



CITY OF PETALUMA

POST OFFICE BOX 61
PETALUMA, CA 94953-0061

ADDENDUM NO. 3

Petaluma Community Sports Fields Baseball Diamond Project City Project Number C14501607

May 27, 2021

This Addendum No. 3 modifies the Bidding Documents for the Petaluma Community Sports Fields Baseball Diamond C14501607 project. This Addendum shall become part of the Contract and all provisions of the Contract shall apply thereto. Bidders shall acknowledge all Addendums in the Bid Schedule.

NOTICE INVITING BID CHANGE

Refer to page 1, item 2 of the Notice of Inviting Bids. The Bids will be ~~publicly~~ opened and ~~read at 2:00 PM (enter time)~~ read at **2:00 PM (enter time) on Thursday, June 10, 2021** at the ~~above-mentioned~~ office of the CITY. The CITY reserves the right to postpone the date and time for opening of Bids at any time prior to the aforesaid date and time.

The following paragraphs of the "Notice Inviting Bids" will be modified as described.

1. RECEIPT OF BIDS: Bids for this project will be submitted by email before 2:00 PM on **Thursday, June 10, 2021**. The emailed bid will include all of the completed documents found in the BID FORMS section of the Contract Documents. The bids will be emailed to: CITYCLERK@cityofpetaluma.org. The email subject line will be "Petaluma Community Sports Fields Baseball Diamond Project C14501607". The response email from the City Clerk will indicate the time stamp of the bid receipt.

2. Original copies of the Sealed Bids will be sent by standard United States Postal Service (USPS) mail services and received by the mail clerk at 11 English Street, Petaluma CA 94952. The Sealed Bids will be postmarked at USPS not later than the date of **June 10, 2021**. Sealed Bids postmarked after **June 10, 2021**, may not be considered. The Sealed Bids sent via USPS will include all of the original signed and sealed documents included in the Bid Form section of the Contract Documents. This packet will be clearly marked on the outside of the package "Petaluma Community Sports Fields Baseball Diamond Project C14501607".

BID SCHEDULE – REVISION

1. Revised Bid Schedule. Changes are tracked in red.
Revised Bid Schedule is attached to this Addendum and shall be incorporated in the bid documents.

SPECIAL PROVISION – REVISION

1. Revised Special Provision, Section 3-22. Changes are tracked in red.
Revised Special Provision is attached to this Addendum and shall be incorporated

Teresa Barrett
Mayor

Brian Barnacle
D'Lynda Fischer
Mike Healy
Dave King
Kevin McDonnell
Dennis Pocekay
Councilmembers

Public Works & Utilities

City Engineer
11 English Street
Petaluma, CA 94952
Phone (707) 778-4303

Environmental Services

Ellis Creek Water
Recycling Facility
3890 Cypress Drive
Petaluma, CA 94954
Phone (707) 776-3777
Fax: (707) 656-4067

Parks & Facility Maintenance

840 Hopper St. Ext.
Petaluma, CA 94952
Phone (707) 778-4303
Fax (707) 206-6065

Transit Division

555 N. McDowell Blvd.
Petaluma, CA 94954
Phone (707) 778-4421

Utilities & Field Operations

202 N. McDowell Blvd.
Petaluma, CA 94954
Phone (707) 778-4546
Fax (707) 206-6034

E-Mail: publicworks@cityofpetaluma.org

in the bid documents.

TECHNICAL SPECIFICATIONS - REVISION

1. Revised Section 32 1813 Synthetic Turf System. Changes are tracked in red.

Revised Section 32 1813 Synthetic Turf System is attached to this Addendum and shall be incorporated in the bid documents.

2. Add Appendix 5 – Clean Water Act Section 401 Water Quality Certification and Order.

Added Appendix 5 is attached to this Addendum and shall be incorporated in the bid documents.

DRAWING PLANS – REVISION

1. The following plan drawings were **revised** and **posted** in the City website:

L1.0, L1.1, L1.2, L2.2, L4.2, E0.1, E0.2, E1.1 thru E1.5, E6.1, E7.1, and E7.2.

CLARIFICATION TO CONTRACTORS – QUESTION AND RESPONSE

Question #1: If we (subcontractors) are proposing on the synthetic turf only, not the installation, do we need to submit a Statement of Qualification (SOQ)?

Response#1: The SOQ is intended to be filled out by the bidder or the Prime Contractor only. The Contractor (prime) will get qualifications from its subcontractor to make sure that they have the experience and qualifications.

Question #2: We will be submitting our proposal to a General Contractor and I wanted to confirm that if we are proposing to a GC do we still need a minimum of \$75,000,000 bonding capacity? If so, can we provide the turf only? Our bonding capability is not that high.

Response #2: The bid documents and its entirety are for the use of the bidder (prime contractor). Prime will allocate the work to its subcontractors (whoever they want to have the work done). So, yes, the bonding is for the prime contractor.

Question #3: Can excess soil be left on adjacent City property?

Response #3: Yes, excess soil should be hauled to the parcel next to the Baseball Field and East Washington (future Phase III). Excess soil must be spread out per City's direction.

Question #4: Will all Class 2 base rock be paid under item #35? (including base rock beneath site concrete?)

Response#4: No. The Class 2 under the AC was its own quantity. The Class 2 AB under the concrete sections is included in the cost of the concrete square footage.

Question #5: Per section 31 2333 2.04 is all solid pipe trench backfill to be CDF?

Response #5: No, trenches are to be done per City Standard per the general notes. The CDF in the specs is only if found to be necessary.

Question #6: Bid item #46 “synthetic turf drain rock/base material” is for ¾” crushed in perforated drain line trenches?

Response #6: Yes, the perforated drain lines have a ¾” crushed rock. Not to be confused with the permeable class 2 which is also used as a base.

Question #7: Is using herbicides on L4.0 allowed?

Response #7: No. Note 2 on L4.0 that referenced the use of herbicide is deleted.

Question #8: Is lime treat to be included in Alt. 2 for the circular mulch area when changed to asphalt paving?

Response #8: Lime treat for the circular mulch area shown on L1.2 shall be included in the base bid.

Question #9: Alternate 2 lime treat quantity appears to be low. The access rd/parking lot paving improvements to be included in Alt. 2 is over 10,000 SY?

Response #9: Quantities are revised. See attached revised Bid Schedule.

Question #10: Is the bid item quantity of 1000 CY of Drain rock included the backfill for these pipe items or should that cost be placed in the pipe bid items themselves? Also, are there any detail or information regarding the depth we will be placing this material in the pipe trenches?

Response #10: Because the depths vary based on the trench the drain rock line item is not combined with the perforated pipe. The volume was determined using the average trench depth and total pipe length. There are pipe inverts given in multiple locations in the utility sheet to show the depth of the field subdrain lines as well as the trench typical sections on C5.1. Between these two the trench depths can be determined.

Question #11: The soils report talks about the potential for over excavation and re-compaction beyond the standard plan sections for subgrade. If this work is required, it will be done under the soils engineer’s direction during the grading operation. How will this work be paid for?

Response #11: The only instance where over-excavation is mentioned is when referring to shallow foundation excavations and only if soft, unsuitable soils are encountered. See revised Bid Schedule with line item for localized removal of soft soil, per foot depth, and replacement.

Question #12: For the concrete sidewalk, vehicle concrete and the synthetic landscape areas in bid alternate 2. Are we to cut these areas to section subgrade during the base bid grading or leave at a finish dirt grade to be covered with mulch or standard erosion control and be cut out later during the alternate 2 work?

Response #12: At the bid alternate 2 concrete pavement and synthetic landscape turf area between the proposed parking lot and 3rd base line of the field, base bid shall include establishment of finish grade with soil and placement of mulch. At the bid alternate 2

concrete pavement areas along the northwest edge of the baseball field near the golf course, base bid shall include establishment of section subgrade elevation and grade edges 2:1 max to daylight with erosion control. Grading shall be done in a manner which does not create pooling or impede site drainage.

Question #13: I know the question for excess soil off haul has been asked and the potential for hauling to the Airport. If this is approved, can the Lime Treated soils being removed at the planting areas be hauled there too?

Response #13: Lime treated soils being removed shall be disposed of properly off site at the Contractor's expense.

Question #14: It states, that the existing asphalt, along the existing road coming into the sports complex is to stay, and that there may be some remove & replace of failed areas. How will this remove & replace of existing asphalt be paid for?

Response #14: See attached revised Bid Schedule with line item for Bid Alternate 2 AC and Subgrade Repair.

Question #15: If alternate 2 does not happen, are we to daylight the grading to the edge of the existing access road paving?

Response #15: If bid alternate 2 is not awarded, then the existing grade adjacent to the access road within the bid alternate 2 area would remain existing.

Question #16: Detail 1/L4.5 shows deep root barrier UB 24-2. However, planting notes 7/L4.0 asks for root barrier by Root Solutions. Please clarify.

Response #16: Root barrier panels shall be UB 24-2.

Questions #17: Refer to specification 329000, page 6, section 3.0C shows soil mix for backfill of trees as the following ratios: 1 cubic yard of organic amendment, 3 cy of topsoil, & 10 pounds of fertilizer. Normally, the backfill for plant required like 1 part amendment per cubic yard, 3 parts of topsoil per cubic yard, etc. Can you please confirm if the ratio of backfill amendments as shown in spec are correct?

Response #17: Prepare planting areas in accordance with Specification 32 9000 and the Planting Plans. Section 32 9000-3.02 specifies soil preparation, including but not limited to cultivation and amendment of planting areas on a square foot basis. Section 32 9000-3.02C specifies tree pit backfill on a volume basis.

Question #18: Refer specification 328400, section 2.05 shows 1.5" Weathermatic quick coupler valve (in synthetic turf). However, legend on sheet L3.5 shows Buckner/Superior QCV151N. Please clarify.

Response #18: Same QCV except Weathermatic no longer carries the QCV in their product lineup. Use the Buckner/Superior 1.5" QCV151N.

Question #19: Legend on sheet L3.5 shows sand bedding shall be installed 6-inch above and below pipe. However, detail 2/L3.8 and specification 328400/section 3.08 show to lay mainline pipe and control wiring on a 4-inch bed of sand on bottom of trench. Please confirm the depth of sand bedding for bidding purpose.

Response #19: Provide a 4" bed of sand below the main line pipe per the detail 2/L3.8

and specification 328400/section 3.08. Provide backfill per specification 328400/section 3.08/C over the top of the main line pipe and control wire.

Question #20: Refer to sheet L4.1, there is a note called out 'Bid Alternate 2: Mulch' for island at parking lot. Is it typically for all parking islands in sheet L4.1 or just for one area as indicated in this sheet? Besides that, BID ALTERNATE 2 schedule does not have item for mulch. Please clarify which item shall cover mulch in alternate 2.

Response #20: Bid Alternate 2 shall include mulch for all parking islands shown on Sheet L4.1. See revised Bid Schedule.

Question #21: Irrigation note 2/L3.2 and irrigation note 6/L3.3 show stub wire inside a rectangular pull box, refer to mainline stub and wire detail. However, detail 3/L3.9 shows round concrete valve box. Please confirm which one is correct.

Response #21: Provide and install a round concrete valve box.

Question #22: Detail 2/L3.7 shows 1" for flow sensor conduit. However, detail 4/L3.9 shows 2". Please clarify.

Response #22: Provide and install a 1.5" dia. conduit to give enough room to pull the flow sensor cable a long distance.

Question #23: Irrigation legend on sheet L3.5 shows 6" sand cover above pipe for lateral line. However, detail 2/L3.8 does not show sand in lateral line pipe trenching. Please clarify.

Response #23: Provide and install sand cover as listed on the legend.

This Addendum No. 3 shall become part of the Contract and all provisions of the Contract shall apply thereto. Bidders shall acknowledge all Addendums in the Bid Schedule.

All other items of the documents shall remain unchanged. **A signed copy of this Addendum and the attached acknowledgement form shall be attached to the bid proposal. Failure to do so may cause rejection of your bid as being non-responsive.**

Bids will be emailed into the City Clerk, and original copies of the sealed bids will be mailed in.

Bid Opening Date is on June 10, 2021.

City of Petaluma,

A handwritten signature in blue ink that reads "Ken Eichstaedt". The signature is written in a cursive style with a long horizontal stroke extending to the right.

Ken Eichstaedt, P.E. T.E.
Senior Traffic Engineer
Public Works & Utilities Department

ADDENDUM NO. 3

**PETALUMA COMMUNITY SPROTS FIELDS BASEBALL DIAMOND PROJECT
City Project Number C14501607**

May 27, 2021

ACKNOWLEDGEMENT

Receipt of Addendum No. 3 is hereby acknowledged by _____
(Contractor's Name)

on the _____ day of _____, 2021.

By: _____

Signature

Title

Company

Bid Schedule

**City of Petaluma
 Petaluma Community Sports Fields
 Baseball Diamond**

General Instructions to Bidders: The following sheets consist of the Base Bid. The bidder shall submit a bid proposal for the Base Bid in order for the bid to be valid and accepted by the Owner. The Basis for Award is the Base Bid.

BASE BID

Item No.	Item Description	Estimated Quantity	Unit of Measure	Unit Cost	Item Total Cost
001	Mobilization	1	LS		
002	Traffic Control	1	LS		
003	Erosion Control and SWPPP	1	LS		
004	Clearing and Demolition	1	LS		
005	Earthwork	13,760	CY		
006	Lime Treatment, 18"	22,340	SY		
007	Construction Staking	1	LS		
008	4" HDPE Storm Drain	109	LF		
009	6" HDPE Subdrain	2,020	LF		
010	6" HDPE Storm Drain	285	LF		
011	8" HDPE Storm Drain	325	LF		
012	12" Class V RCP Storm Drain	100	LF		
013	12" HDPE Storm Drain	115	LF		
014	12" Perforated HDPE Storm Drain	395	LF		
015	18" HDPE Storm Drain	780	LF		
016	24" HDPE Storm Drain	370	LF		
017	Catch Basin	3	EA		
018	Yard/Field Drain	5	EA		
019	Trench Drain	175	LF		
020	Storm Drain Cleanout	2	EA		
021	Storm Drain Concrete Inlet	2	EA		

Item No.	Item Description	Estimated Quantity	Unit of Measure	Unit Cost	Item Total Cost
022	24" Drop Inlet	2	EA		
023	36" Drop Inlet	1	EA		
024	12" Grate Inlet	1	EA		
025	18" Grate Inlet	1	EA		
026	24" Grate Inlet	1	EA		
027	12" Trench Drain Grate Inlet	4	EA		
028	12" Storm Drain Concrete Outfall	3	EA		
029	12" Storm Drain Outfall Flag Gate	1	EA		
030	24" Storm Drain Concrete Outfall	1	EA		
031	Sanitary Sewer Lateral	135	LF		
032	Water Service Lateral	1	EA		
033	Asphalt Concrete	445	TON		
034	Parking Lot Striping and Signage	1	LS		
035	Class II Aggregate Base	570	CY		
036	Concrete Swale	415	SF		
037	Concrete Curb and Gutter	1,310	LF		
038	Flush Curb	1,260	LF		
039	Pedestrian Concrete Pavement	7,165	SF		
040	Asphalt Pavement at Future Bleachers	200	TON		
041	Driven Concrete Pavement	8,900	SF		
042	Retaining Wall 8" wide	290	LF		
043	Retaining Wall 12"-14" wide	590	LF		
044	Synthetic Turf System	1	LS		
045	Brock PowerBase YSR	127,000	SF		
046	Synthetic Turf Field Drain Rock/Base Material	1,000	CY		
047	Synthetic Turf Field Permeable Class II Aggregate/Base Material	2,500	CY		
048	Field Section Geotextile Fabric	14,100	SY		
049	Field Section Stego Wrap Liner	2,140	SY		
050	Header Board	1,700	LF		

Item No.	Item Description	Estimated Quantity	Unit of Measure	Unit Cost	Item Total Cost
051	Lighting Conduit - Site	1	LS		
052	Lighting Conduit - Sports Field	1	LS		
053	Dugout Roof	2	EA		
054	CMU Wall at Dugout	150	LF		
055	Dugout Railing with Fence and Padding	4	EA		
056	Barrier Netting	390	LF		
057	Backstop (tie-back)	1	EA		
058	Foul Poles (Custom Left, Standard Right)	1	Set of 2		
059	Bases	1	LS		
060	Anchor Kit for Bases in Synthetic Turf	1	LS		
061	Backstop Pads	1	LS		
062	Chain Link Top Rail Cap	700	LF		
063	3' Chain Link Fencing	140	LF		
064	8' Chain Link Fencing	1,550	LF		
065	8' Chain Link Single Gate	4	EA		
066	8' Chain Link Single Maintenance Gate	1	EA		
067	8' Chain Link Gate in 12' Fence	2	EA		
068	8' Chain Link Double Entry Gate	3	EA		
069	8' Chain Link Dbl. Maintenance Gate	1	EA		
070	12' Chain Link Fencing	295	LF		
071	12' Chain Link Dbl. Maintenance Gate	1	EA		
072	Railing/Handrail	350	LF		
073	Flagpole	1	LS		
074	Removal of Lime Treatment for Planting	1	LS		
075	Soil Preparation	20,000	SF		
076	Mulch	325	CY		
077	Root Barrier	435	LF		
078	Irrigation System	20,000	SF		
079	Tree (24" box)	18	EA		

Item No.	Item Description	Estimated Quantity	Unit of Measure	Unit Cost	Item Total Cost
080	Bioretention Area	5,550	SF		
081	No Mow Sod	14,100	SF		
082	Shrubs (5 gallon)	77	EA		
083	Shrubs (1 gallon)	940	EA		
084	Landscape Maintenance Period	3	MONTH		
085	Wetlands Mitigation	1	LS		
086	Localized Removal of Soft Soil, Per Foot Depth, and Replacement	1,000	SF		

TOTAL BASE BID \$ _____

BID ALTERNATE 1

Item No.	Item Description	Estimated Quantity	Unit of Measure	Unit Cost	Item Total Cost
087	Lighting - Site	1	LS		
088	Lighting - Sports Field	1	LS		

BID ALTERNATE 2

Item No.	Item Description	Estimated Quantity	Unit of Measure	Unit Cost	Item Total Cost
089	Earthwork	1,740	CY		
090	Lime Treatment, 18"	4,500	SY		
091	18" HDPE Storm Drain	340	LF		
092	Catch Basin	2	EA		
093	Asphalt Concrete	440	TON		
094	Parking Lot Striping and Signage	1	LS		
095	Class II Aggregate Base	385	CY		
096	Concrete Swale	470	SF		
097	Concrete Curb and Gutter	850	LF		
098	Pedestrian Concrete Pavement	15,300	SF		
099	Concession Area Pavement Asphalt	120	TON		
100	Synthetic Landscape Turf System with Aggregate Base	3,800	SF		
101	Synthetic Landscape Turf Header	325	LF		
102	Lighting - Site	1	LS		
103	Soil Preparation	10,000	SF		
104	Root Barrier	480	LF		
105	Irrigation System	10,000	SF		
106	Tree (24" box)	10	EA		
107	No Mow Sod	2,500	SF		
108	Shrubs (15 gallon)	18	EA		
109	Shrubs (5 gallon)	90	EA		
110	Shrubs (1 gallon)	33	EA		
111	Landscape Maintenance Period	3	MONTH		
112	AC and Subgrade Repair	1,000	SF		

Item No.	Item Description	Estimated Quantity	Unit of Measure	Unit Cost	Item Total Cost
113	Mulch	1	LS		

*Note: In case of error in extension of price into the total price column, the unit price will govern.

Total Amount of Bid (written in words) is:

_____ Dollars and

_____ Cents

In the event of discrepancy between words and figures, the words shall prevail.

\$ _____
 Figures

Note: **The award of the contract shall be awarded to the lowest price of the Base Bid.**

 Address of Bidder

 Signature of Bidder

 City

 Name of Bidder (Print)

 Telephone Number of Bidder

 Fax Number of Bidder

 Contractor's License Number

 License's Expiration Date

Addendum Acknowledgement

Addendum No. 1 Signature Acknowledging Receipt: _____ Date: _____

Addendum No. 2 Signature Acknowledging Receipt: _____ Date: _____

Addendum No. 3 Signature Acknowledging Receipt: _____ Date: _____

Addendum No. 4 Signature Acknowledging Receipt: _____ Date: _____

SECTION III.

SPECIAL PROVISIONS

- 3-1. DESCRIPTION OF WORK – Soil lime treatment, installation of storm drain system (4" HDPE, 6" HDPE, 12" RCP, 12" HDPE, 18" HDPE and 24" HDPE, catch basin/inlet, cleanout, trench drain, 12" and 24" outfall), sanitary sewer lateral, water service lateral, AC paving, parking lot striping and signage, concrete curb and gutter, pedestrian concrete walkway, electrical lighting conduits, fencing, railing, bio-retention area, synthetic landscape turf system, irrigation system, planting trees, shrubs and sod, and wetlands mitigation.
- 3-2. ORDER OF PRECEDENCE OF CONTRACT DOCUMENTS – If the CONTRACTOR discovers any errors, omissions, discrepancies, or conflicts in the Contract, he/she shall immediately inform the ENGINEER in writing. The ENGINEER will promptly resolve such matters by issuing addenda or change orders. Failure or delay to act on the part of the ENGINEER shall not constitute a waiver of any right afforded the CITY or the ENGINEER by the Contract or marker prior to authorization by the CITY shall be at the CONTRACTOR'S risk.

Unless otherwise noted below, conflicts or inconsistencies between parts of the Contract will be resolved by the ENGINEER with a change order or an addendum, if required. Addenda and change orders bearing the most recent date shall prevail over addenda or change orders bearing earlier dates. Any reference to addenda-changed specifications or drawings shall be considered to have been changed accordingly.

In resolving conflicts, errors, or discrepancies, the order of precedence shall be as follows:

- 1) Change Orders/Addenda (most recent in time takes precedence)
- 2) Agreement and Bond Forms
- 3) Special Provisions
- 4) Technical Specifications
- 5) Standard Specifications (Current Caltrans Standard Specifications)
- 6) Drawings
- 7) General Conditions
- 8) Instructions to Bidders
- 9) CONTRACTOR'S Bid (Bid Form)
- 10) Notice Inviting Bids
- 11) Permits from other agencies as may be required by law.

- 3-3. COOPERATION - Attention is directed to Sections 5-1.20, "Coordination with Other Entities", and 5-1.36D, "Non-highway Facilities", of the Standard Specifications and these special provisions.

The CONTRACTOR shall not adjust gas, electric, television cable, telephone, and Sonoma County structures. The CONTRACTOR will notify each agency who will be in turn adjust their own structures at least seven (7) working days prior to covering/burying these facilities at no cost to the CITY. Failure to do so shall result in the CONTRACTOR being liable for the utility agencies' claims.

- 3-4. OBSTRUCTIONS - Attention is directed to Sections 5-1.36D, "Non-highway Facilities", and 15, "Existing Facilities", of the Standard Specifications and these special provisions.

The CONTRACTOR's attention is directed to the existence of certain underground facilities that may require special precautions be taken by the CONTRACTOR to protect the health, safety and welfare of workmen and of the public. Facilities requiring special precautions include, but are not limited to: conductors of petroleum products, oxygen, chlorine and toxic or flammable gases; natural gas in pipelines greater than 6 inches in diameter or pipelines operating at pressures greater than 60 psi (gage); underground electric supply system conductors or cables either directly buried or in duct or conduit which do not have concentric neutral conductors or other effectively grounded metal shields or sheaths; and underground electrical conductors with potential to ground of more than 300 volts.

The CONTRACTOR shall notify the ENGINEER and the appropriate regional notification center for operators of subsurface installations at least 5 working days prior to performing any excavation or other work close to any underground pipeline, conduit, duct, wire or other structure. Regional notification centers include but are not limited to the following:

Underground Service Alert
Northern California (USA)
Telephone: 1 (800) 227-2600

If the CONTRACTOR's certain operation is delayed, in the opinion of the ENGINEER, by the discovery of an underground utility not indicated on the plans or not marked by USA, the CONTRACTOR shall be paid a fair and reasonable compensation for the actual loss. Actual loss shall be understood to include no items of expense other than idle time of equipment exclusively used in such operation and necessary payments for idle time of labor exclusively required for such operation only, determined as follows:

- 1) Compensation for idle equipment shall be applied at the reduced Caltrans' Equipment Rental Rates where the right of way delay factor for each classification of equipment shall be applied to such equipment rental rate. No markup shall be applied for overhead or profit.
- 2) Compensation for idle time of labor shall be actual wages paid to the workers. No markup shall be added for overhead and profit.

- 3) The time for which such compensation will be paid will not exceed eight (8) hours for each incident.
- 4) The CONTRACTOR shall be granted an extension of time for the delay.
- 5) No monetary compensation will be allowed for delays due to utilities indicated on the plans or marked by USA.

3-5. MAINTAINING TRAFFIC – Attention is directed to Sections 7-1.03, “Public Convenience”, 7-1.04, “Public Safety”, and 12, “Temporary Traffic Control”, of the Standard Specifications and the City of Petaluma Traffic Control Design and Construction Standards Series 700. Nothing in these special provisions shall be construed as relieving the CONTRACTOR from his/her responsibility as provided in said Section 7-1.04. The CONTRACTOR shall not obstruct parking in front of the soccer fields without prior City approval.

The Contractor will minimize disruption to all traffic (vehicular, transit, bicycle, and pedestrians) during the allowed work window. During construction, bicyclists will either share the road with vehicular traffic in a signed detour or be provided separate access. In addition, pedestrian access will be maintained at all times during construction. The Contractor shall provide temporary pedestrian curb ramps and clearly mark the temporary crosswalks. The pedestrian path shall be clear of any debris and meet ADA requirements. Driveway access to schools, residents, and businesses will also be maintained at all times.

Lane closures shall conform to the provisions in the section of these special provisions entitled, “Traffic Control System for Lane Closure”.

At least five (5) working days prior to beginning of each phase of construction (i.e., piping installation, paving, pavement repair, concrete construction, etc.), the CONTRACTOR shall:

- A. Notify all adjacent residents, businesses, City of Petaluma Police and Fire, Green Waste Recovery (residential refuse service company), Waste Management Company (industrial refuse service company), and Petaluma Transit by written notices detailing the type, limits, date and the hours of work. Details of the notice shall be submitted to the ENGINEER for review and approval at least five (5) days prior to delivering these notices.
- B. Where required, post streets with temporary "No Parking/Tow Away" signs at 100-foot intervals at least 72 hours in advance. These signs shall be furnished by the CONTRACTOR and shall state the date; day of week and hour parking is prohibited.

Illuminated traffic cones when used during the hours of darkness shall be affixed or covered with reflective cone sleeves as specified in Section 12-3.10, "Traffic Cones", of the Standard Specifications.

Full compensation for temporary delineation shall be considered as included in the prices paid for the contract in terms of work which obliterated the existing delineation and no separate payment will be made therefore.

When working in or blocking any intersection, the CONTRACTOR shall provide flag persons to direct traffic at that intersection. This is in addition to other required flag persons.

Personal vehicles of the CONTRACTOR's employees shall not be parked on the traveled way, including any section closed to public traffic. The CONTRACTOR, at all times, shall provide flag person(s) to direct delivery trucks and CONTRACTOR's vehicles entering or leaving the public traffic.

The CONTRACTOR shall notify the City of Petaluma of his/her intent to begin work at least 5 days before work is begun. The CONTRACTOR shall cooperate with local authorities relative to handling traffic through the area and shall make his/her own arrangements relative to keeping the working area clear of parked vehicles.

Whenever vehicles or equipment are parked on the shoulder within 6 feet of a traffic lane, the shoulder area shall be closed with fluorescent traffic cones or portable delineators placed on a taper in advance of the parked vehicles or equipment and along the edge of the pavement at 25-foot intervals to a point not less than 25 feet past the last vehicle or piece of equipment. A minimum of 9 cones or portable delineators shall be used for the taper. A C23 (Road Work Ahead) or C24 (Shoulder Work Ahead) sign shall be mounted on a telescoping flag tree with flags. The flag tree shall be placed where directed by the ENGINEER.

A minimum of one (paved) reversible traffic lane, not less than 10 feet wide, shall be open for use by public traffic in with minimal delays, flaggers, adequate traffic control, and signing. ***Flashing arrow boards shall be required for any lane closures.***

Day work: No work and/or preparation of work shall be performed between 5:00 p.m. and 7:00 a.m. unless approved by the ENGINEER in writing, except work required under said Sections 7-1.03 and 7-1.04 of the Standard Specifications or specified elsewhere in the special provisions.

Night work: No work and/or preparation of work shall be performed between 5:00 a.m. and 10:00 p.m. unless approved by the ENGINEER in writing, except work required under said Sections 7-1.03 and 7-1.04 of the Standard Specifications or specified elsewhere in the special provisions.

Except as otherwise provided, the full width of the traveled way shall be open for use by public traffic on Saturdays, Sundays, after 4:00 p.m. on Fridays, on designated legal holidays, during the holiday shutdown period (in applicable areas), and when construction operations are not actively in progress.

Designated legal holidays and the holiday shutdown period are outlined in "Hours of Work" of these Special Provisions.

Minor deviations from the requirements of this section concerning hours of work which do not significantly change the cost of the work may be permitted upon the written request of the CONTRACTOR if in the opinion of the ENGINEER public traffic will be better served and the work expedited. Such deviations shall not be adopted until the ENGINEER has indicated his/her written approval. All other modifications will be made by contract change order.

The City of Petaluma Traffic Control Design and Construction Standards (Series 700) shown elsewhere in these specifications are guidelines only. The CONTRACTOR is not relieved from his/her responsibility for submitting his/her own traffic control plan.

The CONTRACTOR's failure to comply with the requirements of this section will be sufficient cause for the ENGINEER to suspend work at no cost to the City.

All costs involved for completing all work described in this section shall be considered to be included in the contract price paid for Traffic Control System and no additional compensation shall be allowed therefore.

CONTRACTOR shall maintain public access along the trail for safe public access.

- 3-6. WATERING - Watering shall conform to the provisions in Section 17, "Watering", of the Standard Specifications except that full compensation for developing water supply shall be considered as included in the prices paid for various contract items for work involving the use of water and no separate payment will be made therefore. The application of water for dust control will not be considered as extra work under any circumstances. Water can be purchased from the City at current rates provided that the CONTRACTOR meters the water so used with a City furnished meter (a deposit will be required) and a CONTRACTOR furnished valve assembly.

- 3-7. PROGRESS SCHEDULE - The CONTRACTOR shall submit a schedule which includes all major tasks and milestones to the City of Petaluma, Public Works and Utilities Department for review **at least** ten (10) working days prior to start of work.

After beginning of work, updated schedules shall be submitted. No progress payments will be processed without accepted updated schedules.

Payment for the original schedule and updated, weekly schedules shall be considered to be included in the various items of work and no additional compensation will be allowed therefore.

- 3-8. SUPERINTENDENCE - The CONTRACTOR shall designate in writing and submit to the Project Engineer two (2) working days before starting work, an authorized representative who shall have the authority to represent and act for the CONTRACTOR for the duration of the contract. Any change in the designation shall require prior approval of the ENGINEER.

When the CONTRACTOR is comprised of two (2) or more persons, firms, partnerships or corporations functioning on a joint venture basis, said CONTRACTOR shall designate in writing before starting work, the name of one authorized representative who shall have the authority to represent and act for the CONTRACTOR.

Said authorized representative shall be present at the site of work at all times while work is actually in progress on the contract. When work is not in progress and during periods when work is suspended, arrangements acceptable to the ENGINEER shall be made for any emergency work, which may be required.

If work is in progress and the authorized representative is not on site, the City reserves the right to stop the work at no cost to the City.

Once the work begins, the Superintendent shall keep the ENGINEER informed of the CONTRACTOR's daily schedule. The ENGINEER shall have at least twenty-four (24) hour advance notice of all work, on a daily basis, including SUBCONTRACTOR's work. If the CONTRACTOR fails to notify the ENGINEER, the ENGINEER reserves the right to stop the work at no cost to the City.

In the case of urgency or emergency where the CONTRACTOR's authorized representative is not present on any particular part of the work and where the ENGINEER wishes to give notification or direction, it will be given to and be obeyed by the superintendent or foreperson who may have charge of the particular work or it will be given to and be obeyed by any worker in the area should the superintendent or foreperson not be immediately available.

All costs involved in superintendence shall be included in the contract prices paid for various items of work and no additional payment will be allowed therefore.

- 3-9. SAFETY REQUIREMENT - The CONTRACTOR shall comply with all CAL/OSHA safety requirements. It shall be the CONTRACTOR's sole responsibility for making sure these safety requirements are met and the CONTRACTOR shall fully assume all liabilities for any damages and/or injuries resulting from his or her failure to comply with the safety requirements. Failure on the City's part to stop unsafe practices shall, in no way, relieve the CONTRACTOR of his/her responsibility.

The CONTRACTOR shall first call City of Petaluma Emergency Center at 911, from a regular telephone, and (707) 762-2727 or from a cellular phone (707) 762-4545, if any gas lines or electrical power lines are broken or damaged.

- 3-10. PROJECT AND CONSTRUCTION AREA SIGNS – Project sign and construction area signs shall be furnished, installed, maintained, and removed when no longer required in accordance with the provisions in Section 12, “Construction Area Traffic Control Devices”, of the Standard Specifications.

Two (2) project signs with a minimum dimension of 3’X4’X3/4” plywood bolted to an A-frame barricade shall be furnished, installed and moved from site to site by the

Contractor. Letters and numbers shall be black on a white background. The sign information shall be as shown below:

CITY OF PETALUMA (4" LETTERS)

**PROJECT: PETALUMA COMMUNITY SPORTS FIELDS
BASEBALL DIAMOND PROJECT**

**FUNDING: PARKLAND IMPACT FUNDS
& DONATIONS (3" LETTERS)**

PROJECT MANAGER: KEN EICHSTAEDT (3" LETTERS)

PHONE: 707-210-2266

The signs shall be approved prior to fabrication and posted as directed by the Engineer.

Construction area signs will be installed prior to start of construction and maintained in place for the duration of the project by the CONTRACTOR. When installed, the signs shall not extend beyond the street curb alignment into the travel way. Signs shall be repaired or replaced at no cost to the City of Petaluma, if damaged or stolen. The CONTRACTOR shall remove the signs and posts at the completion of the project and with prior approval of the ENGINEER.

All costs involved in purchasing and installing construction area and project signs shall be considered as included in the Lump Sum price paid for Traffic Control System.

- 3-11. PROJECT APPEARANCE – The CONTRACTOR shall maintain a neat appearance to the work area.

When practicable, debris developed during construction shall be disposed of concurrently with its removal. It is anticipated that all material excavated on the site can remain on the site as directed by the CITY. Stockpiling on the street shall not be allowed. The CONTRACTOR shall apply for a "stockpiling" permit from the City's Community Development Department prior to stockpiling more than fifty (50) cubic yards of materials on private property. The CONTRACTOR shall solely be responsible for securing staging and/or stockpiling areas.

The CONTRACTOR shall provide dust control as often as required during the construction, and shall clean the roads/streets with street sweepers at least once a day at the end of each working day or more often if safety or appearance conditions warrant. Failure to maintain dust control, street cleaning and/or any required work specified in this section shall result in the City performing the work with other forces and back charge the CONTRACTOR for the costs.

Full compensation for conforming to the provisions in this section, not otherwise provided for, shall be considered as included in prices paid for the various contract items of work involved and no additional compensation will be allowed therefore.

- 3-12. RESPONSIBILITY FOR DAMAGE - The CONTRACTOR shall indemnify, hold harmless, release and defend the City of Petaluma, its officers, officials, employees and agents from and against any and all liabilities, claims, demands, losses, damages, expenses, costs (including without limitation costs and fees of litigation) of every nature arising out of or in connection with the activities of the CONTRACTOR, his/her subcontractors, employees and agents, except such loss or damage which was caused by the sole negligence or willful misconduct of the CITY, its employees or agents. The CITY may retain so much of the money due the CONTRACTOR as shall be considered necessary, until disposition has been made of claims or suits for damages as aforesaid.
- 3-13. GUARANTEE OF WORK - Neither the final certificate of payment nor any provision in the contract nor partial or entire use of the improvements embraced in this contract by the City or the public shall constitute an acceptance of work not done in accordance with the contract or relieve the CONTRACTOR of liability in respect to any warranties or responsibility for faulty materials or workmanship. The CONTRACTOR's attention is directed to Article 5, "Bonds and Insurance", of the General Conditions.
- 3-14. NOTICE TO PROCEED, BEGINNING OF WORK, CONTRACT TIME, TIME OF COMPLETION, AND LIQUIDATED DAMAGES – Article 2.3, "Commencement of Contract Times; Notice To Proceed" of the General Conditions is amended to read:

The CONTRACTOR shall begin work within ten (10) working days from the date of Notice To Proceed (NTP) and shall diligently prosecute the same to completion before the expiration of total allocated working days as specified in the Construction Agreement and/or Invitation to Bid, from the date of starting work. The CONTRACTOR shall complete all of the work directed by the ENGINEER in all parts and requirements within the time set forth. A working day is defined in these specifications.

The CONTRACTOR is on notice that it may take approximately eight (8) weeks from the bid opening to obtain the City Council's award of the contract, to process the construction agreement, and to issue the Notice to Proceed.

The CONTRACTOR shall pay to the City of Petaluma the sum of \$100 per day for each and every *calendar day's* delay in finishing the work in excess of the number of days prescribed above (and/or in excess of the number of days prescribed for any scheduled operations or works described in the Special Provisions).

A working day is defined as any day, except as follows:

- a. Saturdays, Sundays, and legal holidays
- b. Days on which the CONTRACTOR is prevented by inclement weather or conditions resulting immediately therefrom adverse to the current controlling operation or operations, as determined by the ENGINEER, from proceeding with at least 75 percent of the normal labor and equipment force engaged on that operation or operations for at least 60 percent of the total daily time being currently spent on the controlling operation or operations.

Should the CONTRACTOR prepare to begin work at the regular starting time of any day on which inclement weather, or the conditions resulting from the weather, or the condition of the work, prevents the work from beginning at the usual starting time and the crew is dismissed as a result thereof and the CONTRACTOR does not proceed with at least 75 percent of the normal labor and equipment force engaged in the current controlling operation or operations for at least 60 percent of the total daily time being currently spent on the controlling operation or operations, the CONTRACTOR will not be charged for a working day whether or not conditions should change thereafter during that day and the major portion of the day could be considered to be suitable for those construction operations.

Determination that a day is a non-working day by reason of inclement weather or conditions resulting immediately therefrom shall be made by the ENGINEER. The CONTRACTOR will be allowed 10 days from the issuance of the weekly statement of working days in which to file a written protest setting forth in what respects the CONTRACTOR differs from the ENGINEER; otherwise, the decision of the ENGINEER shall be deemed to have been accepted by the CONTRACTOR as correct. The ENGINEER will furnish the CONTRACTOR a weekly statement showing the number of working days charged to the contract for the preceding week, the number of working days of time extensions being considered or approved, the number of working days originally specified for the completion of the contract, and the number of working days remaining to complete the contract and any time extensions thereof.

3-15. HOURS OF WORK

Weekdays – Weekdays (Monday through Friday) hours shall be from 7:00 a.m. to 5:00 p.m. for all required work except those hours approved by the City of Petaluma or specified in “Order of Work” Section of these special provisions. Work hours for County of Sonoma and Caltrans right of way shall be governed by their respective permit conditions.

Night Hours – Other than emergency work, there will be no night hours allowed on this project.

Liquidated Damages in the sum of Fifteen Hundred Dollars (\$1,500) per day will be assessed against the CONTRACTOR if he fails to comply with any of the daily conditions or operations such as maintaining erosion control facilities, job site/street cleanliness and daily cleanup and traffic control and flagging, as described in the General Conditions, these Special Provisions, and the Technical Specifications.

If the CONTRACTOR closes a street or sidewalk without prior notice and approval of the ENGINEER within 24 hours, the associated operation will be shutdown at the CONTRACTOR’s expense.

Holidays - Designated legal holidays are: January 1st, the third Monday in January, the third Monday in February, the last Monday in May, July 4th, the first Monday in September, the second Monday in October, November 11th, Thanksgiving Day, the day after Thanksgiving, December 24th and December 25th. When a designated legal

holiday falls on a Sunday, the following Monday shall be a designated legal holiday. When November 11th falls on a Saturday, the preceding Friday shall be a designated legal holiday. The Contractor shall not work on the legal holidays unless approved in writing by the Engineer.

Holiday Shutdown - No work shall be allowed to be performed in the business district (defined by the map on the City of Petaluma web site at <http://cityofpetaluma.net/cdd/pdf/boundaries.pdf>) between Thanksgiving Day, the day after Thanksgiving, and December 25th thru January 3rd of the following year.

- 3-16. RECORD ("AS-BUILT") DRAWINGS – The CONTRACTOR shall furnish Record Drawings of the complete project and procure from the Director of Public Works a full sized set of Contract Drawings. Construction drawings shall be on the construction site at all times while the work is in progress. Drawings shall show approved substitutions, if any, of material including manufacturer's name and catalog number. The Drawings shall be to scale and all indications shall be neat and legible. All information noted on the CONTRACTOR's job-site print shall be transferred to the Record Drawings by CONTRACTOR and all indications shall be recorded in a neat, legible and orderly way. The Record Drawings shall be signed by the CONTRACTOR and turned over to the Director of Public Works before the final acceptance of the project. If the CONTRACTOR fails to provide the City with an acceptable “Record Drawings”, the City shall deduct \$2,000 from the amount due CONTRACTOR.
- 3-17. NOTICE OF POTENTIAL CLAIM - If for any reason the CONTRACTOR deems that additional compensation is due him/her for work or materials not clearly provided for in the contract, plans, or specifications or previously authorized extra work, a Notice of Potential Claim shall be made. The CONTRACTOR shall give the ENGINEER a written Notice of Potential Claim for such additional compensation before work begins on the items on which the claim is based. The notice shall set forth the reasons for which the CONTRACTOR believes additional compensation will or may be due and the nature of the costs involved. The CONTRACTOR shall afford the ENGINEER every opportunity and facility for keeping records of the actual cost of the work. The CONTRACTOR shall keep records of the disputed work in accordance with Contract General Conditions, Section 11.3, “Cost of Work (Based on Time and Materials).”

If such notification is not given or the ENGINEER is not afforded proper opportunity by the CONTRACTOR for keeping strict account of actual cost as required, then the CONTRACTOR hereby agrees to waive any claim for such additional compensation. Such notice by the CONTRACTOR and the fact that the ENGINEER has kept account of the cost of the work shall not in any way be construed as proving or substantiating the validity of the claim. When the work on which the claim for additional compensation is based has been completed, the CONTRACTOR shall, within 10 calendar days, submit his/her written claim to the ENGINEER who will present it to the City for consideration in accordance with local laws or ordinances. The CONTRACTOR is directed to Section 17.20 “Resolution of Construction Claims” of the General Conditions.

Any claim for overhead type expenses or costs, in addition to being certified as stated above, shall be supported by an audit report of an independent Certified Public

Accountant. Any claim for overhead shall also be subject to audit by the City at its discretion.

Any costs or expenses incurred by the City in reviewing or auditing any claims that are not supported by the CONTRACTOR's cost accounting or other records shall be deemed to be damages incurred by the City within the meaning of the California False Claims Act.

Nothing in this subsection shall be construed as a waiver of the CONTRACTOR's right to dispute final payment based on differences in in-place quantity measurements or computations of unit priced pay items.

3-18. PAYMENT FOR MATERIALS ON HAND - At the discretion of the ENGINEER, partial payments may be made to the extent of the delivered cost of materials to be incorporated in the work, provided that such materials meet the requirements of the contract, plans, and specifications. Such delivered costs of stored or stockpile materials may be included in the next partial payment after the following conditions are met:

1. The material has been stored or stockpiled and protected at the sole expense of the CONTRACTOR at a location acceptable to the City and in a manner acceptable to the ENGINEER.
2. The CONTRACTOR has furnished the ENGINEER with acceptable evidence of the quantity and quality of such stored or stockpiled materials.
3. The CONTRACTOR has furnished the ENGINEER with satisfactory evidence that the material and transportation costs have been paid.
4. The CONTRACTOR has furnished the City legal title (free of liens or encumbrances of any kind) to the material so stored or stockpiled.
5. The CONTRACTOR has furnished the City evidence that the material so stored or stockpiled is insured against loss by damage to or disappearance of such materials at anytime prior to use in the work.
6. The CONTRACTOR shall bear all costs associated with the partial payment of stored or stockpiled materials in accordance with the provisions of this subsection.

It is understood and agreed that the transfer of title and the City's payment for such stored or stockpiled materials shall in no way relieve the CONTRACTOR of his/her responsibility for furnishing and placing such materials in accordance with the requirements of the contract, plans, and specifications. In no case will the amount of partial payments for materials on hand exceed 70% of the contract price for the contract items in which the material is intended to be used.

3-19. ACCESS TO DRIVEWAYS – All accesses for the sports fields, local businesses and residents shall be maintained at all times. Temporary ramps will be required each night

for access to driveways for residences and commercial access. The Contractor shall coordinate with each driveway user as needed.

- 3-20. ARCHAEOLOGICAL MONITORING – In the event that archaeological materials are found during construction, CONTRACTOR shall notify the ENGINEER immediately and shall temporarily cease work in the area until a determination or investigation of the site can be made by a qualified archaeologist. Archaeologist services shall be provided by the City at no cost to the CONTRACTOR.
- 3-21. BIOLOGICAL MONITORING – The CITY will be providing biological monitoring as deemed necessary. The CONTRACTOR shall notify the ENGINEER immediately for any biological disturbance.
- 3-22. STORM WATER MANAGEMENT, AND SEDIMENT AND EROSION CONTROL – CONTRACTOR shall prepare storm water management, and sediment and erosion control measures for implementation and shall maintain these measures during the construction period as required by the Regional Water Quality Control Board (RWQCB) permit **and in compliance with the San Francisco Regional Water Quality Control Board Clean Water Act Section 401 Water Quality Certification for the Petaluma Community Sports Field. (Appendix 5 of Technical Specifications).**

Because the area to be disturbed by construction activities is more than one acre, the CONTRACTOR shall be required to file a Notice of Intention (NOI), pay the fee, prepare the SWPPP, BMP, etc. as required by RWQCB permit.

Storm water management, and sediment and erosion control shall include, but not be limited to fiber rolls (sediment logs or wattles), straw bales, drain rock, check dams, silt fencing, siltation basins and as required for construction conditions. Measures shall be submitted to the ENGINEER for review seven (7) days prior to start of construction. The CONTRACTOR shall be responsible for providing the measures that would comply with the RWQCB.

The CONTRACTOR shall also place drain rock bags around storm drain inlets/catch basins, and install drain rock check dams at 50-foot intervals within 100 feet upstream from the inlets/catch basins.

The CONTRACTOR shall comply with all Federal, State and local regulations and ordinances governing storm water pollution prevention.

As required, the CONTRACTOR shall file a Notice of Intent (NOI) with the RWQCB, and shall comply with the National Pollution Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Association with Construction Activity requirements. The CONTRACTOR shall prepare and implement a Storm Water Pollution Plan (SWPPP). Resources used in developing the SWPPP shall include the “California Storm Water Best Management Practice Handbook for Construction Activity,” and the San Francisco Bay Regional Water Quality Control Board’s “Information on Erosion and Sediment Controls for Construction Projects.” The SWPPP shall be submitted for review and acceptance prior to start of work. The CONTRACTOR

shall have an accepted and implemented SWPPP as part of Mobilization. The SWPPP shall, at a minimum, include Best Management Practices (BMPs), acceptable to the City, **incorporate the requirements of the Section 401 Water Quality Certification for Construction elements (not Monitoring and Reporting) and can build upon and incorporate the draft SWPP (Appendix 1). The SWPPP shall** address the following:

1. Housekeeping
2. Waste Containment and Control.
3. Minimizing Disturbed Areas.
4. Stabilize Disturbed Areas.
5. Protect Slopes and Channels.
6. Control Site Perimeter.
7. Control of Internal Erosion.
8. Disposal of Storm Water and Ground Water
9. Sediment Control.
10. Liquid Waste Management.
11. Concrete Waste Management.
12. Hazardous Waste Management.
13. Employee and SUBCONTRACTOR Training.
14. Vehicle and Equipment Fueling and Maintenance.
15. Spill Prevention and Control.
16. Contaminated Soil Management.
17. Sawcutting.
18. Paving and Asphalt Work.
19. Street Cleaning.
20. Dust Control

In the construction of concrete pathway, employ and utilize the required best management practices such as installation of temporary silt fence, and catch basin protection, and fully observe all local, state, and federal regulations.

All costs involved for completing all work described in this section shall be considered to be included in the contract price paid under **Erosion and Sediment Control and Stormwater Management**, and no additional compensation shall be allowed therefore.

3-23. ITEM INCREASES AND DECREASES -

Increased or Decreased Quantities

Increases or decreases in the quantity of a contract item of work will be determined by comparing the total pay quantity of that item of work with the ENGINEER's Estimate therefor.

If the total pay quantity of any item of work required under the contract varies from the ENGINEER's Estimate therefore by 25 percent or less for increases and 25 percent or less for decreases, payment will be made for the quantity of work of the item performed at the contract unit price.

If the total pay quantity of any item of work required under the contract varies from the ENGINEER's Estimate therefor by more than 25 percent for increases and 25 percent for decreases, in the absence of an executed contract change order specifying the compensation to be paid, the compensation payable to the CONTRACTOR will be determined in accordance with the following sections.

Increases of More Than 25 Percent

Should the total pay quantity of any item of work required under the contract exceed the ENGINEER's Estimate therefore by more than 25 percent, the work in excess of 125 percent of the estimate and not covered by an executed contract change order specifying the compensation to be paid therefor will be paid for by adjusting the contract unit price based upon a force account analysis.

The adjustment of the contract unit price will be the difference between the contract unit price and the actual unit cost which will be determined as hereinafter provided, of the total pay quantity of the item. If the costs applicable to the item of work include fixed costs, the fixed costs will be deemed to have been recovered by the CONTRACTOR by the payments made for 125 percent of the ENGINEER's Estimate of the quantity for the item, and in computing the actual unit cost, the fixed costs will be excluded. Subject to the above provisions, the actual unit cost will be determined by the ENGINEER in the same manner as if the work were to be paid for on a force account basis.

When the compensation payable for the number of units of an item of work performed in excess of 125 percent of the ENGINEER's Estimate is less than \$5,000 at the applicable contract unit price, the ENGINEER reserves the right to make no adjustment in the

contract unit price if the ENGINEER so elects, except that an adjustment will be made if requested in writing by the CONTRACTOR.

Decreases of More Than 25 Percent

Should the total pay quantity of any item of work required under the contract be less than 25 percent of the ENGINEER's Estimate therefore, an adjustment in compensation pursuant to this Section will not be made unless the CONTRACTOR so requests in writing. If the CONTRACTOR so requests, the quantity of the item performed, unless covered by an executed contract change order specifying the compensation payable therefor, will be paid for by adjusting the contract unit price based upon a force account analysis. In no case shall the payment for that work be less than that which would be made at the contract unit price.

The adjustment of the contract unit price will be the difference between the contract unit price and the actual unit cost, which will be determined as hereinafter provided, of the total pay quantity of the item, including fixed costs. The actual unit cost will be determined by the ENGINEER in the same manner as if the work were to be paid for on a force account basis; or the adjustment will be as agreed to by the CONTRACTOR and the ENGINEER.

The payment for the total pay quantity of the item of work will in no case exceed the payment which would be made for the performance of 25 percent of the ENGINEER's Estimate of the quantity for the item at the original contract unit price.

- 3-24. EXISTING WATER VALVES, MONUMENTS AND MANHOLES – The City shall have access at all times to water valves, monuments, and manholes except immediately following a construction operation as noted below.

Prior to placement of paving, all manholes, monuments, and valves covered by paving, shall be clearly marked in white paint before the close of that work day. Throughout the construction process, the CITY shall have access to manholes, monuments, and valves within 48 hours of any operation affecting the manholes, monuments and valves.

A penalty of Fifty Dollars (\$50) per each valve, monument, and manhole that is not raised, or that the CITY is not provided easy access to, will be assessed against the contractor for each calendar day.

- 3-25. WAGE RATES - The General Prevailing Wage Determination Made by the Director of Industrial Relations Pursuant to California Labor Code Part 7, Chapter 1, Article 2, Sections 1770, 1773 and 1773.2. The CONTRACTOR can download this information from the web site: <http://www.dir.ca.gov/dlsr/PWD/>

The most current prevailing wage rates available at the time of bid opening shall be used.

- 3-26. STAGING AREA – It is the responsibility of the Contractor to provide a staging area for equipment and materials. The site and hauling route shall be submitted to the City for

approval prior to the commencement of work. The Contractor shall obtain written confirmation from property owners for use of the site.

- 3-27. COORDINATION WITH PG&E – CONTRACTOR shall coordinate the work schedule with PG&E and the City of Petaluma 2 weeks prior to commencement of work. Delays claims or request for additional compensation will not permitted due to PG&E operations or for time waiting on PG&E to determined abandoned facilities or PG&E encounters. All coordination, down time, and work associated with the PG&E shall be considered as included in other items of work and shall be included in prices paid for various contract items of work involved and no additional compensation will be allowed therefor.

SECTION 32 1813

SYNTHETIC TURF SYSTEM

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. Furnish all labor, materials, tools and equipment necessary to install synthetic turf system as indicated on the Plans and as specified herein; including components and accessories required for a complete installation. including but not limited to
 - 1. Acceptance of prepared permeable base.
 - 2. Coordination with related trades to ensure a complete, integrated, and timely installation: permeable base (tested for permeability), grading and compacting, piping and drain components; as provided under its respective trade section.
 - 3. Synthetic turf for sports fields, infill material, shock/drain tile and geotextile fabric on prepared permeable base.
- B. Related Work:
 - 1. Section 03 3000 Cast-in-Place Concrete
 - 2. Section 32 1600 Curb, Gutter and Sidewalks

1.02 REFERENCES

- A. ASTM Standard Test Methods:
- B. D1577 - Standard Test Method for Linear Density of Textile Fiber
- C. D5848 - Standard Test Method for Mass Per Unit Area of Pile Yarn Floor Covering
- D. D418 - Standard Test Method for Testing Pile Yarn Floor Covering Construction
- E. D1335 - Standard Test Method for Tuft Bind of Pile Yarn Floor Coverings
- F. D1682 - Standard Method of Test for Breaking Load and Elongation of Textile Fabrics
- G. D5034 - Standard Test Method of Breaking Strength and Elongation of Textile Fabrics (Grab Test)
- H. F1015 - Standard Test Method for Relative Abrasiveness of Synthetic Turf Playing Surfaces
- I. D4491 - Standard Test Methods for Water Permeability of Geotextiles by Permittivity
- J. D2859 - Standard Test Method for Ignition Characteristics of Finished Textile Floor Covering
- K. F355 - Standard Test Method for Shock-Absorbing Properties of Playing Surfaces
- L. F1936 - Standard Test Method for Shock-Absorbing Properties of North American Football Field Playing Systems as Measured in the Field
- M. D1557 - Test Method for Laboratory Compaction Characteristics of Soil
- N. Technical Guidelines Brock PowerBase YSR Synthetic Base system for Synthetic Turf Fields for Materials, Installation, and Performance Guidelines for Synthetic (Drainage and Impact) Underlayment

1.03 JOB CONDITIONS

- A. Field subgrade preparation and permeable base shall be complete and approved by the Engineer prior to commencement of Work under this Section.

1.04 QUALITY ASSURANCE

- A. COMPANY EXPERIENCE

The synthetic turf contractor must be experienced in the manufacture and installation, in the United States, of synthetic infilled grass fields for at least 10 years of continuous operation.

They must also provide proof of the following:

1. Having installed at a minimum 500 fields of 65,000 square feet or more in the United States with the same manufacturer/company in the past 6 years utilizing the same turf system, sewn seams and micro-porous backing proposed for the specified field. Seams must be sewn along the selvage edge flap of the roll.
 2. Have at least fifty (50) synthetic grass fields in play for at least eight (8) years in the United States that have surpassed the manufacturer's warranty period.
 - ~~2-3.~~ Have fifty (50) full-sized fields installed in the State of California with cork and sand as the sole infill components. Coconut-based and/or infill materials requiring moisture control shall be excluded from the bid.
 - ~~3-4.~~ Have at least twenty five (25) fields installed in California and one hundred (100) fields in the U.S. of the turf system material, including a spined and/or ridged monofilament fiber, infill material, sewn seams and micro-porous backing that have been in play for a minimum of four years.
 - ~~4-5.~~ Have ISO 9001, ISO 14001 and OHSAS 18011 certifications.
 - ~~5-6.~~ Have a minimum of \$75,000,000 bonding capacity.
 - ~~6.~~ Have an independent safety study for the specified synthetic turf system.
 7. Have a third party tuft bind certification confirming minimum requirement of 9 lbs tuft bind.
 8. Synthetic turf contractor must be the manufacturer of the synthetic turf system, not a reseller. Synthetic turf contractor must own manufacturing plant in the United States with exclusive control of its turf production, lead time and quality control.
 9. Have a sample written policy for the specified synthetic turf system for an 8-year minimum prepaid, non-prorated, third-party insured warranty and insurance policy for the proposed field(s).
 10. Have written stipulation that their synthetic turf system does not violate any other company/manufacturer's patents, patents allowed or patents pending.
 11. Have an audited company financial statement.
- B. The synthetic turf contractor and installer (if different) must provide competent personnel, skilled in the specified type of infilled synthetic turf system; they must have installed a minimum of 100 fields of 65,000 square feet or more with the specified manufacturer/company and synthetic turf system that is being proposed for this project. The designated supervisory personnel on the project must be certified in writing by the synthetic turf manufacturer as competent in the installation of this material, including sewing seams and proper installation of the infill mixture. The installation lead worker must have installed at least five (5) fields in the last two (2) years of the specified material. The synthetic turf manufacturer shall have a representative on site to certify the installation and warranty compliance.
- C. Prior to the award of bid, the synthetic turf contractor shall provide evidence that they meet the requirements of A - B above.
- D. Pre-Installation Conference: Conduct conference at project site at time to be determined by Engineer. Review methods and procedures related to installation including, but not limited to, the following:
1. Inspect and discuss existing conditions and preparatory work performed under other contracts.
 2. In addition to the Contractor and the installer, arrange for the attendance of installers affected by the Work, the Landscape Architect and the Engineer.

- E. Synthetic turf contractor shall verify special conditions required for the installation of the system.
- F. Synthetic turf contractor shall notify the Engineer of any discrepancies.

1.05 SUBMITTALS

- A. Substitutions: Other products are acceptable if in compliance with all requirements of these specifications. Submit alternate products to Engineer for approval prior to bidding.
 - 1. Provide substantiation that proposed system does not violate any other manufacturer's patents, patents allowed or patents pending.
 - 2. Provide a sample copy of insured, non-prorated warranty and insurance policy information.
- B. Shop Drawings:
 - 1. Indicate field layout; field marking plan and details for the specified sports; i.e. roll/seaming layout; methods of attachment, field openings and perimeter conditions.
 - 2. All designs, markings, layouts, and materials shall conform to all currently applicable National Collegiate Athletic Association rules and/or other standards that may apply to this type of synthetic turf installation, such as National Federation of High Schools rules and markings of American Legion Baseball guidelines.
 - 3. Show installation methods and construction indicating field verified conditions, clearances, measurements, terminations, drainage.
 - 4. Show size, color and location of Logo.
 - 5. Provide joint submission with related trades when requested by Engineer.
- C. Product Data:
 - 1. Submit manufacturer's catalog cuts, material safety data sheets (MSDS), brochures, specifications; preparation and installation instructions and recommendations; storage, handling requirements and recommendations.
 - 2. Submit fiber manufacturer's name, type of fiber and composition of fiber.
 - 3. Submit data in sufficient detail to indicate compliance with the contract documents.
 - 4. Submit manufacturer's instructions for installation.
 - 5. Submit manufacturer's instructions for maintenance for the proper care and preventative maintenance of the synthetic turf system, including painting and markings.
- D. Samples: Submit samples, 6 x 6 inches, illustrating details of finished product in amounts as required by General Requirements, or as requested by Engineer.
- E. Product Certification:
 - 1. Submit manufacturer's certification that products and materials comply with requirements of the specifications.
 - 2. Submit test results indicating compliance with Reference Standards.
- F. Project Record Documents: Record actual locations of seams, drains and other pertinent information in accordance with Division 1 Specifications Series, General Requirements.
- G. List of existing installations: Submit list including respective Owner's representative and telephone number.
- H. Warranties: Submit warranty and ensure that forms have been completed in Owner's name and registered with approved manufacturer.
- I. Testing data to the Owner to substantiate that the finished field meets the required shock attenuation, as per ASTM F1936.

- J. Testing Certification: Submit certified copies of independent (third-party) laboratory reports on ASTM testing:
 - 1. Pile Height, Face Weight & Total Fabric Weight, ASTM D5848.
 - 2. Primary & Secondary Backing Weights, ASTM D5848.
 - 3. Tuft Bind, ASTM D1335.
 - 4. Grab Tear Strength, ASTM D1682 or D5034.
 - 5. Shock Attenuation, ASTM F1936.
 - 6. Water Permeability, ASTM D4491
 - 7. Additional testing as listed in Technical Guidelines Brock PowerBase YSR Synthetic Base Systems for Synthetic Turf Fields

1.06 DELIVERY, STORAGE AND HANDLING

- A. Prevent contact with materials that may cause dysfunction.
- B. Deliver and store components with labels intact and legible.
- C. Store materials/components in a safe place, under cover, and elevated above grade.
- D. Protect from damage during delivery, storage, handling and installation. Protect from damage by other trades.
- E. Inspect all delivered materials and products to ensure they are undamaged and in good condition.
- F. Comply with Manufacturer's recommendations.

1.07 SEQUENCING AND SCHEDULING

- A. Coordinate the Work with installation of work of related trades as the Work proceeds.
- B. Sequence the Work in order to prevent deterioration of installed system.

1.08 WARRANTY

- A. The synthetic turf contractor shall provide a warranty to the City that covers defects in materials and workmanship of the turf for a period of eight (8) years from the date of substantial completion. The basepath, home plate, and mound areas of the infield are under warranty for 2 years where the remainder of the field is under warranty for 8 years. The synthetic turf manufacturer must verify that their representative has inspected the installation and that the work conforms to the manufacturer's requirements. The manufacturer's warranty shall include general wear and damage caused from UV degradation. The synthetic turf contractor shall provide a warranty to the City that covers defects in the installation workmanship, and further warrant that the installation was done in accordance with both the synthetic turf manufacturer's recommendations and any written directives of the manufacturer's representative. Prior to final payment, the synthetic turf contractor shall submit notification in writing to the City that the field is officially added to the annual policy coverage, guaranteeing the warranty to the City. The insurance policy must be underwritten by an "AM Best" A rated carrier.
- B. The warranty shall have the following characteristics:
 - 1. Pre-Paid 8-year insured warranty.
 - 2. Insured Warranty coverage must be provided in the form of one (1) single policy.
 - 3. Maximum per claim coverage amount of \$32,000,000.
 - 4. Minimum of \$32,000,000 annual aggregate.

5. Must cover full 100% replacement value of total square footage installed, minimum of \$10.00 per sq. ft. (in case of complete product failure, which will include removal and disposal of the existing surface)
6. Policies that include self-insurance or self-retention clauses shall not be considered.
7. Policy cannot include any form of deductible amount.

C. The synthetic grass system must maintain a G-max of less than 170 for the life of the Warranty as per ASTM F1936.

1.09 MAINTENANCE SERVICE

- A. Synthetic turf contractor shall train the City's facility maintenance staff in the use of the turf maintenance equipment.
- B. Synthetic turf contractor shall provide maintenance guidelines to the Engineer.
- C. The synthetic turf contractor shall provide 4 maintenance service visits at the City's request during the 8 year warranty period.
 1. Each maintenance service visit shall be include 1 SMG Sportchamp, or acceptable equivalent, grooming session including:
 - a. A general sweeping to remove foreign objects such as dirt, leaves, bird droppings, gum and other debris that may collect on the field surface.
 - b. A deep groom, sweep and rejuvenation to de-compact infill and to maintain appropriate G-max levels.
 - c. Overall analysis and inspection of the synthetic turf and its applicable systems, including fiber wear analysis, ultraviolet degradation, infill depth and consistency, infill migration, field edging attachments, sewn and glued seams, line verification and field inlays.
 - d. Repairs including sewing, adhesive failures, inlay separation and general workmanship.

PART 2 MATERIALS

2.01 GEOTEXTILE FABRIC

- A. Geotextile fabric shall be reviewed and approved by the Geotechnical Engineer and Civil Engineer.

2.02 SHOCK/DRAIN TILE

- A. Shock/ drain tile shall be as listed in the Drawings, and as reviewed and approved by the Geotechnical Engineer and Civil Engineer.

2.03 SYNTHETIC TURF

- A. Synthetic turf shall be FieldTurf 2" Vertex Prime Purefill (outfield grass and apron), FieldTurf 2" Vertex Prime PurefillSelect (infield grass and bullpen), and FieldTurf 1.6" Vintage-40 PurefillSelect (infield and warning track), or approved equal. Available through Andrew Rowley, Phone (707) 586-8873.
- B. Synthetic turf materials shall consist of the following:
 1. Carpet made of monofilament and slit-film polyethylene fibers tufted into a fibrous, non-perforated, porous backing. Both monofilament and slit-film fibers shall be tufted into each individual stitch in the turf carpet. Alternating tufting row patterns of each yarn type is unacceptable.

2. Infill: Controlled mixture of silica sand and granulated cork that partially covers the carpet. Provide and install manufacturer approved infill topdressing at warning tracks to provide tactile and audible variation from the adjacent field surface.
3. Glue, thread, paint, seaming fabric and other materials used to install and mark the synthetic turf field.

C. The installed synthetic turf system shall have the following properties as listed in the Technical Product Specification for Vertex Prime and Vintage:

<u>Standard</u>	<u>Property</u>	<u>Specification</u>
ASTM D1577	Fiber Denier	10,800
ASTM D3218	Tape Thickness	235 Microns
ASTM D5823	Pile Height	2"
ASTM D5793	Stitch Gauge	3/4"
ASTM D5848	Pile Weight	34oz/square yard
ASTM D5848	Primary Backing	7+oz/square yard
ASTM D5848	Secondary Backing	14+oz/square yard
ASTM D5848	Total Weight	55oz/square yard
ASTM D1335	Tuft Bind (Without Infill)	8+ lbs.
ASTM D5034	Grab Tear (Width)	200 lbs./force
ASTM D5034	Grab Tear (Length)	200 lbs./force
ASTM D4491	Carpet Permeability	>40 inches/hour
ASTM F355/F1936	Impact Attenuation (Gmax)	<200
i.	Granulated Cork 1-2 Component	0.75lbs/square foot
ii.	Silica Sand Infill Component	4.5lbs/square foot
iii.	Total Product Weight	811oz/square yard
iv.	Shock/Drain Tile	Brock PowerBase YSR

TECHNICAL PRODUCT SPECIFICATION

VERTEX PRIME
MONOFILAMENT/SLIT-FILM 2"

PROPERTY	VALUE	UNITS	METHOD
Product Stock Code	FTVTP-2-PureFill		
Pile Yarn Type	UV-resistant polyethylene		n/a
Yarn Structure 1	Ridged Monofilament		n/a
Yarn Denier 1	14500	Denier	D1577
Tape Thickness 1	360	Microns	
Yarn Structure 2	Slit-Film		
Yarn Denier 2	5000	Denier	D1577
Tape Thickness 2	100+	Microns	
Pile Height	2	inches	D5823
Pile Weight	39	oz/yd ²	D5848
Primary Backing Weight	7+	oz/yd ²	D5848
Secondary Backing Weight (Finger-Unit)	14+	oz/yd ²	D5848
Total Carpet Weight	60	oz/yd ²	D5848
Stitch Gauge	3/4 inch centers		D5793
Tuft Bind	9	lbs/force	D1335
Grab Tear Length	>200	lbs/force	D5034
Grab Tear Width	>200	lbs/force	D5034
Pill Burn Test	Pass		D2859
Impact Attenuation (Gmax)	<170	gmax	F1936
Water Permeability	>40	inch/hour	DIN 18-035
PureFill Cork Infill	1.1	lbs/ft ²	
Sand Infill	4.5	lbs/ft ²	

Issue Date: 5/13/2021

Disclaimer: Variation of +/-5% on above listed property values is within normal manufacturing tolerances

A separate shockpad is needed with this product. Ask us for details.





SLIT-FILM/THATCH 1.6"

PROPERTY	VALUE	UNITS	METHOD
Product Stock Code	Vintage 40-PureFill		
Pile Yarn Type	UV-resistant polyethylene		n/a
Yarn Structure 1	Slit-Film		n/a
Yarn Denier 1	10000+	Denier	D1577
Yarn Structure 2	Texturized Thatch		
Yarn Denier 2	5000	Denier	D1577
Pile Height	1.6	inches	D5823
Pile Weight	50	oz/yd ²	D5848
Primary Backing Weight (Three-Layer)	8+	oz/yd ²	D5848
Secondary Backing Weight (Perforated)	20	oz/yd ²	D5848
Total Carpet Weight	78	oz/yd ²	D5848
Stitch Gauge	3/8 inch centers		D5793
Tuft Bind	8+	lbs/force	D1335
Water Permeability	>40	inch/hour	DIN 18-035
Grab Tear (Length)	>200	lbs/force	D5034
Grab Tear (Width)	>200	lbs/force	D5034
Impact Attenuation (Gmax)	<170	G's	F1936
PureFill Cork Infill	0.7	lbs/ft ²	
Sand Infill	4	lbs/ft ²	

Issue Date: 5/13/2021

Disclaimer: Variation of +/-5% on above listed property values is within normal manufacturing tolerances

A separate shockpad is necessary with this system. Ask us for details.



- ~~v.~~
- D. Carpet shall consist of monofilament and slit-film fibers tufted into a primary backing with a secondary backing.
 - E. Carpet Rolls shall be 15' wide rolls.
 - 1. Rolls shall be long enough to go from edge to edge of field.
 - F. Backing:
 - 1. Primary backing shall be a double-layered polypropylene fabric treated with UV inhibitors.
 - 2. Secondary backing shall consist of an application of porous, heat-activated urethane to permanently lock the fiber tufts in place.
 - 3. Perforated (with punched holes), backed carpet are unacceptable.
 - G. Fiber shall be 10,800 denier, low friction, and UV-resistant fiber measuring not less than 2 inches high.
 - 1. Systems with fiber height less than listed are unacceptable.
 - H. Infill materials shall be approved by the manufacturer.
 - 1. Infill shall consist of a resilient layered granular system, comprising selected and graded silica sand and granulated cork.
 - 2. Synthetic Turf products without silica sand and granulated cork as its sole infill components will not be acceptable.
 - 3. The silica sand component of the infill must represent a minimum of 51% or more of the total infill, by weight.
 - 4. Granulated cork must have a bulk density of ~~0.2519~~ g/cm³ +/- 15%.
 - 5. Granulated cork must be a 1-2mm particle.
 - I. Non-tufted or inlaid lines and markings shall be painted with paint approved by the synthetic turf manufacturer.
 - J. Thread for sewing seams of turf shall be as recommended by the synthetic turf manufacturer.
 - K. Glue and seaming fabric for inlaying lines and markings shall be as recommended by the synthetic turf manufacturer.

2.04 SYNTHETIC TURF MAINTENANCE EQUIPMENT

- A. The synthetic turf contractor shall supply a field sweeper and groomer, which shall include a towing mechanism compatible with a field utility vehicle.
- B. Field sweeper shall be a FieldTurf SweepRight, or approved equal.
- C. Field groomer shall be a FieldTurf GroomRight, or approved equal.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that all sub-base, drainage and leveling is complete prior to installation.
- B. Finish surface planarity of permeable base shall be verified by the synthetic turf contractor. A mason's line, held taught between two (2) workmen separated by a distance of approximately 40 feet, shall be placed directly on the finished surface, parallel to the direction of greatest slope. A third workman shall check for separations between the

mason's line and the finished surface that are equal to or greater than the specified tolerances. Areas of separation shall be outlined with marking paint and the depth of separation indicated.

- C. The synthetic turf contractor shall accept the permeable base planarity, compaction and permeability prior to the installation of materials within their scope of work.
- D. Beginning of installation by the synthetic turf contractor means acceptance of existing conditions.

3.02 INSTALLATION - GENERAL

- A. The installation shall be performed in full compliance with approved Shop Drawings.
- B. Only trained technicians, skilled in the installation of athletic caliber synthetic turf systems working under the direct supervision of the approved installer supervisors, shall undertake any cutting, sewing, gluing, shearing, top-dressing or brushing operations.
- C. The designated Supervisory personnel on the project must be certified, in writing by the turf manufacturer, as competent in the installation of this material, including sewing seams and proper installation of the Infill mixture.
- D. Designs, markings, layouts, and materials shall conform to all currently applicable National Collegiate Athletic Association rules, NFHS rules, and/or other rules or standards that may apply to this type of synthetic turf installation. Designs, markings and layouts shall first be approved by the Engineer in the form of final shop drawings. All markings will be in full compliance with final shop drawings.

3.03 INSTALLATION

- A. The synthetic turf contractor shall strictly adhere to the installation procedures outlined under this section. Any variance from these requirements must be accepted in writing, by the synthetic turf manufacturer's onsite representative, and submitted to the Engineer, verifying that the changes do not in any way affect the warranty.
- B. The synthetic turf contractor shall install geotextile fabric, shock/drain tile and carpet rolls directly over the properly prepared permeable base. Extreme care should be taken to avoid disturbing the permeable base, both in regard to compaction and planarity.
- C. Full width rolls shall be laid out across the field and other areas.
 - 1. Turf shall be of sufficient length to permit full cross-field installation from edge to edge.
 - 2. No cross seams will be allowed in the main playing area between the sidelines.
 - 3. Each roll shall be attached to the next roll utilizing standard state-of-the-art sewing procedures.
 - 4. When all of the rolls of the playing surface have been installed, the sideline areas shall be installed at right angles to the playing surface.
- D. Synthetic turf panel seams shall be sewn along the selvedge edging flap of the turf roll. Seams secured by other means including gluing are unacceptable. Installation shall be 99% sewn.
 - 1. Minimum gluing will only be permitted to repair problem areas, corner completions, and to cut in any logos or inlaid lines as required by the specifications.
 - 2. Seams shall be flat, tight, and permanent with no separation or fraying.
 - 3. In the case of all lines and logos, turf carpet must be field fibers must be sheared to the backing (do not cut the backing) and adhered using hot melt adhesives.
- E. Infill Materials:

1. Infill materials shall be applied in numerous thin lifts. The turf shall be brushed as the mixture is applied. The infill material shall be installed to a depth determined by the manufacturer.
 2. Two-layered infill shall be installed in a systematic order.
 3. Infill materials shall be installed to fill the voids between the fibers and allow the fibers to remain vertical and non-directional. ~~The Infill installation consists of a base layer of silica sand followed by a layer of granulated cork. Infill density shall consist of no more than 4.5 pounds of silica sand, 0.75 pounds of 1-2 granulated cork.~~
- F. Synthetic turf shall be attached to the perimeter edge detail in accordance with the manufacturer's standard procedures.
- G. Upon completion of installation, the finished field shall be inspected by the installation crew and an installation supervisor.
- H. The synthetic turf contractor shall provide the necessary testing data to the Engineer that verifies the finished field meets or exceeds the required shock attenuation. The G-max ~~range~~ shall be ~~between 100 and~~ < 170 for the life of the warranty, as determined by ASTM F355A and F1936 test procedures.
- I. At the near substantial completion of the synthetic turf fields, the synthetic turf contractor shall pay for field to be tested for shock absorbency by an independent testing laboratory accredited for such tests, and shall be pre-approved by the Engineer. All testing and analysis of findings shall be completed by qualified persons utilizing correct techniques. Any tests results that do not meet the requirements of this specification or if any one test value is greater than ten percent (10%) greater in variance as specified, then the synthetic turf contractor shall address the failed test area, be required to retest the entire field and conform to these requirements prior to the issuance of the Certificate of Substantial Completion.
- J. Synthetic turf manufacturer shall be responsible for the testing of the G-max levels of the installed synthetic turf at years two, four, six and one month prior to the completion of year eight. If any of these tests do not fall within the G-max range as specified in this specification section, the synthetic turf manufacturer will be required to modify the field composition to the sole satisfaction of the Engineer so that it falls within the target G-max range. All costs associated with such work shall be borne solely by the synthetic turf manufacturer. Any failed test shall be retested to verify that the field meets the specifications. All testing shall be paid by the synthetic turf manufacturer. All testing shall be completed by an independent testing laboratory accredited for such tests, and shall be pre-approved by the Engineer. All testing and analysis of findings shall be completed by qualified persons utilizing the required techniques outlined in the ASTM F355 test standard.

3.04 FIELD MARKINGS

- A. Field markings shall be installed in accordance with the Plans and approved Shop Drawings.

3.05 CLEANUP AND PROTECTION

- A. Contractor shall protect installed synthetic turf system from subsequent construction operations.
- B. Contractor shall not permit traffic over unprotected surfaces.

- C. Contractor shall provide the labor, supplies, and equipment as necessary for final cleaning of surfaces and installed items.
- D. All usable remnants of new material shall become the property of the City.
- E. Contractor shall keep the area clean throughout the project and clear of debris.
- F. Surfaces, recesses, enclosures, etc., shall be cleaned as necessary to leave the work area in a clean, immaculate condition ready for immediate occupancy and use by the City.

END OF SECTION