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August 8, 2014

ADDENDUM NO. 1
FOR
WADE STADIUM IMPROVEMENTS
PHASE 1: FIELD AND LIGHTING

PROJECT # P14-08-EB
BID # 14-23DS

DULUTH, MINNESOTA
TKDA PROJECT NO. 15609.000

The following interpretations, clarifications, supplements, and changes shall be made to the Bidding and Contract Documents dated July 28, 2014, for the above referenced project. Please attach this Addendum to the Project Manual in your possession.

The bid date of August 15, 2014 at 2:00 p.m., remains unchanged.

A. CLARIFICATIONS

1. A Project Labor Agreement (PLA) is required for this project.
2. The contractor shall submit with the bid a proposed schedule of construction. The schedule shall account for the time required for AstroTurf to install their product. AstroTurf has indicated that they will require a minimum of 20 working days that are moisture free with non-freezing temperatures (glue is temperature sensitive), and preferably in the 40's to 50's. High wind days also inhibit the ability to perform the work. They anticipate working 5-6 days a week. Bids will be evaluated on a combination of bid amount and understanding of project and schedule.
3. All eligible bidders shall be prepared to provide the City with the required City of Duluth forms for Payment and Performance Bonds, as well as a Certificate of Insurance if not already on file with the City. City insurance requirements are \$1.5 million for both general liability, and auto, with the City of Duluth listed as an additional insured for each. **Awarded bidder is required to have insurances and bonds in place with the City no later than Tuesday, August 19th.**
4. The City will be taking photographs regularly throughout the project with a webcam installed by owner, and left in operation throughout the duration of the work.
5. The contractor is responsible for applying for and obtaining the NPDES Permit.
6. Testing will be paid for by the City. If Contractor work fails to meet the initial test for compliance, subsequent retesting shall be paid for by the Contractor. The Contractor may, at their own expense, provide testing of materials for spec compliance prior to delivery to the site.
7. Specifications – Appendix information is provided for reference only and is not an indication of what is, or what is not, included as the contractor's scope of work.

8. Soils boring test results are attached in the Appendix.
9. Hazardous materials testing of the existing paint on the outfield wall has revealed a small presence of lead paint. The City will handle abatement of the paint, as well as removals required to access the wall, under separate contract. As such, removal and disposal of the following systems are being fully deleted from the contractor's scope of work: vinyl advertising banners, plywood wall panels and 4x6 wood framing system. Contractor will remain responsible for patching of holes in the existing concrete wall, washing and preparing the wall for painting, and the painting itself.

B. CHANGES TO SPECIFICATIONS

1. Section - Table of Contents
 - a. **ADD** Updated Table of Contents to reflect specification section changes (included with this addendum).
2. Section – Invitation to Bid
 - a. **Change** the first paragraph of the project description in the Invitation to Bid to read as follows:

"In general, this project consists of: Site work in preparation for artificial turf, coordination with turf supplier/installer, removal of existing stadium lighting for replacement with new, and miscellaneous site and utility improvements."
3. SPECIFICATION SECTION 02 41 19 - SELECTIVE DEMOLITION AND ALTERATIONS
 - a. **REPLACE** 3.04, Article A, with the following:

"A. Face Brick. Salvage face brick for future brick work to be performed under a separate contract. Salvaged brick shall be removed and handled with care to minimize cracks or chips, and shall be stockpiled onsite in location designated by Owner. Contractor is responsible for removal of mortar and cleaning of brick only as required at locations where adjacent brick demolition necessitates patching and repair of the wall scheduled to remain. Cleaning and removal of mortar from salvaged brick is not required of the brick to be stored for future work."
4. **ADD** SPECIFICATION SECTION 09 91 00 - for exterior painting of steel foul poles, steel handrails, and miscellaneous steel scheduled for the jambs of new brick openings at the 3rd baseline exterior wall. (attached).
5. **ADD** SPECIFICATION SECTION 09 96 30 - for elastomeric coating of the interior surface of the concrete outfield wall. (attached).
6. **DELETE** SPECIFICATION SECTION 11 63 33 – Baseball Field Equipment and **REPLACE** with attached SPECIFICATION SECTION 11 63 34 – Baseball Field Accessories.
7. **ADD** SPECIFICATION SECTION 31 20 25 – Base Preparation (attached).
8. **DELETE** SPECIFICATION SECTION 32 90 10 Landscaping, **REPLACE** with SPECIFICATION SECTION 32 90 20 Protection and Restoration. (attached).

9. Appendix – **ADD** Soil Boring Information.
10. Appendix – **ADD** the following information to the Astro Turf Spec:

F. Aggregate Finish Course.

- a. Place only approved aggregate to a maximum depth of 2 inches.
- b. Compaction is to be achieved by using a roller. Aggregate shall be wetted during the compaction process. The finished course shall be free of all impressions, roller marks, etc.
- c. Laser grade to achieve the desired elevation to a tolerance of 1/2-inch of a 10-foot continuous span. Failure to achieve such requirements will result in re-grading the unacceptable areas of the base.

C. CHANGES TO PLAN SHEETS AND DRAWINGS

1. PLAN SHEET A0.1 – DRAWING 1:

At demolition of "Kennel Klub" building, note references 1998 drawings for construction type. Those existing drawings may be requested from TKDA for bidders' use. Note that those existing drawings depict only the storage portion of the building (24' X 24'). The concession room (approximately 24' x 16') was added separately, and the drawings are not available.

2. PLAN SHEET G1.0 – Sheet "C2.3 Site Plan" is added to the sheet index. Reference to the drawing was inadvertently omitted from the bid set index of drawings.

3. PLAN SHEET C1.1 – Lineweight of existing fencing scheduled for removal is thickened for clarity.

4. PLANSHEET C2.3 – Notes added along fence line indicating new pivot points, alignments, attachment locations, and height transitions from 3.5' to 8'.

5. PLAN SHEET C3.1 – Add note " Angle point position" indicating new fence pivot points along the edge of the field."

6. PLAN SHEET C3.2 – Add note " Angle point position" indicating new fence pivot points along the edge of the field."

7. PLAN SHEET C5.2:

Drawings 1 & 2: "plan view" added to drawing title for clarification.

Drawing 4: Revised notes for rebar placement to indicate "each way".

Drawing 5: Note changed to read "Geotextile fabric liner" in the typical field section to indicate a permeable liner will be placed below the filter rock.

8. PLAN SHEET C5.3:

Drawings 2 & 3: Add notes reading "Top rail by fence supplier" and "safety netting, see arch" both to clarify safety net installation above 3.5' fence in front of bleachers. Dimension at slab section revised to read "approximately 16' (see plan)" denoting that the width of the slab alongside the bleachers will vary in width due to the existing concrete pad not being square to the new retaining wall.

Drawings 4 & 5: Add note reading "#4 rebar 16" o.c. typ. each way. #5 rebar 16" o.c. each way for 8" drive surfaces. See plan for locations" to indicate rebar to be placed in two directions.

9. PLAN SHEET A0.1:

Drawing 1: Detail callouts and notes indicating demolition of the 3rd baseline alcoves, as well as storage room slab removal, incorrectly refer to Sheet A1.1. Those references should instead be changed to call out said drawings on Sheet A0.1. Additionally, notes regarding removals at the outfield wall have been modified and/or deleted, and moved to a separate contract as mentioned in the Clarifications section of this Addendum. The following note has been added to the outfield wall: "Plug/patch holes through wall which are left exposed by demolition performed under separate contract." The holes to be patched are those where through-bolting for the framing system of the current plywood wall paneling occurs.

Drawings 3 & 5: Notes indicating height of existing alcove walls scheduled for removal shall be changed **from** "7' x 8" high" **to** read "7'-8" high". Additionally, add the following note to each of said drawings – "Unknown if alcove wing walls have existing foundation walls. For bidding purposes, assume removal of the top 2'-0" minimum of foundations for alcove wing walls to accommodate the scheduled work. Notify architect of existing conditions upon schedule removal of surface materials. Note that the continuous exterior wall foundation shall remain, and that foundation removal is limited only to the footprint of the wing walls."

10. PLAN SHEET A1.1:

Drawing 1: At 3rd base existing metal bleachers, add to the note regarding chain-link closure at underside of bleachers the following: "**4'-0" high +/- Field verify.**" Additionally, remove the same note reading "4'-0" high +/- Field verify" from the end of the references to chain-link and safety netting in front of the metal bleachers. Add the following note for each of the concrete walks scheduled in front of existing bleachers at both 1st baseline and 3rd baseline: "Concrete surface to be graded such that existing metal stair systems, when reinstalled, finish flush from the top tread of the existing stair to the first aisle surface of the existing bleachers. Field verify elevations."

Drawing 3: Drawing revised to omit brick infill from Phase 1 scope of work, and instead provide temporary framed plywood partition at each of (2) wall openings in 1st baseline exterior wall.

11. PLAN SHEET A1.2:

Drawing 1: Drawing revised to omit from the field turf layout the warning-track colored paths that occur between the dugouts and home plate, and to revise the concrete edge dimensions at and around dugouts and new 1st baseline stair/ramp. Home team bullpen and batting cage is shifted away from the playing field.

12. PLAN SHEET A2.1:

Drawings 3 & 5: Temporary wall cap construction on damaged portion of 1st baseline exterior wall is revised from system consisting of wood blocking and metal cap, to a membrane wrapped over the top of wall and fastened to each side of the brick wall.

13. PLAN SHEET A2.2:

Drawing 2: Drawing revised to omit brick infill from Phase 1 scope of work, and instead provide temporary framed plywood partition at each of (2) wall openings in 1st baseline exterior wall.

Drawings 8, 9 & 10: Drawings revised to change the stair proportions and tread count for the 1st baseline and 3rd baseline concrete stairs, as well as shorten the width for the 1st baseline concrete stair. Spot elevations are provided at corners, top & bottom, of stairs and ramps.

14. PLAN SHEET E2.1:

Added conduit between bullpens and dugouts and added handholes in spectator plaza areas.

D. ADDENDUM ACKNOWLEDGEMENT

This Addendum of 5 pages and attachments noted herein shall be acknowledged in the appropriate location on the Bid Form. Failure to acknowledge this Addendum may disqualify your Bid.

END OF ADDENDUM

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SECTION 09 91 00
EXTERIOR PAINTING

PART 1 - GENERAL

1.01 SUMMARY

- A. These specifications cover the complete painting and finishing of new steel handrails located along 1st baseline and 3rd baseline stairs and ramps, new steel provided at the jambs of the two scheduled 3rd baseline brick wall openings, and the two existing steel foul poles. Existing foul poles are being removed from the existing wall, and may be painted at grade prior to reinstallation.
- B. The painting contractor shall furnish all material, labor, and equipment required to complete all painting and finishing as shown on the Drawings, and specified in the Project Manual.
- C. The painting contractor shall examine the specifications for the various other trades and shall thoroughly familiarize himself/herself with all their provisions regarding their painting. All surfaces that are left unfinished by the requirements of other specifications shall be painted or finished as a part of this contract.
- D. Copper, bronze, chromium plate, nickel, stainless steel, aluminum, Monel metal, lead and lead-coated copper shall not be painted or finished, except as otherwise specified.
- E. The painting contractor shall be responsible for inspecting the work of others prior to the application of any paint or finishing material. If any surface to be finished cannot be put in proper condition for finishing by customary cleaning, sanding, and puttying operations, the painting contractor shall immediately notify the Architect in writing or assume responsibility for and rectify any unsatisfactory finish resulting.
- F. Related Work:
 - 1. The contractor providing the work of this section shall examine the specifications for the various other trades and shall familiarize himself/herself with all their provisions regarding their painting and he/she shall understand that all surfaces that are left unfinished by the requirements of other specifications shall be painted or finished as a part of this section and as scheduled.

1.02 REFERENCES

- A. ASTM D16 - Definitions of Terms Relating to Paint, Varnish, Lacquer, and Related Products.
- B. ASTM D2016 - Test Method for Moisture Content of Wood.

1.03 DEFINITIONS

- A. Conform to ASTM D16 for interpretation of terms used in this Section.

1.04 SUBMITTALS

- A. Submit under provisions of Section 01330.
- B. Proposed Materials:

1. Submit list of proposed material including manufacturer's name, trade name and data for each product.
- C. Colors and Samples:
1. All colors shall be selected or approved by the Architect. Refer to Section 01300 - Submittals for additional requirements.
 2. Upon request, the painting contractor shall prepare and submit finished samples of specified materials for approval by the Architect. Successive coats on these sample panels shall be applied in such a way that portions of all preceding coats remain exposed. Samples shall be retained by the Architect to compare with the finishes as they are applied.

1.05 QUALITY ASSURANCE

- A. Qualifications:
1. Manufacturer:
 - a. All materials used on the work be as specified in brand and quality. No claim by the painting contractor to the unsuitability of any material specified, or his/her unwillingness to use same, or his/her inability to produce first class work with same, will be entertained unless such claims are made in writing and submitted prior to receipt of bids.
 - b. All paints, varnishes, enamels, lacquers, stains, paste fillers, and similar materials must be delivered in the original containers with the seals unbroken and labels intact.
 2. Contractor
 - a. Employ skilled mechanics to ensure the very best workmanship. Quality workmanship is required. Materials to be applied by craftsmen experienced in the use of the specific product involved.
 3. Job Mock-up
 - a. Before proceeding with any painting, prepare and finish a sample area, complete or in part, as directed by the Architect. Finish all areas or items in accordance with the specification and in colors selected by the Architect. These areas or items will be inspected by the Architect and/or his/her representative; if such areas or items are not approved, finish another sample area. When approved they shall serve as a standard for workmanship, appearance and materials approved for similar areas or items throughout this project.

1.06 REGULATORY REQUIREMENTS

- A. Conform to applicable code for flame and smoke rating requirements for finishes.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, protect and handle products to site under provisions of Section 01600.
- B. All materials used on the job shall be stored in a single place designated by the Owner or the Architect. Such storage place shall be kept neat and clean and all damage thereto or to its surroundings shall be made good by the painting contractor. All soiled or used rags, waste, and trash shall be removed from the building each night, and every precaution taken to avoid the danger of fire. Latex paints must be stored at above freezing 32° F temperatures.
- C. The painting contractor shall protect surfaces and objects outside the building against damage. The painting contractor shall hold himself/herself responsible for damage to adjacent property.

- D. At completion of work, the painting contractor shall remove from the premises all surplus painting materials and all debris created by him/her; he/her shall remove all spatters and leave his/her part of the work in a clean and finished condition.

1.08 ENVIRONMENTAL REQUIREMENTS

- A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.
- B. When surface temperature is below 50° F do not apply paints, varnishes or special coatings unless otherwise specified. Do not paint exteriors during frosty or rainy weather. Avoid painting surfaces while they are exposed to hot sun..

1.09 JOB CONDITIONS

- A. Cleaning:
 - 1. Areas to be painted shall be cleaned and free of dust and shall remain in that condition through the painting process.
- B. Protection:
 - 1. The painter shall not only protect his/her work at all times but shall also protect all adjacent work and materials by suitable covering or other method during progress of the work.

1.10 EXTRA MATERIALS

- A. Furnish under provisions of Section 01700.
- B. Provide 1 quart of each color to Owner.
- C. Label each container with color, type, and room locations in addition to the manufacturer's label.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Pratt & Lambert Company.
- B. Other acceptable manufacturers offering equivalent products:
 - 1. Benjamin Moore & Co.
 - 2. ICI Paints
 - 3. PPG Industries.
 - 4. Sherwin Williams Company.
 - 5. Valspar.
- C. Substitutions: Under provisions of Section 01600.

2.02 MATERIALS

- A. All materials on the work shall be of the brand and quality specified and shall be delivered at the site of work in original containers with seals unbroken and labels intact.
- B. All materials shall be used strictly in accordance with manufacturer's label directions.

- C. All materials such as linseed oil, shellac, and turpentine shall be pure and of highest quality and approved by the Architect. They shall bear identifying labels on the containers.
- D. Any necessary materials not specifically covered and specified in this contract shall be subject to the Architect's approval and the Contractor shall submit to the Architect., before any materials are delivered, the name and the brand of the materials which he proposes to use and shall receive an approval of same in writing from the Architect.

2.03 COLORS

- A. There will be one color to match the color of existing painted steel handrails and guardrails.
- B. There will be one color to match the color of existing steel foul poles.
- C. There will be one color to be determined for the new steel provided at the jambs of the two scheduled 3rd baseline brick wall openings.

2.04 PAINTING SCHEDULE

- A. Refer to schedule at end of section for surface finish schedule.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify site conditions under provisions of Section 01300.
- B. Verify that surfaces are ready to receive work as instructed by the product manufacturer.
- C. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially affect proper application.
- D. Test shop applied primer for compatibility with subsequent cover materials.
- E. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:
 - 1. Wood: 15 percent, measured in accordance with ASTM D2016.
 - 2. Masonry: Mortar, block, brick, concrete or any other masonry related surface shall not be painted if its moisture content exceeds 12%. If moisture content is between 8% and 12%, prime with an Alkali Resistant Primer in place of specified primer.

3.02 SURFACE PREPARATION

- A. All surfaces shall be sound, clean, and free of oil, grease, loose or peeling paint, and other foreign substrates.
- B. New Exterior Wood: Prime and paint as soon as possible. New exterior wood shall not be primed until its moisture content is less than 15%. Countersink nailheads. Caulk nailheads and joints or cracks with latex-type caulk. Seal all knots and sap streaks. Sand rough areas and wipe clean. Prime entire surface with exterior wood primer.
- C. New Concrete Walls: Poured concrete shall cure at least 30 days. Removal of laitance shall be accomplished by use of acid etching. Follow manufacturer's application and

safety directions. Rinse clean. In many cases, concrete is contaminated with form release oils or bond breakers from the forms used. All of these materials shall be completely removed by sandblasting before coating. Cracks, voids, and large voids shall be filled by repointing, caulking, or other approved methods. Open textured block shall be filled with an appropriate block filler before topcoating.

- D. New Steel: Surfaces that exhibit mill scale, rust formation, etc. shall be cleaned by hand scraping, wirebrushing, power tool scraping, or sandblasting.
- E. New Galvanized Iron: Acid etch or clean thoroughly with a grease cutting solvent such as mineral spirits. Prime with a galvanized metal primer.
- F. Previously Painted Surfaces: Remove all blistered, peeling and scaling paint to a sound substrate. Remove heavy chalk by scrubbing with soap and water. Sand any glossy areas and dust clean. Clean and spot prime any failed areas. Use soap and water on protected areas such as ceilings to remove invisible residues. Rinse clean and let dry. Any existing mildew on the surface shall be completely killed and removed before applying paint.
- G. This contractor will remove and reinstall, or provide acceptable in-place protection for, all installed hardware, accessories, lighting and electric components, factory finished materials, plumbing fixtures and fittings and any other materials that may become splattered or damaged by the paint or coating materials.

3.03 SCAFFOLDING AND PROTECTION:

- A. This contractor shall furnish all required ladders, stages, scaffolds, etc. and they must be in safe condition, having adequate strength to support maximum work load, and complying with all current OSHA regulations.
- B. Scaffolds, ladders, etc. must not be left where they would interfere with other workmen, when not in daily use.
- C. This contractor must not only protect his work, but also that of other trades.
- D. This contractor is responsible for removal of all paint or coating splatter, spills, etc. on floors or adjacent colors, material, glass, hardware and other finished surfaces.
- E. This contractor must leave premises clean and free from all rubbish and accumulated material left from his work.

3.04 APPLICATION

- A. All work shall be done by skilled mechanics in accordance with the best standard practice and in a manner acceptable to the Architect. Any work not conforming to these specifications shall be corrected to the satisfaction of the Architect. Such corrections shall be made at the expense of the painting contractor.
- B. All materials shall be applied to surfaces that are dry and properly prepared and when weather conditions are favorable for painting. Exterior surfaces shall not be painted in damp, frosty or cold weather. Latex paints shall not be applied when surface or air temperature is below 50° F.
- C. All finishes shall be evenly applied and free from sags, runs, crawls, brush marks, skips or other defects. Make edges of paint, stain, or coating adjoining other materials or colors, sharp and clean, with no overlapping.

- D. When paint, stain or coating is brush applied, each coat shall be brushed out uniformly to eliminate laps, skips and excess brush marks.
- E. When paint, stain or coating is roller applied, proper skill must be used to avoid all signs of lapping and excess paint lines from edge of roller. When cutting in with a brush is required, these areas must be of the same texture, color and hiding as adjacent areas, to assure good appearance.
- F. When a paint, stain, or coating is applied by spray, the work shall be done before the installation of fixtures, hardware, flooring and other finish items. If installed, these must be thoroughly protected from the paint, stain or coating. The paint, stain or coating shall be applied only by skilled painters, to assure a uniform finish, with no evidence of poor or improper application.
- G. Each coat of clear finish or enamel shall be lightly sanded and wiped free of dust before applying the next coat.
- H. Block Filler when applied to concrete or lightweight block shall in two coats:
 - 1. Retain only slight surface texture with no pinholes, or;
 - 2. Retain no block surface texture, only pattern from brush or roller, no pinholes, or;
 - 3. Smooth the filler with a squeegee to leave the surface film with no pinholes.
- I. Products shall be applied at the proper consistency and shall be thinned, tinted, or otherwise altered only in accordance with the manufacturer's printed directions.
- J. If the finish coat is to be colored, the prime coat and the intermediate coat shall be tinted to have a slight variation in color from each other and from the finish coat.
- K. All materials shall be applied to surfaces that are dry and properly prepared.
- L. Each coat of material shall be thoroughly dry before application of the succeeding coat.
- M. When enamels and varnishes are being applied, the wood surface shall be lightly sanded and thoroughly dusted before application of the first coat.
- N. Tops of all upper sash and bottoms of all lower sash shall be finished the same as exterior finish. Tops, bottoms, and edges of doors shall be finished the same as balance of doors after they are fitted by the carpenter.
- O. All necessary puttying of nail holes, cracks, and other defects shall be done after application of the first coat, using putty of a color to match that of the finish. Putty shall be brought flush with the adjoining surface.
- P. To prevent bleeding or discoloration, all knots, pitch streaks, and sappy spots shall be sealed before application of the prime coat.
- Q. All metal surfaces shall be washed with mineral spirits to remove any dirt, oil or grease before being painted. Remove rust and scale by wire-brush or sanding before painting. Shop coats of paint that become badly weathered, worn, or marred shall be cleaned and spot-primed by the painting contractor with the recommended metal primer.
- R. Back prime exterior trim before installation with primer specified.
- S. All work, where a coat of material has been applied, must be inspected and approved by the Architect before the application of the succeeding specified coat; otherwise, no credit for the coat applied will be given, and the contractor shall then assume the responsibility

and recoat work in question. The painting contractor shall furnish the Architect a report of each coat applied, when complete, for inspection and approval to comply with the above.

- T. The painting contractor shall notify the Architect in writing of any surface which he/she considers not his/her responsibility, of any defects in surfaces to be painted, or of any error or omissions in the Drawings or in the Specifications. The painting contractor shall not proceed with the finishing of the surfaces in question until an agreement has been reached with the Architect concerning all alleged discrepancies. The starting of work on any surface shall imply that the surface has been inspected and approved by the painting contractor.
- U. Spot painting to correct soiled or damaged paint surfaces will be allowed only when touch up spot is blended into surrounding finish and is invisible to normal viewing. Otherwise, re-coat entire section to corners or visible stopping point. Touch up should be accomplished by same method used in applying the original coating: when sprayed, touch up with spray; if brushed, use a brush for touch up; and if rolled, use same texture roller cover as used on the original painting.

3.05 FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed under provisions of Section 01400.

3.06 CLEANING

- A. Clean work under provisions of 01700.
- B. Collect waste material which may constitute a fire hazard, place in closed metal containers and remove daily from site.

3.07 SCHEDULE

- A. The paints and coatings detailed are based on Pratt & Lambert products except as noted otherwise herein.
- B. Traffic Markings
 - 1. 1 coat P&L Traffic Paint
- C. Composition Board
 - 1. 1 coat P&L Permalize Exterior Primer
 - 2. 2 coats P&L Permalize House & Trim Paint
- D. Concrete
 - 1. 2 coats P&L Palgard Epoxy Coating Gloss
- E. Masonry
 - 1. 2 coats P&L Primfil 200
 - 2. 2 coats Effecto Enamel
- F. Stucco
 - 1. 2 coats P&L Alkatite Cement & Stucco Paint
- G. Metal - Aluminum
 - 1. 1 coat P&L Effecto Rust Inhibiting Primer
 - 2. 2 coats P&L Effecto Enamel
- H. Metal - Ferrous
 - 1. 1 coat P&L Effecto Rust Inhibiting Primer

- 2. 2 coats P&L Effecto Enamel
- I. Metal - Galvanized
 - 1. 1 coat P&L Galvanized Metal Latex Primer
 - 2. 2 coats P&L Permalize House & Trim Paint
- J. Wood - Painted
 - 1. 1 coat P&L Permalize Exterior Primer
 - 2. 2 coats P&L Permalize House & Trim Paint
- K. Wood - Solid Stained
 - 1. 2 coats P&L Solid Hide Rustic Stain/Finish
- L. Wood - Natural/ Transparent Stain
 - 1. 2 coats P&L Penetrating Rustic Stain

END OF SECTION

SECTION 09 96 30
ELASTOMERIC COATING

PART 1 - GENERAL

1.01 SUMMARY

- A. These specifications cover the complete painting and finishing of the interior (field) side of the existing outfield concrete wall system. Painting shall include a single stripe at the location of each of two foul poles, as well as repainting of the numbering at three locations which indicate the distance of the wall to home plate.
- B. Provisions for applying a high build, water based, 100 percent acrylic, algae resistant, textured elastomeric coating to above grade cementitious surfaces indicated; including surface substrate testing, preparation and application.
 - 1. Coating system includes 2 coats of Thorolastic A+.

1.02 REFERENCES

- A. American Society for Testing and Materials (ASTM).
- B. Federal Specification and Standards.

1.03 SUBMITTALS

- A. Submit:
 - 1. Submit manufacturer's technical bulletins and MSDS on each product.
 - 2. List of project references as documented in this specification under Article 1.04, Quality Assurance. Include contact name and phone number of person charged with oversight of each project.
 - 3. Sample of manufacturer's limited warranty and warranty application procedures.

1.04 QUALITY ASSURANCE

- A. Qualifications:
 - 1. Applicator:
 - a. Minimum of 5 years experience in the successful application of elastomeric acrylic textured coatings.
 - b. Successful completion of a minimum of 3 projects of similar size and complexity to the specified work.
 - 2. Manufacturer:
 - a. Minimum 5 years experience in manufacturing of cementitious products and acrylic textured coatings.
- B. Mock-Up: Install at the project site a pre-selected job mock-up, minimum of 5 feet by 5 feet, using specified coating system. Obtain Architect/Engineer/Owner's approval of surface preparation, repair, color, texture, finish and workmanship as a standard by which remainder of the project will be judged. Apply material in strict accordance with manufacturer's written application instructions. Mock-up

must be approved and accepted prior to start of system application. Maintain mock-up during construction for workmanship comparison. Do not alter, move or destroy mock-up until the work is completed and approved by the Owner's representative.

1.05 DELIVERY, STORAGE AND HANDLING

- A. Deliver, store, handle, and protect products in accordance with provisions in Sections 01650 and 01660.
- B. Comply with manufacturer's ordering instructions and lead time requirements to avoid construction delays.
- C. Deliver coating system materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
- D. Store tightly sealed coating system materials off the ground and away from moisture, direct sunlight, extreme heat and freezing temperatures.

1.06 PROJECT CONDITIONS

- A. Substrate and ambient air temperature shall be a minimum of 40 degrees F and rising at application time and remain above 40 degrees F for at least 24 hours after application.
- B. Do not apply coatings in snow, rain, fog, mist or at temperatures less than 5 degrees F above the dew point. Allow surfaces to attain temperature and conditions specified before proceeding with coating application.
- C. Provide protection for plants and vegetation from overspray or damage could result.

1.07 WARRANTY

- A. Submit manufacturer's standard warranty form for specified system.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Harris Specialty Chemicals, Inc., 10245 Centurion Parkway, N., Jacksonville, FL 32256-0565, 800-327-1570

2.02 MATERIALS

- A. Thorolastic A+, 2-Coat Elastomeric, Acrylic Coating System
 - 1. Top Coat Color: As selected by the Architect from the manufacturers standard colors.
 - 2. Texture: Coarse

2.03 COLORS

- A. There will be one color to match the existing color of the concrete wall.
- B. There will be one color to be determined for vertical striping at the foul poles.
- C. There will be one color to be determined for the painting of field dimensions.

2.04 RELATED MATERIALS

- A. Crack Repair
 - 1. Thorolastic Brush Grade/Knife Grade; an elastomeric crack filler.
- B. Primer or Surface Conditioner
 - 1. Thoro CM Primer.

2.05 MIXES

- A. Mix coating system materials in accordance with manufacturer's printed recommendations and product technical bulletins. Mix with approved mechanical mixers using light agitation to ensure color uniformity, aggregate dispersion and to minimize air entrapment.
 - 1. In multi-pail applications, mix contents of each new pail into the partially used pail to ensure color consistency and smooth transitions.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Protect adjacent work areas and finish surfaces from damage during coating system application.
- B. Test and clean substrate in accordance with coating system manufacturer's recommendations and the following national standards:
 - 1. ASTM D 3359 Methods for Measuring Adhesion by Tape Test
 - 2. ASTM D 4258-83 (1988) Surface Cleaning Concrete for Coating
 - 3. ASTM D 4259-88 Practice for Abrading Concrete
 - 4. ASTM D 4261-83 (1988) Practice for Surface Cleaning Concrete Masonry for Coating
 - 5. ASTM D 4285-83 (1988) Indicating Oil or Water in Compressed Air
 - 6. ASTM D 4541-85 (1989) Pull-Off Strength of Coatings Using Portable Adhesion Testers
 - 7. ICRI Tech Guide #32 Selecting & Specifying Concrete Surface Preparation
- C. Substrate shall be sound, clean, dry and free of all dust, dirt, oils, grease, laitance, efflorescence, mildew, fungus, biological residues, chemical contaminants or previous coatings that could prevent good adhesion. Removal shall be by approved methods demonstrated during mock-up.
- D. Repair cracks in surface up to 1/16" x 1/16" with Thorolastic Brush Grade.
- E. Repair cracks in surface up to 1/4" x 1/4" with Thorolastic Knife Grade.

- F. Treat, neutralize and remove efflorescence, mold, and mildew prior to coating application.
- G. Substrate shall exhibit a surface profile of CSP 3-6 as specified in ICRI #32.

3.02 APPLICATION

- A. Apply Thoro Primer 1000 at a rate not to exceed 375 square feet per gallon. Allow a minimum of 2 to 4 hours drying time before top coats are applied.
- B. Apply 2 coats of Thorolastic A+ by brush, roller, or spray and backroll to achieve a waterproof finish.
- C. For roller application of Thorolastic A+, use a ¾ inch to 1 inch nap roller cover. Keep roller fully loaded with material, cross-roll working uniformly, maintaining a wet edge throughout. Material may need to be brush applied into mortar joints.
- D. For spray application of Thorolastic A+, use spray equipment recommended for heavy-bodied textured coating materials. Backroll for proper distribution.
- E. Apply Thorolastic A+ in 2 coats, at approximately 50 to 100 square feet per gallon, per coat. Apply at a minimum of 18 to 20 mils total DFT.
- F. Allow Thorolastic A+ to cure a minimum of 12 to 24 hours between applications at a minimum of 70 degrees F. and 50 percent relative humidity. Lower temperatures and higher relative humidity will require longer curing times.
- G. Finished system shall be pin-hole free.
- H. Match approved samples for color, sheen and coverage. Remove, refinish or re-coat work not in compliance with Contract documents.

3.03 CLEANING AND PROTECTION

- A. Remove temporary coverings and protection of adjacent work areas. Remove over-spray coating from areas not intended to be coated. Remove construction debris from project site.
- B. Protect applied coating system finish from damage during construction.

END OF SECTION

SECTION 11 63 34

BASEBALL FIELD ACCESSORIES

PART 1 - GENERAL

1.01 SUMMARY

- A. This Section includes furnishing and installing baseball batting tunnel and baseball safety netting, as specified herein including installation at locations as shown on the Drawings. All equipment shall meet the NCAA Baseball Rules Committee requirements.

1.02 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: For equipment. Include plans, elevations, sections, details, and attachments to other work. Tension Ball Safety Netting System shop drawings shall be stamped and sealed drawings and calculations by a Licensed Engineer in the State of Minnesota.
- C. Samples for Initial Color Selection

1.03 QUALITY ASSURANCE

- A. Installer Qualifications: Installing workers shall be trained and approved by manufacturer. Such approval shall be in writing and submitted to the Architect at time of shop drawing review.

1.04 WARRANTY

- A. Manufacturer shall warrant the products and their installation for a 1 year period, from Date of Substantial Completion, from flaws in both product and installation.

PART 2 - PRODUCTS

2.01 BASEBALL ACCESSORIES AND SAFETY NETTING MANUFACTURERS.

- A. Sportsfield Specialties, P.O. Box 231, 41155 State Highway 10Delhi, NY P.1-888-875-3343 f. 607-746-8481, www.sportsfieldspecialties.com.
- B. Christiansen's Nets, 4976 Arnold Road, Duluth, MN 55803, <http://www.christiansennets.com> P: (218) 724-5509; email: office@hchrismets.com. Contact: Bruce Sederberg, President.
- C. Or equal, for all components specified.

2.02 BACKSTOP SAFETY NETTING

- A. Provide backstop netting and all cable, anchoring and attachment system components, as required, for complete installation of netting across entire front of covered stadium seating extending from front edge of canopy above to concrete aisle surface at handrail at front of stadium seating, anchored with minimum of 8 vertical cables. Netting system shall also include providing netting in front of open air bleacher seating within chain link post system framework from mid-rail height of 3.5' to top-rail height of 10'. Netting shall be continuous system from stadium structure seating past free standing bleachers so as to provide ball-tight protection in all areas.

1. Netting shall be Ultra Cross Knotless Dyneema Netting, and TFBSSTN - Tension Ball Safety Netting System with associated cable, anchoring and attachment system components, as required, for complete installation, as provided by Sportsfield Specialties.
2. Or equal.

2.03 BATTING TUNNELS

- A. Provide a single, netted batting tunnel at location per drawings:
 1. Sportsfield Specialties # LG0BT-BS, complete with powder coated option, 7020 net, and all sleeves, supports, etc. necessary for complete system installation,
 2. Or equal.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. General: Comply with manufacturer's written installation instructions and Drawings. Complete equipment field assembly, where required.
- B. Placed Equipment and Components: Rigid, level, plumb, square, and true; anchored securely; positioned at locations indicated or approved on Shop Drawings.

3.02 CLEANING

- A. After completing equipment installation, inspect components. Remove spots, dirt, and debris and touch up damaged shop-applied finishes according to manufacturer's written instructions.
- B. Replace equipment and finishes that cannot be cleaned and repaired, in a manner approved by Architect, before time of Final Completion.

END OF SECTION

SECTION 31 20 25

BASE PREPARATION

PART 1 - GENERAL

- 1.01 SCOPE. Under this section shall be included the furnishing of all equipment, labor and skill necessary for shaping and compacting the field and plaza area base course, consisting of 1 layer of aggregate base material and 1 layer of aggregate finish material.

Also included under this section shall be aggregate base course for exterior pavements outside of the stadium area.

PART 2 - PRODUCTS

- 2.01 FIELD & PLAZA MATERIAL. The material used within the stadium for the base course in the field and under the concrete plaza and bullpen areas shall conform to the turf manufacturer's specifications, Part II, Sections F&G.
- 2.02 EXTERIOR PAVEMENT MATERIAL. Aggregate base course shall be 100% crushed quarry rock or gravel conforming to the gradation requirements of Mn/DOT Table 3138.1, Class 5.

PART 3 - EXECUTION

- 3.01 FIELD & PLAZA CONSTRUCTION. This work shall be done after the Engineer's approval of the subbase construction, and shall conform to the turf manufacturer's specifications, Part III, Sections E&F.
- 3.02 FIELD & PLAZA BASE COMPACTION AND STABILITY TESTS. This contractor will be required to conduct a proof roll of the subgrade prior to approval. Testing requirements are detailed in the turf manufacturer's specifications, Part III, Section B, Item 6. Note the strict tolerances required by the turf manufacturer. Contractor shall coordinate with turf installer to provide finish material surface that is acceptable to the turf installer.
- 3.03 EXTERIOR PAVEMENT INSTALLATION. Aggregate Base Course shall be constructed in accordance with the applicable requirements of Mn/DOT Specification 2211, except as otherwise specified herein. Test three samples daily for gradation as specified in Mn/DOT 3138. Testing may be done in accordance with ASTM Method C136 or with the Mn/DOT Manual, at the Contractor's option. Compaction of the base course shall be not less than 100% of the maximum laboratory density per ASTM D 698. Testing in-place compaction shall be by the sand cone method per ASTM D1556.

END OF SECTION

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SECTION 32 90 20

PROTECTION AND RESTORATION OF PROPERTY

PART 1 - GENERAL

- 1.01 SCOPE. Under this Section of the Specifications shall be included the general clean-up of the project site and grading of areas disturbed by construction.

PART 2 - PRODUCTS

- 2.01 GENERAL. Materials for use in turf establishment are specified in this section.
- 2.02 FERTILIZER. Commercial fertilizer, Mn/DOT Specification 3881, Type 4, 18-1-8 or 17-10-7 shall be spread at the rate of 150lbs/acre.
- 2.03 SEED. The grass seed shall be Mn/DOT Specification 3876, Seed Mixture No. 36-311, applied at a rate of 33.5 lbs/ac.
- 2.04 MULCH
- A. Mulch: Mn/DOT Specification 3882, Type 3 @ 2 tons/ac + Disc anchoring on all slopes 1:3 and flatter. Type 4 on slopes between 1:3 and 1:2.
 - B. Blanket: Mn/DOT Specification 3885, Category 3 (wood fiber, natural net) or 4 on slopes 1:2 and steeper. Also all ditch bottoms. Provide natural nets.
- 2.05 TOPSOIL
- Topsoil shall be natural soil from the general area of the work suitable for growing grass. Topsoil borrow, per MnDOT 3877.2A, shall only be used as designated by the Engineer. Topsoil re-spread and borrow shall be free of rock, wood, or other deleterious materials and shall be organic in nature.
- 2.06 SOD. The sod shall meet the requirements of Mn/DOT Specification 3878 for the following types:
- | Sod Type | Application |
|--------------------|--|
| Lawn and Boulevard | A premium quality sod for use in high maintained areas, such as lawns. |

PART 3 - EXECUTION

- 3.01 PROTECTION AND RESTORATION OF PROPERTY. The Contractor's operations shall be confined to the areas covered in on the plans and granted by the Owner. Any procedures by the Contractor of any sort beyond the limits indicated shall be the sole responsibility of the Contractor.

Trees not designated for removal shall be protected and saved from damage during construction. Temporary easements shall be used only for storage of material and equipment or the maneuvering of equipment, and all trees shall be protected by placing brightly colored high density polyethylene safety fence around or along the trees. Should any damage happen to occur to the trunks or branches of trees along the project, the damage shall be treated in accordance with nursery approved methods. Any broken branches shall be trimmed as per Engineer's direction. All bruise and cut wounds shall be treated with asphalt base tree paint.

If the project requires cutting through pavements, the Contractor will be required to restore these areas in like kind.

- 3.02 TURF ESTABLISHMENT. The requirement for sod, seed and fertilizer and the placing or applying thereof shall be in accordance with Mn/DOT Specification 2575 as modified below.

The Contractor shall carry on his operation in such fashion that only the minimum amount of sod is disturbed or removed. The Engineer shall determine if the disturbed area should be replaced with seed or sod. The only areas requiring sodding will be all disturbed and new grass areas unless designated to receive seed on the plans.

Existing topsoil shall be salvaged and stockpiled by the contractor. The stockpiled topsoil shall be used to cover those areas of easements disturbed by utility construction. If topsoil does not exist in sufficient quantity to allow replacement to 3 inch depth, provide additional topsoil as per specification above.

Areas shall be graded upon completion of curb work and graded to allow for placement of 3 inches of topsoil and sod.

The Contractor shall provide watering to the areas which are seeded or sodded immediately upon completion of covering the seed or laying the sod. The Contractor shall apply additional water to insure grass growth, as required, until acceptance of the project by the Owner. The water shall be at the Contractor's expense and method. Seeding shall be applied as noted under Turf Establishment, Mn/DOT Specification 2575, except that the topsoil shall be raked free of lumps and rocks to provide a smooth, mowable surface.

After seeding, the seeded area shall be hand raked to cover the seed. Mulch shall be blown on and disk anchored.

HAY OR STRAW BALES. The Contractor shall furnish and install bales in the form of dikes or ditch blocks to control erosion, reduce velocity, or trap sediments at locations, warranted as construction progresses, as directed by the Engineer. The lower three inches of each bale shall be embedded in soil and staked with suitable steel fence posts to prevent displacement. The bales shall remain in place for the duration of the project.

- 3.03 EROSION CONTROL LOGS. The Contractor shall furnish and install bales in the form of dikes or ditch blocks to control erosion, or trap sediments at locations, as shown on the plans and as directed by the Engineer. The logs shall remain in place for the duration of the project and shall be removed upon satisfactory grow-in of permanent erosion control.

END OF SECTION

EPC Engineering & Testing
Geotechnical • Environmental • Materials Engineering

539 Garfield Avenue
Duluth, Minnesota 55802

(218) 727-1239
(218) 727-1248 fax

June 24, 2014

City of Duluth
Attn: Mr. Robert Hurd
Property & Facilities Management
1532 W. Michigan St
Duluth, MN 55806

Re: Subsurface Investigation
Ball Field Surface Replacement
Wade Municipal Stadium

Dear Mr. Hurd:

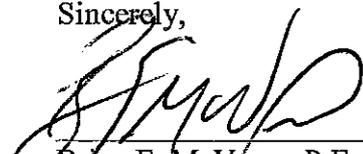
This letter report is in regard to the 12 soil borings performed by EPC on June 17 and 18, 2014. All work was performed at the direction of yourself, according to EPC's proposal dated June 6, 2014. All borings were located and numbered in the field by the City and EPC. Final boring locations and surface elevations were determined by TKDA. Borings were performed with EPC's CME 750 ATV drill rig. Standard penetration tests were performed with a hammer calibrated to N69. Standard penetration data listed on the boring logs is not converted to N60, nor corrected for depth.

Generally speaking, soils consisted of a layer of Topsoil-like soil over Clay to the voluntary termination depth of 8 feet for each boring. The topsoil-like soils ranged from an apparent thickness of 6 to 15 inches. The soils encountered in boring SB-14-12 (behind the Catcher's spot) appeared to be distinctly more Fill-like than the other borings. The driller's log noted the possible presence of drain tile only in boring SB-14-3. Water was not observed in any of the borings during the drilling process. Please refer to the boring logs and location sketch attached to this report for additional details.

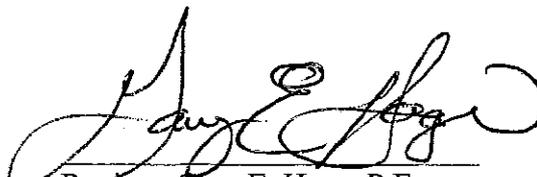
This report completes EPC's work on this project to date. We must caution you that this report, prepared for soils information only, is not a complete geotechnical engineering report. EPC cannot be responsible for possible misinterpretation of the contents of the boring logs, or the strengths of the soils described in them. Soil samples from this project will be saved for two months from the date of this report unless EPC is directed in writing to do otherwise.

We would like to thank you for allowing EPC to be of service to you on this project. If you have any questions or comments, please call us at (218) 727-1239 (w) or (218) 341-4536 (c).

Sincerely,



Brian E. McVean, P.E.
Principal Engineer



Review: Gary E. Hage, P.E.
Principal Engineer

Enclosures: Boring Logs and Location Map

CLIENT <u>City of Duluth</u>	PROJECT NAME <u>Wade Stadium</u>
PROJECT NUMBER <u>14G0892</u>	PROJECT LOCATION <u>Duluth, MN</u>
DATE STARTED <u>6/17/14</u> COMPLETED <u>6/17/14</u>	GROUND ELEVATION <u>628.1 ft</u> HOLE SIZE <u>6 inch</u>
DRILLING CONTRACTOR <u>EPC Eng. & Testing</u>	GROUND WATER LEVELS:
DRILLING METHOD <u>CME 750 ATV with HSA</u>	∇ AT TIME OF DRILLING <u>0.0 ft / Elev 628.1 ft</u>
LOGGED BY <u>NEW</u> CHECKED BY <u>CRL</u>	∇ AT END OF DRILLING <u>0.0 ft / Elev 628.1 ft</u>
NOTES <u>Right Field</u>	∇ AFTER DRILLING <u>0.0 ft / Elev 628.1 ft</u>

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲					
									20	40	60	80		
	0.0													
627.5			7 Inches of Topsoil, Brown to Black, Moist to Wet, with to trace Organic Clay / Silt, little to some Organics.	SS 1	58	1-2								
			Clay (CL-CH), Red Brown, Moist to Wet, Trace Sand and Silt.	SS 2	25	3-4								
2.5														
625.0				SS 3	42	1-3-5-7 (8)								
5.0				SS 4	71	3-5-7-9 (12)								
622.5				SS 5	92	2-5-5-7 (10)								
7.5														
			Bottom of hole at 8.0 feet.											

GEOTECH BH PLOTS 14G0892 COFD WADE STADIUM.GPJ GINT US LAB.GDT 6/23/14

CLIENT City of Duluth PROJECT NAME Wade Stadium
 PROJECT NUMBER 14G0892 PROJECT LOCATION Duluth, MN
 DATE STARTED 6/17/14 COMPLETED 6/17/14 GROUND ELEVATION 627.7 ft HOLE SIZE 6 inch
 DRILLING CONTRACTOR EPC Eng. & Testing GROUND WATER LEVELS:
 DRILLING METHOD CME 750 ATV with HSA ∇ AT TIME OF DRILLING 0.0 ft / Elev 627.7 ft
 LOGGED BY NEW CHECKED BY CRL ∇ AT END OF DRILLING 0.0 ft / Elev 627.7 ft
 NOTES Right Center Field ∇ AFTER DRILLING 0.0 ft / Elev 627.7 ft

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲			
									PL	MC	LL	
									□ FINES CONTENT (%) □			
									20	40	60	80
627.5	0.0		7 Inches of Topsoil, Brown to Black, Moist to Wet, with to trace Organic Clay / Silt, little Organics.									
			Clay (CL-CH), Red Brown, Moist to Wet, trace Silt.	SS 1	29	1-2-3-6 (5)						
625.0	2.5			SS 2	33	2-3-5-6 (8)						
622.5	5.0			SS 3	71	2-3-6-7 (9)						
620.0	7.5			SS 4	96	10-10-13-12 (23)						
			Bottom of hole at 8.0 feet.									

GEOTECH BH PLOTS 14G0892 COFD WADE STADIUM.GPJ GINT US LAB.GDT 6/23/14

CLIENT City of Duluth PROJECT NAME Wade Stadium
 PROJECT NUMBER 14G0892 PROJECT LOCATION Duluth, MN
 DATE STARTED 6/17/14 COMPLETED 6/17/14 GROUND ELEVATION 627.7 ft HOLE SIZE 6 inch
 DRILLING CONTRACTOR EPC Eng. & Testing GROUND WATER LEVELS:
 DRILLING METHOD CME 750 ATV with HSA ∇ AT TIME OF DRILLING 0.0 ft / Elev 627.7 ft
 LOGGED BY NEW CHECKED BY CRL ∇ AT END OF DRILLING 0.0 ft / Elev 627.7 ft
 NOTES Left Center Field ∇ AFTER DRILLING 0.0 ft / Elev 627.7 ft

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲			
									20	40	60	80
									PL	MC	LL	
									□ FINES CONTENT (%) □			
627.5	0.0		8 Inches of Topsoil, Dark Brown, Moist to Wet, with to trace Organic Clay / Silt, little Organics.									
			Topsoil-like, Brown to Black, Moist to Wet, with to trace Organic Clay / Silt, little Organics.	SS 1	33	1-2-3-4 (5)						
625.0	2.5			SS 2	50	2-4						
			Clay (CL-CH), Red Brown, Moist to Wet, trace Silt.	SS 3	50	6-8						
622.5	5.0			SS 4	83	3-6-8-10 (14)						
				SS 5	96	8-11-10-12 (21)						
620.0	7.5											
			Bottom of hole at 8.0 feet.									

GEOTECH BH PLOTS 14G0892 COFD WADE STADIUM.GPJ GINT US LAB.GDT 6/23/14

CLIENT City of Duluth PROJECT NAME Wade Stadium
 PROJECT NUMBER 14G0892 PROJECT LOCATION Duluth, MN
 DATE STARTED 6/17/14 COMPLETED 6/17/14 GROUND ELEVATION 628.1 ft HOLE SIZE 6 inch
 DRILLING CONTRACTOR EPC Eng. & Testing GROUND WATER LEVELS:
 DRILLING METHOD CME 750 ATV with HSA ▽ AT TIME OF DRILLING 0.0 ft / Elev 628.1 ft
 LOGGED BY NEW CHECKED BY CRL ▽ AT END OF DRILLING 0.0 ft / Elev 628.1 ft
 NOTES Shallow Center Field ▽ AFTER DRILLING 0.0 ft / Elev 628.1 ft

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲			
									PL	MC	LL	
									□ FINES CONTENT (%) □			
									20	40	60	80
628.1	0.0	▼	6 Inches of Topsoil, Black, Moist to Wet, with to trace Organic Clay / Silt, little Organics, with to little Sand.									
627.5			Clay (CL-CH), Red Brown, Moist to Wet, trace Silt.	SS 1	25	1-2-3-4 (5)						
625.0	2.5			SS 2	58	2-4-7-8 (11)						
622.5	5.0			SS 3	96	3-5-7-8 (12)						
	7.5			SS 4	100	7-7-9-8 (16)						
			Bottom of hole at 8.0 feet.									

GEOTECH BH PLOTS 14G0892 COFD WADE STADIUM.GPJ_GINT_US.LAB.GDT 6/23/14

CLIENT City of Duluth PROJECT NAME Wade Stadium
 PROJECT NUMBER 14G0892 PROJECT LOCATION Duluth, MN
 DATE STARTED 6/17/14 COMPLETED 6/17/14 GROUND ELEVATION 628.1 ft HOLE SIZE 6 inch
 DRILLING CONTRACTOR EPC Eng. & Testing GROUND WATER LEVELS:
 DRILLING METHOD CME 750 ATV with HSA ∇ AT TIME OF DRILLING 0.0 ft / Elev 628.1 ft
 LOGGED BY NEW CHECKED BY CRL ∇ AT END OF DRILLING 0.0 ft / Elev 628.1 ft
 NOTES Shallow Right Field ∇ AFTER DRILLING 0.0 ft / Elev 628.1 ft

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲			
									PL	MC	LL	
									□ FINES CONTENT (%) □			
									20	40	60	80
627.5	0.0	9 Inches of Topsoil, Black, Moist to Wet, with to trace Organic Clay / Silt, little Organics.										
625.0	2.5	Clay (CL-CH), Red Brown, Moist to Wet, trace Silt.		SS 1	25	1-3-3-3 (6)						
622.5	5.0			SS 2	63	1-3-6-6 (9)						
	7.5			SS 3	96	2-5-7-8 (12)						
				SS 4	100	8-8-10-10 (18)						
			Bottom of hole at 8.0 feet.									

GEOTECH BH PLOTS 14G0892 COFD WADE STADIUM.GPJ GINT US LAB.GDT 6/23/14

CLIENT <u>City of Duluth</u>	PROJECT NAME <u>Waide Stadium</u>
PROJECT NUMBER <u>14G0892</u>	PROJECT LOCATION <u>Duluth, MN</u>
DATE STARTED <u>6/18/14</u> COMPLETED <u>6/18/14</u>	GROUND ELEVATION <u>628.2 ft</u> HOLE SIZE <u>6 inch</u>
DRILLING CONTRACTOR <u>EPC Eng. & Testing</u>	GROUND WATER LEVELS:
DRILLING METHOD <u>CME 750 ATV with HSA</u>	▽ AT TIME OF DRILLING <u>0.0 ft / Elev 628.2 ft</u>
LOGGED BY <u>NEW</u> CHECKED BY <u>CRL</u>	▽ AT END OF DRILLING <u>0.0 ft / Elev 628.2 ft</u>
NOTES <u>Second Base</u>	▽ AFTER DRILLING <u>0.0 ft / Elev 628.2 ft</u>

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲					
									20	40	60	80		
0.0		▼	8 Inches of Topsoil, Black, Moist to Wet, with to trace Organic Clay / Silt, little Organics.											
627.5		▼	Clay (CL-CH), Red Brown, Moist to Wet, with to trace Silt.	SS 1	25	1-2-3-3 (5)								
2.5														
625.0				SS 2	75	2-5-7-9 (12)								
5.0				SS 3	100	3-5-7-9 (12)								
622.5				SS 4	100	7-10-9-10 (19)								
7.5														
			Bottom of hole at 8.0 feet.											

GEOTECH BH PLOTS 14G0892 COFD WAIDE STADIUM.GPJ GINT US LAB.GDT 6/23/14

CLIENT <u>City of Duluth</u>	PROJECT NAME <u>Wade Stadium</u>
PROJECT NUMBER <u>14G0892</u>	PROJECT LOCATION <u>Duluth, MN</u>
DATE STARTED <u>6/18/14</u> COMPLETED <u>6/18/14</u>	GROUND ELEVATION <u>628.4 ft</u> HOLE SIZE <u>6 inch</u>
DRILLING CONTRACTOR <u>EPC Eng. & Testing</u>	GROUND WATER LEVELS:
DRILLING METHOD <u>CME 750 ATV with HSA</u>	▽ AT TIME OF DRILLING <u>0.0 ft / Elev 628.4 ft</u>
LOGGED BY <u>NEW</u> CHECKED BY <u>CRL</u>	▽ AT END OF DRILLING <u>0.0 ft / Elev 628.4 ft</u>
NOTES <u>Third Base</u>	▽ AFTER DRILLING <u>0.0 ft / Elev 628.4 ft</u>

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲			
									PL	MC	LL	
									□ FINES CONTENT (%) □			
									20	40	60	80
627.5	0.0		9 Inches of Topsoil, Black, Moist to Wet, with to trace Organic Clay / Silt, little Organics.									
625.0	2.5		Clay (CL-CH), Red Brown, Moist to Wet, trace Silt and Sand.	SS 1	25	1-2-3-5 (5)						
622.5	5.0			SS 2	58	1-2-5-4 (7)						
	7.5			SS 3	100	0-1-3-2 (4)						
			Bottom of hole at 8.0 feet.	SS 4	100	2-2-3-2 (5)						

GEO TECH BH PLOTS 14G0892 COFD WADE STADIUM.GPJ GINT US LAB.GDT 6/23/14

CLIENT City of Duluth PROJECT NAME Wade Stadium
 PROJECT NUMBER 14G0892 PROJECT LOCATION Duluth, MN
 DATE STARTED 6/18/14 COMPLETED 6/18/14 GROUND ELEVATION 629.1 ft HOLE SIZE 6 inch
 DRILLING CONTRACTOR EPC Eng. & Testing GROUND WATER LEVELS:
 DRILLING METHOD CME 750 ATV with HSA ▽ AT TIME OF DRILLING 0.0 ft / Elev 629.1 ft
 LOGGED BY NEW CHECKED BY CRL ▽ AT END OF DRILLING 0.0 ft / Elev 629.1 ft
 NOTES Second Base Line ▽ AFTER DRILLING 0.0 ft / Elev 629.1 ft

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲			
									PL	MC	LL	
									□ FINES CONTENT (%) □			
629.1	0.0		4 Inches Silty Sand, Tan, Dry to Moist, trace Clay, trace to no Organics.									
627.5	2.5		Clay (CL-CH), Red Brown, Moist to Wet, trace Silt.	SS 1	25	5-6-7-8 (13)						
625.0	5.0			SS 2	50	1-4-6-8 (10)						
622.5	7.5			SS 3	88	5-6-7-8 (13)						
				SS 4	100	7-9-8-8 (17)						
			Bottom of hole at 8.0 feet.									

GEOTECH BH PLOTS 14G0892 COFD WADE STADIUM.GPJ GINT US LAB.GDT 6/23/14

CLIENT <u>City of Duluth</u>	PROJECT NAME <u>Wade Stadium</u>
PROJECT NUMBER <u>14G0892</u>	PROJECT LOCATION <u>Duluth, MN</u>
DATE STARTED <u>6/18/14</u> COMPLETED <u>6/18/14</u>	GROUND ELEVATION <u>629.2 ft</u> HOLE SIZE <u>6 inch</u>
DRILLING CONTRACTOR <u>EPC Eng. & Testing</u>	GROUND WATER LEVELS:
DRILLING METHOD <u>CME 750 ATV with HSA</u>	▽ AT TIME OF DRILLING <u>0.0 ft / Elev 629.2 ft</u>
LOGGED BY <u>NEW</u> CHECKED BY <u>CRL</u>	▽ AT END OF DRILLING <u>0.0 ft / Elev 629.2 ft</u>
NOTES <u>Catcher</u>	▽ AFTER DRILLING <u>0.0 ft / Elev 629.2 ft</u>

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲				
									20	40	60	80	
									PL		MC	LL	
	0.0	▼	15 Inches of Topsoil, Black, Moist to Wet, with to trace Organic Clay / Silt.						□	FINES CONTENT (%) □			
				SS 1	25	2-2-4-4 (6)				20	40	60	80
627.5			Clay (CL-CH), Brown, Wet to Moist, trace Organic Clay / Silt, trace Gravel.										
	2.5			SS 2	33	2-2-3-4 (5)							
625.0				SS 3	17	1-2-2-4 (4)							
	5.0			SS 4	33	4-5-5-5 (10)							
622.5													
	7.5												
			Bottom of hole at 8.0 feet.										

GEOTECH BH PLOTS 14G0892 COFD WADE STADIUM.GPJ GINT US LAB.GDT 6/23/14



SB 12

SB 11

SB 10

SB 9

SB 8

SB 1

SB 7

SB 5

SB 4

SB 6

SB 2

SB 3

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46°45'13.45" N 92°08'37.31" W elev 633 ft eye alt 1094 ft

