SCOPE OF WORK

CONSTRUCT A PREFABRICATED COMMUNITY FACILITY BUILDING WITH RESTROOMS, A STORAGE ROOM, AND A MULTI-USE ROOM ON CAST-IN DRILLED HOLE PILE FOUNDATIONS WITH RETAINING WALLS AND PILE CAP SLABS. INSTALL SITE IMPROVEMENTS INCLUDING EV CHARGING STATIONS, ADA RAMPS, STAIRS, WALKWAY PAVEMENT, SITE LIGHTING, SITE FURNISHINGS, BIOFILTRATION BASINS, AND SECURITY FENCING. CONSTRUCT EIGHT PICKLEBALL COURTS WITH ASSOCIATED FENCING, EQUIPMENT, AND BLEACHERS. INSTALL A NATURAL TURF U8 SOCCER FIELD WITH RELATED EQUIPMENT AND FENCING. PROVIDE NEW UTILITY CONNECTIONS INCLUDING WATER, ELECTRIC, AND SANITARY SEWER WITH A PREFABRICATED LIFT STATION. INSTALL IRRIGATION AND LANDSCAPING. RESTRIPE THE PARKING LOT AND COMPLETE ANCILLARY WORK. ALL WORK IS WITHIN THE JURISDICTION OF THE CITY OF BERKELEY. THIS PROJECT SHALL COMPLY WITH THE 2022 CBC, 2022 CEC, 2022 CMC, 2022 CPC, 2022 CGBSC AND 2022 CALIFORNIA ENERGY CODE (AS ADOPTED AND AMENDED BY THE CITY OF BERKELEY).

CITY OF BERKELEY

TOM BATES REGIONAL SPORTS COMPLEX COMMUNITY FACILITY, PICKLEBALL COURTS AND U8 SOCCER FIELD

CITY OF BERKELEY SPECIFICATION NUMBER - 25-11736-C

APPLICABLE STANDARD PLANS INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:

CALTRANS STANDARD PLANS FOR CONSTRUCTION OF LOCAL STREETS AND ROADS (DATED 2010)

A20A, B, C & D	PAVEMENT MARKERS AND TRAFFIC LINES, TYPICAL DETAILS
A24A & B	PAVEMENT MARKINGS, ARROWS
T51	TEMPORARY SILT FENCE
T56	TEMPORARY FIBER ROLL
T58	TEMPORARY CONSTRUCTION ENTRANCE
T59	TEMPORARY CONCRETE WASHOUT FACILITY
T61, 63 & 64	TEMPORARY DRAINAGE INLET PROTECTION
RS1, 5 & 6	ROADSIDE SIGN – TYPICAL INSTALLATION DETAILS

CITY OF BERKELEY STANDARD PLANS

COB3198	STANDARD CURB & GUTTER
STD8136	TRENCH EXCAVATION AND SURFACE RESTORATION MONUMENT SIGN

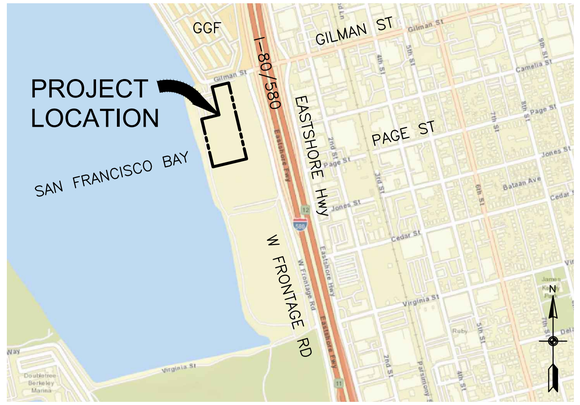
EAST BAY REGIONAL PARK DISTRICT STANDARD PLANS

STD 402	ACCESSIBLE PARKING STALLS

EAST BAY MUNICIPAL UTILITY DISTRICT STANDARD PLANS

STD 288-EA	GATE VALVE LINE INSTALLATIONS
STD 332-EA-1	SIZE ON SIZE MAIN-LINE VALVE WITH 4" BLOWOFF
STD 3360-B	THRUST BLOCK DETAILS
STD 9496-GB-1	FIRE HYDRANT INSTALLATION DETAILS
STD 9496-GB	FIRE HYDRANT INSTALLATION
STD 321-EA	VALVE POT INSTALLATION
STD 9946-GB	HDPE STANDARD DETAILS & GENERAL NOTES

VICINITY MAP
NTS



LOCATION MAP
NTS

ABBREVIATIONS

AC	ASPHALT CONCRETE
AB	AGGREGATE BASE
BEG	BEGIN
BFP	BACK FLOW PREVENTER
BLDG	BUILDING
BLRD	BOLLARD
BSW	BACK OF SIDEWALK
℄ / CL	CENTERLINE
CONST	CONSTRUCT
C&G	CURB AND GUTTER
C,G&SW	CURB, GUTTER & SIDEWALK
CB	CATCH BASIN
CLR	CLEARANCE
CO	CLEAN OUT
CONC	CONCRETE
CONT	CONTINUOUS
CPP	CONTROL POINT
DET	DETAIL
D.I.	DRAIN INLET
DIA	DIAMETER
DWY	DRIVEWAY
E	ELECTRICAL
E-BOX	ELECTRIC BOX
E-VLT	ELECTRIC VAULT
EG	EXISTING GRADE
ELEV	ELEVATION
EP	EDGE OF PAVEMENT
(E)	EXISTING
FC	FACE OF CURB
FG	FINISH GRADE
GGF	GOLDEN GATE FIELDS
FH	FIRE HYDRANT
FL	FLOW LINE
FOD	FACE OF DIKE
FTG	FOOTING
GALV	GALVANIZED
G	GAS
GB	GRADE BREAK
GM	GAS METER
GV	GAS VALVE
HC	HANDICAP
HDPE	HIGH DENSITY POLYETHYLENE
HORIZ	HORIZONTAL
ID	INNER DIAMETER
INV	INVERT
IP	IRON PIPE
JT	JOINT TRENCH
LT	LEFT
LF	LINEAR FEET
LIP	LIP OF GUTTER
MAX	MAXIMUM
MG	MATCH GRADE
MH	MANHOLE
MIN	MINIMUM
MAG NAIL	MAGNETIC NAIL
MOD	MODIFIED
MON	SURVEY MONUMENT
(N)	NEW
NTS	NOT TO SCALE
NO.	NUMBER
OC	ON CENTER
OD	OUTER DIAMETER
PCC	PORTLAND CEMENT CONCRETE
PERF	PERFORATED
PP	PERFORATED PIPE
	POWER POLE
PROP	PROPOSED
PSF	POUNDS PER SQUARE FOOT
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
R	RADIUS
RAD PT	RADIUS POINT
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
R&R	REMOVE AND REPLACE
REINF	REINFORCED
RET WALL	RETAINING WALL
RT	RIGHT
R/W	RIGHT OF WAY
S	SLOPE
SD	STORM DRAIN
SF	SQUARE FOOT
SL	STREET LIGHT
STD	STANDARD
SS	SANITARY SEWER
SSCO	SANITARY SEWER CLEAN OUT
SSMH	SANITARY SEWER MANHOLE
ST	STREET
SW	SIDEWALK
SVC	SERVICE
T	TOTAL
T&B	TOP AND BOTTOM
TEL-VLT	TELEPHONE VAULT
TC	TOP OF CURB
TFOD	TOP FACE OF DIKE
TG	TOP OF GRATE
TP	TOP OF PAVEMENT
TS	TOP OF STEP
TV	TELEVISION CABLE
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
UTIL-BOX	UTILITY BOX
UTIL-MH	UTILITY MANHOLE
VAR	VARIES
VERT	VERTICAL
VLT	VAULT
W/	WITH
WM	WATER METER
WV	WATER VALVE
WWF	WELDED WIRE FABRIC

LEGEND

DESCRIPTION	SYMBOL (E)	SYMBOL (N)
PERFORATED PIPE		PP PP
STORM DRAIN	SD	SD
ELECTRIC	E	SEE ELECTRICAL PLANS
SANITARY SEWER	SS	SS
FORCE MAIN	FM	FM
WATER	W	W
FENCE	x x	X
IRRIGATION PIPE	IR	SEE IRRIGATION PLANS
PROJECT LIMIT LINE	N/A	
STORM DRAIN MANHOLE		SD
SANITARY SEWER MANHOLE	SS	
STORM DRAIN INLET		
CLEANOUT		
STREET LIGHT		
SIGN		
MONUMENT		
VALVE		
PROPERTY LINE		
LEASE LINE		

INDEX OF PLANS

NO.	SHEET NO.	SHEET NAME
1	G-001	TITLE SHEET AND INDEX OF PLANS
2	G-002	CIVIL NOTES
3	G-003	KEY MAP AND SURVEY CONTROL PLAN
4	V-101	EXISTING CONDITION PLAN
5	CE-101	EROSION CONTROL PLAN
6	CE-501	EROSION CONTROL DETAILS
7	CE-502	EROSION CONTROL DETAILS
8	CE-503	EROSION CONTROL DETAILS
9	CE-504	EROSION CONTROL DETAILS
10	CE-505	EROSION CONTROL DETAILS
11	CE-506	EROSION CONTROL DETAILS
12	CD-101	DEMOLITION PLAN
13	CD-501	CONSTRUCTION WASTE MANAGEMENT PLAN
14	CS-001	BID AREA PLAN
15	CS-101	SITE PLAN
16	CS-111	ENLARGED SITE PLAN
17	CS-201	ACCESSIBILITY PLAN
18	CS-501	SITE DETAILS
19	CS-502	SITE DETAILS
20	CS-503	SITE DETAILS
21	CS-504	SITE DETAILS
22	CS-505	SITE DETAILS
23	CS-506	SITE DETAILS
24	CS-507	SITE DETAILS
25	CS-508	SITE DETAILS
26	CS-509	SITE DETAILS
27	CS-510	SITE DETAILS
28	CS-601	STRUCTURAL NOTES
29	CS-602	STRUCTURAL SPECIAL INSPECTIONS
30	CS-603	PICKLEBALL COURT PT SLAB-ON-GRADE PLANS
31	CS-604	PICKLEBALL STRUCTURAL SECTIONS & DETAILS
32	CS-605	BIOSWALE STRUCTURAL SECTIONS & DETAILS
33	CS-606	BIOSWALE STRUCTURAL SECTIONS & DETAILS
34	CG-101	GRADING & DRAINAGE PLAN
35	CG-111	ENLARGED GRADING & DRAINAGE PLAN
36	CG-501	GRADING & DRAINAGE DETAILS
37	CG-502	GRADING & DRAINAGE DETAILS
38	CG-503	ROOF DRAINAGE SYSTEM
39	CG-504	STORM DRAIN & TRENCH DRAIN PROFILES
40	CU-101	UTILITY PLAN
41	CU-102	FIRE SERVICE PLAN
42	CU-111	ENLARGED UTILITY PLAN
43	CU-501	UTILITY DETAILS
44	CU-502	UTILITY DETAILS
45	CU-503	UTILITY DETAILS
46	CU-511	PREFAB LIFT STATION DETAILS
47	CU-512	PREFAB LIFT STATION DETAILS
48	CU-513	PREFAB LIFT STATION DETAILS
49	CU-514	PREFAB LIFT STATION DETAILS
50	CU-515	PREFAB LIFT STATION DETAILS
51	CU-516	PREFAB LIFT STATION DETAILS
52	CU-517	PREFAB LIFT STATION DETAILS
53	CU-518	PREFAB LIFT STATION DETAILS
54	CU-519	PREFAB LIFT STATION DETAILS
55	CU-520	PREFAB LIFT STATION DETAILS
56	A-101	ARCHITECTURAL FLOOR PLAN, RENDERING, AND ELEVATIONS
57	S-001	GENERAL STRUCTURAL NOTES
58	S-002	GENERAL STRUCTURAL NOTES
59	S-003	GENERAL STRUCTURAL NOTES
60	S-004	GENERAL STRUCTURAL NOTES
61	S-010	TYPICAL CONCRETE DETAILS
62	S-011	TYPICAL CONCRETE DETAILS
63	S-012	TYPICAL CONCRETE DETAILS
64	S-100	PILE PLAN
65	S-101	FOUNDATION PLAN
66	S-201	ELEVATIONS
67	S-501	DETAILS
68	S-502	DETAILS
69	S-601	SCHEDULES AND DIAGRAMS
70	ES-001	ELECTRICAL SYMBOL LEGEND, ABBREVIATIONS AND GENERAL NOTES
71	ES-101	ELECTRICAL SITE PLAN
72	ES-102	ELECTRICAL SITE PLAN ENLARGED
73	ES-501	ELECTRICAL DETAILS
74	ES-502	ELECTRICAL DETAILS
75	ES-601	SINGLE LINE DIAGRAM AND SCHEDULES
76	ES-701	TITLE 24
77	ES-702	TITLE 24
78	LC-001	LANDSCAPE MATERIALS LEGEND
79	LC-101	LANDSCAPE MATERIALS AND LAYOUT PLAN
80	LC-501	LANDSCAPE DETAILS
81	LI-101	IRRIGATION LEGEND AND NOTES
82	LI-102	IRRIGATION PLAN
83	LI-501	IRRIGATION DETAILS
84	LI-502	IRRIGATION DETAILS
85	LI-503	WATER USE CALCULATIONS
86	LP-001	PLANTING LEGEND
87	LP-101	PLANTING PLAN
88	LP-501	PLANTING DETAILS
89	ZA-101	PRE-MANUFACTURED SHADE SAIL SCHEMATICS
90	ZA-102	PRE-MANUFACTURED SHADE SAIL SCHEMATICS
91	ZA-103	PRE-MANUFACTURED SHADE SAIL SCHEMATICS
92	ZA-104	PRE-MANUFACTURED SHADE SAIL SCHEMATICS

REGISTERED PROFESSIONAL ENGINEER
JEROME DE VERGER
No. C60334
Exp. 6/30/26
CIVIL
STATE OF CALIFORNIA

DESCRIPTION	DATE	MARK
PERMIT SET	7/31/2025	

REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE
DATE
R.C.E.
EXP.
APPROVAL

PERMIT SET

TRANSYSTEMS
2000 CENTER STREET
SUITE 303
BERKELEY, CA 94704
PHONE: (510) 835-2761

NO SCALE

0 1 2 3

FOR REDUCED PLANS – ORIGINAL SCALE IS IN INCHES

DEPICTION OF MONUMENTS: DATE
SURVEY PARTY CHIEF

WATERSHED REVIEW: DATE

SUBMITTED: DATE
SUPERVISING CIVIL ENGINEER R.C.E.
EXP.

APPROVED: DATE
MANAGER OF ENGINEERING R.C.E.
EXP.

DESIGN	JDV
DRAWN	AJR
CHECK	KMC
AS BUILT	
HORIZ.	1"=X'
VERT.	1"=X'
BOOK	
DATE	7/31/2025

CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

TITLE SHEET AND INDEX OF PLANS

TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
G-001
SHEET 1 OF 92

GENERAL NOTES:

1. THE PAVEMENT DESIGN FOR THIS PROJECT IS BASED ON R-VALUE TESTING PERFORMED BY CE&G INFORMATION DATED APRIL 29, 2024.

2. UNDERGROUND FACILITIES AND OBSTRUCTIONS INDICATED, ARE FOR INFORMATION ONLY. EXISTING UTILITY LOCATIONS SHOWN ON THE PLANS WERE LOCATED BASED ON THE INFORMATION PROVIDED BY THE CITY AND/OR FROM SCHEMATIC DRAWINGS PROVIDED BY THE UTILITY COMPANIES AND ARE APPROXIMATE LOCATIONS ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL EXISTING UTILITIES WITHIN THE WORK AREA PRIOR TO BEGINNING CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT (USA) AT 811 OR (800) 227-2600 A MINIMUM OF TWO (2) WORKING DAYS IN ADVANCE OF ANY EXCAVATION.

3. EVERY EFFORT HAS BEEN MADE TO SHOW THE LOCATION OF EXISTING UTILITIES AND OBSTRUCTIONS WHICH MAY INTERFERE WITH THE WORK. THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE AGENCIES PRIOR TO STARTING ANY WORK WHICH MAY AFFECT THEIR FACILITIES. THE FOLLOWING UTILITIES AND AGENCIES ARE KNOWN TO HAVE FACILITIES WITHIN THE PROJECT LIMITS:

BERKELEY PUBLIC WORKS DEPARTMENT	(510)981-6300
EBMUD	(510)287-1008
PG&E	(415)267-7000

4. THE CONTRACTOR SHALL INSPECT THE PROJECT SITE PRIOR TO SUBMITTING A BID IN ORDER TO OBSERVE AND DETERMINE THE EXISTING JOB SITE CONDITIONS.

5. TRAFFIC CONTROL DURING CONSTRUCTION SHALL BE THE CONTRACTOR'S RESPONSIBILITY. ALL TRAFFIC CONTROL AND DEVICES SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".

6. THE CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR SHALL BE REQUIRED TO ASSUME COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT. THESE PLANS DO NOT INCLUDE COMPONENTS NECESSARY FOR CONSTRUCTION SAFETY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE FOR THE SAFETY OF ALL PERSONS AND PROPERTY DURING THE COURSE OF THE PROJECT.

7. THE CONTRACTOR SHALL COMPLY WITH THE RULES AND REGULATIONS OF THE STATE CONSTRUCTION SAFETY ORDERS AND CAL/OSHA. THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.

8. THE CONTRACTOR SHALL PROVIDE FOR CONTINUOUS INGRESS AND EGRESS TO ALL ACTIVE PUBLIC AREAS ADJACENT TO THE WORK, INCLUDING THE TOM BATES REGIONAL SPORTS COMPLEX AND BAY TRAIL, THROUGHOUT THE PERIOD OF CONSTRUCTION UNLESS OTHERWISE SHOWN. SEE NOTE 14 FOR MORE INFORMATION.

9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES TO THE SITE OR THE SURROUNDING AREA AS A RESULT OF THE CONTRACTOR'S WORK OR OPERATIONS. EXISTING PAVEMENT, FENCING, UTILITIES AND OTHER IMPROVEMENTS THAT ARE DAMAGED OR DISPLACED BY THE CONTRACTOR SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

10. ALL STREET SURVEY MONUMENTS AND RECORDED SURVEY POINTS DISTURBED DURING CONSTRUCTION SHALL BE REPLACED BY THE CONTRACTOR, AT THE CONTRACTOR'S EXPENSE, BEFORE THE IMPROVEMENTS ARE ACCEPTED BY THE CITY. REPLACEMENT SHALL BE MADE UNDER THE DIRECTION OF A LICENSED PROFESSIONAL LAND SURVEYOR AND AS INSTRUCTED IN SECTION 8771 OF THE PROFESSIONAL LAND SURVEYORS CODE.

11. WORK IS NOT PERMITTED ON SATURDAYS, SUNDAYS, OR DESIGNATED LEGAL HOLIDAYS, AS RECOGNIZED BY THE CITY OF BERKELEY, UNLESS OTHERWISE APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL REFER TO THE GENERAL REQUIREMENTS FOR ADDITIONAL INFORMATION.

12. ATTENTION IS DIRECTED TO THE PROVISIONS OF CHAPTER 9 OF DIVISION 3 OF THE BUSINESS AND PROFESSIONS CODE CONCERNING THE LICENSING OF CONTRACTORS. THE CONTRACTOR SHALL POSSESS A VALID CALIFORNIA CLASS A OR CLASS C-12 LICENSE AT THE TIME THIS CONTRACT IS AWARDED.

13. ADJACENT BUSINESSES OPERATE DURING REGULAR BUSINESS HOURS AND WEEKENDS. CONTRACTOR SHALL COORDINATE WITH APPROPRIATE BUSINESS REPRESENTATIVES AT ALL TIMES WHEN PERFORMING WORK THAT MAY AFFECT ACCESS TO THESE BUSINESSES. MAINTAIN ACCESS TO THE BUSINESSES AT ALL TIMES UNLESS APPROVAL TO BLOCK ACCESS IS GRANTED BY BUSINESS REPRESENTATIVES AND CITY PROJECT MANAGER.

SURVEY NOTES:

1. TOPOGRAPHIC SURVEY PREPARED BY LCC ENGINEERING & SURVEYING, INC. FROM FIELD DATA COLLECTED IN NOVEMBER 2022.

2. HORIZONTAL DATUM: HORIZONTAL COORDINATES SHOWN HEREON ARE IN FEET AND REFER TO THE CALIFORNIA STATE PLANE COORDINATE SYSTEM. ZONE #3, NAD83, HORIZONTAL COORDINATES WERE ESTABLISHED FROM CITY OF BERKELEY.

3. VERTICAL DATUM: ELEVATIONS SHOWN HEREON ARE IN FEET AND REFER TO THE NAVD88 DATUM. THE BENCHMARK IS LCC CP #101 (N 2,147,097.76, E 6,039,445.60), A MAGNETIC NAIL AND WASHER AT AC. ELEVATION HELD AS 8.08 FEET (NAVD88).

4. THIS SURVEY DOES NOT GUARANTEE THE EXISTENCE OR NONEXISTENCE, SIZE, TYPE, DEPTH, MATERIAL OR LOCATION OF ANY UNDERGROUND UTILITIES. ALL UTILITIES SHOWN ARE BASED ON ABOVE GROUND UTILITY STRUCTURES, AVAILABLE UTILITY MAPS AND SITE PLANS. THE CONTRACTOR SHALL HAVE ALL EXISTING SITE UTILITIES VERIFIED PRIOR TO ANY EXCAVATION.

UTILITY NOTES:

1. VERIFICATION OF LOCATIONS OF UTILITIES: POTHOLE AND VERIFY LOCATION AND DEPTH OF ALL EXISTING UTILITIES WITHIN THE WORK AREA ASSOCIATED WITH THE WORK TO BE PERFORMED PRIOR TO STARTING CONSTRUCTION.

2. EXCAVATION NEAR ACTIVE UTILITIES: ALL EXCAVATION NEAR EXISTING CABLES OR OTHER NON-ABANDONED EXISTING UTILITY LINES SHALL BE PERFORMED BY HAND. ALL CABLES OR OTHER EXISTING UTILITY LINES THAT ARE DAMAGED SHALL BE REPAIRED IMMEDIATELY UNDER THE UTILITY OWNER'S DIRECTION AND AT THE CONTRACTOR'S EXPENSE.

3. SHORING, BRACING AND FALSEWORK: PROVIDE TEMPORARY SHORING, BRACING AND FALSEWORK AS REQUIRED TO SUPPORT AND PROTECT ALL ITEMS AFFECTED BY THE WORK.

4. UTILITY POINTS OF CONNECTION: CONTRACTOR SHALL POTHOLE AND LOCATE ALL UTILITY POINT OF CONNECTIONS PRIOR TO START OF CONSTRUCTION.

5. PROVIDE TRACER WIRE DIRECTLY ABOVE NON-METALLIC LINES.

6. REFER TO THE LANDSCAPE PLANS FOR GUIDANCE ON TRIMMING ROOTS FOUND WITHIN TRENCHES OR OTHER EXCAVATIONS.

EROSION CONTROL NOTES:

1. IMPLEMENT THE FOLLOWING BEST MANAGEMENT PRACTICES FOR ALL AREAS DISTURBED DURING CONSTRUCTION AND NOT RESTABILIZED WITH BUILDING, PAVING OR SIDEWALK: TEMPORARY AND PERMANENT SEEDING, MULCHING, TOPSOILING, DUST CONTROL.

2. DURING CONSTRUCTION, PROVIDE DUST CONTROL, PROCESS SAWCUTTING AND SURFACING POLLUTION PREVENTION MEASURES, CONCRETE HANDLING MEASURES.

3. THE CONTRACTOR SHALL ENSURE THAT THE OFFSITE BORROW OR FILL SITE CONDITIONS COMPLY WITH ALL STATE AND LOCAL CRITERIA. THESE CRITERIA ARE AIMED AT CONTROLLING THE RUNOFF FROM THE SITE SO AS TO REDUCE THE EROSION AND SEDIMENT PROBLEMS ASSOCIATED WITH CONSTRUCTION ACTIVITIES.

4. THE CONTRACTOR SHALL PREPARE STORMWATER POLLUTION PREVENTION PLANS (SWPPP). TO ENSURE THAT THE PREPARATION AND IMPLEMENTATION OF THE SWPPP IS SUFFICIENT FOR EFFECTIVE POLLUTION PREVENTION, THE CONTRACTOR'S QUALIFIED SWPPP DEVELOPER (QSD) CREATES AND REVISES DEVELOPMENTS. THE CONTRACTOR'S QUALIFIED SWPPP PRACTITIONER (QSP) IS RESPONSIBLE FOR IMPLEMENTING THE SWPPP.

5. MEASURES SHALL INCLUDE BUT NOT BE LIMITED TO:

5.1. ROCK OR ALTERNATE CONSTRUCTION ENTRANCES AT ALL LOCATIONS TO REDUCE THE TRACKING OF MATERIAL ONTO THE PUBLIC ROADWAYS.

5.2. CLEANING OF THE ROADWAYS AND OTHER VEHICULAR SURFACES OF ALL TRACKED AND/OR SPILLED MATERIAL.

5.3. GRADING AND PROPERLY PLACING WASTE MATERIAL OR EXCESS EXCAVATED MATERIAL TO ESTABLISH MAINTAINABLE SOIL SLOPES.

5.4. SEEDING AND GRADING TO DRAIN THE AREA AFTER THE CONSTRUCTION ACTIVITIES ARE COMPLETED OR WHEN CONSTRUCTION ACTIVITIES ARE HALTED.

6. THE SWPPP SHALL COMPLY WITH THE REQUIREMENTS OF ALL STATE AND LOCAL CRITERIA.

7. THE IMPLEMENTATION OF THIS SWPPP AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE BEST MANAGEMENT PRACTICE (BMP) FACILITIES IS THE RESPONSIBILITY OF THE APPLICANT/CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED AND APPROVED AND VEGETATION/LANDSCAPING IS ESTABLISHED.

8. THE EROSION MEASURES SHOWN ON THIS PLAN MUST BE CONSTRUCTED IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES, AND IN SUCH A MANNER AS TO INSURE THAT SEDIMENT AND SEDIMENT LADEN WATER DO NOT ENTER THE DRAINAGE SYSTEM & ONTO PUBLIC ROADWAYS.

9. THE EROSION MEASURES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS AND NOT MEANT TO BE A REPLACEMENT FOR THE SWPPP. DURING THE CONSTRUCTION PERIOD, THESE MEASURES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND TO ENSURE THAT SEDIMENT AND SEDIMENT-LADEN WATER DO NOT LEAVE THE SITE.

10. THE EROSION MEASURES SHALL BE INSPECTED DAILY BY THE CONTRACTOR AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING THROUGHOUT CONSTRUCTION.

11. THE EROSION MEASURES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN 24 HOURS FOLLOWING A MAJOR STORM EVENT OR AS DICTATED BY THE SWPPP.

12. AT NO TIME SHALL MORE THAN ONE FOOT OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A TRAPPED CATCH BASIN. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAVING. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT LADEN WATER INTO THE DOWNSTREAM STORM SYSTEM.

13. STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES MAY BE REQUIRED TO INSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.

ENVIRONMENTAL NOTES:

1. THE CITY IS CURRENTLY APPLYING FOR AN INCIDENTAL TAKE PERMIT FROM THE CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE DUE TO POTENTIAL PRESENCE OF THE BURROWING OWL WHICH WAS RECENTLY PLACED AS A CANDIDATE FOR THE ENDANGERED SPECIES LIST. THE CONTRACTOR WILL BE RESPONSIBLE TO COMPLY WITH ANY FUTURE CONDITIONS OF THE PERMIT, IF ANY.

2. CONTRACTORS WHO ANTICIPATE INTERACTING WITH SHALLOW ON-SITE SOILS SHOULD CONSULT THE EASTSHORE STATE PARK REMEDIATION AND RISK MANAGEMENT PLAN (RRMP) BERKELEY NORTH BASIN STRIP-II, ALONG WITH ANY ASSOCIATED ADDENDUMS, FOR GUIDANCE ON CONSTRUCTION MONITORING PREREQUISITES AND FOR IDENTIFYING THE APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT (PPE), INCLUDING PROTECTIVE MEASURES FOR ENCOUNTERING METHANE. THE CITY WILL COORDINATE SITE EXCAVATION ACTIVITIES WITH THE SAN FRANCISCO BAY REGIONAL WATER QUALITY CONTROL BOARD (SFBRWQCB) TO ALIGN SITE CONSTRUCTION WITH THE PROVISIONS OF THE ADDENDUM TO THE EASTSHORE STATE PARK REMEDIATION AND RISK MANAGEMENT PLAN (RRMP) BERKELEY NORTH BASIN STRIP-II.

3. CONTRACTORS WILL COMPLY WITH THE CALIFORNIA HEALTH AND SAFETY CODE (HSC) AND RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) FOR THE MANAGEMENT, TREATMENT, STORAGE, AND DISPOSAL OF HAZARDOUS WASTE.

4. ALL EXPOSED SURFACES SHALL BE WATERED TWO TIMES PER DAY.

5. ALL HAUL TRUCKS TRANSPORTING SOIL, SAND, OR OTHER LOOSE MATERIAL OFF-SITE SHALL BE COVERED.

6. ALL VISIBLE MUD OR DIRT TRACK OUT ONTO ADJACENT PUBLIC ROADS SHALL BE REMOVED USING WET POWER VACUUM STREET SWEEPERS AT LEAST ONCE PER DAY. THE USE OF DRY POWER SWEEPING IS PROHIBITED.

7. ALL EXCAVATION, GRADING, AND/OR DEMOLITION ACTIVITIES SHALL BE SUSPENDED WHEN AVERAGE WIND SPEEDS EXCEED 15 MPH.

8. ALL TRUCKS AND EQUIPMENT, INCLUDING THEIR TIRES, SHALL BE WASHED OFF PRIOR TO LEAVING THE SITE.

9. PUBLICLY VISIBLE SIGNS SHALL BE POSTED WITH THE TELEPHONE NUMBER AND NAME OF THE PERSON TO CONTACT AT THE LEAD AGENCY REGARDING DUST COMPLAINTS. THIS PERSON SHALL RESPOND AND TAKE CORRECTIVE ACTION WITHIN 48 HOURS. THE BAY AREA AIR QUALITY MANAGEMENT DISTRICT'S (BAAQMD) GENERAL AIR POLLUTION COMPLAINTS NUMBER SHALL ALSO BE VISIBLE TO ENSURE COMPLIANCE WITH APPLICABLE REGULATIONS.

10. THE CITY WILL REQUIRE THE CONTRACTOR TO COMPLY WITH THE CALIFORNIA AIR RESOURCES BOARD (CARB) IN-USE OFF-ROAD DIESEL-FUELED FLEETS REGULATION, WHICH IMPOSES LIMITS ON IDLING AND RESTRICTS THE USE OF OLDER VEHICLES DURING CONSTRUCTION.

1

REGISTERED PROFESSIONAL ENGINEER
JEROME DE VERNEY
No. C60334
Exp. 6/30/26
CIVIL
STATE OF CALIFORNIA

REVISION	MARK	DATE	DESCRIPTION
1		7/31/2025	CORRECTIONS FIRST
		7/31/2025	PERMIT SET

APPROVAL

PERMIT SET

TRANSYSTEMS
2000 CENTER STREET
SUITE 303
BERKELEY, CA 94704
PHONE: (510) 835-2761

NO SCALE
0 1 2 3
FOR REDUCED PLANS – ORIGINAL SCALE IS IN INCHES

DEPICTION OF MONUMENTS: DATE
SURVEY PARTY CHIEF
WATERSHED REVIEW: DATE

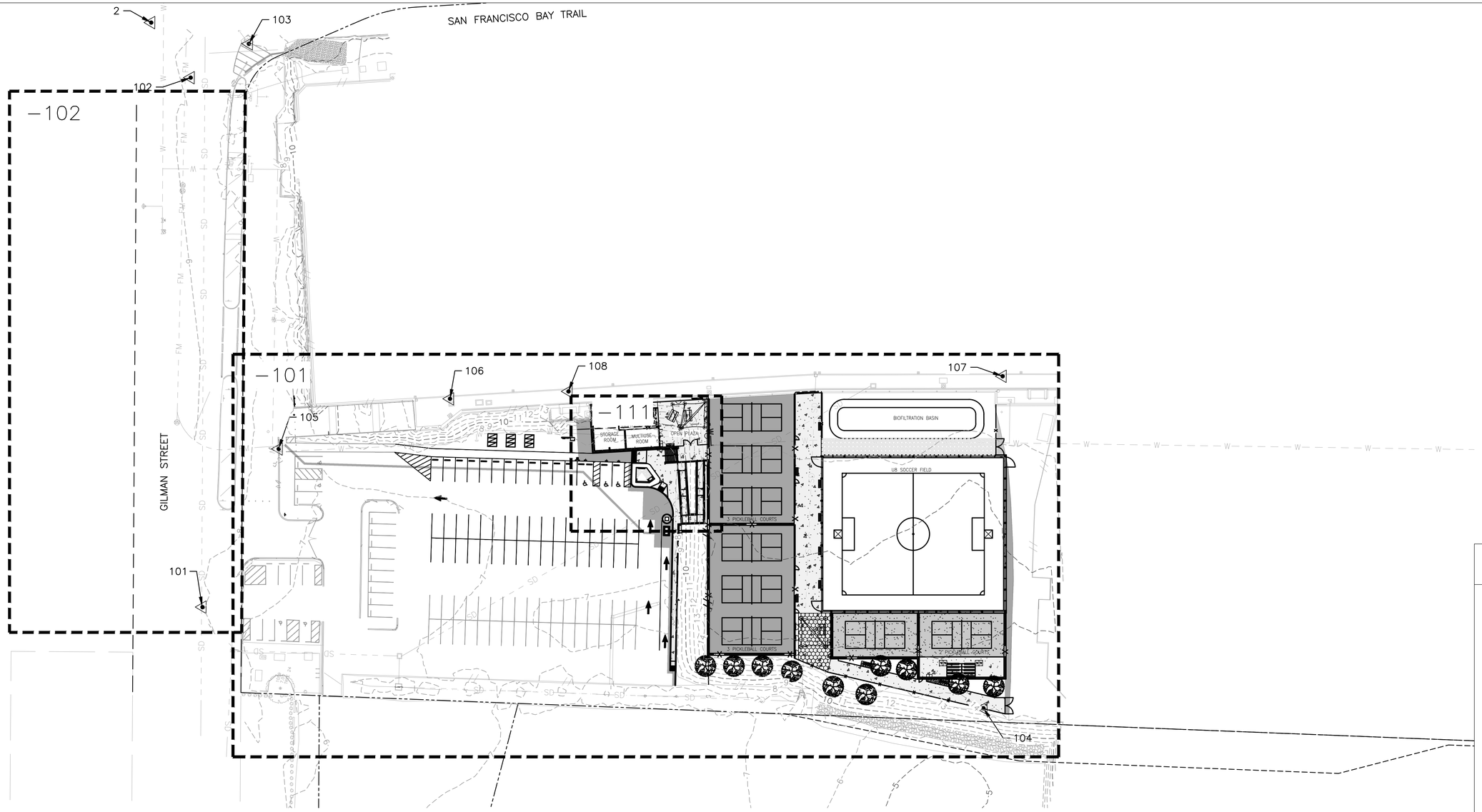
SUBMITTED: DATE R.C.E. EXP.
SUPERVISING CIVIL ENGINEER
APPROVED: DATE R.C.E. EXP.
MANAGER OF ENGINEERING

DESIGN JDV
DRAWN AJR
CHECK KMC
AS BUILT
HORIZ. 1"=X'
VERT. 1"=X'
BOOK
DATE 7/31/2025

CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

CIVIL NOTES
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
G-002
SHEET 2 OF 92



SURVEYOR'S NOTES:

1. THE COORDINATE SYSTEM IS BASED ON A RTK GPS ESTABLISHED CONTROL NETWORK ON SITE, USING NAD83 CCS ZONE 3 COORDINATES (EPOCH 2010.00). BASELINE CONTROL POINTS ESTABLISHED ON–SITE ARE LCC CP #101 (N 2,147,097.76, E 6,039,445.60 – GPS COORDINATE HELD HERE), A MAGNETIC NAIL AND WASHER AT AC, AND LCC CP #102 (N 2,147,198.19, E 6,039,823.92), A FOUND MONUMENT PIN. DISTANCES AND COORDINATES AS SHOWN ON THIS SURVEY SHOULD BE CONSIDERED AS GROUND DISTANCES AND COORDINATES.
2. ELEVATIONS ARE BASED NAVD88, PER RTK GPS SURVEY ESTABLISHED CONTROL POINTS. SITE BENCHMARK WAS HELD AT LCC CP #101 (SEE TABLE FOR DESCRIPTION), ELEVATION HELD AS 8.08 FEET, (NAVD88).
3. THIS SURVEY DOES NOT REPRESENT A COMPLETE BOUNDARY SURVEY. ALL PROPERTY CORNERS HAVE NOT BEEN SEARCHED FOR OR LOCATED. NOT ALL MONUMENTS OF RECORD ARE SHOWN ON THIS EXHIBIT (OTHER THAN THE FOUND STREET MONUMENTS SHOWN). NEW CORNERS OR MONUMENTS HAVE NOT BEEN SET DURING THIS SURVEY. THE BOUNDARY (PROPERTY AND LEASE) LINES SHOWN HEREON ARE APPROXIMATE AND ARE BASED ON RECORD INFORMATION PROVIDED BY CLIENT. NOT ALL EASEMENTS MAY BE SHOWN. FURTHER SURVEY AND BOUNDARY ANALYSIS WOULD BE REQUIRED TO DETERMINE PROPERTY LINES WITH GREATER ACCURACY, IF REQUIRED.
4. UTILITIES SHOWN ARE BASED UPON SURFACE OBSERVATIONS OF STRUCTURES AND USA MARKINGS FOUND IN FIELD IF APPLICABLE. THE SURVEYOR ASSUMES NO RESPONSIBILITY FOR LOCATIONS, CAPACITIES OR FUNCTIONALITY OF ALL UTILITIES SHOWN HEREON. SOME UNDERGROUND UTILITIES MAY NOT BE SHOWN.

CONTROL POINTS

POINT #	ELEVATION	NORTHING	EASTING	DESCRIPTION
2	9.58	2147235.98	6039856.38	MAG NAIL AND WASHER
101	8.08	2147097.76	6039445.60	MAG NAIL
102	8.63	2147198.19	6039823.92	FD MON PIN
103	8.00	2147162.12	6039858.34	FD BRASS DISC & PUNCH
104	14.24	2146519.21	6039508.53	GINNIE
105	8.27	2147070.49	6039572.47	MAG NAIL
106	13.64	2146956.16	6039638.23	MAG NAIL
107	13.59	2146563.22	6039750.36	MAH NAIL
108	13.60	2146872.34	6039664.10	CUT+

LEGEND

PROPERTY LINE
LEASE LINE
CONTROL POINT

REGISTERED PROFESSIONAL ENGINEER
JEROME DE VERGER
No. C60334
Exp. 6/30/26
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REVISION	MARK	DATE	DESCRIPTION
		7/31/2025	PERMIT SET

PERMIT SET

TRANSYSTEMS
2000 CENTER STREET
SUITE 303
BERKELEY, CA 94704
PHONE: (510) 835–2761

0 40 80 120
SCALE: 1" = 40' FEET
0 1 2 3
FOR REDUCED PLANS – ORIGINAL SCALE IS IN INCHES

DEPICTION OF MONUMENTS: DATE
SURVEY PARTY CHIEF
WATERSHED REVIEW: DATE

SUBMITTED: DATE R.C.E. EXP.
SUPERVISING CIVIL ENGINEER
APPROVED: DATE R.C.E. EXP.
MANAGER OF ENGINEERING

DESIGN JDV
DRAWN AJR
CHECK KMC
AS BUILT
HORIZ. 1"=X'
VERT. 1"=X'
BOOK
DATE 7/31/2025

CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

KEY MAP AND SURVEY CONTROL PLAN
TOM BATES
REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406–223
G-003
SHEET 3 OF 92

GENERAL NOTES

1. SEE SHEET G-003 FOR SURVEY NOTES.
2. SEE SHEET G-001 FOR LEGEND AND ABBREVIATIONS.
3. TOPOGRAPHIC SURVEY WAS COMPLETED PRIOR TO GILMAN STREET AND BAY TRAIL IMPROVEMENTS THAT WERE COMPLETED IN SPRING OF 2025. THE AERIAL PHOTO OVERLAY IS TO COVER THAT PORTION OF SURVEY THAT IS NO LONGER VALID.

REGISTERED PROFESSIONAL ENGINEER
JEROME DE VERNEJ
No. C60334
Exp. 6/30/26
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APPROVAL	DESCRIPTION	DATE	MARK
	PERMIT SET	7/31/2025	

PERMIT SET

TRANSYSTEMS
2000 CENTER STREET
SUITE 303
BERKELEY, CA 94704
PHONE: (510) 835-2761

SCALE: 1" = 30' (0, 30, 60, 90 FEET)
0 1 2 3
FOR REDUCED PLANS – ORIGINAL SCALE IS IN INCHES

DEPICTION OF MONUMENTS: DATE
SURVEY PARTY CHIEF
WATERSHED REVIEW: DATE

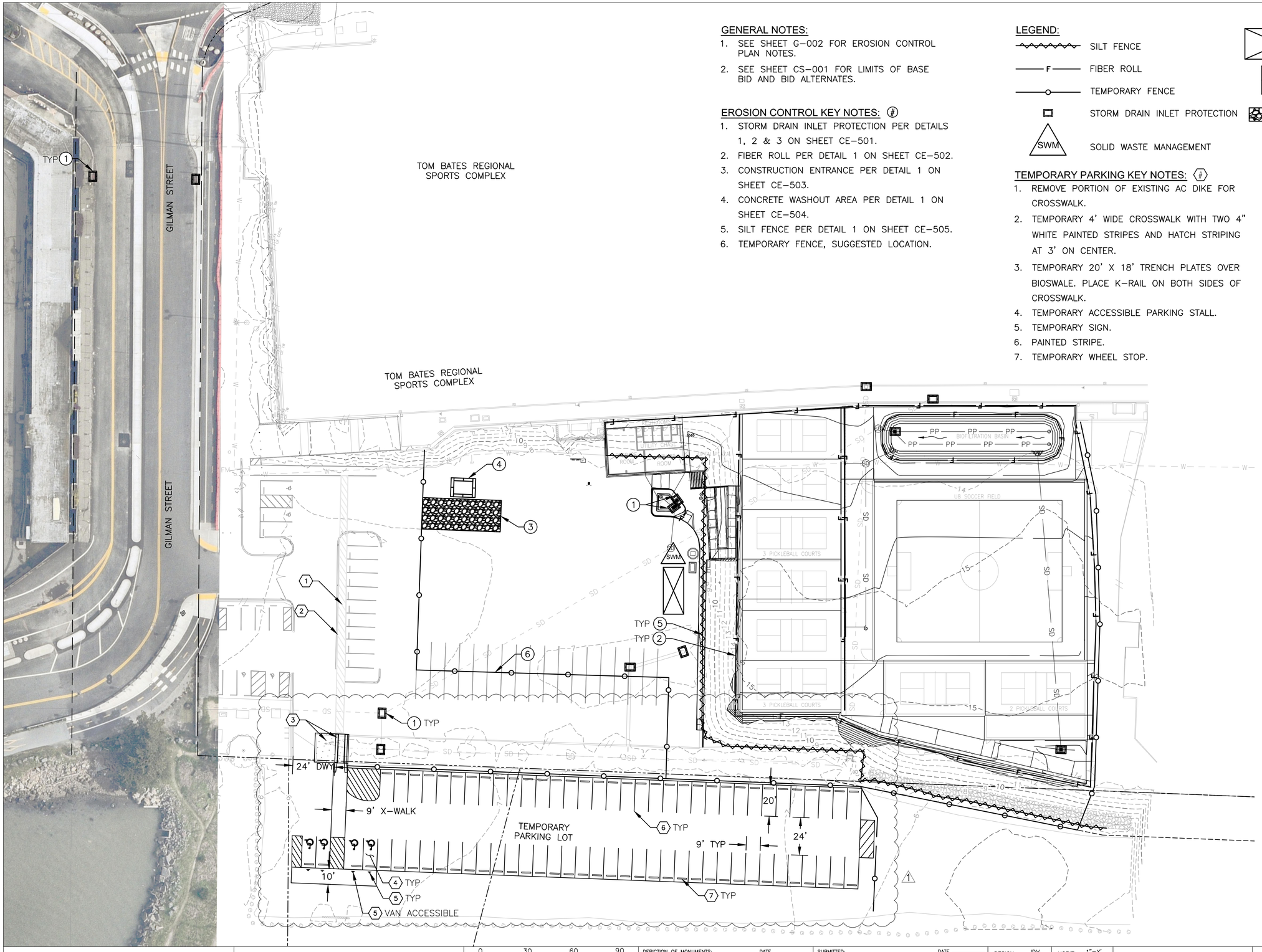
SUBMITTED: DATE
SUPERVISING CIVIL ENGINEER R.C.E. EXP.
APPROVED: DATE
MANAGER OF ENGINEERING R.C.E. EXP.

DESIGN JDV
DRAWN AJR
CHECK KMC
AS BUILT
DATE 7/31/2025
HORIZ. 1"=X'
VERT. 1"=X'
BOOK

CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

EXISTING CONDITION PLAN
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
V-101
SHEET 4 OF 92



GENERAL NOTES:

1. SEE SHEET G–002 FOR EROSION CONTROL PLAN NOTES.
2. SEE SHEET CS–001 FOR LIMITS OF BASE BID AND BID ALTERNATES.

EROSION CONTROL KEY NOTES: (#)

1. STORM DRAIN INLET PROTECTION PER DETAILS 1, 2 & 3 ON SHEET CE–501.
2. FIBER ROLL PER DETAIL 1 ON SHEET CE–502.
3. CONSTRUCTION ENTRANCE PER DETAIL 1 ON SHEET CE–503.
4. CONCRETE WASHOUT AREA PER DETAIL 1 ON SHEET CE–504.
5. SILT FENCE PER DETAIL 1 ON SHEET CE–505.
6. TEMPORARY FENCE, SUGGESTED LOCATION.

LEGEND:

- SILT FENCE
- FIBER ROLL
- TEMPORARY FENCE
- STORM DRAIN INLET PROTECTION
- SWM — SOLID WASTE MANAGEMENT
- CONTRACTOR STAGING AREA
- CONCRETE WASHOUT
- CONSTRUCTION ENTRANCE

TEMPORARY PARKING KEY NOTES: (#)

1. REMOVE PORTION OF EXISTING AC DIKE FOR CROSSWALK.
2. TEMPORARY 4' WIDE CROSSWALK WITH TWO 4" WHITE PAINTED STRIPES AND HATCH STRIPING AT 3' ON CENTER.
3. TEMPORARY 20' X 18' TRENCH PLATES OVER BIOSWALE. PLACE K–RAIL ON BOTH SIDES OF CROSSWALK.
4. TEMPORARY ACCESSIBLE PARKING STALL.
5. TEMPORARY SIGN.
6. PAINTED STRIPE.
7. TEMPORARY WHEEL STOP.

REGISTERED PROFESSIONAL ENGINEER
JEROME DE VERNEJOUL
No. C60334
Exp. 6/30/26
CIVIL
STATE OF CALIFORNIA

APPROVAL	DESCRIPTION	DATE	MARK	REVISION
	NEW TEMPORARY PARKING LOT	7/31/2025		1
	PERMIT SET	7/31/2025		

PERMIT SET

TRANSYSTEMS
2000 CENTER STREET
SUITE 303
BERKELEY, CA 94704
PHONE: (510) 835–2761

SCALE: 1" = 30' (0, 30, 60, 90 FEET)
FOR REDUCED PLANS – ORIGINAL SCALE IS IN INCHES (0, 1, 2, 3)

DEPICTION OF MONUMENTS: DATE
SURVEY PARTY CHIEF

WATERSHED REVIEW: DATE

SUBMITTED: DATE
SUPERVISING CIVIL ENGINEER R.C.E. EXP.

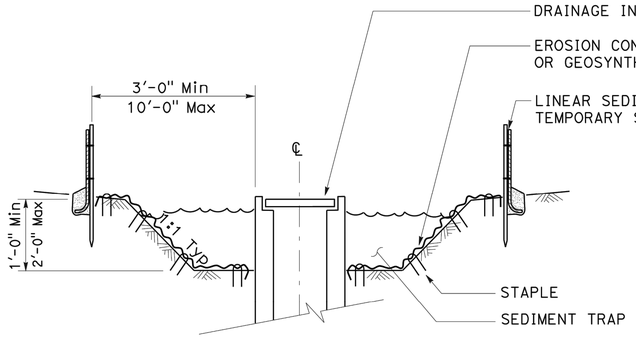
APPROVED: DATE
MANAGER OF ENGINEERING R.C.E. EXP.

DESIGN	JDV
DRAWN	AJR
CHECK	KMC
AS BUILT	
HORIZ.	1"=X'
VERT.	1"=X'
BOOK	
DATE	7/31/2025

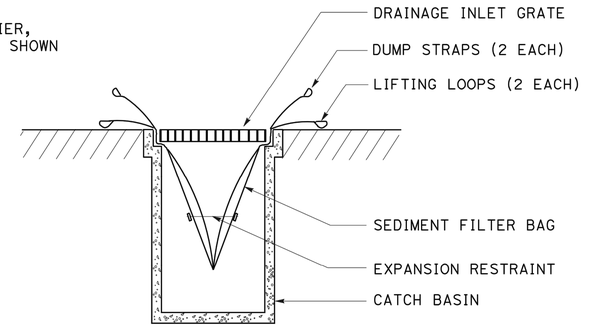
CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

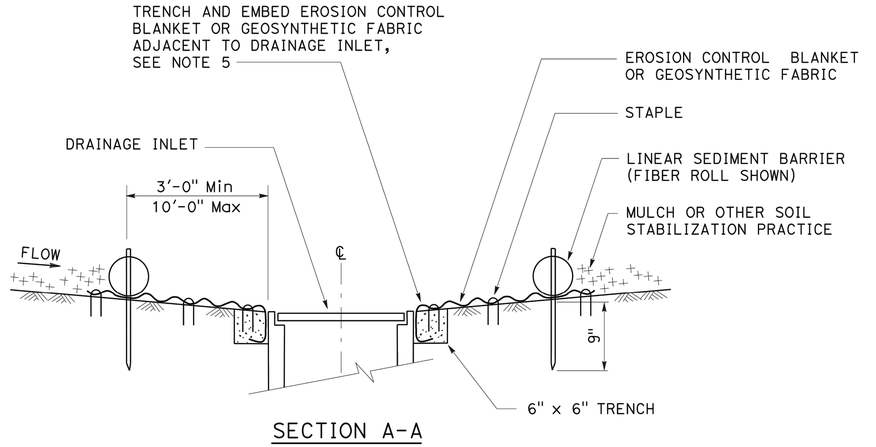
EROSION CONTROL AND TEMPORARY PARKING PLAN
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406–223
CE-101
SHEET 5 OF 92



SECTION B-B



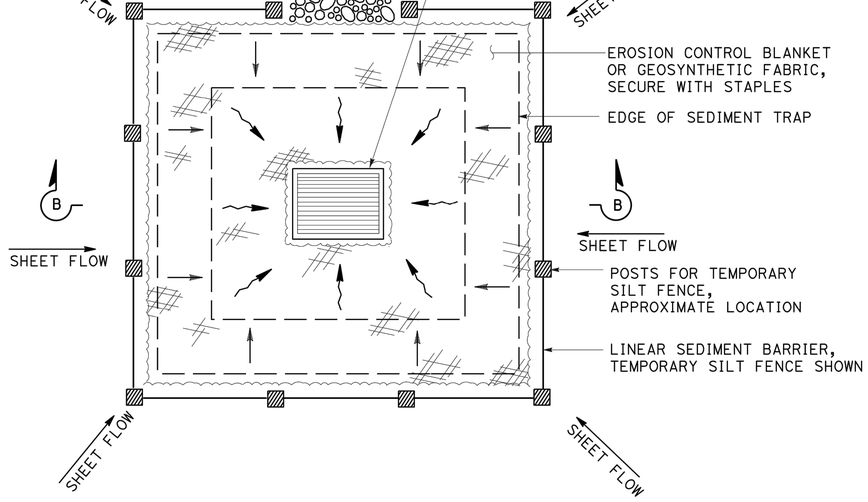


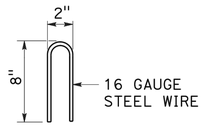
SECTION A-A

TEMPORARY DRAINAGE INLET PROTECTION (TYPE 2) (SEDIMENT FILTER BAG)

3 | CE-101 | CE-501

NTS





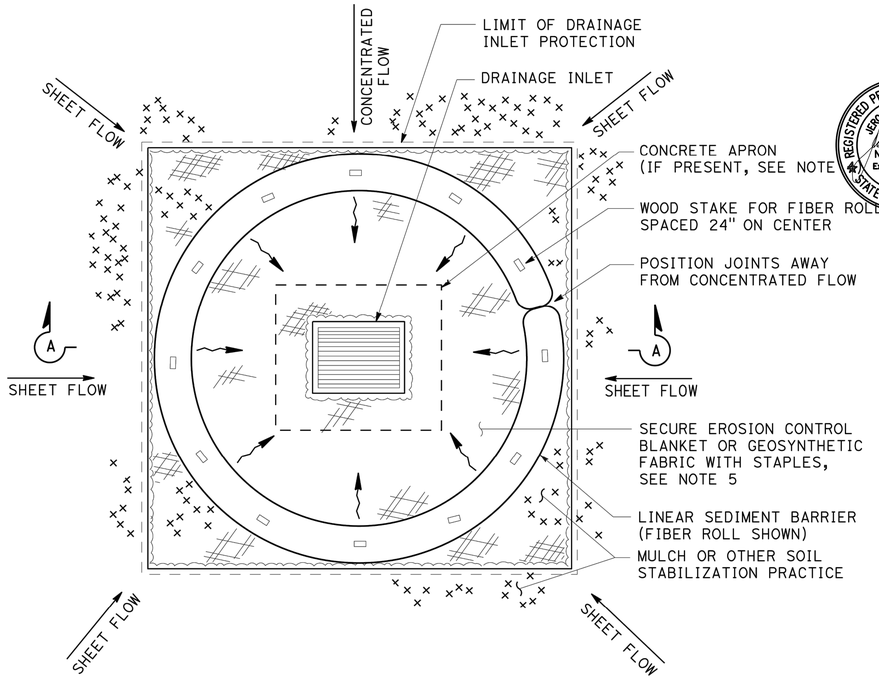
STAPLE DETAIL

NOTE:
1. SEE DETAIL 1 ON SHEET CE-505 FOR TEMPORARY SILT FENCE.
2. DIMENSIONS MAY VARY TO FIT FIELD CONDITIONS.

TEMPORARY DRAINAGE INLET PROTECTION (TYPE 2) (EXCAVATED SEDIMENT TRAP)

1 | CE-101 | CE-501

NTS



NOTES:
1. SEE DETAIL 1 ON SHEET CE-505 FOR TEMPORARY SILT FENCE.
2. DIMENSIONS MAY VARY TO FIT FIELD CONDITIONS.
3. INSTALL A MINIMUM OF 3 FLEXIBLE SEDIMENT BARRIERS UPSTREAM OF EACH DRAINAGE INLET TO BE PROTECTED.
4. POSITION EROSION CONTROL BLANKET OR GEOSYNTHETIC FABRIC AT EDGE OF CONCRETE APRON AND SECURE IN TRENCH.
5. EROSION CONTROL BLANKET OR GEOSYNTHETIC FABRIC IS NOT REQUIRED IF THE AREA ADJACENT TO THE DRAINAGE INLET IS VEGETATED.

TEMPORARY DRAINAGE INLET PROTECTION (TYPE 4A)

2 | CE-101 | CE-501

NTS

REGISTERED PROFESSIONAL ENGINEER
JEROME DE VERNEY
No. C60334
Exp. 6/30/26
CIVIL
STATE OF CALIFORNIA

REVISION	MARK	DATE	DESCRIPTION
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APPROVAL

PERMIT SET

TRANSYSTEMS
2000 CENTER STREET
SUITE 303
BERKELEY, CA 94704
PHONE: (510) 835-2761

NO SCALE
0 1 2 3
FOR REDUCED PLANS – ORIGINAL SCALE IS IN INCHES

DEPICTION OF MONUMENTS: DATE
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SUPERVISING CIVIL ENGINEER
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BOOK
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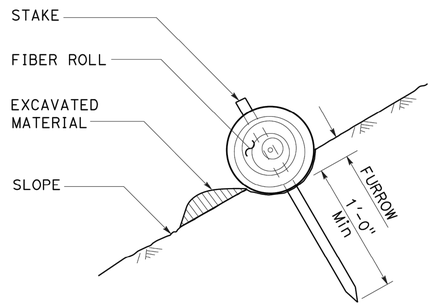
CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

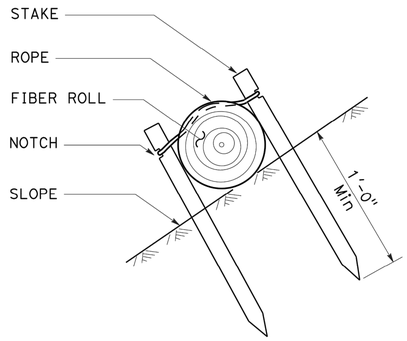
EROSION CONTROL DETAILS
TOM BATES
REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
CE-501
SHEET 6 OF 92

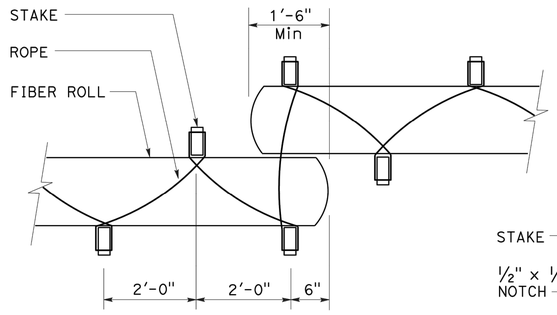


SECTION

TEMPORARY FIBER ROLL (TYPE 1)

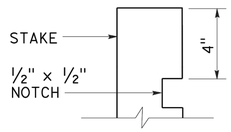


SECTION



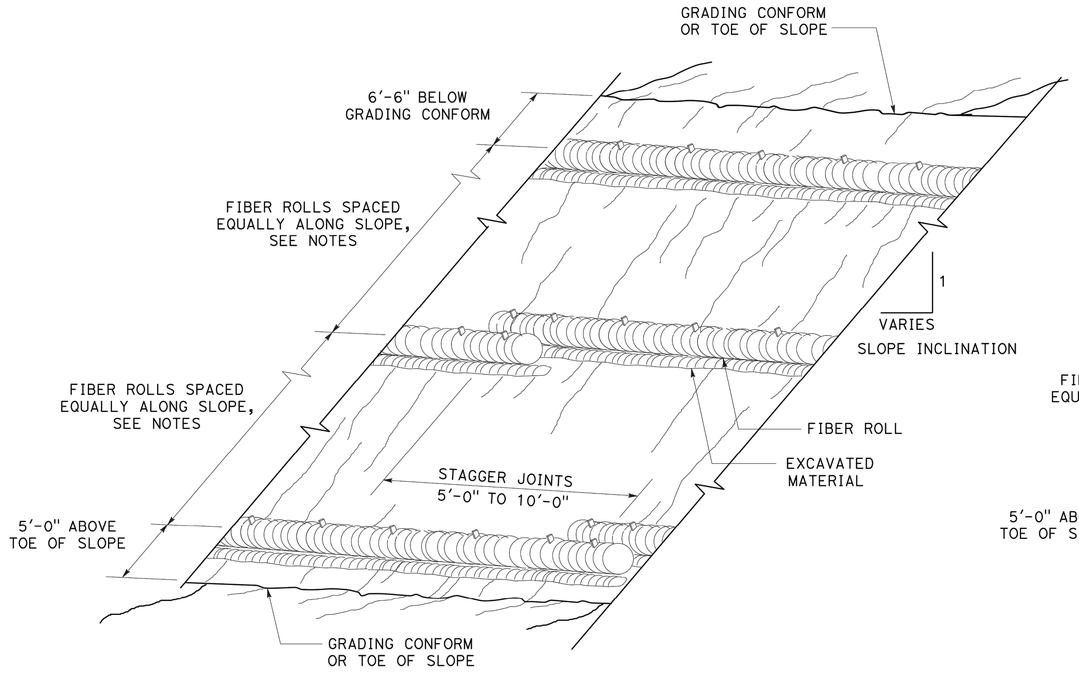
PLAN

TEMPORARY FIBER ROLL (TYPE 2)



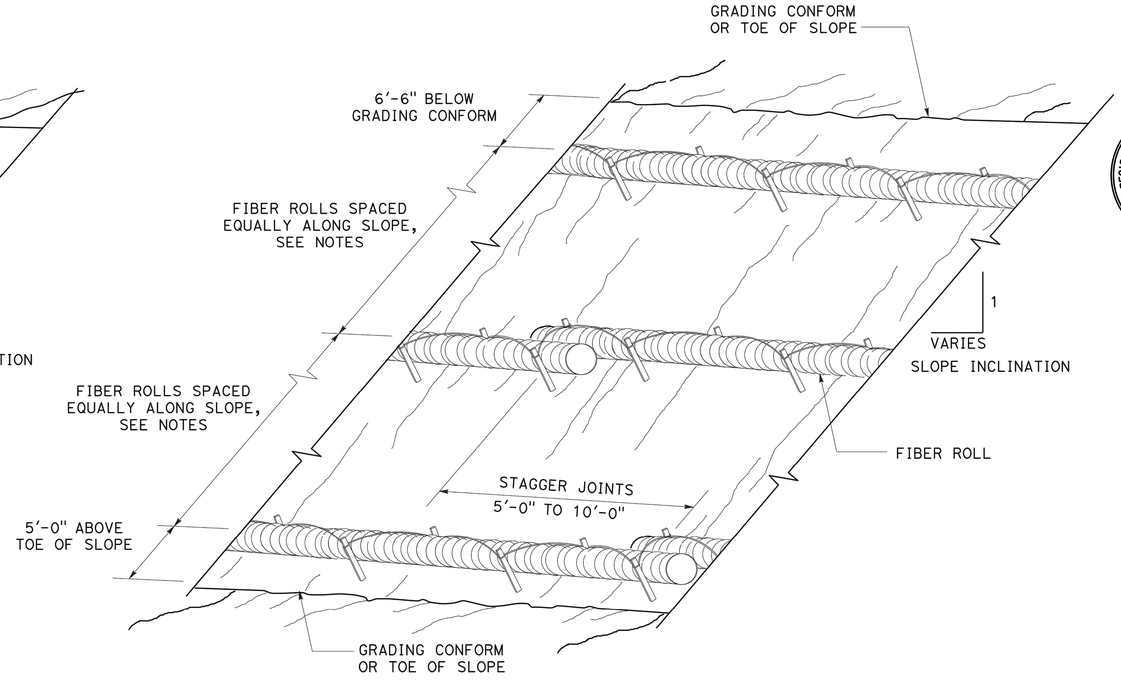
ELEVATION

STAKE NOTCH DETAIL



PERSPECTIVE

TEMPORARY FIBER ROLL (TYPE 1)



PERSPECTIVE

TEMPORARY FIBER ROLL (TYPE 2)

NOTE:
1. TEMPORARY FIBER ROLL SPACING VARIES DEPENDING UPON SLOPE INCLINATION.
2. INSTALLATIONS SHOWN IN THE PERSPECTIVES ARE FOR SLOPE INCLINATION OF 10:1 AND STEEPER.

1 / CE-101 | CE-502 — TEMPORARY FIBER ROLL (TYPE 1 & 2)
NTS

REGISTERED PROFESSIONAL ENGINEER
JEROME DE VERNEY
No. C60334
Exp. 6/30/26
CIVIL
STATE OF CALIFORNIA

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APPROVAL

PERMIT SET

TRANSYSTEMS
2000 CENTER STREET
SUITE 303
BERKELEY, CA 94704
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NO SCALE
0 1 2 3
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DESIGN JDV
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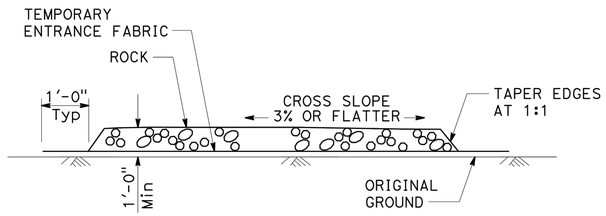
HORIZ. 1"=X'
VERT. 1"=X'
BOOK

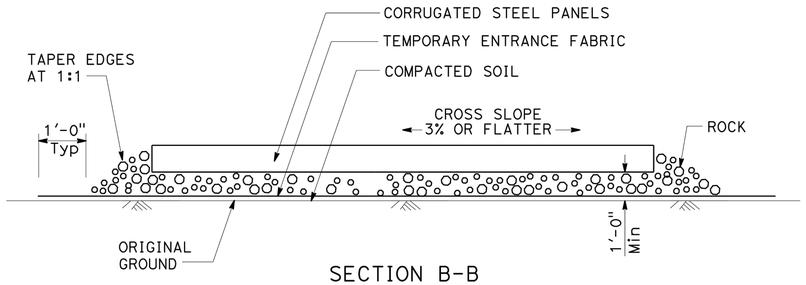
CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

EROSION CONTROL DETAILS
TOM BATES REGIONAL SPORTS COMPLEX

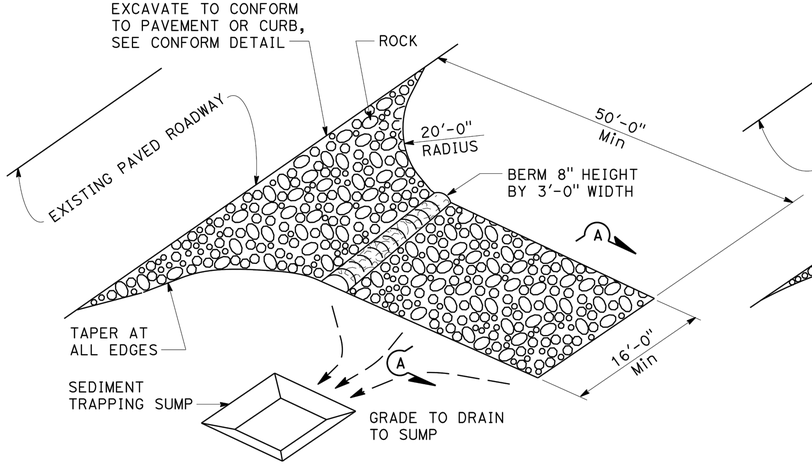
PLAN 8297
FILE 406-223
CE-502
SHEET 7 OF 92



SECTION A-A

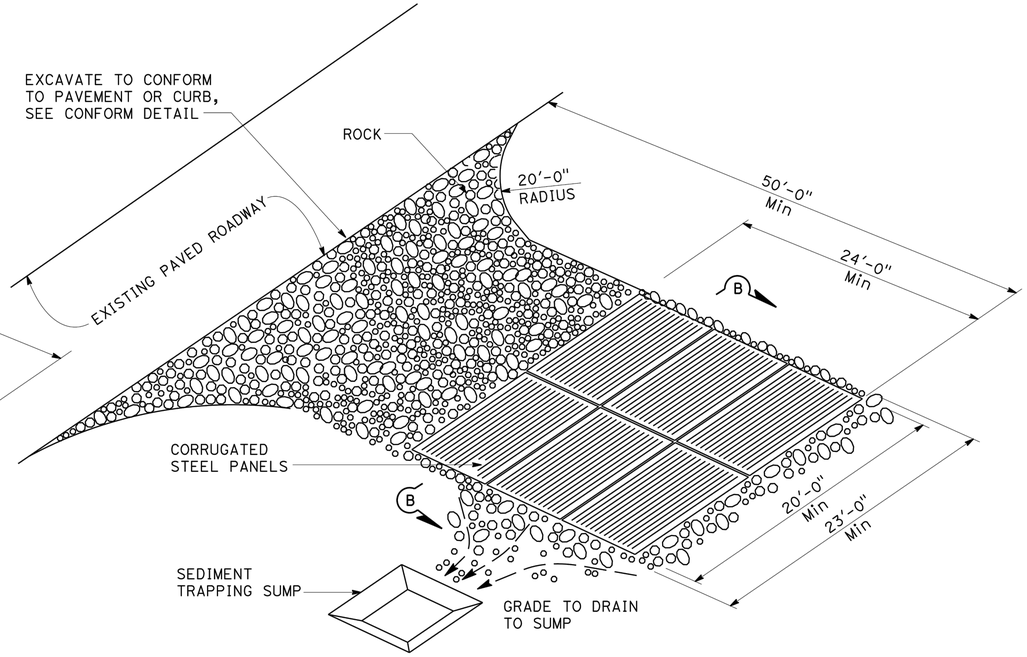


SECTION B-B



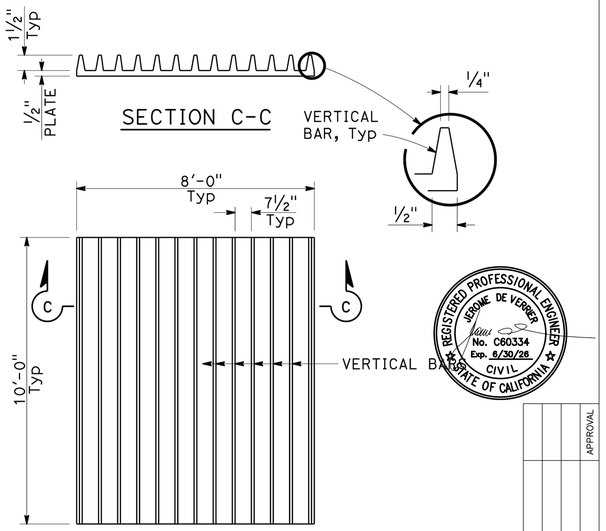
PERSPECTIVE

TEMPORARY CONSTRUCTION ENTRANCE (TYPE 1)



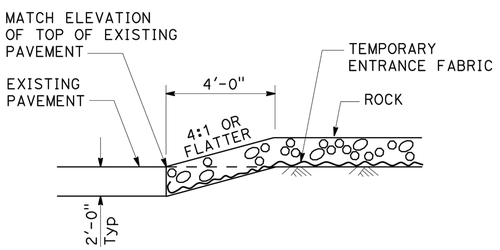
PERSPECTIVE

TEMPORARY CONSTRUCTION ENTRANCE (TYPE 2)



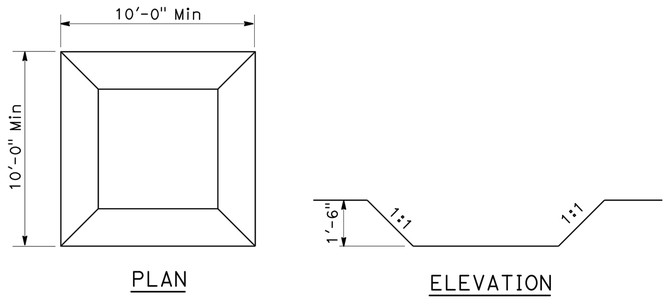
PLAN

TYPICAL CORRUGATED STEEL PANEL DETAIL



SECTION

CONFORM DETAIL



PLAN ELEVATION

SEDIMENT TRAPPING SUMP

1 CE-101 CE-503 TEMPORARY CONSTRUCTION ENTRANCE (TYPE 1 & 2)

NTS

REGISTERED PROFESSIONAL ENGINEER
JEROME DE VERNEY
No. C60334
Exp. 6/30/26
CIVIL
STATE OF CALIFORNIA

REVISION	MARK	DATE	DESCRIPTION
		7/31/2025	PERMIT SET

APPROVAL

PERMIT SET

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BERKELEY, CA 94704
PHONE: (510) 835-2761

NO SCALE
0 1 2 3
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SUPERVISING CIVIL ENGINEER
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MANAGER OF ENGINEERING

DESIGN JDV
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DATE 7/31/2025

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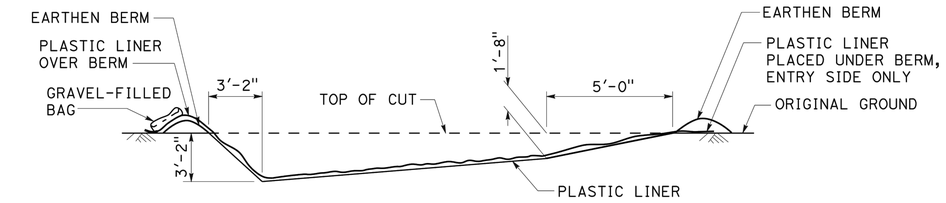
BOOK

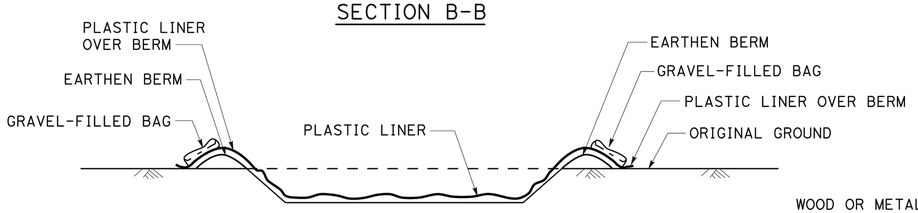
CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

EROSION CONTROL DETAILS
TOM BATES
REGIONAL SPORTS COMPLEX

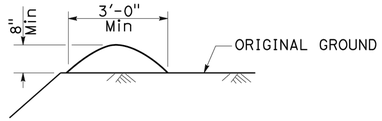
PLAN 8297
FILE 406-223
CE-503
SHEET 8 OF 92



SECTION B-B

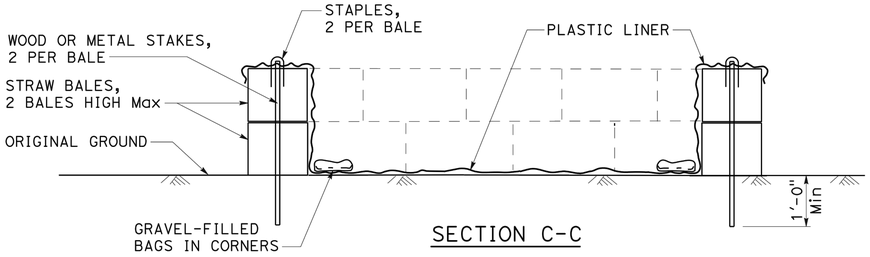


SECTION A-A

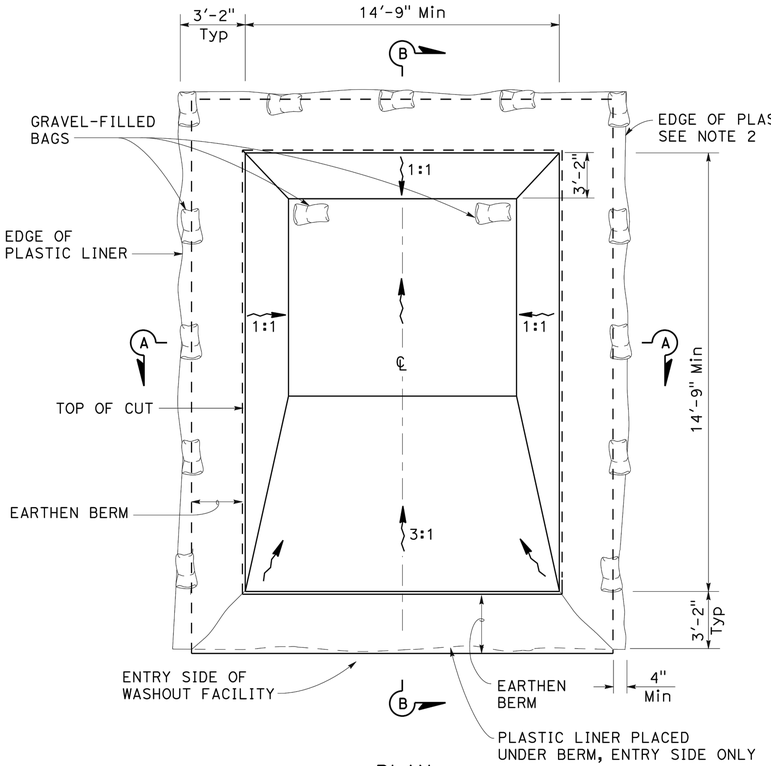


TYPICAL SECTION

EARTHEN BERM



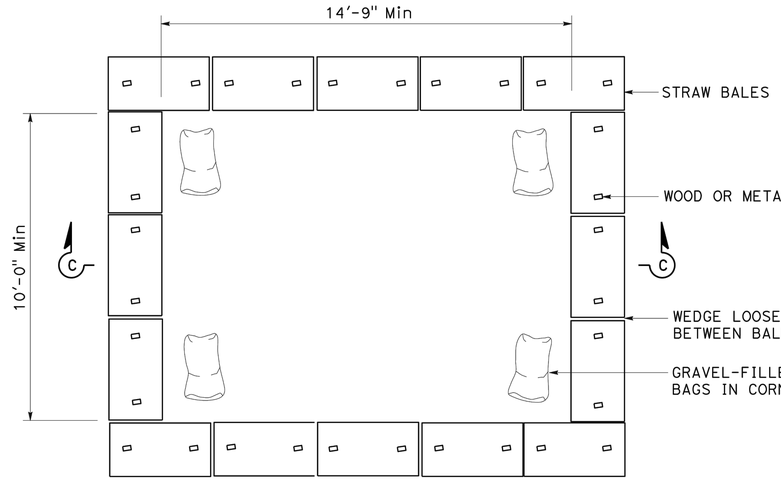
SECTION C-C



PLAN

TEMPORARY CONCRETE WASHOUT FACILITY

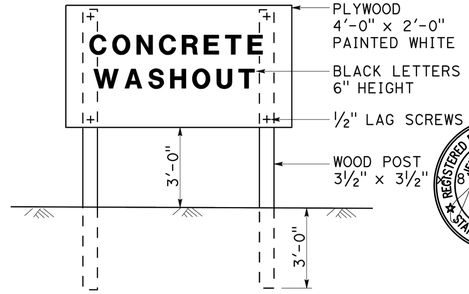
Below Grade



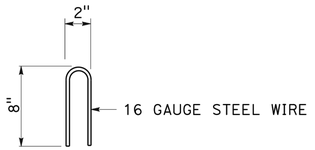
PLAN

TEMPORARY CONCRETE WASHOUT FACILITY

On Grade



CONCRETE WASHOUT SIGN DETAIL



STAPLE DETAIL

NOTE:
1. THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 32'–10" OF THE TEMPORARY CONCRETE WASHOUT FACILITY.
2. PLASTIC LINER SHALL BE ANCHORED WITH GRAVEL–FILLED BAGS FOR BELOW GRADE CONCRETE WASHOUT FACILITY.

1 CE-101 CE-504 TEMPORARY CONCRETE WASHOUT FACILITY

NTS

REGISTERED PROFESSIONAL ENGINEER — JEROME DE VERNEJOUL — No. C60334 Exp. 6/30/26 — CIVIL — STATE OF CALIFORNIA

REVISION	MARK	DATE	DESCRIPTION
		7/31/2025	PERMIT SET

APPROVAL

PERMIT SET

TRANSYSTEMS
2000 CENTER STREET
SUITE 303
BERKELEY, CA 94704
PHONE: (510) 835-2761

NO SCALE
0 1 2 3
FOR REDUCED PLANS – ORIGINAL SCALE IS IN INCHES

DEPICTION OF MONUMENTS: DATE
SURVEY PARTY CHIEF
WATERSHED REVIEW: DATE

SUBMITTED: DATE R.C.E. EXP.
SUPERVISING CIVIL ENGINEER
APPROVED: DATE R.C.E. EXP.
MANAGER OF ENGINEERING

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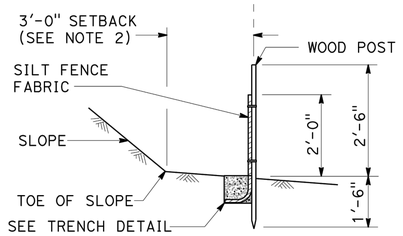
DRAWN AJR
CHECK KMC
AS BUILT
DATE 7/31/2025
HORIZ. 1"=X'
VERT. 1"=X'
BOOK

CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

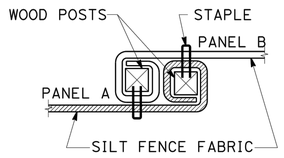
EROSION CONTROL DETAILS
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
CE-504
SHEET 9 OF 92



SECTION A-A

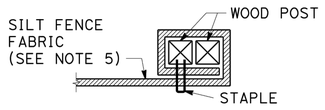
TEMPORARY SILT FENCE



PLAN

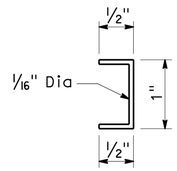
POST AT JOINTS

(SEE NOTE 3)



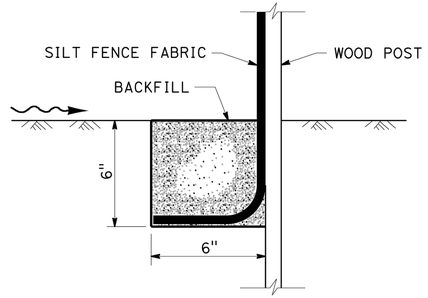
PLAN

END POST DETAIL



STAPLE DETAIL

(SEE NOTE 6)

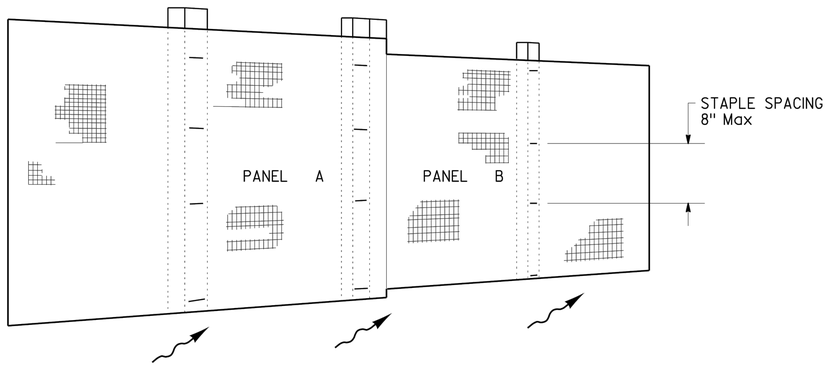


SECTION

TRENCH DETAIL

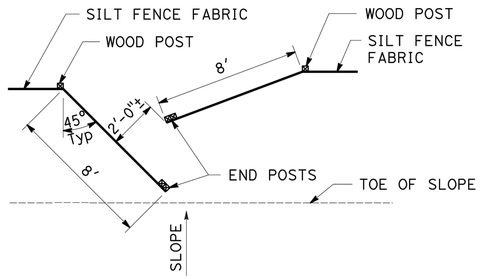
NOTE:

1. THE DOWN STREAM END OF THE TEMPORARY SILT FENCE SHALL HAVE THE LAST 8' ANGLED UP SLOPE.
2. SETBACK DIMENSIONS MAY VARY TO FIT FIELD CONDITIONS.
3. POSTS TO OVERLAP AND FENCE FABRIC TO FOLD AROUND EACH POST ONE FULL TURN. SECURE FABRIC WITH 4 STAPLES FOR EACH POST.
4. POSTS SHALL BE DRIVEN TIGHTLY TOGETHER TO PREVENT POTENTIAL FLOW-THROUGH OF SEDIMENT AT THE JOINT. THE TOPS OF THE POSTS SHALL BE SECURED TO EACH OTHER WITH WIRE.
5. FOR EACH END POST, FENCE FABRIC SHALL BE FOLDED AROUND TWO POSTS ONE FULL TURN AND SECURED WITH 4 STAPLES.
6. MINIMUM OF 4 STAPLES SHALL BE INSTALLED PER POST. DIMENSIONS SHOWN ARE TYPICAL.
7. MAINTENANCE OPENINGS SHALL BE CONSTRUCTED IN A MANNER TO ENSURE THAT SEDIMENT IS RETAINED BY THE TEMPORARY SILT FENCE.
8. JOINT SECTIONS SHALL NOT BE PLACED AT SUMP LOCATIONS.



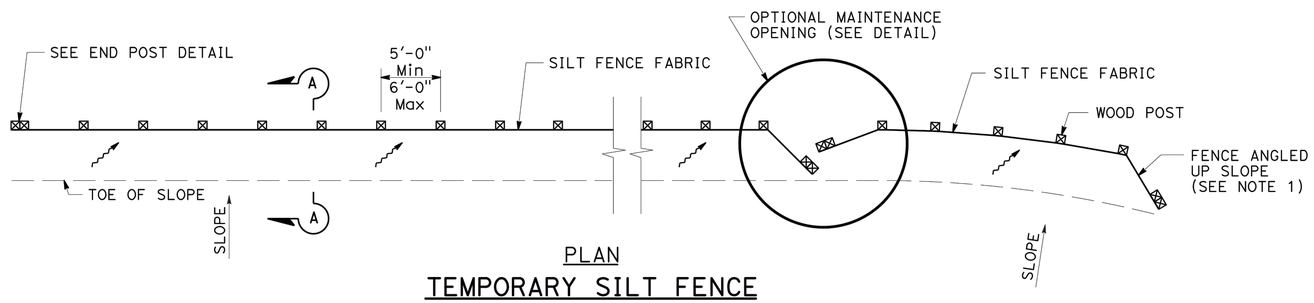
PERSPECTIVE

SILT FENCE PANELS AT JOINTS



PLAN

OPTIONAL MAINTENANCE OPENING DETAIL



PLAN

TEMPORARY SILT FENCE

1 CE-101 CE-505

TEMPORARY SILT FENCE

NTS

LEGEND

- TAMPED BACKFILL
- SLOPE DIRECTION
- DIRECTION OF FLOW

REGISTERED PROFESSIONAL ENGINEER
JEROME DE VERNEJOUL
No. C60334
Exp. 6/30/26
CIVIL
STATE OF CALIFORNIA

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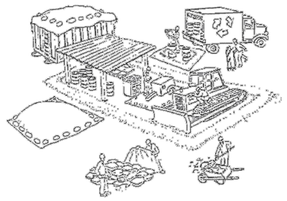
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

EROSION CONTROL DETAILS
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
CE-505
SHEET 10 OF 92

City of Berkeley's
Pollution Prevention - It's Part of the Plan



Make sure your crews and subs do the job right!

Runoff from streets and other paved areas is a major source of pollution and damage to creeks and the San Francisco Bay. Construction activities can directly affect the health of creeks and the Bay unless contractors and crews plan ahead to keep dirt, debris, and other construction waste away from storm drains and local creeks. Following these guidelines and the project specifications will ensure your compliance with City of Berkeley requirements.

Materials storage & spill cleanup

Non-hazardous materials management

- Sand, dirt, and similar materials must be stored at least 10 feet (3 meters) from catch basins. All construction material must be covered with a tarp and contained with a perimeter control during wet weather or when rain is forecasted or when not actively being used within 14 days.
- Use (but don't overuse) reclaimed water for dust control as needed.
- Sweep or vacuum streets and other paved areas daily. Do not wash down streets or work areas with water!
- Recycle all asphalt, concrete, and aggregate base material from demolition activities. Comply with City of Berkeley Ordinances for recycling construction materials, wood, gyp board, pipe, etc.
- Check dumpsters regularly for leaks and to make sure they are not overfilled. Repair or replace leaking dumpsters promptly.
- Cover all dumpsters with a tarp at the end of every work day or during wet weather.

Hazardous materials management

- Label all hazardous materials and hazardous wastes (such as pesticides, paints, thinners, solvents, fuel, oil, and antifreeze) in accordance with city, county, state, and federal regulations.
- Store hazardous materials and wastes in water tight containers, store in appropriate secondary containment, and cover them at the end of every work day or during wet weather or when rain is forecasted.
- Follow manufacturer's application instructions for hazardous materials and be careful not to use more than necessary. Do not apply chemicals outdoors when rain is forecasted within 24 hours.
- Be sure to arrange for appropriate disposal of all hazardous wastes.

Spill prevention and control

- Keep a stockpile of spill cleanup materials (rags, absorbents, etc.) available at the construction site at all times.
- When spills or leaks occur, contain them immediately and be particularly careful to prevent leaks and spills from reaching the gutter, street, or storm drain. Never wash spilled material into a gutter, street, storm drain, or creek!
- Dispose of all containment and cleanup materials properly.
- Report any hazardous materials spills immediately! Dial 911 or the City of Berkeley's Public Works Department by dialing 311

Construction Entrances and Perimeter

- Establish and maintain effective perimeter controls and stabilize all construction entrances and exits to sufficiently control erosion and sediment discharges from site and tracking off site.
- Sweep or vacuum any street tracking immediately and secure sediment source to prevent further tracking.

Vehicle and equipment maintenance & cleaning

- Inspect vehicles and equipment for leaks frequently. Use drip pans to catch leaks until repairs are made; repair leaks promptly.
- Fuel and maintain vehicles on site only in a bermed area or over a drip pan that is big enough to prevent runoff.
- If you must clean vehicles or equipment on site, clean with water only in a bermed area that will not allow rinse water to run into gutters, streets, storm drains, or creeks.
- Do not clean vehicles or equipment on-site using soaps, solvents, degreasers, steam cleaning equipment, etc.

Earthwork & contaminated soils

- Keep excavated soil on the site where it will not collect in the street.
- Transfer to dump trucks should take place on the site, not in the street.
- Use fiber rolls, silt fences, or other control measures to minimize the flow of silt off the site.

- Earth moving activities are only allowed during dry weather by permit and as approved by the City Inspector in the Field.
- Mature vegetation is the best form of erosion control. Minimize disturbance to existing vegetation whenever possible.
- If you disturb a slope during construction, prevent erosion by securing the soil with erosion control fabric, or seed with fast-growing grasses as soon as possible. Place fiber rolls down-slope until soil is secure.
- If you suspect contamination (from site history, discoloration, odor, texture, abandoned underground tanks or pipes, or buried debris), call the Engineer for help in determining what should be done, and manage disposal of cntaminated soil according to their instructions.

Architectural Copper

If project contains architectural copper use best management practices as detailed in the handout Requirements for Architectural Copper available at the lobby of the Permit Service Center.

Dewatering operations

- Effectively manage all run-on, all runoff within the site, and all runoff that discharges from the site. Run-on from off site shall be directed away from all disturbed areas or shall collectively be in compliance.
- Reuse water for dust control, irrigation, or another on-site purpose to the greatest extent possible.

- Be sure to notify and obtain approval from the Engineer before discharging water to a street, gutter, or storm drain. Filtration or diversion through a basin, tank, or sediment trap may be required.
- In areas of known contamination, testing is required prior to reuse or discharge of groundwater. Consult with the Engineer to determine what testing is required and how to interpret results. Contaminated groundwater must be treated or hauled off-site for proper disposal.

Saw cutting

- Always completely cover or barricade storm drain inlets when saw cutting. Use filter fabric, catch basin inlet filters, or sand/gravel bags to keep slurry out of the storm drain system.
- Shovel, absorb, or vacuum saw-cut slurry and pick up all waste as soon as you are finished in one location or at the end of each work day (whichever is sooner!).
- If saw cut slurry enters a catch basin, clean it up immediately.

Paving/asphalt work

- Always cover storm drain inlets and manholes when paving or applying seal coat, tack coat, slurry seal, or fog seal.
- Protect gutters, ditches, and drainage courses with sand/gravel bags, or earthen berms.
- Do not sweep or wash down excess sand from sand sealing into gutters, storm drains, or creeks. Collect sand and return it to the stockpile, or dispose of it as trash.
- Do not use water to wash down fresh asphalt concrete pavement.

Concrete, grout, and mortar storage & waste disposal

- Store concrete, grout, and mortar under cover, on pallets, and away from drainage areas. These materials must never reach a storm drain.
- Wash out concrete equipment/trucks off-site or into contained washout areas that will not allow discharge of wash water onto the underlying soil or onto the surrounding areas.

- Collect the wash water from washing exposed aggregate concrete and remove it for appropriate disposal off site.

Painting

- Never rinse paint brushes or materials in a gutter or street!
- Paint out excess water-based paint before rinsing brushes, rollers, or containers in a sink.
- Paint out excess oil-based paint before cleaning brushes in thinner.
- Filter paint thinners and solvents for reuse whenever possible. Dispose of oil-based paint sludge and unusable thinner as hazardous waste.

Landscape Materials

- Contain, cover, and store on pallets all stockpiled landscape materials (mulch, compost, fertilizers, etc.) during wet weather or when rain is forecasted or when not actively being used within 14 days.
- Discontinue the application of any erodible landscape material within 2 days of forecasted rain and during wet weather.

Storm drain polluters may be liable for fines of $10,000 or more per day!

For references and more detailed information:
www.cleanwaterprogram.org
www.cabmphandbooks.com

1 CE-101 | CE-506 BEST MANAGEMENT PRACTICES
NTS

REGISTERED PROFESSIONAL ENGINEER
JEROME DE VERNEJOUL
No. C60334
Exp. 6/30/26
CIVIL
STATE OF CALIFORNIA

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		7/31/2025	PERMIT SET
			APPROVAL

PERMIT SET

TRANSYSTEMS
2000 CENTER STREET
SUITE 303
BERKELEY, CA 94704
PHONE: (510) 835-2761

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MANAGER OF ENGINEERING R.C.E. EXP.

DESIGN JDV
DRAWN AJR
CHECK KMC
AS BUILT
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HORIZ. 1"=X'
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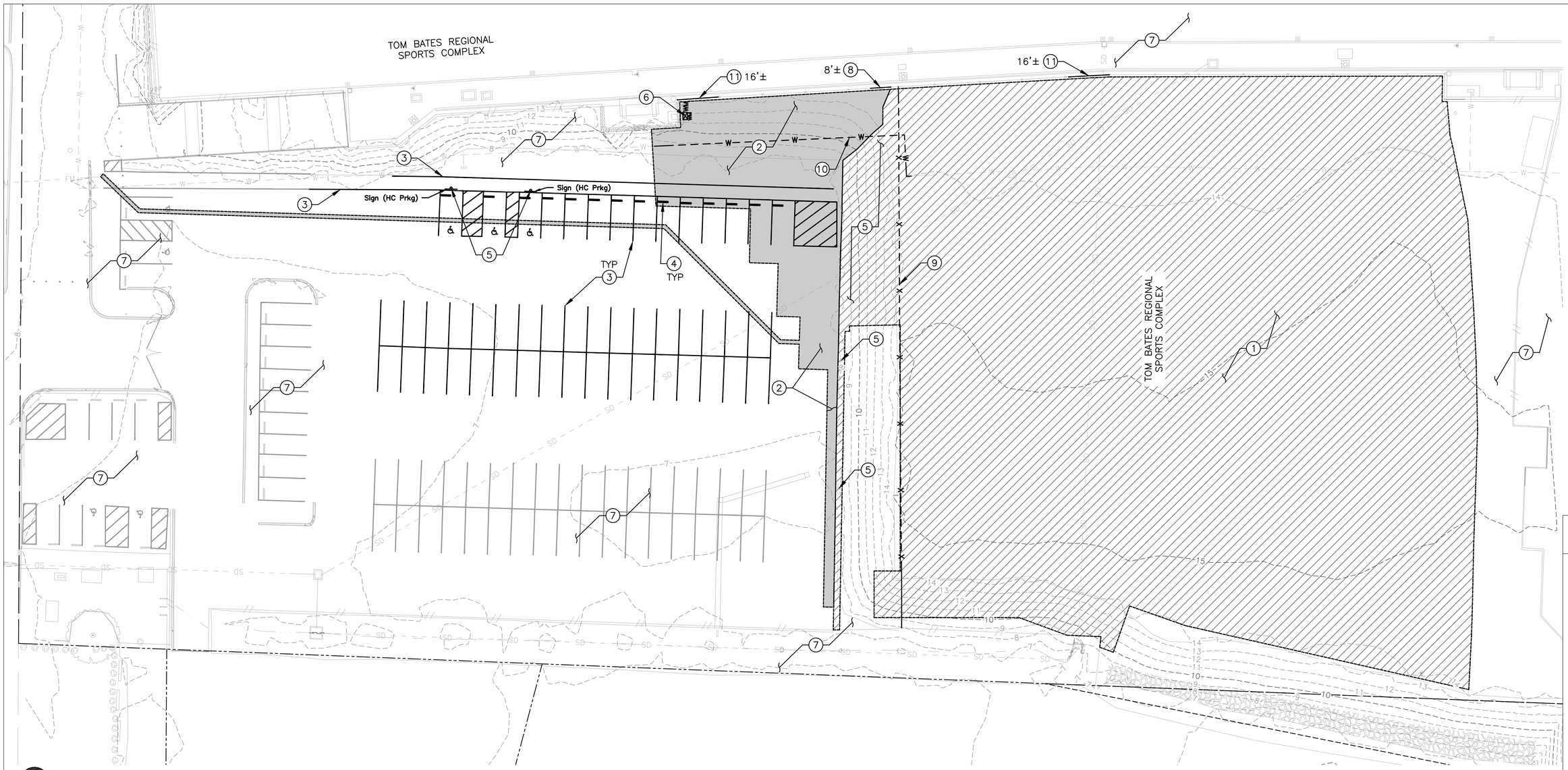
BOOK

CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

EROSION CONTROL DETAILS
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
1 CE-506
SHEET 11 OF 92



GENERAL NOTES:

1. SEE LAYOUT ON CS SHEETS.
2. SEE UTILITY AND ELECTRICAL PLANS FOR LIMITS OF UTILITY DEMOLITION.
3. SEE SHEET CS–001 FOR LIMITS OF BASE BID AND BID ALTERNATES.

KEY NOTES: (#)

1. CLEAR AND GRUB.
2. REMOVE AC PAVEMENT.
3. REMOVE STRIPING
4. REMOVE WHEEL STOP.
5. REMOVE SIGN.
6. RELOCATE IRRIGATION CONTROL WIRE BOX. SEE UTILITY PLAN FOR NEW LOCATION.
7. EXISTING SITE FEATURE TO REMAIN. PROTECT IN PLACE.
8. PROVIDE A PEDESTRIAN OPENING WITHIN EXISTING CHAIN LINK FENCE. REMOVE CHAIN LINK FABRIC TO 7' HIGH WHERE SHOWN BETWEEN EXISTING POSTS ONLY. HORIZONTAL BRACE AT TOP OF CHAIN LINK FABRIC TO REMAIN. MOVE THE EXISTING HORIZONTAL BRACE AT 5'± HEIGHT TO 7' AND ATTACH CHAIN LINK FABRIC. NETTING MATERIAL AND TENSION WIRES ABOVE TO REMAIN. REATTACH CHAIN LINK FENCE TO REMAIN TO POSTS USING STRETCHER BARS AND STANDARD FASTENING HARDWARE, WHERE NEEDED.
9. REMOVE 6' CHAIN LINK FENCE.
10. REMOVE 3" WATER LINE.
11. REMOVE CHAIN LINK FABRIC, HORIZONTAL BRACING AT 5' HIGH AND ANY CHAIN LINK RELATED TENSION WIRES BETWEEN THE 20' HIGH POSTS. CUT AND REMOVE THE REMAINING 10' HIGH POST AT GROUND LEVEL, FILL HOLE WITH CONCRETE, AND FINISH FLUSH WITH GROUND. NETTING MATERIAL AND RELATED TENSION WIRES ABOVE TO REMAIN. EXISTING 16'± LONG HORIZONTAL BRACE AT 10' HEIGHT TO REMAIN. REATTACH NETTING ASSEMBLY TO THE BRACE.

LEGEND

CLEAR AND GRUB

REMOVE AC

REGISTERED PROFESSIONAL ENGINEER
JEROME DE VERGER
No. C60334
Exp. 6/30/26
CIVIL
STATE OF CALIFORNIA

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APPROVAL

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TRANSYSTEMS
2000 CENTER STREET
SUITE 303
BERKELEY, CA 94704
PHONE: (510) 835-2761

SCALE: 1" = 20' (0, 20, 40, 60 FEET; 0, 1, 2, 3 INCHES)
FOR REDUCED PLANS – ORIGINAL SCALE IS IN INCHES

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CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

DEMOLITION PLAN
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
CD-101
SHEET 12 OF 92

Form #172

CONSTRUCTION WASTE MANAGEMENT PLAN

Building and Safety
Permit Service Center

Complete this form and submit it along with your building permit application when performing the following activities:

1. Any non-residential projects requiring building permits.
2. Residential new buildings.
3. Residential projects that increase a building's conditioned area, volume, or size.
4. Residential projects valued over $100,000.
5. Demolition permits valued over $3,000.

A minimum of 65% of the waste generated by construction and demolition activities must be diverted away from landfill disposal through any combination of recycling, salvage, reuse or composting. 100% of asphalt, concrete, and land clearing debris must be recycled.

Building and Safety
1947 Center St. 3rd floor
Berkeley, CA 94704
510-981-7440 TTY 6903
buildingandsafety@berkeleyca.gov

Project Information Permit Number: **B2024-05358**

Project Address: **400 GILMAN STREET, BERKELEY, CA 94710**

Construction Methods

☑ Waste generated during construction will be minimized through a combination of efficient design, carefull and accurate material ordering, handling and storage, panelized or prefabricated construction, reuse, and/or salvage.

Universal and Hazardous Waste

Disposal of asbestos-containing materials, batteries, electronic waste, fluorescent bulbs, lead based paints, mercury containing equipment and refrigerants, require special processing prior to commencement of construction or demolition activities. Additional information can be found at the Bay Area Air Quality Management District, Alameda County Healthy Homes Department, and the City of Berkeley Toxics Management Division. Please select the option that is applicable to your project.

☐ This project does not involve disposal of universal or hazardous waste.

☑ This project includes disposal of universal or hazardous waste in a responsible, safe and verifiable manner.

Diversion Documentation

Green Halo tracking is required for all projects generating 100 pounds (or 55 gallons) of waste or more. Please select the option that is applicable to your project.

☐ A Construction Waste Management Plan has been submitted via Green Halo at www.berkeley.wastetracking.com. Prior to permit final, weight tickets for all materials disposed and recycled must be uploaded. Photos are acceptable for salvaged/reused materials.

Green Halo Tracking Number:

☐ A letter will be provided to the Building Inspector at the time of final inspection affirming that this project has produced less than 100 pounds (or 55 gallons) of waste, all waste was site-sorted, and any waste that could be recycled was recycled properly through a waste disposal service provider, either on-site or at the contractor's office/shop. (This option is subject to approval for the duration of the project.)

Acknowledgment

I understand the waste diversion requirements of Berkeley Municipal Code 19.37 and submit this Construction Waste Management Plan pursuant to California Green Building Standards Code 4.408.2 or 5.408.1.1.

Jesus Espinoza	Jesus Espinoza Digitally signed by Jesus Espinoza Date: 2025.07.16 09:26:33 -07'00'	**7/16/25**
Name	Signature	Date

Last Revised 06/12/23

NOTE:
THE CONTRACTOR AWARDED WITH THE PROJECT WILL BE RESPONSIBLE FOR SUBMITTING THE CONSTRUCTION WASTE MANAGEMENT PLAN TO GREEN HALO.

REGISTERED PROFESSIONAL ENGINEER
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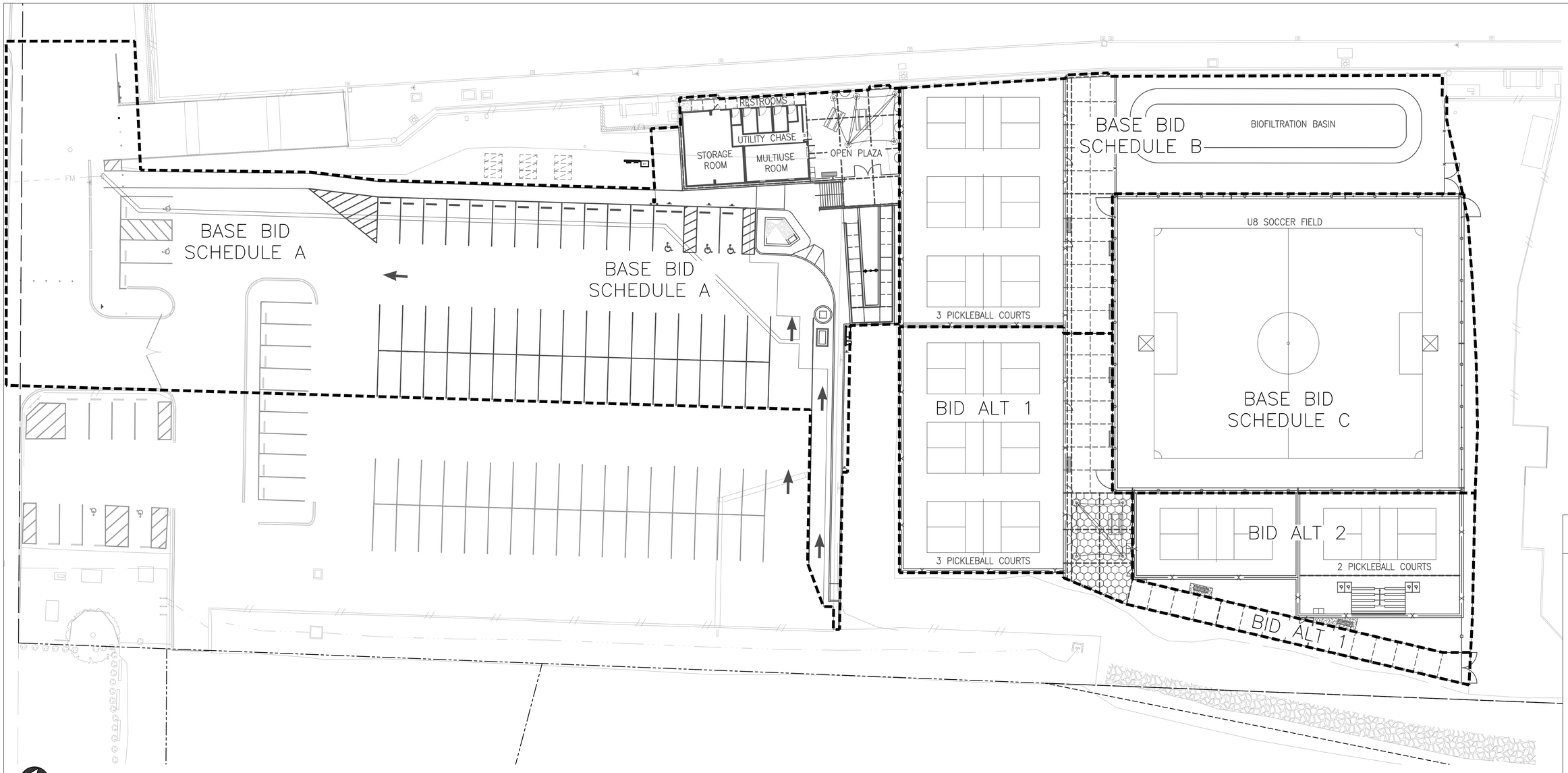
CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

CONSTRUCTION WASTE MANAGEMENT PLAN
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
CD-501
SHEET 13 OF 92



GENERAL NOTES:

1. TREES ON THE SLOPE ARE PART OF BID ALT 2.

LEGEND

BID AREA BOUNDARY

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PHONE: (510) 835-2761

0 20 40 60
SCALE: 1" = 20' FEET
0 1 2 3
FOR REDUCED PLANS – ORIGINAL SCALE IS IN INCHES

DEPICTION OF MONUMENTS: DATE
SURVEY PARTY CHIEF
WATERSHED REVIEW: DATE

SUBMITTED: DATE
SUPERVISING CIVIL ENGINEER R.C.E.
EXP.
APPROVED: DATE
MANAGER OF ENGINEERING R.C.E.
EXP.

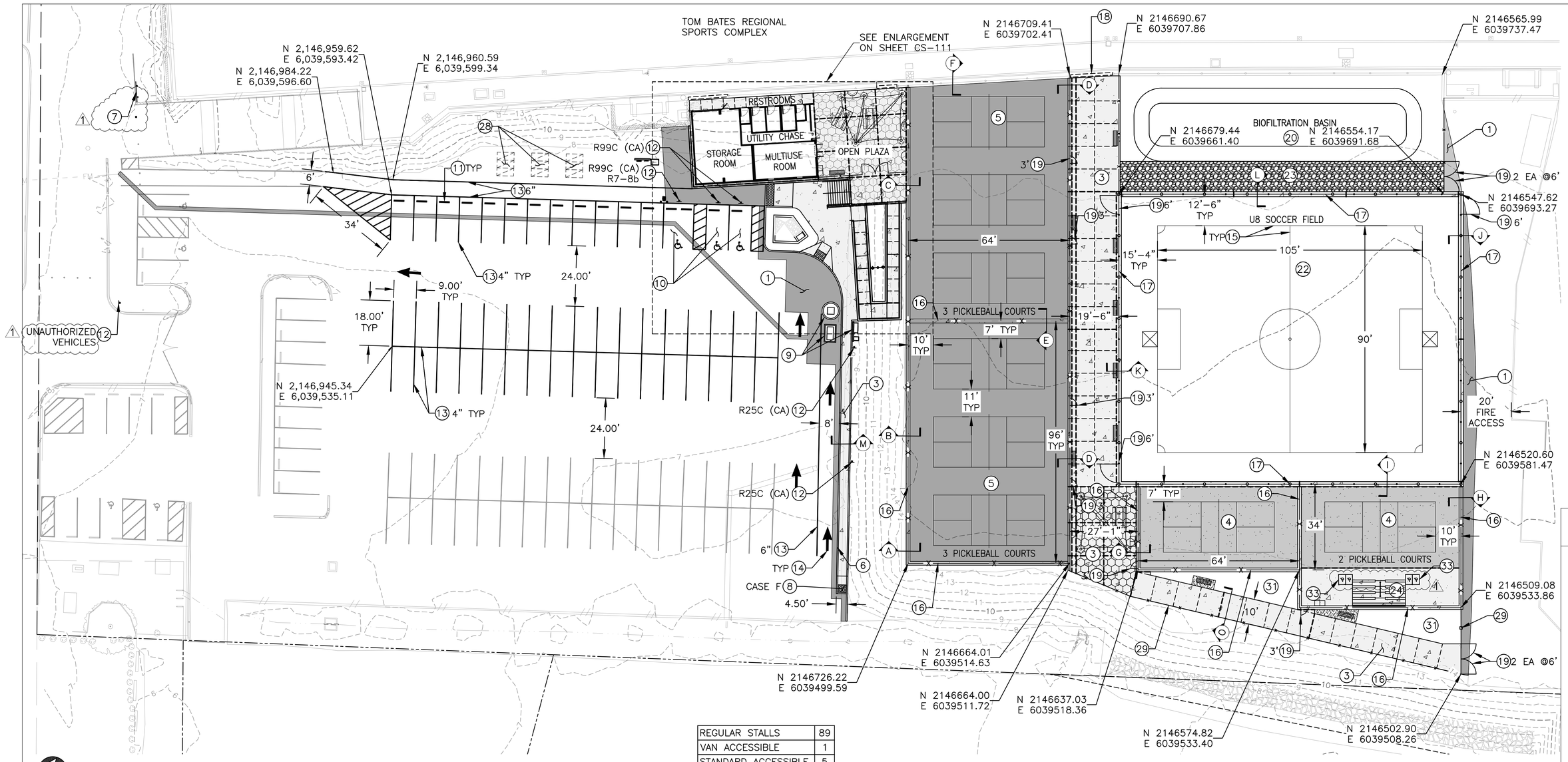
DESIGN JDV
DRAWN AJR
CHECK KMC
AS BUILT
DATE 7/31/2025

HORIZ. 1"=X'
VERT. 1"=X'
BOOK

CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

BID AREA PLAN
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
CS-001
SHEET 14 OF 92



REGULAR STALLS	89
VAN ACCESSIBLE	1
STANDARD ACCESSIBLE	5
TOTAL STALLS	95

GENERAL NOTES:

1. ALL MEASUREMENTS TAKEN FROM FACE OF CURB OR RETAINING WALL UNLESS OTHERWISE NOTED.
2. ALL PAVEMENT STRIPING AND MARKINGS SHALL BE THERMOPLASTIC STRIPES, MARKINGS AND LEGENDS AT THE LOCATIONS SHOWN ON PLANS, UNLESS OTHERWISE NOTED.
3. FOR SECTIONS DETAILS, REFER TO SHEETS CS–505 AND CS–506.

REGISTERED PROFESSIONAL ENGINEER — JEROME DE VERGIE — No. C80334 Exp. 6/30/26 — CIVIL — STATE OF CALIFORNIA

KEY NOTES (#)

1. AC PAVEMENT PER DETAIL 1/CS–501
2. PCC TOPPING SLAB PER DETAIL 4/CS–501.
3. PCC WALKWAY/RAMP PAVEMENT PER DETAIL 3/CS–501.
4. POST–TENSIONED PCC PICKLEBALL COURT PAVEMENT. SEE SHEETS CS–601 THRU CS–604.
5. AC PICKLEBALL COURT PAVEMENT PER DETAIL 6/CS–501. PICKLEBALL COURT LAYOUT PER DETAIL 1/CS–507.
6. 6" VERTICAL CONCRETE CURB PER DETAIL 7/CS–501.
7. MONUMENT SIGN PER DETAIL 1/CS–510. (1)
8. CURB RAMP PER DETAIL 2/CS–503.
9. PREFABRICATED SANITARY SEWER LIFT STATION, SEE SHEETS CU–511 THROUGH CU–520.
10. ACCESSIBLE PARKING STALL PER DETAIL 1/CS–503.
11. CONCRETE WHEEL STOP PER DETAIL 4/CS–502.
12. SIGN AS NOTED PER DETAILS ON SHEET CS–508.
13. WHITE STRIPING. WIDTH AS NOTED.
14. WHITE TYPE I 10'–0" ARROW SYMBOL.
15. SOCCER FIELD MARKING, SEE SPECIFICATIONS.
16. 10' HIGH CHAIN LINK FENCE PER DETAIL 1/CS–504.
17. 10' HIGH CHAIN LINK FENCE WITH 10' HIGH NETTING ON TOP PER DETAIL 2/CS–504.
18. NEW OPENING IN EXISTING CHAIN LINK FENCE. SEE DEMO PLAN.
19. SWING GATE WITH WIDTH AS SHOWN PER DETAIL 3/CS–504.
20. BIOSWALE PER GRADING AND DRAINAGE PLANS AND LANDSCAPE DETAILS.
21. RETAINING WALL. SEE STRUCTURAL PLANS.
22. NATURAL GRASS U8 SOCCER FIELD. SEE IRRIGATION AND LANDSCAPE PLANS.
23. AGGREGATE BASE ACCESS ROAD PER DETAIL 5/CS–501.
24. BLEACHER. SEE SPECIFICATIONS. (1)
25. ACCESSIBLE RAMP, SEE STRUCTURAL PLANS AND CIVIL GRADING PLAN.
26. STAIRS, SEE STRUCTURAL DRAWINGS AND DETAIL 3/CS–509.
27. PEDESTRIAN HANDRAIL PER DETAIL 2/CS–509.
28. FUTURE BICYCLE LOCKERS.
29. 6' HIGH CHAIN LINK FENCE PER DETAIL 4/CS–504.
30. MULTI–USE BUILDING, SEE SHEET A–101 AND STRUCTURAL PLANS.
31. SEE IRRIGATION AND LANDSCAPE DRAWINGS.
32. DETECTABLE WARNING SURFACE. CAST–IN–PLACE. SEE DETAIL 2/CS–503.
33. WHEELCHAIR SPACE 33"X48" MIN. (1)
34. STEEL GUARDRAIL PER DETAIL 1/CS–509.
35. HANDRAIL/GUARDRAIL PER DETAIL 1/CS–509.
36. BOLLARD PER DETAIL 8/S–012.

LEGEND

- AC PAVEMENT
- PCC PAVEMENT
- POST–TENSIONED CONCRETE
- STAMPED CONCRETE PATTERN
- EXPANSION JOINT
- CONTRACTION JOINT

APPROVAL	DESCRIPTION	DATE	MARK
	CORRECTIONS FIRST	7/31/2025	
	PERMIT SET	7/31/2025	
1	REVISION		

PERMIT SET

TRANSYSTEMS
2000 CENTER STREET
SUITE 303
BERKELEY, CA 94704
PHONE: (510) 835–2761

SCALE: 1" = 20' (0, 20, 40, 60 FEET)
FOR REDUCED PLANS – ORIGINAL SCALE IS IN INCHES (0, 1, 2, 3)

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SUPERVISING CIVIL ENGINEER
APPROVED: DATE R.C.E. EXP.
MANAGER OF ENGINEERING

DESIGN JDV
DRAWN AJR
CHECK KMC
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VERT. 1"=X'
BOOK
DATE 7/31/2025

CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

SITE PLAN
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406–223
CS–101
SHEET 15 OF 92

CONSTRUCTION OF THE BUILDING AND ITS ASSOCIATED FOUNDATION MUST WAIT UNTIL STATE APPROVAL OF THE BUILDING DESIGN

RESTROOMS

UTILITY CHASE

STORAGE ROOM

MULTIUSE ROOM

OPEN PLAZA

N 2146805.45
E 6039667.91

N 2146851.95
E 6039653.67

N 2146843.40
E 6039625.64

N 2146796.87
E 6039639.89

N 2146784.68
E 6039642.74

N 2146763.13
E 6039637.49

N 2146779.29
E 6039626.27

N 2146764.37
E 6039597.00

N 2146759.50
E 6039598.34

2'-3¼" TYP

1'-6¼"

9'

15'

20'-10½" TYP

18'

2'

1.29'

1'-6"

2'-6"

2'

1'-8"

6.00'

5.00'

6.15'

CASE A

R=20'

5', 2 EA

CALCULATIONS TO DETERMINE NUMBER OF EV STALLS:

TOTAL EXISTING STALLS = 95 NORTH LOT (56.2%) + 74 SOUTH LOT (43.8%) = 169 STALLS (100%)

AREA OF NEW WORK (BASE BID + BID ALTS) = 53,299 SF
AREA OF EXISTING RSC FACILITIES (NOT INCLUDING PARKING AND ACCESS) = 467,183 SF

NORTH LOT SERVES 262,618 SF OF RSC (56.2%)
SOUTH LOT SERVES 204,565 SF OF RSC (43.8%)

PERCENT OF NORTH LOT SERVING THE AREA OF NEW WORK =
AREA OF NEW WORK / (PORTION OF RSC SERVED BY NORTH LOT + AREA OF NEW WORK)
53,299 SF / (262,618 SF + 53,299 SF) = 16.9% OR 16 STALLS

PER CITY ORDINANCE, 10% OF STALLS SHALL BE EV READY, 20% SHALL BE EV CAPABLE. THEREFORE:
10% OF 16 STALLS = 2 STALLS FOR EV READY (1 MUST BE LOCATED AT VAN ACCESSIBLE STALL)
20% OF 16 STALLS = 4 STALLS FOR EV CAPABLE

GENERAL NOTES

1. ELEVATIONS DENOTE FINISHED GRADE.
2. SEE CG-101 FOR STORM DRAIN INFORMATION.
3. SEE ELECTRICAL SHEETS FOR ELECTRICAL INFORMATION.
4. SEE SHEET CS-001 FOR LIMITS OF BASE BID AND BID ALTERNATES.

KEY NOTES (#)

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3. PCC WALKWAY/RAMP PAVEMENT PER DETAIL 3/CS-501.
4. POST-TENSIONED PCC PICKLEBALL COURT PAVEMENT. SEE SHEETS CS-601 THRU CS-604.
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7. MONUMENT SIGN PER DETAIL 1/CS-510.
8. CURB RAMP PER DETAIL 2/CS-503.
9. PREFABRICATED SANITARY SEWER LIFT STATION, SEE SHEETS CU-511 THROUGH CU-520.
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16. 10' HIGH CHAIN LINK FENCE PER DETAIL 1/CS-504.
17. 10' HIGH CHAIN LINK FENCE WITH 10' HIGH NETTING ON TOP PER DETAIL 2/CS-504.
18. NEW OPENING IN EXISTING CHAIN LINK FENCE. SEE DEMO PLAN.
19. SWING GATE WITH WIDTH AS SHOWN PER DETAIL 3/CS-504.
20. BIOSWALE PER GRADING AND DRAINAGE PLANS AND LANDSCAPE DETAILS.
21. RETAINING WALL. SEE STRUCTURAL PLANS.
22. NATURAL GRASS U8 SOCCER FIELD. SEE IRRIGATION AND LANDSCAPE PLANS.
23. AGGREGATE BASE ACCESS ROAD PER DETAIL 5/CS-501.
24. BLEACHER. SEE SPECIFICATIONS.
25. ACCESSIBLE RAMP, SEE STRUCTURAL PLANS AND CIVIL GRADING PLAN.
26. STAIRS, SEE STRUCTURAL DRAWINGS AND DETAIL 3/CS-509.
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33. WHEELCHAIR SPACE 33"X48" MIN.
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36. BOLLARD PER DETAIL 8/S-012.

LEGEND

- AC PAVEMENT
- PCC PAVEMENT
- POST-TENSIONED CONCRETE
- STAMPED CONCRETE PATTERN
- EXPANSION JOINT
- CONTRACTION JOINT

REGISTERED PROFESSIONAL ENGINEER
JEROME DE VERRER
No. C60334
Exp. 6/30/26
CIVIL
STATE OF CALIFORNIA

MARK	DATE	DESCRIPTION
1	7/31/2025	CORRECTIONS FIRST
	7/31/2025	PERMIT SET

APPROVAL

PERMIT SET

TRANSYSTEMS
2000 CENTER STREET
SUITE 303
BERKELEY, CA 94704
PHONE: (510) 835-2761

SCALE: 1" = 5' FEET
FOR REDUCED PLANS – ORIGINAL SCALE IS IN INCHES

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MANAGER OF ENGINEERING

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DRAWN AJR
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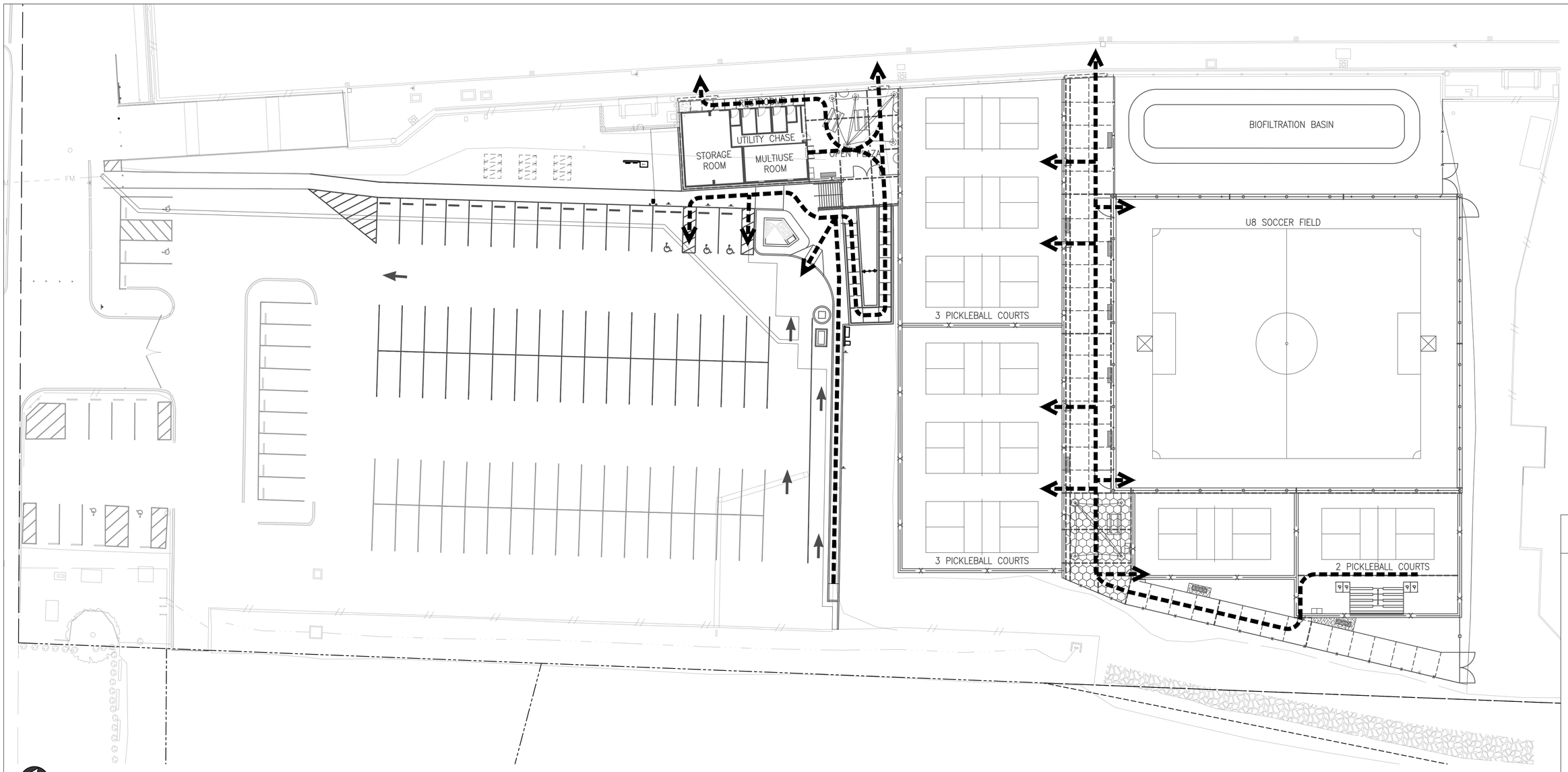
VERT. 1"=X'
BOOK
DATE 7/31/2025

CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

ENLARGED SITE PLAN
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
CS-111
SHEET 16 OF 92



GENERAL NOTES:

1. ALL ACCESSIBLE PATHS OF TRAVEL SHOWN ON PLAN MUST COMPLY WITH ADA REQUIREMENTS FOR LONGITUDINAL AND CROSS SLOPES. SEE GRADING PLANS FOR DESIGN LONGITUDINAL AND CROSS SLOPES.
2. WALKWAYS ALONG THE ACCESSIBLE ROUTE OF TRAVEL SHALL BE CONTINUOUSLY ACCESSIBLE FOR THE ENTIRE LENGTH OF THE ROUTE.
3. CHANGES IN ELEVATION ALONG THE WALKWAY SHALL NOT EXCEED ½ INCH.
4. WALKWAYS SHALL HAVE A MINIMUM CLEAR WIDTH OF 48 INCHES.
5. CROSS SLOPES SHALL NOT EXCEED ¼ INCH PER FOOT (2%).
6. RUNNING SLOPES SHALL NOT EXCEED 5% (1:20), UNLESS THE WALKWAY IS DESIGNED AS A RAMP.
7. WHERE THE PEDESTRIAN PATH CROSSES A VEHICULAR WAY, BLENDED TRANSITIONS WITH DETECTABLE WARNINGS SHALL BE PROVIDED AS INDICATED.

LEGEND

ACCESSIBLE PATH OF TRAVEL

REGISTERED PROFESSIONAL ENGINEER
JEROME DE VERGER
No. C60334
Exp. 6/30/26
CIVIL
STATE OF CALIFORNIA

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1		7/31/2025	CORRECTIONS FIRST
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BERKELEY, CA 94704
PHONE: (510) 835-2761

0 20 40 60
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0 1 2 3
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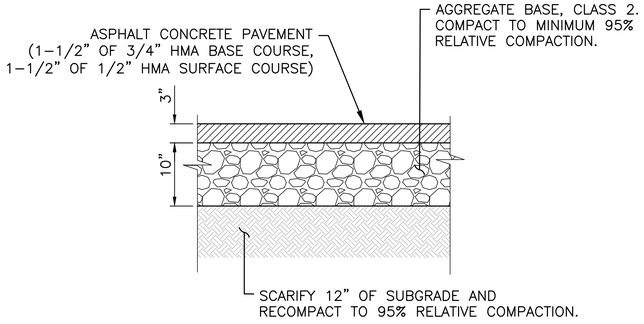
CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

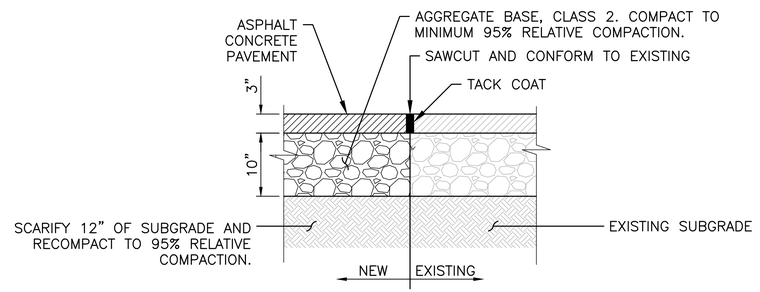
ACCESSIBILITY PLAN
TOM BATES REGIONAL SPORTS COMPLEX
1
CS-201

PLAN 8297
FILE 406-223
SHEET 17 OF 92



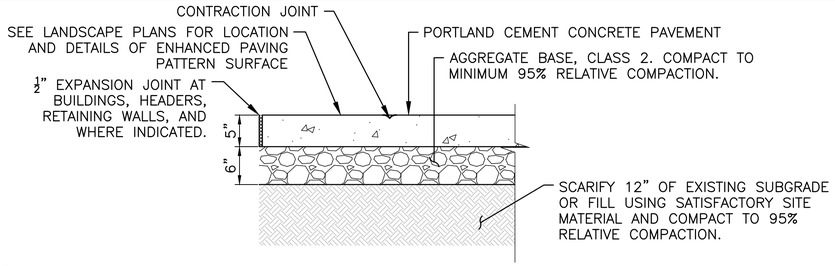
1 ASPHALT CONCRETE PAVEMENT DETAIL

CS-101 | CS-501 NTS



2 ASPHALT CONCRETE PAVEMENT CONFORM DETAIL

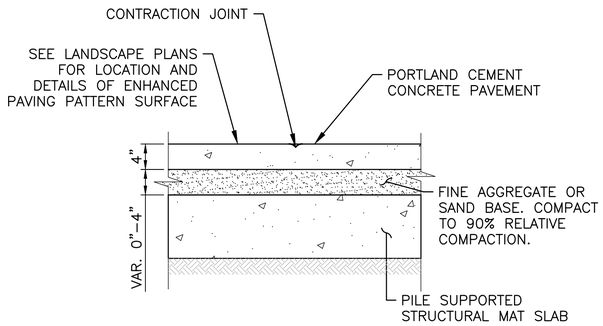
CS-101 | CS-501 NTS



NOTE: PROVIDE TOOLED OR SAWCUT CONTRACTION JOINTS AT SPACING PER PLAN. PROVIDE EXPANSION JOINTS AT SPACING PER PLAN.

3 PCC WALKWAY AND RAMP PAVEMENT DETAIL

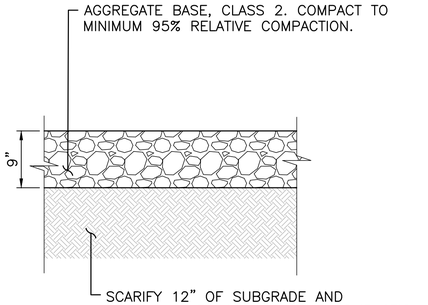
CS-101 | CS-501 NTS



NOTE: IF BASE MATERIAL IS LESS THAN 2 INCHES, POUR TOPPING SLAB DIRECTLY ON THE MAT SLAB.

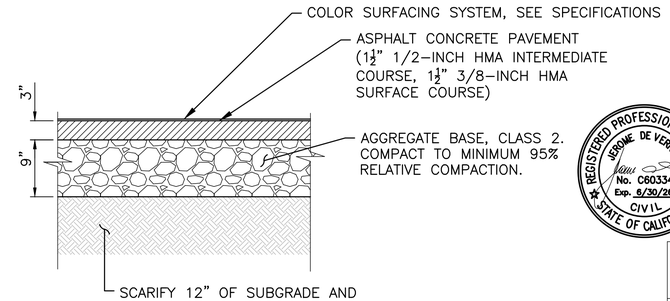
4 PCC TOPPING SLAB DETAIL

CS-101 | CS-501 NTS



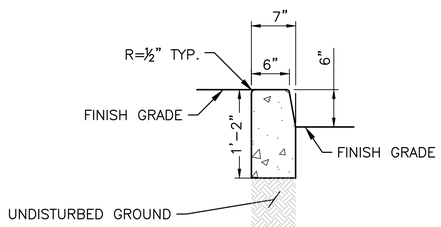
5 AGGREGATE BASE ACCESS ROAD DETAIL

CS-101 | CS-501 NTS



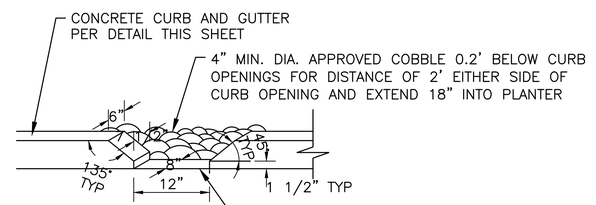
6 AC PICKLEBALL COURT PAVEMENT DETAIL

CS-101 | CS-501 NTS



7 6" VERTICAL CONCRETE CURB DETAIL

CS-101 | CS-501 NTS



NOTE:
1. SEE PLAN FOR CURB CUT LOCATION.

8 CURB CUT DETAIL

CS-101 | CS-501 NTS

NOTES:
1. SEE GEOTECHNICAL REPORT AND SPECIFICATIONS FOR ADDITIONAL PROVISIONS RELATED TO COMPACTION AND MOISTURE CONDITIONING.
2. FOR CONCRETE PAVEMENTS (NOT POST–TENSIONED SLABS), PROVIDE CONTRACTION AND EXPANSION JOINTS PER PLAN AND PER THE DETAILS PROVIDED ON SHEET CS–502.

REGISTERED PROFESSIONAL ENGINEER
JEROME DE VERNEJOUL
No. C60334
Exp. 6/30/26
CIVIL
STATE OF CALIFORNIA

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APPROVAL

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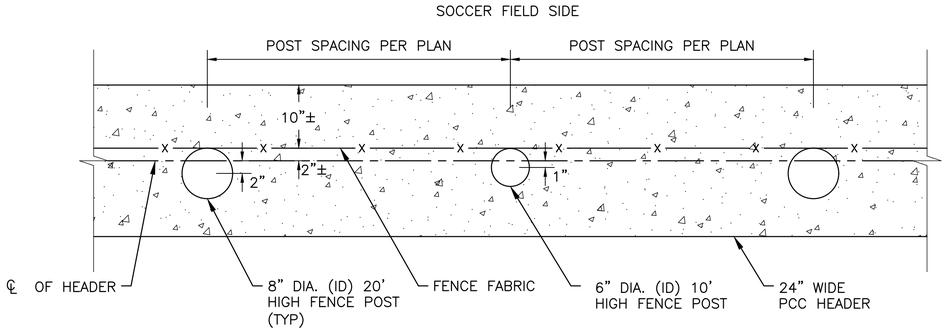
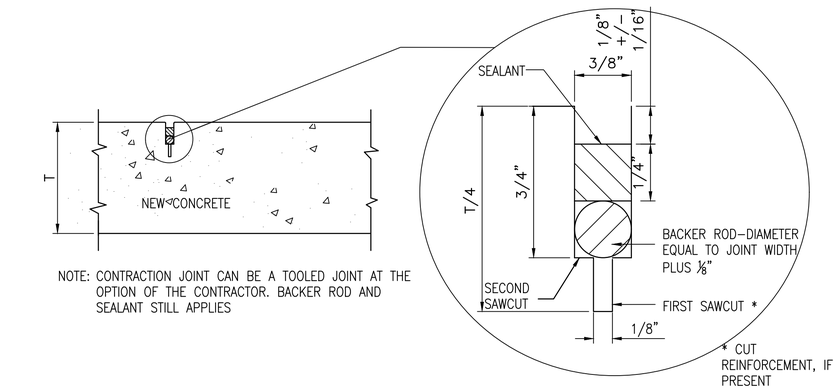
CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

SITE DETAILS
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406–223
CS-501
SHEET 18 OF 92

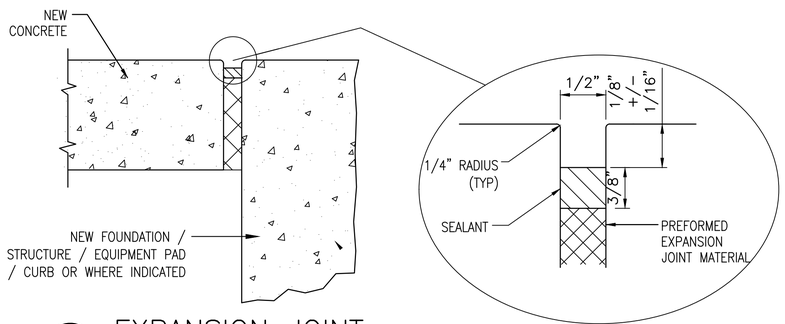


1 CS-101 | CS-502 SOCCER FIELD FENCE LAYOUT
NTS

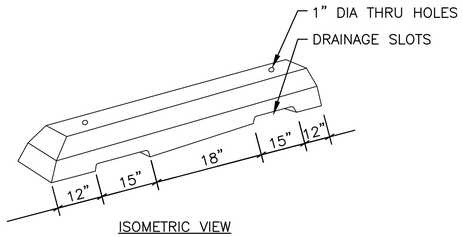


NOTE: CONTRACTION JOINT CAN BE A TOOLED JOINT AT THE OPTION OF THE CONTRACTOR. BACKER ROD AND SEALANT STILL APPLIES

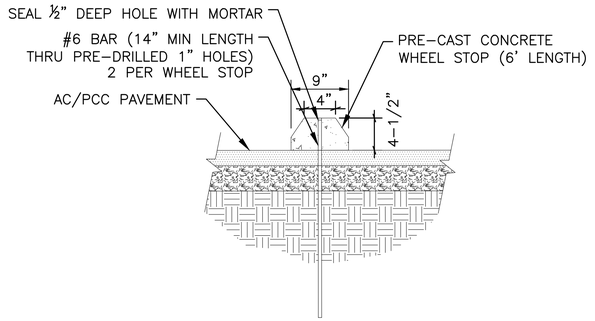
2 CS-101 | CS-502 CONTRACTION JOINT
NTS



3 CS-101 | CS-502 EXPANSION JOINT
NTS



ISOMETRIC VIEW



SECTION

NOTE:
PRECAST WHEEL STOPS SHALL BE CONSTRUCTED WITH MINIMUM 4,000 PSI AIR–ENTRAINED CONCRETE WITH SMOOTH FINISH

4 CS-101 | CS-502 CONCRETE WHEEL STOP
NTS

REGISTERED PROFESSIONAL ENGINEER
JEROME DE VERNEJOUL
No. C60334
Exp. 6/30/26
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REVISION	MARK	DATE	DESCRIPTION
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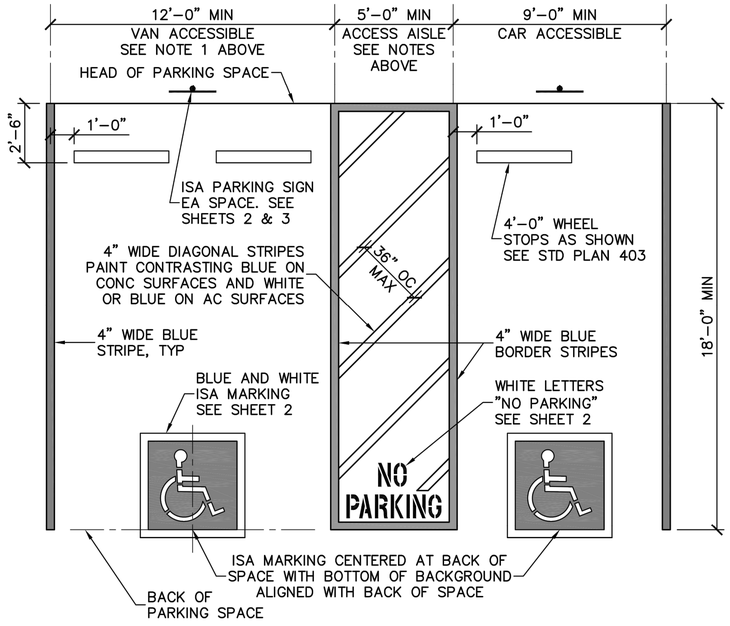
CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

SITE DETAILS
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406–223
CS-502
SHEET 19 OF 92

NOTES

1. VAN PARKING SPACES MAY BE REDUCED TO 9'–0" WIDE MINIMUM WHERE THE ACCESS AISLE IS INCREASED TO 8'–0" WIDE MINIMUM.
2. ACCESS AISLES MAY BE PLACED ON EITHER SIDE OF THE PARKING SPACE EXCEPT FOR VAN PARKING SPACES WHICH SHALL HAVE ACCESS AISLES LOCATED ON THE PASSENGER SIDE OF THE PARKING SPACES.
3. TWO ACCESSIBLE PARKING SPACES MAY SHARE A COMMON ACCESS AISLE.
4. ACCESS AISLES SHALL BE AT THE SAME LEVEL AS THE PARKING SPACES THEY SERVE. SURFACE SLOPES IN PARKING SPACE AND ACCESS AISLE SHALL NOT EXCEED 2% IN ANY DIRECTION.
5. ACCESS AISLES SHALL ADJOIN AN ACCESSIBLE ROUTE. THE LOCATION OF THE ACCESSIBLE ROUTE IS SITE–DEPENDENT AND NOT SHOWN IN THIS PLAN.
6. SEE TABLE ON SHEET 3 FOR REQUIRED MINIMUM NUMBER OF ACCESSIBLE PARKING SPACES.



SIGN R99C (CA)

SIGN R99 (CA)

SIGN R100B (CA)

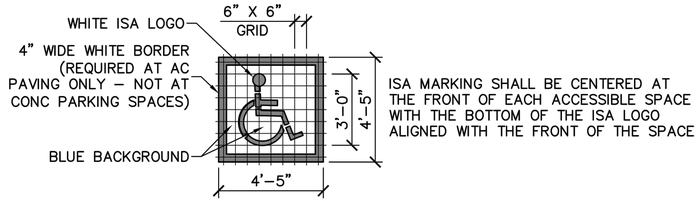
INSERT PHONE NO.
(510) 881–1833
LEAVE ADDRESS BLANK

SIGN R7–8B

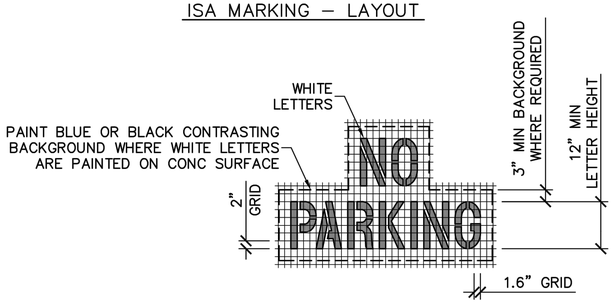
PLAQUE R99B (CA)

ISA PARKING SIGNS

TOW–AWAY SIGN

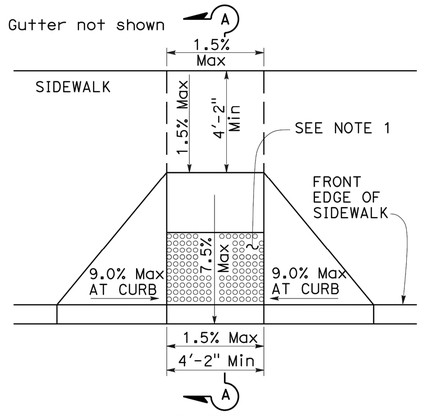


ISA MARKING – LAYOUT

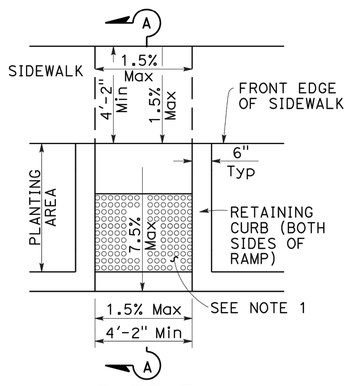


1 ACCESSIBLE PARKING STALL DETAILS

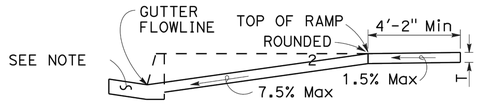
CS-101 | CS-503 NTS



CASE A



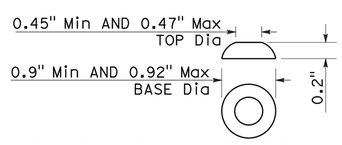
CASE F



SECTION A–A

NOTES:

1. THE DETECTABLE WARNING SURFACE WILL BE A RECTANGLE AS SHOWN AT THE BACK OF CURB. CURB RAMPS SHALL HAVE A DETECTABLE WARNING SURFACE THAT EXTENDS THE FULL WIDTH AND 3'–0" DEPTH OF THE RAMP. DETECTABLE WARNING SURFACES SHALL EXTEND THE FULL WIDTH OF THE RAMP EXCEPT A MAXIMUM GAP OF 1 INCH IS ALLOWED ON EACH SIDE OF THE RAMP. DETECTABLE WARNING SURFACES SHALL CONFORM TO THE REQUIREMENTS IN THE STANDARD SPECIFICATIONS.
2. COUNTER SLOPES OF ADJOINING GUTTERS AND ROAD SURFACES IMMEDIATELY ADJACENT TO AND WITHIN 24 INCHES OF THE CURB RAMP SHALL NOT BE STEEPER THAN 1V:20H (5.0%). GUTTER PAN SLOPE SHALL NOT EXCEED 1" OF DEPTH FOR EACH 2'–0" OF WIDTH.



RAISED TRUNCATED DOME

RAISED TRUNCATED DOME PATTERN (IN-LINE)

DETECTABLE WARNING SURFACE

2 CURB RAMP DETAILS

CS-101 | CS-503 NTS

SIGN AND MARKING NOTES

1. "ACCESSIBLE PARKING ONLY" SIGN SHALL BE SIGN R99C (CA) OR SIGN R99 (CA) WITH PLAQUE R99B (CA).
2. "VAN ACCESSIBLE" SIGN R7–8B SHALL BE MOUNTED BELOW THE R99C (CA) SIGN OR THE R99B (CA) PLAQUE, AT VAN ACCESSIBLE PARKING SPACES ONLY.
3. THE BOTTOM OF THE LOWEST SIGN OR PLAQUE PANEL SHALL BE A MINIMUM OF 80" ABOVE THE SURROUNDING SURFACE GRADE, EXCEPT THAT SIGNS INSTALLED OUTSIDE OF TRAVEL ROUTES, SUCH AS IN A PLANTER OR MOUNTED ON A FENCE OR WALL, MAY BE LOWERED TO 50" ABOVE SURROUNDING SURFACE GRADE.
4. ISA PARKING SIGNS SHALL BE INSTALLED IN FRONT OF THE HEAD OF EACH ACCESSIBLE SPACE. WHERE THERE IS AN ACCESSIBLE PATH ADJACENT TO THE HEAD OF THE PARKING SPACE, THE SIGNS MAY BE LOCATED IN A CLEARLY VISIBLE LOCATION ON THE FAR SIDE OF THE PATH.
5. AN R100B (CA) "TOW–AWAY" SIGN SHALL BE POSTED IN A CONSPICUOUS PLACE AT EACH ENTRANCE OF PARKING FACILITIES OR IMMEDIATELY ADJACENT TO AND VISIBLE FROM EACH SPACE.
6. LOCATION OF SIGNS TO BE APPROVED BY THE DISTRICT REPRESENTATIVE PRIOR TO INSTALLATION.
7. WATERBORNE TRAFFIC PAINT FOR ASPHALT AND CONCRETE SHALL HAVE A VOC LESS THAN 150 AND SHALL BE LEAD AND CHROMATE FREE. SHERWIN–WILLIAMS PRO–PARK WATERBORNE TRAFFIC MARKING PAINT, BENJAMIN MOORE INSL–X ALKYD TRAFFIC PAINT, RAE PRODUCTS & CHEMICALS CORPORATION TRAFFIC MARKING PAINT, OR EQUAL.

REGISTERED PROFESSIONAL ENGINEER
JEROME DE VERNEJOUL
No. C60334
Exp. 6/30/26
CIVIL
STATE OF CALIFORNIA

REVISION	MARK	DATE	DESCRIPTION
1		7/31/2025	CORRECTIONS FIRST
		7/31/2025	PERMIT SET

APPROVAL

PERMIT SET

TRANSYSTEMS
2000 CENTER STREET
SUITE 303
BERKELEY, CA 94704
PHONE: (510) 835–2761

NO SCALE

0 1 2 3

FOR REDUCED PLANS – ORIGINAL SCALE IS IN INCHES

DEPICTION OF MONUMENTS: DATE
SURVEY PARTY CHIEF

WATERSHED REVIEW: DATE

SUBMITTED: DATE
SUPERVISING CIVIL ENGINEER R.C.E.
EXP.

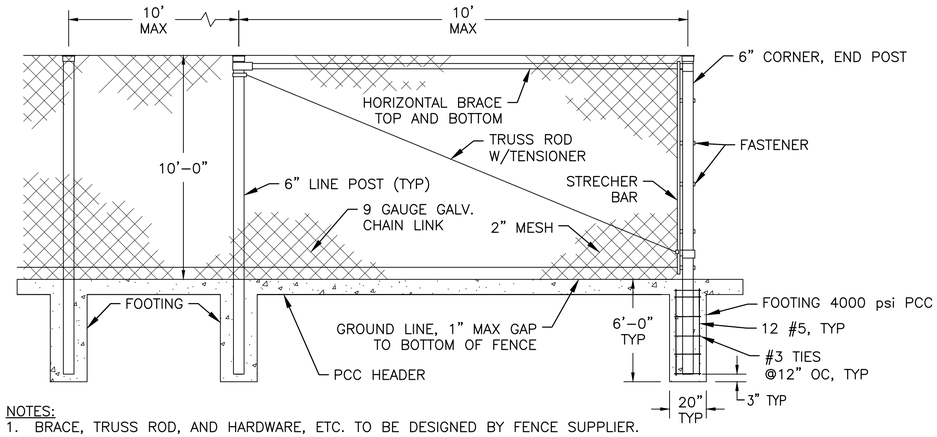
APPROVED: DATE
MANAGER OF ENGINEERING R.C.E.
EXP.

DESIGN	JDV
DRAWN	AJR
CHECK	KMC
AS BUILT	
DATE	7/31/2025
HORIZ.	1"=X'
VERT.	1"=X'
BOOK	

CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

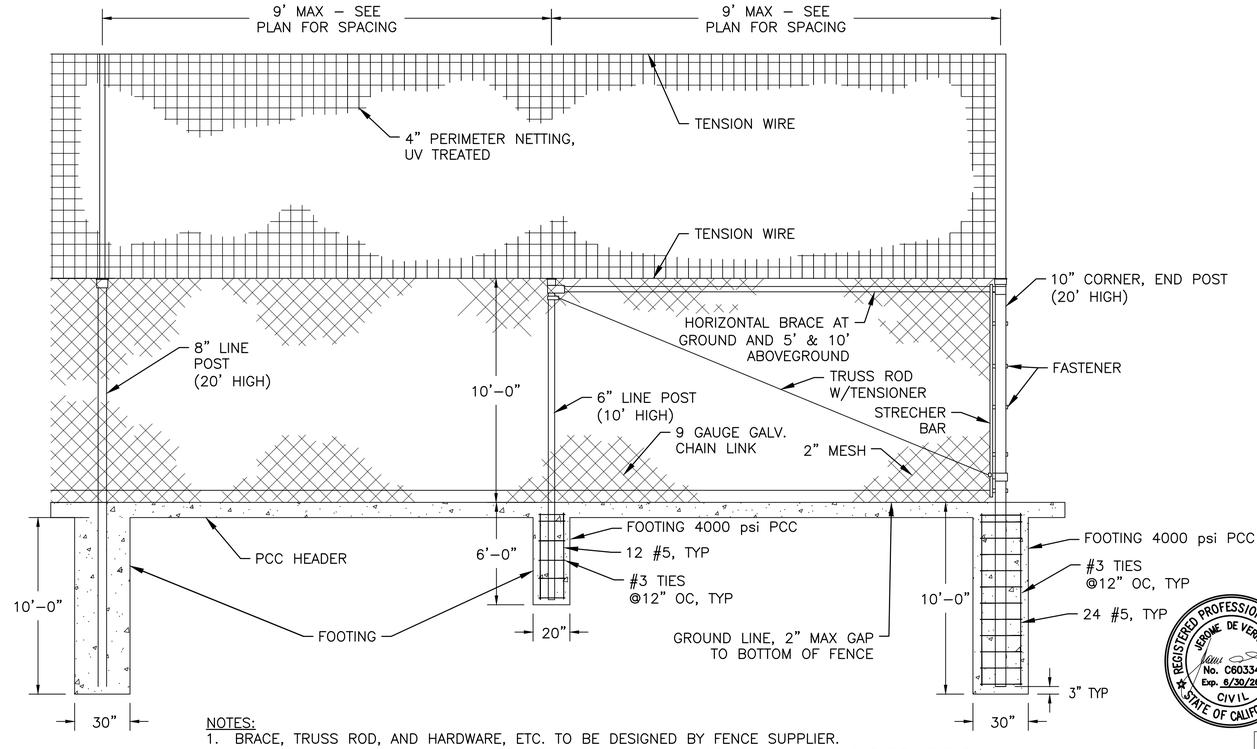
SITE DETAILS
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406–223
CS-503
SHEET 20 OF 92



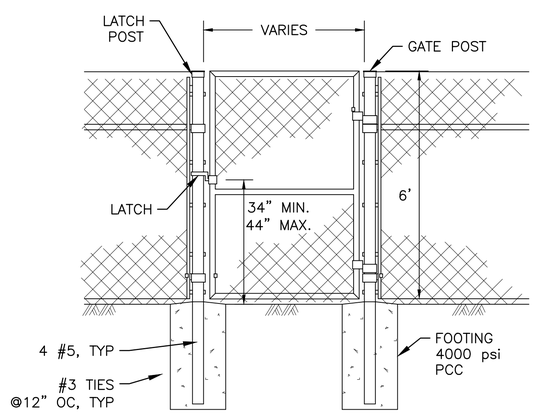
NOTES:
1. BRACE, TRUSS ROD, AND HARDWARE, ETC. TO BE DESIGNED BY FENCE SUPPLIER.
2. PROVIDE FULL HEIGHT WIND SCREENING MATERIAL TO ALL 10' HIGH FENCE ON THE OUTSIDE OF THE CHAIN LINK FABRIC. SEE SPECIFICATIONS.
3. WIND SCREENING MATERIAL NOT REQUIRED ON THE SEPARATION FENCE BETWEEN THE CONCRETE COURTS.

1 10' HIGH CHAIN LINK FENCE (PICKLEBALL COURTS)
CS-101 | CS-504 NTS

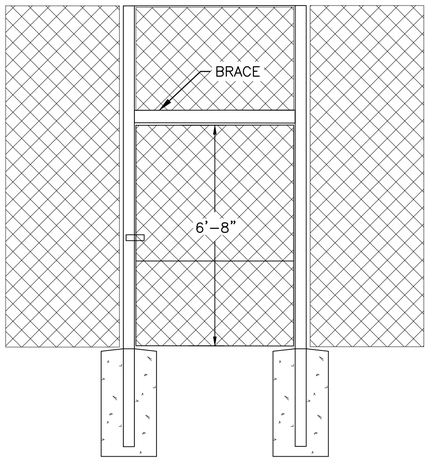


NOTES:
1. BRACE, TRUSS ROD, AND HARDWARE, ETC. TO BE DESIGNED BY FENCE SUPPLIER.
2. PROVIDE 10' HIGH WIND SCREENING MATERIAL TO BOTTOM 10' OF FENCE ON THE OUTSIDE OF THE CHAIN LINK FABRIC. SEE SPECIFICATIONS.
3. TIE NETTING TO TENSION WIRES AT TOP AND BOTTOM OF NETTING AND TIE LOWER TENSION WIRE TO CHAIN LINK FENCING BELOW.
4. ALTERNATE THE 8" AND 6" DIAMETER POSTS. SEE DETAIL 1/CS-502 REGARDING LOCATION OF POSTS WITHIN THE HEADER.

2 20' HIGH CHAINLINK/NETTING FENCE (SOCCER FIELD)
CS-101 | CS-504 NTS



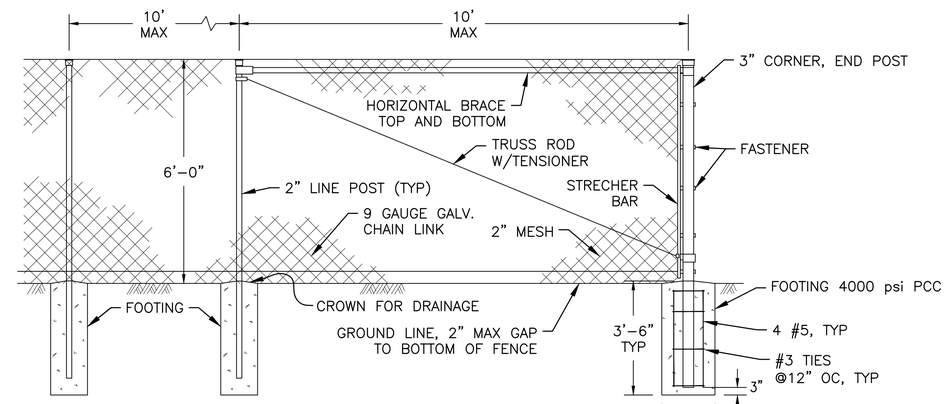
6' HIGH FENCE



10' AND 20'HIGH FENCE

NOTES:
1. PEDESTRIAN GATE TO INCLUDE STRIKE AND LATCH ACCEPTABLE TO THE OWNER AND COMPLIANT WITH ADA GUIDELINES OF CBC 11B-404. 1
2. GATE TO BE DESIGNED BY FENCE SUPPLIER.
3. SEE RESPECTIVE FENCE DETAILS FOR FENCE SPECIFICATIONS.
4. PROVIDE SMOOTH, LEVEL LANDING AT BOTH SIDES OF GATE; MAX 1/2" THRESHOLD HEIGHT.
5. GATE HARDWARE TO BE OPERABLE WITH ONE HAND, MOUNTED 34"-44" ABOVE FINISHED SURFACE.
6. PROVIDE MINIMUM CLEAR SPACE FOR GATE MANEUVERING ON PUSH AND PULL SIDES.
7. GATE SURFACE TO BE SMOOTH WITHIN 10" OF GROUND; NO SHARP OR ABRASIVE EDGES.
8. GATE CLOSERS TO ALLOW SLOW, CONTROLLED CLOSING; SPRING HINGES TO CLOSE SLOWLY.
9. OPENING FORCE SHALL NOT EXCEED 5 LBS (22 N).
10. FOOTING DIMENSIONS TO MATCH THOSE OF ADJOINING FENCE.
11. FOR DOUBLE SWING GATES, PROVIDE APPROPRIATE HARDWARE TO PREVENT THE GATES FROM MOVING WHILE LATCHED.

3 SWING GATE
CS-101 | CS-504 NTS



NOTES:
1. BRACE, TRUSS ROD, AND HARDWARE, ETC. TO BE DESIGNED BY FENCE SUPPLIER.
2. NO WIND SCREENING MATERIAL REQUIRED FOR 6' HIGH FENCE.
3. THE PORTION OF FENCE WITHIN THE OPEN PLAZA SHALL BE ANCHORED TO THE MAT SLAB VIA A PLATE WELDED TO THE BOTTOM OF POST.

4 6' HIGH CHAIN LINK FENCE
CS-101 | CS-504 NTS

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	CORRECTIONS FIRST	7/31/2025	
			APPROVAL

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2000 CENTER STREET
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BERKELEY, CA 94704
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NO SCALE
0 1 2 3
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MANAGER OF ENGINEERING R.C.E. EXP.

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DRAWN AJR
CHECK KMC
AS BUILT
HORIZ. 1"=X'
VERT. 1"=X'
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CITY OF BERKELEY
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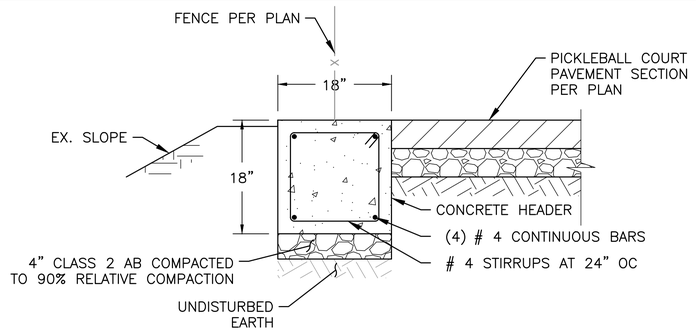
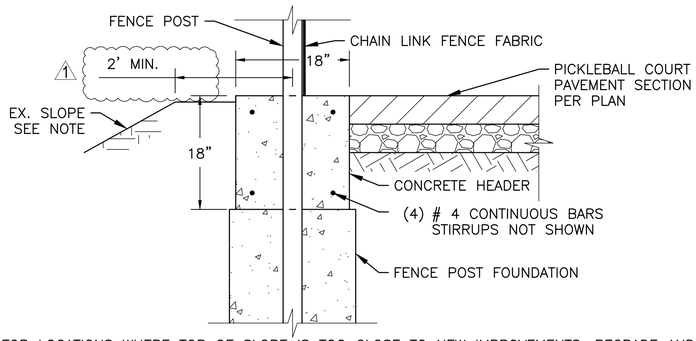
SITE DETAILS
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
CS-504
SHEET 21 OF 92



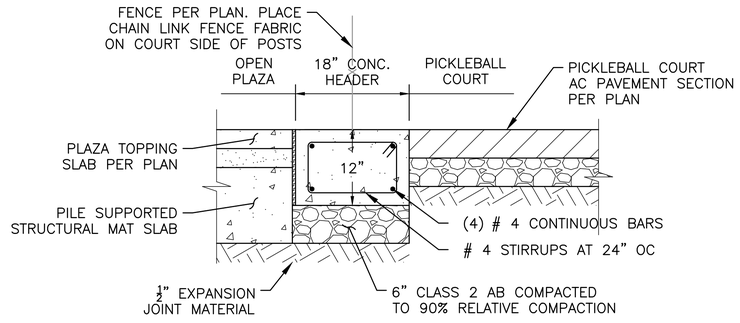
NOTE: SEE SECTION B FOR TOP OF SLOPE LOCATION RELATIVE TO FENCE AND INFORMATION ON PROVIDING SUFFICIENT DIMENSION.

A AC PICKLEBALL COURT HEADER SECTION AT SLOPE
NTS

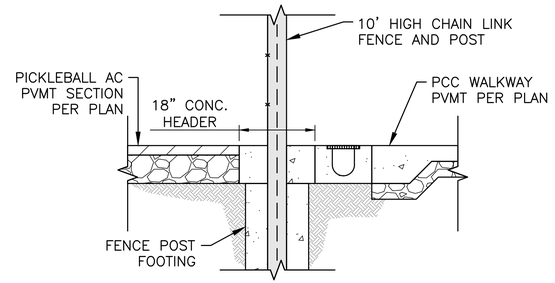


NOTE: FOR LOCATIONS WHERE TOP OF SLOPE IS TOO CLOSE TO NEW IMPROVEMENTS, REGRADE AND COMPACT THE SLOPE TO MINIMUM 85% OF RELATIVE COMPACTION. SLOPE SHALL NOT BE STEEPER THAN 2.5:1 (H:V).

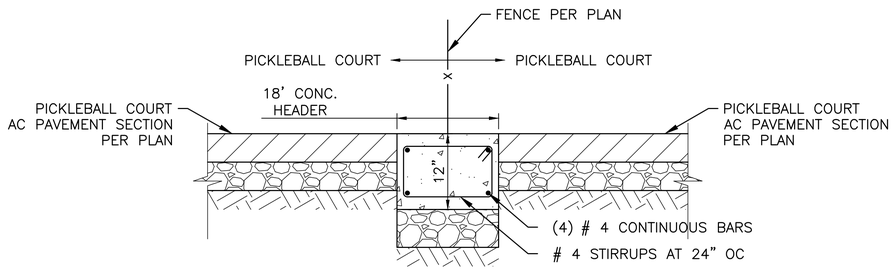
B AC PICKLEBALL COURT HEADER SECTION AT SLOPE AND FENCE POST
NTS



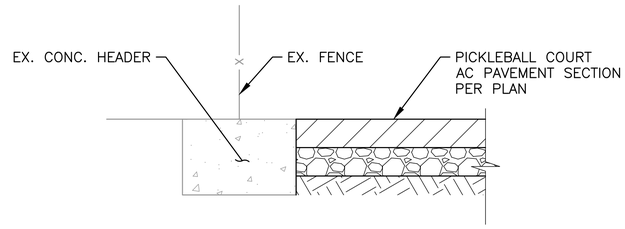
C AC PICKLEBALL COURT HEADER SECTION AT OPEN PLAZA
NTS



D TRENCH DRAIN SECTION BETWEEN AC PICKLEBALL COURT AND WALKWAY PAVEMENT
NTS



E SECTION BETWEEN AC PICKLEBALL COURT and AC PICKLEBALL COURT
NTS



F AC PICKLEBALL COURT SECTION AT EXISTING CONCRETE HEADER
NTS

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CITY OF BERKELEY
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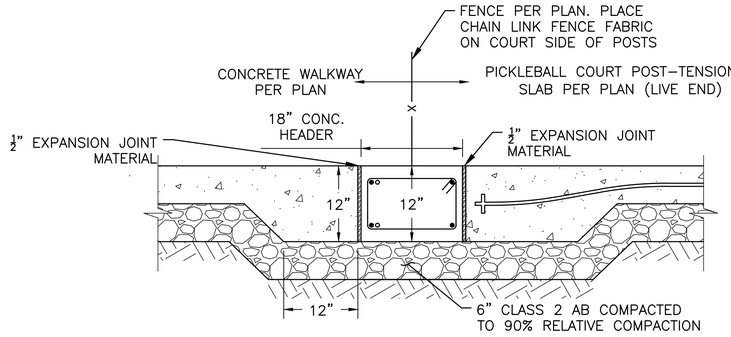
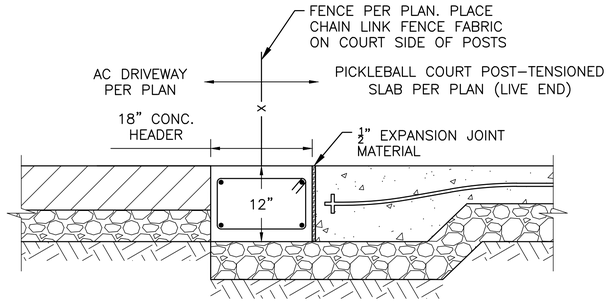
SITE DETAILS
TOM BATES REGIONAL SPORTS COMPLEX

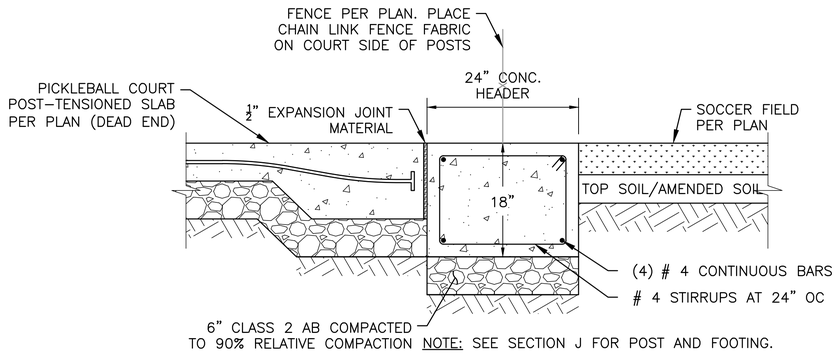
PLAN 8297
FILE 406-223
CS-505
SHEET 22 OF 92



G CONCRETE PICKLEBALL COURT SECTION AT WALKWAY
NTS

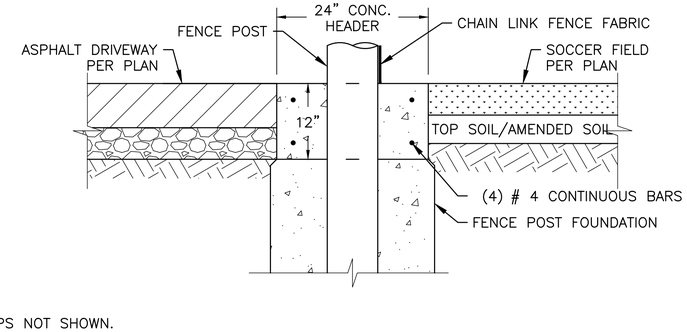


H CONCRETE PICKLEBALL COURT SECTION AT AC DRIVEWAY
NTS



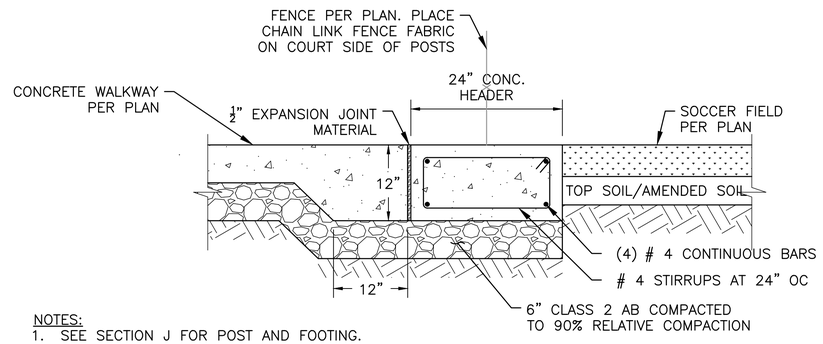
NOTE: SEE SECTION J FOR POST AND FOOTING.

I SOCCER FIELD HEADER AT CONCRETE PICKLEBALL COURT
NTS



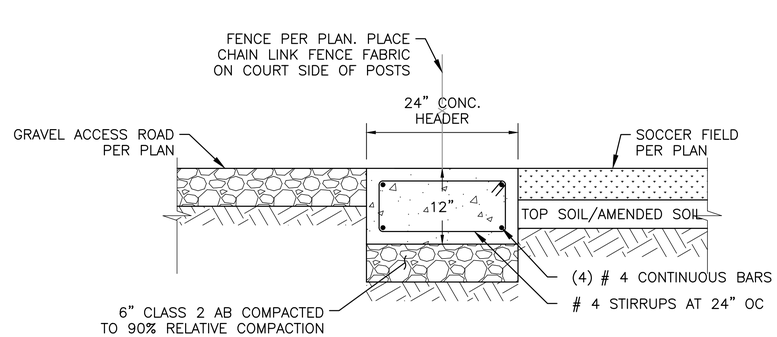
NOTE: STIRRUPS NOT SHOWN.

J SOCCER FIELD HEADER AT ASPHALT DRIVEWAY AND FENCE POST
NTS



NOTES:
1. SEE SECTION J FOR POST AND FOOTING.
2. PROVIDE 3" CLEARANCE FROM REINFORCEMENT TO EDGE OF CONCRETE ON SIDE AND BOTTOM, AND 2" CLEARANCE AT THE TOP.

K SOCCER FIELD HEADER AT CONCRETE WALKWAY
NTS



NOTE: SEE SECTION J FOR POST AND FOOTING.

L SOCCER FIELD HEADER AT GRAVEL ACCESS ROAD
NTS

NOTE: SEE SHEET CS–101 FOR LIMITS OF BASE BID AND BID ALTERNATES.

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APPROVAL

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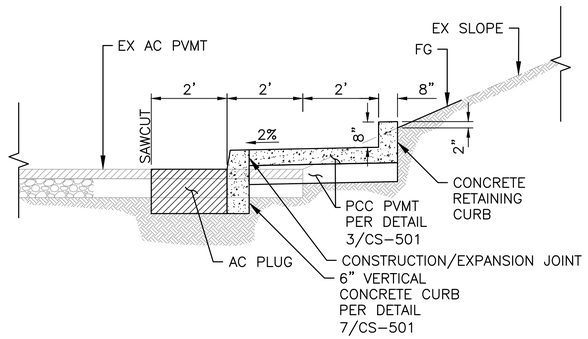
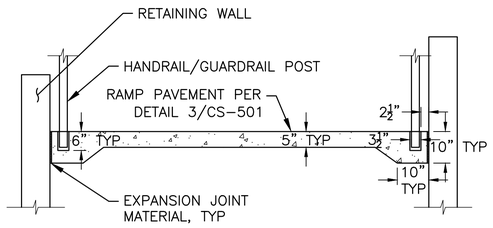
SITE DETAILS
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406–223
CS-506
SHEET 23 OF 92

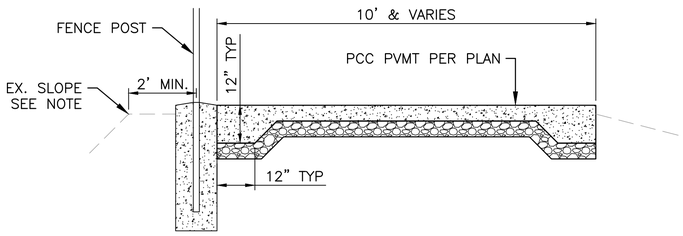


NOTE: REMOVE EXISTING AC PAVEMENT IN CONFLICT WITH NEW IMPROVEMENTS

(M) SIDEWALK SECTION
NTS



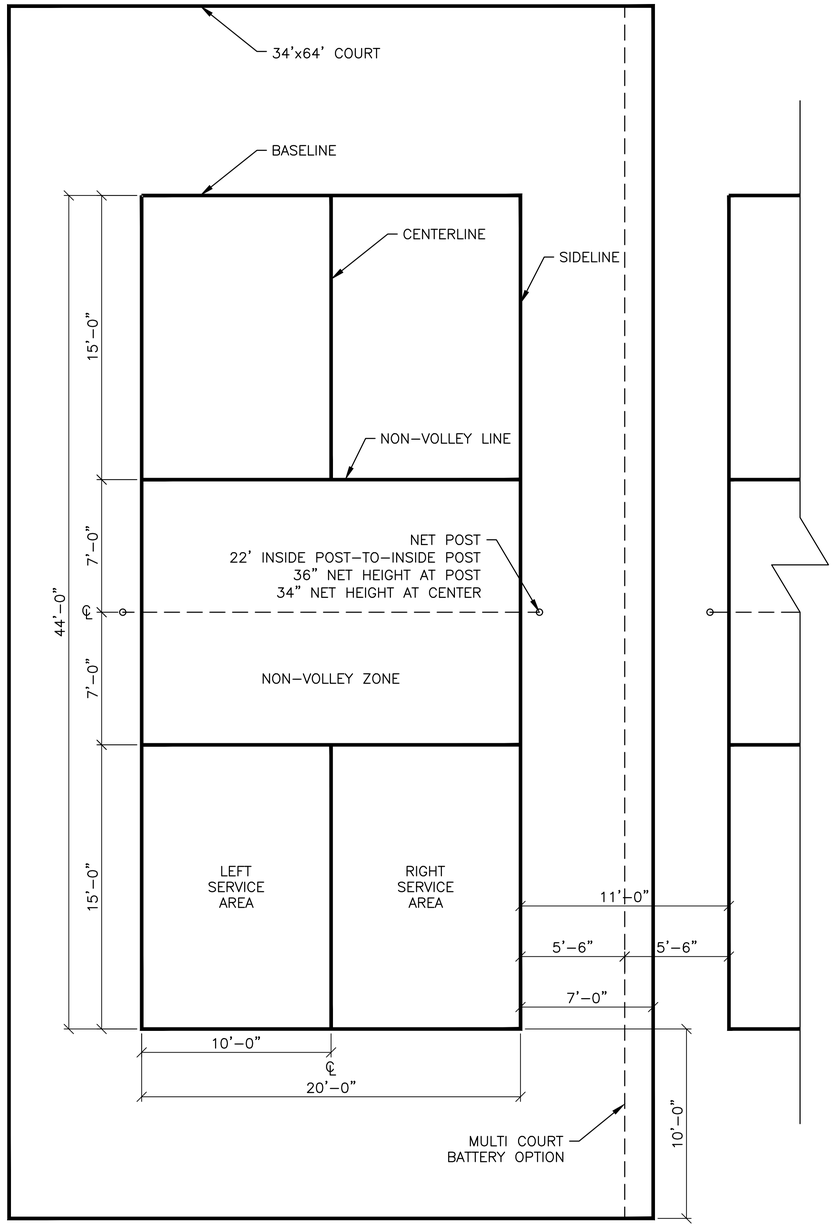
(N) TYPICAL RAMP SECTION
NTS



NOTE: FOR LOCATIONS WHERE TOP OF SLOPE IS TOO CLOSE TO NEW IMPROVEMENTS, REGRADE AND COMPACT THE SLOPE TO MINIMUM 85% OF RELATIVE COMPACTION. SLOPE SHALL NOT BE STEEPER THAN 2.5:1 (H:V).

(O) TYPICAL WALKWAY SECTION
NTS

NOTE: SEE SHEET CS-101 FOR LIMITS OF BASE BID AND BID ALTERNATES.



NOTES:
1. ALL DIMENSIONS ARE TO THE OUTSIDE EDGE OF LINES.
2. LINES SHALL BE 2" WIDE.

(1) PICKLEBALL COURT LAYOUT
CS-101 | CS-507
NTS

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Exp. 6/30/26
CIVIL
STATE OF CALIFORNIA

REVISION	MARK	DATE	DESCRIPTION
		7/31/2025	PERMIT SET

APPROVAL

PERMIT SET

TRANSYSTEMS
2000 CENTER STREET
SUITE 303
BERKELEY, CA 94704
PHONE: (510) 835-2761

NO SCALE
0 1 2 3
FOR REDUCED PLANS – ORIGINAL SCALE IS IN INCHES

DEPICTION OF MONUMENTS: DATE
SURVEY PARTY CHIEF
WATERSHED REVIEW: DATE

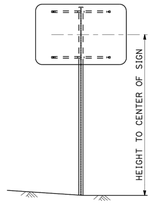
SUBMITTED: DATE R.C.E. EXP.
SUPERVISING CIVIL ENGINEER
APPROVED: DATE R.C.E. EXP.
MANAGER OF ENGINEERING

DESIGN JDV
DRAWN AJR
CHECK KMC
AS BUILT
HORIZ. 1"=X'
VERT. 1"=X'
BOOK
DATE 7/31/2025

CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

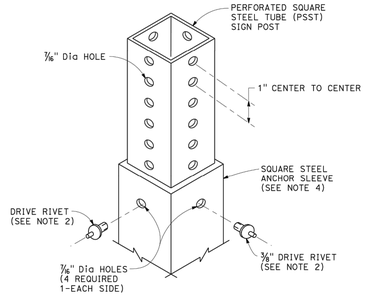
SITE DETAILS
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
CS-507
SHEET 24 OF 92

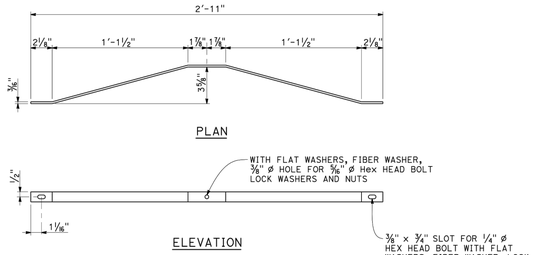


SINGLE POST INSTALLATION

POST SIZE	Max AREA (SQUARE FEET) OF SIGN							SLEEVE SIZE
2" x 2" x 12 Ga	10.8	8.9	7.6	6.6	5.9	5.3	4.8	2¼" x 2¼" x 10 Ga
2½" x 2½" x 10 Ga	20	18	16	14	12	11	10	2¾" x 2¾" x 10 Ga
HEIGHT TO CENTER OF SIGN SINGLE POST GROUND SIGNS 100 MPH WIND SPEED	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	11'-0"	-

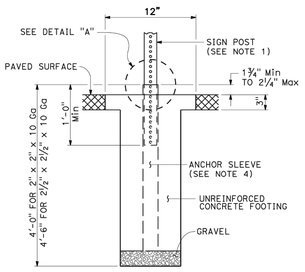


DETAIL "A"

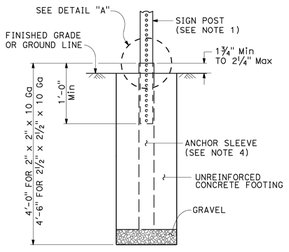


BACK BRACE DETAIL

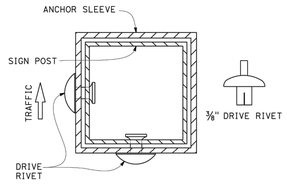
See note 1



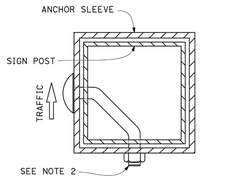
ANCHOR SLEEVE IN PAVED SURFACE



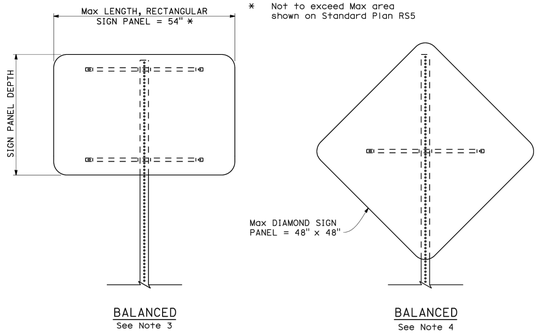
ANCHOR SLEEVE IN UNPAVED SURFACE



FASTENER



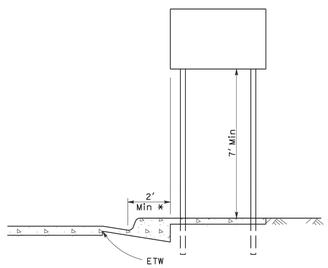
FASTENER ALTERNATIVE



SINGLE POST INSTALLATION

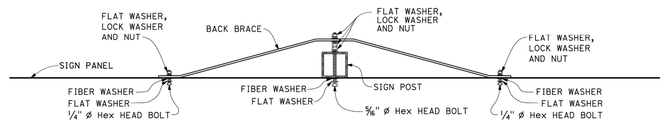
NOTES:
1. THE SIGN POST SHALL HAVE 7/16" DIAMETER PERFORATIONS 1" ON CENTER ON ALL FOUR SIDES FOR THE FULL LENGTH.
2. USE TWO DRIVE RIVETS TO FASTEN ASSEMBLED SIGN AND SIGN POST INTO ANCHOR SLEEVE. INSTALL DRIVE RIVETS OR FASTENER ALTERNATIVE INTO THE SIDES FACING TRAFFIC.
3. ALL STEEL SIGN POSTS AND ANCHOR SLEEVES SHALL BE GALVANIZED.
4. ALL ANCHOR SLEEVES SHALL BE EMBEDDED IN PCC.
5. STEEL POST: FY = 60 KSI

1 CS-101 CS-508 ROADSIDE SIGN PSST POST TYPICAL INSTALLATION DETAILS
NTS



* 1' Min WHERE LATERAL CLEARANCE LIMITED

3 CS-101 CS-508 URBAN ROADSIDE SIGN TYPICAL INSTALLATION
NTS



BACK BRACE MOUNTING DETAIL

See Note 1

NOTES:
1. BALANCED SINGLE POST INSTALLATIONS OF SINGLE SHEET ALUMINUM PANEL SIGNS REQUIRE BACK BRACES WHEN 2'–10" OR MORE IN LENGTH.
2. WOOD BLOCK SPACERS ARE NOT REQUIRED FOR SIGNS MOUNTED ON METAL POSTS.
3. ATTACH RECTANGULAR SIGN PANEL TO SIGN POST WITH BOLTS AT THE TOP AND BOTTOM. CENTER MAY BE ATTACHED WITH EITHER BOLT OR 3/8" DRIVE RIVETS.
4. ATTACH DIAMOND SIGN PANEL TO SIGN POST WITH BOLT AT CENTER. TOP AND BOTTOM MAY BE ATTACHED WITH EITHER BOLTS OR 3/8" DRIVE RIVETS.

2 CS-101 CS-508 ROADSIDE SIGN PSST POST TYPICAL INSTALLATION DETAILS
NTS

REGISTERED PROFESSIONAL ENGINEER
JEROME DE VERNEJOUL
No. C60334
Exp. 6/30/26
CIVIL
STATE OF CALIFORNIA

REVISION	MARK	DATE	DESCRIPTION	APPROVAL
		7/31/2025	PERMIT SET	

PERMIT SET

TRANSYSTEMS
2000 CENTER STREET
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BERKELEY, CA 94704
PHONE: (510) 835-2761

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MANAGER OF ENGINEERING R.C.E.

DESIGN JDV
DRAWN AJR
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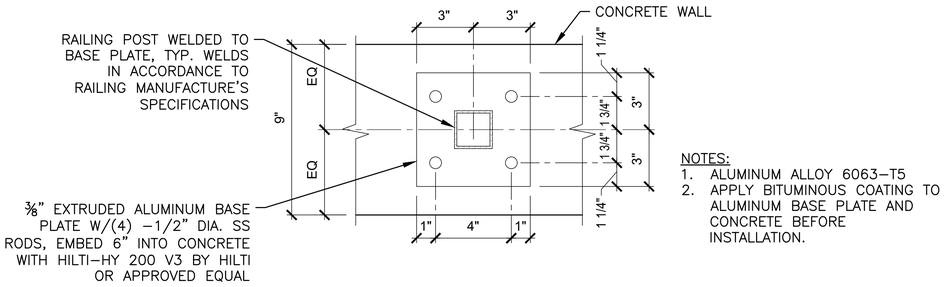
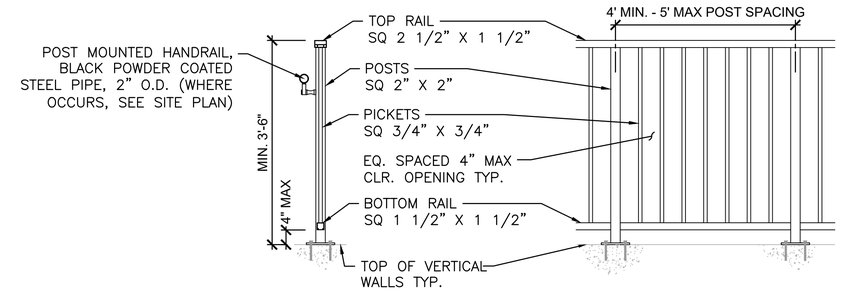
SITE DETAILS
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
CS-508
SHEET 25 OF 92



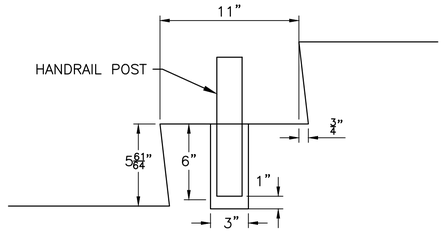
NOTES:
1. ALUMINUM ALLOY 6063–T5
2. APPLY BITUMINOUS COATING TO ALUMINUM BASE PLATE AND CONCRETE BEFORE INSTALLATION.



SIDE VIEW FRONT VIEW

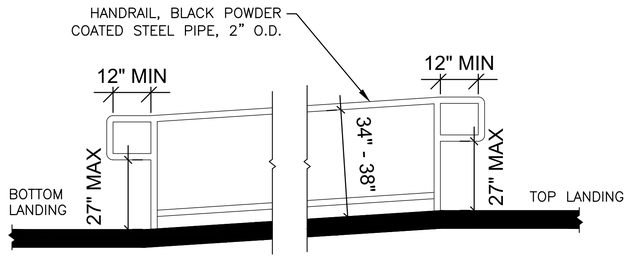
NOTES:
1. MANUFACTURER: ATR TECHNOLOGIES, INC OR APPROVED EQUAL MODEL: STYLE 6A (2 LINE) ALUMINUM PICKET GUARDRAIL.
2. BASE PLATES AND ANCHORS TO BE COORDINATE BY MANUFACTURER'S RECOMMENDATIONS.
3. ANCHOR BOLTS MEANT FOR TOP OF RETAINING WALL INSTALLATION ONLY. ALL OTHER LOCATIONS WILL BE INSTALLED VIA POST POCKET PER SECTION P/CS–507 AND DETAIL 3/CS–509.

1 CS-101 CS-509 TYPICAL GUARDRAIL DETAILS
NTS

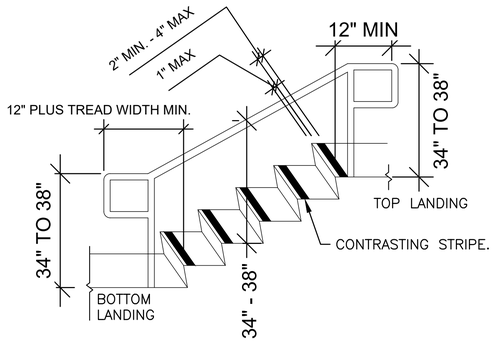


NOTE: SEE STRUCTURAL SHEETS FOR REINFORCEMENT AND OTHER STRUCTURAL DETAILS.

3 CS-101 CS-509 TYPICAL STAIR SECTION
NTS



TYPICAL RAMP HANDRAIL EXTENSIONS



TYPICAL STAIR HANDRAIL EXTENSIONS

2 CS-101 CS-509 TYPICAL HANDDRAIL DETAILS
NTS

REGISTERED PROFESSIONAL ENGINEER
JEROME DE VERNEJOUL
No. C60334
Exp. 6/30/26
CIVIL
STATE OF CALIFORNIA

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		APPROVAL
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REVISION

PERMIT SET

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CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

SITE DETAILS
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406–223
CS-509
SHEET 26 OF 92

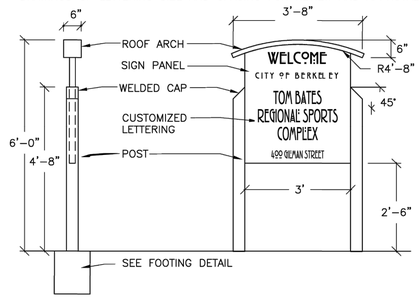
GENERAL NOTES:
1. THE CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT (USA) AT (800) 642–2444 AT LEAST THREE WORKING DAYS BEFORE EXCAVATING.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING, POTHOLING (IF NECESSARY), AND PROTECTING EXISTING UTILITIES.
3. THE CONTRACTOR SHALL PROTECT ALL EXISTING IMPROVEMENTS NOT DESIGNATED FOR REMOVAL AND SHALL RESTORE DAMAGED OR TEMPORARILY RELOCATED IMPROVEMENTS TO A CONDITION EQUAL TO OR BETTER THAN THEY WERE PRIOR TO SUCH DAMAGE OR TEMPORARY RELOCATION.
4. CONTACT CITY REPRESENTATIVE TO ARRANGE A WALK THROUGH OF THE SITE TO STAKE THE EXACT INSTALLATION LOCATION PRIOR TO EXCAVATION FOR SIGN FOOTINGS.
5. CONTACT THE CITY ARBORIST AT LEAST 48 HOURS IN ADVANCE OF PERFORMING WORK UNDER THE DRIP LINE OF EXISTING TREES AND WHEN EXCAVATION IS PLANNED WITHIN THE ROOT SYSTEM OF THE TREE. THE CITY WILL REVIEW EACH LOCATION ON A CASE–BY–CASE BASIS TO CONFIRM THE ALLOWABLE EXTENT OF ROOT AND BRANCH PRUNING.

SIGN NOTES:
1. SIGN STRUCTURE IS ROUNDED EDGE STEEL WITH POWDER–COATED FINISH, FORMED AND WELDED STEEL CONSTRUCTION. SUBMIT SHOP DRAWINGS FOR REVIEW AND APPROVAL.
2. ALL SCREWS SHALL BE FLAT HEAD MACHINE SCREWS. STRUCTURE TUBING, POSTS, AND FRAME SHALL BE PRE–DRILLED AND TAPPED TO ACCEPT SCREWS.
3. STEEL SHALL BE CLEANED TO REMOVE DIRT AND GREASE, SAND BLASTED PRIOR TO POWDER COATING.
4. COLOR TO MATCH CITY STANDARD DESIGN: ROOF ARCH (ORANGE/YELLOW PMS 152); SIGN PANEL (GREEN PMS 357); POST (GRAY PMS 425), AND LETTERING (NO COLOR – ALUMINUM WITH BRUSHED METAL FINISH). SUBMIT COLOR SAMPLES FOR REVIEW AND APPROVAL.
5. REPAIR DAMAGED TURF OR SITE IMPROVEMENTS IN KIND OR BETTER.

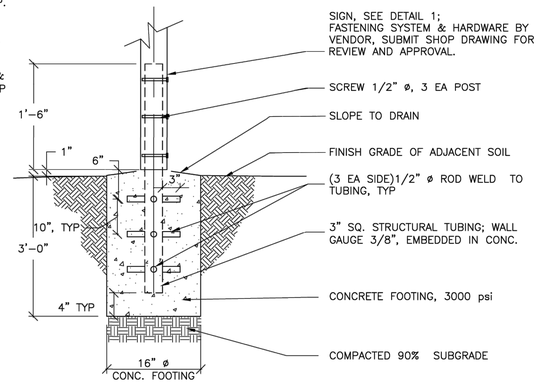
SIGN POST:
4" SQ STEEL TUBING, WALL GAUGE:1/4", WEIGHT 12.21lb/ft, W/ WELDED CAP.

SIGN PANEL:
FABRICATED STEEL, 3/16" THICK. POWDER COATED, SINGLE OR DOUBLE SIDED.

SIGN LETTERING AND FONT:
PINNED (MOUNTED THROUGH) BRUSHED ALUMINUM CENTERED LETTERS (3/8" & 1/2") CLEAR COATED, RENNIE MACKINTOSH FONT. SUBMIT MOCK–UP ON SHOP DRAWINGS OF LETTERING SIZE AND SPACING FOR REVIEW AND APPROVAL.



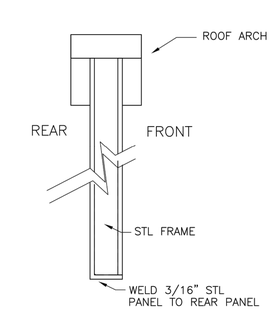
1 SIGN
1/2"=1'–0"



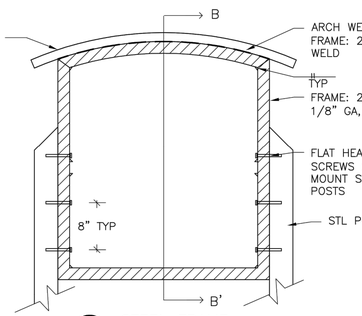
2 FOOTING
1"=1'–0"

0 1 2 FOR REDUCED PLANS – ORIGINAL SCALE IS IN INCHES	APPROVED: DATE _____ DIRECTOR OF PARKS RECREATION & WATERFRONT	DESIGN YK DRAWN EC/MS CHECK SF AS BUILT _____	HORIZ. NONE VERT. NONE BOOK _____ DATE 12/2017	CITY OF BERKELEY PARKS RECREATION & WATERFRONT DEPARTMENT	MONUMENT SIGN CONSTRUCTION DETAILS	PLAN 8167 FILE 406–203 SHEET 1 OF 2	

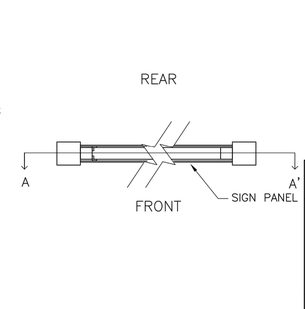
1 MONUMENT SIGN DETAIL
CS-101 | CS-510 NTS



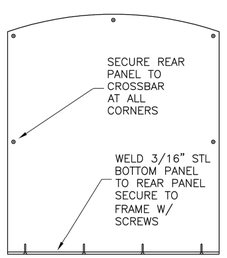
1 SECTION BB'
NTS



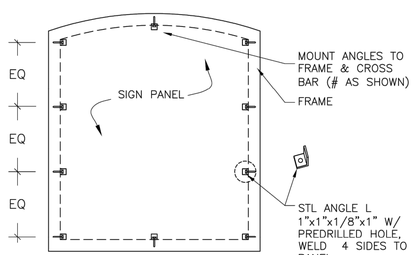
2 STEEL FRAME
1"=1'–0"



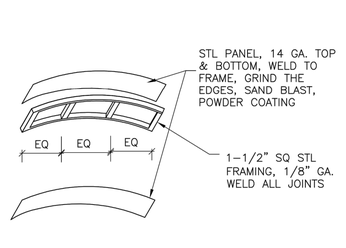
3 CROSS SECTION
1"=1'–0"



4 REAR VIEW
1"=1'–0"



5 SECTION AA'
1"=1'–0"



6 ROOF ARCH
1/2"=1'–0"

0 1 2 FOR REDUCED PLANS – ORIGINAL SCALE IS IN INCHES	APPROVED: DATE _____ DIRECTOR OF PARKS RECREATION & WATERFRONT	DESIGN YK DRAWN EC/MS CHECK SF AS BUILT _____	HORIZ. NONE VERT. NONE BOOK _____ DATE 12/2017	CITY OF BERKELEY PARKS RECREATION & WATERFRONT DEPARTMENT	MONUMENT SIGN CONSTRUCTION DETAILS	PLAN 8167 FILE 406–203 SHEET 2 OF 2	

REGISTERED PROFESSIONAL ENGINEER
JEROME DE VERNEIL
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REVISION	MARK	DATE	DESCRIPTION
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SITE DETAILS
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
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CS-510
SHEET 27 OF 92

STRUCTURAL NOTES:

DESIGN CODES AND STANDARDS

2022 EDITION OF THE CHICAGO BUILDING CODE
ASCE/SEI 7-16: MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES WITH SUPPLEMENT NO.1
AC318-19: BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
PTI-19: POST-TENSIONING INSTITUTE STANDARDS

DESIGN LOADS

DESIGN DEAD LOADS — WEIGHT OF BUILDING MATERIALS

DESIGN LIVE LOADS, PER CBC BUILDING CODE REQUIREMENTS, ARE AS FOLLOWS:

BLEACHERS	100 PSF
PICKLEBALL COURTS	40 PSF

SNOW LOADS

GROUND SNOW LOAD, pg	0.0 PSF

WIND LOADS

ULTIMATE WIND SPEED, Vu	87.0 MPH
NOMINAL WIND SPEED, V_{ASD}	67.4 MPH
RISK CATEGORY	I
WIND EXPOSURE CATEGORY, Iw	1.0
EXPOSURE CATEGORY	D
INTERNAL PRESSURE COEFFICIENT	±0.0
GUST EFFECT FACTOR	0.95

SEISMIC LOADS

RISK CATEGORY	I
IMPORTANCE FACTOR, Is	1.0
0.2s SPECTRAL RESPONSE ACCELERATION, S_S	1.879
1.0s SPECTRAL RESPONSE ACCELERATION, S_1	0.717
DESIGN SPECTRAL RESPONSE ACCELERATION, S_{DS}	1.504
DESIGN SPECTRAL RESPONSE ACCELERATION, S_{D1}	REQUIRE SITE-SPECIFIC GROUND MOTION HAZARD ANALYSIS PER ASCE 7-16, SECTION 11.

CAST-IN-PLACE CONCRETE:

REFERENCE STANDARDS:
EXCEPT AS INDICATED, ALL CONCRETE WORK AND DETAILING, FABRICATION AND PLACING OF REINFORCING SHALL BE GOVERNED BY:

ACI 301, SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS, 2016.

ACI 305.1, HOT WEATHER CONCRETING, 2014.

ACI 306, COLD WEATHER CONCRETING, 2016.

ACI 315, DETAILS AND DETAILING OF CONCRETE REINFORCEMENT, 2018.

ACI 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, 2019.

THE CAST-IN-PLACE CONCRETE AT 28 DAYS OF AGE MINIMUM STRENGTH SHALL BE AS FOLLOWS: EXTERIOR SLAB-ON-GRADE, SHALL BE MINIMUM 3,000 PSI. ALL CONCRETE SHALL HAVE 3/4" MAXIMUM AGGREGATE SIZE, 4" MAXIMUM SLUMP AND MAXIMUM W/C RATIO OF 0.40, ALL CONCRETE SHALL BE TYPE I/II CONCRETE.

1. ALL EXPOSED CONCRETE TO SNOW AND ICE AND IN CONTACT WITH SOIL INCLUDING EXTERIOR SLAB-ON-GRADE SHALL HAVE 6% AIR ENTRAINMENT, POZZOLANS ARE PROHIBITED AS A CEMENT ALTERNATE.
2. FLY ASH MUST BE USED AS A CEMENT ALTERNATIVE. FLY ASH: ASTM C618, TYPE F OR C, WHEN USED, FLY ASH TO TOTAL CEMENTITIOUS RATIO SHALL BE 15% MINIMUM, 25% MAXIMUM. GROUND GRANULATED BLAST FURNACE SLAG: ASTM C989. TOTAL GROUND GRANULATED LAST FURNACE SLAG TO TOTAL CEMENTITIOUS RATIO SHALL NOT EXCEED 50% MAXIMUM. SLAG SHALL NOT BE USED IN COMBINATION WITH FLY ASH AND SLAG MAY BE USED IN AREAS WHERE THEY ARE NOT AFFECTED BY STRAY CURRENT. FLY ASH OR GROUND GRANULATED BLAST FURNACE SLAG: WHEN EXPOSED TO DEICING CHEMICALS, LIMIT THE MAXIMUM WEIGHT TO THE PERCENTAGES OF THE TOTAL WEIGHT OF CEMENTITIOUS MATERIALS PER ACI 301.
3. PLASTICIZING AND RETARDING ADMIXTURE: ASTM C1017. WATER REDUCING ADMIXTURE: ASTM C494. CHLORIDE CONTENT OF CONCRETE: LIMIT TOTAL CHLORIDE ION CONTENT TO AMOUNT INDICATED IN TABLE 4.2.2.7.d OF ACI 301-10 (EXPOSURE CLASS CO UNLESS NOTED OTHERWISE). ADMIXTURES CONTAINING CHLORIDE ARE NOT PERMITTED IN REINFORCED CONCRETE OR CONCRETE CONTAINING METALS.
4. SEAL EXPOSED SURFACES WITH HYDROZO 100 PLUS OR APPROVED EQUAL.

HORIZONTAL CONSTRUCTION JOINTS IN CONCRETE POURS SHALL BE PERMITTED ONLY WHERE INDICATED ON THE DRAWINGS. SUBMIT PROPOSED LOCATIONS FOR CONSTRUCTION JOINTS NOT SHOWN ON THE DRAWINGS FOR REVIEW BY THE STRUCTURAL ENGINEER OF RECORD. ADDITIONAL CONSTRUCTION JOINTS MAY REQUIRE ADDITIONAL REINFORCEMENT AS SPECIFIED BY THE STRUCTURAL ENGINEER OF RECORD, WHICH MUST BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST.

EMBEDDED CONDUITS, PIPES, AND SLEEVES SHALL MEET THE REQUIREMENTS OF ACI 318, SECTION 6.3, INCLUDING THE FOLLOWING:

1. CONDUITS AND PIPES EMBEDDED WITHIN A SLAB (OTHER THAN THOSE PASSING THROUGH) SHALL NOT BE LARGER IN OUTSIDE DIMENSION THAN 1/3 THE OVERALL THICKNESS OF THE SLAB, WALL OR BEAM IN WHICH THEY ARE EMBEDDED.
2. CONDUITS, PIPES AND SLEEVES SHALL NOT BE SPACED CLOSER THAN THREE DIAMETERS.
3. ALL CONDUITS AND PIPES THROUGH SLABS SHALL BE APPROVED BY ENGINEER OF RECORD BEFORE CONSTRUCTION.

CONCRETE MIX DESIGNS MUST BE SUBMITTED FOR APPROVAL A MINIMUM OF 15 DAYS PRIOR TO THE PLACEMENT OF CONCRETE IN PLANT OR FIELD. ANY ADJUSTMENT TO THE APPROVED MIX DESIGNS, INCLUDING CHANGES TO THE ADMIXTURES, MUST BE SUBMITTED FOR APPROVAL PRIOR TO THE PLACEMENT OF CONCRETE IN PLANT OR FIELD.

CONCRETE DESIGNED TO BE PUMPED SHALL BE SO NOTED ON THE MIX DESIGNS AND SHALL HAVE MIX PROPORTIONS COMPATIBLE WITH THE PUMPING PROCESS.

ALL MAJOR DEFECTIVE AREAS IN CONCRETE INCLUDING HONEYCOMBS, CRACKS IN EXCESS OF 0.01", AND SPALLS THAT OCCUR IN LOAD CARRYING MEMBERS VITAL TO STRUCTURAL INTEGRITY SHALL BE REPAIRED USING EPOXY ADHESIVE, EPOXY MORTAR AND/OR POLYMER CONCRETE, EXTENT AND DETERMINATION OF MAJOR DEFECTIVE AREAS SHALL BE DETERMINED BY THE ENGINEER OF RECORD.

UNLESS SPECIFIED OTHERWISE, SLAB ON GRADE CONSTRUCTION SHALL FOLLOW THE RECOMMENDATIONS OF GUIDE FOR CONCRETE FLOOR AND SLAB CONSTRUCTION ACI 302.1R. LATEST EDITION, DURING PLACEMENT OF THE CONCRETE SLABS, TAKE ALL NECESSARY STEPS TO AVOID PLASTIC CRACKS DUE TO WEATHER CHANGES, CURE ALL CONCRETE ACCORDING TO ACI 308.1 AND SPECIFICATIONS.

WHERE ANY OPENING REQUIRED FOR THE WORK IS NOT INDICATED, OBTAIN APPROVAL FROM THE ENGINEER OF RECORD BEFORE PROCEEDING WITH THE WORK.

ALL CONCRETE USED ON THE PROJECT SHALL BE NORMAL WEIGHT.

AT SLAB OPENING CORNERS AND REENTRANT CORNERS, PROVIDE ADDITIONAL REINFORCEMENT PER TYPICAL DETAILS, UNO.

CONDUITS AND PIPES OF ALUMINUM SHALL NOT BE EMBEDDED IN STRUCTURAL CONCRETE UNLESS EFFECTIVELY COATED TO PREVENT ALUMINUM-CONCRETE REACTION OR ELECTROLYTIC ACTION BETWEEN ALUMINUM AND STEEL.

PROVIDE 1 TO 6 GALLONS PER CUBIC YARD MIGRATING CORROSION INHIBITOR SUCH AS RHEOCRETE OR APPROVED EQUAL DEPENDING ON LOCATION (EXTERIOR VERSUS INTERIOR).

IF CONCRETE ARRIVES AT THE POINT OF DELIVERY WITH A SLUMP BELOW THAT WHICH WILL RESULT IN THE SPECIFIED SLUMP, THE SLUMP MAY BE ADJUSTED ONCE ONLY TO THE REQUIRED VALUE BY ADDING WATER UP TO THE AMOUNT OF WATER WITHHELD AND ALLOWED IN THE ACCEPTED MIXTURE PROPORTIONS, DO NOT EXCEED SPECIFIED WATER-CEMENTITIOUS MATERIAL RATIO OR SLUMP IN THE APPROVED MIX DESIGN. DO NOT ADD WATER TO CONCRETE DELIVERED IN EQUIPMENT NOT ACCEPTABLE FOR MIXING. AFTER PLASTICIZING OR WATER REDUCING ADMIXTURES ARE ADDED TO THE CONCRETE AT THE SITE TO ACHIEVE FLOWABLE CONCRETE, DO NOT ADD WATER TO THE CONCRETE, MEASURE SLUMP (AND AIR CONTENT OF THE AIR ENTRAINED CONCRETE), AFTER SLUMP ADJUSTMENT, TO VERIFY COMPLIANCE WITH SPECIFIED REQUIREMENTS.

CONTRACTOR'S TWO-WEEK LOOKAHEAD SCHEDULE MUST INDICATE CONSTRUCTION HOLDS FOR ALL STRUCTURAL CONCRETE INSPECTIONS.

CONCRETE FORMWORK:

THE DESIGN, CONSTRUCTION, AND SAFETY OF ALL FORMWORK SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR, ALL FORMS, SHORES, BACKSHORES, FALSEWORK, BRACING,
AND OTHER TEMPORARY SUPPORTS SHALL BE ENGINEERED TO SUPPORT ALL LOADS IMPOSED INCLUDING THE WET WEIGHT OF CONCRETE, CONSTRUCTION EQUIPMENT, LIVE LOADS, LATERAL LOADS DUE TO WIND AND WET UNBALANCED CONCRETE. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR DETERMINING WHEN TEMPORARY SUPPORTS, SHORES, BACKSHORES, AND OTHER BRACING SHALL BE SAFELY REMOVED.

PROVIDE FORMWORK IN ACCORDANCE WITH ACI 301 SPECIFICATIONS FOR STRUCTURAL CONCRETE.

TRANSYSTEMS IS NOT RESPONSIBLE FOR THE DESIGN OF ANY TEMPORARY BRACING OR SHORING. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF ANY TEMPORARY BRACING OR SHORING.

THE CONTRACTOR'S ENGINEER SHALL SIGN AND SEAL ALL SHORING CALCULATIONS AND SHOP DRAWINGS. THE CONTRACTOR'S ENGINEER SHALL BE REGISTERED IN THE STATE THAT THE PROJECT IS DONE. A RECORD COPY OF ALL THE SHORING DESIGN CALCULATIONS AND SHOP DRAWINGS SHALL BE PROVIDED TO THE ENGINEER OF RECORD OF THE JOB FOR GENERAL CONFORMANCE REVIEW ONLY.

POST-INSTALLED ANCHORS

ALL POST-INSTALLED ANCHORS SHALL BE DRILL-IN EXPANSION TYPE ANCHORS UNLESS NOTED OTHERWISE ON THE DRAWINGS. ALL ANCHORS SHALL BE MANUFACTURED BY HILTI OR ENGINEER APPROVED EQUIVALENT. PROVIDE BACK-UP DATA BY MANUFACTURER SHOWING PROPOSED SUBSTITUTION ANCHORS MEET OR EXCEED CAPACITY OF SPECIFIED HILTI ANCHORS.

ALL ANCHORS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH HILTI'S INSTALLATION INSTRUCTIONS AND CURRENT ICC-ESR REPORT INCLUDING BUT NOT LIMITED TO CLEANING OF THE HOLE PRIOR TO ANCHOR INSTALLATION. ALL ANCHORS SHALL HAVE SPECIAL INSPECTIONS PERFORMED IN ACCORDANCE WITH THE STATEMENT OF SPECIAL INSPECTIONS.

ANCHORS FOR CONCRETE CONSTRUCTION SHALL BE HILTI KWIK TZ2 BOLTS UNLESS NOTED OTHERWISE ON THE DRAWINGS. ANCHORS SHALL BE SPACED AS SPECIFIED ON THE STRUCTURAL DRAWINGS.

POST TENSIONING CONCRETE:

MATERIAL, INSTALLATION, STRESSING AND FINISHING SHALL MEET THE REQUIREMENTS SET FORTH IN THE LATEST EDITION OF THE POST TENSIONING INSTITUTE (PTI) STANDARD REQUIREMENTS FOR DESIGN AND ANALYSIS OF SHALLOW POST-TENSIONING CONCRETE FOUNDATIONS ON EXPANSIVE SOILS (PTI DC 10.5-19) AND SPECIFICATION FOR UNBONDED SINGLE STRAND TENDONS USED FOR SLAB-ON-GROUND CONSTRUCTION (PTI M10.6).

P.T. STEEL QUALITY:
ONE SAMPLE OF EACH REEL SHALL BE TESTED BY AN APPROVED LABORATORY. TEST RESULTS SHALL BE SUBMITTED TO THE ENGINEER AND BUILDING DEPARTMENT BEFORE STRESSING OF TENDONS. POST-TENSIONING TENDONS SHALL BE STRESS RELIEVED OR LOW RELAXATION, AND CONFORM TO THE FOLLOWING:

DESCRIPTION	DATA
SEVEN WIRE STRAND ASTM DESIGNATION	A416
1/2" DIAMETER TENDON AREA	0.153 SQ IN
ULTIMATE STRENGTH (fpu)_	270 KSI
JACKING STRESS (0.80 fpu)	216 KSI
ANCHORING STRESS (0.70 fpu MAX)	189 KSI
EFFECTIVE DESIGN STRESS: LOW RELAXATION	175 KSI (*)

(*) HIGHER VALUES MAY BE USED WHEN SUPPORTED BY CALCULATION. CALCULATIONS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW.

ALL TENDONS TO BE COMPLETELY ENCAPSULATED, THE TRANSLUCENT SLEEVES AT THE DEAD ENDS, LIVE ENDS, AND INTERMEDIATE STRESSING ENDS SHALL BE COMPLETELY FILLED WITH THE CORROSION INHIBITING COATING MATERIAL.FORCES SHOWN ON STRUCTURAL DRAWINGS ARE EFFECTIVE FORCES AFTER ALL LOSSES. TOTAL LOSSES DUE TO KEEP SHRINKAGE STEEL RELAXATION AND ELASTIC SHORTENING MAY BE ASSUMED TO BE 14 KSI. THE POST-TENSIONING SUPPLIER SHALL PROVIDE FRICTION AND LONG-TERM CALCULATIONS FOR ENGINEER'S APPROVAL. REFERENCE SPECIFICATIONS FOR ADDITIONAL SHOP DRAWING SUBMITTAL REQUIREMENTS. ONE SAMPLE OF EACH REEL SHALL BE TESTED BY AN APPROVED LABORATORY. MILL CERTIFICATE MAY BE SUBMITTED IN LIEU OF INDEPENDENT TESTING. TEST RESULTS OR MILL CERTIFICATES SHALL BE SUBMITTED TO THE ENGINEER BEFORE ANY TENDONS ARE INSTALLED.

SHOP DRAWINGS:
CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER OF RECORD FOR REVIEW. THE DRAWINGS SHALL BE SEALED AND SIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF CALIFORNIA. SHOP DRAWINGS INCLUDE, BUT ARE NOT LIMITED TO:

1. TENDON LAYOUT: INCLUDING DIMENSIONS, LOCATING TENDONS IN HORIZONTAL PLAN. DETAIL HORIZONTAL CURVATURE OF TENDONS AT BLOCK-OUTS, OPENINGS IN SLAB AND BEAMS. CLEARLY DESIGNATE EACH TENDON.
2. TENDON PROFILES: SHOWING CHAIR HEIGHTS AND LOCATIONS AND REQUIRED SUPPORT STEEL. INCLUDE ALL ACCESSORIES SPECIFIED AND/OR REQUIRED TO SUPPORT POST-TENSIONED TENDONS AND MILD REINFORCING ASSOCIATED WITH POST-TENSIONED SYSTEM.
3. CLEARLY SHOW LOCATIONS OF EACH TENDON AND METHOD OF SUPPORT.
4. DETAILS OF ANCHORAGES, POCKET FORMERS, COUPLERS AND OTHER RELATED HARDWARE.
5. DETAILS OF SPECIAL REINFORCEMENT AROUND STRESSING POCKETS, CLOSURES AND OPENINGS, INCLUDING BURSTING REINFORCEMENT, AND ANY INTERFERENCE WITH TENDONS, COORDINATE WITH MILD REINFORCING STEEL DRAWINGS AS REQUIRED.
6. CLEARANCE REQUIREMENTS FOR THE HYDRAULIC JACKING REQUIREMENTS AND THE DIMENSIONS OF ANY STRESSING POCKET REQUIRED.
7. SEQUENCE OF CONSTRUCTION, INCLUDING INSTALLATION, POURING AND STRESSING SEQUENCES.
8. SHOW ALL CONSTRUCTION JOINTS AND/OR CLOSURE STRIPS AND RELATED TENDON DETAILS.
9. POST-TENSION SUPPLIER SHALL SUBMIT CALCULATIONS FOR DESIGN AND/OR SPECIFICATIONS OF THE POST-TENSIONING SYSTEM INCLUDING REQUIRED TENDONS, LOSSES, BEARING STRESSES, ELONGATIONS, ANCHORAGE, SPECIAL REINFORCEMENTS AROUND STRESSING POCKETS, CLOSURES AND OPENINGS INCLUDING BURSTING REINFORCEMENTS, COUPLINGS, TENDON SUPPORTS, AND TENDON STRESSING. THE CALCULATIONS SUBMITTED SHALL BE SEALED AND SIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF CALIFORNIA.
10. POST-TENSIONED SLAB-ON-GROUND DESIGN IS BASED ON TENDONS BEING CONTINUOUS BETWEEN SLAB EDGES AND BEAM ENDS AS SHOWN ON THE DRAWINGS, SUBMIT ANY INTERMEDIATE STRESSING JOINTS / LOCATIONS REQUIRED BY THE CONTRACTOR TO THE STRUCTURAL ENGINEER FOR REVIEW BEFORE STARTING CONSTRUCTION. ADDITIONAL REINFORCEMENT MAY BE REQUIRED BASED ON JOINT LOCATIONS.

CONTRACTOR SUBMISSIONS: A RECORD OF ALL JACKING FORCES AND FIELD MEASURED ELONGATION'S SHALL BE SUBMITTED TO THE ENGINEER.

FIELD PLACEMENT REVIEW: THE TENDON AND MILD STEEL INSTALLATION SHALL BE REVIEWED BY THE SPECIAL INSPECTOR PRIOR TO THE CONCRETE POUR. THE ENGINEER SHALL BE NOTIFIED AT LEAST 48 HOURS IN ADVANCE OF THE POUR. PLACE CONCRETE ONLY AFTER THE POST-TENSIONING TENDONS AND REINFORCEMENT HAVE BEEN INSPECTED AND APPROVED.

POWER DRIVEN FASTENERS: POWER DRIVEN FASTENERS OR INSERTS SHALL NOT BE SHOT OR DRILLED INTO POST-TENSIONED SLABS AFTER THE CONCRETE IS PLACED UNLESS THERE IS WRITTEN AUTHORIZATION FROM THE ENGINEER. DRILLED OR POWDER-DRIVEN FASTENERS WILL ONLY BE PERMITTED IF THEY ARE LOCATED TO AVOID THE TENDONS AND ANCHORAGES AND IT CAN BE SHOWN THAT THEY WILL NOT SPALL THE CONCRETE.

OPENINGS: OPENING, PENETRATION AND INSERT LOCATIONS SHALL BE DETERMINED TO THE FULLEST EXTENT POSSIBLE PRIOR TO TENDON CORE DRILLING IS NOT ALLOWED WITHOUT PRIOR APPROVAL OF THE ENGINEER.

PROFILES: SHALL CONFORM TO CONTROLLING POINTS SHOWN ON THE DRAWINGS AND SHALL BE STRAIGHT BETWEEN SUPPORTS, U,N,O, HARPED TENDONS SHALL BE STRAIGHT BETWEEN CONTROL POINTS.

TENDON ADJUSTMENTS: SLIGHT DEVIATIONS IN THE SPACING OF THE SLAB TENDONS MAY BE PERMITTED WHEN REQUIRED TO AVOID OPENINGS, INSERTS, AND DOWELS WHICH ARE SPECIFICALLY LOCATED. WHERE LOCATIONS OF TENDONS SEEM TO INTERFERE WITH EACH OTHER, ONE TENDON MAY BE MOVED HORIZONTALLY IN ORDER TO AVOID THE INTERFERENCE.

CHLORIDES: GROUT OR CONCRETE CONTAINING CHLORIDES SHALL NOT BE USED.

PUMPED CONCRETE: IF CONCRETE IS PLACED BY THE PUMPED METHOD, A HOSE SUPPORT SHALL BE USED TO SUPPORT THE HOSE, THE HOSE SHALL NOT BE ALLOWED TO RIDE THE TENDONS. THIS REQUIREMENT IS MANDATORY.

PT HARDWARE QUALITY: ALL ANCHORAGES, COUPLERS, AND MISCELLANEOUS HARDWARE SHALL BE STANDARD PRODUCTS AND APPROVED BY GOVERNING AGENCIES AND THE ENGINEER.

SUPPORT BARS: SUPPORT BARS SHALL BE MINIMUM #4 BARS. SUPPORT BARS LOCATED AT THE FACE OF DROP PANELS WIDER THAN 4 FOOT SHALL BE #6 OR GREATER. ADDITIONAL #6 OR GREATER SUPPORT BARS MAY BE REQUIRED AT THE CENTER OF THE DROP PANEL TO ENSURE THAT THE CORRECT HIGH POINT CGS IS MAINTAINED.

ANCHORAGES: ANCHORAGE DEVICES SHALL BE RECESSED A MINIMUM OF 2 INCHES. TWO CONTINUOUS #4 BACKUP BARS SHALL BE PLACED BEHIND ALL ANCHORAGES UNLESS OTHERWISE NOTED. SPLICE LENGTHS FOR BACKUP BARS SHALL BE 30 INCHES MINIMUM AND SHALL BE STAGGERED AT LEAST FIVE FOOT. HAIRPIN REINFORCEMENT SHALL BE PROVIDED IN SLABS IF THERE ARE SIX OR MORE ANCHORS FOR 1/2 INCH DIAMETER STRAND TENDONS SPACED AT 12 INCH OR LESS ON CENTER.

BLOCKOUTS/POCKETS: ALL BLOCKOUTS OR POCKETS REQUIRED FOR ACCESS TO ANCHORAGES IN BEAMS OR SLABS SHALL BE ADEQUATELY REINFORCED SO AS NOT TO DECREASE THE STRENGTH OF THE STRUCTURE. ALL BLOCKOUTS AND POCKETS SHOULD BE SEALED IN SUCH A MANNER AS TO ELIMINATE WATER LEAKAGE THROUGH OR INTO THE BLOCKOUT OR POCKET.

MINIMUM CHAIRING: TENDONS SHALL BE SECURED TO A SUFFICIENT NUMBER OF POSITIONING DEVICES TO ENSURE CORRECT LOCATION DURING AND AFTER THE PLACING OF CONCRETE AND SHALL BE SUPPORTED AT A MAXIMUM OF 3 FEET 0 INCHES ON CENTER. CHAIRS SHALL BE STAPLED TO FORM.

PRIOR TO POURING THE CONCRETE, ALL FENCE POSTS, LIGHT POLES, NET POSTS OR SLEEVES, AND CENTER ANCHORS THAT HAVE INDEPENDENT FOUNDATIONS OR FOOTINGS SHOULD BE INSTALLED AND WRAPPED WITH FOAM MATERIAL TO ALLOW FOR SHRINKAGE AND COMPRESSION OF THE CONCRETE SLAB. FENCE POSTS CAN BE WET SET DIRECTLY INTO THE PERIMETER-GRADE BEAM IF THE SLAB IS ENGINEERED PROPERLY TO ALLOW FOR MOVEMENT AND WILL NOT AFFECT RESTRAINT TO SHORTENING.

CONCRETE PLACEMENT: CONCRETE SHALL BE PLACED IN SUCH MANNER AS TO ENSURE THAT ALIGNMENT OF POST-TENSIONING TENDONS REMAIN UNCHANGED. SPECIAL PROVISIONS SHALL BE MADE TO INSURE PROPER VIBRATION OF THE CONCRETE AROUND THE ANCHORAGE TENDON POSITIONING SHALL BE MONITORED DURING THE POUR.

CONCRETE CONSOLIDATION: THE CONTRACTOR SHALL TAKE PRECAUTIONS TO ASSURE COMPLETE CONSOLIDATION AND DENSIFICATION OF CONCRETE BEHIND ALL POST-TENSIONING ANCHORAGES. CARE SHALL BE TAKEN NOT TO ALLOW THE VIBRATOR TO CONTACT THE REINFORCING OR THE POST-TENSIONING TENDONS.

CONCRETE STRENGTH AT STRESSING: TENDONS NOT BE STRESSED EARLIER THAN 3 DAYS (UNLESS TEST CYLINDERS HAVE VERIFIED THE INITIAL MINIMUM STRENGTH OF 2000 PSI HAS BEEN REACHED) OR MORE THAN 10 DAYS AFTER CONCRETE PLACEMENT, UNLESS THE TEST CYLINDERS INDICATE THAT THE MINIMUM COMPRESSIVE STRENGTH REQUIRED FOR THE ANCHORAGE SYSTEM FURNISHED BY THE PT SUPPLIER HAS NOT BEEN REACHED.

CALIBRATION: STRESSING JACKS AND GAUGES SHALL BE INDIVIDUALLY IDENTIFIED AND CALIBRATED TO KNOWN STANDARDS AT INTERVALS NOT EXCEEDING 30 DAYS. COPIES OF THE CALIBRATION CERTIFICATES FOR EACH JACK AND GAUGE BEING USED SHALL BE KEPT AT THE JOB SITE AND SHALL BE AVAILABLE UPON REQUEST.

ELONGATIONS: FIELD READINGS OF ELONGATIONS AND/OR STRESSING FORCES SHALL NOT VARY BY MORE THAN +/- 7% FROM CALCULATED REQUIRED VALUES SHOWN ON THE INSTALLATION DRAWINGS.

TENDONS SHALL NOT BE PLACED WITH LESS THAN 6" COVER FROM ANY OPENING IN THE CONCRETE STRUCTURE, UNO.

CONTRACTOR SHALL SUBMIT POUR SEQUENCES FOR LEVELS TO THE ENGINEER FOR APPROVAL, PROVIDE CLOSURE POURS FOR ADJOINING STIFF ELEMENTS WHICH COULD PREVENT ELASTIC SHORTENING OF POST-TENSIONED ELEMENTS. PROVIDE FOR CONTINUATION OF REINFORCING STEEL AND LOAD TRANSFER.

TENDON ENDS: TENDON ENDS WITHIN A SECTION OF THE PROJECT SHALL NOT BE CUT UNTIL 24 HOURS AFTER STRESSING AND ALL POST-TENSIONING TENDONS IN THAT SECTION HAVE BEEN SATISFACTORILY STRESSED. IT IS RECOMMENDED THAT TENDON TAILS NOT BE CUT UNTIL ALL FORMWORK WITHIN A SPECIFIC SECTION HAS BEEN REMOVED AND A VISUAL INSPECTION OF THE UNDERSIDE OF THE FLOOR FRAMING SYSTEM IS COMPLETED. IF AN ENCAPSULATED SYSTEM IS SPECIFIED, THE TENDONS ENDS SHALL BE SPRAYED WITH "RUSTOLEUM" PAINT AND PROTECTED WITH A GREASE-FILLED CAP WITHIN ONE DAY OF CUTTING OFF THE TENDON ENDS. CONNECTION OF THE CAP TO THE ANCHORAGE SHALL BE WATERTIGHT. DO NOT CUT TENDON ENDS UNTIL THE ENTIRE SLAB HAS BEEN STRESSED AND THE ENGINEER OF RECORD HAS REVIEWED ELONGATIONS.

FINISHING: A MEDIUM-BROOM FINISH FOR PROPER ADHESION OF AN ACRYLIC SURFACE SYSTEM TO THE CONCRETE. LIQUID CURING AGENTS ARE NOT RECOMMENDED AND SHOULD BE USED ONLY IF THEY ARE COMPATIBLE WITH ACRYLIC COLOR AND MANUFACTURE'S RECOMMENDATIONS.

FOUNDATIONS:

FOUNDATIONS ARE BASED ON THE AVAILABLE SOIL BORING LOGS AND THE FINAL GEOTECHNICAL REPORT DATED APRIL 2024 PREPARED BY CAL ENGINEERING & GEOLOGY. THE FINAL FOUNDATION DESIGN WILL BE UPDATED AND VALIDATED BASED ON ANY ADDITIONAL UPDATES PROVIDED BY GEOTECHNICAL ENGINEER.

PRIOR TO ANY EXCAVATION OPERATIONS, THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES OR OTHER SUBSURFACE STRUCTURES WITHIN THE AREA TO BE EXCAVATED.

FOUNDATIONS HAVE BEEN DESIGNED FOR MINIMUM ALLOWABLE SOIL BEARING CAPACITY OF 1,500 PSF. THE MAXIMUM ALLOWABLE SOIL BEARING PRESSURE SHALL BE CONFIRMED BY THE GEOTECHNICAL ENGINEER BEFORE CONCRETE FOUNDATIONS ARE CAST.

FOUNDATIONS ARE DESIGNED FOR AN ALLOWABLE PASSIVE PRESSURE OF 300 PCF AND FRICTION COEFFICIENT OF 0.32.

STORMWATER MUST BE DIVERTED FROM OPEN EXCAVATIONS. MOISTURE CONTROL OF SOILS MUST BE MAINTAINED. FOUNDATION EXCAVATIONS MUST BE KEPT FREE OF LOOSE MATERIAL AND STANDING WATER.

ANCHOR RODS/BOLTS AND FOUNDATION DOWELS MUST NOT BE REPAIRED, REPLACED OR FIELD MODIFIED WITHOUT THE WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD.

ALL FOUNDATIONS MUST BE FOUNDED ON COMPACTED STRUCTURAL FILL OR NATIVE SOILS WITH THE BOTTOM OF FOUNDATION AT GEOTECHNICAL REPORT RECOMMENDED DEPTH.

FOUNDATION ELEVATIONS SHOWN ARE FOR BIDDING PURPOSES ONLY AND ARE ASSUMED TO BE IN SUITABLE BEARING MATERIALS OR APPROVED STRUCTURAL FILL. THE ACTUAL ADEQUACY OF THE BEARING MATERIAL MUST BE DETERMINED BY A QUALIFIED GEOTECHNICAL REPRESENTATIVE PRIOR TO PLACING OF REINFORCING OR CONCRETE, AND FOUNDATION
ELEVATIONS MUST BE ADJUSTED, OR THE REMEDIAL ACTION TAKEN, AS DIRECTED BY THE GEOTECHNICAL ENGINEER'S REPRESENTATIVE AND APPROVED BY THE INSPECTOR OF RECORD.

FOUNDATIONS ARE DESIGNED TO BE FOUNDED ON SUBGRADES THAT ARE RECOMPACTED OR COMPACTED TO AT LEAST 95% OF THE MAXIMUM DRY UNIT WEIGHT PER ASTM D1557 LASTEST EDITION OR AS DIRECTED BY THE GEOTECHNICAL ENGINEER.

CONTRACTOR SHALL FOLLOW RECOMMENDATIONS CONTAINED WITHIN THE GEOTECHNICAL REPORT IN PREPARATION OF THE SITE, UNDERSLAB SUB-GRADE, BACKFILL AND FOUNDATIONS.

DENSITY TESTING SHALL BE CONDUCTED IN ACCORDANCE WITH THE SPECIFICATIONS.

PROOF ROLL IN ACCORDANCE WITH THE SPECIFICATIONS AND GEOTECHNICAL REPORT.

ANY STRUCTURAL FILL UTILIZED TO SUPPORT THE FOOTINGS SHALL BE EXTENDED AT LEAST 0.5 FEET BEYOND THE PROPOSED FOOTING LIMITS AND THEN 0.5 FOOT HORIZONTALLY FOR EACH 1 FOOT OF FILL BELOW THE BASE OF THE FOOTING.

EXCAVATIONS:

A. EXCAVATIONS IN THE VICINITY OF EXISTING FOUNDATIONS SHALL BE PERMITTED WITHOUT ANY SPECIAL MEASURES AS LONG AS THE BOTTOM NEAR EDGE OF THE EXCAVATION IS ABOVE A LINE WITH SLOPE OF 1 HORIZONTAL TO 1 VERTICAL EXTENDING OUTWARD AND DOWNWARD FROM THE NEAREST BOTTOM CORNER OF THE EXISTING FOUNDATION.
B. EXCAVATIONS IN THE VICINITY OF EXISTING FOUNDATIONS WITH THE BOTTOM NEAR EDGE OF THE EXCAVATIONS BELOW A LINE WITH SLOPE OF 1 HORIZONTAL TO 1 VERTICAL EXTENDING OUTWARD AND DOWNWARD FROM THE NEAREST BOTTOM CORNER OF THE EXISTING FOUNDATION SHALL BE MADE ONLY WITH THE APPROVAL OF THE STRUCTURAL ENGINEER AND THE PROJECT GEOTECHNICAL ENGINEER. SUCH EXCAVATIONS MAY REQUIRE SPECIAL TEMPORARY EXCAVATION BRACING OR UNDERPINNING OF EXISTING FOUNDATIONS, WHICH IS THE RESPONSIBILITY OF THE CONTRACTOR AS PART OF ITS SELECTED MEANS, METHODS, TECHNIQUES, SEQUENCES, OR PROCEDURES. CONTRACTOR SHALL SUBMIT TEMPORARY EXCAVATION BRACING AND UNDERPINNING DETAILS PRIOR TO EXCAVATION. CONTRACTOR SHALL PERFORM THESE EXCAVATIONS WITH CAUTION SO AS NOT TO UNDERMINE ANY EXISTING STRUCTURE FOUNDATION, AND EXCAVATIONS SHALL BE MADE IN ACCORDANCE WITH THE PROJECT GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.
C. EXCAVATION MUST NOT REMAIN OPEN FOR EXTENDED PERIODS OF TIME. ANY UNFORESEEN WORK STOPPAGES SHALL BE DISCUSSED WITH THE RESIDENT ENGINEER AND DISPOSITION FOR PREPARING THE EXCAVATION MUST BE ARRIVED AT BEFORE LEAVING THE JOBSITE.

ALL AREAS WITHIN THE FOOTPRINT OF THE SLAB-ON-GROUND, INCLUDING UTILITY TRENCHES, MUST BE FREE OF ANY WET AND/OR SOFT AREAS PRIOR TO PLACEMENT OF FILL MATERIAL OR SLAB.

THE CONTRACTOR SHALL REFER TO THE LOCAL REGULATIONS FOR BURIED CONTAMINATED DEBRIS, UNDERGROUND STORAGE TANKS, BURIED DRUMS, BURIED WASTE OF ANY OTHER FEATURES THAT WOULD IMPACT THE SITE AND TAKE REMEDIAL MESURES THAT INCLUDE BUT NOT LIMITED TO REMOVAL OF THE CONTAMINATED MATERIAL AND ABANDONED FEATURES IN THE SLAB-ON-GROUND FOOTPRINT.

DEFERRED SUBMITTALS

SHOP DRAWING SUBMITTALS THAT ARE SUBMITTED DURING CONSTRUCTION AND REQUIRED BY THE GENERAL STRUCTURAL NOTES WHICH CONTAIN DESIGN CALCULATIONS AND SEALS BY A REGISTERED SPECIALTY STRUCTURAL ENGINEER OTHER THAN THE ENGINEER OF REC

STRUCTURAL SPECIAL INSPECTIONS - CONCRETE CONSTRUCTION

	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION	REFERENCED STANDARD	CBC BUILDING CODE REFERENCE
1. INSPECT REINFORCEMENT, INCLUDING PRESTRESSING TENDONS, AND VERIFY PLACEMENT.	------	X	ACI 318: Ch. 20, 25.2, 25.3, 26.6.1- 26.6.3	------
2. REINFORCING BAR WELDING:				
A. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706.	------	X	AWS D1.4, ACI 318: 26.6.4	------
B. INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16"; AND	------	X		
C. INSPECT ALL OTHER WELDS.	X	------		
3. INSPECT ANCHORS CAST IN CONCRETE.	------	X	ACI 318: 17.8.2	------
4. INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS.				
A. ADHESIVE ANCHORS INSTALLED HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS.	X	------	ACI 318: 17.8.2.4	------
B. MECHANICAL ANCHORS AND ANCHORS NOT DEFINED IN 4A.	------	X	ACI 318: 17.8.2	
5. VERIFY USE OF REQUIRED DESIGN MIX.	------	X	ACI 318: Ch.19 26.4.3, 26.4.4	1904.1, 1904.2
6. PRIOR CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X	------	ASTM C31, ASTM C172, ACI 318: 26.5, 26.12	------
7. INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	------	ACI 318: 26.5	------
8. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	------	X	ACI 318: 26.5.3, 26.5.5	------
9. VERIFY IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES, AND FORMS.	------	X	ACI 318: 26.11(b)	------

STRUCTURAL SPECIAL INSPECTIONS - SOILS

1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVED THE DESIGN BEARING CAPACITY.	------	X		1705.6
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	------	X		
3. PERFORM CLASSIFICATION AND TESTING COMPACTED FILL MATERIALS.	------	X		
4. DURING FILL PLACEMENT, VERIFY THE USE OF PROPER MATERIALS AND PROCEDURES IN ACCORDANCE WITH THE PROVISIONS OF THE APPROVED GEOTECHNICAL REPORT. VERIFY DENSITIES AND LIFT THICKNESS DURING PLACEMENT AND COMPACTION OF COMPACTED MATERIAL.	X (SEE NOTE)	------		
5. PRIOR PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	------	X		

NOTE:
ALL FILLS USED TO SUPPORT THE FOUNDATIONS OF ANY BUILDING OR STRUCTURE SHALL BE CONTINUOUSLY INSPECTED BY THE GEOTECHNICAL ENGINEER OR HIS OR HER QUALIFIED REPRESENTATIVE. IT SHALL BE THE RESPONSIBILITY OF THE GEOTECHNICAL ENGINEER TO VERIFY THAT FILLS MEET THE REQUIREMENTS OF THE APPROVED CONSTRUCTION DOCUMENTS AND TO COORDINATE ALL FILL INSPECTION AND TESTING DURING CONSTRUCTION INVOLVING SUCH FILLS. THE DUTIES OF THE GEOTECHNICAL ENGINEER OR HIS OR HER QUALIFIED REPRESENTATIVE SHALL INCLUDE, BUT NEED NOT BE LIMITED TO, THE INSPECTION OF CLEARED AREAS AND BENCHES PREPARED TO RECEIVE FILL; INSPECTION OF THE REMOVAL OF ALL UNSUITABLE SOILS AND OTHER MATERIALS; THE APPROVAL OF SOILS TO BE USED AS FILL MATERIAL; THE INSPECTION OF PLACEMENT AND COMPACTION OF FILL MATERIALS; THE TESTING OF THE COMPLETED FILLS; AND THE INSPECTION OR REVIEW OF GEOTECHNICAL DRAINAGE DEVICES, BUTTRESS FILLS OR OTHER SIMILAR PROTECTIVE MEASURES IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS.

A VERIFIED REPORT SHALL BE SUBMITTED BY THE GEOTECHNICAL ENGINEER AS REQUIRED BY THE CALIFORNIA ADMINISTRATIVE CODE. THE REPORT SHALL INDICATE THAT ALL TESTS AND INSPECTIONS REQUIRED BY THE APPROVED CONSTRUCTION DOCUMENTS WERE COMPLETED AND WHETHER THE TESTED MATERIALS AND/OR INSPECTED WORK MEET THE REQUIREMENTS OF THE APPROVED CONSTRUCTION DOCUMENTS.

STRUCTURAL TESTS AND SPECIAL INSPECTIONS:

THE GENERAL CONTRACTOR SHALL MAINTAIN A QUALITY CONTROL PROGRAM SEPARATE FROM THE SPECIAL INSPECTION PROGRAM PROVIDED BY THE OWNER. OWNER'S AUTHORIZED AGENT, OTHER THAN THE CONTRACTOR, SHALL EMPLOY ONE OR MORE APPROVED AGENCIES TO PROVIDE SPECIAL INSPECTIONS AND TESTS DURING CONSTRUCTION. THE CONTRACTOR/SUBCONTRACTOR (S) SHALL NOT USE OWNER'S SPECIAL INSPECTIONS FOR A SUBSTITUTE FOR HIS QUALITY CONTROL. THE CONTRACTOR/SUBCONTRACTOR (S) SHALL DESIGNATE A QUALITY CONTROL REPRESENTATIVE FOR EACH AREA LISTED UNDER SPECIAL INSPECTIONS. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SUBCONTRACTOR (S) PROVIDING QUALITY CONTROL AND SHALL BE RESPONSIBLE FOR THE ENTIRE QUALITY CONTROL PROGRAM.

1. GENERAL QUALIFICATIONS OF INSPECTORS AND TESTING AGENCIES (UNLESS NOTED OTHERWISE BY CALIFORNIA BUILDING CODE) :
   1.1. THE TESTING AGENCIES ARE REQUIRED TO SUBMIT EVIDENCE OF QUALIFICATIONS TO PERFORM THE SPECIFIED TESTS.
   1.2. THE INSPECTORS MUST SHOW EVIDENCE OF QUALIFIED PROFESSIONAL STAFF EMPLOYED TO MAKE INSPECTIONS.
   1.3. LABORATORY TESTING FACILITIES MUST BE ACCREDITED BY A NATIONALLY-RECOGNIZED AGENCY SUCH AS THE AMERICAN ASSOCIATION FOR LABORATORY ACCREDITATION (AALA) , THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY (NIST) ; NATIONAL VOLUNTARY LABORATORY ACCREDITATION PROGRAM (NAVLAP) , OR THE WASHINGTON AREA COUNCIL ENGINEERING LABORATORIES (WACEL) .
2. THE SPECIAL INSPECTOR (S) SHALL REVIEW THE PROJECT PLANS, SPECIFICATIONS, AND CONSTRUCTION SCHEDULE TO BECOME FAMILIAR WITH THE SCOPE OF THE INSPECTION AND TESTING SERVICES REQUIRED (UNLESS NOTED OTHERWISE BY CHICAGO BUILDING CODE REQUIREMENTS) .
3. THE SPECIAL INSPECTOR (S) TO KEEP RECORDS OF INSPECTIONS (UNLESS NOTED OTHERWISE BY CALIFORNIA BUILDING CODE REQUIREMENTS) .
4. THE SPECIAL INSPECTOR (S) TO FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL AND THE ENGINEER. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS DONE IN CONFORMANCE TO THE APPROVED CONSTRUCTION DOCUMENTS (UNLESS NOTED OTHERWISE BY CALIFORNIA BUILDING CODE REQUIREMENTS) .
5. INSPECTION OF WORK SHALL INCLUDE: VERIFICATION OF DIMENSIONS, DIMENSIONAL TOLERANCE, LOCATION AND NUMBER OF ITEMS SUPPLIED; VERIFICATION OF PROPER CARE OR CONSTRUCTION MATERIALS DURING PERIODS OF DELETERIOUS WEATHER CONDITIONS; AND VERIFICATIONS OF PROPER CONSTRUCTION IN TERMS OF MATERIALS, LOCATION, DIMENSIONAL TOLERANCE, AND CONSTRUCTION DETAILS (UNLESS NOTED OTHERWISE BY CALIFORNIA BUILDING CODE REQUIREMENTS) .
6. THE SPECIAL INSPECTOR (S) SHALL BRING DISCREPANCIES TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF DISCREPANCIES ARE NOT CORRECTED, THE SPECIAL INSPECTOR (S) SHALL BRING DISCREPANCIES TO THE ATTENTION OF THE BUILDING OFFICIAL AND THE ENGINEER PRIOR TO COMPLETION OF THAT PHASE OF WORK (UNLESS NOTED OTHERWISE BY CALIFORNIA BUILDING CODE REQUIREMENTS) .
7. THE SPECIAL INSPECTOR (S) SHALL PERIODICALLY SUBMIT A REPORT OF INSPECTIONS DOCUMENTING REQUIRED INSPECTIONS AND METHOD OF CORRECTION ACTION OF ALL DISCREPANCIES NOTED IN THE INSPECTIONS AT A FREQUENCY DETERMINED BY THE BUILDING OFFICIAL (UNLESS NOTED OTHERWISE BY CITY OF CHICAGO REQUIREMENTS) .
8. THE SPECIAL INSPECTOR (S) TO VERIFY THAT EACH FABRICATOR MAINTAINS DETAILED FABRICATION AND QUALITY CONTROL PROCEDURES THAT PROVIDE A BASIS FOR INSPECTION, CONTROL OF WORKMANSHIP AND THE FABRICATOR'S ABILITY TO CONFORM TO APPROVED CONSTRUCTION DOCUMENTS AND REFERENCED STANDARDS. THE SPECIAL INSPECTOR (S) SHALL REVIEW THE PROCEDURES FOR COMPLETENESS AND ADEQUACY RELATIVE TO THE CODE REQUIREMENTS FOR FABRICATOR'S SCOPE OF WORK. SPECIAL INSPECTIONS ARE NOT REQUIRED WHERE THE FABRICATOR IS APPROVED AS DESCRIBED BELOW (UNLESS NOTED OTHERWISE BY CALIFORNIA BUILDING CODE REQUIREMENTS) .
9. THE SPECIAL INSPECTION OF FABRICATORS ARE NOT REQUIRED WHERE THE WORK IS DONE ON THE PREMISES OF A FABRICATOR REGISTERED AND APPROVED TO PERFORM SUCH WORK WITHOUT SPECIAL INSPECTION PER CBC SECTION 1704.2.5. APPROVAL SHALL BE BASED UPON REVIEW OF THE FABRICATOR'S WRITTEN PROCEDURAL AND QUALITY CONTROL MANUALS AND PERIODIC AUDITING OF FABRICATION PRACTICES BY AN APPROVED SPECIAL INSPECTION AGENCY. AT COMPLETION OF FABRICATION, THE APPROVED FABRICATOR SHALL SUBMIT A CERTIFICATE OF COMPLETION WITH THE APPROVED CONSTRUCTION DOCUMENTS (UNLESS NOTED OTHERWISE BY CALIFORNIA BUILDING CODE REQUIREMENTS) .
10. THE CONTRACTOR SHALL PROVIDE ACCESS TO THE WORK BEING INSPECTED TO THE SPECIAL INSPECTOR AND SHALL PROVIDE ONE DAY BUSINESS NOTICE, MINIMUM, OF THE INTENTION OF ANY WORK REQUIRED TO HAVE SPECIAL INSPECTIONS. REGARDLESS OF NOTICE PROVIDED TO THE SPECIAL INSPECTOR, ALL WORK PERFORMED WITHOUT REQUIRED SPECIAL INSPECTION WILL BE SUBJECT TO REMOVAL AT THE DISCRETION OF THE ARCHITECT, DESIGN ENGINEER, OR BUILDING OFFICIAL AT NO COST TO OWNER.
11. ANY REWORK REQUIRED DUE TO NON-CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS SHALL BE PERFORMED BY THE CONTRACTOR AT NO ADDITIONAL COST TO OWNER. ANY REWORK REQUIRED BY THE CONTRACTOR DUE TO NON-CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS SHALL BE NOTED AND TIME KEPT SEPARATE BY THE SPECIAL INSPECTOR (S) . ANY FURTHER INSPECTION (S) AND TESTING THAT ARE REQUIRED DUE TO NON-CONFORMING WORK SHALL BE PAID BY THE CONTRACTOR.
12. SPECIAL INSPECTOR (S) AND REPRESENTATIVES OF THE TESTING AGENCIES ARE NOT AUTHORIZED TO ALTER ANY REQUIREMENTS OF THE CONTRACT DOCUMENTS NOR APPROVE OR ACCEPT ANY PORTION OF THE WORK.
13. STRUCTURAL WORK REQUIRING SPECIAL INSPECTION AND STRUCTURAL TESTING SHALL BE AS LISTED UNDER "STRUCTURAL TESTS AND SPECIAL INSPECTION TABLES" AS A MINIMUM.
14. THE ITEMS CHECKED WITH "X" SHALL BE INSPECTED IN ACCORDANCE WITH CALIFORNIA BUILDING CODE CHAPTER 17 BY A CERTIFIED SPECIAL INSPECTOR FROM AN ESTABLISHED TESTING AGENCY. FOR MATERIAL SAMPLING AND TESTING REQUIREMENTS, REFER TO THE PROJECT SPECIFICATIONS. THE TESTING AGENCY SHALL SEND COPIES OF ALL STRUCTURAL TESTING AND INSPECTION REPORTS DIRECTLY TO THE ENGINEER, CONTRACTOR AND BUILDING OFFICIAL. ANY MATERIAL THAT FAILS TO MEET THE PROJECT SPECIFICATIONS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER. SPECIAL INSPECTION TESTING REQUIREMENTS APPLY EQUALLY TO ALL DELEGATED DESIGN COMPONENTS.
15. CONTINUOUS SPECIAL INSPECTION MEANS THAT THE SPECIAL INSPECTOR IS ON THE SITE AT ALL TIMES OBSERVING THE WORK REQUIRING SPECIAL INSPECTION . PERIODIC SPECIAL INSPECTION MEANS THAT THE SPECIAL INSPECTOR IS ON SITE AT TIME INTERVALS NECESSARY TO CONFIRM THAT ALL WORK REQUIRING SPECIAL INSPECTION IS IN COMPLIANCE.
16. INSPECTION FOR PREFABRICATED CONSTRUCTION SHALL BE THE SAME AS IF THE MATERIAL USED IN THE CONSTRUCTION TOOK PLACE ON SITE. CONTINUOUS INSPECTION WILL NOT BE REQUIRED DURING PREFABRICATION IF THE APPROVED AGENCY CERTIFIES THE CONSTRUCTION AND FURNISHES EVIDENCE OF COMPLIANCE.
17. THE GEOTECHNICAL REPORT AND CONSTRUCTION DOCUMENTS SHALL BE USED TO DETERMINE COMPLIANCE OF SPECIAL INSPECTIONS. THE GEOTCHNICAL ENGINEER SHOULD ALSO VERIFY COMPLIANCE.
18. PROVIDE ICC-ES EVALUATION REPORTS FOR ALL POST-INSTALLED ANCHORS.

REGISTERED PROFESSIONAL ENGINEER
JEROME DE VERNEJOUL
No. C60334
Exp. 6/30/26
CIVIL
STATE OF CALIFORNIA

MARK	DATE	DESCRIPTION
		APPROVAL
	7/31/2025	PERMIT SET

PERMIT SET

TRANSYSTEMS
2000 CENTER STREET
SUITE 303
BERKELEY, CA 94704
PHONE: (510) 835-2761

NO SCALE
0 1 2 3
FOR REDUCED PLANS – ORIGINAL SCALE IS IN INCHES

DEPICTION OF MONUMENTS: DATE
SURVEY PARTY CHIEF
WATERSHED REVIEW: DATE

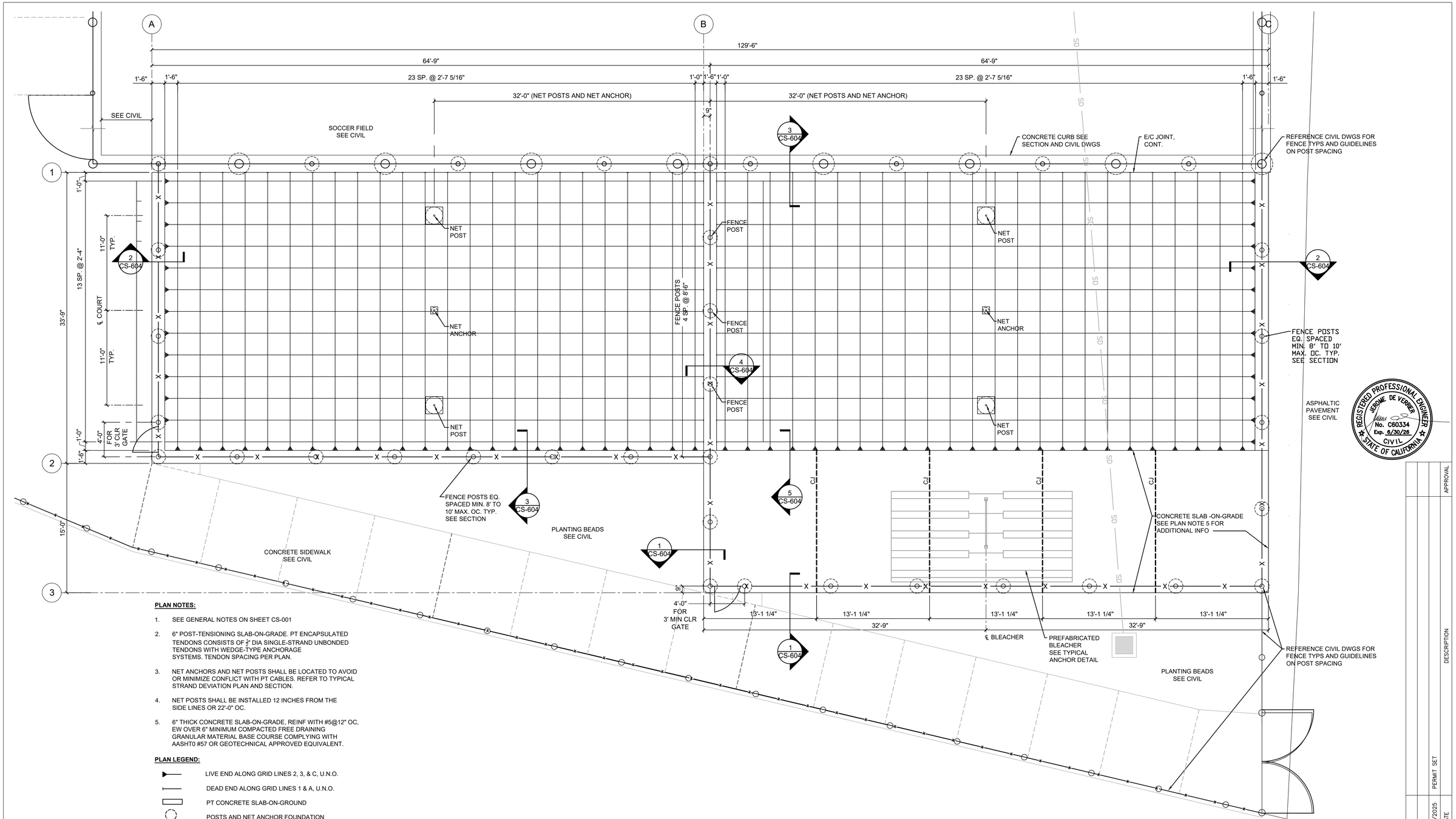
SUBMITTED: DATE R.C.E. EXP.
SUPERVISING CIVIL ENGINEER
APPROVED: DATE R.C.E. EXP.
MANAGER OF ENGINEERING

DESIGN JDV
DRAWN AJR
CHECK KMC
AS BUILT
HORIZ. 1"=X'
VERT. 1"=X'
BOOK
DATE 7/31/2025

CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

STRUCTURAL SPECIAL INSPECTIONS
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
CS-602
SHEET 29 OF 92



PLAN NOTES:

1. SEE GENERAL NOTES ON SHEET CS-001
2. 6" POST-TENSIONING SLAB-ON-GRADE. PT ENCAPSULATED TENDONS CONSISTS OF ½" DIA SINGLE-STRAND UNBONDED TENDONS WITH WEDGE-TYPE ANCHORAGE SYSTEMS. TENDON SPACING PER PLAN.
3. NET ANCHORS AND NET POSTS SHALL BE LOCATED TO AVOID OR MINIMIZE CONFLICT WITH PT CABLES. REFER TO TYPICAL STRAND DEVIATION PLAN AND SECTION.
4. NET POSTS SHALL BE INSTALLED 12 INCHES FROM THE SIDE LINES OR 22'-0" OC.
5. 6" THICK CONCRETE SLAB-ON-GRADE, REINF WITH #5@12" OC, EW OVER 6" MINIMUM COMPACTED FREE DRAINING GRANULAR MATERIAL BASE COURSE COMPLYING WITH AASHTO #57 OR GEOTECHNICAL APPROVED EQUIVALENT.

PLAN LEGEND:

- LIVE END ALONG GRID LINES 2, 3, & C, U.N.O.
- DEAD END ALONG GRID LINES 1 & A, U.N.O.
- PT CONCRETE SLAB-ON-GROUND
- POSTS AND NET ANCHOR FOUNDATION
- CONCRETE BLOCK OUT

1 PT SLAB-ON-GRADE PLAN

SCALE: 3/16"=1'-0"

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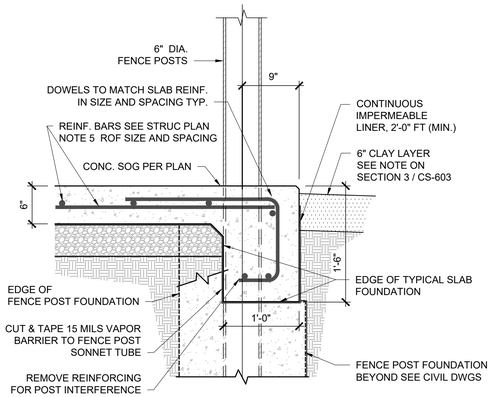
CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

PICKEL BALL COURT
PT SLAB-ON-GRADE PLANS
TOM BATES
REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
CS-603
SHEET 30 OF 92



1 CS-603 SECTION
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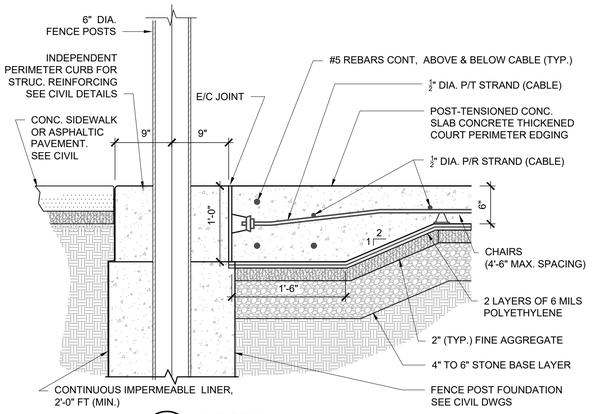

2 CS-603 SECTION
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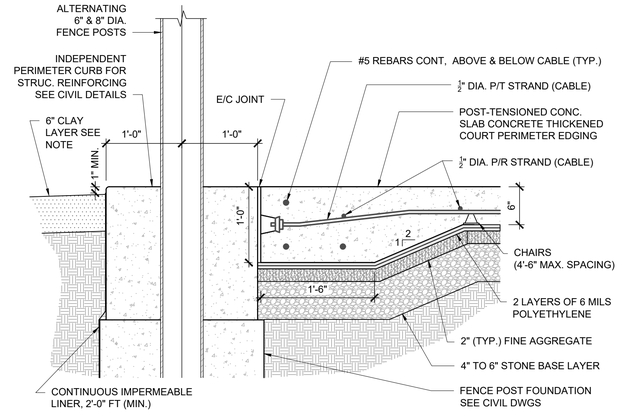
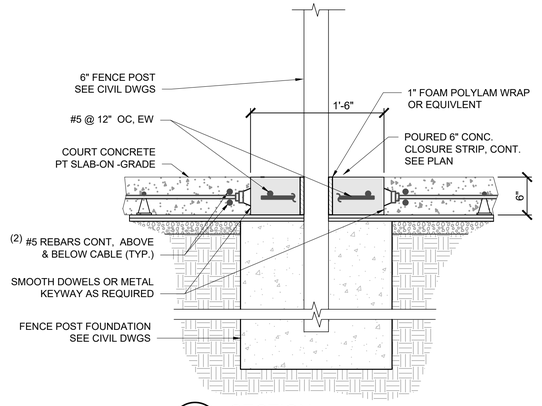


NOTE:
PROVIDE CLAY MATERIAL TO MINIMIZE INFILTRATION AND FACILITATE WATER RUNOFF AWAY FROM CONCRETE SLAB. EXTEND 5FT FROM CONCRETE SLAB EDGE. REFER TO GEOTECHNICAL RECOMMENDATIONS.

3 CS-603 SECTION
SCALE:1"=1'-0"



4 CS-603 SECTION
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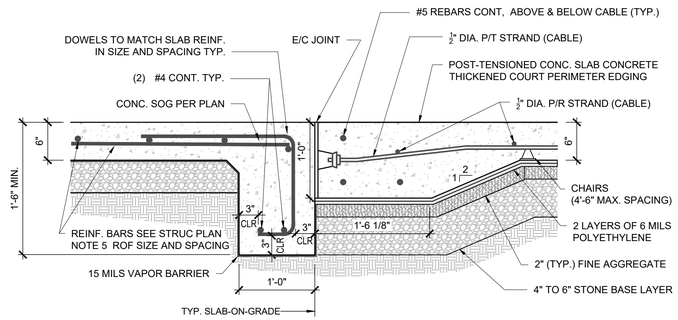

5 CS-603 SECTION
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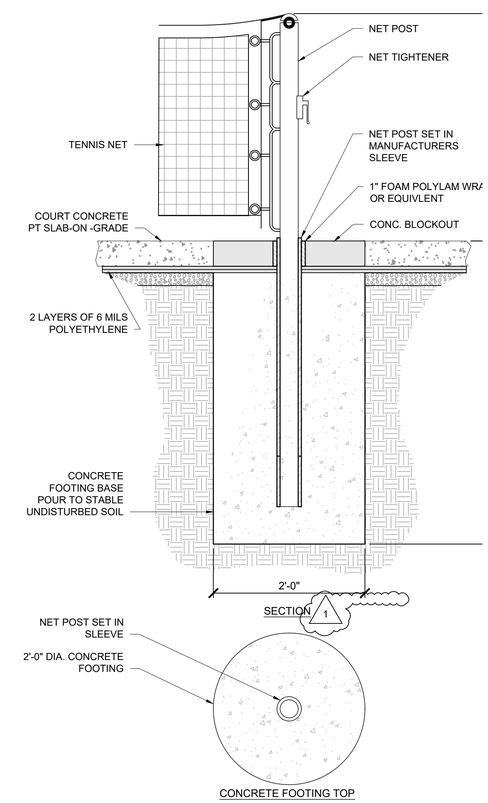
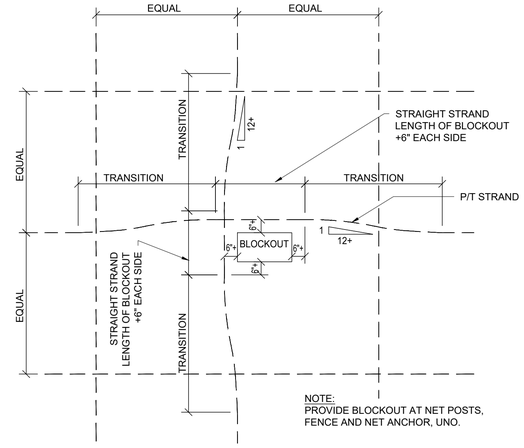
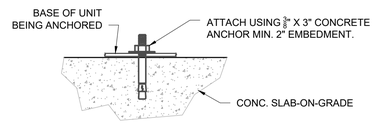


TYPICAL NET POST FOOTING DETAIL
SCALE:1"=1'-0"



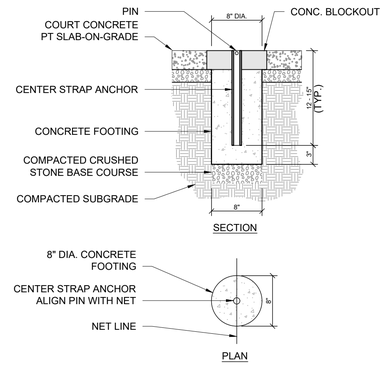
NOTE:
PROVIDE BLOCKOUT AT NET POSTS, FENCE AND NET ANCHOR, UNO.

TYPICAL STRAND DEVIATION PLAN
NO SCALE:



NOTES:
1. ANCHORS SPACING PER BLEACHER MANUFACTURER'S REQUIREMENTS
2. ANCHORS INSTALLATION IN COMPLIANCE WITH ANCHOR MANUFACTURER'S RECOMMENDATIONS.
3. MINIMUM EXPECTED LOADS (ULT) AS FOLLLOW: SHEAR = 0.6 KIPS (BOTH DIRECTIONS)
   UPLIFT = 2.4 KIPS
4. ANCHORS LOCATION SHALL BE COORDINATED PRIOR TO INSTALLATION TO AVOID CONFLICT WITH SLAB ON GRADE REINFORCING.

TYPICAL BLEACHERS ANCHORS DETAIL
NO SCALE



TYPICAL NET CENTER STRAP ANCHOR DETAIL
SCALE:1-1/2"=1'-0"

REGISTERED PROFESSIONAL ENGINEER
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CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

PICKEL BALL COURT
STRUCTURAL SECTIONS & DETAILS
TOM BATES
REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
CS-604
SHEET 31 OF 92

GENERAL NOTES:

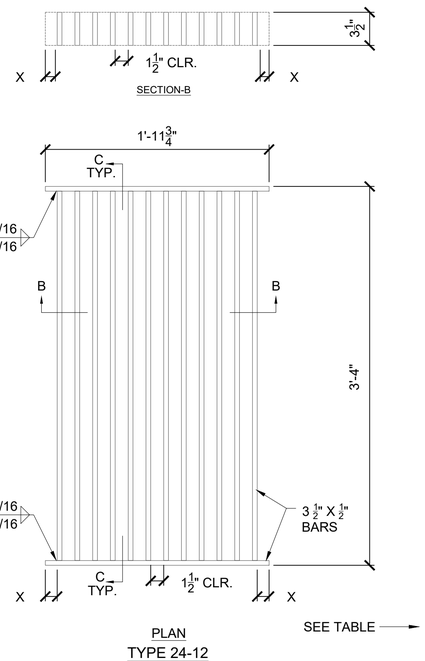
1. SEE CIVIL PLAN SHEETS FOR BIO STRUCTURE SITE LOCATION.
2. VERIFY PIPE PENETRATION ELEVSTIONS, LOCATIONS & SIZES WITH CIVIL DRAWINGS.

TYPE	NO. OF BARS	CLEAR BAR SPACING	X
24-12	12	1 3/8"	1 1/4"

INLET TYPE	GRATE TYPE	NO. OF GRATES	WEIGHT LB
BIOSWALE STRUCTURE	24-12	1	634

SEE NOTE 5

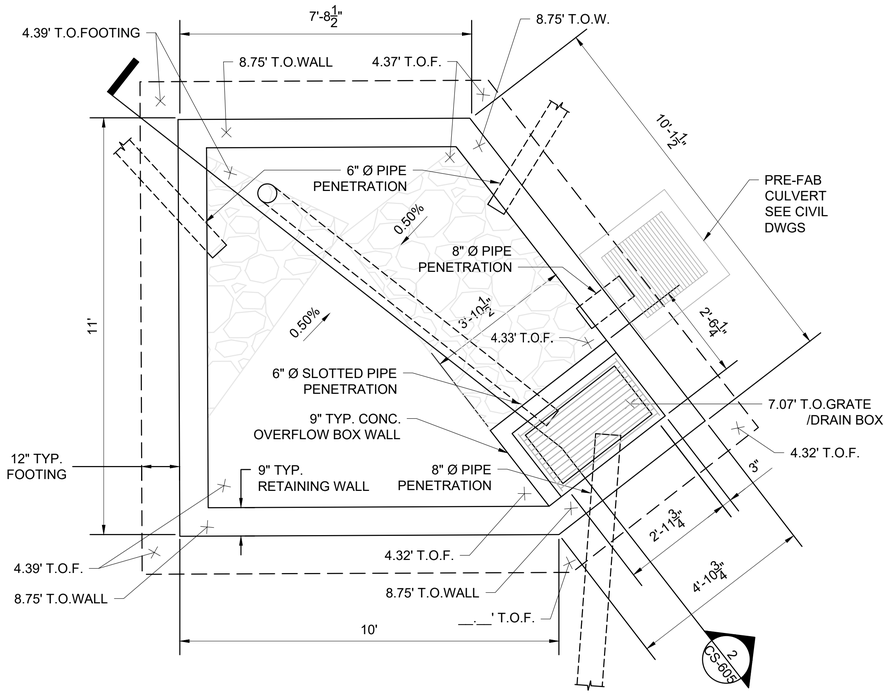
BASIS FOR MISC STEEL FINAL PAY WEIGHTS FOR DRAINAGE INLETS



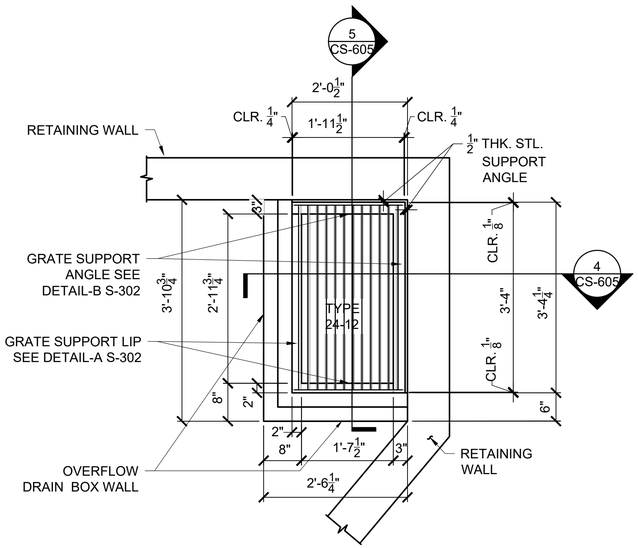
3 CS-605 RECTANGULAR GRATE DETAILS
SCALE:1 1/2"=1'-0"

GRATING NOTES:

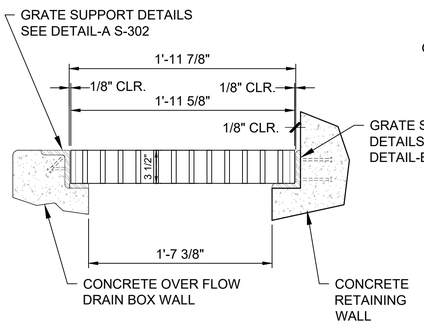
1. GRATE TYPE NUMBERS REFER TO APPROXIMATE WIDTH OF GRATE IN INCHES AND NUMBER OF BARS RESPECTIVELY.
2. ROUNDED TOP BARS OPTIONAL ON ALL GRATES.
3. PIPE INLETS WITH A GRATE SHALL BE PLACED SO THAT BARS PARALLEL DIRECTION OF PRINCIPLE SURFACE FLOW.
4. COMPLETE JOINT PENETRATION BUTT WELDS MAY BE SUBSTITUTED FOR THE FILLET WELDS ON ALL ANCHORS.
5. GRATE AND FRAME WEIGHTS ARE BASED ON WELDED GRATES (WEIGHTS OF FACE ANGLES, STEPS, PROTECTION BARS, ETC. ARE NOT INCLUDED).
6. CONNECT CHAIN TO GRATE AND FRAME ONLY AT LOCATIONS SHOWN ON THE PLANS. WHEN CHAIN IS REQUIRED, DO NOT USE CAST DUCTILE IRON GRATES.



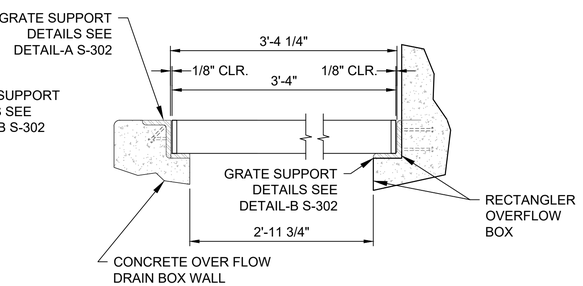
1 CS-605 BIOSWALE STRUCTURE OVER FLOW DRAIN BOX - ENLARGED PLAN
SCALE:3/4"=1'-0"



2 CS-605 BIOSWALE STRUCTURE OVER FLOW DRAIN BOX - ENLARGED PLAN
SCALE:3/4"=1'-0"



4 CS-605 GRATING SUPPORT SECTION
SCALE:3"=1'-0"



5 CS-605 GRATING SUPPORT SECTION
SCALE:3"=1'-0"

REGISTERED PROFESSIONAL ENGINEER
JEROME DE VERNEY
No. C60334
Exp. 6/30/26
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STATE OF CALIFORNIA

MARK	DATE	DESCRIPTION
1	4/25/25	BUILDING PERMIT CORRECTIONS FIRST
		APPROVAL
		REVISION

PERMIT SET

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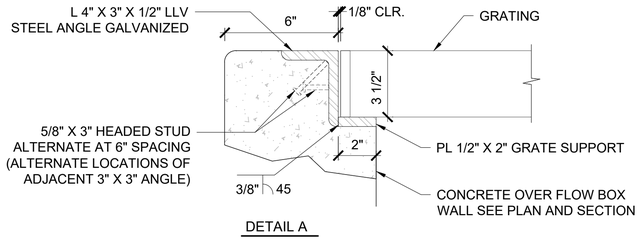
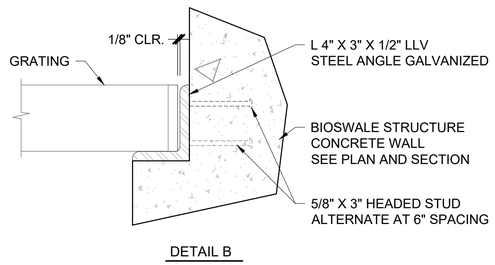
CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

BIOSWALE
STRUCTURAL SECTIONS & DETAILS
TOM BATES
REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
CS-605
SHEET 32 OF 92

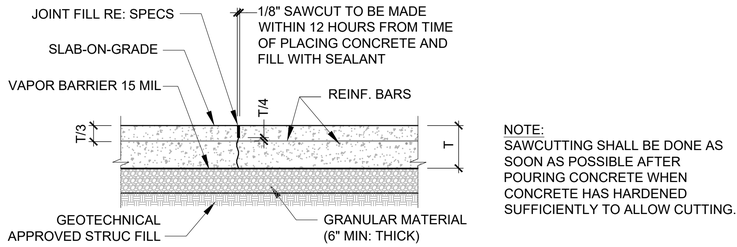


DETAIL A



DETAIL B

1 CS-606 TYPICAL GRATING FRAMING SUPPORT
SCALE:3"=1'-0"

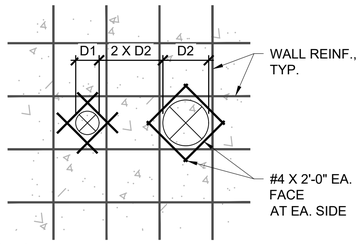


NOTE:
SAWCUTTING SHALL BE DONE AS SOON AS POSSIBLE AFTER POURING CONCRETE WHEN CONCRETE HAS HARDENED SUFFICIENTLY TO ALLOW CUTTING.

2 CS-606 SLAB CONTROL JOINT TYPICAL DETAIL
SCALE:3"=1'-0"

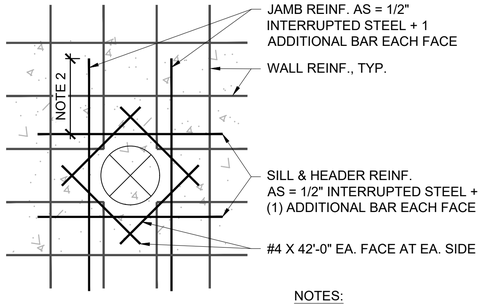
GENERAL NOTES:

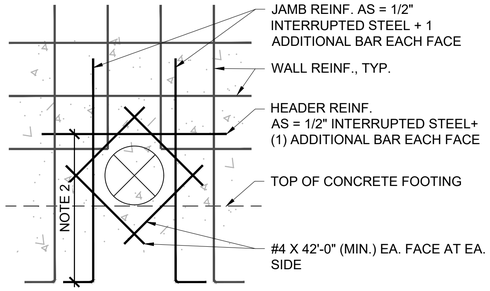
1. SEE SHEET CS-605 FOR BIO STRUCTURE PLAN LOCATION.
2. VERIFY PIPE PENETRATION ELEVATIONS, LOCATIONS & SIZES WITH CIVIL DRAWINGS.



NOTES:
1. FOR SLEEVES > 8" REFERENCE TYPICAL WALL PENETRATION

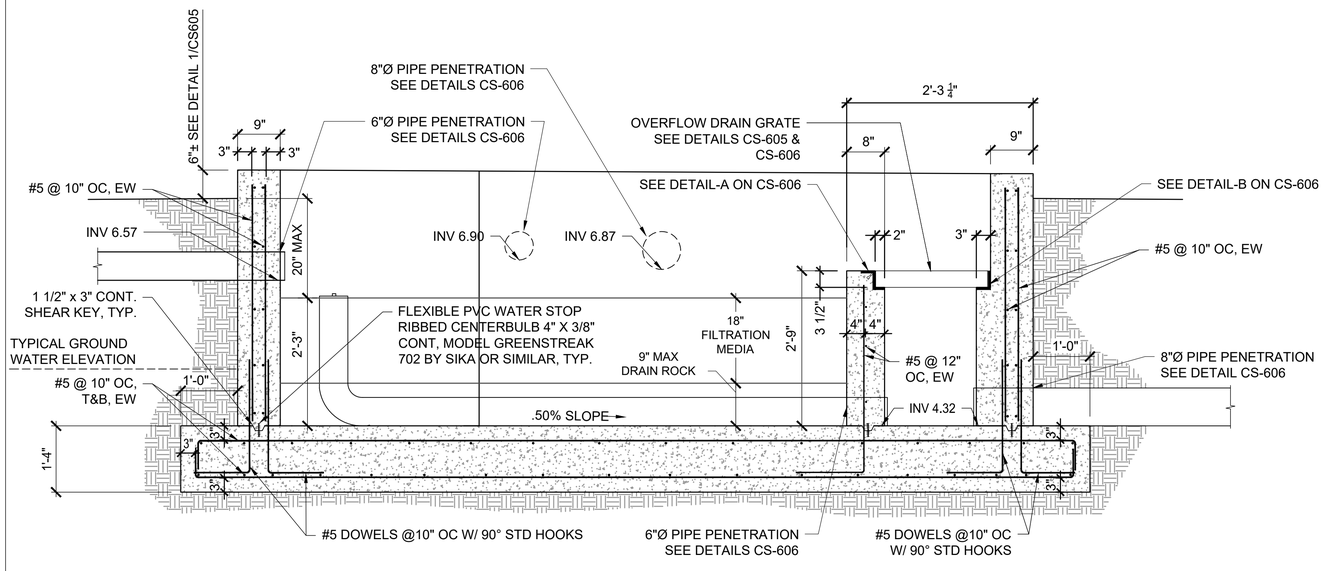
3 CS-606 TYPICAL CONCRETE WALL OR SLAB PENETRATION DETAILS
SCALE:3"=1'-0"





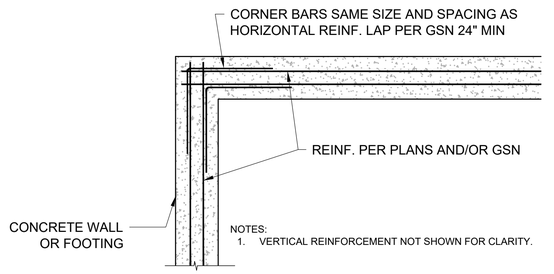
NOTES:
1. MINIMUM DISTANCE BETWEEN OPENINGS IN WALL TO BE 2'-0".
2. CLASS B SPLICE OR 2'-6" MIN. WITCHEVER IS GREATER.

4 CS-606 TYPICAL CONCRETE WALL OR SLAB PENETRATION DETAILS
SCALE:3"=1'-0"



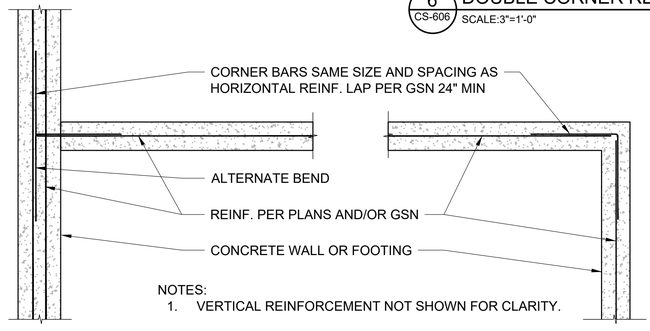
REFERENCE GENERAL NOTES 1 & 2

5 CS-606 TYPICAL ENLARGED BIOSWALE STRUCTURE CONCRETE SECTION
SCALE:3/4"=1'-0"



NOTES:
1. VERTICAL REINFORCEMENT NOT SHOWN FOR CLARITY.

6 CS-606 TYPICAL FOOTING OR CONC. WALL DOUBLE CORNER REINF. DETAILS
SCALE:3"=1'-0"



NOTES:
1. VERTICAL REINFORCEMENT NOT SHOWN FOR CLARITY.

7 CS-606 FOOTING OR CONC. WALL SINGLE INTERSECTION REINF. DETAIL
SCALE:3"=1'-0"

8 CS-606 TYPICAL FOOTING OR CONC. WALL SINGLE CORNER REINF. DETAIL
SCALE:3"=1'-0"

REGISTERED PROFESSIONAL ENGINEER
JEROME DE VERNEJOUL
No. C60334
Exp. 6/30/26
CIVIL
STATE OF CALIFORNIA

REVISION	MARK	DATE	DESCRIPTION
	1	4/25/25	BUILDING PERMIT CORRECTIONS FIRST

APPROVAL

PERMIT SET

TRANSYSTEMS
2000 CENTER STREET
SUITE 303
BERKELEY, CA 94704
PHONE: (510) 835-2761

AS SHOWN
0 1 2 3
FOR REDUCED PLANS – ORIGINAL SCALE IS IN INCHES

DEPICTION OF MONUMENTS: DATE
SURVEY PARTY CHIEF
WATERSHED REVIEW: DATE

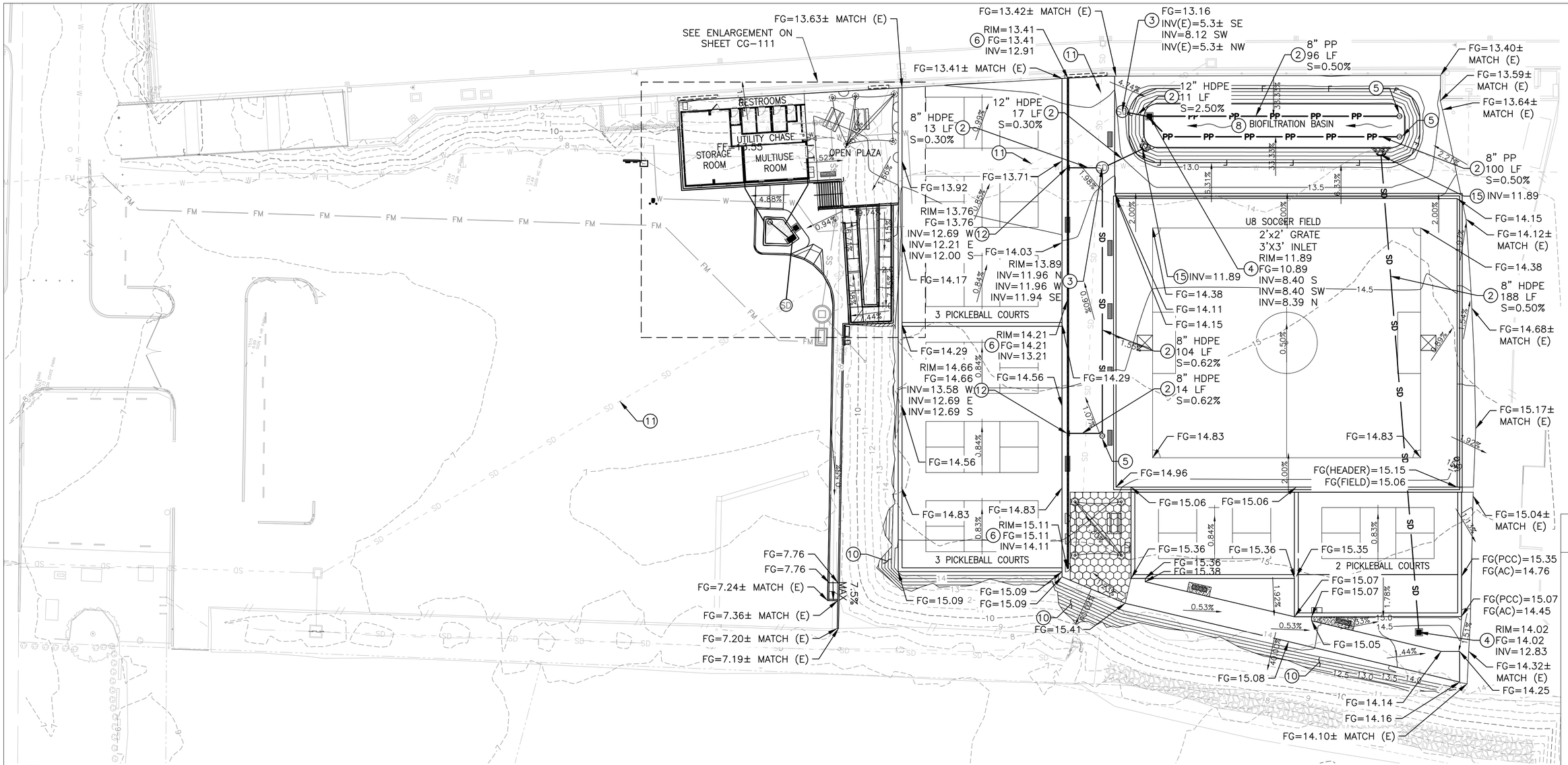
SUBMITTED: DATE
SUPERVISING CIVIL ENGINEER R.C.E. EXP.
APPROVED: DATE
MANAGER OF ENGINEERING R.C.E. EXP.

DESIGN JDV
DRAWN AJR
CHECK KMC
AS BUILT
HORIZ. 1"=X'
VERT. 1"=X'
BOOK
DATE 7/31/2025

CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

BIOSWALE
STRUCTURAL SECTIONS & DETAILS
TOM BATES
REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
CS-606
SHEET 33 OF 92



GENERAL NOTES:

1. SEE SHEET CS–101 FOR SITE IMPROVEMENTS.
2. SEE SHEET CU–101 FOR UTILITY IMPROVEMENTS OTHER THAN STORM DRAIN IMPROVEMENTS.
3. WHERE PROPOSED STORM DRAIN PIPE CONFLICTS WITH EXISTING UTILITIES, CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER TO DISCUSS AN APPROPRIATE SOLUTION.
4. ALL PROPOSED STORM DRAIN STRUCTURES WITHIN PAVED AREAS SHALL BE HS–20 RATED. ALL OTHER STRUCTURES SHALL HAVE A MEDIUM DUTY FRAME AND GRATE.
5. ALL WALKWAYS SHALL HAVE A MAXIMUM CROSS SLOPE OF 2% AND A MAXIMUM LONGITUDINAL SLOPE OF 5% EXCEPT FOR RAMPS AND UNLESS OTHERWISE NOTED.
6. TOP OF CURB ELEVATION IS TYPICALLY 6" ABOVE TOP OF PAVEMENT ELEVATION UNLESS OTHERWISE NOTED.
7. MARK ALL INLETS WITH THE WORDS, "NO DUMPING! DRAINS TO BAY."
8. SEE SHEET CS–001 FOR LIMITS OF BASE BID AND BID ALTERNATES.

KEY NOTES: (#)

1. MAXIMUM SLOPE WITHIN ACCESSIBLE AREA IS 2% ALL DIRECTIONS, EXCEPT AREAS DESIGNATED AS RAMPS.
2. STORM DRAIN PIPE. SIZE, SLOPE, AND MATERIAL AS NOTED ON PLAN.
3. STORM DRAIN MANHOLE PER DETAIL 1/CG–501.
4. STORM DRAIN INLET PER DETAIL 2/CG–501.
5. STORM DRAIN CLEANOUT PER DETAIL 2/CG–502.
6. TRENCH DRAIN PER DETAIL 3/CG–501.
7. INTERCEPT AND CONNECT EXISTING STORM DRAIN PIPE TO NEW STORM DRAIN MANHOLE.
8. BIOSWALE, SEE PLANTING PLANS.
9. RETAINING WALL. SEE STRUCTURAL SHEETS FOR DETAILS.
10. PROVIDE 2.5:1 OR FLATTER SLOPE TO CONFORM TO EXISTING GRADES.
11. EXISTING STORM DRAIN TO REMAIN.
12. TRENCH DRAIN OUTLET PER DETAIL 1/CG–502.
13. 6" HDPE ROOF LEADER PER DETAIL 2/CG–503.
14. ROOF DRAINAGE SYSTEM PER DETAIL 1/CG–503.
15. BASIN OUTLET PER DETAILS 3 AND 4/CG–502.
16. ENERGY DISSIPATOR PER DETAIL 4/CG–502
17. CONCRETE BASIN STRUCTURE PER THE DETAILS ON SHEETS CS–605 AND CS–606

LEGEND

- SURFACE FLOW ARROW
- GRADE BREAK
- 1.00% SURFACE SLOPE

REGISTERED PROFESSIONAL ENGINEER
JEROME DE VERGER
No. C60334
Exp. 6/30/26
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		7/31/2025	PERMIT SET	

PERMIT SET

TRANSYSTEMS
2000 CENTER STREET
SUITE 303
BERKELEY, CA 94704
PHONE: (510) 835–2761

SCALE: 1" = 20' (0, 20, 40, 60 FEET; 0, 1, 2, 3)
FOR REDUCED PLANS – ORIGINAL SCALE IS IN INCHES

DEPICTION OF MONUMENTS: DATE
SURVEY PARTY CHIEF
WATERSHED REVIEW: DATE

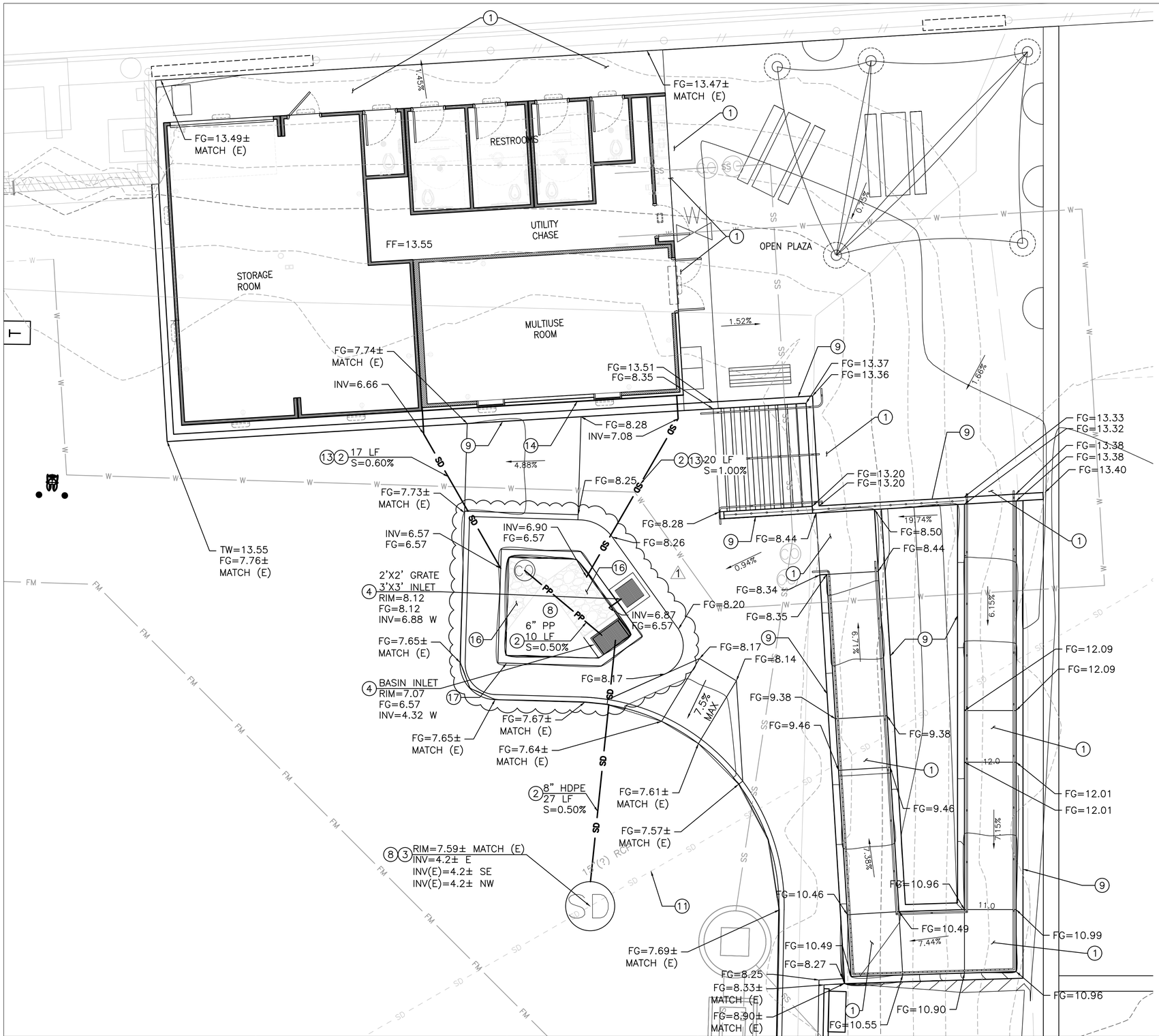
SUBMITTED: DATE R.C.E. EXP.
SUPERVISING CIVIL ENGINEER
APPROVED: DATE R.C.E. EXP.
MANAGER OF ENGINEERING

DESIGN JDV
DRAWN AJR
CHECK KMC
AS BUILT
DATE 7/31/2025
HORIZ. 1"=X'
VERT. 1"=X'
BOOK
DATE

CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

GRADING AND DRAINAGE PLAN
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406–223
CG-101
SHEET 34 OF 92



GENERAL NOTES:

1. SEE SHEET CS–101 FOR SITE IMPROVEMENTS.
2. SEE SHEET CU–101 FOR UTILITY IMPROVEMENTS OTHER THAN STORM DRAIN IMPROVEMENTS.
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8. SEE SHEET CS–001 FOR LIMITS OF BASE BID AND BID ALTERNATES.

KEY NOTES: (#)

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9. RETAINING WALL. SEE STRUCTURAL SHEETS FOR DETAILS.
10. PROVIDE 2.5:1 OR FLATTER SLOPE TO CONFORM TO EXISTING GRADES.
11. EXISTING STORM DRAIN TO REMAIN.
12. TRENCH DRAIN OUTLET PER DETAIL 1/CG–502.
13. 6" HDPE ROOF LEADER PER DETAIL 2/CG–503.
14. ROOF DRAINAGE SYSTEM PER DETAIL 1/CG–503.
15. BASIN OUTLET PER DETAIL 3/CG–502.
16. RIPRAP PER DETAIL 4/CG–502.
17. CONCRETE BASIN STRUCTURE PER THE DETAILS ON SHEETS CS–605 AND CS–606.

LEGEND

- SURFACE FLOW ARROW
- GRADE BREAK
- 1.00% SURFACE SLOPE

REGISTERED PROFESSIONAL ENGINEER
JEROME DE VERGIE
No. C60334
Exp. 6/30/26
CIVIL
STATE OF CALIFORNIA

REVISION	MARK	DATE	DESCRIPTION
1		7/31/2025	BASIN DESIGN CHANGE
		7/31/2025	PERMIT SET
			APPROVAL

PERMIT SET

TRANSYSTEMS
2000 CENTER STREET
SUITE 303
BERKELEY, CA 94704
PHONE: (510) 835–2761

SCALE: 1" = 5' (0, 5, 10, 15 FEET; 0, 1, 2, 3 INCHES)
FOR REDUCED PLANS – ORIGINAL SCALE IS IN INCHES

DEPICTION OF MONUMENTS: DATE
SURVEY PARTY CHIEF
WATERSHED REVIEW: DATE

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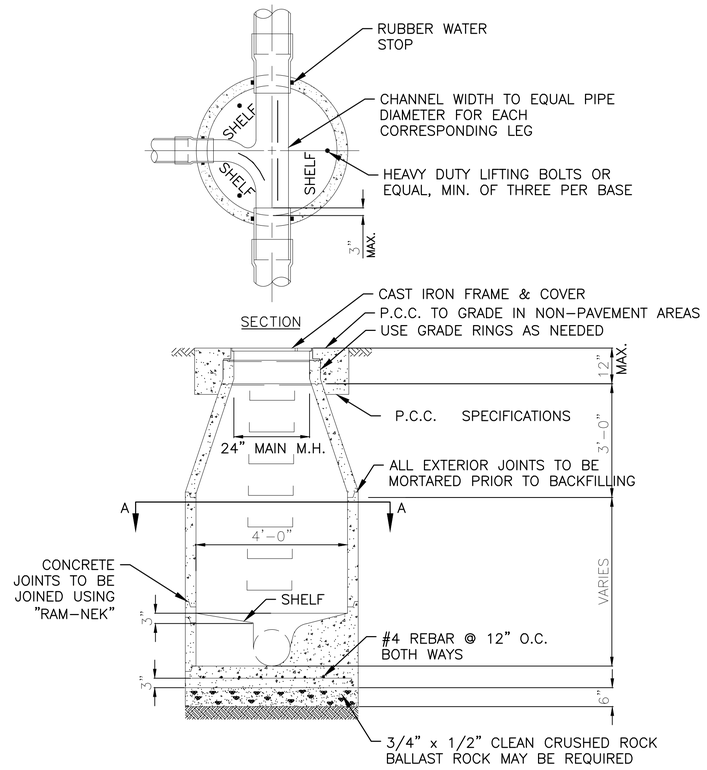
SUPERVISING CIVIL ENGINEER
APPROVED: DATE R.C.E. EXP.
MANAGER OF ENGINEERING

DESIGN JDV
DRAWN AJR
CHECK KMC
AS BUILT
DATE 7/31/2025
HORIZ. 1"=X'
VERT. 1"=X'
BOOK

CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

ENLARGED GRADING & DRAINAGE PLAN
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406–223
CG–111
SHEET 35 OF 92

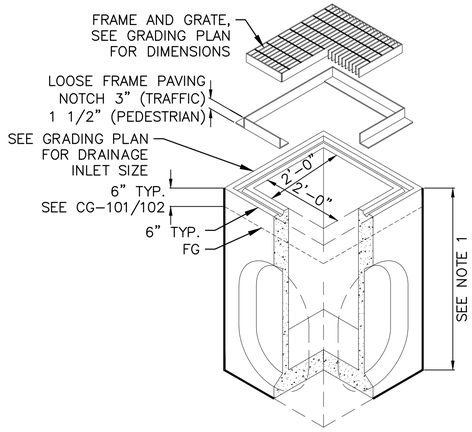


NOTES:

1. PROVIDE STEPS AT 16" MAX. O.C. IN MANHOLES 6 FEET DEEP OR GREATER.
2. PRECAST STORM SEWER MANHOLE MAY BE USED.
3. PIPE CONNECTIONS TO EXISTING MANHOLES SHALL BE CENTERED ON THE MANHOLES. HOLES FOR NEW PIPE SHALL BE NO LARGER THAN 1.5 TIMES THE DIAMETER OF THE PIPE AND SHALL BE PACKED WITH CEMENT MORTAR AROUND THE ENTIRE PERIPHERY OF THE PIPE.

1 STORM SEWER MANHOLE DETAIL

CG-101 | CG-501 NTS

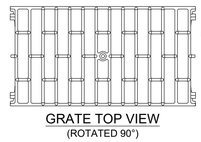


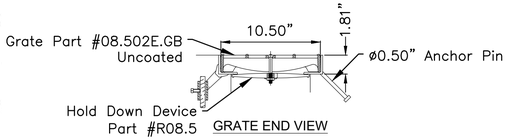
NOTES:

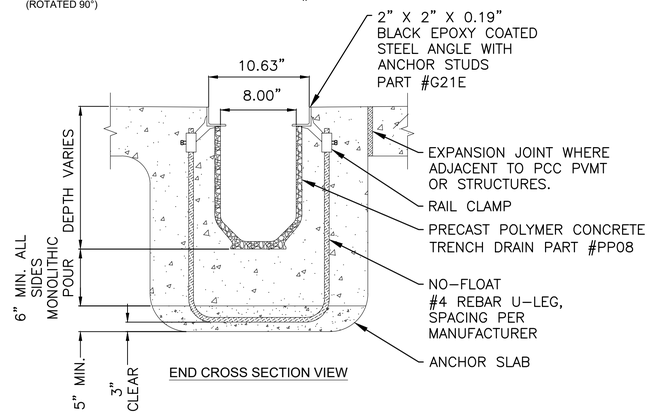
1. SEE GRADING PLAN FOR INVERT ELEVATIONS.
2. AFIX AN ALAMEDA COUNTY CLEAN WATER PROGRAM COMPLIANT PLACARD TO THE TOP OF THE INLET STATING "NO DUMPING! DRAINS TO BAY."

2 PRECAST DRAINAGE INLET

CG-101 | CG-501 NTS







NOTES:

1. CHANNELS TO BE INSTALLED WITH BLANK GRATE. GRATE TO BE PROTECTED FROM CONCRETE POUR (COVER HOLES WITH TAPE).
2. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
3. GRATES:
   - 3.1. DUCTILE IRON PER ASTM A536-84 GRADE 80-55-06 (UNCOATED)
   - 3.2. OPEN AREA: 0.65 FT2 PER LINEAL FOOT
   - 3.3. LOAD RATING: LOAD CLASS E, 620 PSI (AASHTO M-306 TEST METHOD)
   - 3.4. MADE IN THE USA
4. FORM RELEASE: NON-PETROLEUM BASED.

3 TRENCH DRAIN

CG-101 | CG-501 NTS

APPROVAL	DATE	MARK	REVISION
PERMIT SET	7/31/2025		DESCRIPTION

REGISTERED PROFESSIONAL ENGINEER
JEROME DE VERGER
No. C80334
Exp. 6/30/26
CIVIL
STATE OF CALIFORNIA

PERMIT SET

TRANSYSTEMS
2000 CENTER STREET
SUITE 303
BERKELEY, CA 94704
PHONE: (510) 835-2761

NO SCALE

0 1 2 3

FOR REDUCED PLANS – ORIGINAL SCALE IS IN INCHES

DEPICTION OF MONUMENTS: DATE
SURVEY PARTY CHIEF
WATERSHED REVIEW: DATE

SUBMITTED: DATE R.C.E. EXP.
SUPERVISING CIVIL ENGINEER
APPROVED: DATE R.C.E. EXP.
MANAGER OF ENGINEERING

DESIGN JDV
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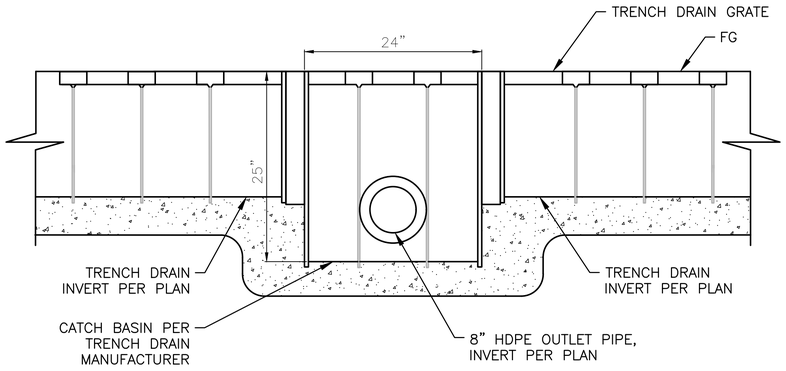
CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

GRADING & DRAINAGE DETAILS
TOM BATES REGIONAL SPORTS COMPLEX

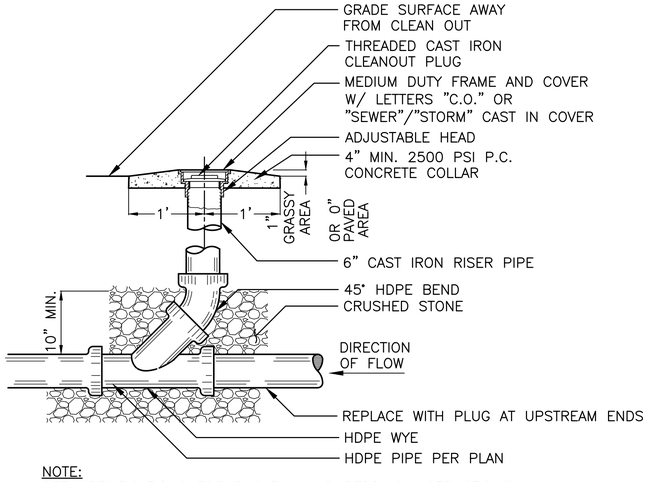
PLAN 8297
FILE 406-223
CG-501
SHEET 36 OF 92



SECTION

NOTES:
1. CHANNELS TO BE INSTALLED WITH BLANK GRATE. GRATE TO BE PROTECTED FROM CONCRETE POUR (COVER HOLES WITH TAPE).
2. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

1 CG-101 | CG-502 TRENCH DRAIN OUTLET
NTS



NOTE:
SEE SPECIFICATIONS FOR BACKFILL AND BEDDING INSTRUCTIONS.

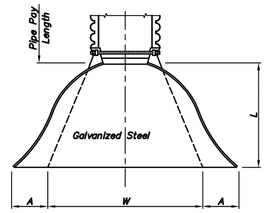
2 CG-101 | CG-502 ONE WAY CLEANOUT
NTS

END SECTIONS FOR HDPE PIPE								
Dia.	Gauge	Weight	* A	* H	* L	* W	Slope	Overall Width
6"	18	10	4	3	8	12	2	20"
8"	18	14	5 3/4	4	14 1/2	16	2 1/4	27 1/2"
10"	18	17	7 5/8	6	14 1/2	20	2 1/2	35 1/4"
12"	16	25	7	6	21	24	2 1/2	38"
15"	16	33	8	6	26	30	2 1/2	46"
18"	16	42	8	6	31	36	2 1/2	52"
21"	16	49	9	6	36	42	2 1/2	60"
24"	16	65	10	6	41	48	2 1/2	68"
30"	14	123	12	8	51	60	2 1/2	84"
36"	14	135	14	9	60	72	2 1/2	100"
42"	12	320	16	11	69	84	2 1/2	116"
48"	12	375	18	12	78	90	2 1/4	126"
54"	12	440	18	12	84	102	2 1/4	138"
60"	12/10	610	18	12	87	114	2	150"

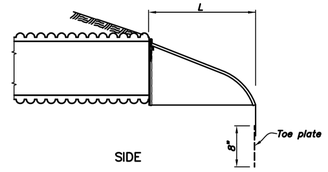
Toe plate extensions where specified, to be punched to match holes in apron lip. 3/8" bolts to be furnished. The length of toe plate to be as follows: W + 10" for 12" to 30" diameter pipes inclusive. W + 20" for 36" to 60" diameter pipes inclusive.

Multiple panel end sections shall have lap seams which are to be tightly jointed by bolts. Corner plate, and toe plate to be same gauge as end section.

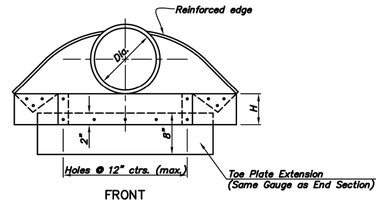
** – Dimensions in Inches Plus or Minus Standard Shop Tolerance.*



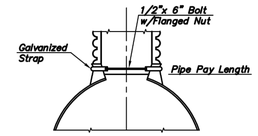
PLAN



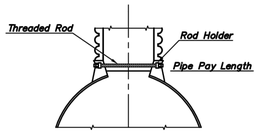
SIDE



FRONT

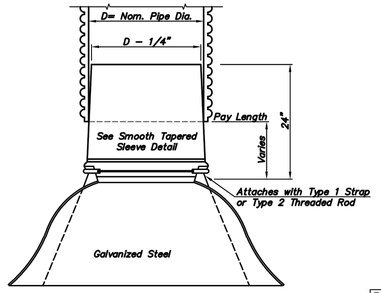


TYPE 1
(10" & Smaller)

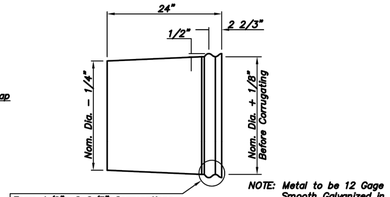


TYPE 2
(12" & Larger)

CONNECTIONS



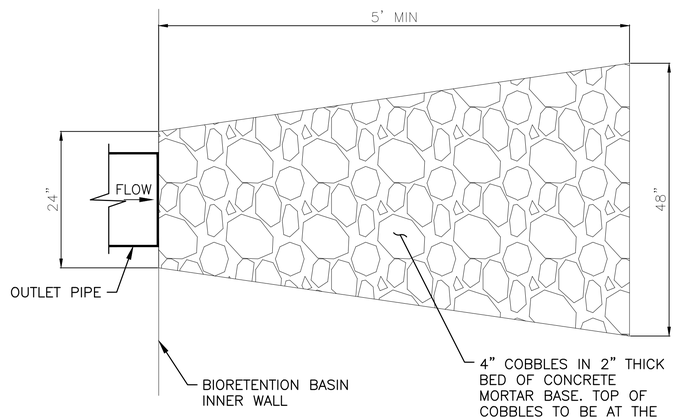
TAPERED SLEEVE FOR ATTACHING STEEL END SECTIONS TO SMOOTH PIPE



NOTE: Metal to be 12 Gage Smooth Galvanized in Accordance with AASHTO M218.

SMOOTH TAPERED SLEEVE DETAIL

3 CG-101 | CG-502 STORM DRAIN OUTLET INTO BASIN DETAIL
NTS



4 CG-101 | CG-502 ENERGY DISSIPATOR DETAIL
NTS

REGISTERED PROFESSIONAL ENGINEER
JEROME DE VERGER
No. C80334
Exp. 6/30/26
CIVIL
STATE OF CALIFORNIA

REVISION	MARK	DATE	DESCRIPTION
			APPROVAL
		7/31/2025	PERMIT SET

PERMIT SET

TRANSYSTEMS
2000 CENTER STREET
SUITE 303
BERKELEY, CA 94704
PHONE: (510) 835-2761

NO SCALE
0 1 2 3
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WATERSHED REVIEW: DATE

SUBMITTED: DATE
SUPERVISING CIVIL ENGINEER R.C.E. EXP.
APPROVED: DATE
MANAGER OF ENGINEERING R.C.E. EXP.

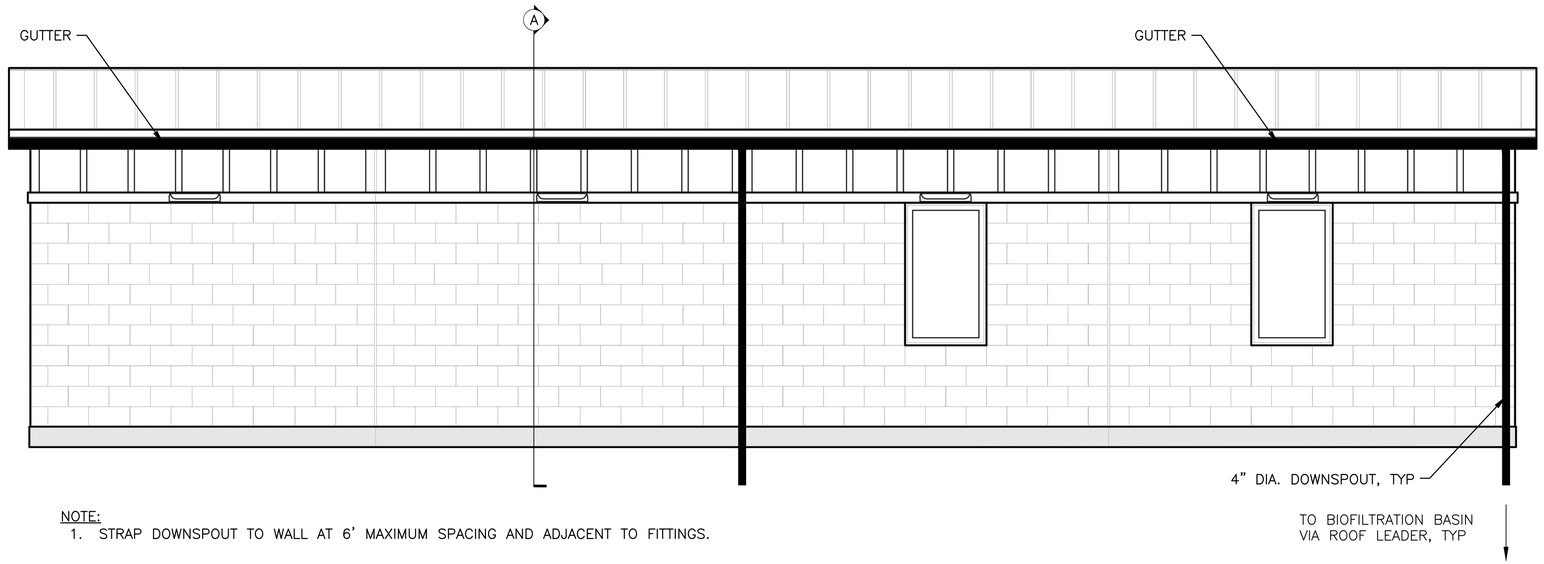
DESIGN JDV
DRAWN AJR
CHECK KMC
AS BUILT
DATE 7/31/2025

HORIZ. 1"=X'
VERT. 1"=X'
BOOK
DATE

CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

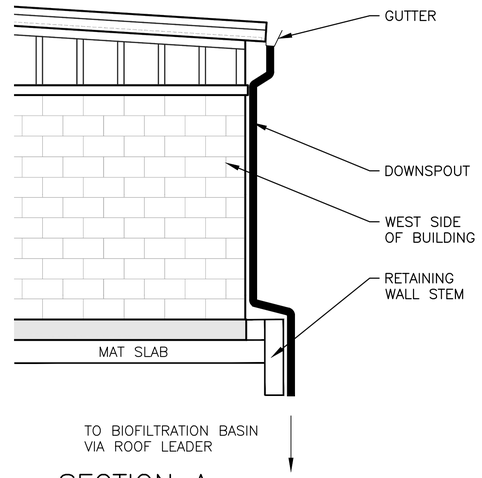
GRADING & DRAINAGE DETAILS
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
CG-502
SHEET 37 OF 92



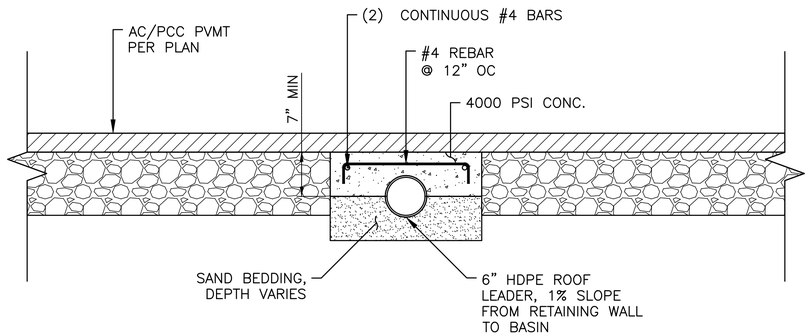
NOTE:
1. STRAP DOWNSPOUT TO WALL AT 6' MAXIMUM SPACING AND ADJACENT TO FITTINGS.

ELEVATION

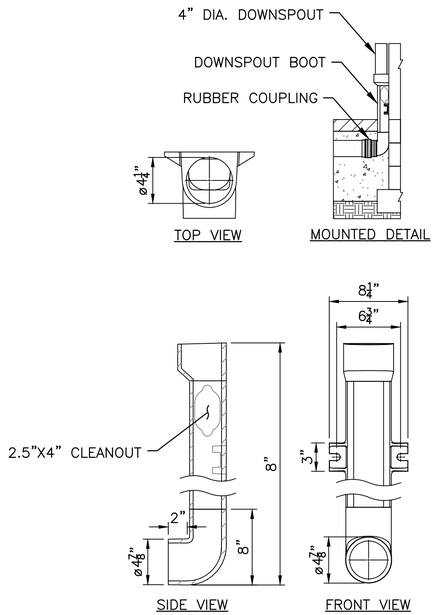


SECTION A

1 CG-101 CG-503 ROOF DRAINAGE SYSTEM DETAILS
NTS



2 CG-101 CG-503 ROOF LEADER DETAIL
NTS



3 CG-101 CG-503 DOWNSPOUT BOOT DETAIL
NTS

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JEROME DE VERGER
No. C60334
Exp. 6/30/26
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STATE OF CALIFORNIA

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APPROVED: DATE
MANAGER OF ENGINEERING R.C.E.

DESIGN JDV
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DATE 7/31/2025
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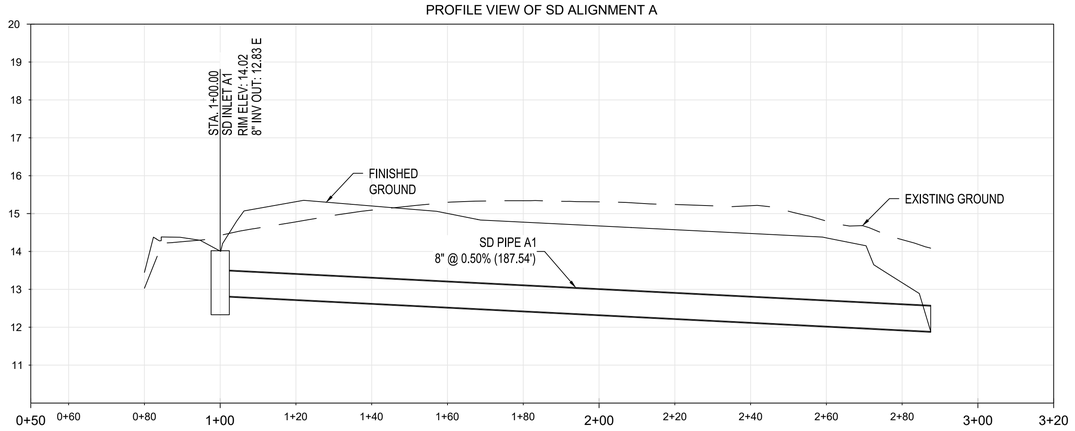
VERT. 1"=X'
BOOK

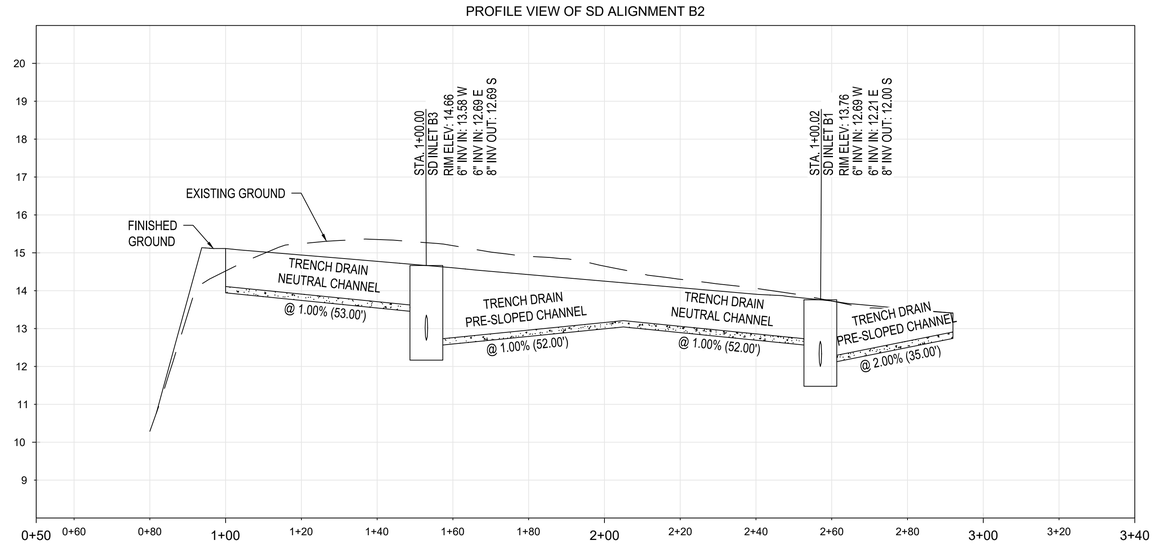
CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

ROOF DRAINAGE SYSTEM
TOM BATES REGIONAL SPORTS COMPLEX

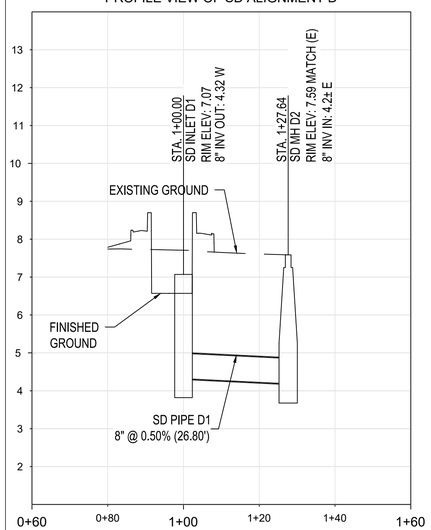
PLAN 8297
FILE 406-223
CG-503
SHEET 38 OF 92



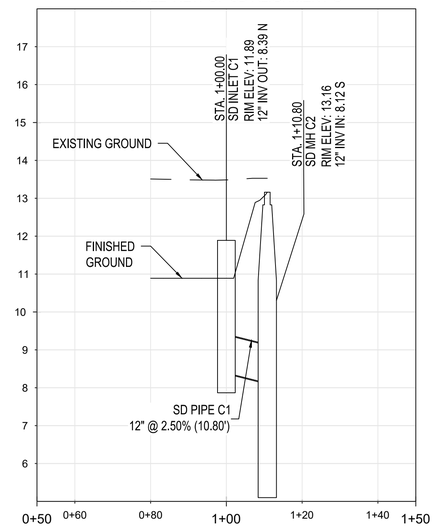
1 CG-101 CG-504 STORM DRAIN PROFILE A
HORIZONTAL: 1"=20', VERTICAL: 1"=2'



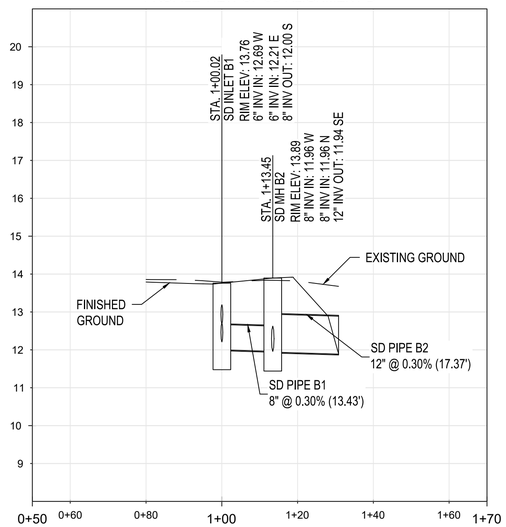
2 CG-101 CG-504 TRENCH DRAIN PROFILE
HORIZONTAL: 1"=20', VERTICAL: 1"=2'



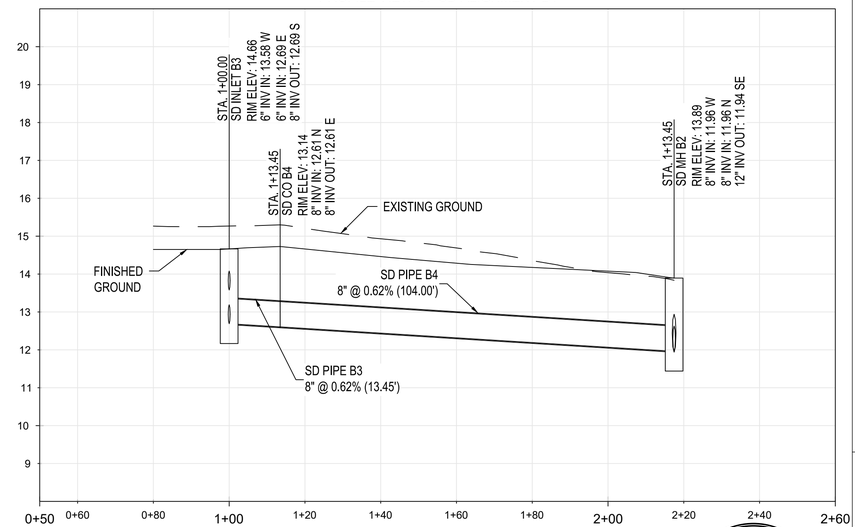
3 CG-101 CG-504 STORM DRAIN PROFILE D
HORIZONTAL: 1"=20', VERTICAL: 1"=2'



4 CG-101 CG-504 STORM DRAIN PROFILE C
HORIZONTAL: 1"=20', VERTICAL: 1"=2'



5 CG-101 CG-504 STORM DRAIN PROFILES B
HORIZONTAL: 1"=20', VERTICAL: 1"=2'



REGISTERED PROFESSIONAL ENGINEER
JEROME DE VERGER
No. C60334
Exp. 6/30/26
CIVIL
STATE OF CALIFORNIA

APPROVAL	DESCRIPTION	DATE	MARK	REVISION
	PERMIT SET	7/31/2025		

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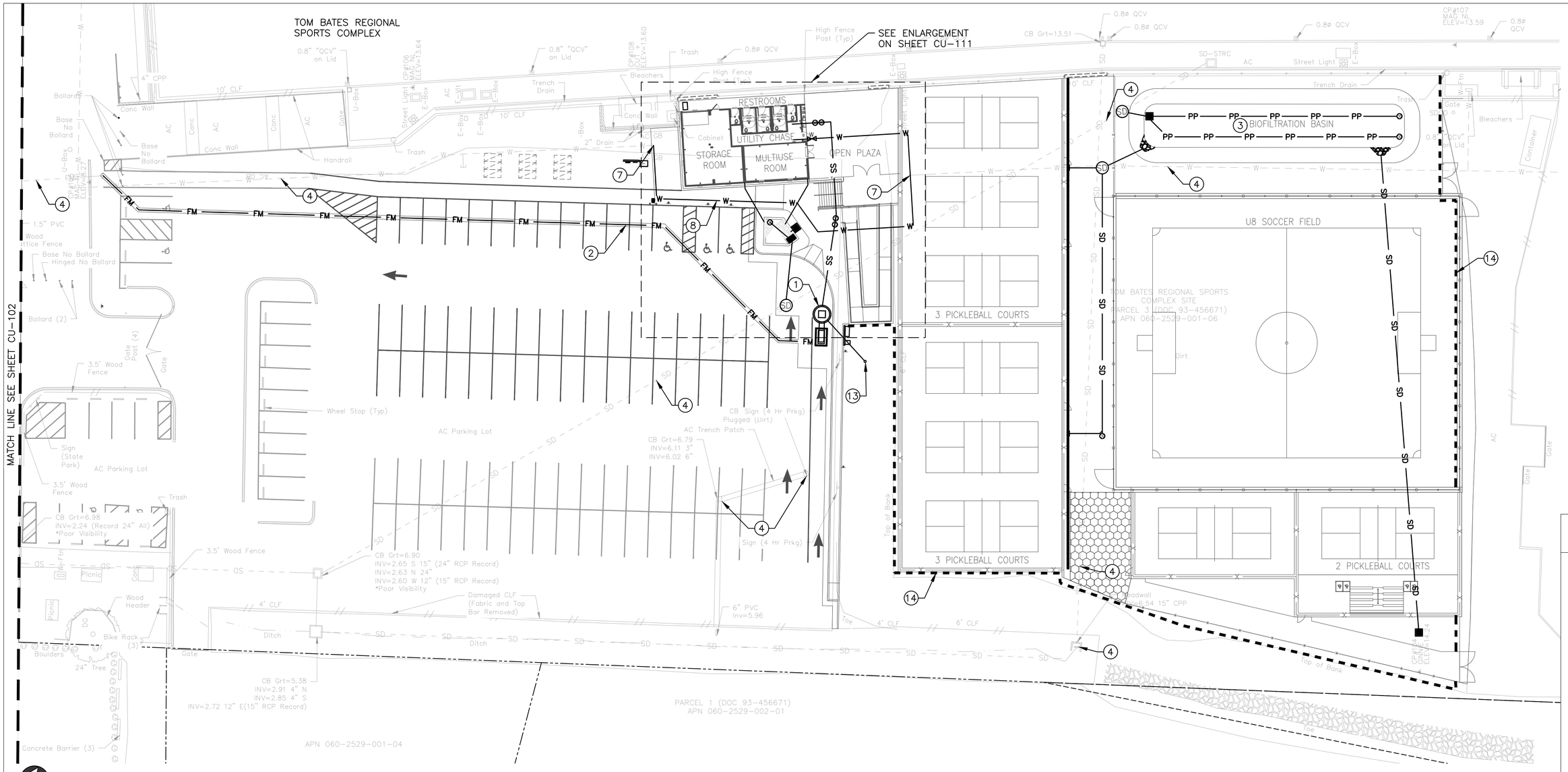
SUBMITTED: DATE R.C.E. EXP.
SUPERVISING CIVIL ENGINEER
APPROVED: DATE R.C.E. EXP.
MANAGER OF ENGINEERING

DESIGN JDV
DRAWN AJR
CHECK KMC
AS BUILT
HORIZ. 1"=X'
VERT. 1"=X'
BOOK
DATE 7/31/2025

CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

STORM DRAIN & TRENCH DRAIN PROFILES
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
CG-504
SHEET 39 OF 92



GENERAL NOTES

1. ELEVATIONS DENOTE FINISHED GRADE.
2. FOR UTILITY TRENCHING, SEE CITY OF BERKELEY STANDARD DETAILS TRENCH EXCAVATION AND SURFACE RESTORATION (PLAN: 8136)
3. SEE CG-101 FOR STORM DRAIN INFORMATION.
4. SEE ELECTRICAL SHEETS FOR INFORMATION REGARDING ELECTRIC SERVICE EQUIPMENT, EV CHARGING STATIONS AND LIFT STATION CONNECTIONS.
5. SEE SHEET CS-001 FOR LIMITS OF BASE BID AND BID ALTERNATES.

KEY NOTES (#)

1. PREFABRICATED SANITARY SEWER LIFT STATION ON SHEETS CU-511 TO CU-516.
2. 6" HDPE SANITARY SEWER FORCE MAIN.
3. DRAINAGE RELATED UTILITY. SEE CG SHEETS FOR MORE INFORMATION.
4. EXISTING UTILITY TO REMAIN.
5. 6" HDPE SANITARY SEWER PIPE. CONNECT TO BUILDING DRAIN. COORDINATE WITH PREFABRICATED BUILDING VENDOR REGARDING LOCATION OF RISER INTO BUILDING THROUGH THE MAT SLAB. SEE 3/CU-501.
6. SANITARY SEWER TWO WAY CLEANOUT PER DETAIL 1/CU-501.
7. LOCATE AND INTERCEPT EXISTING 3" WATER SERVICE PIPE. INSTALL 3" HDPE FITTING AND RELOCATE PIPE AS SHOWN. 30" MINIMUM COVER.
8. RELOCATED 3" HDPE WATER SERVICE PIPE.
9. 3" X 2" X 3" HDPE TEE.
10. 2" HDPE WATER PIPE. 24" MINIMUM COVER. COORDINATE WITH PREFABRICATED BUILDING VENDOR REGARDING LOCATION OF RISER INTO BUILDING THROUGH THE MAT SLAB.
11. 2" BRASS BALL VALVE IN BOX PER DETAIL 2/CU-501.
12. RELOCATED IRRIGATION CONTROL WIRE BOX.
13. WET WELL VENT. SEE LIFT STATION DRAWINGS.
14. RODENT EXCLUSION BARRIER PER DETAIL 3/CU-501.
15. WATER/SANITARY SEWER LATERAL CROSSING. INSTALL WATER ABOVE THE SANITARY SEWER WITH MINIMUM 12" OF CLEARANCE AND DO NOT PLACE ANY WATER PIPE JOINTS WITHIN 10' OF THE SEWER LATER CROSSING.

REGISTERED PROFESSIONAL ENGINEER
JEROME DE VERGER
No. C80334
Exp. 6/30/26
CIVIL
STATE OF CALIFORNIA

REVISION	MARK	DATE	DESCRIPTION
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APPROVAL

PERMIT SET

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0 20 40 60
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MANAGER OF ENGINEERING R.C.E. EXP.

DESIGN JDV
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CHECK KMC
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DATE 7/31/2025

HORIZ. 1"=X'
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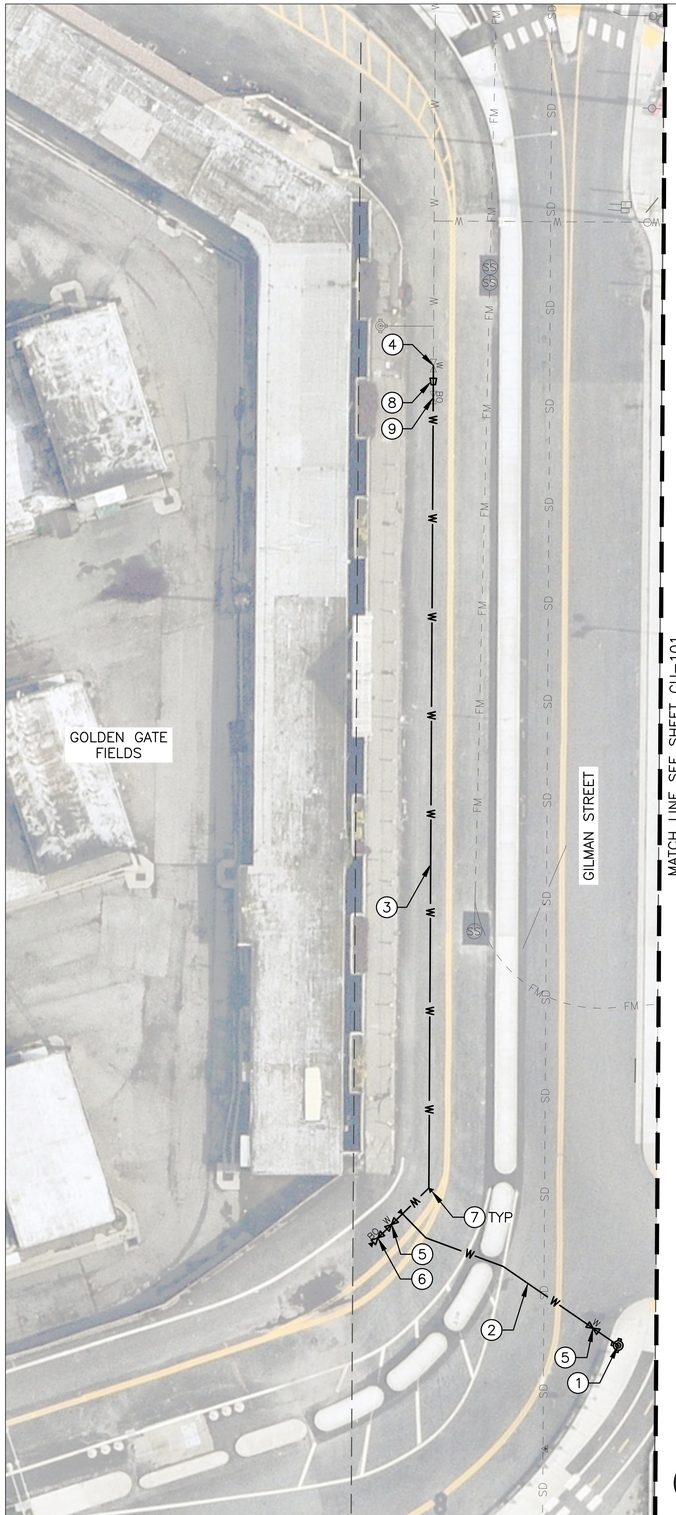
BOOK
DATE

CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

UTILITY PLAN
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
CU-101
SHEET 40 OF 92



GENERAL NOTES:

1. ALL WORK SHOWN WITHIN THE PLAN VIEW IS BASE BID WORK. SEE SHEET CS-001 FOR LIMITS OF BASE BID AND BID ALTERNATES.

KEY NOTES: (#)

1. FIRE HYDRANT PER DETAILS 1 & 3/CU-502.
2. 6" HDPE C906 PIPE, 30" MINIMUM COVER.
3. 8" HDPE C906 PIPE, 30" MINIMUM COVER.
4. CONNECT TO EXISTING WATER MAIN AT GATE VALVE.
5. GATE VALVE PER DETAIL 1/CU-102. SIZE TO MATCH PIPE SIZE.
6. BLOW OFF VALVE PER DETAIL 2/CU-102.
7. THRUST BLOCK PER DETAIL 5/CU-501.
8. 12" TO 8" REDUCER PER DETAIL 1/CU-503.
9. REMOVE EXISTING BLOW OFF VALVE.

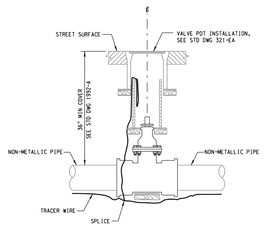


FIG. A
NON-METALLIC PIPE

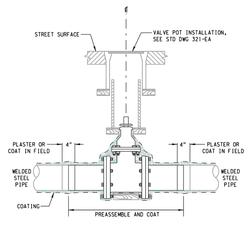


FIG. B
WELDED STEEL PIPE

VALVE COATING

COAT ALL UNCOATED BOLTS AND NUTS AND UNCOATED METALLIC SURFACES OF COUPLINGS, FLANGES, SADDLES, WITH PETROLATUM WAX TAPE PER EBMUD STD SPEC SECTION 09961.1

TRACER WIRE

ALL NON-METALLIC PIPE SHALL HAVE A TRACER WIRE (NO 12 SOLID COPPER TW OR THHN) LAID ON THE TRENCH BOTTOM CENTERED UNDER THE PIPE. A CONTACT ( ) PAD SHALL BE PROVIDED INSIDE THE VALVE POT PER EBMUD SPECIFICATIONS.

ADAPTER RING

WHEN 8" PVC IS INSTALLED IN ANY RING WITH JOINTED CAST IRON FITTING OR VALVE USE DISTRICT CODE NO 41137 ADAPTER RING

VALVE ASSEMBLY

THE VALVE TOGETHER WITH THE FLANGED PIPE SECTIONS SHALL BE PREASSEMBLED AND COATED. SEE STD DWGS 323-EA AND 324-EA FOR FABRICATION OF FLANGED PIPE SECTIONS AND BOLT-UP TORQUES.

COATED MAINS

CEMENT MORTAR COATED PIPE

COAT THE ENTIRE ASSEMBLY WITH CEMENT MORTAR EXCEPT
VALVE OPERATING NUT -- LEAVE BARE
VALVE FLANGE ASSEMBLY AND STEM -- COAT WITH
EPOXY OR HIGH-BUILD EPOXY
PIPE SECTION ENDS -- LEAVE BARE FOR WELDING
AFTER INSTALLATION, PLASTER GIRTH JOINTS WITH CEMENT MORTAR AND REPAIR ANY DAMAGED COATING

DIELECTRIC AND PLASTIC COATED PIPE

SHOP COAT THE ENTIRE ASSEMBLY WITH COAL TAR EPOXY OR HIGH-BUILD EPOXY
VALVE OPERATING NUT -- LEAVE BARE
PIPE SECTION ENDS -- LEAVING BARE
AFTER INSTALLATION, COAT GIRTH JOINTS AND REPAIR ANY DAMAGED COATING AS SPECIFIED FOR THE PIPELINE

NOTES

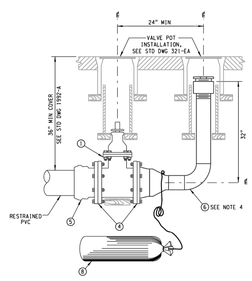
1. SEE STD DWG 1241-A FOR VALVE OPERATING SHAFT EXTENSION.

REDUCED DRAWING

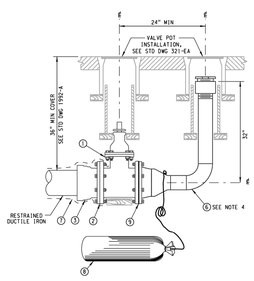
NO	DATE	REVISION	BY	REC	APP
5	05 SEP 2022	REVISED AND REDRAWN	KFP	DSR	Cor
4	30 JUN 2000	REVISED	JH	ST	AST
3	25 MAR 1998	REVISED	PAC	-	-
2	09 NOV 1987	REVISED	PAC	-	-
1	23 NOV 1987	REVISED	WTN	WB	-

DESIGN REVIEW		EAST BAY MUNICIPAL UTILITY DISTRICT OAKLAND, CALIFORNIA
DESIGNED BY	EBMUD	STANDARD DRAWING
DESIGN CHECKED BY	T.J.HOM	GATE VALVE LINE INSTALLATIONS
DRAWN BY	E.HALL	12" AND SMALLER
SUPERVISOR HYDRAULIC DESIGN	G.F.EDE	
CORROSION CHECK BY	A.WESTERBACK	
APPROVED DESIGN & CONST.	W.F.JANTON	SIGNATURE ON FILE DETERMINATION ALL
APPROVED MGR. ENGINEERING R.C.E. NO. C 7624	D.G.LARKIN	SCALE NONE DATE AUG 1969 — 288-EA

1 CU-102 CU-102 GATE VALVE DETAIL
NTS



4" BLOWOFF INSTALLATION
(FOR 6" AND 8" RESTRAINED PVC MAINS)



4" BLOWOFF INSTALLATION
(FOR 6" AND 8" RESTRAINED DUCTILE IRON MAINS)

MATERIAL LIST

ITEM	DESCRIPTION	QUANTITY REQUIRED RESTRAINED PVC	QUANTITY REQUIRED RESTRAINED DUCTILE IRON
1	GATE VALVE, RESILIENT SEAT, FLANGED, NON-RISING STEM WITH NUT OPERATOR	1	1
2	GASKET, FULL FACE, W/ BULB-TYPE RINGS, 350 PSI, 1/8" THK., EPDM	-	1
3	FLANGE ADAPTOR, DUCTILE IRON, TR FLEX OR EQUAL	-	1
4	FLANGE GASKET, 150#, STD DWGS 323-EA AND 324-EA	2	-
5	FLANGE ADAPTOR, PVC RESTRAINED (RCT OR APPROVED EQUAL)	1	-
6	4" STEEL BLOWOFF ASSEMBLY PER STD DWG 3677-B	1	1
7	POLYWRAP PER STD DWG 4569-B	-	AS NEEDED
8	32-LB GALVANIC ANODE, STD DWG 286-EA	1	1
9	FLANGE INSULATING KIT, SEE STD DWG 3186-B	-	1

NOTES

1. WAX TAPE ALL BARE METAL (INCLUDING BOLTS AND NUTS).
2. USE RUST INHIBITING GREASE ON ALL THREADS.
3. BOND ALL JOINTS PER STD DWG 220-EA, AS INDICATED ON THE PROJECT DRAWINGS.
4. FOR 4" DUCTILE IRON BLOWOFF RISER INSTALLATION SEE STD DWG 3677-B-1.

NO	DATE	REVISION	BY	REC	APP

DESIGN REVIEW		EAST BAY MUNICIPAL UTILITY DISTRICT OAKLAND, CALIFORNIA
DESIGNED BY	EBMUD	STANDARD DRAWING
DESIGN CHECKED BY	EBMUD	SIZE ON SIZE MAIN-LINE VALVE WITH 4" BLOWOFF
DRAWN BY	EBMUD	FOR 6" AND 8" RESTRAINED DUCTILE IRON AND PVC
CORROSION CHECKED BY R.C.E. NO. C9 13884	Rachel Pinkerton 06/23/25	
DR CIVIL ENGINEER R.C.E. NO. C 66367	Paul Kilgore 06/23/25	
REGISTERED INFRASTRUCTURE ENGINEER R.C.E. NO. C 57178	Carrie Chan 06/23/25	SIGNATURE ON FILE DETERMINATION ALL
APPROVED DIRECTOR OF ENGINEERING & CONST. R.C.E. NO. C 44274	Gurinder Gill 06/23/25	SCALE DATE 17 AUG 2022 — 332-EA-1

2 CU-102 CU-102 4" BLOWOFF DETAIL
NTS

REVISION	MARK	DATE	DESCRIPTION	APPROVAL
1		7/31/2025	CORRECTIONS FIRST	
		7/31/2025	PERMIT SET	

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BERKELEY, CA 94704
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SUBMITTED: DATE R.C.E. EXP.
SUPERVISING CIVIL ENGINEER
APPROVED: DATE R.C.E. EXP.
MANAGER OF ENGINEERING

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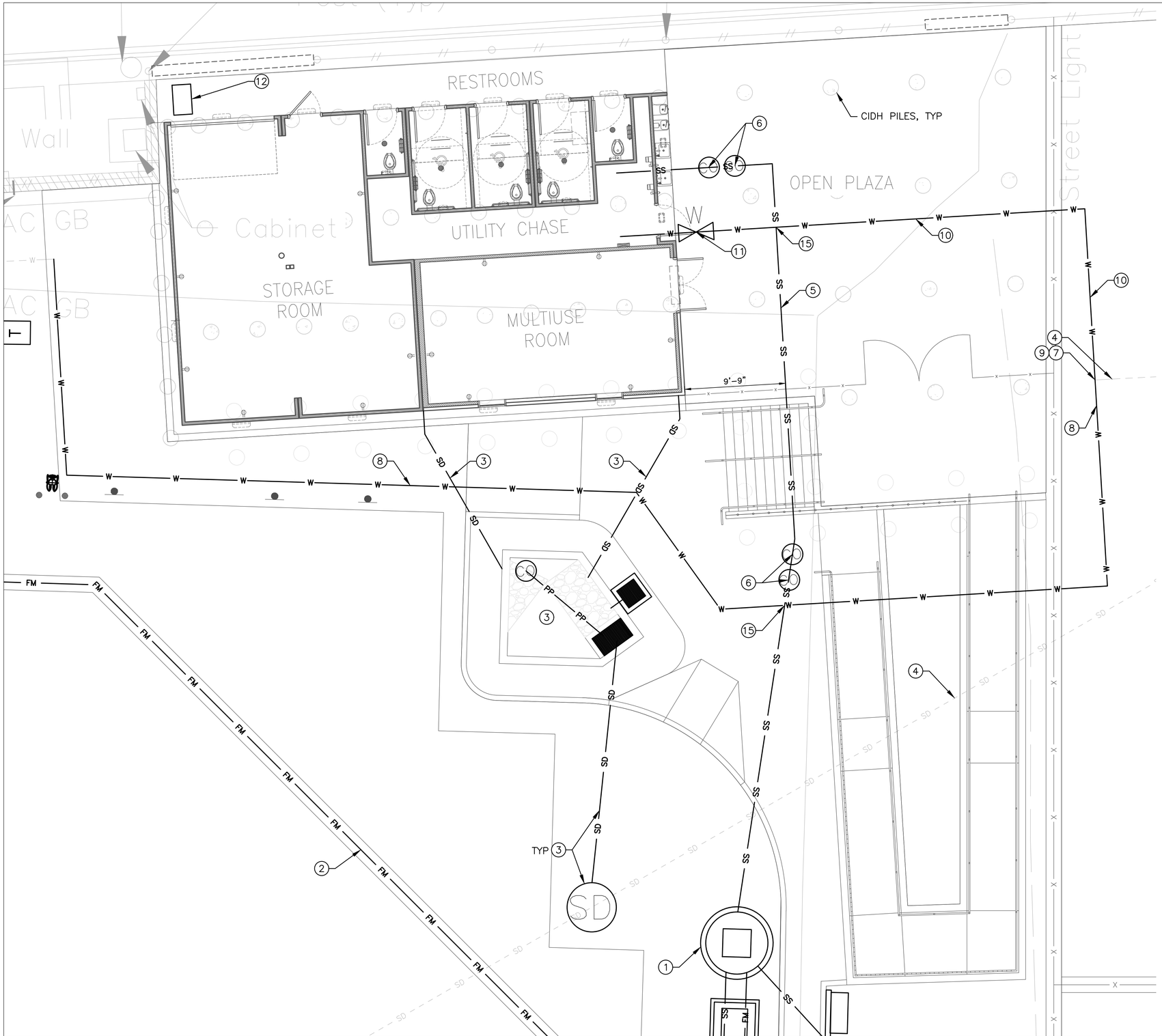
BOOK
SCALE

CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

FIRE SERVICE PLAN
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
CU-102
SHEET 41 OF 92



GENERAL NOTES

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3. SEE CG–101 FOR STORM DRAIN INFORMATION.
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5. SEE SHEET CS–001 FOR LIMITS OF BASE BID AND BID ALTERNATES.

KEY NOTES (#)

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2. 6" HDPE SANITARY SEWER FORCE MAIN.
3. DRAINAGE RELATED UTILITY. SEE CG SHEETS FOR MORE INFORMATION.
4. EXISTING UTILITY TO REMAIN.
5. 6" HDPE SANITARY SEWER PIPE. CONNECT TO BUILDING DRAIN. COORDINATE WITH PREFABRICATED BUILDING VENDOR REGARDING LOCATION OF RISER INTO BUILDING THROUGH THE MAT SLAB. SEE 3/CU–501.
6. SANITARY SEWER TWO WAY CLEANOUT PER DETAIL 1/CU–501.
7. LOCATE AND INTERCEPT EXISTING 3" WATER SERVICE PIPE. INSTALL 3" HDPE FITTING AND RELOCATE PIPE AS SHOWN. 30" MINIMUM COVER.
8. RELOCATED 3" HDPE WATER SERVICE PIPE.
9. 3" X 2" X 3" HDPE TEE.
10. 2" HDPE WATER PIPE. 24" MINIMUM COVER. COORDINATE WITH PREFABRICATED BUILDING VENDOR REGARDING LOCATION OF RISER INTO BUILDING THROUGH THE MAT SLAB.
11. 2" BRASS BALL VALVE IN BOX PER DETAIL 2/CU–501.
12. RELOCATED IRRIGATION CONTROL WIRE BOX.
13. WET WELL VENT. SEE LIFT STATION DRAWINGS.
14. RODENT EXCLUSION BARRIER PER DETAIL 3/CU–501.
15. WATER/SANITARY SEWER LATERAL CROSSING. INSTALL WATER ABOVE THE SANITARY SEWER WITH MINIMUM 12" OF CLEARANCE AND DO NOT PLACE ANY WATER PIPE JOINTS WITHIN 10' OF THE SEWER LATER CROSSING.

REVISION	MARK	DATE	DESCRIPTION	APPROVAL
		7/31/2025	PERMIT SET	

PERMIT SET

TRANSYSTEMS
2000 CENTER STREET
SUITE 303
BERKELEY, CA 94704
PHONE: (510) 835–2761

SCALE: 1" = 5' FEET
FOR REDUCED PLANS – ORIGINAL SCALE IS IN INCHES

DEPICTION OF MONUMENTS: DATE
SURVEY PARTY CHIEF
WATERSHED REVIEW: DATE

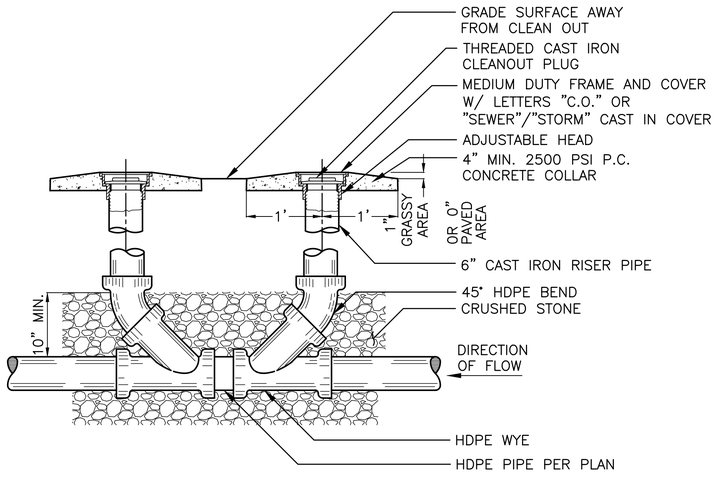
SUBMITTED: DATE
SUPERVISING CIVIL ENGINEER R.C.E. EXP.
APPROVED: DATE
MANAGER OF ENGINEERING R.C.E. EXP.

DESIGN JDV
DRAWN AJR
CHECK KMC
AS BUILT
HORIZ. 1"=X'
VERT. 1"=X'
BOOK
DATE 7/31/2025

CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

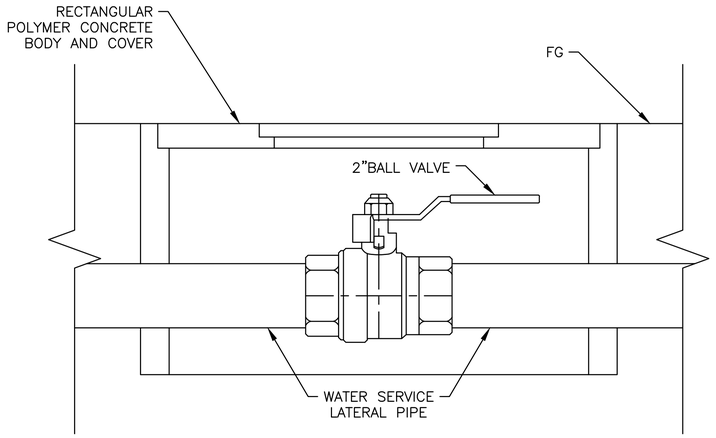
ENLARGED UTILITY PLAN
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406–223
CU-111
SHEET 42 OF 92

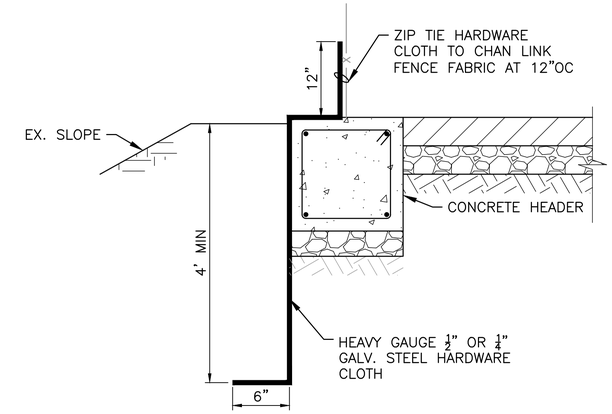


NOTE:
SEE SPECIFICATIONS FOR BACKFILL AND BEDDING INSTRUCTIONS.

1 TWO WAY CLEANOUT
CU-101 | CU-501 NTS

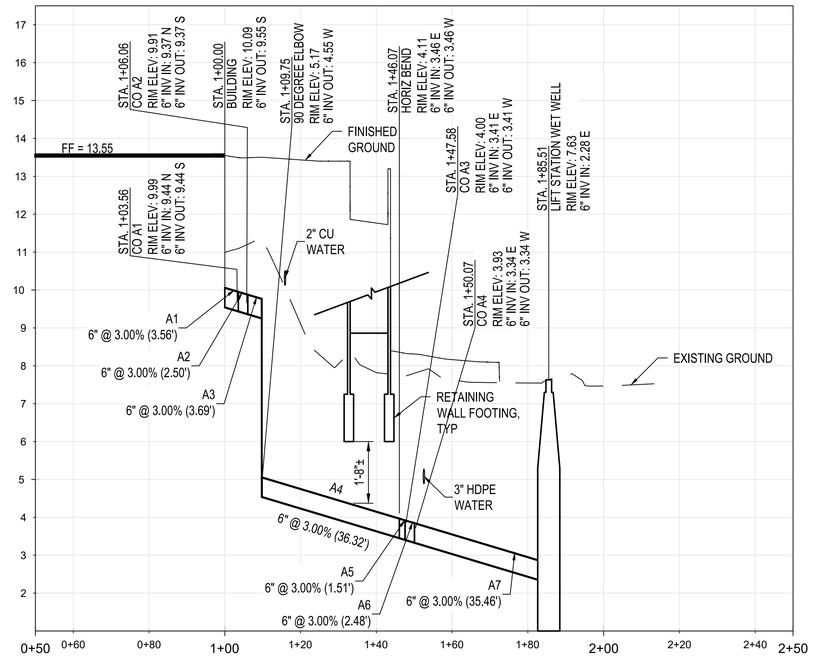


2 BALL VALVE DETAIL
CU-101 | CU-501 NTS

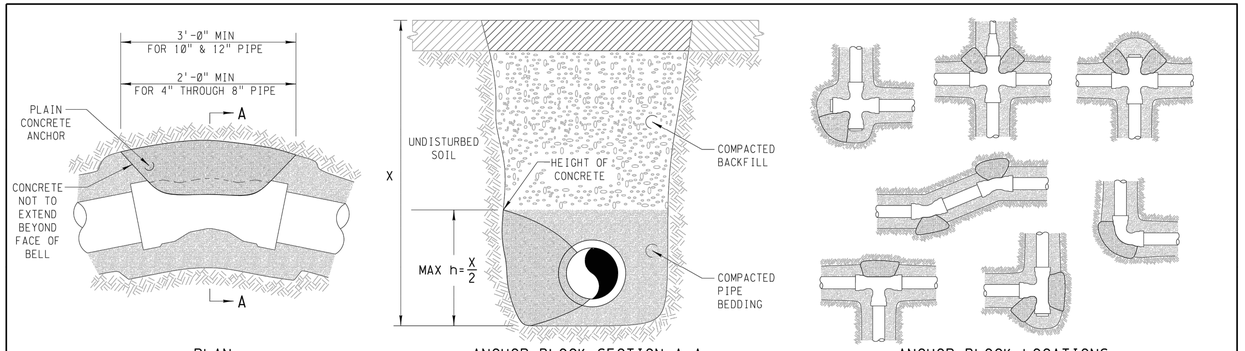


NOTE:
1. OVERLAP HARDWARE CLOTH SECTIONS BY 1" MIN AND SECURE TOGETHER USING ZIP TIES AT 4" OC.

3 RODENT EXCLUSION BARRIER DETAIL
CU-101 | CU-501 NTS



4 SANITARY SEWER PROFILE
CU-101 | CU-501 HORIZONTAL: 1"=20', VERTICAL: 1"=2'



REQUIRED SIZE OF ANCHOR BEARING AREA IN SQ. FT.				
PIPE SIZE	FITTING	SOFT CLAY	MEDIUM CLAY OR LOOSE GRANULAR SOIL	HARD CLAY OR MEDIUM GRANULAR SOIL
4"	TEE/CROSS	4	2	2
4"	22½°ELL	2	2	2
4"	45°ELL	3	2	2
4"	90°ELL	5	3	2
6"	TEE/CROSS	9	3	3
6"	22½°ELL	3	2	2
6"	45°ELL	7	3	2
6"	90°ELL	12	4	3
8"	TEE/CROSS	*	5	4
8"	22½°ELL	5	3	2
8"	45°ELL	10	4	3
8"	90°ELL	*	7	4
12"	TEE/CROSS	*	12	6
12"	22½°ELL	12	5	3
12"	45°ELL	*	9	5
12"	90°ELL	*	*	9

* USE ONLY RESTRAINED JOINTS - WHEN SIZE OF ANCHOR BEARING AREA REQUIRED BY THE SOFT CLAY IS TOO LARGE TO OBTAIN, USE RESTRAINED PUSH-ON FITTINGS OR ⅝" TIE RODS AND CONCRETE ANCHORS TO RESTRAIN THE FITTING FROM MOVING OFF THE STABBED PIPE ENDS, SIMILAR TO STD DWG 194-EA.

NOTES

1. POUR CONCRETE AGAINST UNDISTURBED SOIL.
2. NO CONCRETE IS TO BE PLACED BEYOND THE FACE OF THE BELL.
3. MAXIMUM HEIGHT OF ANCHOR IS HALF THE DEPTH FROM GROUND SURFACE TO BASE OF ANCHOR BLOCK AT THE TRENCH WALL.
4. POLYWRAP PORTION OF FITTING IN CONTACT WITH CONCRETE IN ACCORDANCE WITH EBMUD SPECIFICATIONS.
5. SOIL IDENTIFICATION CHARACTERISTICS
   SOFT CLAY - MOLDED BY LIGHT FINGER PRESSURE.
   MEDIUM CLAY - MOLDED BY STRONG FINGER PRESSURE.
   HARD CLAY - DIFFICULT TO INDENT BY THUMBNAIL.
   LOOSE GRANULAR SOIL - EASILY EXCAVATED WITH SHOVEL.
   MEDIUM GRANULAR SOIL - DIFFICULT TO EXCAVATE WITH SHOVEL.

NO	DATE	REVISION	BY	REC	APP
3	09 SEP 2022	REVISED AND REDRAWN	KAPOSI		CW
2	30 JUN 2000	REVISED	AST	-	-
1	13 DEC 1988	REVISED	DAS	WB	-

DESIGN	DESIGNED BY	EBMUD
	DESIGN CHECKED BY	W.BODE
	DRAWN BY	N.NELSON
REVIEW	CORR AEW	
RECOM.	SUPVR.PIPELINE ENG'G R.P.E. NO. C 18774	W.J.RAMOS
	MANAGER, DIST.ENG'G R.P.E. NO. C 13325	R.J.KOLM
	APPROVED ASST.GEN.MGR.&CHIEF ENGINEER R.P.E. NO. C 13447	W.F.ANTON

EAST BAY MUNICIPAL UTILITY DISTRICT
OAKLAND, CALIFORNIA

STANDARD DRAWING

ANCHORAGE FOR HORIZONTAL BENDS AT UNRESTRAINED JOINTS

STRUCTURE OR ZONE DESIGNATION: ALL
SCALE: NONE
DATE: 25 FEB 1981

3360-B

REGISTERED PROFESSIONAL ENGINEER
JEROME DE VERNEJOUL
No. C60334
Exp. 6/30/26
CIVIL
STATE OF CALIFORNIA

5 THRUST BLOCK DETAILS
CU-101 | CU-501 NTS

NO	DATE	DESCRIPTION
1		REVISION
		MARK
	7/31/2025	PERMIT SET
	7/31/2025	CORRECTIONS FIRST
		APPROVAL

PERMIT SET

TRANSYSTEMS
2000 CENTER STREET
SUITE 303
BERKELEY, CA 94704
PHONE: (510) 835-2761

0 1 2 3
FOR REDUCED PLANS – ORIGINAL SCALE IS IN INCHES

DEPICTION OF MONUMENTS: DATE
SURVEY PARTY CHIEF
WATERSHED REVIEW: DATE

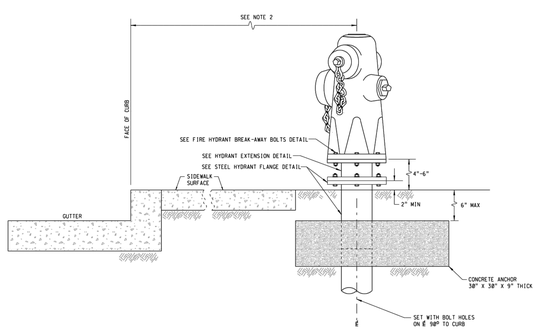
SUBMITTED: DATE R.C.E. EXP.
SUPERVISING CIVIL ENGINEER
APPROVED: DATE R.C.E. EXP.
MANAGER OF ENGINEERING

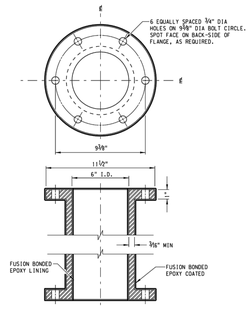
DESIGN JDV
DRAWN AJR
CHECK KMC
AS BUILT
HORIZ. 1"=X'
VERT. 1"=X'
BOOK
DATE 7/31/2025

CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

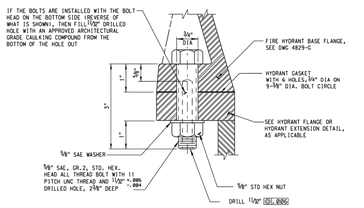
UTILITY DETAILS
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
CU-501
SHEET 43 OF 92

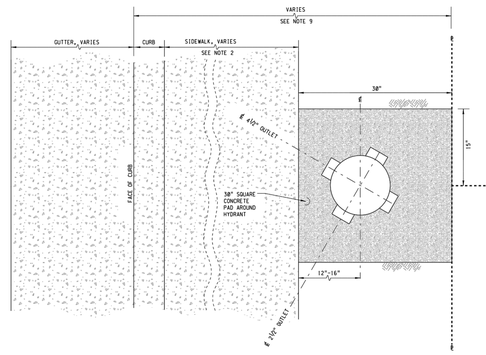




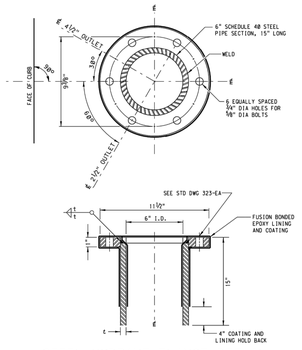
HYDRANT EXTENSION DETAIL



FIRE HYDRANT BREAK-AWAY BOLTS DETAIL



LOCATION PLAN OF HYDRANT BEHIND SIDEWALK AREA



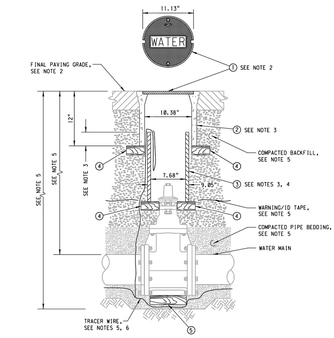
STEEL HYDRANT FLANGE DETAIL
(SEE STD DWG 9496-GB, FIG 1)

NOTES

1. FOR STEEL, DI AND PVC HYDRANT INSTALLATION, MATERIAL LIST AND TEE SELECTIONS SEE STD DWG 9496-GB.
2. INSTALL FIRE HYDRANT BEHIND SIDEWALK WHERE SIDEWALK WIDTH IS LESS THAN 6'.
   HYDRANTS TO BE SET BEHIND SIDEWALK SHALL BE LOCATED IN CONFORMANCE WITH THE FIRE AGENCY'S AND CITY OR COUNTY REQUIREMENTS.
3. INSTALL HYDRANT WITH PROPER SETBACK CLEARANCES FROM FACE OF CURB AND EDGE OF SIDEWALK. MAINTAIN MINIMUM 5' CLEARANCE FROM FENCES, WALLS, STRUCTURES, AND EDGES OF DRIVEWAYS.
4. INSTALL HYDRANT PER EBMUD SPEC SECTION 33 11 13.21P.
5. AFFIX EBMUD LOGO DECAL TO HYDRANT BODY FACING THE STREET.
6. BOLTS SHALL BE TIGHTENED IN DIAMETRICAL PAIRS IN AT LEAST TWO EQUAL PASSES WITH CALIBRATED TORQUE WRENCH. THE FINAL PASS SHALL GIVE 75FT – LBS TORQUE ON EACH BOLT.
7. USE CORROSION INHIBITING GREASE ON ALL THREADS. SEE SPEC SECTION 33 10 @1P.
8. FUSION BONDED EPOXY AND HIGH-BUILD EPOXY LININGS SHALL BE 12-MILS MINIMUM, MAXIMUM THICKNESS SHALL BE MANUFACTURER'S MAXIMUM NSF-61 CERTIFIED THICKNESS.
9. FIRE HYDRANT LATERALS NOT IN DEDICATED STREET SHALL HAVE A MINIMUM RIGHT-OF-WAY WIDTH OF 5' CENTERED ON THE PIPE EXTENDING FROM THE MAIN OR STREET RIGHT-OF-WAY TO AT LEAST 5' BEYOND THE APPURTENANCE. A TEMPORARY CONSTRUCTION EASEMENT MAY BE CONSIDERED TO SUPPLEMENT RIGHT-OF-WAY NEEDS DURING INITIAL CONSTRUCTION BUT ADEQUATE ACCESS FOR FUTURE MAINTENANCE SHALL BE PROVIDED.

DESIGN	DESIGNED BY	EBMUD	EAST BAY MUNICIPAL UTILITY DISTRICT OAKLAND, CALIFORNIA				
	DESIGN CHECKED BY	EBMUD	STANDARD DRAWING				
DETAIL	DRAWN BY	EBMUD	FIRE HYDRANT INSTALLATION DETAILS				
	CORROSION CHECKED BY (R.P.E. NO. CE 18868)	Keith Rockwell					
	BR STATE ENGINEER (R.C.E. NO. 16,887)	Brad Klein					
	RECOMMENDED: MGR PIPELINE INFRASTRUCTURE (R.C.E. NO. C 51179)	Carrie Chan	SIGNATURE ON ZONE DESIGNATION: ALL				
	APPROVED: DIRECTOR OF ENGINEERING & CONST. (R.C.E. NO. C 44579)	Sophia Skoda	SCALE: NONE	9496-GB-1			
NO.	DATE	REVISION	BY REC APP	DATE: 17 AUG 2022			

1 FIRE HYDRANT INSTALLATION DETAILS
CU-101 CU-502 NTS



MATERIAL LIST		
ITEM	DESCRIPTION	QUANTITIES
1	CI COVER, CHRISTY G05	1
2	CONCRETE TRAFFIC VALVE BOX, CHRISTY G05	1
3	8" RISER PIPE, AWWA C900 DR-14 PVC PIPE	AS NEEDED
4	REDWOOD BLOCKING 2"X4"X12"	4
5	REDWOOD BLOCKING 2"X8"X12"	1

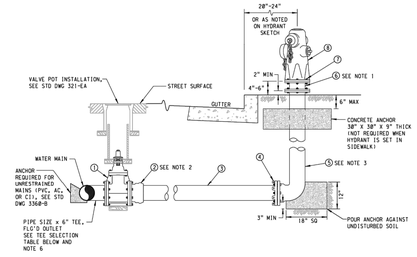
NOTES

1. VALVE POT INSTALLATION INCLUDES CI COVER, CONCRETE TRAFFIC VALVE BOX, RISER PIPE AND REDWOOD BLOCKINGS, SEE MATERIAL LIST.
2. TOP OF VALVE POT COVER TO FIT FLUSH WITH SURFACE OF PAVEMENT OR FINISHED GRADE IF UNPAVED.
3. PLACE CONCRETE VALVE POT BOX WITH OVERLAP BETWEEN 2 INCHES MINIMUM AND 4 INCHES MAXIMUM WITH RISER PIPE.
4. PREVENT CONCRETE AND DEBRIS FROM SPILLING INTO RISER PIPE.
5. FOR PIPE TRENCH EXCAVATION AND BACKFILLL SEE STD DWG 1992-EA AND SPEC SECTION 31 23 33P.
6. FOR TRACER WIRE AND GATE VALVE LINE INSTALLATION SEE STD DWGS 288-EA AND 288-EA-1.
7. INSTALL GATE VALVE OPERATING SHAFT EXTENSION ON GATE VALVES IF OPERATING NUT IS MORE THAN 36" BELOW GROUND LEVEL. TOP OF SHAFT EXTENSION OPERATING NUT SHALL BE BETWEEN 12" AND 24" OF FINISH GRADE. SEE STD DWG 1241-EA.
8. INSTALL BUTTERFLY VALVE OPERATING SHAFT EXTENSION WITH SHEARPIN ON ALL BUTTERFLY VALVES. TOP OF OPERATING NUT SHALL BE BETWEEN 12" TO 24" OF FINISHED GRADE. SEE STD DWG 1241-EA.
9. VALVE POT COVER COLOR CODE: RED = ZONE VALVES (ALWAYS CLOSED)
   WHITE = HYDRANT VALVES
   BLUE = DISTRIBUTION LINE VALVES
   PURPLE = RECYCLED WATER VALVES
10. SEE SPEC SECTION 33 11 13.21P ARTICLE 3.10 – INSTALLATION OF VALVE POTS.

REDUCED DRAWING

DESIGN	DESIGNED BY	EBMUD	EAST BAY MUNICIPAL UTILITY DISTRICT OAKLAND, CALIFORNIA				
	DESIGN CHECKED BY	W.BODE	STANDARD DRAWING				
DETAIL	DRAWN BY	R.D.B.	VALVE POT INSTALLATION				
	CORR	AEW					
4	12 AUG 2022	REVISED AND REDRAWN	SUPVR PIPELINE ENG'G (R.C.E. NO. 51877)	W.L.RAMOS			
3	05 JAN 2017	UPDATE	MANAGER DIST ENG'G (R.C.E. NO. 41729)	R.L.KOLM			
2	31 OCT 1997	REVISED	SUPERVISOR OF ENG'G (R.C.E. NO. C-51947)	W.F.ANTON	SIGNATURE ON ZONE DESIGNATION: ALL		
1	05 DEC 1967	REVISED	APPROVED: DIR. OF ENG.,WORK ADVISORY ENGINEER (R.C.E. NO. C-7624)	D.G.LARKIN	SCALE: NONE	321-EA	
NO.	DATE	REVISION	BY REC APP		DATE: 30 JAN 1979		

2 VALVE POT INSTALLATION DETAIL
CU-101 CU-502 NTS



MATERIAL LIST		
ITEM	DESCRIPTION	QUANTITY REQUIRED
1	6" GATE VALVE, FLANGED OR RESTRAINED PUSH-ON X FLG	1
2	6" FLANGE X HUB ADAPTER, RESTRAINED	1 (RCT OR EQUIVALENT)
3	6" PIPE, (PVC WITH RESTRAINED JOINTS, (COUPLING OR HARNESS) LENGTH, AS REQUIRED (HYDRANT RUN)	AS NEEDED
4	6" RESTRAINED MECHANICAL FITTING FOR (PVC (MEGALUG MODEL 2000PV OR (EQUIVALENT)	1
5	6" ELBOW, HYDRANT X MECHANICAL JOINT, DI, FUSION BONDED EPOXY LINED AND COATED	1
6	HYDRANT EXTENSION, DUCTILE IRON, FUSION BONDED EPOXY LINED AND COATED, LENGTH AS REQUIRED	IF NEEDED
7	HYDRANT SET (6 HOLE GASKET, 6 BREAKAWAY BOLTS & NUTS)	1
8	HYDRANT BODY	1

NOTES

1. SEE STD DWG 9496-GB-1 – FIRE HYDRANT INSTALLATION DETAILS INCLUDING HYDRANT SETTING, FLANGE, EXTENSION, AND BOLT DETAILS.
2. OMIT HUB ADAPTER IF RESTRAINED PUSH-ON VALVE IS USED.
3. DETERMINE LENGTHS OF THE HYDRANT ELBOW AND EXTENSION TO ACCOMMODATE A CLEARANCE OF 4'-6" FROM THE GROUND ELEVATION. ELBOW LENGTHS= 24", 30", 36", 42", 48".
4. INCLUDE TRACER WIRE IF HYDRANT RUN IS >50' IN LENGTH OR NOT PERPENDICULAR TO MAIN.
5. WRAP BARE METAL WITH PETROLATUM WAX TAPE PER SPEC SECTION 33 10 @1P.
6. IF MAINLINE PIPE IS UNRESTRAINED, INSTALL THRUST BLOCK AT TEE PER STD DWG 3368-0.

3 FIRE HYDRANT DETAIL
CU-101 CU-502 NTS

REGISTERED PROFESSIONAL ENGINEER
JEROME DE VERNEJOUL
No. C60334
Exp. 6/30/26
CIVIL
STATE OF CALIFORNIA

NO.	DATE	DESCRIPTION
1	7/31/2025	CORRECTIONS FIRST PERMIT SET

APPROVAL

PERMIT SET

TRANSYSTEMS
2000 CENTER STREET
SUITE 303
BERKELEY, CA 94704
PHONE: (510) 835-2761

0 1 2 3
FOR REDUCED PLANS – ORIGINAL SCALE IS IN INCHES

DEPICTION OF MONUMENTS: DATE
SURVEY PARTY CHIEF
WATERSHED REVIEW: DATE

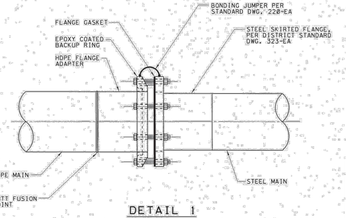
SUBMITTED: DATE / R.C.E. / EXP.
SUPERVISING CIVIL ENGINEER
APPROVED: DATE / R.C.E. / EXP.
MANAGER OF ENGINEERING

DESIGN JDV
DRAWN AJR
CHECK KMC
AS BUILT
HORIZ. 1"=X'
VERT. 1"=X'
BOOK
DATE 7/31/2025

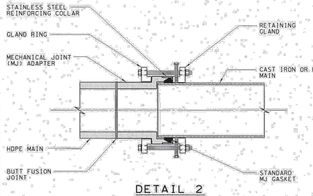
CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

UTILITY DETAILS
TOM BATES REGIONAL SPORTS COMPLEX
1

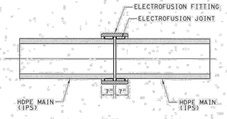
PLAN 8297
FILE 406-223
CU-502
SHEET 44 OF 92



DETAIL 1
HDPE FLANGE CONNECTION
(FOR HDPE TO STEEL PIPE OR FLANGED VALVE)
(N.T.S.)

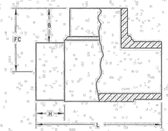


DETAIL 2
IPS & DIPS BELL MECHANICAL JOINT "MJ" ADAPTER
(FOR HDPE TO CAST IRON OR PVC PIPE)
(N.T.S.)



DETAIL 3
HDPE ELECTROFUSION COUPLING CONNECTION (IPS TO IPS)
(FOR HDPE TO HDPE PIPE)
N.T.S.

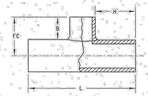
IPS FITTINGS MOLDED TEES



NOMINAL SIZE (IN)	PIPE OD (IN)	DR	DIMENSIONS L (IN)	H (IN)	FC (IN)	B (IN)
6	6.625	09	16.25	4	8.25	4.94
		11	18	4.5	9	5.69
8	8.625	11	23.75	5.85	11.9	7.59
12	12.75	11	31.6	7.5	15.9	9.53

ISCO IPS FITTINGS MOLDED TEES OR EQUAL AS APPROVED BY ENGINEER.

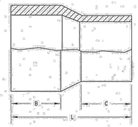
IPS FITTINGS REDUCING TEE



NOMINAL SIZE (IN)	PIPE OD (IN)	DR	DIMENSIONS L (IN)	H (IN)	FC (IN)	B (IN)
8x6	8.625 x 6.625	11	28	9.8125	12.25	7.9375
12x6	12.75 x 6.625	11	28	9.8125	14.375	8
12x8	12.75 x 8.625	11	30	9.875	14.625	8.25

ISCO IPS FITTINGS REDUCING TEE OR EQUAL AS APPROVED BY ENGINEER.

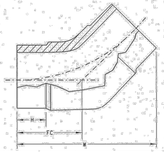
IPS FITTING CONCENTRIC REDUCER



NOMINAL SIZE (IN)	PIPE OD (IN)	DR	DIMENSIONS L (IN)	B (IN)	C (IN)
8x6	8.625 x 6.625	09	12	4.5	4
		11	12	4.5	4
12x8	12.75 x 8.625	11	15	5	6

ISCO IPS FITTINGS CONCENTRIC REDUCER OR EQUAL AS APPROVED BY ENGINEER.

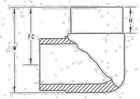
IPS FITTINGS MOLDED 45° ELL



NOMINAL SIZE (IN)	PIPE OD (IN)	DR	DIMENSIONS H (IN)	FC (IN)	W (IN)
6	6.625	09	4.125	9	17.78
		11	4.125	9	17.78
8	8.625	11	6	11	21.8

ISCO IPS FITTINGS MOLDED 45° ELL OR EQUAL AS APPROVED BY ENGINEER.

IPS FITTINGS MOLDED 90° ELL



NOMINAL SIZE (IN)	PIPE OD (IN)	DR	DIMENSIONS H (IN)	FC (IN)	W (IN)
6	6.625	09	4.125	8	12.5
		11	4.125	8	12.5
8	8.625	11	6	12	16.5

ISCO IPS FITTINGS MOLDED 90° ELL OR EQUAL AS APPROVED BY ENGINEER.

IPS SIZE	AVG OD	SDR / PR	9 / 200	11 / 160
4	4.500	MIN WALL	0.500	0.409
		AVG ID	3.440	3.633
		LB/FT	2.785	2.265
6	6.625	MIN WALL	0.736	0.602
		AVG ID	5.064	5.348
		LB/FT	5.863	4.985
8	8.625	MIN WALL	0.958	0.784
		AVG ID	6.593	6.963
		LB/FT	9.936	8.315
10	10.750	MIN WALL	1.194	0.977
		AVG ID	8.218	8.678
		LB/FT	15.434	12.916
12	12.750	MIN WALL	1.417	1.159
		AVG ID	9.747	10.293
		LB/FT	21.723	18.172

NOTES:

IPS SIZES 4" IPS AND LARGER PER ASTM F714.

PR = PRESSURE RATING IS IN PSI FOR WATER AT 80°F AND LOWER, FOR PE3408/3608.

SDR = STANDARD DIMENSION RATIO, MEASURED IN ACCORDANCE WITH ASTM D-2122.

ALL DIMENSIONS ARE IN INCHES.

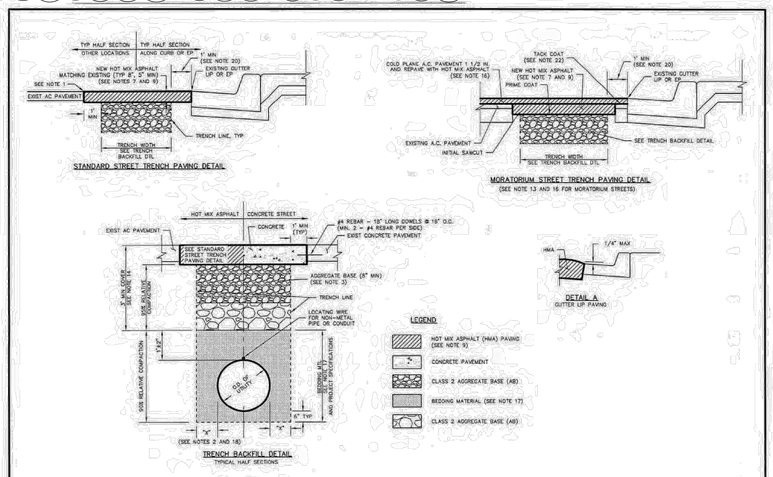
PE3408/3608 PIPE DATA & PRESSURE RATING
POLYETHYLENE PIPE IRON PIPE SIZE (IPS) PIPE DATA

GENERAL NOTES FOR HDPE

1. FURNISH AND INSTALL HIGH DENSITY POLYETHYLENE (HDPE) PIPE AS SHOWN ON THESE DRAWINGS AND AS REQUIRED IN SPECIFICATION SECTION 02616.
2. HDPE PIPE SHALL BE MANUFACTURED IN ACCORDANCE WITH AMERICAN WATER WORKS ASSOCIATION (AWWA) C906 FOR WATER SERVICE MAINS AND AWWA C901 FOR WATER SERVICE LATERALS.
3. INSTALL METALLIC TRACERS AND IDENTIFICATION TAPE WITHIN EXCAVATIONS IN ACCORDANCE WITH ESMUD SPECIFICATIONS. FOR TRENCHLESS INSTALLATIONS, USE TRACER WIRES ONLY.
4. HDPE PIPE SHALL BE HYDROSTATICALLY TESTED INDEPENDENTLY FROM THE MLE&PCS PIPE WHEN PRACTICAL AND IN ACCORDANCE WITH SPECIFICATION SECTION 02616 AND APPLICABLE ASTM GUIDELINES AND MANUFACTURER RECOMMENDATIONS.
5. COAT ALL EXPOSED METALLIC SURFACES OF COUPLINGS, FLANGES, SADDLES, BOLTS AND NUTS WITH MASTIC OR WAX TAPE.

DESIGNED BY: S.TERENTIEV	EAST BAY MUNICIPAL UTILITY DISTRICT OAKLAND, CALIFORNIA		
DESIGN CHECKED BY: A.LIMTIACO			
DRAWN BY: DMD	STANDARD DRAWING		
CHECKED BY:	HDPE STANDARD DETAILS & GENERAL NOTES 12" AND UNDER		
CONSTRUCTION CONTRACT NO.			
10 MAY 12 REVISED ADDED FITTINGS. MRB SJT AST			
NO. DATE REVISIONS BY CHK APP			
CONSTRUCTION ENGINEER M.LEWIS			
DESIGN ENGINEER S.TERENTIEV R.C.E. NO. 51 68598			
PIPELINE INFRASTRUCTURE A.TONG R.C.E. NO. C 39662			
	SUPERVISING ENGINEER		
	SCALE NONE		
	DATE 30 JUNE 08	9946-GB	
	DISTRIBUTION SYSTEM MAP NO.		

1 HDPE STANDARD DETAILS
CU-101 | CU-503 NTS



STANDARD DETAIL TRENCH EXCAVATION AND SURFACE RESTORATION	SUBMITTED: SUPERVISING CIVIL ENGINEER	DATE: 7/6/16 R.C.E. 45582	CITY OF BERKELEY DEPARTMENT OF PUBLIC WORKS
	APPROVED: MANAGER OF ENGINEERING	DATE: 7/6/16 R.C.E. 66014	DESIGN: HEI DRAWN: HEI CHECK: DATE: 06/2016 SCALE: BOOK: PLAN: 8136 FILE: 20-B-155 SHEET: 1 OF 2

NOTES:

1. TRENCH EXCAVATION IN THE PUBLIC RIGHT OF WAY SHALL CONFORM TO THE CITY OF BERKELEY GENERAL REGULATIONS FOR TRENCH EXCAVATION AND SURFACE RESTORATION IN THE PUBLIC RIGHT OF WAY. CUT THROUGH THE FULL DEPTH OF EXISTING SURFACING TO A NEAT STRAIGHT LINE AT LEAST 1.0 FOOT OUTSIDE THE TRENCH LINE. RECUT PAVEMENT EDGES DAMAGED DURING CONSTRUCTION TO NEAT LINES PRIOR TO PAVING. APPLY PAINT BINDER (TACK COAT) TO ALL VERTICAL SURFACES IN ACCORDANCE WITH THE LATEST EDITION OF CALTRANS STANDARD SPECIFICATIONS.
2. MINIMUM WIDTH OF TRENCH SHALL BE IN ACCORDANCE WITH THE DIMENSION SHOWN ON THE TRENCH BACKFILL DETAIL. DIMENSIONS "X" IS SHOWN BELOW FOR THE UTILITY "O.D."

UTILITY O.D.	"X" MIN
UNDER 1.0"	0.5"
1.0" TO 4.5"	1.0"
OVER 4.5"	2.0"

3. CLASS 2 AGGREGATE BASE (AB) SHALL BE INSTALLED IMMEDIATELY BELOW THE PAVEMENT SECTION TO BE REPLACED. THE AB QUALITY, GRADATION AND THE METHOD OF INSTALLATION SHALL BE IN CONFORMANCE WITH SECTION 26 OF THE CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION. THE DEPTH OF THE AB SHALL BE IN ACCORDANCE WITH THE TRENCH BACKFILL DETAIL. 95% RELATIVE COMPACTION IS REQUIRED.
4. RELATIVE COMPACTION SHALL BE DETERMINED BY CALIFORNIA TEST NUMBER 231 (NUCLEAR GAUGE) OR APPROVED EQUAL. PERMITTEE SHALL ARRANGE AND PAY FOR THE TEST FOR RELATIVE COMPACTION WHEN ORDERED BY THE ENGINEER. THE TEST SHALL BE PERFORMED BY A QUALIFIED MATERIAL TESTING LABORATORY AND TEST RESULTS BE SUBMITTED TO ENGINEERING FORTY-EIGHT (48) HOURS IN ADVANCE OF PERMANENT PAVING OPERATION.
5. PERMITTEE SHALL PLACE TEMPORARY BITUMINOUS RESURFACING TWO (2) INCHES IN THICKNESS OVER THE COMPACTED BACKFILL AREAS. GREATER THICKNESS MAY BE REQUIRED FOR MAJOR INTERSECTIONS AND OTHER CRITICAL AREAS BY THE ENGINEER AS NECESSARY. STEEL PLATES MAY BE USED AS AN ALTERNATIVE IF APPROVED BY ENGINEER.
6. TEMPORARY BITUMINOUS RESURFACING (CUT-BACK) SHALL BE MECHANICALLY COMPACTED IN PLACE TO A UNIFORM, EVEN SURFACE AND SHALL BE TRUE TO STREET GRADE AND CROSS SECTION. THE PERMITTEE SHALL REGULARLY INSPECT AND MAINTAIN THE TEMPORARY BITUMINOUS RESURFACING UNTIL THE EXCAVATION IS PERMANENTLY PAVED. THE SURFACING SHALL NOT VARY TO MORE THEN 1/2" FROM THE EDGE OF A 10 FOOT STRAIGHT EDGE. UPON NOTIFICATION, THE PERMITTEE SHALL CORRECT THE SURFACE DEFICIENCY WITHIN 48 HOURS. LOOSE ROCKS AND OTHER DEBRIS GENERATED FROM TEMPORARY RESURFACING OPERATIONS SHALL BE IMMEDIATELY REMOVED FROM THE WORKSITE.
7. TEMPORARY BITUMINOUS RESURFACING SHALL BE REMOVED BEFORE PLACEMENT OF FINAL PAVING. FINAL PAVING SHALL BE MINIMUM FIVE (5) INCHES THICK OR SAME AS THE EXISTING PAVEMENT, WHICHEVER IS GREATER. THE PAVEMENT SHALL BE PLACED ON UNDISTURBED PREVIOUSLY COMPACTED BACKFILL AREAS.
8. PAVEMENT OUTSIDE OF THE FINAL CUT LINE DAMAGED BY THE PERMITTEE'S OPERATIONS SHALL BE REMOVED BY SAW-CUTTING IN LINES PERPENDICULAR OR PARALLEL TO THE ORIGINAL TRENCH LINES. NO DIAGONAL CUTS WILL BE PERMITTED.
9. HOT MIX ASPHALT (HMA) SHALL BE TYPE A IN CONFORMANCE WITH SECTION 39 OF THE CALIFORNIA DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS, UNLESS OTHER WISE SPECIFIED IN THE ENCROACHMENT PERMIT CONDITIONS OR AS DIRECTED BY THE PUBLIC WORKS DEPARTMENT. HMA SHALL BE COMPACTED TO 95% RELATIVE COMPACTION.
10. THE TOP 1 1/2" OF HMA SHALL HAVE A MAXIMUM AGGREGATE SIZE OF 1/2" UNLESS OTHERWISE SPECIFIED. THE HMA BENEATH THE TOP LAYER SHALL HAVE A MAXIMUM AGGREGATE SIZE OF 3/4".
11. UPON COMPLETION OF PAVING OPERATIONS THE PERMITTEE SHALL IMMEDIATELY REPLACE ALL PAVEMENT MARKING AND TRAFFIC STRIPING DAMAGED OR REMOVED BY HIS OPERATIONS. PAVEMENT MARKINGS AND TRAFFIC STRIPINGS SHALL BE REPLACED IN KIND OR WITH SUBSTITUTE MATERIAL APPROVED BY THE ENGINEER.
12. WHEN ANY PORTION OF THE CURB AT A LEGAL PEDESTRIAN CROSSWALK OR ANY PORTION OF THE SIDEWALK IN IMMEDIATE CONTACT WITH SUCH CURB IS REMOVED BY THE PERMITTEE OPERATIONS, THE PERMITTEE SHALL CONSTRUCT, AS PART OF HIS REPLACEMENT OPERATIONS, A CURB RAMP AS SHOWN IN CITY OF BERKELEY STANDARD DETAIL NO. 6780.
13. EXCAVATION ON STREETS RECONSTRUCTED OR RESURFACED WITHIN THE LAST 5 YEARS WILL NOT BE PERMITTED EXCEPT FOR CONDITIONS ENUMERATED IN THE CITY OF BERKELEY GENERAL REGULATIONS AND FOR TRENCH EXCAVATION AND SURFACE RESTORATION IN THE PUBLIC RIGHT OF WAY.
14. MINIMUM COVER OVER UTILITIES IS GOVERNED BY THE CALIFORNIA PUBLIC UTILITIES COMMISSION. UTILITY OWNERS SHALL CONSIDER PLACING THEIR UTILITY LINE AT A GREATER DEPTH TO AVOID FUTURE RELOCATION DUE TO STREET/ROAD RECONSTRUCTION. THE INCREASED DEPTH SHOULD INCLUDE SUFFICIENT CLEARANCE BETWEEN THE UTILITY AND PAVEMENT STRUCTURAL SECTION UPGRADE TO PREVENT DAMAGE BY CONSTRUCTION EQUIPMENT. THE PUBLIC WORKS DEPARTMENT RECOMMENDS A MINIMUM OF 36 INCHES OF COVER BELOW THE PAVEMENT SURFACE IN ROADWAYS AND 24 INCHES BELOW FINISH GRADE IN SIDEWALKS AND OTHER PUBLIC RIGHT OF WAY.
15. RESTORATION OF THE TRENCH EXCAVATION ON CALTRANS RIGHT OF WAY (SAN PABLO AVE., ASHBY AVE., AND TUNNEL RD.) SHALL BE IN ACCORDANCE WITH CALTRANS ENCROACHMENT PERMIT.
16. RESTORE PAVEMENT AS FOLLOWS: FOR TRENCHES PARALLEL WITH THE CENTERLINE OF THE STREET, COLD PLANE AND REPAVE THE LANE IN WHICH THE TRENCH LIES. FOR TRANSVERSE TRENCHES, COLD PLANE AND REPAVE 1/2 LANE WIDTH ON EACH SIDE OF THE TRENCH. FOR BELL HOLES, COLD GRIND AND PAVE 1 LANE WIDTH ON EACH SIDE OF THE EXCAVATION. PRIOR TO COLD PLANING, THE TRENCH SHALL BE PAVED IN 3 INCH MAXIMUM LIFTS. TO THE ORIGINAL SURFACE GRADES OR TO WITHIN 1 1/2 INCHES OF THE EXISTING SURFACE, IF THE CONTRACTOR ELECTS TO PAVE WITHIN 1 1/2 INCHES OF THE EXISTING SURFACE, THE REMAINING 1 1/2 INCHES MUST BE PAVED WITH CUT BACK ASPHALT UNTIL THE SURFACE IS PLANED. FINAL PAVING SHALL COMMENCE WITHIN 3 DAYS AFTER COLD GRINDING. ALL LOOSE MATERIAL SHALL BE REMOVED FROM THE AREA TO BE REPAVED PRIOR TO REPAVING.
17. BEDDING MATERIAL SHALL BE CLASS 2 AB OR CRUSHED ROCK PER 2015 GREENBOOK, TABLE 200-1.2.1(A), 3/4" SIEVE SIZE. ALTERNATIVE MATERIALS SHALL BE APPROVED BY THE PUBLIC WORKS DEPARTMENT. IN NO CASE SHALL "PEA" GRAVEL BE ALLOWED. A MAXIMUM OF 6 INCHES OF SAND MAY BE USED AS A BEDDING MATERIAL FOR COMMUNICATION, GAS AND ELECTRIC CONDUITS ONLY.
18. FOR GAS, ELECTRIC AND COMMUNICATION CONDUITS WITH AN OUTSIDE DIAMETER EQUAL TO OR LESS THAN 4 INCHES, THE TRENCH WIDTH MAY BE REDUCED TO NO LESS THAN 12 INCHES.
19. UNSUITABLE NATIVE MATERIAL SHALL BE EXCAVATED BELOW THE LIMIT OF EXCAVATION AND REPLACED WITH SUITABLE BACKFILL MATERIAL WHEN DIRECTED BY THE PUBLIC WORKS DEPARTMENT.
20. WHERE THE TRENCH PARALLELS CURB AND THE NEAREST TRENCH LINE IS LESS THAN 3 FEET FROM THE GUTTER LIP, ALL EXISTING HMA SHALL BE REPLACED TO THE GUTTER LIP.
21. SLURRY CEMENT BACKFILL SHALL COMPLY WITH SECTION 19-3.02E OF THE CALIFORNIA DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS.
22. APPLY PAINT BINDER (TACK COAT) TO ALL EXISTING AC AND CONCRETE SURFACES IN ACCORDANCE WITH THE LATEST EDITION OF CALIFORNIA DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS.

CITY OF BERKELEY DEPARTMENT OF PUBLIC WORKS	SUBMITTED: SUPERVISING CIVIL ENGINEER	DATE: 7/6/16 R.C.E. 45582	STANDARD DETAIL TRENCH EXCAVATION AND SURFACE RESTORATION
	APPROVED: MANAGER OF ENGINEERING	DATE: 7/6/16 R.C.E. 66014	DESIGN: HEI DRAWN: HEI CHECK: DATE: 06/2016 SCALE: BOOK: PLAN: 8136 FILE: 20-B-155 SHEET: 2 OF 2

2 TRENCH SECTION DETAIL
CU-101 | CU-503 NTS

REGISTERED PROFESSIONAL ENGINEER
JEROME DE VERNEY
No. C60334
Exp. 6/30/26
CIVIL
STATE OF CALIFORNIA

REVISION	MARK	DATE	DESCRIPTION
1			APPROVAL
		7/31/2025	PERMIT SET
		7/31/2025	CORRECTIONS FIRST

PERMIT SET

TRANSYSTEMS
2000 CENTER STREET
SUITE 303
BERKELEY, CA 94704
PHONE: (510) 835-2761

0 1 2 3
FOR REDUCED PLANS – ORIGINAL SCALE IS IN INCHES

DEPICTION OF MONUMENTS: DATE
SURVEY PARTY CHIEF
WATERSHED REVIEW: DATE

SUBMITTED: DATE
SUPERVISING CIVIL ENGINEER R.C.E. EXP.
APPROVED: DATE
MANAGER OF ENGINEERING R.C.E. EXP.

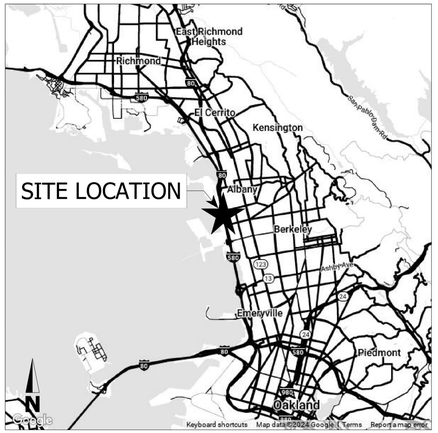
DESIGN JDV DRAWN AJR CHECK KMC AS BUILT
HORIZ. 1"=X' VERT. 1"=X' BOOK DATE 7/31/2025

CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

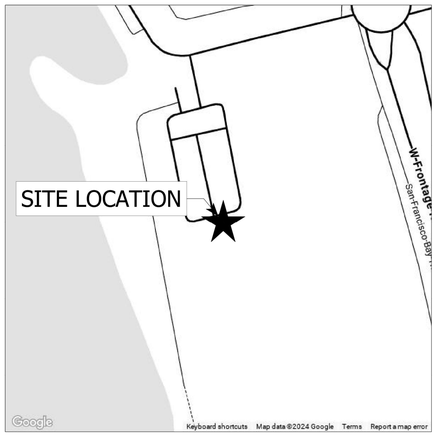
UTILITY DETAILS
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
CU-503
SHEET 45 OF 92

FOR DESIGN REVIEW



VICINITY MAP



LOCATION MAP

SITE ADDRESS

400-408 GLIMAN ST
BERKELY, CA

ROMTEC UTILITIES

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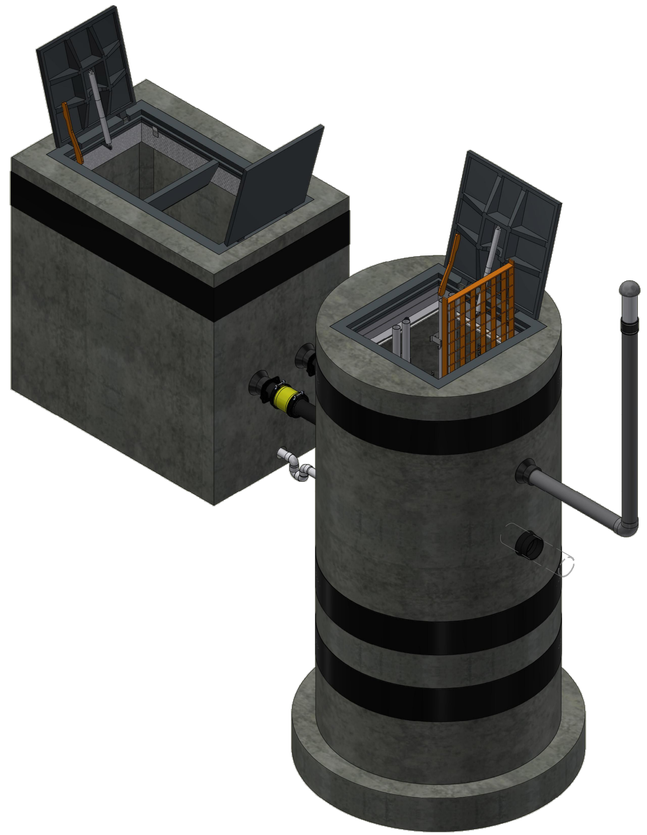
TOM BATES SPORTS COMPLEX
BERKELY, CA

SHEET INDEX

SHEET	DESCRIPTION
G-01	TITLE SHEET
G-02	GENERAL NOTES
C-01	SITE LAYOUT
M-01	SYSTEM DRAWING



PUMP STATION DESIGN CRITERIA

PEAK INFLOW (GPM)	INFLUENT DEPTH (FT)	FORCE MAIN DIA. (IN)	FORCE MAIN LENGTH (FT)	FORCE MAIN TYPE	STATIC HEAD (FT)	TDH (FT)
10	2.25	6	866	PVC C900 DR18 & DIPS	8.35	8.37

PUMP STATION CONFIGURATION

CONFIGURATION	DUTY PUMPS	STANDBY PUMPS	PUMP MODEL	PUMP HP	RATED FLOW (GPM)	RATED TDH (FT)	SYSTEM CAPACITY (GPM)
DUPLEX	1	1	VAUGHAN S3F	5	190	13.2	190

ELECTRICAL INFORMATION

SYSTEM VOLTAGE	FLA	CONTROLLER	ENCLOSURE	TERMINATION	BACKUP SYSTEMS
208V, 3PH	N/A	PC3000XC	NEMA 4X SS	DIRECT	N/A

GENERAL NOTES:

1. THIS PROJECT SHALL COMPLY WITH THE 2022 CBC, 2022 CEC, 2022 CMC, 2022 CPC, 2022 CGBSC AND 2022 CALIFORNIA ENERGY CODE (AS ADOPTED AND AMENDED BY THE CITY OF BERKELEY).
2. FINAL SEALED AND SIGNED LIFT STATION DRAWINGS WILL BE PROVIDED AFTER CONSTRUCTION AWARD WHEN THE CONTRACTOR ORDERS THIS PREFABRICATED UNIT.

REGISTERED PROFESSIONAL ENGINEER
JEROME DE VERNEJOUL
No. C60334
Exp. 6/30/26
CIVIL
STATE OF CALIFORNIA

FOR DESIGN REVIEW

REVISION	MARK	DATE	DESCRIPTION	APPROVAL
		7/31/2025	PERMIT SET	

PERMIT SET

TRANSYSTEMS
2000 CENTER STREET
SUITE 303
BERKELEY, CA 94704
PHONE: (510) 835-2761

NO SCALE
0 1 2 3
FOR REDUCED PLANS – ORIGINAL SCALE IS IN INCHES

DEPICTION OF MONUMENTS: DATE
SURVEY PARTY CHIEF
WATERSHED REVIEW: DATE

SUBMITTED: DATE R.C.E. EXP.
SUPERVISING CIVIL ENGINEER
APPROVED: DATE R.C.E. EXP.
MANAGER OF ENGINEERING

DESIGN JDV
DRAWN AJR
CHECK KMC
AS BUILT
HORIZ. 1"=X'
VERT. 1"=X'
BOOK
DATE 7/31/2025

CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

PREFAB LIFT STATION DETAILS
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
CU-511
SHEET 46 OF 92

ACCEPTED PUMP PERFORMANCE STANDARDS

A. ROMTEC UTILITIES PUMP EQUIPMENT FOR THIS SYSTEM TO MEET THE PROVIDED DESIGN CRITERIA. THE PUMP PERFORMANCE CURVE(S) SHOW THE PUMP ACHIEVING A PUMPING RATE IN GALLONS PER MINUTE (GPM) AT A SPECIFIC TOTAL DYNAMIC HEAD (TDH). THIS INDUSTRY STANDARDS FOR MEETING THIS TARGET POINT ARE AS FOLLOWS:

B. ALL PUMP MANUFACTURERS TEST PUMPS FOR ACCEPTANCE BASED ON ONE OF SEVERAL HYDRAULIC INSTITUTE PUMP ACCEPTANCE LEVEL STANDARDS. TYPICAL PUMP ACCEPTANCE STANDARDS INCLUDE A CERTAIN PERCENTAGE OF POSITIVE/NEGATIVE TOLERANCE FOR THE SPECIFIED FLOW AND TOTAL DYNAMIC HEAD.

C. THE PUMPS SHOULD PERFORM WITHIN THIS RANGE AS LONG AS THE TDH PROVIDED BY THE CUSTOMER IN THE GIVEN DESIGN CRITERIA IS TRUE AND CORRECT. WHEN ROMTEC UTILITIES CALCULATES THE TDH USING CUSTOMER SUPPLIED DOCUMENTS (E.G., FORCE MAIN PROFILES), AND THE ACTUAL FIELD CONDITIONS DIFFER FROM THE PROVIDED PLANS, ROMTEC UTILITIES CANNOT BE HELD RESPONSIBLE FOR PUMP PERFORMANCE ISSUES TIED TO CHANGES IN THE CALCULATED TO ACTUAL TDH.

NOT ALL ELECTRICAL COMPONENTS ARE SUBMERGENCE RATED

A. FLOW METERS, LIMIT SWITCHES, AND INTRUSION SWITCHES ARE EXAMPLES OF ELECTRICAL COMPONENTS THAT MAY NOT BE SUBMERGENCE RATED. THESE COMPONENTS WILL BE HOUSED IN A STRUCTURE THAT IS NOT INTENDED TO FILL WITH WATER AND HAS A MEANS FOR WATER EGRESS, SUCH AS A VAULT WITH A DRAINBACK PIPE.

B. WATER DAMAGE TO NON-SUBMERGENCE RATED ELECTRICAL COMPONENTS IS NOT COVERED UNDER THE ROMTEC UTILITIES WARRANTY. ROMTEC UTILITIES CAN ASSIST WITH THE REPLACEMENT OF DAMAGED COMPONENT(S), BUT ROMTEC UTILITIES IS NOT RESPONSIBLE FOR THE COST OF THE REPLACEMENT(S).

C. ANY POTTING KITS SUPPLIED BY ROMTEC UTILITIES MUST BE INSTALLED BY THE INSTALLING CONTRACTOR. IF WATER DAMAGE OCCURS TO ITEMS THAT SHOULD HAVE HAD A POTTING KIT INSTALLED, ROMTEC UTILITIES CAN ASSIST WITH REPLACING THE DAMAGED COMPONENT(S), BUT ROMTEC UTILITIES IS NOT RESPONSIBLE FOR THE COST OF THE REPLACEMENT(S).

FINAL CONCRETE DIMENSIONS

A. ACTUAL CONCRETE DIMENSIONS WILL BE WITHIN +/- 0.5" FOR MAJOR DIMENSIONS ON THE APPROVED PRODUCTION DRAWING(S) (LENGTH, WIDTH, HEIGHT; CORE LOCATIONS; WALL THICKNESS; ETC.). ROMTEC UTILITIES WILL NOT ACCEPT ANY CHARGES FOR FIELD ADJUSTMENTS OR ENGINEERED PLAN REVISIONS BASED ON THESE SLIGHT CHANGES TO CONCRETE DIMENSIONS IN THE FIELD.

NOTE: MANUFACTURERS OF PRECAST CONCRETE CANNOT PRODUCE ITEMS SUCH AS BARRELS, BASES, OR TOP SLABS TO EXACT DIMENSIONS MEASURED IN HUNDREDTHS OF AN INCH. THE PRODUCTION DRAWINGS MAY SHOW DIMENSIONS IN THE HUNDREDTHS OF AN INCH, BUT IT IS NOT REALISTIC TO CAST CONCRETE TO THOSE EXACT DIMENSIONS.

B. ALL CONCRETE JOINTS MUST BE THOROUGHLY CLEANED AND DRIED PRIOR TO APPLYING BUTYL SEALANT, CAULKING, AND/OR JOINT WRAP.

C. CORED HOLES FOR ELECTRICAL WIRING AND CONDUITS ARE **NOT** BY ROMTEC UTILITIES. THEY ARE THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR.

OUTFALL DESIGN

A. ROMTEC UTILITIES IS NOT RESPONSIBLE FOR THE OUTFALL STRUCTURE AT THE DISCHARGE END OF THE FORCE MAIN. ROMTEC UTILITIES HAS NOT REVIEWED THE SIZE OF THE OUTFALL STRUCTURE TO DETERMINE ITS ABILITY TO HANDLE THE SYSTEM'S PUMPING RATE. REVIEW OF THE OUTFALL STRUCTURE FOR COMPATIBILITY WITH THIS SYSTEM IS THE RESPONSIBILITY OF THE OWNER AND/OR THE OWNER'S REPRESENTATIVE.

B. ANY PROBLEMS WITH THE OUTFALL STRUCTURE DURING SYSTEM STARTUP AND GENERAL OPERATION ARE THE RESPONSIBILITY OF OTHERS, NOT ROMTEC UTILITIES.

STRUCTURAL AND MECHANICAL DISCLAIMERS

1. ROMTEC UTILITIES IS NOT RESPONSIBLE FOR STRUCTURAL OR LEAK TESTING

A. THE CUSTOMER IS RESPONSIBLE FOR ANY ONSITE HYDROSTATIC OR VACUUM TESTING OF UNDERGROUND STRUCTURES. THE ROMTEC UTILITIES WARRANTY TERMS REQUIRE THAT ANY AND ALL TESTING OF UNDERGROUND STRUCTURES OCCURS PRIOR TO BACKFILLING AROUND THE STRUCTURE(S).

B. ROMTEC UTILITIES RECOMMENDS THE FOLLOWING TEST METHODS IF NECESSARY:
   a. ASTM C497-05, SECTION 8, HYDROSTATIC TEST METHOD
   b. ASTM C497-05, SECTION 9, PERMEABILITY TEST METHOD

C. REPAIR OF CONCRETE STRUCTURES IS ALLOWABLE IF NECESSITATED BY DAMAGE THAT OCCURRED DURING SHIPPING. THE ROMTEC UTILITIES WARRANTY TERMS REQUIRE THAT ANY REPAIR TO CONCRETE STRUCTURES CONFORMS TO THE REQUIREMENTS OF ASTM C478-09, AND THAT ROMTEC UTILITIES BE NOTIFIED IF ANY REPAIRS ARE PLANNED.

D. ROMTEC UTILITIES STRONGLY RECOMMENDS AGAINST THE USE OF ANY TYPE OF CONCRETE AS BACKFILL MATERIAL.

2. ANY STRUCTURAL LEAKING FOUND DURING OR AFTER THE INSTALLATION OF UNDERGROUND STRUCTURES IS THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR

A. ROMTEC UTILITIES HAS MADE EVERY EFFORT IN THE SYSTEM DESIGN TO HELP THE INSTALLING CONTRACTOR ENSURE THAT UNDERGROUND STRUCTURES ARE WATER TIGHT. ALL PRECAST CONCRETE IS PRODUCED TO MEET OR EXCEED INDUSTRY STANDARDS, INCLUDING ASTM 318, ASTM 478, AND ASTM 857, AS APPLICABLE.

B. THE DESIGN OF THESE CONCRETE STRUCTURES INCLUDES MULTIPLE LAYERS OF LEAK PROOFING AT THE JOINTS BETWEEN THE BASE, BARRELS/RISERS, AND TOP SLAB AS SHOWN ON THE MECHANICAL AND STRUCTURAL DRAWINGS. THESE LAYERS TYPICALLY INCLUDE A COMBINATION OF BUTYL SEALANT, CAULKING, AND/OR JOINT WRAP.

ROMTEC UTILITIES

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C. THE ROMTEC UTILITIES SYSTEM MAY ALSO INCLUDE KOR-N-SEALS, LINK SEALS, OR OTHER PIPE BOOT PRODUCTS. THESE ARE TO BE USED BY THE INSTALLING CONTRACTOR TO SEAL BETWEEN THE CORED HOLE(S) AND THE PIPING ENTERING THE STRUCTURE.

D. THE ROMTEC UTILITIES PLANS SHOW THE ALIGNMENT OF STRUCTURES IN RELATION TO EACH OTHER. INSTALLING CONTRACTORS ARE EXPECTED TO INSTALL STRUCTURES EXACTLY AS SPECIFIED. FOR EXAMPLE, THE CENTER LINE OF A WET WELL AND VALVE VAULT MUST ALIGN CORRECTLY FOR DISCHARGE PIPING TO ATTACH CORRECTLY. PROBLEMS ARISING FROM INCORRECTLY INSTALLED STRUCTURES AND/OR PIPING BETWEEN THE STRUCTURES ARE THE RESPONSIBILITY OF THE INSTALLER, NOT ROMTEC UTILITIES.

3. CONCRETE STRUCTURES LEAK FOR MANY REASONS DURING AND AFTER INSTALLATION

A. CONCRETE STRUCTURES MUST BE INSTALLED ON A COMPACTED, LEVEL FOUNDATION PER ASTM C1821-16. SPECIFICATION FOR THIS FOUNDATION IS SITE SPECIFIC, AND IS MADE BY OTHERS, NOT BY ROMTEC UTILITIES. ALL JOINTS BETWEEN STACKED CONCRETE SECTIONS MUST BE LEVEL AND EVENLY SUPPORTED. ANY LEANING OR UNEVENLY SUPPORTED STRUCTURES WILL RESULT IN MANY PROBLEMS, INCLUDING LEAKING AT THE JOINTS.

B. MOST STRUCTURAL LEAKS ORIGINATE AT CORED HOLES FOR PIPE PENETRATIONS. THE SYSTEM HAS BEEN DESIGNED SO THAT ALL PIPING ENTERING/EXITING THE STRUCTURE MUST PASS THROUGH PARALLEL TO THE CORED HOLE. IN OTHER WORDS, THE PIPING MUST GO STRAIGHT THROUGH CORED HOLES WITHOUT DEFLECTION. IF THE PIPING IS BROUGHT THROUGH ANY OF THE CORED HOLES AT AN ANGLE, THERE IS RISK OF LEAKING AT THAT LOCATION. IF FIELD CONDITIONS REQUIRE PIPING TO ENTER/EXIT THE STRUCTURE AT AN ANGLE, IT IS THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR TO ENSURE THAT THE PENETRATION IS WATER TIGHT.

C. AREAS OF HIGH GROUND WATER WILL TEST THE WATER TIGHTNESS OF ALL JOINTS AND PENETRATIONS IN THE STRUCTURE. INSTALLING CONTRACTORS SHOULD TAKE EXTRA PRECAUTIONS TO ENSURE WATER TIGHTNESS WHEN INSTALLING IN AN AREA WITH HIGH GROUND WATER.

D. HIGH GROUND WATER CAN BE SEASONAL, SO THE INSTALLER OR OWNER SHOULD CHECK THE STRUCTURES FOR LEAKS DURING WET MONTHS, ESPECIALLY AFTER AN INSTALLATION DURING A DRY PERIOD.

E. A LEAK IN A LINED OR COATED STRUCTURE MAY COMPOUND THE PROBLEM THAT A LEAK CREATES. INFLOWING WATER FROM THE LEAK CAN FLOW BETWEEN THE LINING/COATING AND THE CONCRETE, CREATING A SEPARATION THAT REQUIRES REPAIR. REPAIR CAN BECOME EVEN MORE DIFFICULT IF THE ACTUAL POINT OF INGRESS IS CONCEALED BY THE LINING/COATING. IN OTHER WORDS, THE ACTUAL POINT OF INGRESS MAY NOT BE THE SAME POINT WHERE THE LEAK SHOWS THROUGH THE LINING/COATING.

F. WHILE ROMTEC UTILITIES MAY SUPPLY AND/OR PRE-INSTALL THE LINING OR COATING, ROMTEC UTILITIES IS NOT RESPONSIBLE FOR ANY COST ASSOCIATED WITH REPAIR OF THE LINING/COATING DUE TO STRUCTURAL LEAKING.

4. PRECAST CONCRETE INSPECTIONS

A. IF REQUIRED, ANY CUSTOMER INSPECTION OF PRECAST CONCRETE MUST BE MADE AT THE PRECASTER FACILITY, NOT AFTER DELIVERY TO THE JOB SITE. IN OTHER WORDS, IF THE CUSTOMER REQUIRES ADDITIONAL CONCRETE INSPECTION, THIS MUST BE PERFORMED PRIOR TO WHEN THE CONCRETE LEAVES THE PRECASTER FACILITY FOR DELIVERY.

5. LININGS AND COATINGS OF CONCRETE

A. MOST CONCRETE COATINGS AND LININGS REQUIRE SIGNIFICANT CURE TIMES (TYPICALLY FOUR WEEKS). ROMTEC UTILITIES IS NOT RESPONSIBLE FOR CONSTRUCTION DELAYS CAUSED BY LINING/COATING CURE TIMES. INSTALLATION OF STRUCTURES THAT OCCURS BEFORE THE CURING PROCESS IS COMPLETE WILL VOID BOTH THE LINING/COATING MANUFACTURER'S WARRANTY AND THE ROMTEC UTILITIES WARRANTY.

B. ANY DAMAGE TO LININGS OR COATINGS THAT OCCURS DURING SHIPPING OR CONSTRUCTION IS THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR TO REPAIR OR REPLACE.

INSTALLATION INFO AND RECOMMENDATIONS

ROMTEC UTILITIES DELIVERS THE FOLLOWING ITEMS WITH A TYPICAL PRECAST CONCRETE WET WELL.

A. PRECAST WET WELL BASE ASSEMBLY - THE BASE ARRIVES READY TO BE PLACED ON THE COMPACTED FOUNDATION (AS APPROVED BY THE SITE ENGINEER)

B. PRECAST WET WELL BARRELS - ALL PIPE PENETRATIONS SHOWN ON THE COMPONENT DRAWING(S) ARE PRE-CORED UNLESS OTHERWISE NOTED. PIPE BOOTS ARE PROVIDED FOR USE IN SEALING THE CORED HOLES.

C. PRECAST WET WELL TOP SLAB - THE TOP SLAB WILL INCLUDE THE PRE-INSTALLED HATCH AND IS READY TO BE PLACED.

D. ACCESSORY PALLET - THE PALLET INCLUDES THE FOLLOWING:
   a. BUTYL SEALANT, CAULKING, AND OR JOINT WRAP FOR CONCRETE JOINTS
   b. DISCHARGE PIPING
   c. GUIDE RAILS AND BRACKETS
   d. LEVEL SENSING DEVICES

NOTE: THE SUPPLIED DISCHARGE PIPING AND GUIDE RAILS ARE INTENTIONALLY TOO LONG. THE INSTALLING CONTRACTOR IS EXPECTED TO MEASURE THE PIPING AND TRIM TO FIT AS NEEDED. THE CONTRACTOR MUST ALSO PLUMB THE DISCHARGE PIPING AND SECURE IT TO THE PRE-INSTALLED BRACKET(S).

ROMTEC UTILITIES STRONGLY RECOMMENDS THAT THE INSTALLING CONTRACTOR PROVIDE THE FOLLOWING ITEMS DURING DELIVERY AND INSTALLATION

A. A PERSON ONSITE WHOSE SOLE RESPONSIBILITY IS TO BE IN CHARGE OF SAFETY

B. APPROPRIATE SHORING OF EXCAVATIONS TO PROVIDE A SAFE WORKSPACE

C. AN APPROPRIATELY SIZED CRANE FOR OFFLOADING AND PLACING CONCRETE SECTIONS.

D. AN APPROPRIATELY SIZED FORKLIFT FOR OFFLOADING PALLETS AND/OR CONTROL PANEL COMPONENTS

E. IDENTIFICATION OF ALL OVERHEAD OBSTRUCTIONS PRIOR TO DELIVERY

F. A SECURE COVERED AREA FOR STORING THE ACCESSORY PALLET, CONTROL PANEL, AND PUMPS. IF THIS AREA IS OFFSITE, AN APPROPRIATE TRANSPORTATION VEHICLE WILL BE REQUIRED TO MOVE THESE ITEMS TO THE SECURE LOCATION UNTIL FINAL INSTALLATION.

Please see the link below for typical installation recommendations:
http://romtecutilities.com/wp-content/uploads/2022/06/Lift-Station-Mechanical-Install-Recommendations-6-20-22.pdf

Please see the link below for standard system startup/testing information:
http://romtecutilities.com/wp-content/uploads/2022/06/Lift-Station-Startup-Testing-Training-Services-6-20-22.pdf

RECOMMENDED LIFTING METHOD FOR PRECAST CONCRETE

A. ALL CONCRETE COMPONENTS ARE DESIGNED TO BE LIFTED AND PLACED BY USE OF THE PRE-INSTALLED ANCHORS AND LIFTING GEAR.

B. PRIOR TO PLACING THE CONCRETE COMPONENTS, ENSURE THAT THE EXCAVATION AND COMPACTED FOUNDATION IS COMPLETE AS SPECIFIED BY THE SITE ENGINEER. THE FOUNDATION MUST NOT ALLOW THE STRUCTURE TO SETTLE OR TILT DURING OR AFTER INSTALLATION.

C. PROVIDE A SAFE, OSHA-APPROVED METHOD OF CAVE-IN PROTECTION (SHORING).

D. USE LIFTING EQUIPMENT OF THE APPROPRIATE SIZE AND CAPACITY. FOR EXAMPLE, A PARTICULARLY HEAVY ITEM SHOULD BE LIFTED USING ONE APPROPRIATELY SIZED CRANE, NOT BY USING TWO UNDERSIZED EXCAVATORS.

NOTE: THE INSTALLING CONTRACTOR IS EXPECTED TO KNOW AND USE INDUSTRY BEST PRACTICES FOR LIFTING AND PLACING PRECAST CONCRETE.

E. THE INSTALLING CONTRACTOR IS EXPECTED TO PROVIDE THE APPROPRIATE LIFTING CABLES, STRAPS, OR CHAINS, AS WELL AS CONNECTION DEVICES TO ATTACH THE CABLES TO THE CRANE AND LIFTING CLUTCHES.

F. ALL LIFTING CABLES, STRAPS, OR CHAINS MUST BE LONG ENOUGH TO PREVENT RIGGING FROM PUTTING LATERAL PRESSURE ON ANY OF THE LIFT ANCHORS. ROMTEC UTILITIES RECOMMENDS THE USE OF A SPREADER BAR WHENEVER THE CABLE LENGTH IS QUESTIONABLE. DAMAGE RESULTING FROM FAILURE TO FOLLOW THIS RECOMMENDATION WILL NOT BE COVERED BY ROMTEC UTILITIES.

G. SEE THE CONCRETE PRODUCTION DRAWINGS FOR WEIGHT OF INDIVIDUAL COMPONENTS.

OFFLOADING AND STORING CONCRETE

A. ALL OFFLOADED CONCRETE THAT IS NOT IMMEDIATELY PLACED IN ITS FINAL INSTALLATION LOCATION MUST BE APPROPRIATELY STORED ON LEVEL DUNNAGE WITH EVEN, REGULAR SUPPORT UNDER THE CONCRETE, NOT DIRECTLY ON UNEVEN GROUND OR WITH UNEVEN, IRREGULAR SUPPORT. DAMAGE CAUSED BY FAILURE TO FOLLOW THIS RECOMMENDATION WILL NOT BE COVERED BY ROMTEC UTILITIES.

B. ALL CONCRETE THAT IS TEMPORARILY STORED PRIOR TO FINAL INSTALLATION SHOULD BE THOROUGHLY CLEANED BEFORE IT IS STACKED. FAILURE TO CLEAN CONCRETE JOINTS PRIOR TO STACKING CAN RESULT IN SEALANT FAILURE AND LEAKS. ROMTEC UTILITIES WILL NOT WARRANTY STRUCTURES THAT ARE NOT CLEAN AND DRY PRIOR TO INSTALLATION.

RECOMMENDATIONS FOR EXTENDED PUMP STORAGE

A. NEVER STORE PUMPS IN THE WET WELL PRIOR TO START-UP. STORE PUMPS IN AN UPRIGHT POSITION IN A CLEAN, DRY LOCATION FREE FROM TEMPERATURE EXTREMES AND DIRECT SUNLIGHT.

B. ONCE DURING EVERY MONTH OF STORAGE, THE PUMP IMPELLERS SHOULD BE MANUALLY ROTATED BY HAND TO ENSURE FREE MOVEMENT OF ALL ROTATING PARTS (SEALS, BEARINGS, AND IMPELLERS). ADD SILICONE SPRAY OR RUST-INHIBITING OIL TO THE LOWER CASING, COMPLETELY COATING THE IMPELLER AND INSIDE OF THE LOWER CASE. ALSO FULLY COAT THE DISCHARGE FLANGE FACE.

C. PROTECT PUMP CABLES FROM DAMAGE AND MOISTURE. CABLES SHOULD BE STORED SO THAT THERE IS NO TENSION ON THE CABLE ENTRY POINT INTO THE PUMP. THE FREE END OF THE CABLE MUST BE PROTECTED FROM MOISTURE AT ALL TIMES. NEVER LIFT A PUMP BY THE CABLE.

D. THE PUMP MANUFACTURER MAY HAVE MORE STORAGE AND HANDLING RECOMMENDATIONS.

INSTALLATION AND BACKFILL RECOMMENDATIONS

A. ALL EXCAVATIONS MUST BE KEPT DRY DURING INSTALLATION. THIS MAY REQUIRE THE USE OF MULTIPLE DEWATERING PUMPS.

B. PRECAST CONCRETE SECTIONS MUST BE LEVEL WHEN PLACED ON THE COMPACTED BASE. THIS COMPACTED BASE IS SPECIFIED BY THE SITE ENGINEER AND/OR GEOTECHNICAL REPORT. ROMTEC UTILITIES STRONGLY RECOMMENDS THAT THE BASE BE THOROUGHLY CLEANED AND TRANSIT-LEVELLED.

C. A SAFE WORKING AREA WILL BE REQUIRED AROUND THE PLACED STRUCTURE FOR THE INSTALLING CONTRACTOR TO APPLY THE SEALANT AND/OR JOINT WRAP.

D. ALL JOINTS MUST BE KEPT CLEAN AND DRY WHILE SEALANT AND/OR JOINT WRAP ARE BEING APPLIED.

E. JOINT SEALANTS SHOULD BE APPLIED PER THE MANUFACTURER'S INSTRUCTIONS AND SPECIFICATIONS. WHEN APPLYING SEALANT, MAKE SURE TO REMOVE THE PAPER BACKING AND MOLD/KNEAD CUT ENDS TOGETHER TO FORM ONE PIECE.

F. SEALANT SHOULD COMPRESS A MINIMUM OF 50% PRIOR TO ANY BACKFILLING. COLD WEATHER MAY DELAY THE TIME IT TAKES TO ACHIEVE PROPER COMPRESSION. IF BACKFILL IS ADDED PRIOR TO SEALANT COMPRESSION, IT MAY PREVENT FULL COMPRESSION AND RESULT IN LEAKS. ROMTEC UTILITIES IS NOT RESPONSIBLE FOR ANY LEAKS RESULTING FROM FAILURE TO FOLLOW THESE RECOMMENDATIONS.

G. PUSHING/PULLING OR MANUAL COMPRESSION OF CONCRETE SECTIONS WITH AN EXCAVATOR IS **NOT** RECOMMENDED. IF CONCRETE SECTIONS ARE MOVED OR REMOVED AFTER PLACEMENT, SEALANT MUST BE REAPPLIED.

H. SUITABLE BACKFILL MATERIAL (PER THE SITE ENGINEER AND/OR GEOTECHNICAL REPORT) MUST BE USED TO AVOID ANY DAMAGE OR SHIFTING OF CONCRETE SECTIONS. ROMTEC UTILITIES STRONGLY ADVISES AGAINST USING ANY TYPE OF CONCRETE AS BACKFILL MATERIAL. POTENTIAL FOR DAMAGE DURING INSTALLATION IS GREATLY INCREASED WITH CONCRETE AS BACKFILL MATERIAL. CONCRETE BACKFILL ALSO SEVERELY LIMITS ACCESS TO PIPING FOR FUTURE MAINTENANCE.

I. BACKFILL MUST BE PLACED EVENLY AROUND THE STRUCTURE IN A MAXIMUM OF 12" COMPACTED LIFTS WITHIN 1' OF THE WALL. FAILURE TO FOLLOW THIS METHOD CAN RESULT IN UNEVEN PRESSURE ON THE CONCRETE STRUCTURE, RESULTING IN SHIFTING OF JOINTS AND/OR PIPING THAT EVENTUALLY CAUSES LEAKING. ROMTEC UTILITIES WILL NOT COVER LEAKS THAT RESULT FROM FAILURE TO FOLLOW THESE RECOMMENDATIONS.

J. USE CAUTION WHEN ADDING BACKFILL MATERIAL TO ENSURE THAT NO PRESSURE OR FORCE IS APPLIED TO THE CONCRETE STRUCTURE, ESPECIALLY NEAR JOINTS OR PIPING.

K. IF HYDROSTATIC OR VACUUM TESTING IS REQUIRED, IT MUST BE PERFORMED PRIOR TO BACKFILLING. ANY LEAKS DISCOVERED AFTER BACKFILLING AROUND THE STRUCTURE ARE THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR.

ACCESS HATCHES

ALL ACCESS HATCHES REQUIRE 50LBS OR LESS FORCE TO OPEN UNLESS MARKED AS "TWO-PERSON LIFT".

REGISTERED PROFESSIONAL ENGINEER
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Exp. 6/30/26
CIVIL
STATE OF CALIFORNIA

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DEPARTMENT OF PARKS, RECREATION & WATERFRONT

PREFAB LIFT STATION DETAILS
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
CU-512
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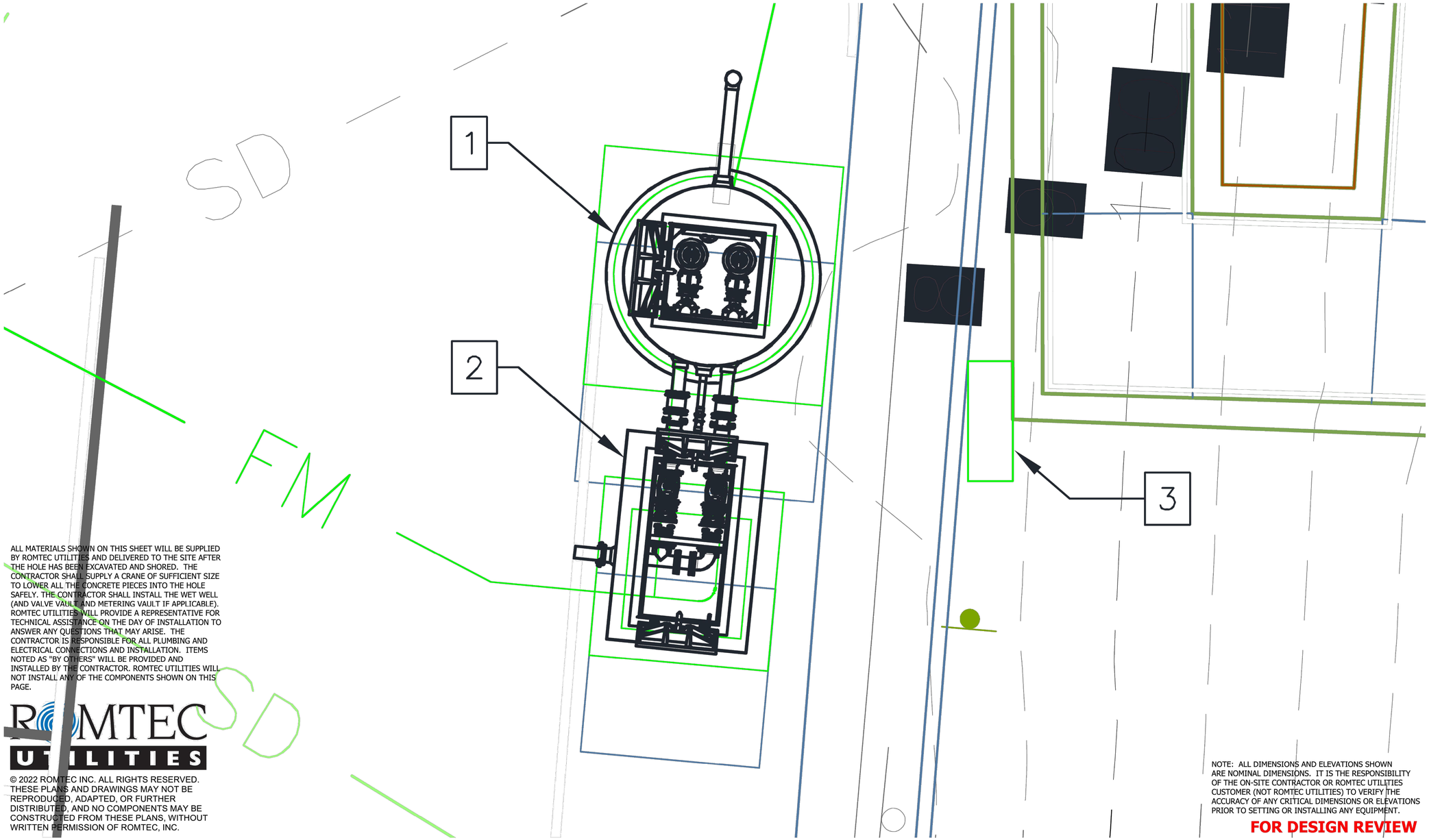
FOR DESIGN REVIEW

NOTE: LAYOUT DRAWING IS ONLY REFERENCING ROMTEC UTILITIES EQUIPMENT.

ROMTEC UTILITIES EQUIPMENT	
ITEM	DESCRIPTION
1	5FT WET WELL ASSEMBLY
2	VALVE VAULT ASSEMBLY
3	CONTROL PANEL



ALL MATERIALS SHOWN ON THIS SHEET WILL BE SUPPLIED BY ROMTEC UTILITIES AND DELIVERED TO THE SITE AFTER THE HOLE HAS BEEN EXCAVATED AND SHORED. THE CONTRACTOR SHALL SUPPLY A CRANE OF SUFFICIENT SIZE TO LOWER ALL THE CONCRETE PIECES INTO THE HOLE SAFELY. THE CONTRACTOR SHALL INSTALL THE WET WELL (AND VALVE VAULT AND METERING VAULT IF APPLICABLE). ROMTEC UTILITIES WILL PROVIDE A REPRESENTATIVE FOR TECHNICAL ASSISTANCE ON THE DAY OF INSTALLATION TO ANSWER ANY QUESTIONS THAT MAY ARISE. THE CONTRACTOR IS RESPONSIBLE FOR ALL PLUMBING AND ELECTRICAL CONNECTIONS AND INSTALLATION. ITEMS NOTED AS "BY OTHERS" WILL BE PROVIDED AND INSTALLED BY THE CONTRACTOR. ROMTEC UTILITIES WILL NOT INSTALL ANY OF THE COMPONENTS SHOWN ON THIS PAGE.

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PREFAB LIFT STATION DETAILS
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
CU-513
SHEET 48 OF 92

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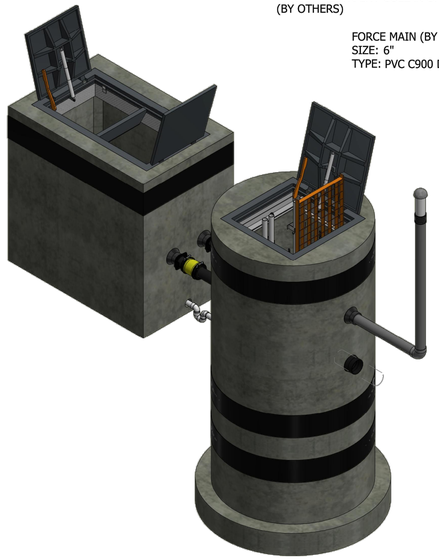
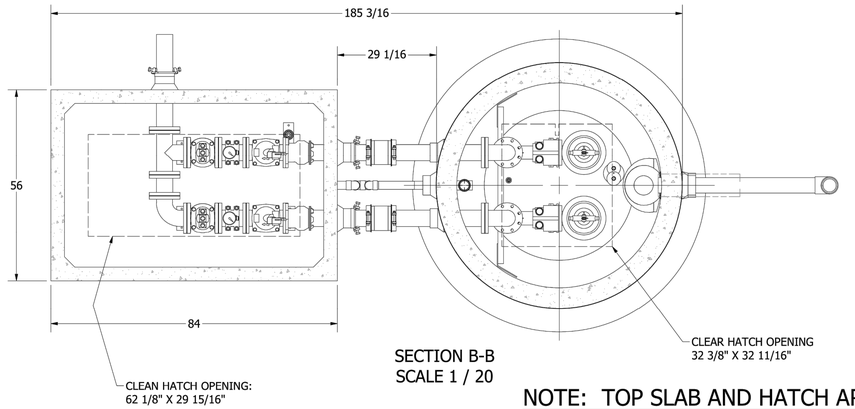


12" THICK CAST-IN-PLACE CONCRETE THRUST RESTRAINT COLLAR ON EACH END. (BY OTHERS)

FORCE MAIN (BY OTHERS)
SIZE: 6"
TYPE: PVC C900 DR18 & DIPS



SECTION B-B
SCALE 1 / 20

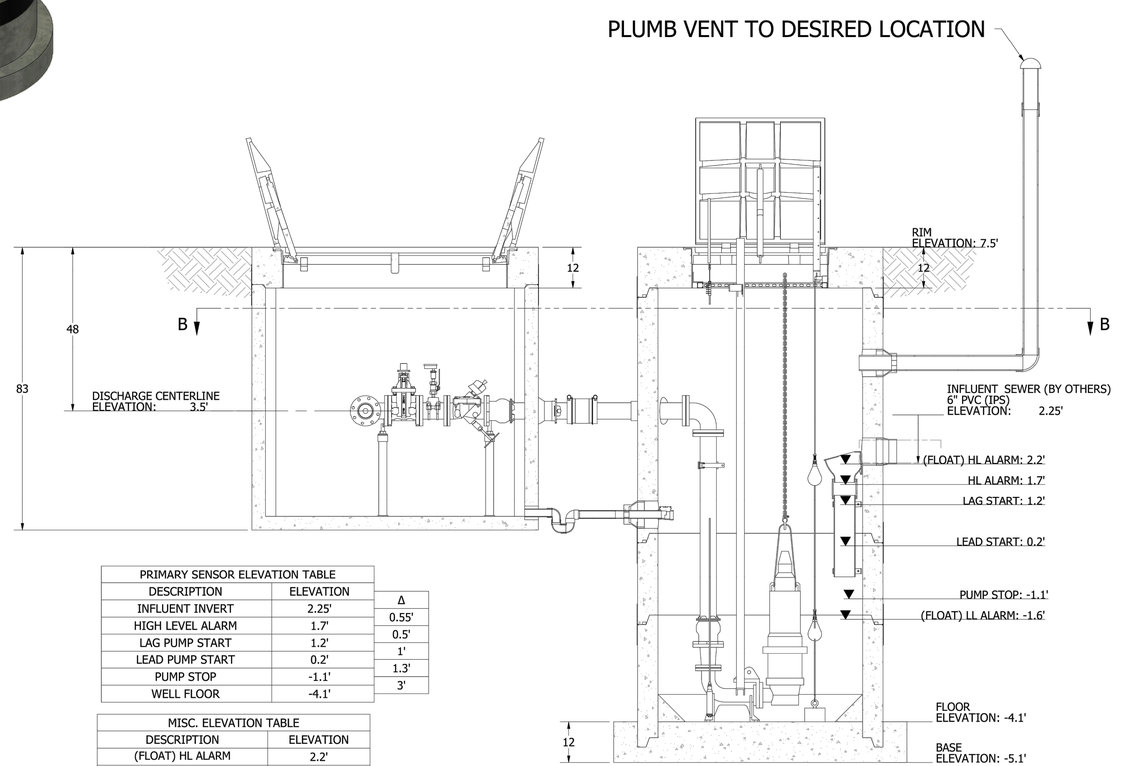
NOTE: TOP SLAB AND HATCH ARE H-20 FULL TRAFFIC RATED

PUMP PACKAGE

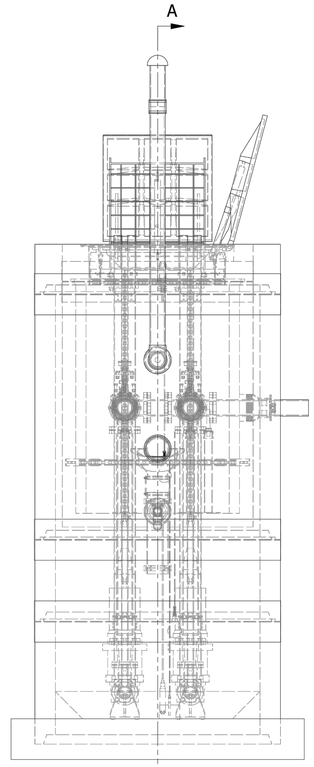
CONFIGURATION: DUPLEX
MODEL: VAUGHAN S3F
HP: 5HP
DUTY POINT: 190GPM @ 13.2TDH

FEATURES

HATCH: H-20 FULL TRAFFIC
DISCHARGE PIPING: 4" DI CL53
PRIMARY LEVEL SENSING: PRESSURE TRANDUCER
BACKUP LEVEL SENSING: (2) FLAOTS
STAINLESS STEEL GUIDE RAILS
QUICK CONNECT DISCHARGE ELBOWS



SECTION A-A
SCALE 1 / 20



NOTE:
CONDUIT TO CONTROL PANEL (BY OTHERS)
MINIMUM:
(2) FOR POWER
(1) FOR LEVEL SENSING

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PRIMARY SENSOR ELEVATION TABLE		
DESCRIPTION	ELEVATION	Δ
INFLUENT INVERT	2.25'	0.55'
HIGH LEVEL ALARM	1.7'	0.5'
LAG PUMP START	1.2'	1'
LEAD PUMP START	0.2'	1.3'
PUMP STOP	-1.1'	3'
WELL FLOOR	-4.1'	

MISC. ELEVATION TABLE	
DESCRIPTION	ELEVATION
(FLOAT) HL ALARM	2.2'
(FLOAT) LL ALARM	-1.6'
N/A	N/A'
N/A	N/A'
N/A	N/A'
N/A	N/A'

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PREFAB LIFT STATION DETAILS
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
CU-514
SHEET 49 OF 92

PROJECT INFO

Job Name:	TOM BATES SPORTS COMPLEX
Company:	
Contact:	
Job Type:	New Station
Water Type/Source:	Wastewater (Sewage)
Import/Domestic:	Import Acceptable

ROMTEC UTILITIES

PACKAGE/STARTUP

Offering:	Complete System
Mechanical:	
Pumps:	
Control Panel:	
Generator:	
Advisor/Startup:	
Turnkey:	Yes

DESIGN CRITERIA - WWC5D-V0-D0050-200x10-4D-23-0O

FLOW RATE

Peak Inflow:	10	GPM
Pumping Rate:	190	GPM (of single pump)
Static Head:	8.4	Feet
TDH:	13.2	Feet
TDH Calcs:	RU Calcs	

ACTIVE VOLUME

Max Pump Starts:	15.00	Starts/Hr
Cycle Time:	4.00	Minutes
Active Volume:	190.00	Gallons
Active Volume:	25.40	Cu Feet
Well Shape:	Round	
Well Diameter:	5	Feet
Well Dimensions:	N/A	N/A
Cross-Section Area:	19.63	Sq Feet
Min. Depth Required:	1.29	Feet
Active Depth:	1.30	Feet

STORAGE VOLUME (if required)

Time:		Minutes
Flow Rate:		GPM
Volume:	0.00	Gallons
Volume:	0.00	Cu. Feet
Min. Depth Required:	0.00	Feet
Storage Depth:		Feet

ON-SITE POWER

Power:	208V / 3-Phase

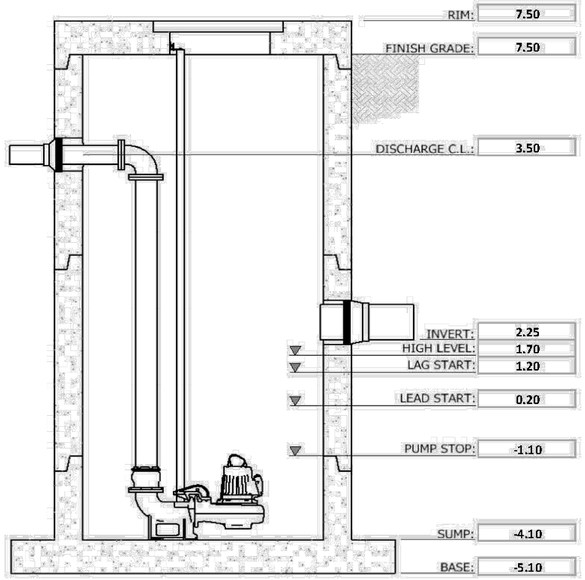
FORCE MAIN

FM Info:	New	Single FM
Length:	338	528
FM Discharge:	7.25	Feet
FM High Point:	7.25	Feet

	(1)	(2)	(3)
Nominal ID:	6"	6"	
Type/Rating:	PVC C900 DR18 to DIP		

INFLUENT PIPING

	(1)	(2)	(3)
Influent Invert:	2.25		
Influent Size:	6"		
Type:	PVC (IPS)		



Note: Image is a preliminary representation of the pumping system.
Elevations shown are the primary factors used for sizing the wet well.
Backup levels not shown. Additional (or fewer) level settings may be required.

General Specification

A. The package pump station supplier of the sewer lift station shall be Romtec Utilities. The package pump station supplier shall design and draw the complete lift station including the wet well structure and associated piping and valves along with the control panel and the associated schematics.

B. The package pump station supplier shall be solely responsible for proper prefabrication, integration, supply, performance, and warranty of all package pump station components delineated in this specification and on the drawings, which shall be used as a guide of the minimum product specifications that shall be met.

C. The package pump station supplier work shall include designing and supplying the piping, mechanical, and appurtenances within and adjacent to the wet well as a complete, predesigned, packaged pump station as described herein.

D. The drawings shall be of sufficient detail for the Engineer to review for conformity to the contract. All drawings shall include elevations on the same datum point as in the contract plans.

E. Romtec Utilities will manufacture and deliver the pump station as described below to the job site for the contractor. A representative of Romtec Utilities will be present the day of the underground installation.

F. The package pump station supplier is responsible for overseeing all start-up, testing and training procedures.

TOM BATES - PRELIMINARY DESIGN 9-9-24

Vaughan®

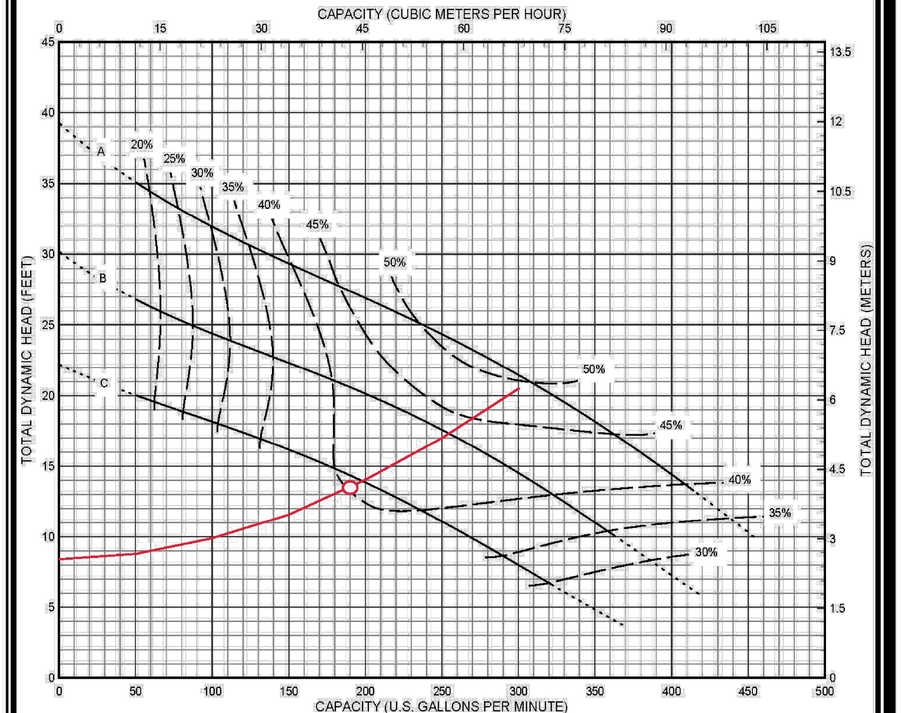
Vaughan E Series Chopper Pump PERFORMANCE CURVE

Models: S3F

2-Blade Impeller
3" Discharge
6" Suction
Centerline Casing

CURVE	POWER (HP/KW)	SPEED (RPM)	IMPELLER DIAMETER
A	5 / 4	1735	6.50" (165 mm)
B	5 / 4	1735	6.00" (152 mm)
C	5 / 4	1735	5.50" (140 mm)

DO NOT OPERATE PUMP IN DOTTED PORTION OF CURVES. CURVES ARE SUBJECT TO CHANGE WITHOUT NOTICE. EFFICIENCIES SHOWN ARE NOMINAL BOWL. GUARANTEED MINIMUM EFFICIENCIES PER H.I. LEVEL A.



Form V370-S3F[1]-1750 7/13

REGISTERED PROFESSIONAL ENGINEER
JEROME DE VERNEJOUL
No. C60334
Exp. 6/30/26
CIVIL
STATE OF CALIFORNIA

REVISION	MARK	DATE	DESCRIPTION
		7/31/2025	PERMIT SET

APPROVAL

PERMIT SET

TRANSYSTEMS
2000 CENTER STREET
SUITE 303
BERKELEY, CA 94704
PHONE: (510) 835-2761

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APPROVED: DATE
MANAGER OF ENGINEERING R.C.E. EXP.

DESIGN JDV
DRAWN AJR
CHECK KMC
AS BUILT
DATE 7/31/2025

HORIZ. 1"=X'
VERT. 1"=X'
BOOK

CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

PREFAB LIFT STATION DETAILS
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
CU-515
SHEET 50 OF 92

GENERAL INFORMATION
- ELECTRICAL SERVICE - 208V, 3PH
- MAIN PUMPS - (2) 5HP, 200V, 3PH, 17.5 FLA, DUPLEX CONFIGURATION
- MAIN PUMP MODEL - VAUGHN, S3F
- PRIMARY CONTROLLER - PC3000XC CONFIGURED FOR DUPLEX
- DEVICE MOUNTING - INNER DEADFRONT DOOR
- PANEL MOUNTING - WALL MOUNT

LEVEL SENSING
- PRIMARY LEVEL SENSING - SUBMERSIBLE PRESSURE TRANSDUCER WIRED FOR INTRINSICALLY SAFE
- MODEL - E&H FMX21
- SECONDARY LEVEL SENSING - (2) FLOATS WIRED FOR INTRINSICALLY SAFE
- MODEL - NOLTA MS1

MAIN PUMP CONFIGURATION
- MANUFACTURER - VAUGHN
- MODEL - S3F
- HP - 5
- NP FLA - 17.5
- DUPLEX
- CABLE DIA. - 0.75

CONTROL PANEL
- POWER 208V,3PH, 3W
- NEMA 4X STAINLESS STEEL, 42"H X 36"W X 12"D, 3 POINT LOCKING LATCH
- MAIN DISCONNECT CIRCUIT BREAKER W/LOCKOUT PROVISIONS
- PHASE MONITOR RELAY
- TRANSIENT VOLTAGE SURGE PROTECTION
- HOA SELECTOR SWITCHES
- RUN & FAULT INDICATOR LIGHTS
- ELAPSED TIME METERS
- FULL VOLTAGE STARTERS
- INNER DEADFRONT DOOR MOUNTED DEVICES
- UL LISTED

COMMUNICATIONS
- PUMP WATCH CELLULAR AUTODIALER
- ANNUAL CELLULAR SUBSCRIPTION SERVICE REQUIRED

TABLE 1

DUPLEX LIFT STATION CONTROL PANEL (LCP)				
VOLTS	208		LARGEST HP	5
PHASE	3		LARGEST FLA	17.5
FREQUENCY	60 HZ		CPT VA	500
			TOTAL FLA	37.40

NOTE: LARGEST FLA BASED OFF OF TABLE 430.250 PER NEC ARTICLE 430.6(A)(1).

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PREFAB LIFT STATION DETAILS
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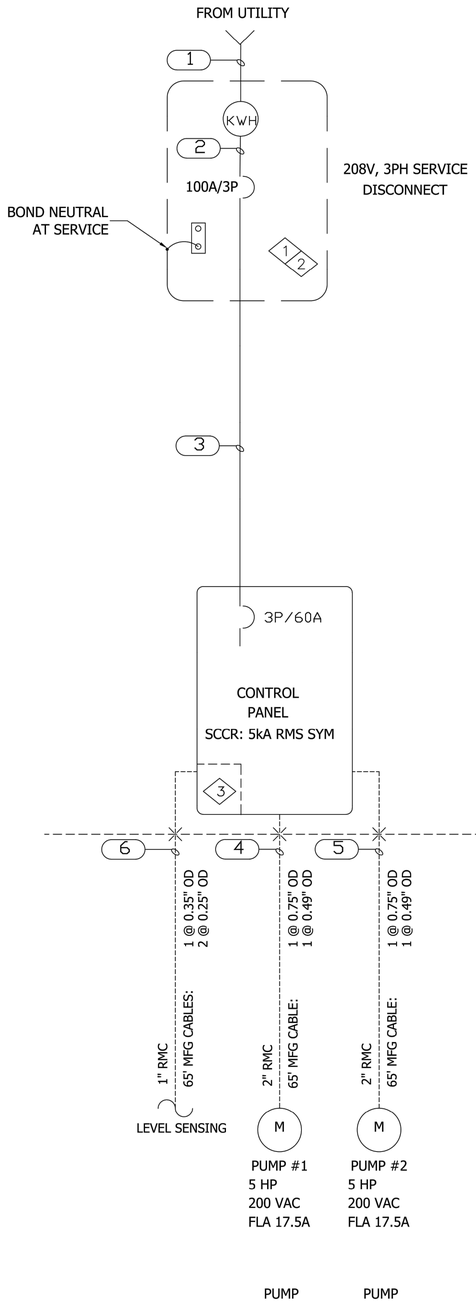
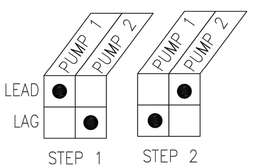
PLAN 8297
FILE 406-223
CU-516
SHEET 51 OF 92



ALTERNATION TABLE



GENERAL NOTES:

1. PRELIMINARY DRAWINGS AND NOTES PROVIDED FOR ESTIMATING PURPOSES ONLY. NOT FOR CONSTRUCTION.
2. ALL ITEMS RELATED TO THE ELECTRICAL SERVICE SUCH AS SERVICE CONDUIT, CONDUCTORS, DUCT, PAD MOUNT, RISERS, PULL BOXES, FITTINGS, PERMITS, FEES, AND PROTECTIVE COVERING FROM THE SERVICE POINT LOCATION SHALL BE VERIFIED WITH THE SERVING UTILITY.
3. THE ELECTRICAL CONTRACTOR SHALL INSTALL THE SERVICE IN COMPLIANCE WITH THE SERVING UTILITY, NATIONAL ELECTRICAL CODE, STATE AND LOCAL CODES.
4. THE ELECTRICAL CONTRACTOR SHALL SUPPLY ALL ELECTRICAL CONDUIT, WIRE, FASTENERS AND FITTINGS.
5. THE ELECTRICAL CONTRACTOR SHALL SUPPLY THE UTILITY METER BASE AND METHOD OF MAIN SERVICE DISCONNECT.
6. CONNECTIONS TO THE EQUIPMENT, INCLUDING BUT NOT LIMITED TO CONDUIT, WIRING, OTHER ELECTRICAL SERVICES OR OTHER CONNECTIONS, ARE THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR AND BEYOND THE SCOPE OF THIS DOCUMENT.
7. ROUTE CONTROL WIRING SEPARATE FROM POWER WIRING.

KEYED NOTES:

1. INSTALL A MAIN SERVICE DISCONNECT OR A FEEDER WITH OVERCURRENT PROTECTION FROM AN EXISTING SOURCE.
2. EQUIPMENT SHOWN WITH DASHED LINES IS SUPPLIED BY OTHERS.
3. INTRINSICALLY SAFE AREA; MAINTAIN SEPARATION PER NEC ART 504.30.

(#) DENOTES CIRCUIT NUMBER, SEE TABLE BELOW.

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WIRE AND CONDUIT SCHEDULE

ALL CONDUCTORS BASED ON COPPER XHHW-2, 90 DEGREE RATED CONDUCTORS UNLESS OTHERWISE NOTED.

ALL CONDUITS ARE SIZED BASED ON RIGID METAL CONDUIT.

CONDUCTOR ARE CODED AS FOLLOWS: P-POWER CONDUCTORS, G-GROUND CONDUCTORS, N-NEUTRAL CONDUCTOR, C-CONTROL CONDUCTORS, SP-SPARE CONDUCTORS, AND TSP FOR TWISTED SHIELDED CONDUCTORS.

CIRCUITS REVISED SINCE LAST ISSUE ARE INDICATED BY AN ASTERISK (*).

CIRCUIT NUMBER	FROM	TO	CONDUCTORS	RACEWAY	NOTES
1	UTILITY	METER BASE	SEE NOTES		COORDINATE CONDUCTOR AND RACEWAY REQUIREMENTS WITH SERVING UTILITIY.
2	METER BASE	SERVICE DISCONNECT	(3) #3AWG P (1) #3AWG N (1) #8AWG G	1-1/4"	BOND THE NEUTRAL AT THE SERVICE DISCONNECT
3	SERVICE DISCONNECT	CONTROL PANEL	(3) #3AWG P (1) #3AWG N (1) #8AWG G	1-1/4"	
4	CONTROL PANEL	WET WELL	PUMP 1 MFG CABLE	2"	POWER CABLE OD = 0.75"; LENGTH = 50' CONTROL CABLE OD = 0.49"; LENGTH = 50'
5	CONTROL PANEL	WET WELL	PUMP 2 MFG CABLE	2"	POWER CABLE OD = 0.75"; LENGTH = 50' CONTROL CABLE OD = 0.49"; LENGTH = 50'
6	CONTROL PANEL	WET WELL	LEVEL SENSING (3) MFG CABLES	1"	TRANSDUCER CABLE OD = 0.35"; LENGTH = 65' FLOAT CABLE OD = 0.25"; LENGTH = 65'

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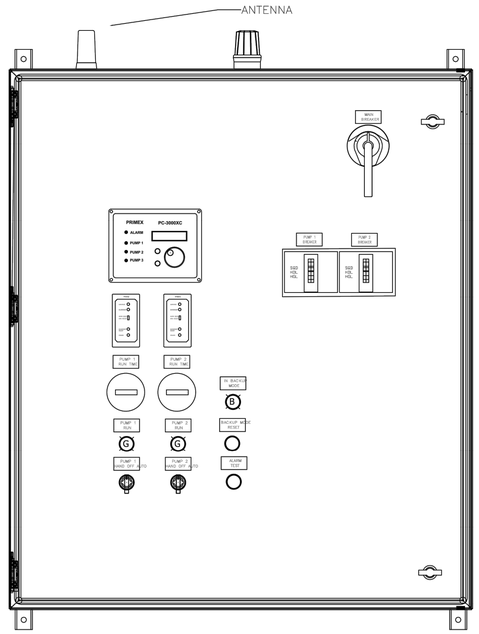
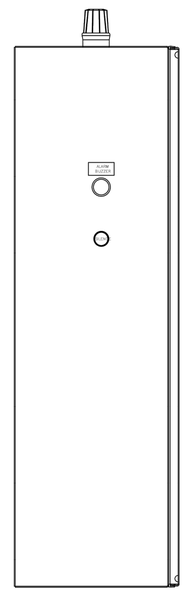
PREFAB LIFT STATION DETAILS
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
CU-517
SHEET 52 OF 92

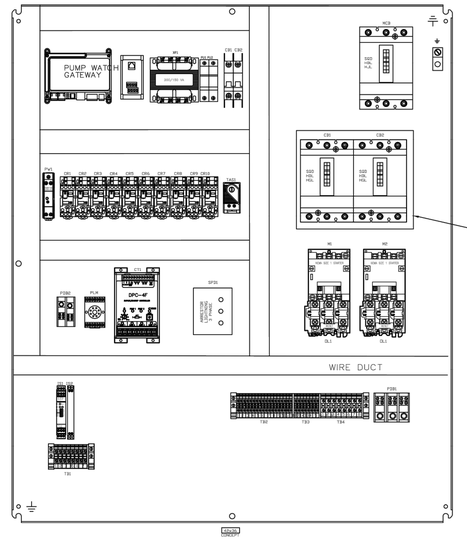
OUTER FRONT DOOR



INNER DOOR



LEFT SIDE



HEATER IS LOCATED UNDER THE CIRCUIT BREAKER BRACKET

BACK PLATE

THE ENCLOSURE SHOWN REPRESENTS THE INTENT OF THE DESIGN. OFTEN THE ENCLOSURE SIZE AND LAYOUT MUST CHANGE TO ACCOMMODATE THE REQUIRED COMPONENTS AND FINAL DESIGN. PLEASE CONTACT ROMTEC UTILITIES TO OBTAIN ACTUAL AS-BUILT DRAWINGS BEFORE INSTALLATION.

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PREFAB LIFT STATION DETAILS
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
CU-518
SHEET 53 OF 92

GENERAL NOTES

A. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR REVIEW OF ALL DRAWINGS FOR THE LOCATION AND SIZE OF EQUIPMENT. THE ELECTRICAL CONTRACTOR IS ALSO REQUIRED TO BE COMPLETELY FAMILIAR WITH THE PLANS AND SPECIFICATIONS PRIOR TO BEGINNING INSTALLATION. IF ANY CLARIFICATION IS REQUIRED, THE ELECTRICAL CONTRACTOR SHOULD CONTACT THE APPROPRIATE AUTHORITY PRIOR TO BEGINNING INSTALLATION.

B. THE ELECTRICAL CONTRACTOR OR OWNER IS RESPONSIBLE FOR COORDINATING THE SUPPLY OF INCOMING UTILITY POWER.

C. THE SERVING UTILITY MUST VERIFY ALL ITEMS RELATED TO ELECTRICAL SERVICE, SUCH AS SERVICE CONDUIT, CONDUCTORS, DUCTS, PAD MOUNT(S), RISERS, PULL BOXES, PERMITS, FEES, AND PROTECTIVE COVERING(S).

D. THE ELECTRICAL CONTRACTOR MUST INSTALL THE ELECTRICAL SERVICE IN COMPLIANCE WITH THE SERVING UTILITY, THE NATIONAL ELECTRICAL CODE (NEC), AND ALL APPLICABLE STATE AND LOCAL CODES.

E. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR THE SUPPLY AND INSTALLATION METHOD OF MAIN SERVICE DISCONNECT OR FEEDER WITH OVERCURRENT PROTECTION FROM EXISTING SOURCE.

F. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR SUPPLY AND INSTALLATION OF ALL REQUIRED CONDUIT AND WIRE TO CONNECT TO THE ROMTEC UTILITIES SUPPLIED EQUIPMENT. ALL CONDUIT AND CONDUCTORS MUST BE SIZED AND INSTALLED PER THE NEC AND ANY APPLICABLE STATE AND LOCAL CODES.

G. INSTALLATION OF EQUIPMENT INCLUDING ANY GROUNDING ARRANGEMENT TO BE IN ACCORDANCE WITH NEC ARTICLES 501, 502 AND ANSI/ISA-RP12.06.01-2003 RECOMMENDED PRACTICE FOR WIRING METHODS FOR HAZARDOUS (CLASSIFIED) LOCATIONS INSTRUMENTATION WHEN APPLICABLE.

H. SEE SEPARATE CONTROL SCHEMATICS (PROVIDED BY THE CONTROL PANEL MANUFACTURER) FOR FURTHER WIRING AND CABLING DETAILS.

I. MINIMUM SPACING REQUIREMENTS ARE PER UL698A INTRINSICALLY SAFE BARRIER INSTALLATION:
- I.A. 2" SPACING BETWEEN NON-INTRINSICALLY SAFE CIRCUIT/WIRING AND INTRINSICALLY SAFE INTERNAL WIRING.
- I.B. 5" SPACING BETWEEN NON-INTRINSICALLY SAFE CIRCUIT/WIRING AND INTRINSICALLY SAFE TERMINALS
- I.C. 8" SPACING BETWEEN NON-INTRINSICALLY SAFE FIELD TERMINALS AND INTRINSICALLY SAFE FIELD TERMINALS.

NOTE : INTRINSICALLY SAFE FIELD WIRING AND NON-INTRINSICALLY SAFE

FIELD WIRING CANNOT BE RAN IN THE SAME RACEWAY.

SPECIAL NOTES

A. THE PROJECT'S SITE ENGINEER AND/OR ELECTRICAL ENGINEER ARE RESPONSIBLE FOR ALL ASPECTS OF THE PROJECT. ROMTEC UTILITIES OFFERS ELECTRICAL INFORMATION ONLY AS A WAY TO CLARIFY THE PRODUCT OFFERING. PLEASE REFER TO THE SITE ENGINEER'S SITE PLANS FOR SPECIFIC DETAILS. THE SITE ENGINEER'S PLANS, SPECIFICATIONS, AND THE APPROVED SUBMITTAL DOCUMENTS GOVERN ALL ASPECTS OF THE WORK.

B. ROMTEC UTILITIES DOES NOT PROVIDE CORED HOLES IN CONCRETE STRUCTURES FOR ELECTRICAL CONDUIT RUNS. ALL ELECTRICALLY RELATED CORED HOLES ARE THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR AND/OR ELECTRICAL CONTRACTOR.

C. ROMTEC UTILITIES WILL ONLY PROVIDE THOSE CONNECTION POINTS REQUIRED FOR SUPPLIED EQUIPMENT, INCLUDING DEFINED TIE POINTS OR AS-PURCHASED. THE CUSTOMER IS RESPONSIBLE FOR ALL OTHER CONNECTIONS.

D. THE OWNER OR INSTALLING CONTRACTOR IS RESPONSIBLE FOR SUPPLYING AND INSTALLING A LOAD CENTER FOR ALL AUXILIARY LOADS. ROMTEC UTILITIES DOES NOT RECOMMEND SUPPLYING GENERAL PURPOSE RECEPTACLES OR INDUCTIVE TYPE LOADS FROM THE SUPPLIED CONTROL PANEL.

E. PLEASE SEE THE LINK FOR TYPICAL ELECTRICAL INSTALLATION RECOMMENDATIONS:
HTTP://ROMTECUTILITIES.COM/WP-CONTENT/UPLOADS/2022/06/LIFT-STATION-ELECTRICAL-INSTALL-RECOMMENDATIONS-6-20-22.PDF

F. PLEASE SEE THE LINK BELOW FOR STANDARD STARTUP/TESTING INFORMATION:
HTTP://ROMTECUTILITIES.COM/WP-CONTENT/UPLOADS/2022/06/LIFT-STATION-STARTUP-TESTING-TRAINING-SERVICES-6-20-22.PDF

COMMUNICATIONS

A. ALL COMMUNICATION DEVICES FOR REMOTE ANNUNCIATION OR SYSTEM CONTROL AND DATA ACQUISITION (SCADA) ARE TO BE CONFIGURED, TESTED, AND MAINTAINED BY THE OWNER OR OWNER'S REPRESENTATIVE UNLESS SPECIFICALLY NOTED OTHERWISE. ROMTEC UTILITIES CAN INSTALL CUSTOMER-SPECIFIED COMMUNICATION DEVICES IN THE CONTROL PANEL IF REQUESTED.

B. A FULLY DOCUMENTED LIST OF ALL REQUIRED SIGNALS NEEDED FOR SCADA COMMUNICATIONS MUST BE PROVIDED TO ROMTEC UTILITIES FOR PROPER INTEGRATION OF SCADA EQUIPMENT.

C. IF THE OWNER HAS A DESIGNATED SCADA INTEGRATOR, THAT INDIVIDUAL MUST BE AVAILABLE DURING THE SCHEDULED SYSTEM STARTUP FOR FINAL TESTING, TRAINING, AND CONFIGURATION.

D. RADIO/CELLULAR SITE SURVEYS, ANTENNAS MAST(S), AND ANTENNA MOUNTING ARE THE RESPONSIBILITY OF THE OWNER OR INSTALLING CONTRACTOR, NOT ROMTEC UTILITIES. IN OTHER WORDS, VERIFICATION OF SIGNAL RECEPTION BY THE ANTENNA/COMMUNICATION DEVICE IS NOT PROVIDED BY ROMTEC UTILITIES.

E. ALL APPLICABLE COMMUNICATION SERVICE LINES MUST BE INSTALLED AND READY TO USE PRIOR TO SYSTEM STARTUP. FOR EXAMPLE, IF AN AUTODIALER REQUIRES DSL SERVICE, IT IS THE RESPONSIBILITY OF THE OWNER OR INSTALLING CONTRACTOR TO ENSURE THAT DSL SERVICE IS INSTALLED AND READY TO USE PRIOR TO SYSTEM STARTUP. SIMILARLY, ENSURING THAT A RADIO MODEM HAS SUFFICIENT RECEPTION AT THE ANTENNA/MOUNTING LOCATION DURING SYSTEM STARTUP IS THE RESPONSIBILITY OF THE OWNER OR INSTALLING CONTRACTOR, NOT ROMTEC UTILITIES.

F. IF THE ROMTEC UTILITIES STARTUP TECHNICIAN DISCOVERS UPON ARRIVAL THAT THE APPLICABLE COMMUNICATION SERVICE IS NOT READY TO USE DURING SYSTEM STARTUP, ANY ADDITIONAL TIME OR TRAVEL REQUIRED FOR SYSTEM STARTUP ACTIVITIES WILL BE QUOTED AND PROVIDED UNDER A SEPARATE SERVICE ORDER.

G. IF THE COMMUNICATION SYSTEM REQUIRES A SERVICE CONTRACT IT IS THE RESPONSIBILITY OF THE OWNER OR END USER TO OBTAIN AND COMPLETE ALL SERVICE AGREEMENT INFORMATION PRIOR TO START-UP. IF NEEDED, CONTACT THE ROMTEC UTILITIES PROJECT MANAGER FOR ACCOUNT SETUP ASSISTANCE PRIOR TO SYSTEM STARTUP.

SOFTWARE PROGRAMMING

A. ANY SOFTWARE PROGRAMMING DEVELOPED AND PROVIDED BY ROMTEC UTILITIES IS PROPERTY OF THE OWNER.

B. OWNERS ASSUME ALL RESPONSIBILITY FOR CHANGES THAT ARE MADE TO THE APPROVED SYSTEM DESIGN AND OPERATION THAT REQUIRE SOFTWARE MODIFICATIONS.

C. UNLESS EXPLICITLY STATED, ROMTEC DOES NOT FURNISH ANY SOFTWARE LICENSES THAT MAY BE REQUIRED TO PROGRAM ROMTEC UTILITIES SUPPLIED COMPONENTS.

SIZE AND MOUNTING STYLE OF THE CONTROL PANEL ENCLOSURE

A. THE SIZE AND/OR MOUNTING STYLE OF THE FINAL, AS-BUILT CONTROL PANEL ENCLOSURE MAY NOT EXACTLY MATCH THE SIZE OR MOUNTING STYLE OF THE ENCLOSURE AS DESCRIBED IN THE SUBMITTAL. THE PANEL MANUFACTURER MAY ALTER DIMENSIONS AS NEEDED DURING PRODUCTION TO ACCOMMODATE ALL OF THE REQUIRED EQUIPMENT.

B. THE FINAL AS-BUILT DRAWINGS OF THE CONTROL PANEL WILL BE AVAILABLE APPROXIMATELY 6-8 WEEKS AFTER ROMTEC UTILITIES RECEIVES FORMAL NOTICE TO PROCEED ON PRODUCTION OF THE SYSTEM. IT IS THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR TO ENSURE THEY HAVE THE AS-BUILT DRAWINGS PRIOR TO INSTALLATION OF THE CONTROL PANEL ENCLOSURE.

INSTRUCTIONS FOR CONDUIT ENTRY

A. FOR **TOP** OF ENCLOSURE CONDUIT ENTRY:
- A.A. USE ONLY UL LISTED, RAIN-TIGHT OR LIQUID-TIGHT CONDUIT HUBS.
- A.B. INSTALL HUBS AND CONDUIT ACCORDING TO THE HUB MANUFACTURER'S INSTRUCTIONS.
- A.C. PUNCH OR DRILL THE CORRECT HOLE SIZE FOR THE HUB.
- A.D. CAPTURE **ALL** DRILLING FINES TO PREVENT INTERIOR COMPONENT DAMAGE.

B. FOR **BOTTOM** OF ENCLOSURE CONDUIT ENTRY:
- B.A. PUNCH OR DRILL THE CORRECT HOLE SIZE FOR THE CONDUIT.
- B.B. USE ONLY UL LISTED, RAIN-TIGHT OR LIQUID-TIGHT CONDUIT, HUBS, OR SEALING LOCKNUTS ON THE OUTSIDE ENTRY POINT.
- B.C. INSTALL CONDUIT, HUBS, OR SEALING LOCKNUTS PER THE MANUFACTURER'S INSTRUCTIONS.
- B.D. SECURE CONDUITS ON THE INSIDE WITH LOCKNUTS.
- B.E. USE PLASTIC BUSHING OR GROUNDING BUSHING WHERE APPLICABLE.

C. CONDUIT HOLE SEALING:
- C.A. SEAL ALL UNUSED HOLES WITH HOLE SEALS THAT ARE RECOGNIZED FOR USE WITH THE ENCLOSURE'S NEMA RATING.
- C.B. INSTALL SEALS ACCORDING TO THE SEAL MANUFACTURER'S INSTRUCTIONS.

CONDUITS AND RACEWAYS

A. ALL CONDUITS OR RACEWAYS ROUTED FROM INDOORS TO OUTDOORS OR AS DESCRIBED IN NEC 300.7(A) SHALL BE SEALED WITH A PLIABLE SEALING COMPOUND AT A CONDUIT BODY OR JUNCTION BOX BEFORE THE CONDUIT ENTERS THE COLDER ENVIRONMENT.

B. ALL CONDUITS OR RACEWAYS INSTALLED IN AREAS WHERE ELEVATION CHANGES MAY CAUSE WATER OR MOISTURE TO ENTER THE ELECTRICAL EQUIPMENT THROUGH THE CONDUIT SHALL BE EFFECTIVELY SEALED AT BOTH ENDS OF THE CONDUIT.

C. ALL BELOW GRADE CONDUITS OR RACEWAYS FEEDING INSTRUMENTATION EQUIPMENT SHALL HAVE A DRIP LOOP INSTALLED PRIOR TO THE FINAL TERMINATION AT THE INSTRUMENT.

D. ALL BELOW GRADE CONDUITS OR RACEWAYS INCLUDING BOXES AND FITTINGS USED SHALL BE INSTALLED AND EQUIPPED SO AS TO PREVENT WATER FROM ENTERING THE CONDUIT.

E. ALL CONDUITS RUNS SHOWN ON THIS PLAN ARE DIAGRAMMATIC IN NATURE. THE CONTRACTOR IS RESPONSIBLE FOR ROUTING AND INSTALLATION PER SITE CONDITIONS AND NEC REQUIREMENTS.

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HORIZ. 1"=X'
VERT. 1"=X'
BOOK
DATE 7/31/2025

CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

PREFAB LIFT STATION DETAILS
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
CU-519
SHEET 54 OF 92

POWER QUALITY

A. ROMTEC UTILITIES RECOMMENDS THAT SUPPLY VOLTAGE TO THE ROMTEC UTILITIES SUPPLIED CONTROL PANEL COMPLY WITH THE NATIONAL EQUIPMENT MANUFACTURERS ASSOCIATION (NEMA) STANDARD MB1-1987 SECTION 14.34B. ANY PERFORMANCE ISSUES THAT ARISE AS A RESULT OF NON-COMPLIANCE WITH THIS STANDARD ARE THE RESPONSIBILITY OF THE OWNER/INSTALLER. ROMTEC UTILITIES IS NOT RESPONSIBLE FOR IDENTIFYING OR MITIGATING ANY POWER QUALITY ISSUES THAT ARE A RESULT OF POOR POWER QUALITY ASSOCIATED WITH THE UTILITY SUPPLY VOLTAGE.

B. POOR POWER QUALITY CAN HAVE AN ADVERSE EFFECT ON CONTROL SYSTEM OPERATION AND RELIABILITY. EXTREME ELECTRICAL STRESS OR INTERFERENCE, FLUCTUATIONS OR SURGES OF ELECTRICAL POWER, LIGHTNING, STATIC ELECTRICITY, OR OTHER EXTERNAL FACTORS CAN CAUSE PERMANENT DAMAGE AND OR ERRATIC OPERATION THAT IS NOT COVERED UNDER WARRANTY. ADDITIONALLY, PUMP MOTORS CAN BE DAMAGED BY SUSTAINED APPLICATION OF UNBALANCED PHASE VOLTAGES AND/OR VOLTAGES ABOVE OR BELOW NORMAL NAMEPLATE RATINGS.

C. NEMA PUBLISHED TOLERANCES ARE AS FOLLOWS:
- C.A. VOLTAGE IMBALANCE NOT TO EXCEED 1% MEASURED AT THE MOTOR TERMINALS.
- C.B. CURRENT IMBALANCE NOT TO EXCEED 5% MEASURED AT THE MOTOR TERMINALS.
- C.C. VOLTAGE LEVELS NOT TO EXCEED +/-10% OF THE MOTOR NAMEPLATE RATING.

PUMP CABLE INSPECTION AND INSTALLATION

A. INSPECT THE FULL LENGTH OF ALL PUMP CABLES FOR SIGNS OF DAMAGE, INCLUDING ABRASIONS, CUTS, CRUSHED INSULATION, AND SIGNS OF MOISTURE ENTRY. IF CABLE DAMAGE IS FOUND, THE CABLE WILL REQUIRE TESTING OF THE CABLE AND ITS OVERALL INTEGRITY BY A QUALIFIED TECHNICIAN.

B. A HIGH PERCENTAGE OF CABLE FAILURES ARE DUE TO MECHANICAL DAMAGE, WHICH TYPICALLY OCCURS DURING TRANSPORTATION, HANDLING, AND INSTALLATION.

C. WHEN CABLES ARE INSTALLED IN A RACEWAY, UNDERGROUND ELECTRICAL DUCT, OR CABLE TRAY, THE FOLLOWING MUST BE CONSIDERED:
- C.A. CABLE CONFIGURATION
- C.B. RACEWAY OR CABLE TRAY FILL
- C.C. PHYSICAL LIMITATIONS OF THE CABLES
- C.D. INSTALLATION EQUIPMENT
- C.E. AMBIENT TEMPERATURE AND CONDITIONS (LOW TEMPERATURES ARE CAUSE FOR CONCERN)

D. PRIOR TO INSTALLING PUMP CABLES IN COLD TEMPERATURES (BELOW 10 °F), CABLES MUST BE PRE-CONDITIONED BY STORING THEM FOR A MINIMUM OF 24 HOURS AT A MINIMUM TEMPERATURE OF 55°F. DO NOT DROP (OR OTHERWISE SHARPLY IMPACT), KINK, OR SHARPLY BEND PUMP CABLES THAT HAVE BEEN STORED IN LOW TEMPERATURES.

E. ALL CABLES INSTALLED IN A RACEWAY MUST BE PULLED TOGETHER. CABLES SHOULD BE TRAINED AND GUIDED INTO THE RACEWAY USING AN APPROVED PULLING COMPOUND OR LUBRICANT WHEN NECESSARY.

F. CONDUITS MUST BE CLEANED AND FREE OF DEBRIS PRIOR TO CABLE INSTALLATION TO PREVENT DAMAGE TO THE OUTER CABLE JACKET.

G. CABLES MUST BE VERTICALLY SUPPORTED IN THE WET WELL BY STAINLESS STEEL WIRE MESH CABLE SUPPORT GRIPS THAT ARE APPROPRIATELY SIZED FOR THE APPLICATION.

H. ALL HARDWARE, INCLUDING FITTINGS, HANGERS, SUPPORTS, AND FASTENERS, MUST HAVE CORROSION PROTECTION SUITABLE FOR THE SURROUNDING ATMOSPHERE.

I. CONDUIT BUSHINGS MUST BE INSTALLED AS REQUIRED TO PREVENT CABLE DAMAGE.

J. PUMP CABLES MUST BE INSTALLED IN THE WET WELL WITH ADEQUATE LENGTH TO ALLOW FOR PUMP REMOVAL WITHOUT DISCONNECTING THE CABLES.

K. EXTRA CABLE LENGTH MUST BE PROPERLY SECURED SO AS NOT TO INTERFERE WITH PUMP INTAKE. PROPER SECURING OF EXTRA CABLE REQUIRES USING A HEAVY DUTY, NON-RELEASABLE UV-RESISTANT CABLE TIE SECURED TO A SUITABLE SUPPORTING DEVICE.

L. IF THE PUMPS INCLUDE EXCESSIVE CABLE LENGTH THAT MAY STILL INTERFERE WITH PUMP INTAKE, THE EXCESS CABLE LENGTH MUST BE TRIMMED TO LENGTH.

RECOMMENDATIONS FOR EXTENDED CONTROL PANEL STORAGE

A. STORE THE CONTROL PANEL IN THE UPRIGHT POSITION IN A CLEAN, DRY LOCATION FREE FROM EXTREME TEMPERATURES AND DIRECT SUNLIGHT.

B. WHEN STORING THE CONTROL PANEL FOR A PERIOD LONGER THAN 30 DAYS, SEAL ALL CONDUIT ENTRIES AND PLACE DESICCANT PACKS WITHIN THE ENCLOSURE TO PREVENT MOISTURE BUILDUP.

C. THE CONTROL PANEL IS DESIGNED BASED ON THE ASSUMPTION THAT THE PANEL WILL GENERALLY REMAIN ENERGIZED, WHICH WILL PRODUCE A CERTAIN AMOUNT OF INTERNAL HEAT THAT HELPS REPEL THE BUILDUP OF CONDENSATION. CONDENSATION MAY EVENTUALLY LEAD TO CORROSION.

D. IF THE CONTROL PANEL IS INSTALLED WITHOUT BEING ENERGIZED, PROTECTIVE MEASURES MUST BE TAKEN TO PROTECT THE CONTROL PANEL FROM THE ELEMENTS.

E. FAILURE TO FOLLOW THESE RECOMMENDATIONS MAY VOID THE ROMTEC UTILITIES WARRANTY FOR THE CONTROL PANEL.

RECOMMENDATIONS FOR PRESSURE TRANSDUCER STORAGE

A. UPON RECEIVING A PRESSURE TRANSDUCER, INSPECT THE TRANSMITTER FOR ANY DAMAGE THAT MAY HAVE OCCURRED DURING SHIPPING.

B. CHECK THE PACKAGING FOR ANY ACCESSORIES.

C. DURING INTERMEDIATE STORAGE PERIODS OR DURING TRANSPORTATION OF THE PRESSURE TRANSDUCER, STORE THE TRANSDUCER IN THE ORIGINAL PACKAGING IN A WARM, DRY ATMOSPHERE.

D. MOST SUBMERSIBLE PRESSURE TRANSMITTERS RELY ON A VENTED CABLE TO PROPERLY REFERENCE THE SENSOR TO ATMOSPHERIC PRESSURE. CARE MUST BE TAKEN TO PREVENT MOISTURE INTRUSION OF THE CABLE THROUGH THE VENT TUBE, INCLUDING ATMOSPHERIC HUMIDITY. IN SOME CASES, CARE MUST ALSO BE TAKEN TO PREVENT MOISTURE INTRUSION VIA WICKING INTO THE CABLE BETWEEN THE CONDUCTORS. ANY FAILURE TO FOLLOW THESE RECOMMENDATIONS MAY SEVERELY AFFECT THE RELIABILITY AND SERVICE LIFE OF THE PRESSURE TRANSDUCER.

E. PRIOR TO INSTALLATION OF A PRESSURE TRANSDUCER, INSPECT THE FULL LENGTH OF THE CABLE FOR SIGNS OF DAMAGE, INCLUDING ABRASIONS, CUTS, CRUSHED INSULATION, AND SIGNS OF MOISTURE ENTRY.

F. WHENEVER POSSIBLE, THE PROCESS OF TRIMMING AND TERMINATING THE CABLE SHOULD BE PERFORMED IN DRY CONDITIONS. WHEN CABLE TERMINATION MUST BE PERFORMED DURING RAINY OR WET CONDITIONS, CARE MUST BE TAKEN TO KEEP THE END OF THE CABLE SEALED AND DRY UNTIL IT IS PLACED IN A PROTECTIVE ENCLOSURE.

G. CONDUITS MUST BE CLEANED PRIOR TO INSTALLING THE TRANSDUCER CABLE TO PREVENT DAMAGE TO THE OUTER JACKET.

H. ALL HARDWARE, INCLUDING HANGERS, SUPPORTS, AND FASTENERS MUST HAVE CORROSION PROTECTION SUITABLE FOR THE LOCAL ATMOSPHERE.

I. CONDUIT BUSHINGS MUST BE USED AS NEEDED TO PREVENT CABLE DAMAGE.

J. DO NOT KINK THE CABLE DURING INSTALLATION. ANY KINKS WILL CAUSE A BLOCKAGE TO THE BREATHER TUBE.

K. INSTALL A PROTECTIVE BARRIER THAT GUARDS AGAINST MOISTURE BUILDUP IN THE CABLE VENT TUBE. THIS PROTECTIVE BARRIER MAY INCLUDE A DESICCANT FILTER, ANEROID BELLOW, OR OTHER SIMILAR DEVICE. THE PROTECTIVE BARRIER WILL ENSURE RELIABLE OPERATION AND LONG SERVICE LIFE BY PROTECTING THE SENSITIVE ELECTRICAL COMPONENTS FROM MILDEW OR THE FORMATION OF A COLUMN OF LIQUID IN THE BREATHER TUBE. ANY SUCH OBSTRUCTION DIRECTLY AFFECTS THE TRANSDUCER CALIBRATION AND MAY RENDER THE TRANSDUCER UNUSABLE.

L. ROMTEC UTILITIES RECOMMENDS AVOIDING INSTALLATION OF THE TRANSMITTER OR ROUTING OF THE CABLE IN CLOSE PROXIMITY TO A SOURCE OF ELECTRICAL NOISE, SUCH AS A VARIABLE SPEED DRIVE OR OTHER HIGH-POWERED ELECTRICAL DEVICE.

REGISTERED PROFESSIONAL ENGINEER
JEROME DE VERNEJOUL
No. C60334
Exp. 6/30/26
CIVIL
STATE OF CALIFORNIA

REVISION	MARK	DATE	PERMIT SET	DESCRIPTION	APPROVAL
		7/31/2025			

PERMIT SET

TRANSYSTEMS
2000 CENTER STREET
SUITE 303
BERKELEY, CA 94704
PHONE: (510) 835-2761

NO SCALE
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FOR REDUCED PLANS – ORIGINAL SCALE IS IN INCHES

DEPICTION OF MONUMENTS: DATE
SURVEY PARTY CHIEF
WATERSHED REVIEW: DATE

SUBMITTED: DATE
SUPERVISING CIVIL ENGINEER R.C.E.
EXP.
APPROVED: DATE
MANAGER OF ENGINEERING R.C.E.
EXP.

DESIGN JDV
DRAWN AJR
CHECK KMC
AS BUILT
HORIZ. 1"=X'
VERT. 1"=X'
BOOK
DATE 7/31/2025

CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

PREFAB LIFT STATION DETAILS
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
CU-520
SHEET 55 OF 92

FLOOR PLAN

SCALE: NOT TO SCALE

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SPORTS COMPLEX
TOM BATES

CITY OF BERKELEY, CALIFORNIA
RESTROOM/ STORAGE/ MULTI-USE BUILDING

ARTIST IMPRESSION. 3D RENDERING ONLY FOR REPRESENTATION. COLORS AND MATERIALS ARE SUBJECT TO CHANGE

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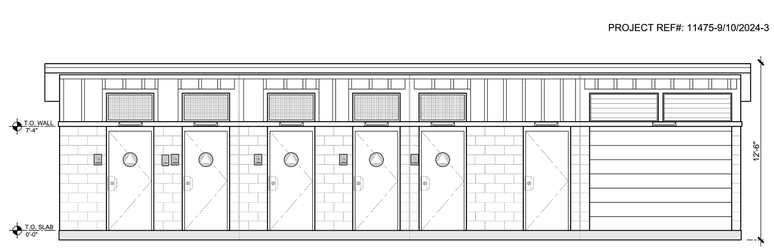
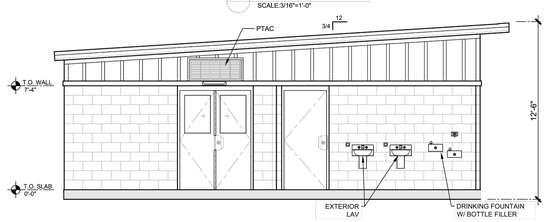
www.PublicRestroomCompany.com
2587 BUSINESS PARKWAY
MINDEN NEVADA 89423
P: 888-888-2060 F: 888-888-1448

PROJECT REF#: 11475-9/10/2024-3



ELEVATION 1

SCALE:3/16"=1'-0"



ELEVATION 2

SCALE:3/16"=1'-0"

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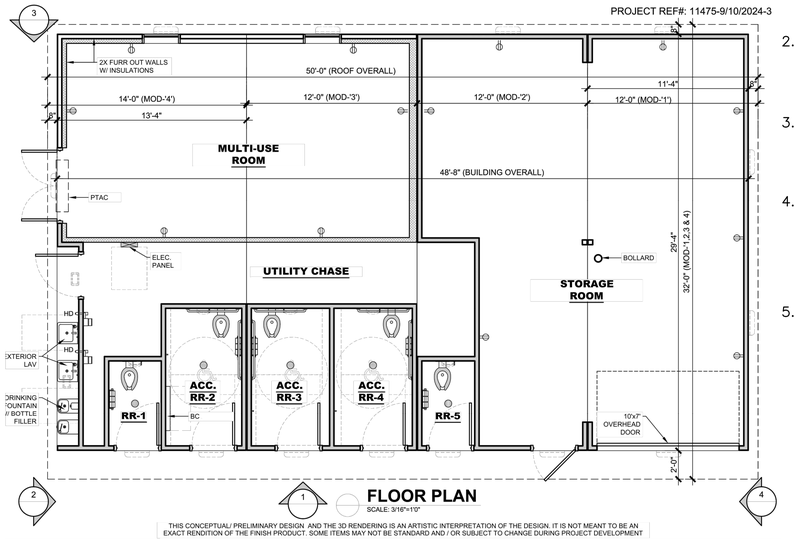
BUILDING TYPE:	RESTROOM/ STORAGE/ MULTI USE BUILDING	REVISION # 3	REVISION DATE: 9/10/2024
PROJECT:	TOM BATES SPORTS COMPLEX BERKELEY, CA	PROJECT #: 11475	START DATE: 2/22/2023
			DRAWN BY: EOR
		SHEET# A-2	MAX. PERSON / HOUR: 190 S

Ph: 888-888-2060 | Fax: 888-888-1448

=NOT FOR CONSTRUCTION = PRELIMINARY DESIGN DRAWING ONLY = DO NOT SCALE, DIMENSIONS PRESIDE

PROJECT REF#: 11475-9/10/2024-3



FLOOR PLAN

SCALE: 3/16"=1'0"

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BUILDING TYPE:	RESTROOM/ STORAGE/ MULTI USE BUILDING	REVISION # 3	REVISION DATE: 9/10/2024
PROJECT:	TOM BATES SPORTS COMPLEX BERKELEY, CA	PROJECT #: 11475	START DATE: 2/22/2023
			DRAWN BY: EOR
		SHEET# A-1	MAX. PERSON / HOUR: 190 S

Ph: 888-888-2060 | Fax: 888-888-1448

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GENERAL NOTES:

1. THIS PROJECT SHALL COMPLY WITH THE 2022 CBC, 2022 CEC, 2022 CMC, 2022 CPC, 2022 CGBSC AND 2022 CALIFORNIA ENERGY CODE (AS ADOPTED AND AMENDED BY THE CITY OF BERKELEY).
2. THE BUILDING FOR THIS PROJECT IS A PREFABRICATED STRUCTURE AND WILL BE REVIEWED AND APPROVED BY THE STATE OF CALIFORNIA HOUSING AND COMMUNITY DEVELOPMENT (HCD).
3. THE FOUNDATION FOR THIS BUILDING HAS BEEN DESIGNED TO SUPPORT THE BUILDING SHOWN ON THIS SHEET. SELECTED BUILDING LOADS SHALL NOT EXCEED THE DESIGN LOADS GENERATED BY THE BUILDING SHOWN.
4. THE PRE-MANUFACTURED STRUCTURE SHALL BE DESIGNED TO BE ADEQUATE FOR LOCAL CONDITIONS INCLUDING WIND AND SEISMIC DESIGN, FIRE ZONES, BUILDING FIRE SEPARATION DISTANCES, SITE DEVELOPMENT, PROPERTY LINE REQUIREMENTS, AND CLIMATE ZONE.
5. IF THE SELECTED BUILDING IS BEING APPROVED BY THE STATE OF CALIFORNIA HOUSING AND COMMUNITY DEVELOPMENT (HCD), THE FOUNDATION, UTILITY CONNECTIONS, AND SURROUNDING SITE IMPROVEMENTS SHALL BE INSPECTED AND APPROVED BY THE CITY OF BERKELEY PRIOR TO FINAL PERMIT SIGN OFF.

REGISTERED PROFESSIONAL ENGINEER
JEROME DE VERNEY
No. C60334
Exp. 6/30/26
CIVIL
STATE OF CALIFORNIA

PROJECT REF#: 11475-9/10/2024-3

ELEVATION 1

SCALE:3/16"=1'-0"

ELEVATION 2

SCALE:3/16"=1'-0"

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BUILDING TYPE:	RESTROOM/ STORAGE/ MULTI USE BUILDING	REVISION # 3	REVISION DATE: 9/10/2024
PROJECT:	TOM BATES SPORTS COMPLEX BERKELEY, CA	PROJECT #: 11475	START DATE: 2/22/2023
			DRAWN BY: EOR
		SHEET# A-2	MAX. PERSON / HOUR: 190 S

Ph: 888-888-2060 | Fax: 888-888-1448

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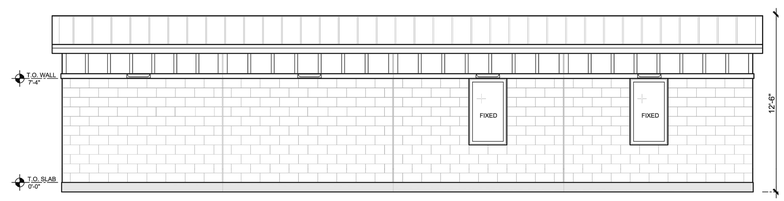
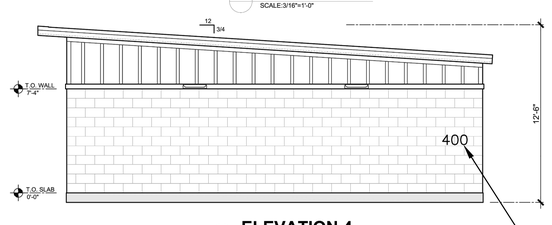
PROJECT REF#: 11475-9/10/2024-3



ELEVATION 3

SCALE:3/16"=1'-0"



ELEVATION 4

SCALE:3/16"=1'-0"

AFFIX STREET NUMBER TO BUILDING WALL USING 6" HIGH NUMBERS, STYLE, AND COLOR TO BE APPROVED BY THE OWNER

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BUILDING TYPE:	RESTROOM/ STORAGE/ MULTI USE BUILDING	REVISION # 3	REVISION DATE: 9/10/2024
PROJECT:	TOM BATES SPORTS COMPLEX BERKELEY, CA	PROJECT #: 11475	START DATE: 2/22/2023
			DRAWN BY: EOR
		SHEET# A-3	MAX. PERSON / HOUR: 190 S

Ph: 888-888-2060 | Fax: 888-888-1448

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REVISION	MARK	DATE	DESCRIPTION
			APPROVAL
		7/31/2025	PERMIT SET

PERMIT SET

TRANSYSTEMS
2000 CENTER STREET
SUITE 303
BERKELEY, CA 94704
PHONE: (510) 835-2761

AS SHOWN

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FOR REDUCED PLANS – ORIGINAL SCALE IS IN INCHES

DEPICTION OF MONUMENTS: DATE
SURVEY PARTY CHIEF
WATERSHED REVIEW: DATE

SUBMITTED: DATE
SUPERVISING CIVIL ENGINEER R.C.E.
EXP.
APPROVED: DATE
MANAGER OF ENGINEERING R.C.E.
EXP.

DESIGN JDV
DRAWN AJR
CHECK KMC
AS BUILT
DATE 7/31/2025

HORIZ. 1"=X'
VERT. 1"=X'
BOOK
DATE

CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

ARCHITECTURAL FLOOR PLAN, RENDERING, AND ELEVATIONS
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
A-101
SHEET 56 OF 92

GENERAL REQUIREMENTS:

1. THE GENERAL STRUCTURAL NOTES ARE INTENDED TO AUGMENT THE DRAWINGS AND SPECIFICATIONS. SHOULD CONFLICTS EXIST BETWEEN THE DRAWINGS, SPECIFICATIONS AND THE STRUCTURAL NOTES, THE STRICTEST PROVISION GOVERNS.

2. THE STRUCTURES ARE DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE BUILDING IS FULLY COMPLETED. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE, TO ENSURE THE SAFETY OF THE BUILDING AND ITS COMPONENT PARTS DURING ERECTION, AND TO PROVIDE TEMPORARY BRACING, GUYS, OR TIE-DOWNS AS NECESSARY FOR COMPLETION OF THE WORK. SUCH MATERIAL REMAINS THE CONTRACTOR'S PROPERTY AFTER COMPLETION OF THE WORK.

3. FOLLOW ALL APPLICABLE SAFETY CODES AND REGULATIONS DURING ALL PHASES OF CONSTRUCTION.

4. ALL CONDITIONS AND DIMENSIONS PERTAINING TO EXISTING UTILITIES AND CONSTRUCTION AT THE SITE MUST BE VERIFIED BY THE CONTRACTOR BEFORE PROCEEDING WITH THE WORK. THIS ASSESSMENT MUST BE CONDUCTED SUFFICIENTLY IN ADVANCE OF ANY PHASE OF CONSTRUCTION, TO THE MAXIMUM EXTENT POSSIBLE, TO AVOID DELAYS IN THE WORK.

5. EQUIPMENT WEIGHTS AND STRUCTURAL ITEMS IN ANY WAY RELATED TO THE SUPPORT OF EQUIPMENT OR OPENINGS ARE INDICATED FOR INFORMATIONAL PURPOSES ONLY. VERIFY AND COORDINATE SIZE, LOCATION AND QUANTITY OF OPENINGS AND EQUIPMENT WEIGHTS REQUIRED FOR ARCHITECTURAL, MECHANICAL, ELECTRICAL AND ALL OTHER TRADES. OBTAIN APPROVAL OF AFFECTED TRADES BEFORE PROCEEDING WITH SUCH PORTION OF THE WORK. CHANGES REQUIRED BY EQUIPMENT IN EXCESS OF THE WEIGHT OR GEOMETRIC ALLOWANCES ARE THE CONTRACTOR'S RESPONSIBILITY.

6. IN GENERAL, ALL SECTIONS AND DETAILS SHOWN ON THE PLANS ARE INTENDED TO APPLY TO SIMILAR CONDITIONS, UNLESS SPECIFICALLY NOTED. DETAILS LABELED "TYPICAL" APPLY AT ALL SITUATIONS THAT ARE THE SAME OR SIMILAR TO THOSE SPECIFICALLY DETAILED. SUCH DETAILS APPLY WHETHER OR NOT THEY ARE KEYED AT EACH LOCATION.

7. SEE ARCHITECTURAL, MECHANICAL, ELECTRICAL AND ALL OTHER TRADE REQUIREMENTS FOR EMBEDDED ITEMS NOT SHOWN HEREIN AND TO VERIFY SIZE AND LOCATION OF ALL OPENINGS.

8. NO CORE DRILLING IS ALLOWED WITHOUT APPROVAL OF THE ENGINEER OF RECORD. BEFORE CORE DRILLING ANY HOLES, LOCATE THE REINFORCING STEEL IN EXISTING CONCRETE WITH A REINFORCING DETECTOR. RELOCATE THE HOLE TO AVOID CUTTING ANY REINFORCING OR POST-TENSIONING TENDONS. DO NOT DRILL HOLES THROUGH EXISTING REINFORCING UNLESS ACCEPTABLE TO THE STRUCTURAL ENGINEER OF RECORD. DO NOT OVERCUT ANY HOLES.

9. ENGINEER OF RECORD IS NOT RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES OF CONSTRUCTION SELECTED BY CONTRACTOR.

10. TRANSYSTEMS IS NOT RESPONSIBLE FOR CONDITIONS OF THE JOB SITE INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND IS NOT LIMITED TO NORMAL WORKING HOURS.

11. DO NOT SCALE DRAWINGS.

12. DETAILS LABELED "TYPICAL" APPLY AT ALL SITUATIONS THAT ARE THE SAME OR SIMILAR TO THOSE SPECIFICALLY DETAILED SUCH DETAILS APPLY WHETHER OR NOT THEY ARE KEYED AT EACH LOCATION.

13. CONTRACTOR IS TO VERIFY ALL DIMENSIONS AND CONDITIONS IN FIELD PRIOR TO FABRICATION AND CONSTRUCTION. ALL DIMENSIONS AND CONDITIONS TYING INTO OR GOVERNED BY EXISTING CONSTRUCTION ARE APPROXIMATE AND ARE NOT CLAIMED TO BE COMPLETELY ACCURATE. ALL SUCH CONDITIONS AND DIMENSIONS MUST BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO THE PREPARATION OF SHOP DRAWINGS. IF CONDITIONS AND/OR DIMENSIONS VARY FROM THOSE SHOWN, THE CONTRACTOR MUST NOTIFY THE ARCHITECT AND/OR ENGINEER OF RECORD PRIOR TO SHOP DRAWING PREPARATION. FAILURE TO REPORT SUCH DISCREPANCIES INDICATES THE SUBCONTRACTOR'S ACCEPTANCE OF SUCH CONDITIONS.

14. IT'S THE CONTRACTOR RESPONSIBILITY TO INSPECT AND ENSURE THAT ALL STRUCTURAL WORK IS IN CONFORMANCE WITH THE CONTRACT DOCUMENTS. ANY STRUCTURAL INSPECTION/OBSERVATION PROVIDED BY OTHERS (INCLUDING THE STRUCTURAL ENGINEER OF RECORD) DOES NOT RELIEVE THE CONTRACTOR OF THIS RESPONSIBILITY. ANY STRUCTURAL DEVIATIONS FROM THE CONTRACT DOCUMENTS THAT ARE FOUND AT A LATER DATE AND ARE DECLARED TO BE SIGNIFICANT BY THE STRUCTURAL ENGINEER OF RECORD MUST BE CORRECTED BY THE CONTRACTOR (AT THE CONTRACTOR'S EXPENSE). ANY INDIVIDUAL PERFORMING STRUCTURAL INSPECTION/OBSERVATION IS NOT AUTHORIZED TO DIRECT OR APPROVE ANY CHANGES FROM THE CONTRACT DOCUMENT OR STOP AND/OR DELAY THE WORK.

15. DO NOT PLACE CONSTRUCTION MATERIALS AND/OR EQUIPMENT ON THE STRUCTURE SUCH THAT THE DESIGN LIVE LOAD IS EXCEEDED.

16. EACH SUBCONTRACTOR MUST VERIFY ALL DIMENSIONS AND CONDITIONS RELATING TO HIS WORK BEFORE BEGINNING CONSTRUCTION. ANY DISCREPANCIES MUST BE REPORTED TO THE CONTRACTOR IMMEDIATELY. FAILURE TO REPORT SUCH DISCREPANCIES INDICATES THE SUBCONTRACTOR'S ACCEPTANCE OF SUCH CONDITIONS.

DESIGN LOAD CRITERIA:

1. REFERENCE STANDARDS:
   CBC-22 CALIFORNIA BUILDING CODE, 2022
   ASCE 7-16, MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES, 2016. REFER TO PLANS FOR ADDITIONAL LOAD INFORMATION.

2. ALL LOADS AND REACTIONS ON DRAWINGS AND IN THESE GENERAL STRUCTURAL NOTES ARE SERVICE LOADS (ASD), UNLESS NOTED OTHERWISE AS ULTIMATE LOADS (ULT). LOAD CASES WHICH INCLUDE COMBINED LOADS MUST BE CALCULATED IN ACCORDANCE WITH THE REFERENCED BUILDING CODE.

3. LOADS:
   DEAD LOADS (ASD):
   THE SELF WEIGHT OF EACH STRUCTURAL ELEMENT AND THE FOLLOWING SUPERIMPOSED LOADS.
   MECHANICAL, ELECTRICAL AND LIGHTING AT PARKING AREA - 5 PSF
   MECHANICAL, ELECTRICAL, LIGHTING AND CEILING AT OFFICES AND PUBLIC AREAS - 20 PSF

   LIVE LOADS (ASD):

GROUND FLOOR LIVE LOADS	100 PSF
OFFICES	50 PSF
PARTITIONS	15 PSF
CORRIDORS	100 PSF
PUBLIC AREAS, & LOBBIES	100 PSF
LIGHT STORAGE	125 PSF
MECHANICAL ROOM	125 PSF
ROOF LIVE LOAD	20 PSF REDUCIBLE

4. WIND DESIGN CRITERIA (ULT):

RISK CATEGORY	II
BASIC WIND SPEED	V_{ULT} = 92 MPH V_{ASD} = 72 MPH
WIND EXPOSURE FACTOR	D
VELOCITY PRESSURE	qh = 19.0 PSF
ENCLOSURE CLASSIFICATION	ENCLOSED
INTERNAL WIND PRESSURE COEFF	±0.18
GUST EFFECT FACTOR	0.85
COMPONENTS AND CLADDING LOADINGS	1 / S-601

5. SNOW LOADS (ASD): N/A

6. SEISMIC DESIGN CRITERIA (ULT):

RISK CATEGORY	II
SEISMIC IMPORTANCE FACTOR, Ie	1.0
MAPPED SPECTRAL RESPONSE ACCELERATIONS:	
SHORT PERIOD, Ss	1.894
1 SEC. PERIOD, S1	0.723
DESIGN SPECTRAL RESPONSE COEFFICIENT	
Sds	TBD
Sd1	TBD
SITE CLASS	E
BASIC STRUCTURAL SYSTEM - BUILDING FRAME	
ANALYSIS PROCEDURE	EQUIVALENT LATERAL FORCE
SEISMIC FORCE RESISTING SYSTEM	TBD
SEISMIC DESIGN CATEGORY	D
RESPONSE MODIFICATION FACTOR, R	5.0
OVERSTRENGTH COEFFICIENT, Ω_0	2.0
DEFLECTION AMPLIFICATION FACTOR, Cd	3.5
SEISMIC RESPONSE COEFFICIENT, Cs	TBD
SEISMIC BASE SHEAR, V	TBD

7. SPECIAL LOADS:
   A. INTERIOR WALLS AND PARTITIONS - 5 PSF HORIZONTAL LIVE LOAD
   B. HANDRAILS AND GUARDRAILS:
   C. CONNECTIONS FOR SUPPORTED EQUIPMENT, FASCIA AND OTHER NON-STRUCTURAL ITEMS MUST BE DESIGNED TO ACCOUNT FOR UNEXPECTED ECCENTRICITIES IN THE LOADED PARTS AND RESULTING PRYING EFFECTS. CONNECTIONS WHICH RELY ON MULTIPLE FASTENERS AT ONE LOCATION MUST TAKE INTO ACCOUNT THE STIFFNESS OF THE CONNECTED ELEMENTS AND THEIR ABILITY TO REDISTRIBUTE LOADS TO OTHER ANCHORS IN THE EVENT OF FASTENER YIELD OR SLIP.
   D. ALL ANCHORS EMBEDDED IN CONCRETE OR MASONRY MUST BE SHOWN TO BE IN COMPLIANCE WITH ACI 318-14.

8. LATERAL LOAD RESISTING SYSTEM:
   THE LATERAL LOAD RESISTING SYSTEM CONSISTS OF THE FOLLOWING ELEMENTS:
   A. PRE-ENGINEERED BUILDING

9. IT IS THE OWNER'S RESPONSIBILITY TO POST LIVE LOADS PER THE IBC.

DEFERRED SUBMITTALS:

1. SHOP DRAWING SUBMITTALS THAT ARE SUBMITTED DURING CONSTRUCTION AND REQUIRED BY THE GENERAL STRUCTURAL NOTES WHICH CONTAIN DESIGN CALCULATIONS AND SEALS BY A REGISTERED ENGINEER OTHER THAN THE ENGINEER OF RECORD, MUST BE REVIEWED BY THE ENGINEER OF RECORD AND DETERMINED TO BE IN GENERAL CONFORMANCE WITH THE BUILDING DESIGN AND SO STATED ON THE SUBMITTAL. DEFFERED SUBMITTAL ITEMS MUST NOT BE INSTALLED UNTIL THEIR DESIGN AND SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE BUILDING OFFICAL. DEFERED SUBMITTALS MUST INCLUDE THE FOLLOWING:

   A. PRE-ENGINEERED BUILDING

FOUNDATIONS:

1. FOUNDATIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE RECOMMENDATIONS PROVIDED IN THE PROJECT-SPECIFIC GEOTECHNICAL ENGINEERING STUDY PERFORMED BY CAL ENGINEERING & GEOLOGY, REPORT NO. 220960-001, DATED FEB 22, 2023

2. SUBGRADE DESIGN PARAMETERS (AT RAMPS):
   A. ALLOWABLE SUBGRADE BEARING PRESSURE: 1,500 PSF
   B. EQUIVALENT LATERAL FLUID PRESSURE-PASSIVE CASE: 235 PSF/FT
   C. COEFFICIENT OF SLIDING FRICTION: 0.32
   D. SOIL DENSITY 125 PCF
   E. MODULUS OF SUBGRADE 100 PSI/IN

3. CONTRACTOR MUST FOLLOW RECOMMENDATIONS CONTAINED WITHIN THE GEOTECHNICAL REPORT IN PREPARATION OF THE SITE, UNDERSLAB SUB-GRADE, BACKFILL AND BUILDING FOUNDATIONS SUBGRADES.
   A. FILL MUST BE PLACED IN LOOSE HORIZONTAL LIFTS OF NOT MORE THAN 8 INCHES THICK.
   B. SUBGRADE AND STONE CAPILLARY FILL MUST BE COMPACTED TO 95% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D-1557.
   C. COMPACT ALL SUBGRADE WITHIN 10 FEET OF THE BUILDING FOOTPRINT.

4. PRIOR TO ANY EXCAVATION OPERATIONS, THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES OR OTHER SUBSURFACE STRUCTURES WITHIN THE AREA TO BE EXCAVATED.

5. ALL EXCAVATIONS WITHIN 2 FEET OF EXISTING STRUCTURES TO REMAIN MUST BE REMOVED BY HAND. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR TAKING ADEQUATE PRECAUTIONS NOT TO DAMAGE THE EXISTING INFRASTRUCTURE DURING ALL EXCAVATION, FILL AND COMPACTION OPERATIONS.

6. IN TIGHTLY CONFINED AREAS, A LIGHTWEIGHT VIBRATORY SLED, WEIGHING BETWEEN 500 AND 2,000 POUNDS MAY BE SUBSTITUTED FOR THE DRUM ROLLER COMPACTOR. THE DENSIFICATION REQUIREMENTS REMAIN THE SAME.

7. DENSITY TESTING PER GEOTECHNICAL REPORT MUST BE CONDUCTED IN ACCORDANCE WITH THE SPECIFICATIONS.

8. PROOF ROLL IN ACCORDANCE WITH THE SPECIFICATIONS AND GEOTECHNICAL REPORT.

9. STORMWATER MUST BE DIVERTED FROM OPEN EXCAVATIONS. MOISTURE CONTROL OF SOILS MUST BE MAINTAINED PER GEOTECHNICAL RECOMMENDATIONS. FOUNDATION EXCAVATIONS MUST BE KEPT FREE OF LOOSE MATERIAL AND STANDING WATER.

10. PROVIDE CARTON FORMS AND SOIL RETAINERS UNDER ALL GRADE BEAMS AND STRUCTURAL SLABS AS REQUIRED BY THE GEOTECHNICAL REPORT AND TO RESIST DESIGNATED SWELLING PRESSURES. REFERENCE TYPICAL DETAILS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS FOR FORMS AND RETAINERS.

11. ANCHOR RODS/BOLTS AND FOUNDATION DOWELS MUST NOT BE REPAIRED, REPLACED OR FIELD MODIFIED WITHOUT THE WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD.

12. NO PIPES, DUCTS, SLEEVES, CHASES ARE TO BE PLACED IN FOUNDATIONS, OR ANY MEMBER CUT FOR PIPES, DUCTS UNLESS SHOWN ON THE DRAWINGS. THE CONTRACTOR MUST OBTAIN APPROVAL BEFORE INSTALLING ANY PIPES, SLEEVES, ETC. THROUGH STRUCTURAL MEMBERS.

13. ALL FOUNDATION MUST BE FOUNDED ON COMPACTED FILL/NATIVE SOILS WITH THE BOTTOM OF FOUNDATION AT THE CODE REQUIRED MINIMUM DEPTH BELOW THE LOWEST ADJACENT FINAL GRADE. MINIMUM FOUNDATION WIDTH MUST NOT BE LESS THAN 18 INCHES.

CAST-IN-PLACE CONCRETE:

1. REFERENCE STANDARDS:
   EXCEPT AS INDICATED, ALL CONCRETE WORK AND DETAILING, FABRICATION AND PLACING OF REINFORCING MUST BE GOVERNED BY:
   - ACI 301, SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS,2010. ACI 305.1, HOT WEATHER CONCRETING, 2006.
   - ACI 306, COLD WEATHER CONCRETING, 2010.
   - ACI 315, DETAILS AND DETAILING OF CONCRETE REINFORCEMENT, 1999.
   - ACI 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, 2014.

2. THE CAST-IN-PLACE CONCRETE AT 28 DAYS OF AGE MINIMUM STRENGTH MUST BE AS FOLLOWS:

ITEM	PSI
GRADE BEAMS	4,000 PSI
FOUNDATIONS	4,000 PSI
FOUNDATION WALLS	4,000 PSI
SLABS ON GRADE	4,000 PSI
CURBS AND SIDEWALKS	4,000 PSI
WALLS	4,000 PSI
CONCRETE ON STEEL DECK	4,000 PSI
TOPPING SLABS	4,000 PSI
COLUMNS (INCLUDING CONCRETE PILES)	6,000 PSI

3. HORIZONTAL CONSTRUCTION JOINTS IN CONCRETE WORK IS PERMITTED ONLY WHERE INDICATED ON THE DRAWINGS. SUBMIT PROPOSED LOCATIONS FOR CONSTRUCTION JOINTS NOT SHOWN ON DRAWINGS FOR REVIEW BY THE STRUCTURAL ENGINEER OF RECORD. ADDITIONAL CONSTRUCTION JOINTS MAY REQUIRE ADDITIONAL REINFORCEMENT AS SPECIFIED BY THE STRUCTURAL ENGINEER OF RECORD, WHICH MUST BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST.

4. EMBEDDED CONDUITS, PIPES, AND SLEEVES MUST BE IN ACCORDANCE WITH ACI 318, SECTION 6.3, INCLUDING THE FOLLOWING:
   A. CONDUITS AND PIPES EMBEDDED WITHIN A SLAB, WALL, OR BEAM (OTHER THAN THOSE PASSING THROUGH)\ MUST NOT BE LARGER IN OUTSIDE DIMENSION THAN 1/3 THE OVERALL THICKNESS OF THE SLAB, WALL OR BEAM IN WHICH THEY ARE EMBEDDED.
   B. CONDUITS, PIPES AND SLEEVES MUST NOT BE SPACED CLOSER THAN THREE DIAMETERS.
   C. EMBEDDED CONDUITS, PIPES AND SLEEVES MUST BE OF UNCOATED OR GALVANIZED IRON OR STEEL NOT THINNER THAN STANDARD SCHEDULE 40 STEEL PIPE.

CAST-IN-PLACE CONCRETE (CONTINUED):

5. CONCRETE MIX DESIGNS MUST BE SUBMITTED FOR APPROVAL A MINIMUM OF 15 DAYS PRIOR TO THE PLACEMENT OF CONCRETE IN PLANT OR FIELD. ANY ADJUSTMENTS TO THE APPROVED MIX DESIGNS, INCLUDING CHANGES TO THE ADMIXTURES, MUST BE SUBMITTED FOR APPROVAL PRIOR TO THE PLACEMENT OF CONCRETE IN PLANT OR FIELD..

6. CONCRETE DESIGNED TO BE PUMPED MUST BE NOTED ON THE MIX DESIGNS AND MUST HAVE MIX PROPORTIONS COMPATIBLE WITH THE PUMPING PROCESS. ALL MIX DESIGNS MUST HAVE THE TYPE AND LOCATION IDENTIFIED ON THE SUBMITTAL

7. ALL MAJOR DEFECTIVE AREAS IN CONCRETE INCLUDING HONEYCOMBS, CRACKS IN EXCESS OF 0.01", AND SPALLS THAT OCCUR IN LOAD CARRYING MEMBERS VITAL TO STRUCTURAL INTEGRITY MUST BE REPAIRED USING EPOXY ADHESIVE, EPOXY MORTAR AND/OR POLYMER CONCRETE. EXTENT AND DETERMINATION OF MAJOR DEFECTIVE AREAS MUST BE DETERMINED BY THE ENGINEER OF RECORD.

8. PROVIDE CONTINUOUS NOMINAL 2x4 SHEAR KEYS IN ALL HORIZONTAL CONCRETE WALL CONSTRUCTION JOINTS WITH MINIMUM #4 DOWELS x2'-0" AT 24" CENTERS TO ALL FLOOR AND FOUNDATION CONSTRUCTION UNLESS DETAILED OTHERWISE ON THE DRAWINGS.

9. UNLESS SPECIFIED OTHERWISE, SLAB-ON-GRADE CONSTRUCTION MUST FOLLOW THE RECOMMENDATIONS OF THE GUIDE FOR CONCRETE FLOOR AND SLAB CONSTRUCTION ACI 302.1R. DURING PLACEMENT OF CONCRETE SLABS, TAKE ALL NECESSARY STEPS TO AVOID PLASTIC CRACKS DUE TO WEATHER CHANGES IN ACCORDANCE WITH ACI 305.1 AND 306R. CURE ALL CONCRETE ACCORDING TO ACI 308.1. UTILIZE THE LATEST EDITION OF ALL ACI SPECIFICATIONS.

10. WHERE ANY OPENING REQUIRED FOR THE WORK IS NOT INDICATED, OBTAIN APPROVAL FROM THE ENGINEER OF RECORD OF RECORD BEFORE PROCEEDING WITH THE WORK.

11. PROVIDE 3/4" CHAMFER ON ALL EXPOSED EDGES OF CONCRETE EXCEPT AS INDICATED.

12. WALLS AND PILASTERS MUST BE CAST MONOLITHICALLY. CONTRACTOR MUST LIMIT LENGTH OF CONTINUOUS WALL PLACEMENT TO 60 FEET.

13. ALL CONCRETE USED ON THE PROJECT MUST BE NORMAL WEIGHT UNO.

14. PROVIDE CONTRACTION JOINTS IN SLAB ON GRADE AS SHOWN ON THE CONTRACT DOCUMENTS. THE MAXIMUM ASPECT RATIO OF 1.5:1 MUST BE MAINTAINED. THE MAXIMUM SPACING OF THE CONTROL JOINTS MUST NOT EXCEED 15'-0". SEE DRAWINGS FOR TYPICAL DETAILS.

15. AT CORNERS AND INTERSECTIONS OF FOUNDATIONS AND WALLS, PROVIDE BENT BARS OF EQUAL SIZE AND AT SAME SPACING AS TYPICAL REINFORCING AROUND CORNER AND/OR INTO ABUTTING FOUNDATION OR WALL. REFERENCE TYPICAL DETAILS.

16. AT SLAB AND WALL OPENING CORNERS AND REENTRANT CORNERS, PROVIDE ADDITIONAL REINFORCEMENT PER TYPICAL DETAILS.

17. DO NOT BACKFILL AGAINST RETAINING WALLS UNTIL CONCRETE STRENGTH HAS REACHED 0.75 f'c AND A MINIMUM OF 7 DAYS.

18. FINISH OF CONCRETE HANDICAP RAMPS TO CONFORM WITH THE REQUIREMENTS OF THE AMERICAN WITH DISABILITIES ACT (ADA).

19. WHERE BRITTLE FLOOR FINISHES ARE TO BE APPLIED TO FLOOR SLABS, COORDINATE CONTRACTION JOINT LOCATION WITH FLOOR FINISH JOINT LOCATIONS AND ARCHITECT.

20. CONDUITS AND PIPES OF ALUMINUM MUST NOT BE EMBEDDED IN STRUCTURAL CONCRETE UNLESS EFFECTIVELY COATED TO PREVENT ALUMINUM-CONCRETE REACTION OR ELECTROLYTIC ACTION BETWEEN ALUMINUM AND STEEL.

21. PROVIDE CONTRACTION/CONSTRUCTION JOINTS IN CONCRETE WALLS AT A MAXIMUM SPACING OF 1.5 THE HEIGHT OF THE WALL ABOVE THE TOP OF FOOTING. MAXIMUM JOINT SPACING MUST NOT EXCEED 20 FEET. SEE ARCHITECTURAL DRAWINGS FOR ARCHITECTURAL JOINT TREATMENT. SEE TYPICAL DETAILS FOR ADDITIONAL DETAILING REQUIREMENTS.

22. ALL REINFORCING STEEL, ANCHOR BOLTS, DOWELS, AND INSERTS MUST BE WELL SECURED IN POSITION WITH WIRE POSITIONERS BEFORE PLACING CONCRETE OR GROUT.

CONCRETE FORMWORK:

1. THE DESIGN, CONSTRUCTION, AND SAFETY OF ALL FORMWORK IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. ALL FORMS, SHORES, BACKSHORES, FALSEWORK, BRACING, AND OTHER TEMPORARY SUPPORTS MUST BE DESIGNED BY A REGISTERED, PROFESSIONAL ENGINEER TO SUPPORT ALL LOADS IMPOSED INCLUDING THE WET WEIGHT OF CONCRETE, CONSTRUCTION EQUIPMENT, LIVE LOADS, LATERAL LOADS DUE TO WIND AND WET UNBALANCED CONCRETE. THE CONTRACTOR'S ENGINEER IS RESPONSIBLE FOR DETERMINING WHEN TEMPORARY SUPPORTS, SHORES, BACKSHORES AND OTHER BRACING CAN BE SAFELY REMOVED.

2. PROVIDE FORMWORK IN ACCORDANCE WITH ACI 301 SPECIFICATIONS FOR STRUCTURAL CONCRETE

3. TRANSYSTEMS IS NOT RESPONSIBLE FOR THE DESIGN OF ANY TEMPORARY BRACING OR SHORING. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF ANY TEMPORARY BRACING OR SHORING

REGISTERED PROFESSIONAL ENGINEER
MARK J. WOODS
77293
CIVIL
STATE OF CALIFORNIA

REVISION	MARK	DATE	DESCRIPTION	APPROVAL
		07/31/2025	PERMIT SET	

7/31/2025 5:34:53 PM

100% PLAN SUBMITTAL
PERMIT SET

TRANSYSTEMS
2000 CENTER STREET
SUITE 303
BERKELEY, CA 94704
PHONE: (510) 835-2761

0 1 2 3
FOR REDUCED PLANS - ORIGINAL SCALE IS IN INCHES

DEPTION OF MONUMENTS: DATE:
SURVEY PARTY CHIEF
WATERSHED REVIEW: DATE:

SUBMITTED: DATE
SUPERVISING CIVIL ENGINEER: R.C.E.
EXP.
APPROVED: DATE
MANAGER OF ENGINEERING R.C.E.
EXP.

DESIGN KHN
DRAWN PFP
CHECK MJW
AS BUILT
HORIZ. 1"=X'
VERT. 1"=X'
BOOK
DATE 7/31/2025

CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

GENERAL STRUCTURAL NOTES
TOM BATES
REGIONAL SPORT COMPLEX

PLAN 8297
FILE 406 - 223
S-001
SHEET 57 OF 92

CONCRETE REINFORCING:

1. DETAILING AND FABRICATION OF REINFORCING STEEL AND SUPPORTS MUST CONFORM TO:
   - ACI 315-99 DETAILS AND DETAILING OF CONCRETE REINFORCING.
   - ACI 318-14 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE.
   - SP-66 ACI DETAILING MANUAL, 2004.

2. MATERIALS:

ITEM	ASTM	Fy (KSI)
DEFORMED REINF BARS	A615	60
DEFORMED REINF BARS - WELDABLE	A705	60
SMOOTH WELDED WIRE MESH	A1064	65

3. ALL HOOKS AND BENDS IN REINFORCING BARS MUST CONFORM TO ACI DETAILING STANDARDS UNLESS SHOWN OTHERWISE.

4. PROVIDE REINFORCING BARS IN ACCORDANCE WITH THE BAR BENDING DIAGRAM IF BAR TYPES ARE SPECIFIED IN UNSCHEDULED BEAMS, SLAB, COLUMNS AND WALLS DETAIL REINFORCING AS FOLLOWS:
   A. LAP BEAM TOP REINFORCING BARS AT MID SPAN BETWEEN SUPPORTS WITH A CLASS B TENSION SPLICE.

   B. LAP BEAM BOTTOM REINFORCING BARS AT THE SUPPORTS WITH A CLASS B TENSION SPLICE.

   C. LAP VERTICAL BARS IN COLUMNS AND WALLS ONLY AT FLOOR LINES, UNLESS NOTED OTHERWISE.

   D. LAP REINFORCING BARS WITH CLASS B TENSION SPLICE AT OTHER LOCATIONS, UNLESS NOTED OTHERWISE.

   E. PROVIDE STANDARD HOOKS IN TOP BARS AT CANTILEVER AND DISCONTINUOUS ENDS OF BEAMS, WALLS AND SLABS.

   F. PROVIDE CORNER BARS FOR ALL HORIZONTAL BARS AT THE INSIDE AND OUTSIDE FACES OF INTERSECTION BEAMS OR WALLS, CORNER BARS ARE NOT REQUIRED AT INSIDE FACE IF HORIZONTAL BARS ARE HOOKED. CORNER BARS MUST BE THE SAME SIZE AS LAPPED BARS AND MUST BE CLASS A TENSION SPLICE WITH 90 DEGREE BEND EACH SIDE, UNLESS NOTED OTHERWISE.

   G. UNLESS NOTED OTHERWISE ON DRAWINGS LAP ALL WELDED WIRE MESH A MINIMUM DISTANCE OF ONE CROSS WIRE SPACING PLUS 2 INCHES.

   H. PROVIDE WELDED WIRE MESH IN FLAT SHEETS.

   I. ALL REINFORCING MUST BE HELD SECURELY IN POSITION WITH STANDARD ACCESSORIES DURING CONCRETE PLACEMENT. REINFORCING MUST NOT BE SUPPORTED ON BOOSTERS MADE OF CMU OR CONCRETE NOT SPECIFICALLY DESIGNED TO SUPPORT THE REINFORCING STEEL.

5. GRADE BEAM BOTTOM STEEL MUST BE CHAIRED AT 5'-0" MAXIMUM CENTERS USING BEAM BOLSTERS PROVIDING 3" BOTTOM COVER TO REINFORCING STEEL. BEAM BOLSTERS USED MUST BE INTENDED FOR SUPPORT IN SOIL.

6. ADDITIONAL WALL ENFORCEMENT IS REQUIRED AROUND ALL OPENINGS IN THE WALL. SEE TYPICAL DETAIL ON THE DRAWINGS.

7. SPLICES IN WALL REINFORCING STEEL.
   A. UNLESS SHOWN OTHERWISE ON THE DRAWINGS, SPLICE NO MORE THAN 50% OF THE BARS IN ANY VERTICAL WIDTH OF WALL WITH A MINIMUM OFFSET BETWEEN SPLICE PLANES OF A TENSION DEVELOPMENT LENGTH OF THE BARS. SPLICED BARS MUST BE STAGGERED WITH UNSPLICED BARS. SPLICES MUST BE A CLASS B TENSION SPLICE.

8. DO NOT USE HEAT IN THE FABRICATION OR INSTALLATION OF REINFORCEMENT.

9. REINFORCING STEEL CLEAR COVER MUST BE AS FOLLOWS. COVER IN MEMBER NOT SHOWN BELOW MUST CONFORM TO THE REQUIREMENTS OF ACI 318 UNLESS NOTED OTHERWISE ON DRAWINGS. EXCEPT AS INDICATED, MINIMUM COVER FOR REINFORCING MUST BE AS FOLLOWS:

ITEM	CLEAR (IN)
FOUNDATIONS, GRADE BEAMS:	------
TOP	2
BOTTOM	3
SIDES, EARTH FORMED	3
SIDES, FORMED	2
DRILLED PIERS:	------
SIDES	3
BOT	6
INTERIOR:	------
WALLS	2
COLUMNS	1 1/2
SLABS ABOVE GRADE	1
BEAMS, JOIST ABOVE GRADE	1 1/2
SLABS ON GRADE	PER DETAIL

10. WHERE NO REINFORCING IS INDICATED IN SLABS ON GRADE, PROVIDE #4 @ 12" ON CENTER, EACH WAY.

11. SEE REINFORCING BAR DEVELOPMENT TABLE FOR REQUIRED DEVELOPMENT AND LAP SPLICE LENGTHS.

12. REINFORCING BARS MUST BE FREE OF DIRT AND FORM RELEASE AGENTS.

MASONRY:

REFERENCE STANDARDS:

1. EXCEPT AS INDICATED, ALL DESIGN, MANUFACTURE AND CONSTRUCTION OF MASONRY MUST BE GOVERNED BY:
   - TMS 402-16, BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES, 2016
   - TMS 602-16, SPECIFICATION FOR MASONRY STRUCTURES, 2016

MATERIAL	ASTM SPEC	GRADE	TYPE	PSI
MASONRY STRENGTH f'm:				1500
HOLLOW CMU, LOAD-BEARING:	C90			1900
HOLLOW CMU, NON-LOAD BEARING:	C90			1500
MORTAR, ALL STRUCTURAL MASONRY:	C270		S	
MORTAR, NON-STRUCTURAL WALLS, PARTITIONS:	C270		S	
MORTAR, BELOW GRADE AND RETAINING WALLS	C270		M	
GROUT:	C476			3000
DEFORMED BAR REINFORCING:	A615	60		
DEFORMED BAR REINFORCING (WELDABLE):	A706	60		
HORIZONTAL JOINT REINFORCING:	A82			

2. ALL CMU MUST BE TWO-CELL TYPE UNITS EXCEPT LINTELS WHICH MUST BE U-SHAPED UNITS. BOND BEAM UNITS MAY BE U-SHAPED OR TWO-CELL TYPE.

3. THE CONTRACTOR MUST SUBMIT FOR APPROVAL SHOP DRAWINGS AND SCHEDULES SHOWING SIZE, DETAILS, LOCATION, ETC. FOR ALL WALLS INCLUDING LINTELS.

4. ALL MASONRY RUNNING BOND WALLS MUST HAVE BOND BEAMS TO BE LOCATED AT EACH FLOOR AND ROOF LEVEL, TOP OF ALL WALLS AND AROUND ALL OPENINGS AS SPECIFIED ON THE TYPICAL CMU DETAILS. BOND BEAMS TO BE REINFORCED ACCORDING TO TYPICAL DETAILS.

5. ALL MASONRY STACK BOND WALLS TYPE MUST HAVE BOND BEAMS @ 4'-0" ON CENTER IN ADDITION TO TYPICAL BOND BEAMS AT FLOORS, ROOFS AND TOP OF WALLS.

6. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS AND SPECIFICATIONS OF FIRE RATED MASONRY.

7. RUNNING BOND PATTERN MUST BE USED FOR ALL MASONRY WORK UNLESS OTHERWISE NOTED.

8. PROVIDE MOVEMENT (CONTROL AND EXPANSION) JOINTS IN WALLS WHERE INDICATED ON DRAWINGS. BOND BEAMS MUST BE DISCONTINUOUS ACROSS MOVEMENT JOINTS UNLESS NOTED OTHERWISE:

9. UNLESS NOTED OTHERWISE ON PLANS, FILL CELLS WITH GROUT UNDER LINTELS, BEARING PLATES, BEAMS, ETC., 3 COURSES MINIMUM BELOW BEARING.

10. ALL REINFORCING STEEL MUST BE SUPPORTED AND FASTENED TO APPROVED POSITIONERS LOCATED AT 192 BAR DIAMETERS MAXIMUM SPACING AND WITH A MINIMUM OF TWO POSITIONERS PER GROUT POUR (ONE NEAR THE BOTTOM AND ONE NEAR THE TOP) TO PREVENT DISPLACEMENT DURING THE PLACEMENT OF GROUT.

11. GROUT ALL CELLS BELOW GRADE SOLID.

12. PROVIDE REINFORCING BAR SPLICES AS SPECIFIED IN THE MASONRY TYPICAL DETAIL TABLE. BAR SPLICE COUPLERS MAY BE CONSIDERED AS A SUBSTITUTE, SUBMIT MANUFACTURER'S DATA PRIOR TO INSTALLATION.

13. CLEANOUT HOLES MUST BE PROVIDED AT THE BASE OF ALL REINFORCED GROUTED CELLS FOR LIFTS OVER 5'-0" HIGH. GROUT MUST BE MECHANICALLY VIBRATED.

14. GROUT CONSTRUCTION JOINTS MUST BE FORMED BY STOPPING THE POUR 1" BELOW THE TOP OF THE UPPERMOST UNIT.

15. HORIZONTAL JOINT REINFORCEMENT:
9 GAUGE DEFORMED WIRE, LADDER TYPE REINFORCEMENT HOT DIP GALVANIZED COLD DRAWN STEEL IN EVERY SECOND BLOCK COURSE, FULL HEIGHT, AND WHERE INDICATED. PROVIDE IN FIRST BED JOINT ABOVE AND BELOW OPENINGS AND EXTENDING 24" BEYOND OPENINGS. LAP FULL WIDTH AT CORNERS AND INTERSECTIONS.

16. PROVIDE PREFABRICATED "L" AND "T" SHAPED HORIZONTAL JOINT REINFORCING AT WALL INTERSECTIONS.

17. ALL CELLS CONTAINING REINFORCING MUST BE COMPLETELY GROUTED. VERTICAL CELLS TO BE GROUTED MUST HAVE VERTICAL ALIGNMENT SUFFICIENT TO MAINTAIN A CLEAR UNOBSTRUCTED CONTINUOUS VERTICAL CELL WITH HORIZONTAL DIMENSIONS NOT LESS THAN 2"x3". INSTALL REINFORCING BARS ACCURATELY IN POSITION INDICATED AND SECURE WITH STANDARD ACCESSORIES DURING GROUT PLACEMENT. GROUT REINFORCED MASONRY WALLS IN LIFTS 48" HIGH MAXIMUM.

18. ALL MASONRY BOND BEAMS AND LINTELS MUST BE COMPLETELY GROUTED. BOND BEAMS AT INTERSECTING CMU WALLS MUST MEET AT THE SAME ELEVATION AND THE REINFORCING MUST BE LAPPED AS REQUIRED.

STRUCTURAL STEEL:

REFERENCE STANDARDS:

1. EXCEPT AS INDICATED, ALL DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL MUST BE GOVERNED BY:
   - AISC MANUAL OF STEEL CONSTRUCTION - LATEST EDITION.
   - AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES, 2010.
   - AISC FCD QUALITY CERTIFICATION PROGRAM, 1995.
   - AISC SEISMIC PROVISIONS FOR STRUCTURAL STEEL, 2016.
   - AWS D1.1, STRUCTURAL WELDING CODE - STEEL, 2010.

2. MATERIALS:

COMPONENT	ASTM SPEC	GRADE	Fy (KSI)
WIDE FLANGE SHAPES	A992		50
ROUND HOLLOW STRUCTURAL SECTIONS (HSS)	A500	C	46
RECTANGULAR STRUCTURAL SECTIONS (HSS)	A500	B	46
PIPE	A53	C	35
OTHER STRUCTURAL SHAPES AND BARS	A36		36
HIGH STRENGTH PLATES	A572		50
PLATES AND MISCELLANEOUS STEEL	A36		36
BOLTS	A325		
HIGH STRENGTH BOLTS	A490		
ANCHOR RODS	F1554		36
GRATING (GALV.)	A1011	B	30
STAINLESS STEEL THREADED ROD	F593		
STAINLESS STEEL NUTS AND WASHERS	F594		
WELDING ELECTRODES	AWS		70

3. WELDING MUST BE PERFORMED ONLY BY OPERATORS QUALIFIED BY THE AWS STANDARD QUALIFICATION PROCEDURE TO PERFORM THE PARTICULAR TYPE OF WORK REQUIRED.

4. MINIMUM SIZE OF ALL FILLET WELDS MUST CONFORM TO AISC SPECIFICATIONS.

5. ALL WELDS ALONG LENGTHS OF MEMBERS INDICATED ON ARCHITECTURAL OR STRUCTURAL DRAWINGS BUT NOT SIZED MUST BE A MINIMUM OF 3/16"x3" FILLET WELD.

6. ALL FASTENERS USED FOR CONNECTIONS BETWEEN STRUCTURAL STEEL MEMBERS MUST BE TENSION CONTROLLED (TWIST-OFF) BOLTS UNLESS NOTED OTHERWISE. FASTENERS MAY NOT BE REUSED ONCE INSTALLED.

7. PAINT AND PROTECTION:
   A. TOUCH UP PAINT ON FASTENERS, WELDS AND ABRADED AREAS AFTER ERECTION. STEEL ITEMS EXPOSED TO WEATHER IN FINISHED STRUCTURE MUST BE HOT-DIPPED GALVANIZED AFTER FABRICATION, UNLESS OTHERWISE NOTED. ALL FASTENERS USED IN EXTERIOR APPLICATIONS MUST BE GALVANIZED.
   B. STRUCTURAL STEEL UNLESS NOTED: PREPARE STEEL SURFACES PER SSPC-SP3 "POWER TOOL CLEANING" AND PAINT WITH FABRICATOR'S STANDARD PRIME COAT, SUCH AS TNEMEC 10-1009. TOUCH UP AFTER ERECTION.
   C. ALL STEEL TO BE EMBEDDED IN CONCRETE AND NOT PERMANENTLY EXPOSED TO WEATHER MUST BE UNPRIMED.
   D. PROVIDE MINIMUM 3" CONCRETE COVER FOR ALL STEEL BELOW GRADE.
   E. LINTELS SUPPORTING EXTERIOR MASONRY WYTHES AND MEMBERS EXPOSED TO WEATHER IN FINISHED STRUCTURES:
      1. HOT DIP GALVANIZE PER ASTM A123 AFTER FABRICATION. COATING WEIGHT PER PARAGRAPH 5.1 OF ASTM A123 AND A153. FABRICATE ASSEMBLIES PER ASTM A143, A384, AND A385. AFTER ERECTION, REPAIR DAMAGED AREAS AND WELDS MADE AFTER GALVANIZING IN ACCORDANCE WITH ASTM A780 WITH ORGANIC ZINC RICH PAINT COMPLYING WITH DOD-P-21035 OR MIL-P-26915, MULTIPLE COATS TO DRY FILM THICKNESS OF 4 MILS.

8. COLUMN BASE PLATES MUST BE SET TO THE ELEVATION INDICATED ON THE DRAWINGS AND LEVELED USING STEEL SHIMS OR BY DOUBLE NUTS ON ANCHOR BOLTS. BASE PLATES MUST THEN BE GROUTED WITH NON-SHRINK, HIGH STRENGTH NONMETALLIC GROUT WITH A COMPRESSIVE STRENGHT OF 6000 PSI. TIGHTEN ANCHOR BOLTS AFTER SUPPORTED MEMBERS HAVE BEEN POSITIONED AND PLUMBED.

9. FABRICATE AND ASSEMBLE STRUCTURAL ASSEMBLIES IN SHOP TO GREATEST EXTENT POSSIBLE.

10. FABRICATE STRUCTURAL STEEL MEMBERS WITH NATURAL CAMBER UP EXCEPT AS INDICATED.

11. PUNCH, SUB-PUNCH AND REAM OR DRILL ALL BOLT HOLES. DO NOT USE A CUTTING TORCH TO ENLARGE BOLT HOLES, UNLESS APPROVAL IS OBTAINED FROM THE ENGINEER OF RECORD OF RECORD.

12. DIMENSIONAL TOLERANCES OF FABRICATE STRUCTURAL STEEL MUST CONFORM TO SECTION 6.4 OF THE AISC CODE OF STANDARD PRACTICE UNLESS NOTED OTHERWISE.

13. ERECTION TOLERANCES OF ANCHOR BOLTS, EMBEDDED ITEMS, AND ALL STRUCTURAL STEEL UNLESS SPECIFIED OTHERWISE ON THE DRAWINGS MUST CONFORM TO THE AISC CODE OF STANDARD PRACTICE.

14. CONTRACTOR MUST PROTECT ANY UNPRIMED STRUCTURAL STEEL FROM DETRIMENTAL EFFECTS
OF CORROSION, AS REQUIRED, UNTIL THE STEEL IS ENCLOSED AND PROTECTED BY THE NEW CONSTRUCTION.

15. SPLICING OR FIELD CUTTING OF STRUCTURAL STEEL MEMBERS IS PROHIBITED WITHOUT PRIOR APPROVAL OF THE ENGINEER OF RECORD AS TO LOCATION, TYPE OF SPLICE OR MODIFICATION TO BE MADE. ANY MEMBER HAVING SPLICE NOT SHOWN AND DETAILED ON SHOP DRAWINGS WILL BE REJECTED.

STRUCTURAL STEEL (CONTINUED):

16. CONTRACTOR MUST COORDINATE STRUCTURAL STEEL FIREPROOFING REQUIREMENTS. ALL INTERIOR STRUCTURAL STEEL, INCLUDING STEEL JOISTS, SCHEDULED OR INDICATED TO RECEIVE SPRAY APPLIED FIREPROOFING MUST BE DELIVERED TO THE PROJECT SITE UNPRIMED, STEEL EXPOSED TO CORROSIVE CONDITIONS AFTER INSTALLATION MUST BE PRIMED WITH A PROTECTIVE COATING WHICH DOES NOT DIMINISH THE BOND BETWEEN THE SPRAY APPLIED FIREPROOFING, AND THE STEEL SUBSTRATE, ANY PRIMER, AND/OR COATING APPLIED TO STRUCTURAL STEEL MUST BE APPROVED FOR USE IN THE APPLICABLE U.L. FIRE RESISTANCE ASSEMBLY USED ON THE PROJECT.

17. STRUCTURAL STEEL FABRICATOR MUST PARTICIPATE IN THE AISC QUALITY CERTIFICATION PROGRAM, AND MUST BE DESIGNATED AN AISC-CERTIFIED PLANT.

18. FIELD CONNECTIONS MUST BE BOLTED EXCEPT WHERE WELDED CONNECTIONS ARE INDICATED ON THE STRUCTURAL DRAWINGS.

19. CONTRACTOR MUST SUBMIT ERECTION AND SHOP DRAWINGS FOR REVIEW BY ENGINEER OF RECORD. FABRICATION MUST NOT BEGIN PRIOR TO SHOP DRAWING APPROVAL BY ENGINEER OF RECORD.

20. PRIOR TO COMMENCEMENT OF STEEL ERECTION, CONTRACTOR MUST PROVIDE THE STEEL ERECTOR WRITTEN NOTIFICATION THAT THE CONCRETE IN THE FOUNDATIONS, PIERS AND WALLS OR THE MORTAR IN THE MASONRY PIERS AND WALLS MUST HAVE EITHER 75 PERCENT OF THE INTENDED MINIMUM COMPRESSIVE STRENGTH OR SUFFICIENT STRENGTH TO SUPPORT THE LOADS IMPOSED DURING STEEL ERECTION.

21. FABRICATOR MUST DESIGN CONNECTIONS AND SUBMIT PROFESSIONAL ENGINEER OF RECORD SIGNED & SEALED CALCULATIONS TO THE ENGINEER OF RECORD FOR REVIEW FOR CONNECTIONS NOT DESIGNED AND PROVIDED ON THE DRAWINGS. UNLESS SPECIFIC END MOMENTS AND REACTIONS ARE INDICATED ON DRAWINGS, DESIGN AND FABRICATE CONNECTIONS TO RESIST SHEAR BASED ON THE MAXIMUM UNIFORM LOAD CAPACITY OF THE MEMBER FOR THE SPAN INCREASED BY 15%, BUT NO MORE THAN THE SHEAR CAPACITY OF THE MEMBER.

22. DIAMETER OF BOLT HOLE MUST BE 1/16" MAXIMUM LARGER THAN THE BOLT'S DIAMETER UNLESS OTHERWISE.

PRE-ENGINEERED BUILDING DESIGN CRITERIA:

1. THE PRE-ENGINEERED BUILDING MANUFACTURER MUST BE RESPONSIBLE FOR THE ENTIRE DESIGN OF THE STEEL SUPERSTRUCTURE, ROOF, DECK, FASCIAS, SUPPORT, BRACING, WALL PANELS, LATERAL ANALYSIS AND ALL RELATED WORK.

2. THE ENTIRE SUPERSTRUCTURE INCLUDING THE ROOF, MUST BE DESIGNED IN ACCORDANCE WITH THE GOVERNING BUILDING CODE. WIND UPLIFT PRESSURES FOR ENCLOSED AND UNENCLOSED BUILDING AREAS MUST BE CONSIDERED IN ACCORDANCE WITH SAID CODE. THE PRE-ENGINEERED BUILDING MUST BE DESIGNED TO SUPPORT SELF WEIGHT PLUS SUPERIMPOSED DEAD, LIVE, WIND, AND/OR SEISMIC LOADING, WHICHEVER COMBINATION PRODUCES THE MOST SEVERE CONDITION, IN ACCORDANCE WITH THE GOVERNING BUILDING CODE AND LOADS LISTED ABOVE.

3. CONTRACTOR MUST SUBMIT DESIGN CALCULATIONS AND SHOP DRAWINGS FOR REVIEW PRIOR TO MANUFACTURE. CALCULATIONS AND SHOP DRAWINGS MUST BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER IN THE STATE WHICH THE PROJECT IS CONSTRUCTED. SHOP DRAWINGS MUST SHOW ALL INFORMATION INCLUDING, BUT NOT LIMITED TO, FOUNDATION REACTIONS, DIMENSIONS, MEMBER SIZES AND PROPERTIES, FRAMING PLANS, SECTIONS, AND ALL PERTINENT DETAILS. CALCULATIONS AND DRAWINGS MUST BE SUBMITTED FOR BUILDING OFFICIAL REVIEW AND APPROVAL PRIOR TO FABRICATION.

4. STEEL PURLIN TYPE AND SPACING AND STEEL DECK SELECTION MUST BE THE OPTION OF THE PRE-ENGINEERED BUIDING MANUFACTURER WITH APPROVAL OF THE ARCHITECT.

5. PRE-ENGINEERED BUILDING MANUFACTURER MUST DESIGN AND SUPPLY ALL REQUIRED SUBFRAMING FOR OPENINGS, INCLUDING FRAMING TO SUPPORT THE WEIGHT OF MECHANICAL EQUIPMENT.

6. MAIN BUILDING FRAMES MUST BE DESIGNED WITH PINNED BASES. LONGITUDINAL LATERAL LOADS MUST BE RESISTED BY BRACED FRAMES OR MOMENT FRAMES.

7. BUILDING MANUFACTURER MUST COORDINATE WITH CONTRACTOR FOR ROOF TOP UNIT TYPE, SIZE, AND WEIGHT. ROOF CURBS MUST BE COORDINATED WITH ROOF TOP UNIT TYPE, SIZE, AND WEIGHT.

8. FOUNDATION DESIGN IS BASED UPON PRELIMINARY LOADS AND INFORMATION FROM THE PRE-ENGINEERED METAL BUILDING MANUFACTURER. ALL PRE-ENGINEERED BUILDING COLUMN LOADS MUST BE VERIFIED BY THE ENGINEER OF RECORD FOR FOUNDATION DESIGN PRIOR TO FOUNDATION CONSTRUCTION OR FOUNDATION SHOP DRAWINGS. THE ENGINEER OF RECORD RESERVES THE RIGHT TO REDESIGN FOOTINGS, COLUMNS, OR OTHER SUPPORTING ELEMENTS DEPENDING ON THE FINAL DESIGN BUILDING COLUMN REACTIONS DERIVED BY THE PRE-ENGINEERED BUILDING DESIGNER.

9. PRE-ENGINEERED BUILDING SUPPLIER MUST PROVIDE ALL STRUCTURAL ELEMENTS, BRACES, AND CONNECTIONS FOR THE FALL PROTECTION (ARREST) SYSTEM TO BE SUPPORTED OFF THE PRE-ENGINEERED METAL BUILDING. PRE-ENGINEERED METAL BUILDING SUPPLIER MUST COORDINATE ALL ASPECTS OF THE FALL PROTECTION SYSTEM WITH FALL PROTECTION SUPPLIER.

DRYPACK :

1. DRYPACK MUST BE 8000 PSI NON-SHRINK GROUT, FIVE STAR OR EQUIVALENT. INSTALL DRYPACK UNDER BEARING PLATES BEFORE FRAMING MEMBER IS INSTALLED. AT COLUMNS, INSTALL DRYPACK UNDER BASE PLATES AFTER COLUMN HAS BEEN PLUMBED BUT PRIOR TO FLOOR OR ROOF INSTALLATION.

REGISTERED PROFESSIONAL ENGINEER
MARK J. WOODS
77293
CIVIL
STATE OF CALIFORNIA

REVISION	MARK	DATE	DESCRIPTION
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		07/31/2025	PERMIT SET

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100% PLAN SUBMITTAL
PERMIT SET

TRANSYSTEMS
2000 CENTER STREET
SUITE 303
BERKELEY, CA 94704
PHONE: (510) 835-2761

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SUPERVISING CIVIL ENGINEER: R.C.E. EXP.
APPROVED: DATE
MANAGER OF ENGINEERING R.C.E. EXP.

DESIGN KHN
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CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

GENERAL STRUCTURAL NOTES
TOM BATES
REGIONAL SPORT COMPLEX

S-002
SHEET 58 OF 92

POST-INSTALLED ADHESIVE ANCHORS :

1. ANCHORAGE TO CONCRETE: HILTI HIT-RE 500-V3 REPORT EPOXY (ICC ESR-3814). INSTALL PER ICC AND MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS. SUBSTITUTES COMPLYING WITH ACI 318 FOR USE IN CRACKED CONCRETE MAY BE CONSIDERED; SUBMIT EVALUATION REPORT DEMONSTRATING COMPLIANCE WITH GOVERNING CODE PRIOR TO INSTALLATION.
   1.1. STEEL THREADED ROD ANCHORS MUST BE HILTI HAS-E STANDARD RODS. SIZE AND EMBEDMENT MUST BE AS INDICATED ON DRAWINGS.

2. ANCHORAGE TO SOLID GROUTED CONCRETE MASONRY UNITS: HILTI HIT-HY 70 (ICC ESR-2682). INSTALL PER ICC REPORT AND MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS. SUBSTITUTES COMPLYING WITH ACI 530 MAY BE CONSIDERED. SUBMIT EVALUATION REPORT DEMONSTRATING COMPLIANCE WITH GOVERNING CODE PRIOR TO INSTALLATION. RODS.
   2.1. STEEL THREADED ROD ANCHORS MUST BE HILTI HAS-E STANDARD RODS. SIZE AND EMBEDMENT MUST BE AS INDICATED ON DRAWINGS.

3. VERIFY THAT THE SHELF LIFE OF THE ADHESIVE HAS NOT BEEN EXCEEDED ON THE DATE OF INSTALLATION.

4. TESTING AND INSPECTION: REFER TO ICC REPORT(S) AND SPECIAL INSPECTION TABLE FOR TESTING AND INSPECTION REQUIREMENTS. WHERE TESTING IS REQUIRED, ANCHORS MUST BE TESTED TO THE FOLLOWING LOADS UNLESS OTHERWISE INDICATED.

5. FOR CONNECTIONS TO EXISTING REINFORCED CONCRETE OR MASONRY, VERIFY THE LOCATIONS OF THE EXISTING REINFORCING BARS PRIOR TO DRILLING USING A REINFORCING SCANNER AND/OR OTHER NON-DESTRUCTIVE MEANS, NOTIFY THE ENGINEER OR RECORD PRIOR TO INSTALLATION IF ANCHOR LOCATIONS CONFLICT WITH EXISTING REINFORCING BARS. DO NOT DRILL THROUGH EXISTING REINFORCING BARS.

POST-INSTALLED MECHANICAL ANCHORS :

1. EXPANSION ANCHORS:
   1.1. ANCHORAGE TO CONCRETE: HILTI KWIK BOLT TZ (ICC ESR-1917). INSTALL PER ICC REPORT AND MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS. SUBSTITUTES COMPLYING WITH CRITERIA FOR USE IN CRACKED CONCRETE MAY BE CONSIDERED. SUBMIT EVALUATION REPORT DEMONSTRATING COMPLIANCE TO THE ENGINEER OF RECORD FOR APPROVAL PRIOR TO INSTALLATION.

   1.2. ANCHORAGE TO SOLID GROUTED MASONRY UNITS: HILTI KWIK BOLT 3 (ICC ESR-1385). INSTALL PER ICC REPORT AND MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS. SIMILAR SUBSTITUTES MAY BE CONSIDERED; SUBMIT EVALUATION REPORT DEMONSTRATING COMPLIANCE WITH GOVERNING CODE PRIOR TO INSTALLATION.

   1.3. FOR CONNECTIONS TO EXISTING REINFORCED CONCRETE OR PT CONCRETE, VERIFY THE LOCATIONS OF THE REINFORCING AND PT STRANDS USING NON-DESTRUCTIVE TESTING PRIOR TO DRILLING. NOTIFY THE ENGINEER OR RECORD IF ANCHOR LOCATIONS CONFLICT WITH EXISTING REINFORCING OR PT STRANDS. DO NOT DRILL THROUGH EXISTING REINFORCING BARS OR PT STRANDS.

2. POWDER - ACTUATED FASTENERS:
   2.1. FASTENING WOOD OR COLD FORMED METAL FRAMING TO STEEL: HILTI X-U NAIL, 0.157" DIAMETER (ICC-ESR-2269). FASTENER LENGTH MUST BE AS REQUIRED FOR MINIMUM SHANK PENETRATION THROUGH STEEL. INSTALL PER ICC REPORT.

   2.2. FASTENING COLD FORMED METAL FRAMING TO CONCRETE: TYPE X-U NAIL, 0.157" DIAMETER, 11/4" MINIMUM EMBEDMENT (ICC ESR-2269). INSTALL PER ICC REPORT.

   2.3. SUBSTITUTES MAY BE CONSIDERED; SUBMIT MANUFACTURER'S DATA PRIOR TO INSTALLATION.

LOCATION OF INFORMATION :

1. FOR MATERIAL STRENGTHS, SEE GENERAL STRUCTURAL NOTES.

2. VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO START OF CONSTRUCTION - RESOLVE ANY DISCREPANCIES WITH ARCHITECT.

3. FOR CLARITY, ALL EXTERIOR SLABS AND SIDEWALKS MAY NOT BE SHOWN. FOR EXACT DIMENSIONS, LOCATIONS, JOINT AND SCORE LINES, SEE CIVIL DRAWINGS.

4. FOR CLARITY, ALL OPENINGS MAY NOT BE SHOWN ON FRAMING PLANS. FOR EXACT SIZE, NUMBER, AND LOCATION OF OPENINGS, SEE ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS. FOR FRAMING AT OPENINGS, SEE TYPICAL STRUCTURAL DETAILS. VERIFY ALL SIZES, WEIGHTS AND LOCATIONS OF MECHANICAL EQUIPMENT WITH MECHANICAL ENGINEER OF RECORD AND MECHANICAL CONTRACTOR THROUGH ARCHITECT.

5. DETAILS MARKED "TYPICAL" MAY NOT BE CUT ON PLANS.

6. CJ - AS SHOWN ON PLAN INDICATES LOCATION OF EITHER KEYED OR SAW CUT CONTROL JOINT IN SLAB ON GRADE AT CONTRACTOR'S OPTION, SEE GENERAL STRUCTURAL NOTES AND PLANS.

7. MJ - AS SHOWN ON PLAN INDICATES MASONRY CONTROL JOINT IN MASONRY WALL, SEE GENERAL STRUCTURAL NOTES AND TYPICAL DETAILS.

8. FOR CLARITY, DETAILS MAY SHOW ONLY ONE SIDE OF FRAMING CONDITION.

9. CONTRACTOR TO VERIFY, AND BE RESPONSIBLE FOR VARIATIONS IN CONCRETE QUANTITY DUE TO CAMBER, CONSTRUCTION DEAD LOAD DEFLECTIONS AND/OR TOLERANCES OF STRUCTURAL STEEL ELEMENTS (i.e. BEAMS, JOISTS, COMPOSITE JOISTS & BEAMS, STEEL DECK, ETC.) AND PRECAST CONCRETE ELEMENTS.

10. ALL SCHEDULE MARK DESIGNATIONS MAY NOT NECESSARILY BE FOUND ON THE PLANS WHERE THE SCHEDULES OCCUR. SCHEDULES ARE TYPICAL TO THE PROJECT.

STRUCTURAL TESTS AND SPECIAL INSPECTIONS:

THE GENERAL CONTRACTOR MUST MAINTAIN A QUALITY CONTROL PROGRAM SEPARATE FROM THE SPECIAL INSPECTION PROGRAM PROVIDED BY THE OWNER. THE OWNER OR THE OWNER'S AUTHORIZED AGENT, OTHER THAN THE CONTRACTOR, MUST EMPLOY ONE OR MORE APPROVED AGENCIES TO PROVIDE SPECIAL INSPECTIONS AND TESTS DURING CONSTRUCTION. THE CONTRACTOR / SUBCONTRACTOR(S) MUST NOT USE THE OWNER'S SPECIAL INSPECTIONS FOR A SUBSTITUTE FOR HIS QUALITY CONTROL. THE CONTRACTOR/SUBCONTRACTOR(S) MUST DESIGNATE A QUALITY CONTROL REPRESENTATIVE FOR EACH AREA LISTED UNDER SPECIAL INSPECTIONS. THE GENERAL CONTRACTOR MUST BE RESPONSIBLE FOR ALL SUBCONTRACTOR(S) PROVIDING QUALITY CONTROL AND MUST BE RESPONSIBLE FOR THE ENTIRE QUALITY CONTROL PROGRAM.

1. GENERAL QUALIFICATIONS OF INSPECTORS AND TESTING AGENCIES:
   A. THE TESTING AGENCIES ARE REQUIRED TO SUBMIT EVIDENCE OF QUALIFICATIONS TO PERFORM THE SPECIFIED TESTS.

   B. THE INSPECTORS MUST SHOW EVIDENCE OF QUALIFIED PROFESSIONAL STAFF EMPLOYED TO MAKE INSPECTIONS.

   C. LABORATORY TESTING FACILITIES MUST BE ACCREDITED BY A NATIONALLY-RECOGNIZED AGENCY SUCH AS THE AMERICAN ASSOCIATION FOR LABORATORY ACCREDITATION (AALA), THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY (NIST); NATIONAL VOLUNTARY LABORATORY ACCREDITATION PROGRAM (NAVLAP), OR THE WASHINGTON AREA COUNCIL ENGINEERING LABORATORIES (WACEL).

2. THE SPECIAL INSPECTOR(S) MUST REVIEW THE PROJECT PLANS, SPECIFICATIONS, AND CONSTRUCTION SCHEDULE TO BECOME FAMILIAR WITH THE SCOPE OF THE INSPECTION AND TESTING SERVICES REQUIRED.

3. THE SPECIAL INSPECTOR(S) TO KEEP RECORDS OF INSPECTIONS.

4. THE SPECIAL INSPECTOR(S) TO FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL AND THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. REPORTS MUST INDICATE THAT WORK INSPECTED WAS DONE IN CONFORMANCE TO THE APPROVED CONSTRUCTION DOCUMENTS.

5. INSPECTION OF WORK MUST INCLUDE: VERIFICATION OF DIMENSIONS, DIMENSIONAL TOLERANCE, LOCATION AND NUMBER OF ITEMS SUPPLIED; VERIFICATION OF PROPER CARE OR CONSTRUCTION MATERIALS DURING PERIODS OF DELETERIOUS WEATHER CONDITIONS; AND VERIFICATIONS OF PROPER CONSTRUCTION IN TERMS OF MATERIALS, LOCATION, DIMENSIONAL TOLERANCE, AND CONSTRUCTION DETAILS.

6. THE SPECIAL INSPECTOR(S) TO BRING DISCREPANCIES TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF DISCREPANCIES ARE NOT CORRECTED, THE SPECIAL INSPECTOR(S) MUST BRING DISCREPANCIES TO THE ATTENTION OF THE BUILDING OFFICIAL AND THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE PRIOR TO COMPLETION OF THAT PHASE OF WORK.

7. THE SPECIAL INSPECTOR(S) TO PERIODICALLY SUBMIT A REPORT OF INSPECTIONS DOCUMENTING REQUIRED INSPECTIONS AND METHOD OF CORRECTION ACTION OF ALL DISCREPANCIES NOTED IN THE INSPECTIONS AT A FREQUENCY DETERMINED BY THE BUILDING OFFICIAL.

8. THE SPECIAL INSPECTOR(S) TO VERIFY THAT EACH FABRICATOR MAINTAINS DETAILED FABRICATION AND QUALITY CONTROL PROCEDURES THAT PROVIDE A BASIS FOR INSPECTION, CONTROL OF WORKMANSHIP AND THE FABRICATOR'S ABILITY TO CONFORM TO APPROVED CONSTRUCTION DOCUMENTS AND REFERENCED STANDARDS. THE SPECIAL INSPECTOR(S) MUST REVIEW THE PROCEDURES FOR COMPLETENESS AND ADEQUACY RELATIVE TO THE CODE REQUIREMENTS FOR FABRICATOR'S SCOPE OF WORK. SPECIAL INSPECTIONS ARE NOT REQUIRED WHERE THE FABRICATOR IS APPROVED AS DESCRIBED BELOW.

9. THE SPECIAL INSPECTION OF FABRICATORS ARE NOT REQUIRED WHERE THE WORK IS DONE ON THE PREMISES OF A FABRICATOR REGISTERED AND APPROVED TO PERFORM SUCH WORK WITHOUT SPECIAL INSPECTION PER IBC SECTION 1704.2.5. APPROVAL MUST BE BASED UPON REVIEW OF THE FABRICATOR'S WRITTEN PROCEDURAL AND QUALITY CONTROL MANUALS AND PERIODIC AUDITING OF FABRICATION PRACTICES BY AN APPROVED SPECIAL INSPECTION AGENCY. AT COMPLETION OF FABRICATION, THE APPROVED FABRICATOR MUST SUBMIT A CERTIFICATE OF COMPLETION WITH THE APPROVED CONSTRUCTION DOCUMENTS.

10. THE CONTRACTOR MUST PROVIDE ACCESS TO THE WORK BEING INSPECTED TO THE SPECIAL INSPECTOR AND MUST PROVIDE ONE DAY BUSINESS NOTICE, MINIMUM, OF THE INTENTION OF ANY WORK REQUIRED TO HAVE SPECIAL INSPECTIONS. REGARDLESS OF NOTICE PROVIDED TO THE SPECIAL INSPECTOR, ALL WORK PERFORMED WITHOUT REQUIRED SPECIAL INSPECTION WILL BE SUBJECT TO REMOVAL AT THE DISCRETION OF THE ARCHITECT, DESIGN ENGINEER, OR BUILDING OFFICIAL AT NO COST TO THE OWNER.

11. ANY REWORK REQUIRED DUE TO NON-CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS MUST BE PERFORMED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. ANY REWORK REQUIRED BY THE CONTRACTOR DUE TO NON-CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS MUST BE NOTED AND TIME KEPT SEPARATE BY THE SPECIAL INSPECTOR(S). ANY FURTHER INSPECTION(S) AND TESTING THAT ARE REQUIRED DUE TO NON-CONFORMING WORK MUST BE PAID BY THE CONTRACTOR.

12. SPECIAL INSPECTOR(S) AND REPRESENTATIVES OF THE TESTING AGENCIES ARE NOT AUTHORIZED TO ALTER ANY REQUIREMENTS OF THE CONTRACT DOCUMENTS NOR APPROVE OR ACCEPT ANY PORTION OF THE WORK.

13. STRUCTURAL WORK REQUIRING SPECIAL INSPECTION AND STRUCTURAL TESTING MUST BE AS LISTED UNDER "STRUCTURAL TESTS AND SPECIAL INSPECTION TABLES" AS A MINIMUM.

14. THE ITEMS CHECKED WITH "X" MUST BE INSPECTED IN ACCORDANCE WITH IBC CHAPTER 17 BY A CERTIFIED SPECIAL INSPECTOR FROM AN ESTABLISHED TESTING AGENCY. FOR MATERIAL SAMPLING AND TESTING REQUIREMENTS, REFER TO THE PROJECT SPECIFICATIONS AND SPECIFIC GENERAL NOTES SECTIONS. THE TESTING AGENCY MUST SEND COPIES OF ALL STRUCTURAL TESTING AND INSPECTION REPORTS DIRECTLY TO THE ARCHITECT, STRUCTURAL ENGINEER, CONTRACTOR AND BUILDING OFFICIAL. ANY MATERIAL THAT FAILS TO MEET THE PROJECT SPECIFICATIONS MUST IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ARCHITECT. SPECIAL INSPECTION TESTING REQUIREMENTS APPLY EQUALLY TO ALL BIDDER DESIGNED COMPONENTS.

STRUCTURAL TESTS AND SPECIAL INSPECTIONS (CONTINUED):

15. CONTINUOUS SPECIAL INSPECTION MEANS THAT THE SPECIAL INSPECTOR IS ON THE SITE AT ALL TIMES OBSERVING THE WORK REQUIRING SPECIAL INSPECTION (IBC CHAPTER 2). PERIODIC SPECIAL INSPECTION MEANS THAT THE SPECIAL INSPECTOR IS ON SITE AT TIME INTERVALS NECESSARY TO CONFIRM THAT ALL WORK REQUIRING SPECIAL INSPECTION IS IN COMPLIANCE.

16. THE STEEL FRAME MUST BE INSPECTED TO VERIFY COMPLIANCE WITH THE DETAILS SHOWN ON THE APPROVED CONSTRUCTION DOCUMENTS, SUCH AS BRACING, STIFFENING, MEMBER LOCATIONS AND PROPER APPLICATION OF JOINT DETAILS AT EACH CONNECTION.

17. INSPECTION FOR PREFABRICATED CONSTRUCTION MUST BE THE SAME AS IF THE MATERIAL USED IN THE CONSTRUCTION TOOK PLACE ON SITE. CONTINUOUS INSPECTION WILL NOT BE REQUIRED DURING PREFABRICATION IF THE APPROVED AGENCY CERTIFIES THE CONSTRUCTION AND FURNISHES EVIDENCE OF COMPLIANCE.

18. THE GEOTECHNICAL REPORT AND CONSTRUCTION DOCUMENTS MUST BE USED TO DETERMINE COMPLIANCE. THE GEOTECHNICAL ENGINEER SHOULD ALSO VERIFY COMPLIANCE.

SPECIAL INSPECTIONS FOR STRUCTURAL WORK :

1. SPECIAL INSPECTIONS ARE REQUIRED BY SECTION 1704 OF THE REFERENCED BUILDING CODE. THE INTENT OF SPECIAL INSPECTIONS IS TO VERIFY THE COMPLIANCE OF MATERIALS, INSTALLATION, FABRICATION, ERECTION AND/OR PLACEMENT OF COMPONENTS WITH THE COMPLETED SET OF CONSTRUCTION DOCUMENTS AND REFERENCED STANDARDS. IT IS THE RESPONSIBILITY OF ALL PARTIES INVOLVED TO BECOME FAMILIAR WITH THE SPECIAL INSPECTION REQUIREMENTS SET FORTH IN CHAPTER 17 OF THE REFERENCED BUILDING CODE. SPECIAL INSPECTIONS MUST BE PROVIDED BY THE OWNER OR THE OWNER'S AGENT AND MUST NOT BE CONSIDERED IN THE SCOPE OF WORK OF THE CONTRACTOR.

2. THE SCHEDULE OF SPECIAL INSPECTIONS FOR STRUCTURAL WORK HAS BEEN PREPARED IN ACCORDANCE WITH SECTIONS 106.1 AND 1704 OF THE REFERENCED BUILDING CODE, AND IS AVAILABLE UPON REQUEST. SEE OTHERS FOR SPECIAL INSPECTION REQUIREMENTS FOR NON-STRUCTURAL WORK. THE SPECIAL INSPECTOR(S) MUST COORDINATE WITH THE OWNER, CONTRACTORS, AND DESIGN PROFESSIONALS AND SCHEDULE ALL INSPECTIONS ACCORDINGLY.

COLD FORMED STEEL:

1. ALL COLD-FORMED STEEL FRAMING MUST BE FABRICATED AND ERECTED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND IN ACCORDANCE WITH THE LATEST EDITION OF THE "SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS" BY THE AMERICAN IRON AND STEEL INSTITUTE. DESIGNATIONS OF MEMBERS BY THE STEEL STUD MANUFACTURERS ASSOCIATION (WWW.SSMA.COM).

2. REFERENCE STANDARDS:
   EXCEPT AS INDICATED, DESIGN, MANUFACTURE AND ERECTION OF COLD FORMED STEEL FRAMING MUST BE IN ACCORDANCE WITH CONTRACT DOCUMENTS AND GOVERNED BY THE LATEST REVISION OF:
   - S100 - 16 NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS, 2016.
   - S240 - 15 NORTH AMERICAN STANDARD FOR COLD-FORMED STEEL STRUCTURAL FRAMING, 2015.
   - TN28B BRICK INDUSTRY ASSOCIATION - BRICK VENEER / STEEL STUD WALLS.
   - AWS D1.3 STRUCTURAL WELDING CODE - SHEET STEEL.
   - ALL COLD FORMED METAL FRAMING MUST MEET THE REQUIREMENTS OF ASTM A653.

3. MINIMUM YIELD STRESS:
   - THICKNESS < 0.0566 IN. (16 GA.), Fy = 33 KSI, Fu = 45 KSI
   - THICKNESS ≥ 0.0566 IN. (16 GA.), Fy = 50 KSI, Fu = 65 KSI

4. COLD FORMED METAL COMPONENTS SUPPORTING A HORIZONTAL SURFACE OR ANY SURFACE CLAD WITH TILE, MASONRY OR OTHER BRITTLE MATERIAL MUST BE DESIGNED TO NOT EXCEED A LIVE, WIND OR SEISMIC LOAD DEFLECTION OF SPAN/600. OTHER COLD FORMED METAL FRAMING MUST BE DESIGNED TO NOT EXCEED A LIVE, WIND OR SEISMIC LOAD DEFLECTION PER IBC TABLE 1604.3.

5. COLD FORMED METAL FRAMING CONNECTIONS MAY BE MECHANICAL OR WELDED. 18 GAGE (43 MIL) THICK AND THINNER MATERIAL MAY NOT BE WELDED. UNLESS INDICATED OTHERWISE, SHEATHING MUST BE CONNECTED TO COLD FORMED METAL FRAMING AT A CENTER TO CENTER SPACING NOT TO EXCEED 12 INCHES.

6. THE COLD FORMED METAL FRAMING MANUFACTURER MUST VERIFY THE ADEQUACY OF ALL COLD FORMED METAL FRAMING BRACING.

7. DESIGN ROOF FRAMING SYSTEM FOR THE FOLLOWING GRAVITY LOADS (ASD) UNLESS NOTED OTHERWISE:
   - DEAD: AS INDICATED
   - LIVE: 20 PSF (U.N.O.)
   - WIND: AS INDICATED

8. DETAILS SHOWN ON THE STRUCTURAL DRAWINGS ARE FOR PRE-FABRICATED ROOF TRUSSES OF LIGHT GAUGE STEEL. SEE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR INTERIOR, NON-LOAD BEARING PARTITIONS AND DETAILS FOR STUD GAGE, SIZE AND GRADE. COORDINATE ALL WORK WITH THE ARCHITECTURAL DRAWINGS.

9. STUDS OR JOISTS MUST NOT BE SPLICED WITHOUT PRIOR APPROVAL OF CONTRACTING OFFICER.WELDING, WHERE REQUIRED, MUST BE PERFORMED BY WELDERS EXPERIENCED IN LIGHT GAGE STEEL FRAMING WORK.

10. ATTACHMENT MUST BE WITH S-12 SHEET METAL SCREWS (1/2" PAN HEAD OR 5/8" LOW PROFILE HEAD) OR 1/8" FILLET WELDS CONFORMING TO AWS D1.1.

11. STEEL STUDS, JOISTS, AND ACCESSORIES MUST BE GALVANIZED IN ACCORDANCE WITH ASTM A525, G60, UNLESS NOTED OTHERWISE.

12. ALL WELDS OF GALVANIZED STUDS, JOISTS, AND ACCESSORIES MUST BE TOUCHED UP WITH A ZINC-RICH PAINT.

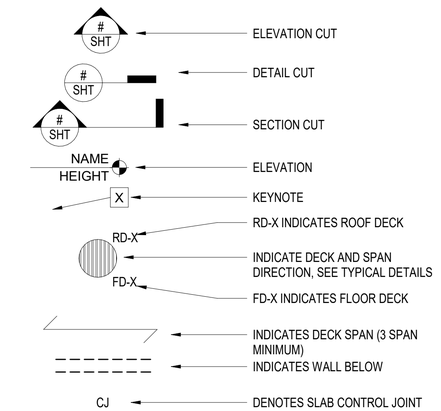
13. PENETRATION OF SCREWS THROUGH JOINED MATERIALS MUST BOT BE LESS THAN 3 EXPOSED THREADS. SCREWS MUST BE INSTALLED AND TIGHTENED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

ARCHITECTURAL CLADDING:

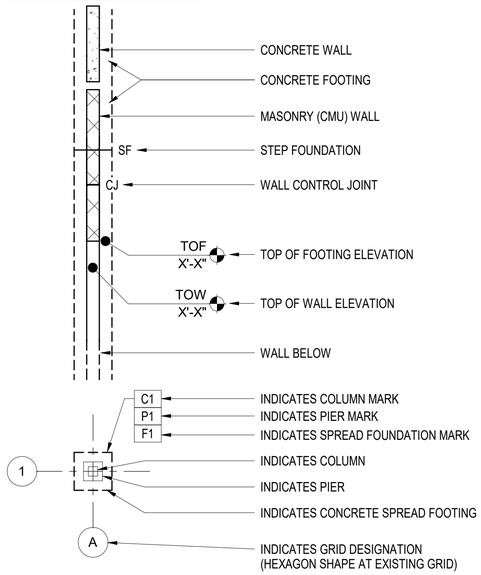
1. TYPICAL DETAILS INDICATE GENERAL CRITERIA FOR ASSUMED CONNECTIONS OF ARCHITECTURAL CLADDING TO BASE BUILDING STRUCTURE. PROVIDE DESIGNS THAT MEET INDICATED CRITERIA AND CONFORM TO LISTED CODES AND STANDARDS. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

2. ALL INSERTS, ANCHORS AND SLEEVES MUST BE CAST IN PLACE. DRILLED AND POWDER DRIVEN FASTENERS WILL BE PERMITTED ONLY WHEN IT CAN BE SHOWN THAT THE INSERTS WILL NOT SPALL THE CONCRETE AND ARE LOCATED SO AS TO AVOID THE TENDONS AND ANCHORAGE'S AND ONLY WHEN APPROVED IN WRITING BY THE ENGINEER OF RECORD OF RECORD.

GENERAL SYMBOLS



FOUNDATION SYMBOLS



REGISTERED PROFESSIONAL ENGINEER
MARK J. WOODS
77283
CIVIL
STATE OF CALIFORNIA

REVISION	MARK	DATE	DESCRIPTION
			APPROVAL
		07/31/2025	PERMIT SET

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100% PLAN SUBMITTAL
PERMIT SET

TRANSYSTEMS
2000 CENTER STREET
SUITE 303
BERKELEY, CA 94704
PHONE: (510) 835-2761

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FOR REDUCED PLANS - ORIGINAL SCALE IS IN INCHES

DEPTION OF MONUMENTS: DATE:
SURVEY PARTY CHIEF
WATERSHED REVIEW: DATE:

SUBMITTED: DATE
SUPERVISING CIVIL ENGINEER: R.C.E. EXP.
APPROVED: DATE
MANAGER OF ENGINEERING R.C.E. EXP.

DESIGN KHN
DRAWN PFP
CHECK MJW
AS BUILT

HORIZ. 1"=X'
VERT. 1"=X'
BOOK
DATE 7/31/2025

CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

GENERAL STRUCTURAL NOTES
TOM BATES
REGIONAL SPORT COMPLEX

PLAN 8297
FILE 406 - 223
S-003
SHEET 59 OF 92

STRUCTURAL ABBREVIATIONS

#	NUMBER
&	AND
=	EQUAL, EQUALS
@	AT
A/C	AIR CONDITIONING
AB	ANCHOR BOLT
ACI	AMERICAN CONCRETE INSTITUTE
ADDL	ADDITIONAL
ADJ	ADJACENT
AFF	ABOVE FINISEHD FLOOR
AH, AHU	AIR HANDLING UNIT
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
ALT	ALTERNATE
APA	AMERICAN PLYWOOD ASSOCIATION
APPROX	APPROXIMATELY
ARCH	ARCHITECTURAL
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AT/FP	ANTI-TERRORISM/ FORCE PROTECTION
AWS	AMERICAN WELDING SOCIETY
BET	BETWEEN
BLW	BELOW
BM	BEAM
BN	BOUNDARY NAIL
BOF	BOTTOM OF FOOTING
BOT	BOTTOM
BRG	BEARING
C	CHANNEL
CE	CARBON EQUIVALENT
CENT	CENTERED
CFMF	COLD-FORMED METAL FRAMING
CFS	COLD-FORMED STEEL
CIP	CAST IN PLACE
CJ	CONTROL JOINT/CEILING JOIST
CJP	COMPLETE JOINT PENETRATION
CL	CENTERLINE
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
COND	CONDITION
CONN	CONNECT, CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACTOR
COORD	COORDINATE
COR	CORNER
CWB	CAPILLARY WATERBARRIER
D	DEEP, DEPTH
DEG	DEGREE
DEM	DEMOLISH, DEMOLITION
DEP	DEPRESSED
DET	DETAIL
DIA	DIAMETER
DIAG	DIAGONAL
DL	DEADLOAD
DO	DITTO
DT	DRAG TRUSS
DWG(S)	DRAWINGS
DWL	DOWEL
EA	EACH
EF	EACHFACE
ELEC	ELECTRICAL
ELEV	ELEVATION
EN	EDGE NAIL
EQN	EQUATION
EQUIP	EQUIPMENT
ES	EACH SIDE
EW	EACH WAY
EXIST	EXISTING
EXT	EXTERNAL, EXTERIOR
FF	FAR FACE
FFE	FINISH FLOOR ELEVATION
FG	FINISH GRADE
FJ	FLOOR JOIST
FMG	FRAMING
FN	FIELD NAIL
FND	FOUNDATION
FOC	FACE OF CONCRETE
FOM	FACE OF MASONRY
FOS	FACE OF STUD
FS	FAR SIDE
FT, '	FOOT
FTG	FOOTING
Fy	YIELD STRESS
GA	GAUGE
GLB	GLUED LAMINATED BEAM
GT	GIRDER TRUSS
GUSS	GUSSET
GYP BD	GYPSUM BOARD
HD	HOLD DOWN
HDR	HEADER
HGR	HANGER
HK	HOOK
HORIZ	HORIZONTAL
HP	HIGH POINT
HSS	HOLLOW STRUCTURAL SECTION
HT	HEIGHT
HVAC	HEATNG/ VENTILATING/ AIR CONDITIONING
I	MOMENT OF INERTIA
IBC	INTERNATIONAL BUILDING CODE
ICF	INSULATED CONCRETE FORM
ID	INSIDE DIAMETER
IN, "	INCH
INCL	INCLUDE
INFO	INFORMATION
INS	INSULATED, INSULATION
JST	JOIST
K, KIPS	THOUSAND POUNDS
L	LENGTH, ANGLE
LB	POUND
LG	LONG
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LOC	LOCATE, LOCATION
LONG	LONGITUDINAL
LP	LOW POINT
LW	LIGHT WEIGHT
MAS	MASONRY
MB	MACHINE BOLT
MBR	MEMBER
MECH	MECHANICAL
MED	MEDIUM
MEZZ	MEZZANINE
MF	MOMENT FRAM
MFG	MANUFACTURING
MIN	MINIMUM
MO	MASONRY OPENING
MOD	MODIFY, MODIFIED
MRF	MANUFACTURER
NF	NEAR FACE
NOM	NOMINAL
NS	NEAR SIDE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OH	OPPOSITE HAND, OVERHEAD
OWSJ	OPEN WEB STEEL JOIST
P/C	PIN CONNECTED
PAR	PARALLEL
PCC	PRECAST CONCRETE
PCF	POUNDS PER CUBIC FOOT
PEN	PENETRATION
PFJ	PERIMETER FELT JOINT
PL	PLATE
PLYWD	PLYWOOD
PNL	PANEL
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	PRESSURE TREATED, POINT, PRETENSIONED
REINF	REINFORCING, REINFORCED
REQ	REQUIRED
RET	RETURN, RETAINING
REV	REVISION, REVISED
RF	ROOF
RFT	RAFTERS
RPM	REVOLUTIONS PR MINUTE
RS	ROUGH SAWN
RT	ROOF TRUSS
S	SECTION MODULUS
SC	SLIP CRITICAL
SCBRW	SEGMENTAL CONCRETE BLOCK RETAINING WALL
SCHED	SCHEDULE
SDI	STEEL DECK INSTITUTE
SECT	SECTION
SEIS	SEISMIC
SEP	SEPARATION
SHT	SHEET
SIM	SIMILAR
SJI	STEEL JOIST INSTITUTE
SMS	SHEET METAL SCREW
SPEC(S)	SPECIFICATION(S)
SPRT	SUPPORT
SQ	SQUARE
SS	STAINLESS STEEL
ST	SNUG TIGHT
STD	STANDARD
STIF/STIFF	STIFFENER
STL	STEEL
STRUCT	STRUCTURAL, STRUCTURE
SUSP	SUSPENDED
SYM	SYMMETRICAL
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
TGB	TOP OF GRADE BEAM
THK	THICK, THICKNESS
TL	TOTAL LOAD
TN	TOE NAIL
TOB	TOP OF BEAM
TOC	TOP OF CONCRETE
TOF	TOP OF FOOTING
TOS	TOP OF STEEL
TOW	TOP OF WALL
TYP	TYPICAL
UFC	UNITED FACILITES CRITERIA
UNO	UNLESS NOTED OTHERWISE
UON	UNLESS OTHERWISE NOTED
VB	VAPOR BARRIER
VERT	VERTICAL
W	WIDTH, WEST, WIDE FLANGE
w/	WITH
WF	WIDE FLANGE
WPT	WORKING POINT
WWF	WELDED WIRE FABRIC
WWM	WELDED WIRE MESH
x	BY, TIMES

SPECIAL INSPECTION NOTES:

1. ALL SPECIAL INSPECTIONS MUST BE CONDUCTED AND REPORTED IN ACCORDANCE WITH CHAPTER 17 OF THE IBC.

2. QUALIFIED SPECIAL INSPECTORS FROM AN INDEPENDENT INSPECTION AGENCY MUST BE OBTAINED BY THE CONTRACTOR TO PERFORM THE REQUIRED SPECIAL INSPECTIONS. THE INSPECTION AGENCY MUST PROVIDE REPORTS FROM THE SPECIAL INSPECTOR TO THE ENGINEER OF RECORD. THESE INSPECTIONS AND REPORTS DO NOT RELIEVE THE CONTRACTOR OF ANY RESPONSIBILITY TO PERFORM THE WORK IN ACCORDANCE WITH THE PROJECT DRAWINGS AND SPECIFICATIONS.

3. FOR THE FOLLOWING TABLES:
   - P = PERIODIC FREQUENCY
   - C = CONTINUOUS FREQUENCY
   - ES = EACH SUBMITTAL
   - EO = EACH OCCURRENCE
   - FREQ = FREQUENCY OF INSPECTION

4. INSPECTION OF FABRICATORS IS NOT REQUIRED WHERE THE FABRICATOR IS APPROVED IN ACCORDANCE WITH IBC SECTION 1704.2.2.

5. INDEPENDENT TESTING AGENCY.

SCHEDULE OF SPECIAL INSPECTIONS

MATERIAL / ACTIVITY	FREQ	REF. STANDARD	
1704.2.5 INSPECTION OF FABRICATORS			
VERIFY FABRICATION / QUALITY CONTROL PROCEDURES	P		NOTE 5
1705.2 STEEL CONSTRUCTION			
MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS, AND WASHERS	P	AISC 360	
INSPECTION OF HIGH-STRENGTH BOLTING:			
A. SNUG-TIGHT JOINTS	P	AISC 360	
B. DIRECT TENSION INDICATOR BOLTS	P		
C. SLIP-CRITICAL JOINTS	C		
1) TURN-OF-NUT WITH MATCHING MARKINGS	P		
2) DIRECT TENSION INDICATOR	P		
3) TWIST-OFF BOLT ONLY TIWIST-OFF BOLT ARE USED	P		
4) TURN-OF-NUT WITHOUT MATCHING MARKINGS	C		
5) CALIBRATED WRENCH	C		
MATERIAL VERIFICATION OF STRUCTURAL STEEL:			
A. IDENTIFICATION MARKINGS	P	AISC 360	
B. CERTIFIED MILL TESTS	ES	AISC 360	
WELD FILLER MATERIALS	P	AWS D1.1	
STRUCTURAL STEEL WELDING:			
A. COMPLETE AND PARTIAL PENETRATION GROOVE WELDS	C	AWS D1.1	
B. MULTI-PASS FILLET WELDS	C		
C. SINGLE-PASS FILLET WELDS > 5/16"	C		
D. SINGLE-PASS FILLET WELDS ≤ 5/16"	P		
E. FLOOR AND DECK WELDS	P	AWS D1.3	
REINFORCING STEEL WELDING:			
A. VERIFICATION OF WELDABILITY OF STEEL OTHER THAN ASTM A706	P	AWS D1.4 ACI 318; SECTION 3.5.2	
B. REINFORCING STEEL-RESISTING FLEXURAL AND AXIAL FORCES IN INTERMEDIATE AND SPECIAL MOMENT FRAMES, AND BOUNDARY ELEMENTS OF SPECIAL CONCRETE SHEAR WALLS,AND SHEAR REINFORCEMENT	C		
C. SHEAR REINFORCEMENT	C		
D. OTHER REINFORCING STEEL	P		
INSPECTION OF STEEL FRAME JOINT DETAILS FOR COMPLIANCE WITH APPROVED CONSTRUCTION DOCUMENTS			
A. DETAILS SUCH AS BRACING AND STIFFENING	P	AWS D1.3	
B. MEMBER LOCATIONS	P		
C. APPLICATION OF JOINT DETAILS AT EACH CONNECTION	P		
1705.13 SPRAYED FIRE-RESISTANT MATERIALS			
VERIFY SURFACE CONDITION PREPARATION OF STRUCTURAL MEMBERS	P		NOTE 5
VERIFY APPLICATION OF SPRAYED FIRE-RESISTANT MATERIALS	P		NOTE 5
VERIFY AVERAGE THICKNESS OF SPRAYED FIRE-RESISTANT MATERIALS APPLIED TO STRUCTURAL MEMBERS	P		NOTE 5
VERIFY THE COHESIVE/ADHESIVE BOND STRENGTH OF THE CURED SPRAYED FIRE-RESISTANT MATERIAL	P		NOTE 5
1704.11 MASTIC AND INTUMESCENT FIRE-RESISTANT COATINGS			
INSPECT MASTIC AND INTUMESCENT FIRE-RESISTANT COATINGS APPLIED TO STRUCTURAL ELEMENTS AND DECKS, IN ACCORDANCE WITH AWCI 12-B	P		

SCHEDULE OF SPECIAL INSPECTIONS

MATERIAL / ACTIVITY	FREQ	REF. STANDARD	
1705.3 CONCRETE CONSTRUCTION			
INSPECTION OF REINFORCING STEEL INSTALLATION	P	ACI 318: 3.5 7.1-7, 7	NOTE 5
INSPECTION OF ANCHOR BOLTS TO BE INSTALLED IN CONCRETE PRIOR TO AND DURING PLACEMENT OF CONCRETE WHERE ALLOWABLE LOADS HAVE BEEN INCREASED PER IBC SECTION 1911.5 OR WHERE STRENGTH DESIGN IS USED	P	ACI 318: 8.1.3, 21.2.8	NOTE 5
INSPECTION OF ANCHORS AND REINFORCING STEEL INSTALLED IN HARDENED CONCRETE: VERIFY ANCHOR TYPE, ANCHOR DIMENSIONS, HOLE DIMENSIONS, HOLE CLEANING ROCEDURES, ANCHOR SPACING, EDGE DISTANCES, CONCRETE MINIMUM THICKNESS, ANCHOR EMBEDMENT AND TIGHTENING TORQUE	P	ACI 318: 3.8.6, 8.1.3, 21.2.8	NOTE 5
VERIFY USE OF APPROVED DESIGN MIX	P	ACI 318: 4, 5.2 - 5.4	
FRESH CONCRETE SAMPLING	C	ASTM C 172 / ASTM C31 ACI 318: 5.6, 5.8	
INSPECTION OF CONCRETE AND/OR SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	C	ACI 318: 5.9, 5.10	NOTE 5
CONCRETE AND/OR SHOTCRETE CURING OPERATIONS	P	ACI 318: 5.11 - 5.13	NOTE 5
CONCRETE STRENGTH TESTING AND VERIFICATION OF COMPLIANCE WITH CONSTRUCTION DOCUMENTS	P		
INSPECTION OF FORMWORK FOR SHAPE, LINES, LOCATION AND DIMENSIONS	P	ACI 318: 6.1.1	NOTE 5
1705.4 MASONRY CONSTRUCTION			
VERIFY PROPORTIONS OF SITE PREPARED MORTAR, GROUT AND PRESTRESSING GROUT FOR BONDED TENDONS	P	TMS 602 / ACI 530 / ASCE 6, ART. 2.1, 2.6A	
VERIFY CONSTRUCTION OF MORTAR JOINTS	P	TMS 602 / ACI 530 / ASCE 6, ART. 3.3B	
VERIFY LOCATION OF REINFORCEMENT AND ANCHORAGES	P	TMS 602 / ACI 530 / ASCE 6, ART. 3.4, 3.6A	
VERIFY SIZE AND LOCATION OF STRUCTURAL MASONRY ELEMENTS	P	TMS 602 / ACI 530 / ASCE 6, ART. 3.3F	
VERIFY TYPE, SIZE, AND LOCATION OF ANCHORS, INCLUDING DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES, OR OTHER CONSTRUCTION	P	TMS 602 / ACI 530 / ASCE 5 SEC. 1.16.4.3, 1.17.1	
	C		
VERIFY SIZE, GRADE, AND TYPE OF REINFORCEMENT	P		
VERIFY WELDING OF REINFORCING BARS	P		
VERIFY PROTECTION DURING HOT/COLD WEATHER	P	TMS 602 / ACI 530 / ASCE 6, ART. 1.8C, 1.8D	
VERIFY CLEAN GROUT SPACE PRIOR TO GROUTING	P	TMS 602 / ACI 530 / ASCE 6, ART. 3.2D, 3.2F	
	C		
VERIFY GROUT PLACEMENT COMPLIES WITH CODE AND CONSTRUCTION DOCUMENT PROVISIONS	C	TMS 602 / ACI 530 / ASCE 6, ART. 3.5, 3.6C	
TESTING OF GROUT SPECIMENS, MORTAR SPECIMENS, AND/OR PRISMS REQUIRED BY CONSTRUCTION DOCUMENTS	P	TMS 602 / ACI 530 / ASCE 6, ART. 1.4B.2.a.3, 1.4B.2.c.3, 1.4B.3, 1.4B.4	
OBSERVE PREPARATION OF PRISMS REQUIRED BY CONSTRUCTION DOCUMENTS	C		
VERIFY COMPLIANCE WITH REQUIRED TESTING AND INSPECTION PROVISIONS OF CONSTRUCTION DOCUMENTS AND THE APPROVED SUBMITTALS	C	TMS 602 / ACI 530 / ASCE 6, ART. 1.5	
1705.6 SOILS			
VERIFY MATERIALS BELOW MUSTOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY	P		
VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL	P		
PERFORM CLASSIFICATION AND TESTING OF CONTROLLED FILL MATERIALS	P		
VERIFY USE OF PROPER MATERIALS, DENSITIES, AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF CONTROLLED FILL	P		
PRIOR TO PLACEMENT OF CONTROLLED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY	P		

REGISTERED PROFESSIONAL ENGINEER
MARK J. WOODS
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APPROVAL	DESCRIPTION	DATE	MARK	REVISION
	PERMIT SET	07/31/2025		

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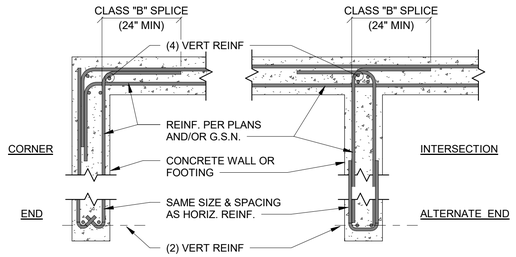
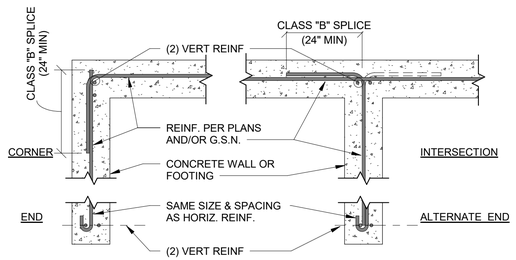
CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

SPECIAL INSPECTIONS TABLE
TOM BATES
REGIONAL SPORT COMPLEX

PLAN 8297
FILE 406 - 223
S-004
SHEET 60 OF 92



PLAN VIEW
DOUBLE CURTAIN REINFORCING

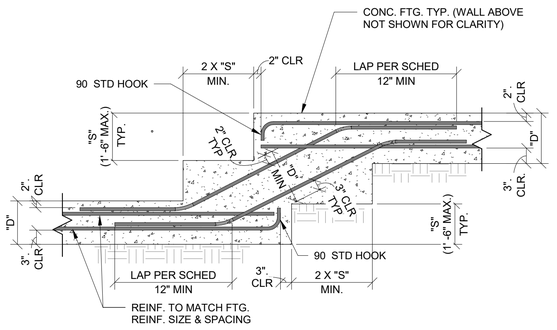


PLAN VIEW
SINGLE CURTAIN REINFORCING

NOTES:

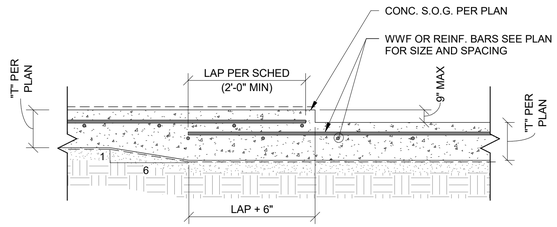
1. BAR INTERSECTIONS SHOWN APPLY TO ALL DOUBLE CURTAIN INTERSECTIONS AND TO ALL VARIATIONS OF VERTICAL & HORIZONTAL REBAR POSITIONS.
2. TYPICAL VERTICAL REINFORCING NOT SHOWN FOR CLARITY.
3. USE THIS REINF. DETAIL UNLESS NOTED ON OTHER SECTIONS OR DETAILS.

TYPICAL CURTAIN REINFORCEMENT
10 TYPICAL DETAIL
SCALE: NO SCALE



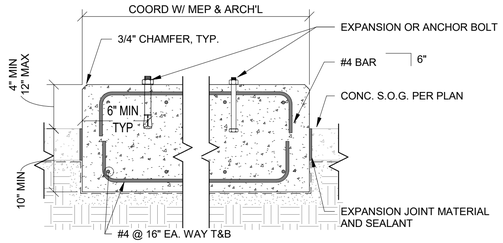
TYPICAL STEP FOOTING
11 TYPICAL DETAIL
SCALE: NO SCALE

NOTES:
1. FOR SLAB DEPRESSIONS NOT GREATER THAN 9" MAX.

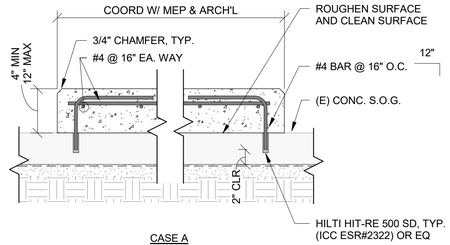


TYPICAL STEP IN SLAB
7 TYPICAL DETAIL
SCALE: NO SCALE

NOTES:
1. HOUSEKEEPING PADS ARE NOT TO BE CAST UNTIL SLAB ON GRADE HAS REACHED DESIGNED COMPRESSIVE STRENGTH. CONTRACTOR TO COORD. ANCHORAGE REQUIREMENTS FOR PARTICULAR EQUIPMENT SUPPLIED.
2. SEE MEP DRAWINGS FOR THE FOLLOWING;
   - LOCATION AND DIMENSION OF PADS.
   - LOCATION, NUMBER, SIZES, AND TYPES OF BOLTS, AND EMBEDMENT.

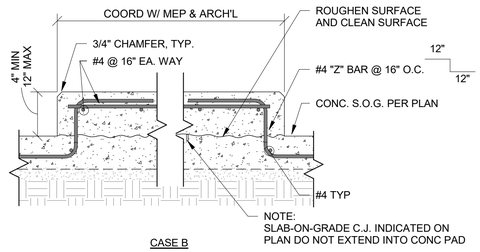


TYPICAL EQUIPMENT PAD
8 TYPICAL DETAIL
SCALE: NO SCALE



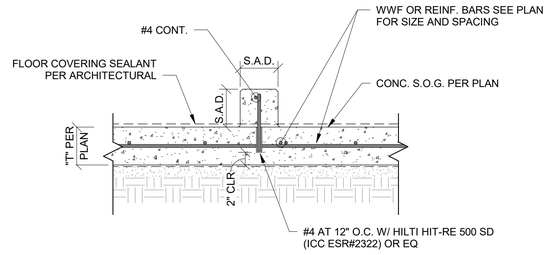
CASE A

NOTES:
1. HOUSEKEEPING PADS ARE NOT TO BE CAST UNTIL SLAB ON GRADE HAS REACHED DESIGNED COMPRESSIVE STRENGTH. CONTRACTOR TO COORD. ANCHORAGE REQUIREMENTS FOR PARTICULAR EQUIPMENT SUPPLIED.

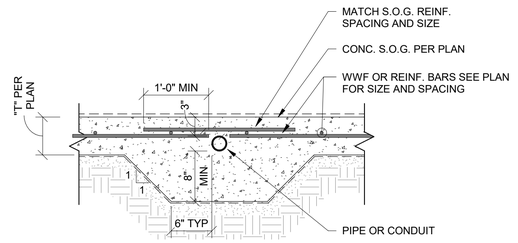


CASE B

TYPICAL EQUIPMENT PAD AT S.O.G.
9 TYPICAL DETAIL
SCALE: NO SCALE

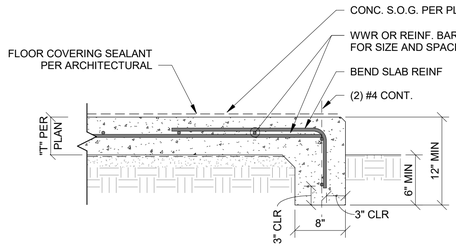


TYPICAL CURB DETAIL
4 TYPICAL DETAIL
SCALE: NO SCALE

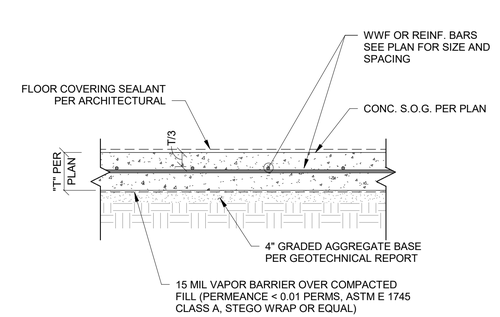


NOTES:
1. PROJECTING DOWEL TO BE GREASED PRIOR TO PLACEMENT OF ADJACENT SLAB. DOWELS TO BE SET STRAIGHT, PERPENDICULAR TO FORMWORK, AND PARALLEL TO EACH OTHER. PAINT WITH BOND BREAKER PRIOR TO PLACING ADJACENT SLAB.

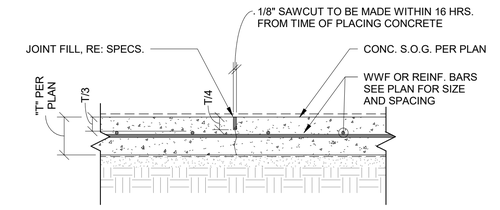
TYPICAL PIPE SLEEVE IN SLAB
5 TYPICAL DETAIL
SCALE: NO SCALE



TYPICAL SLAB EDGE AT EXTERIOR
6 TYPICAL DETAIL
SCALE: NO SCALE

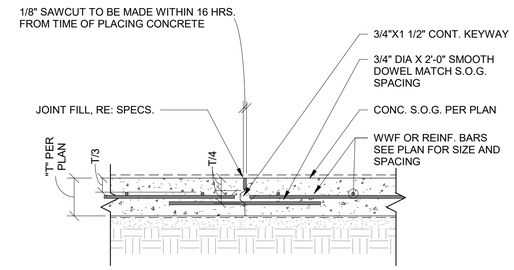


TYPICAL SLAB DETAIL
1 TYPICAL DETAIL
SCALE: NO SCALE



NOTES:
1. INTERRUPT 2/3 OF REINFORCING AT ALL JOINTS.
2. CONTROL JOINTS MUST BE INSTALL WHERE NOTED ON PLAN "S.J."
3. CONTROL JOINTS MUST BE A MAXIMUM 15'-0" O.C. EACH WAY U.N.O.
4. S.A.D. FOR ANY ADDITIONAL REQUIREMENTS.

TYPICAL SLAB CONTROL JOINT
2 TYPICAL DETAIL
SCALE: NO SCALE



NOTES:
1. PROJECTING DOWEL TO BE GREASED PRIOR TO PLACEMENT OF ADJACENT SLAB. DOWELS TO BE SET STRAIGHT, PERPENDICULAR TO FORMWORK, AND PARALLEL TO EACH OTHER. PAINT WITH BOND BREAKER PRIOR TO PLACING ADJACENT SLAB.

TYP SLAB CONSTRUCTION JOINT
3 TYPICAL DETAIL
SCALE: NO SCALE

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CIVIL
STATE OF CALIFORNIA

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VERT.	1"=X'
BOOK	

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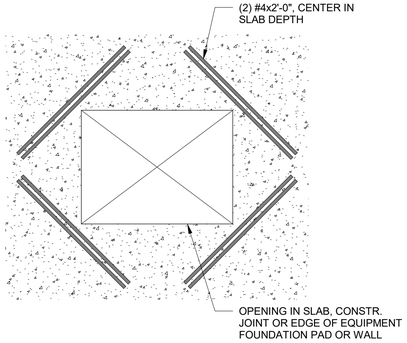
RECREATION & WATERFRONT

TYPICAL CONCRETE DETAILS
TOM BATES
REGIONAL SPORT COMPLEX

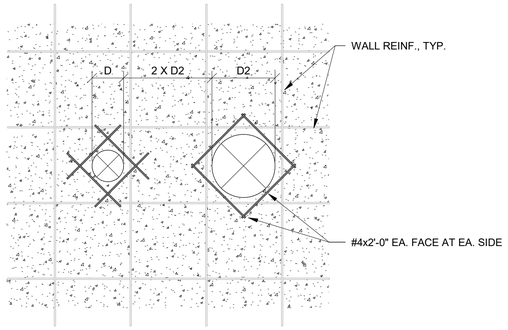
PLAN 8297
FILE 406 - 223
S-010
SHEET 61 OF 92



TYPICAL SLAB CORNER BAR

6 TYPICAL DETAIL

SCALE: NO SCALE

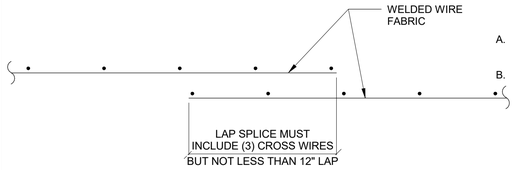


NOTE:
1. FOR SLEEVES > 10" REFERENCE TYPICAL WALL PENETRATION DETAIL.

CONC WALL OR SLAB PENETRATION

3 TYPICAL DETAIL

SCALE: NO SCALE



WELDED WIRE FABRIC

TABLE 4 - TENSION DEVELOPMENT (Ld) AND LAP SPLICE LENGTHS FOR PLAN WELDED WIRE FABRIC

WIRE	WIRE SPACING	DEVELOPMENT LENGTH (IN.) PER CROSS WIRE SPACING (IN.)				LAP SPLICE LENGTH (IN.) PER CROSS WIRE SPACING (IN.)			
		4	6	8	12	4	6	8	12
W0.5 TO W6	4 6 12	6 6 6	6 6 6	6 6 6	6 6 6	6 6 6	8 8 8	10 10 10	14 14 14

A. 1. THE SCHEDULE LAP SPLICE LENGTHS ARE FOR EITHER OF THE FOLLOWING CASES.

A. CLEAR SPACING OF THE BARS BEING DEVELOPED OR SPLICED NOT LESS THAN (2db), AND CLEAR COVER NOT LESS THAN (db).

B. CLEAR SPACING OF BARS BEING DEVELOPED OR SPLICED MUST NOT LESS THAN (db), CLEAR COVER NOT LESS THAN (db), AND STIRRUPS/TIES THROUGHOUT LAP SPLICE NOT MORE THAN 6" ON CENTER.

B.

2. MULTIPLY LAP SPLICE LENGTHS BY 1.5 FOR CASES NOT MEETING THE CONDITIONS AS DESCRIBED IN NOTE
3. USE CLASS "B" SPLICES FOR VERTICAL & HORIZONTAL BARS TYP. U.O.N.
4. TOP BARS ARE HORIZONTAL BARS PLACED SO THAT 12-INCHES OR MORE OF CONCRETE IS CAST IN THE MEMBER BELOW THE BAR.
5. VALUES SHOWN ARE FOR NORMAL WEIGHT CONCRETE. IF LIGHTWEIGHT CONCRETE, MULTIPLY LAP SPLICE LENGHTS BY 1.3. (REFER TO NOTE 2 FOR ANY ADDITIONAL INCRESES IN LAP SPLICE LENGTHS.)
6. VALUES SHOWN ARE FOR UNCOATED GRADE 60 REINFORCEMENT.
7. ALL LAP SPLICE LENGTHS AT EACH LOCATION MUST BE DEFINED BY THE SHOP DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH ALL COVER & SPACING REQUIREMENTS FOR LAP SPLICES LISTED BY THE SHOP DRAWINGS. FIELD CORRECTIONS MUST BE MADE AT NO COST TO THE OWNER.
8. WHEN LAPPING A SMALLER BAR WITH A LARGE DIAMETER BAR USE THE LAP LENGTH FOR THE SMALL DIAMETER BAR.

STRENGTH	f'c = 3,000 PSI fy = 60,000 PSI				f'c = 4,000 PSI fy = 60,000 PSI				f'c = 5,000 PSI fy = 60,000 PSI			
CLASS OF LAP SPLICE	CLASS "A"		CLASS "B"		CLASS "A"		CLASS "B"		CLASS "A"		CLASS "B"	
BAR SIZE	BASIC	TOP BAR	BASIC	TOP BAR	BASIC	TOP BAR	BASIC	TOP BAR	BASIC	TOP BAR	BASIC	TOP BAR
#3	18"	24"	24"	31"	15"	20"	20"	26"	13"	17"	17"	22"
#4	22"	29"	29"	38"	19"	25"	25"	33"	17"	23"	23"	29"
#5	28"	37"	37"	48"	24"	31"	31"	41"	22"	28"	28"	36"
#6	34"	44"	44"	57"	29"	38"	38"	50"	26"	34"	34"	44"
#7	49"	64"	64"	83"	42"	55"	55"	71"	38"	49"	49"	63"
#8	56"	73"	73"	95"	48"	62"	62"	81"	43"	56"	56"	72"
#9	63"	82"	82"	106"	54"	70"	70"	91"	48"	63"	63"	81"
#10	71"	92"	92"	120"	61"	79"	79"	103"	54"	70"	70"	91"
#11	79"	103"	103"	134"	68"	88"	88"	115"	60"	78"	78"	101"

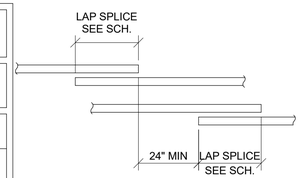
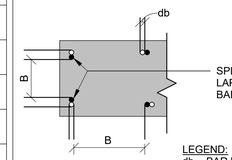
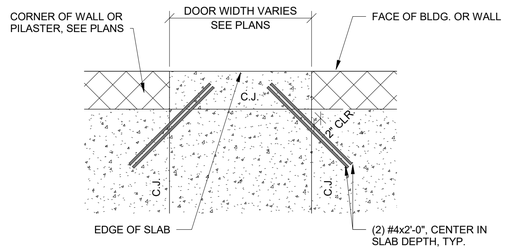


DIAGRAM @ STAGGERED SPLICES



BAR SPACING DIAGRAM

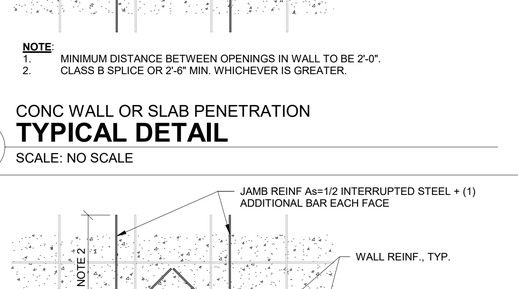
LEGEND:
db - BAR DIAMETER
A - CLEAR COVER
B - CLEAR SPACING OF BARS



TYPICAL SLAB RE-ENTRANT BAR

7 TYPICAL DETAIL

SCALE: NO SCALE

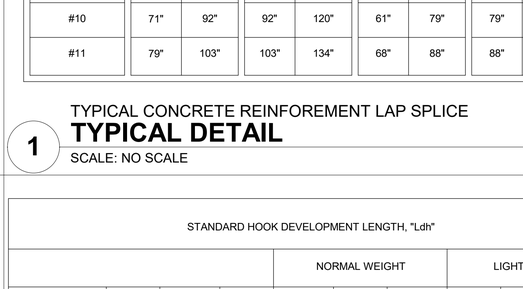


NOTE:
1. MINIMUM DISTANCE BETWEEN OPENINGS IN WALL TO BE 2'-0".
2. CLASS B SPLICE OR 2'-6" MIN. WHICHEVER IS GREATER.

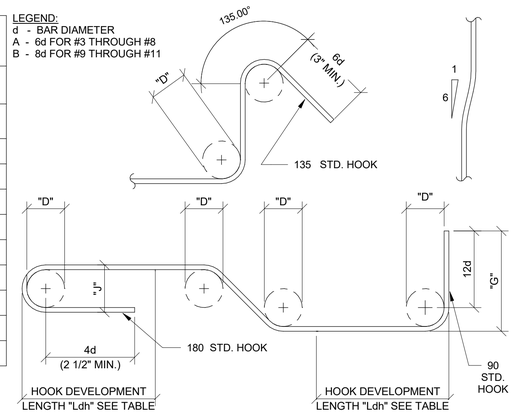
CONC WALL OR SLAB PENETRATION

4 TYPICAL DETAIL

SCALE: NO SCALE



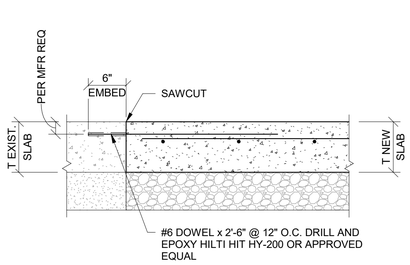
STANDARD HOOK NOTES:
1. ALL HOOK BARS MUST EXTEND AS FAR AS POSSIBLE WITH A MINIMUM 2" END COVER AND WITH EMBEDMENT NOT LESS THAN SHOWN ON THE SCHEDULE U.N.O. ON PLANS.
2. MINIMUM SIDE COVER =2 1/2"



TYPICAL REINFOREMENT BENDS

2 TYPICAL DETAIL

SCALE: NO SCALE

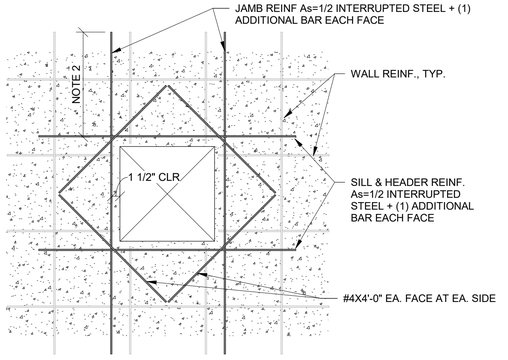


NOTES:
1. RE: GENERAL STRUCTURAL NOTES FOR SLAB BEARING MATERIAL REQUIREMENTS.

SAWCUT @ SLAB SECTION

8 TYPICAL DETAIL

SCALE: NO SCALE



NOTE:
1. MINIMUM DISTANCE BETWEEN OPENINGS IN WALL TO BE 2'-0".
2. CLASS B SPLICE OR 2'-6" MIN. WHICHEVER IS GREATER.

CONC WALL OR SLAB PENETRATION

5 TYPICAL DETAIL

SCALE: NO SCALE

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SUPERVISING CIVIL ENGINEER:
APPROVED: DATE / R.C.E. / EXP.
MANAGER OF ENGINEERING

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DRAWN PFP
CHECK MJW
AS BUILT
HORIZ. 1"=X'
VERT. 1"=X'
BOOK
DATE 7/31/2025

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DEPARTMENT OF PARKS, RECREATION & WATERFRONT

TYPICAL CONCRETE DETAILS
TOM BATES
REGIONAL SPORT COMPLEX

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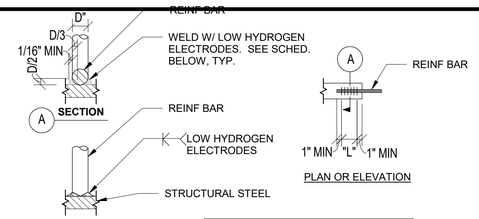
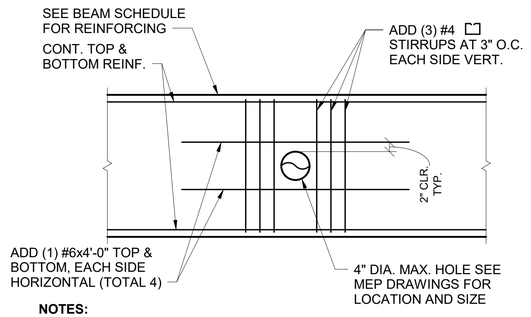
S-011
SHEET 62 OF 92



BAR SIZE	"L"WELD LENGTH EA. SIDE OF BAR
#4	3"
#5	3-1/2"
#6	4"
#7	4-1/2"

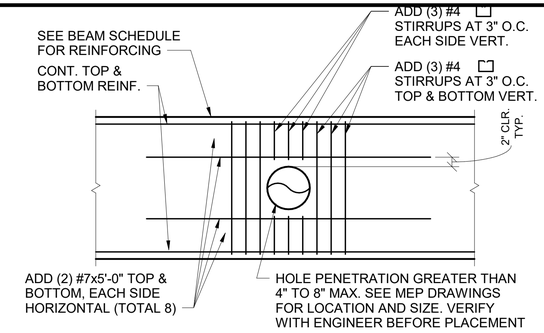
WELDING OF REINFORCING STEEL: FIELD WELDING OF REINFORCING MUST BE PERFORMED BY WELDERS SPECIFICALLY CERTIFIED FOR REINFORCING STEEL. PRIOR TO WELDING, THE "CARBON EQUIVALENT" (CE) OF STEEL MUST BE DETERMINED. REINFORCING STEEL WHOSE "CE" CANNOT BE IDENTIFIED OR WHOSE "CE" EXCEEDS 0.75% MUST NOT BE WELDED. EXCEPT FOR REINFORCING STEEL CONFORMING TO ASTM-706, REINFORCING STEEL MUST NOT BE PRE-HEATED. IN ADDITION, STEEL WITH "CE" BETWEEN 0.66% AND 0.75% MUST BE WELDED ONLY WHERE PRIOR QUALIFICATION TEST VERIFY ACCEPTABLE WELDABILITY.

TYPICAL REINF STEEL WELDING
7 TYPICAL DETAIL
SCALE: NO SCALE



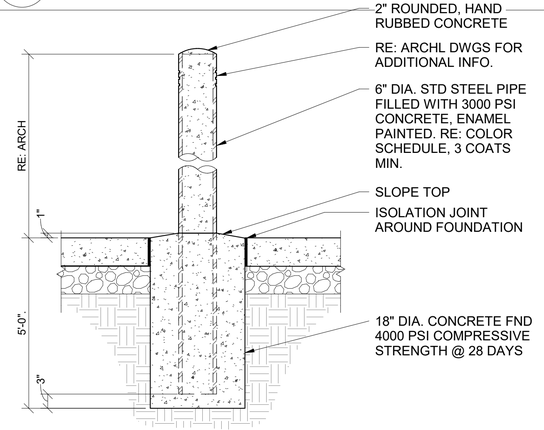
NOTES:
1. LOCATE HOLE SLEEVE PENETRATION WITHIN MIDDLE THIRD OF BEAM "H".
2. REFER TO SECTION X/XS-XXX FOR LOCATION ALONG BEAM LENGTH.
3. MINIMUM DEPTH OF BEAM MUST BE 24".

GB PEN HOLE DIA. UP TO 4"
4 TYPICAL DETAIL
SCALE: NO SCALE

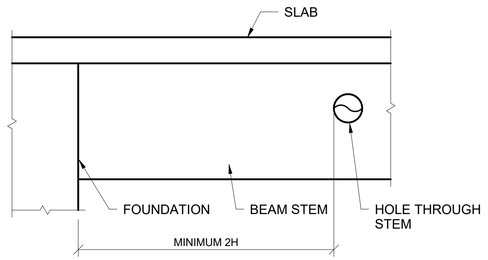


NOTES:
1. LOCATE HOLE SLEEVE PENETRATION WITHIN MIDDLE THIRD OF BEAM "H".
2. REFER TO SECTION X/XS-XXX FOR LOCATION ALONG BEAM LENGTH.
3. MINIMUM DEPTH OF BEAM MUST BE 36".

GB PEN HOLE DIA
1 TYPICAL DETAIL
SCALE: NO SCALE

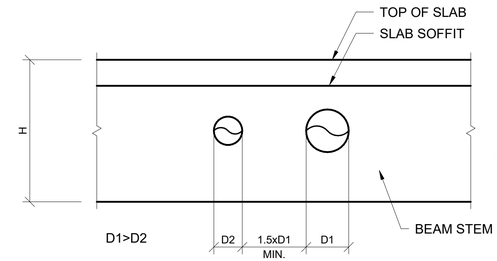


STEEL BOLLARD
8 TYPICAL DETAIL
SCALE: NO SCALE



NOTES:
1. LOCATE HOLE SLEEVE PENETRATION WITHIN MIDDLE THIRD OF BEAM "H".

BM PEN HOLE NEXT TO SUPPORT
5 TYPICAL DETAIL
SCALE: NO SCALE

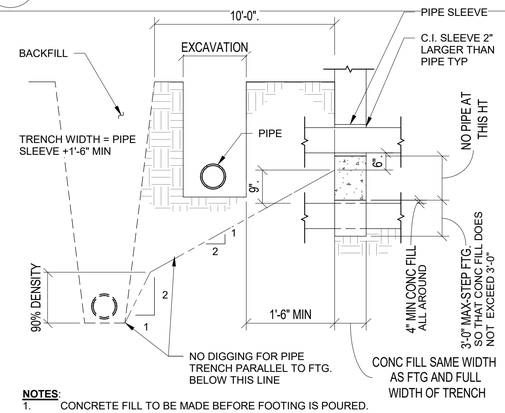


NOTES:
1. LOCATE HOLE SLEEVE PENETRATION WITHIN MIDDLE THIRD OF BEAM "H".
2. IF MORE THAN (2) SLEEVES SIDE BY SIDE, WIDEN DISTANCE BETWEEN CONDUITS TO 4xD1.

BEAM PENETRATION
2 TYPICAL DETAIL
SCALE: NO SCALE

DETAIL NOT USED

DETAIL NOT USED
6 TYPICAL DETAIL
SCALE: NO SCALE



NOTES:
1. CONCRETE FILL TO BE MADE BEFORE FOOTING IS POURED.
2. PIPES MORE THAN 3'-0" BELOW BOTTOM OF FOOTING TRENCH MAY BE BACKFILLED WITH CONTROLLED, COMPACTED FILL.

PIPE AT CONC FTG
3 TYPICAL DETAIL
SCALE: NO SCALE

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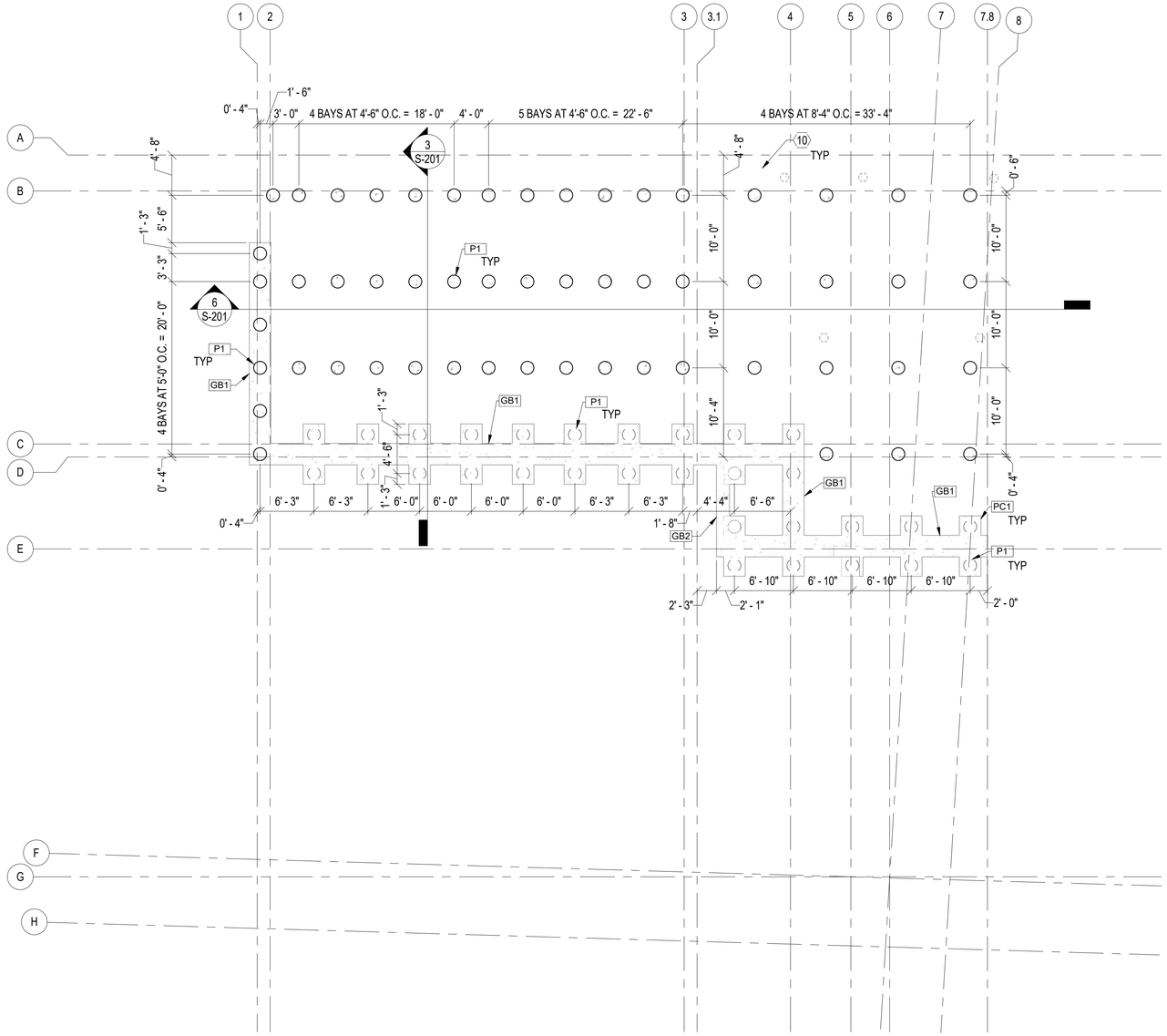
FILE 406 - 223
S-012
SHEET 63 OF 92



PILE PLAN NOTES

SEE FOUNDATION PLAN FOR NOTES

PILE KEYNOTES

SEE FOUNDATION PLAN FOR KEYNOTES

PLAN NORTH

REGISTERED PROFESSIONAL ENGINEER
MARK J. WOODS
77293
CIVIL
STATE OF CALIFORNIA

1 PILE PLAN
SCALE: 1/8" = 1'-0"

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SCALE: 1/8"=1'-0"
0 1 2 3
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HORIZ. 1"=X'
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PILE PLAN
TOM BATES
REGIONAL SPORT COMPLEX

PLAN 8297
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SHEET 64 OF 92

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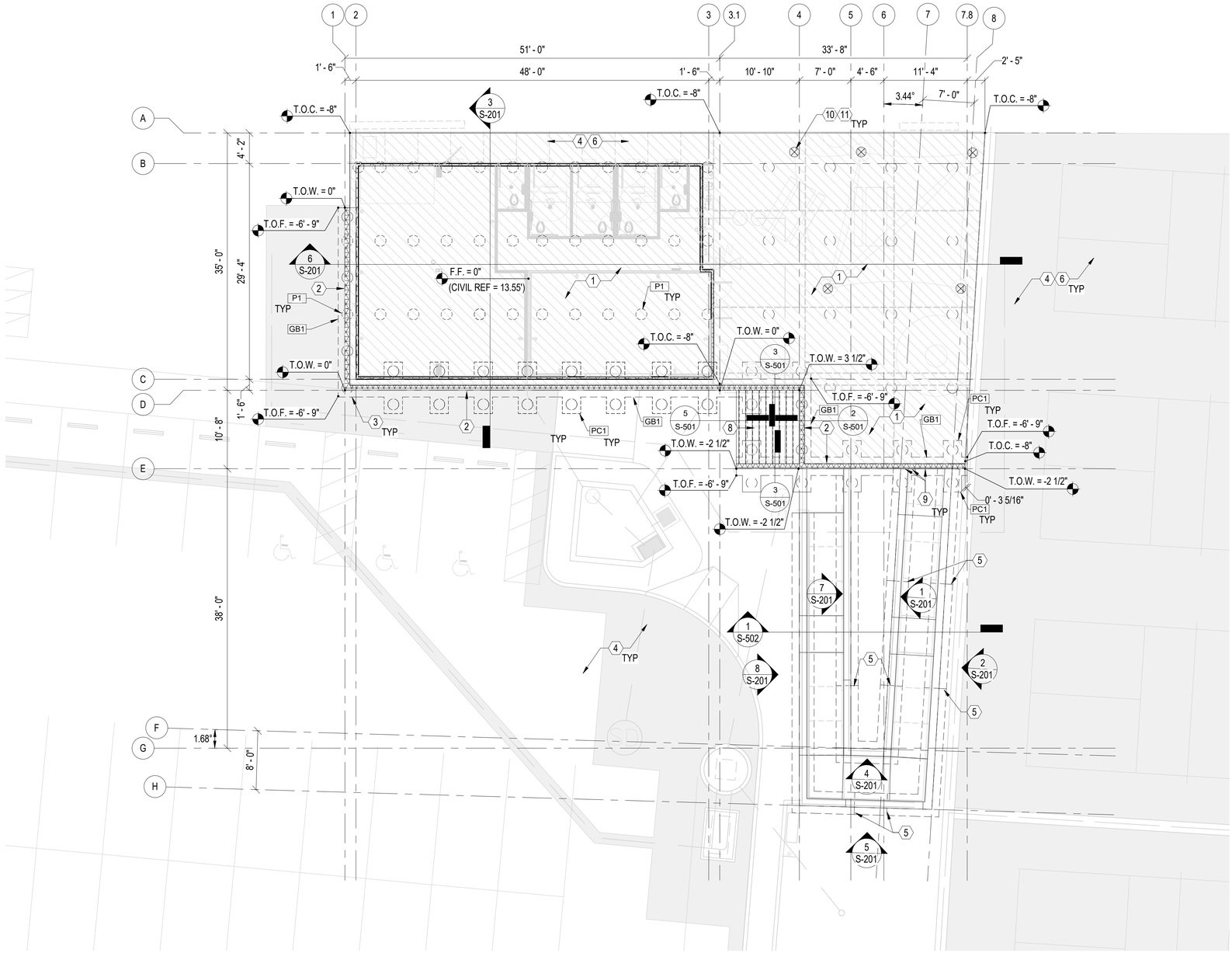

FOUNDATION PLAN NOTES

1 SEE SHEETS S-001 TO S-012 FOR STRUCTURAL NOTES (MATERIALS, REQUIREMENTS, TYPICAL DETAILS, ETC.).

2 VERIFY ALL DIMENSIONS WITH CIVIL DRAWINGS PRIOR TO CONSTRUCTION.

3 UNLESS SPECIFICALLY NOTED OTHERWISE BOTTOMS OF ALL FOUNDATIONS MUST BE COORDINATED WITH TYPICAL EARTHWORK DETAILS.

4 COORDINATE AND VERIFY ALL FINISH FLOOR ELEVATIONS, FINISH GRADES, TOP OF FOOTINGS, ETC. WITH CIVIL DRAWINGS PRIOR TO CONSTRUCTION.

5 SEE CIVIL DRAWINGS FOR EXTENTS AND LOCATION OF EXTERIOR SLABS, SLAB JOINTS ETC. U.N.O., - TYPICAL.

6 PROVIDE CONSTRUCTION JOINTS IN FOOTINGS IN ACCORDANCE WITH TYPICAL DETAILS.

7 SEE CIVIL DRAWINGS FOR THE FOLLOWING:

- A. SIZE AND LOCATION OF ALL DOOR AND WINDOW OPENINGS.
- B. SIZE AND LOCATION OF ALL INTERIOR AND EXTERIOR NON-BEARING PARTITIONS.
- C. SIZE AND LOCATION OF ALL CONCRETE CURBS; FLOOR AND ROOF DRAINS, SLOPES AND DEPRESSED AREAS; CHANGES IN LEVEL; CHAMFERS, CORNER FORMERS, GROOVES, BLOCKOUTS AND INSERTS; PAVING SITE WORK CURBS AND WALLS.
- D. DIMENSIONS NOT SHOWN ON STRUCTURAL DRAWINGS. SIZE AND LOCATION OF OPENINGS THRU ROOF AND FLOOR.

8 SEE MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS FOR THE FOLLOWING:

- A. WALL AND SLAB OPENINGS FOR MECHANICAL PIPE RUNS, TRENCHES, FLOOR DRAINS, ROOF DRAINS, SUMPS, ETC.
- B. WALL AND SLAB OPENINGS FOR ELECTRICAL CONDUIT RUNS, BOXES, JUNCTION BOXES IN WALLS, COLUMNS, SLABS, ETC.
- C. SLEEVES, SLEEVE CLUSTERS AND BLOCKOUTS; AND CONCRETE INSERTS FOR EQUIPMENT AND FIXTURES.
- D. SIZE AND LOCATION OF MACHINE TRANSFORMER, SWITCH GEAR AND EQUIPMENT CURBS, BASES AND PADS, AND ANCHOR BOLTS FOR ANCHORED ITEMS.

9 STEP FOOTINGS AS REQUIRED PER TYPICAL DETAILS.

10 SLAB ON GRADE CONTROL JOINT LOCATIONS INDICATED PER PLAN. COORDINATE LOCATION WITH ARCHITECT WHERE SLAB WILL BE EXPOSED. COORDINATE DETAILING OF FLOOR FINISH OVER JOINTS WHERE FLOORING IS SENSITIVE TO SLAB MOVEMENT (E.G. TILE). SEE TYPICAL DETAILS FOR CONSTRUCTION AND CONTROL JOINT DETAILING REQUIREMENTS. IF SAW-CUT JOINTS ARE UTILIZED, JOINTS MUST BE CUT AS SOON AS PRACTICAL AFTER SLAB WILL SUPPORT WEIGHT OF WORKMAN AND EQUIPMENT, BUT IN NO CASE LATER THAN 18 HOURS AFTER CONCRETE PLACEMENT.

11 ALL SUB-SLAB CONDUITS AND UTILITIES TO BE SPREAD OUT AND MUST BE LOCATED BELOW SLAB LEVEL. SUB-GRADE CONDUITS EXTENDING THROUGH CMU WALLS MUST BE SLEEVED WITH MINIMUM 1/2" ANULAR SPACE FILLED WITH COMPRESSIBLE FILLER. MULTIPLE CONDUITS MAY BE BUNDLED THROUGH A SINGLE SLEEVE.

12 SEE CIVIL PLANS FOR SITE WORK, LAYOUT, AND DIMENSIONS NOT SHOWN.

13 MCJ - INDICATES MASONRY CONTROL JOINT PER TYPICAL DETAIL.

14 SJ - INDICATES SLAB CONTROL JOINT. CJ - INDICATES SLAB CONSTRUCTION JOINT. CONTRACTOR MUST PROVIDE CONTROL JOINTS PER TYPICAL DETAIS.

15 SEE TYPICAL DETAILS AND STRUCTURAL NOTES FOR EARTHWORK REQUIREMENTS.

16 SEE SHEET 2 / S-601 FOR COLUMN AND FOUNDATION SCHEDULES.

FOUNDATION KEYNOTES

1 12" CONCRETE SLAB ON GRADE AT HATCH AREA REINFORCED WITH #5 REINFORCING AT 16" O.C.TOP AND BOTTOM EACH WAY U.N.O.

2 8" CONCRETE WALL WITH #5 AT 12" O.C. EACH WAY, CENTERED, U.N.O.

3 ALL HORIZONTAL REINFORCING IN FOOTINGS, STEM WALLS AND WALLS MUST BE CONTINUOUS AROUND ALL CORNERS AND INTERSECTIONS PER TYPICAL DETAILS.

4 SEE CIVIL DRAWINGS FOR LOCATIONS AND LIMITS OF SITE WORK, SIDEWALKS, FINISH, SLOPES, CURBS, SITE WALLS, ETC.

5 STEP FOOTING AS REQUIRED PER TYPICAL DETAIL

6 SLOPE SLAB TO DRAIN - SEE CIVIL DRAWINGS.

7 EQUIPMENT PADS PER TYPICAL DETAIL - COORDINATE EXACT LOCATIONS AND DIMENSIONS WITH ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS.

8 CONCRETE STAIRS - SEE CIVIL DRAWINGS FOR DIMENSIONS, HANDRAILS, NON-SLIP FINISHED AND TREADS ETC.

9 3/8" EXPANSION JOINT BETWEEN CONCRETE RETAINING WALL AND RAMP STRUCTURE ALONG GRID E.

10 SHADE STRUCTURE AND FOUNDATION PER THE MANUFACTURER SEE CIVIL FOR FINAL LOCATION.

11 OPENING IN SLAB PER TYPICAL DETAIL. SEE SHADE STRUCTURE MANUFACTURER FOR FINAL DETAILS.

REGISTERED PROFESSIONAL ENGINEER
MARK J. WOODS
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CIVIL
STATE OF CALIFORNIA

PLAN NORTH

1 FOUNDATION PLAN

SCALE: 1/8" = 1'-0"

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DESIGN	KHN
DRAWN	PFP
CHECK	MJW
AS BUILT	
HORIZ.	1"=X'
VERT.	1"=X'
BOOK	
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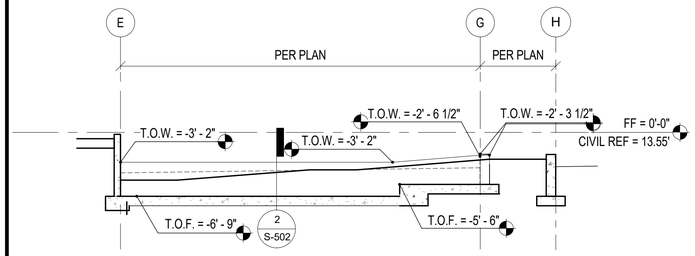
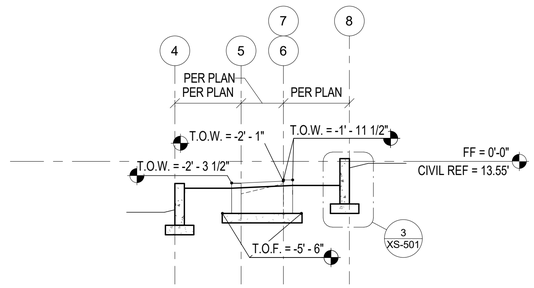
CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

FOUNDATION PLAN
TOM BATES
REGIONAL SPORT COMPLEX

PLAN 8297
FILE 406 - 223
S-101
SHEET 65 OF 92



7 RAMP WALL ELEVATION
1/8" = 1'-0"



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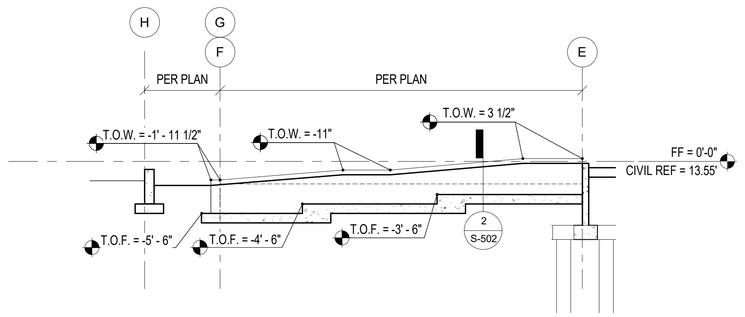
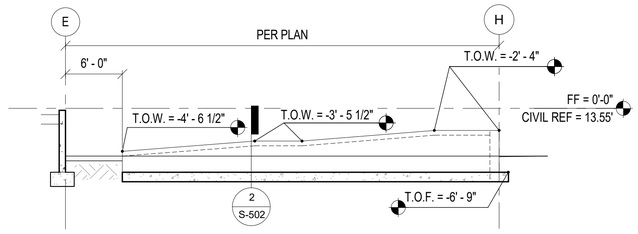
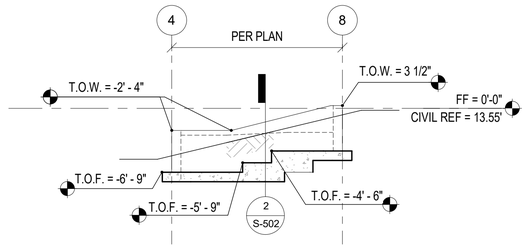
1/8" = 1'-0"



1 RAMP WALL ELEVATION
1/8" = 1'-0"



8 RAMP WALL ELEVATION
1/8" = 1'-0"



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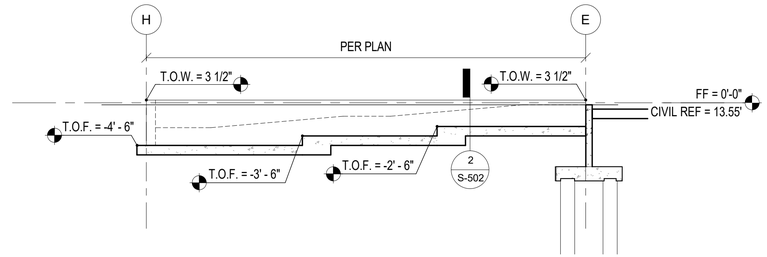
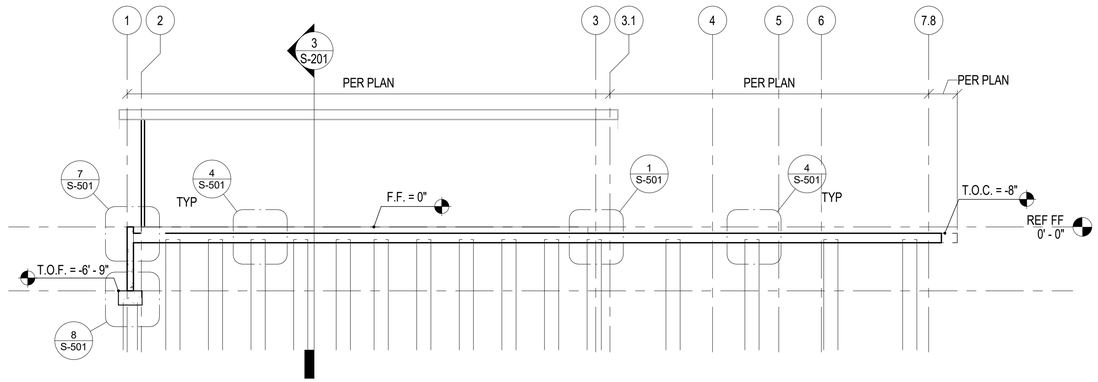
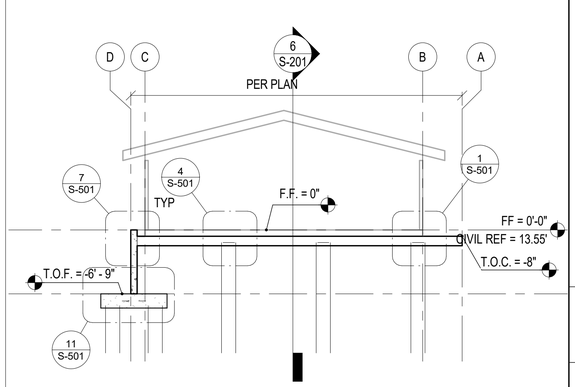


2 RAMP WALL ELEVATION
1/8" = 1'-0"



6 BUILDING SECTION
1/8" = 1'-0"



3 BUILDING SECTION
1/8" = 1'-0"

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RECREATION & WATERFRONT

ELEVATIONS
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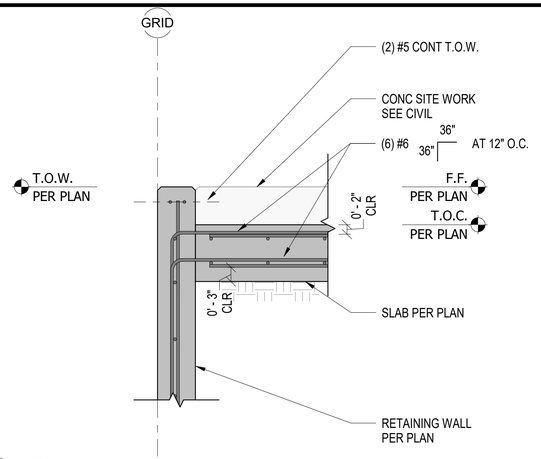
REGIONAL SPORT COMPLEX

PLAN 8297
FILE 406 - 223
S-201
SHEET 66 OF 92



10 DETAIL

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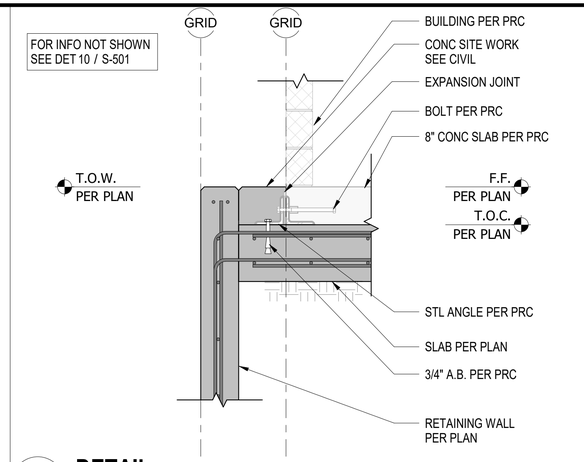
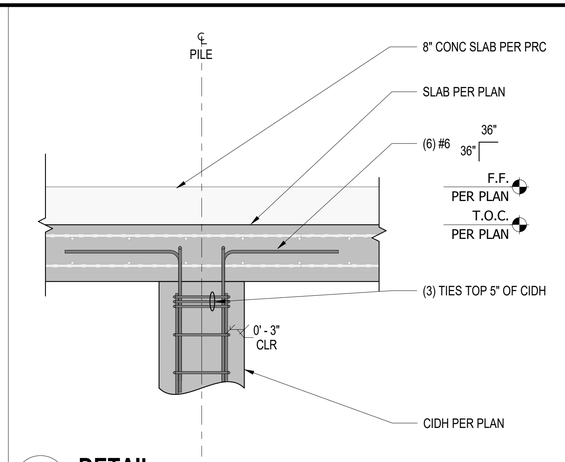


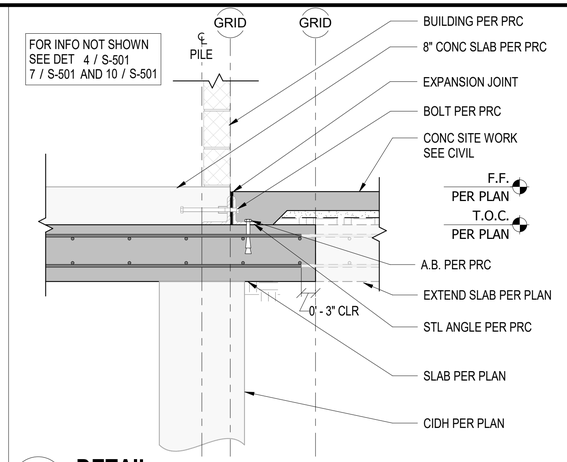
7 DETAIL

SCALE: 3/4" = 1'-0"



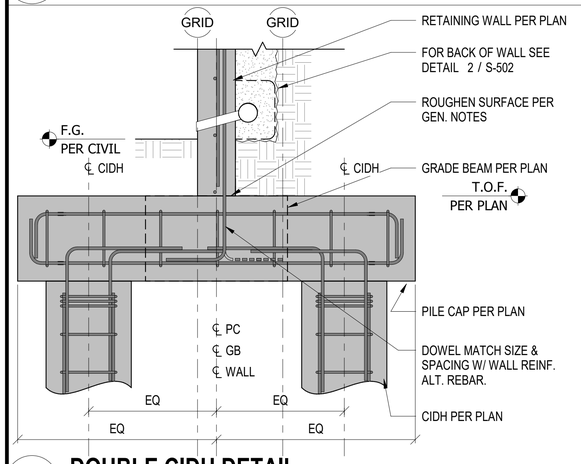
4 DETAIL

SCALE: 3/4" = 1'-0"



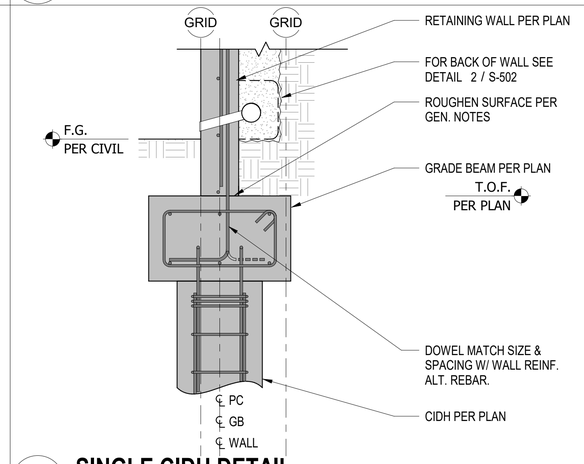
1 DETAIL

SCALE: 3/4" = 1'-0"



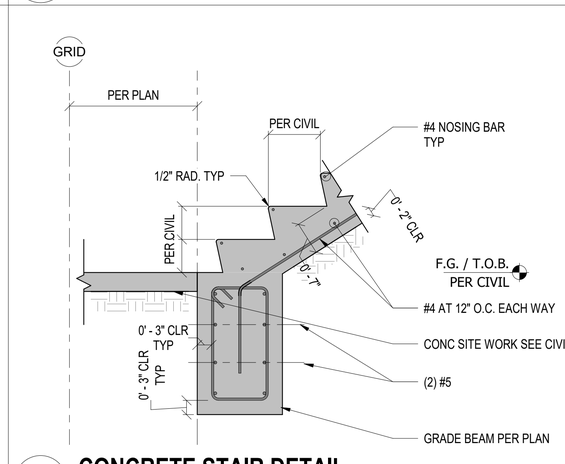
11 DOUBLE CIDH DETAIL

SCALE: 3/4" = 1'-0"



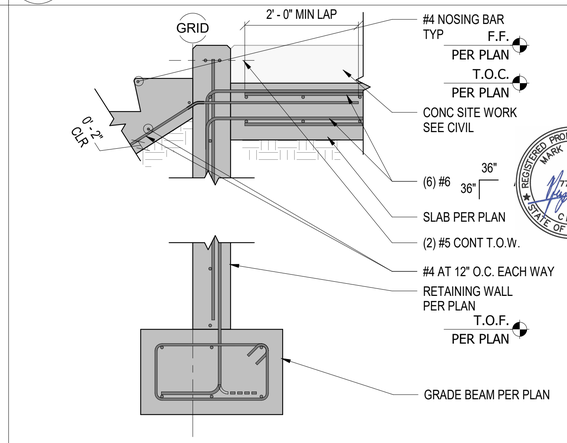
8 SINGLE CIDH DETAIL

SCALE: 3/4" = 1'-0"



5 CONCRETE STAIR DETAIL

SCALE: 3/4" = 1'-0"



2 CONCRETE STAIR DETAIL

SCALE: 3/4" = 1'-0"

DETAIL NOT USED

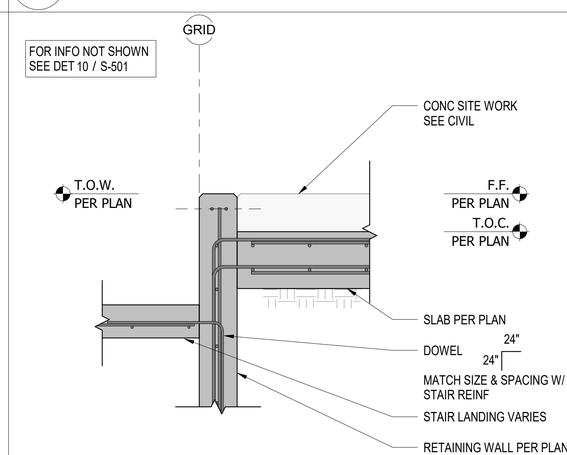
9 DETAIL NOT USED

SCALE: 1" = 1'-0"

DETAIL NOT USED

6 DETAIL NOT USED

SCALE: 1" = 1'-0"



3 CONCRETE STAIR DETAIL

SCALE: 3/4" = 1'-0"

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AS BUILT	
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HORIZ.	1"=X'
VERT.	1"=X'
BOOK	
DATE	

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DEPARTMENT OF PARKS, RECREATION & WATERFRONT

DETAILS
TOM BATES
REGIONAL SPORT COMPLEX

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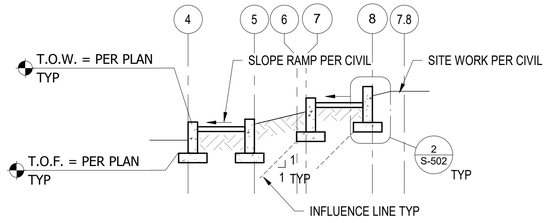
FILE 406 - 223
S-501
SHEET 67 OF 92

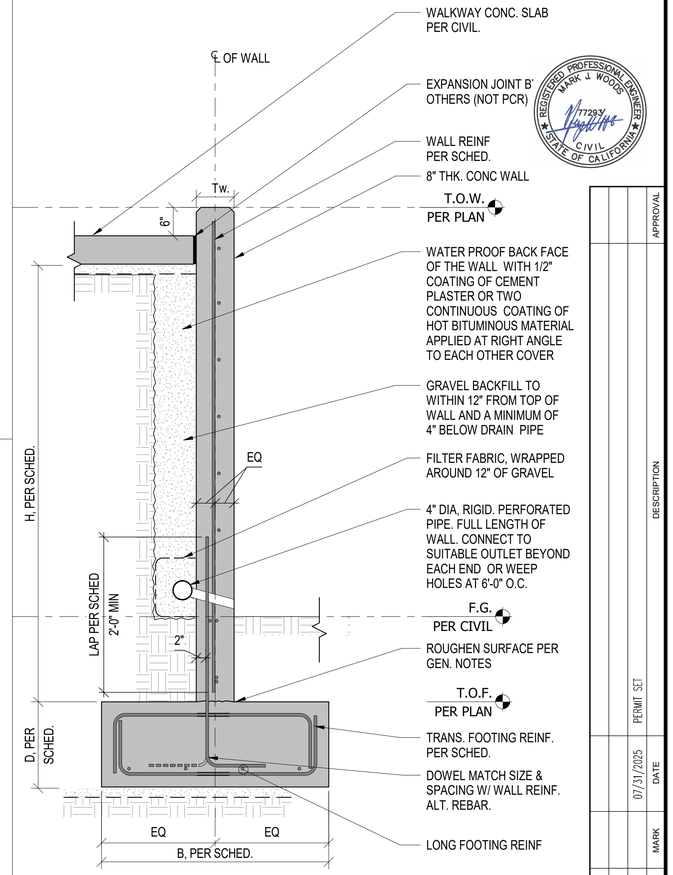


1 RAMP SECTION

1/8" = 1'-0"

RETAINING WALL SCHEDULE

H (FT)	D (FT)	B (FT)	FOOTING REINF TRANS	FOOTING REINF LONG	Tw (IN)	WALL REINF
6'-1" TO 8'-0"	1'-3"	7'-6"	#5 @ 18" O.C. T&B	(7) #5 T&B	8"	#5 @ 12" O.C. VERT #5 @ 18" O.C. HORIZ
≤ 6'-0"	1'-3"	6'-0"	#5 @ 18" O.C. T&B	(6) #5 T&B	8"	#5 @ 18" O.C. VERT #5 @ 18" O.C. HORIZ



2 RETAINING WALL DETAIL

SCALE: 3/4" = 1'-0"

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MANAGER OF ENGINEERING

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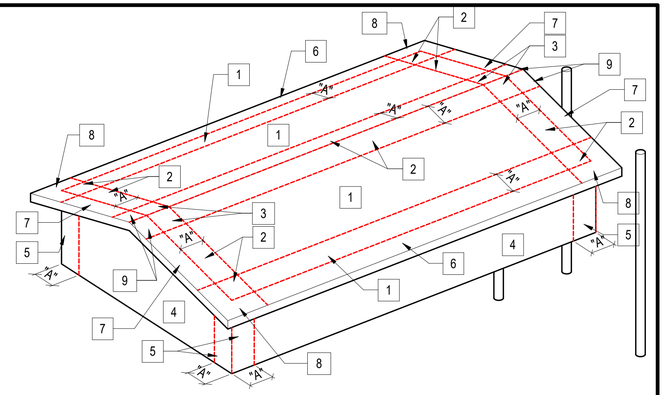

WIND DESIGN LOADS COMPONENTS AND CLADDING							
TYPE	ZONE	LOAD TYPE	EFFECTIVE WIND AREA 10 SF	20 SF	100 SF	200 SF
ROOF	1	UPLIFT	-42	-42	-16	-16
	2	UPLIFT	-61	-53	-34	-23
	3	UPLIFT	-72	-62	-38	-38
	ALL ZONES		16	16	16	16
WALLS	4	OUTWARD	-23	-22	-20	-19
	5	OUTWARD	-28	-26	-22	-20
	4 & 5	INWARD	21	20	18	17
OVERHANG	6	UPLIFT	-48	-48	-29	-29
	7	UPLIFT	-67	-61	-47	-40
	8	UPLIFT	-78	-68	-43	-32
	9	UPLIFT	-90	-76	-44	-44

NOTES:

1. PRESSURES ARE GIVEN IN PSF.
2. DESIGN WIND PRESSURES INDICATED MUST BE USED IN THE DESIGN OF ALL COMPONENTS AND CLADDING ELEMENTS.
3. POSITIVE PRESSURES ACT INWARD, TOWARD THE WIND SURFACE. NEGATIVE PRESSURES ACT OUTWARD, AWAY FROM THE WIND SURFACE.
4. PRESSURES ARE GIVEN AT STRENGTH LEVEL AND INCLUDE NO GRAVITY LOADS.
5. LINEAR INTERPOLATION IS PERMITTED FOR INTERMEDIATE EFFECTIVE WIND AREAS.
6. A = 3 FT

1 ISOMETRIC WIND DIAGRAM

SCALE:

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MARK J. WOODS
77293
CIVIL
STATE OF CALIFORNIA

CONCRETE BEAM SCHEDULE

MARK	DIMENSIONS WIDTH	DEPTH	REINFORCING TOP - BARS QUANTITY	SIZE	BTM - BARS QUANTITY	SIZE	STIRRUPS SIZE	SPACING	REMARKS
GB1	30"	18"	3	5	3	5	4	12"	
GB2	18"	42"	2	5	2	5	4	12"	
PC1	30"	18"	3	5	3	5	4	12"	

CONCRETE CAST IN DRILL HOLE (CIDH)

MARK	REF LEVEL	TIP ELEV FROM REF LEVEL	DIAMETER	REINFORCEMENT LONGITUDINAL QUANTITY	SIZE	TIES SIZE	SPACING	REMARKS
P1	REF FF	-26' - 0"	1' - 6"	6	6	4	12"	

2 DEEP FOUNDATION SCHEDULE

SCALE: 1" = 1'-0"

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DEPARTMENT OF PARKS, RECREATION & WATERFRONT

SCHEDULES AND DIAGRAMS
TOM BATES
REGIONAL SPORT COMPLEX

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S-601
SHEET 69 OF 92

ABBREVIATIONS

(D)	DEMOLISH
(E)	EXISTING
(F)	FUTURE
(N)	NEW
A	AMPERES
AC	ALTERNATING CURRENT
AF	AMP FRAME
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AIC	AMPS INTERRUPTING CAPACITY
ANN	ANNUNCIATOR
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BAT	BATTERY
BFG	BELOW FINISH GRADE
CATV	CABLE TELEVISION
C	CONDUIT
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
CO	CONDUIT ONLY
CPT	CONTROL POWER TRANSFORMER
CT	CURRENT TRANSFORMER
CU	COPPER
DC	DIRECT CURRENT
EF	EXHAUST FAN
EGU	ENGINE GENERATOR UNIT
EM	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
ENT	ELECTRICAL NON-METALLIC TUBING
EP	EXPLOSION PROOF
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FC	FOOT CANDLE
FU	FUSE
GND	GROUND
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFI	GROUND FAULT INTERRUPTER
GFR	GROUND FAULT RELAY
HID	HIGH INTENSITY DISCHARGE
HOA	"HAND-OFF-AUTO" SWITCH
HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
HVAC	HEATING, VENTILATION & AIR-CONDITIONING
IG	ISOLATED GROUND
JB	JUNCTION BOX
KAIC	KILO-AMPS INTERRUPTING CAPACITY
KV	KILOVOLT
KVA	KILOVOLT-AMP
KW	KILOWATT
KWH	KILOWATT-HOUR
LPS	LOW PRESSURE SODIUM
LV	LOW VOLTAGE
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MFR	MANUFACTURER
MH	METAL HALIDE
MLO	MAIN LUGS ONLY
MV	MEDIUM VOLTAGE
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
NTS	NOT TO SCALE
OC	ON CENTER
PA	PUBLIC ADDRESS
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE
PB	PULL BOX, ELECTRICAL
RECPT	RECEPTACLE, OUTLET
RGS	RIGID GALVANIZED STEEL (CONDUIT)
RVSS	REDUCED VOLTAGE SOFT START
RTU	REMOTE TERMINAL UNIT
SSTL	STAINLESS STEEL
TBD	TO BE DETERMINED
TV	TELEVISION MONITOR (SET)
TVSS	TRANS. VOLT. SURGE SUPPRESSOR
UF	UNDER FLOOR
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
V	VOLT
VA	VOLT-AMP
VFD	VARIABLE FREQUENCY DRIVE
WP	WEATHERPROOF
WPI	WEATHERPROOF IN USE
XFMR	TRANSFORMER

ELECTRICAL SYMBOLS LEGEND

LIGHTING

- ADJUSTABLE SPOT OR FLOOD (ARROW INDICATES AIMING)
- OUTDOOR SITE LIGHT, POLE MOUNTED LUMINAIRE ARROW INDICATES AIMING DIRECTION, IF APPLICABLE
- BOLLARD OR POST-TOP FIXTURE

POWER

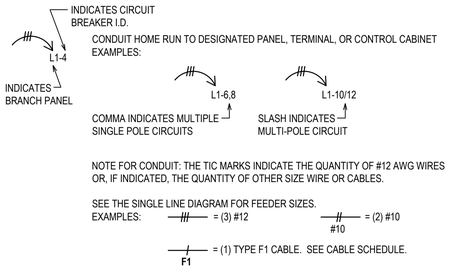
- DUPLEX RECEPTACLE, 20A 125V 2P 3W, GROUNDING TYPE, MOUNTING HEIGHT: +18" AFF UON
  - +48" — DENOTES HEIGHT IN INCHES AFF (INTERIOR) AFG (EXTERIOR)
- SPECIAL PURPOSE RECEPTACLE AS DESIGNATED SEE 'SPECIAL SYMBOLS' ON EACH SHEET
- JUNCTION BOX, CODE SIZED UON
- FLOOR JUNCTION BOX
- DISCONNECT SWITCH - FUSED WHERE APPLICABLE
- MOTOR STARTER, COMBINATION WITH DISCONNECT SWITCH
- MOTOR STARTER OR CONTROLLER
- MOTOR CONNECTION
- POWER POLE: P=POWER, T=TELEPHONE, D=DATA, C=COMBINATION
- GROUND ROD
- GUY WIRE AND ANCHOR

EQUIPMENT

- MAIN SWITCHBOARD
- DISTRIBUTION PANEL BOARD
- COMBINATION METER/MAIN SERVICE PANEL
- BRANCH CIRCUIT PANEL BOARD, SURFACE OR FLUSH MOUNTED
- LIGHTING CONTROL PANEL
- SIGNAL TERMINAL CABINET OR CONTROL PANEL SURFACE OR FLUSH MOUNTED
- SIGNAL TERMINAL BACKBOARD
- N30 — CONCRETE UNDERGROUND HAND HOLE (NUMBER DENOTES CHRISTY SIZE)
- TRANSFORMER

CONDUIT

- CONDUIT INSTALLED ABOVE GRADE
- CONDUIT INSTALLED UNDERGROUND OR UNDER SLAB
- CONDUIT STUB-OUT WITH CAP
- FLEXIBLE CONDUIT WHIP TO LIGHT FIXTURE OR EQUIPMENT



NOTE FOR CONDUIT: THE TIC MARKS INDICATE THE QUANTITY OF #12 AWG WIRES OR, IF INDICATED, THE QUANTITY OF OTHER SIZE WIRE OR CABLES.

SEE THE SINGLE LINE DIAGRAM FOR FEEDER SIZES.
EXAMPLES: /// = (3) #12 — // #10 = (2) #10

/ F1 = (1) TYPE F1 CABLE. SEE CABLE SCHEDULE.

OBJECT LINES

- NEW OBJECTS (HEAVY CONTINUOUS LINES, UNDERGROUND CONDUIT HEAVY DASHED LINES)
- EXISTING OBJECTS TO REMAIN. MAY INCLUDE NEW CIRCUITING ETC. (FINE CONTINUOUS LINES, UNDERGROUND CONDUIT FINE DASHED LINES)
- EXISTING OBJECTS TO BE DEMOLISHED (EXTRA FINE DASHED LINES, SCREENED)

ANNOTATION

- 1 — KEYNOTE
- 10 — RACEWAY, FEEDER OR CIRCUIT DESIGNATION (SEE SCHEDULE)
- A / 180 — DENOTES TYPE: LIGHTING FIXTURE TYPE DESIGNATION (SEE SCHEDULE); DENOTES WATTS
- 1 / E-501 — DETAIL NUMBER: DETAIL INDICATOR; SHEET NUMBER ON WHICH DETAIL APPEARS
- A / E-301 — SECTION LETTER: SECTION INDICATOR; SHEET NUMBER ON WHICH SECTION APPEARS
- WH / 1 — MECHANICAL EQUIPMENT DESIGNATION (SEE SCHEDULE)

GENERAL ELECTRICAL NOTES

1. ALL WORK SHALL CONFORM TO THE LATEST ADOPTED VERSION OF THE CALIFORNIA ELECTRICAL CODE (CEC).
2. THE CONTRACTOR SHALL MAINTAIN ALL EQUIPMENT IN A SAFE AND RESPONSIBLE MANNER. KEEP DEAD FRONT EQUIPMENT IN PLACE WHILE EQUIPMENT IS ENERGIZED. CONDUCT ALL CONSTRUCTION OPERATIONS IN A SAFE MANNER FOR EMPLOYEES AS WELL AS OTHER WORK PERSONS OR ANYONE VISITING THE JOB SITE. PROVIDE BARRIERS, FLAGS, TAPE, ETC. AS REQUIRED TO MAINTAIN SAFETY.
3. PRIOR TO COMMENCING WORK ON EXISTING SYSTEMS OR WHERE EXISTING SYSTEMS REQUIRE TEMPORARY SHUT DOWNS, COORDINATE WITH OWNERS REPRESENTATIVE. WHERE DISCONNECTING, MODIFYING OR WORKING ON EXISTING EQUIPMENT OR SYSTEMS, PROVIDE A WRITTEN METHOD OF PROCEDURE OUTLINING DATES, TIMES, DURATION AND DESCRIPTION OF PROPOSED WORK FOR APPROVAL PRIOR TO COMMENCING WORK . WORK ON EXISTING EQUIPMENT SHALL NOT COMMENCE UNTIL WRITTEN AUTHORIZATION IS GIVEN BY THE OWNERS REPRESENTATIVE.
4. ALL EQUIPMENT SHALL BE LISTED AND LABELED PER RECOGNIZED ELECTRICAL TESTING LABORATORY AND INSTALLED PER THE LISTING REQUIREMENTS AND THE MANUFACTURERS INSTRUCTIONS.
5. ALL EQUIPMENT SHALL BE GROUNDED PER THE REQUIREMENTS OF CEC ARTICLE 250. EQUIPMENT GROUNDING CONDUCTORS SHALL BE INSTALLED IN ALL POWER SYSTEM RACEWAYS AND HAND HOLES.
6. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF ALL DIMENSIONS PRIOR TO CONSTRUCTION.
7. ALL WORK ON OR AROUND UTILITY EQUIPMENT AND FEEDERS SHALL BE COORDINATED WITH THAT UTILITY. ALL WORK ON UTILITY EQUIPMENT SHALL BE TO UTILITY STANDARDS AND REQUIREMENTS
8. ELECTRICAL EQUIPMENT TIGHTENING TORQUE VALVES FOR TERMINAL CONNECTIONS SHALL BE AS INDICATED ON EQUIPMENT OR INSTILLATION INSTRUCTIONS PROVIDED BY THE MANUFACTURER.

APPLICABLE CODES

1. 2023 NFPA 70 NATIONAL ELECTRIC CODE.
2. 2022 CALIFORNIA ENERGY CODE (AS ADOPTED AND AMENDED BY THE CITY OF BERKELEY).
3. 2022 CALIFORNIA BUILDING CODE.
4. TITLE 24 PART 6.

TITLE 24 PART 6

SECTION 130.1 INDOOR LIGHTING REQUIREMENTS: COMPLIANCE DOCUMENTATION BY BUILDING MANUFACTURER.

SECTION 130.2 OUTDOOR LIGHTING REQUIREMENTS: COMPLIANCE DOCUMENTATION ON SHEET ES-701-ES-702

1. 130.2 (c)1. DAYLIGHT AVAILABILITY-AUTOMATICALLY CONTROLLED VIA ASTRONOMICAL TIME CLOCK.
2. 130.2 (c)3. MOTION SENSING NOT REQUIRED PER EXEMPTION 1. DESIGN LUMINAIRE UNDER 40 WATTS.

LIGHTING ANALYSIS TO PUBLIC RIGHTAWAY FROM NEW BUILDING

EXISTING LIGHT FIXTURE MODEL NUMBERS WHERE NOT AVAILABLE TO PERFORM ACCURATE LIGHTING ANALYSIS ALONG EXISTING INDICATED PATHWAY SHOWN ON ES-101. FOR MODELING PURPOSES THE EXISTING 80,000 LUMENS 1000W METAL HALIDE LAMPS WHERE SUBSTITUTED WITH 43,000 LUMEN 350 WATT LED FIXTURES FOR A CONSERVATIVE APPROACH AND LIGHT LOSS FACTOR CONSIDERATIONS. USING THIS CONSERVATIVE APPROACH THE CALCULATED LIGHTING LEVELS ARE AVERAGE=1.13 FC AND MINIMUM =0.1 FC WHICH MEET MINIMUM REQUIREMENTS FOR EGRESS PATH TO PUBLIC RIGHTAWAY. THESE CALCULATIONS DO NOT INCLUDE THE ADDITIONAL AREA LIGHTING INSTALLED AT EACH POLE WHICH PROVIDE ADDITIONAL LIGHTING ALONG THIS PATH.

SHEET INDEX

SHEET NUMBER	SHEET TITLE
ES-001	ELECTRICAL SYMBOL LEGEND, ABBREVIATIONS AND GENERAL NOTES
ES-101	ELECTRICAL SITE PLAN
ES-102	ELECTRICAL SITE PLAN ENLARGED
ES-501	ELECTRICAL DETAILS
ES-502	ELECTRICAL DETAILS
ES-601	SINGLE LINE DIAGRAM AND SCHEDULES
ES-701	TITLE 24
ES-702	TITLE 24

REGISTERED PROFESSIONAL ENGINEER — LEVICK A. OSMAN — No. E 23931 — Exp. 12/31/25 — ELECTRICAL — STATE OF CALIFORNIA

MARK	DATE	DESCRIPTION
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PERMIT SET

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SUITE 303
BERKELEY, CA 94704
PHONE: (510) 835-2761

0 1 2 3
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MANAGER OF ENGINEERING R.C.E. EXP.

DESIGN EAO
DRAWN SD
CHECK NW
AS BUILT

HORIZ. 1"=X'
VERT. 1"=X'
BOOK
DATE 7/31/25

CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

ELECTRICAL SYMBOL LEGEND, ABBREVIATIONS AND GENERAL NOTES
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
ES-001
SHEET 70 OF 92

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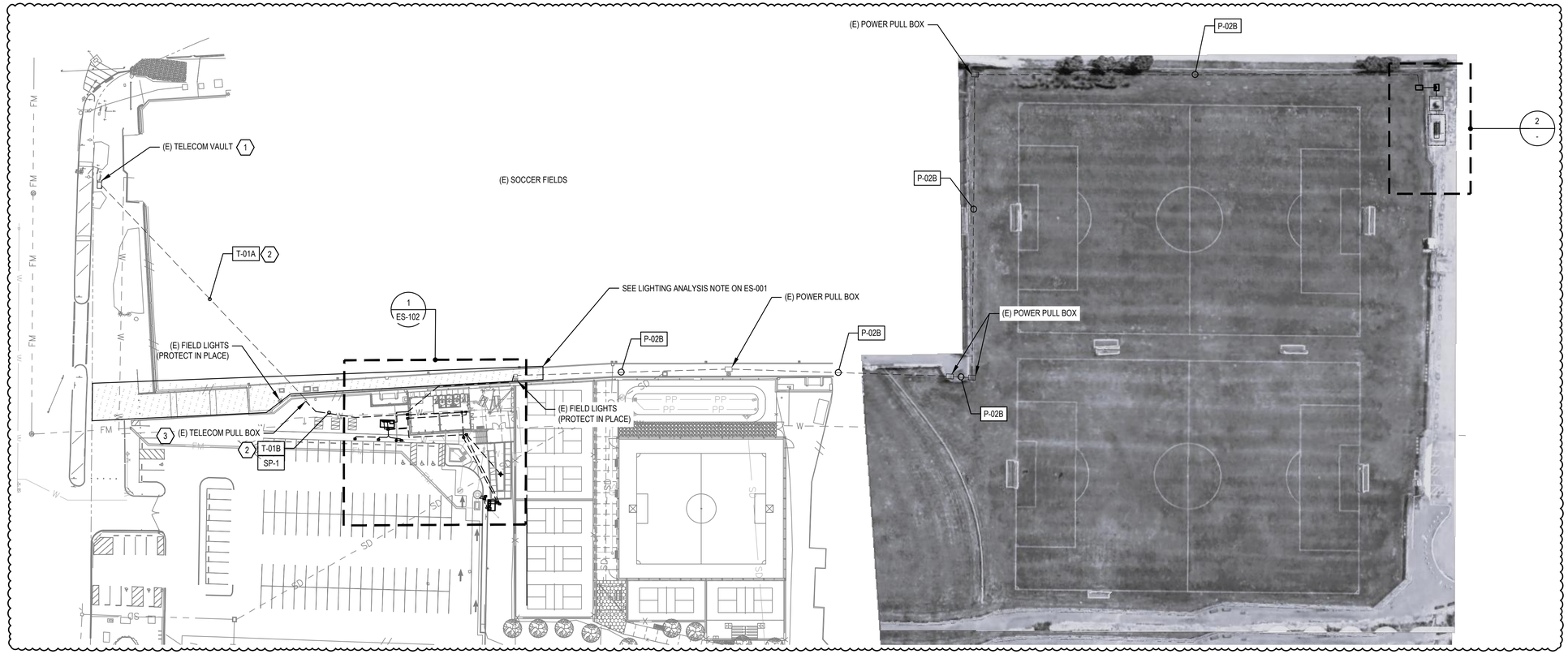

SHEET GENERAL NOTES

1. SITE REQUIRES COORDINATION WITH PG&E FOR A NEW POWER SERVICE. CURRENT PROJECT SCOPE IS TO UTILIZE AND EXISTING PAD MOUNTED TRANSFORMER ACROSS SOCCER FIELDS AS A SERVICE POINT UTILITY TRANSFORMER TYPE AND LOCATION SHOWN ARE APPROXIMATE. FINAL LOCATION, SERVICE DESIGN AND EQUIPMENT TYPE TBD BY PG&E.
2. CONTRACTOR SHALL VERIFY CONDUIT AND FEEDER ROUTING PRIOR TO CONSTRUCTION AND MAKE ADJUSTMENTS IN ROUTING AS NECESSARY TO ACCOMMODATE FIELD CONDITIONS.
3. REFER TO SINGLE LINE DIAGRAM ON SHEET ES-601 FOR EQUIPMENT RATINGS.

SHEET KEYNOTES

2

1. PROVIDE TELECOM SERVICE FROM LOCAL TELECOM UTILITY COMPANY. INITIATE APPLICATION AND COORDINATE ASSOCIATED FEES WITH CITY TO PROVIDE A COMPLETE TELECOMMUNICATION SYSTEM. PROVIDE EQUIPMENT AS REQUIRED BY UTILITY
2. ROUTE NEW TELECOM CABLES VIA (E) AND (N) CONDUIT.
3. CONNECT (N) CONDUIT TO (E) PULLBOX AND EXTEND TO (N) MULTIPURPOSE BUILDING.
4. PROVIDE 30" X 60" PULLBOX AND COVER. SEE DETAIL 4 ON ES-501.
5. PROVIDE UNISTRUT MOUNTING FRAME AND CONCRETE PAD PER DETAIL 6 ON SHEET ES-501.
6. PROVIDE METER PANEL WITH MAIN CIRCUIT BREAKER. SEE SINGLE LINE DIAGRAM FOR EQUIPMENT RATINGS.
7. PROVIDE ELECTRICAL POWER SERVICE TO (N) 100A METER MAIN PEDESTAL FROM (E) UTILITY TRANSFORMER. COORDINATE WITH PG&E AND PAY ALL ASSOCIATED FEES.

REGISTERED PROFESSIONAL ENGINEER
LEVICK A. OSMAN
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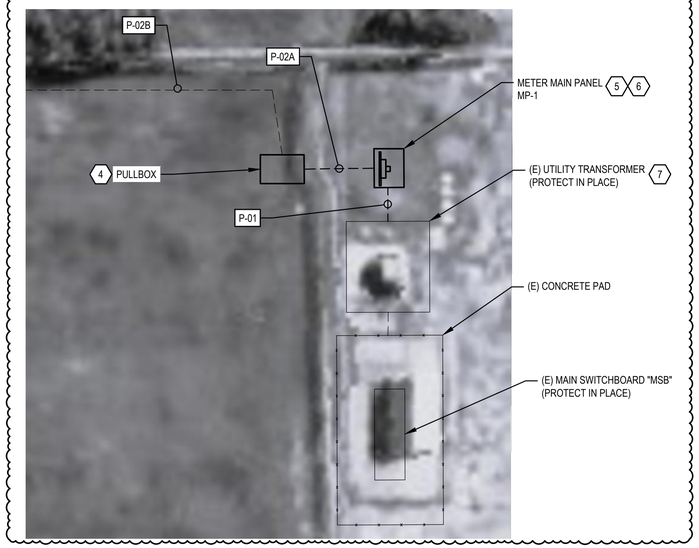
2

1 ELECTRICAL OVERALL SITE PLAN

SCALE: 1" = 50'

0 50' 100' N

2



2 ELECTRICAL SERVICE ENTRANCE EQUIPMENT ENLARGED VIEW

SCALE: 1" = 10'

0 10' 20' N

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HORIZ. 1"=X'
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CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

ELECTRICAL SITE PLAN
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
ES-101
SHEET 71 OF 92

$USERS - $TIMES - $FILE$
$DATE$

SHEET KEYNOTES

1. PROVIDE SURFACE MOUNT PANELBOARD. REFER TO PANEL SCHEDULE ON SHEET ES-601 FOR RATING AND ADDITIONAL REQUIREMENTS.
2. PROVIDE 4 RELAY ASTRONOMICAL TIMECLOCK. TORK ELC74 OR EQUAL.
3. PROVIDE 24" X 36" CONCRETE PULLBOX WITH CONCRETE COVER PER DETAIL 4 ON SHEET ES-501.
4. PROVIDE 12"x12"x8" DEEP MPOE TELECOM BOX AND 3/4" FIRE RATED PLYWOOD BACKBOARD ON INTERIOR WALL OF MECHANICAL CHASE. MOUNT MPOE ON BACKBOARD.

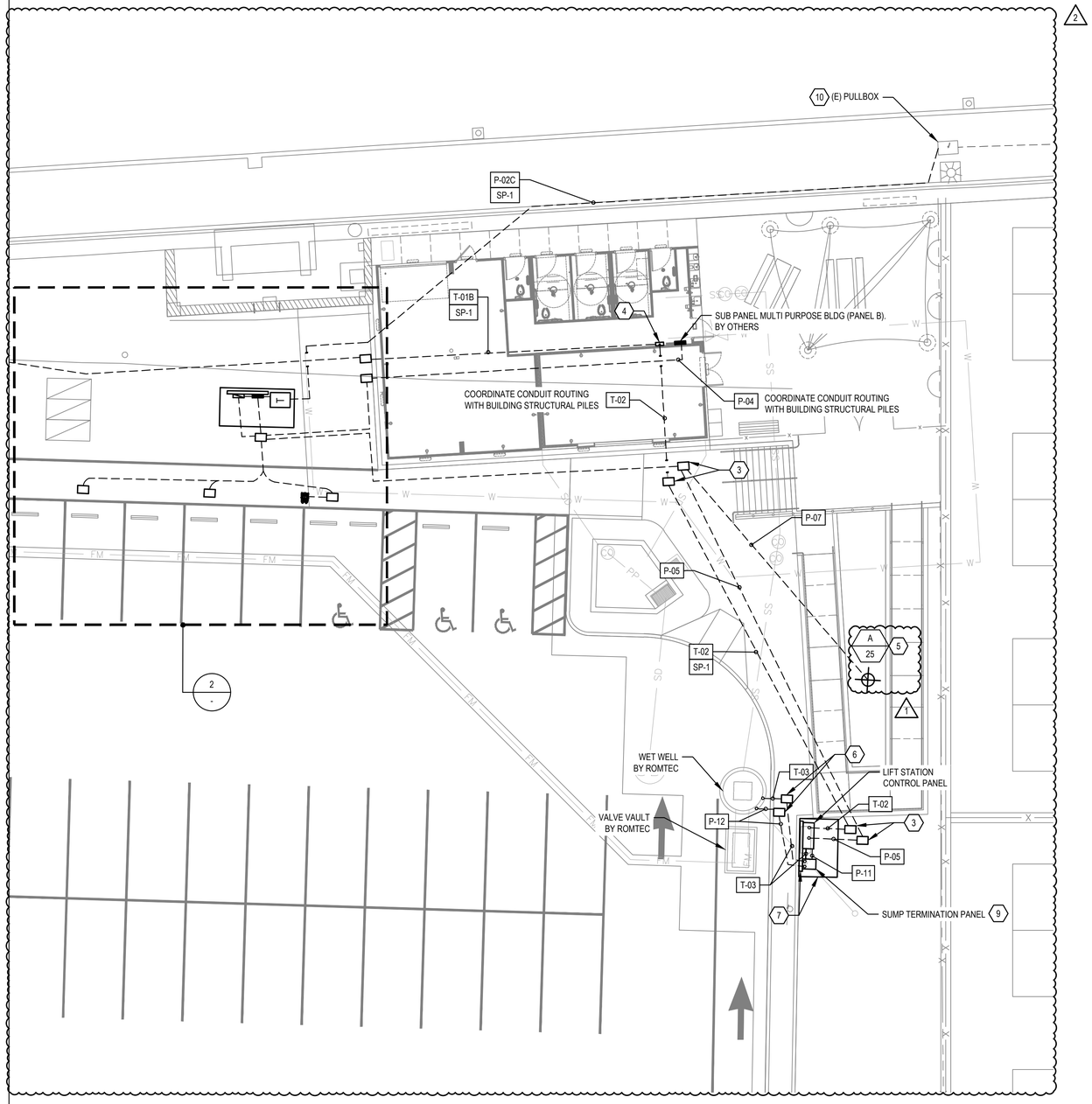
1
6. PROVIDE LIGHT FIXTURE TYPE AS INDICATED. PROVIDE POLE FOUNDATION PER DETAIL 1 ON SHEET ES-502. PROVIDE LIGHTING POWER CIRCUIT FROM PANEL-A. ROUTE VIA TIMECLOCK RELAY.

6. PROVIDE 12"X24" CONCRETE PULL BOX. SEE DETAIL 4 ON SHEET ES-501.

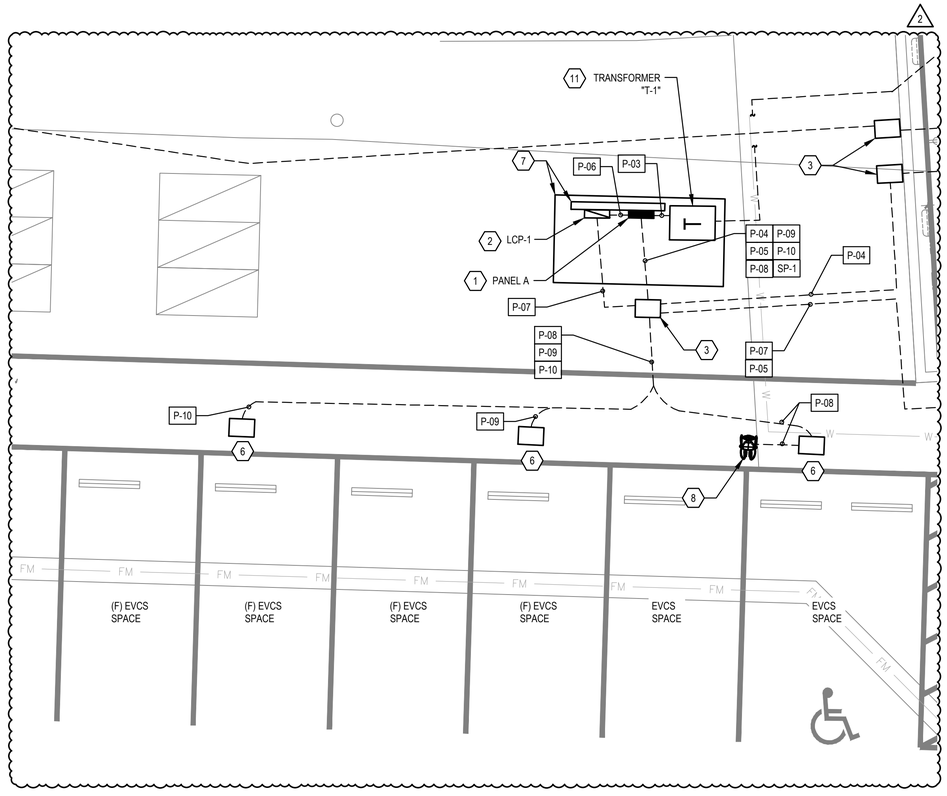
2
7. PROVIDE UNISTRUT MOUNTING FRAME AND CONCRETE EQUIPMENT PAD PER DETAIL 3&6 ON SHEET ES-501..
8. PROVIDE EVCS (CHARGEPOINT CT4000 DUAL PRT CHARGER) AND BASE MOUNT PER MANUFACTURER REQUIREMENTS. REFER TO SINGLE LINE DIAGRAM FOR EQUIPMENT RATINGS. CHARGERS MUST BE EQUIPPED WITH OPERABLE PARTS PER CBC SECTION 11B-309.
9. PROVIDE SUMP TERMINATION PANEL. SEE DETAIL 3 ON ES-502. TESCONNEX OR EQUAL.
10. CONNECT (N) CONDUIT TO (E) PULLBOX AND EXTEND TO (N) PAD MOUNT TRANSFORMER. SEE ENLARGED VIEW 2 THIS SHEET.
11. PROVIDE PADMOUNT DRYTYPE TRANSFORMER. SEE SINGLE LINE DIAGRAM ON ES-601 FOR EQUIPMENT RATING.

SHEET GENERAL NOTES

1. SITE REQUIRES COORDINATION WITH PG&E FOR A NEW POWER SERVICE. CURRENT PROJECT SCOPE IS TO UTILIZE AND EXISTING PAD MOUNTED TRANSFORMER ACROSS SOCCER FIELDS AS A SERVICE POINT UTILITY TRANSFORMER TYPE AND LOCATION SHOWN ARE APPROXIMATE. FINAL LOCATION, SERVICE DESIGN AND EQUIPMENT TYPE TBD BY PG&E.
2. CONTRACTOR SHALL VERIFY CONDUIT AND FEEDER ROUTING PRIOR TO CONSTRUCTION AND MAKE ADJUSTMENTS IN ROUTING AS NECESSARY TO ACCOMMODATE FIELD CONDITIONS.
3. REFER TO SINGLE LINE DIAGRAM ON SHEET ES-601 FOR EQUIPMENT RATINGS.
4. COORDINATE BELOW GRADE CONDUIT ROUTING UNDER BUILDING WITH STRUCTURAL PILES.
5. COORDINATE WITH PREFABRICATED BUILDING VENDOR REGARDING LOCATION OF RISER INTO BUILDING THROUGH THE MAT SLAB.



1 **ELECTRICAL SITE PLAN - ENLARGED**
SCALE: 1" = 10'
0 10' 20' N



2 **ELECTRICAL ENLARGED VIEW**
SCALE: 1" = 5'
0 5' 10' N

REGISTERED PROFESSIONAL ENGINEER
LEVICK A. OSORIO
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Exp. 12/31/25
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STATE OF CALIFORNIA

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DESCRIPTION

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BOOK
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CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

ELECTRICAL SITE PLAN ENLARGED
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
ES-102
SHEET 72 OF 92

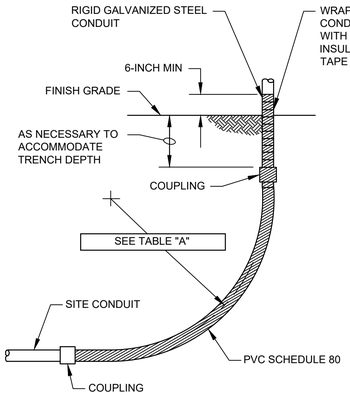
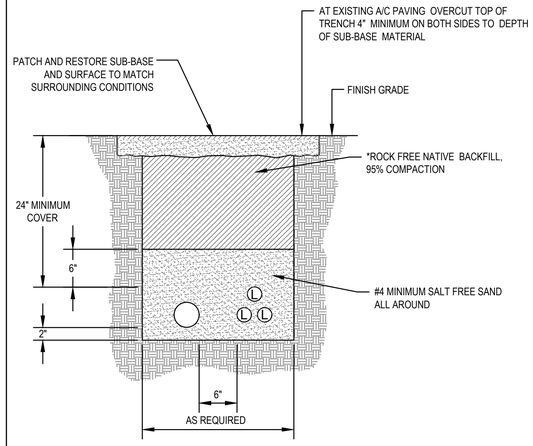


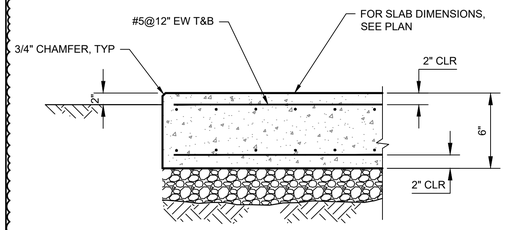
TABLE "A" - PVC SCHEDULE 80		
CONDUIT SIZE	MINIMUM ELBOW RADIUS REQUIREMENTS	
	RUNS 0-100 FEET	RUNS GREATER THAN 101 FEET
1/2-INCH	4-INCH	4-INCH
3/4-INCH	4 1/2-INCH	4 1/2-INCH
1-INCH	5 3/4-INCH	5 3/4-INCH
1 1/4-INCH	7 1/4-INCH	7 1/4-INCH
1 1/2-INCH	8 1/4-INCH	8 1/4-INCH
2-INCH	9 1/2-INCH	9 1/2-INCH
2 1/2-INCH	10 1/2-INCH	11 7/16-INCH
3-INCH	13-INCH	13 3/4-INCH
4-INCH	16-INCH	18 1/4-INCH
5-INCH	24-INCH	-
6-INCH	30-INCH	-

1 TYPICAL CONDUIT STUB UP NOT TO SCALE



NOTE:
MAINTAIN A MINIMUM VERTICAL SEPARATION OF 12" WHEN CROSSING UTILITIES. ROUTE CONDUIT EITHER ABOVE OR BELOW OTHER UTILITIES AS NECESSARY TO ACHIEVE THIS SEPARATION WHILE MAINTAINING THE MINIMUM BACKFILL COVERAGE.

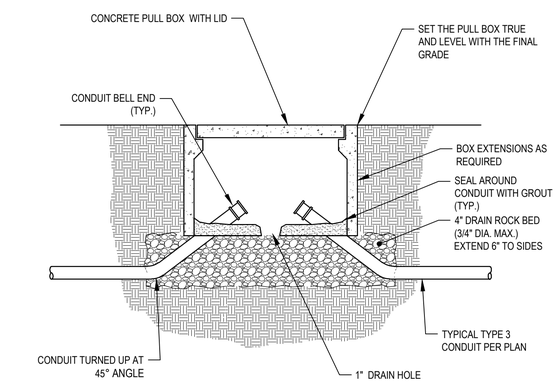
2 TYPICAL ELECTRICAL TRENCH NOT TO SCALE



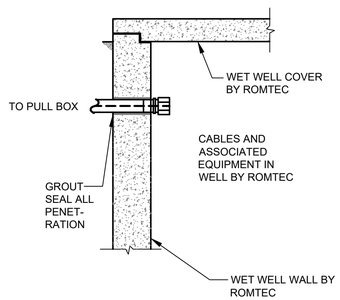
NOTES:

1. FOUNDATION MATERIAL UNDER SLAB SHALL INCLUDE 6" OF CLASS 2 AB, MEETING THE REQUIREMENTS OF CALTRANS STANDARD SPECIFICATIONS SECTION 26 FOR 3/4-INCH MAXIMUM GRADING, COMPACTED TO 95% MDD IN ACCORDANCE WITH ASTM D 1557. CONTRACTOR SHALL SUBMIT MATERIAL TO ENGINEER FOR APPROVAL.
2. USE THIS DETAIL FOR TYPICAL EXTERIOR SLAB ON GRADE UNLESS OTHERWISE NOTED.
3. CONTRACTOR TO PROVIDE FIELD DENSITY AND COMPACTION REPORTS. IN CASE COMPACTION TESTS SHOW NONCOMPLIANCE WITH REQUIREMENTS, THE CONTRACTOR SHALL ACCOMPLISH SUCH REMEDY AS MAY BE REQUIRED TO ENSURE COMPLIANCE. SUBSEQUENT TESTING TO SHOW COMPLIANCE SHALL BE BY A TESTING LABORATORY SELECTED BY THE CITY AND SHALL BE AT THE CONTRACTOR'S EXPENSE.
4. DO NOT PLACE SUBGRADE OR FOUNDATION MATERIAL UNDER SLAB DURING PERIODS OF HEAVY RAINFALL WHEN SOIL MOISTURE CONDITIONS WILL NOT PERMIT ACHIEVING REQUIRED COMPACTION.
5. MINIMUM DISTANCE FROM CENTER OF ANCHOR BOLT TO EDGE OF SLAB SHALL BE 6 INCHES.
6. CONTRACTOR TO CONFIRM ALL PAD DIMENSIONS BASED ON ACTUAL EQUIPMENT ORDERED PRIOR TO FABRICATION.

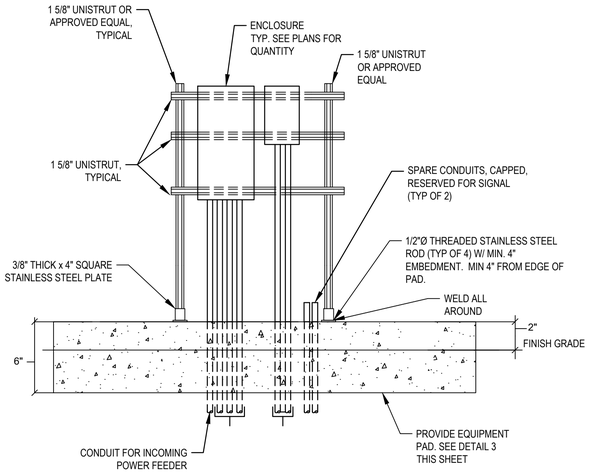
3 EXTERIOR SLAB ON GRADE NOT TO SCALE



4 TYPICAL PULL BOX NOT TO SCALE



5 TYPICAL WET WELL WALL CONDUIT PENETRATION NOT TO SCALE



NOTES:

1. COORDINATE SIZE OF FRAME AND PAD WITH ACTUAL DIMENSIONS OF ENCLOSURES AS SHIPPED.
2. ALL STRUT, HARDWARE, BOXES, AND ACCESSORIES SHALL BE STAINLESS STEEL.

6 TYPICAL UNISTRUT ENCLOSURE /EQUIPMENT SUPPORT NOT TO SCALE

REGISTERED PROFESSIONAL ENGINEER — LEVICK A. OSMAN — No. E 22837 — Exp. 12/31/25 — ELECTRICAL — STATE OF CALIFORNIA

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CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

ELECTRICAL DETAILS
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
ES-501
SHEET 73 OF 92

DESIGN ASSUMPTIONS:

THE FOUNDATION DESIGN SET FORTH IN THIS DETAIL IS BASED ON THE FOLLOWING PARAMETERS. FOUNDATION REQUIREMENTS MAY DIFFER DEPENDING ON GEOGRAPHIC LOCATION, LUMINAIRE SIZE AND CONFIGURATION, POLE SIZE AND CONFIGURATION AS WELL AS SOIL CONDITIONS. THE DESIGN PROFESSIONAL SHALL VERIFY THAT THE FOUNDATION DESIGN PROVIDED MEETS OR EXCEEDS THAT REQUIRED FOR THE PROJECT IN WHICH THIS DETAIL IS BEING USED. THIS DESIGN ASSUMES THAT WIND LOAD GOVERNS OVER SEISMIC LOADING FOR THE LIGHT POLE FOUNDATION DESIGN.

DESIGN CODES: CURRENT CALIFORNIA BUILDING CODE (CURRENT CBC) USING ASCE 7-16, CHAPTER 29, FOR WIND LOADS AND THE POLE FOUNDATION FORMULAS AS SET FORTH IN CURRENT CBC SECTION 1807A.3.2.

EFFECTIVE PROJECTED AREA (EPA):
- LUMINAIRE: 5-FT^2
- POLE: 0.5-FT x POLE HEIGHT
- BOLLARD BASE: 2-FT^2

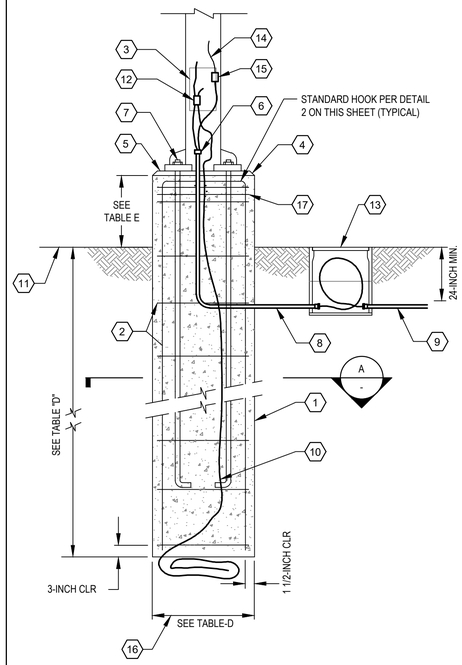
RISK CATEGORY:	II
BASIC WIND SPEED:	110 MPH
DIRECTIONALITY FACTOR 'K_d':	0.95
EXPOSURE CATEGORY:	C
TOPOGRAPHIC FACTOR 'K_{zt}':	1.0
GUSS EFFECT FACTOR 'G':	0.85
VELOCITY PRESSURE COEFFICIENT 'K_z':	
0 FT - 15 FT: 0.85	
15 FT - 20 FT: 0.90	
20 FT - 25 FT: 0.94	
25 FT - 30 FT: 0.98	
30 FT - 35 FT: 1.01	
VELOCITY PRESSURE:	$q = 0.00256K_zK_{zt}K_dV^2$ (PSF)
FORCE COEFFICIENT 'C_f':	
0 FT - 15 FT: 0.64	
15 FT - 25 FT: 0.70	
25 FT - 35 FT: 0.86	
WIND FORCE:	$F = q_zGC_fA_f$
SOIL TYPE:	CLAY SOIL PER TABLE 1806A.2

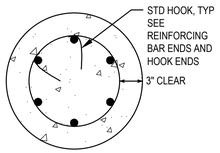
GENERAL NOTES:

1. ALL CONCRETE SHALL BE NORMAL WEIGHT, WITH A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS.
2. ALL REINFORCING SHALL BE ASTM A615, Fy = 60 KSI. NO WELDING OF ANY REINFORCING IS PERMITTED.

DETAIL NOTES:

1. POURED IN PLACE ROUND CONCRETE SUPPORT BASE.
2. 6- NO. 6 VERTICAL BARS WITH NO. 3 TIES @ 12-INCH O.C.
3. ACCESS HAND-HOLE.
4. 3/4-INCH - 45°CHAMFER ALL AROUND.
5. GROUT IN ALL AROUND BETWEEN BOTTOM OF POLE BASE FOLLOWING POLE ERECTION AND FINAL LEVELING.
6. STUB CONDUIT UP INTO POLE BASE WIRING CAVITY. (IF RGS TERMINATE WITH GROUNDING BUSHING.)
7. PROVIDE SUPPORT AND LEVELING NUTS ON TOP AND BOTTOM OF POLE BASE MOUNTING PLATE. MOUNTING PLATE AND MOUNTING BOLTS SHALL BE PER MANUFACTURERS BOLT PATTERN, LENGTH SHALL BE PER MANUFACTURERS SPECIFICATIONS. WITH 2'-0" MIN. EMBEDMENT INTO CONCRETE POLE BASE.
8. TYPICAL PVC CONDUIT, 1-1/4 INCH MIN, WITH CONDUCTORS AS INDICATED ON DRAWINGS.
9. TYPICAL INCOMING EXTERIOR BRANCH CIRCUIT CONDUIT AND WIRING FROM U.G. CONDUITS.
10. (1) #4 AWG BARE COPPER GROUND. COIL 30-INCH AT BOTTOM OF FOUNDATION.
11. TOP OF SODDED GRADE, SIDEWALK OR ASHPALT PAVING AS INDICATED ON THE RESPECTIVE AREA SITE PLAN.
12. BOLTED TYPE WIRE GROUND CONNECTOR.
13. ELECTRICAL BOX. ALL SPLICES SHALL BE MADE IN THE PULL BOX AND SHALL BE WATERPROOF, CAST TYPE.
14. WIRING TO LIGHT FIXTURE. CONNECT COMPLETE.
15. WATERPROOF IN-LINE FUSES.
16. WHERE THERE ARE EXISTING POLE MOUNTED FIXTURES ON THE JOB SITE, MODIFY DIAMETER OF POLE BASE TO MATCH EXISTING. MINIMUM DIAMETER SHALL BE AS NOTED.
17. LATERAL REINFORCEMENT SHALL BE DISTRIBUTED WITHIN 5-INCHES OF THE TOP OF THE COLUMN AND SHALL CONSIST OF 2-NO. 4 OR 3-NO. 3 BARS. (PER ACI3-18, SECTION 10.7.6.1.6)





SECTION A

TABLE-D

POLE HEIGHT	POLE BASE DEPTH (H)		
	CONSTRAINED*	NON-CONSTRAINED	MIN DIAMETER
0 FT - 4 FT (BOLLARD)	18-INCH	24-INCH	12-INCH
4 FT - 15 FT	39-INCH	52-INCH	18-INCH
15 FT - 25 FT	54-INCH	72-INCH	18-INCH
25 FT - 35 FT	66-INCH	87-INCH	18-INCH

*LATERAL CONSTRAINT IS PROVIDED AT THE GROUND SURFACE SUCH AS BY A RIGID FLOOR OR CONCRETE PAVEMENT OR ASPHALT PAVEMENT.

TABLE-E

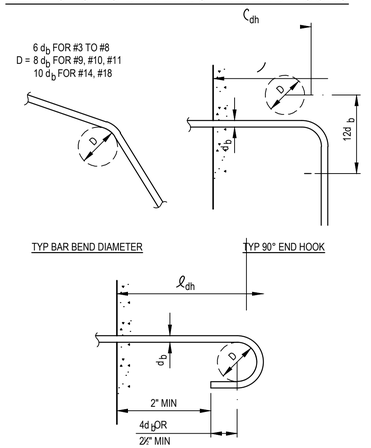
POLE LOCATION	BASE HEIGHT ABOVE FINISHED GRADE
PARKING LOT	36"
PRIVATE DRIVE	36"
LANDSCAPE, PEDESTRIAN AREAS	FLUSH WITH GRADE

1 TYPICAL CONCRETE POLE BASE NOT TO SCALE

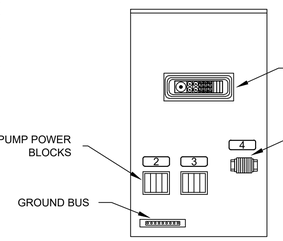
MINIMUM TENSION EMBEDMENT LENGTHS (IN.) ℓ_{dh} FOR STANDARD END HOOKS ON REINFORCING BARS

BAR SIZE	NORMAL WEIGHT CONCRETE, fc, PSI			
	3000	4000	5000	6000
#3	6	6	6	6
#4	8	7	6	6
#5	10	9	8	7
#6	12	10	9	9
#7	14	12	11	10
#8	16	14	12	11
#9	18	15	14	13
#10	20	17	16	14
#11	22	19	17	16
#14	38	33	29	27
#18	50	43	39	35

REINFORCING BAR ENDS AND END HOOKS



2 REINFORCING BAR ENDS AND END HOOKS NOT TO SCALE



FRONT VIEW
(SHOWN WITH DOORS OPEN)
NON-HAZARDOUS COMPARTMENT

NAMEPLATE SCHEDULE	
TAG	INSCRIPTION
1	PUMP TERMINATION CABINET
2	PUMP 1
3	PUMP 2
4	LEVEL SWITCHES

NOTES:

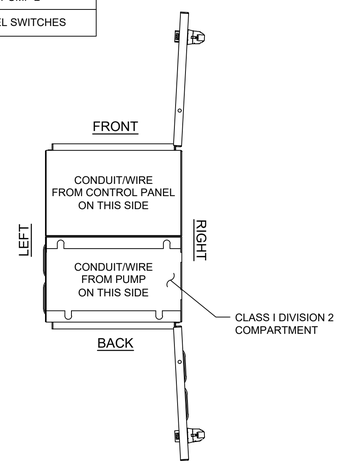
1. 1" X 4" PLATE NAMEPLATE IS WITH 1/4" ENGRAVED LETTERING (TYP). NAMEPLATES SHALL BE BLACK WITH WHITE ENGRAVED LETTERING.

DETAIL "A" - WARNING NAMEPLATE

WARNING
EQUIPMENT CABLES TO PASS FROM CLASS I DIVISION 2 AREA TO AN UNRATED AREA. ALL COMPRESSION POINTS SHALL INCLUDE BLANK PLUGS FOR INSTALLATION WHEN CABLES ARE REMOVED.

NOTES:

1. FIRST LINE IS 1/4" ENGRAVED LETTERING.
2. OTHER LINES ARE 3/16" ENGRAVED LETTERING.
3. NAMEPLATE IS RED WITH WHITE ENGRAVED LETTERS.
4. NAMEPLATE DIMENSIONS ARE 2"H x 6"W.



TOP VIEW
(NON-HAZARDOUS SIDE HAS SOLID BOTTOM HAZARDOUS COMPARTMENT HAS OPEN BOTTOM)

3 SUMP TERMINATION PANEL NOT TO SCALE

REGISTERED PROFESSIONAL ENGINEER — LEVICK A. OSBORN — No. E 22837 — Exp. 12/31/25 — ELECTRICAL — STATE OF CALIFORNIA

MARK	DATE	DESCRIPTION
2	7/31/25	REVISED ELECTRICAL DESIGN
1	4/25/25	CORRECTIONS FIRST

REVISION | DATE | APPROVAL

PERMIT SET

TRANSYSTEMS
2000 CENTER STREET
SUITE 303
BERKELEY, CA 94704
PHONE: (510) 835-2761

0 1 2 3
FOR REDUCED PLANS – ORIGINAL SCALE IS IN INCHES

DEPICTION OF MONUMENTS: DATE
SURVEY PARTY CHIEF
WATERSHED REVIEW: DATE

SUBMITTED: DATE
SUPERVISING CIVIL ENGINEER R.C.E. EXP.
APPROVED: DATE
MANAGER OF ENGINEERING R.C.E. EXP.

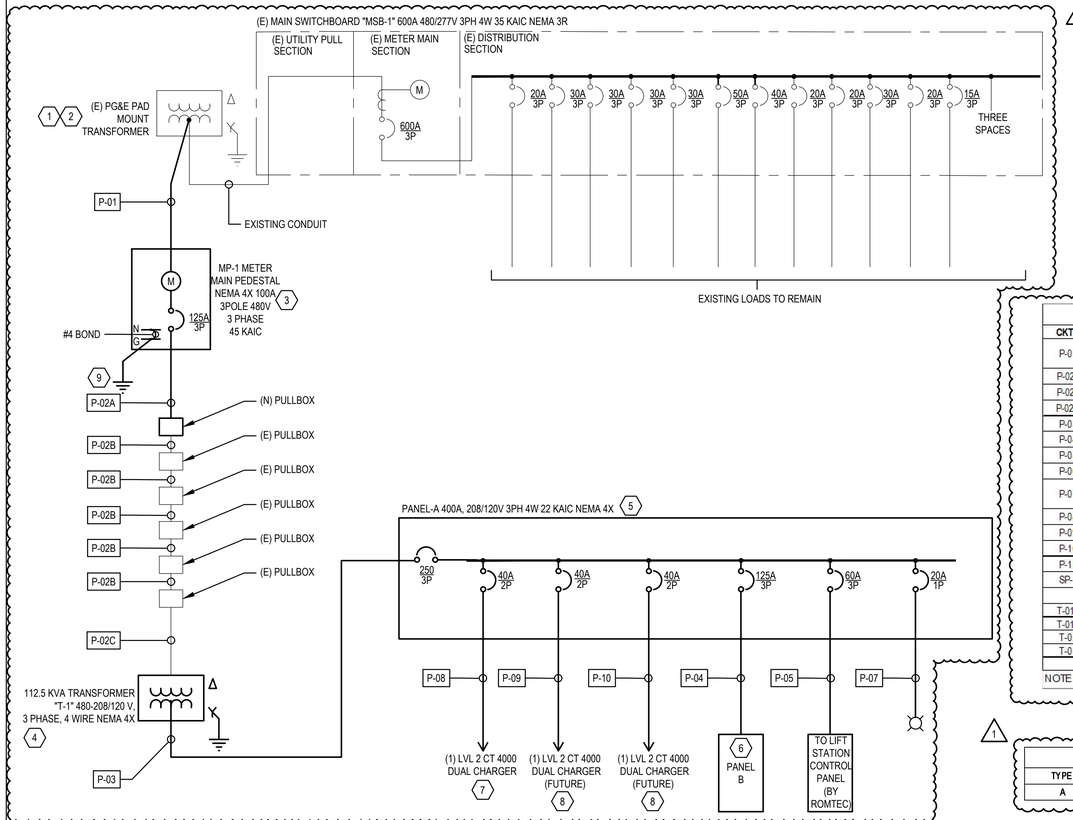
DESIGN EAO
DRAWN SD
CHECK NW
AS BUILT
DATE 7/31/25

HORIZ. 1"=X'
VERT. 1"=X'
BOOK
DATE

CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

ELECTRICAL DETAILS
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
ES-502
SHEET 74 OF 92



GENERAL NOTES

1. REFER TO SITE PLAN FOR EQUIPMENT LOCATIONS.
2. PROVIDE CONDUIT AND CABLE PER CONDUIT AND CABLE SCHEDULE.

SHEET KEYNOTES

1. PROVIDE PG&E ELECTRICAL POWER SERVICE.
2. ROUTE CONDUIT BELOW TRANSFORMER. PROVIDE STUB UP IN TRANSFORMER CONDUIT WINDOW.
3. PROVIDE SERVICE ENTRANCE METER AND MAIN CIRCUIT BREAKER PANEL.
4. PROVIDE PADMOUNT DRYTYPE TRANSFORMER.
5. PROVIDE DISTRIBUTION BOARD WITH RATINGS SHOWN ON PANEL SCHEDULE.
6. PANEL SUPPLIED BY PREFABRICATED BUILDING MANUFACTURER AND PRE-CIRCUITED TO DEVICES AND LOADS INSIDE BUILDING. ELECTRICAL CONTRACTOR TO SUPPLY POWER FEEDER TO PANEL.
7. PROVIDE CHARGEPOINT CT4000 DUAL PORT LEVEL 2 CHARGER CONFIGURED FOR POWER SHARING.
8. PROVIDE EVCS CAPABLE INFRASTRUCTURE AS SHOWN ON SITE PLAN.
9. PROVIDE 5/8" X 10' LONG CU GROUND ROD.

CONDUIT AND CABLE SCHEDULE

CKT #	DESCRIPTION	FROM	TO	AMPS	CONDUIT TYPE	CONDUIT SIZE	CABLE SIZE	VOLTAGE DROP %	REMARKS
P-01	480V FEEDER	(E) PG&E PAD MOUNT TRANSFORMER	METER/MAIN PEDESTAL	100	PVC	3-INCH	PULL STRING	-	CONDUCTORS BY UTILITY
P-02A	480V FEEDER (N) CONDUITS	METER/MAIN PEDESTAL	(N) PULL BOX	100	PVC	(2) 2-INCH	2 SETS OF (4) 3/0 AWG, #4 GND	1.73	ROUTE CONDUCTORS VIA (N) AND (E) CONDUITS
P-02B	480V FEEDER (E) CONDUITS	(N) PULL BOX/(E) PULLBOX	(E) PULLBOX	100	PVC	(E) (2) 2-INCH			
P-02C	480V FEEDER (N) CONDUITS	(E) PULLBOX	"T-1" TRANSFROMER	100	PVC	(2) 2-INCH			
P-03	208V FEEDER	"T-1" TRANSFROMER	PANEL A	250	PVC	3-INCH	(3) #250KCMIL AWG, #2 GND	0.13	
P-04	PRE-FAB BUILDING PANEL	PANEL A	PANEL B	125	PVC	1-1/2 INCH	SEE PANEL SCHEDULE		
P-05	LIFT STATION	PANEL A	LIFT STATION CONTROL PANEL	60	PVC	2-INCH	SEE PANEL SCHEDULE		
P-06	SITE LIGHTING	PANEL A	LCP-1	20	PVC	1-1/4" INCH	SEE PANEL SCHEDULE		
P-07	SITE LIGHTING	LCP-1	LIGHT FIXTURE	20	PVC	1-1/4" INCH	SEE PANEL SCHEDULE		ROUTE LIGHTING POWER CIRCUIT FROM PANEL A TO LCP-1 VIA THESE CONDUITS
P-08	EV CHARGING	PANEL A	EV-1	40	PVC	2-INCH	SEE PANEL SCHEDULE		
P-09	EV CHARGING	PANEL A	EV-2 (FUTURE USE)	40	PVC	2-INCH	SEE PANEL SCHEDULE		
P-10	EV CHARGING	PANEL A	EV-2 (FUTURE USE)	40	PVC	2-INCH	SEE PANEL SCHEDULE		
P-11	PUMP POWER	CONTROL PANEL	WET WELL	-	PVC	(2) 2-INCH	PULLSTRING	-	PUMP CABLES BY MANUFACTURER
SP-1	SPARE	SEE PLANS		-	PVC	2-INCH	PULLSTRING		
			TELECOM/SIGNAL						
T-01A	UTILITY	(E) TELECOM VAULT	(E) TELECOM PULLBOX	-	PVC	(E) 2-INCH	PULLSTRING	-	SEE PLANS FOR TELECOM BOX LOCATION
T-01B	UTILITY	(E) TELECOM PULLBOX	MPOE TELECOM BOX IN (N) BLDG	-	PVC	2-INCH	PULLSTRING		STUB UP IN UTILITY CHASE
T-02	PUMP PANEL SIGNAL	MPOE TELECOM BOX IN (N) BLDG	PUMP CONTROL PANEL	-	PVC	2-INCH	PULLSTRING		SPARE FOR FUTURE USE
T-03	PUMP SIGNALS	PUMP CONTROL PANEL	WET WELL	-	PVC	2-INCH	PULLSTRING		CABLES PER MANUFACTURER

NOTE: WIRING TYPE SHALL BE PER SPECIFICATION SECTION 260519.

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER	MODEL NUMBER	BUG	COLOR	WATTAGE	LUMENS	NOTES
A	POLE TOP	CURRENT	UR20-24L-25-3K7-5R-UNV-PT24-BLS-7PR-TL-CP	2-0-2	3000K	25	2890	PROVIDE MANUFACTURER POLE-RSA-A-14-40-B-TA-BLS

1 SINGLE LINE DIAGRAM

NTS

SHORT CIRCUIT CALCULATIONS

Project Name:	Tom Bates Sports Complex			Performed By:	E.Osorno
Project No.:	12593209			Checked By:	C.Richards
				Date:	4/23/2025
Power Service Provider:	PG&E				
Primary Service Voltage P-P (Pri. kV):	12.47	Est.			
Service Transformer Size (Pri. Tr. kVA):	500	Est.			
Transformer Impedance in Percent (Z pri. tr.):	2	Est.			
Available Max. 3 Phase SC fault (Pri. MVA):	100	Assume Worst Case			
See Single Line Diagram - Drawing Sheet:	E-601				
Service Voltage P-P (Sec. P-P kV):	0.408	Distr. Transformer Size (Distr. Tr. kVA):		112.5	
Service Voltage P-N (Sec. P-N kV):	0.277	Distr. Transformer Impedence (Z distr. tr.):		2	Est.
Service Ampacity (Amps):	600	Distr. Transformer Type:		Dry Type	
No. of Phases:	3				
No. of Wires:	4			Primary	Secondary
Service Transformer Full Load Amps (FLA Calc.):	602	Distr. Panel Voltage P-P (Volts):		480	208
Service Entrance Equipment:	Meter Main	Distr. Panel Voltage P-N (Volts):		277	120
Service Entrance Main CB Rating:	600	Distr. Panel Ampacity (Amps Calculated.):		135	313
Short Circuit Calculations					
At Service Entrance Equipment.					
Calculated Source Impedance (Z source) =	(Pri. Tr. kVA * 100) / (1000 * Pri MVA) =		0.50	Percent	
Total Impedence (Z total pri.) =	Z source + Z pri. tr. =		2.50	Percent	
3 Phase Short Circuit Fault MVA (Sec. MVA) =	(Pri. Tr kVA * 100) /(1000 * Z total pri.) =		20.00	MVA	
Max. 3 Phase Short Circuit Fault Current =	Fault MVA * 1000 / (1.732 * Sec. P-P kV) =		***28,301***	***Amps***	
At Distribution Transformer Secondary					
Calculated Source Impedance (Z-source) =	(Distr. Tr. kVA * 100) / (1000 * Sec. MVA) =		0.56	Percent	
Total Impedence (Z total sec.) =	Z source sec. + Z distr. tr. =		2.56	Percent	
3 Phase Short Circuit Fault MVA =	(Sec. Tr. KVA * 100) /(1000 * Z total sec.) =		4.39	MVA	
Max. 3 Phase Short Circuit Fault Current =	Fault MVA * 1000 / (1.732 * Sec. P-P kV) =		***12,186***	***Amps***	

PANEL SCHEDULE

PANEL NAME: **A** | VOLTAGE: 208/120 | NEMA RATING: 4X | MOUNTING: SURFACE | NOTES:
MAINS RATING: 250 A MCB | PHASE: 3 | AIC RATING: 22KAIC | LOCATION: EXTERIOR
BUS RATING: 250 A | WIRE: 4 | DEMAND FACTOR: STD

CKT NO.	USE	DESCRIPTION	BKR SIZE	CKT KVA	CKT AMPS	WIRE SIZE	WIRE LENGTH (FT)	VOLTAGE DROP %	PHASE	VOLTAGE DROP %	WIRE LENGTH (FT)	WIRE SIZE	CKT AMPS	CKT KVA	BKR SIZE	DESCRIPTION	USE	CKT NO.
1	P	SUB PANEL MULTI PURPOSE BLDG (PANEL B)	125/3	10.00	83.33	1/0'	10	0.09	A						20/1	SPARE		2
3	P		125/3	10.00	83.33	1/0'	10	0.09	B						20/1	SPARE		4
5	P		125/3	10.00	83.33	1/0'	10	0.13	C						20/1	SPARE		6
7	M	LIFT STATION CONTROL PANEL-(2) 5 HP	60/3	4.50	37.50	1	25	0.13	A						20/1	SPARE		8
9	M		60/3	4.50	37.50	1	25	0.13	B						20/1	SPARE		10
11	M		60/3	4.50	37.50	1	25	0.13	C						20/1	SPARE		12
13	O	(1) LVL 2 CT 4000 DUAL CHARGER (EV-1)	40/2	3.32	31.92	6	155	2.14	A						20/1	SPARE		14
15	O		40/2	3.32	31.92	6	155	2.14	B						20/1	SPARE		16
17	O	(1) LVL 2 CT 4000 DUAL CHARGER (EV-2) - FUTURE USE	40/2	3.32	31.92	6	160	2.21	C						20/1	SPARE		18
19	O		40/2	3.32	31.92	6	160	2.21	A						20/1	SPARE		20
21		SPARE	20/1						B						20/1	SPARE		22
23	O	(1) LVL 2 CT 4000 DUAL CHARGER (EV-3) - FUTURE USE	40/2	3.32	31.92	6	175	2.42	C						20/1	SPARE		24
25	O		40/2	3.32	31.92	6	175	2.42	A						20/1	SPARE		26
27		SPARE	20/1						B						20/1	SPARE		28
29	L	TIMECLOCK/EXTERIOR LIGHT (LCP-1)	20/1	0.50	4.17	10	50	0.35	C						20/1	SPARE		30
31		SPARE	20/1						A						20/1	SPARE		32
33		SPARE	20/1						B						20/1	SPARE		34
35		SPARE	20/1						C						20/1	SPARE		36
37		SPARE	20/1						A						20/1	SPARE		38
39		SPARE	20/1						B						20/1	SPARE		40
41		SPARE	20/1						C						20/1	SPARE		42

CONNECTED KVA		DEMAND KVA	DEMAND AMPS
PHASE A:	24.5	22.3	185.5
PHASE B:	17.8	18.9	157.9
PHASE C:	21.6	16.2	135.1

STD DEMAND LOAD BASED ON 125% OF THE LARGEST MOTOR AND 100% OF THE REMAINING MOTORS, 125% OF CONTINUOUS LOADS, 100% OF NONCONTINUOUS LOADS, AND 50% OF RECEPTACLE LOADS BEYOND THE FIRST 10KVA

USE LEGEND		
ID	LOAD TYPE	ASSUMED PF
H	HVAC	0.85
L	LIGHTING	0.80
M	MOTOR	0.85
R	RECEPTACLE	0.80
P	PANEL	0.85
O	OTHER	0.85

VOLTAGE DROP CALCULATION

VOLTAGE DROP IS BASED ON THE IEEE RED BOOK AND 2011 NEC CHAPTER 9 TABLE 9 FORMULA:
VD = I * (R * PF + X * SIN(ACOS(PF)) * L
WITH AN ADDITIONAL MULTIPLIER OF 2 FOR SINGLE PHASE AND 1.732 FOR 3-PHASE LOADS
R AND X VALUES ARE TAKEN FROM 2011 NEC CHAPTER 9 TABLE 9.

ASSUMPTIONS:
POWER FACTOR VARIED BY LOAD TYPE
CONDUIT TYPE RGS
WIRE MATERIAL CU

2 SCHEDULES

NTS

REGISTERED PROFESSIONAL ENGINEER — LEVICK A. OSMON — No. E 22937 — Exp. 12/31/25 — ELECTRICAL — STATE OF CALIFORNIA

MARK	DATE	DESCRIPTION
1	4/25/25	CORRECTIONS FIRST
2	7/31/25	REVISED ELECTRICAL DESIGN
		APPROVAL

PERMIT SET

TRANSYSTEMS
2000 CENTER STREET
SUITE 303
BERKELEY, CA 94704
PHONE: (510) 835-2761

0 1 2 3
FOR REDUCED PLANS – ORIGINAL SCALE IS IN INCHES

DEPICTION OF MONUMENTS: DATE
SURVEY PARTY CHIEF
WATERSHED REVIEW: DATE

SUBMITTED: DATE R.C.E. EXP.
SUPERVISING CIVIL ENGINEER
APPROVED: DATE R.C.E. EXP.
MANAGER OF ENGINEERING

DESIGN EAO
DRAWN SD
CHECK NW
AS BUILT
HORIZ. 1"=X'
VERT. 1"=X'
BOOK
DATE 7/31/25

CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

SINGLE LINE DIAGRAM AND SCHEDULES
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
ES-601
SHEET 75 OF 92

CERTIFICATE OF COMPLIANCE	NRCC-LTO-E
Project Name: Tom Bates Regional Sports Complex	Report Page: (Page 1 of 7)
Project Address: 400 Gilman Street	Date Prepared: 4/23/2025

This document is used to demonstrate compliance with requirements in 110.9, 130.0, 130.2, 140.7, and 141.0(b)2I, for outdoor lighting scopes using the prescriptive path for nonresidential and hotel/motel occupancies. It is also used to document compliance with requirements in 160.5, 170.2(e)6, 180.1(a) and 180.2(b)4bv for outdoor lighting scopes using the prescriptive path for multifamily and mixed-use occupancies. Multifamily includes dormitory and senior living facilities.

A. GENERAL INFORMATION

01	Project Location (city)	Berkeley	04	Total Illuminated Hardscape Area (ft²)	459
02	Climate Zone	3			
03	Outdoor Lighting Zone per Title 24 Part 1	10.114 or as designated by Authority Having Jurisdiction (AHJ):			

☐ LZ-0: Very Low - Undeveloped Parkland ☒ LZ-2: Moderate - Urban Clusters ☐ LZ-4: High - Must be reviewed by CA Energy Commission for Approval
☐ LZ-1: Low - Rural Areas ☐ LZ-3: Moderately High - Urban Areas

05 Occupancy Types within Project

● All Other Occupancies

B. PROJECT SCOPE

This table includes outdoor lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in 140.7 / 170.2(e)6i or 141.0(b)2L / 180.2(b)4bv for alterations.

My Project Consists of:

01	02
☒ New Lighting System	Must Comply with Allowances from 140.7 / 170.2(e)6
☐ Altered Lighting System	Is your alteration increasing the connected lighting load (Watts)? ○ Yes ○ No
03	04 / 05
% of Existing Luminaires Being Altered[1]	Sum Total of Luminaires Being Added or Altered / Calculation Method
☐ < 10% ☐ >= 10% and < 50% ☐ >= 50%	

Please proceed to Table F. Outdoor Lighting Fixture Schedule to define the project's luminaires.

[1] *FOOTNOTES: % of Existing Luminaires Being Altered = (Sum Total of Luminaires Being Added or Altered / Existing Luminaires within the Scope of the Permit Application) x 100.*

CERTIFICATE OF COMPLIANCE	NRCC-LTO-E
Project Name: Tom Bates Regional Sports Complex	Report Page: (Page 2 of 7)
	Date Prepared: 4/23/2025

C. COMPLIANCE RESULTS

Results in this table are automatically calculated from data input and calculations in Tables F through N. Note: If any cell on this table says "COMPLIES with Exceptional Conditions" refer to Table D. Exceptional Conditions for guidance or see applicable Table referenced below.

Calculations of Total Allowed Lighting Power (Watts) 140.7 / 170.2(e)6i or 141.0(b)2L / 180.2(b)4bv													Compliance Results		
01		02		03		04		05		06		07		08	09
General Hardscape Allowance 140.7(d)1 / 170.2(e)6 (See Table I)	+	Per Application 140.7(d)2 / 170.2(e)6 (See Table J)	+	Sales Frontage 140.7(d)2 (See Table K)	+	Ornamental 140.7(d)2 / 170.2(e)6 (See Table L)	+	Per Specific Area 140.7(d)2 / 170.2(e)6 (See Table M)	OR	Existing Power Allowance 141.0(b)2L / 180.2(b)4Bv (See Table N)	=	**Total Allowed** (Watts)	≥	**Total Actual** (Watts)	**07 must be >= 08**
238	+	---	+	---	+	---	+	---	OR	---	=	238	≥	25	COMPLIES

Shielding Compliance (See Table G for Details)	N/A
Controls Compliance (See Table H for Details)	COMPLIES

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

CERTIFICATE OF COMPLIANCE	NRCC-LTO-E
Project Name: Tom Bates Regional Sports Complex	Report Page: (Page 3 of 7)
	Date Prepared: 4/23/2025

F. OUTDOOR LIGHTING FIXTURE SCHEDULE

For new or altered lighting systems demonstrating compliance with 140.7 / 170.2(e)6 all new luminaires being installed and any existing luminaires remaining or being moved within the spaces covered by the permit application are included in the Table below. For altered lighting systems using the Existing Power method per 141.0(b)2L only new luminaires being installed and replacement luminaires being installed as part of the project scope are included (ie, existing luminaires remaining or existing luminaires being moved are not included). Outdoor lighting attached to multifamily buildings and controlled from the inside of a dwelling unit are included in Table H. and are not included here. All other multifamily outdoor lighting is included here.

Designed Wattage:

01	02		03	04	05	06	07	08	09	10	
Name or Item Tag	Complete Luminaire Description		Watts per luminaire[1, 2]	How is Wattage determined	Total Number Luminaires[2]	Luminaire Status[3]	Excluded per 140.7(a) / 170.2(e)6A	Design Watts	Cutoff Req. > 6,200 initial lumen output 130.2(b) / 160.5(c)1[4]	Field Inspector	
										Pass	Fail
A	TYPE A	☐ Linear	25	Mfr. Spec	1	New	☐	25	NA; < 6200 lumens	☐	☐
							Total Design Watts:	25			

* NOTES: Selections with a * require a note in the space below explaining how compliance is achieved.
(EX: Luminaire is lighting a stotrar; EXCEPTION 2 to s 130.2(b)

[1] *FOOTNOTES: Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per 130.0(c) / 160.5(b)*

[2] *For linear luminaires, wattage should be indicated as W/ft instead of Watts/luminaire. Total linear feet should be indicated in column 05 instead of number of luminaires.*

[3] *Select "New" for new luminaires in a new outdoor lighting project, or for added luminaires in an alteration. Select "Altered" for replacement luminaires in an alteration. Select "Existing to Remain" for existing luminaires within the project scope that are not being altered and are remaining. Select "Existing Reinstalled" for existing luminaires which are being removed and reinstalled as part of the project scope.*

[4] *Compliance with mandatory shielding requirements is required for luminaires with initial lumen output >= 6,200 unless exempted by 130.2(b)/ 160.5(c)*

G. SHIELDING REQUIREMENTS (BUG)

This section does not apply to this project.

CERTIFICATE OF COMPLIANCE	NRCC-LTO-E
Project Name: Tom Bates Regional Sports Complex	Report Page: (Page 4 of 7)
	Date Prepared: 4/23/2025

H. OUTDOOR LIGHTING CONTROLS

This table demonstrates compliance with controls requirements for all new or altered luminaires installed as part of the permit application. For alteration projects, luminaires which are existing to remain (ie untouched) and luminaires which are removed and reinstalled (wiring only) do not need to be included in this table even if they are within the spaces covered by the permit application.
Outdoor lighting for nonresidential buildings, parking garages and common service areas in multifamily buildings must be documented separately from outdoor lighting attached to multifamily buildings and controlled from the inside of a dwelling unit

Mandatory Controls for Nonresidential Occupancies, Parking Garages & Common Areas in Multifamily Buildings

01	02	03	04	05	
Area Description	Shut-Off 130.2(c)1 / 160.5(c)	Auto-Schedule 130.2(c)2 / 160.5(c)	Motion Sensor 130.2(c)3 / 160.5(c)	Field Inspector	
				Pass	Fail
Pathway Ramp	Astronomical Timer	Provided	NA: Each Luminaire <= 40 Watts	☐	☐

[1] *FOOTNOTE: Text has been abbreviated, please refer to Table 160.5-A to confirm compliance with the specific light source technologies listed.*
[2] *Authority having jurisdiction may ask for cutsheets or other documentation to confirm compliance of light source.*
[3] *Recessed luminaires marked for use in fire-rated installations, and recessed luminaires installed in non-insulated ceilings are excepted from ii and iii.*

CERTIFICATE OF COMPLIANCE	NRCC-LTO-E
Project Name: Tom Bates Regional Sports Complex	Report Page: (Page 5 of 7)
	Date Prepared: 4/23/2025

I. LIGHTING POWER ALLOWANCE (per 140.7 / 170.2(e))

This table includes areas using allowance calculations per 140.7 / 170.2(e). General Hardscape Allowance is per Table 140.7-A/Table 170.2-R while "Use it or lose it" Allowances are per Table 140.7-B /Table 170.2-S. Indicate which allowances are being used to expand sections for user input. Luminaires that qualify for one of the "Use it or lose it" allowances shall not qualify for another "Use it or lose it" allowance. Outdoor lighting attached to multifamily buildings and controlled from the inside of a dwelling unit are included in Table H. and are not included here. All other multifamily outdoor lighting is included here.

	01				
	"Use it or lose it" Allowance (select all that apply) (select all that apply)				
☒ General Hardscape Allowance Table I (below)	☐ Per Application Table J	☐ Sales Frontage Table K	☐ Ornamental Table L	☐ Per Specific Area Table M

Calculated General Hardscape Lighting Power Allowance per Table 140.7-A for Nonresidential & Hotel/Motel

02	03	04	05	06	07	08	09
Area Description	Area Wattage Allowance (AWA)			Linear Wattage Allowance (LWA)			Total General AWA + LWA (Watts)
	Illuminated Area (ft²)	Allowed Density (W/ft²)	Area Allowance (Watts)	Perimeter Length (lf)	Allowed Density (W/lf)	Linear Allowance (Watts)	
Pathway Ramp	459	0.019	8.7	196	0.2	29.4	38

Initial Wattage Allowance for Entire Site (Watts):	200
Instances of Initial Wattage Allowance (LZ 0 only)[1]	
Total General Hardscape Allowance (Watts):	238

J. LIGHTING ALLOWANCE: PER APPLICATION

This section does not apply to this project.

K. LIGHTING ALLOWANCE: SALES FRONTAGE

This section does not apply to this project.

L. LIGHTING ALLOWANCE: ORNAMENTAL

This section does not apply to this project.

CERTIFICATE OF COMPLIANCE	NRCC-LTO-E
Project Name: Tom Bates Regional Sports Complex	Report Page: (Page 6 of 7)
	Date Prepared: 4/23/2025

M. LIGHTING ALLOWANCE: PER SPECIFIC AREA

This section does not apply to this project.

N. EXISTING CONDITIONS POWER ALLOWANCE (alterations only)

This section does not apply to this project.

O. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selection has been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online

Form/Title
NRCI-LTO-E - Must be submitted for all buildings

P. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in this document. If any selection has been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: http://www.energy.ca.gov/title24/attcp/providers.html

Form/Title	Systems/Spaces To Be Field Verified
NRCA-LTO-02-A - Must be submitted for all outdoor lighting controls except for alterations where controls are added to <= 20 luminaires.	Pathway Ramp;

CERTIFICATE OF COMPLIANCE	NRCC-LTO-E
Project Name: Tom Bates Regional Sports Complex	Report Page: (Page 7 of 7)
Project Address: 400 Gilman Street	Date Prepared: 4/23/2025

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Documentation Author Signature:
Aly Young	Aly Young
Company:	Signature Date:
GHD Inc	2025-04-23
Address:	CEA/ HERS Certification Identification (if applicable):
2235 Mercury Way	
City/State/Zip:	Phone:
Santa Rosa CA 95407	(707)523-1010

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	Responsible Designer Signature:
Erick Osorno	Erick Osorno
Company:	Date Signed:
GHD	2025-04-23
Address:	License:
2235 Mercury Way #150	23831
City/State/Zip:	Phone:
Santa Rosa CA 95407	(707)523-1010

REGISTERED PROFESSIONAL ENGINEER
ERICK A. OSORNO
No. 23831
Exp. 12/31/25
ELECTRICAL
STATE OF CALIFORNIA

MARK	DATE	DESCRIPTION
2	7/31/25	REVISED ELECTRICAL DESIGN
1	4/25/25	CORRECTIONS FIRST

1

PERMIT SET

TRANSYSTEMS
2000 CENTER STREET
SUITE 303
BERKELEY, CA 94704
PHONE: (510) 835-2761

0 1 2 3
FOR REDUCED PLANS – ORIGINAL SCALE IS IN INCHES

DEPICTION OF MONUMENTS: DATE
SURVEY PARTY CHIEF
WATERSHED REVIEW: DATE

SUBMITTED: DATE R.C.E. EXP.
SUPERVISING CIVIL ENGINEER
APPROVED: DATE R.C.E. EXP.
MANAGER OF ENGINEERING

DESIGN EAO
DRAWN SD
CHECK NW
AS BUILT
HORIZ. 1"=X'
VERT. 1"=X'
BOOK
DATE 7/31/25

CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

TITLE 24
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
ES-701
SHEET 76 OF 92

STATE OF CALIFORNIA
Electrical Power Distribution
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-ELC-E

This document is used to demonstrate compliance with mandatory requirements in 130.5, for electrical systems in newly constructed nonresidential and hotel/motel occupancies and 160.6 and 160.9 for electrical systems in newly constructed multifamily occupancies. Additions and alterations to electrical service systems in nonresidential and hotel/motel occupancies will also use this document to demonstrate compliance per 141.0(a) or 141.0(b)2P for alterations. For multifamily addition or alterations compliance will be documented per 180.1(a) or 180.2 (b)4Bvii

Project Name:	Tom Bates Regional Sports Complex	**Report Page:**	**(Page 1 of 5)**
Project Address:	400 Gilman Street	**Date Prepared:**	7/24/2025

A. GENERAL INFORMATION

01	Project Location (city)	Berkeley	02	Climate Zone	3
			03	Occupancy Types Within Project:	

B. PROJECT SCOPE

This table includes electrical systems that are within the scope of the permit application.

01	02	03	04	05	06	07
Electrical Service Designation/ Description	Scope of Work[1]	Rating[2] (kVA)	Utility Provided Metering System Exception to 130.5(a)/ 160.6(a)[3]	System subject to CA Elec Code Article 517 Exception to 130.5(a)and (b)	Demand Response Controls	Provides power to dwelling units/common living areas only in multifamily occupancy
Main	New electrical service equipment and meter	83	☐	☐	Where required, demand response controls must be specified which are capable of receiving and automatically responding to at least one standards based messaging protocol which enables demand response after receiving a demand response signal. Sections 120.2/ 160.3, 130.1/ 160.5, and 130.3/ 160.5, and mechanical, indoor lighting, and sign lighting Certificate of Compliance documents will indicate when demand response controls are required.	☐

[1] *FOOTNOTES: Adding only new feeders and branch circuits triggers Voltage Drop 130.5(c)/160.6(c), no other requirements from 130.5/160.6 are required.*
[2] *If common use areas in a multifamily are submetered, rating is for submeter size serving common use areas.*
[3] *Applicable if the utility company is providing a metering system that indicates instantaneous kW demand and kWh for a utility-defined period.*

STATE OF CALIFORNIA
Electrical Power Distribution
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-ELC-E

Project Name:	Tom Bates Regional Sports Complex	**Report Page:**	**(Page 2 of 5)**
		Date Prepared:	7/24/2025

C. COMPLIANCE RESULTS

Results in this table are automatically calculated from data input and calculations in Tables F through J. Note: if any cell on this table says "COMPLIES with Exceptional Conditions" refer to Table D. Exceptional Conditions for guidance or see applicable Table referenced below.

01		02		03		04	05	06
Service Electrical Metering 130.5(a)/ 160.6(a) (See Table F)	AND	Separation for Monitoring 130.5(b)/ 160.6(b) (See Table G)	AND	Voltage Drop 130.5(c)/ 160.6(c) (See Table H)	AND	Controlled Receptacles 130.5(d)/ 160.6(d) (See Table I)	Electric Ready 160.9 (See Table J)	**Compliance Results**
Yes	AND	Yes	AND	Yes	AND			COMPLIES

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with unedittable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

F. SERVICE ELECTRICAL METERING

This table includes new or replacement electrical service systems OR equipment to demonstrate compliance with 130.5(a) / 160.6(a). For multifamily occupancies, submetered systems that provide power to common use areas must meet the following metering requirements. Submetered systems providing power to dwelling units do not.

01	02	03				04	05	
		Required Metering Capabilities per Table 130.5-A					Field Inspector	
Electrical Service Designation/ Description	Rating[1] (kVA)	Instantaneous Demand (kW)	Historical Peak Demand (kW)	Tracking kWh for user-defined period	kWh per rate period	Location of Requirements in Construction Documents	Pass	Fail
Main	83	☒	☐	☒	☐	ES-601	☐	☐

[1] *FOOTNOTES: If common use areas in a multifamily are submetered, rating is for submeter size serving common use areas.*

STATE OF CALIFORNIA
Electrical Power Distribution
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-ELC-E

Project Name:	Tom Bates Regional Sports Complex	**Report Page:**	**(Page 3 of 5)**
		Date Prepared:	7/24/2025

G. SEPARATION OF ELECTRICAL CIRCUITS FOR ENERGY MONITORING

This table includes entirely new or complete replacement electrical power distribution systems to demonstrate compliance with 130.5(b)/ 160.6(b). Any load types that are not included in the service do not need to be shown. For multifamily occupancies, submetered systems that provide power to dwelling units do not need to meet these separation requirements and therefore load types on those submetered systems also do not need to be shown.

01	02	03	04	05	
				Field Inspector	
Load Type per Table 130.5-B[1]	Minimum Required Separation of Load per Table 130.5-B	Compliance Method[2]	Location of Requirements in Construction Documents	Pass	Fail
Main					
Lighting including exit, egress and exterior	All lighting in aggregate	Method 3: Branch circuits serve load types individually & provisions for adding future branch curcuit monitoring	ES-601	☐	☐
Plug Loads and appliances less than 25kVA	All plug loads in aggregate Groups of plug loads exceeding 25 kVA connected load in an area less than 5000 sf	Method 3: Branch circuits serve load types individually & provisions for adding future branch curcuit monitoring	ES-601	☐	☐

** NOTES: If "Other**" is selected under Compliance Method above, please indicate how compliance has been achieved in the space provided below.*

[1] *FOOTNOTES: For each separate load type, up to 10% of the connected load may be of any type.*
[2] *Method 1: Switchboards/ motor control centers/ panelboard loads disaggregated for each load type.*
Method 2: Switchboards/ motor control centers/ panelboard supply other distribution equipment with loads disaggregated for each load type.
Method 3: Branch circuits serve load types individually and provisions for adding future branch circuit monitoring.
Method 4: Complete metering system measures and reports loads by type.
See Chapter 8 of the Nonresidential Compliance Manual for more detail on Compliance Methods.

H. VOLTAGE DROP

This table includes entirely new or complete replacement electrical power distribution systems, or alterations that add, modify or replace both feeders and branch circuits to demonstrate compliance with 130.5(c)/ 160.6(c). For alterations, only the altered circuits must demonstrate compliance per 141.0(b)2Pii/ 180.2(b)4Bviic.

01	02	03	04	05

STATE OF CALIFORNIA
Electrical Power Distribution
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-ELC-E

Project Name:	Tom Bates Regional Sports Complex	**Report Page:**	**(Page 4 of 5)**
		Date Prepared:	7/24/2025

H. VOLTAGE DROP

Electrical Service Designation/Description	Combined Voltage Drop on Installed Feeder/Branch Circuit Conductors Compliance Method			Location of Voltage Drop Calculations[1]	Sheet Number for Voltage Drop Calculations in Construction Documents	Field Inspector	
						Pass	Fail
Main	☒	Voltage drop less than 5%	☐	Permitted by CA Elec Code (Exception to 130.5(c))* Attached	ES-601	☐	☐

** NOTES: If "Permitted by CA Elec Code ** is selected under Compliance Method above, please indicate where the exception applies in the space provided below.*

[1] *FOOTNOTES: Voltage drop calculations may be attached to the permit application outside the construction documents if allowed by the Authority Having Jurisdiction. Select "attached" if applicable. If calculations will be the responsibility of the installing contractor, select "Contractor Responsible".*

I. ELECTRIC READY BUILDINGS

This section does not apply to this project.

K. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selection have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online

Form/Title
NRCI-ELC-E - Must be submitted for all buildings

STATE OF CALIFORNIA
Electrical Power Distribution
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-ELC-E

Project Name:	Tom Bates Regional Sports Complex	**Report Page:**	**(Page 5 of 5)**
Project Address:	400 Gilman Street	**Date Prepared:**	7/24/2025

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Aly Young	Documentation Author Signature: AYoung
Company: GHD Inc	Signature Date: 2025-07-24
Address: 2235 Mercury Way	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: Santa Rosa CA 95407	Phone: (707)523-1010

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: Erick Osorno	Responsible Designer Signature: Erick Osorno
Company: GHD	Date Signed: 2025-07-24
Address: 2235 Mercury Way #150	License: 23831
City/State/Zip: Santa Rosa CA 95407	Phone: (707)523-1010

1

REGISTERED PROFESSIONAL ENGINEER
ERICK A. OSORNO
No. E 23831
Exp. 12/31/25
ELECTRICAL
STATE OF CALIFORNIA

MARK	DATE	DESCRIPTION
		APPROVAL
2	7/31/25	REVISED ELECTRICAL DESIGN
1	4/25/25	CORRECTIONS FIRST
		REVISION

PERMIT SET

TRANSYSTEMS
2000 CENTER STREET
SUITE 303
BERKELEY, CA 94704
PHONE: (510) 835-2761

0 1 2 3
FOR REDUCED PLANS – ORIGINAL SCALE IS IN INCHES

DEPICTION OF MONUMENTS: DATE
SURVEY PARTY CHIEF

WATERSHED REVIEW: DATE

SUBMITTED: DATE
SUPERVISING CIVIL ENGINEER R.C.E.
EXP.

APPROVED: DATE
MANAGER OF ENGINEERING R.C.E.
EXP.

DESIGN EAO
DRAWN SD
CHECK NW
AS BUILT
HORIZ. 1"=X'
VERT. 1"=X'
BOOK
DATE 7/31/25

CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

TITLE 24
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
ES-702
SHEET 77 OF 92

MATERIALS LEGEND						
DETAIL REFERENCE	**QUANTITY**	**SYMBOL**	**TYPE**	**MANUFACTURER / SUPPLIER**	**MODEL**	**NOTES**
SITE FURNISHINGS						
6/LC-501	7		BENCH HALF ROUND	PARK WAREHOUSE	WEDGE CONCRETE BENCH - 4FT, COLOR: A-22 SAND, ACID WASH	HTTPS://PARKWAREHOUSE.COM/PRODUCT/WEDGE-CONCRETE-BENCH-4FT
7/LC501	10		BENCH WITH BACK	MAGLIN SITE FURNITURE	510 BACKED BENCH - 5.8 FT, COLOR: DARK GREEN, 3/8" CONCRETE ANCHORS	HTTPS://WWW.MAGLIN.COM/PRODUCT/510-BACKED-BENCHES
2/LC-501	3		PICNIC TABLE, ADA COMPLIANT	CROWD CONTROL WAREHOUSE	RECTANGULAR ADA ACCESSIBLE CONCRETE PICNIC TABLE SET, CCW-33-032-00074, COLOR: STANDARD WEATHERSTONE, WHITE W20	HTTPS://WWW.CROWDCONTROLWAREHOUSE.COM/PRODUCTS/RECTANGULAR-ADA-ACCESSIBLE-CONCRETE-PICNIC-TABLE-SET
3/LC-501	6		TRASH AND RECYCLING RECEPTACLE	THOMAS STEELE	CARNIVAL RECEPTACLE - ROUND - E-STEELE- 32 GALLON - DOME LID, COLOR: POWDER COATED DARK GREEN, 1/2" CONCRETE ANCHOR	PROVIDE 3 PAIRS OF RECEPTACLES, 6 RECEPTACLES TOTAL
ZA101-ZA104	5		SHADE SAIL	DAVE BANG	CUSTOM CANOPIES, VARIOUS TRIANGULAR SHADE SAILS WITH (9) POSTS AND (5) FABRIC SAILS. COLORS: WHITE AND YELLOW SAILS WITH DARK GREEN FRAME.	FINAL STAMPED PLANS WILL BE PROVIDED AS A DEFERRED PERMIT SUBMITTAL.
1/LC-501	2,521 SF		ENHANCED PAVING PATTERN	PROLINE STAMPS	HEXAGON ROMAN SLATE CONCRETE STAMP, 36", SL300A & SL300B	MANUFACTURER RECOMMENDS USING 4-6 PIECES, CONTRACTOR TO ROTATE STAMPS WHEN STAMPING TO VARY SURFACE PATTERN, SEE NOTES BELOW
9/LC501	94 SF		DECOMPOSED GRANITE PAVING	GRANITE CONSTRUCTION COMPANY OR APPROVED EQUAL	GOLD PATH FINES	SEE SPECS AND DETAILS. METAL HEADER MFR: PERMALOC LANDSCAPE EDGING OR APPROVED EQUAL. STYLE: CLEANLINE COMMERCIAL EDGING. SIZE: $\frac{3}{16}$" X 5.5" (4.8mm x 140mm). COLOR: BRONZE DURAFLEX
	2		SOCCER GOAL	KWIKGOAL	DELUXE EUROPEAN GOAL, 2B300, 4' X 6'	SEE SPECS

LAYOUT NOTES

1. ALL CONSTRUCTION STAKING SHALL BE BY THE CONTRACTOR BASED ON AUTOCAD FILES PROVIDED BY THE LANDSCAPE ARCHITECT AND DIMENSIONS AS NOTED ON THIS PLAN.
2. CONTRACTOR TO VERIFY LOCATION OF ALL UTILITIES, ABOVE AND BELOW GROUND, PRIOR TO CONSTRUCTION INCLUDING LOCATIONS OF PROPOSED UTILITIES, AREA DRAINS, MANHOLES, AND VAULTS, AS INDICATED ON THE PROJECT SURVEY AND ANY CIVIL UTILITY PLANS. FOR MARKING UNDERGROUND FACILITIES, CALL UNDERGROUND SERVICE ALERT MINIMUM TWO DAYS PRIOR TO DIGGING. 1-800-227-2600, BETWEEN 6:00AM - 7:00PM, MONDAY - FRIDAY, EXCEPT HOLIDAYS. CONTRACTOR SHALL TAKE SOLE RESPONSIBILITY FOR COST INCURRED DUE TO DAMAGE AND REPLACEMENT OF SAID UTILITIES.
3. ALL DIMENSIONS NOTED VERIFY IN FIELD (VIF) ARE TO BE CHECKED BY CONTRACTOR PRIOR TO CONSTRUCTION. IMMEDIATELY REPORT ANY DISCREPANCIES TO THE ENGINEER. ALL DIMENSIONS NOTED ARE MEASURED TO FACE OF BLDG, FACE OF CURB, EDGE OF SIDEWALK, CENTERLINE OF BOLLARD OR CENTERLINE OF LIGHTPOLE, UNLESS NOTED OTHERWISE.
4. ALL ANGLES ARE 45 DEGREES, 90 DEGREES OR 135 DEGREES UNLESS OTHERWISE NOTED.
5. ALL CURVES AND TRANSITIONS BETWEEN CURVES AND STRAIGHT EDGES SHALL BE SMOOTH. ALL CURVES SHALL BE CONSTRUCTED TANGENT WITH OTHER CURVES OR STRAIGHT LINES.
6. ALL LAYOUT WORK SHALL BE APPROVED BY THE ENGINEER PRIOR TO THE START OF ANY EXCAVATION OR CONSTRUCTION.
7. THE CONTRACTOR SHALL CONSTRUCT ALL CONCRETE WORK USING FORM LUMBER AND STAKES STRONG ENOUGH AND AT INTERVALS TO ASSURE A SMOOTH CURVE. ALL FORM WORK AND STEEL REINFORCEMENT MUST BE APPROVED BY THE ENGINEER A MINIMUM OF 48 HOURS PRIOR TO POURING OF ANY CONCRETE.
8. CONTRACTOR IS RESPONSIBLE FOR EROSION CONTROL.
9. STAKE LOCATION OF ALL LANDSCAPE ELEMENTS INCLUDING FENCES, HEADERS, PAVING, WALLS, SIDEWALKS, STAIRS, RAMPS, HANDRAILS, LIGHTING, FURNITURE, ETC. FOR APPROVAL BY ENGINEER PRIOR TO CONSTRUCTION.
10. INSTALL EXPANSION JOINT WHERE CONCRETE PAVING MEETS EXISTING PAVING OR BUILDING AND AS NOTED ON PLANS.
11. TRANSITIONS BETWEEN CHANGES IN VERTICAL CURVATURE OF PAVING SHALL BE SMOOTH AND GRADUAL WITH NO SHARP OR ABRUPT CHANGES.
12. PRIOR TO PLACING PAVING OR OTHER STRUCTURES BELOW DRIPLINE OF EXISTING TREES, CHECK EXCAVATION ZONE FOR THE EXISTENCE OF SURFACE ROOTS 1 1/2 INCHES IN DIAMETER OR LARGER, AND NOTIFY THE ENGINEER PRIOR TO CUTTING ROOTS.
13. CONTRACTOR SHALL NOTIFY THE ENGINEER IF CONDITIONS SHOWN ON LAYOUT & GRADING PLANS, DIFFER FROM SITE CONDITIONS IN A WAY THAT WILL CAUSE PUDDLING OR BIRD BATHS, AND WAIT FOR ENGINEER INSTRUCTIONS PRIOR TO PROCEEDING. IT IS CONTRACTOR'S RESPONSIBILITY TO FINISH CONCRETE IN A MANNER THAT WILL DRAIN ADEQUATELY.
14. ENHANCED CONCRETE PAVING: CONTRACTOR TO PREPARE A MINIMUM 12' X 12' FIELD SAMPLE OF THE ENHANCED CONCRETE PAVING FINISH USING THE SPECIFIED HEXAGONAL STAMPS AND WATER BASED STAIN FOR REVIEW AND APPROVAL. APPROVED SAMPLE WILL BE BASIS FOR APPROVING ALL ENHANCED CONCRETE PAVING. CONTRACTOR TO PROVIDE MINIMUM 5 STAMPS TO ENSURE EVEN MATCHING AND TRANSITIONS FROM EACH STAMP.

REVISION	MARK	DATE	DESCRIPTION
		7/31/25	PERMIT SET

APPROVAL

LICENSED LANDSCAPE ARCHITECT
SARAH SUTTON
No. 4219
Sarah Sutton
01/31/26
07/31/25
STATE OF CALIFORNIA

PERMIT SET

PLACEWORKS
2040 BANCROFT WAY
SUITE 400
BERKELEY, CA 94704
PHONE: (510) 848-3815

0 1 2 3
FOR REDUCED PLANS – ORIGINAL SCALE IS IN INCHES

DEPICTION OF MONUMENTS: DATE
SURVEY PARTY CHIEF

WATERSHED REVIEW: DATE

SUBMITTED: DATE
SUPERVISING CIVIL ENGINEER R.C.E. EXP.

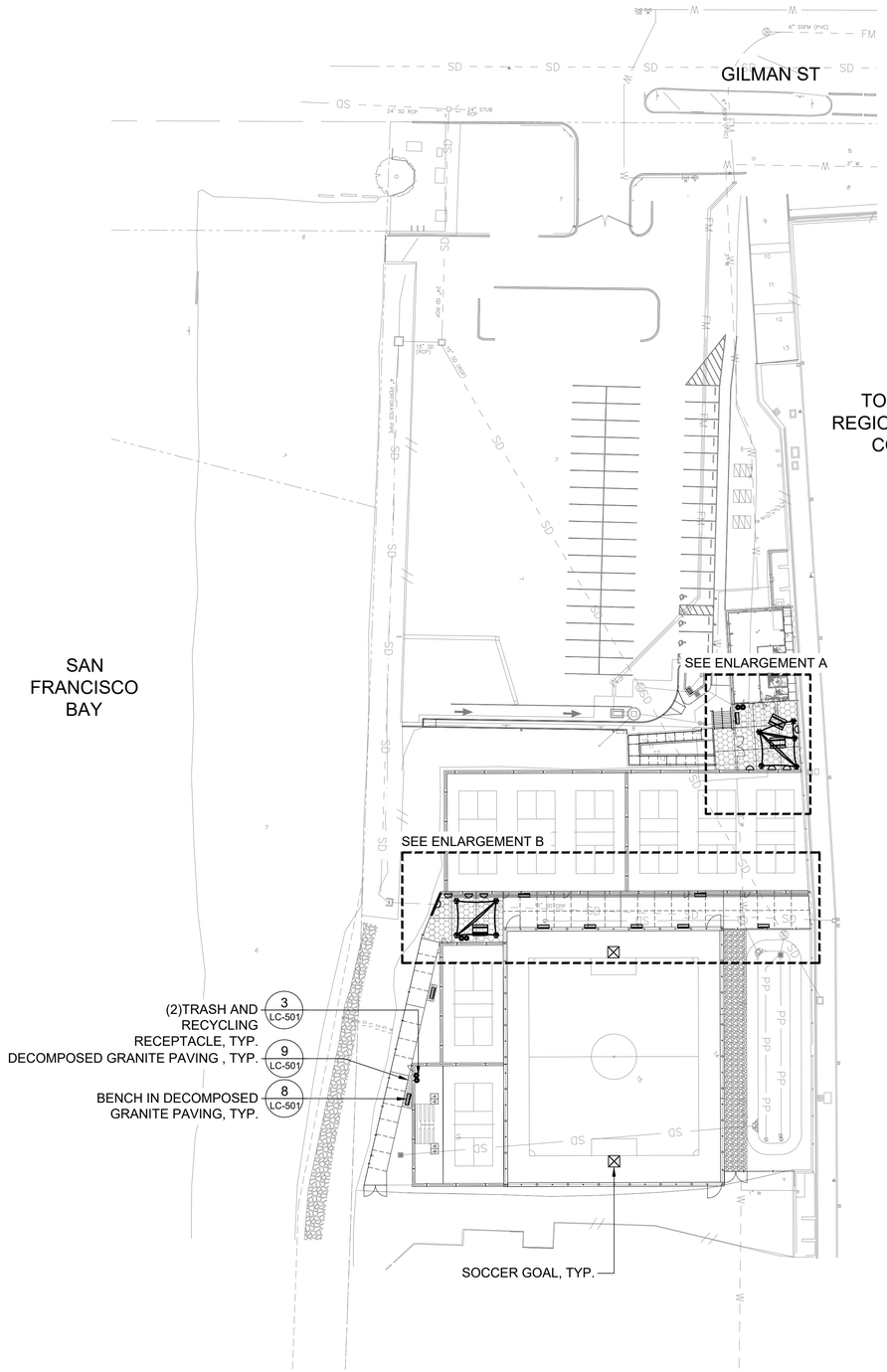
APPROVED: DATE
MANAGER OF ENGINEERING R.C.E. EXP.

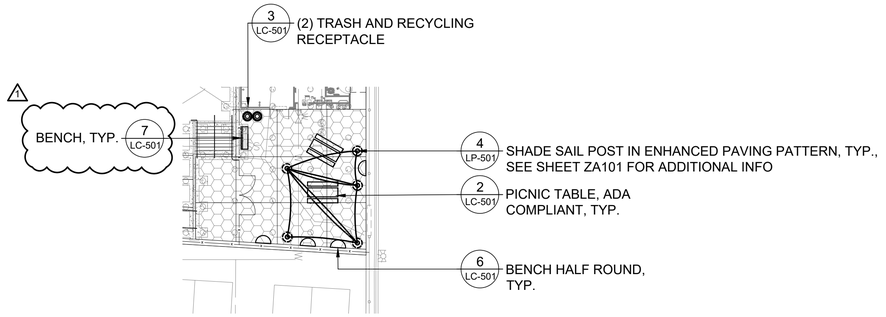
DESIGN SK
DRAWN CAG
CHECK SS
AS BUILT
HORIZ. 1"=X'
VERT. 1"=X'
BOOK
DATE 7/31/25

CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

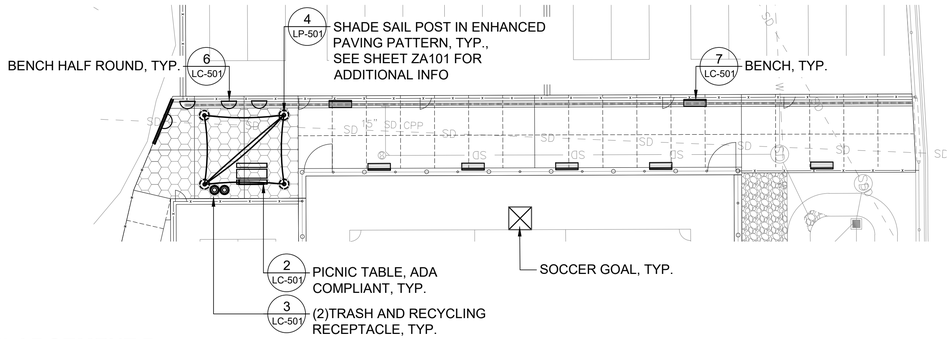
LANDSCAPE MATERIALS LEGEND
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
LC-001
SHEET 78 OF 92





ENLARGEMENT A



ENLARGEMENT B

LEGEND:

EXPANSION JOINTS, SEE CIVIL

CONTROL JOINTS, SEE CIVIL

ENHANCED PAVING PATTERN, SEE DETAIL 1/LC501

NOTE:
SEE CIVIL PLANS FOR ADDITIONAL LAYOUT INFORMATION ON FIELDS AND AMENITIES

REVISION	MARK	DATE	DESCRIPTION
1			
		7/31/25	PERMIT SET
4/25/25			CORRECTIONS FIRST

APPROVAL

LICENSED LANDSCAPE ARCHITECT
No. 4219
SARAH SUTTON
Date
01/31/26
07/31/25
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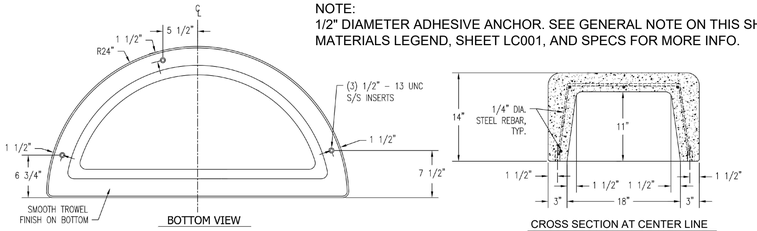
CITY OF BERKELEY
DEPARTMENT OF PARKS,
RECREATION & WATERFRONT

LANDSCAPE MATERIALS
AND LAYOUT PLAN
TOM BATES
REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
LC-101
SHEET 79 OF 92



BOTTOM VIEW

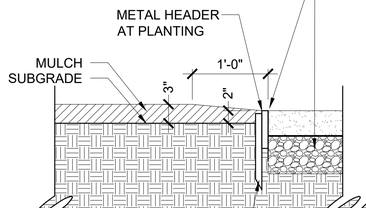
CROSS SECTION AT CENTER LINE

NOTE:
1/2" DIAMETER ADHESIVE ANCHOR. SEE GENERAL NOTE ON THIS SHEET, MATERIALS LEGEND, SHEET LC001, AND SPECS FOR MORE INFO.

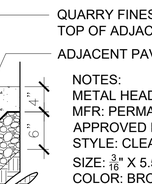
6 BENCH HALF ROUND

SCALE: 1 1/2" = 1'-0"

NOTE:
3/8" DIAMETER ADHESIVE ANCHOR. SEE GENERAL NOTE ON THIS SHEET, MATERIALS LEGEND, SHEET LC001, AND SPECS FOR MORE INFO.



ELEVATION VIEW



ELEVATION SIDE VIEW

7 BENCH

SCALE: 3/4" = 1'-0"

NOTE: SEE DETAIL 8 BELOW FOR INSTALL IN DG

ELEVATION VIEW

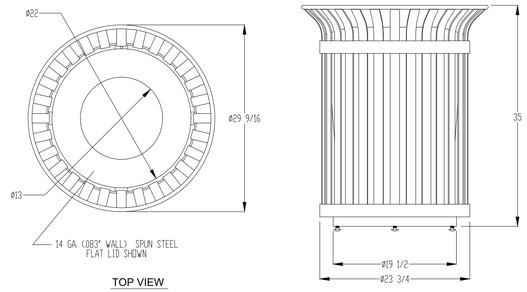
ELEVATION SIDE VIEW

8 BENCH IN DECOMPOSED GRANITE PAVING

SCALE: 3/4" = 1'-0"

9 DECOMPOSED GRANITE PAVING

SCALE: 1" = 1'-0"



TOP VIEW

ELEVATION VIEW

NOTE:
1/2" DIAMETER ADHESIVE ANCHOR. SEE GENERAL NOTE ON THIS SHEET, MATERIALS LEGEND, SHEET LC001, AND SPECS FOR MORE INFO.

3 TRASH AND RECYCLING RECEPTACLE

SCALE: 1" = 1'-0"

PRODUCT REMOVED, NIC

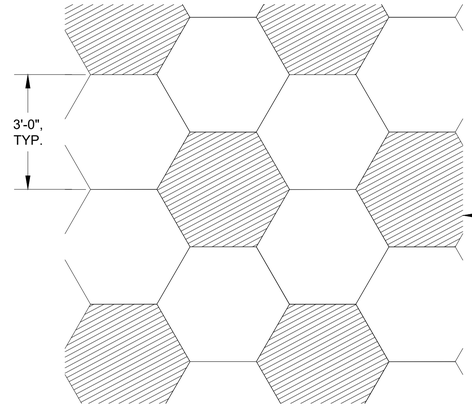
4 ~~BENCH BACKLESS~~

SCALE: 1/2" = 1'-0"

PRODUCT REMOVED, NIC

5 ~~BENCH ROUND~~

SCALE: 1" = 1'-0"



NOTES:
1. CONTRACTOR TO PROVIDE RUBBER STAMP WITH HEXAGONAL PATTERN TO IMPRINT CONCRETE PATTERN, SEE MATERIALS LEGEND AND SPECS.
2. CONTRASTING CONCRETE STAIN: EBONY AS-600, BRICKFORM ARTESIAN WATER BASED STAIN BY SOLOMON COLORS, INC.
3. APPLY PER MANUFACTURER'S INSTRUCTIONS AND APPROVED FIELD SAMPLE

CONTRASTING CONCRETE STAIN, TYP. SEE NOTE 2.

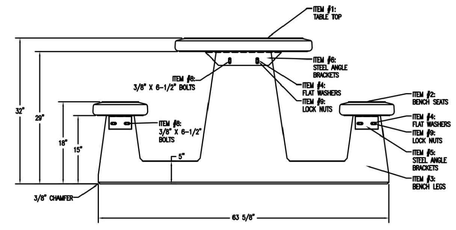
1 ENHANCED PAVING PATTERN

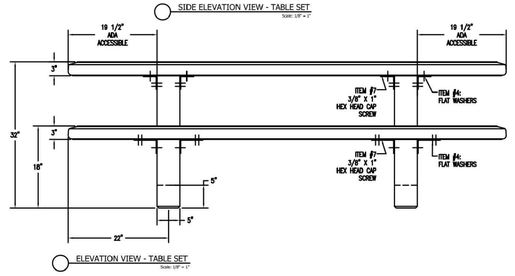
SCALE: 1/2" = 1'-0"

GENERAL NOTE: ADHESIVE ANCHORS

ANCHORAGE TO SOLID CONCRETE: HILTI HY200 V3 EPOXY (ICC ESR-4868). INSTALL PER MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS. SIMILAR SUBSTITUTES MAY BE CONSIDERED; SUBMIT EVALUATION REPORT DEMONSTRATING COMPLIANCE WITH GOVERNING CODE PRIOR TO INSTALLATION.

- STEEL TREADED ROD ANCHORS SHALL BE HILTI "HAS 304/316 SS" RODS. EMBED 3 1/4" MIN. INTO CONCRETE.
- SIZE SHALL BE AS INDICATED ON THIS DRAWING.
- ANCHORS SHALL BE LOCATED 4" MIN. FROM CONCRETE EDGE.





NOTE:
1/2" DIAMETER ADHESIVE ANCHOR. SEE GENERAL NOTE ON THIS SHEET, MATERIALS LEGEND, SHEET LC001, AND SPECS FOR MORE INFO.

2 PICNIC TABLE, ADA COMPLIANT

SCALE: 1/2" = 1'-0"

LICENSED LANDSCAPE ARCHITECT — SARAH SUTTON — No. 4219 — Signature — 01/31/26 Planning Date — 07/31/25 Date — STATE OF CALIFORNIA

REVISION	MARK	DATE	DESCRIPTION
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BOOK
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CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

LANDSCAPE DETAILS
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
LC-501
SHEET 80 OF 92

IRRIGATION NOTES

1. THE CONTRACTOR SHALL REVIEW RELATED DRAWINGS AND SHALL ENSURE COORDINATION WITH ALL APPLICABLE TRADES PRIOR TO SUBMITTING BID.

2. THE IRRIGATION SYSTEM SHALL BE INSTALLED IN CONFORMANCE WITH ALL APPLICABLE STATE AND LOCAL CODES AND ORDINANCES BY LICENSED CONTRACTORS AND EXPERIENCED WORKERS. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED PERMITS AND FEES RELATING TO THEIR WORK.

3. THIS DESIGN IS DIAGRAMMATIC. ALL PIPING, VALVES, ETC. SHOWN WITHIN PAVED AREAS IS FOR DESIGN CLARIFICATION ONLY AND SHALL BE INSTALLED IN PLANTING AREAS WHERE POSSIBLE. AVOID ANY CONFLICTS BETWEEN THE IRRIGATION SYSTEM, PLANTING AND ARCHITECTURAL FEATURES.

4. PARALLEL PIPES MAY BE INSTALLED IN COMMON TRENCH. PIPES ARE NOT TO BE INSTALLED DIRECTLY ABOVE ONE ANOTHER. TRENCHES SHALL BE AMPLE SIZE TO PERMIT THE PIPES TO BE LAID AT THE ELEVATIONS INTENDED AND TO PERMIT SPACE FOR JOINING.

5. DO NOT WILLFULLY INSTALL THE IRRIGATION SYSTEM AS SHOWN ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT OBSTRUCTIONS, GRADE DIFFERENCES OR DIFFERENCES IN THE AREA DIMENSIONS EXIST THAT MIGHT NOT HAVE BEEN CONSIDERED IN THE ENGINEERING. SUCH OBSTRUCTIONS OR DIFFERENCES SHOULD BE BROUGHT TO THE ATTENTION OF THE OWNER'S AUTHORIZED REPRESENTATIVE. IN THE EVENT THAT THIS NOTIFICATION IS NOT PERFORMED, THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY REVISIONS NECESSARY.

6. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO BECOME FAMILIAR WITH ALL GRADE DIFFERENCES, LOCATION OF WALLS, RETAINING WALLS, ETC. COORDINATE WORK WITH THE GENERAL CONTRACTOR AND OTHER SUBCONTRACTORS FOR THE LOCATION AND THE INSTALLATION OF PIPE SLEEVES THROUGH WALLS, UNDER ROADWAYS, PAVING, STRUCTURES, ETC. CONTRACTOR TO VERIFY THE LOCATION OF EXISTING UNDERGROUND UTILITIES AND STRUCTURES PRIOR TO THE EXCAVATION OF TRENCHES. CONTRACTOR IS TO REPAIR ANY DAMAGE CAUSED BY THEIR WORK AT NO ADDITIONAL COST TO THE OWNER.

7. DUE TO THE SCALE OF THE DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, FITTINGS, SLEEVES, ETC., WHICH MAY BE REQUIRED. CAREFULLY INVESTIGATE THE STRUCTURAL AND FINISHED CONDITIONS AFFECTING ALL WORK AND PLAN WORK ACCORDINGLY, FURNISHING SUCH FITTINGS, ETC., AS MAY BE REQUIRED TO MEET SUCH CONDITIONS. DRAWINGS ARE GENERALLY DIAGRAMMATIC AND INDICATIVE OF THE WORK TO BE INSTALLED.

8. ELECTRICAL CONTRACTOR TO SUPPLY 120 VAC (2.5 AMP) SERVICE TO CONTROLLER LOCATION. IRRIGATION CONTRACTOR TO MAKE FINAL CONNECTION FROM ELECTRICAL STUB-OUT TO CONTROLLER. IRRIGATION CONTROL WIRE SHALL BE #14, U.L. APPROVED FOR DIRECT BURIAL. COMMON WIRE SHALL BE #12 U.L. APPROVED AND SHALL BE WHITE IN COLOR. WIRING TO INDIVIDUAL REMOTE CONTROL VALVES SHALL BE COLOR OTHER THAN WHITE.

9. EACH CONTROLLER SHALL HAVE ITS OWN INDEPENDENT GROUND WIRE.

10. REMOTE CONTROL VALVES SHALL BE WIRED TO CONTROLLER IN SEQUENCE AS SHOWN ON PLANS. RUN WIRE FROM EACH RCV TO THE CONTROLLER. SPLICING WIRES TOGETHER OUTSIDE OF VALVE BOXES WILL NOT BE PERMITTED.

11. SPLICING OF 24-VOLT WIRES WILL NOT BE PERMITTED EXCEPT IN VALVE BOXES. LEAVE A 36" COIL OF EXCESS WIRE AT EACH SPLICE AND 100 FEET ON CENTER ALONG WIRE RUN. TAPE WIRE IN BUNDLES 10 FEET ON CENTER. NO TAPING PERMITTED INSIDE SLEEVES.

12. WIRE CONNECTORS SHALL BE 3M-DBR/Y-6 DIRECT BURY UNLESS OTHERWISE NOTED.

13. INSTALL ONE (1) SPARE CONTROL WIRE FOR EVERY 6 (SIX) STATIONS ON THE CONTROLLER ALONG THE ENTIRE MAIN LINE. SPARE WIRES SHALL BE THE SAME COLOR (ONE WITH A WHITE STRIPE) AND OF A DIFFERENT COLOR THAN OTHER CONTROL WIRES. LOOP 36" EXCESS WIRE INTO EACH SINGLE VALVE BOX AND INTO ONE VALVE BOX IN EACH GROUP OF VALVES.

14. INSTALL VALVE BOXES MINIMUM 12" FROM AND PERPENDICULAR TO WALK, CURB, BUILDING OR LANDSCAPE FEATURE. AT MULTIPLE VALVE BOX GROUPS, EACH BOX SHALL BE AN EQUAL DISTANCE FROM THE WALK, CURB, ETC. AND EACH BOX SHALL BE MINIMUM 12" APART. SHORT SIDE OF VALVE BOXES SHALL BE PARALLEL TO WALK, CURB, ETC.

15. PRESSURE REGULATING DEVICES ARE REQUIRED IF WATER PRESSURE EXCEEDS THE RECOMMENDED PRESSURE OF THE SPECIFIED IRRIGATION DEVICES.

16. LOCATE QUICK COUPLING VALVE 12" FROM HARDSCAPE AREA.

17. ALL SPRINKLER HEADS SHALL BE SET PERPENDICULAR TO FINISH GRADE OF THE AREA TO BE IRRIGATED UNLESS OTHERWISE DESIGNATED ON THE PLANS.

18. CHECK VALVES OR ANTI-DRAIN VALVES ARE REQUIRED ON ALL SPRINKLER HEADS WHERE LOW POINT DRAINAGE COULD OCCUR. FOR DRIP OR BUBBLER CIRCUITS, INSTALL KING BROS. CV SERIES CHECK VALVES IN LATERAL LINES FOR EVERY 10' OF ELEVATION CHANGE.

19. FLUSH AND ADJUST ALL SPRINKLER HEADS FOR OPTIMUM PERFORMANCE AND TO PREVENT OVERSPRAY ONTO WALKS, ROADWAYS AND/OR BUILDINGS AS MUCH AS POSSIBLE. THIS SHALL INCLUDE SELECTING THE BEST DEGREE OF FIXED ARC (OR AN ADJUSTABLE ARC IF FIXED ARC DOES NOT MATCH THE ARC TO BE IRRIGATED) TO FIT THE SITE CONDITIONS AND TO THROTTLE THE FLOW CONTROL AT EACH VALVE TO OBTAIN THE OPTIMUM OPERATING PRESSURE FOR EACH SYSTEM. ALL MAIN LINES SHALL BE FLUSHED PRIOR TO THE INSTALLATION OF IRRIGATION HEADS, BUBBLERS AND DRIP TUBING. AT 30 DAYS AFTER INSTALLATION EACH SYSTEM SHALL BE FLUSHED TO ELIMINATE GLUE AND DIRT PARTICLES FROM THE LINES.

20. FOR PROPER SOLVENT WELD OF PVC A SUITABLE PRIMER AND SOLVENT CEMENT SHALL BE USED. APPLICATION PRACTICE AND TECHNIQUE SHALL BE IN ACCORDANCE WITH THE PRIMER/CEMENT MANUFACTURER'S RECOMMENDATIONS. THE JOINING SURFACES MUST BE SOFTENED (WITH PRIMER/CEMENT) AND THE PIPE AND FITTING MUST BE ASSEMBLED WHILE THE SURFACES ARE STILL WET AND FLUID. USE ONLY WELD-ON 795 CEMENT FOR FLEXIBLE PVC TO RIGID PVC CONNECTIONS.

21. WHEN VERTICAL OBSTRUCTIONS (STREET LIGHTS, TREES, FIRE HYDRANTS, ETC.) INTERFERE WITH THE SPRAY PATTERN OF THE HEADS SO AS TO PREVENT PROPER COVERAGE, FIELD ADJUST THE SPRINKLER SYSTEM BY INSTALLING A QUARTER, THIRD OR HALF CIRCLE HEAD AT THE SIDES OF THE OBSTRUCTION SO AS TO PROVIDE PROPER COVERAGE. ALL ADJUSTMENTS SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER.

22. NOTIFY ARCHITECT OF ANY ASPECTS OF LAYOUT THAT WILL PROVIDE INCOMPLETE OR INSUFFICIENT WATER COVERAGE OF PLANT MATERIAL AND DO NOT PROCEED UNTIL HIS/HER INSTRUCTIONS ARE OBTAINED.

23. LOCATE BUBBLERS ON UPHILL SIDE OF TREES. TREE BUBBLERS ARE FOR ESTABLISHMENT AND DROUGHT CONDITIONS. THEY ARE TO BE TURNED OFF AFTER TREES ARE ESTABLISHED AND TURNED ON DURING DROUGHT CONDITIONS.

24. IN ADDITION TO THE SLEEVES AND CONDUITS SHOWN ON THE DRAWINGS, THE IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE INSTALLATION OF SLEEVES AND CONDUITS OF SUFFICIENT SIZE UNDER ALL PAVED AREAS.

25. ALL EXCAVATIONS ARE TO BE FILLED WITH COMPACTED BACKFILL. REPAIR ALL SETTLED TRENCHES PROMPTLY, FOR A PERIOD OF 1 YEAR AFTER COMPLETION OF WORK.

26. CONTRACTOR SHALL WARRANT THAT THE IRRIGATION SYSTEM WILL BE FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF 1 YEAR AFTER FINAL ACCEPTANCE OF WORK.

27. THE IRRIGATION SYSTEM DESIGN IS BASED ON THE MINIMUM OPERATING PRESSURE SHOWN ON THE IRRIGATION DRAWINGS. VERIFY WATER PRESSURE PRIOR TO CONSTRUCTION. REPORT ANY DIFFERENCE BETWEEN THE WATER PRESSURE INDICATED ON THE DRAWINGS AND THE ACTUAL PRESSURE READING AT THE IRRIGATION POINT OF CONNECTION TO THE OWNER'S AUTHORIZED REPRESENTATIVE.

28. IRRIGATION DEMAND: REFER TO IRRIGATION POINTS OF CONNECTION.

29. SITEONE GREEN TECH CONTROLLER ENCLOSURE ASSEMBLIES MUST BE CERTIFIED BY SOGT PRIOR TO FINAL APPROVAL OF IRRIGATION. CONTACT NICK MANFRE (925-558-5965 or NMANFRE@SITEONE.COM) FOR PRE-CONSTRUCTION MEETING AND CERTIFICATION REQUIREMENTS.

30. OPERATE IRRIGATION CONTROLLER(S) BETWEEN THE HOURS OF 10:00 PM AND 7:00 AM.

31. NOTIFY ALL LOCAL JURISDICTIONS FOR INSPECTION AND TESTING OF INSTALLED BACKFLOW PREVENTION DEVICE.

32. NOTIFY UNDERGROUND SERVICE ALERT AT 811 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION.

33. A DIAGRAM OF THE IRRIGATION PLAN SHOWING HYDROZONES SHALL BE KEPT WITH THE IRRIGATION CONTROLLER FOR SUBSEQUENT MANAGEMENT PURPOSES.

34. A CERTIFICATE OF COMPLETION SHALL BE FILLED OUT AND CERTIFIED BY EITHER THE DESIGNER OF THE LANDSCAPE PLANS, IRRIGATION PLANS, OR THE LICENSED LANDSCAPE CONTRACTOR FOR THE PROJECT.

35. AN IRRIGATION AUDIT REPORT SHALL BE COMPLETED AT THE TIME OF FINAL INSPECTION. THE IRRIGATION CONTRACTOR SHALL ARRANGE AND PAY FOR THE AUDIT. THE AUDIT MUST BE PERFORMED BY A THIRD PARTY CERTIFIED LANDSCAPE IRRIGATION AUDITOR.

IRRIGATION LEGEND

SYMBOL	MODEL NUMBER	DESCRIPTION	PSI	FLOW RATE (GPM)	MAX. RADIUS	MAX. SPACING
	I-20-06-SS-PRB-08 (F,H,Q)	HUNTER 6" ROTARY POP-UP LAWN SPRINKLER	45	8.0	44'	38'
	I-20-06-SS-PRB-05 (H)	HUNTER 6" ROTARY POP-UP LAWN SPRINKLER	45	5.0	42'	34'
■	HEB-60	HUNTER PRESSURE COMPENSATING DRIP BUBBLER INSTALL TWO BUBBLERS PER TREE	40	6 GPH (.1 GPM)		
	EFB-CP-PRS-D SERIES/BTU-E SERIES	RAIN BIRD REMOTE CONTROL VALVE WITH PRESSURE REGULATION / NDS PVC UNION BALL VALVE				
	100-EFB-CP / PRB-QKCHK-100 / LT-100-T	RAIN BIRD REMOTE CONTROL VALVE / PRESSURE REGULATING QUICK CHECK BASKET FILTER / KBI PVC BALL VALVE. (FOR RECYCLED WATER)				
△	EBV-0500-S	NDS BALL VALVE FOR FLUSHING				
NOT SHOWN	T-YD-500-34	TORO DL2000 AIR VENT				
	570-DRIP-IND	TORO POP-UP SPRAY OPERATION INDICATOR				
	44NP / SH-2	RAIN BIRD 1" QUICK COUPLING VALVE WITH 1" HOSE SWIVEL (1 PER EVERY 5-6 QC's)				
	T-113-LF	NIBCO LEAD FREE GATE VALVE (LINE SIZE)				
RW	-	RECYCLED WATER WARNING SIGN				
R	WRS	WIRELESS RAIN SENSOR (INCLUDED IN CONTROLLER ASSEMBLY BELOW)				
C	SA12-RM6-24 / DXICA / PMR-CAC / WRS / GR-K	SITE ONE CONTROLLER ASSEMBLY - INCL. RAIN MASTER DXi 24 STATION CONTROLLER (WALL MOUNT), CELLULSAR MODEM AND ANTENNA, REMOTE RECEIVER, WIRELESS RAIN SENSOR AND GROUNDING.				
C-1 / 1"	1.6 / 15 / 30	CONTROLLER AND STATION NUMBER APPLICATION RATE (INCHES) OPERATING PRESSURE (PSI) APPROXIMATE GALLONS PER MINUTE REMOTE CONTROL VALVE SIZE				
		MAIN LINE: CLASS 315 PURPLE PVC PLASTIC PIPE. USE SCHEDULE 80 AND SCHEDULE 40 PVC SOLVENT WELD FITTINGS. 24" COVER.				
		EXISTING MAINLINE: RECYCLED WATER				
		LATERAL LINE: PURPLE SCHEDULE 40 PVC PLASTIC PIPE. USE SCHEDULE 40 PVC SOLVENT WELD FITTINGS. 18" COVER.				
		SUB-SURFACE DRIPLINE: TORO PURPLE DL2000 RGP-212-10-E DRIPLINE WITH ROOT GUARD. USE ONLY DL2000 DRIPLINE INSERT BARB FITTINGS. 2" COVER. (12" EMITTER SPACING; .53 GPH PER EMITTER)				
		SUB-SURFACE DRIPLINE: TORO PURPLE DL2000 RGP-412-10-E DRIPLINE WITH ROOT GUARD. USE ONLY DL2000 DRIPLINE INSERT BARB FITTINGS. 2" COVER. (12" EMITTER SPACING; 1.0 GPH PER EMITTER)				
		SLEEVE (SL): 1120-CLASS 200 PURPLE PVC PLASTIC PIPE. 24" COVER.				
		2" ELECTRICAL CONDUIT: SCHEDULE 80 PVC CONDUIT FOR CONTROL WIRE. 18" COVER.				

DRIPLINE NOTES:

1. PLANS ARE DIAGRAMMATIC. INSTALL DRIPLINE AND COMPONENTS PER MANUFACTURERS INSTRUCTIONS AND INSTALLATION DETAILS.
2. INSTALL DRIPLINE A MAXIMUM OF 18" APART (12" IN BIORETENTION/TURF AREAS) WITH EMITTERS TRIANGULARLY SPACED. INSTALL 2" FROM PERIMETER OF PLANTED AREA. THERE SHOULD BE A MINIMUM OF TWO DRIPLINE LATERALS IN EACH PLANTED AREA. DRIPLINE SHALL BE INSTALLED AT A CONSISTANT DEPTH THROUGHOUT THE CIRCUIT.
3. PLACE AIR/VACUUM RELIEF VALVES AT THE HIGHEST POINTS OF EACH ZONE AND JUST BELOW CHECK VALVES ON SLOPES. INSTALL A MINIMUM OF ONE AIR/VACUUM RELIEF VALVE FOR EVERY 750' OF TOTAL DRIPLINE PER ZONE.
4. PLACE FLUSH VALVES AT THE HYDRAULIC CENTER OF THE EXHAUST HEADER OR AT LOW POINT ON SLOPES. INSTALL MINIMUM OF ONE FOR EVERY 15 GPM.
5. INSTALL IN-LINE CHECK VALVES ON SLOPES GREATER THAN 3% AND WHERE LOW-LINE DRAINAGE COULD CAUSE WET AREAS IN THE LOWEST AREAS OF AN IRRIGATION ZONE. CHECK VALVES SHALL BE PLACED EVERY 4-5 FEET BETWEEN DRIPLINE LATERALS AND BEFORE THE FLUSH VALVE.
6. ON ALL SLOPES AND MOUNDS, PLACE THE DRIPLINE LATERALS PARALLEL TO THE SLOPE CONTOUR WHERE POSSIBLE. INCREASE THE LATERAL SPACING BY 25% ON THE LOWER ONE-THIRD OF THE SLOPE TO AVOID EXCESS DRAINAGE.
7. PVC SUPPLY AND FLUSH LINE SIZING GUIDE (ALL SUPPLY AND FLUSH LINES SHALL BE THE SAME SIZE FOR THE ENTIRE ZONE):
   FOR SCH. 40 LATERAL
   - 0-5 GPM - 3/4"
   - 5.1-10 GPM - 1"
   - 10.1-20 GPM - 1 1/4"
   - 20.1-28 GPM - 1 1/2"
8. FITTINGS SHALL BE OF THE SAME MANUFACTURER AS DRIPLINE. TO PREVENT LEAKING AND FITTING BLOW OUTS, CAREFULLY FOLLOW THE FITTING MANUFACTURER'S INSTALLATION INSTRUCTIONS.
9. STAPLE DRIPLINE TO GROUND EVERY 3 FEET. USE ADDITIONAL STAPLES OVER EACH TEE, ELBOW OR CROSS. USE U-SHAPED STAPLES TO AVOID PINCHING THE DRIPLINE.
10. THOROUGHLY FLUSH EACH INSTALLATION SEGMENT TO ENSURE NO DEBRIS CONTAMINATION OCCURS.
11. IN TURF OR NOW-MOW GRASS AREAS, A TEMPORARY OVERHEAD SPRAY SYSTEM WILL NEED TO BE PROVIDED UNTIL THE TURF SEED OR SOD IS ESTABLISHED. OVERHEAD WATERING CAN BE DISCONTINUED WHEN EDGES OF THE SOD CANNOT BE PULLED UP. RUN THE DRIPLINE SYSTEM SEVERAL TIMES DAILY IN ADDITION TO THE TEMPORARY OVERHEAD SYSTEM.
12. RUN THE DRIPLINE SYSTEM EVERY DAY OR EVERY OTHER DAY TO ESTABLISH PLANT MATERIAL. MAINTAIN A CONSISTENT MOISTURE BALANCE IN THE SOIL. IT IS IMPORTANT TO KEEP THE SOIL MOIST WITHOUT SATURATION.

LATERAL LINE SIZING CHART

SPRINKLER TYPE	GPM	NO. SHRUB BUB.	NO. TREE BUB.*	PIPE SIZE
DRIP & BUBBLERS	1-5 6-10 11-20	1-30 31-60 61-120	1-15 16-30 31-60	3/4" 1" 1 1/4"

* QUANTITY INDICATES NO. OF BUBBLERS, NOT NO. OF TREES. THERE ARE TWO BUBBLERS PER TREE.

"I HAVE COMPLIED WITH THE CRITERIA OF THE MODEL WATER EFFICIENT LANDSCAPE ORDINANCE AND HAVE APPLIED THEM FOR THE EFFICIENT USE OF WATER IN THE IRRIGATION DESIGN PLAN."

JANET S. LUEHRS — Certified Irrigation Designer — CID — 43274

APPROVAL	DESCRIPTION	DATE	MARK	REVISION
	PERMIT SET	7/31/25		

PERMIT SET

BROOKWATER
IRRIGATION CONSULTANTS
1228 QUARRY LANE, SUITE E
PLEASANTON, CALIFORNIA 94566
TEL 925.855.0417
E-MAIL OFFICE@BROOKWATER.COM

0 1 2 3
FOR REDUCED PLANS – ORIGINAL SCALE IS IN INCHES

DEPICTION OF MONUMENTS: DATE
SURVEY PARTY CHIEF
WATERSHED REVIEW: DATE

SUBMITTED: DATE R.C.E. EXP.
SUPERVISING CIVIL ENGINEER
APPROVED: DATE R.C.E. EXP.
MANAGER OF ENGINEERING

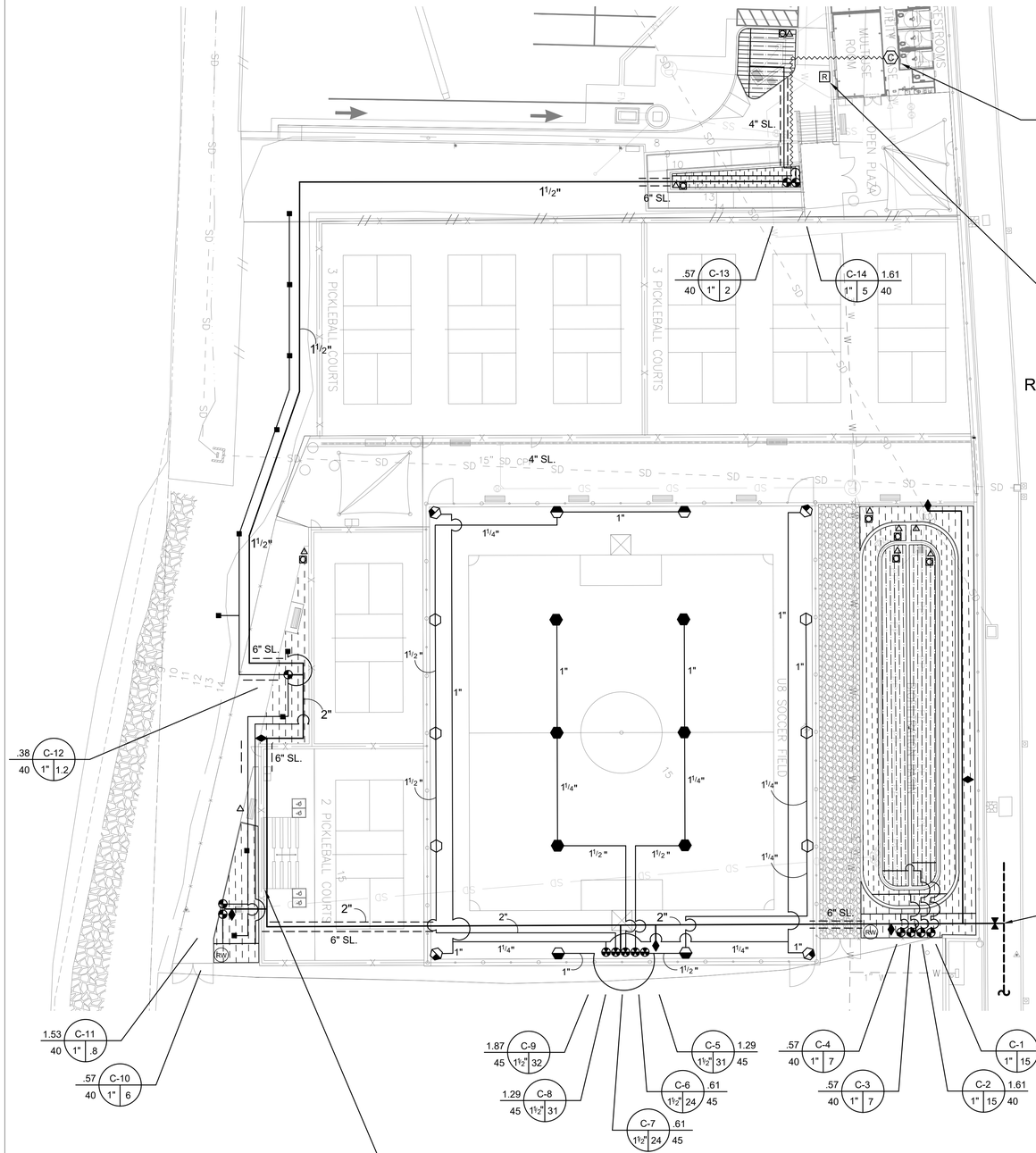
DESIGN JL
DRAWN JL
CHECK JL
AS BUILT

HORIZ. 1"=X'
VERT. 1"=X'
BOOK
DATE 7/31/25

CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

IRRIGATION LEGEND AND NOTES
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
LI-101
SHEET 81 OF 92



SLEEVING NOTES:

1. SLEEVING IS SHOWN AT MAJOR SIDEWALK AND STREET CROSSINGS. SLEEVES FOR ALL IRRIGATION PIPING AND CONTROL/COMMUNICATION WIRES SHALL BE INSTALLED UNDER ALL PAVED SURFACES, WALL FOOTINGS, DRAINAGE CHANNELS, ETC.
2. PIPE SLEEVE SIZE SHALL ALLOW FOR IRRIGATION PIPING AND THEIR RELATED COUPLINGS TO EASILY SLIDE THROUGH SLEEVING MATERIAL.
3. EXTEND SLEEVES 6" BEYOND EDGES OF PAVING.
4. UNLESS OTHERWISE SHOWN, ALL MAINLINE PIPE AND CONTROL WIRE SHALL BE INSTALLED IN A SINGLE SLEEVE.
5. SLEEVING DIAMETER SHALL A MINIMUM OF EQUAL TO TWICE THE DIAMETER OF THE PIPE AND/OR WIRING BUNDLE.

IRRIGATION DEMAND: 32 GPM AT 60 PSI.

FIELD VERIFY STATIC WATER PRESSURE PRIOR TO STARTING ANY WORK. IF PRESSURE VARIES FROM REQUIRED PRESSURE STATED ABOVE, NOTIFY LANDSCAPE ARCHITECT FOR FURTHER INSTRUCTION.

JANET S. LUEHRS
Certified Irrigation Designer
CID
43274

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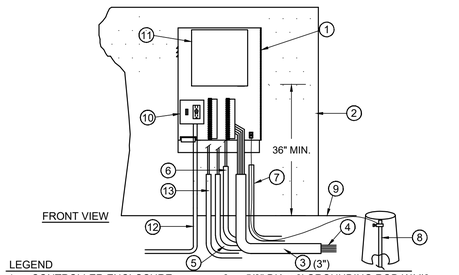
IRRIGATION PLAN
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
LI-102
SHEET 82 OF 92

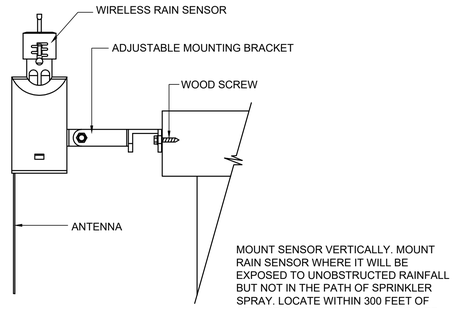


LEGEND

1. CONTROLLER ENCLOSURE.
2. OUTSIDE WALL.
3. PVC LONG SWEEP ELL-USE ONE PER CONTROLLER.
4. DIRECT BURIAL CONTROL WIRES TO CONTROL VALVES.
5. 1" PVC CONDUIT FOR COMMUNICATION CABLE
6. 1" PVC CONDUIT FOR FLOW SENSOR CABLE
7. 1 1/2" ELECTRICAL SWEEP FOR GROUND
8. 5/8" DIA x 8' GROUNDING ROD W/ #6 BONDING WIRE AND CLAMP, INSTALL IN 10" ROUND VALVE BOX.
9. FINISH GRADE.
10. CONTROLLER SUB-ASSEMBLY (CSA) INCLUDES GFI & TERMINAL STRIPS WITH PLACARDS.
11. AUTOMATIC CONTROLLER.
12. 3/4" PVC FOR 120-VOLT SERVICE.
13. 2" PVC CONDUIT FOR PHONE/ RADIO/DATA CABLE

1 SATELLITE CONTROLLER ENCL. - WALL MOUNT

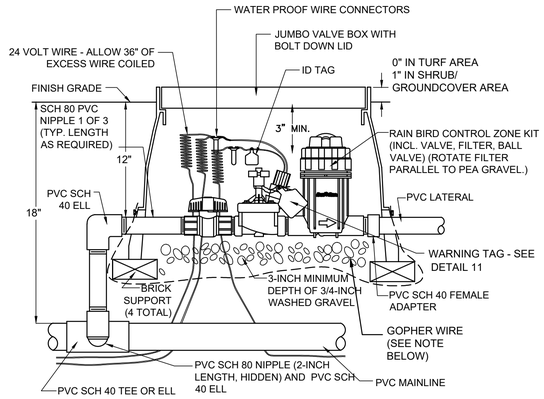
NOT TO SCALE



MOUNT SENSOR VERTICALLY. MOUNT RAIN SENSOR WHERE IT WILL BE EXPOSED TO UNOBSTRUCTED RAINFALL BUT NOT IN THE PATH OF SPRINKLER SPRAY. LOCATE WITHIN 300 FEET OF SENSOR RECEIVER AND CONTROLLER.

2 WIRELESS RAIN SENSOR INSTALLATION DETAIL

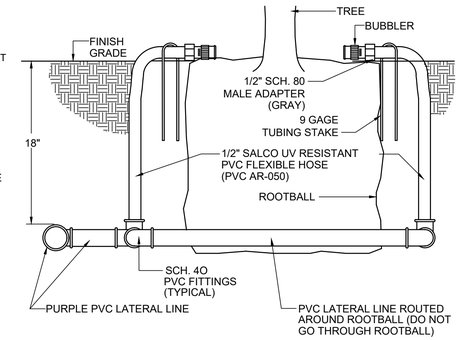
NOT TO SCALE



NOTE: INSTALL 1/4 INCH GALVANIZED MESH WIRE BELOW PEA GRAVEL AND WRAPPED UP THE OUTSIDE OF THE BOX. SECURE WITH SCREWS.

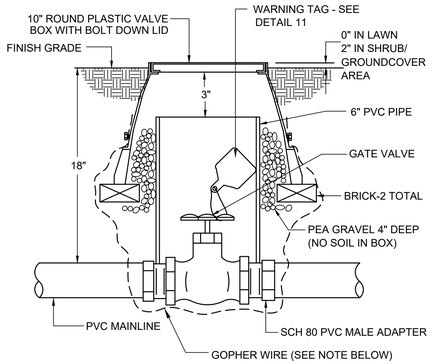
3 XERIGATION CONTROL ZONE KIT

NOT TO SCALE



4 TREE BUBBLER DETAIL

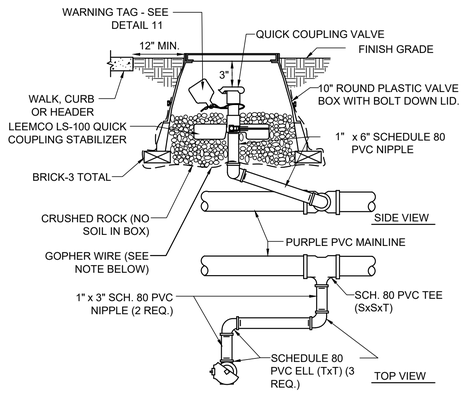
NOT TO SCALE



NOTE: INSTALL 1/4 INCH GALVANIZED MESH WIRE BELOW PEA GRAVEL AND WRAPPED UP THE OUTSIDE OF THE BOX. SECURE WITH SCREWS.

5 GATE VALVE DETAIL

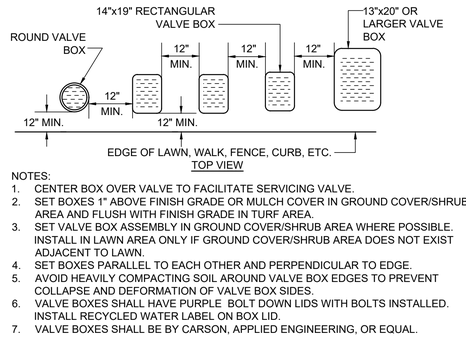
NOT TO SCALE



NOTE: INSTALL 1/4 INCH GALVANIZED MESH WIRE BELOW PEA GRAVEL AND WRAPPED UP THE OUTSIDE OF THE BOX. SECURE WITH SCREWS.

6 QUICK COUPLER IN BOX DETAIL

NOT TO SCALE

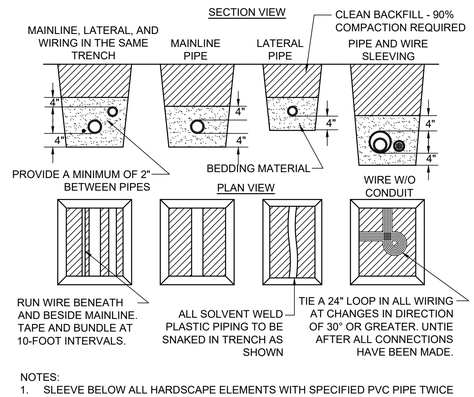


NOTES:

1. CENTER BOX OVER VALVE TO FACILITATE SERVICING VALVE.
2. SET BOXES 1" ABOVE FINISH GRADE OR MULCH COVER IN GROUND COVER/SHRUB AREA AND FLUSH WITH FINISH GRADE IN TURF AREA.
3. SET VALVE BOX ASSEMBLY IN GROUND COVER/SHRUB AREA WHERE POSSIBLE. INSTALL IN LAWN AREA ONLY IF GROUND COVER/SHRUB AREA DOES NOT EXIST ADJACENT TO LAWN.
4. SET BOXES PARALLEL TO EACH OTHER AND PERPENDICULAR TO EDGE.
5. AVOID HEAVILY COMPACTING SOIL AROUND VALVE BOX EDGES TO PREVENT COLLAPSE AND DEFORMATION OF VALVE BOX SIDES.
6. VALVE BOXES SHALL HAVE PURPLE BOLT DOWN LIDS WITH BOLTS INSTALLED. INSTALL RECYCLED WATER LABEL ON BOX LID.
7. VALVE BOXES SHALL BE BY CARSON, APPLIED ENGINEERING, OR EQUAL.

7 VALVE BOX INSTALLATION DETAIL

NOT TO SCALE



NOTES:

1. SLEEVE BELOW ALL HARDSCAPE ELEMENTS WITH SPECIFIED PVC PIPE TWICE THE DIAMETER OF THE PIPE OR WIRE BUNDLE WITHIN.
2. FOR PIPE AND WIRE BURIAL DEPTHS REFER TO IRRIGATION LEGEND AND SPECIFICATIONS.

8 PIPE AND WIRE TRENCHING

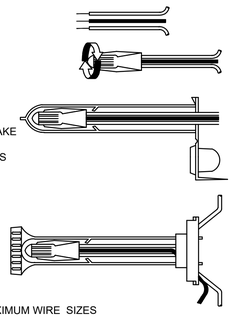
NOT TO SCALE

STEP 1: STRIP WIRES 1/2" FROM ENDS.

STEP 2: APPLY SCOTCHLOK Y SPRING CONNECTOR IN A CLOCKWISE DIRECTION.

STEP 3: INSERT SPLICE TO BOTTOM OF GEL-FILLED TUBE. CHECK TO MAKE SURE CONNECTOR HAS BEEN PUSHED PAST LOCKING FINGERS AND IS SEATED AT BOTTOM OF TUBE.

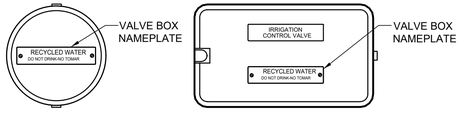
STEP 4: POSITION WIRES IN WIRE CHANNELS AND CLOSE INSULATOR TUBE COVER.



NOTE: MAXIMUM WIRE SIZES PER CONNECTOR ARE THREE # 14'S OR TWO #12'S.

9 WIRE CONNECTION DETAIL

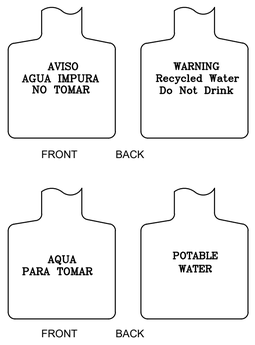
NOT TO SCALE



REFERENCE: T. CHRISTY ENTERPRISES, INC. CATALOG PART NO. 3800 OR EQUAL

10 PUBLIC AWARENESS SIGN FOR BOX LIDS

NOT TO SCALE

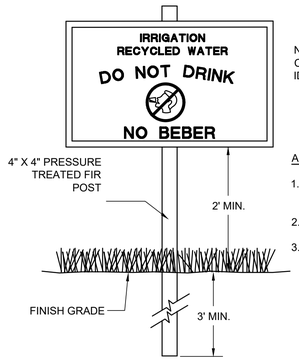


SAMPLE WARNING TAG FOR RECYCLED WATER EQUIPMENT. BACKGROUND PURPLE (PANTONE 512) WITH BLACK LETTERING.

SAMPLE I.D. TAG FOR POTABLE WATER EQUIPMENT. BACKGROUND BLUE WITH BLACK LETTERING. ALL POTABLE WATER METERS AND ABOVE GRADE WATER DEVICES, SUCH AS BACKFLOW PREVENTION DEVICES, MUST BE TAGGED WITH POTABLE WATER I.D. TAGS.

11 RECYCLED WATER IDENTIFICATION TAGS

NOT TO SCALE



NOTE: REFERENCE CHRISTY'S CATALOG # ID-SGN9X12WRW OR EQUAL

ADVISORY SIGN

1. 30.5cm X 22.9cm (12" X 9") RECYCLED WATER ALUMINUM SIGN
2. PURPLE BACKGROUND AND WHITE LETTERING
3. INSTALL TWO SIGNS BACK TO BACK SO THEY CAN BE SEEN FROM BOTH SIDES.

12 IRRIGATION ADVISORY SIGN

NOT TO SCALE

JANET S. LUEHRS
Certified Irrigation Designer
CID
43274

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PERMIT SET	7/31/25		

PERMIT SET

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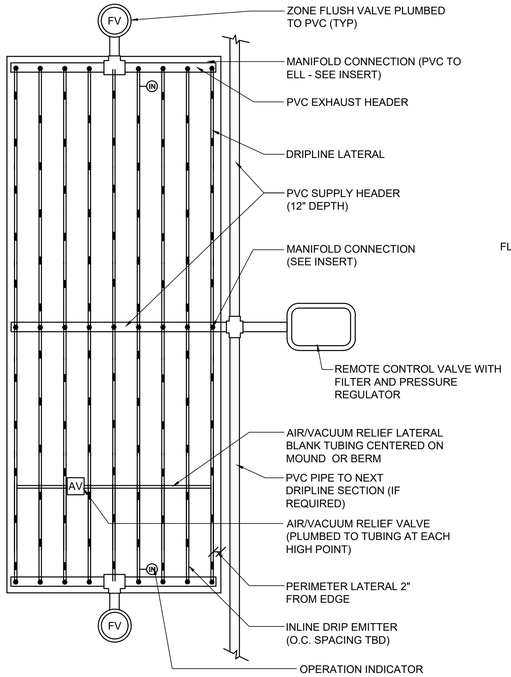
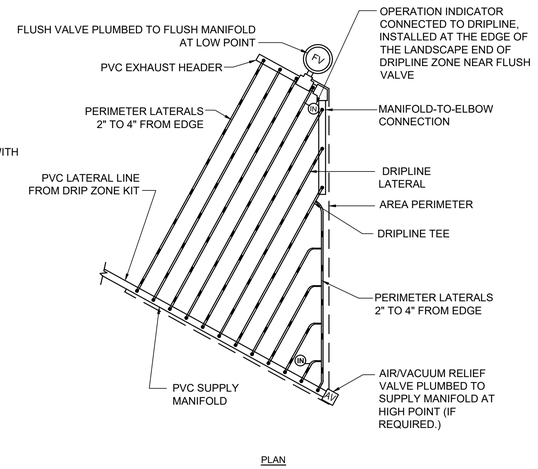
IRRIGATION DETAILS
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
LI-501
SHEET 83 OF 92



13 CENTER FEED INLINE DRIP LAYOUT

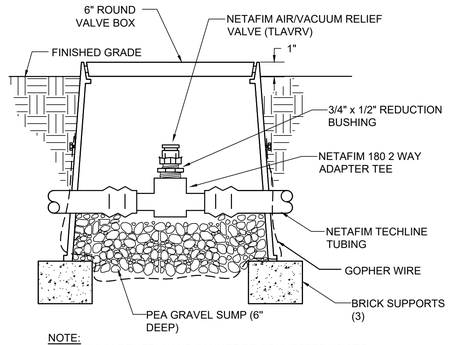
NOT TO SCALE



PLAN

14 TYPICAL ISLAND LAYOUT END FEED

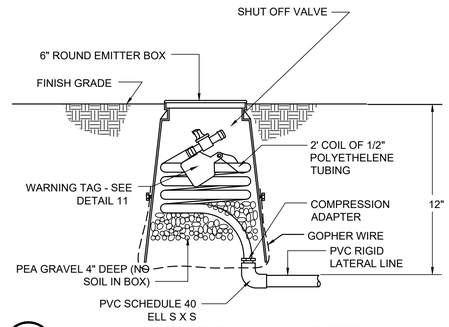
NOT TO SCALE



NOTE:
AIR/VACUUM RELIEF VALVE CANNOT BE CONNECTED LOWER THAN DRIPLINE LATERALS.

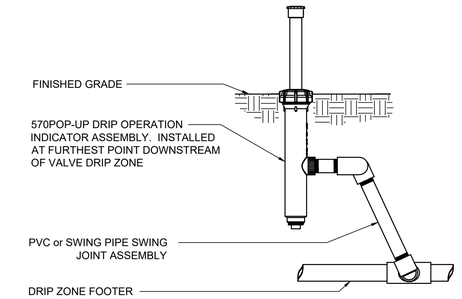
15 NETAFIM AIR/VACUUM RELIEF VALVE - PLUMBED TO TUBING

NOT TO SCALE



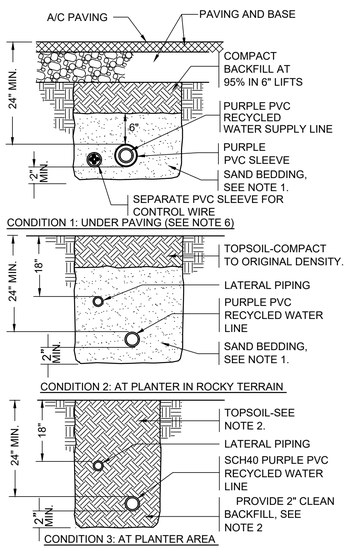
16 SHUT OFF FLUSH VALVE DETAIL

NOT TO SCALE

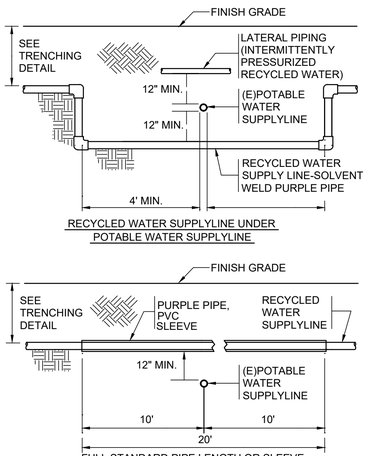


17 TORO 570 POP-UP DRIP OPERATION INDICATOR

NOT TO SCALE



TRENCHING DETAILS



RECYCLED WATER SUPPLYLINE UNDER POTABLE WATER SUPPLYLINE

FULL STANDARD PIPE LENGTH OR SLEEVE

(IF FULL PIPE LENGTH NOT USED, THEN SLEEVE. IF TIE-IN TO EXISTING IRRIGATION IS NEEDED, AT LESS THAN 10', THEN SLEEVE UP TO TIE-IN POINT.)

RECYCLED WATER SUPPLYLINE OVER POTABLE WATER SUPPLYLINE

18 IRRIGATION PIPE CROSSING DETAILS

NOT TO SCALE

TRENCHING NOTES

1. SAND BEDDING REQUIRED IN TRENCHES WITH ROCKY TERRAIN AND UNDER PAVEMENT (TYPICAL ALL SITUATIONS) LAY PIPE ON 2" SAND BED. SAND TO EXTEND 6" ABOVE SHALLOWEST PIPE.

2. SALVAGED EXCAVATED BACKFILL-COMPACT TO ORIGINAL DENSITY (TYPICAL ALL SITUATIONS).

PIPE SEPARATION NOTES

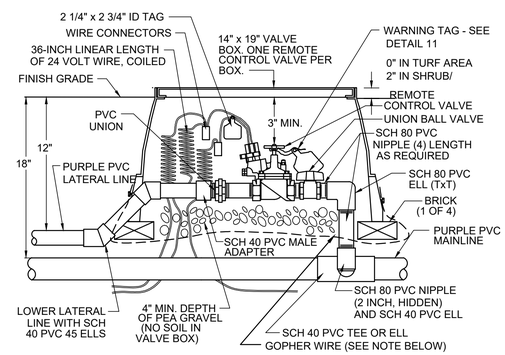
1. RECYCLED WATER PRESSURE MAINLINE PIPING MUST BE LOCATED A MINIMUM OF 12" BELOW THE POTABLE WATER SUPPLYLINES AND A MINIMUM 10' HORIZONTAL CLEARANCE ON EITHER SIDE.

2. RECYCLED WATER PRESSURE MAINLINE PIPELINES ARE ALLOWED OVER POTABLE PIPELINES WITH A MINIMUM OF 12" VERTICAL SEPARATION IF A FULL STANDARD PIPE LENGTH IS CENTERED OVER THE CROSSING, OR THE RECYCLED PIPELINE IS SLEEVED FOR THE SAME LENGTH.

3. RECYCLED WATER LATERALS (INTERMITTENTLY PRESSURIZED PIPELINES) ARE ALLOWED TO CROSS OVER POTABLE WATER PIPELINES WITH A MINIMUM OF 12" VERTICAL SEPARATION.

4. THE MINIMUM HORIZONTAL SEPARATION CAN BE REDUCED TO 4' IF ANY OF THE FOLLOWING CRITERIA ARE MET:
A. SOLVENT WELD PVC PIPE ON RECYCLED WATER SYSTEM.
B. RESTRAINED PVC PIPE FOR RECYCLED OR POTABLE IF LARGER THAN 4".
C. RESTRAINED DUCTILE IRON PIPE ON RECYCLED WATER SYSTEM.
D. SOLDER COPPER PIPE ON RECYCLED WATER SYSTEM.
E. SLEEVE POTABLE PIPE.
F. SLEEVE RECYCLED PIPE.

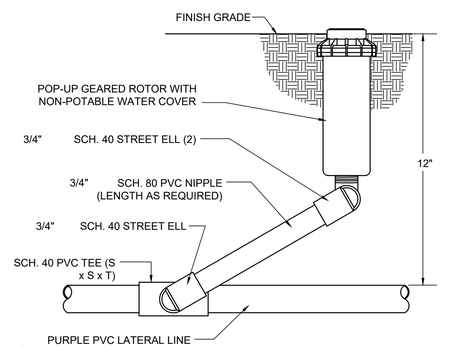
5. SEWER PIPE MUST BE KEPT AT A MINIMUM 12" BELOW RECYCLED WATER LINE.



NOTE: INSTALL 1/4 INCH GALVANIZED MESH WIRE BELOW PEA GRAVEL AND WRAPPED UP THE OUTSIDE OF THE BOX. SECURE WITH SCREWS.

19 REMOTE CONTROL VALVE AND BALL VALVE

NOT TO SCALE



20 POP-UP ROTOR DETAIL

NOT TO SCALE

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FILE 406-223
LI-502
SHEET 84 OF 92

TOM BATES REGIONAL SPORT COMPLEX
WATER EFFICIENT LANDSCAPE WORKSHEET

Reference Evapotranspiration (Eto) **41.8**

ZONE NO.	PLANT TYPE	HYDROZONE* (PLANT WATER USE)	PLANT FACTOR (PF)	IRRIGATION METHOD**	IRRIGATION EFFICIENCY (IE)	ETAF (PF/IE)	HYDROZONE AREA (HA) (Sq Ft)	ETAF x HA	ESTIMATED TOTAL WATER USE (ETWU)	% LANDSCAPE AREA
REGULAR LANDSCAPE AREA										
C-1	BIORETENTION	BR	0.20	DL	0.81	0.25	856	211	5,478	4.4%
C-2	BIORETENTION	BR	0.20	DL	0.81	0.25	856	211	5,478	4.4%
C-3	SHRUB	LW	0.30	DL	0.81	0.37	1,140	422	10,942	5.8%
C-4	SHRUB	LW	0.30	DL	0.81	0.37	1,150	426	11,038	5.9%
C-10	SHRUB	LW	0.30	DL	0.81	0.37	868	321	8,332	4.4%
C-11	TREE	VLW	0.20	B	0.81	0.25	50	12	320	0.3%
C-12	TREE	VLW	0.20	B	0.81	0.25	302	75	1,933	1.5%
C-13	SHRUB	LW	0.30	DL	0.81	0.37	213	79	2,044	1.1%
C-14	BIORETENTION	BR	0.20	DL	0.81	0.25	302	75	1,933	1.5%
TOTALS (REGULAR LANDSCAPE AREAS)							**5,737**	**1,833**	**47,497**	**29.2%**
SPECIAL LANDSCAPE AREA										
C-5	TURF	WST		PC-R		1.00	2,319	2,319	60,099	11.8%
C-6	TURF	WST		FC-R		1.00	3,795	3,795	98,351	19.3%
C-7	TURF	WST		FC-R		1.00	3,795	3,795	98,351	19.3%
C-8	TURF	WST		PC-R		1.00	2,319	2,319	60,099	11.8%
C-9	TURF	WST		PC-R		1.00	1,650	1,650	42,761	8.4%
TOTALS (SPECIAL LANDSCAPE AREAS)							**13,878**	**13,878**	**359,662**	**70.8%**
TOTALS FOR ALL AREAS							***19,615***	***15,711***	***407,159***	***100%***

HYDROZONE SUMMARY

*Hydrozone Description	Total Sq. Ft.	% of Landscape
Cool Season Turf (CST)	0	0.0%
Warm Season Turf (WST)	0	0.0%
High Water Use Plants (HW)	0	0.0%
Bioretention Plants (BR)	2,014	10.3%
Medium Water Use Plants (MW)	0	0.0%
Low Water Use Plants (LW)	3,371	17.2%
Very Low Water Use Plants (VLW)	352	1.8%
Water Feature	0	0.0%
Special Landscape Area (SLA)	13,878	70.8%
TOTAL	19,615	100.0%

**Irrigation Method	Total Sq. Ft.	% of Landscape
Rotor (FC-R, PC-R)	13,878	70.8%
Multi-Stream Rotator (MR)	0	0.0%
Spray (S)	0	0.0%
Bubbler (B)	352	1.8%
Drip (D)	0	0.0%
In-Line Drip (DL)	5,385	27.5%
Micro Spray (MS)	0	0.0%
Other (O)	0	0.0%

CITY OF
BERKELEY
LANDSCAPE WATER USE STATEMENT

PROJECT NAME: **TOM BATES REGIONAL SPORT COMPLEX**

PREPARED BY: JANET LUEHRS (CID, CLIA #43274)
BROOKWATER INC., IRRIGATION CONSULTANTS
480 SAINT JOHN STREET, SUITE 220
PLEASANTON, CA 94566
925-855-0417
925-855-0357 (FAX)
Janet@Brookwater.com (e-mail)

"I have complied with the criteria of the Water Efficient Landscape Ordinance and applied them accordingly for the efficient use of water in the irrigation design plan."

Signed: Janet Luehrs

PART ONE **MAXIMUM APPLIED WATER ALLOWANCE (MAWA)**

MAWA = ETo x .62 x [(ETAFx HA) + ((1-ETAF) x SLA)]

YEARLY ETo	41.8
CONVERSION FACTOR	0.62
ETAF	0.45
TOTAL IRRIGATED LANDSCAPE AREA (HA)	19,615 SQUARE FEET
SPECIAL LANDSCAPE AREA (SLA)	13,878 SQUARE FEET
LANDSCAPE WATER ALLOWANCE	**426,568 GALLONS PER YEAR**
TOTAL ACRE FEET	1.31 ACRE FEET

PART TWO **ESTIMATED TOTAL WATER USE (ETWU)**

(AVERAGE *ETAF* AND *ETWU* FROM WATER EFFICIENT LANDSCAPE WORKSHEET)

AVERAGE ETAF FOR REGULAR LANDSCAPE AREAS (TOTAL ETAF x AREA / TOTAL AREA)	0.32
ETWU FOR REGULAR LANDSCAPE AREAS	**47,497 GALLONS PER YEAR**
SITE WIDE ETAF	0.80
ETWU FOR ALL LANDSCAPE AREAS	**407,159 GALLONS PER YEAR**
TOTAL ACRE FEET	1.25 ACRE FEET

JANET S. LUEHRS Certified Irrigation Designer CID 43274

APPROVAL | DESCRIPTION | DATE | MARK | REVISION
PERMIT SET | 7/31/25

PERMIT SET

BROOKWATER
IRRIGATION CONSULTANTS
1228 QUARRY LANE, SUITE E
PLEASANTON, CALIFORNIA 94566
TEL 925.855.0417
E-MAIL OFFICE@BROOKWATER.COM

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CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

WATER USE CALCULATIONS
TOM BATES
REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
LI-503
SHEET 85 OF 92

PLANT LEGEND										
QUANTITY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	WATER USE (A)	REFERENCE (A)	PROJECT SPREAD (B)	MIN-MAX SPREAD (C)	MIN MAX HEIGHT	REFERENCE BOOK (C)
TREES										
10		QUERCUS TOMENTELLA	ISLAND OAK	24" BOX	VL	WUCOLS	25'	25'-40'	50'	EBMUD
SOCCER FIELD TURF										
15,595 SF		90/10 TALL FESCUE	TURF, DELTA BLUEGRASS	SOD	M	N/A	N/A	N/A	N/A	N/A
BIORETENTION PLANTING										
39		CHONDROPETALUM TECTORUM	CAPE RUSH	5 GAL	L	WUCOLS	4'	4'-6'	4'-6'	EBMUD
124		FESTUCA CALIFORNICA	CALIFORNIA FESCUE	1 GAL	L	WUCOLS	2'	1'-2'	2'-3'	SUNSET
134		JUNCUS PATENS 'CARMAN'S GRAY'	CALIFORNIA GREY RUSH	1 GAL	L	CNP	2'	1'-2'	2'	CNP
52		MIMULUS AURANTIACUS 'POINT MOLATE'	STICKY MONKEY FLOWER	1 GAL	VL	WUCOLS	4'	4'	4'	SUNSET
1,894 SF TOTAL		BIOFILTRATION SOD (PURPLE NEEDLEGRASS (NASSELLA PULCHRA), MOLATE FESCUE (FESTUCA RUBRA), CALIFORNIA BARLEY (HORDEUM CALIFORNICUM), MEADOW BARLEY (HORDEUM BRACHYANTHERUM) - DELTA BLUEGRASS		SOD	L	WUCOLS	N/A	N/A		N/A
NATIVE PLANTING										
43		ARTEMISIA CALIFORNICA 'MONTARA'	CALIFORNIA SAGEBRUSH	5 GAL	L	WUCOLS	3'	3'-5'	2'	SUNSET
2		BACCHARIS PILULARIS 'PIGEON POINT'	DWARF COYOTE BRUSH	5 GAL	L	WUCOLS	9'	9'	2'-3'	SUNSET
4		CEANOTHUS THYRSIFLORUS 'SKYLARK'	CALIFORNIA LILAC	5 GAL	L	WUCOLS	5'	5'	3'	EBMUD
53		MUHLENBERGIA RIGENS	DEER GRASS	1 GAL	L	WUCOLS	3'	3'	3'	EBMUD
TOTAL										
21,340 SF										

(A) WATER USE CLASSIFICATION OF LANDSCAPE SPECIES PUBLISHED BY THE UNIVERSITY OF CALIFORNIA COOPERATIVE EXTENSION AND THE DEPARTMENT OF WATER RESOURCES (WUCOLS) OR OTHER SOURCES APPROVED BY THE CALIFORNIA DEPARTMENT OF WATER RESOURCES (DWR)

(B) THIS IS THE SPREAD OF EACH PLANT AS DRAWN ON THE PROJECT PLANS.

(C) THIS IS THE SPREAD OF EACH PLANT ACCORDING TO A PUBLISHED THIRD-PARTY REFERENCE.

PLANTING NOTES

1. CONTRACTOR TO VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO TRENCHING FOR IRRIGATION, DIGGING PLANT HOLES, ETC., INCLUDING LOCATIONS OF PROPOSED UTILITIES, AREA DRAINS, MANHOLES, AND VAULTS, AS INDICATED ON THE PROJECT SURVEY AND ANY CIVIL UTILITY PLANS. FOR MARKING UNDERGROUND FACILITIES, CALL UNDERGROUND SERVICE ALERT MINIMUM TWO DAYS PRIOR TO DIGGING. 1-800-227-2600, BETWEEN 6:00AM - 7:00PM, MONDAY - FRIDAY, EXCEPT HOLIDAYS.
2. ALL PLANTING SHALL BE DONE IN ACCORDANCE WITH DETAILS AND PROJECT SPECIFICATIONS, WHICH ARE A SEPARATE 8 1/2 X 11 DOCUMENT. IT IS THE RESPONSIBILITY OF THE PLANTING AND IRRIGATION CONTRACTORS TO OBTAIN SPECIFICATIONS IF NOT PROVIDED INITIALLY WITH THESE DRAWINGS. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS, INCLUDING MATERIALS SUBMITTALS AND INSPECTIONS AND SOIL PREPARATION.
3. IF CONFLICTS ARISE AT PLANT LOCATION TIME, CITY TO BE CONSULTED FOR ADJUSTMENTS PRIOR TO INSTALLATION. ADJUSTMENTS TO BE MADE BY CONTRACTOR AT NO ADDITIONAL COST.
4. PRIOR TO PLANT INSTALLATION, CLEAR ALL PLANTING AREAS OF DEBRIS. SEE SPECS.
5. PLANTS SHALL BE TYPICAL OF THEIR SPECIES OR VARIETY, SHALL HAVE NORMAL HABITS OF GROWTH, BE HEALTHY AND HAVE IDENTIFYING NURSERY TAGS ON EACH PLANT DELIVERED TO THE SITE. SEE SPECS FOR MORE INFORMATION ON TREE SELECTION AND CORRECTION.
6. NO SUBSTITUTE PLANT MATERIALS WILL BE PERMITTED UNLESS APPROVED BY THE LANDSCAPE ARCHITECT AND OWNER'S REPRESENTATIVE. SUBMIT PROPOSED PLANT LIST FROM NURSERY PRIOR TO DELIVERY. NO PLANT SUBSTITUTIONS MAY BE MADE WITHOUT WRITTEN APPROVAL OF THE OWNER'S REPRESENTATIVE.
7. PLANT LOCATIONS TO BE LAID OUT SO AS NOT TO INTERRUPT ESTABLISHED GRADING AND DRAINAGE PATTERNS.
8. SPACE GROUNDCOVERS EVENLY AS INDICATED ON DRAWINGS, STAGGERING SPACES AROUND SHRUBS AND TREES AS WELL AS OPEN AREAS.
9. NO PLANTING SHALL COMMENCE UNTIL IRRIGATION SYSTEM IS FULLY INSTALLED AND OPERATIONAL, EXCEPT FOR IN-LINE DRIP IRRIGATION WHICH IS INSTALLED POST-PLANTING.
10. OWNER'S REPRESENTATIVE HAS THE RIGHT TO REJECT ALL PLANT MATERIAL DEEMED UNACCEPTABLE.
11. PLANTING AND PLANTING OPERATIONS WHICH COULD ENDANGER PUBLIC SAFETY BY OBSTRUCTING THE VISION OF PUBLIC TRAFFIC OR CONFLICTING WITH THE SAFE FUNCTION OF UTILITY WIRES WILL NOT BE PERMITTED IN THE PUBLIC RIGHT OF WAY.
12. FINISHED GRADE FOR PLANTING AREAS VARIES, SEE DETAILS. THE OWNER'S REPRESENTATIVE SHALL REVIEW AND APPROVE ALL FINISH SOIL ELEVATIONS. THE CONTRACTOR SHALL MAKE ADJUSTMENTS AS DIRECTED IN THE FIELD BY OWNER'S REPRESENTATIVE. SUCH WORK SHALL BE CONSIDERED INCLUDED IN CONTRACTOR'S FIXED CONTRACT.
13. ALL SHRUBS AND GROUNDCOVER SHALL BE SET 1/2 THE DIMENSION OF THEIR SPECIFIED SPACING FROM ADJACENT WALKS, CURBS AND WALLS UNLESS OTHERWISE SHOWN. ALL SHRUBS AND GROUNDCOVER SPACING SHALL BE TRIANGULAR UNLESS DRAWN OTHERWISE.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR AND REPLACEMENT OF ANY DAMAGE OR DESTRUCTION TO EXISTING PLANT MATERIALS AND TO RESTORE THE SAME SPECIES TO ITS ORIGINAL CONDITION TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE.
15. DURING PLANTING OPERATIONS, FURNISH AND INSTALL SHEET MULCH, INCLUDING 3" DEPTH OF WOOD MULCH, OVER ALL NEW PLANTING AREAS BESIDES TURF FIELD. SUBMIT WOOD MULCH SAMPLE FOR OWNER'S REPRESENTATIVE'S APPROVAL PRIOR TO DELIVERY TO THE PROJECT SITE. SEE SPECIFICATIONS FOR MORE INFORMATION.
16. ALL AREAS WITH SLOPE GREATER THAN 3:1 SHALL RECEIVE JUTE NETTING EROSION CONTROL MATTING, SEE SPECIFICATIONS.
17. PLANT COUNTS ARE FOR CONTRACTOR'S CONVENIENCE ONLY, WHERE DISCREPANCY OCCURS, PLAN GOVERNS.
18. PLANTING SHALL BE PERFORMED ONLY WHEN WEATHER AND SOIL CONDITIONS ARE SUITABLE.
19. PRIOR TO PLANTING, ALL PLANTED AREAS SHALL PROVIDE POSITIVE DRAINAGE (NO STANDING WATER).
20. ALL PLANTS THAT SETTLE SHALL BE RAISED TO THE CORRECT FINISH GRADE LEVEL PRIOR TO WALK THROUGH WITH OWNER'S REPRESENTATIVE.

SHEET MULCHING NOTES

1. ALL PLANTING AREAS TO BE SHEET MULCHED. REFER TO DETAILS AND SPECIFICATIONS FOR SUPPLIERS AND STANDARDS.
2. SHEET MULCH TO BE COMPOSED OF BIODEGRADABLE WEED BARRIER MATERIALS. MANUFACTURED WEED CLOTH IS NOT PERMITTED.

LICENSED LANDSCAPE ARCHITECT
BRIAN SUTTON
No. 4219
Signature
01/31/26
Renewal Date
07/31/25
STATE OF CALIFORNIA

APPROVAL	DESCRIPTION	DATE	MARK	REVISION
	PERMIT SET	7/31/25		

PERMIT SET

PLACEWORKS
2040 BANCROFT WAY
SUITE 400
BERKELEY, CA 94704
PHONE: (510) 848-3815

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MANAGER OF ENGINEERING R.C.E. EXP.

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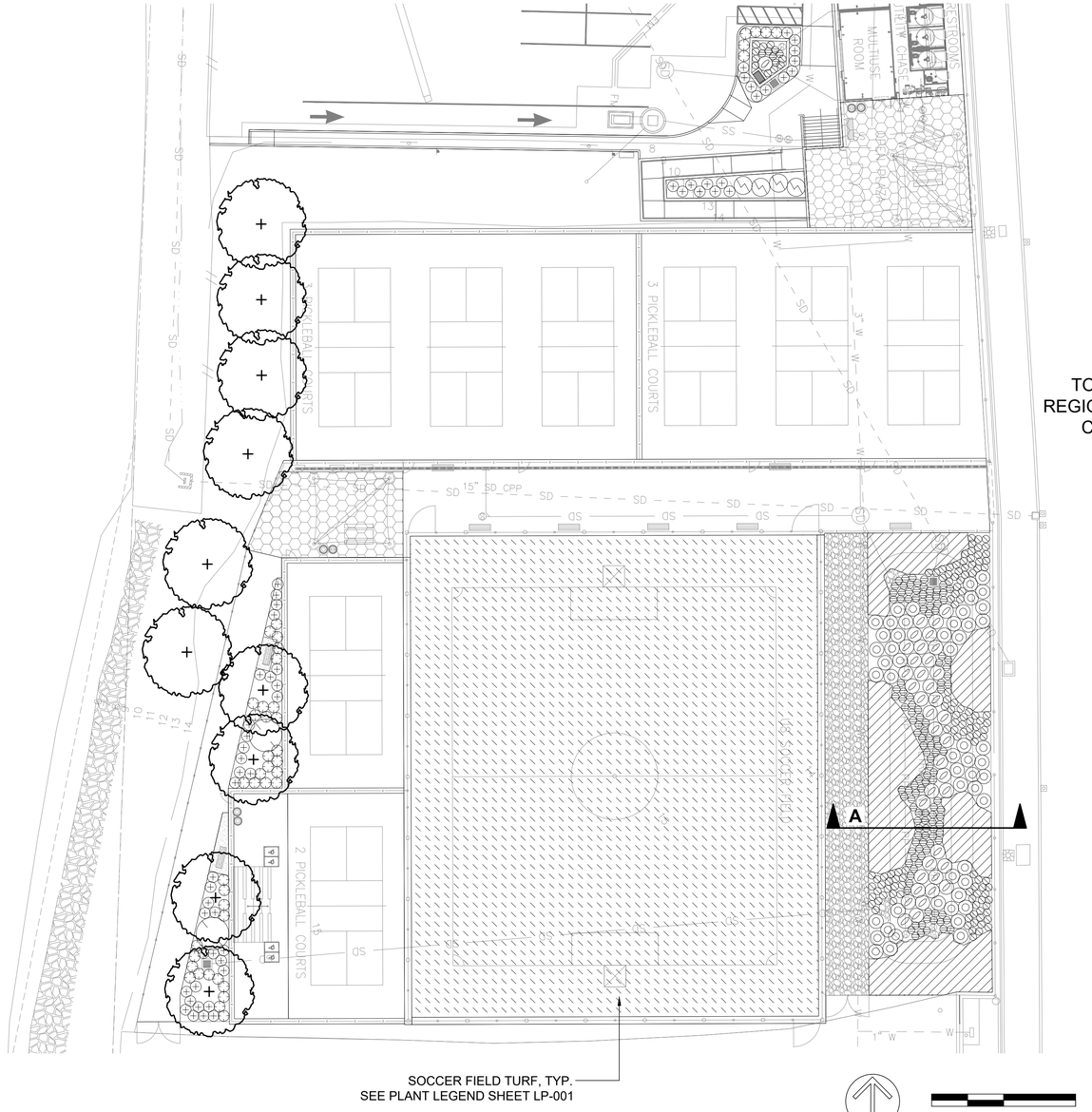
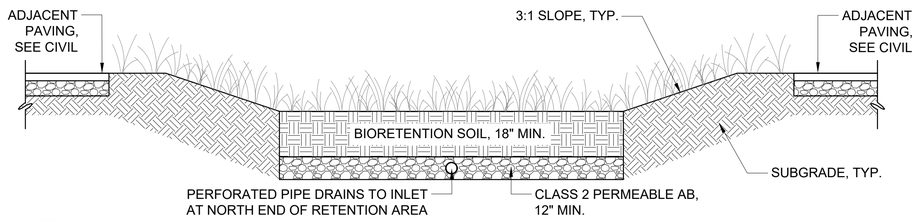
CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

PLANTING LEGEND
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
LP-001
SHEET 86 OF 92



TOM BATES
REGIONAL SPORT
COMPLEX



NOTE:
DIMENSIONS ARE APPROXIMATE, SEE CIVIL DETAILS FOR MORE INFO

SECTION A
SCALE: 1/4" = 1'-0"

REVISION	MARK	DATE	DESCRIPTION
		7/31/25	PERMIT SET

APPROVAL

LICENSED LANDSCAPE ARCHITECT — SARAH SUTTON — No. 4219 — 01/31/26 — STATE OF CALIFORNIA

PERMIT SET

PLACEWORKS
2040 BANCROFT WAY
SUITE 400
BERKELEY, CA 94704
PHONE: (510) 848-3815

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SUPERVISING CIVIL ENGINEER
APPROVED: DATE R.C.E. EXP.
MANAGER OF ENGINEERING

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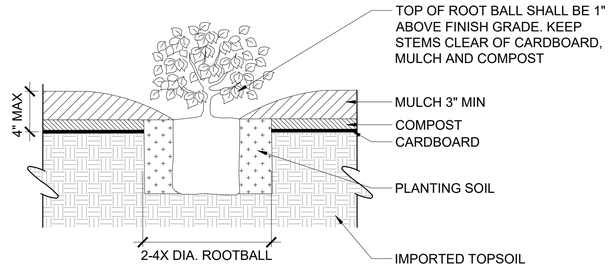
CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

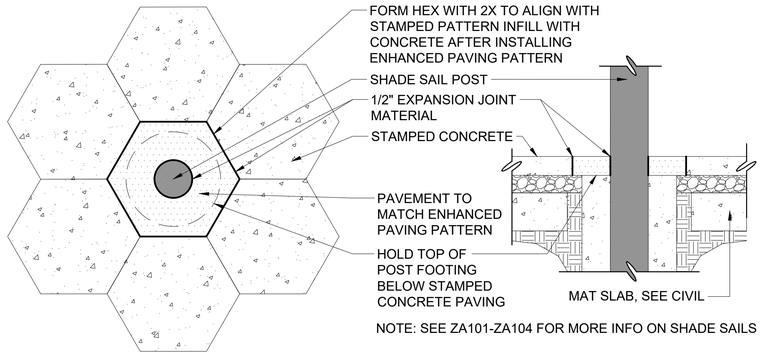
PLANTING PLAN
TOM BATES
REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
LP-101
SHEET 87 OF 92



3 1 GAL SHRUBS

SCALE: 1 1/2" = 1'-0"

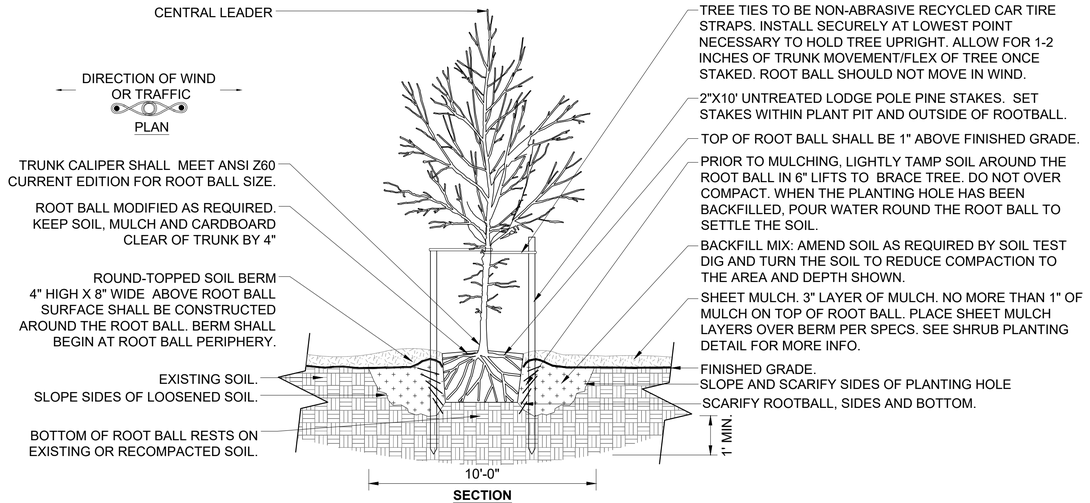


NOTE: SEE ZA101-ZA104 FOR MORE INFO ON SHADE SAILS

4 SHADE SAIL POST IN ENHANCED PAVING PATTERN

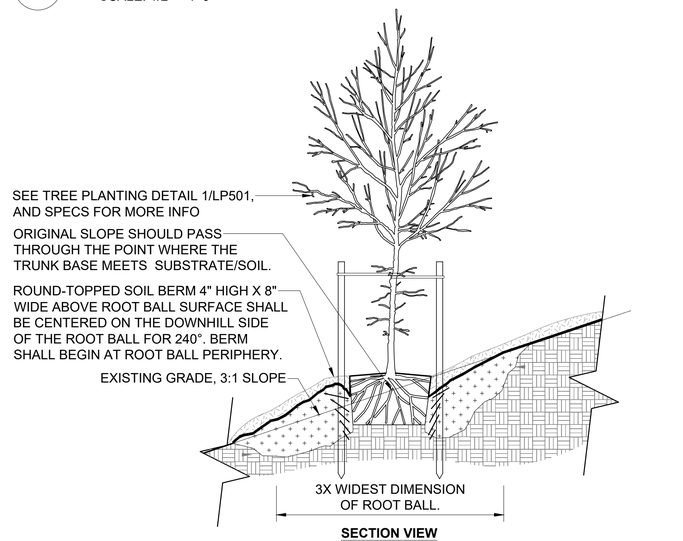
SCALE: 1/2" = 1'-0"

NOTES:
1. TREES SHALL BE ROOT BASKET GROWN WITH NO LARGE ROOTS.
2. TREES SHALL HAVE LEAFY LATERALS ALL OVER THE TRUNK FROM TOP TO BOTTOM.
3. LATERALS SHALL NOT BE PRUNED OFF UNTIL 4 YEARS AFTER PLANTING.
4. PLACE TREE IN PLANTING HOLE GIVING THE BEST "FACE" TO VIEWING ANGLE. STRAIGHTEN THE TREE IN THE HOLE.
5. SUPPORT TREE BY ROOT BALL, NOT TRUNK.
6. REMOVE NURSERY STAKES, TIES AND TAGS. IF CENTRAL LEADER NEEDS TO BE STRAIGHTENED OR HELD ERECT, IT IS ACCEPTABLE TO ATTACH A 1/2" X 8' BAMBOO POLE TO THE CENTRAL LEADER AND TRUNK.
7. SEE DETAIL 3, SHEET LP-501 FOR SHEET MULCH DETAILS INCLUDING COMPOST AND MULCH QUANTITIES.
8. INSTALLED TREE STAKES AND TIES TO BE REMOVED AFTER 2 GROWING SEASONS.
9. SEE SPECIFICATIONS FOR FURTHER REQUIREMENTS RELATED TO THIS DETAIL.



1 TREE PLANTING

SCALE: 1/2" = 1'-0"



2 TREE PLANTING ON SLOPE

SCALE: 1/2" = 1'-0"

LICENSED LANDSCAPE ARCHITECT
SARAH SUTTON
No. 4219
Signature
01/31/26
07/31/25
STATE OF CALIFORNIA

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CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

PLANTING DETAILS
TOM BATES
REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
LP-501
SHEET 88 OF 92

PROJECT DIRECTORY

OWNER
CUSTOM CANOPIES INC
1123 BURKE STREET
SANTA FE SPRINGS, CA 90670
P. (562) 464-2700
CONTACT: STEVE GRANT

ARCHITECT
REA-EDWARDS ARCHITECT
7455 Pedrick Court
Bakersfield, CA 93313
T. (661) 364-0243
CONTACT: REA-EDWARDS

STRUCTURAL
JOSEPH L. ARTHUR
1400 Commerce Drive, Unit E
Fort St. Vrain
T. (303) 444-8868

PRECHECK FABRIC SHADE STRUCTURE II

FOR CUSTOM CANOPIES

MATERIAL SPECIFICATIONS - SEE ALSO SHEETS S1.1 & S1.2

1. MATERIAL WIRE ROPE CLIPS
   - 1.A. CABLE CLIPS SHALL BE FORGED STEEL PER FEDERAL INSPECTION FF-C-45 TYPE 1, CLASS 2 INSTALLED WITH THE U-BOLT ON THE CABLE DEAD END (SEE SPECIFICATION SHEET ON THIS SHEET.)
   - 1.B. BOLT TORQUE FOR 3/8" CABLE CLIPS = 15 lb-ft, FOR 5/16" CABLE CLIPS = 30 lb-ft.
2. BOLT HOLES
   - 2.A. BOLT HOLE DIAMETERS SHALL BE 1/8" MAX. LARGER THAN THE BOLT DIAMETER.
   - 2.B. ALL BOLTS SHALL BE INSTALLED WITH LOCK WASHERS.
3. CORROSION PROTECTION
   - 3.A. STEEL TUBE ROOF MEMBER SHALL BE TRIPLE COATED USING IN-LINE ZINC ELECTROPLATING PER ASTM B-6 AND THEN POWDER COATED WITH A TGIC POLYESTER TOP COAT.
   - 3.B. STEEL PIPE COLUMNS SHALL BE POWDER COATED WITH A TGIC POLYESTER PRIMER AND TOP COAT.
   - 3.C. ZINC SPELTER CONFORMS TO ASTM B-6 WITH HIGH GRADE ZINC.
4. FABRIC MATERIAL
   - 4.A. FABRIC MATERIAL SHALL BE EXTRA BLOCK. SEE FABRIC CUT-SHEET ON SS.1
   - 4.B. THE FABRIC SHALL BE MANUFACTURED FROM HIGH DENSITY POLYETHYLENE POLYMER.
   - 4.C. MIN. WEIGHT - 5.3 oz/sq yd MAXIMUM FABRIC WOOLLIE OF ESTIMTOPY @ 10.0 KSI.
   - FABRIC THICKNESS - 60.4 mil.
   - 4.D. MIN. BREAKING STRENGTH PER ASTM D 5034: WARP = 185 lbs., WEFT = 260 lbs.
   - 4.E. MAX. ELONGATION WARP = 110%, WEFT = 78%.
   - 4.F. MIN. TEAR STRENGTH PER ASTM D 2261: WARP = 28 lbs., WEFT = 28 lbs
   - 4.G. FIRE RETARDANT RATING PER CBFM - TITLE 19. (REGISTRATION #: ALNET EXTRA BLOCK BH24CBLOTX - FM4001)
   - 4.H. THE FABRIC SHALL BE CAPABLE OF MAINTAINING 80% OF ITS TENSILE AND TEARING STRENGTH AFTER EXPOSURE TO A 3120MJ LIGHT SOURCE APPLIED FOR 500 HOURS AND WHILE MOISTENED FOR 1 HOUR EVERY 12 HOURS PER ASTM G63. THE FABRIC SHALL REQUIRE ANNUAL INSPECTION AND MAINTENANCE.
   - 4.I. THE FABRIC SHALL MAINTAIN AT LEAST 80% OF IT'S ORIGINAL BREAKING STRENGTH AFTER 5 YEARS OF EXPOSURE TO SUNLIGHT.
5. STANDARD NOTES
   - 5.A. ALL WORK SHALL CONFORM TO 2022 EDITION TITLE 24, CALIFORNIA CODE OF REGULATION (CCR).
   - 5.B. CHANGES TO THE APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY ACCORDA ON CONSTRUCTION CHANGE DOCUMENT (CCD) APPROVED BY DSA. AS REQUIRED BY SECTION 4-338, PART 1, TITLE 24 (CCR).
   - 5.C. A "DSA CERTIFIED" PROJECT INSPECTOR EMPLOYED BY THE DISTRICT (OWNER) AND APPROVED BY DSA SHALL PROVIDE (CCR); MINIMUM CLASS 2 PROJECT INSPECTOR FOR THE PROJECT.
   - 5.D. A DSA ACCEPTED TESTING LABORATORY DIRECTLY EMPLOYED BY THE DISTRICT (OWNER) SHALL CONDUCT ALL THE REQUIRED TEST AND INSPECTIONS FOR THE PROJECT.
   - 5.E. THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS IS THAT THE WORK OF THE ALTERATION, REHABILITATION OR ADDITION TO THE EXISTING STRUCTURE SHALL COMPLY WITH THE 2022 CBC, CONSTRUCTION CHANGE DOCUMENT (CCD) OR A SEPARATE SET OF PLANS AND SPECIFICATIONS, DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY DSA.
   - 5.F. GRADING PLANS, DRAINAGE IMPROVEMENTS, ROAD AND REQUIREMENTS AND ENVIRONMENTAL HEALTH CONSIDERATIONS SHALL COMPLY WITH ALL LOCAL ORDINANCES.

APPLICABLE CODES

2022 California Administrative Code (CAC), Part 1, Title 24 CCR2022
California Building Code (CBC), Part 2, Title 24 CCR 2022 California Residential Code (CRC), Part 2.5, Title 24 CCR
2022 California Mechanical Code (CMC), Part 4, Title 24 CCR2022
California Plumbing Code (CPC), Part 5, Title 24 CCR
2022 California Electrical Code, Part 5, Title 24 CCR 2022 California Fire Code (CFC), Part 9, Title 24 CCR
2022 California Existing Building Code (CEBC), Part 10, Title 24 CCR
2022 California Green Building Standards Code (CALGreen), Part 11, Title 24 CCR
2022 California Referenced Standards Code, Part 12, Title 24 CCR
Title 19 CCR, Public Safety, State Fire Marshal Regulations

APPLICABLE STANDARDS
For a list of applicable standards, including California amendments to the NFPA Standards, refer to CBC Chapter 35 and CFC Chapter 80.

GENERAL NOTES

1. RISK SAFETY DURING DEMOLITION AND CONSTRUCTION
   - 1.A. ALL COMPLY WITH CFC CHAPTER 33 AND CBC CHAPTER 33.

FTI/NM TEST CERTIFICATE
Fabric Registration
LICENSE NUMBER: FM4001
EXTRA BLOCK BH24BCLOTX
Product Marketed by:
ALNET AFFILIATE
Issue Date: 10/15/2020
Expiration Date: 10/15/2024
This is to certify that the product listed above has been evaluated in accordance with the California Fire Marshal Regulations and has been found to comply with the requirements of the Standard listed above. This registration is valid only for the fabric(s) specified above and under the conditions specified in the Listing Report. Any change in the fabric composition will void this registration unless approved by the Listing Agency.
Issued By: Exova Warnock Hersey
For Engineering Listing Manager
Fire Engineering & Investigation Group
Reviewed and Approved by: Ronnie Bono
Fire Engineering & Investigation Group
OFFICE OF THE STATE FIRE MARSHAL
Please visit calfire.ca.gov/egi for more information on Licensing and Partnership with OSFM. FIRE

DESIGN PARAMETER CHECKLIST FOR OTC REVIEW

THE FOLLOWING CHECKLIST IS INTENDED TO ASSIST THE PLAN REVIEWER TO DETERMINE IF THIS PRE-CHECKED SUBMITTAL IS APPLICABLE TO THE SITE SPECIFIC CONDITIONS IN WHICH IT IS INTENDED TO BE USED. IT IS THE SITE APPROVAL ARCHITECTS RESPONSIBILITY TO FILL IN THE APPROPRIATE BOXES AND CONFIRM SITE CONDITIONS. IF THIS CHECKLIST CANNOT BE COMPLETED, ADDITIONAL ENGINEERING AND SITE-SPECIFIC COMPLIANCE IS REQUIRED.

- ☐ THIS PRE-CHECKED SUBMITTAL IS NOT APPLICABLE UNDER THE FOLLOWING CIRCUMSTANCES:
- ☐ THE RISK CATEGORY OF THE STRUCTURE SERVED BY CANOPIES ARE EXCEEDED
- ☐ THE RISK CATEGORY IS IV OR LESS
- ☐ THE WIND EXPOSURE CATEGORY IS 'C'
- ☐ THE ULTIMATE DESIGN WIND SPEED IS <100mph
- ☐ THE PROJECT SITE CLASS CATEGORY IS 'D'
- ☐ THE PROJECT SEISMIC DESIGN CATEGORY IS 'E'
- ☐ THE PROJECT SEISMIC SDS IS MAXIMUM 0.40
- ☐ THE PROJECT SITE IS NOT IN A FLOOD ZONE OTHER THAN ZONE 'X'. IF SO, THEN A GEOTECHNICAL LETTER IS REQUIRED PER CBC 1803.1.1.
- ☐ THE PROJECT SITE IS NOT IN AN AREA WITH SNOW LOADING EXCEEDING 5 PSF
- ☐ THE PROJECT IS DESIGNED FOR VERY HIGH FIRE HAZARD SEVERITY ZONE / AREAS PER CBC CHAPTER 7A.
- ☐ THE PROJECT SITE IS NOT IN A LIQUEFACTION AREA, NO GEOTECHNICAL/SEISMIC/HAZARDS REPORT IS REQUIRED.
- ☐ IF THE CANOPY SIZE IS >4000sf, A SITE SPECIFIC GEOTECHNICAL/SEISMIC/HAZARDS REPORT IS REQUIRED.
- ☐ IF THE CANOPY SIZE IS >4000sf AND >200LF AND THERE IS A GEOTECHNICAL REPORT PROVING THAT NO POTENTIAL FOR LIQUEFACTION EXISTS, NO GEOHAZARDS REPORT IS REQUIRED.
- ☐ IF THE CANOPY SIZE IS >4000sf, A SITE SPECIFIC GEOTECHNICAL/SEISMIC/HAZARDS REPORT IS REQUIRED.
- ☐ THE CANOPY SIZE PROVIDES THE MINIMUM REQUIRED AREA FOR ACCESSIBLE PATH OF TRAVEL AS REQUIRED BY IR A-6.
- ☐ THE CANOPY SIZE PROVIDES THE MANUALLY REQUIRED AREA FOR SELECTED USE AND DESIRED OCCUPANCY LOAD (SEE USE CHECKLIST)
- ☐ THE PROJECT IS NOT INTENDED TO PROVIDE SOLAR PANELS
- ☐ THE PROJECT DOES NOT CLOSET INCLUDE FIRE SPRINKLERS.

ASSEMBLY USE SELECTION CHECKLIST

THE FOLLOWING CHECKLIST IS TO BE USED BY THE PARTY SUBMITTING THIS PRE-CHECK TO INDICATE THE INTENDED ASSEMBLY USE FOR THIS STRUCTURE.

- ☐ DINING CANOPY - ASSEMBLY USE - A2
- ☐ SHADE STRUCTURE - ASSEMBLY USE - U
- ☐ SHADE STRUCTURE - OUTDOOR INSTRUCTIONAL USE - 'E' (5' at Secondary College Campuses)
- ☐ SHADE STRUCTURE OVER PLAY EQUIPMENT - 'E'
- ☐ SHADE STRUCTURE OVER PARKING - 'S2' OR 'U'

SITE-SPECIFIC CODE ANALYSIS

THE SECTION IS TO BE FILLED OUT BY THE ARCHITECT OF RECORD FOR THE SITE-SPECIFIC APPROVAL

- ☐ OCCUPANCY GROUP _____ (SEE ASSEMBLY USE CHECKLIST) OCCUPANCY LOAD FACTOR _____
- ☐ OCCUPANCY LOAD _____
- ☐ TYPE OF CONSTRUCTION: _____ TYPE II-B _____
- ☐ BUILDING AREA _____
- ☐ ALLOWABLE AREA _____

CANOPY SIZE SELECTION CHECKLIST

THE FOLLOWING CHECKLIST IS TO BE USED BY THE PARTY SUBMITTING THIS PRE-CHECK TO INDICATE THE INTENDED SIZES USED. FOR THIS PRE-CHECKED SUBMITTAL OF STRUCTURES CONSISTING OF NON-CONLOINED COLUMNS FOR SHEET S2.0.

- ☐ 20'X20' ☐ ____'X____' (FOR INTERMEDIATE SIZE)
- ☐ 30'X30' ☐ ____'X____' (FOR INTERMEDIATE SIZE)
- ☐ 40'X30'

NOTES:
1. PLAN DIMENSIONS ARE REPEATABLE IN ANY ONE DIRECTION TO A TOTAL AREA OF 4000 SQ.FT. STRUCTURALLY, MAXIMUM SIZES MAY BE LESS DUE TO RISK CATEGORY THRESHOLDS. SEE TABLE 1604.5, 2022 CBC.
2. INTERMEDIATE SIZES MAY USE THE MEMBER SIZES OF THE NEXT LARGEST CANOPY WITH AN IDENTICAL WIDTH TO LENGTH RATIO.

COLUMN HEIGHTS:
- ☐ 9' COLUMN HEIGHT ☐ 10' COLUMN HEIGHT ☐ 11' COLUMN HEIGHT ☐ 12' COLUMN HEIGHT

SHEET INDEX

SHT	SHEET INDEX	
	ARCHITECTURAL	
T001	TITLE SHEET & DSA-PRE MATERIAL CERT	
A002	TM BUILDING	2 SHEETS
	STRUCTURAL	
S1.1	GENERAL NOTES & TYPICAL DETAILS	
S1.2	GENERAL NOTES & TYPICAL DETAILS	
S1.3	GENERAL NOTES & TYPICAL DETAILS	
HC20S0-1	20'X20'X12' HIP CANOPY DRAWINGS	
HC20S0-2	20'X20'X12' HIP CANOPY DRAWINGS	
HC20S0-3	20'X20'X12' HIP CANOPY DRAWINGS	
HC30S0-1	30'X30'X12' HIP CANOPY DRAWINGS	
HC30S0-2	30'X30'X12' HIP CANOPY DRAWINGS	
HC30S0-3	30'X30'X12' HIP CANOPY DRAWINGS	
HC40S0-1	40'X30'X12' HIP CANOPY DRAWINGS	
HC40S0-2	40'X30'X12' HIP CANOPY DRAWINGS	
HC40S0-3	40'X30'X12' HIP CANOPY DRAWINGS	
HB20S0-1	20'X20'X14'18' HYPAR SHADE DRAWINGS	
HB30S0-2	30'X30'X14'18' HYPAR SHADE DRAWINGS	
HB40S0-3	40'X30'X14'18' HYPAR SHADE DRAWINGS	
TB20S0-1	20'X20'X14'18' TRANSLAUM SHADE DRAWINGS	
TB30S0-2	30'X30'X14'18' TRANSLAUM SHADE DRAWINGS	
TB40S0-3	40'X30'X14'18' TRANSLAUM SHADE DRAWINGS	
TOTAL		19 SHEETS
		22 SHEETS

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CALIFORNIA

CUSTOM CANOPIES INC.
1123 BURKE STREET
SANTA FE SPRINGS, CA 90670

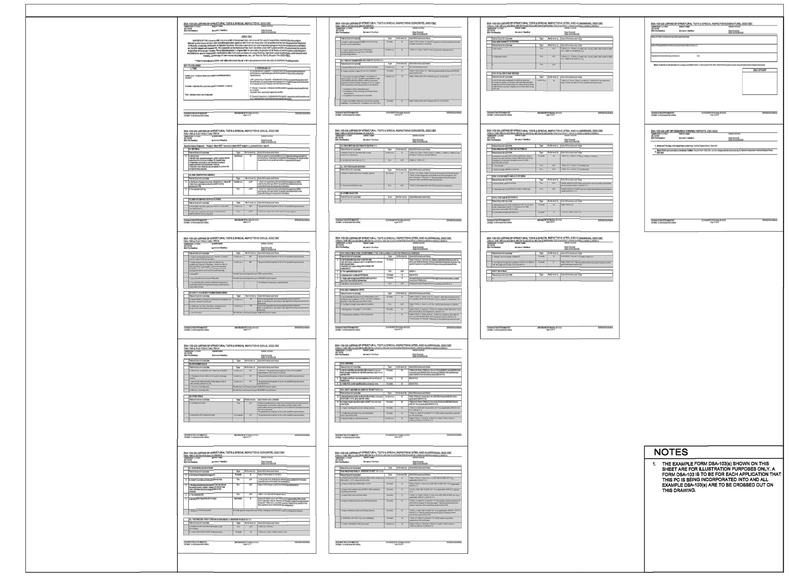
REGISTERED STATE AGENCY OF THE STATE OF CALIFORNIA
This Plan is Approved Under the Applicable Regulations of the Office of the State Architect
APP# 04-127760 PC
10 9 8 7 6 5 4 3 2 1 0
11 12 13 14 15 16 17
DATE 08/22/2023

PRECHECK FABRIC SHADE STRUCTURE II

TITLE SHEET

Project # 22-027
Date 7/31/25
Rev. Date 8-22-23

T001



NOTES

1. THE EXAMPLE FORM DSA-103(a) SHOWN ON THIS SHEET ARE FOR ILLUSTRATION PURPOSES ONLY. A FORM DSA-103 IS TO BE FOR EACH APPLICATION THAT IS SUBMITTED. INCOMPLETED INFO INTO AND ALL EXAMPLE DSA-103(a) ARE TO BE CROSSED OUT ON THIS DRAWING.

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CALIFORNIA

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10 9 8 7 6 5 4 3 2 1 0
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PRECHECK FABRIC SHADE STRUCTURE II

T&I GUIDELINE

Project # 22-027
Date 7/31/25
Rev. Date 8-22-23

A002

CONCRETE:

1. ALL CONCRETE WORK SHALL CONFORM TO ALL REQUIREMENTS OF THE 2022 CBC, CHAPTER 19 A.C.I. 318-19 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS".
2. SLAB AND FOUNDATION CONCRETE SHALL BE 150 P.C.F. HARDROCK, MIXED PER A.S.T.M. C-94, AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,500 P.S.I. AT 28 DAY. MAX. SLUMP TO BE 4" ± 1" OR WC RATIO = .45
3. THE MAXIMUM SIZE AGGREGATE IN FOUNDATION AND MASS CONCRETE WORK SHALL BE 1 INCH.
4. CEMENT SHALL CONFORM TO A.S.T.M. C-150 TYPE V, LOW ALKALI.
   AGGREGATES FOR NORMAL WEIGHT SHALL CONFORM TO A.S.T.M. C-33.
5. ADMIXTURES AND COLORS (EXCEPT AS NOTED HEREIN) SHALL NOT BE USED UNLESS SUBSTANTIATING DATE IS SUBMITTED TO AND ACCEPTED BY THE ENGINEER AND ARCHITECT OF RECORD AND DSA.
6. CONCRETE MIXES SHALL BE DESIGNED BY A QUALIFIED TESTING LABORATORY. CONCRETE MIXES SHALL CONFORM TO ACI 318-19 SECTION 26.4.3.1 UNLESS NOTED OTHERWISE.
7. NON-STRUCTURAL STEEL EMBEDDED IN CONCRETE SHALL BE GALVANIZED OR PAINTED. ALL DAMAGED GALVANIZED AREAS SHALL BE REPAIRED PRIOR TO EMBEDMENT.
8. READY MIXED CONCRETE SHALL CONFORM TO (A.S.T.M. C-94).
9. PLACEMENT OF CONCRETE SHALL CONFORM THE 2022 C.B.C. AND THE TO A.C.I. 304. CLEAN AND ROUGHEN A FULL AMPLITUDE OF 2" IN REMOVING THE ENTIRE SURFACE AND EXPOSING CLEAN AGGREGATE SOLIDLY EMBEDDED IN THE MORTAR MATRIX AGAINST ALL CONCRETE SURFACES AGAINST WHICH CONCRETE IS TO BE POURED.
10. ALL EXPOSED CONCRETE SHALL HAVE A SMOOTH FORM FINISH USING B-B PLYFORM CLASS I, EXT-A P.A. PLYWOOD.
11. ALL SLABS SHALL HAVE A TROWELED FINISH EXCEPT AS NOTED ON THE DRAWINGS.
12. ALL REMFORCING STEEL, ANCHOR BOLTS, DOWELS AND INSERTS SHALL BE WELL SECURED IN POSITION PRIOR TO PLACING CONCRETE.
13. IF THE CONTRACTOR DESIRES TO MAKE ANY CONSTRUCTION JOINTS OTHER THAN THOSE SHOWN ON THESE DRAWINGS, HE SHALL SUBMIT DETAILS OF SUCH JOINTS TO THE ENGINEER AND ARCHITECT FOR APPROVAL BEFORE ANY WORK AND THE ENGINEER OF RECORD TO OBTAIN DSA APPROVAL PRIOR TO STARTING WORK.
14. NO BRICK OR POROUS MATERIAL SHALL BE USED TO SUPPORT FOUNDATION STEEL OF THE GROUND.
15. PROVIDE 2 INCH CHAMFER ON ALL EXPOSED CONCRETE CORNERS, U.N.O.
16. MINIMUM CONCRETE COVERAGES

FOOTINGS CAST AGAINST EARTH	3"
FORMED SURFACES EXPOSED TO EARTH OR WEATHER	2"

17. CONCRETE CURING
    SLAB AND FDN. TYPICALLY REQUIRED FOR 10 DAYS TO ACHIEVE A MINIMUM OF 3000 PSI STRENGTH PRIOR TO INSTALLATION OF OTHER MAJOR STRUCTURAL COMPONENTS.

FOUNDATION:

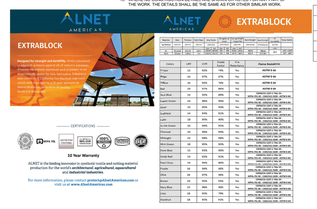
1. THIS P.C. SESSION TO THE C.B.C. MINIMUM WHERE SOIL REPORT IS AVAILABLE, A RECORDING COPY OF SOILS REPORT TO THE APPROVED SET OF CONSTRUCTION DOCUMENTS. SOILS REPORT SHALL BE PART OF THESE NOTES PRIOR TO THE POURING OF CONCRETE AND PRIOR TO THE CONSTRUCTION OBSERVATION MEETING. THE ENGINEER OF RECORD AND THE TESTING LABORATORY ENGINEER SHALL INSPECT AND APPROVE THE FOOTING EXCAVATIONS. HE SHALL POST NOTICE ON THE JOB SITE AND NOTIFIE THE DSA INSPECTOR IN WRITING THAT THE FOOTING EXCAVATIONS ARE IN THE CONDITIONS OF THE REPORT. A WRITTEN CERTIFICATION TO VERIFY THAT
   - A. THE BUILDING PAD WAS PREPARED IN ACCORDANCE WITH THE SOIL REPORT.
   - B. THE UTILITY TRENCHES HAVE BEEN PROPERLY BACKFILLED AND COMPACTED.
   - C. THE FOUNDATION EXCAVATIONS COMPLY WITH THE INTENT OF THE SOILS REPORT.
2. TYPE OF FOOTING
   - A. DESIGN SOIL PRESSURE:

FOOTING TYPE	STATIC BEARING PRESSURE
CONTINUOUS FOOTING	1,500 psf
SPOT FOOTING	2,000 psf*

   *MAY BE DOUBLED PER SECTION 1806.3.4
3. ALL ABANDONED FOOTINGS, UTILITIES, ETC., THAT INTERFERE WITH NEW CONSTRUCTION SHALL BE REMOVED.
4. THE CONTRACTOR SHALL DETERMINE LOCATION OF UTILITY SERVICES IN AREAS TO BE EXCAVATED BEFORE BEGINNING EXCAVATION. EXERCISE EXTREME CAUTION IN EXCAVATING AND TRENCHING. DAMAGE CAUSED AS A RESULT OF CONTRACTOR'S FAILURE TO LOCATE AND PROTECT ANY UNDERGROUND UTILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.
5. THE CONTRACTOR SHALL PROVIDE FOR THE DESIGN, APPROVALS, PERMITS, INSTALLATION AND MONITORING OF ALL CRIBBING, SHEATHING AND SHORING REQUIRED TO SAFELY RETAIN TEMPORARY EXCAVATIONS.
6. ALL PLANTERS IN CLOSE PROXIMITY TO THE STRUCTURE SHALL HAVE ADEQUATE DRAINAGE OF SURFACE WATER TO PREVENT SATURATION OF SOIL UNDER FOUNDATION.
7. 2022 C.B.C. SEISMIC SITE CLASS A, B, C, D, + D DEFAULT

GENERAL NOTES:

1. THE PROJECT SPECIFICATIONS SHALL BE PART OF THE CONTRACT DOCUMENTS.
2. THE STRUCTURAL DRAWINGS ARE TO BE USED IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS.
3. THE CONTRACTOR SHALL REVIEW EXISTING CONDITIONS ON THE SITE DURING THE BIDDING. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO STARING WORK AND SHALL NOTIFY THE ARCHITECT OF ANY ERRORS OR DISCREPANCIES OR INCONSISTENCIES PRIOR TO PROCEEDING.
4. ALL PHASES OF WORK ARE TO CONFORM TO THE MINIMUM STANDARDS OF THE CALIFORNIA BUILDING CODE (2022 EDITION C.B.C.), RELATED CALIFORNIA BUILDING CODE STANDARDS, AND ANY A.S.T.M. SPECIFICATIONS ON WHICH THESE STANDARDS ARE BASED. ALL WORK SHALL ALSO CONFORM TO ANY MORE SPECIFIC REQUIREMENTS SHALL GOVERN.
5. ALL A.S.T.M. DESIGNATIONS REFERRED TO ON THESE DRAWINGS SHALL BE THE LATEST ADOPTED OR REVISED SPECIFICATION, AS OF THE DATE OF THESE DRAWINGS.
6. ALL DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALE SHOWN ON PLANS, SECTIONS AND DETAILS. DRAWINGS SHALL NOT BE SCALED FOR CONSTRUCTION PURPOSES.
7. NOTES AND DETAILS ON THE DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.
8. THE STRUCTURAL DRAWINGS SHOW ONLY THE BASIC STRUCTURAL REQUIREMENTS. THE CONTRACTOR SHALL COORDINATE ALL PLUMBING, ELECTRICAL, MECHANICAL DRAWINGS THAT OCCUR PER SPECIFIC PLANS FOR NON-STRUCTURAL ITEMS, SUCH AS:
   - A. SIZE AND LOCATION OF ALL OPENINGS.
   - B. SIZE AND LOCATION OF ALL NON-BEARING WALLS.
   - C. SIZE AND LOCATION OF ALL CONCRETE CURBS, WALKS, ROOF DRAINS, SCUPPERS, DRAINAGE SLOPES, DEPRESSED SLAB AREAS, ETC.
   - D. FLOOR, ROOF AND WALL FINISHES.
   - E. DIMENSIONS NOT SHOWN ON STRUCTURAL DRAWINGS.
9. THE STRUCTURAL CONTRACT DOCUMENTS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. UNLESS OTHERWISE INDICATED, THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION.
10. NEITHER THE OWNER NOR THE ARCHITECT/STRUCTURAL ENGINEER WILL EXERCISE SAFETY MEASURES OR RESPONSIBILITY FOR CONSTRUCTION SAFETY. AT HIS DISCRETION, THE CONTRACTOR SHALL DEVELOP AND MAINTAIN SAFETY PRECAUTIONS, INCLUDING SHORING AND BRACING AND SHALL BE SOLELY RESPONSIBLE FOR CONFORMING TO ALL LOCAL, STATE AND FEDERAL SAFETY AND HEALTH STANDARDS, ELAWS AND REGULATIONS. OBSERVATION VISITS TO THE SITE BY THE STRUCTURAL ENGINEER SHALL NOT INCLUDE INSPECTION OF THE ABOVE SAFETY ITEMS.
11. SATISFACTORY EXECUTION OF CONSTRUCTION IS DEPENDENT UPON CONFORMANCE WITH THE INTENT OF THESE DRAWINGS. OWNER OR CONTRACTOR SHALL RETAIN A CALIFORNIA LICENSED STRUCTURAL ENGINEER DURING CONSTRUCTION TO OBSERVE THE WORK AT SIGNIFICANT STAGES OF CONSTRUCTION (SAME AS STATING THE "THE CONSTRUCTION HAS, IN EVERY MATERIAL RESPECT, BEEN PERFORMED IN COMPLIANCE WITH THE DSA APPROVED DOCUMENTS"
12. CONSTRUCTION MATERIALS SHALL BE SPREAD OUT IF PLACED ON FRAMED FLOORS OR ROOF. LOAD SHALL NOT EXCEED DESIGN LIVE LOAD FOR EACH SQUARE FOOT OF AREA SUPPORTED. CONCENTRATED LOADS OF EQUIPMENT MAY EXCEED DESIGN LOAD, STRUCTURAL SYSTEMS SHALL BE SHORED.
13. WHERE NO CONSTRUCTION DETAILS ARE SHOWN OR NOTED FOR ANY PART OF THE WORK, THE DETAILS SHALL BE THE SAME AS FOR OTHER SIMILAR WORK.



Name	Color	Shade Factor	Thickness	Weight	Roll Width	Roll Length	Roll Weight	Roll Area	Roll Qty	Total Area
Extra Block	Beige	90%	60 mil	5.3 oz/sq yd	15'	300'	1,325 lbs	4,500 sq ft	1	4,500 sq ft

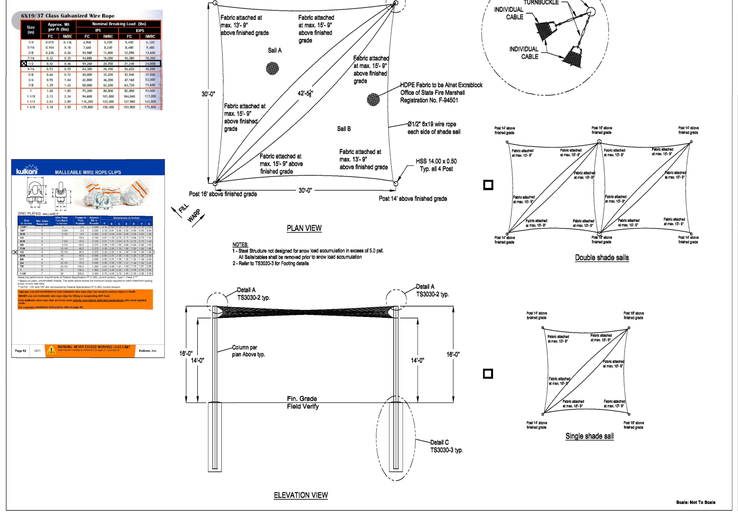
Colors	UPC	CPN	Shade Factor	Fabric Width	Roll Length	Roll Weight	Roll Area	Roll Qty	Total Area	Fabric Registration
Beige	90	90%	90%	15'	300'	1,325 lbs	4,500 sq ft	1	4,500 sq ft	ASTM E-84
Ebony	90	90%	10%	15'	300'	1,325 lbs	4,500 sq ft	1	4,500 sq ft	ASTM E-84
Tan	90	90%	60%	15'	300'	1,325 lbs	4,500 sq ft	1	4,500 sq ft	ASTM E-84
Sand Beige	90	90%	60%	15'	300'	1,325 lbs	4,500 sq ft	1	4,500 sq ft	ASTM E-84 CBFM
Sand Dune

ABBREVIATIONS:

&	AND	KIPS	KILOPOUNDS (1,000 POUNDS)
℄	CENTER LINE	K.O.	KNOCK OUT
℄	PLATE, PROPERTY LINE	L	LONG
A.B.	ANCHOR BOLT	L.B.	LAG BOLT
A.D.	AREA DRAIN	L.F.	LINEAR FOOT
A.F.F.	ABOVE FINISH FLOOR	LL	LIVE LOAD
ARCH'L	ARCHITECTURAL	L.L.H.	LONG LEG HORIZONTAL
BLDG	BUILDING	L.L.V.	LONG LEG VERTICAL
BLDG'G	BLDG'NG	L.S.	LAG SCREW
BLK.	BLOCK	LT.	LIGHT
BLKG.	BLOCKING	MAINT.	MAINTENANCE
BLW	BELOW	MAT.	MATERIAL
BM	BEAM	MAX.	MAXIMUM
B.R.	BOUNDARY RAIL/SCREW	M.B.	MACHINE BOLT
BOT.	BOTTOM	MECH.	MECHANICAL
BRG	BEARING	MEZZ.	MEZZANINE
BTWN.	BETWEEN	MFR.	MANUFACTURER
BTWN.	BETWEEN	MH.	MANHOLE
C.B.	CARRIAGE BOLT	MANUF.	MANUFACTURER
CJ.	CONTROL JOINT	MTL.	METAL
CHAM	CHAMFER	N.S.	NEAR SIDE
C.I.	CAST IRON	N.I.C.	NOT IN CONTACT
C.I.P.	CAST-IN-PLACE	NO.	NUMBER
C.J.	CONSTRUCTION JOINT	N.T.S.	NOT TO SCALE
CLG	CEILING	O.C.	ON CENTER
CLR	CLEAR	O.D.	OUTSIDE DIAMETER
CLKWS	CLOCKWISE	OPP.	OPPOSITE HAND
CLR	CLEAR	OPNG	OPENING
C.M.U.	CONCRETE MASONRY UNIT	OPP	OPPOSITE
CNTR	CENTER	O.H.J.	OPEN WEB JOIST
COL	COLUMN	PERP.	PERPENDICULAR
CONC	CONCRETE	PERP.	PERPENDICULAR
CONN	CONNECTION	PLYWD	PLYWOOD
CONST	CONSTRUCT	PT.	POINT
CNTRSNK	COUNTERSINK	PREFAB'D	PREFABRICATED
d	PENNY	P.S.F.	POUNDS PER SQUARE FOOT
DBL	DOUBLE	P.S.I.	POUNDS PER SQUARE INCH
DEP	DEPRESSED	PT.	POINT
DET	DETAILED	P.T.	PRESSURE TREATED
DF	DRINKING FTN.	P.V.C.	POLYVINYL CHLORIDE
D.F.L.	DOUGLAS FIR-LARCH	RAD.	RADIUS
DIA	DIAMETER	R.D.	ROOF DRAIN
DIAG	DIAGONAL	REF.	REFERENCE
DIAM	DIAMAGON	REINF.	REINFORCED / REINFORCING
D.L.	DEAD LOAD	REQ'D	REQUIRED
DN	DOWN	RF	ROOF
DV	DIVISION	RF	ROOF
DR	DOOR	RFTR	RAFTER
DWG	DRAWING	R.H.	RIGHT HAND
DWL	DOWEL	Rm	ROOM
EA	EACH	R.O.	ROUGH OPENING
E.F.	EACH FACE	SCHED	SCHEDULE
EL	ELEVATION	SCHED'D	SCHEDULED
ELEV.	ELEVATION / ELEVATOR	SECT.	SECTION
ELEC'L	ELECTRICAL	SF	SQUARE FOOT
EMB	EMBEDMENT/EMBOSH	SHT	SHEET
EQ	EQUAL	SHTG	SHEETING
EQUIP	EQUIPMENT	SIM.	SIMILAR
EW	EACH WAY	S.M.S.	SHEET METAL SCREW
E.W.	EACH WAY	SPEC.	SPECIFICATION
EQUITS	EQUITIES	SQ.	SQUARE
EXIST.	EXISTING	S.S.	STAINLESS STEEL
EXT	EXTERIOR	STA'DS	STANDARDS
F.D.	FLOOR DRAIN	STD.	STANDARD
FDN	FOUNDATION	ST'FF.	STIFFENER
F.F.	FINISH FLOOR	STL.	STEEL
FIN.	FINISH	STRUCT'L	STRUCTURAL
F.N.	FIELD NAIL	STR	MELT TAPPING SCREW
FP	FIRE PROOF	SYM.	SYMMETRICAL
FRMG	FRAMING	SYS.	SYSTEM
F.B.	FAR SIDE	T.B.	TOP AND BOTTM
FT.	FOOT / FEET	T.C.	TOP CHORD / RIDGE
FTG	FOOTING	TEMP	TEMPORARY
GA.	GAUGE	THK	THICK
GALV.	GALVANIZED	THKND	THICKENED
G.I.	GALVANIZED IRON	THRU	THROUGH
GLB	GLULAM/RATED BEAM	T.L.	TOTAL LOAD
GR	GRADE	TOP	TOPPING
GYP	GYPSUM	T.S.S.	TAPERED STEEL SHIDER
H.D.	HOLDOWN	TYP.	TYPICAL
HDR	HEADER	U.N.O.	UNLESS NOTED OTHERWISE
HGR	HANGER	U.T.	ULTRASOND TESTING
HORIZ	HORIZONTAL	VERT.	VERTICAL
HR	HOUR	W	WIDE
H.S.B.	HIGH STRENGTH BOLT	W/O	WITHOUT
HT.	HEIGHT	WD	WOOD
H.V.A.C.	HEATING, VENTILATION, & AIR CONDITIONING	W.P.	WORKPOINT
IN.	INCH	W.P.	WATERPROOF / WORK POINT
INSP.	INSPECTION / INSPECTOR	W.P.J.	WEAKENED PLAN JOINT
INT.	INTERIOR	WT.	WEIGHT
JST	JOIST	W.W.F.	WELDED WIRE FABRIC
JT	JOINT	W.W.M.	WELDED WIRE MESH

PRECHECK FABRIC SHADE STRUCTURE II

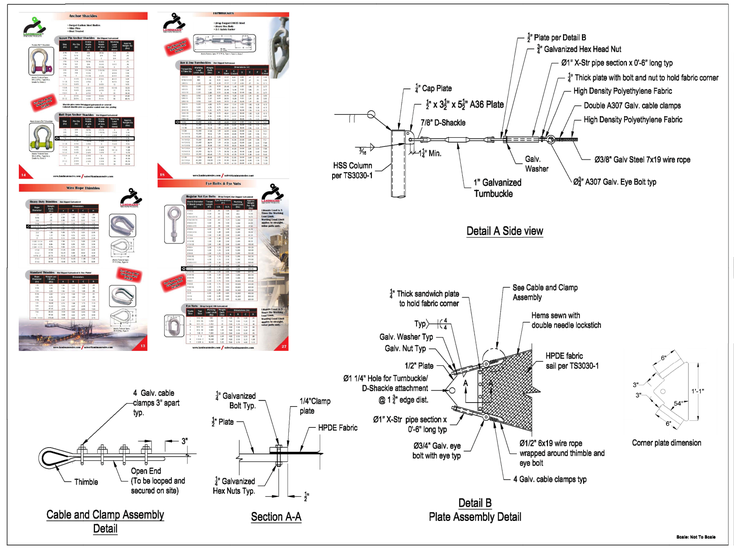
Project # 22-037
Drawn By RHE
Date 12-20-22
S1.3



Scale: Not To Scale

30'X30'X14' TRIANGULAR SHADE

Project # 22-037
Drawn By RHE
Date 12-20-22
TS3030-1

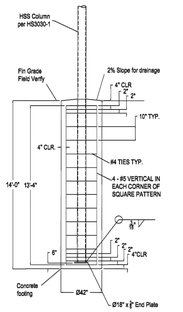


Scale: Not To Scale

30'X30'X14' TRIANGULAR SHADE

Project # 22-037
Drawn By RHE
Date 12-20-22
TS3030-2

Node No.		Support Forces P_x [kip]	P_y [kip]	P_z [kip]	Support Moments M_x [kipft]	M_y [kipft]	M_z [kipft]
	D LC1 - Self-weight						
1		1.020	1.018	-1.232	-15.78	14.80	0.00
2		-0.503	0.502	-1.067	-7.03	-7.05	0.00
4		0.504	-0.502	-1.067	7.03	7.05	0.00
5		-1.020	-1.018	-1.232	15.79	-14.81	0.00
	T LC2 - Prestress						
1		0.776	0.775	-0.026	-12.00	11.25	0.00
2		-0.387	0.386	0.026	-5.40	-5.42	0.00
4		0.387	-0.386	0.026	5.40	5.42	0.00
5		-0.776	-0.775	-0.026	12.01	-11.25	0.00
	L LC3 - Live						
1		4.090	4.069	-0.699	-63.06	59.39	0.00
2		-2.000	1.979	-0.297	-27.71	-28.00	0.00
4		2.001	-1.979	-0.297	27.72	28.01	0.00
5		-4.091	-4.069	-0.699	63.05	-59.39	0.00
	W LC4 - Wind 1						
1		10.571	10.314	2.206	-159.63	152.81	0.00
2		-5.475	5.219	2.384	-72.94	-76.52	0.00
4		5.475	-5.219	2.387	72.93	76.51	0.00
5		-10.570	-10.315	2.207	159.64	-152.80	0.00
	W LC5 - Wind 2						
1		0.776	0.775	-0.026	-12.01	11.25	0.00
2		-0.387	0.386	0.026	-5.40	-5.42	0.00
4		0.387	-0.386	0.026	5.40	5.42	0.00
5		-0.776	-0.775	-0.026	12.01	-11.25	0.00
	S LC6 - Snow						
1		0.776	0.775	-0.026	-12.01	11.25	0.00
2		-0.387	0.386	0.026	-5.43	-5.42	0.00
4		0.387	-0.386	0.026	5.43	5.42	0.00
5		-0.776	-0.775	-0.026	12.01	-11.25	0.00



Scale: Not To Scale

30'X30'X14' TRIANGULAR SHADE

Project # 22-037
Drawn By RHE
Date 12-20-22
TS3030-3

NOTE:
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REVISION	MARK	DATE	DESCRIPTION
		7/31/25	PERMIT SET
			APPROVAL

PERMIT SET

PLACEWORKS
2040 BANCROFT WAY
SUITE 400
BERKELEY, CA 94704
PHONE: (510) 848-3815

0 1 2 3
FOR REDUCED PLANS – ORIGINAL SCALE IS IN INCHES

DEPICTION OF MONUMENTS: DATE
SURVEY PARTY CHIEF
WATERSHED REVIEW: DATE

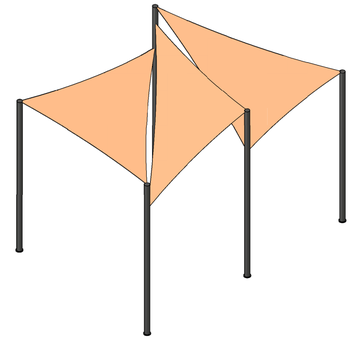
SUBMITTED: DATE R.C.E. EXP.
SUPERVISING CIVIL ENGINEER
APPROVED: DATE R.C.E. EXP.
MANAGER of ENGINEERING

DESIGN SK
DRAWN CAG
CHECK SS
AS BUILT
HORIZ. 1"=X'
VERT. 1"=X'
BOOK
DATE 7/31/25

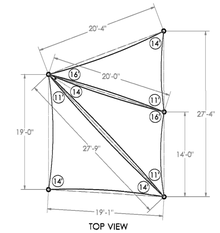
CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

PREMANUFACTURED SHADE SAIL SCHEMATICS
TOM BATES REGIONAL SPORTS COMPLEX

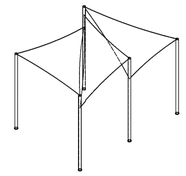
PLAN 8297
FILE 406-223
ZA102
SHEET 90 OF 92



STRUCTURE REPRESENTATION

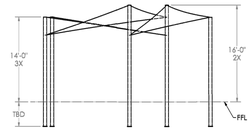


TOP VIEW



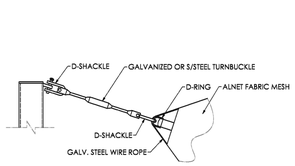
ISO VIEW

FRONT VIEW

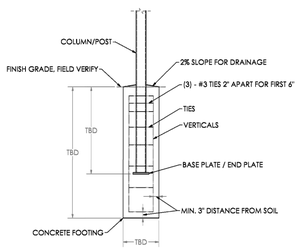


SIDE VIEW

PROJECT:	TOM BATES SPORTS COMPLEX	DRAWING TITLE:	CSTM-MULTI-TRI-SAIL-0001	DESIGNED BY: HD	DESIGNED DATE: 10/03/2024	**PROPRIETARY AND CONFIDENTIAL**	CUSTOM CANOPIES INC
LOCATION:	TBD	PROJECT NUMBER:	TBD	QC BY:	QC DATE:	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF CUSTOM CANOPIES INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF CUSTOM CANOPIES INC. IS PROHIBITED.	
				APPROVED BY:	APPROVED DATE:		
				REVISION:	SCALE: 1 / 80		



FABRIC CONNECTION DETAIL
TYP.
N.T.S



GENERIC FOUNDATION DETAIL
FOUNDATION SECTION
N.T.S

PROJECT:	TOM BATES SPORTS COMPLEX	DRAWING TITLE:	CSTM-MULTI-TRI-SAIL-0001	DESIGNED BY: HD	DESIGNED DATE: 10/03/2024	**PROPRIETARY AND CONFIDENTIAL**	CUSTOM CANOPIES INC
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PERMIT SET

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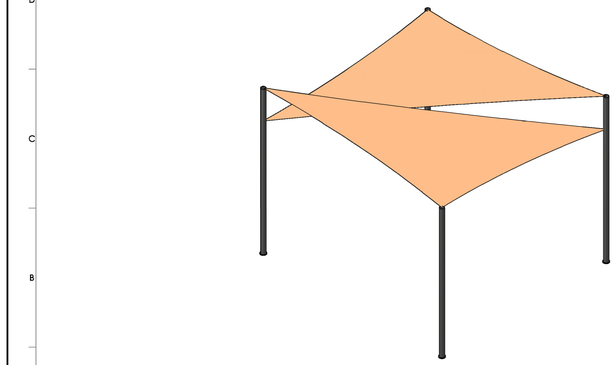
CITY OF BERKELEY
DEPARTMENT OF PARKS, RECREATION & WATERFRONT

PREMANUFACTURED SHADE SAIL SCHEMATICS
TOM BATES REGIONAL SPORTS COMPLEX

PLAN 8297
FILE 406-223
ZA103
SHEET 91 OF 92



STRUCTURE REPRESENTATION

PROJECT:	TOM BATES SPORTS COMPLEX	DRAWING TITLE:	CSTM-MULTI-TRI-SAIL-0002	DESIGNED BY: HD	DESIGNED DATE: 10/03/2024	**PROPRIETARY AND CONFIDENTIAL**	CUSTOM CANOPIES INC
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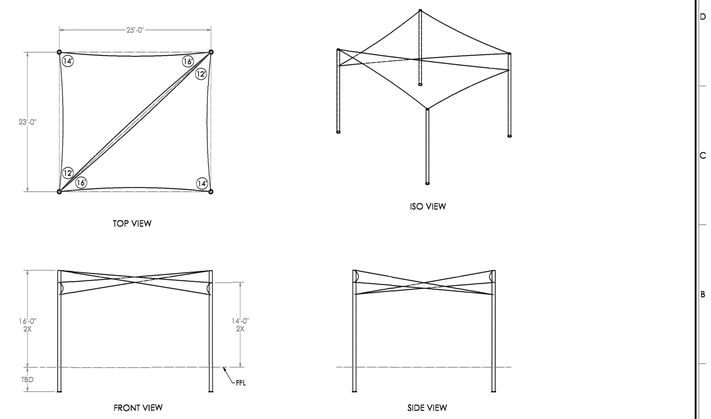

PROJECT:	TOM BATES SPORTS COMPLEX	DRAWING TITLE:	CSTM-MULTI-TRI-SAIL-0002	DESIGNED BY: HD	DESIGNED DATE: 10/03/2024	**PROPRIETARY AND CONFIDENTIAL**	CUSTOM CANOPIES INC
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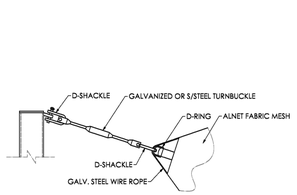

FABRIC CONNECTION DETAIL
TYP.
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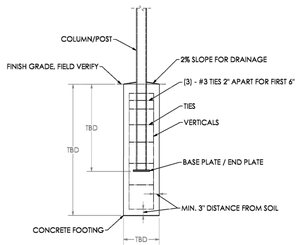

GENERIC FOUNDATION DETAIL
FOUNDATION SECTION
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FILE 406-223
ZA104
SHEET 92 OF 92