layer is placed in more than one lift, clean the previously constructed lift of loose and foreign material. Such adjustments in placing procedures or equipment shall be made to obtain true grades and minimize segregation and degradation of the drainage layer material.

3.5.2 Placement of Stabilized Material

Adjust the paving machine so that the surface of the lift being laid will be smooth and continuous without tears and pulls. Correct irregularities in alignment of the lift left by the paving machine by trimming directly behind the machine. Immediately after trimming, thoroughly compact the edges of the lift by a method approved by the Contracting Officer. Distortion of the lift during tamping will not be permitted. If more than one lift is required, offset the longitudinal joint in one lift that in the lift immediately below by at least 1 foot; however, the joint in the top layer shall be at the centerline of the pavement. Offset transverse joints in one layer by at least 2 feet from transverse joints in the previous layer. Transverse joints in adjacent strips shall be offset a minimum of 10 feet. At the end of each day's construction, form a straight transverse construction joint by cutting back into the completed work to form a true vertical face free of loose or shattered material. Remove material along construction joints not properly compacted.

3.5.3 Placing Adjacent Stabilized Strips

Place the stabilized material in consecutive adjacent strips having a minimum width of 10 feet, except where edge lanes require strips less than 10 feet to complete the area. In placing adjacent strips, the screed of the paving machine shall overlap the previously placed strip 3 to 4 inches and shall be sufficiently high so that compaction will produce a smooth, dense joint. The stabilized material placed on the edge of the previously placed strip by the paver shall be pushed back to the edge of the strip being placed. Remove and waste excess stabilized material.

3.5.4 Hand Spreading

Spread by hand drainage layer material in areas where machine spreading is impractical. The material shall be spread uniformly in a loose layer to prevent segregation. The material shall conform to the

required grade and thickness after compaction.

3.6 COMPACTION REQUIREMENTS

3.6.1 Field Compaction

Base field compaction requirements on the results of the test section, using the materials, methods, and equipment proposed for use in the work.

3.6.2 Number of Passes

Accomplish compaction using rollers meeting the requirements of paragraph EQUIPMENT and operating at a rolling speed of no greater than 1.5 miles per hour. Compact each lift of drainage material, including shoulders when specified under the shoulders, with the number of passes of the roller as follows: cement stabilized OGM material use 3 passes in the vibratory state and one in the static state. The Contracting Officer will validate the number of roller passes after the test section is evaluated and before production starts. Excessive rolling resulting in crushing of aggregate particles shall be avoided. In all places not accessible to the rollers, compact the drainage layer material with mechanical hand operated tampers.

3.7 FINISHING

Finish the top surface of the drainage layer after final compaction, as determined from the test section. Make adjustments in rolling and finishing procedures to obtain grades and minimize segregation and degradation of the drainage layer material.

3.8 CURING OF CEMENT STABILIZED MATERIAL

Cure the completed cement stabilized drainage layer with water for a period of 12 hours following completion of compaction. Commence curing operations within 3 hours after compaction. Curing shall consist of one of the following: 1) Sprinkling the surface of the drainage layer with a fine spray of water every 2 hours for the required 12 hour period, 2) by continuously saturated burlap or cotton mats, or by continuously saturated plastic coated burlap, 3) Impervious sheet curing. Curing water shall be applied so that the cement paste on the surface of the mixture will not be eroded. Water trucks will not be permitted on the completed cement stabilized drainage layer. Impervious sheeting curing shall consist of all surfaces being thoroughly wetted and then completely covered with the sheeting. Sheeting shall be at least 18 inches wider than the stabilized drainage layer surface to be covered. Lay covering with light-colored side up. Lap covering not less than 12 inches; securely weight covering to prevent displacement so that it remains in contact with the surface during the specified length of curing. Coverings shall be folded down over exposed edges of slabs and secured by approved means. Sheets shall be immediately repaired or replaced if tears of holes appear during the curing period

3.9 BOND BREAKER: CHOKE STONE /BOND BREAKER FABRIC

After the cement stabilized material has cured, the choke stone shall be

prepared and placed in accordance with the P-CS-Choke Stone Interlayer specification. The entire surface of the Cement Stabilized Material shall be covered to prevent bonding of the PCC pavement to the base course.

In lieu of the Choke Stone Bond Breaker, a Bond Breaker Fabric meeting the requirements of P-314 provides an alternative to the use of Choke Stone as described in Alternate Bid No. 1.

3.10 SMOOTHNESS TEST

The surface of the top lift shall not deviate more than 3/8 inch when tested with either a 10 or 12 foot straightedge applied parallel with and at right angles to the centerline of the area to be paved. Correct deviations exceeding 3/8 inch in accordance with paragraph DEFICIENCIES.

3.11 THICKNESS CONTROL

The completed thickness of the drainage layer shall be within 1/2 inch of the thickness indicated. Measure thickness at intervals providing at least one measurement for each 500 square yards of drainage layer. Make measurements in test holes at least 3 inches in diameter unless the Contractor can demonstrate, for COR approval, that a steel rod pushed through the drainage layer clearly stops at the material interface. Where the measured thickness is more than 1/2 inch deficient, such areas shall be corrected in accordance with paragraph DEFICIENCIES. Where the measured thickness is 1/2 inch more than indicated, it will be considered as conforming to the requirements plus 1/2 inch, provided the surface of the drainage layer is within 1/2 inch of established grade. The average job thickness shall be the average of all job measurements as specified above but within 1/4 inch of the thickness shown on the drawings.

3.12 FIELD PERMEABILITY

One field permeability test shall be conducted by the Engineer as part of the test section. The material will be tested using an in-situ air permeability device.

The in-situ air permeability device provides a rapid determination of granular base permeabilities through the use of an inert gas as a permeant. The device is composed of a control board, surface contact plate, and gas supply. The control board houses a series of flow valves and pressure monitoring devices with outputs to the surface contact plate. The surface contact plate is constructed of an aluminum ring with a soft, neoprene seal. The ring has dimensions of 5.23 c, for the outer radius and 2.52 cm for the inner radius and a height of approximately 2 inches. The ring is capped by a 2-inch thick aluminum disk with output connections that lead to the control board. The gas (nitrogen) is supplied using commercially available compressed gas bottles.

To conduct an in-situ air permeability test, the surface contact plate is placed at the location to be tested. A surcharge weight is added to the contact plate to provide a seal against surface interface flow.

Compressed gas (nitrogen) is then forced into the inner diameter of the contact ring at the prescribed flow rate. The pressure within the inner ring of the surface contact plate is recorded. The flow rate of gas is varied with the corresponding pressures being recorded. A test is completed once a series of different flow rates and pressures are determined. Flow rates are kept relatively small in order to maintain laminar flow through the granular base material. Recorded flow rates are adjusted for the thickness of granular base. The intrinsic permeability of the material is computed using a hemispherical flow equation. The intrinsic permeability of the material is then converted to a hydraulic conductivity value using the density and viscosity of water at room temperature. The hydraulic conductivity values determined for the recorded flow rates and pressures at a specified test location are averaged and reported.

Permeability shall be 1200 feet per day at a minimum. In the event the material fails the permeability test on the test section, the Engineer shall laboratory test a cored sample. The laboratory permeability test shall be in accordance with ASTM D 2434 or Corps of Engineers El 1110-2-1906 Appendix VII, Number 4. The core or cylinder shall be tested in the laboratory for permeability at the Contractor's expense.

3.13 DEFICIENCIES

3.13.1 Grade and Thickness

Correct deficiencies in grade and thickness so that both grade and thickness tolerances are met. Thin layers of material shall not be added to the top surface of the drainage layer to meet grade or increase thickness. If the elevation of the top of the drainage layer is more than 1/2 inch above the plan grade it shall be trimmed to grade and finished in accordance with paragraph FINISHING. If the elevation of the top surface of the drainage layer is 1/2 inch or more below the required grade, the surface of the drainage layer shall be scarified to a depth of at least 3 inches, new material shall be added, and the layer shall be blended and recompacted to bring it to grade. Where the measured thickness of the drainage layer is more than 1/2 inch deficient, such areas shall be corrected by excavating to the required depth and replaced with new material to obtain a compacted lift thickness of at least 3 inches. The depth of required excavation shall be controlled to keep the final surface elevation within grade requirements and to preserve layer thicknesses of materials below the drainage layer.

3.13.2 Density

Not used.

3.13.3 Smoothness

Correct deficiencies in smoothness as if they are deficiencies in grade or thickness. Maintain all tolerances for grade and thickness while correcting smoothness deficiencies.

3.14 METHOD OF MEASUREMENT

3.14.1 Cement-treated base course

The quantity of cement-treated base course will be determined by measurement of the number of square yards of Cement Treated Base actually constructed and accepted by the Engineer as complying with the plans and specifications.

3.15 BASIS OF PAYMENT

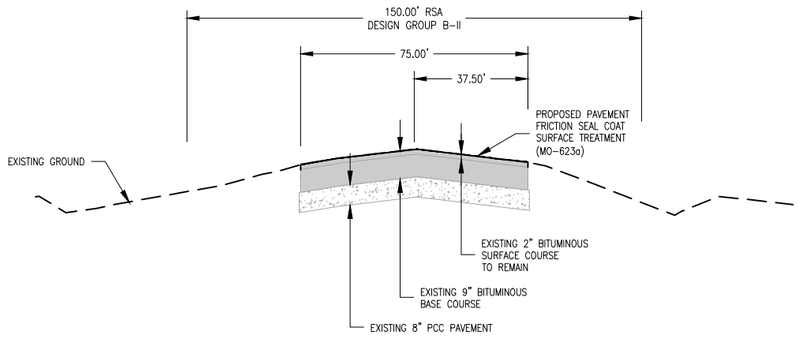
3.15.1 Cement-Treated Base Course.

Payment shall be made at the contract unit price per square yard for cement-treated base course. This price shall be full compensation for furnishing all materials, including cement; for all preparation, manipulation, placing, and curing of these materials; and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item MO-307a 6″ Cement Treated Permeable Base Course - per square yard

-- End of Section 32 11 10 --



D
C200 - C204

TYPICAL SECTION D
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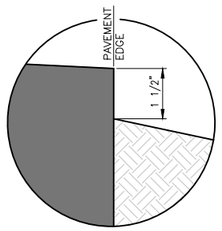
N.T.S.



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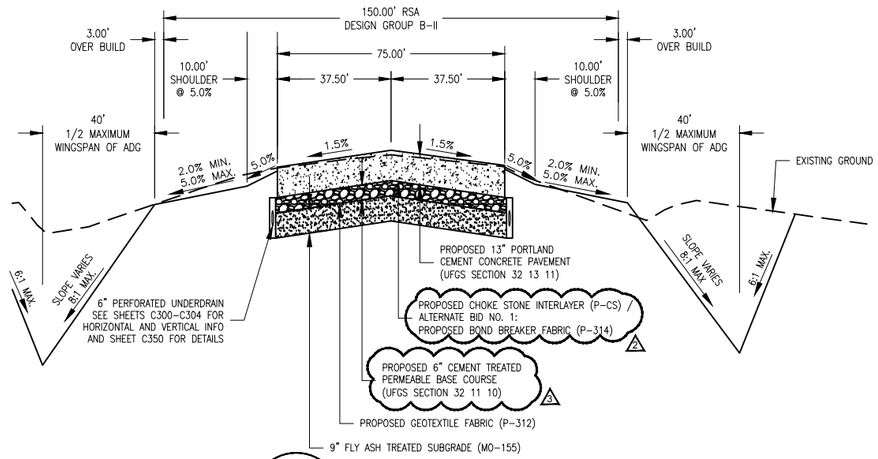
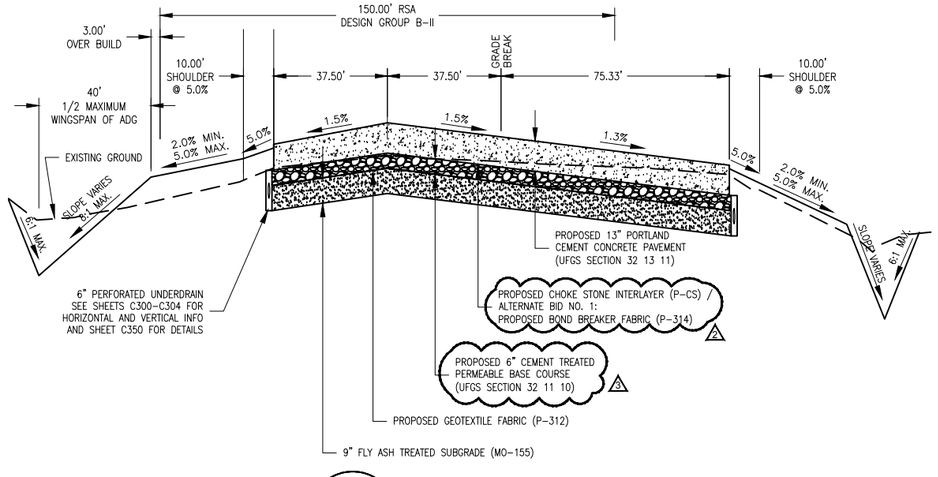
C460

TYPICAL PAVEMENT EDGE
N.T.S.



E
C200 - C204

TYPICAL SECTION E
STA 10+00 TO 12+50
(TRANSITIONING CROSS SLOPE),
STA 12+50 TO 56+00
(1.50% CROSS SLOPE)
N.T.S.



F
C200 - C204

TYPICAL SECTION F
STA 56+00 TO 57+97
N.T.S.

ISSUED FOR BID

THESE DRAWINGS ARE FOR BIDDING ONLY AND ARE NOT INTENDED FOR CONSTRUCTION, OR PERMIT PURPOSES. THEY WERE PREPARED BY OR UNDER THE SUPERVISION OF:

NAME	REG. NO.	DATE
RYAN B. LORTON	PE-2004017211	06/23/15

FOR AND ON BEHALF OF JVIATION, INC.

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Jun 23, 2015 - 10:48am
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JVIATION®

ROSECRANS MEMORIAL
AIRPORT
CITY OF ST. JOSEPH, MISSOURI

DES: D.W.C.
DR: D.W.C.
CH: C.L.G.
APP: R.B.L.

ISSUE RECORD

NO.	BY	DATE	DESCRIPTION
1	R.B.L.	06/23/15	ISSUED FOR BID
2	R.B.L.	07/28/15	ADDENDUM NO. 4
3	R.B.L.	07/30/15	ADDENDUM NO. 5

REPLACEMENT OF
ASSAULT STRIP
RUNWAY 13/31

PROPOSED TYPICAL SECTIONS

JVIATION PROJ. NO. 2013.STJ.01

DATE: 06/23/15

SHEET NAME C601

SHEET NO. 57 of 100