

ADDENDUM 02

APRIL 16, 2026

iB 04_25_26 – CHRISTOPHER RANCH PLAYGROUND TURF REPLACEMENT

FOR

THE SANTA CLARA COUNTY OFFICE OF EDUCATION

This Addendum is hereby made part of the bid documents for the above-referenced project and serves to modify the original project specifications as outlined below. Please acknowledge receipt of this Addendum in your proposal. Failure to do so may result in disqualification of your response.

Part #1: Bid Schedule Revision:

Revised Sealed Bid Due Date:

3:00 PM on Thursday, April 23, 2026.

-End of Part #1-

Part #2: Response to Questions:

No.	Question	Response
001	ITB has conflicting information. Is Pre-Bid Conference / Site Visit mandatory or not?	Site visit is not mandatory.
002	Confirm Pre-Bid Site Visit location.	Refer to Addendum 01.
003	CUPCCAA – Do we need to register online for this project?	No.

-End of Part #2-

Part #3 Work Hours and Site Operations:

Work Hours and Site Operations

The project site is an active early learning campus. Work shall be planned and executed to minimize disruption to students, staff, and daily operations.

During School Hours:

The Contractor may perform mobilization activities during school hours, including delivery of materials, installation of temporary fencing, staging, and placement of temporary facilities (e.g., portable toilets).

Demolition, surface preparation, and installation activities that are non-disruptive (low noise, no vibration, no odors, and no safety impact) may also occur during school hours.

Non-Disruptive Work Defined:

Work that does not generate excessive noise, dust, vibration, odors (including VOCs), or create safety concerns for adjacent occupied areas.

Disruptive Work:

Any work deemed disruptive—including but not limited to use of heavy equipment (e.g., bobcats for grading), saw cutting, compaction, or activities generating noticeable noise, vibration, dust, or odors (including VOCs from adhesives or materials)—shall be performed outside of school hours (after school, weekends, or non-instructional days), unless otherwise approved in writing by the Owner.

Coordination:

The Contractor shall coordinate all work activities with the Owner in advance and provide a schedule identifying disruptive vs. non-disruptive work. Final determination of what constitutes disruptive work shall be at the discretion of the Owner. The Contractor shall be responsible for including all costs associated with phasing and work hour restrictions in their bid.

Safety and Separation:

At all times, the Contractor shall maintain secure separation between construction activities and occupied areas, including maintaining temporary fencing, controlled access points, and clear signage.

-End of Part #3-

Part #4 Turf & Surfacing Clarifications:

The following clarifications are provided regarding turf system requirements, existing conditions, and fall protection criteria:

The project intent is to remove and replace the existing artificial turf surfacing with a complete synthetic turf system that meets current applicable safety standards. Replacement “in kind” shall include compliance with current performance requirements.

Synthetic turf work shall comply with Section 32 18 13 – Synthetic Grass Surfacing. References to Section 32 18 16.13 – Playground Protective Surfacing are provided to establish performance requirements only, including impact attenuation in accordance with ASTM F1292.

Contractor shall provide all components necessary for a complete system, including turf, infill, base, and shock attenuation layer (pad) as required, to achieve compliance with ASTM F1292 for impact attenuation within playground equipment use zones.

Poured-in-place (PIP) rubber surfacing is not included in the scope of work. References to Section 32 18 16.13 are provided to establish performance requirements only.

Information regarding the existing turf product and existing subsurface conditions, including the presence of a shock pad, is not provided. Bidders shall base their proposals on furnishing a complete, compliant system, including replacement or installation of any required components.

Critical fall height for playground equipment is not specified in the Contract Documents. Contractor shall provide a turf system (including pad, if required) capable of meeting the applicable fall height performance criteria in accordance with ASTM F1292.

Contractor shall submit manufacturer documentation demonstrating that the proposed system is capable of meeting ASTM F1292 for the applicable fall height.

Final compliance with impact attenuation requirements will be verified by the Owner’s independent consultant.

Contractor shall include all costs necessary to meet these requirements in their base bid.

-End of Part #4-

Part #5 Site Photographs:

The attached photographs are provided for general reference only to assist bidders in understanding existing site conditions.

Bidders are responsible for verifying actual field conditions, including existing materials, subgrade, and system components.

The photographs shall not be interpreted as a complete representation of existing conditions or as limiting the scope of work required to provide a complete, compliant installation.

-End of Part #5-

Part #6 Attachments:

The following attachments are provided for reference and shall be interpreted in accordance with this Addendum.

- Addendum 01
- Attachment A – Section 32 18 13 – Synthetic Grass Surfacing
- Attachment B – Section 32 18 16.13 – Playground Protective Surfacing
- Attachment C – Site Photographs

-End of Part #6-

-END OF DOCUMENT-



ADDENDUM 01

APRIL 8, 2026

iB 04_25_26 – CHRISTOPHER RANCE PLAYGROUND TURF REPLACEMENT

FOR

THE SANTA CLARA COUNTY OFFICE OF EDUCATION

This Addendum is hereby made part of the bid documents for the above-referenced project and serves to modify the original project specifications as outlined below. Please acknowledge receipt of this Addendum in your proposal. Failure to do so may result in disqualification of your response.

1. SITE ADDRESS:

305 BLOOMFIELD AVENUE, GILROY CA 95020

+++ END OF ADDENDUM 01 +++

SECTION 32 18 13 - SYNTHETIC GRASS SURFACING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, apply to the work of this section.

1.2 DESCRIPTION OF WORK:

- A. The extent of work in this Section includes the provision and installation of the following synthetic grass paving materials, base foundations and appurtenances required for installation.
- B. The general extent of work for the Section is shown on the Drawings and includes, but is not limited to, the following:
 - 1. Synthetic grass surfacing (also referred to as Synthetic Turf).
 - 2. Foam cushion.
 - 3. Base preparation and installation.
 - 4. Nailing board.
 - 5. Perimeter concrete curb.

1.3 QUALITY ASSURANCE:

- A. All manufactured items shall be inspected and approved upon delivery.
- B. Coordinate all work with the work of other sections to avoid delay and interference with other work.
- C. Protect from damage and intrusion of deleterious materials during delivery, handling, storage, and installation.
- D. Installer's Qualifications:
 - 1. Successful experience in installation of synthetic grass surfacing of similar type to that specified, with a minimum of 25 projects completed within last 5 years.
 - 2. Employ persons trained for installation of synthetic grass surfacing.
 - 3. The synthetic grass installer must provide a list of references based on previous installations.

1.4 REFERENCES

- A. Related Sections:
 - 1. 32 13 13.1 Concrete Work (Landscape).
- B. ASTM Standard Test Methods:

1. ASTM F1951-99 Standard Specification for Determination of Accessibility of Surface Systems Under and Around Playground Equipment.
2. ASTM D 2859 - Standard Test Method for Ignition Characteristics of Finished Textile Floor Covering Materials.
3. ASTM F 1292 - Standard Specification for Impact Attenuation of Surface Systems Under and Around Playground Equipment.
4. US Consumer Product Safety Commission (CPSC) Handbook for Playground Safety.

1.5 SITE INSPECTION

- A. The inspection shall include a check for planarity. The finished surface shall not vary from a true plane more than 1/4" in 10 feet when measured in any direction. The Contractor shall provide all required tools and materials needed for the planarity check, which may include but not be limited to, a laser level, string line, straight edge and/or other assessment materials. The Contractor shall mark in the field any deviations from grade in excess of those specified above, as well as provide a marked up plan locating the deviations. The Contractor shall correct any deviations to the satisfaction of the Engineer and Synthetic Turf installer.
- B. The compaction of aggregate base shall be 95% to Standard Proctor and surface tolerances shall not exceed 1/4" over 10 feet.
- C. When any or all corrective procedures have been completed, the finished sub-base surface must be re-inspected, with the same representatives attending the initial inspection. If required, additional repair and inspections are to be conducted until the subbase surface is deemed acceptable by the Owner's Representative and Synthetic Grass installer.
- D. Commencement of work under this section shall constitute acceptance of the work completed under other sections, including acceptance of dimensions of the subbase.

1.6 ENVIRONMENTAL CONDITIONS

- A. Install synthetic turf surfacing only when ambient air temperature is 35 F or above and the relative humidity is below 35% or as specified by the product manufacturer. Installation will not proceed if rain is imminent.
- B. Install product only when prepared base is suitably free of dirt, dust, and petroleum products, is moisture free and sufficiently secured to prevent unwanted pedestrian and vehicular access.
- C. Maintain all benchmarks, monuments, and other reference points. If disturbed or destroyed, replace as directed.

1.7 QUALITY CONTROL

- A. Prior to the beginning of installation, the Synthetic Turf Installer shall inspect the subbase. The installer will accept the sub-base in writing when the general contractor provides test results for compaction, planarity and permeability that are in compliance with the synthetic turf manufacturer's recommendations and as stated herein.
- B. Remove defective Work, whether the result of poor workmanship, defective products or damage, which has been rejected by the Engineer as unacceptable. Replace defective work in conformance with the Contract Documents.

- C. It is the installer's responsibility to ensure that U.S. Product Safety Guidelines, ADA and referenced ASTM standards are complied with on playgrounds prior to installation, such as, but not limited to, safety fall zones are sufficient and fall heights are met.

1.8 SUBMITTALS:

- A. Product Data: Submit manufacturer's technical data and color samples for review and selection.
- B. Test Reports: Submit certified test reports from qualified independent testing agency indicating results of impact attenuation testing.
- C. Maintenance Instructions: Submit manufacturer's maintenance and cleaning instructions.
- D. Warranty: Submit manufacturer's standard warranty.

1.9 DELIVERY, STORAGE AND HANDLING

- A. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer. Inspect material in ensure nothing is broken, open or missing upon delivery to the project site. Adhesives shall arrive in dry, sealed containers.
- B. Storage:
 - 1. Store materials in accordance with manufacturer's instructions.
 - 2. Adhesive: Store adhesive in a dry area at a minimum temperature of 50 degrees F (10 degrees C).
 - 3. Store products in a location and in a position that protects them from crush damage or any other defects.
- C. Handling: Protect materials during handling and installation to prevent damage and to safely to ensure their physical properties are not adversely affected and that they are not subject to vandalism or damage.

1.10 SYNTHETIC GRASS WARRANTY

- A. Synthetic Grass Warehouse, Inc. (SGW) manufacturer's warrants that if the synthetic turf grass it manufactured and supplies proves to be defective in materials or workmanship resulting in premature wear, during normal use of the product, within fifteen (15) years from the date of manufacture, or suffers significant fading, breakdown or degradation due to exposure to natural ultraviolet rays within the same fifteen (15) year period, SGW will, at its sole option either 1) repair or replace the affected area without charge to the purchaser, or 2) issue a credit equal to the cost of the synthetic grass material. For the purpose of this warranty the product shall be deemed to have failed in the ultra-violet stability if the original tensile strength of the product decreases by more than 50 percent.
- B. Proration is as follows: years 1-8 (100%), years 9-12 (50%), years 13-15 (25%).
- C. In the event that SGW elects to issue a credit in lieu of repair or replacement, said credit shall only apply to the affected area of the synthetic grass giving rise to the claim. The credit shall be issued to the retailer, as a percentage of the replacement cost of new synthetic grass of the

same or comparable quality. The credit will be good only toward the purchase of SGW synthetic grass. There will be no cash payment.

- D. Warranty does not cover matting.
- E. Submit Manufacturer Warranty and ensure that forms have been completed in Owner's name and registered with Manufacturer.

1.11 FOAM PAD WARRANTY

- A. The Shock pad shall be covered by a 25-year limited warranty.
- B. Submit Manufacturer Warranty and ensure that forms have been completed in Owner's name and registered with Manufacturer.

PART 2 - PRODUCTS

2.1 TURF SYSTEM – TIGER TURF

- A. TigerTurf – Diamond Pro Fescue (or approved equal).
 1. Manufactured by TigerTurf New US Ltd. (800) 464.0477, available through Synthetic Grass Warehouse, (800) 730-2675. www.syntheticgrasswarehouse.com.
 2. Turf blades shall be 1.875 inch pile polyethylene monofilament with thatch construction, colors Field Green/Olive Green. Turf shall be designed specifically for landscape application.
 3. Synthetic turf products shall be lead free, non-toxic and contain no RCRA hazardous waste heavy materials. Shall be UV stabilized, have no harmful environmental effects, and be non-flammable, ant-acid yarn resistant to chemical attack.
 4. TigerTurf products meet the requirements for the American Society for Testing Materials F1292 certification. This testing certifies each of these products achieve the criteria for G-Max (shock) in addition to the Head Injury Criterion score, which measures the impact severity quantifying the risk of head trauma.
 5. Product Manufacturer shall be a member of The International Play Equipment Manufacturers Association (IPEMA), a non-profit membership trade association. This organization serves all playground equipment industry manufacturers and provides third-party product certification services for American public play equipment and surface materials. IPEMA promotes safety and in-depth information regarding issues affecting the playground equipment and surfacing industry. Product shall be certified IPEMA to ASTM F1292.
 6. Yarn characteristics:
 - Type: Monofilament PE with thatch
 - Composition/structure: Polyethylene.
 - Denier: 10,800/5,000
 - Colors: Field Green/Olive Green
 7. Turf characteristics:
 - Pile/Face Weight: Approximately 75 ounces
 - Pile height: Approximately 1.875 inches
 - Maching Gauge: 3/8 inch

Thatch Color: Brown

8. Manufactured Rolls:
 - Width: 15 feet
 - Length: 100 feet.
 - Shipping weight: 1209 pounds (approximate weight)
 - Roll diameter: 24 inches
 - Total product weight: approximately 116 ounces per square yard.
9. Particulate Infill:
 - Type: Quality infill
 - Height: Approximately .5 inch to .75 inch
 - Colors: Green.
 - For IPEMA Certification, infill must be 2 pounds per square foot of Envirofill, or approved equal, distributed by Synthetic Grass Warehouse, www.syntheticgrasswarehouse.com, (800) 730-2675. Infill shall be non-toxic, lead-free product with smooth surface, infused with Microban antimicrobial protection to prevent growth of mold and mildew.
10. Drainage rate:
 - 30+ inches of rain per hour per square yard.

2.2 SYNTHETIC GLUE MATERIAL

- A. Adhesive products shall be Nordot 34G, Mapei 2K, Turf Claw, hot melt technology or equivalent as approved by the engineer.
- B. Any adhesive products required for the installation of a proposed turf system shall be purpose-suited to the system. The material and application methods shall be as recommended by the adhesive manufacturer.
- C. Disposal of adhesive containers and unused adhesives as well as any fees resulting from such disposal shall be the responsibility of the Contractor.

2.3 FOAM PAD

- A. Schmitz Foam Products, ProPlay shock pad, puzzle shape edges for interlocking pads and no glue required, with vertical drainage characteristics. Contact local representative Gary Carr at (208) 720-7266, g.carr@schmitzfoam.com.
 1. The XPE foam flakes shall be sourced from clean post-industrial (pre-consumer) waste.
 2. The XPE foam flakes shall be closed-celled; the bonding of the XPE foam flakes shall be open to water infiltration.
 3. The XPE foam flakes shall be thermally bonded to a PES spunbond textile, with a mass of 70 g/m².
 4. The shock pad shall be manufactured in panels of 7.5' x 3.08'
 5. The shock pad sheets shall contain expansion slots (to the plane), to take in thermal expansion.
 6. The shock pad shall meet or exceed all performance properties listed in TABLE 1 of this section.

B. Foam Pad for Turf Grass Area: ProPlay Sport – 20, 20 millimeter thick foam padding.

TABLE 1 – ProPlay Sport - 20			
REQUIRED PERFORMANCE PROPERTIES FOR SYNTHETIC TURF SHOCK PAD			
PROPERTY	STANDARD	UNIT	TYPICAL VALUE
Thickness ^[1]	EN 1969	mm / in.	20 / 0.79
Mass per unit area		lb / square foot	.61
Tensile strength ^[2]	EN 12230	psi	38
Compressive strength @ 25% deflection Thickness after 72-hour recovery	ASTM D 3575	psi inches	12 0.79
Compressive strength @ 50% deflection Thickness after 72-hour recovery	ASTM D 3575	psi inches	49 0.79
Water flow rate under 2” hydraulic head	ASTM D 4491	gpm / ft ²	15
Water permeability by permittivity	ASTM D 4491	gpm / ft ²	5.9
Hydraulic transmissivity ^[3]	ASTM D 4716	gpm / ft	10
Water infiltration rate	EN 12616	in/hr.	Greater than 1000
Gmax / Impact attenuation ^[4]	ASTM F355	-	80-110
Thermal conductivity	EN 12667	W/m.K	0.03
[1] at a load of 2 kPa			
[2] tensile stress by tensile strength and product thickness			
[3] by in-plane flow rate at a hydraulic gradient of 0.005 (slope = 0.5%) and a load of 2 kPa			
[4] with typical turf system			
[5] by product dimensions			

C. Foam Pad for Turf Grass Area: ProPlay 25, 25 millimeter thick foam padding.

TABLE 1 ProPlay – Sport 25			
REQUIRED PERFORMANCE PROPERTIES FOR SYNTHETIC TURF SHOCK PAD			
PROPERTY	STANDARD	UNIT	TYPICAL VALUE
Thickness ^[1]	EN 1969	mm / in.	25 / 1.06
Mass per unit area		lb / square foot	1.22
Tensile strength ^[2]	EN 12230	psi	38
Compressive strength @ 25% deflection Thickness after 72-hour recovery	ASTM D 3575	psi inches	16 1.06
Compressive strength @ 50% deflection Thickness after 72-hour recovery	ASTM D 3575	psi inches	79 1.06
Water flow rate under 2” hydraulic head	ASTM D 4491	gpm / ft ²	14.7
Water permeability by permittivity	ASTM D 4491	gpm / ft ²	8.0
Hydraulic transmissivity ^[3]	ASTM D 4716	gpm / ft	155
Thermal conductivity	ASTM C 177	BTU/h.ft.f	0.03
Force Reduction {4}	AAA	%	70
Vertical Deformation	AAA	MM	11
[1] at a load of 2 kPa			
[2] tensile stress by tensile strength and product thickness			
[3] by in-plane flow rate at a hydraulic gradient of 0.005 (slope = 0.5%) and a load of 2 kPa			
[4] with typical turf system			

2.6 HEADERBOARD/PERIMETER NAILING BOARD: Recycled plastic nominal 2” by 4” continuous Bend-a-Board or equal.

- 2.7 CONCRETE PERIMETER PAVING: Refer to 32 13 13.1 Landscape Concrete and 32 11 23 Aggregate Base Course.
- 2.8 CLASS 2 PERMEABLE AGGREGATE BASE ROCK: Recycled permeable product composed of ¾' crushed concrete and minimal fine stones allowing it to be water permeable, meeting CalTrans specification for permeable class 2 base rock., available from Lyngso Garden Materials, Inc., (650) 364-1730, www.lyngsogarden.com.
- 2.9 ¼" MINUS QUARRY FINES: Graniterock of equal crushed granite. Material shall be ¼" minus and well graded to provide compaction and contain no large aggregate. Contact Southside Sand & Gravel (831) 630-3200.

PART 3 - EXECUTION

3.1 GENERAL

- A. Installation of the synthetic turf system is to comply with the manufacturer's recommendations, requirements and the reviewed and approved shop drawings.
- B. Perform all work in strict accordance with the Contract Documents and the manufacturer's specifications and instructions. Only those skilled technicians proposed in the bid phase are to be assigned to this project by the Contractor.
- C. The designated Supervisor for the Synthetic Turf Installer must be present during any and all construction activity associated with the field installation, including testing, cleanup and training.
- D. All products and equipment are to be from sources approved by the authorized turf manufacturer and conform to the specifications.

3.2 BASEROCK

- A. Class 2 aggregate baserock shall be carefully placed and compacted over the subgrade to the grades and elevations shown on the drawings. If the thickness of the planned bottom rock exceeds 6 inches, the rock shall be placed in horizontal layers not exceeding 6 inches and each layer compacted to 92 percent relative compaction with a vibratory smooth drum roller.
- B. Install class 2 permeable aggregate baserock over the perforated drain pipe, minimum 12" wide area, to allow for drainage. Compact to 75% relative compaction.
- C. Should any segregation of the material occur, during any stage of the stockpiling, spreading or grading, the Contractor shall immediately remove and dispose of segregated material and correct or change handling procedures to prevent any further separation.
- D. Final bottom rock grades shall conform to the lines and grades shown on the drawings. The measured grades shall not deviate more than 0.08 feet from the planned grades and not vary more than 0.04 feet in 10 feet in any direction. Laser grading is recommended.
- E. The top surface of the bottom rock shall be sloped as shown on the drawings.
- F. Bottom rock grades shall be completed by the Contractor and inspected by the Owner prior to commencing with the subsequent work items.

3.3 ¼" MINUS QUARRY FINES

- A. The quarry fines shall be carefully placed using a self-propelled paving machine in order to minimize segregation.
- B. Should any segregation of the material occur, during any stage of the work, the Contractor shall immediately remove and dispose of segregated material and correct or change handling procedures to prevent any further segregation.
- C. The finished surface shall be compacted to 92 percent relative compaction with a vibratory smooth drum roller to provide a non-yielding, smooth, flat surface.
- D. Final quarry fines grades shall conform to the lines and grades shown on the drawings. The measured grades shall not deviate more than 0.04 feet from the planned grades and not vary more than 0.02 feet in 10 feet in any direction. Laser grading is recommended.
- E. The top surface of the quarry fines shall be sloped as shown on the drawings.
- F. All quarry fines grades shown on the drawings shall be completed by the Contractor and inspected by the Owner prior to commencing with the subsequent work items.
- G. A small trial area (15 feet square, minimum) of quarry fines shall be installed prior to installing the complete surface. The Contractor's Synthetic Turf Installer shall observe the placement and compaction of quarry fines in the trial area and determine whether the surface is suitable to install the synthetic turf. The Contractor shall modify installation procedures and/or material used until the Contractor's Synthetic Turf Installer is satisfied.
- H. Field percolation testing shall be conducted by the Contractor. The Contractor shall correct the quarry fines layer, at no cost to the Owner, if the minimum percolation requirement is not achieved.

3.4 FOAM CUSHION INSTALLATION

- A. Install ProPlay Sport 20 foam pad where there is no fall zone indicated in the turf grass area. Install ProPlay 25 foam pad where there is a vertical fall zone of four (4) feet high and less within the turf grass fall zone area. Contractor shall adjust the elevation of the baserock beneath the foam pads so the finish surface of the padding is flush and uniform.
- B. The Contractor and the Installer shall handle the shock pad with caution to ensure it is not damaged in any way. Precautions shall also be taken to prevent damage to the sub-base during the installation of the material.
- C. Shock pad is installed as a series of interlocking panels per the instructions provided by the manufacturer
- D. Shock pad shall be installed with geotextile side up.
- E. Detailed installation guidelines (e.g. installation manual) shall be requested by shock pad Installer and provided by shock pad manufacturer
- F. Coordinate installation of foam pad with the synthetic turf installation as required to conform to both manufacturer warranties.

3.5 PERIMETER NAILER INSTALLATION

- A. Install recycled plastic perimeter nailer board in concrete band, 5/8" below adjacent concrete finished surface. Secure in place with 3/8" galvanized steel expansion bolts spaced 24" o.c.

3.6 TURF INSTALLATION

- A. Install synthetic turf system in accordance with the manufacturer's written installation instructions.
- B. Turf shall be attached to the perimeter edge as shown in the construction plans and as per the manufacturer.
- C. All seams shall be brushed thoroughly before infill materials are installed.
- D. All terminations shall be as detailed and approved in the shop drawings.

3.7 INFILL INSTALLATION

- A. The synthetic turf shall be thoroughly brushed prior to installation of infill materials to remove wrinkles.
- B. Turf shall remain free draining at all times before, during and after the infill materials are installed.
- C. Broadcast infill uniformly over the synthetic turf at a minimum rate of two (2) pounds per square foot.
- D. Comb to set infill.

3.8 CLEANING AND COMPLETION

- A. Protect all installed work from other construction activities as installation progresses.
- B. The Contractor shall keep the area clean throughout the construction period and free from the installation process, including track surfaces.
- C. Upon completion of the installation, thoroughly clean surfaces and site of all refuse resulting from the installation process, including track surfaces.
- D. Any damage to existing fixtures or facilities resulting from the installation of the synthetic turf system shall be repaired to original condition at the Contractor's expense prior to Substantial Completion and commencement of the Warranty Period.
- E. A punch list will be written by the Owner's Representative at the conclusion of the project. Installation project deficiencies must be remedied by the Contractor prior to the issuance of a certificate of Substantial Completion.
- F. Contractor to provide a written acceptance by the Turf Manufacturer that the turf and base system is installed in accordance with their recommendations prior to final completion.



TEST REPORT

CLIENT:

Company:	Synthetic Grass Warehouse	Report Number:	67702A
Address:	1400 N. Daly Street Anaheim, CA 92806	Lab Test Number:	2824-8895
		Test Completion Date:	6/10/2016
		Report Date:	6/14/2016
		Page:	1 of 1
Requested By:	Brad Neubauer		

TEST MATERIAL:

Material Type:	Synthetic Turf with infill	Date Received:	5/26/2016
Material Condition:	EXCELLENT: <input checked="" type="checkbox"/> XXX GOOD: <input type="checkbox"/> POOR: <input type="checkbox"/> REJECTED: <input type="checkbox"/>		
Identification	Diamond Pro 80		
Infill System:	2.5 lbs/ft ² 20/40 Silica Sand		

TESTING METHODS REQUESTED:

<i>Testing Services Inc. was instructed by the client to test for the following ...</i>	
Standard:	ASTM E648 Test Method: Standard Test Method for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source

SAMPLING PLAN:

Sampling Date:	5/28/2016
<ul style="list-style-type: none"> Specimen sampling is performed in the sampling department at TSI. The sampling size of specimens is determined by the test method requirements. In the event a specific sampling size is not called for, a determination will be made based on previous testing experience, and approved for use by an authorized manager. All samples are subjected to the outside environmental conditions of temperature and relative humidity. Sample requiring pre-determined exposure to specified environmental conditions based on a specific test method, take place in the departments in which they are tested 	

DEVIATION FROM TEST METHOD:

State reason for any Deviation from, Additions to, or Exclusions From Test Method.
None

TEST SUMMARY:

TEST METHOD	TEST DESCRIPTION	TEST RESULT	
ASTM E648-15e1	Critical Radiant Flux	Specimen #1	0.26 W/cm ²
		Specimen #2	0.21 W/cm ²
		Specimen #3	0.27 W/cm ²
		Average	0.25 W/cm²
	NFPA Classification	Class II	

Mounting Board: Calcium Silicate Board Adhesive: n/a Loose Laid in Tray Fitted for RP Chamber Carriage Radiometer #: 5356
 Conditioning: 96 hours @ 70°F 50% RH Calibration Curve: 350R

Uncertainty:

We undertake all assignments for our clients on a best effort basis. Our findings and judgments are based on the information to us using the latest test methods available. TSI can only ensure the test results for the specific items tested. Unless otherwise noted in the deviations sections of this report, all tests performed are in compliance with stated test method.

Test Report Approval:

 Erle Miles, Jr. VP, Testing Services Inc

TSI Accreditation: Our laboratory is accredited by the US Dept of Commerce, National Institute of Standards and Technology: ISO/IEC 17025:2005. Our code # is: NVLAP 100108-0. TSI is a certified independent testing laboratory by the Synthetic Turf Council

Form:	Rev:	Revision Date:	Page 1 of 1
Release Date:	Control Type: Electronic – Expires 24 hours after this date: Jun. 15, 16 Printed copies are uncontrolled		

OUR LETTERS AND REPORTS APPLY ONLY TO THE SAMPLE TESTED AND ARE NOT NECESSARILY INDICATIVE OF THE QUALITIES OF APPARENTLY IDENTICAL OR SIMILAR PRODUCTS. THESE LETTERS AND REPORTS ARE FOR THE USE ONLY OF THE CLIENT TO WHOM THEY ARE ADDRESSED AND THEIR COMMUNICATION TO ANY OTHERS OR THE USE OF THE NAME TESTING SERVICES, INC. MUST RECEIVE OUR PRIOR WRITTEN APPROVAL. OUR REPORTS, LETTERS, NAME, SEALS, OR INSIGNIA ARE NOT UNDER ANY CIRCUMSTANCES TO BE USED IN ADVERTISING TO THE GENERAL PUBLIC.

PO Box 2041
 Dalton, GA 30722-2041
 (706) 226-1400
 tsioffice@optilink.us

END OF SECTION

SECTION 32 18 16.13 - PLAYGROUND PROTECTIVE SURFACING

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes: Poured-in-Place Playground Surfacing System: Super-7 (when aromatic urethane for the top surface is specified) with a 7-year warranty & Extreme-10 (when aliphatic urethane for the top surface is specified) with a 10-year warranty.
- B. Related Sections:
 - 1. Drawings and general provisions of Contract, including General and Supplementary Conditions, apply to work of this section.
 - 2. Specification Section 11 68 16 Play Structures.
 - 3. Specification Section 32 13 13.1 Concrete Work (Landscape).

1.02 REFERENCES

- A. American Society for Testing and Materials (ASTM):
 - 1. ASTM C1028 Standard Test Method for Determining the Static Coefficient of friction of Ceramic Tile and Other Like Surfaces by the Horizontal Dynamometer Pull Meter Method – This standard replaces ASTM D2047.
 - 2. ASTM D412 Standard Test Methods for Vulcanized Rubber and Thermoplastic Rubbers and Thermoplastic Elastomers – Tension.
 - 3. ASTM D624 Standard Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers.
 - 4. ASTM D2859 Standard Test Method for Flammability of Finished Textile Floor Covering Materials.
 - 5. ASTM E303 Standard Test Method for Measuring Surface Frictional Properties using the British Pendulum Tester.
 - 6. ASTM F1292 Standard Specification for Impact Attenuation of Surfacing Materials within the Use Zone of Playground Equipment.
 - 7. ASTM F1951 Standard Specification for Determination of Accessibility of Surface Systems under and around Playground Equipment.
 - 8. ASTM F2479-12 Standard Specification for Purchase, Installation and Maintenance.

1.03 SYSTEM DESCRIPTION

- A. TotTurf® Supreme poured in place rubber playground surfacing shall consist of a polyurethane binder mixed with 100% recycled, shredded tire buffings which will make up the Cushion Layer. The Cushion Layer is capped with TPV (Thermal Plastic Vulcanized) granules mixed with an Aliphatic binder creating the Wear Course. Robertson Industries Inc. surfaces comply with ADA and CPSC guidelines as well as ASTM Standards. TotTurf® is certified by IPEMA, a third party testing organization for playground surfaces and equipment.

B. Performance Requirements:

1. Area Safety: Poured in place within playground equipment use zones shall meet or exceed the performance requirements of the CPSC, ADA and Fall Height Test ASTM F1292-13. The surface must yield both a peak deceleration of no more than 200 G-max and a Head Injury Criteria (HIC) value of no more than 1,000 for a head-first fall from the highest accessible portion of play equipment being installed as shown on drawings. IPEMA certification is required. (ASTM F1292-13 section 4.3.3: The laboratory test used to determine critical fall height shall have been conducted on surfacing material samples identical in design, materials, components, and thickness and manufactured as the installed playground surface).
2. Accessibility: NOTE: Children's outdoor play areas shall be in compliance with the Uniform Federal Accessibility Standards 9UFAS) FED-STD-795 and the Architectural and Engineer Instructions (9AEI) Design Criteria. The requirements of the Americans with Disabilities Act Accessibility Guidelines (ADAAG) 28 CFR Part 36 that provide equal or greater accessibility than the requirements of UFAS must also be met in children's outdoor play areas.
3. TotTurf® Supreme poured in place surfaces intended to serve as accessible paths of travel for persons with disabilities shall be firm, stable, and slip resistant, and shall meet the requirements of ASTM F195-14 and ASTM F1292-13.

1.04 SUBMITTALS

- A. General: Submit listed submittals in accordance with Conditions of the Contract and Submittal Procedures.
- B. Product Data: Submit manufacturer's product data and installation instructions available on website www.totturf.com.
- C. Verification Samples: Submit manufacturer's standard verification samples of 3" x 3" minimum in size.
- D. Certifications: A signed statement from the manufacturer of the poured in place surfacing attesting that all materials under this section shall be installed only by the Manufacturer's Trained Installers.
- E. A signed statement by an authorized official certifying that the surfacing system meets the requirements of ASTM F1292-13 for a head-first fall from the highest accessible portion of the specified playground equipment.
- E. Closeout Submittals: Submit the following:
 1. Warranty documents specified herein.

1.05 QUALITY ASSURANCE

- A. Qualifications: Utilize an installer approved and trained by the manufacturer of the playground surfacing system, having experience with other projects of the scope and scale of the work described in this section and shown on Drawings.
- B. International Play Equipment Manufacturers Association (IPEMA) certified.

1.06 DELIVERY, STORAGE & HANDLING

- A. General: Comply with Division 1 Product Requirement Section.
- B. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
- C. Storage and Protection: Store materials protected from exposure to harmful environmental conditions and at a minimum temperature of 40 degrees F (4 degrees C) and a maximum temperature of 90 degrees F (32 degrees C).

1.07 PROJECT/SITE CONDITIONS

- A. TotTurf® Supreme poured in place surfacing must be installed on a dry sub-surface, with no prospect of rain within the initial drying period, and within the recommended temperature range of the manufacturer. Installation in weather conditions of extreme heat, or less than 55°F, and/or high humidity may affect cure time and the structural integrity of the final product. Immediate surroundings of the site must be reasonably free of dust conditions as this could affect the final surface appearance. The manufacturer's Service Center Manager reserves the right to control the installation based on such factors without penalty to the company.

1.08 SEQUENCING AND SCHEDULING

- A. Sequencing and Scheduling: TotTurf® Supreme poured in place surfacing shall be installed after all playground equipment, shade structures, signs and any other items within the surfacing area. Surface installation will be coordinated by a Robertson Industries Inc. representative.

1.09 WARRANTY

- A. TotTurf® Supreme poured in place surfacing shall maintain required impact attenuation characteristics and be guaranteed against defects in workmanship and materials for a limited Five (5) year period or as specified and agreed upon per alternate contract. Warranty will be specific to maintenance requirements and performance standards of completed product.

PART 2 - PRODUCTS

2.01 POURED-IN-PLACE PLAYGROUND SURFACING SYSTEM

- A. Safety Surfacing shall consist of both recycled and synthetic materials meeting the requirements of this specification. The type of safety surfacing shall be TotTurf® Supreme,

manufactured and installed by Robertson Industries Inc., a PLAYCORE company, Telephone 800-858-0519, or its Certified Installers.

2.02 PRODUCT SCOPE

- A. Poured in Place Surface: The poured in place surface shall consist of 100 percent recycled shredded tire material mixed with a polyurethane binder and capped with a TPV granule mixed with an aliphatic binder.
- B. It shall consist of a uniform material manufactured in such a way that the Wear Course meets the requirements specified herein for wear surface.
- C. The type safety surfacing shall be a poured-in-place system and shall be indicated on the drawings.

2.03 CUSHION LAYER

- A. Impact Attenuating Cushion Layer: Cushion Layer consists of shredded styrene butadiene rubber (SBR) and/or cryogenic crumb rubber and adhered with a 100% percent solids polyurethane binder to form a resilient porous material.
- B. Strands of SBR may vary from 0.5 mm – 2.0 mm in thickness by 3.0 mm – 20 mm in length. Cushion material may have a 50% SBR Cryogenic Crumb Rubber (5-9 mesh) using a sieve analysis ASTM D5644 and a fiber content of .1% or less mixed in.
- C. Foam or standard rubber granules are not to be permitted in a Cushion Layer.
- D. Binder shall be between 10-14% percent of the total weight of the material, and shall provide 100% percent coating of the particles.
- E. The Cushion Layer shall be compatible with the Wear Course and must meet requirements herein for impact attenuation.

2.04 WEAR COURSE

- A. Wear Course shall consist of Thermal Plastic Vulcanized (TPV) granules with an Aliphatic binder formulated to produce an even, uniform, seamless surface up to 2000 square feet. (Contact sales representative for seamless pads over 2000 square feet).
- B. TPV material shall be angular granules with a (Shore A) hardness of 65°A ±5 and particle size between .5-1.5 mm. Binder shall be 22-24% percent of the total weight of TPV material used in the wear surface, and shall provide 100% percent coating of the particles. No other granule sizes are acceptable.
- C. Thickness of the Wear Course shall be ½” – 5/8” inch (minimum ½” inch, 12.7mm).
- D. The Wear Course shall be porous.

- E. See the TotTurf® Supreme PIP Specification for the TPV High Density wear resistant inserts under swings, slide exits, and high traffic areas.

2.05 BINDER

- A. No Toluene Diphenyl Isocyanate (TDI) shall be used. Aliphatic urethane is to be used.
- B. No filler materials shall be used in urethane such as plasticizers, and the catalyzing agent shall contain no heavy metals.
- C. Weight of polyurethane shall be no less than 8.5 lbs/gal (1.02 Kg/1) and no more than 9.5 lbs/gal (1.14 Kg/1).
- D. Manufacturer is permitted to modify the type of urethane required to match extreme weather conditions. Substitutions must be equal to or exceed Aliphatic quality.

2.06 MATERIALS

- A. Wear Course – TotTurf® Supreme TPV Granules
 - Manufacturer: Rosehill Polymers
 - As Distributed by: Robertson Industries Inc. (800) 858-0519
 - Location Used: Playground Area
- B. Cushion Layer – TotTurf® Shredded SBR and/or Cryogenic Crumb Mixture
 - As Distributed by: Robertson Industries Inc. (800) 858-0519
 - Location Used: Playground Area

PART 3 EXECUTION

3.01 EXAMINATION

- A. Substrate preparation must be in accordance with surfacing manufacturer's specification. New asphalt must be fully cured – up to 30 days. New concrete must be fully cured – up to 7 days.
- B. Proper drainage is critical to the longevity of the Poured-in-Place surfacing system. Inadequate drainage will cause premature breakdown of the poured system in affected areas; and void the warranty.
- C. Finished Grade/Slope: Verify that finished elevations of adjacent areas are as indicated on the architectural or site plans, that the appropriate sub-grade elevation has been established for the particular safety surface to be installed, and that the subsurface has been installed per architectural, site or equipment plans while meeting accessibility and use zones requirements.
- D. Aggregate Sub Base: Tolerance of aggregate sub base shall be within 3/8" inch (10 mm) in 10' ft (3050 mm). Verify that aggregate sub base has been fully compacted. Per ADA

Guidelines: compacted Aggregate sub base – 4” inches of 3/4” inch minus irregular stone with fines compacted to 95% percent in 2” inch watered lifts.

- E. Concrete Sub Base: Tolerance of concrete or bituminous sub base shall be within 1/8” inch (3.0 mm) in 10’ feet (3050 mm). Per ADA Guidelines: Concrete a minimum of 3”– 4” inches at a minimum 2500 PSI. Concrete must cure for 7 days prior to application of cushion layer. Concrete must cure 28 days if wear course is to be applied directly to concrete surface. If Poured in Place surfacing is installed, verify that the Concrete Sub Base has cured (all areas appear white in color usually at 7 days) and that all concrete curing compounds and other deleterious substances that might adversely affect adhesion have been removed. Surface shall be clean and dry.
- F. Asphalt Sub Base: Asphalt cure time requires 14 days. Once the new asphalt has cured, it must be pressure washed prior to the surfacing being installed. The contractor shall be responsible for flooding the pad to ensure proper slope and tolerance. Any areas holding enough water to cover a flat nickel shall be patched prior to the arrival of our installation crews.
- G. Drainage: Verify that sub-surfacing drainage, if required, has been installed to provide positive drainage.

3.02 INSTALLATION

- A. Poured in Place Surfacing: Components of the poured in place surfacing shall be mixed on site in a rotating tumbler to ensure components are thoroughly mixed and are in accordance with manufacturer’s recommendations. Installation of surfacing shall be seamless up to 2,000 square feet per day and completely bonded to concrete of sub base. Material shall cover all foundations and fill around all elements penetrating the surface.
- B. Cushion Layer: Whenever practical, cushion layer of surfacing material shall be installed in one continuous pour on the same day of up to 2,000 square feet. When a second pour is required, step the seam (see detail) and fully coat the step of the previous work with polyurethane binder to ensure 100% percent bond with new work. Apply adhesive in small quantities so that new cushion layer can be placed before the adhesive dries.
- C. Wear Course: Wear Course must be TPV (Thermoplastic Elastomer Vulcanized) rubber granules. Wear surface shall be bonded to Cushion Layer. If necessary, additional primer will be used between the cushion layer and Wear Course. Apply adhesive to Cushion Layer in small quantities allowing the Wear Course to be applied before adhesive dries. Surface shall be hand troweled to a smooth, even finish. Except where the Wear Course is composed of differing color patterns, pour shall be continuous and seamless up to 2,000 square feet per day; (Contact sales representative for seamless installations in excess of 2000 square feet). Where seams are required due to color change, size or adverse weather, a step configuration will be constructed to maintain Wear Course integrity. The edge of initial pour shall be coated with adhesive and wearing surface mixture shall be immediately applied. Pads with multiple seams are encouraged to include a top coat of urethane before being placed into use. Butt joint seams are not acceptable except for repairs. Under

special conditions and with owners written approval seams may be permitted in same color pad. Consult with manufacturer for specific applications.

- D. Thickness: Construction methods, such as the use of measured screeds or guides shall be employed to ensure that full depth or specified surfacing material is installed. Surfacing system thickness throughout the playground equipment use zone shall be as required to meet the impact attenuation requirements specified herein.
- E. TotTurf Supreme Fall Height Requirements (Contractor shall confirm thickness is adequate for fall height from play apparatus):

Critical Play Height of Equipment:	Total System Depth:
Up to 4'	2"
Up to 5'	2.5"
Up to 6'	3"
Up to 8'	4"
Up to 9'	4.5"
Up to 11'	5"
Up to 12'	5.5"

Each system depth consists of the cushion material with ½" of TotTurf Supreme Granules on top.

3.03 CLEAN UP

- A. Manufacturer's installers shall work to minimize excessive adhesive on adjacent surfaces or play equipment. Spills of excess adhesive shall be promptly cleaned.

3.04 PROTECTION

- A. The safety surface shall be allowed to fully cure in accordance with Manufacturer's instructions. The surface shall be protected by the owner from all traffic during the curing period of 48 hours or as instructed by the Manufacturer.

3.05 MANUFACTURER'S SERVICES

- A. For poured in place safety surfacing, a manufacturer's representative who is experienced in the installation of playground safety surfacing shall be provided. The representative shall supervise the installation to ensure that the system meets the impact attenuation requirements as specified herein.

3.06 SECURITY AND WASTE DISPOSAL

- A. Surface installation crew shall be responsible for the protection of surface during the installation process while on site only. Owner or general contractor shall be responsible for

the protection of the surface during the curing period upon completion of the installation and overnight during the installation. Owner or general contractor shall be responsible for having a dumpster on site for all waste and debris. Failure to provide security and a dumpster will result in additional cost.

3.07 UTILITIES AND ACCESS

- A. Power and water must be available within 300 feet of installation. Site will require tractor-trailer access. In a case where tractor-trailer access is not possible, owner or general contractor shall be responsible for transporting materials from delivering carrier to the installation site.

END OF SECTION

ADDENDUM 02
ATTACHMENT 'C'

APRIL 16, 2026

iB 04_25_26 – CHRISTOPHER RANCH PLAYGROUND TURF REPLACEMENT

FOR

THE SANTA CLARA COUNTY OFFICE OF EDUCATION







