BUD BENDER PARK

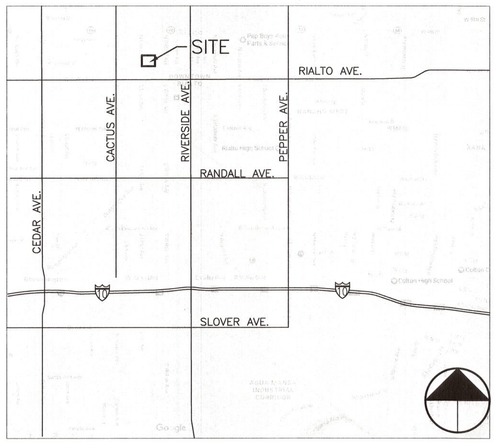
235 N. LILAC AVE. RIALTO, CA 92376
BUD BENDER PARK SIDELINE FENCING VERTICAL EXTENSION AND SAFETY NETTING IMPROVEMENTS
CITY PROJECT NO. CB1902

FOR:

CITY OF RIALTO
150 S. PALM AVE. RIALTO, CA 92376

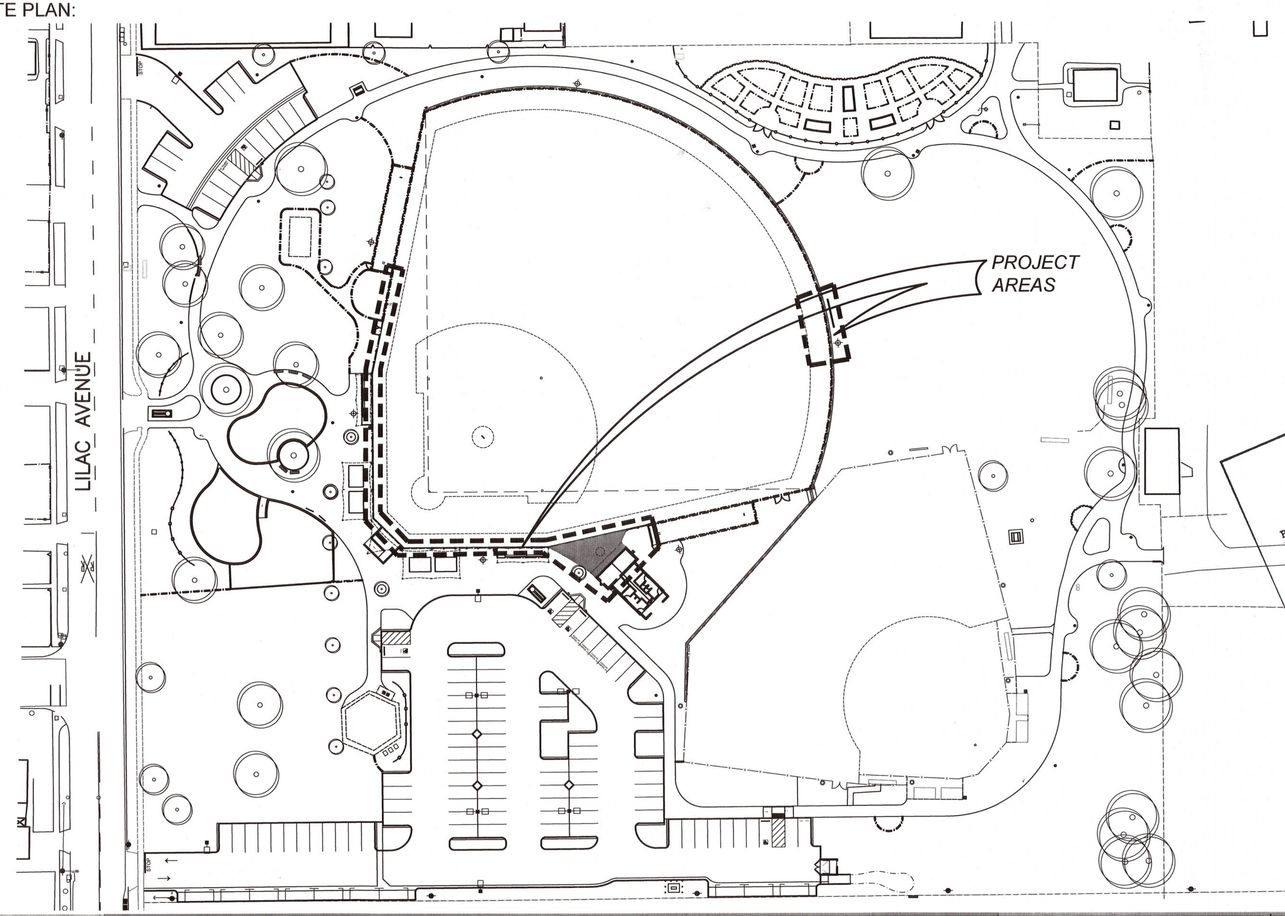
PLAN CHECK SET - 6/10/19
NOT FOR CONSTRUCTION

VICINITY MAP:



NORTH
NOT TO SCALE

SITE PLAN:



NORTH
1"=50'

SCOPE OF WORK:

10' VERTICAL EXTENSION OF PORTIONS OF EXISTING BALLFIELD SIDELINE FENCING TO PROVIDE SAFETY NETTING FOR SPECTATOR SAFETY; 10' VERTICAL EXTENSION OF EXISTING OUTFIELD FENCING TO PROVIDE SAFETY NETTING FOR PROTECTION OF EXISTING SCOREBOARD; CONSTRUCTION OF NEW A-FRAME SUPPORT NEAR EXISTING CONCESSION STAND TO PROVIDE SAFETY NETTING OVER CONCESSION WINDOW QUEUING SPACE.

APPLICABLE CODES:

- 2016 ADA & 2016 CALIFORNIA TITLE 24
- 2016 CALIFORNIA BUILDING CODE
- 2016 CALIFORNIA GREEN BUILDING STANDARDS CODE
- CITY OF RIALTO MUNICIPAL CODE

UTILITY CONTACTS:

1. **SOUTHERN CALIFORNIA EDISON**
   7951 REDWOOD AVENUE
   FONTANA, CA 92336
   PHONE: (909) 357-6121
   CONTACT: SCOTT FIEDLER

2. **RIALTO WATER SERVICES**
   325 RIALTO AVENUE
   RIALTO, CA 92376
   PHONE: (909) 820-0400
   CONTACT: PETE FOX

3. **CITY OF RIALTO PUBLIC WORKS DEPARTMENT**
   335 W. RIALTO AVENUE
   RIALTO, CA 92376
   PHONE: (909) 820-2531
   CONTACT: ROBERT EISENBEISZ, P.E.

SHEET INDEX:

CONSULTANTS:

STRUCTURAL ENGINEER:
INNOVATIVE STRUCTURAL ENGINEERING (ISE)
40810 COUNTY CENTER DRIVE, SUITE 110
TEMECULA, CA 92591
PHONE: (951) 600-0032
CONTACT: SHANE LOTHROP, PE

CITY AGENCY REP:
CITY OF RIALTO PUBLIC WORKS DEPT.
335 W. RIALTO AVENUE
RIALTO, CA 92376
PHONE: (909) 421-4986
CONTACT: HECTOR GONZALEZ, PE

City of Rialto Building Division
JUN 18 2019
RECEIVED

B1019-0596 Job

811 Know what's below. Call before you dig.

MARK	REVISIONS	APPR.	DATE
			11/20/17

DESIGNED BY: TIM DRAWN BY: LDJ CHECKED BY: SJR

LICENSED LANDSCAPE ARCHITECT — TIMOTHY J. MALONEY — No. 2110 — Signature — 10/31/19 Renewal Date — 6/10/19 Date — STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF:
TIM MALONEY, RLA 2110, EXP. 10/31/19 — 6/10/19 DATE

APPROVED BY:
for ROBERT EISENBEISZ, DIRECTOR OF PUBLIC WORKS, RCE 54931 — 6/11/19 DATE

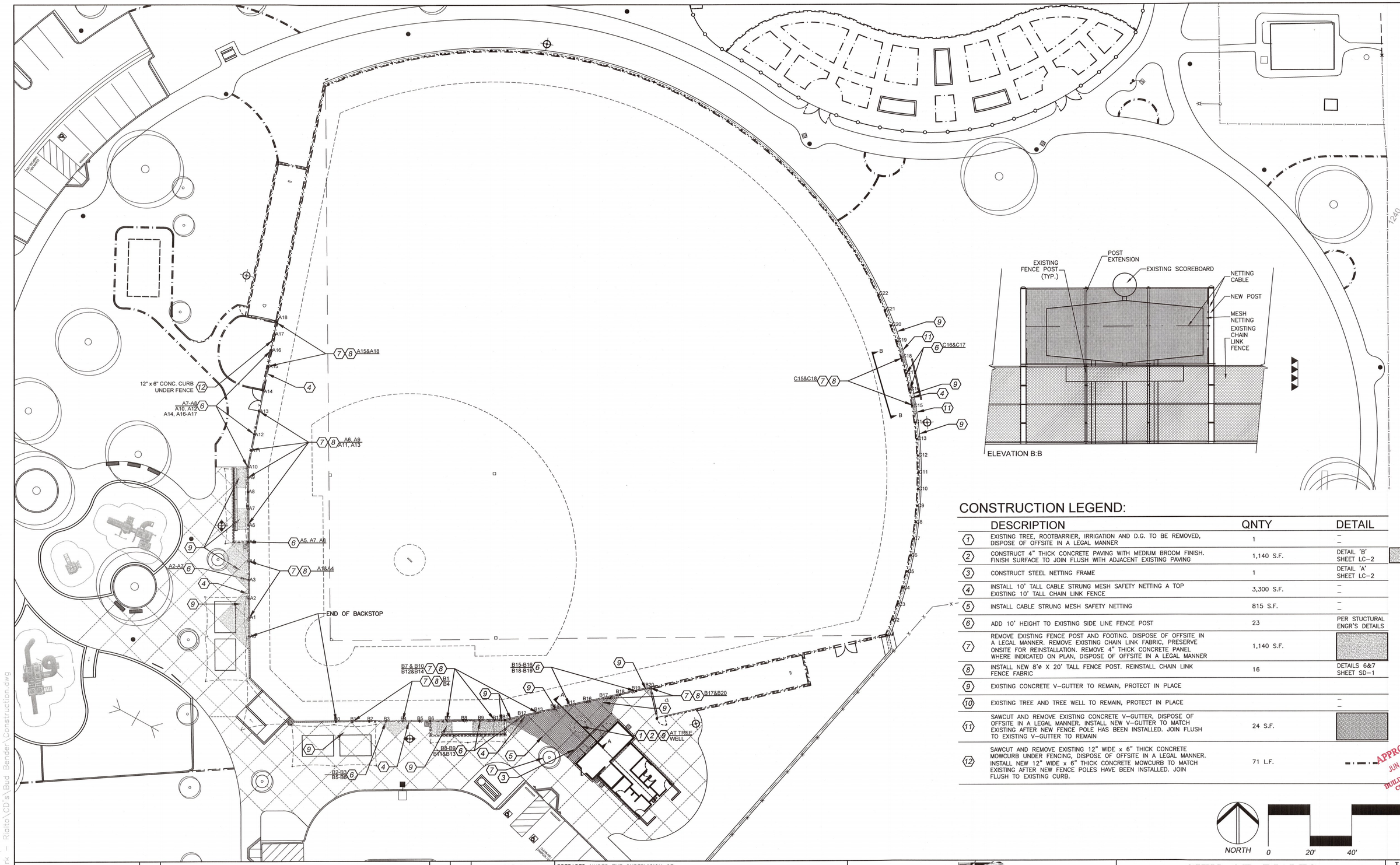
COMMUNITY WORKS DESIGN GROUP
4649 BROCKTON AVENUE 951-369-0700 RIVERSIDE, CA 92506

CITY OF RIALTO
BUD BENDER PARK SIDELINE FENCING VERTICAL EXTENSION AND SAFETY NETTING IMPROVEMENTS
CITY PROJECT NO. CB1902
TITLE SHEET

T-1
SHEET 1 OF 7 SHEETS

FOR: CITY OF RIALTO
PLAN No. _____

Jun 10, 2019 - 1:32pm Kay Kite
F:\Margaret Todd Park - Rialto\CD's\Bud Bender\Cover.dwg



ELEVATION B:B

CONSTRUCTION LEGEND:

	DESCRIPTION	QNTY	DETAIL
1	EXISTING TREE, ROOTBARRIER, IRRIGATION AND D.G. TO BE REMOVED, DISPOSE OF OFFSITE IN A LEGAL MANNER	1	– –
2	CONSTRUCT 4" THICK CONCRETE PAVING WITH MEDIUM BROOM FINISH. FINISH SURFACE TO JOIN FLUSH WITH ADJACENT EXISTING PAVING	1,140 S.F.	DETAIL 'B' SHEET LC–2
3	CONSTRUCT STEEL NETTING FRAME	1	DETAIL 'A' SHEET LC–2
4	INSTALL 10' TALL CABLE STRUNG MESH SAFETY NETTING A TOP EXISTING 10' TALL CHAIN LINK FENCE	3,300 S.F.	– –
5	INSTALL CABLE STRUNG MESH SAFETY NETTING	815 S.F.	– –
6	ADD 10' HEIGHT TO EXISTING SIDE LINE FENCE POST	23	PER STUCTURAL ENGR'S DETAILS
7	REMOVE EXISTING FENCE POST AND FOOTING. DISPOSE OF OFFSITE IN A LEGAL MANNER. REMOVE EXISTING CHAIN LINK FABRIC, PRESERVE ONSITE FOR REINSTALLATION. REMOVE 4" THICK CONCRETE PANEL WHERE INDICATED ON PLAN, DISPOSE OF OFFSITE IN A LEGAL MANNER	1,140 S.F.	
8	INSTALL NEW 8'ø X 20' TALL FENCE POST. REINSTALL CHAIN LINK FENCE FABRIC	16	DETAILS 6&7 SHEET SD–1
9	EXISTING CONCRETE V–GUTTER TO REMAIN, PROTECT IN PLACE		
10	EXISTING TREE AND TREE WELL TO REMAIN, PROTECT IN PLACE		– –
11	SAWCUT AND REMOVE EXISTING CONCRETE V–GUTTER, DISPOSE OF OFFSITE IN A LEGAL MANNER. INSTALL NEW V–GUTTER TO MATCH EXISTING AFTER NEW FENCE POLE HAS BEEN INSTALLED. JOIN FLUSH TO EXISTING V–GUTTER TO REMAIN	24 S.F.	
12	SAWCUT AND REMOVE EXISTING 12" WIDE x 6" THICK CONCRETE MOWCURB UNDER FENCING, DISPOSE OF OFFSITE IN A LEGAL MANNER. INSTALL NEW 12" WIDE x 6" THICK CONCRETE MOWCURB TO MATCH EXISTING AFTER NEW FENCE POLES HAVE BEEN INSTALLED. JOIN FLUSH TO EXISTING CURB.	71 L.F.	

APPROVED
JUN 18 2019
BUILDING & SAFETY
CITY OF RIALTO

NORTH 0 20' 40' 80'

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MARK	REVISIONS	APPR.	DATE

DESIGNED BY: TIM DRAWN BY: KCK CHECKED BY: SJR

LICENSED LANDSCAPE ARCHITECT — TIMOTHY J. MALONEY No. 2110 — Signature 10/31/19 — Renewal Date 6/10/19 — Date — STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF:
TIM MALONEY, RLA 2110, EXP. 10/31/19 — 6/10/19 DATE

APPROVED BY:
FOR ROBERT EISENBEISZ, DIRECTOR OF PUBLIC WORKS, RCE 54931 — 6/18/19 DATE

COMMUNITY WORKS DESIGN GROUP
4649 BROCKTON AVENUE 951-369-0700 RIVERSIDE, CA 92506

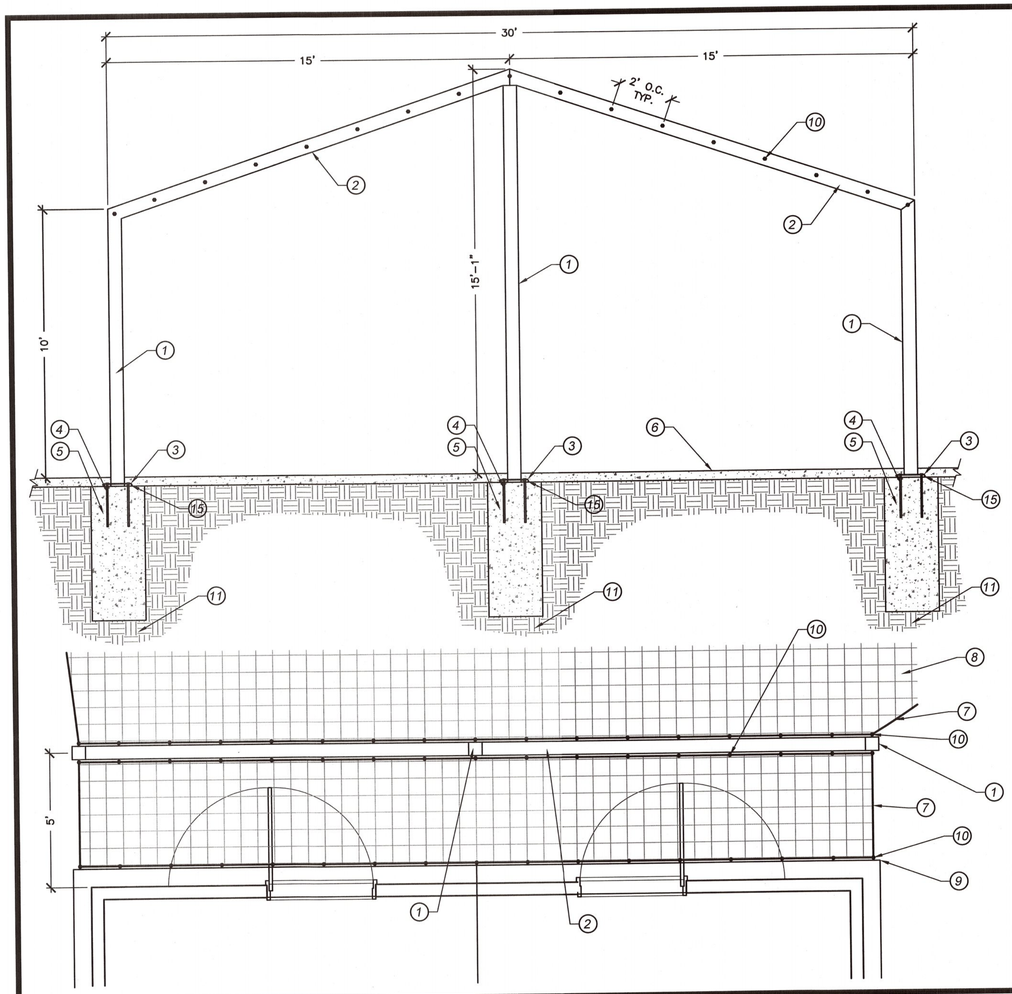
CITY OF RIALTO
BUD BENDER PARK SIDELINE FENCING VERTICAL EXTENSION AND SAFETY NETTING IMPROVEMENTS
CITY PROJECT NO. CB1902
CONSTRUCTION PLAN

LC-1
SHEET 2 OF 7 SHEETS

FOR: CITY OF RIALTO

PLAN No. _____

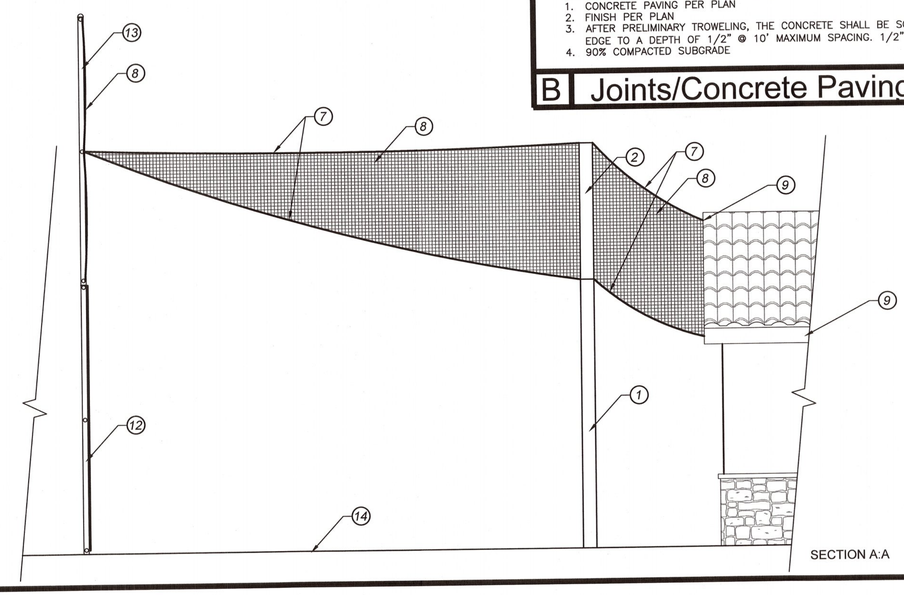
Jun 17, 2019 – 5:55pm Scott Rice
F:\Margaret Todd Park – Rialto\CD's\Bud Bender\construction.dwg



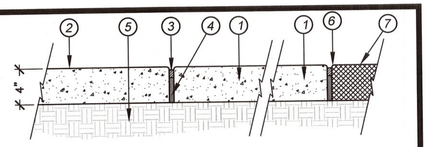
1. HSS 6"X6"X3/16" STEEL COLUMN
2. HSS 6"X6"X3/16" STEEL CROSS MEMBER
3. 12"X12"X½" A36 BASE PLATE
4. (4) 3/4"ø F1554 GR. 36 A.B. WITH 18" EMBEDMENT
5. CONCRETE FOOTING AND REINFORCEMENT PER STRUCTURAL ENGINEER'S DETAILS
6. EXISTING CONCRETE PAVING
7. MESH NETTING CABLE EDGE
8. MESH NETTING
9. RESTROOM FASCIA
10. 3/8" X 4" FORGED MACHINERY EYEBOLT WITH SHOULDER 3/16" FILLET WELD TO MEMBER
11. 90% RELATIVE COMPACTED SUBGRADE
12. EXISTING SIDELINE FENCE
13. POST EXTENSION PER PLAN
14. EXISTING CONCRETE PAVING PER PLAN
15. 1" MINIMUM DRY PACK

NOTES:

- CONCRETE: FC= 3000 PSI @ 28 DAYS PER ASTM C-90
- ALL EXTERIOR METAL SURFACES SHALL BE CLEANED WITH 'OAKITE' OR EQUAL PRIOR TO PRIMING. ALL EXTERIOR COMPONENTS SHALL BE PRIMED WITH ONE COAT OF RUST-INHIBITING ZINC PRIMER. ALL EXTERIOR COMPONENTS SHALL BE PAINTED WITH TWO COATS OF ACRYLIC ENAMEL; COLOR SHALL MATCH RESTROOM COLOR – SUBMIT SAMPLE FOR APPROVAL
- ATTACH COLUMNS TO BEAMS PER STRUCTURAL DETAILS

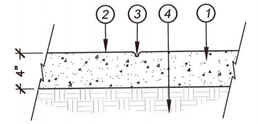


A Steel Netting Structure — SCALE: 3/8"=1'



EXPANSION JOINT:

1. CONCRETE PAVING PER PLAN
2. FINISH PER PLAN
3. POLYURETHANE CAULKING TO MATCH CONCRETE COLOR
4. 1/2" PREMOLD FIBER EXPANSION JOINT @ 20' O.C. MAX. SPACING. (EXCEPTION: JOINTS ON PERIMETER WALKS @ 50' MAX. SPACING)
5. 90% COMPACTED SUBGRADE
6. 1/2" RADIUS AT EDGES
7. EXISTING PAVING (WHERE OCCURS)



SCORE LINE:

1. CONCRETE PAVING PER PLAN
2. FINISH PER PLAN
3. AFTER PRELIMINARY TROWELING, THE CONCRETE SHALL BE SCORED WITH A STRAIGHT EDGE TO A DEPTH OF 1/2" @ 10' MAXIMUM SPACING. 1/2" RADIUS AT EDGES
4. 90% COMPACTED SUBGRADE

B Joints/Concrete Paving — SCALE: 1.5"=1'

APPROVED
JUN 18 2019
BUILDING & SAFETY
CITY OF RIALTO

811 Know what's below. Call before you dig.

MARK	REVISIONS	APPR.	DATE

DESIGNED BY: TIM DRAWN BY: KCK CHECKED BY: SJR

LICENSED LANDSCAPE ARCHITECT — TIMOTHY J. MALONEY — No. 2110 — Signature 10/31/19 — Renewal Date 6/10/19 — Date — STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF:
TIM MALONEY, RLA 2110, EXP. 10/31/19 — 6/10/19 DATE

APPROVED BY:
ROBERT EISENBEISZ, DIRECTOR OF PUBLIC WORKS, RCE 54931 — 6/18/19 DATE

COMMUNITY WORKS DESIGN GROUP
4649 BROCKTON AVENUE 951-369-0700 RIVERSIDE, CA 92506

CITY OF RIALTO
BUD BENDER PARK SIDELINE FENCING VERTICAL EXTENSION AND SAFETY NETTING IMPROVEMENTS
CITY PROJECT NO. CB1902
CONSTRUCTION DETAILS

LC-2
SHEET 3 OF 7 SHEETS

FOR: CITY OF RIALTO
PLAN No. _____

Jun 10, 2019 - 1:31pm Kay Kite
F:\Margaret Todd Park - Rialto\CDs\Bud Bender\Construction.dwg

DESIGN PARAMETERS

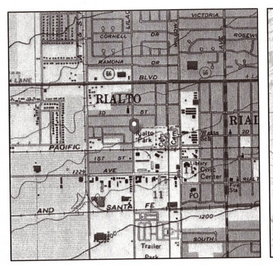
ASCE AMERICAN SOCIETY OF CIVIL ENGINEERS

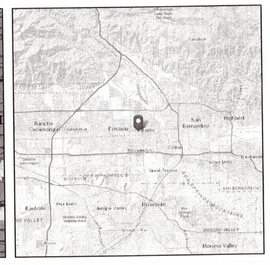
ASCE 7 Hazards Report

Address:
235 N Lilac Ave
Rialto, California
92376

Standard: ASCE/SEI 7-10
Risk Category: II
Soil Class: D - Stiff Soil

Elevation: 1244.99 ft (NAVD 88)
Latitude: 34.102576
Longitude: -117.379036





Wind

Results:

Wind Speed:	110 Vmph
10-year MRI	72 Vmph
25-year MRI	79 Vmph
50-year MRI	85 Vmph
100-year MRI	91 Vmph

Data Source: ASCE/SEI 7-10, Fig. 26.5-1A and Figs. CC-1–CC-4, incorporating errata of March 12, 2014

Date Accessed: Wed Feb 13 2019

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-10 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

Site is not in a hurricane-prone region as defined in ASCE/SEI 7-10 Section 26.2.

Mountainous terrain, gorges, ocean promontories, and special wind regions should be examined for unusual wind conditions.

ASCE AMERICAN SOCIETY OF CIVIL ENGINEERS

Seismic

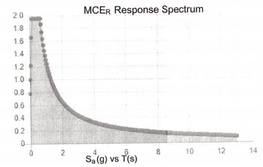
Site Soil Class: D - Stiff Soil

Results:

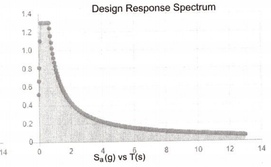
S_S :	1.953	S_{DS} :	1.302
S_1 :	0.87	S_{D1} :	0.87
F_a :	1	T_L :	12
F_v :	1.5	PGA :	0.759
S_{MS} :	1.953	PGA_M :	0.759
S_{M1} :	1.306	F_{PGA} :	1
		I_e :	1

Seismic Design Category E

MCE_R Response Spectrum



Design Response Spectrum



Data Accessed: Wed Feb 13 2019
Date Source: USGS Seismic Design Maps based on ASCE/SEI 7-10, incorporating Supplement 1 and errata of March 31, 2013, and ASCE/SEI 7-10 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-10 Ch. 21 are available from USGS.

APPROVED
JUN 18 2019
BUILDING & SAFETY
CITY OF RIALTO

SHEET INDEX

PROJECT DESIGN CRITERIA	
BUILDING CODE:	2016 CALIFORNIA BUILDING CODE
LOCATION (LATITUDE / LONGITUDE):	34.102576°N / -117.379036°W
RISK CATEGORY:	III
GEOTECHNICAL PARAMETERS:	
SOILS ENGINEER:	JOHN R. BYERLY, INC.
REPORT NUMBER:	4842
DATE:	SEPTEMBER 27, 2013 / JANUARY 12, 2018
ALLOWABLE SOIL BEARING PRESSURE:	1,500 PSF
ALLOWABLE PASSIVE PRESSURE:	250 PCF (PLUS 320 PCF FOR EACH ADD. 12 IN MAX. = 3000 PCF)
COEFF OF FRICTION (CONC TO SOIL):	0.35
EXPANSION INDEX:	LOW
TOTAL SETTLEMENT:	< 0.478 IN
DIFFERENTIAL SETTLEMENT:	0.315 IN
CORROSIVITY:	PER SOILS REPORT
SULFATE CONTENT:	PER SOILS REPORT
SEISMIC DESIGN PARAMETERS:	
SITE CLASS:	C
SHORT PERIOD SPECTRAL ACCELERATION, S_s:	1.953g
1s PERIOD SPECTRAL ACCELERATION, S_1:	0.87g
SEISMIC DESIGN CATEGORY:	D
SEISMIC IMPORTANCE FACTOR, I_e:	1.0
SEISMIC RESPONSE MODIFICATION FACTOR,R:	3.5
WIND DESIGN PARAMETERS:	
DESIGN SPEED (3s GUST):	130 MPH
EXPOSURE CATEGORY:	C
WIND IMPORTANCE FACTOR, Iw:	1.0
WIND PRESSURE, qh:	31.3 PSF

GRAVITY DESIGN PARAMETERS: (PSF, SERVICE LOADS)

	DEAD	ROOF LIVE	SNOW	LIVE	TOTAL
2" - 9 GAUGE WIRE FABRIC	0.7167 PSF	-	-	-	3.5

811 Know what's below. Call before you dig.

MARK	REVISIONS	APPR.	DATE
1	PLAN CHECK #1		4/9/19

DESIGNED BY: JL DRAWN BY: JL CHECKED BY: SL

REGISTERED PROFESSIONAL ENGINEER SHAWN D. LOTHROP No. S5627 Exp. 6/30/20 STRUCTURAL STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF:
SHAWN D. LOTHROP, SE NO. S5627, EXP. 06/30/20 — 02/26/19 DATE

APPROVED BY:
FOR ROBERT EISENBEISZ, DIRECTOR OF PUBLIC WORKS, RCE 54931 — 6/18/19 DATE

INNOVATIVE STRUCTURAL ENGINEERING
40810 COUNTY CENTER DR. #110
TEMECULA, CA 92591
TEL: 951.600.0032
WWW.ISEENGINEERS.COM

CITY OF RIALTO

BUD BENDER PARK SIDELINE FENCING VERTICAL EXTENSION AND SAFETY NETTING IMPROVEMENTS
CITY PROJECT NO. CB1902
CONSTRUCTION PLAN

FOR: CITY OF RIALTO

PLAN No. _____

SCS
SHEET 4
OF 7 SHEETS

Apr 08, 2019 - 3:58pm Julio
W:\6036\02 - Drawings\PLANS.dwg

GENERAL NOTES

1. FIELD VERIFICATION: FIELD VERIFY EXISTING CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION. PROMPTLY NOTIFY ARCHITECT (STRUCTURAL ENGINEER) IN CASE OF DISCREPANCIES.

2. DESIGN INTENT: CONTRACT DOCUMENTS INDICATE DESIGN INTENT FORE STRUCTURE IN ITS COMPLETED STATE. THEY DO NOT INDICATE METHOD OF CONSTRUCTION. PROMPTLY NOTIFY ARCHITECT (STRUCTURAL ENGINEER), PRIOR TO PROCEEDING WITH WORK, IF DESIGN INTENT REQUIRES FURTHER CLARIFICATION.

3. DEVIATIONS, MODIFICATIONS AND SUBSTITUTIONS TO APPROVED STRUCTURAL DRAWINGS: MUST BE ACCEPTED IN WRITING BY ARCHITECT (STRUCTURAL ENGINEER) AND APPROVED BY GOVERNING CODE AUTHORITY. NO DEVIATION, MODIFICATION OR SUBSTITUTION WILL BE ACCEPTED VIA SHOP DRAWING REVIEW.

4. PROCEDURES OF CONSTRUCTION: CONTRACTOR IS RESPONSIBLE FOR PROCEDURES OF CONSTRUCTION COMPLYING WITH NATIONAL, STATE AND LOCAL SAFETY ORDINANCES. SITE VISITS (INCLUDING STRUCTURAL OBSERVATION) BY ARCHITECT (STRUCTURAL ENGINEER) DO NOT CONSTITUTE SUPERVISIONS OF METHODS OF CONSTRUCTION.

   A. PROTECTION OF UTILITIES: LOCATE EXISTING UTILITIES, INCLUDING THOSE NOT SHOWN ON CONTRACT DOCUMENTS, AND PROTECT THEM FROM DAMAGE. CONTRACTOR BEARS EXPENSE OF REPAIR OR REPLACEMENT OF UTILITIES IN CONJUNCTION WITH EXECUTION OF WORK.

   B. EXCAVATIONS: PROTECT STRUCTURE, ADJACENT STRUCTURES, ADJACENT PROPERTIES, STREETS, AND UTILITIES DURING EXCAVATION UTILIZING LAGGING, SHORING, UNDERPINNING AT SIDES AND RELATED PROCEDURES AS MAY BE REQUIRED. PROVIDE NECESSARY SUPPORTS FOR SOIL EXCAVATIONS. CONTRACTOR AND AFFECTED TRADES SHALL REFER TO GEOTECHNICAL REPORT FOR MORE INFORMATION.

   C. PROTECTION OF STRUCTURE: PROVIDE NECESSARY MEASURES TO PROTECT STRUCTURE DURING EXECUTION OF WORK.

   D. CONTRACTOR PROPOSED REVISIONS: WHERE A REVISION OF STRUCTURAL DESIGN OR CONNECTION IS PROPOSED BY CONTRACTOR TO ACCOMMODATE CONSTRUCTION TOLERANCES, CONSTRUCTION SEQUENCE AND/OR DIMENSION MODIFICATIONS, CONTRACTOR SHALL RETAIN A STRUCTURAL ENGINEER LICENSED IN STATE OF CALIFORNIA TO PERFORM DESIGN. SUBMIT STAMPED AND SIGNED DESIGN DRAWINGS AND CALCULATIONS TO THE ARCHITECT (STRUCTURAL ENGINEER) FOR REVIEW AND THE GOVERNING CODE AUTHORITY FOR APPROVAL.

   E. ERECTION PLANS: DETERMINE PHASES OF WORK REQUIRING ERECTION PLANS ACCORDING TO APPLICABLE SAFETY REGULATIONS. MAINTAIN CERTIFIED COPIES OF ERECTION PLANS AT SITE DURING CONSTRUCTION.

   F. SHORING, BRACING, AND OTHER TEMPORARY SUPPORTS: DESIGN AND ERECT SHORING, BRACING, AND OTHER TEMPORARY SUPPORTS WHERE STRUCTURE HAS NOT ATTAINED DESIGN STRENGTH AND AS REQUIRED FOR SAFE ERECTION. ENSURE FLOOR, ROOF, AND WALL MEMBERS ARE SECURELY SHORED AND BRACED DURING CONSTRUCTION. PROVIDE SHORING AT ELEVATED BEAMS AND SLABS SUPPORTING CONCRETE OR MASONRY WALLS DURING AND AFTER WALL POUR UNTIL WALL ATTAINS DESIGN STRENGTH.

   G. TEMPORARY LOADING: ENSURE CONSTRUCTION LOADS DO NOT EXCEED INDICATED DESIGN LIVE LOAD VALUES. NOTIFY AFFECTED SUB-CONTRATOR TRADES OF THESE DESIGN LOAD LIMITS.

   H. FABRICATION, SHIPMENT, AND ERECTION OF STRUCTURAL STEEL: ENSURE STRESSES OCCURRING DURING FABRICATION, SHIPMENT, AND ERECTION OF STRUCTURAL STEEL ARE TEMPORARY AND ARE LESS THAN DESIGN AND ALLOWABLE STRESS CAPACITIES OF INDIVIDUAL MEMBERS. DO NOT IMPAIR FULL DESIGN AND LOAD CARRYING CAPACITY OF MEMBERS DUE TO FABRICATION, SHIPMENT, OR ERECTION. CONTRACTOR IS RESPONSIBLE FOR CONTROLLING ERECTION SEQUENCE, ERECTION PROCEDURE, TEMPERATURE DIFFERENTIALS AND WELD SHRINKAGE TO MINIMIZE RESIDUE STRESSES. PROVIDE ADDITIONAL MATERIALS FOR THE ERECTION OF STRUCTURAL STEEL SUCH AS TEMPORARY BRACING AND GUY CABLES AS MAY BE NECESSARY AT NO ADDITIONAL COST. REMOVE THESE MATERIALS UNLESS APPROVED IN WRITING BY OWNER. DO NOT TIGHTEN BOLTS IN TYPICAL BEAM TO COLUMN CONNECTIONS FOR ERECTION PURPOSES.

   I. SECURING REINFORCING STEEL, DOWELS, ANCHOR BOLTS AND EMBEDS: FIRMLY SUPPORT AND ACCURATELY PLACE COMPLYING WITH ACI STANDARDS PRIOR TO CASTING CONCRETE OR GROUT IN MASONRY WALLS. USE TIES AND SUPPORT BARS IN ADDITION TO REINFORCING STEEL SHOWN WHERE NECESSARY. NO WELDING OR REINFORCING STEEL, INCLUDING TACK WELDING, IS PERMITTED UNLESS OTHERWISE ACCEPTED IN WRITING BY ARCHITECT (STRUCTURAL ENGINEER). PROVIDE PLASTIC OR PLASTIC COATED CHAIRS AND SPACERS WHEN RESTING ON EXPOSED SURFACES.

5. COORDINATION RESPONSIBILITY: CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF WORK INCLUDING THAT OF SUB-CONTRACTOR TRADES.

6. SUBMITTALS: SUBMIT TO ARCHITECT (STRUCTURAL ENGINEER) AS INDICATED ON STRUCTURAL DRAWINGS AND SPECIFICATIONS. GENERAL CONTRACTOR SHALL REVIEW SUBMITTAL FOR COMPLETENESS AND COMPLIANCE WITH CONTRACT DOCUMENTS PRIOR TO SUBMISSION.

   A. REQUEST FOR INFORMATION (RFI) SUBMITTALS: ACCOMPANY RFI'S WITH PARTIAL STRUCTURAL FOUNDATION OR FRAMING PLANS SHOWING LOCATION IN QUESTION AND AFFECTED STRUCTURAL MEMBERS. COPY PARTIAL PLAN FROM STRUCTURAL DRAWINGS AND INDICATE GRID LINE LOCATIONS AND FLOOR LEVEL. ALSO PROVIDE PROPERLY DRAWN ENGINEERING SKETCHES ILLUSTRATING ISSUES AND CONTRACTOR'S PROPOSED SOLUTIONS. PHOTOGRAPHS ARE NOT ACCEPTABLE SUBSTITUTES TO ENGINEERING SKETCHES.

7. CONTRACT DOCUMENTS USE: REVIEW CONTRACT DOCUMENTS IN THEIR ENTIRETY BEFORE PERFORMING STRUCTURAL RELATED WORK AND BEFORE DEVELOPING SHOP DRAWINGS. BRING DISCREPANCIES TO THE IMMEDIATE ATTENTION OF ARCHITECT (STRUCTURAL ENGINEER) BEFORE STARTING WORK.

   A. SCALING OF DRAWINGS: NOT PERMITTED.

   B. ADDITIONAL STRUCTURAL REQUIREMENTS: SEE SPECIFICATIONS.

   C. BUILDING GEOMETRY: SEE ARCHITECTURAL DRAWINGS FOR BUILDING GEOMETRY INCLUDING, BUT NOT LIMITED TO, TOP OF FLOOR AND ROOF ELEVATIONS; DEPRESSIONS; SLOPES; CURBS; DRAINS; TRENCHES; SLAB AND DECK EDGE LOCATIONS; WALL OVERALL DIMENSIONS; AND SIZE AND LOCATIONS OF OPENINGS IN FLOORS, ROOF AND WALLS.

   D. NON-STRUCTURAL ITEMS REQUIRING SPECIAL PROVISIONS: SEE ARCHITECTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR NON-STRUCTURAL ITEMS REQUIRING SPECIAL PROVISIONS DURING CONSTRUCTION. THEY INCLUDE, BUT ARE NOT LIMITED TO, NON-STRUCTURAL WALLS; SIZE AND LOCATIONS OF OPENINGS AND SLEEVES PENETRATING STRUCTURE; SIZE AND LOCATION OF CONCRETE CURBS AND PADS; AND SIZE AND LOCATION OF PIPING, DUCTWORK, AND EQUIPMENT ANCHORAGES MOUNTED OR SUSPENDED FROM STRUCTURE. VERIFY EXACT SIZE AND LOCATION OF EQUIPMENT WITH EQUIPMENT MANUFACTURER.

8. MATERIALS: FURNISH AND INSTALL IN COMPLIANCE WITH LEGALLY CONSTITUTED PUBLIC AUTHORITIES HAVING JURISDICTION INCLUDING COUNTY AND LOCAL ORDINANCES AND SAFETY ORDERS OF STATE INDUSTRIAL ACCIDENT COMMISSION, OSHA.

9. PENETRATIONS, EMBEDMENTS, AND OPENINGS IN STRUCTURAL MEMBERS: NO PENETRATION, EMBEDMENT, OPENING, SLEEVE, PIPE, OR CONDUIT SHALL OCCUR IN STRUCTURAL MEMBERS INCLUDING FOOTINGS, SLABS, WALLS, COLUMNS, AND BEAMS UNLESS SPECIFICALLY SHOWN OR INDICATED ON STRUCTURAL DRAWINGS.

10. TYPICAL DETAILS: DETAILS ON SD SERIES SHEETS ARE APPLICABLE THROUGHOUT PROJECT WHEREVER THE DESCRIBED CONDITION OCCURS AND MAY OR MAY NOT BE SPECIFICALLY REFERENCED ON STRUCTURAL DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING THESE DETAILS AND UNDERSTANDING EXTENT OF THEIR APPLICATION PRIOR TO PERFORMING WORK.

CONCRETE

1. CONCRETE COMPRESSIVE STRENGTH: ALL CONCRETE SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH AS SHOWN IN THE TABLE 2 BELOW AT 28 DAYS, U.N.O. ON PLANS. SEE ALSO SULFATE CONTENT NOTES.

2. AGGREGATES IN CONCRETE: SHALL BE NATURAL SAND AND ROCK (150 LB/CU. FT) CONFORMING TO ASTM C33. AGGREGATE SHALL HAVE PROVEN SHRINKAGE CHARACTERISTICS OF LESS THAN 0.05% PER ASTM C-157. DO NOT CHANGE SOURCE OF AGGREGATE DURING COURSE OF WORK WITHOUT WRITTEN CONSENT OF ENGINEER.

3. CEMENT: SHALL BE PORTLAND CEMENT CONFORMING TO ASTM C150. CEMENT SHALL BE TYPE II OR AS REQUIRED TO SATISFY SITE SOIL CONDITIONS. REFER TO TABLE 4 FOR CONCRETE CEMENT REQUIREMENTS ON SOIL CONTAINING SULFATE. REFER TO TABLE 2 FOR MAXIMUM WATER TO CEMENT RATIO. USE MINIMUM (6) SACKS OF CEMENT PER CUBIC YARD OF CONCRETE.

CONCRETE STRENGTH					
CONDITION	MIN 28-DAY COMPRESSIVE STRENGTH, f'c	CONCRETE TYPE*	MAXIMUM AGGREGATE SIZE	WATER TO CEMENT RATIO	MAX SLUMP**
FOUNDATIONS	2,500 PSI	NWC	1 ½"	0.50	4"
SLAB ON GRADE	2,500 PSI	NWC	1"	0.50	6"
RETAINING WALLS	2,500 PSI	NWC	1"	0.50	4"
ALL OTHER STRUCTURAL CONCRETE NOT SPECIFICALLY NOTED	2,500 PSI	NWC	1"	0.50	4"

* MAXIMUM WEIGHT OF LIGHTWEIGHT CONCRETE SHALL BE 115 PCF.
** SLUMP SHALL BE MEASURED PRIOR TO THE ADDITION OF SUPERPLASTICIZER (IF USED).

REBAR CLEAR COVER IN CONCRETE: THE FOLLOWING MINIMUM CLEAR DISTANCES BETWEEN REINFORCING STEEL AND FACE OF CONCRETE SHALL BE MAINTAINED UNLESS NOTED OTHERWISE:

REBAR CLEAR COVER FOR CAST-IN-PLACE CONCRETE	
MOVE	COVER
SLAB ON GRADE:	CENTER OF SLAB OR 2" MIN
CONCRETE AGAINST & PERMANENTLY EXPOSED TO EARTH:	3"
CONCRETE EXPOSED TO EARTH OR WEATHER:	
WALLS, SLABS, JOINTS:	1"
OTHER MEMBERS:	1 ½"
CONCRETE NOT EXPOSED TO EARTH OR WEATHER:	
WALLS, SLABS, JOINTS:	¾"
BEAM, COLUMNS PRIMARY REINFORCEMENT:	1 ½"
BEAM, COLUMNS TIES, STIRRUPS, SPIRALS	1"

4. VIBRATION: VIBRATION OF CONCRETE SHALL BE IN ACCORDANCE WITH GENERAL PROVISIONS OUTLINED IN PORTLAND CEMENT ASSOCIATION SPECIFICATION ST26.

5. CURING: CONCRETE SHALL BE MAINTAINED AT IN A MOIST CONDITION FOR A MINIMUM OF FIVE DAYS AFTER ITS PLACEMENT. FOR CONCRETE OTHER THAN SLAB ON GRADE, APPROVED CURING COMPOUNDS MAY BE USED IN LIEU OF MOIST CURING. ONLY IF APPROVED BY THE ENGINEER OR ARCHITECT.

6. INSPECTIONS, TESTING & QUALITY ASSURANCE: REFER TO SHEET SN1 FOR DEPUTY SPECIAL INSPECTION, TESTING & STRUCTURAL OBSERVATION REQUIREMENTS. A MINIMUM OF ONE COMPRESSION TEST AT 7 DAYS AND 2 TESTS AT 28 DAYS FOR ALL CONCRETE SAMPLES. TAKE TEST AT A FREQUENCY OF ONCE EVERY 150 CU. YDS OR 5,000 SQ. FT MINIMUM.

7. ANCHOR BOLTS, DOWELS, INSERTS: SHALL BE TIED IN PLACE PRIOR TO POURING CONCRETE.

8. CONSTRUCTION AND POUR JOINTS: LOCATIONS SHALL BE APPROVED BY ENGINEER PRIOR TO POURING CONCRETE.

9. FORMWORK: FORMWORK TOLERANCE SHALL IN ACCORDANCE WITH THE C.B.C. AND A.C.I. STANDARDS.

10. HOT AND COLD WEATHER CONCRETING:
    A. HOT WEATHER CONCRETING: WHEN AIR TEMPERATURE RISES ABOVE 80° F AND HUMIDITY FALLS BELOW 25, THE CONTRACTOR SHALL FOLLOW HOT WEATHER CONCRETING IN ACCORDANCE WITH ACI 305 5-77. CONTRACTOR SHALL BE PREPARED TO USE FOG SPRAY OR OTHER PRECAUTIONS ACCEPTABLE TO ARCHITECT WHEN RATE OF EVAPORATION EQUALS OR EXCEEDS 0.2 POUNDS PER SQUARE FOOT PER HOUR.
    B. COLD WEATHER CONCRETING: ADEQUATE EQUIPMENT SHALL BE PROVIDED FOR HEATING CONCRETE MATERIALS AND PROTECTING CONCRETE DURING FREEZING OR NEAR FEEZING WEATHER. ALL CONCRETE MATERIALS AND ALL REINFORCEMENT, FORMS FILLERS AND GROUND WITH WHICH THE CONCRETE IS TO CONTACT SHALL BE FREE FROM FROST. FROZEN MATERIAL OR MATERIALS CONTAINING ICE SHALL NOT BE USED. COLD WEATHER CONCRETING SHALL BE DONE IN ACCORDANCE WITH ACI 306 R-78. (LATEST EDITION)

11. PIPES IN CONCRETE: PIPES MAY PASS THROUGH STRUCTURAL CONCRETE IN SLEEVES, BUT SHALL NOT BE EMBEDDED THEREIN. PIPES OR DUCTS EXCEEDING ONE-THIRD THE SLAB OR WALL THICKNESS SHALL NOT BE PLACED IN THE STRUCTURAL CONCRETE UNLESS SPECIFICALLY DETAILED.

12. EXPOSED CORNERS: PROVIDE 3/4" CHAMFERS AT ALL EXPOSED CORNERS.

13. ARCHITECTURAL DETAILS: REFER TO ARCHITECTURAL DRAWINGS FOR REVEALS, AREAS OF TEXTURED CONCRETE OR SPECIAL FINISHES, ITEMS REQUIRED TO BE CAST INTO THE CONCRETE, CURBS AND SLAB DEPRESSIONS.

14. DRYPACK OR GROUT: SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2,000 PSI AND BE COMPOSED OF ONE PART PORTLAND CEMENT TO NOT MORE THAN THREE PARTS SAND.

FLY ASH: CONCRETE MIX DESIGN MAY CONTAIN FLY ASH PER TABLE BELOW

ACI 318-14 - TABLE 26.4.2.2(b) FLY ASH CONTENT IN CONCRETE	
CEMENTITIOUS MATERIAL	MAX % OF TOTAL CEMENTITIOUS MATERIALS BY WEIGHT
FLY ASH OR OTHER POZZOLANS CONFORMING TO ASTM C618	25
SLAG CONFORMING TO ASTM C989	50
SILICA FUME CONFORMING TO ASTM C1240	10
TOTAL OF FLY ASH OR OTHER POZZOLANS, SLAG, AND SILICA FUME	50**
TOTAL OF FLY ASH OR OTHER POZZOLANS AND SILICA FUME	35**

* THE TOTAL CEMENTATION MATERIAL ALSO INCLUDES ASTM C150, C595, C845, AND C1157 CEMENT
THE MAXIMUM PERCENTAGE ABOVE SHALL INCLUDE
(A) FLY ASH OR OTHER POZZOLANS PRESENT IN IP OR I(PM) BLENDED CEMENT, ASTM C595, OR ASTM C1157;
(B) SLAG USED IN THE MANUFACTURE OF A (IS) OR I(SM) BLENDED CEMENT, ASTM C595, OR ASTM C1157;
(C) SILICA FUME, ASTM C1240, PRESENT IN A BLENDED CEMENT.
**FLY ASH PR OTHER POZZOLANS AND SILICA FUME SHALL CONSTITUTE NO MORE THAN 25 AND 10 PERCENT, RESPECTIVELY, OF THE TOTAL WEIGHT OF THE CEMENTATION MATERIALS.

CONCRETE EXPOSURE REQUIREMENTS

ACI 318 TABLE 19.3.1.1 - EXPOSURE CATEGORIES AND CLASSES				
CATEGORY	SEVERITY	CLASS	CONDITION	
F FREEZING AND THAWING	NOT APPLICABLE	F0	CONCRETE NOT EXPOSED TO FREEZING AND THAWING CYCLES	
	MODERATE	F1	CONCRETE EXPOSED TO FREEZING AND THAWING CYCLES AND OCCASIONAL EXPOSURE TO MOISTURE	
	SEVERE	F2	CONCRETE EXPOSED TO FREEZING AND THAWING CYCLES AND IN CONTINUOUS CONTACT W/ MOISTURE	
	VERY SEVERE	F3	CONCRETE EXPOSED TO FREEZING AND THAWING AND IN CONTINUOUS CONTACT W/ MOISTURE AND EXPOSED TO DEICING CHEMICALS	
S SULFATE			WATER SOLUBLE SULFATE (SO_4) IN SOIL, PERCENT BY WEIGHT	DISSOLVED SULFATE (SO_4) IN WATER, PPM
	NOT APPLICABLE	S0	$SO_4 < 0.10$	$SO_4 < 150$
	MODERATE	S1	$0.10 \leq SO_4 < 0.20$	$150 \leq SO_4 < 1500$ SEAWATER
	SEVERE	S2	$0.20 \leq SO_4 \leq 2.0$	$1500 \leq SO_4 \leq 10,000$
	VERY SEVERE	S3	$SO_4 > 2.00$	$SO_4 > 10,000$
P REQUIRED LOW PERMEABILITY	NOT APPLICABLE	P0	IN CONTACT W/ WATER WHERE LOW PERMEABILITY IS NOT REQUIRED	
	REQUIRED	P1	IN CONTACT W/ WATER WHERE LOW PERMEABILITY IS REQUIRED	
C CORROSION PROTECTION OF REINFORCEMENT	NOT APPLICABLE	C0	CONCRETE DRY OR PROTECTED FROM MOISTURE	
	MODERATE	C1	CONCRETE EXPOSED TO MOISTURE BUT NOT TO EXTERNAL SOURCES OF CHLORIDE	
	SEVERE	C2	CONCRETE EXPOSED TO MOISTURE AND AN EXTERNAL SOURCE OF CHLORIDES FROM DEICING CHEMICALS, SALT, BRACKISH WATER, SEAWATER, OR SPRAY FROM THESE SOURCES	

ACI 318 TABLE 19.3.2.1 - REQUIREMENTS FOR CONCRETE BY EXPOSURE CLASS						
EXPOSURE CLASS	MAX W/C	MIN f'c	ADDITIONAL MINIMUM REQUIREMENTS			
			AIR CONTENT			LIMITS ON CEMENTITIOUS MATERIALS
F0	N/A	2500	N/A			N/A
F1	0.55	3500	PER TABLE 19.3.1.1 - ACI 318-14			N/A
F2	0.45	4500	PER TABLE 19.3.1.1 - ACI 318-14			N/A
F3	0.40	5000	PER TABLE 19.3.1.1 - ACI 318-14			PER TABLE 26.4.2.2(b) - ACI 318-14
			CEMENTITIOUS MATERIALS - TYPES			CALCIUM CHLORIDE ADMIXTURE
			ASTM C150	ASTM C595	ASTM C1157	
S0	N/A	2500	NO TYPE RESTRICTION	NO TYPE RESTRICTION	NO TYPE RESTRICTION	NO RESTRICTION
S1	0.50	4000	II [2,3]	IP (MS) IS(<70) (MS)	MS	NO RESTRICTION
S2	0.45	4500	V [3]	IP (HS) IS(<70) (HS)	HS	NOT PERMITTED
S3	0.45	4500	V PLUS POZZOLAN OR SLAG [4]	IP (HS) PLUS POZZOLAN OR SLAG [4] OR IS (<70) (HS) PLUS POZZOLAN OR SLAG [4]	HS PLUS POZZOLAN OR SLAG [4]	NOT PERMITTED
W0	N/A	2500	NONE			
W1	0.50	4000	NONE			
			MAXIMUM WATER SOLUBLE CHLORIDE ION (CL-) CONTENT IN CONCRETE, PERCENT BY WEIGHT OF CEMENT [5]		ADDITIONAL PROVISIONS	
			REINFORCED CONCRETE	PRESTRESSED CONCRETE		
CO	N/A	2500	1.00	0.06	NONE	
C1	N/A	2500	0.30	0.06		
C2	0.40	5000	0.15	0.06	CONCRETE COVER	

1. ALTERNATIVE COMBINATIONS OF CEMENTITIOUS MATERIALS OF THOSE LISTED IN TABLE 19.3.2.1 - ACI 318-14 SHALL BE PERMITTED WHEN TESTED FOR SULFATE RESISTANCE AND MEETING THE CRITERIA IN 26.4.2.2(c).
2. FOR SEAWATER EXPOSURE, OTHER TYPES OF PORTLAND CEMENTS WITH TRICALCIUM ALUMI-NATE (C3A) CONTENTS UP TO 10 PERCENT ARE PERMITTED IS THE W/ CM DOES NOT EXCEED 0.40.
3. OTHER AVAILABLE TYPES OF CEMENT SUCH AS TYPE III OR TYPE I ARE PERMITTED IN EXPOSURE CLASSES S1 OR S2 IF THE C3A CONTENTS ARE LESS THAN 8 OR 5 PERCENT, RESPECTIVELY.
4. THE AMOUNT OF THE SPECIFIC SOURCE OF THE POZZOLAN OR SLAG TO BE USED SHALL NOT BE LESS THAN THE AMOUNT THAT HAS BEEN DETERMINED BY SERVICE RECORD TO IMPROVE SULFATE RESISTANCE WHEN USED IN CONCRETE CONTAINING TYPE V CEMENT. ALTERNATIVELY, THE AMOUNT OF THE SPECIFIC SOURCE OF THE POZZOLAN OR SLAG TO BE USED SHALL NOT BE LESS THAN THE AMOUNT TESTED IN ACCORDANCE WITH ASTM C1012 AND MEETING THE CRITERIA IN 26.4.2.2(c).
5. WATER-SOLUBLE CHLORIDE ION CONTENT THAT IS CONTRIBUTED FROM THE INGREDIENTS INCLUDING WATER, AGGREGATES, CEMENTITIOUS MATERIALS, AND ADMIXTURES SHALL BE DETERMINED ON THE CONCRETE MIXTURE BY ASTM C1218 AT AGE BETWEEN 28 AND 42 DAYS.
6. CONCRETE COVER SHALL BE IN ACCORDANCE WITH 20.6.

EARTHWORK AND FOUNDATIONS

1. GEOTECHNICAL REPORT: PERFORM SOILS WORK COMPLYING WITH FOUNDATION DESIGN BASED ON RECOMMENDATIONS IN SOILS REPORT. SEE STRUCTURAL COVER SHEET (SCS) FOR SOILS REPORT NUMBER AND DATE.

2. ALLOWABLE FOUNDATION DESIGN VALUES (GEOTECHINCAL REPORT N/A):
   A. BEARING CAPACITY: SEE PROJECT DESIGN CRITERIA
   B. PASSIVE LATERAL BEARING PRESSURE: SEE PROJECT DESIGN CRITERIA
   C. COEFFICIENT OF FRICTION: SEE PROJECT DESIGN CRITERIA

3. GRADING, EXCAVATIONS, BACKFILL AND COMPACTION OF BACKFILL: COMPLY WITH GEOTECHNICAL REPORT AND REQUIREMENTS OF GOVERNING CODE AUTHORITY AND PERFORMED ONLY UNDER CONTINUOUS SPECIAL INSPECTION OF GEOTECHNICAL ENGINEER.

4. PREPARATION OF SOIL UNDER BUILDING PAD: SEE GEOTECHNICAL REPORT FOR OVER-EXCAVATION OF EXISTING SOIL AND INSTALLATION OF PROPERLY COMPACTED BACKFILL.

5. FOUNDATION EXCAVATIONS: FOUNDATIONS ARE TO BEAR ON FIRM EXISTING SOIL OR APPROVED COMPACTED FILL AS INDICATED IN GEOTECHNICAL REPORT. EXCAVATIONS ARE TO BE INSPECTED BY GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF REINFORCING STEEL AND FORMWORK. ENSURE EXCAVATIONS ARE CLEANS, DRY AND FREE OF DEBRIS OR LOOSE SOIL. SLOPE SIDES OF EXCAVATION NOT LESS THAN MINIMUM SLOPE INDICATED IN GEOTECHNICAL REPORT. CAST CONCRETE DIRECTLY AGAINST EXCAVATED SURFACES.

6. FOUNDATION INSPECTION: THE GEOTECHNICAL ENGINEER SHALL ADVISE THE BUILDING OFFICIAL IN WRITING STATING THAT THE BUILDING PAD PREPARATION MEETS THE REQUIREMENTS PROVIDED IN THE GEOTECHNICAL REPORT, ALL TRENCHES HAVE BEEN PROPERLY BACKFILLED AND COMPACTED, AND THAT ANY FOUNDATION EXCAVATION COMPLIES WITH THE REQUIREMENTS IN THE GEOTECHNICAL REPORT PRIOR TO REQUESTING AN BUILDING DEPARTMENT FOUNDATION INSPECTION.

7. BACKFILLING OF RETAINING WALLS: PLACE AFTER COMPLETION AND INSPECTION OF WATERPROOFING. ADEQUATELY SHORE RETAINING WALLS DURING BACKFILL OPERATION. UNLESS ADEQUATELY SHORED, DO NOT PLACE BACKFILL BEHIND BUILDING STRUCTURE RETAINING WALLS (EXCLUDING SITE RETAINING WALLS) UNTIL CONCRETE AT ELEVATED FLOOR LEVELS ADJACENT TO WALLS ARE COMPLETELY POURED (IN AREA) AND HAVE CURED FOR AT LEAST 7 DAYS.

8. WATER EXPOSURE AT BUILDING PERIMETER FOOTINGS: AT AREAS WHERE SIDEWALKS OR PAVING DO NOT IMMEDIATELY ADJOIN STRUCTURE, PROVIDE POSITIVE DRAINAGE AWAY FROM STRUCTURE AT BUILDING PERIMETER. LANDSCAPE IRRIGATION IS NOT PERMITTED WITHIN FIVE FEET OF BUILDING PERIMETER FOOTINGS EXCEPT WHEN ENCLOSED IN PROTECTED PLANTERS WITH DIRECT DRAINAGE AWAY FROM STRUCTURE OR WHICH COMPLIES WITH APPLICABLE CODE. DISCHARGE FROM DOWN SPOUTS, ROOF DRAINS AND SCUPPERS IS NOT PERMITTED ONTO UNPROTECTED SOILS WITHIN FIVE FEET OF BUILDING PERIMETER. REFER TO GEOTECHNICAL REPORT FOR COMPLETE REQUIREMENTS.

REINFORCING STEEL

1. REINFORCING STEEL:
   A. ALL BARS, U.N.O.: ASTM A615, GRADE 60
   B. BARS TO BE WELDED: ASTM A706, GRADE 60
   C. ADDITIONAL REQUIREMENTS FOR BARS, EXCLUDING TIES, IN DUCTILE MOMENT RESISTING FRAMES AND BOUNDARY ELEMENTS IN SHEAR WALLS: NO ADDITIONAL REQUIREMENTS IF ASTM A706, GRADE 60 BARS USED. ASTM615, GRADE 60 BARS ARE PERMITTED PROVIDED ACTUAL YIELD STRENGTH BASED ON MILL TESTS DOES NOT EXCEED SPECIFIED YIELD STRENGTH BY MORE THAN 18,000 PSI (RETESTS SHALL NOT EXCEED THIS VALUE BY MORE THAN AN ADDITIONAL 3,000 PSI) AND RATIO OF ACTUAL ULTIMATE TENSILE STRESS TO ACTUAL TENSILE YIELD STRENGTH IS NOT LESS THAN 1.25.

2. WIRE AND SPIRAL REINFORCING:
   A. SMOOTH WELDED WIRE FABRIC (W.W.F.): ASTM A185, FY=65 KSI, FLAT SHEETS ONLY. DO NOT USE ROLLED MESH. LAP SPACES (1 FOOT MINIMUM). OFFSET LAPS IN ADJACENT SHEETS TO AVOID CONTINUOUS LAPS.
   B. DEFORMED WIRE STIRRUPS (D4 AND LARGER ONLY): ASTM A497, FY=65 KSI.
   C. SPIRAL REINFORCING: ASTM A82, GRADE 60

3. SHOP DRAWINGS: ACI 315, PART B. SHOW REINFORCING STEEL PLACEMENT INCLUDING SIZES, QUANTITIES, SPACING, CLEARANCES, SPLICE LOCATIONS, LAP LENGTHS, AND CONCRETE COVERAGES AND SUBMIT TO ARCHITECT (STRUCTURAL ENGINEER). PROMPTLY NOTIFY ARCHITECT (STRUCTURAL ENGINEER) PRIOR TO DEVELOPING SHOP DRAWINGS IF INSUFFICIENT CLEAR DISTANCES BETWEEN REINFORCING STEEL AND OTHER CONGESTION IS ENCOUNTERED. NOTIFY SPECIAL INSPECTOR OF ADJUSTMENTS MADE FORM APPROVED CONTRACT DOCUMENTS WHICH ARE INDICATED ON ACCEPTED SHOP DRAWINGS THAT FACILITATE FIELD PLACEMENT OF REINFORCING STEEL AND CONCRETE.

4. SPLICE LOCATIONS: SPLICE #5 BARS AND LARGER ONLY AT LOCATIONS INDICATED. IF ADDITIONAL SPLICE LOCATIONS ARE PROPOSED, PROMPTLY NOTIFY ARCHITECT (STRUCTURAL ENGINEER) PRIOR TO DEVELOPING SHOP DRAWINGS.
   A. SPLICES IN WALLS: LOCATE SPLICES IN HORIZONTAL BARS AT WELL-STAGGERED LOCATIONS. DO NOT SPLICE VERTICAL BARS EXCEPT AT HORIZONTAL SUPPORTS SUCH AS FLOOR AND ROOF DIAPHRAGMS.

5. MINIMUM CLEARANCES BETWEEN PARALLEL REINFORCING STEEL INCLUDING DISTANCE BETWEEN SETS OF SPLICED BARS: 1" OR 1 db, WHICHEVER IS GREATER. 1 ½" OR 1½ db WHICHEVER IS GREATER, AT COLUMNS, PIERS, AND PILASTERS ONLY. FOR BUNDLED BARS, MINIMUM CLEAR DISTANCES BETWEEN UNITS OF BUNDLED BARS SHALL BE SAME AS SINGLE BARS EXCEPT BAR DIAMETER IS DERIVED FROM EQUIVALENT TOTAL AREA OF BUNDLE.

7. DOWELS AT CONSTRUCTION JOINTS: PROVIDE DOWELS MATCHING SIZE AND QUANTITY OF REINFORCING STEEL INTERRUPTED AT CONSTRUCTION JOINTS, UNLESS DETAILED OTHERWISE.

8. PLACEMENT OF BARS IN WALLS: PLACE VERTICAL BARS CLOSEST TO WALL SURFACES AT CURTAINS CONTAINING VERTICAL AND HORIZONTAL BARS OF THE SAME SIZE. IN CURTAINS WHICH VERTICAL AND HORIZONTAL BARS ARE OF DIFFERENT SIZES OR SPACING, PLACE LAYER WITH MOST STEEL AREA CLOSEST TO NEAR WALL SURFACE.

9. BARS TERMINATING AT WALLS, COLUMNS, BEAMS, AND FOUNDATIONS: EXTEND BARS TO WITHIN 2" (3" AT CONCRETE POURED AGAINST EARTH) OF FAR FACE OF WALL, COLUMN, BEAM OR FOUNDATION AND PROVIDE STANDARD ACI 90-DEGREE HOOK UNLESS DETAILED OTHERWISE.

10. BARS INTERRUPTED BY STRUCTURAL STEEL: EXTEND BARS TO WITHIN 2" OF STEEL FACE AND PROVIDE STANDARD ACI 90-DEGREE HOOK UNLESS DETAILED OTHERWISE.

11. WELDING: AWS D1.4, EXCEPT AS MODIFIED BY APPLICABLE CODE STANDARD 19-1. SEE RGA #3-77 OF CITY OF LOS ANGELES "R" BOOK FOR ADDITIONAL REQUIREMENTS IF GOVERNING CODE AUTHORITY IS CITY OF LOS ANGELES DEPARTMENT OF BUILDING AND SAFETY.
    A. ACCEPTABLE REINFORCING STEEL FOR WELDING ASTM A706: IF WELDING OF REINFORCING STEEL OTHER THAN A706 IS DESIRED, SUBMIT PROPOSED PROCEDURE, INDICATING CONFORMANCE TO APPLICABLE CODE AND REQUIREMENTS OF GOVERNING CODE AUTHORITY, TO ARCHITECT (STRUCTURAL ENGINEER) FOR ACCEPTANCE AND TO GOVERNING CODE AUTHORITY FOR APPROVAL PRIOR TO EXECUTION.
    B. WELDER CERTIFICATION: GOVERNING CODE AUTHORITY.

12. BENDING: BEND COLD UNLESS OTHERWISE ACCEPTED BY ARCHITECT (STRUCTURAL ENGINEER). DO NOT FIELD-BEND REINFORCING STEEL BARS EMBEDDED IN CONCRETE UNLESS OTHERWISE ACCEPTED IN WRITING BY ARCHITECT (STRUCTURAL ENGINEER).

13. LAP SPLICES: PROVIDE CLASS B SPLICES UNLESS INDICATED OTHERWISE.

STRUCTURAL STEEL NOTES

1. FABRICATION & ERECTION: ALL FABRICATION & ERECTION SHALL CONFORM TO THE 13TH EDITION STANDARDS OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS.

2. ASTM SPECIFICATIONS: STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING ASTM SPECIFICATIONS:

TABLE 1 - STEEL MATERIAL SPECIFICATIONS	
STEEL SHAPE	ASTM SPECIFICATION
W	A992 OR A572 GRADE 50
M, S, HP	A36 OR A572 GRADE 50
C - CHANNEL	A572 GRADE 50
L - ANGLE	A36
PLATES & BAR	A36
ANCHOR RODS	F1554-A36
SHEAR STUDS	A108
HSS SQUARE	A500 GRADE B OR C

3. STEEL EXPOSED TO WEATHER OR CORROSIVE ENVIRONMENT: ALL STEEL EXPOSED TO WEATHER OR CORROSIVE ENVIRONMENT SHALL BE HOT DIP GALVANIZED AFTER FABRICATION IN COMPLIANCE WITH ASTM A123. ALL FIELD WELDS ON GALVANIZED STEEL SHALL BE TREATED WITH ZINC-RICH PAINT IN COMPLIANCE WITH ASTM A780.

4. STEEL FABRICATION: ALL STEEL FABRICATION SHALL BE PERFORMED IN A SHOP APPROVED BY THE GOVERNING JURISDICTION DEPARTMENT OF BUILDING & SAFETY.

5. STEEL FABRICATOR: THE STRUCTURAL STEEL FABRICATOR SHALL PROVIDE A SET OF SHOP FABRICATION DRAWINGS FOR APPROVAL TO THE ENGINEER OF RECORD. THE FABRICATOR SHALL NOT FABRICATE THE STEEL UNTIL THE ENGINEER OF RECORD HAS APPROVED THE SHOP DRAWINGS.

6. WELDING: ALL WELDING SHALL BE IN CONFORMANCE WITH THE LATEST AISC & AMERICAN WELDING SOCIETY (AWS) STANDARDS. ALL WELDING SHALL BE PERFORMED USING A SHIELDED ARC PROCESS USING APPROVED ELECTRODES CONFORMING TO AWS SPECIFICATION E70XX (LOW HYDROGEN). WELD MATERIAL SHALL COMPLY WITH AWS CERTIFICATION AND POSSESS A CHARPY V-NOTCH TOUGHNESS OF 20 FT-LBS AT -20 DEGREES F. WELDING SHALL BE PERFORMED BY ONLY AWS CERTIFIED WELDERS.

7. WELDING PROCEDURES: A WRITTEN WELDING PROCEDURE SPECIFICATIONS (WPS) PER AWS D1.1 SHALL BE DEVELOPED BY THE FABRICATOR/ERECTOR AND REVIEWED BY THE ENGINEER OF RECORD AND THE BUILDING DEPARTMENT.

8. ERECTION AIDS: THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ERECTION AIDS AND JOINT PREPARATIONS THAT INCLUDE, BUT ARE NOT LIMITED TO, ERECTION ANGLES, LIFT HOLES AND OTHER AIDS, WELDING PROCEDURES, REQUIRED ROOT OPENINGS, ROOT FACE DIMENSIONS, GROOVE ANGLES, BACKING BARS, COPES, SURFACE ROUGHNESS AND UNEQUAL PARTS.

APPROVED
JUN 18 2019
BUILDING & SAFETY
CITY OF RIALTO

Apr 08, 2019 - 3:58pm Julio
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811
Know what's below. Call before you dig.

MARK	REVISIONS	APPR.	DATE
1	PLAN CHECK #1		4/9/19

DESIGNED BY: JL DRAWN BY: JL CHECKED BY: SL

REGISTERED PROFESSIONAL ENGINEER
SHAWN D. LOTHROP
No. S5627
Exp. 6/30/20
STRUCTURAL
STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF:
SHAWN D. LOTHROP, SE NO. S5627, EXP. 06/30/20 — 02/26/19 DATE

APPROVED BY:
FOR ROBERT EISENBEISZ, DIRECTOR OF PUBLIC WORKS, RCE 54931 — 6/18/19 DATE

INNOVATIVE STRUCTURAL ENGINEERING
40810 COUNTY CENTER DR. #110
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CITY OF RIALTO
BUD BENDER PARK SIDELINE FENCING VERTICAL EXTENSION AND SAFETY NETTING IMPROVEMENTS
CITY PROJECT NO. CB1902
CONSTRUCTION PLAN

FOR: CITY OF RIALTO

PLAN No. ______

SN-1
SHEET 5 OF 7 SHEETS

QUALITY ASSURANCE (STRUCTURAL OBSERVATION, MATERIALS TESTING, AND SPECIAL INSPECTION).

1. STRUCTURAL OBSERVATION:
   - A. COORDINATION RESPONSIBILITIES OF CONTRACTOR: NOTIFY ARCHITECT (STRUCTURAL ENGINEER) 48 HOURS IN ADVANCE OF CRITICAL STAGES OF CONSTRUCTION INDICATED BELOW SO VISITS MAY BE SCHEDULED BY STRUCTURAL OBSERVER. FAILURE BY CONTRACTOR TO MEET OBSERVATION SCHEDULE MAY REQUIRE REMOVAL OF SUBSEQUENT WORK FOR OBSERVATION. CONTRACTOR TO BEAR COSTS OF REMOVAL AND REPLACEMENT OF FINISHED WORK OR FRAMING DAMAGED BY REMOVAL PROCESS OR AS REQUIRED FOR CORRECTIVE ACTION.
   - B. PRE-CONSTRUCTION MEETING: OWNER MAY COORDINATE AND CALL FOR MEETING BETWEEN ARCHITECT (STRUCTURAL ENGINEER) RESPONSIBLE FOR STRUCTURAL DESIGN, STRUCTURAL OBSERVER, CONTRACTOR, AFFECTED SUBCONTRACTORS AND SPECIAL INSPECTOR. STRUCTURAL OBSERVER WILL PRESIDE OVER THIS MEETING. PURPOSE OF MEETING IS TO IDENTIFY MAJOR STRUCTURAL ELEMENTS AND CONNECTIONS THAT AFFECT VERTICAL AND LATERAL LOAD RESISTING SYSTEMS OF STRUCTURE AND TO REVIEW SCHEDULE OF STRUCTURAL OBSERVATION, MATERIALS TESTING, AND SPECIAL INSPECTION OF PROJECT.
   - C. CRITICAL STAGES OF CONSTRUCTION REQUIRING STRUCTURAL OBSERVATION:
     - i. CASTING OF FIRST CONCRETE FOOTING.
     - ii. FRAMING & PRE-CONCRETE POUR REBAR OBSERVATIONS

2. MILL TEST REPORTS CERTIFYING MATERIALS: CONTRACTOR TO SUBMIT MILL TEST REPORTS CERTIFYING REINFORCING STEEL, STRESSING TENDONS, AND STRUCTURAL STEEL ARE OF IDENTIFIABLE TESTED STOCK TO OWNER, SPECIAL INSPECTOR, ARCHITECT (STRUCTURAL ENGINEER) AND, UPON REQUEST, TO GOVERNING CODE AUTHORITY. ENSURE MATERIALS ARE PROPERLY TAGGED FOR IDENTIFICATION. IF MILL TEST REPORTS CANNOT BE MADE AVAILABLE OR IF MATERIAL CANNOT BE IDENTIFIED, TESTING LABORATORY WILL PERFORM TESTS AS DIRECTED BY ARCHITECT (STRUCTURAL ENGINEER). CONTRACTOR SHALL PAY TESTING RELATED TO TESTS AND INSPECTIONS OF UNIDENTIFIABLE MATERIALS FURNISHED WITHOUT MILL LABORATORY FOR COSTS TEST REPORTS, MATERIALS FOUND DEFICIENT AFTER INITIAL TESTS AND INSPECTIONS, OR MATERIALS REPLACING DEFICIENT MATERIALS.
   - A. ULTRASONIC EXAMINATION OF HEAVY ROLLED SHAPES AND THICK PLATES AT PROPOSED WELDED MOMENT CONNECTIONS: WHERE COMPLETE PENETRATION GROOVE WELDS OCCUR AT GROUPS 4 AND 5 STRUCTURAL STEEL SHAPES, AS DEFINED IN ASTM A6, AND PLATES EXCEEDING 2 INCHES THICK, SUBMIT MILL TEST REPORTS TO ARCHITECT (STRUCTURAL ENGINEER) AND, UPON REQUEST, TO GOVERNING CODE AUTHORITY. MILL TEST REPORTS SHALL CERTIFY THAT CHARPY V-NOTCH TESTING WAS CONDUCTED IN COMPLIANCE WITH ASTM A6, SUPPLEMENTARY REQUIREMENT S8, INCLUDING IMPACT TEST COMPLYING WITH ASTM A673 AT FREQUENCY P WITH MINIMUM AVERAGE VALUE OF 20 FT.-LBS. ABSORBED ENERGY AT 70 DEGREES FAHRENHEIT.

3. CERTIFICATE OF COMPLIANCE FOR OFFSITE FABRICATION: SUBMIT FOR STRUCTURAL STEEL, GLU-LAMS, AND PLYWOOD-WEB JOISTS, PRECAST CONCRETE IN COMPLIANCE WITH APPLICABLE CODE SECTION 1701.7. SUBMIT TO OWNER, TESTING LABORATORY, ARCHITECT (STRUCTURAL ENGINEER) AND GOVERNING CODE AUTHORITY.

4. WELD TESTING AND INSPECTION: TESTING LABORATORY WILL SUBMIT WELD TEST RESULTS TO OWNER, CONTRACTOR, ARCHITECT (STRUCTURAL ENGINEER) AND, UPON REQUEST, TO GOVERNING CODE AUTHORITY. SEE SPECIFICATIONS FOR TESTING REQUIREMENTS NOT INDICATED ON STRUCTURAL DRAWINGS.
   - A. STRUCTURAL STEEL WELDING: APART FROM VISUAL INSPECTION AND REVIEW OF FABRICATION AND ERECTION REPORTS OF FABRICATOR/ERECTOR'S OWN QUALITY CONTROL. TESTING AND INSPECTION, OWNER'S TESTING LABORATORY WILL PERFORM INDICATED SHOP AND FIELD INSPECTION AND TESTING. TESTING LABORATORY WILL BE AWS Q.C.-1 CERTIFIED AND WILL PROVIDE INSPECTORS FOR CONTINUOUS INSPECTION OF STEEL FABRICATION AND ERECTION AND STRUCTURAL WELDING. SHOP AND FIELD TESTING OF MATERIALS AND WELDING WILL BE AS FOLLOWS:
     - I. ULTRASONIC TESTING IS REQUIRED FOR ALL (100%) PARTIAL AND COMPLETE PENETRATION WELDS. TEST GROOVE WELDING ON CONTINUITY PLATES BY ULTRASONIC TESTING AFTER BEAM FLANGE WELD CONNECTION. TESTING WILL BE PERFORMED 24 HOURS OR MORE AFTER COMPLETION OF WELDING. WELD BACKING REMOVAL AREAS AND FILLET WELDS WILL BE SUBJECTED TO MAGNETIC PARTICLE EXAMINATION.
     - II. BASE METAL THICKER THAN 1-1/2 INCHES, SUBJECTED TO THROUGH THICKNESS WELD SHRINKAGE, WILL BE ULTRASONICALLY TESTED DIRECTLY BEHIND SUCH WELDS 48 HOURS OR MORE AFTER COMPLETION OF WELDING.
     - III. WELDS SHALL BE VISUALLY INSPECTED AND PERIODICALLY MEASURED (15 PERCENT MINIMUM).
     - IV. CHECK 10 PERCENT OF FILLET WELDS BY MAGNETIC PARTICLE (ASTM 109 METHOD). CHECK 25 PERCENT OF CONTINUITY PLATE FILLET WELDS AND BEAM FILLET WELDS (100 PERCENT IN MOMENT ZONES) BY MAGNETIC PARTICLE.
     - V. ULTRASONICALLY TEST COLUMN FLANGES LOCATED AT PROPOSED WELDED MOMENT CONNECTIONS, CONTINUITY PLATES, DOUBLER PLATES AND BASE PLATES WHERE COLUMN FLANGE OR PLATE THICKNESS EXCEEDS 1-1/2 INCHES. TEST FOR EVIDENCE OF LAMINATIONS, INCLUSIONS OR OTHER DISCONTINUITIES IN ACCORDANCE WITH ASTM A435, STRAIGHT BEAM STRUCTURAL SHAPES, AS APPLICABLE. TEST ZONE TO INCLUDE AREA 6 INCHES ABOVE AND BELOW EACH BEAM FLANGE CONNECTION. FOR PLATES, ANY DISCONTINUITY CAUSING A TOTAL LOSS OF BACK REFLECTION NOT CONTAINED WITHIN 3-INCH DIAMETER CIRCLE, OR ONE-HALF THICKNESS OF PLATE, WHICHEVER IS GREATER, WILL BE REJECTED. FOR ROLLED SHAPES, ASTM 898, LEVEL 1 CRITERIA APPLIES. TESTING WILL BE PERFORMED ON MATERIAL PRIOR TO FABRICATION, AFTER FABRICATION, AND AFTER FINAL WELDING OF BEAM.
     - VI. AMPERAGE, VOLTAGE, POLARITY AND ELECTRODE STICK OUT WILL BE VERIFIED FOR COMPLIANCE WITH ELECTRODE MANUFACTURER'S RECOMMENDATIONS.

5. CONTINUOUS SPECIAL INSPECTION: UNLESS OTHERWISE INDICATED, CONTINUOUS SPECIAL INSPECTION WILL BE PERFORMED BY SPECIAL INSPECTOR COMPLYING WITH APPLICABLE CODE SECTION 1701 AND SPECIFICALLY APPROVED BY GOVERNING CODE AUTHORITY FOR EACH INSPECTION CATEGORY BELOW. PERIODIC INSPECTION IS NOT PERMITTED UNLESS INDICATED IN THE PROGRAM OR OTHERWISE ACCEPTED BY ARCHITECT (STRUCTURAL ENGINEER). SEE SPECIFICATIONS FOR ADDITIONAL SPECIAL INSPECTION REQUIREMENTS. REFER TO THE YES/NO BOX BELOW IN THE PROGRAM FOR APPLICABILITY OF EACH ITEM TO THIS PROJECT.

DEPUTY SPECIAL INSPECTOR

1. DEPUTY SPECIAL INSPECTIONS SHALL BE PROVIDED BY:
   NAME:
   PHONE NUMBER:

2. SPECIAL INSPECTOR SHALL BE HIRED BY THE OWNER TO PROVIDE SPECIAL INSPECTIONS AS REQUIRED PER THE PLANS.

3. SPECIAL INSPECTOR: A QUALIFIED PERSON, EMPLOYED BY THE OWNER, WHO HAS DEMONSTRATED COMPETENCE TO THE SATISFACTION OF THE BUILDING OFFICIAL FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION. DUTIES INCLUDE VISUAL INSPECTIONS AND FIELD MEASUREMENTS OF MATERIALS, OBTAINING SPECIMENS FOR TESTS AND RELATED ACTIONS INCLUDING PREPARATION OF REPORTS.

4. CONTINUOUS INSPECTION: ON SITE INSPECTION BY THE SPECIAL INSPECTOR ON A CONTINUOUS BASIS OBSERVING ALL WORK REQUIRING SPECIAL INSPECTION.

5. PERIODIC INSPECTION: INTERMITTENT INSPECTION AS PERMITTED BY THE PLAN, SPECIFIED AT PRE-DETERMINED INTERVALS OR MORE FREQUENTLY AS WORK PROGRESSES. NO SIGNIFICANT ELEMENTS OR AREAS SHALL BE COVERED BY ADDITIONAL WORK UNTIL APPROVED BY THE BUILDING OFFICIAL AND/OR SPECIAL INSPECTOR.

6. REPORTS SHALL BE SUBMITTED TO THE BUILDING OFFICIAL IN A TIMELY MANNER AS DETERMINED BY THE BUILDING OFFICIAL.

SPECIAL INSPECTION PROGRAM PER SECTION 1705A

REQUIRED VERIFICATION AND INSPECTION OF PIER FOUNDATIONS - TABLE 1704.9

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	Yes	No
1. OBSERVE DRILLING OPERATIONS AND MAINTAIN COMPLETE AND ACCURATE RECORDS FOR EACH PIER	■	□	■	□
2. VERIFY PLACEMENT LOCATIONS AND PLUMBNESS, CONFORM PIER DIAMETERS, BELL DIAMETERS (IF APPLICABLE), LENGTHS, EMBEDMENT INTO BEDROCK (IF APPLICABLE) AND ADEQUATE END BEARING STRATA CAPACITY.	■	□	■	□
3. FOR CONCRETE PIERS, PERFORM ADDITIONAL INSPECTIONS IN ACCORDANCE WITH SECTION 1704.4.	□	□	□	■
4. FOR MASONRY PIERS, PERFORM ADDITIONAL INSPECTIONS IN ACCORDANCE WITH SECTION 1704.5.	□	□	□	■

REQUIRED VERIFICATION AND INSPECTION OF PILE FOUNDATIONS - TABLE 1704.8

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	Yes	No
1. VERIFY PILE MATERIALS, SIZES AND LENGTHS COMPLY WITH THE REQUIREMENTS.	■	□	■	□
2. DETERMINE CAPACITIES OF TEST PILES AND CONDUCT ADDITIONAL LOAD TESTS, AS REQUIRED.	■	□	■	□
3. OBSERVE DRIVING OPERATIONS AND MAINTAIN COMPLETE AND ACCURATE RECORDS FOR EACH PILE.	■	□	□	■
4. VERIFY PLACEMENT LOCATIONS AND PLUMBNESS, CONFIRM TYPE AND SIZE OF HAMMER, RECORD NUMBER OF BLOWS PER FOOT OF PENETRATION, DETERMINE REQUIRED PENETRATIONS TO ACHIEVE DESIGN CAPACITY, RECORD TIP AND BUTT ELEVATIONS AND DOCUMENT ANY PILE DAMAGE.	■	□	□	■
5. FOR STEEL PILES, PERFORM ADDITIONAL INSPECTIONS IN ACCORDANCE WITH SECTION 1704.3.	□	□	□	■
6. FOR CONCRETE PILES AND CONCRETE-FILLED PILES, PERFORM ADDITIONAL INSPECTIONS IN ACCORDANCE WITH SECTION 1704.4.	□	□	□	■
7. FOR SPECIALTY PILES, PERFORM ADDITIONAL INSPECTIONS AS DETERMINED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE.	□	□	□	■
8. FOR AUGERED UNCASED PILES AND CAISSON PILES, PERFORM INSPECTIONS IN ACCORDANCE WITH SECTION 1704.9.	□	□	■	□

REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION - TABLE 1704.4

VERIFICATION AND INSPECTION TASK	CONTINUOUS	PERIODIC	Yes	No
1. INSPECTION OF REINFORCING STEEL, INCLUDING PRESTRESSING TENDONS, AND PLACEMENT.	□	■	□	■
2. INSPECTION OF REINFORCING STEEL WELDING IN ACCORDANCE WITH TABLE 1704.3, ITEM 5B.	□	□	□	■
3. INSPECTION OF BOLTS TO BE INSTALLED IN CONCRETE PRIOR TO AND DURING PLACEMENT OF CONCRETE WHERE ALLOWABLE LOADS WERE INCREASED OR WHERE STRENGTH DESIGN IS USED	■	□	□	■
4. INSPECTION OF ANCHORS INSTALLED IN HARDENED CONCRETE	□	■	■	□
5. VERIFYING USE OF REQUIRED DESIGN MIX.	□	■	□	■
6. AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	■	□	□	■
7. INSPECTION OF CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	■	□	□	■
8. INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	□	■	□	■
9. INSPECTION OF PRESTRESSED CONCRETE:				
A. APPLICATION OF PRESTRESSING FORCES.	■	□	□	■
B. GROUTING OF BONDED PRESTRESSING TENDONS IN THE SEISMIC-FORCE-RESISTING SYSTEM.	■	□	□	■
10. ERECTION OF PRECAST CONCRETE MEMBERS.	□	■	□	■
11. VERIFICATION OF IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POSTTENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS.	□	■	□	■

CONTINUED REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION - TABLE 1704.4

VERIFICATION AND INSPECTION TASK	CONTINUOUS	PERIODIC	Yes	No
12. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	□	■	□	■

CONCRETE INSPECTION EXCEPTIONS: (1704.4) SPECIAL INSPECTION IS NOT REQUIRED FOR:
1. ISOLATED SPREAD FOOTINGS OF BUILDINGS THREE STORIES OR LESS ABOVE GRADE PLANE THAT ARE FULLY SUPPORTED ON EARTH OR ROCK.
2. CONTINUOUS CONCRETE FOOTINGS SUPPORTING WALLS OF BUILDINGS THREE STORIES OR LESS ABOVE GRADE PLANE THAT ARE FULLY SUPPORTED ON EARTH OR ROCK WHERE:
   - 2.1 THE FOOTINGS SUPPORT WALLS OF LIGHT FRAME CONSTRUCTION;
   - 2.2 THE FOOTINGS ARE DESIGNED IN ACCORDANCE WITH 1809.7; OR
   - 2.3 THE STRUCTURAL DESIGN OF THE FOOTING IS BASED ON f'_c= 2,500 PSI OR LESS, REGARDLESS OF THE COMPRESSIVE STRENGTH SPECIFIED IN THE IN THE CONSTRUCTION DOCUMENTS OR USED IN THE FOOTING CONSTRUCTION.
3. NON STRUCTURAL CONCRETE SLABS SUPPORTED DIRECTLY ON THE GROUND, INCLUDING PRESTRESSED SLABS ON GRADE, WHERE THE EFFECTIVE PRE-STRESS IS LESS THAN 150 PSI.
4. CONCRETE FOUNDATION WALLS CONSTRUCTED WITH TABLE 1807.1.6.2
5. CONCRETE PATIOS, DRIVEWAYS AND SIDEWALKS ON GRADE.

REQUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION - TABLE 1704.3

VERIFICATION AND INSPECTION TASK	CONTINUOUS	PERIODIC	Yes	No
1. MATERIAL VERIFICATION OF HI-STRENGTH BOLTS, NUTS AND WASHERS:				
A. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	□	■	□	■
B. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED.	□	■	□	■
2. INSPECTION OF HIGH-STRENGTH BOLTING:				
A. SNUG-TIGHT JOINTS	□	■	□	■
B. PRETENSIONED AND SLIP-CRITICAL JOINTS USING TURN-OF-NUT WITH MATCHMARKING, TWIST-OFF BOLT OR DIRECT TENSION INDICATOR METHODS OF INSTALLATION	□	■	□	■
C. PRETENSIONED AND SLIP-CRITICAL JOINTS USING TURN-OF-NUT WITHOUT MATCHMARKING OR CAUBRATED WRENCH METHODS OF INSTALLATION	■	□	□	■
3. MATERIAL VERIFICATION OF STRUCTURAL STEEL & COLD-FORM DECK				
A. FOR STRUCTURAL STEEL, IDENTIFICATION MARKINGS TO CONFORM TO AISC 360.	□	■	□	■
B. FOR OTHER STEEL, IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	□	■	□	■
C. MANUFACTURERS' CERTIFIED MILL TEST REPORTS.	□	■	□	■
4. MATERIAL VERIFICATION OF WELD FILLER MATERIALS:				
A. IDENTIFICATION MARKINGS TO CONFORM TO AWS SPECIFICATION IN THE APPROVED CONSTRUCTION DOCUMENTS	□	■	□	■
B. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED.	□	■	□	■
5. INSPECTION OF WELDING:				
A. STRUCTURAL STEEL:				
(1) COMPLETE AND PARTIAL PENETRATION GROOVE WELDS	■	□	■	□
(2) MULTIPASS FILLET WELDS.	■	□	■	□
(3) SINGLE-PASS FILLET WELDS > 5/16"	■	□	■	□
(4) PLUG AND SLOT WELDS	■	□	□	■
(5) SINGLE-PASS FILLET WELDS ≤ 5/16"	□	■	■	□
(6) FLOOR AND ROOF DECK WELDS	□	■	□	■
B. REINFORCING STEEL:	□	□	□	■
(1) VERIFICATION OF WELDABILITY OF REINFORCING STEEL OTHER THAN ASTM A 706	□	■	□	■
(2) REINFORCING STEEL-RESISTING FLEXURAL AND AXIAL FORCES IN INTERMEDIATE AND SPECIAL MOMENT FRAMES, AND BOUNDARY ELEMENTS OR SPECIAL REINFORCED CONCRETE SHEAR WALLS AND SHEAR REINFORCEMENT.	■	□	□	■
(3) SHEAR REINFORCEMENT.	■	□	□	■
(4) OTHER REINFORCING STEEL.	□	■	□	■
6. INSPECTION OF STEEL FRAME JOINT DETAILS FOR COMPLIANCE WITH APPROVED CONSTRUCTION DOCUMENTS:	□	■	□	■
A. DETAILS SUCH AS BRACING AND STIFFENING	□	□	□	■
B. MEMBER LOCATIONS	□	□	□	■
C. APPLICATION OF JOIST DETAILS AT EACH CONNECTION	□	□	□	■

REQUIRED VERIFICATION AND INSPECTION OF SOILS - TABLE 1704.7

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	Yes	No
1. VERIFY MATERIALS BELOW FOOTINGS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	□	■	■	□
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL	□	■	■	□
3. PERFORM CLASSIFICATION AND TESTING OF CONTROLLED FILL MATERIALS	□	■	■	□
4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF CONTROLLED FILL.	■	□	■	□
5. PRIOR TO PLACEMENT OF CONTROLLED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY	□	■	■	□

SOILS INSPECTION EXCEPTIONS: (1704.7)
1. SPECIAL INSPECTION IS NOT REQUIRED DURING PLACEMENT OF CONTROLLED FILL HAVING A TOTAL DEPTH OF 12" OR LESS.

STRUCTURAL STEEL INSPECTION & EXCEPTIONS: (1704.2.2 & 1704.3)
1. SPECIAL INSPECTIONS AS NOTED IN THE TABLE ABOVE ARE NOT REQUIRED WHERE THE WORK IS PERFORMED ON THE PREMISES OF A FABRICATOR REGISTERED AND APPROVED TO PERFORM SUCH WORK WITHOUT SPECIAL INSPECTION.
2. SPECIAL INSPECTION OF THE STEEL FABRICATION PROCESS SHALL NOT BE REQUIRED WHERE THE FABRICATOR DOES NOT PERFORM ANY WELDING, THERMAL CUTTING OR HEATING OPERATION OF ANY KIND AS PART OF THE FABRICATION PROCESS. IN SUCH CASES, THE FABRICATOR SHALL BE REQUIRED TO SUBMIT A DETAILED PROCEDURE FOR MATERIAL CONTROL THAT DEMONSTRATES THE FABRICATOR'S ABILITY TO MAINTAIN SUITABLE RECORDS AND PROCEDURES SUCH THAT, AT ANY TIME DURING THE FABRICATION PROCESS, THE MATERIAL SPECIFICATION, GRADE AND MILL TEST REPORTS FOR THE MAIN STRESS-CARRYING ELEMENTS ARE CAPABLE OF BEING DETERMINED.
3. THE SPECIAL INSPECTOR NEED NOT BE CONTINUOUSLY PRESENT DURING WELDING OF THE FOLLOWING ITEMS, PROVIDED THE MATERIALS, WELDING PROCEDURES, AND QUALIFICATIONS OF WELDERS ARE VERIFIED PRIOR TO START OF THE WORK; PERIODIC INSPECTIONS ARE MADE OF THE WORK IN PROGRESS; AND A VISUAL INSPECTION OF ALL WELDS IS MADE PRIOR TO COMPLETION OR PRIOR TO SHIPMENT OF SHOP WELDING.
   - 3.1 SINGLE PASS FILLET WELDS NOT EXCEEDING 5/16" IN SIZE.
   - 3.2 FLOOR AND ROOF DECK WELDING
   - 3.3 WELDED STUDS WHEN USED FOR STRUCTURAL DIAPHRAGM
   - 3.4 WELDED SHEET STEEL FOR COLD-FORMED STEEL FRAMING MEMBERS SUCH AS STUDS OR JOISTS.
   - 3.5 WELDING OF STAIRS AND RAILING SYSTEMS.
4. CONTINUOUS SPECIAL INSPECTION IS REQUIRED FOR STRUCTURAL WELDING DURING FABRICATION AND ERECTION OF BUILDINGS OVER 160 FEET IN HEIGHT WITH STRUCTURAL STEEL MOMENT RESISTING FRAMES.

APPROVED
JUN 18 2019
BUILDING & SAFETY
CITY OF RIALTO

Know what's below. Call before you dig.

MARK	REVISIONS	APPR.	DATE
1	PLAN CHECK #1		4/9/19

DESIGNED BY: JL DRAWN BY: JL CHECKED BY: SL

REGISTERED PROFESSIONAL ENGINEER SHAWN D. LOTHROP No. S5627 Exp. 6/30/20 STRUCTURAL STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF:
SHAWN D. LOTHROP, SE NO. S5627, EXP. 06/30/20 — 02/26/19 DATE

APPROVED BY:
FOR ROBERT EISENBEISZ, DIRECTOR OF PUBLIC WORKS, RCE 54931 — 6/18/19 DATE

INNOVATIVE STRUCTURAL ENGINEERING
40810 COUNTY CENTER DR. #110
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TEL: 951.600.0032
WWW.ISEENGINEERS.COM

CITY OF RIALTO
BUD BENDER PARK SIDELINE FENCING VERTICAL EXTENSION AND SAFETY NETTING IMPROVEMENTS
CITY PROJECT NO. CB1902
CONSTRUCTION PLAN

SN-2
SHEET 6 OF 7 SHEETS

FOR: CITY OF RIALTO
PLAN No. _____

Apr 08, 2019 - 3:58pm Julio
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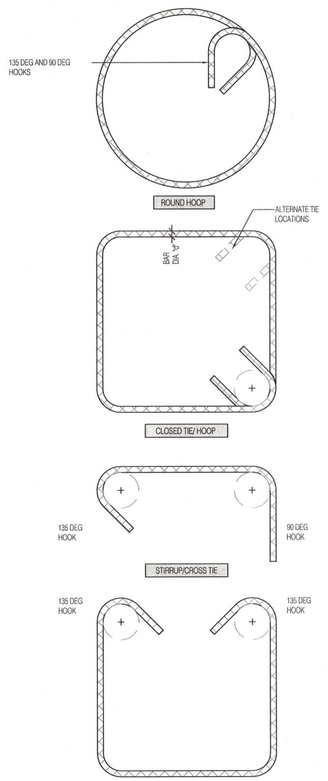
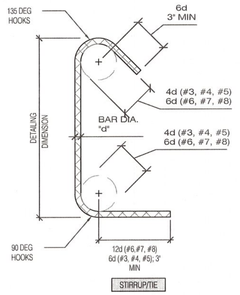
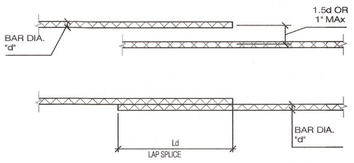




STANDARD HOOK DEVELOPMENT LENGTH (Ldh)			
BAR SIZE	fc= 2,500 psi	fc= 3,000 psi	fc= 4,000 psi
#3	12"	9"	12"
#4	12"	11"	12"
#5	12"	14"	12"
#6	12"	17"	12"
#7	12"	19"	12"
#8	12"	22"	12"
#9	12"	25"	12"

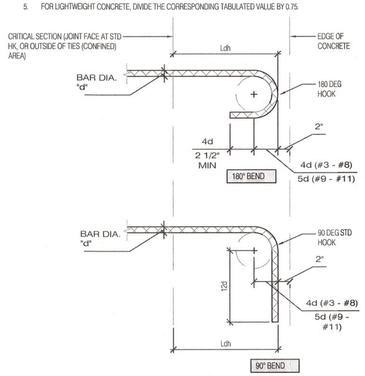


fc = 2,500 PSI		TENSION DEVELOPMENT (td) AND LAP SPLICE (l) LENGTH FOR BARS IN WALLS, SLABS, AND FOOTINGS							
BAR SIZE	LAP CLASS	COVER = 0.75"		COVER = 1.5"		COVER = 2"		COVER = 3"	
		UNCOATED		UNCOATED		UNCOATED		UNCOATED	
		TOP	OTHER	TOP	OTHER	TOP	OTHER	TOP	OTHER
#3	A	15"	12"	15"	15"	15"	15"	15"	15"
	B	19"	15"	19"	19"	19"	19"	19"	19"
#4	A	24"	18"	19"	19"	19"	19"	19"	19"
	B	31"	24"	25"	25"	25"	25"	25"	25"
#5	A	35"	27"	24"	24"	24"	24"	24"	24"
	B	45"	35"	31"	31"	31"	31"	31"	31"
#6	A	47"	36"	29"	29"	29"	29"	29"	29"
	B	61"	47"	37"	37"	37"	37"	37"	37"
#7	A	76"	59"	47"	36"	41"	32"	41"	32"
	B	99"	76"	61"	47"	54"	41"	54"	41"
#8	A	94"	72"	59"	45"	47"	36"	47"	36"
	B	122"	94"	77"	59"	48"	47"	61"	47"
#9	A	113"	87"	72"	56"	58"	45"	53"	41"
	B	147"	113"	94"	72"	76"	58"	69"	53"

fc = 3,000 PSI		TENSION DEVELOPMENT (td) AND LAP SPLICE (l) LENGTH FOR BARS IN WALLS, SLABS, AND FOOTINGS							
BAR SIZE	LAP CLASS	COVER = 0.75"		COVER = 1.5"		COVER = 2"		COVER = 3"	
		UNCOATED		UNCOATED		UNCOATED		UNCOATED	
		TOP	OTHER	TOP	OTHER	TOP	OTHER	TOP	OTHER
#3	A	13"	12"	13"	12"	13"	12"	13"	12"
	B	17"	13"	17"	13"	17"	13"	17"	13"
#4	A	22"	17"	18"	14"	18"	14"	18"	14"
	B	28"	22"	23"	18"	23"	18"	23"	18"
#5	A	32"	25"	22"	17"	22"	17"	22"	17"
	B	41"	32"	28"	22"	28"	22"	28"	22"
#6	A	43"	33"	26"	20"	26"	20"	26"	20"
	B	56"	43"	34"	26"	34"	26"	34"	26"
#7	A	69"	53"	43"	33"	38"	29"	38"	29"
	B	90"	69"	55"	43"	49"	38"	49"	38"
#8	A	86"	66"	54"	42"	43"	33"	43"	33"
	B	112"	86"	70"	54"	56"	43"	56"	43"
#9	A	103"	80"	66"	51"	53"	41"	49"	37"
	B	134"	103"	86"	66"	66"	69"	63"	49"

fc = 4,000 PSI		TENSION DEVELOPMENT (td) AND LAP SPLICE (l) LENGTH FOR BARS IN WALLS, SLABS, AND FOOTINGS							
BAR SIZE	LAP CLASS	COVER = 0.75"		COVER = 1.5"		COVER = 2"		COVER = 3"	
		UNCOATED		UNCOATED		UNCOATED		UNCOATED	
		TOP	OTHER	TOP	OTHER	TOP	OTHER	TOP	OTHER
#3	A	12"	12"	12"	12"	12"	12"	12"	12"
	B	15"	12"	15"	12"	15"	12"	15"	12"
#4	A	19"	15"	15"	12"	15"	12"	15"	12"
	B	25"	19"	20"	15"	20"	15"	20"	15"
#5	A	28"	21"	19"	15"	19"	15"	19"	15"
	B	36"	28"	25"	19"	25"	19"	25"	19"
#6	A	37"	29"	23"	18"	23"	18"	23"	18"
	B	49"	37"	29"	23"	29"	23"	29"	23"
#7	A	60"	46"	37"	29"	33"	25"	33"	25"
	B	78"	60"	48"	37"	43"	33"	43"	33"
#8	A	74"	57"	47"	63"	37"	29"	37"	29"
	B	97"	74"	61"	47"	49"	37"	49"	37"
#9	A	90"	69"	57"	44"	46"	36"	42"	32"
	B	116"	90"	74"	57"	60"	46"	55"	42"

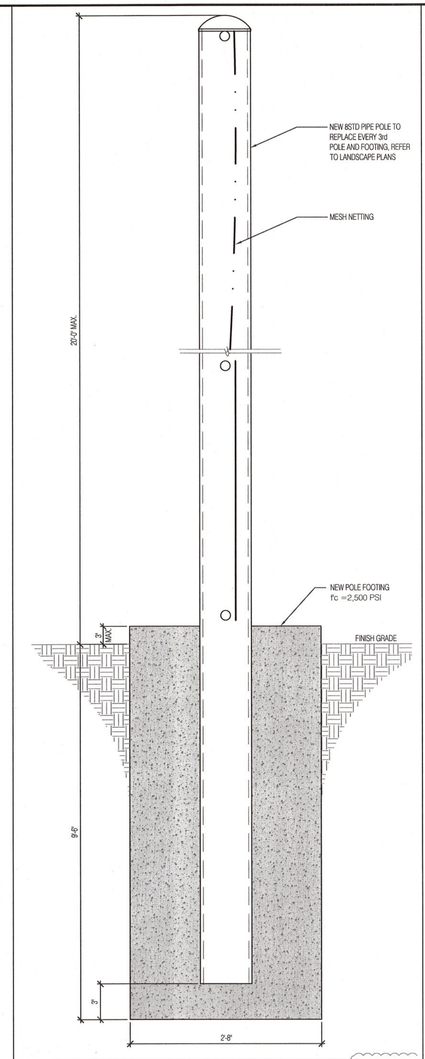
NOTES:
1. TABULATED VALUES ARE BASED ON A MINIMUM YIELD STRENGTH OF 60,000 PSI FOR ALL REINFORCING AND NORMAL WEIGHT CONCRETE.
2. SPACING OF REINFORCING BEING SPLICED SHALL BE GREATER THAN ONE BAR DIAMETER PLUS TWICE THE CONCRETE COVER.
3. "TOP" INDICATES A TOP BAR WHICH ARE DEFINED AS HORIZONTAL REINFORCING WITH MORE THAN 12" OF CONCRETE CAST BELOW THE BAR.
4. LENGTHS ARE FOR UNCOATED BARS ONLY.
5. FOR LIGHTWEIGHT CONCRETE, DIVIDE THE CORRESPONDING TABULATED VALUE BY 0.75.



TYPICAL CONCRETE REINFORCING BAR DETAILS

SCALE: N.T.S.

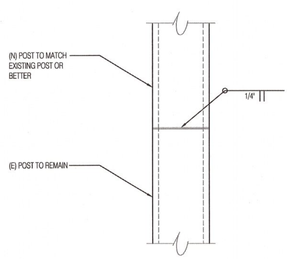
8



NEW POLE FOOTING

SCALE: N.T.S.

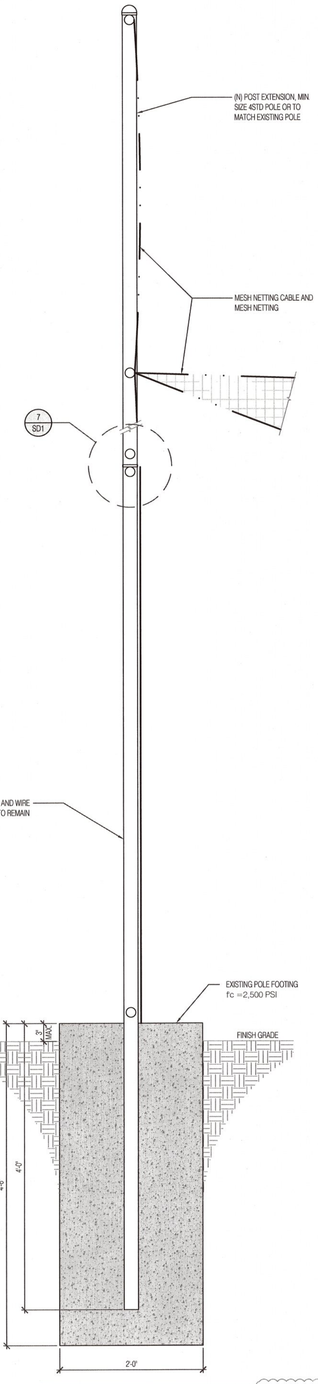
6



(E) POST TO (N) POST CONNECTION

SCALE: N.T.S.

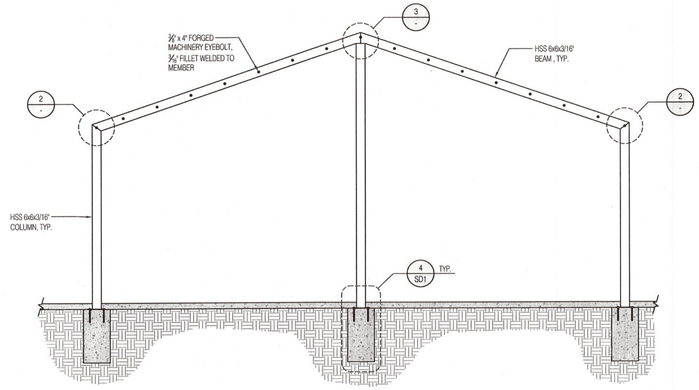
7



TYPICAL POLE FOOTING

SCALE: N.T.S.

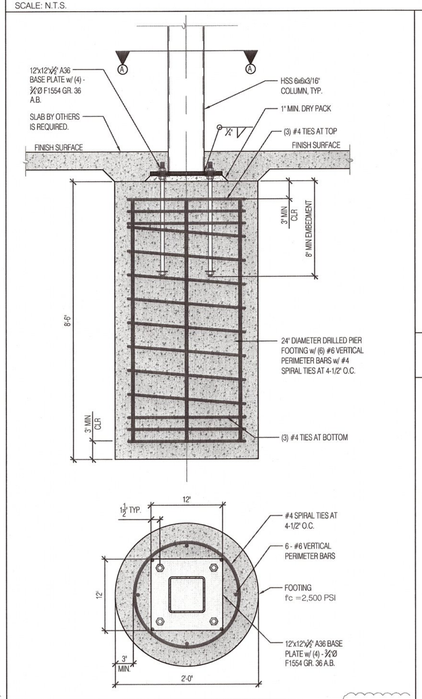
5



STEEL NETTING STRUCTURE

SCALE: N.T.S.

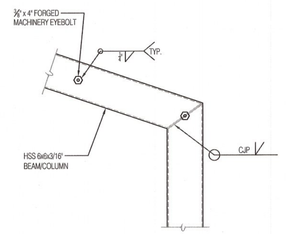
1



COLUMN FOOTING

SCALE: N.T.S.

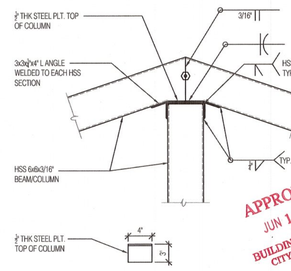
4



HSS BEAM TO HSS COLUMN CONNECTION

SCALE: N.T.S.

2



APPROVED
JUN 18 2019
BUILDING & SAFETY
CITY OF RIALTO

HSS BEAM TO HSS COLUMN CONNECTION

SCALE: N.T.S.

3

811 Know what's below. Call before you dig.

MARK	REVISIONS	APPR.	DATE
1	PLAN CHECK #1		4/9/19

DESIGNED BY: JL DRAWN BY: JL CHECKED BY: SL

REGISTERED PROFESSIONAL ENGINEER SHAWN D. LOTHROP No. S5627 Exp. 6/30/20 STRUCTURAL STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF:
SHAWN D. LOTHROP, SE NO. S5627, EXP. 06/30/20 — DATE 02/26/19

APPROVED BY:
FOR ROBERT EISENBEISZ, DIRECTOR OF PUBLIC WORKS, RCE 54931 — DATE 6/18/19

INNOVATIVE STRUCTURAL ENGINEERING
40810 COUNTY CENTER DR. #110
TEMECULA, CA 92591
TEL: 951.600.0032
WWW.ISEENGINEERS.COM

CITY OF RIALTO

BUD BENDER PARK SIDELINE FENCING VERTICAL EXTENSION AND SAFETY NETTING IMPROVEMENTS
CITY PROJECT NO. CB1902
CONSTRUCTION PLAN

SD-1
SHEET 7 OF 7 SHEETS

FOR: CITY OF RIALTO

PLAN No. _____

Apr 08, 2019 - 3:58pm Julio
W:\6036\02 - Drawings\PLANS.dwg