

# RECONSTRUCT RUNWAY 4-22

AT THE

TUSCALOOSA NATIONAL AIRPORT  
TUSCALOOSA, ALABAMA

AIP No. 3-01-0072-33-2019  
CITY of TUSCALOOSA File No. A20-0093; Engineering Proj. No. 2019.045.001  
ATKINS PROJECT No. 100066795

## ADDENDUM No. 1

May 05, 2020

The original plans and specifications issued for bids on March 29, 2020 for the above project are hereby amended by the City of Tuscaloosa and the project consultants, as noted in this Addendum Number 1. Receipt of this Addendum shall be acknowledged by inserting the Addendum number and date on Page 14, in the project manual (first page of the proposal section).

### **PROJECT MANUAL – CONTRACT DOCUMENTS and SPECIFICATIONS**

#### **MAKE THE FOLLOWING CHANGES TO THE CONTRACT DOCUMENTS AND SPECIFICATIONS BOOK:**

1. In Section 3 “PROPOSAL” of the project manual, **REPLACE** the bid form included after page 15 as pages 15-1 through 15-4 with the like-numbered pages included with this transmittal. The purpose of this change is to add two line items to the schedule of bid items:

P-101-5.1 Asphalt Pavement Removal – per square yard

And

P-152-4.1 Unclassified Excavation – per cubic yard

2. In Appendix B – Special Conditions, **REPLACE** pages SP-1 through SP-8 with the like numbered pages included with this transmittal. The changes are summarized as follows:

The new text provided for the Project Stipulations (General Notes) and Safety Plan and Requirements (Safety Notes) is updated to match the information in the plan set on pages G-103 and G-201, respectively.

3. In Appendix C – Technical Specifications, in Specification Item P-101, “Preparation/Removal of Existing Pavements”, **REPLACE** section 101-3.1 with the following text:

#### **101-3.1 Removal of existing pavement.**

The Contractor’s removal operation shall be controlled to not damage adjacent pavement structure, and base material, cables, utility ducts, pipelines, or drainage structures which are to remain under the pavement.



design. The requirement for strict conformance to the 0% to 15% passing the No. 200 sieve is therefore waived.

8. In Appendix C – Technical Specifications, in Specification Item P-207, “In-place Full Depth Reclamation (FDR) Recycled Asphalt Aggregate Base Course”, in the **CONSTRUCTION METHODS** section, **REPLACE** paragraph 207-3.4, “Grading and compaction,” with the following:

**207-3.4 Grading and compaction.** Immediately upon completion of recycling (pulverization and mixing), the material shall be shaped and graded in accordance with the project plans. The recycled asphalt aggregate base course shall be compacted within the same day to an in-place density of 98% as determined by ASTM D558. The moisture content of the material during compaction shall be within  $\pm 2\%$  of the optimum moisture content as determined by ASTM D2216. The number, type and weight of rollers shall be sufficient to compact the material to the required density. Maximum density refers to maximum dry density at optimum moisture content unless otherwise specified.

## PLANS

### **MAKE THE FOLLOWING CHANGES TO THE PLAN SET:**

1. Sheet G-104, Project Layout Plan, **REPLACE** this sheet with the like-numbered sheet included with this transmittal. This sheet is revised to provide an alternative haul route to the one originally shown.
2. Sheet G-201, Safety Notes, **REPLACE** this sheet with the like-numbered sheet included with this transmittal. This sheet is revised to eliminate two typos in notes 1 and 2, and to update the style of 2-way radio referred to in Note 6, along with changes to the notes associated with Detail 2. These changes are as follows:
  - In note 1, a stray apostrophe character typo in the word “deem” is eliminated;
  - In note 2. e., the phrase “. . . approach of departure . . .” is corrected to “. . . approach or departure . . .”;
  - In note 6, the reference to they type of 2-way radio needed for communication with the ATCT is changed to Icom IC-A16B. The previously referenced model is no longer manufactured.
  - In Detail 2, note 6 is revised to provide a more precise description of the pay items that cover the supply of barricades versus their maintenance and repositioning throughout the project.
3. Sheet G-203, Construction Safety and Phasing Plans – Phase 2, **REPLACE** this sheet with the like-numbered sheet included with this transmittal. The purpose of this change is to:
  - Revise note 2 to more clearly refer to the Phase 2A taxiway intersection area work as the combined intersections of Taxiways A, A1, C, C5, and F.
  - Add a definition of the hours during which the ‘Night Work’ to be accomplished in the intersection area of Taxiways A/A1/C/C5/F.
  - Clarify the depth of removal of surface materials in the milling and overlay areas of Taxiways A/A1/C/C5/F as 2.0”.
  - Revise note 3 to more clearly refer to the pavement reconstruction on the Runway 22 end and the milling and overlay efforts extending along Taxiway A1
  - An added indication that the temporary displaced threshold markings put into effect at the end of Phase 1 should be taken away at the end of Phase 2 work, and that the associated temporary displaced threshold lighting and relocated amber/clear edge light lenses should be returned to the original lighting configuration for the Runway 22 threshold.

- The haul route is shown, along with the flaggers necessary to coordinate with the ATCT for safe movement of truck traffic to and from the work area.
4. Sheet G-204, Construction Safety and Phasing Plans – Phase 3, **REPLACE** this sheet with the like-numbered sheet included with this transmittal. The purpose of this change is to:
    - Eliminate the previous reference to the displaced threshold marking and lighting on this sheet. The temporary threshold displacement is now intended to be removed at the end of Phase 2 work.
    - Revise note 3 to define the hours during which all of the Phase 3 ‘Night Work’ is to be accomplished.
    - Renumber the keyed notes after the removal of the note that had been previously referring to the displaced threshold lighting and marking.
    - Depict the second lighted runway closure marker that will be needed at the Runway 22 end for the full closure of the runway during the night work efforts required in Phase 3.
  5. Sheet C-301, Runway Marking Plan – Sheet 1, **REPLACE** this sheet with the like-numbered sheet included with this transmittal. The purpose of this change is to indicate the required width of the runway edge marking and the distance from the center of the runway to the outer edge of that marking.
  6. Sheet C-302, Runway Marking Plan – Sheet 2, **REPLACE** this sheet with the like-numbered sheet included with this transmittal. The purpose of this change is to indicate the required width of the runway edge marking and the distance from the center of the runway to the outer edge of that marking.
  7. Sheet C-502, Miscellaneous Paving Details, **REPLACE** this sheet with the like-numbered sheet included with this transmittal. The purpose of this change is to revise Detail 1, Runway 4-22 Pavement Section so that it addresses two shoulder scenarios.
    - This detail originally only addressed the scenario where pavement edges match closely to the existing turf shoulder elevations, and only a very narrow strip of turf adjacent to the pavement would need to be disturbed (less than 2 feet wide) suitable for exposing surface of the P-207 layer where it extends several inches beyond the surface paving limits for the FDR process. For this scenario, the 1.5 inch edge drop from the top of the outer edge of the pavement to the top of the topsoil layer is shown, and no sod is intended to be placed on these areas. Turf stabilization of these narrow areas of disturbance is intended to be accomplished with hydraulically applied seed and mulch.
    - The detail has been modified to include depiction of a second scenario, where the plan view sheets in the C-200 and C-400 series indicate the need for more extensive shoulder grading. In these areas a 10-foot wide or greater width of sod is called for. For such areas where sod is to be installed, the detail now depicts the approximate thickness of the sod layer and points out that in these areas the top of the topsoil layer should be prepared to a lower elevation so that the desired 1.5” edge drop from the pavement surface will be achieved to the surface of the sod mat.

## QUESTIONS

**A deadline has been imposed for questions in order to ensure ample time for questions to be received by the consultants; answered; and for answers to be distributed via a subsequent addendum in time for bidders to incorporate those answers into their bid documents. The end of the period for questions to be submitted in writing to [darren.duckworth@atkinsglobal.com](mailto:darren.duckworth@atkinsglobal.com) is 5:00 p.m. CDT on Monday, May 4, 2020.**

**Questions received from interested bidders thus far are noted below, with answers:**

- 1. QUESTION:** According to the geotechnical report provided as Appendix D in the project manual, most of the 14" layer (that will ultimately be the In-place Full Depth Reclamation (FDR) Recycled Asphalt Aggregate Base Course layer) consistently shows 20% or more passing the #200 sieve. The Technical Specifications state that the FDR layer must have 0-15% passing the No. 200 sieve. If that is the case, how is this to be handled? The contractor has no control over the material present throughout the FDR layer.

**RESPONSE:** Samples taken from approximately 1.50 to 1.75 feet below the existing grade do show a 20% or greater proportion passing the No. 200 sieve. This depth will be in bottom portion of the of the ultimate 14" In-place FDR Recycled Asphalt Aggregate Base Course layer that will generally be located between 0.6 and 1.75 feet below the proposed surface. These finer materials from the bottom portion of the overall FDR layer depth will be recycled together with coarser materials from the existing portions of the pavement section above to result in a reduction in the average overall proportion of fine material passing the No. 200 sieve in the completed blended layer.

Still, it is recognized that the ultimate mixture may still result in testing that reflects greater than the 15% limit shown in the FDR Gradation in Technical Specification Item P-207, paragraph 207-2.1. In recognition of the fact that the contractor has no control over the existing material, the 15% limitation has been relaxed with the addition of a third subparagraph (subparagraph 207-2.1.c) in the specification as described in the Project Manual section of this addendum, above.

- 2. QUESTION:** Based on discussions with all potential Full Depth Reclamation (FDR) subcontractors, obtaining 100% density on a 14" lift of In-place FDR Recycled Asphalt Aggregate Base Course will be very difficult without performing two lifts. There is no time allowed for a multiple lift operation. Can the thickness be reduced to 12" with a 98% density requirement?

**RESPONSE:** The thickness of the of the In-place Full Depth Reclamation (FDR) Recycled Asphalt Aggregate Base Course layer cannot be reduced, and must remain at 14 inches.

The density requirement is reduced by this addendum, replacing the text of paragraph 207-3.1 in Technical Specification Item P-207 with a stated 98% density requirement.

- 3. QUESTION:** Will the contractor be allowed to haul off site any unused stockpiled milled material after the FDR process is complete?

**RESPONSE:** No. The stockpile of material removed for from the project pavement areas needs to remain on site.

- 4. QUESTION:** Can the asphalt index allowed by ALDOT be used on this project? Liquid asphalt prices have declined by more than \$100 per ton over the last year and given the current uncertainty in the oil

market, we have no crystal ball regarding future oil prices. A \$100 swing (up or down) in the market over the next year would result in an approximate \$300,000 swing in the cost of the asphalt mixes for this job.

**RESPONSE:** No. CFR Part 200 & AIP Policy (based on Part 200) does not give flexibility to add a price adjustment component to the contract.

5. **QUESTION:** Can we receive an excel spreadsheet of the Bid Schedule to use for filling out our bid proposal?

**RESPONSE:** Yes. A spreadsheet file is transmitted with this addendum.

6. **QUESTION:** Can MC-70 be used for the Prime on this project?

**RESPONSE:** Cutback asphalt is not allowed as a prime coat. Only emulsified asphalt as described in P-603 will be allowed.

7. **QUESTION:** Detail C-502 shows 1.5” dropoff to topsoil. Should that be 1.5” dropoff to sod?

**RESPONSE:** Where the proposed shoulder elevations very closely match the existing surveyed turf shoulder elevations, no sholder grading is shown on the plans, and the the disturbed ground surface adjacent to the new pavement is expected to be very minimal—with a width between one and two feet—only as needed to prepare the outer limits of the P-207 base layer that will reach approximately 9 inches beyond the final proposed pavement edge. This is the extent of topsoil layer disturbance shown in the detail. In these areas, no sod is to be installed. Instead, the area is to be re-vegetated with hydraulically applied seed and mulch.

Where sod is to be installed on the shoulder as shown on the plans, the 1.5” dropoff shall be to the surface of the sod, and the prepared surface of topsoil shall be adjusted lower in order to accommodate the sod thickness.

The detail had originailly been drawn to apply only to the first of the two conditions described above, but it has now been modified to address both conditions.

8. **QUESTION:** On C-101 how will the removal of the radius area (keyed note number 2 in the legend) labelled “Remove full depth pavement” be paid?

**RESPONSE:** See the changes to the bid form, to technical specification Item P-101, and to keyed note number 2 on this sheet as described in the Project Manual and Plans sections of this addendum above. A separate pay item has been provided for this work.

9. **QUESTION:** On C-419, how will the grading of the “Drainage Swale 4:1 Side Slopes” be paid?

**RESPONSE:** See the changes to the bid form, and to technical specification Item P-152, Project Manual section of this addendum above. A separate pay item has been provided for this work.

10. **QUESTION:** Can you give a detailed description on Pay Item 17 Unclassified Excavation of Yielding Materials to Off-Site Disposal, Including Backfill from Project Site Sources?

**RESPONSE:** It is anticipated that during milling operations the fully loaded dump trucks traveling from the milling machine shall be directed along a route that will accomplish the 100% minimum coverage requirement for initial proof rolling as described in Technical Specification Item P-207 paragraph 207-

3.1.1. Paragraph 207-3.1.1 further indicates that soft areas deflecting under this proof rolling shall be removed and replaced with suitable material salvaged from milling operations.

The estimated quantity of 5,970 CY for Pay Item 17 is based on the assumption that up to a 5% proportion of the 117,950 square-yard area in which the P-207 asphalt aggregate base layer is to be constructed will need to be undercut and replaced to an average depth of 3 feet.

**11. QUESTION:** Regarding the allowable contract time there seems to be numerous work items in Phase 1 that were not given any extra time consideration, and depending on the answer to the FDR questions above, the contract time may need to be reevaluated.

**RESPONSE:** The sequence of construction shown on sheet G-205 represents the critical path for milling, base layer construction, curing, base and surface paving, and temporary marking. It is anticipated that the grading and airfield lighting work in the vicinity of Taxiway A5 and any other work related to the construction in the Phase 1 area can be accomplished concurrently with the critical path items.

**12. QUESTION:** Will all density requirement be waived when working over the gas easement shown on C-203?

**RESPONSE:** The Contractor will be expected to make every effort to adequately compact the P-207 base, and the P-401 base and surface paving layers, utilizing vibratory compaction equipment as needed up to the 50,000 lbs. of centrifugal force limitation. Testing will still be required for this area and adjustment of the roller pattern may be necessary to achieve the best degree of compaction possible. However, no payment will be withheld due to any tested densities in these areas that might fall below the specified requirements.

**13. QUESTION:** The Instructions to Bidders section (Section Two) of the project Manual notes on page 6, in Item 6, that the maximum amount of the bid bond shall be not less than 5% of the bid amount but in no event more than \$10,000; however, the pre-bid conference a different maximum amount was mentioned. Which is correct?

**RESPONSE:** The number mentioned in the pre-bid conference was incorrect. The guidance in the Section Two Instruction to Bidders is correct.

**END - ADDENDUM No. 1**

**Addendum No. 1 Attachments:**

Bid form	4 pages
Special Conditions	8 pages
Sheet G-104	1 drawing sheet
Sheet G-201	1 drawing sheet
Sheet G-203	1 drawing sheet
Sheet G-204	1 drawing sheet
Sheet C-301	1 drawing sheet
Sheet C-302	1 drawing sheet
Sheet C-502	1 drawing sheet

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SCHEDULE OF PRICES

ITEM No. & SPEC. SECTION	ITEM DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT PRICE	EXTENDED TOTAL
1 C-100-14.1	Contractor Quality Control Program	L.S.	1	_____	_____
2 C-102-5.1	Prepare Construction Best Management Practices Plan and NPDES Permit Application and Submit to ADEM	L.S.	1	_____	_____
3 C-102-5.2	NPDES Permit Fees	L.S.	1	_____	_____
4 C-102-5.3	Install and Maintain Ditch Wattle, and Remove upon Completion of Project	EA.	6	_____	_____
5 C-102-5.4	Install and Maintain Inlet Protection and Remove upon Completion of Project	EA.	1	_____	_____
6 C-102-5.5	Install and Maintain Silt Fence, and Remove upon Completion of Project	L.F.	1,650	_____	_____
7 C-102-5.6	Install Double Net Straw Matting	S.Y.	1,530	_____	_____
8 C-102-5.7	Temporary Seeding with Mulch	ACRE	2.50	_____	_____
9 C-105-6.1	Mobilization and Demobilization	L.S.	1	_____	_____
10 C-105-6.2	As-Built Drawings	L.S.	1	_____	_____
11 M-101-4.1	Maintenance of Traffic	L.S.	1	_____	_____
12 M-101-4.2	L-893(L) Portable Lighted Runway Closure Marker	EA.	2	_____	_____
13 M-101-4.3	Low-Profile Barricade	EA.	75	_____	_____

BID FORM

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SCHEDULE OF PRICES

<u>ITEM No. &amp; SPEC. SECTION</u>	<u>ITEM DESCRIPTION</u>	<u>UNIT</u>	<u>ESTIMATED QUANTITY</u>	<u>UNIT PRICE</u>	<u>EXTENDED TOTAL</u>
14 P-101-5.1	Asphalt Pavement Removal	S.Y.	368	_____	_____
15 P-101-5.2	Joint and Crack Repair	L.F.	14,800	_____	_____
16 P-101-5.3	Cold Milling up to 2.5-inch Max. Depth	S.Y.	12,450	_____	_____
17 P-101-5.4	Cold Milling to 7-inch Depth Below Proposed Grade	S.Y.	115,900	_____	_____
18 P-152-4.1	Unclassified Excavation	C.Y.	375	_____	_____
19 P-152-4.2	Unclassified Excavation of Yielding Materials to Off-Site Disposal, Including Backfill from Project Site Sources	C.Y.	5,970	_____	_____
20 P-152-4.3	Topsoil Stripping to On-site Stockpile	C.Y.	2,480	_____	_____
21 P-207-5.1	In-Place Full Depth Recycled (FDR) Asphalt Aggregate Base Course, 14" Depth	S.Y.	117,950	_____	_____
22 P-207-5.2	Cement	TON	3,535	_____	_____
23 P-401-8.1.1a	Asphalt Surface Course, PG 76-22, Gradation 2 Paving, 2.0" Lifts	TON	29,480	_____	_____
24 P-401-8.1.1b	Asphalt Base Course PG 67-22, Gradation 1 Paving, 3.0" Lift	TON	20,800	_____	_____
25 P-602-5.1	Emulsified Asphalt Prime Coat	GAL.	24,300	_____	_____
26 P-603-5.1	Emulsified Asphalt Tack Coat	GAL.	16,900	_____	_____
27 P-620-5.1	Airfield Markings, White, Yellow or Red, With Reflective Media	S.F.	96,050	_____	_____

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ITEM No. & SPEC. SECTION	ITEM DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT PRICE	EXTENDED TOTAL
28 P-620-5.2	Airfield Markings, Black, Without Reflective Media	S.F.	32,150	_____	_____
29 P-620-5.3	Temporary Airfield Markings, White or Yellow, Without Reflective Media	S.F.	18,450	_____	_____
30 P-621-5.1	Grooving	S.Y.	93,890	_____	_____
31 T-901-5.1	Seeding with Mulch	ACRE	2.50	_____	_____
32 T-904-5.1	Sodding	S.Y.	2,790	_____	_____
33 T-905-5.1	Topsoil, Furnished from On-Site Stockpile	C.Y.	700	_____	_____
34 L-100-5.1	Electrical Demolition	L.S.	1	_____	_____
35 L-100-5.2	Site Locating, Duct Tracing, and Pot Holing	L.S.	1	_____	_____
36 L-108-5.1	No. 8 AWG, 5 kV, L-824 Type C Cable, Installed in Duct Bank or Conduit	L.F.	2,500	_____	_____
37 L-108-5.2	No. 6 AWG, Solid, Bare Copper Counterpoise Wire, Installed in Trench, Including Connections/Terminations and Ground Rods	L.F.	1,340	_____	_____
38 L-110-5.1	Concrete Encased Electrical Duct Bank, 4-way 4-inch, 24-inch Minimum Cover	L.F.	60	_____	_____
39 L-110-5.2	Concrete Encased Electrical Duct Bank, 1-way 2-inch	L.F.	50	_____	_____
40 L-110-5.3	Non-Encased Electrical Duct Bank, 1-way 2-inch	L.F.	1,750	_____	_____

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SCHEDULE OF PRICES

ITEM No. & SPEC. SECTION	ITEM DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT PRICE	EXTENDED TOTAL
41 L-115-5.1	L-867D Junction Cans	EA.	1	_____	_____
42 L-125-5.1	L-861T Elevated Taxiway Edge Light, Salvaged and Reinstalled on New L-867 Base Can	EA.	11	_____	_____
43 L-125-5.2	L-862 Elevated Runway Edge Light, Salvaged and Reinstalled on New L-867 Base Can	EA.	2	_____	_____
44 L-125-5.3	L-861T New Elevated Taxiway Edge Light, Installed on New L-867 Base Can	EA.	5	_____	_____
45 L-125-5.4	L-858(L) LED Sign Unit, Size 2, 2 Module, Salvaged and Reinstalled	EA.	2	_____	_____
46 L-125-5.5	Size 2, 2 Module Sign Base Demolition and Installation	EA.	2	_____	_____

TOTAL:

CONTRACT COMPLETION TIME is 105 consecutive calendar days

## SPECIAL PROVISIONS

### A. PROJECT STIPULATIONS

The Contractor's attention is directed to the following stipulations which shall be strictly adhered to:

1. Schedule of work
  - a. It is the intent of the Owner and these specifications that the Tuscaloosa National Airport will remain open to air traffic during the construction work accomplished under this project.
  - b. To the extent feasible and convenient to the Owner, the use by aircraft of runways and taxiways adjacent to areas where the Contractor is working will be so scheduled to reduce disturbance to the Contractor's operations. In order to allow the airport sufficient time to coordinate with their tenants, the Contractor shall be required to give the Owner a minimum of 48 hour notice prior to beginning a new work area. All proposed work changes in work areas must have the prior approval of the Engineer. These restrictions will be discussed at the pre-construction conference with all affected parties so that a coordinated and safe construction program and schedule can be formulated.
  - c. The Contractor will be required to submit for approval a detailed schedule of work to the Engineer at the pre-construction conference, which will be scheduled approximately two weeks prior to commencement of construction. The schedule will be reviewed by all affected parties and possibly modified at this meeting as needed. The schedule should be developed to assure completion of the project in the time allotted for the project. The Contractor will be required to follow the approved schedule of work unless deviations therefrom are approved by the Engineer.
  - d. The Contractor should control his/her work force in a manner consistent with the schedule, but when events require the schedule to be modified, the Contractor will react promptly and provide a revised schedule to the Engineer for approval. When, in the opinion of the Engineer, the Contractor is deviating from the schedule, the Engineer may require the Contractor to submit a recovery schedule. The schedule should be reviewed at least weekly with the Engineer to assure that it is current.
  - e. The Owner may require the Contractor to add to their plant, equipment, or construction forces, as well as increase the working hours, if operations fall behind schedule at any time during the construction period. If the Contractor persistently refuses or fails to recover lost time, to the extent that it becomes apparent that the project will not be completed within the contract time, the Owner may take such actions to terminate the contract for default on the part of the Contractor, or to assign portions of the work to other Contractors. Any additional costs associated with this will be borne by original Contractor.

- f. The Contractor shall maintain adequate supervision for the proper execution and control of all work required. Night work will be undertaken only with the advance written permission of the Engineer.
2. Staging/storage areas:
    - a. The exact limits of the Contractor's staging and storage area shall be established by the Contractor with the approval of the Engineer within the general project area. Any and all required utilities for the Contractor's operations shall be arranged and paid for by the Contractor directly with the appropriate utility agencies. Utility arrangements shall be subject to the approval of the Engineer. The Contractor shall provide for his/her employees proper and sanitary toilet facilities. The Owner's facilities will not be available for the Contractor's use at any time.
    - b. The Contractor shall restore all grassed and paved areas used for staging and storage areas to their original condition, including the establishment of turf where required. No direct measurement or payment will be made for the construction, maintenance, restoration, or repair to staging and storage areas.
  3. Haul and access roads:
    - a. The Contractor shall be responsible for construction and maintaining haul and access roads within the limits of construction, staging area, and between construction areas; and for the dust control of these roads. The Contractor shall conduct his hauling operations between the work sites along the haul routes as shown on the plans or as directed by the Engineer.
    - b. Any additional haul or access roads requested by the Contractor for his/her operations outside the limits of construction shall be constructed by the Contractor at locations where and if approved by the Engineer at no additional compensation.
    - c. Where haul roads possibly cross utility, airfield or FAA cables the Contractor shall coordinate with the appropriate agency to have the cables located and flagged. The Contractor shall be required to protect the facilities by a method approved by the Engineer with no additional compensation. Crossing facilities with construction equipment shall be kept to an absolute minimum.
    - d. Any damage to existing pavements used as a haul or access route, whether within the construction limits or not, shall be considered the responsibility of the Contractor and he/she shall promptly repair any damaged pavement to its original condition to the satisfaction of the Engineer with no additional compensation.
    - e. The Contractor shall restore all grassed and paved areas used for haul and access roads to their original condition, including the establishment of turf where required. No direct measurement or payment will be made for the construction, maintenance, restoration, or repair to haul roads.

- f. When the Contractor needs to cross active runways and taxiways which will remain open, the Contractor shall contact the Air Traffic Control Tower (ATCT) to assure that crossing of the taxiway will not interfere with air traffic. Air traffic must be given the right-of-way, and all equipment must stop a minimum of 50 feet from the edges of taxiway while aircraft are moving across the area in question. In these areas the area where crossing will be allowed will be defined on the pavement, and the Contractor will be required to confine his/her equipment to these areas. The pavement will be cleaned by the Contractor, as required, to keep it clear of all soil, clods or other debris at all times. The Contractor shall have power vacuum brooms immediately available and readily accessible to these sites at all times.
4. AOA access and control of personnel:
  - a. The Contractor's access and haul route to the project work site shall be as shown on the plans. The project access gates into the air operations area (AOA) shall be physically locked at all times whenever the gates are not in use.
  - b. All locks, keys and access cards issued for access to security areas by airport security shall be returned to the airport immediately upon completion of the project.
  - c. The Contractor shall provide sufficient personnel to maintain visual and physical control of the Contractor's operations while working within the secured airport areas.
  - d. The Contractor shall be responsible for providing all escorts into the AOA as required by his/her work operations. Prior to beginning escorting operations, the Contractor shall obtain approval from airport operations for all proposed escorting operations and procedures.
  - e. The Contractor shall provide personnel, and their emergency phone numbers, on call 24 hours a day to respond in case of emergencies or security violations.
  - f. The Contractor shall closely abide by the above noted restrictions. Any fines or penalties assessed to the airport by the FAA or other agencies due to negligence or other fault of the Contractor shall be subsequently assessed to the Contractor. Payment of such fines or penalties shall be withheld from monies due to the Contractor as part of the project.
5. Testing - general
  - a. All testing required by the technical specifications shall be undertaken at the Contractor's expense in accordance with the Contractor's Quality Control Plan as described and required in Section 110 of the Contract's General Conditions.
  - b. A regimen of testing for quality assurance shall be undertaken by the Owner under the direction of the Engineer. Quality assurance testing under the direction of the Engineer shall be given unrestricted access to the project site and materials with the full cooperation of the

Contractor. This regimen of testing will be separate from the Contractor's Quality Control Program, and will be undertaken at the Owner's expense, except as indicated below.

- c. Items for which the Engineer has been notified by the Contractor to be ready for acceptance may be tested under the quality assurance testing regimen. Any such items which do not pass the quality assurance testing shall be remedied at the Contractor's sole expense, and the cost for the quality assurance testing of that failing item shall be borne by the Contractor.
6. Miscellaneous
- a. The project pay items are established to provide a measure of the cost of certain particular items of work and establish a quantified method of pay to the Contractor. Any and all items not specifically listed are to be considered incidental to the listed pay items and their associated cost included in the unit price for items that are bid. The Contractor is responsible for performing all work necessary to provide the complete product as specified in the plans and specifications.
  - b. All disturbed areas shall be seeded and mulched. Contract pay items cover payment for seeding and mulching of the minimum areas to be disturbed for utility trenching and grading activities. Because the Contractor's means and methods of construction will dictate the exact limits of areas where turf cover is destroyed, the cost for seeding and mulching for the restoration of such turf shall be considered incidental to the contract price for the pay items whose construction necessitated the disturbance.
  - c. The plans showing existing conditions are provided for information only. The Contractor shall be responsible for verifying all underground utilities, drainage, and structures prior to any excavations. Additional buried utilities, cabling, storm drains and drainage structures encountered by the Contractor which are not shown on the plans shall be brought to the attention of the Engineer for direction and disposition.

## **B. SAFETY PLAN AND REQUIREMENTS**

### **GENERAL**

The intent of this plan is to establish certain safety requirements that must be strictly adhered to by the Contractor during the construction of this project. Additional safety provisions that the Contractor shall abide by are contained in appendix 3 of FAA Advisory Circular 150/5370-2G, a copy of which is included following the safety plan section of the specifications. Additional copies of this AC can be obtained at the FAA web site: [www.FAA.gov](http://www.FAA.gov)

1. Aircraft operations shall always have priority over any and all of the Contractor's operations, and the Contractor shall not allow his employees, subcontractors, material men or any other persons over whom he/she has control, to enter or remain upon or allow any plant or materials to be brought or to remain upon any part of the airport which, in the opinion of the Engineer, would be a potential hazard to aircraft. Should aprons, runways, or taxiways be required for use by aircraft, and should the Engineer deem the Contractor to be too close to the portion of the pavement used by aircraft for safety, the Engineer may, in his sole discretion, order the Contractor to suspend his/her operations, remove his/her personnel, plant, equipment, and materials to a safe distance and stand by until the runway, taxiway or apron is no longer required for use by the aircraft.
2. Limits on Construction:
  - a. **Runway Safety Areas.** No work is proposed nor will be permitted within the Runway Safety Area of Runway 12-30, which will remain open and in active use during construction. Runway 4-22 will be closed for the duration of Phase 1 and Phase 3B. During Phases 2 and 3A, Runway 4-22 will be reopened with the Runway 22 threshold displaced.
  - b. **Taxiway safety areas and taxiway object free areas.** The jobsite superintendent will be responsible for removing his/her workforce from any area as directed by the Air Traffic Control Tower (ATCT). Taxiways shall remain open to traffic during construction operations. In the instance that the ATCT cannot re-route air traffic around the active construction area, the Contractor, his/her personnel, subs, materialmen, etc. will be required to stop work and vacate the area, and stay outside the associated safety area and the more restrictive object free area associated with the taxiway until the ATCT gives clearance to return to the work area.
  - c. **Travel on active airfield pavements.** At times, the work will require travel along active taxilanes or across active aprons to move personnel and material to the work areas. This shall be accomplished in close coordination with instructions from air traffic control. Contractor will be required to have an adequate number of members of his workforce trained and certified in the airport's procedures for navigating safely around the Airfield Movement Area (AMA). These personnel shall have the necessary radio communications skills to follow the procedures. The training course will be specially scheduled by the Owner prior to the beginning of the project, and provided free of charge. Contractor shall designate the

appropriate number of personnel for escorting all trucks and construction equipment that will be carrying material and any non-badged personnel to and from the work sites.

- d. Work outside the RSA's of Runways 4-22 and 12-30** may be accomplished without closures of airfield pavement areas provided that personnel and equipment remain clear of the adjacent taxiway pavement and Taxiway Object Free Areas (TOFA). No material, equipment, spoil piles, or vehicles of any kind may be stored or parked within the limits of the RSA's or TOFA's. A further provision for work adjacent to TOFA and RSA areas will be that all crews shall have a foreman, badged and trained in AMA procedures in continuous radio contact with the air traffic control tower (ATCT) and shall be prepared to pull back or relocate any personnel, equipment, or material which might inadvertently make its way into these protected areas.
- e. No work within the approach or departure zones** of active runways will be allowed unless otherwise approved by the Airport Manager.
3. The use of cranes and other elevated equipment will be closely regulated by the FAA. The Contractor shall be responsible for filing all necessary forms requesting the allowable use of elevated equipment. Work adjacent to the RSA will require equipment of sufficient height to penetrate the 7h:1v transitional surface that extends upward away from the runway at the RSA boundary. Such equipment shall be properly marked with flags and/or flashing lights in accordance FAA advisory circular 150/5370-2e.
4. The Contractor shall not begin work within any air operations area unless and until 48 hours prior notice has been given to the Engineer and the airport manager.
5. The Contractor shall not close an Air Operations Area until so authorized by the Engineer and until the necessary temporary closed markings and barricades are in place as outlined in section 70 or as directed by the Engineer.
6. When working within the Air Operations Area (whether closed or not), the Contractor shall maintain communications by 2-way radio (Icom IC-A16B or approved equal) with the air traffic control tower on ground control frequency 121.800 MHz (to be verified at the pre-construction conference). Contractor shall be responsible for furnishing and maintaining throughout construction at least one radio for each crew that may be operating independently within the project area, and shall turn over to the Owner at least two radios upon completion of the project. Each independently operating crew shall have a supervisor whose responsibility will be maintaining constant radio contact with the ATCT and the crew members. This supervisor shall not operate equipment or be otherwise engaged in construction activities that might preclude his/her ability to closely monitor ATCT communications.
7. Prior to moving across or in close proximity to an active runway, taxiway, or apron area, the Contractor must advise the control tower who will then issue the appropriate advisories to

aircraft. The Contractor shall be responsible for providing all escorts while in the AOA as required by his/her work operations. Prior to beginning escorting operations, the Contractor shall obtain approval from airport operations for all proposed escorting operations and procedures.

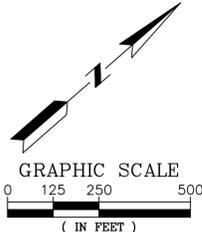
8. All construction vehicles including personal cars must be cleared for access by the airport manager and resident engineer.
9. A daily start-up and shut-down checklist will be jointly prepared by the Contractor, resident engineer, and airport manager which will be followed throughout the project. This checklist shall include, but not be limited to, 2-way radio communications, barricades, flags, haul and access routes, clean-up, etc.
10. Equipment and materials shall not be left on or within 400 feet of the active runway edges, nor shall they be left within active taxiway object free areas or active apron areas after work operations are ceased for the day.
11. NOTAMs: the airport manager will issue the necessary NOTAMs (notice to airmen) to reflect hazardous conditions and/or runway closure periods, with information supplied by the Contractor. It is imperative that NOTAMs be kept current and that they reflect the actual conditions regarding construction situations. Active NOTAMs will be reviewed periodically and revised to reflect the current conditions. A minimum 24 hour notice is required in issuing NOTAMs.
12. Inspection: frequent inspections will be made by the airport Owner's representative during critical phases of the work to ensure that the Contractor is following the recommended safety procedures.
13. The Contractor shall comply with all applicable federal, state, and local regulations in regard to noise control, erosion control, and open-air burning during construction.

#### **END OF SAFETY PLAN**

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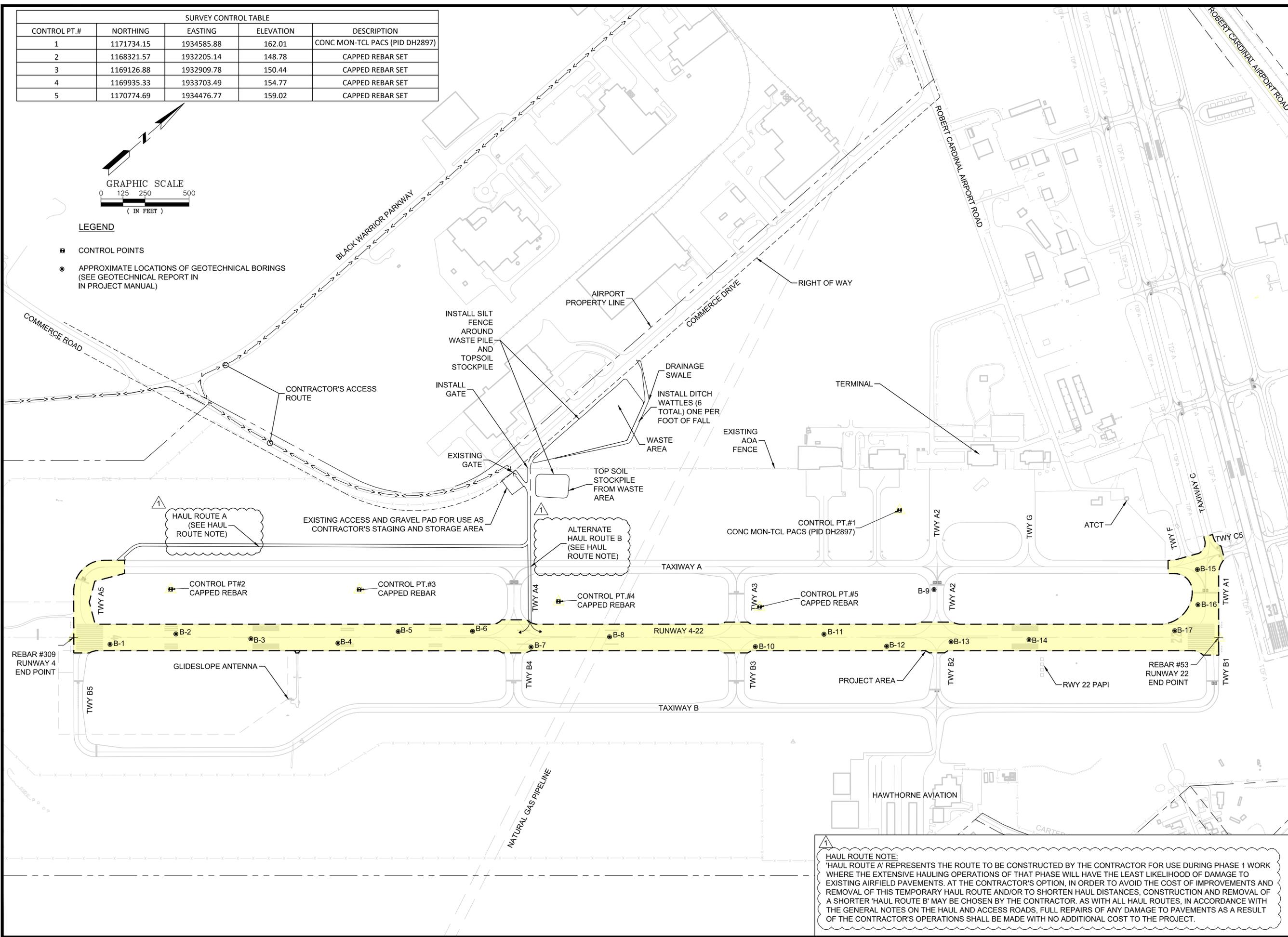
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SURVEY CONTROL TABLE				
CONTROL PT.#	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	1171734.15	1934585.88	162.01	CONC MON-TCL PACS (PID DH2897)
2	1168321.57	1932205.14	148.78	CAPPED REBAR SET
3	1169126.88	1932909.78	150.44	CAPPED REBAR SET
4	1169935.33	1933703.49	154.77	CAPPED REBAR SET
5	1170774.69	1934476.77	159.02	CAPPED REBAR SET



**LEGEND**

- CONTROL POINTS
- APPROXIMATE LOCATIONS OF GEOTECHNICAL BORINGS (SEE GEOTECHNICAL REPORT IN PROJECT MANUAL)



NO.	DATE	ISSUED FOR	DESC. OF REVISIONS
1	10/16/2019	30% DESIGN REVIEW MEETING	ALTERNATE HAUL ROUTES AND NOTE
2	12/17/2019	60% DESIGN REVIEW MEETING	
3	2/27/2020	95% DESIGN REVIEW MEETING	
4	9/29/2020	ISSUED FOR BID	
5	4/30/2020	ISSUED FOR ADDENDUM NO.1	

ISSUED FOR BID  
NOT FOR CONSTRUCTION

**TUSCALOOSA**  
City of  
INFRASTRUCTURE & PUBLIC SERVICES

**TUSCALOOSA NATIONAL AIRPORT**  
**RECONSTRUCT RUNWAY 4-22**  
**PROJECT LAYOUT PLAN**

**ATKINS**  
Member of the SNC-Lavalin Group

**SNC-LAVALIN**

CORPORATE OFFICE: 400 W. BOY SCOUT BLVD. TAMPA, FL 33607  
FBRP CERTIFICATE OF AUTHORIZATION NO.24  
WWW.ATKINSGLOBAL.COM

LOCAL OFFICE: 404 BNA DRIVE, STE 600 NASHVILLE, TN 37217  
TEL: 615.399.0298  
FAX: 615.399.0283

JOB NO.: 100066795

DESIGNED: CDD CHECKED: DWS  
DRAWN: JSH APPROVED: CDD  
SHEET NO. **G-104**

**HAUL ROUTE NOTE:**  
'HAUL ROUTE A' REPRESENTS THE ROUTE TO BE CONSTRUCTED BY THE CONTRACTOR FOR USE DURING PHASE 1 WORK WHERE THE EXTENSIVE HAULING OPERATIONS OF THAT PHASE WILL HAVE THE LEAST LIKELIHOOD OF DAMAGE TO EXISTING AIRFIELD PAVEMENTS. AT THE CONTRACTOR'S OPTION, IN ORDER TO AVOID THE COST OF IMPROVEMENTS AND REMOVAL OF THIS TEMPORARY HAUL ROUTE AND/OR TO SHORTEN HAUL DISTANCES, CONSTRUCTION AND REMOVAL OF A SHORTER 'HAUL ROUTE B' MAY BE CHOSEN BY THE CONTRACTOR. AS WITH ALL HAUL ROUTES, IN ACCORDANCE WITH THE GENERAL NOTES ON THE HAUL AND ACCESS ROADS, FULL REPAIRS OF ANY DAMAGE TO PAVEMENTS AS A RESULT OF THE CONTRACTOR'S OPERATIONS SHALL BE MADE WITH NO ADDITIONAL COST TO THE PROJECT.

PLOT DATE: 4/30/2020 12:48 PM  
FILE NAME: S:\C:\11\00066795 Runway 4-22 Rehab Design\DWG-104 Proj Layout Plan.dwg

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**SAFETY NOTES**

**SAFETY PLAN AND REQUIREMENTS**

**GENERAL**

THE INTENT OF THIS PLAN IS TO ESTABLISH CERTAIN SAFETY REQUIREMENTS THAT MUST BE STRICTLY ADHERED TO BY THE CONTRACTOR DURING THE CONSTRUCTION OF THIS PROJECT. ADDITIONAL SAFETY PROVISIONS THAT THE CONTRACTOR SHALL ABIDE BY ARE CONTAINED IN APPENDIX 3 OF FAA ADVISORY CIRCULAR 150/5370-2G, A COPY OF WHICH IS INCLUDED FOLLOWING THE SAFETY PLAN SECTION OF THE SPECIFICATIONS. ADDITIONAL COPIES OF THIS AC CAN BE OBTAINED AT THE FAA WEB SITE: WWW.FAA.GOV

1. AIRCRAFT OPERATIONS SHALL ALWAYS HAVE PRIORITY OVER ANY AND ALL OF THE CONTRACTOR'S OPERATIONS, AND THE CONTRACTOR SHALL NOT ALLOW HIS EMPLOYEES, SUBCONTRACTORS, MATERIAL, MEN OR ANY OTHER PERSONS OVER WHOM HE/SHE HAS CONTROL, TO ENTER OR REMAIN UPON OR ALLOW ANY PLANT OR MATERIALS TO BE BROUGHT OR TO REMAIN UPON ANY PART OF THE AIRPORT WHICH, IN THE OPINION OF THE ENGINEER, WOULD BE A POTENTIAL HAZARD TO AIRCRAFT. SHOULD APRONS, RUNWAYS, OR TAXIWAYS BE REQUIRED FOR USE BY AIRCRAFT, AND SHOULD THE ENGINEER DEEM THE CONTRACTOR TO BE TOO CLOSE TO THE PORTION OF THE PAVEMENT USED BY AIRCRAFT FOR SAFETY, THE ENGINEER MAY, IN HIS SOLE DISCRETION, ORDER THE CONTRACTOR TO SUSPEND HIS/HER OPERATIONS, REMOVE HIS/HER PERSONNEL, PLANT, EQUIPMENT, AND MATERIALS TO A SAFE DISTANCE AND STAND BY UNTIL THE RUNWAY, TAXIWAY OR APRON IS NO LONGER REQUIRED FOR USE BY THE AIRCRAFT.

**LIMITS ON CONSTRUCTION:**

a. **RUNWAY SAFETY AREAS.** NO WORK IS PROPOSED NOR WILL BE PERMITTED WITHIN THE RUNWAY SAFETY AREA OF RUNWAY 12-30, WHICH WILL REMAIN OPEN AND IN ACTIVE USE DURING CONSTRUCTION. RUNWAY 4-22 WILL BE CLOSED FOR THE DURATION OF PHASE 1 AND PHASE 3B. DURING PHASES 2 AND 3A RUNWAY 4-22 WILL BE REOPENED WITH THE RUNWAY 22 THRESHOLD DISPLACED.

b. **TAXIWAY SAFETY AREA.** THE JOBSITE SUPERINTENDENT WILL BE RESPONSIBLE FOR REMOVING HIS/HER WORKFORCE FROM ANY AREA AS DIRECTED BY THE AIR TRAFFIC CONTROL TOWER (ATCT). TAXIWAYS NOT SPECIFICALLY NOTED FOR CLOSURE IN THE PHASING PLANS SHALL REMAIN OPEN TO TRAFFIC DURING CONSTRUCTION OPERATIONS. IN THE INSTANCE THAT THE ATCT CANNOT RE-ROUTE AIR TRAFFIC AROUND THE ACTIVE CONSTRUCTION AREA, THE CONTRACTOR, HIS/HER PERSONNEL, SUBS MATERIALMEN, ETC. WILL BE REQUIRED TO STOP WORK AND VACATE THE AREA, AND STAY OUTSIDE THE ASSOCIATED SAFETY AREA UNTIL THE ATCT GIVES CLEARANCE TO RETURN TO THE WORK AREA.

c. **TRAVEL ON ACTIVE AIRFIELD PAVEMENTS.** AT TIMES, THE WORK WILL REQUIRE TRAVEL ON OR ACROSS ACTIVE AIRFIELD PAVEMENTS TO MOVE PERSONNEL AND MATERIAL TO THE WORK AREAS. THIS SHALL BE ACCOMPLISHED IN CLOSE COORDINATION WITH INSTRUCTIONS FROM AIR TRAFFIC CONTROL. CONTRACTOR WILL BE REQUIRED TO HAVE AN ADEQUATE NUMBER OF MEMBERS OF HIS WORKFORCE TRAINED AND CERTIFIED IN THE AIRPORT'S PROCEDURES FOR NAVIGATING SAFELY AROUND THE AIRFIELD MOVEMENT AREA (AMA). THESE PERSONNEL SHALL HAVE THE NECESSARY RADIO COMMUNICATIONS SKILLS TO FOLLOW THE PROCEDURES. THE TRAINING COURSE WILL BE SPECIALLY SCHEDULED BY THE OWNER PRIOR TO THE BEGINNING OF THE PROJECT, AND PROVIDED FREE OF CHARGE. CONTRACTOR SHALL DESIGNATE THE APPROPRIATE NUMBER OF PERSONNEL FOR ESCORTING ALL TRUCKS AND CONSTRUCTION EQUIPMENT THAT WILL BE CARRYING MATERIAL AND ANY NON-BADGED PERSONNEL TO AND FROM THE WORK SITES.

d. **WORK OUTSIDE THE RSAs OF RUNWAYS 4-22 AND 12-30** MAY BE ACCOMPLISHED WITHOUT CLOSURES OF AIRFIELD PAVEMENT AREAS PROVIDED THAT PERSONNEL AND EQUIPMENT REMAIN CLEAR OF THE ADJACENT TAXIWAY PAVEMENT AND TAXIWAY OBJECT FREE AREAS (TOFA). NO MATERIAL, EQUIPMENT, SPOIL PILES, OR VEHICLES OF ANY KIND MAY BE STORED OR PARKED WITHIN THE LIMITS OF THE RSA'S OR TOFA'S. A FURTHER PROVISION FOR WORK ADJACENT TO TOFA AND RSA AREAS WILL BE THAT ALL CREWS SHALL HAVE A FOREMAN, BADGED AND TRAINED IN AMA PROCEDURES IN CONTINUOUS RADIO CONTACT WITH THE AIR TRAFFIC CONTROL TOWER (ATCT) AND SHALL BE PREPARED TO PULL BACK OR RELOCATE ANY PERSONNEL, EQUIPMENT, OR MATERIAL WHICH MIGHT INADVERTENTLY MAKE ITS WAY INTO THESE PROTECTED AREAS.

e. **NO WORK WITHIN THE APPROACH OR DEPARTURE ZONES** OF ACTIVE RUNWAYS WILL BE ALLOWED UNLESS OTHERWISE APPROVED BY THE AIRPORT MANAGER.

3. THE USE OF CRANES AND OTHER ELEVATED EQUIPMENT WILL BE CLOSELY REGULATED BY THE FAA. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FILING ALL NECESSARY FORMS REQUESTING THE ALLOWABLE USE OF ELEVATED EQUIPMENT. WORK ADJACENT TO THE RSA WILL REQUIRE EQUIPMENT OF SUFFICIENT HEIGHT TO PENETRATE THE 7H:1V TRANSITIONAL SURFACE THAT EXTENDS UPWARD AWAY FROM THE RUNWAY AT THE RSA BOUNDARY. SUCH EQUIPMENT SHALL BE PROPERLY MARKED WITH FLAGS AND/OR FLASHING LIGHTS IN ACCORDANCE FAA ADVISORY CIRCULAR 150/5370-2G.

4. THE CONTRACTOR SHALL NOT BEGIN WORK WITHIN ANY AIR OPERATIONS AREA UNLESS AND UNTIL 48 HOURS PRIOR NOTICE HAS BEEN GIVEN TO THE ENGINEER AND THE AIRPORT MANAGER.

5. THE CONTRACTOR SHALL NOT CLOSE AN AIR OPERATIONS AREA UNTIL SO AUTHORIZED BY THE ENGINEER AND UNTIL THE NECESSARY TEMPORARY CLOSED MARKINGS AND BARRICADES ARE IN PLACE AS OUTLINED IN GENERAL PROVISIONS SECTION 70-07 OR AS DIRECTED BY THE ENGINEER.

6. WHEN WORKING WITHIN THE AIR OPERATIONS AREA (WHETHER CLOSED OR NOT), THE CONTRACTOR SHALL MAINTAIN COMMUNICATIONS BY 2-WAY RADIO (ICOM IC-A16B OR APPROVED EQUAL) WITH THE AIR TRAFFIC CONTROL TOWER ON GROUND CONTROL FREQUENCY 121.800 MHZ (TO BE VERIFIED AT THE PRE-CONSTRUCTION CONFERENCE).

CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING AND MAINTAINING THROUGHOUT CONSTRUCTION AT LEAST ONE RADIO FOR EACH CREW THAT MAY BE OPERATING INDEPENDENTLY WITHIN THE PROJECT AREA, AND SHALL TURN OVER TO THE OWNER AT LEAST TWO RADIOS UPON COMPLETION OF THE PROJECT. EACH INDEPENDENTLY OPERATING CREW SHALL HAVE A SUPERVISOR WHOSE RESPONSIBILITY WILL BE MAINTAINING CONSTANT RADIO CONTACT WITH THE ATCT AND THE CREW MEMBERS. THIS SUPERVISOR SHALL NOT OPERATE EQUIPMENT OR BE OTHERWISE ENGAGED IN CONSTRUCTION ACTIVITIES THAT MIGHT PRECLUDE HIS/HER ABILITY TO CLOSELY MONITOR ATCT COMMUNICATIONS.

7. PRIOR TO MOVING ACROSS OR IN CLOSE PROXIMITY TO AN ACTIVE RUNWAY, TAXIWAY, OR APRON AREA, THE CONTRACTOR MUST ADVISE THE CONTROL TOWER WHO WILL THEN ISSUE THE APPROPRIATE ADVISORIES TO AIRCRAFT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL ESCORTS WHILE IN THE AOA AS REQUIRED BY HIS/HER WORK OPERATIONS. PRIOR TO BEGINNING ESCORTING OPERATIONS, THE CONTRACTOR SHALL OBTAIN APPROVAL FROM AIRPORT OPERATIONS FOR ALL PROPOSED ESCORTING OPERATIONS AND PROCEDURES.

8. ALL CONSTRUCTION VEHICLES INCLUDING PERSONAL CARS MUST BE CLEARED FOR ACCESS BY THE AIRPORT MANAGER AND RESIDENT ENGINEER.

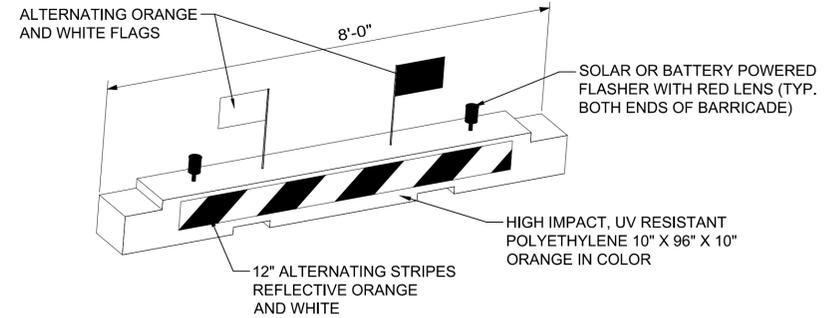
9. A DAILY START-UP AND SHUT-DOWN CHECKLIST WILL BE JOINTLY PREPARED BY THE CONTRACTOR, RESIDENT ENGINEER, AND AIRPORT MANAGER WHICH WILL BE FOLLOWED THROUGHOUT THE PROJECT. THIS CHECKLIST SHALL INCLUDE, BUT NOT BE LIMITED TO, 2-WAY RADIO COMMUNICATIONS, BARRICADES, FLAGS, HAUL AND ACCESS ROUTES, CLEAN-UP, ETC.

10. EQUIPMENT AND MATERIALS SHALL NOT BE LEFT ON OR WITHIN 400 FEET OF THE ACTIVE RUNWAY EDGES NOR SHALL THEY BE LEFT WITHIN ACTIVE TAXIWAY OBJECT FREE AREA OR ACTIVE APRON AREAS AFTER WORK OPERATIONS ARE CEASED FOR THE DAY.

11. NOTAMS: THE AIRPORT MANAGER WILL ISSUE THE NECESSARY NOTAMS (NOTICE TO AIRMEN) TO REFLECT HAZARDOUS CONDITIONS AND/OR RUNWAY CLOSURE PERIODS, WITH INFORMATION SUPPLIED BY THE CONTRACTOR. IT IS IMPERATIVE THAT NOTAMS BE KEPT CURRENT AND THAT THEY REFLECT THE ACTUAL CONDITIONS REGARDING CONSTRUCTION SITUATIONS. ACTIVE NOTAMS WILL BE REVIEWED PERIODICALLY AND REVISED TO REFLECT THE CURRENT CONDITIONS. A MINIMUM 24 HOUR NOTICE IS REQUIRED IN ISSUING NOTAMS.

12. INSPECTION: FREQUENT INSPECTIONS WILL BE MADE BY THE AIRPORT OWNER'S REPRESENTATIVE DURING CRITICAL PHASES OF THE WORK TO INSURE THAT THE CONTRACTOR IS FOLLOWING THE RECOMMENDED SAFETY PROCEDURES.

13. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS IN REGARD TO NOISE CONTROL, EROSION CONTROL, AND OPEN-AIR BURNING DURING CONSTRUCTION.

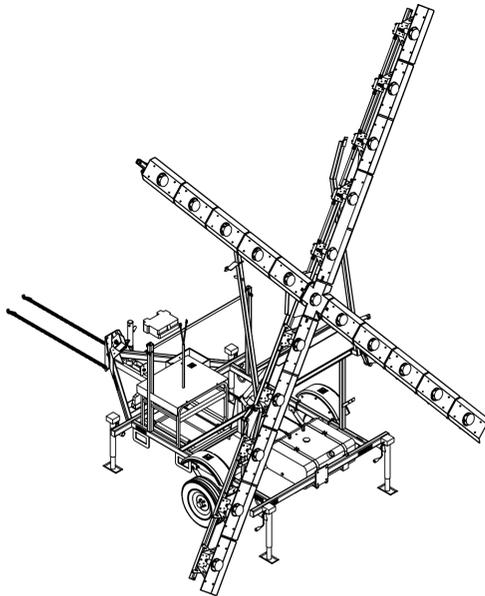


**2 LOW LEVEL BARRICADE**  
SCALE: N.T.S.

**NOTES:**

- 1. INTENDED USE FOR THE FOLLOWING:  
-MARKING/LIGHTING OF TEMPORARY HAZARDS WITHIN THE AOA.  
-LONGTERM CLOSURE OF AIRCRAFT ROUTES.
- 2. INSTALL AT 12' C/C SPACING ALONG FULL WIDTH OF PAVEMENT.
- 3. USE TYPE 2 AIRCRAFT BARRICADES IN AREA SUBJECT TO JET BLAST.
- 4. BARRICADE SHALL BE EQUIPPED WITH ALTERNATING ORANGE AND WHITE 20"X20" FLAGS.
- 5. BARRICADES SHALL BE WATER-FILLED.

6. THE COST FOR SUPPLYING THE NUMBER OF BARRICADES NECESSARY TO COMPLETE THE PROJECT SHALL BE COVERED BY THE CONTRACT UNIT PRICE FOR EACH LOW PROFILE BARRICADE. THE COST FOR REPOSITIONING THE BARRICADES AS NECESSARY FOR VARIOUS WORK PHASES, AND FOR MAINTAINING THE BARRICADES IN LIKE-NEW CONDITION AND TURNING OVER THE BARRICADES TO THE OWNER UPON COMPLETION OF CONSTRUCTION SHALL BE COVERED BY THE CONTRACT PRICE FOR "MAINTENANCE OF TRAFFIC".



**2 TEMPORARY LIGHTED RUNWAY CLOSURE MARKER**  
SCALE: N.T.S.

**TEMPORARY LIGHTED RUNWAY CLOSURE MARKER NOTES:**

- 1. THE LIGHTED RUNWAY CLOSURE MARKERS WILL BE PROCURED BY THE CONTRACTOR.
- 2. LIGHTED RUNWAY CLOSURE MARKERS SHALL MEET ALL REQUIREMENTS OF FAA AC 150/5345-55, LIGHTED VISUAL AID TO INDICATE TEMPORARY RUNWAY CLOSURE.
- 3. THE CONTRACTOR SHALL MAINTAIN LIGHTED RUNWAY CLOSURE MARKERS IN GOOD OPERATIONAL CONDITION THROUGHOUT THE PROJECT. ANY DAMAGE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- 4. CONTRACTOR SHALL PLACE A TEMPORARY LIGHTED RUNWAY CLOSURE MARKER AT EACH END OF RUNWAY 4-22 PRIOR TO CLOSING THE RUNWAY FOR CONSTRUCTION. CONTRACTOR SHALL REMOVE THE MARKERS AFTER COMPLETION OF CONSTRUCTION AND WHEN THE RUNWAY IS REOPENED TO TRAFFIC OR AS DIRECTED BY THE OWNER'S DESIGNATED REPRESENTATIVE.
- 5. THE CONTRACTOR SHALL DELIVER LIGHTED RUNWAY CLOSURE MARKERS TO THE AIRPORT AT THE COMPLETION OF THE PROJECT IN GOOD WORKING ORDER.

PLOT DATE: 5/1/2020 4:25 PM  
FILE NAME: S:\P\11\100066795 Runway 4-22 Rehab Design\DWG-G-201 Safety Notes.dwg

Table with columns: NO., DATE, ISSUED FOR, REV. BY, NO. OF REVISIONS. Includes rows for design review meetings and addendum issuance.



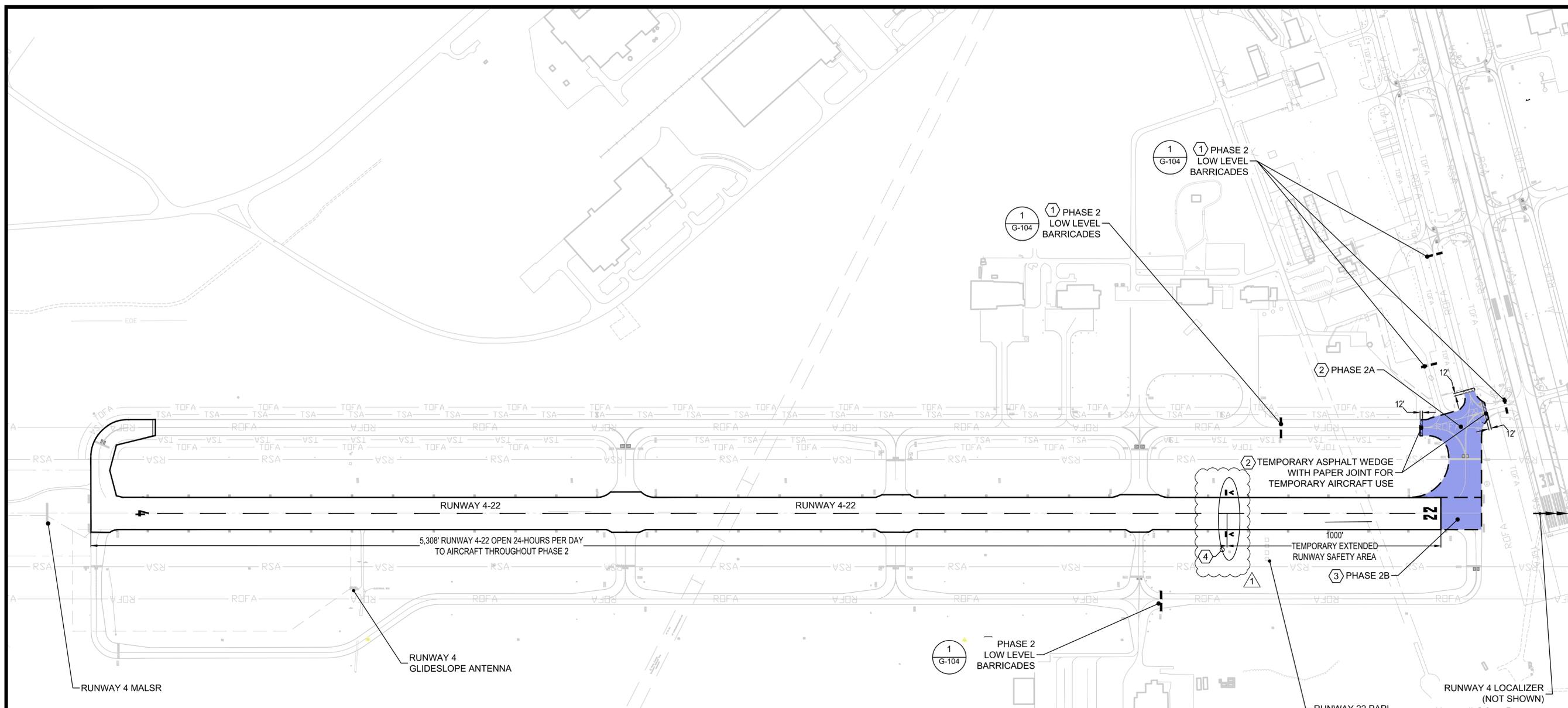
ISSUED FOR BID NOT FOR CONSTRUCTION

City of TUSCALOOSA logo and text: INFRASTRUCTURE & PUBLIC SERVICES

CLIENT: TUSCALOOSA NATIONAL AIRPORT  
PROJECT: RECONSTRUCT RUNWAY 4-22  
SHEET TITLE: SAFETY NOTES

Logos for SNC-Lavalin and Atkins. Includes corporate and local office addresses in Tampa, FL and Nashville, TN. Also includes job number 100066795 and a revision table.

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- KEY WORK ITEMS (PHASE 2)** (APPROX. 25 CALENDAR DAYS)
- INSTALL BARRICADES AND LIGHTED RUNWAY CLOSURE MARKERS; COORDINATE WITH FAA FOR CONTINUED DEACTIVATION OF:
    - RUNWAY 4 MALSR
    - RUNWAY 4 LOCALIZER
    - RUNWAY 4 GLIDESLOPE ANTENNA
    - RUNWAY 4 22 PAPI
  - PAVEMENT REHABILITATION TAXIWAY A/A1/C/C5/F INTERSECTION - NIGHT WORK (PHASE 2A)
    - THE PERIOD FOR ACCOMPLISHING WORK ITEMS DESIGNATED AS "NIGHT WORK" SHALL BE 8:00 P.M. TO 6:00 A.M.
    - REMOVE 2.0" ASPHALT SURFACE MATERIALS (1 CALENDAR DAY)
    - INSTALL TEMPORARY ASPHALT WEDGES WITH PAPER JOINT FOR TEMPORARY AIRCRAFT USE AFTER SURFACE MILLING
    - LAYOUT AND INSTALL NEW P-401 ASPHALT SURFACE COURSE, REMOVING TEMPORARY ASPHALT WEDGES WITH PAPER JOINT BEFORE PLACING SURFACE LIFT (2.0" TOTAL - 1 LIFTS) (2 CALENDAR DAY)
    - INSTALL TEMPORARY MARKINGS ON TAXIWAY A5 (1 CALENDAR DAY)
  - PAVEMENT RECONSTRUCTION RUNWAY 22 END AND PAVEMENT MILLING/OVERLAY ALONG TAXIWAY A1 (PHASE 2B)
    - REMOVE 7" ASPHALT SURFACE MATERIALS (1 CALENDAR DAYS)
    - USE FDR PROCESS TO CREATE 14" P-207 RECYCLED AGGREGATE BASE (9 CALENDAR DAYS)
    - INSTALL NEW P-401 ASPHALT BASE COURSE (3") (2 CALENDAR DAYS)
    - INSTALL NEW P-401 ASPHALT SURFACE COURSE (4" 2-LIFTS) (3 CALENDAR DAYS)
    - INSTALL TEMPORARY MARKINGS (2 CALENDAR DAYS)
  - REMOVE TEMPORARY DISPLACED THRESHOLD LIGHTING AND TEMPORARY OUTBOARD DISPLACED THRESHOLD MARKERS. REPLACE AMBER/CLEAR RUNWAY EDGE LIGHT LENSES TO ORIGINAL POSITION. [NIGHT WORK]

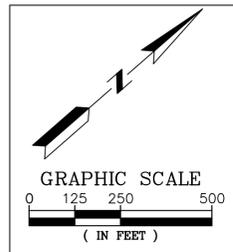
NO.	ISSUED FOR	DATE	NO. BY	DATE	DESC. OF REVISIONS
5	CDD	4/13/2020			ISSUED FOR ADDENDUM NO.1
4	CDD	9/29/2020			ISSUED FOR BID
3	CDD	2/27/2020			95% DESIGN REVIEW MEETING
2	CDD	12/17/2019			60% DESIGN REVIEW MEETING
1	CDD	10/16/2019			30% DESIGN REVIEW MEETING
1	CDD	4/13/2020			REMOVAL OF DISP. THRESHOLD FROM PHASE 3 TO PHASE 2

ISSUED FOR BID  
NOT FOR CONSTRUCTION

**City of TUSCALOOSA**  
INFRASTRUCTURE & PUBLIC SERVICES

**TUSCALOOSA NATIONAL AIRPORT**  
PROJECT:  
**RECONSTRUCT RUNWAY 4-22**  
SHEET TITLE:  
**CONSTRUCTION SAFETY & PHASING PLANS - PHASE 2**

CLIENT: **SNC-LAVALIN** **ATKINS**  
CORPORATE OFFICE: 400 W. BOY SCOUTS BLVD. TAMPA, FL 33607  
LOCAL OFFICE: 404 BNA DRIVE, STE 600 NASHVILLE, TN 37217  
FBRP CERTIFICATE OF AUTHORIZATION NO.24  
JOB NO.: 100066795  
DESIGNED: CDD CHECKED: DWS  
DRAWN: JSH APPROVED: CDD  
SHEET NO. **G-203**



PLOT DATE: 4/13/2020 4:45 PM  
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**LEGEND:**

- ③ ——— ③ BARRICADES PHASE 3, TO BE STAKED TO PAVEMENT TO PREVENT MOVEMENT DUE TO JET BLAST
- ③A ——— ③A BARRICADES FOR PHASE 3A (ONLY)
- ③B ——— ③B BARRICADES FOR PHASE 3B (ONLY)
- TOFA TEMPORARY TAXIWAY A5 TOFA
- → → → → ACTIVE TAXI ROUTE

⑧ PHASE 3 TAXIWAY MARKINGS

⑦ ⑧ PHASE 3 RUNWAY MARKINGS AND GROOVING

AREA 3A

③ ⑥ ⑨ PHASE 3 LOW LEVEL BARRICADES

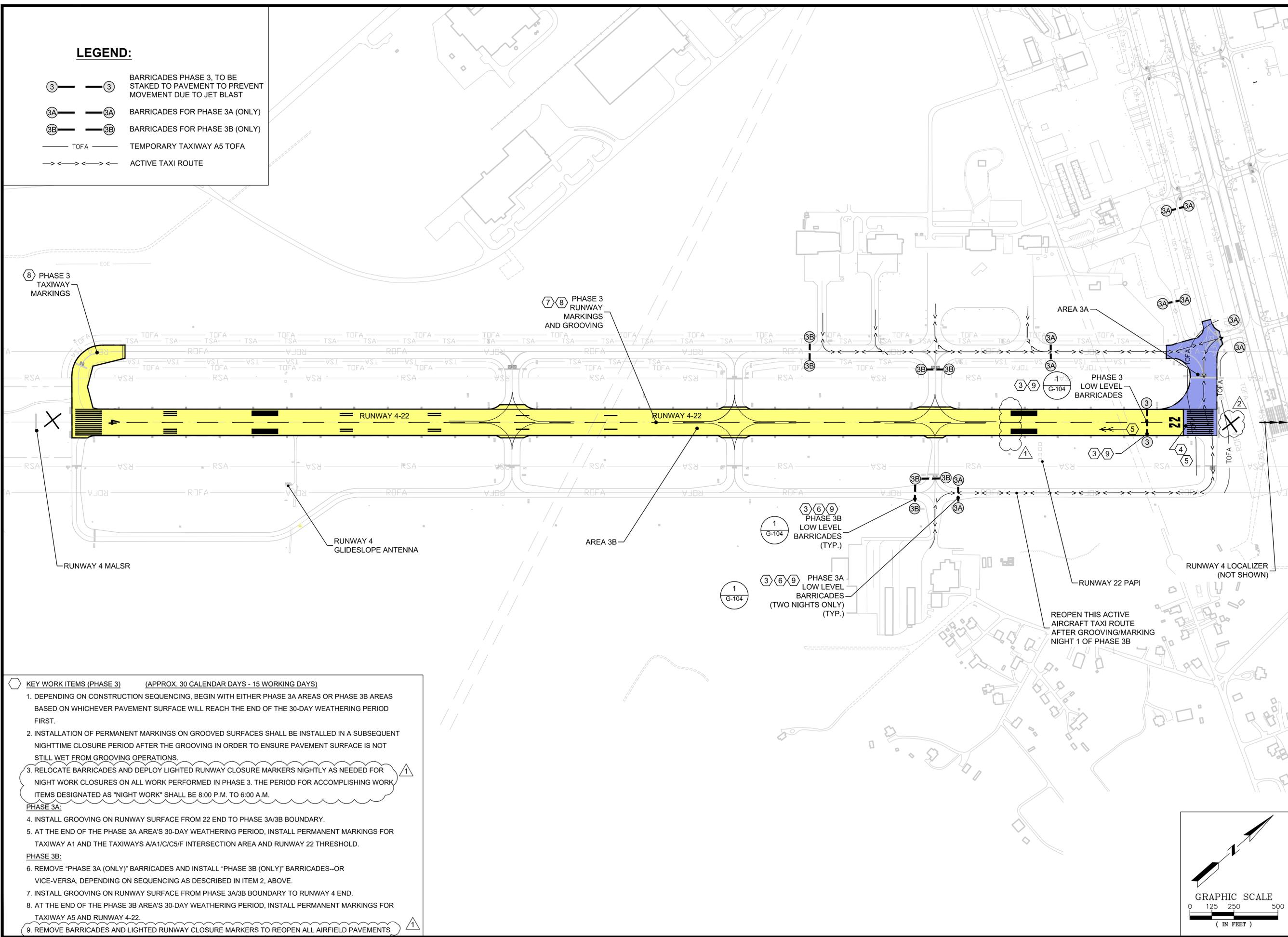
③ ⑥ ⑨ PHASE 3B LOW LEVEL BARRICADES (TYP.)

③ ⑥ ⑨ PHASE 3A LOW LEVEL BARRICADES (TWO NIGHTS ONLY) (TYP.)

REOPEN THIS ACTIVE AIRCRAFT TAXI ROUTE AFTER GROOVING/MARKING NIGHT 1 OF PHASE 3B

- ① KEY WORK ITEMS (PHASE 3) (APPROX. 30 CALENDAR DAYS - 15 WORKING DAYS)
1. DEPENDING ON CONSTRUCTION SEQUENCING, BEGIN WITH EITHER PHASE 3A AREAS OR PHASE 3B AREAS BASED ON WHICHEVER PAVEMENT SURFACE WILL REACH THE END OF THE 30-DAY WEATHERING PERIOD FIRST.
  2. INSTALLATION OF PERMANENT MARKINGS ON GROOVED SURFACES SHALL BE INSTALLED IN A SUBSEQUENT NIGHTTIME CLOSURE PERIOD AFTER THE GROOVING IN ORDER TO ENSURE PAVEMENT SURFACE IS NOT STILL WET FROM GROOVING OPERATIONS.
  3. RELOCATE BARRICADES AND DEPLOY LIGHTED RUNWAY CLOSURE MARKERS NIGHTLY AS NEEDED FOR NIGHT WORK CLOSURES ON ALL WORK PERFORMED IN PHASE 3. THE PERIOD FOR ACCOMPLISHING WORK ITEMS DESIGNATED AS "NIGHT WORK" SHALL BE 8:00 P.M. TO 6:00 A.M.
- PHASE 3A:
4. INSTALL GROOVING ON RUNWAY SURFACE FROM 22 END TO PHASE 3A/3B BOUNDARY.
  5. AT THE END OF THE PHASE 3A AREA'S 30-DAY WEATHERING PERIOD, INSTALL PERMANENT MARKINGS FOR TAXIWAY A1 AND THE TAXIWAYS A/A1/C/C5/F INTERSECTION AREA AND RUNWAY 22 THRESHOLD.
- PHASE 3B:
6. REMOVE "PHASE 3A (ONLY)" BARRICADES AND INSTALL "PHASE 3B (ONLY)" BARRICADES--OR VICE-VERSA, DEPENDING ON SEQUENCING AS DESCRIBED IN ITEM 2, ABOVE.
  7. INSTALL GROOVING ON RUNWAY SURFACE FROM PHASE 3A/3B BOUNDARY TO RUNWAY 4 END.
  8. AT THE END OF THE PHASE 3B AREA'S 30-DAY WEATHERING PERIOD, INSTALL PERMANENT MARKINGS FOR TAXIWAY A5 AND RUNWAY 4-22.
  9. REMOVE BARRICADES AND LIGHTED RUNWAY CLOSURE MARKERS TO REOPEN ALL AIRFIELD PAVEMENTS

PLOT DATE: 5/1/2020 4:28 PM FILE NAME: S:\1\1\10066795 runway 4-22 rehab design\DWG\C-20X Civil Phasing & Safety Plans.dwg



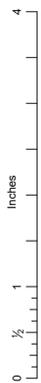
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5	CDD 4/30/2020	ISSUED FOR ADDENDUM NO.1	1	CDD 10/16/2019	30% DESIGN REVIEW MEETING
4	CDD 9/29/2020	ISSUED FOR BID	2	CDD 12/17/2019	60% DESIGN REVIEW MEETING
3	CDD 2/27/2020	95% DESIGN REVIEW MEETING	3	CDD 4/30/2020	ADDED RUNWAY CLOSURE 'X' REMOVAL OF DISH THRESHOLD FROM PHASE 3 TO PHASE 2
2	CDD 12/17/2019	60% DESIGN REVIEW MEETING	4	CDD 4/30/2020	REVISION
1	CDD 10/16/2019	30% DESIGN REVIEW MEETING	5	CDD 4/30/2020	DESC. OF REVISIONS

ISSUED FOR BID NOT FOR CONSTRUCTION

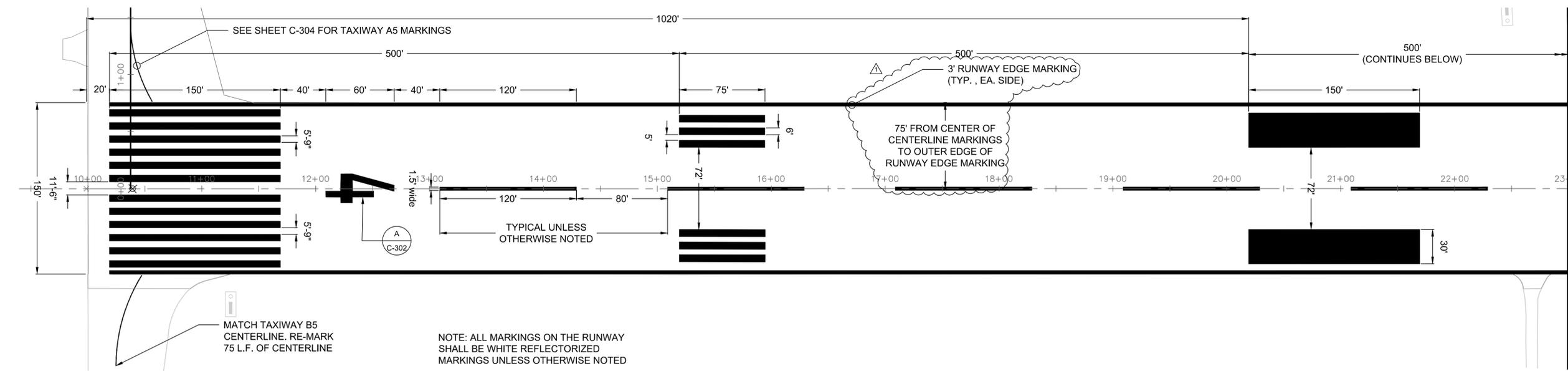
City of TUSCALOOSA  
INFRASTRUCTURE & PUBLIC SERVICES

CLIENT: TUSCALOOSA NATIONAL AIRPORT  
PROJECT: RECONSTRUCT RUNWAY 4-22  
SHEET TITLE: CONSTRUCTION SAFETY & PHASING PLANS - PHASE 3

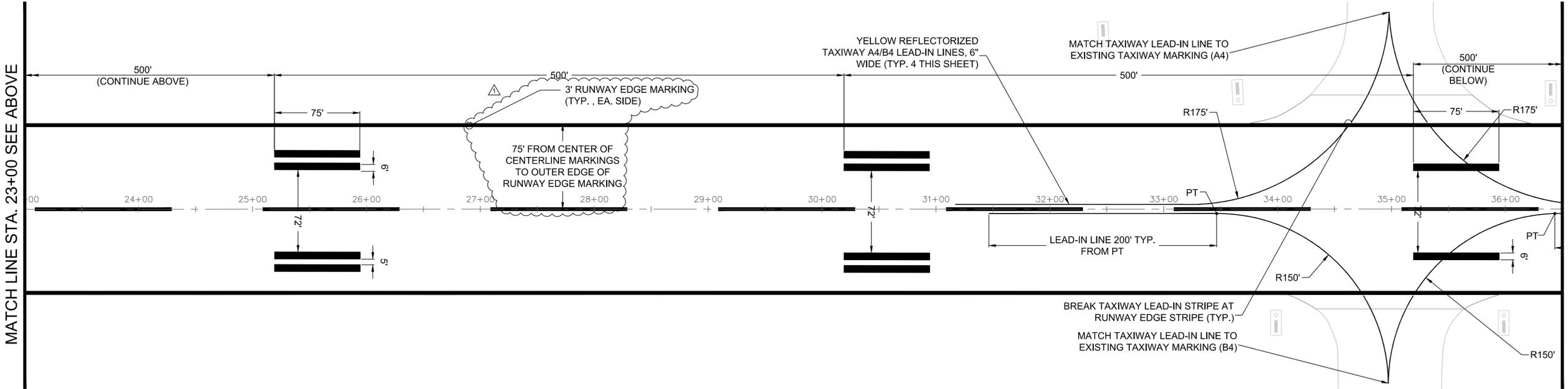
SNC-LAVALIN | ATKINS  
CORPORATE OFFICE: 400 W. BOY SCOUTS BLVD. TAMPA, FL 33607  
LOCAL OFFICE: 404 BNA DRIVE, STE 600 NASHVILLE, TN 37217  
JOB NO.: 100066795  
DESIGNED: CDD | CHECKED: DWS  
DRAWN: JSH | APPROVED: CDD  
SHEET NO. G-204



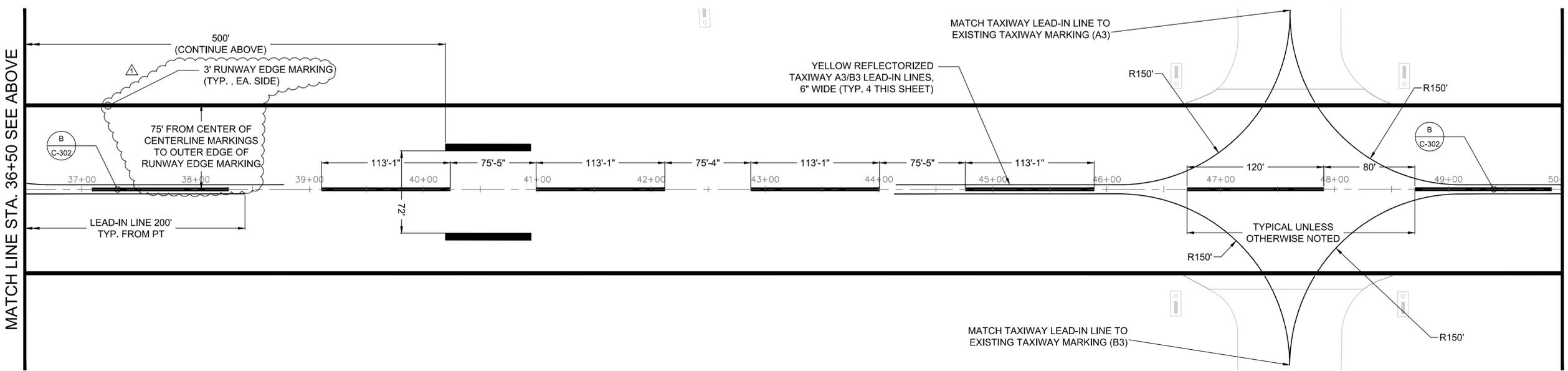
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MATCH LINE STA. 23+00 SEE BELOW



MATCH LINE STA. 36+50 SEE BELOW



MATCH LINE STA. 50+00 SEE SHEET C-302

NO.	DATE	ISSUED FOR	BY	DATE	DESC. OF REVISIONS
5	CDD 4/30/2020	ISSUED FOR ADDENDUM NO.1			
4	CDD 9/29/2020	ISSUED FOR BID			
3	CDD 2/27/2020	95% DESIGN REVIEW MEETING			
2	CDD 12/17/2019	60% DESIGN REVIEW MEETING			
1	CDD 10/16/2019	30% DESIGN REVIEW MEETING			



ISSUED FOR BID  
NOT FOR CONSTRUCTION



CLIENT: **TUSCALOOSA NATIONAL AIRPORT**

PROJECT: **RECONSTRUCT RUNWAY 4-22**

SHEET TITLE: **RUNWAY MARKING PLAN - SHEET 1**

DESIGNED: CDD	CHECKED: DWS
DRAWN: JSH	APPROVED: CDD
SHEET NO. <b>C-301</b>	REV.

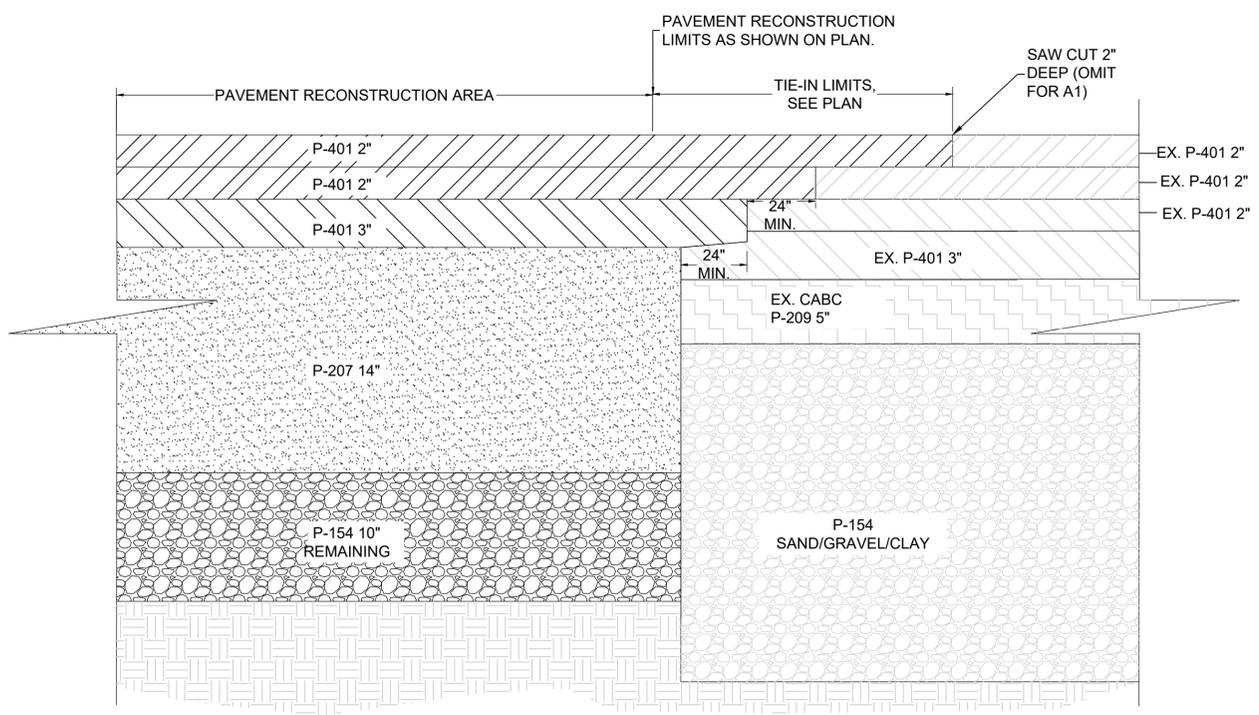
JOB NO.: 100066795

CORPORATE OFFICE: 400 W. BOY SCOUTS BLVD. TAMPA, FL 33607  
 FBRP CERTIFICATE OF AUTHORIZATION NO. 24  
 WWW.ATKINSGLOBAL.COM

LOCAL OFFICE: 404 BNA DRIVE, STE 600 NASHVILLE, TN 37217  
 TEL: 615.399.0298  
 FAX: 615.399.0283

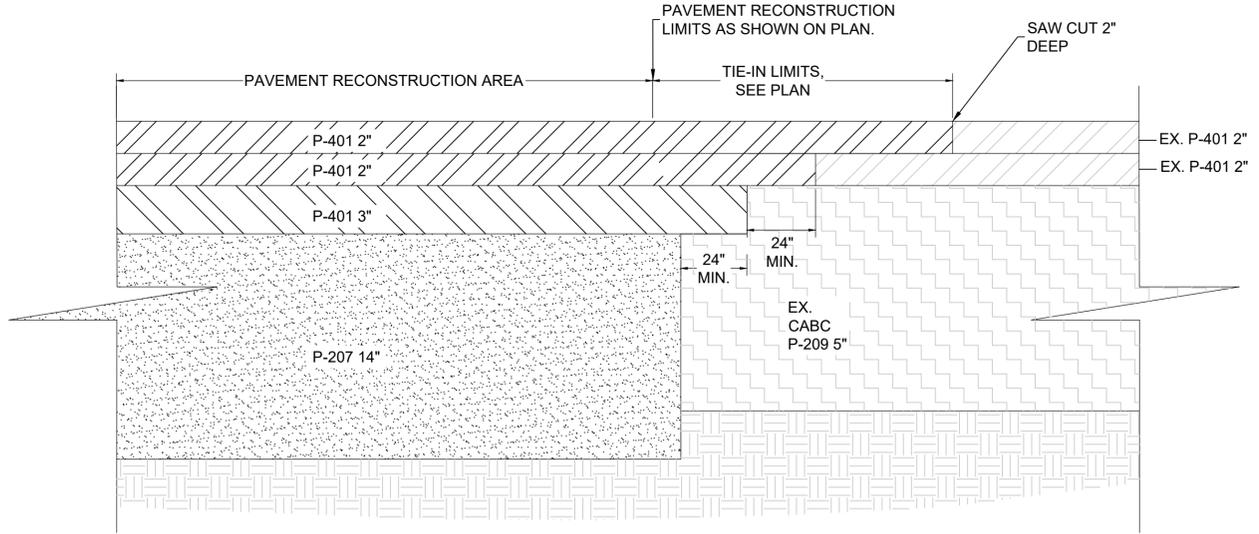


Inches  
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4



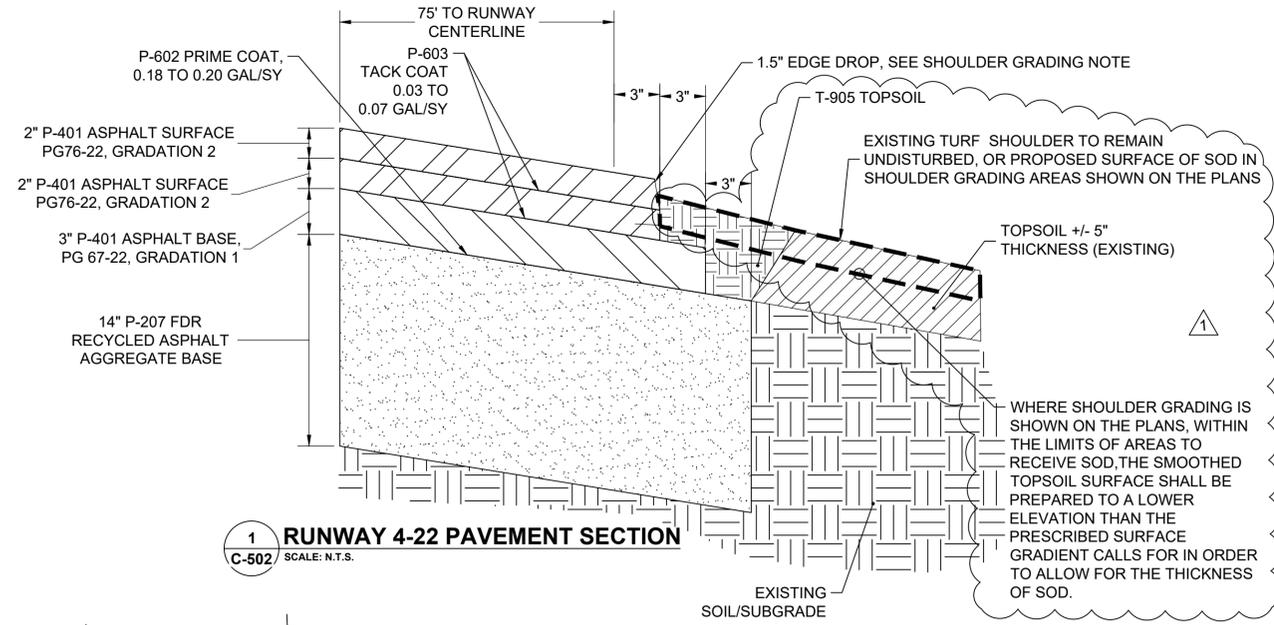
NOTE: APPLIES TO A1, A2, A4, A5  
DOES NOT APPLY TO A3

**A PAVEMENT RECONSTRUCTION TIE-IN SECTION A**  
SCALE: N.T.S.

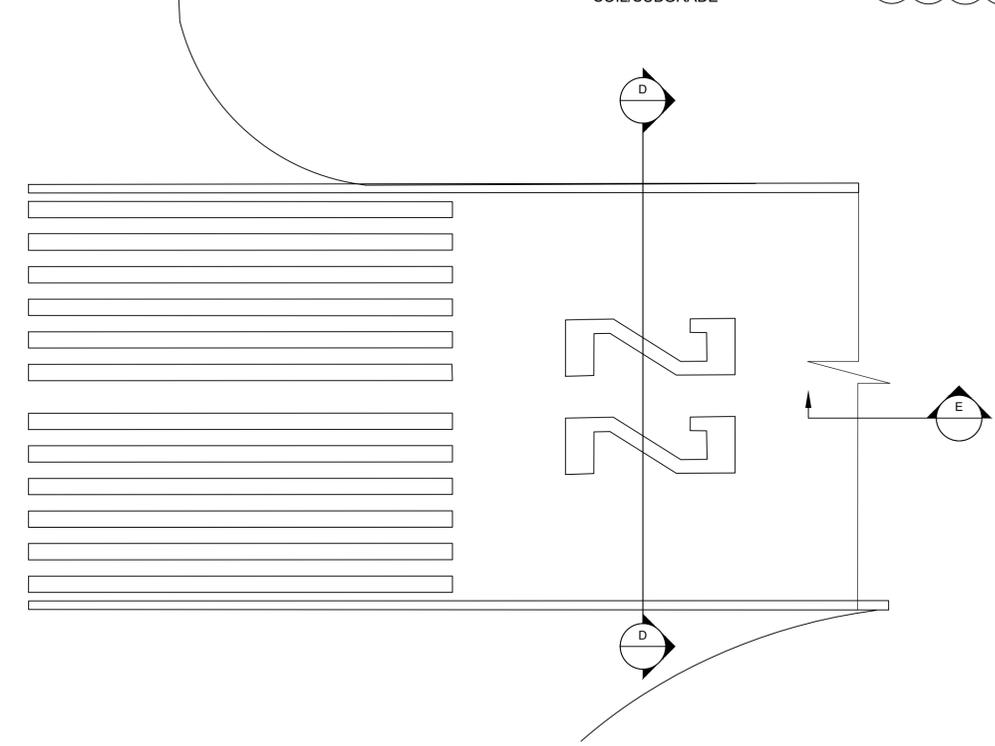


NOTE: APPLIES TO A3 AND ALL  
BRAVO CONNECTORS

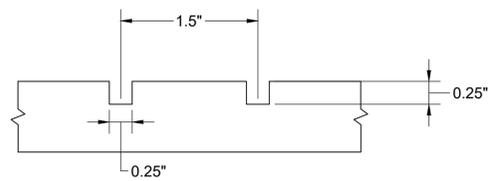
**B PAVEMENT RECONSTRUCTION TIE-IN SECTION B**  
SCALE: N.T.S.



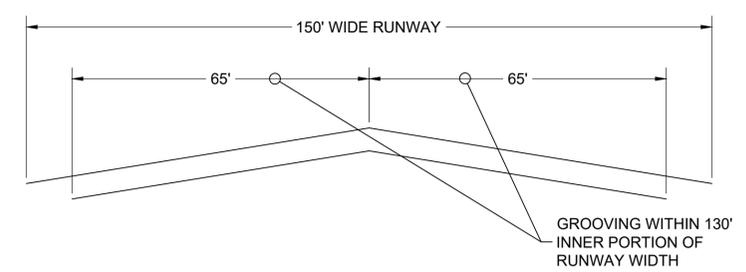
**1 RUNWAY 4-22 PAVEMENT SECTION**  
SCALE: N.T.S.



**C GROOVING PLAN DETAIL C**  
SCALE: N.T.S.



**E GROOVING, SPACING, AND DEPTH SECTION A**  
SCALE: N.T.S.



**D RUNWAY GROOVING WIDTH SECTION B**  
SCALE: N.T.S.

**2 GROOVING DETAILS**  
SCALE: N.T.S.

NO.	DATE	ISSUED FOR	NO. BY	DATE	DESC. OF REVISIONS
1	4/29/2020	30% DESIGN REVIEW MEETING			ADDITION OF SOD CALLOUT TO DETAIL 1
2	12/17/2019	60% DESIGN REVIEW MEETING			
3	12/27/2020	95% DESIGN REVIEW MEETING			
4	9/29/2020	ISSUED FOR BID			
5	4/27/2020	ISSUED FOR ADDENDUM NO.1			

ISSUED FOR BID  
NOT FOR CONSTRUCTION

ALABAMA REGISTERED PROFESSIONAL ENGINEER  
C. CHARLEN DUCKWORTH  
427-2020

City of TUSCALOOSA  
INFRASTRUCTURE & PUBLIC SERVICES

CLIENT: TUSCALOOSA NATIONAL AIRPORT  
PROJECT: RECONSTRUCT RUNWAY 4-22  
SHEET TITLE: MISC. PAVEMENT DETAILS

SNC-LAVALIN | ATKINS  
CORPORATE OFFICE: 400 W. BOY SCOUTS BLVD. TAMPA, FL 33607  
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TEL: 615.399.0298 FAX: 615.399.0283  
WWW.ATKINSGLOBAL.COM

JOB NO.: 100066795  
DESIGNED: CDD CHECKED: DWS  
DRAWN: JSH APPROVED: CDD  
SHEET NO. C-502

PLOT DATE: 4/29/2020 3:55 PM  
FILE NAME: S:\C:\11\100066795 Runway 4-22 Rehab Design\DWG\C-501 Typical & Pavement Section Details.dwg