

# ADDENDUM ONE

# Project: Sullivan County Heights Middle School Track Reconstruction Address: 1236 Moreland Drive, Kingsport, TN

February 23, 2024

This Addendum is part of the Contract Documents for the above referenced project and modifies the original drawings and/or specifications, dated **February 7, 2024**, as noted below. The bidder shall acknowledge receipt of this Addendum in the place provided in the Bid Form. The published bid date and time shall remain the same.

#### GENERAL:

1. See attached Pre-Bid Meeting sign in sheet.

#### CLARIFICATION:

1) Add Alternate 5&6 states custom digital graphics on the foam padding going on the chain link fence. Is there a detail in the specs on the digital graphics or will the graphics be sent to the contractor for printing?

Answer: If either of these add alternates are accepted, digital graphics will be provided by the owner for the padding.

2) Many of the cracks in the track surface are deeper than the milled 1-1/4" spec. These cracks go into the base course. This makes me think the base course also needs replacing. Are these cracks to be filled or cut out and replaced with a new base layer?

Answer: Per our demo plans, the contractor shall assume that existing cracks in the remaining asphalt after milling larger than 1/8" wide shall be filled with a mesh paving fabric and hot applied, polymer modified crack sealant. The bid documents suggested contractors assume 500 lf of crack repair in the base bid scenario. Per addendum no. 1 revised plans, contractors shall now assume 1,500 LF of crack repair and also provide a unit price for any additional LF of crack repair on the bid form.

3) The specs have a 12" wide x24" deep concrete curb in the SE corner of the track. The current conditions of that slope appear overly eroded for the designed curb to work. Can the curb be replaced with a concrete wall?

Answer: Please see attached updated plans via addendum no. 1 for the revised plan and detail in this section.

4) On the visitor side of the track, there is a section that is collapsing similar to the SE corner. Can this be stabilized with a concrete curb as well? Answer: Please see attached updated plans via addendum no. 1 for the revised plan and detail in this section. An additional section of fence in this area will be protected via padding in the base bid as well.

- Can our concrete pours be continuous? The specs have concrete pours limited to 6" layers and 20' sections.
   Answer: Concrete pours can be made continuous.
- 6) I asked about the high jump and I think you confirmed that there is no expectation for any work on a high jump.
   Answer: There is no expectation for any high jump scope of work as part of this project.
- 7) The issue with the 3.0' vs 3.5' of safety zone around the track is addressed by the prospect of padding on the fence in the one area. Answer: Yes, any areas that create less than the recommended 3'-6" of safety zone around the oval will be protected by padding on the chain link fence if that add alternate is accepted.
- Some modification needs to be made to confirm a 400m track. Answer: Please see attached updated plans via addendum no. 1 for the revised track dimensions.
- 9) Please confirm that there is no expectation of a discus cage despite building a discus pad. Answer: Correct, there is no expectation of a discus cage as the owner already has access to a portable cage.
- 10) I concur with the paving representative that suggested that the TDOT 411TLD mix is too fine and we should use TDOT 411E and I think it should be increased to 1.5".
  Answer: The asphalt paving specification has been adjusted via addendum no. 1 to TDOT 411E. The new asphalt surface course should be 1 ¼" minimum per plans based on the maximum aggregate size of 3/8".
- 11) On drawing C-002 in the legend the box next to "Base Bid Asphalt Removal" is blank. It probably should be hashed.Answer: The box in the legend next to "Base Bid Asphalt Removal" on the .pdf is shown with a dotted hatch, which corresponds to the dotted hatch on the track oval and jump runway.
- 12) There is another short section of the outside edge of the track that I think also should be dugout and repaved full depth. It's only about 40' long. See attached picture. Answer: Please see attached updated plans via addendum no. 1 for the revised plan and detail in this section.
- 13) I think that the work on the tennis courts needs to be completed before work begins on the track owing to the track being the access to the courts for vehicles and equipment.Answer: We agree that the tennis court work should be mostly completed prior to work on the track, due to the risk of heavy vehicles/equipment on the new track pavement.
- 14) Specifications note the use of a 411TLD (Thin Lift D) surface asphalt at 1.25" in depth. Would the owner consider changing the surface mix to a 411 E surface? The D mix requires non-skid granite material where an E is all limestone. This could be a cost savings to the owner. Answer: The asphalt paving specification has been adjusted via addendum no. 1 to TDOT 411E. The new asphalt surface course should be 1 ¼" minimum per plans based on the maximum aggregate size of 3/8".
- 15) Upon review of the site, specifically the area in southeastern portion of track, it seems that the typical shown on the drawings for the full depth removal and replacement with concrete curb may not be adequate to repair this area. The existing area shows substantial erosion of slope

that appears to come from an old drainage pipe that spills into culvert. Will additional remediation beyond typical detail be required?

Answer: Please see attached updated plans via addendum no. 1 for the revised plan and detail in this section.

16) Tennis court repaving after the paving of track may pose a risk of damage to finished track surface. In order to access tennis courts contractor would have to use track which would likely cause damage due to use of tack material and tracking of material. Tack on equipment wheels would likely damage new track surface by "picking up" or discoloration of pavement markings. Please advise.

Answer: We agree that the tennis court work should be mostly completed prior to work on the track, due to the risk of heavy vehicles/equipment on the new track pavement.

17) It is my understanding that all QC/QA for project is to be performed by a third party contractor? Please confirm and note if there may be any testing that the owner would be required to perform.

Answer: All testing shall be performed by a third party inspector/testing agency, but paid for and coordinated by the general contractor.

18) Will the engineer be able to supply CAD drawings and survey control for project once awarded or will this be the responsibility of contractor? Also will an "as-built" survey be required once project is completed?

Answer: Once awarded the contract, the engineer will be able to provide the successful contractor the CAD files for the design. Upon completion of the project, the general contractor shall provide the engineer redline markups for any deviations from the bid plans for records.

- 19) Alternate 5/6 calls for pad with digital graphics. To what is this referring? Is this lettering per pad or a logo? How many graphics in 110'? Answer: Contractor shall assume custom digital graphics to fill the majority of the 110' section of padding. Assume up to (15) letters and (2) full height, 4-color graphic logos. Final graphics and lettering will be provided by owner if alternate is accepted.
- 20) Page 3 of section 116833.43 indicates materials (rock dust) for the shot put landing area. Will you confirm that there is no shot put landing area?Answer: Correct, no rock dust material is necessary as part of this project. Please disregard any references to rock dust material.
- 21) The drawings on page C-002 request a unit price for crackfill beyond the 500' base bid and 500' of alternate paving. I don't see that listed under unit pricing. Answer: Please see revised unit pricing on the bid form.
- 22) Detail #7 on page C-600 of the drawings shows asphalt 6" beyond the extent of the fencing which is already 3.5' from lane 6. Can we locate the fence at the edge of the 3.5' paved shoulder?

Answer: Yes, the fence can be located at the edge of the asphalt paved shoulder around the outside of the track, where applicable.

23) Do we need to include erosion control in our base bid? Thank you.

Answer: Since this track renovation project is primarily an asphalt mill and overlay where we are not anticipating much soil disturbance, a full erosion and sediment control plan is not necessary, however contractors shall assume 140 LF of 36" high state DOT approved silt fence along the SE corner and 40 LF of 36" high silt fence along the SW corner of track where a full depth asphalt replacement is proposed (for a total of 180 LF of silt fence).

Please also update the bid form to include the following:

- \$/LF unit price to provide additional crack repair beyond the base bid assumed 1,500 LF.
- \$/LF unit price to provide additional 6' high, 3" thick high density foam padding with custom digital graphics
- \$/LF unit price to provide additional 42" high, 3" thick high density foam padding with custom digital graphics

DRAWINGS:

- 1. DRAWING C-002 Addendum #1 Revisions
- 2. DRAWING C-100 Addendum #1 Revisions
- 3. DRAWING C-101 Addendum #1 Revisions
- 4. DRAWING C-600 Addendum #1 Revisions

#### SPECIFICATIONS:

- 1. SECTION 004113 BID FORM See revised Bid Form.
- 2. SECTION 321216.36 ATHLETIC TRACK ASPHALT PAVING See revised specification.
- 3. **SECTION 321823-39 SYNTHETIC RUNNING TRACK SURFACING** Part 2.1.C, Add the Beynon BSS100 system as an acceptable material. See attached product information.

#### Cain Rash West Architects

Richard Lutz

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KRISTINIA DAVIS PURCHASING AGENT		DATE: O2-13-24 PROJECT DESCRIPTION: Sul LOCATION OF PROJECT: Sul	*NOTE: MANDATORY PRE-BID N VERIFIED BY REGISTRATION, TC PURCHASCHIG Dept	YOUR NAME	Kappf Creen	Wirke Williams	John kees	Tyler Gurrett	Dylan Brandenburg	Mulle Ferdenson	Corey Moore	Rick WD

# AGENDA

Sullivan Heights Middle School Track Renovation

**Pre-Bid Meeting** 

Date:	Tuesday, February 13, 2024
Location:	On-Site and Virtual
Time:	10 am

#### 1. Base Bid Project Overview

- a. Mill existing asphalt track oval (1 ¼" depth) up to 3' outside proposed lane 6 including long jump runway
- b. Protect existing perimeter chain link fencing except double gate near bridge to tennis courts (removed)
- c. Cut back existing vegetation behind chain link fence on north side of track oval
- d. Sawcut at 6" outside lane 6 and remove full depth asphalt and section of fence in SE corner of track
- e. Remove existing shotput and discus pads
- f. New 1 ¼" depth asphalt overlay on oval to 3'-6" outside new lane 6 and on long jump runway
- g. New 12" wide x 24" deep reinforced concrete curb, full depth asphalt and fence in SE corner of track
- h. New latex track surfacing and striping for (6) 42" wide lanes
- i. New sand pit timber curbing, supplemental sand and painted long/triple jump take off boards
- j. New 12' wide double gate at bridge to tennis courts
- k. New concrete shotput and discus pads and circles
- I. Base bid shall include a 5% owner's contingency

#### 2. Alternates

- a. Add Alternate #1 Remove and replace the existing perimeter chain link fencing and gates with new 6' high black chain link fencing and gates around the outside perimeter of the track
- b. Add Alternate #2 Remove and replace the existing perimeter chain link fencing and gates with new 42" high black chain link fencing and gates around the outside perimeter of the track
- c. Add Alternate #3 Remove and replace the 4' high chain link fencing and gates on the inside of the track with new 42" high black chain link fencing and gates
- d. Add Alternate #4 Mill 1 ¼" existing asphalt and replace with new 1 ¼" asphalt wearing course from area 3'-6" outside lane 6 to limits of existing pavement as shown on plans
- e. Add Alternate #5 Provide 6' high, 3" thick high density foam padding with custom digital graphics on chain link fence in southeast corner of track (~110 LF)
- f. Add Alternate #6 Provide 42" high, 3" thick high density foam padding with custom digital graphics on chain link fence in southeast corner of track (~110 LF)
- g. Add Alternate #7 Provide 24" wide section of medium rip rap with geotextile fabric outside concrete curb in southeast corner of track

#### 3. Unit Prices

- a. Unit Price #1 Provide a \$/LF to install additional 6' high black chain link fencing
- b. Unit Price #2 Provide a \$/LF to install additional 42" high black chain link fencing
- c. Unit Price #3 Provide a \$/SF to install additional full depth asphalt pavement limits, assuming 3 ¼" of asphalt and 6" of stone base



- 4. Instructions for Submittal of Bids
  - a. List all subcontractors on the included bid envelope cover
  - b. All bids must be submitted on the Bid Form supplied.
  - c. The Bid Form must be filled out in ink or be typed.
  - d. Acknowledge receipt of all addendums.
  - e. Understand the contractor qualification requirements per the track paving and surfacing specs.
  - f. Provide 5% bid bond
  - g. Provide all other required forms as noted in the project manual

#### 5. Information for Bidders

- a. Bids due on Thursday 2/29/24 at 2:00pm at: Sullivan County Courthouse
   3411 Highway 126, Suite 201
   Blountville, TN
- b. Technical questions, substitution requests and inquiries must be submitted in writing by email to Jason Pollard at <u>ipollard@chacompanies.com</u> and copy Dineen West at <u>dineen@grcinc.com</u> and Rick Lutz at <u>rickl@grcinc.com</u>
- c. All questions are due by 5 PM on Wednesday, February 21, 2024.
- d. Late bids will **NOT** be accepted.

#### 6. Anticipated Construction Schedule

- a. Start Construction May 23, 2024
- b. Substantial Completion September 6, 2024
- c. Final Completion September 20, 2024











Sullivan Heights Middle School Track Reconstruction Kingsport, TN

# BID FORM REVISED

TO:	OWNER: ADDRESS:	Sullivan County Tennessee 3411 Highway 126 Blountville, TN 37617
BID TRANSMITTE	D IN CARE OF:	Michelle Ramey, Chief Deputy Purchasing Agent Sullivan County Courthouse 3411 Highway 126 Blountville, TN 37617
BIDDER:		
ADDRESS:		
CITY/STATE/ZIP:_		
TELEPHONE:		
TN. LICENSE NO:_		
LICENSE EXPIRA	TION DATE:	
THE ABOVE STAT	ED BIDDER IS:	
	AN INDIVIDUAL	
	_ A CORPORATION	Ν
	A PARTNERSHIP	
	_ A JOINT VENTUI	RE CONSISTING OF:
ANI FOF	D IS LICENSED TO THE WORK SPECI	DO BUSINESS IN THE STATE OF TENNESSEE, FIED.

#### GENTLEMEN:

- 1. Having examined the plans and specifications, having visited the site of the proposed work, and being completely familiar with the local conditions affecting the cost of the work, and having carefully examined the construction bidding documents with addenda prepared by Cain Rash West Architects and entitled "Sullivan East High School Tennis Court Resurfacing"
- I, (We) propose to execute the portion of the work identified as "Sullivan Heights Middle School Track Reconstruction" for the stipulated sum of: (sums shall be in written and numerical form)

Lump Sum Base Bid	DOLLARS
(\$	).
Proposed Project Duration	() Days

\*\*Base Bid shall include an Owner's Contingency of 5% which shall be listed as a line item on the Schedule of Values. Use of Contingency is based upon approval by Owner. Remaining Contingency funds not utilized on the project will be credited back to the Owner.

3. I, (We) propose to execute the portion of the work identified as "Sullivan Heights Middle School Track Reconstruction Alternate ONE (1)" for the stipulated sum of: (sums shall be in written and numerical form)

\_\_\_\_\_DOLLARS
(\$\_\_\_\_\_).

Proposed Project Duration ( ) Days

4. I, (We) propose to execute the portion of the work identified as "Sullivan Heights Middle School Track Reconstruction Alternate TWO (2)" for the stipulated sum of: (sums shall be in written and numerical form)

\_\_\_\_\_DOLLARS
(\$\_\_\_\_\_).

Proposed Project Duration\_\_\_\_\_ ( \_\_\_\_) Days

5. I, (We) propose to execute the portion of the work identified as "Sullivan Heights Middle School Track Reconstruction Alternate THREE (3)" for the stipulated sum of: (sums shall be in written and numerical form)

	DOLLARS
(\$	).
Proposed Project Duration	() Days

I, (We) propose to execute the portion of the work identified as "Sullivan Heights Mi School Track Reconstruction Alternate FOUR (4)" for the stipulated sum of: (sums shall be in written and numerical form)			
(50	DOLLARS		
(\$_	).		
Pro	pposed Project Duration () Days		
I, ( <b>Scl</b> (su	We) propose to execute the portion of the work identified as "Sullivan Heights Middle hool Track Reconstruction Alternate FIVE (5)" for the stipulated sum of: ms shall be in written and numerical form) DOLLARS		
(\$_	).		
Pro	oposed Project Duration () Days		
I, ( <b>Scl</b> (su	We) propose to execute the portion of the work identified as "Sullivan Heights Middle hool Track Reconstruction Alternate SIX (6)" for the stipulated sum of: ms shall be in written and numerical form) DOLLARS		
(\$_	).		
Pro	pposed Project Duration () Days		
I, ( <b>Scl</b> (su	We) propose to execute the portion of the work identified as "Sullivan Heights Middle hool Track Reconstruction Alternate SEVEN (7)" for the stipulated sum of: ms shall be in written and numerical form) DOLLARS		
(\$_	).		
Pro	oposed Project Duration () Days		
U1 1)	nit Prices: 6' high black chain link fencing <u>\$/</u> LF		
2)	42" high black chain link fencing \$/LF		
3)	Additional full depth asphalt pavement limits, assuming 3 <sup>1</sup> / <sub>4</sub> " of asphalt and 6" o stone base \$/CY		
4)	Additional Crack Repair beyond the Base Bid assumed 1,500 LF /LF		
5)	Additional 6' high, 3" thick high density foam padding with custom graphics <u>/LF</u>		

3

6) Additional 42" high, 3" thick high density foam padding with custom graphics <u>\$\_\_\_\_\_/LF</u>

See specification section 012200 Unit Prices.

- 11. The undersigned agrees to complete all of the work described by the "Contract Documents" and have the space fully ready for occupancy, including any Alternates.
- 12. The undersigned agrees to commence work under this contract within three working days of receipt of Notice to Proceed.
- 13. The undersigned agrees that this bid shall be good and may not be withdrawn for a period of (30) thirty calendar days after the scheduled closing time for receiving bids.
- 14. The undersigned, upon receipt of written notice of the acceptance of this bid, agrees to deliver, to the owner or his agent, the Architect, the required performance bond, labor and material payment bond and certificate of insurance in accordance with the specifications and instructions to bidders.

The undersigned hereby acknowledges receipt of:

	ADDENDUM NO.	DATE
This proposal is	respectfully submitted	
	Ву:	
	Title:	
	Firm name:	
	Business address:	
	(Seal if this bid is submitted by a Corporation)	

This Bid Form consists of three (4) pages. END OF BID FORM

#### SECTION 321216.36 - ATHLETIC TRACK ASPHALT PAVING

#### PART 1 – GENERAL

#### 1.1 SUMMARY

A. This section includes provisions for hot-mixed asphalt paving over existing asphalt pavement.

#### 1.2 REFERENCES

- A. Applicable State or Provincial Department of Transportation Standard Specifications.
- B. "Standard Specifications for Highway Materials and Methods of Sampling and Testing, American Association of State Highway and Transportation Officials (AASHTO)."
- C. "American Society for Testing and Materials (ASTM)."

#### 1.3 SUBMITTALS

- A. Material Certificates signed by material producer and Contractor, certifying that each material item complies with or exceeds specified requirements.
  - 1. Job mix formula shall include the theoretical maximum specific gravity (Gmm) in order for the third-party testing agency to accurately calculate the in-place compaction as a % of maximum.
- B. Field Test Reports: Submit results of field testing directly to the Engineer.
- C. Track & Field Paving Experience:
  - 1. On-site Project Manager/Superintendent Qualifications:
    - a. Provide a list of completed facilities, minimum of 5 running tracks, in the past 5 years.
    - b. The project manager/superintendent will be on-site during all track & field paving operations. Substitution of project manager/superintendent shall not be permitted.
  - 2. Track Paving Contractor Qualifications:
    - a. Track Paving Contractor shall provide a list of completed facilities, minimum of 5 running tracks, in the past 5 years.

#### 1.4 SITE CONDITIONS

- A. Weather Limitations: Apply tack coats when ambient temperature is above 50 DegF (10 DegC) and when temperature has not been below 35 DegF (1 DegC) for 12 hours immediately prior to application. Do not apply when base is wet or contains an excess of moisture.
- B. Construct hot-mixed asphalt concrete surface course when atmospheric temperature is above 40 DegF (4 DegC) and when base is dry. Base course may be placed when air temperature is above 30 DegF (minus 1 DegC) and rising.
- C. Grade Control: Establish and maintain required lines and elevations.
- D. In no instance shall the materials and thicknesses of pavement and subbase courses replaced be less than that removed, unless approved by the Engineer.

#### 1.5 SEQUENCING AND SCHEDULING

- A. Coordinate the placement of asphalt concrete pavement with the completion of underground work by other trades.
- B. The asphalt top course shall be allowed to cure for 28 days prior to application of resilient track surfacing.

#### PART 2 – PRODUCTS

#### 2.1 MATERIALS

- A. General: All hot mix asphalt shall be in accordance with applicable provisions of State or Provincial Department of Transportation Specifications, except as herein modified.
  - 1. No RAP (Reclaimed Asphalt Pavement) content will be permitted in the asphalt wearing/surface course.
  - 2. The RAP (Reclaimed Asphalt Pavement) content in the asphalt binder course shall be 20 percent or less.
- B. Asphalt Binder Course:
  - 1. TDOT 307C
- C. Asphalt Wearing/Surface Course: 1. TDOT 411E
- D. Asphalt Tack Coat:
  - 1. The primer for application on asphalt surfaces (tack coat) shall be CRS-1.
    - a. Tack coat material shall be in accordance with State or Provincial Department of Transportation Specifications.

#### PART 3 – EXECUTION

#### 3.1 SURFACE PREPARATION

- A. General: Remove loose material from compacted subbase surface immediately before commencing paving operations.
- B. Sawcut edges of existing pavement to achieve straight line transitions between old and new pavement. Make a second sawcut through the top course of existing pavement 18 inches from the first cut to provide a staggered joint.
- C. Tack Coat: Apply to contact surfaces of previously constructed asphalt or Portland cement concrete and surfaces abutting or projecting into asphalt concrete pavement. Distribute at rate of 0.03 to 0.07 gallons per square yard of surface.
- D. Allow to dry until at proper condition to receive paving.
- E. Exercise care in applying bituminous materials to avoid smearing of adjoining surfaces. Remove and clean damaged surfaces.

#### ATHLETIC TRACK ASPHALT PAVING

- F. Do not commence pavement replacement operations until all buried work beneath pavement repair has been completed to the satisfaction of the Engineer.
- G. Where trench dimensions preclude the use of proof rolling equipment, demonstrate the stability of the subgrade and subbase through other means, as acceptable to the Engineer.

#### 3.2 PLACING AND COMPACTING MIX

- A. General: Place and compact asphalt pavement courses in accordance with applicable state or provincial department of transportation specifications unless otherwise specified. This, however, shall not relieve the Contractor of his responsibility to provide a well densified pavement. It shall be the Contractor's obligation to recognize difficulties in compacting the mix, and to make appropriate corrections.
- B. Compaction: Compact asphalt pavement courses with a static steel wheel roller only, unless otherwise approved by the Engineer, based upon work conditions.
- C. Place inaccessible and small areas by hand and compact with hot hand tampers or vibrating plate compactors.
- D. Chamfer edges of walks at 45-degree angle where walks do not abut curb.
- E. Joints: Make joints between old and new pavements, or between successive days' work, to ensure continuous bond between adjoining work. Construct joints to have same texture, density, and smoothness as other sections of asphalt concrete course. Clean contact surfaces and apply tack coat.
- F. Place tack coat between successive courses if more than 48 hours have elapsed after placing the preceding course. Apply tack coat at a rate of 0.03 to 0.07 gallons per square yard of surface.
- G. Remove and patch areas of any asphalt concrete course deemed unsatisfactory by the Engineer at the Contractor's expense. Remove hardened or set asphalt by saw cutting.
- H. Roll and compact the asphalt concrete course until the finished surface is free from depressions, waves or other defects that would prevent proper drainage. The finished surface shall be uniform in texture and appearance.
- I. Protection: After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened.
- J. Erect barricades to protect paving from traffic until mixture has cooled enough not to become marked.

#### 3.3 FIELD QUALITY CONTROL

- A. General: Testing in-place asphalt courses for compliance with requirements for thickness, surface smoothness and compaction will be done by Third Party (paid for by Contractor) testing laboratory. Repair or remove and replace unacceptable paving as directed by Engineer.
- B. Thickness: Testing agency to measure loose asphalt thickness during paving operations and compacted asphalt thickness after rolling. Above thickness measurements or in-place compacted thickness tested in accordance with ASTM D3549 will not be acceptable if exceeding following allowable variations:
  - 1. Surface Course: Plus or minus 1/8 inch.

#### ATHLETIC TRACK ASPHALT PAVING

- C. Compaction:
  - 1. The average sub-lot (daily or 400 tons, whichever is less) in-place density measurement for asphalt surface course mixture shall be at least 94% of the theoretical maximum density at optimum with no single value less than 92%. Acceptable average measurements shall be made by use of a correlated nuclear density gauge per ASTM D2950. Additional testing shall be performed on any given day once 400 tons of asphalt is placed on that day.
  - 2. In-place density tests shall be in accordance with state standards for frequency and methods where the work being performed is done with a minimum of testing meeting the above compaction requirements.
- D. Check surface areas at intervals as directed by Engineer.
- E. Scuff Resistance: If, in the opinion of the Engineer, the pavement does not demonstrate reasonable resistance to deformation by punching loads and scuffing under horizontally applied shearing loads, after the pavement has cooled and hardened, the Engineer may require laboratory testing of cored pavement samples to determine the properties of the pavement; including aggregate gradation, asphalt content, air void ratio, density and any others deemed appropriate. If laboratory testing indicates that any parameters substantially deviate from the design mix tolerances specified by applicable state or provincial department of transportation, replace the affected areas of pavement at no additional cost, and reimburse the Owner for all costs incurred in procurement and testing of cores.

END OF SECTION

ATHLETIC TRACK ASPHALT PAVING

# **BSS 100** PAVED-IN-PLACE SYNTHETIC TRACK SYSTEM

**Economical, durable and easy to maintain** the BSS 100 is the cost effective track surface solution for local schools and communities

who are in search of an all-weather track system.

The BSS 100 features a porous, **paved-inplace system**, utilizing a machine installed base of single compound polyurethane binder

and SBR rubber granules. The surface is finished with multiple spray applications of 100% solids, pigmented polyurethane and EPDM granules or the environmentally friendly **BEYPUR 160 water-based structural spray** that only Beynon Sports Surfaces offers.

- Found in entry-level educational facilities and communities
- Environmentally friendly BEYPUR 160 water-based structural spray available
- Supported by a comprehensive five-year warranty
- L Easy to maintain and water permeable



**Beynon Sports Surfaces** 16 Alt Road Hunt Valley, Maryland 21030 (410) 771-9473 | www.beynonsports.com GET THE TRACK SURFACE that goes the distance-without going over budget The surface is structurally sprayed multiple times with a pigmented single compound polyurethane spray or the environmentally friendly BEYPUR 160 water-based structural spray.

> SBR rubber granules are paved in place by high strength polyurethane to form the shock absorbing base layer.





# BSS 100

# Basemat with Structural Spray Synthetic Track Surfacing System Specifications

#### Part 1 – General

#### 1.1 Scope

- A. The synthetic surfacing contractor shall furnish all labor, materials, equipment, supervision, and services necessary for the proper completion of all BSS 100 Synthetic Track Surfacing and related work indicated on the drawings and specified herein.
- B. The synthetic surfacing contractor shall refer to the drawings for the required locations of synthetic track surfacing to be installed. All quantities and dimensions shall be field verified by the synthetic surfacing contractor.

# 1.2 Specific Scope of Work

- A. Install an IAAF approved, porous polyurethane synthetic track system comprised of a base layer of polyurethane-bound SBR granules and topped with BEYPUR, a single-component polyurethane structural spray, and EPDM granules.
- B. Layout and paint all track lines and event markings as required and specified by current IAAF and NCAA rules.

# 1.3 Coordination

A. The synthetic surfacing contractor shall coordinate the work specified with an authorized and appointed representative of the owner so as to perform the work during a period and in a manner acceptable to the owner.

# Part 2 – Codes and Standards

# 2.1 Applicable Publications

A. Codes and standards follow the current guidelines set forth by the International Amateur Athletic Federation (IAAF) and the National Collegiate Athletic Association (NCAA), along with the current material testing guidelines as published by the American Society of Testing and Materials (ASTM).



#### 2.2 Performance Standards

The **BSS 100** Track Surfacing System shall exhibit the following minimum performance standards as required by IAAF:

A.	Thickness:	12-13mm or as specified
В.	Force Reduction:	35 to 50%
C.	Vertical Deformation:	0.6 to 2.5mm
D.	Friction:	<u>&gt;</u> 0.5 (47 TRRL Scale)
E.	Tensile Strength:	<u>&gt;</u> 0.4 MPa
F.	Elongation at Break:	<u>&gt;</u> 40%

#### Part 3 – Quality Assurance

#### 3.1 Contractor and Manufacturer Qualifications

- A. The CONTRACTOR and the MANUFACTURER must be the same.
- B. The CONTRACTOR must have a minimum of 10 years experience in the installation of poured-in-place, two-component elastomeric polyurethane synthetic track surfacing.
- C. The CONTRACTOR shall be able to furnish evidence that they have been in business for a period of not less than 3 years, under the present name, and if required, furnish financial statements for each of the past 3 years.
- D. The CONTRACTOR must have installed a minimum of 10 outdoor track facilities in the last 2 years using the exact, IAAF certified, synthetic track surfacing, as specified herein with the contractor bidding this project.
- E. The MANUFACTURER must have a minimum of 10 years of experience with compound two-part polyurethane for athletic surfaces.
- F. The CONTRACTOR is required to provide documentation that shows the selected specified and installed product meets current IAAF Performance Standards for Synthetic Surfaced Athletics Tracks (Outdoor) and is certified in terms of the IAAF certification system as updated to present day.
- G. CONTRACTOR is to provide a list of completed facilities, minimum of 10 which are certified to meet IAAF/NCAA rules & regulations, utilizing the same product as specified.



- H. The MANUFACTURER must offer a minimum of seven (7) IAAF Certified Track Systems.
- I. All polyurethane components must be MANUFACTURED in the United States in an **ISO 9001:2008 Certified** facility to ensure the highest quality materials.
- J. The CONTRACTOR must have installed a minimum of three (3) Class I IAAF Certified outdoor tracks within the United States.

# 3.2 Submittals

The following submittals must be received with bid submittal:

- A. Standard printed specifications of the synthetic track surfacing system to be installed on this project.
- B. An affidavit attesting that the synthetic track surfacing material to be installed meets the requirements defined by the manufacturers currently published specifications and any modifications outlined in those technical specifications.
- C. A synthetic track surfacing system sample, 12" x 12" in size, of the same synthetic track surfacing system to be installed on this project.
- D. A list of completed facilities, including the installing supervisor, of the exact synthetic track surfacing system.
- E. A current IAAF Certificate proving the product to be installed meets the current IAAF Performance Standards for Synthetic Surfaced Athletics Tracks (Outdoor).

# Part 4 – Materials

# 4.1 Primers

A. Primers shall be BEYPRIM, a polyurethane-based primer specifically formulated to be compatible with the paved-in-place SBR granules and BEYPUR track surfacing material.

# 4.2 Black SBR Granules

A. The rubber granules for the base mat shall be recycled SBR rubber, processed and chopped to 1-3mm size, containing less than 1% dust.



# 4.3 EPDM Granules

A. The rubber granules for the BEYPUR structural spray wearing coats shall be EPDM, synthetic rubber containing a minimum 20% EPDM resin, with a specific gravity of  $1.5 \pm 0.1$  g/cm3. The EPDM rubber shall be the same color as chosen by the owner for the track surface.

# 4.4 Polyurethane Binder

A. Binder for the black mat shall be BEYPUR, an MDI-based single-component, polyurethane binding agent. The binder shall not have a free TDI monomer level above 0.2% and must be solvent free. The binder must be specially formulated for compatibility with SBR rubber crumb.

# 4.5 Structural Spray Coating

A. The spray coating shall be BEYPUR, an MDI-based single-component, moisture cured, 100% solids, and pigmented polyurethane, specifically formulated for compatibility with EPDM granules. The coating shall be the color specified by the owner. Pigment intergraded in the field shall not be allowed.

# 4.6 Line Marking Paint

A. All line and event markings shall be applied by experienced personnel utilizing the manufacturers' recommended pigmented paint compatible with the **BSS 100** Track Surfacing material.

# Part 5 – Installation

# 5.1 Subbase Requirements

- A. Asphalt Compaction
  - a. The Synthetic Track Surfacing System shall be laid on an approved subbase. The General Contractor shall provide compaction test results of 92-96% for the installed subbase and asphalt surface.
  - b. For NCAA certification the following criteria must be followed. The track surface, i.e. asphalt substrate, shall not vary from planned cross slope by more than +/- 0.2%, with a maximum lateral slope outside to inside of 1%,



and a maximum slope of 0.1% in any running direction. The finished asphalt shall not vary under a 10' straight edge more than 1/8".

- c. It should be the responsibility of the asphalt-paving contractor to flood the surface immediately after the asphalt is capable of handling traffic. If, after 20 minutes of drying time, there are birdbaths evident, it shall be the responsibility of the architect, in conjunction with the surfacing contractor, to determine the method of correction. No cold tar patching, skin patching or sand mix patching will be acceptable.
- B. Asphalt Quality
  - a. <u>No</u> Recycled Asphalt Pavement (RAP) shall be used in the wear course asphalt mix design as the inclusion of RAP as an off-set to virgin asphalt binder results in a brittle hot-mix asphalt (HMA) with significantly lower tensile strength and fatigue resistance. The sports surfacing contractor will not be held responsible for asphalt failures resulting from the inclusion RAP in the HMA mix design of the wear course.
  - b. Any oil spills (hydraulic, diesel, motor oil, etc.) must be completely removed, either by chipping out or removing and replacing with new, keyed in asphalt. The minimum depth of any asphalt replacement shall be one inch. The curing time for the asphalt base is 28 days. It shall be the responsibility of the surfacing contractor to determine if the asphalt substrate has cured sufficiently prior to the application of polyurethane surfacing system.
- C. Responsibility of Others
  - a. It shall be the responsibility of the general contractor to determine if the asphalt substrate meets all design specifications, i.e. cross slopes, planarity and specific project criteria. After all the above conditions are met, the synthetic surfacing contractor must, in writing, accept the planarity of the asphalt receiving base, before work can commence.

# 5.2 Thickness

A. The thickness of the **BSS 100** Synthetic Track Surfacing System shall be 13mm.

# 5.3 Equipment



- A. The **BSS 100** Synthetic Track Surfacing System components shall be processed and installed by specially designed machinery and equipment. A mechanically operated paver with variable regulated speed and thermostatically controlled screed shall be used in the installation of the base mat. The wearing course shall be installed using automatic electronic portioning, which provides continuous mixing and feeding for an accurate, quality controlled installation.
- B. No hand mixing is allowed.

# 5.4 Installation

A. Base Course

The SBR granules and BEYPUR shall be mixed together on site to regulate the ratio/quantity of SBR, not to exceed 82% by weight in the base mat portion of the system. The single component polyurethane binder shall be mixed with the SBR rubber so that a minimum of 20%, by weight, exists in the final mixture. This mixture is then mechanically installed using the paver.

B. Wearing Course

The 0.5 to 1.5 millimeter EPDM granules shall be mixed with BEYPUR, the single-component structural spray coating. The structural spray shall be made in two (2) uniform applications.

# 5.5 Site Conditions

- A. Installation shall not take place if adjacent or concurrent construction generates excessive dust, abrasives or any other by-product that, in the opinion of the installer, would be harmful to the track material, until completion of such works.
- C. Apply Synthetic Track Surfacing in dry weather when pavement and atmospheric temperatures are fifty (50) degrees Fahrenheit or above, and are anticipated to remain above fifty (50) degrees Fahrenheit for twenty-four (24) hours after completing application.
- D. The maximum temperature cannot exceed 105 degrees at any point during a 24 hour period.
- E. Rain cannot be falling. If there is a threat of rain, work shall cease until dry conditions can be re-established on the track pavement. Work is to proceed only when adequate curing can be guaranteed by the manufacturer.



# Part 6 – Line Striping and Event Markings

#### 6.1 Layout

A. Line striping and event markings shall be laid out in accordance with current IAAF and NCAA rules.

# 6.2 Certification

A. Upon completion of the installation, the owner shall be supplied with all necessary computations and drawings, as well as a letter of certification attesting to the accuracy of the markings.

# Part 7 – Guarantee

- A. The BSS 100 Track Surfacing System shall be fully guaranteed against faulty workmanship and material failure for a period of five (5) years from the date of acceptance. The warranty coverage shall not be prorated nor limited by the amount of usage.
- B. Synthetic surfacing material found to be defective as a result of faulty workmanship and/or material failure shall be replaced or repaired at no charge, upon written notification within the guarantee period.

END OF SECTION

