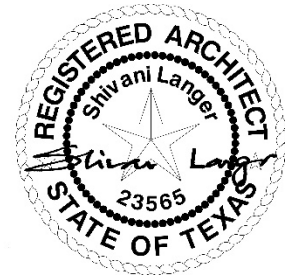


ADDENDUM

Project/File: 214000825
Addendum No.: 02
Date: February 24, 2023
Project: New Braunfels Elementary School



This addendum is to be read with and constitutes part of the tender document.
This addendum is generally separated into sections for convenience; however, all contractors, subcontractors, material suppliers and other involved parties shall be responsible for reading the entire addendum. Failure to list an item(s) in all affected sections of this addendum does not relieve any party affected from performing per instructions, provided the information is set forth one time anywhere in the Addendum.

DETAILS OF THE ADDENDUM:

See below Architectural Narrative, Civil Narrative and Sheet CL503, and MEP Narrative, respectively.

Architectural Scope

General Drawings:

1. G011:

Drawing Index updated to show sheet G101.2 added.

2. G101:

Wall to Deck Rating Legend updated to reflect change to UL No V499 at metal studs for 2-HR rated exterior fire wall.

3. G101.1:

Title block updated to reflect Architect's seal of approval.
Deleted cloud on sheet.

4. G101.2:

Sheet added to support additional fire-resistant ratings supplemental information.

Architecture Drawings:

1. A300:

Building System Type XBC6.2 for detail A4/A300 - updated notes and dimensions.

Building System Type XBC6.R for detail A4/A300 updated to reflect reference to UL No V499 for 2 hr rated exterior fire wall and notes and dimensions updated.

Regards,

Shivani Langer AIA
Principal
Phone: 512-867-6114
shivani.Langer@stantec.com

**ADDENDUM NUMBER TWO
TO PLANS AND SPECIFICATIONS FOR
NBISD ELEMENTARY SCHOOL
NEW BRAUNFELS INDEPENDENT SCHOOL DISTRICT**



**STANTEC ARCHITECTURE
1905 Aldrich Street-Suite 300
Austin, TX 78723**

FEBRUARY 24, 2023

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This document shall become attached to and part of the construction documents for the aforementioned project.

CLARIFICATIONS AND MODIFICATIONS TO THE PROJECT DOCUMENTS:

CIVIL SPECIFICATIONS

ITEM 01 Section 32 18 16.13 – PLAYGROUND PROTECTIVE SURFACING
REVISE this specification section in its entirety. See attached specification Section 32 18 16.23

CIVIL DRAWINGS

ITEM 01 SHEET CL503 – LAYOUT DETAILS 4
REVISE callout from fibar to synthetic surface for playground area. REPLACE SHEET CL503 with the attached sheet CL503 in its entirety.

END OF ADDENDUM NO. 02

SECTION 32 18 16.13– PLAYGROUND PROTECTIVE SURFACING

PART 1 – GENERAL

1.01 REFERENCES

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.
- B. ASTM INTERNATIONAL (ASTM)
1. ASTM C136/C136M (2014) Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates
 - 2.
 3. ASTM D1557 (2012; E 2015) Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³) (2700 kN-m/m³)
 - 4.
 - 5.
 6. ASTM D2047 (2011) Static Coefficient of Friction of Polish-Coated Floor Surfaces as Measured by the James Machine
 - 7.
 8. ASTM D2261 (2013) Tearing Strength of Fabrics by the Tongue (Single Rip) Procedure (Constant Rate-of-Extension Tensile Testing Machine)
 - 9.
 10. ASTM D412 (2015a) Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers - Tension
 - 11.
 12. ASTM D6112 (2013) Compressive and Flexural Creep and Creep-Rupture of Plastic Lumber and Shapes
 - 13.
 14. ASTM F1015 (2003; R 2009) Relative Abrasiveness of Synthetic Turf Playing Surfaces
 - 15.
 16. ASTM F1292 (2013) Impact Attenuation of Surface Systems Under and Around Playground Equipment
 - 17.
 18. ASTM F1487 (2011) Playground Equipment for Public Use
 - 19.
 20. ASTM F1951 (2014) Standard Specification for Determination of Accessibility of Surface Systems Under and Around Playground Equipment
- C. CONSUMER PRODUCT SAFETY COMMISSION (CPSC)
1. CPSC Pub No 325 (2010) Handbook for Public Playground Safety

1.02 DEFINITIONS

- A. Critical Height
1. The fall height at which the protective surfacing meets the requirements of ASTM F1292.
- B. Designated Play Surface
1. Any elevated surface for standing, walking, sitting, or climbing; or a flat surface a minimum 50 mm 2 inches wide having up to a maximum 30 degree angle from horizontal. In some play events the platform surface will be the same as the designated play surface. However, the terms should not be interchanged as they do not define the same point of measurement according to ASTM F1487.
- C. Head Injury Criteria (HIC)
1. A measure of impact severity that considers the duration over which the most critical section of the deceleration pulse persists as well as the peak level of that deceleration. Head impact injuries are

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not believed to be life threatening if the HIC does not exceed a value of 1,000.

D. Impact Attenuation

1. The ability of protective surfacing to reduce and dissipate the energy of an impacting body.

E. Loose Fill

- 1.
2. Consisting of small independent movable components such as sand, gravel, or wood chip. The percent of fine material in the loose fill affects its compression properties from rainfall.

F. Maximum Equipment Height

1. The highest point on the equipment (i.e.: roof ridge, top of support pole).

G. Play Event

1. A piece of manufactured playground equipment that supports one or more play activities.

1.03 SYSTEM DESCRIPTION

- A. Measure the perimeters of the play event use zone in accordance with the requirements of the manufacturer and equipment selected per the owner.

1.04 Child Safety

- A. Meet or exceed the impact attenuating performance requirements of synthetic surfacing and loose-fill surfacing systems, installed in the use zones, as follows. The surfacing critical height value shall yield up to both a maximum 200 G's peak deceleration, and a maximum 1,000 Head Injury Criteria (HIC) value for a head-first fall from the play event in accordance with CPSC Pub No 325 and ASTM F1292. The protective surfacing should have a minimum critical height value equal to the height of the highest designated play surface.
- B. Measuring fall heights for play events is defined in paragraph FALL HEIGHT. Sand, gravel, and wood products shall not be installed over a concrete or bituminous subsurface in accordance with CPSC Pub No 325.
- C. Child Accessibility
1. The accessibility requirement in accordance with ASTM F1487 includes the following: When the play event use zone consists of a protective surfacing rated as inaccessible, at least one accessible route shall be provided from the use zone perimeter to the play event. When there is more than one of the same play activity provided, only one shall meet accessibility requirements (i.e.: one swing seat or one spring rocking play event).
 2. When the access and egress points are not the same for a play event, an accessible route shall be provided to both. The accessible route shall access all accessible play events and elements. The protective surfacing materials that meet accessibility are synthetic surfacing and engineered wood fiber in accordance with ASTM F1951. When the accessible surface is within the use zone, it shall meet the requirements of paragraph CHILD SAFETY

1.05 SUBMITTALS

- A. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings Shop

Drawings.

Finished Grade and Underground Utilities SD-03 Product

Data

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Synthetic Surfacing Loose Fill
Surfacing Geotextile Fabric
Manufacturer's Qualification Wood
Site Preparation Temperature
Limitation Wood By-Products
Wood Treatment Adhesive
Color

SD-04 Samples

Synthetic Surfacing
Loose Fill Surfacing System SD-06 Test

Reports

Percolation Test Recycled Plastic
Synthetic Surfacing Sand
Gravel

SD-07 Certificates Materials

Manufacturer's Qualification Manufacturer's
Representative Installer's Qualification
Substitution
Protective Surfacing Acceptance SD-10 Operation

and Maintenance Data

Maintenance Instructions;

1.06 QUALITY ASSURANCE

A. Manufacturer's Qualification

1. Submit name of the owner or user; service or preventive maintenance provider; date of the installation; point of contact and telephone number; and address for 10 sites. Protective surfacing should have been installed in a minimum 10 sites and been in successful service for a minimum 5 year calendar period. The manufacturer shall provide a Certificate of Insurance AA rated for a minimum one million dollars covering both product and general liability.

B. Manufacturer's Representative

1. Submit the individual's name, company name and address, and playground safety training certificate. The manufacturer's certified playground safety inspector or the manufacturer's designated certified playground safety representative shall supervise the installation and adjustment of the protective surfacing to verify the installation meets the requirements of the manufacturer, this specification, and paragraphs CHILD SAFETY and CHILD ACCESSIBILITY.

C. Installer's Qualification

1. Submit the installer's company name and address, training and experience certification. The installer shall be certified by the manufacturer for training and experience installing the protective surfacing.

D. Shop Drawings

1. When the use zone perimeter and play event configuration conflict with the requirements and paragraphs CHILD SAFETY and CHILD ACCESSIBILITY, submit scale drawings defining corrective measures to include the following: Adjustment to the play event with the use zone perimeter; use zone perimeter overlaps; fall height and critical height value.

1.07 DELIVERY, STORAGE, AND HANDLING

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- A. Provide a delivery schedule at least 10 calendar days prior to the first day of delivery. Deliver, handle, and store protective surfacing material in accordance with the manufacturer's recommendations. The storage area shall be as designated. Store the materials in a dry, covered area until installed. Inspect protective surfacing material, upon arrival at the job site, for meeting specified quality. Unacceptable materials shall be removed from the job site.

1.08 WARRANTY

- A. Furnish protective surfacing with a minimum 1 year calendar period warranty.

1.09 MAINTENANCE INSTRUCTIONS

- A. Submit two (2) bound copies of the manufacturer's operation and maintenance manual describing the recommended preventive maintenance, inspection frequency and techniques, periodic adjustments, lubricants, and cleaning requirements. Furnish protective surfacing spare parts provided by the manufacturer.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Prior to the delivery of materials, submit certificates of compliance attesting that materials meet the specified requirements. Certified copies of the material certificates shall include composition and tests to which the material has been subjected. Submit manufacturer's descriptive data; catalogue cuts; and the latest edition of ASTM F1487 and CPSC Pub No 325.
- B. Provide materials which are the standard products of a manufacturer regularly engaged in the manufacture of protective surfacing and that are similar to surfacing in satisfactory use a minimum 5 year calendar period. Protective surfacing consists of two systems; synthetic surfacing and loose fill surfacing.

2.02 SYNTHETIC SURFACING

- A. Submit a minimum 50 by 50 mm 2 by 2 inch sample. Submit impact attenuation and critical height performance for each thickness of synthetic surfacing and loose fill surfacing provided. Submit delivery schedule and manufacturer's name for synthetic surfacing and loose fill surfacing plus delivery, storage and handling information. Furnish a list to include part numbers of furnished protective surfacing materials and components for synthetic surfacing and loose fill surfacing and manufacturer's specifications, handling and storage requirements, installation procedures, and safety data sheets to include warnings and critical height performance standards for synthetic surfacing and loose fill surfacing. Synthetic surfacing includes the following: poured-in-place system; tile system; and combination system. The synthetic surfacing consists of either impact attenuating substrate covered by a wear surface bonded to produce a unified system; a shredded rubber or aggregate substrate covered by a polyethylene plastic woven sheet wear surface; or a uniform material manufactured in such a way that the top portion meets the requirements specified for wear surface. Submit chemical composition, color granule percentage, and test results to which material has been subjected, identifying each material and component containing recycled materials and showing the estimated percentage of recovered material content. Furnish freezing temperature life-cycle durability.
- B. Subbase
 - 1. The subbase for synthetic surfacing may be either concrete, aggregate, or bituminous material.
- C. Aggregate Subbase
 - 1. Provide aggregate material conforming to 1" washed River Rock for the engineered wood fiber. Synthetic Turf subbase shall be a gravel and decomposed granite conforming to manufactures specifications.
- D. Impact Attenuating Substrate
 - 1. Provide a substrate compatible with the wear surface, and consisting of modular units; poured-in-place; or loose fill.

E. Synthetic Turf Wear Surface

1. Synthetic turf wear surface shall consist of nylon fibers a minimum 500 denier, or heavy face weight polypropylene fiber a minimum 5,000 denier; and tufted construction conforming to ASTM F1015. Fibers in each roll shall be from the same dye lot.

F. Hardware

1. Hardware, anchors or fasteners shall be corrosion resistant stainless steel or galvanized steel to anchor the surfacing system securely, in accordance with manufacturer's instructions. Hardware shall provide or be recessed to provide a flat surface and shall be covered by the required depth of protective surfacing.

G. Adhesive

1. Adhesive shall be a two component polyurethane providing extremely high impact resistant bond and shall be installed as recommended by the manufacturer. The adhesive shall be non-toxic, resistant to ultraviolet light, and safe for children. Adhesive shall conform to EPA registered uses, toxicity levels, and application hazards.
2. Containment Curbs
3. Containment curbs include the following: concrete. Containment curbs shall provide a smooth and hazard-free transition from the protective surfacing to the adjacent surface. Curbs shall be free of sharp vertical edges, protruding elements and trip hazards. Curbs shall be as shown on the plans. All edges should be provided with a minimum 1/2 inch radius.

H. Transition Edge

1. The transition edge shall be designed to maintain the protective surfacing performance, support the surfacing between changes of material, and shall be concrete in accordance with paragraph CONCRETE CURB. The face of the edge to the subgrade shall be covered with the impact attenuating surface and meet the requirements of paragraph CHILD SAFETY.

2.03 LOOSE-FILL SURFACING

- A. Loose-fill surfacing installed in the use zone shall consist of engineered wood fiber products.

B. Engineered Wood Fiber

1. Engineered wood fiber manufactured for the purpose of protective surfacing shall consist of particles varying from a minimum 3 mm 1/8 inch wide to a maximum 13 mm 1/2 inch thick; and a minimum 25 mm 1 inch wide to a maximum 75 mm 3 inches long.

2.04 GEOTEXTILE FABRIC

- A. Geotextile fabric consists of the following: nonwoven polypropylene sheet; nonwoven 100 percent polyester sheet; or nonwoven needle punched polyester sheet composed of recycled polyester resins.

2.05 RECYCLED PLASTIC

1. Provide the estimated percentage of recovered material content in the material and components; and life-cycle durability. Submit individual component and assembled unit structural integrity test; creep tolerance; deflection tolerance; and vertical load test results. The estimated percentage of recovered material content in the material and components. Life-cycle durability. Recycled plastic must contain a minimum 85 percent of recycled post-consumer product.

2.06 CURBS

- A. Concrete Curb

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1. Concrete curbs shall conform to Section 32 16 21 CONCRETE CURBS GUTTERS AND WALKS

PART 3 - EXECUTION

3.01 SITE PREPARATION

- A. Prior to installing the protective surfacing, verify the playground equipment and site furnishings are installed in accordance with the manufacturers recommendations, site tolerances and shop drawings.
- B. Finished Grade and Underground Utilities
- C. Submit finished grade, underground utilities, storm-drainage system and irrigation system status; and location of underground utilities and facilities. Verify that finished grades are as indicated; the smooth grading has been completed in accordance with Section 31 00 00 EARTHWORK; installation of the underground utilities through the area has been completed in accordance with Section 31 00 00 EARTHWORK; installation of the storm-drainage system through the area has been completed in accordance with Section 33 40 00 STORM DRAINAGE; and the installation of underground sprinklers through the area has been completed in accordance with Section 32 80 IRRIGATION SYSTEMS. The location of underground utilities and facilities in the area of the operation shall be verified. Damage to underground utilities and facilities shall be repaired at the Contractor's expense.
- D. Layout
 1. The layout of the entire use zone perimeter shall be staked before excavation begins. The location of all elements shall be staked to include the following: All play event configuration access and egress points; and use zone perimeters. The use zone is defined as the area beneath and immediately adjacent to a play structure or equipment that is designated for unrestricted circulation around equipment; and on whose surface it is predicted that a user would land when falling from or exiting the equipment. Also, the use zone is associated with the following terms; "Clear Area," and "Fall Zone". The use zone shall be free of hard surfaces, objects or obstacles that a child could run into or fall on top of and be injured. Use zone perimeters shall not overlap hard surfaces.
 2. The use zone perimeter shall meet or exceed the requirements of paragraphs CHILD SAFETY and CHILD ACCESSIBILITY. Use zone perimeters shall not overlap except for certain play events as defined in ASTM F1487.
- E. Obstructions Below Ground
 1. When obstructions below ground affect the work, shop drawings showing proposed adjustments shall be provided.
- F. Substitution
 1. Under no circumstances are substitutions to be allowed or protective surfacing to be selected without written approval from the technical representative. Evaluate manufacturer substitutions for the critical height value with meeting the site conditions and paragraph FALL HEIGHT.
- G. Subgrade
 1. Correct subgrade irregularities to ensure the required depth of protective surfacing is provided. The subgrade elevation shall be as required by the manufacturer.
- H. Subsurface
 1. Install the subsurface in a true, even plane, and sloped to provide positive drainage as indicated.
- I. Fall Height
 1. General Requirements
 - a. The fall height is defined as the vertical distance between the finished elevation of the designated play surface and the finished elevation of the protective surfacing beneath it. For some play events the fall height and platform height are the same, while for

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other play events the fall height and maximum equipment height are the same,. When the furnished play event fall height varies from the play event shown, shop drawings shall be provided defining the revised depth or type of protective surfacing to meet or exceed the requirements of paragraphs CHILD SAFETY and CHILD ACCESSIBILITY.

b. Measuring Fall Height

EQUIPMENT	MEASURING FALL HEIGHT
Composite Equipment Structure	For a platform surrounded by protective barriers, measure from the platform finished elevation.
	For a platform surrounded by guardrails, measure from the guardrail top elevation.
Infant Crawl Area	A maximum 600 mm 24 inches height, measured from the crawl wall or barrier finished elevation.
Playhouse, Nonclimbable	Measure from the designated play surface finished elevation.
Spring Rocking Equipment	Measure from the seat top elevation.
Stationary Equipment, Climbable	Measure from the maximum equipment height finished elevation.
Stationary Equipment, Nonclimbable	Measure from the designated play surface finished elevation.
Swing	Measure from the bottom of the pivot point.

3.02 INSTALLING SYNTHETIC SURFACING SYSTEM

- A. Surfacing edges shall fully adhere to the subsurface. Fully cover the subsurface to ensure no hard surfaces are exposed through displacement of loose fill. Rolled or beveled containment curb or transition edges shall maintain the full thickness required to meet paragraphs CHILD SAFETY and CHILD ACCESSIBILITY. Material shall cover foundation and cutouts around elements penetrating the surface. Seams shall be the minimum necessary and shall be tight.
- B. Temperature Limitation
 - 1. Provide temperature limitations for applying adhesive.
- C. Synthetic Turf Wear Surface
 - 1. Wear surface shall be bonded to substrate with 100 percent solids polyurethane adhesive. Surface irregularities and wrinkles shall be corrected. Seams shall be secured in accordance with manufacturer's recommendations. Wear surface roll width shall be as wide as practical for the installation.

3.03 LOOSE FILL SURFACING SYSTEM

- A. Submit a minimum 0.003 cubic m 0.125 cubic foot sample.
- B. Wood By-Product Surfacing System
 - 1. Engineered wood fiber protective surfacing shall be installed according to manufacturer's instructions. Wood products shall meet the requirements of paragraph CHILD SAFETY.
 - 2. Engineered Wood Fiber Surfacing System

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- a. Engineered wood fiber protective surfacing shall be installed according to manufacturer's instructions. The surfacing shall meet the requirements of paragraphs CHILD SAFETY and CHILD ACCESSIBILITY.

C. Geotextile Fabric for Wood By-Product

1. Geotextile fabric shall cover the entire area and shall be lapped a minimum 100 mm 4 inch width at the seams. Seams shall be adhered in accordance with manufacturer's recommendations. Folds, wrinkles, or loose fabric shall be smoothed. Fabric shall be protected from damage during wood product placement.

D. Minimum Depth for Wood By-Product

1. Wood by-product shall be installed at a minimum 8 inch depth throughout the use zone. The depth of wood products in high play activity areas shall be as indicated.

3.04 RESTORATION AND CLEAN UP

- A. When the operation has been completed, clean up and protect the site. Existing areas that have been damaged from the operation shall be restored to original condition at the Contractor's expense.

B. Clean Up

1. The site and play events shall be cleaned of all materials associated with the operation. Play events and surfaces shall be cleaned of dirt, stains, filings, and other blemishes occurring from shipment and installation.
2. Cleaning methods and agents shall be as recommended by the manufacturer.

C. Protection

1. The area shall be protected as required or directed by providing barricades and signage.

D. Disposal of Materials

1. Excess and waste material shall be removed and disposed of off school District property.

3.05 PROTECTIVE SURFACING ACCEPTANCE

- A. Submit record of measurements and findings by the certified playground safety inspector. When the protective surfacing is installed, the play events and protective surfacing shall be thoroughly inspected and measured to verify the playground meets manufacturer's recommendations, paragraphs CHILD SAFETY and CHILD ACCESSIBILITY, and paragraph FALL HEIGHT as follows: 1) secure anchoring; 2) all hardware and connectors are tight and below the wear surface; 3) sharp points, edges, and protrusions; 4) entanglement; and 5) pinch, crush, and shear points.

1. Measure use zone distances to determine the area is free of hard surfaces, objects or obstacles. Determine exceptions to use zone overlaps occur in accordance with ASTM F1487. Measure play event fall height and compare to critical height value for the thickness of installed synthetic surfacing. Measure play event fall height and depth of loose fill protective surfacing.
2. Ensure installed chopped tire material is free from steel belts. Ensure the slide exit region has the required clear zone. Swing seat clearances are measured while occupied by a maximum user for the age group using the equipment.
3. The finished installation shall have the appearance of a single covering. Protective surfacing that does not comply shall be reinstalled. Hardware that does not comply shall be replaced. Ensure positive drainage for the area and the lowest elevation of protective surfacing subgrade has been provided.
4. A written report describing the results of the evaluation shall be provided.

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3.06 RE-INSTALLATION

- A. When re-installation is required, the following shall be accomplished.
 - 1. Re-install the product as specified. Provide new replacement materials supplied by the manufacturer (material acquisition of replacement parts is the responsibility of the Contractor). Damage caused by the failed installation shall be repaired at the Contractor's expense.

END OF SECTION 32 18 16.13

**ADDENDUM NUMBER TWO
TO PLANS AND SPECIFICATIONS FOR
NBISD ELEMENTARY SCHOOL
NEW BRAUNFELS INDEPENDENT SCHOOL DISTRICT**

**STANTEC ARCHITECTURE
1905 Aldrich Street-Suite 300
Austin, TX 78723**

FEBRUARY 24, 2023

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CLARIFICATIONS AND MODIFICATIONS TO THE PROJECT DOCUMENTS:

MEPT SPECIFICATIONS

- ITEM 01 SPEC 230963 - ENERGY MANAGEMENT AND CONTROL SYSTEM (NARRATIVE ONLY)
- A. Owner furnished equipment currently has factory-installed Trane controllers. Other controls contractors will be required to provide controllers to replace the Trane controllers.
 - B. Add Yates as an acceptable EMCS Vendor.

END OF ADDENDUM NO. 02

