CITY OF TULSA

PARKS & FACILITIES
CABS – City Architectural Building Services

DATE:
April 22, 2026

ADDENDUM NO. 3
TO
PROJECT NO. SP 21-6 FRED JOHNSON PARK REHABILITATION

This Addendum No. 3, consisting of FIVE (5) changes and FOURTEEN (14) clarifications is hereby made a part of the Contract Documents to the same extent as though it were originally included therein and shall supersede anything contained in the Plans and Specifications with which it might conflict. **All addenda to the contract documents should be denoted on the last page of the Proposal in the space provided.**

This Addendum No. 3 consists of the following:

Prior Addenda:
Addendum No. 1
Addendum No. 2

List of Attachments:

- Reissue of Sheet 1 of 120 – Revised pay quantity & notes - 1 revision
- Spec 02514 – Color Finish for Concrete Sports Court – No revisions, updated for visual document clarity.
- California Skateparks Specialty Work Contractor Qualifications
- Spec 02210 – Skatepark Earthwork
- Spec 02521 – Skatepark Concrete Paving
- Spec 03370 – Skatepark Shotcrete

Drawing Clarifications:

Contractor Questions and answers

1. Substitution request for Plexipave Court Surfacing

   Response: we will not accept this substitute as it will require parks staff to purchase a separate inventory of plexipave product for maintenance and additional purchasing contract for the product. Paint product must match product specified in the contract documents.

2. Can full size vectorized PDF drawings be provided?

   Response: Digital files (CAD) will be shared with the awarded bidder and quantities have been provided in pay notes. Full sized PDFs can be found on the city website with the project bid information, link below:
   https://www.cityoftulsa.org/media/30425/project-sp-21-6-full-size-scan.pdf

3. Some of the specified materials appear to be driving up the cost of fencing for this project. Can the following materials be substituted to help keep cost down?
   All 1 7/8" Sch40 line post
   All 2 3/8" Sch40 terminal post
   9ga core 6GA finish.
   3" Sch40 Gate post

   Response: No material substitutions on fencing.

4. There is some metal handrails but we are not finding a line item in the bid form. Can you clarify where pricing for the handrails is to be added?

   Response: Item 104 accounts for the handrail. Bid tab properly reflects that as well. We will reissue Sheet 1 of 120 with the revised pay note. See attachment.

5. There is a 30W specification and a 40W specification for the Greenshine Solar lights. We see that these lights are along the trails and at the sports courts. Can you verify the correct way this needs to be priced.

   Response: 27 each Single 30 watt fixtures on poles for the walking trail.
   4 each Single 40 watt fixtures for the sports court.
   2 each Double 40 watt fixtures for the sports court.

   For a total of 35 fixtures on 33 poles.

6. Substitution request for XGrass

   Response: Substitution will not be accepted, this product does not appear to be equal.

   TURF
   1. Playsafe 50 Select Plus (#355SG) is a slit film and Xgrass Prime is a monofilament fiber. Specified Shaw Slit film will outwear any monofilament by at least 4-1, minimum.
   2. Specified Shaw turf was designed specifically for the high traffic demands of public playgrounds. Specified Shaw playground dealers have installed over 20 million square feet since 2013 (when introduced) with "ZERO claims for wear) to date.
   3.Patented "3 ends per needle" construction. Both of specified Shaw 5, 000 denier slit film fibers AND the thatch are sewed info every single "hole", instead of every "row", creating a fuller looking product that dramatically eliminates unsightly seams after the job is complete.
   4.Specified Shaw turf, pad and sand infilled system drains a minimum of 130 inches (10.8 feet) per hour.
   5.Specified Shaw proprietary backing (Staloc) guarantees that your turf will not wrinkle ("pucker") when installed over foam pads.
   PAD
   1.Brock pads are molded polypropylene, not a recycled dux mixture of different types of foams and foam densities assuring your playground will have more consistent fall ratings (ASTM F 1292) and wheelchair accessibility (ASTM F 1951) throughout the 10 year warranty period. I did not see any fall attenuation information in the Polygreen FOAM.
   SAND
   1.Specified Hydrochill sand can lower the surface temperature the same (or greater than) T-Cool sand and is also anti-static. Anti-static is a big consideration for children with cochlear implants.

7. Specification Question – The artificial turf spec section 02790, the color finish for concrete sports court – spec section 02514 – there are several sections that are fuzzy and information cannot be made out. Can this be corrected?

   Response: This appears to be on the city's end. Updated document included, see attachment.

8. Spec – Durabound by Duraplay – what is the thickness wanted – we originally gave price estimates at 3" depth, however, page two of this spec, 2.01, C., 1. – indicates thickness can be 2.25" to 5.25". We need to know what the architect desires.

   Response: Per plans and pay note 16, 2" thickness desired.

9. On Sheet 26 – site plan – the legend list symbols for artificial turf: 1 ½" and 2", and Durabond surfacing system. Several of the legend symbols are very similar and it is challenging to make out. Also with this being a copy we cannot figure out square footages. (They do list sqft info on sheet 1 – however it does not break quote square footage for the 1 ½" and 2" synthetic turf). How many square feet for 1 ½" synthetic turf? How many square feet for 2" synthetic turf

   Response: Quantity intentionally not provided, price all as 2"

10. We understand the playground equipment is to be supplied by ACS – however, can we bid installation of the playground equipment?

    Response: If you meet the requirements in they pay notes and are LSI certified, yes.

11. We are currently reviewing the Fred Johnson Park Rehabilitation project and would like to be considered as an approved equal for the synthetic turf scope. Attached is the cut sheet for the proposed product, PT Pro 50 artificial turf.
    Based on the product data, this system is a 50oz/sy face weight, designed for durability, permeability, and long term performance in landscape and recreational application. It is also low0maintenance and fully recyclable, which aligns well with the typical project goals for this type of installation.

    Response: Sufficient info was not available, this substitution is not approved.

12. Clarification on sports lighting needed.

    Response: Sports lighting consists of six (6) poles, eight (8) luminaires.

13. From California Skateparks - all projects include requirements for contractors who will work on the skatepark specialty items. Is this something that could go out as an addendum to the bid documents?

    Response: The qualifications may be too restrictive for Oklahoma, so we have lowered the number of previous projects. California Skateparks has also provided helpful specifications we should include in the addendum. The Contractor Qualifications and three technical specifications are attached. See attached (3) new specifications and (1) new qualifications document.

14. Substitution request for TigerTurf

    Response: Substitution does not meet the current specification, is incomplete, and does not follow correct submittal procedure. This is substitution is not accepted.

All other provisions of the Plans and Specifications shall remain in full force and effect.

CITY OF TULSA

Anna America
Director

MK/PDZ/HAS/JR/kt

JOHNSON PARK
PAY QUANTITIES - BASE BID

ITEM NUM	SPEC NUM	DESCRIPTION	PAY NOTES	UNITS	QUAN.
1		PLAYGROUND EQUIPMENT INSTALLATION (BY ACS)	2, 3, 4, 5	SYSTEM	1
2		ARTIFICIAL TURF PLAYGROUND SURFACING	7, 11A	SF	7605
3		ARTIFICIAL TURF BERMS	7, 8, 11A	SF	7809
4		ARTIFICIAL TURF AT BASKETBALL/PARKING LOT PLAZA	11, 11A	SF	1098
5		VORTEX INTERACTIVE FOUNTAIN	4, 9, 10, 10A, 31	SYSTEM	1
6		VORTEX GLOMIST POLE COOLING STATION	4, 1, 10A	EA	5
7		PORTLAND LOO	6, 31	EA	1
8		BASKETBALL COURT 65' X 109' SHELTER	12, 12A	EA	1
9		LIGHTING AT BASKETBALL COURT SHELTER	13	LSUM	1
10		24' x 24' SHELTER	12A, 14	EA	1
11		12' x 12' SHELTER	12A, 15	EA	5
12		SITE AMENITIES (DOG PLAY STRUCTURES)	19	LSUM	1
13		SITE AMENITIES (DOGIPOT PET WASTE STATION)	19	EA	3
14		SITE AMENITIES (DOG BONE BENCH)	23	EA	7
15		SITE AMENITIES (BASKETBALL HOOPS)	29	EA	2
16		SITE AMENITIES (PICKLEBALL POST AND NET SYSTEM)	28	EA	4
17		SITE AMENITIES (72" BENCH WITH BACK AND ARMS)	20, 21	EA	25
18		SITE AMENITIES (72" ADA PICNIC TABLE)	21, 22	EA	11
19		SITE AMENITIES (U-RACK BICYCLE RACK)	25	EA	9
20		SITE AMENITIES - DRINKING FOUNTAIN (MOST DEPENDABLE FOUNTAINS)	17	EA	1
21		DURABOUND SURFACING SYSTEM	16	SF	2240
22		14' HAWAII MODEL (HEX) SHADE UMBRELLA	24	EA	1
23	202(A)	UNCLASSIFIED EXCAVATION	32	CY	300
24	202(D)	UNCLASSIFIED BORROW	32	CY	300
25	202(H)	EARTHWORK	4, 33	LSUM	1
26		INFILTRATION STRIP	57	CY	178
27	COT-832	SODDING	37, 38, E-10 (COT), E-11 (COT)	SF	529985
28	COT-831	LANDSCAPE (DECIDUOUS SHADE TREE)	26	EA	108
29	COT-831	LANDSCAPE (EVERGREEN TREE)	26	EA	23
30	COT-831	LANDSCAPE (ORNAMENTAL TREE)	26, 36	EA	34
31	SPEC TR-1	REMOVING TREES (CRAPE MYRTLES)	58	EA	6
32	SPEC TR-1	REMOVING TREES (9", 10", & 28")	58	EA	7
33	303(A)	AGGREGATE BASE - 4" THICK DRAINABLE AGGREGATE OR WASHED ROCK	35	CY	148
34	303(A)	AGGREGATE BASE TYPE A (DEPTH VARIES)	39, R-16, S-2 (COT)	CY	694
35		DESERT GOLD SCREENINGS	40	SY	1972
36		SLATE SCREENINGS	40	SY	4
37		SANDSTONE BOULDERS	27	TON	60
38	412	COLD MILLING PAVEMENT	41, S-9 (COT)	SY	5478
39	411(B)	SUPERPAVE, TYPE S3(PG 70-28 OK) (NEW PARKING)	42, R-23, S-5 (COT), S-6 (COT), S-7 (COT)	TON	250
40	411(C)	SUPERPAVE, TYPE S4(PG 70-28 OK) (NEW PARKING)	42, R-23, S-5 (COT), S-6 (COT), S-7 (COT), S-8 (COT)	TON	125
41	411(C)	SUPERPAVE, TYPE S4(PG 76-28 OK) (OVERLAY)	41A, R-23, R-24, S-5 (COT), S-6 (COT), S-7 (COT), S-8 (COT)	TON	614
42	325	SEPARATOR FABRIC	S-3 (COT), S-4 (COT),	SY	5480
43	509(B)	CONCRETE STEPS (AT BASKETBALL COURT PLAZA)	47, 51	CY	12
44	510(E)	CLASS 'A' CONCRETE DECORATIVE SEATWALL (AT BASKETBALL COURT PLAZA)	30	LF	75
45	609	WHEEL STOP	56	EA	75
46	609(B)	CONCRETE CURB AND GUTTER	44	LF	2123
47	610(A)	CONCRETE FLUSH CURB	44	LF	680
48	610(A)	CONCRETE MOW STRIP	44	LF	409
49	610(A)	CONCRETE HEADER CURB	44	LF	36
50	610(A)	4" CONCRETE SIDEWALK (NO REINFORCEMENT)	48, R-1	SY	5424
51	610(A)	4" CONCRETE SIDEWALK (WITH REINFORCEMENT)	47, R-1	SY	2365
52	610(A)	4" CONCRETE, INTEGRAL COLOR (WITH REINFORCEMENT)	47, 54, 55, R-1	SY	174
53	610(A)	6" CONCRETE SIDEWALK	47, R-1	SY	226
54	610(B)	6" CONCRETE DRIVEWAY	47, R-1	SY	132
55	611(A)	MANHOLE (4' DIA.)	D-1, D-2, D-4, D-5	EA	1
56	611(G)	INLET (SMD-TYPE 1)	D-8, D-9, D-10	EA	1
57	613(A)	28"X18" R.C.PIPE ARCH CLASS A-III	D-8, D-12, D-13,	LF	306
58	613(L)	18" PREFAB.CULVERT END SEC., ROUND	D-14, D-15	EA	2
59	613(L)	28"X18" PREFAB. CULVERT END SEC., ARCH	D-8, D-9, D-10	EA	4
60	613(EE)	15" CORRUGATED POLYPROPYLENE PIPE	D-14, D-17	LF	72
61	613(EE)	18" CORRUGATED POLYPROPYLENE PIPE	D-14, D-15	LF	29
62	517	5" CONCRETE, POST TENSIONED (BASKETBALL COURT AND PICKLEBALL COURT)	43	SY	1674

JOHNSON PARK
PAY QUANTITIES - BASE BID CONTINUED

63	619(A)	REMOVAL OF STRUCTURES AND OBSTRUCTIONS (EXISTING PLAYGROUND AND SWINGSET)	58	LSUM	1
64	619(B)	REMOVAL OF EXISTING PLAYGROUND AND SWINGSET BORDER	58. R-40, R-41	LF	281
65	619(B)	REMOVAL OF FENCE (CLF FOR BACKSTOPS AND BASEBALL FENCING)	58, R-40, R-41	LF	977
66	619(B)	REMOVAL OF CONCRETE PAVEMENT	58, 59, R-40, R-41	SY	5743
67	619(B)	REMOVAL OF ASPHALT PAVEMENT	58, 59, R-40, R-41	SY	2174
68	619(B)	REMOVAL OF EXISTING STRUCTURES (RESTROOM BUILDING)	58, R-40, R-41	LS	1
69	619(B)	REMOVAL OF PIPE RAILING AND ASSOCIATED FLUSH CURB (AT EXISTING PARKING LOT)	58, R-40, R-41	LF	657
70	619(B)	REMOVAL OF CURB	58, 59, R-40, R-41	LF	287
71	619(B)	REMOVAL OF EXISTING PIPE (15" REINFORCED CONCRETE PIPE WITH END SECTIONS)	58, R-40, R-41	LF	48
72	619(B)	REMOVAL OF BOLLARDS	58, R-40, R-41	EA	5
73	619(B)	REMOVAL OF WOODEN POSTS	58, R-40, R-41	EA	4
74	619(B)	REMOVAL OF EXISTING BENCHES	58	EA	12
75	619(B)	REMOVAL OF WATER FOUNTAIN	58, R-40, R-41	EA	2
76	619(B)	REMOVAL OF EXISTING BACKFLOW PREVENTER	58, R-40, R-41	EA	1
77	619(B)	REMOVAL OF EXISTING SPLASH PAD (COMPLETE)	58, 91, R-40, R-41	EA	1
78	619(B)	REMOVAL OF EXISTING UTILITIES (ELECTRICAL EQUIPMENT)	58, 92, R-40, R-41	LSUM	1
79	615(C)	2" SANITARY SEWER DRAIN LINE SDR 26, TRENCHED (DRINKING FOUNTAIN)	31	LF	30
80	615(C)	6" SANITARY SEWER DRAIN LINE SDR 26, TRENCHED	31	LF	710
81	616(F)	3" WATER METER, FEES AND INSTALLATION (COMPLETE)	67, 68	SYSTEM	1
82	616(M)	1" PEX WATERLINE, TRENCHED (TO VORTEX GLOMIST POLES)	67, 69	LF	55
83	616(M)	2" PEX WATERLINE, TRENCHED (TO PORTLAND LOO AND DRINKING FOUNTAIN)	67, 69	LF	488
84	616(M)	3" PEX WATERLINE, TRENCHED (TO VORTEX FOUNTAIN)	67, 69	LF	330
85		CUSTOM ACRYLIC PAINT AND STRIPING (BASKETBALL COURT)	49, 50, 70, R-1	SYSTEM	1
86		ACRYLIC PAINT AND STRIPING (PICKEBALL COURTS)	50, 70, R-1	SYSTEM	1
87		BASEBALL BACKSTOP	86, R-43	LSUM	1
88	624(E)	5' VINYL COATED CHAINLINK (DOG PARK FENCING)	86, R-43	LF	2567
89	624(E)	5' VINYL COATED CHAINLINK (PICKLEBALL BACKSTOPS)	86, R-43	LF	256
90	624(E)	4' VINYL COATED CHAINLINK (PICKLEBALL SIDESTOPS)	86, R-43	LF	175
91	624(H)	POST AND CABLE BARRIER		EA	1
92	802(B)	1" PVC SCH. 40 PLASTIC CONDUIT TRENCHED	45, 60, 69, TL-7	LF	1640
93	802(B)	1 1/2" PVC SCH. 40 PLASTIC CONDUIT TRENCHED	45, 60, 69, TL-7	LF	330
94	802(B)	2" PVC SCH. 40 PLASTIC CONDUIT TRENCHED	45, 60, 69, TL-7	LF	520
95	803(A)	PULL BOX SIZE III	45, 66	EA	7
96	805(D)	REMOVE AND RESET EXISTING SIGNS	82	EA	1
97	809	LITHONIA D-SERIES SIZE 1 (PARKING LOT LIGHT POLE)	45, 62	EA	10
98	809	GREENSHINE SOLAR LIGHT POLES	45, 63	EA	27
99	809	GREENSHINE SOLAR LIGHT POLES (SPORTS)	45, 63	EA	8
100		APPLETON POWER PEDESTAL	45, 65	EA	2
101		POWER PEDESTAL	61	EA	1
102	811	1/C NO.1/0 ELECT. COND.	45	LF	1560
103	811	1/C NO.6 ELECT. COND.	45	LF	640
104	811	1/C NO.8 ELECT. COND.	45	LF	5900
105	811	1/C NO.10 ELECT. COND.	45	LF	600
106	850(A)	SHEET ALUMINUM SIGNS	64, C-60, C-61	SF	40
107	851(C)	2 1/4" SQUARE TUBE POST	C-60, C-61	LF	84
108	856(A)	TRAFFIC STRIPE (PAINT, 4" WIDE, WHITE) - PARKING	70, 71, TS-24	LF	3613
109	856(A)	TRAFFIC STRIPE (PAINT, 8" WIDE, WHITE) - PARKING CROSSWALKS	70, 71, TS-26	LF	1054
110	856(B)	TRAFFIC STRIPE (PAINT) (SYMBOLS) - HANDICAP	70, 71	EA	7
111	880(J)	CONSTRUCTION TRAFFIC CONTROL	T-1, T-2, T-3, T-4, T-5, T-6	LSUM	1
112	COT-304	CONSTRUCTION STAKING LEVEL II / SURVEY	72	EA	1
113	SPEC OA-1	OWNERS ALLOWANCE	74	ALLOW	1
114	220	SWPPP DOCUMENTATION AND MANAGEMENT	80	LSUM	1
115	COT-303	GENERAL CONDITIONS / MOBILIZATION	73, 75, 76, 77, 78, 79, 81	LOT	1

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STATE OF OKLAHOMA
JULIE GRAFF
LA-382
10/10/25
LICENSED LANDSCAPE ARCHITECT

BEFORE YOU DIG
811
CALL OKIE

PROJECT # SP 21-6

FRED JOHNSON PARK REHABILITATION

CITY OF TULSA, OKLAHOMA
DEPARTMENT OF CITY EXPERIENCE

PLANS AND ESTIMATES PREPARED BY:
LANDPLAN CONSULTANTS
1110 WEST 23rd TULSA, OK 74107 918-584-6464

REVISION	BY	DATE
1 ITEM # 107	MH	4-13-26

DRAWN	LPCI	DEC 2024
DESIGNED	LPCI	DEC 2024
SURVEY	FLS	APR 2024
PROJ. MNGR.		
LEAD ENGR.		
FIELD MNGR.		

PAY QUANTITIES

SHEET 1 OF 119

P:\23 Johnson Park\Plat\23-Johnson Park PQ & NOTES.dwg, 1, 4/13/2026 4:54:40 PM

SECTION 02514

COLOR FINISH FOR CONCRETE SPORTS COURT

PART 1 – GENERAL

1.01 DESCRIPTION

A. SportMaster Neutral Concentrate is a 100% acrylic emulsion coating formulated for tennis courts and other sport and recreational pavement surfaces. Neutral Concentrate is designed to be mixed with SportMaster ColorPlus pigment dispersion to achieve desired color.

USES

Tennis courts, basketball courts, pickleball courts, and other multipurpose pavement surfaces.

COLOR

Neutral. Desired color is achieved by mixing ColorPlus pigment dispersion with Neutral Concentrate.

Product Data	
Type	Acrylic Emulsion
Pounds per Gallon	8.8 ± .5
Odor	Slight Ammonia
Flammability	Non-Flammable
Flash Point	None

SURFACE PREPARATION

Pavement surface must be cleaned entirely
of dust, dirt, and debris. Repair of pavement surface defects, depressions and cracks must be completed prior to application. All repairs must be flush and smooth to adjoining surfaces.

New asphalt surfaces must cure 14-30 days prior to application. It is recommended that any uncoated asphalt surface receive one or more coats of Acrylic Resurfacer (Technical Bulletin CMT - 3) as required by surface roughness and porosity to provide a smooth, dense underlayment for application of color coatings.

New concrete surfaces must cure 28 days prior to application. Concrete surfaces should have a medium broom finish or similar roughened texture. Etch surface with muriatic or phosphoric acid and apply SportMaster Acrylic Adhesion Promoter (Technical Bulletin CMT - 21).

MIXING PROCEDURES

Mix in the following order for 55 gallon drum of Neutral Concentrate:

Neutral Concentrate .....55 gallons
ColorPlus.....4 gallons
Water 28-33gallons
Silica sand .....400 pounds
(70 to 90 mesh AFS)

Mix in the following order for 30 gallon keg of Neutral Concentrate:

Neutral Concentrate .....30 gallons
ColorPlus.....2 gallons
Water 15-18gallons
Silica sand .....200 pounds

(70 to 90 mesh AFS)

NOTE
Mix thoroughly to ensure complete dispersion of ColorPlus.

APPLICATION
Apply mixed coating with a soft rubber squeegee. A minimum of two coats are recommended.

IMPORTANT

Surface and air temperatures must be above 50°F (10°C) during application and for at least 24 hours after application. Stir before using. Do not apply when rain is imminent or forecast. Keep from freezing. Close container when not in use.

COVERAGE

Yield calculations are based on undiluted gallons of Neutral Concentrate and vary according to surface texture and porosity within the limits below:

.05 to .07 gallon per square yard per coat.

DRYING TIME

Neutral Concentrate dries in 30 to 60 minutes under optimum drying conditions. Allow each coat of material to dry thoroughly before applying successive coats. Low ambient or low surface temperature and high humidity increase drying time. Allow coating to cure for 48 hours before opening up for play.

CAUTIONS

Do not store in direct sunlight or where temperatures exceed 100°F. Do not apply if rain is imminent or forecast. Keep from freezing. Close container when not in use. Refer to product Safety Data Sheet (SDS) for additional safety information and precautions.

2.02 PRODUCT WARRANTIES

A. The statements made on this technical bulletin are believed to be true and accurate, and are intended to provide a guide for approved construction practices. Manufacturer does not make, nor does it authorize any agent or representative to make any warranty, express or implied, concerning this material as workmanship, weather, construction, equipment utilized and other variables affecting results are all beyond our control. Manufacturer warrants only that the material conforms to product specifications and any liability to the buyer or user of this product is limited to the replacement value of the product only.

B. In no event shall Manufacturer be liable for any injury, loss or damage, either direct or incidental, special or consequential, however arising, in connection with material or equipment furnished or work performed. Manufacturer shall not, in any manner, be liable for any defects, variations or change in condition in the substructure over which its products are installed.

END OF SECTION

Skatepark Specialty Work Contractor Qualification

The skate park structure specialty improvements including; fine-grading and base rock placement, fabricated metal work, concrete reinforcement, concrete and shotcrete work require qualification as described herein:

Contractors bidding the skate park structure specialty improvements shall have satisfactorily completed the installation of four (4) similar skate park projects in accordance with the project plans and written specifications. Qualifying projects must include concrete skate park structures of comparable size, finishes, bowl depths, coping types and features built within the last five (5) years.

If Contractor intends to use a ACI certified Nozzleman for Shotcrete installation other than the Nozzleman who performed work for the required qualifying projects, the Contractor must submit five (5) qualifying projects that the ACI Certified Nozzleman has performed; qualifying project shall be of the same requirements as described herein.

Only the Nozzleman referenced with the bid shall be permitted to perform shotcrete work for the said project. Should the Contractor want to substitute the qualifying Nozzleman of record, with another Nozzleman, the Contractor shall make an application to the Owner providing all qualifying records of the proposed substitute Nozzleman at least five (5) days in advance of said work. The Owner shall reserve the right to reject any substitute Nozzleman not meeting the qualifying requirements.

The Skate Park Contractor shall provide references for four (4) qualifying reference projects and proposed Nozzleman including location of qualifying projects, size, owner, pictures and owners contact information.

SECTION 02210
SKATEPARK EARTHWORK

PART 1 GENERAL

1.01 SUMMARY

A. This Section includes the following:

1. Preparing subgrades for skate park pavements, walls, ramps, banks, transitions, and slabs-on-grade.

2. Excavating and backfilling for structures described herein.

3. Subbase course for structures described herein.

4. Subsurface drainage backfill for walls and trenches.

5. Excavating and backfilling trenches for underground utilities and drainage systems.

6. Moving and spreading previously stockpiled topsoil.

1.02 DEFINITIONS

A. Backfill: Soil materials used to fill an excavation.

1. Initial Backfill: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.

2. Final Backfill: Backfill placed over initial backfill to fill a trench.

B. Base Course: Layer placed between the subbase course and paving.

C. Bedding Course: Layer placed over the excavated subgrade in a trench before laying pipe.

D. Borrow: Satisfactory soil imported from off-site for use as fill or backfill.

E. Excavation: Removal of material encountered above subgrade elevations.

1. Additional Excavation (Over-Excavation): Excavation below subgrade elevations of unsatisfactory soil materials as directed by the Owner's Representative. Additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.

2. Bulk Excavation: Excavations more than 10-feet (3 m) in width and pits more than 30-feet (9 m) in either length or width.

3. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated dimensions without direction by California Skateparks. Such excavation will be invoiced as time and materials after approval to proceed. Approval to proceed will be proceeded by a construction cost estimate compiled and submitted to the Owner's Representative.

F. Fill: Soil materials used to raise existing grades to subgrade elevation.

G. Structural Fill: Satisfactory soil material obtained from on-site excavations required for embankment construction within the zone of influence and meeting the specified material requirement.

H. General Fill: Satisfactory soil material obtained from common excavation, unsuitable material excavation, and off-site borrows, locations if necessary, for backfilling and embankment construction in all areas not within the zone of influence and meeting the specified material requirements. General fill material shall also include crushed aggregate materials resulting from building and site improvement demolition activities. Crushed concrete, asphalt, brick and masonry free of finishes, paints, coatings, wire mesh and reinforcing steel may be used as general fill material with a maximum particle size of 4-inches in diameter.

I. Rock: Rock material in beds, ledges, unstratified masses, and conglomerate deposits and boulders of rock material ¾-cubic yards or more in volume that when tested by the Independent Testing Agency, according to ASTM D 1586, exceeds a standard penetration resistance of 100-blows per 2-inches.

J. Subbase Course: Layer placed between the subgrade and base course for asphalt paving, or layer placed between the subgrade and a concrete pavement or walk.

K. Subgrade: Surface or elevation remaining after completing excavation, or top surface of a fill or backfill immediately below subbase, drainage fill, or topsoil materials.

L. Utilities include on-site underground pipes, conduits, ducts, and cables.

1.03 SUBMITTALS

A. Product Data for the following (where required and if specified):

1. Each type of plastic warning tape.

2. Drainage fabric.

3. Separation fabric.

B. Samples: For the following: Samples of off-site borrow material for testing by Independent Testing Agency.

C. Material Test Reports: From testing agency indicating and interpreting test results for compliance of the following with requirements indicated:

1. Classification according to ASTM D 2487 of each on-site or borrow soil material proposed for fill and backfill.

2. Laboratory compaction curve according to ASTM D 1557 for each on-site or borrow soil material proposed for fill and backfill.

1.04 PROJECT CONDITIONS

A. Existing Utilities: Do not interrupt utilities serving facilities occupied by the Owner or others unless permitted by the Owner's Representative.

1.05 DUST CONTROL

A. The Contractor shall comply with local and regional ordinances pertaining to dust control.

B. The Contractor shall take adequate measures to control dust on the site. The Contractor shall have on the site an adequate number of watering vehicles to control dust by his operations.

PART 2 PRODUCTS

2.01 SOIL MATERIALS

A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.

B. Satisfactory Soils: ASTM D 2487 soil classification groups free of rock or gravel larger than 3-inches (75-mm) in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter. On-site materials approved for use as engineered fill shall be approved by the Owner's provided testing agency.

C. Unsatisfactory Soils: ASTM D 2487 soil classification groups ML, MH, CH, OL, OH, and PT, or a combination of these group symbols which are not suitable for the support of foundations, walls, pavements, or other elements.

D. Backfill and Fill: Satisfactory soil materials.

E. Granular Backfill: Satisfactory soil material obtained from on-site or off-site source meeting the requirements of B-borrow as defined by the CDT Standard Specifications and generally used for backfill of trenches located under or within 5-feet of pavements, walks and structures.

F. Crushed Rock Base shall be a Class II Aggregate Base or equal as approved by the Owner's Representative.

2.02 ACCESSORIES

A. Filter Fabric: Nonwoven geotextile specifically manufactured as a drainage geotextile; made from polyolefins, polyesters, or polyamides; and with the following minimum properties determined according to ASTM D 4759 and referenced standard test methods.

1. Grab Tensile Strength: 110-pounds; ASTM D 4632.

2. Tear Strength: 40-pounds; ASTM D 4533.

3. Puncture Resistance: 50-pounds, ASTM D 4833.

4. Water Flow Rate: 150-gallons-per-minute per square foot; ASTM D 4491.

5. Apparent Opening Size: No. 100 U.S. Standard Sieve Size; ASTM D 4751.

PART 3 EXECUTION

3.01 PREPARATION

NOTE: All grading work shall be completed in accordance with the project specific Geotechnical Report. If conflicting information between this document and the Geotechnical Report exist, default to the Geotechnical Report.

A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.

B. Provide erosion control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

C. Protect unattended open excavations by placing construction fencing and warning tape completely around the excavation.

3.02 DEWATERING

A. Prevent surface water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area. Dewater excavations as necessary due to groundwater infiltration.

B. Protect subgrades and foundation soils from softening and damage by rain or water accumulation.

3.03 EXCAVATION

A. Explosives: Do not use explosives unless approved by Owner's Representatives or authorities having jurisdiction.

B. Classified Excavation: Excavation to required subgrade elevations classified as earth and rock. Excavation will be classified as earth excavation or rock excavation as follows:

1. Earth excavation includes excavation of pavements and other obstructions visible on surface; underground structures, utilities, and other items indicated to be demolished and removed; together with soil and other materials encountered that are not classified as rock or unauthorized excavation.

2. Intermittent drilling, blasting, or ripping to increase production and not necessary to permit excavation of material encountered will be classified as earth excavation.

3.04 STABILITY OF EXCAVATIONS

Comply with OSHA, State statutes, local codes, ordinances, and requirements of authorities having jurisdiction to maintain stable excavations.

3.05 EXCAVATION FOR PAVEMENTS AND STRUCTURAL FEATURES

Excavate surfaces under pavements and building pads to indicated cross sections, elevations, and grades to within a tolerance of plus or minus 0.10-feet.

3.06 EXCAVATION FOR DRAINAGE AND UTILITY TRENCHES

A. Excavate trenches to indicated slopes, lines, depths, and invert elevations.

B. Excavate trenches to uniform widths to provide a working clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12-inches higher than top of pipe or conduit, unless otherwise indicated.

Clearance: 12-inches on each side of pipe or conduit or as indicated on the Drawings.

C. Trench Bottoms: Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduit. Shape subgrade to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits. Remove stones and sharp objects to avoid point loading.

1. For pipes or conduit less than 6-inches in nominal diameter and flat-bottom multiple duct conduit units, hand-excavate trench bottoms and support pipe and conduit on an undisturbed subgrade.

2. For pipes and conduit 6-inches or larger in nominal diameter, shape bottom of trench to support bottom 90-degrees of pipe circumference. Fill depressions with tamped sand backfill or material as indicated on the Drawings.

3. Where encountering rock or another unyielding bearing surface, carry trench excavation 6-inches below invert elevation to receive bedding course.

3.07 APPROVAL OF SUBGRADE

A. Notify Owner's Representative when excavations have reached required subgrade.

B. Proof roll subgrade and subsequent lifts of fill material within the limits of all pavements in accordance with the requirements of the Geotechnical Engineer.

C. If unforeseen unsatisfactory soil is present, continue excavation and replace with compacted backfill or fill material as directed.

If the Contractor believes it is entitled to payment for unforeseen additional excavation and replacement material, a claim shall be issued in accordance with Contract Documents.

D. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by the Owner's Representative.

3.08 STORAGE OF SOIL MATERIALS

A. Stockpile excavated materials acceptable for backfill and fill soil materials, including acceptable borrow materials. Stockpile suitable soil materials separate from topsoil and unsuitable material stockpiles without intermixing. Place, grade, and shape stockpiles to drain surface water.

Stockpile soil materials away from edge of excavations. Do not store within drip line of remaining trees or immediately next to property lines.

3.09 BACKFILL

Backfill excavations promptly, but not before completing the following:

1. Acceptance of construction below finish.
2. Testing, inspecting, and approval of underground utilities.
3. Concrete formwork removal.
4. Removal of trash and debris from excavation.
5. Removal of temporary shoring and bracing, and sheeting.

3.10 DRAINAGE AND UTILITY TRENCH BACKFILL

A. Place and compact bedding course on unyielding bearing surfaces and to fill unauthorized excavations. Shape bedding course to provide continuous support for bells, joints, barrels of pipes, joints, fittings, and bodies of conduits.

B. Place and compact haunching and initial backfill in loose lifts not exceeding 8-inches in thickness. Carefully compact material under pipe haunches and bring backfill evenly up on both sides and along the full length of utility piping or conduit to avoid damage or displacement of utility system.

C. Coordinate backfilling with utilities testing.

D. Fill voids with approved backfill materials as shoring and bracing, and sheeting is removed.

E. Place and compact final backfill as indicated on the Drawings.

1. Final backfill for trenches in turfed or seeded areas and in miscellaneous areas shall be of approved earth material containing no stones over 4-inches in diameter. Such back- filling shall be deposited in lifts with a maximum 12-inches loose thickness and compacted by hand tamping or mechanical tamping devices. Excess earth to replace settlement shall be neatly rounded over the trench.

2. Final backfill for trenches under paved areas and in areas requiring granular backfill as indicated on the Drawings shall be approved granular material including "B"-borrow. Final backfill shall be placed in 8-inch maximum lifts and compacted by mechanical tamping devices.

F. Pipe bedding and backfill lifts shall be compacted to a dry density not less than the following maximum dry density as determined by the Standard Proctor Test (ASTM D-698).

USAGE	COMPACTION %
Bedding	90
Haunching	90
Initial Backfill	90
Final Backfill under Pavements	95
Final Backfill in Seeded Areas	90

G. Install warning tape as required by the Technical Specifications directly above utilities, 12-inches below finished grade, except 6-inches below subgrade under pavements and slabs.

3.11 FILL

A. Preparation: Remove vegetation, topsoil, debris, wet and unsatisfactory soil materials, obstructions, and deleterious materials from ground surface prior to placing fills.

Where new fill is to be placed on existing slopes that are 5:1 or greater, construct benches a minimum of 10-feet in width cut into the existing slop prior to the placement of fill.

B. After areas to receive embankment have been stripped of topsoil and before embankment is placed, the slab areas and areas to be paved shall be proofrolled. Isolated soft pockets that are located during the proofroll phase shall be excavated and replaced with structural backfill. The material removed from the soft pockets shall be disposed of on-site as directed by the Geotechnical or reused as fill materials in yard areas only. The Geotechnical Engineer shall identify such required replacement of soft pockets.

C. Place fill material on approved subgrade or on a previously approved lift in layers to required elevations for each location listed below.

1. Under grass, use satisfactory excavated or borrow soil material.

2. Under pavements, and under elevated slabs-on-grade and behind walls, use Class II aggregate base material.

3.12 MOISTURE CONTROL

Uniformly moisten or aerate subgrade and each subsequent fill or backfill layer before compaction as necessary to attain the specified density.

1. Do not place backfill or fill material on surfaces that are muddy, frozen, or contain frost or ice.

2. Remove and replace or scarify and air-dry satisfactory soil material that is too wet to compact to specified density.

3. Stockpile or spread and dry removed wet satisfactory soil material.

3.13 COMPACTION

A. Place backfill and fill materials in layers not more than 8-inches in loose depth for material compacted by heavy compaction equipment, and not more than 4-inches in loose depth for material compacted by hand-operated tampers.

B. Place backfill and fill materials evenly on all sides of structures to required elevations. Place backfill and fill uniformly along the full length of each structure.

C. Percentage of Maximum Dry Density Requirements: Compact soil to not less than the following percentages of the Standard Proctor maximum dry density according to ASTM-D 698:

1. Under concrete slabs, pavements and footings, compact the subgrade and each lift of fill material to at least 95-percent maximum dry density.

2. All fill shall be compacted to the specified density. When the results of the in-place density tests indicate that the compaction limits are not obtained; the areas shall be reworked and retested until the specified limits are reached at the Contractors expense.

3.14 GRADING

A. General: Uniformly grade areas to a smooth surface, free from irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated on the construction drawings.

1. Provide a smooth transition between existing adjacent grades and new grades.

2. Cut out soft spots, fill low spots, and trim high spots to conform to required surface tolerances.

B. Site Grading: Slope grades to direct water away from buildings/structures and to prevent ponding. Finish subgrades to required elevations within the following tolerances:

1. Lawn or Unpaved Areas: Plus or minus 1-inch.

2. Walks: Plus or minus 1-inch.

3. Skatepark Structures and Pavements: Plus or minus 0.10-inches.

3.15 AGGREGATE BASE AND COMPACTED SUBGRADE COURSES

A. Under skate park structure pavements, place 6-inches of Class II aggregate base course material on prepared compacted subgrades. In addition, place aggregate base material over compacted subgrades to pavements where required by the Drawings. All Class II aggregate base shall be compacted to 95-percent relative compaction and comply with the requirements of the Geotechnical Report.

1. Compact aggregate base and subgrade courses.

2. Shape aggregate base and compacted subgrades to required crown elevations and cross-slope grades.

3. When thickness of compacted aggregate base or compacted subgrade course is 6-inches or less, place materials in a single layer.

4. When thickness of compacted aggregate base or compacted subgrade course exceeds 6-inches, place materials in equal layers, with no layer more than 6-inches thick or less than 3-inches thick when compacted.

3.16 FIELD QUALITY CONTROL

A. Independent Testing Agency Services: Testing agency shall inspect and test each subgrade and each fill or backfill layer. Do not proceed until test results for previously completed work verify compliance with requirements. Provide equipment and manpower to conduct proofroll inspections per the requirements of the Contract Documents.

B. When testing agency reports that subgrades, fills, or backfills are below specified density, scarify and moisten or aerate, or remove and replace soil to the depth required, recompact and retest until required density is obtained.

C. Owner will provide all initial testing; failed test will be paid for by the Contractor using the same testing Agency or approved equal.

3.17 PROTECTION

A. Protecting Graded Areas: Protect newly graded areas from traffic and erosion. Keep free of trash and debris.

B. Repair and re-establish grades to specified tolerances where completed or partially completed surfaces that have become eroded, rutted, settled, or lose compaction due to subsequent construction operations or weather conditions. Scarify or remove and

replace material to depth directed by the Geotechnical Engineer; reshape and recompact at optimum moisture content to the required density.

C. Settling: Where settling occurs during the Project correction period, remove finished surfacing, backfill with additional approved material, compact, and reconstruct surfacing.

1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to the greatest extent possible.

2. If settling is observable at areas that were excavated or filled, during the period of one year after the Final Acceptance of the Contract Work, the Contractor shall be responsible for removing surface materials (lawn, pavement or other finishes), adding backfill material, compacting backfill, and replacing surface material to restore appearance, quality and conditions of surface or finish to match adjacent work and eliminate evidence of restoration at the Contractor's expense.

3.18 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Excess suitable soils shall be disposed of on-site at a location to be determined by Owner's Representative.

B. Excess topsoil shall be used to construct mounds on the site or shall be removed from the site at the direction of the Owner's Representative.

END OF SECTION

SECTION 02521
SKATEPARK STRUCTURE CONCRETE PAVING

PART 1 GENERAL

1.01 SUMMARY

A. This Section includes exterior concrete pavement for the following:

1. Slabs on grade.
2. Vertical walls and footings.
3. Flatwork

1.02 DEFINITIONS

A. Cementitious Materials: Portland cement alone or in combination with one or more of blended hydraulic cement, expansive hydraulic cement, fly ash and other pozzolans, ground granulated blast-furnace slag, and silica fume.

1.03 SUBMITTALS

A. Submit to Construction Manager; concrete mix design and letters from material suppliers certifying that materials comply with the standards referenced herein.

B. Submit to Construction Manager; shop drawings for all fabricated steel edging and steel accessories.

C. Submit to Construction Manager: Cut sheets for Evaporation Retardant and Finishing Aid.

1.04 QUALITY ASSURANCE

A. Comply with provisions of the following standards, except where more stringent requirements are indicated.

1. Concrete Reinforcing Steel Institute (CRSI) "Manual of Standard Practice".
2. American Concrete Institute (ACI) "Manual of Standard Practice".

B. Installer Qualifications: The Contractor or an experienced skate park installer who has completed five (5) skate park projects within the past five (5) years of work similar in material, design, and extent to that indicated for this Contract.

C. Manufacturer Qualifications: Manufacturer of ready-mixed concrete products complying with ASTM C 94 requirements for production facilities and equipment.

D. Concrete Testing: The Owner's Independent Testing Agency shall perform material evaluation tests.

1.05 PROJECT CONDITIONS

A. Traffic Control: Maintain access for vehicular and pedestrian traffic as required for other construction activities.

B. Do not install concrete work over wet, saturated, muddy or frozen subgrade.

1.06 QUALITY INSURANCE

A. Perform all work in accordance with all rules and standards as required by the Construction Manager.

PART 2 PRODUCTS

2.01 EDGE FORMS AND SCREED CONSTRUCTION

A. Form Materials: Plywood, metal, metal-framed plywood, or other approved panel-type materials to provide full-depth, continuous, straight, smooth exposed surfaces.

1. Use flexible or curved forms for horizontal curves of a radius 100-feet or less.

B. Form-Release Agent: Commercially formulated form-release agent with a maximum of 350 mg/L volatile organic compounds (VOCS) that will not bond with, stain, or adversely affect concrete surfaces and will not impair subsequent treatments of concrete surfaces.

C. Set, brace, and secure edge forms, bulkheads, and intermediate screed guides for pavement to required lines, grades, and elevations. Install forms to allow continuous progress of work and so forms can remain in place at least 24-hours after concrete placement. Forms shall provide a continuous straight, smooth surface. Forms shall be of sufficient thickness to withstand pressure of newly placed concrete without bowing or deflecting.

D. Clean forms after each use and coat with form release agent to ensure separation from concrete without damage.

E. Check completed formwork and screeds for grade and alignment to the following Tolerances:

1. Top of Forms: Not more than 1/8-inch in ten feet.

2. Vertical Face on Longitudinal Axis: Not more than 1/8-inch in 10-feet.

F. Moisten wood forms immediately prior to placing concrete.

2.02 STEEL REINFORCEMENT MATERIALS

A Reinforcement Bars shall be Number 4, Grade 40, deformed or per the plan details.

B. General: Comply with CRSI's "Manual of Standard Practice" for fabricating reinforcement.

C. Clean reinforcement of loose rust, oil and mill scale, earth, ice, or other bond-reducing materials.

D. Deformed steel bars shall be located at 12-inches on center, both directions, continuous throughout the entire structure and as indicted on the plan details. Steel rebars shall extend out from the features for 24-inches, 2-inches above base rock. (Rebars for the flat work shall tie onto the rebars extending for 24-inches from the features.) Lap rebars 24-inches and tie. Stagger joints. Do not heat to bend.

E. Provide adobe supports for rebars at 36-inches on center. Supports must keep the rebars at 2-inches above base rock and 2-inches below finish surfaces of concrete. Rebars shall be 2-inches away from outside surfaces of concrete in all locations. Rebars shall be free of rust, oil and other deleterious conditions.

2.03 FABRICATED STEEL EDGING (COPING)

A. All pipe coping shall be per the plan details with all connections welded and ground smooth.

2.04 CONCRETE MATERIALS

A. Portland Type II Cement.

B. Fly Ash: ASTM C 618, Class F or C.

C. Aggregate: ASTM C 33, Class 4, from a single source, with coarse aggregate as follows: Aggregate Size: ¾-inch min.; 1-1/2-inches max. nominal. Do not use fine of coarse aggregates containing substances that cause spalling.

D. Water: Fresh, clean, potable water free of foreign materials.

2.05 REQUIRED CURING AND FINISHING MATERIALS

A. Non-permeable Burleen ™ curing blankets or approved equal; ASTM C 171.

B. Water: Potable.

C. Evaporation Retardant and Finishing Aid: Burke Film Concentrate – Available from WhiteCap Inc. Burk Film Concentrate shall be used in accordance with the manufacture recommendations. All finishing of concrete surfaces must be completed with this product, finishing with water is not allowed.

2.06 CONCRETE MIXES

A. Prepare design mixes, proportioned according to ACI 211.1 and ACI 301, for each type and strength of normal-weight concrete determined by either laboratory trial mixes or field experience.

B. Proportion mixes to provide concrete with the following properties:

1. Compressive Strength (28-Days): 4000-psi (6.5 sac min.)
2. Slump Limit: no less than 2-inch and no more than 4-inch.

C. Add air-entraining admixture at manufacturer's prescribed rate to result in concrete at point of placement having air content as follows within a tolerance of plus or minus 1.5-4.0 percent.

D. Ready-Mixed Concrete: Comply with requirements and with ASTM C 94 and ASTM C 1116.

E. When air temperature is between 85-degrees Fahrenheit and 90-degrees Fahrenheit, reduce mixing and delivery time from 1-1/2-hours to 75-minutes; when air temperature is above 90-degrees Fahrenheit, reduce mixing and delivery time to 60-minutes. Do not use concrete that has been in transport or pump hoses for more then 90-minutes from time of initial mix.

F. Concrete mix design shall be submitted to Construction Manager for review and approval.

PART 3 EXECUTION

3.01 PREPARATION

A. Proof-roll prepared subbase surface to check for unstable areas and verify need for additional compaction. (Crushed rock base shall be ¾-inch: Class II Aggregate Base placed at a minimum depth of 6-inches in all locations to receive concrete or as noted otherwise. Proceed with pavement only after nonconforming conditions have been corrected and subgrade is ready to receive pavement and sample pour has been approved.

B. Remove loose material from compacted subbase surface immediately before placing concrete.

C. The Contractor shall keep the project area as clean as possible during construction. The Contractor shall be responsible to clean up and remove all spillage, overpour, discarded forming material, rejected work or material and all refuse or debris resulting from the installation work.

3.02 JOINTS

A. Cold Joints: Construct true to line with faces perpendicular to surface planes of concrete. Construct transverse joints at right angles to centerline, unless otherwise indicated. When joining existing pavement, place transverse joints to align with previously placed joints, unless otherwise indicated.

B. Sawcut Joints: Form weakened-plane contraction joints, sectioning concrete into areas of approximately 200-square feet. See Sawcut Plan for locations. Construct Sawcut joints to a depth of 1-1/2-inches and as follows:

1. Sawed Joints: Form control joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades within 48-hours of any said pour. Cut 1/8-inch-wide joints into concrete when cutting action will not tear, abrade, or otherwise damage surface and before developing random contraction cracks.

3.03 CONCRETE PLACEMENT

A. Inspection: Before placing any transitional concrete, the Construction Manager will inspect the completed formwork installation, screed forms, templates, reinforcement steel, and any other items to be embedded or cast in place.

B. Remove snow, ice, frost or standing water from subbase surface and reinforcement before placing concrete. Do not place concrete on frozen surfaces.

C. Moisten subbase to provide a uniform dampened condition at the time concrete is placed. Do not place concrete around manholes or other structures until they are at the required finish elevation and alignment.

D. Deposit and spread concrete in a continuous operation between transverse joints When concrete placing is interrupted more than two hours, place a cold joint.

E. Consolidate concrete by mechanical vibrating equipment supplemented by hand-spading, rodding, or tamping. Use equipment and procedures to consolidate concrete according to recommendations in ACI 309R.

Consolidate concrete along face of forms and adjacent to transverse joints with an internal vibrator. Keep vibrator away from joint assemblies, reinforcement, or side forms. Use only square-faced shovels for hand-spreading and consolidation. Consolidate with care to prevent dislocating reinforcement, dowels and joint devices.

F. Screed pavement surfaces with a straightedge and strike off. Commence initial floating using bull floats or darbies to form an open textured and uniform surface plane before excess moisture or bleed water appears on the surface. Do not further disturb concrete surfaces before beginning finishing operations.

G. Concrete paving shall be a minimum of five 5-inches thick in all locations or as indicated per the plan details.

3.04 CONCRETE FINISHING

A. General: Wetting of concrete surfaces during screeding, initial floating, or finishing operations is prohibited.

B. Finish: The finished surface of all concrete shall be a hard troweled, smooth finish.

C. All horizontal and vertical edges of concrete shall have 1/2-inch radii.

D. All connections between pours must be absolutely flush and smooth.

E. Grinding finished concrete to achieve the specified finishes will not be accepted.

3.05 CONCRETE PROTECTION AND CURING

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.

B. Evaporation Retarder: Apply evaporation retarder to concrete surfaces according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.

C. Begin curing after finishing concrete, but not before free water has disappeared from concrete surface.

D. Apply curing blankets 2-hours after finishing concrete. Overlap blankets two 2-feet all sides.

E. Maintain ongoing moisture of concrete by drip irrigation lines located under curing blankets. Provide ongoing moisture for a minimum of 14-days per finished area of concrete.

F. Concrete shall be protected from any traffic for 30-days.

G. The Contractor shall take necessary actions to protect the concrete from any vandalism or damage that may occur as a result of trespassing.

3.06 PAVEMENT TOLERANCES

Comply with tolerances of ACI 117 and as follows:

1. Elevation: 1/8-inch.
2. Thickness: minus 1/4-inch.
3. Surface: Gap below 10-foot-long, unleveled straightedge not to exceed 1/4-inch.
4. Lateral Alignment and Spacing of Tie Bars and Dowels: 1-inch.
5. Vertical Alignment of Tie Bars and Dowels: 1/4-inch.
6. Alignment of Tie-Bar End Relative to Line Perpendicular to Pavement Edge: 1/2-inch.
7. Alignment of Dowel-Bar End Relative to Line Perpendicular to Pavement Edge.
8. Length of dowel 1/4-inch per 12-inches.
9. Joint Spacing: 3-inches.
10. Contraction Joint Depth: Plus 1/4-inch, no minus.
11. Joint Width: Plus 1/8-inch, no minus.
12. Plan Dimension 1-inch.
13. Vertical Radii: 1/4-inch over length of transition as checked with true template.

3.07 FIELD QUALITY CONTROL

A. Independent Testing Agency: The Owner's Independent Testing Agency shall sample materials, perform tests, and submit test reports during concrete placement according to requirements specified.

B. Testing Services: Testing will be performed according to the following requirements:

1. Sampling Fresh Concrete: Representative samples of fresh concrete shall be obtained according to ASTM C172, except modified for slump to comply with ASTM C94.

2. Slump: AASHTO T119; one test at point of placement for each compressive-strength test, but not less than one test for each day's pour of each type of concrete. Additional tests will be required when concrete consistency changes.

3. Air Content: ASTM C173 or AASHTO T152, pressure method; one test for each compressive-strength test, but not less than one test for each day's pour of each type of air- entrained concrete.

4. Concrete Temperature: ASTM C1064; one test hourly when air temperature is 40-degrees Fahrenheit and below and when 80-degrees Fahrenheit and above, and one test for each set of compressive- strength specimens.

5. Compression Test Specimens: ASTM C31; 1 set of 4-standard cylinders for each compressive-strength test, unless otherwise indicated. Cylinders shall be molded and stored for laboratory-cured test specimens unless field-cured test specimens are required.

6. Compressive-Strength Tests: ASTM C39; one set for each day's pour of each concrete class exceeding 5-cubic yards, but less than 25-cubic yards, plus 1-set for each additional 50-cubic yard. 1-specimen shall be tested at 7-days and 2-specimens at 28-days; one specimen shall be retained in reserve for later testing if required.

C. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by the Construction Manager, but will not be used as the sole basis for approval or rejection.

D. Additional Tests: Testing agency shall make additional tests of the concrete when test results indicate slump, air entrainment, concrete strengths, or other requirements have not been met, as directed by Construction Manager. Testing agency may conduct tests to determine adequacy of concrete by cored cylinders complying with AASHTO 501.24(b), or by other methods as directed.

3.08 REPAIRS AND PROTECTION

A. Remove and replace concrete pavement that is broken, under strength, spalling, damaged, or defective, or does not meet requirements in this Section.

B. Drill test cores where directed by Testing Agency when necessary to determine magnitude of cracks or defective areas. Fill drilled core holes in satisfactory pavement areas with Portland concrete bonded to pavement with epoxy adhesive.

C. Protect concrete from damage. Exclude traffic from pavement for at least 14-days after placement. When construction traffic is permitted, maintain pavement as clean as possible by removing surface stains and spillage of materials as they occur.

D. Maintain concrete pavement free of stains, discoloration, dirt, and other foreign material.

E. The Contractor shall remove the curing blankets and the temporary drip irrigation system, as well as hose and sweep concrete pavement not more than two days before date scheduled for Substantial Completion inspections.

F. Grinding concrete to achieve specified finishes will not be allowed.

END OF SECTION

SECTION 03370
SKATEPARK SHOTCRETE

PART 1 GENERAL

1.01 SUMMARY

A. Work included: Provide sprayed-on concrete (concrete conveyed into place by air pressure through a flexible tube or gun with controlled nozzle) referred to herein as shotcrete, complete as shown and as specified for skatepark radius and banked transition work only.

B. Related Work: Skatepark Structure Concrete Paving Section 02520

1.02 QUALITY ASSURANCE

A. Standards: Comply with the requirements of the current edition of the following codes and standards, except as herein modified:

1. Current UBC "Uniform Building Code".

2. American Concrete Institute (ACI): 506, Chapter 13, Wet Method; Chapter 5, Shotcrete Crew.

3. American Concrete Institute (ACI) "Manual of Standard Practice" Concrete Reinforcing.

4. Steel Institute (CRSI) "Manual of Standard Practice".

5. American Society for Testing Materials (ASTM).

a. Concrete Testing:

i. Prepare test specimens by each application crew using the equipment materials and mix proportions proposed for the Project. Construction Manager shall observe preparation of test panels noting placement of shotcrete by applications crew.

b. Maintain and protect sample transition during construction and test for compliance with Specifications.

c. Test strength of the shotcrete as work progresses as follows:

i. Provide test panels and test in accordance with ASTM42. Test panels shall be taken not less than once each shift or less than one for each 50-cubic yards of shotcrete placed through the nozzle.

d. Shotcrete core grade-2 required.

B. Acceptance: Final acceptance of the shotcrete will be based upon the results obtained from testing.

C. Manufacturer Qualifications: Manufacturer of ready-mixed concrete products complying with ASTM C 94 requirements for production facilities and equipment.

D Shotcrete Nozzleman shall be certified in accordance with ACI 5063.R. Shotcrete operations shall not be permitted without certified nozzleman present.

E. Do not install concrete work over wet, saturated, muddy or frozen subgrade.

F. No trucks shall be allowed within the areas that have been graded.

1.03 SUBMITTALS

A. Manufacturer's Data: Current printed specifications with application and installation instruction for proprietary materials including concrete admixtures such as finishing agents/hardener.

B. Shop Drawings: shop drawings for all fabricated steel edging and steel accessories.

C. Mix Design: Submit to Construction Manager; concrete mix design and letters from material suppliers certifying that materials comply with the standards referenced herein.

D. Pour Schedule: Contractor to indicate on plans locations to be shot within a day's work and sequence of pours for review by Construction Manager.

PART 2 PRODUCTS

2.01 CONCRETE MATERIALS

A. Portland Cement: ASTM C150, Types I or II, one brand only.

B. Fly Ash: ASTM C618

C. Normal Weight Aggregates: ASTM C33 and herein specified. Aggregate shall comply with gradation No. 2 as shown in ACI 506R Table 2.1 if the contractor can show satisfactory performance of an alternate grading under similar conditions of use, the engineer may waive the requirement for gradation No. 2.

1. Combined gradation of coarse and fine aggregate as follows:

Sieve Size U.S. Standard Square Mesh	Percent by Weight Passing Individual Sieves
3/8 in	90-100
No. 4	70-85
No. 8	50-70
No. 16	35-55
No. 30	20-35
No. 50	8-20
No. 100	2-10

2. Batch fine coarse aggregates separately to avoid segregation.
3. Aggregates shall be free from clay, mud, loam, or other deleterious substances.

4. Dune sand, bank run sand, and manufactured sand are not acceptable for fine aggregate. Use one source of sand only for entire project.

5. Coarse aggregate shall be clean, un-coated, heavy media processed aggregate of crushed stone or river washed aggregate.

2.02 ACCESSORIES

A. Water: Fresh, clean, potable, and free of deleterious acids, mixing, and curing water, as available from Construction Manager. Transport as required. Water shall not be used to finish, see admixtures.

B. Admixtures: Use only accepted admixtures meeting the following requirements:

1. Chemical Admixtures: ASTM C494.

2. Evaporation Retardant and Finishing Aid: Burke Film Concentrate – Available from Whitecap Inc. Burk Film Concentrate shall be used in accordance with the manufacture recommendations. All finishing of concrete surfaces must be completed with this product, finishing with water is not allowed.

3. Air-entraining Admixtures: ASTM C1141. Air entraining prior to shooting shall be 1.5-percent to 3.0-percent with a plus-or-minus 1-percent tolerance.

4. Contractor shall submit cut sheets for all proposed admixtures with the concrete mix design.

2.03 PROPORTIONING AND DESIGN OF CONCRETE MIXES

A. Mix: Prepare design mix to achieve an in-place 28 day compressive strength of 4,000-pounds per square inch and an air content of 4-percent at 28-days. Maximum aggregate size shall not exceed 3/8-inch. Unit weight of in-place shotcrete shall be 494-pounds per cubic yard. Owner will test the proposed mix designs at his/her expense.

B. Test Data: Submit for acceptance proportioning and test data from prior experience if available. If data from prior experience are not available or accepted, make and have tested specimens from three or more different mix proportions in accordance with pre-construction testing requirements of this Specification.

C. Strength: Selected mix proportions on the basis of compressive strength tests of specimens shall be cut from the shotcreted sample transition not earlier than 5-days after shotcreting. For mix acceptance purposed, average core strengths shall be at least equal to f'c for cores with L/D of 2.0. For cores with L/D between 1.0 and 2.0, use correction factors given in ASTM C42.

D. Review: Mix design shall be reviewed for acceptance by Construction Manager.

2.04 CONCRETE APPLICATION EQUIPMENT

A. For Wet Mix Shotcrete:

1. Mixing Equipment: capable of thoroughly mixing aggregate, cement and water in sufficient quantity to maintain continuous placement.

2. Air Supply: Clean air adequate for maintaining sufficient nozzle velocity for parts of work, and for simultaneous operation of blow pipe for cleaning away rebound.

3. Delivery Equipment: capable of discharging aggregate-cement-water mixture accurately, uniformly, and continuously through delivery hose.

2.05 FORMS

A. Form Materials: Plywood, metal, metal-framed plywood, or other approved panel-type materials to provide full-depth, continuous, straight, smooth exposed surfaces.

1. Use flexible or curved forms for horizontal curves of a radius 100-feet or less.

B. Form-Release Agent: Commercially formulated form-release agent with a maximum of 350 mg/L volatile organic compounds (VOCS) that will not bond with, stain, or adversely affect concrete surfaces and will not impair subsequent treatments of concrete surfaces.

C. Set, brace, and secure edge forms, bulkheads, and intermediate screed guides for pavement to required lines, grades, and elevations. Install forms to allow continuous progress of work and so forms can remain in place at least 24-hours after concrete placement. Forms shall provide a continuous straight, smooth surface. Forms shall be of sufficient thickness to withstand pressure of newly placed concrete without bowing or deflecting.

D. Clean forms after each use and coat with form release agent to ensure separation from concrete without damage.

E. Check completed formwork and screeds for grade and alignment to the following Tolerances:

1. Top of Forms: Not more than 1/8-inch in ten feet.

2. Vertical Face on Longitudinal Axis: Not more than 1/8-inch in 10-feet.

F. Moisten wood forms immediately prior to placing concrete.

2.06 STEEL REINFORCEMENT MATERIALS

A Reinforcement Bars shall be Number 4, Grade 40, deformed or per the plan details.

B. General: Comply with CRSI's "Manual of Standard Practice" for fabricating reinforcement.

C. Clean reinforcement of loose rust, oil and mill scale, earth, ice, or other bond-reducing materials.

D. Deformed steel bars shall be located at 12-inches on center, both directions, continuous throughout the entire structure and as indicted on the plan details. Steel rebars shall extend out from the features for 24-inches, 2-inches above base rock. (Rebars for the flat work shall tie onto the rebars extending for 24-inches from the features.) Lap rebars 24-inches and tie. Stagger joints. Do not heat to bend.

E. Provide adobe supports for rebars at 36-inches on center. Supports must keep the rebars at 2-inches above base rock and 2-inches below finish surfaces of concrete. Rebars shall be 2-inches away from outside surfaces of concrete in all locations. Rebars shall be free of rust, oil and other deleterious conditions.

2.07 REQUIRED CURING AND FINISHING MATERIALS

A. Non-permeable Burleen ™ curing blankets or approved equal; ASTM C 171.

B. Water: Potable.

C. Evaporation Retardant and Finishing Aid: Burke Film Concentrate – Available from WhiteCap Inc. Burk Film Concentrate shall be used in accordance with the manufacture recommendations. All finishing of concrete surfaces must be completed with this product, finishing with water is not allowed.

PART 3 EXECUTION

3.01 INSPECTION

A. Examination: Construction Manager shall examine concrete formwork and verify that it is true to line and dimension, adequately braced against vibration, and constructed to permit escape of air and rebound but to prevent leakage during shotcreting.

B. Inspection: construction Manager shall inspect reinforcement steel and items to be embedded in concrete. Correct any deviations from the accepted shop drawings.

C. Notification: Notify other trades involved in ample time to permit the proper installation of their work.

D. Existing Surfaces: Examine existing concrete surfaces for unsound material. Correct deficiencies.

3.02 STEEL REINFORCEMENT

A. General: Comply with CRSI's "Manual of Standard Practice" for fabricating reinforcement.

B. Clean reinforcement of loose rust, oil and mill scale, earth, ice, or other bond-reducing materials.

C. Deformed steel bars shall be located at 12-inches on center, both directions, continuous throughout the entire structure and as indicted on the plans. Steel rebar shall extend out from the features for 24-inches, 2-inches above base rock. (Rebar for the flat work shall tie onto the rebar extending for 24-inches from the features.) Lap rebar 24-inches and tie. Stagger joints. Do not heat to bend.

D. Provide adobe supports for rebar at 36-inches on center. Supports must keep the rebar at 2-inches above base rock and 2-inches below finish surfaces of concrete. Rebar shall be 2-inches away from outside surfaces of concrete in all locations. Rebar shall be free of rust, oil and other deleterious conditions.

3.03 PREPARATION FOR INSTALLATION OF CONCRETE

Forms: Use a form-release agent on removable forms to prevent absorption of moisture and to prevent bond with shotcrete.

3.04 CONCRETE BATCHING AND MIXING

Proportions: Mix proportions shall be controlled by weight batching. Owner's Testing Laboratory shall maintain quality control records during shotcrete production.

3.05 CONCRETE PLACEMENT

A. Placement: Use suitable delivery equipment and procedures that will result in shotcrete in place meeting the requirement of the Specification. Determine operation procedures for placement in extended distances, and around any obstructions where placement velocities and mix consistency must be adjusted.

B. Placement Techniques: Do not place shotcrete if drying or stiffening of the mix takes place at any time prior to delivery to the nozzle.

1. Control thickness, method of support, air pressure, and/or water content of shotcrete to preclude sagging or sloughing off. Discontinue shotcreting or provide suitable means to screen the nozzle stream if wind or air currents cause separation of the nozzle stream during placement.

2. Hold nozzle as perpendicular to surface as work will permit, to secure maximum compaction with minimum rebound.

3. In shotcreting walls, begin application at bottom. Ensure work does not sag.
4. Layering:

   a. Build up layers by making several passes of nozzle over work area.

   b. Broom or scarify the surface of freshly placed shotcrete to which, after hardening additional layers of shotcrete are to be bonded. Dampen surface just prior to application of succeeding layers.
   c. Allow each layer of shotcrete to take initial set before applying succeeding layers.

   d. Use templates fabricated to the specified finish surfaces to insure exact radii from flat bottom of Skate Park to face of coping. Template shall be fabricated from steel or ¾-inch Plywood. Check every horizontal foot when applying shotcrete for conformance of intended wall radii. Brace template and place levels at arc to tangent connections to insure no kinks will be formed. Kinks at the bottom of bowls will not be acceptable. Slumping of the shotcrete causing coping setback will not be acceptable.

5. Placement Around Reinforcement:

   a. Hold the nozzle at such distance and angle to place materials behind reinforcement before any material is allowed to accumulate on its face.

b. Test to ascertain if any void or sand pockets have developed around or behind reinforcement by probing with an awl or other pointed tool after the shotcrete has achieved its initial set, buy removal of randomly selected bars, or coring of other suitable standards.

C. Finishing: Shotcrete installation crews must have appropriate scaffolding and radial ladders or equal to ensure access for application and finishing of shotcrete.

3.06 REMOVAL OF SURFACE DEFECTS IN CONCRETE

A. General: Remove and replace shotcrete that lacks uniformity, exhibits segregation honeycombing, or lamination. Or which contains any dry patches, slugs, voids, or pockets. Remove defective areas.

B. Sounding: Sound work with hammer for voids. Remove and replace damaged in-place shotcrete.

3.07 CONCRETE FINISH

A. Finish-General: Smooth hard trowel finish that is uniform and free of kinks and irregularities.

B. Transitions: Floated finish on radial face of wall shall consist of a smooth, hard, uniform surface of smooth trowel. Level the transition to a tolerance of ¼-inch in 10-feet when vertical with a radial template using the appropriate radii. If horizontal, use a straight edge. Grinding the surfaces will not be an acceptable means of achieving the intended radii.

C. All horizontal and vertical edges of concrete shall have ½-inch radii.

D. All connections between pours must be absolutely flush and smooth.

E. Grinding finished concrete to achieve the specified finishes will not be accepted.

3.08 CONCRETE JOINTS

A. Cold Joints: Construct true to line with faces perpendicular to surface planes of concrete. Construct transverse joints at right angles to centerline, unless otherwise indicated. When joining existing pavement, place transverse joints to align with previously placed joints, unless otherwise indicated.

B. Sawcut Joints: Form weakened-plane contraction joints, sectioning concrete into areas of approximately 200-square feet. See Sawcut Plan for locations. Construct Sawcut joints to a depth of 1-1/2-inches and as follows:

1. Sawed Joints: Form control joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades within 48-hours of any said pour. Cut 1/8-inch-wide joints into concrete when cutting action will not tear, abrade, or otherwise damage surface and before developing random contraction cracks.

2. Fill all joints flush with 'Sonner Borne" NPI Joint Sealant or approved equal.

3.09 CONCRETE PROTECTION AND CURING

A. General: Protect freshly placed shotcrete from premature drying and excessive cold or hot temperatures.

B. Evaporation Retarder: Apply evaporation retarder according to manufacturer's written instructions after placing, screeding, and bull floating or darbying shotcrete, but before float finishing.

C. Begin curing after finishing concrete, but not before free water has disappeared from concrete surface.

D. Apply curing blankets 2-hours after finishing concrete. Overlap blankets 2-feet on all sides.

E. Maintain ongoing moisture of concrete by drip irrigation lines located under curing blankets. Provide ongoing moisture for a minimum of 14-days per finished area of concrete.

F. Concrete shall be protected from any traffic for 30-days.

G. The Contractor shall take necessary actions to protect the concrete from any vandalism or damage that may occur as a result of trespassing.

H. Remove and replace concrete pavement that is broken, under strength, spalling, damaged, or defective, or does not meet requirements in this Section.

I. Drill test cores where directed by Testing Agency when necessary to determine magnitude of cracks or defective areas. Fill drilled core holes in satisfactory pavement areas with Portland cement concrete bonded to pavement with epoxy adhesive.

J. Maintain concrete pavement free of stains, discoloration, dirt, and other foreign material.

K. The Contractor shall remove the curing blankets and the temporary drip irrigation system, as well as hose and sweep concrete pavement not more than 2- days before date scheduled for Substantial Completion inspections.

L. Grinding concrete to achieve specified finishes will not be allowed

3.10 PAVEMENT TOLERANCES

Comply with tolerances of ACI 117 and as follows:

1. Elevation: 1/8-inch.
2. Thickness: minus 1/4-inch.
3. Surface: Gap below 10-foot-long, unleveled straightedge not to exceed 1/4-inch.
4. Lateral Alignment and Spacing of Tie Bars and Dowels: 1-inch.
5. Vertical Alignment of Tie Bars and Dowels: 1/4-inch.
6. Alignment of Tie-Bar End Relative to Line Perpendicular to Pavement Edge: 1/2-inch.
7. Alignment of Dowel-Bar End Relative to Line Perpendicular to Pavement Edge.
8. Length of dowel 1/4-inch per 12-inches.
9. Joint Spacing: 3-inches.
10. Contraction Joint Depth: Plus 1/4-inch, no minus.
11. Joint Width: Plus 1/8-inch, no minus.
12. Plan Dimension 1-inch.
13. Vertical Radii: 1/4-inch over length of transition as checked with true template.

3.11 FIELD QUALITY CONTROL

A. Independent Testing Agency: The Owner's Independent Testing Agency shall sample materials, perform tests, and submit test reports during concrete placement according to requirements specified.

B. Testing Services: Testing will be performed according to the following requirements:

1. Sampling Fresh Concrete: Representative samples of fresh concrete shall be obtained according to ASTM C172, except modified for slump to comply with ASTM C94.
2. Slump: AASHTO T119; one test at point of placement for each compressive-strength test, but not less than one test for each day's pour of each type of concrete. Additional tests will be required when concrete consistency changes.

3. Air Content: ASTM C173 or AASHTO T152, pressure method; one test for each compressive-strength test, but not less than one test for each day's pour of each type of air- entrained concrete.

4. Concrete Temperature: ASTM C1064; one test hourly when air temperature is 40-degrees Fahrenheit and below and when 80-degrees Fahrenheit and above, and one test for each set of compressive- strength specimens.

5. Compression Test Specimens: ASTM C31; 1 set of 4-standard cylinders for each compressive-strength test, unless otherwise indicated. Cylinders shall be molded and stored for laboratory-cured test specimens unless field-cured test specimens are required.

6. Compressive-Strength Tests: ASTM C39; one set for each day's pour of each concrete class exceeding 5-cubic yards, but less than 25-cubic yards, plus 1-set for each additional 50-cubic yard. 1-specimen shall be tested at 7-days and 2-specimens at 28-days; one specimen shall be retained in reserve for later testing if required.

C. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by the Construction Manager, but will not be used as the sole basis for approval or rejection.

D. Additional Tests: Testing agency shall make additional tests of the concrete when test results indicate slump, air entrainment, concrete strengths, or other requirements have not been met, as directed by Construction Manager. Testing agency may conduct tests to determine adequacy of concrete by cored cylinders complying with AASHTO 501.24(b), or by other methods as directed.

END OF SECTION

CITY OF TULSA

CITY EXPERIENCE
City Design Studio

DATE:
April 22, 2026

TO:
Plan Holders
Contractors

FROM:
Jenna Richardson
918-596-9637
jennarichardson@cityoftulsa.org

EMAIL TRANSMITTAL

ADDENDUM NO. 3

PROJECT NO. SP 21-6 FRED JOHNSON PARK REHABILITATION

Number of pages: 39

All addenda to the contract documents should be denoted on the last page of the Proposal in the space provided.

Thank you,
Contract Administration