	A		В	C	D
				MASONRY	
1	A.B. ANCHOR BOLTS ARCH. ARCHITECT OR ARCHITECTURAL B.N. BOUNDARY NAILING BLK'G BLOCKING BM BEAM CONN. CONNECTION CONT. CONTINUOUS	P.T. PL PLYWD PSL REINF. REQ'D	PRESSURE OR PRESERVATIVE TREADED PLATE/PROPERTY LINE PLYWOOD PARALLAM REINFORCEMENT REQUIRED	 BLOCK SHALL BE MEDIUM WEIGHT UNITS CONFORMIN USE UNITS OPEN ONE END, AND BOND BEAM UNITS A ARE EXPOSED OBTAIN APPROVAL OF SUBMITTAL FRO UNITS SHALL ATTAIN A MINIMUM COMPRESSIVE STRE THE MASONRY COMPRESSIVE STRENGTH OF MASON AS FOLLOWS: A. 1,900 PSI FOR SPECIFIED fm UP TO 1,500 PSI B. 2,800 PSI FOR SPECIFIED fm UP TO 2,000 PSI C. 3,750 PSI FOR SPECIFIED fm UP TO 2,500 PSI 	IG TO ASTM C-90 GRAD T HORIZONTAL REINFO)M ARCHITECT. NGTH AS REQUIRED TO RY fm SPECIFIED ON TH
2	DWG'SDRAWINGSE.N.EDGE NAILINGEAEACHF.N.FIELD NAILINGFTGFOOTINGGLBGLULAM BEAML.W.LIGHT WEIGHT	S.A.D. S.O.G. SCHED. SHT'G SIM. SMS STAGG. T&B TYP. U.N.O. U.S.P.	SEE ARCHITECTURAL DRAWINGS SLAB ON GRADE SCHEDULE SHEATHING SIMILAR SHEET METAL SCREWS STAGGERED TOP AND BOTTOM TYPICAL UNLESS NOTED OTHERWISE UNDER SEPARATE PERMIT	 D. 4,800 PSI FOR SPECIFIED fm UP TO 3,000 PSI 2. MIN SPECIFIED COMPRESSIVE STRENGTH SHALL BE f SPECIFIED ON THE PLANS. 3. CEMENT: ASTM C-150, LOW ALKALI, TYPE I OR II PORT PLASTIC CEMENT SHALL NOT BE USED.) 4. MORTAR: A. CONFORMING TO ASTM C-270, TYPE [S]. B. MIX PROPORTIONS SHALL CONFORM TO ASTM C-244. 	'm = 1,500 PSI, UNLESS ('LAND CEMENT. (MASO) 270.
	M.B. MACHINE BOLTS MAX MAXIMUM MIN MINIMUM O.C. ON CENTER STRUCTURAL OBSERVATION	V.I.F. WD W.N.S. W.N.S.	VERIFY IN FIELD WOOD WELDED NELSON STUDS WELDED THREADED STUDS	 GROUT: A. CONFORMING TO ASTM C-476. B. ATTAINS THE MASONRY COMPRESSIVE STRENGT IS GREATER. C. MIX PROPORTIONS SHALL CONFORM TO ASTM C-4 D. AGGREGATES SHALL CONFORM TO ASTM C-404. E. USE COARSE GROUT IN GROUT SPACES 2 INCHES GROUTED SOLID. ADMIXTURES: DO NOT USE ANY ADMIXTURES IN MOR 	H fm OR 2,000 PSI AT 28 176 3 OR MORE IN WIDTH AI TAR OR GROUT WITHC
3	1. PERIODIC STRUCTURAL OBSERVATION WILL ASSOCIATES, STRUCTURAL ENGINEERS, PEI BUILDING CODE AND ALL APPLICABLE AMEN BELOW. CONTRACTOR SHALL NOTIFY ENGIN OBSERVATIONS. DELINQUENT NOTIFICATION MATERIAL TO FACILITATE OBSERVATION. PLACING OF CONCRETE PLACING OF REINFORCING PLACING OF REINFORCING PLACING OF METAL DECK PLACING OF ANCHOR BOLTS PLACING OF MECHANICAL AND ADH	. BE PROVIDED BY JC R SECTION 1710 OF ⁻ DMENTS, FOR THE V IEER 48 HOURS BEF(N MAY REQUIRE DEM	DHN LABIB + THE CALIFORNIA VORK INDICATED ORE REQUIRED IOLITION OF COVERING	 ADMINTORES: DO NOT OSE ANT ADMIXTORES IN MOR ARCHITECT. MEASURE MATERIALS FOR MORTAR AND GROUT IN C MEASUREMENTS ARE NOT ACCEPTABLE. ADJUST THE WATER CONTENT OF THE MORTAR AND WORKABILITY UNDER EXISTING FIELD CONDITIONS W REINFORCING STEEL: A. REBAR: ASTM A-615, GRADE 60 (FY=60KSI). B. JOINT REINFORCEMENT: ASTM A-951 	ALIBRATED DEVICES. S GROUT MIXES TO PRO ITHOUT SEGREGATION
4	 STRUCTURAL OBSERVATIONS PERFORMED CONSIST ON THE VISUAL OBSERVATION OF OF THE STRUCTURAL SYSTEM AT SIGNIFICA COMPLETED STRUCTURE FOR GENERAL CO AND SPECIFICATIONS. STRUCTURAL OBSER REQUIREMENT/RESPONSIBILITY FOR THE IN INSPECTOR OR THE SPECIAL INSPECTOR. THE ENGINEER OF RECORD SHALL DEVELOF STRUCTURAL SYSTEMS. THE BUILDING DEP ALL CHANGES TO THE APPROVED PLANS AN THE STRUCTURAL OBSERVER SHALL PROVID OWNER. A LETTER FROM THE OWNER OR A 	BY JOHN LABIB + AS THE MAJOR ELEMEN NT CONSTRUCTION NFORMANCE TO THE VATION DOES NOT V SPECTIONS REQUIR P ALL CHANGES REL ARTMENT SHALL RE ID SPECIFICATIONS. DE EVIDENCE OF EM COPY OF THE AGRE	SOCIATES ITS AND CONNECTIONS STAGES AND THE E APPROVED PLANS WAIVE THE ED OF THE BUILDING ATING TO THE EVIEW AND APPROVE	 JOINT REINFORCEMENT: ASTM A331 LAP REINFORCING STEEL AT SPLICES WITH A MINIMU OTHERWISE. WHERE CLEAR DISTANCE BETWEEN BAI LESS, INCREASE LAP LENGTH 30% UNLESS SPLICES A DIAMETERS. DOWELS FOR WALLS AND COLUMNS SHALL MATCH S REINFORCING STEEL. MASONRY WORK SHALL CONFORM TO THE LATEST A 2008 MS IC SPECIFICATIONS 	M 48 BAR DIAMETERS, RS AT ADJACENT SPLIC RE STAGGERED AT LE IZE AND SPACING OF W
	SERVICES SHALL BE SENT TO THE BUILDING VISIT. THE STRUCTURAL OBSERVER SHALL MEETING. THE PURPOSE OF THE MEETING S STRUCTURAL ELEMENTS AND CONNECTION LOAD SYSTEMS OF THE STRUCTURE AND TO OBSERVATIONS. A RECORD OF THE MEETIN OBSERVATION REPORT SUBMITTED TO THE 5. THE STRUCTURAL OBSERVER SHALL PREPA DEPARTMENT FORM FOR EACH SIGNIFICANT THE ORIGINAL OF THE OBSERVATION REPOR INSPECTOR'S OFFICE AND SHALL BE SIGNED RESPONSIBLE STRUCTURAL OBSERVER. CO GIVEN TO THE OWNER, CONTRACTOR, AND I	G INSPECTOR BEFOR PRESIDE OVER A PR SHALL BE TO IDENTIF S THAT AFFECT THE D REVIEW SCHEDULI IG SHALL BE INCLUD BUILDING INSPECTO RE A REPORT ON TH I STAGE OF CONSTR RT SHALL BE SENT T D AND SEALED (WET PIES OF THE REPOR DEPUTY INSPECTOR	E THE FIRST SITE RE-CONSTRUCTION THE MAJOR VERTICAL AND LATERAL NG OF THE REQUIRED ED IN THE FIRST OR. HE APPROVED RUCTION OBSERVED. TO THE BUILDING SIGNED) BY THE RT SHALL ALSO BE	 CONCRETE BLOCK UNITS ARE TO BE STAGGERED & T UNOBSTRUCTED. IF WORK IS STOPPED AN HOUR OR LONGER, PROVIDE STOPPING GROUT 1 1/2" BELOW TOP OF MASONRY UI SPECIAL INSPECTION IS REQUIRED FOR ALL MASONR GROUT ALL MASONRY WALLS SOLID. 	O HAVE VERTICAL COI E HORIZONTAL CONSTI NIT Y WORK.
5	 A FINAL OBSERVATION REPORT MUST BE SU STRUCTURAL SYSTEM IS COMPLETE AND GE PLANS AND SPECIFICATIONS. PERIODIC STRUCTURAL OBSERVATION SHALL ASSOCIATES, STRUCTURAL ENGINEERS, PER T CONTRACTOR SHALL NOTIFY ENGINEER 72 HO DELINQUENT NOTIFICATION MAY REQUIRE DEM FACILITATE OBSERVATION. LOS ANGELES REGION CODE PROGRA COMMITTEE I-3: STRU 	JBMITTED WHICH SH ENERALLY CONFORN BE PROVIDED BY JO THE ATTACHED L.A. (URS BEFORE REQUI JOLITION OF COVER JAL UNIFORM	IOWS THAT THE MS TO THE APPROVED HN LABIB & CITY P/BC 2014-24. RED OBSERVATIONS. ING MATERIAL TO	 GROUTING LIFTS SHALL NOT EXCEED 3-0 IN HEIGHT SPECIFICATIONS, EXCEPT AS NOTED BELOW. GROUTING LIFTS GREATER THAN 5'-0" AND NOT MORI PLACED PROVIDED THAT: A. THE MASONRY HAS CURED FOR AT LEAST 4 HOUF B. THE GROUT SLUMP IS MAINTAINED BETWEEN 10 A C. NO INTERMEDIATE REINFORCED BOND BEAMS AR OF THE POUR HEIGHT D. CLEANOUTS ARE PROVIDED AT THE BOTTOM COU 	E THAN 12'-8" (HIGH LIF S ND 11 IN E PLACED BETWEEN T JRSE OF MASONRY.
	OBSERVATION STRUCTURAL OBSERVA AND DESIGNATION STRUCTURAL OBS PROJECT ADDRESS: 2275 MARIPOSA, EL SEGUN OWNER: LAKERS ARCHITECT: ROSSETTI ENGINEER: JOHN LABIB AND ASSOCIATES STRUCTURAL OBSER	N ATION PROGRAM OF THE SERVER IDO, CALIFORNIA 902	245	 THE CLEAR DISTANCE BETWEEN THE SURFACE OF A UNIT SHALL BE NOT LESS THAN 1/4" FOR FINE COARS COURSE GROUT. SECURE REBAR AGAINST DISPLACEMENT PRIOR TO O THAN 200 BAR DIAMETERS. TERMINATE HORIZONTAL BARS WITH A STANDARD HO VERIFY SPECIFIED COMPRESSIVE STRENGTH OF MASS 	3AR AND ANY SURFAC E GROUT AND NOT LES BROUTING AT INTERVA DOK AT THE JAMBS OF
6	(ONLY CHECKED ITEMS AR FIRM OR INDIVIDUAL TO BE RESPONSIBLE FOR NAME: JOHN LABIB & ASSOC. PHONE: (213) 239. FOUNDATION WALL FOOTINGS, STEM CONCRETE WALLS, PIERS CONCRETE MAT FOUNDATION MASONRY CAISSONS, PILES, WOOD GRADE BEAMS WOOD STEPP'G/RET'G HARDY FRAMES FOUND HARDY FRAMES HILLSIDE SPECIAL ANCHORS OTHERS OTHERS DECLARATION BY OWNER THE OWNER	RE REQUIRED) THE STRUCTURAL O .9600 CALIF. REGIST FRAME EEL MOMENT FRAME EEL BRACED FRAME CONCRETE MASONRY FRAME OTHERS	DBSERVATION: RATION: S4549 DIAPHRAGM CONCRETE STEEL DECK WOOD COTHERS COTHERS COTHERS CONTINUES	ONE OF THE FOLLOWING METHODS: MASONRY PRISM RECORD OR UNIT STRENGTH METHOD. FIVE MASONF TESTED PRIOR TO CONSTRUCTION. THREE MASONR OF FLOOR AREA, 3 MIN.) SHALL BE BUILT AND TESTED FULL STRESSES ARE USED IN DESIGN.	I TESTING, MASONRY F Y PRISM TESTS SHALL Y PRISM TEST (PER 500) DURING CONSTRUCT
7	I, THE OWNER OF THE PROJECT, DECLARE THAT INDIVIDUAL IS HIRED BY ME TO BE THE STRUCTU SIGNATURE DATE	I HE ABOVE LISTED JRAL OBSERVER.	FIRM UK		
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RMING TO ASTM C-90 GRADE N-1. S AT HORIZONTAL REINFORCING. WHEN BLOCKS FROM ARCHITECT. IRENGTH AS REQUIRED TO MEET SONRY fm SPECIFIED ON THE PLANS	1.	THE DESIGN OF THE FOUNDATION SYSTEM IS BASED UPON THE CRITERIA AND RECOMMENDATIONS CONTAINED IN THE GEOTECHNICAL INVESTIGATION REPORT TITLED GEOTECHNICAL INVESTIGATION REPORT, PROPOSED GYMNSIUM TRAINING CENTER AND OFFICE COMPLEX, CITY OF EL SEGUNDO, CLIFORNIA BY ALBUS-KEEFE & ASSOCIATES, INC. DATED JUNE 9, 2014 - PROJECT #2271.00	28.	DO NOT INDICAT	SPLICE STRU
	2.	THE GEOTECHNICAL INVESTIGATION REPORT AND ITS RECOMMENDATIONS SHALL BE FOLLOWED AND SHALL BE CONSIDERED MINIMUM REQUIREMENTS UNLESS MORE STRINGENT REQUIREMENTS ARE PRESENTED IN THE SPECIFICATIONS OR ON THE DRAWINGS.		OF STRU OF STRU OTHERS OF STRU	JCTURAL DRA REQUIRE MO JCTURAL DRA
	3.	PER GEOTECHNICAL INVESTIGATION REPORT, THE ALLOWABLE SOIL BEARING PRESSURES ARE AS FOLLOWS:	29.	DESIGN A.	LOADS: DEAD LOADS LOADS. REFE
BE fm = 1,500 PSI, UNLESS OTHERWISE		A. CONTINUOUS AND ISOLATED FOOTINGS: 2500PSF AT MINIMUM DEPTH OF 12 INCHES BELOW THE LOWEST ADJACENT GRADE AND HAVING A MINIMUM WIDTH OF 12 INCHES AND 24 INCHES RESPECTIVELY.		В.	LIVE LOADS: <u>ARE/</u> GRO STAI
ORTLAND CEMENT. (MASONRY CEMENT AND		B. THE ALLOWABLE BEARING VALUES ABOVE MAY BE INCREASED BY 250 PSF AND 500 PSF FOR EACH ADDITIONAL FOOT IN WIDTH AND DEPTH, RESPECTIVELY, UP TO A MAXIMUM VALUE OF 4000 PSF.		C. SEIS	MIC DESIGN L
C-270.		C. A PASSIVE PRESSURE OF 350 PSF PER FOOT OF DEPTH UP TO A MAXIMUM VALUE OF 1000 PSF MAY BE USED TO DETERMINE LATERAL BEARINGS FOR FOOTINGS. A COEFFICIENT OF FRICTION OF 0.33 TIMES THE DEAD LOAD FORCES MAY BE USED AS LATERAL SLIDING RESISTANCE.			AREA SEIS SEIS
4.		D. ALLOWABLE BEARING VALUES ABOVE MAY BE INCREASED BY ONE-THIRD WHEN DESIGNING FOR TRANSIENT LOADS SUCH AS WIND & SEISMIC FORCES.			SEIS Ss S1 SITE
IGTH fm OR 2,000 PSI AT 28 DAYS, WHICHEVER C-476	4.	REMOVE LOOSE SOIL AND STANDING WATER FROM FOUNDATION EXCAVATIONS PRIOR TO PLACING CONCRETE. THE GEOTECHNICAL ENGINEER SHALL INSPECT AND APPROVE ALL EXCAVATIONS, SOIL COMPACTION WORK PRIOR TO PLACEMENT OF ANY REBAR OR CONCRETE. SHORING INSTALLATIONS, BACKFILL MATERIALS AND BACK			SDS SD1 SEIS SPEC Cs
4. HES OR MORE IN WIDTH AND IN CELLS TO BE	5.	FILLING PROCEDURES.			REDI R
ORTAR OR GROUT WITHOUT APPROVAL BY THE	6.	CONSTRUCTION. REMOVE ABANDONED FOOTINGS, UTILITIES, ETC. WHICH INTERFERE WITH NEW			ORDI Cs
	7.	CONSTRUCTION, UNLESS OTHERWISE INDICATED. NOTIFY THE OWNER'S REPRESENTATIVE IF ANY BURIED STRUCTURES NOT INDICATED,			REDI R
N CALIBRATED DEVICES. SHOVEL	8.	SUCH AS CESSPOOLS, CISTERNS, FOUNDATIONS, ETC., ARE FOUND. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR EXCAVATION PROCEDURES		d. Wine	SEIS DESIGN LOA (
ND GROUT MIXES TO PROVIDE PROPER S WITHOUT SEGREGATION.	9.	INCLUDING LAGGING, SHORING, UNDERPINNING AND PROTECTION OF EXISTING CONSTRUCTION. PLACE BACKFILL BEHIND RETAINING WALLS AFTER CONCRETE OR MASONRY HAS			BASI RISK WINE INTE
	10	ATTAINED FULL DESIGN STRENGTH. BRACE BUILDING AND PIT WALLS BELOW GRADE FROM LATERAL LOADS UNTIL ATTACHED FLOORS AND SLABS ON GRADE ARE COMPLETE AND HAVE ATTAINED FULL DESIGN STRENGTH.			COM CLAE TIONAL EXTER
MUM 48 BAR DIAMETERS, UNLESS NOTED BARS AT ADJACENT SPLICES IS 3 INCHES OR ES ARE STAGGERED AT LEAST 24 BAR	10.	REINFORCEMENT, AND POURING OF CONCRETE TO AVOID DISTURBANCE OF PILE BORING WALLS. THE STEEL REINFORCEMENT CAGE SHALL BE INSTALLED AND CONCRETE SHALL BE PLACED INTO THE PILE HOLE IMMEDIATELY AFTER THE HOLE IS DRILLED. PILE HOLES SHALL NOT BE LEFT OPEN OVERNIGHT. WHERE PILE SPACING IS LESS THAN THREE DIAMETERS, DRILLING SHALL NOT BE CARRIED OUT BEFORE THE			M. GRO 2ND
H SIZE AND SPACING OF WALL AND COLUMN	11.	IN THE EVENT OF SOIL OR WATER SEEPAGE INTO PILE EXCAVATION, (IF APPLICABLE) CASING AND/OR THE USE OF "POLYMER-SLURRY" DRILLING FLUID MAY BE REQUIRED IF CAVING IS			MAXI
T ADOPTED EDITION OF THE LABC. AND THE		REQUIRED DEPTH, AND MAINTAIN AN OPEN EXCAVATION TO ALLOW FOR THE PLACEMENT OF REINFORCING STEEL AND CONCRETE. CASING SHALL BE PULLED AS THE PILE EXCAVATION IS FILLED WITH CONCRETE, MAINTAINING AT LEAST FIVE FEET OF CONCRETE HEAD INSIDE THE CASING. CONCRETE SHALL BE PLACED AND		<u>CON</u> 1.	ICRETE ALL CONCF
& TO HAVE VERTICAL CONTINUITY OF CELLS		VIBRATED THROUGHOUT THE FULL LENGTH OF THE PILE SO THAT VOIDS DO NOT EXIST IN EITHER THE PILE BASE OR THE SHAFT. PLACEMENT PROCEDURES SHALL BE USED TO ENSURE THAT AGGREGATE SEGREGATION DOES NOT OCCUR.		2.	ALL PHASE CONFORM 318, WITH M
/IDE HORIZONTAL CONSTRUCTION JOINT BY / UNIT				3. 4.	PLACEMEN
DNRY WORK.	DEE	FRED DESIGN APPROVAL ITEMS AND REOLUREMENTS		5.	ALL STRUC DAYS AS F
HT IN ACCORDANCE WITH MS IC	<u>DLI 1</u>	THE GENERAL CONTRACTOR SHALL PREPARE PLANS, DETAILS, AND CALCULATIONS FOR			FII
ORE THAN 12'-8" (HIGH LIFT GROUT) CAN BE		ALL "DEFERRED DESIGN APPROVAL" ITEMS TO THE BUILDING DEPARTMENT, THE ARCHITECT, AND THE STRUCTURAL ENGINEER, FOR REVIEW AND/OR APPROVAL PRIOR ALL "DEFERRED DESIGN APPROVAL" TO FABRICATION.		6. 7. 8	NO MORE 1 PORTLAND
DURS	2.	SHOP DRAWINGS AND CALCULATIONS AS NECESSARY FOR "DEFERRED DESIGN APPROVAL" ITEMS SHALL BOTH BE SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN CALLEORNIA THIS ENGINEER SHALL BE RESPONSIBLE FOR SUBMITTING TO GAINING		0.	SHALL BE S OF CALIFO APPROVAL
10 AND 11 IN ARE PLACED BETWEEN THE TOP AND BOTTOM		REVIEW/ACCEPTANCE FROM, AND MEETING ANY OTHER REQUIREMENTS OF THE BUILDING DEPARTMENT AND THE ARCHITECT.		9.	NORMAL W
COURSE OF MASONRY.	3.	STRUCTURAL BEAMS, GIRDERS, AND COLUMNS HAVE NOT BEEN DESIGNED FOR ANY ECCENTRIC OR TORSIONAL LOADS UNLESS SPECIFICALLY NOTED ON PLAN, THEREFORE IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DESIGN AND PROVIDE CONNECTIONS AND RELATED ELEMENTS (SUCH AS KICKERS) IN A MANNER THAT		10.	NON-SHRIN STRENGTH "MASTEREI
RSE GROUT AND NOT LESS THAN 1/2" FOR	4.	LOADS THE BASE BUILDING STRUCTURAL ELEMENTS CONCENTRICALLY. "DEFERRED DESIGN APPROVAL "ITEMS/ELEMENTS (AS DESCRIBED BELOW) SHALL BE		11.	FORMS FO SPECIFIED
O GROUTING AT INTERVALS NOT GREATER		DESIGNED BY OTHERS, AND THE GENERAL CONTRÀCTOR SHALL COORDINATE WITH ALL OTHER TRADES AND THE ARCHITECT. JOHN LABIB + ASSOCIATES. HAS NOT DESIGNED ANY OF THESE "DEFFERED DESIGN APPROVAL" ITEMS. DESIGN SHALL INCLUDE THE DESIGN OF THE ELEMENTS AND THEIR CONNECTIONS TO THE BASE		12.	PROVIDE P REQUIRED THE EXIST
) HOOK AT THE JAMBS OF WALL OPENINGS.	г	BUILDING STRUCTURE. "DEFERRED DESIGN APPROVAL" ITEMS ON THIS PROJECT ARE AS FOLLOWS:	1		"HONEYCO
MASONRY IN ACCORDANCE WITH RISM TESTING, MASONRY PRISM TEST ONRY PRISM TESTS SHALL BE BUILT AND NRY PRISM TEST (PER 5000 SQ. FT RTED DURING CONSTRUCTION WHEN		 A. ALL EXTERIOR WALL, WINDOW, LOUVER, GLAZING, METAL PANEL, STOREFRONT, SKYLIGHTS AND VENEERED SYSTEMS INCLUDING SUPPLEMENTAL STEEL. B. ALL HANDRAILS, GUARDRAILS, STAIR FRAMING, LANDINGS, AND ANY RELATED SUPPORT THAT IS NOT SPECIFICALLY SHOWN AND DETAILED ON THE 		13.	THE CONTI ON THE AR ON THE CO ELEVATION
		STRUCTURAL DRAWINGS.		14.	THE CONC
		DUCTS, CONDUITS, SUSPENDED CEILINGS, LIGHTS, MECHANICAL AND ELECTRICAL EQUIPMENT, INCLUDING SEISMIC ANCHORAGE, BRACING, EQUIPMENT PEDESTAL FRAMING TO HOLD EQUIPMENT ABOVE STRUCTURAL DECKS AND EQUIPMENT ANCHORAGE TO THE BASE BUILDING STRUCTURE. SEE NOTE 3.		15.	THOROUGI POURED A INTERFACE OTHERWIS
		D. LIGHT GAGE METAL STUD FRAMING AND SUF CONTENTS AND CONNECTIONS FOR METAL STUD FRAMING, SOFFITS AND ANY COHER ARCHITECTURAL ELEMENTS SUPPORTED BY METAL STUD SCORE OF THE ARCHITECTURAL ELEMENTS		16.	IF COLUMN BETWEEN
		E. ALL CURTAIN WALL ELEVENTS, CONVECTIONS AND SUPPLEMENTARY LATERAL BRACING (INCLUDING ECH NOT MINIFED TO PRECAST CONCRETE AND GRFC) SHALL BE DESIGNED BY THE ONTRACTOR. PROVIDE ADEQUATE EXPANSION, CONTRACTION, SEPARATION AND DRIFT JOINTS BETWEEN ELEMENTS COMPLYING WITH THE BYLDING CODE AND CONTRACT DOCUMENTS.		17.	THE FOLLC REINFORC A. CC EX B. FC W
		F. ANY STRUCTURE THAT IS NOT SHOWN ON THE STRUCTURAL DRAWINGS BUT IS REQUIRED BY OTHER DISCIPLINES, SUCH AS ARCHITECTURAL, MECHANICAL, ELECTRICAL, LANDSCAPE, ETC.			#5 #6 C. CC SL #1
		G. ELEVATORS, INCLUDING ELEVATOR MACHINE BEAMS, GUIDERAILS, AND THEIR ASSOCIATED CONNECTIONS.			#1 BE
		H. METAL GRATING NOT CALLED OUT ON PLANS.I. WINDOW WASHING AND SUPPORT SYSTEMS AS SPECIFIED ON DRAWINGS BY OTHERS.			#3 #1
	5	J. FIRE SUPPRESSIONS SYSTEMS AND ASSOCIATED INFRASTRUCTURE ROUTING.]	18. 10	ALL REINFO
		ARCHITECT AND BASE BUILDING ENGINEER OF RECORD, WHO SHALL REVIEW THEM AND STAMP THEM WITH A NOTE INDICATING THE DEFERRED APPROVAL SUBMITTAL DOCUMENTS HAVE BEEN REVIEWED AND FOUND TO BE IN CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND IN GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE		10.	PLACING. CONCRETE ENGINEER
		CONTRACT DOCUMENTS. THE BASE BUILDING STRUCTURAL ENGINEER SHALL REVIEW THE DOCUMENTS AND STAMP THEM INDICATING THE DOCUMENTS HAVE BEEN REVIEWED FOR LOADS AS THEY AFFECT THE BASE BUILDING. THE CONTRACTOR SHALL BE RESPONSIBLE		20.	CONDUIT (AND SHALI SPECIFICA

FOR FORWARDING THE REVIEWED SUBMITTAL DOCUMENTS TO THE BUILDING OFFICIAL.

RESPONSIBILITY FOR THE DESIGN SHOWN ON THESE DOCUMENTS AND FOR OBTAINING

BE INSTALLED UNTIL ALL NECESSARY REVIEWS AND APPROVALS HAVE BEEN OBTAINED

PROFESSIONAL SEAL APPEARS THEREON. DEFERRED DESIGN APPROVAL ITEMS SHALL NOT

22.

23.

G

APPROVAL FROM THE BUILDING OFFICIAL RESTS WITH THE INDIVIDUAL WHOSE

FROM THE DESIGN TEAM AND THE BUILDING OFFICIAL.

Е

FOUNDATIONS

F

GENERAL CONTINUED

STRUCTURAL MEMBERS UNLESS SPECIFICALLY DETAILED AND
HIS SET OF DRAWINGS. DO NOT PLACE OPENINGS, POCKETS, ETC. IN
IEMBERS UNLESS SPECIFICALLY DETAILED AND INDICATED IN THIS SET
AL DRAWINGS. NOTIFY THE STRUCTURAL ENGINEER IF DRAWINGS BY
RE MODIFICATIONS TO STRUCTURAL MEMBERS AS SHOWN IN THIS SET
AL DRAWINGS PRIOR TO PROCEEDING WITH THE WORK.

н

OADS: CONSIST OF BUILDING SELF-WEIGHT PLUS SUPERIMPOSED DEAD REFER TO COMPLETE SET OF DRAWINGS FOR DETERMINING DEAD LOADS

	AREA GROUND SEATING AREA	DESIGN LIVE LOAD	
	STAIRS, LOBBIES OFFICES	100 PSF 80 PSF	UNREDUCED REDUCIBLE
		20 PSF	REDUCIBLE
IVIIC D	LOADS: AREA OF PUBLIC ASSEM	/BLY EQUALS 29% OF T(DTAL AREA (<50%). THEREFORE.
	SEISMIC RISK CATEGOR		= 1 0
	SEISMIC RISK CATEGOR SS	RUTUR I RY	= 1.0 = II = 1.637
	S1 SITE CLASS		= 0.604 = C = 1.001
	SD1 SEISMIC DESIGN CATEG	GORY	= 0.523 = D
	SPECIAL STEEL MOMEN Cs	I FRAMES:	= 0.084 (STRENGTH) = 0.047 (DRIFT F-W)
	REDUNDANCY FACTOR		= 0.055 (DRIFT N-S) = 1.0
	R ORDINARY STEEL MOMI Cs	ENT FRAMES	= 8 = 0.312 (STRENGTH)
	REDUNDANCY FACTOR		= 0.150 (DRIFT) = 1.0
	R SEISMIC DESIGN BASE S	SHEAR	= 3.5 = Cs x BLDG DEAD LOAD
D DESI	GN LOADS:		- 110 MDU
	RISK CATEGORY WIND EXPOSURE	EC. GUST)	= 110 MPH = II = B
	INTERNAL PRESSURE C	OEFFICIENT	= 0.18 FOR ENCLOSED STRUCTURE
	CLADDING WIND PRESS	URE (ASCE 7 CH. 30)	= 35 PSF
TIONA	L EXTERIOR WALL/CLADDIN	NG DESIGN CRITERIA:	0 SEC 12 8 6)
	GROUND TO 2ND	2 I - UA (AOUE /-1	$\delta x = 4 1/2$ "
	2ND TO LOW ROOF LOW ROOF TO HIGH ROU MAXIMUM PERIMETER R	OF BEAM LIVE I OAD DEFLEC	ox = 3 3/4" $\delta x = 1 1/4"$ CTION = 3/8"
<u>ICRE</u>			
ALL	_ PHASES OF WORK PERTA		TE CONSTRUCTION SHALL
CO 318	NFORM TO THE 'BUILDING (3, WITH MODIFICATIONS AS	CODE REQUIREMENTS F NOTED IN THE CONTRA	FOR REINFORCED CONCRETE, ACI CT DOCUMENTS.
CO		N, ETC., SHALL CONFOR	
ALL	STRUCTURAL CONCRETE		A COMPRESSIVE STRENGTH AT 28
DA	YS AS FOLLOWS: LOCATION	STRENGTH	
NO	ALL OTHER CONCRET	TE 4000 PSI	
PO	RTLAND CEMENT SHALL CO	ONFORM TO ASTM C-150), TYPE I OR TYPE II, LOW ALKALI.
CO SH.	NCRETE MIXES SHALL BE D ALL BE STAMPED BY A CIVI	DESIGNED BY AN APPRC	IVED LABORATORY. THE DESIGN
OF API	CALIFORNIA AND SUBMITT PROVAL. ADMIXTURES CON	ED TO THE OWNER'S RE ITAINING CALCIUM CHLC	EPRESENTATIVE FOR REVIEW AND DRIDE ARE NOT ALLOWED.
NO WE	RMAL WEIGHT CONCRETE	AGGREGATES SHALL CO	ONFORM TO ASTM C-33. LIGHT TO ASTM C-330.
NO		SHALL HAVE A MINIMUN	M 28 DAY COMPRESSIVE
511 "M#	ASTERFLOW 928" (LARR # 2)	3137).	# 24764) OR
FO SPI	RMS FOR CONCRETE SHAL ECIFIED CAMBERS SHOWN	L BE LAID OUT AND CON ON THE DRAWINGS.	ISTRUCTED TO PROVIDE THE
PR RE	OVIDE POUR POCKETS IN F QUIRED TO PREVENT AIR P	ORMS AND UNDER EXIS	STING STRUCTURAL MEMBERS AS
THI "HC	E EXISTING MEMBERS. COI DNEYCOMB'' UNDER OR ARC	NCRETE CAST WITH AIR OUND THE MEMBERS IS	POCKETS AND OR NOT ACCEPTABLE.
TH	E CONTRACTOR SHALL MAI	INTAIN A LOG OF STRUC	TURAL SLAB ELEVATIONS BASED
ON ON	THE ARCHITECTURAL DRA THE CONSTRUCTION DOC	WINGS PLUS THE ADDIT UMENTS. THIS LOG SHA	TION OF ANY CAMBERS INDICATED ALL INDICATE SCREED
ELI TO	REMOVAL OF FORMS.	UNURE LE PUUR, AND 1	
TH	E CONCRETE SLAB THICKN	ESS SHALL BE UNIFORM	I UNLESS OTHERWISE SHOWN.
TH PO INT	DROUGHLY CLEAN AND RO URED AND HARDENED AND ERFACE SHALL BF ROUGH	UGHEN ALL EXISTING C) MASONRY SURFACES IENED TO A FULL AMPLIT	UNCRETE, CONCRETE PREVIOUSLY TO RECEIVE NEW CONCRETE. FUDE OF 1/4" UNLESS NOTED
OT I			
ı⊢ (BE	TWEEN END OF COLUMN O	R WALL POUR AND BEG	INNING OF FLOOR POUR.
TH RE	E FOLLOWING MINIMUM CO	NCRETE COVER SHALL CAST-IN-PLACE CONCRE	BE PROVIDED FOR ETE:
А. В.	EXPOSED TO EARTH FORMED CONCRETE	EXPOSED TO EARTH OF	∟ı 3" ₹
	WEATHER: #5 BAR, W31 OR D31 \ #6 THROUGH # 42 PM	WIRE, AND SMALLER	1 1/2"
C.	#0 THKOUGH # 18 BA CONCRETE NOT EXP(SLABS, WALLS AND .K	OSED TO WEATHER OR OISTS:	IN CONTACT WITH GROUND:
	#14 AND #18 BARS #11 BAR AND SMALLE		1 1/2" 1"
	DEAMS, COLUMNS AN PRIMARY REINFORCE #3 THROUGH #11	ID WALL JAMBS: EMENT, TIES, STIRRUPS,	AND SPIRALS: 1 1/2"
ALI	#14 AND #18 BARS	HOR BOLTS AND OTHEF	2 1/2" R CONCRETE INSERTS SHALL BE
WE	ILL SECURED IN POSITION F	PRIOR TO PLACING CON	CRETE.
PR PL/ CO EN	OVIDE SLEEVES FOR PLUM ACING. DO NOT CUT ANY R NCRETE IS NOT PERMITTEI GINEER IN ADVANCE OF CO	BING AND ELECTRICAL EINFORCING WHICH MA D EXCEPT AS SHOWN. M DNDITIONS NOT SHOWN	OPENINGS IN CONCRETE BEFORE IY CONFLICT. CORING IN NOTIFY THE STRUCTURAL ON THE DRAWINGS.
CO AN SPI	NDUIT OR PIPE SIZE (O.D.) D SHALL BE PLACED BETW ECIFICALLY DETAILED OTHI	SHALL NOT EXCEED ON EEN THE TOP AND BOTT ERWISE. CONCENTRAT	E THIRD OF SLAB THICKNESS FOM REINFORCING, UNLESS IONS OF CONDUITS OR PIPES
SH. PR	OJECTING CORNERS OF BE	EAMS, WALLS, COLUMNS	S, ETC., SHALL BE FORMED WITH
A 3	14 IN. CHAMFER, UNLESS O		RCHITECTURAL DRAWINGS.
API THI	PROVED BY THE FINISH API E MAXIMUM SIZE OF A SING	PLICATOR BEFORE USE	FOR ELEVATED SLABS SHALL
NO PO RE	T EXCEED 20,000 SQUARE UR SHALL NOT EXCEED 2 T PRESENTATIVE.	FEET, AND THE RATIO O O 1 WITHOUT THE APPR	F LENGTH TO WIDTH OF THE ROVAL OF THE OWNER'S

<u>GENERAL</u>

- 1. THE PROJECT SPECIFICATIONS FORM A PART OF THESE GENERAL NOTES.
- . THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION. THE OWNER'S REPRESENTATIVE SHALL BE NOTIFIED OF ANY DISCREPANCIES OR INCONSISTENCIES.

K

- INFORMATION SHOWN ON THE DRAWINGS RELATED TO EXISTING CONDITIONS REPRESENTS THE PRESENT KNOWLEDGE, BUT WITHOUT GUARANTEE OF ACCURACY. REPORT CONDITIONS THAT CONFLICT WITH THE CONTRACT DOCUMENTS OWNER'S REPRESENTATIVE. DO NOT DEVIATE FROM THE CONTRACT DOCUMENTS WITHOUT WRITTEN DIRECTION FROM THE OWNER'S REPRESENTATIVE.
- DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED DRAWINGS. DRAWINGS SHALL NOT BE SCALED.
- DETAILS IN SHEETS TITLED 'TYPICAL DETAILS', TYPICAL DETAILS AND GENERAL NOTES APPLY TO ALL PARTS OF THE WORK, EXCEPT WHERE SPECIFICALLY DETAILED OR UNLESS NOTED OTHERWISE. THESE DETAILS ARE NOT SPECIFICALLY REFERENCED WHERE THEY OCCUR.
- NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE NOTES AND DETAILS ON DRAWINGS AND THESE GENERAL NOTES AND TYPICAL DETAILS ARE IN CONFLICT WITH THE PROJECT SPECIFICATIONS THE MOST STRINGENT SHALL APPLY. CONDITIONS NOT SPECIFICALLY SHOWN SHALL BE CONSTRUCTED AS SHOWN FOR SIMILAR WORK.
- ALL WORK SHALL CONFORM TO THE STANDARDS OF THE FOLLOWING:
 <u>INTERNATIONAL BUILDING CODE, 2012 EDITION</u> CALIFORNIA BUILDING CODE, 2013 EDITION, W/ CITY OF EL SEGUNDO AMENDMENTS
 AND ANY OTHER REGULATING AGENCIES WHICH HAVE AUTHORITY OVER ANY PORTION OF
- THE WORK, INCLUDING BUT NOT LIMITED TO CAL/OSHA, DIVISION OF OCCUPATIONAL SAFETY AND HEALTH, AND THOSE CODES AND STANDARDS LISTED IN THE CONTRACT DOCUMENTS. SPECIFICATIONS, CODES, AND STANDARDS NOTED IN THE CONTRACT DOCUMENTS
- SHALL BE OF THE LATEST APPROVED ISSUE, INCLUDING SUPPLEMENTS, UNLESS OTHERWISE NOTED. MATERIAL SPECIFICATIONS SHALL COMPLY WITH ASTM REFERENCED STANDARDS LATEST EDITION.
- MANUFACTURED MATERIALS SHALL BE APPROVED BY THE CHECKING AGENCY PRIOR TO THEIR USE. ALL REQUIREMENTS OF THOSE APPROVALS SHALL BE FOLLOWED. A COPY OF THE LOS ANGELES RESEARCH REPORT AND/OR CONDITIONS OF LISTING SHALL BE MADE AVAILABLE AT THE JOB SITE.
- SEE ARCHITECTURAL DRAWINGS FOR THE FOLLOWING:
 A. SIZE AND LOCATION OF ALL DOOR AND WINDOW OPENINGS.
 - B. SIZE AND LOCATION OF ALL NON-BEARING PARTITIONS.
 C. SIZE AND LOCATION OF ALL CONCRETE CURBS, FLOOR DRAINS, SLOPES,
 - DEPRESSED AREAS, CHANGES IN LEVEL, CHAMFERS, GROOVES, INSERTS, ETC. D. EXTERIOR WALL SYSTEM. E. SIZE AND LOCATION OF ALL FLOOR AND ROOF OPENINGS.
 - F. STAIR FRAMING AND DETAILS.G. DIMENSIONS NOT SHOWN ON STRUCTURAL DRAWINGS.
- SEE MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS FOR THE FOLLOWING:
 A. PIPE RUNS, SLEEVES, HANGERS, TRENCHES, WALL, ROOF AND FLOOR OPENINGS, ETC., NOT SHOWN OR NOTED.
- B. ELECTRICAL CONDUIT RUNS, BOXES, OUTLETS IN WALLS AND SLABS.
 C. ANCHORAGE AND BRACING FOR ELECTRICAL, MECHANICAL OR PLUMBING EQUIPMENT TO THE STRUCTURE.
 D. ANCHOR POLISE FOR FOLUEMENT MOLINES.
- D. ANCHOR BOLTS FOR EQUIPMENT MOUNTS.E. SIZE, WEIGHT, AND LOCATION OF MACHINE AND EQUIPMENT BASES.
- 12. OPENINGS, POCKETS, ETC. SHALL NOT BE PLACED IN STRUCTURAL MEMBERS UNLESS SPECIFICALLY DETAILED ON THE STRUCTURAL DRAWINGS. NOTIFY THE STRUCTURAL ENGINEER OF RECORD WHEN DRAWINGS BY OTHERS SHOW OPENINGS, POCKETS, ETC., NOT SHOWN ON THE STRUCTURAL DRAWINGS, BUT WHICH ARE LOCATED IN STRUCTURAL MEMBERS.
- 13. STAIR FRAMING, HANDRAILS, CLADDING SYSTEMS, METAL STUD FRAMING, MEP EQUIPMENT AND PIPING, ANCHORAGE/BRACING AND ANY OTHER DESIGN-BUILD ELEMENTS, WHEN NOT SPECIFICALLY DETAILED ON THE STRUCTURAL DRAWINGS, SHALL BE THE DESIGN RESPONSIBILITY OF THE CONTRACTOR AND MAY BE SUPPORTED BY THE PRIMARY STRUCTURE. CONTRACTOR SHALL PROVIDE AND INSTALL ALL ANCILLARY MEMBERS INCLUDING BUT NOT LIMITED TO BEAMS, COLUMNS, POSTS, FOOTINGS, STIFFENERS, GUSSETS, KICKERS, BRACES, ETC., AND THE ATTENDANT CONNECTIONS, AS REQUIRED BY THE STRUCTURAL ENGINEER OF RECORD, TO SUPPORT LOADS IMPOSED BY THE STAIR FRAMING AND DESIGN-BUILD ELEMENTS ON THE PRIMARY STRUCTURE. DESIGN AND DETAILING OF THESE ELEMENTS SHALL BE DEVELOPED AND STAMPED BY A LICENSED STRUCTURAL ENGINEER IN THE STATE OF CALIFORNIA. CONTRACTOR SHALL SUBMIT THE CALCULATIONS, DRAWINGS AND DESIGN TO THE STRUCTURAL ENGINEER OF RECORD FOR REVIEW AND TO THE GOVERNING AGENCY FOR PERMITTING AND APPROVAL PRIOR TO START FABRICATION CONTRACTOR SHALL OBTAIN ALL PERTINENT PERMITS PRIOR TO START FABRICATION. STAIR FRAMING AND DESIGN-BUILD ELEMENTS SHALL BE DESIGNED TO AVOID
- TORSIONAL LOADS INTO THE PRIMARY STRUCTURE. ENGINEER RESPONSIBLE FOR THE DESIGN OF STAIRS IS ALSO RESPONSIBLE FOR PROVIDING STRUCTURAL OBSERVATIONS FOR THE DESIGN-BUILD ITEMS.
 14. CONTRACTOR SHALL CAREFULLY REVIEW THE DRAWINGS TO IDENTIFY THE EXTENT OF
- THE SCOPE OF WORK. VISIT THE SITE TO RELATE THE SCOPE OF WORK TO EXISTING CONDITIONS AND DETERMINE THE EXTENT TO WHICH THOSE CONDITIONS AND PHYSICAL SURROUNDINGS WILL IMPACT THE WORK.
- 15. THE CONTRACTOR SHALL RESOLVE ANY CONFLICTS ON THE CONSTRUCTION DOCUMENTS WITH THE OWNER'S REPRESENTATIVE BEFORE PROCEEDING WITH THE WORK.
- 16. UNLESS NOTED PRIMARY, COLUMNS, WALLS, BEAMS, FOOTINGS, ETC, ARE CENTERED AT GRIDLINES. WHERE BEAM TO BEAM SPACING IS NOT SHOWN, BEAM SHALL BE EQUALLY SPACED BETWEEN GRIDLINES.
- 17. ANY DEVIATION FROM THE APPROVED SET OF STRUCTURAL DRAWINGS SHALL BE SUBMITTED TO THE OWNER'S REPRESENTATIVE FOR REVIEW/APPROVAL BEFORE PROCEEDING WITH THE WORK. SUBSTITUTIONS OF PRODUCTS OR MATERIALS SPECIFIED ON THE CONSTRUCTION DOCUMENTS ARE NOT ALLOWED.
- 18. THE CONTRACT DOCUMENTS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE MEANS, METHOD, TECHNIQUES, SEQUENCE AND PROCEDURE OF CONSTRUCTION AS REQUIRED. SITE VISITS PERFORMED BY THE OWNER'S REPRESENTATIVE DO NOT INCLUDE INSPECTIONS OF MEANS AND METHODS OF CONSTRUCTION PERFORMED BY CONTRACTOR.
- 19. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY SHORES, BRACES AND GUYS REQUIRED TO SUPPORT ALL LOADS TO WHICH THE BUILDING STRUCTURE AND COMPONENTS, SOILS, OTHER STRUCTURES AND UTILITIES MAY BE SUBJECTED DURING CONSTRUCTION. SHORING SYSTEMS SHALL BE DESIGNED AND STAMPED BY A CIVIL OR STRUCTURAL ENGINEER LICENSED IN THE STATE OF CALIFORNIA. VISITS TO THE SITE BY THE OWNER'S REPRESENTATIVE WILL NOT INCLUDE OBSERVATION OF THE ABOVE NOTED ITEMS.
- 20. CONSTRUCTION MATERIALS SHALL BE SPREAD OUT IF PLACED ON FRAMED FLOORS OR ROOFS. LOAD SHALL NOT EXCEED THE DESIGN LIVE LOAD PER SQUARE FOOT SPECIFIED ON THIS SET OF DRAWINGS. PROVIDE ADEQUATE SHORING AND/OR BRACING WHERE STRUCTURE HAS NOT ATTAINED DESIGN STRENGTH OR WHERE OVERLOAD IS ANTICIPATED.
- STRUCTURAL OBSERVATIONS PERFORMED BY THE STRUCTURAL ENGINEER DURING CONSTRUCTION ARE NOT THE CONTINUOUS AND SPECIAL INSPECTION SERVICES AND DO NOT WAIVE THE RESPONSIBILITY FOR THE INSPECTIONS REQUIRED OF THE BUILDING INSPECTOR OR THE DEPUTY INSPECTOR. OBSERVATIONS ALSO DO NOT GUARANTEE CONTRACTOR'S PERFORMANCE AND SHALL NOT BE CONSIDERED AS SUPERVISION OF CONSTRUCTION.
- . CONTRACTOR SHALL REVIEW SHOP DRAWINGS FOR COMPLETENESS AND COMPLIANCE WITH CONTRACT DOCUMENTS AND SHALL STAMP SHOP DRAWINGS PRIOR TO SUBMISSION TO THE OWNER'S REPRESENTATIVE.
- 23. ARCHITECT'S / ENGINEER'S REVIEW OF THE SHOP DRAWINGS SHALL NOT BE CONSTRUED AS AN AUTHORIZATION TO DEVIATE FROM CONTRACT DOCUMENTS.
- 24. SHOP DRAWINGS WILL NOT BE PROCESSED DUE TO INCOMPLETENESS, LACK OF COORDINATION WITH RELEVANT PORTION OF CONTRACT DOCUMENTS, LACK OF CALCULATIONS IF REQUIRED AND WHERE DEVIATIONS, MODIFICATIONS AND SUBSTITUTIONS ARE INDICATED WITHOUT PRIOR WRITTEN APPROVAL FROM THE OWNER'S REPRESENTATIVE.
- 25. ALLOW TEN WORKING DAYS FOR PROCESSING SHOP DRAWINGS OTHER THAN STRUCTURAL STEEL & DESIGN-BUILD ITEMS AFTER RECEIPT BY THE STRUCTURAL ENGINEER. ALLOW FIFTEEN WORKING DAYS FOR PROCESSING STRUCTURAL STEEL & DESIGN-BUILD ITEMS SHOP DRAWINGS. SHOP DRAWINGS AND SUBMITTALS WILL BE REVIEWED A MAXIMUM OF TWO TIMES.
- 26. THE LATERAL SYSTEM OF THE STRUCTURE IS DESIGNED WITH LATERAL RESTRAINT AT THE GROUND FLOOR. STRUCTURAL FRAMES ARE NOT LATERALLY SELF SUPPORTING UNTIL THE ENTIRE DESIGN LATERAL RESTRAINT FLOOR AND STRUCTURAL WALLS BELOW ARE IN PLACE.

27.

SUBMIT SHOP DRAWINGS FOR REVIEW IN AN ORGANIZED SEQUENCE. SUBMITTALS THAT REQUIRE COORDINATION OR INFORMATION NOT YET SUBMITTED BY OTHER SUB-CONTRACTORS OR SUPPLIERS MAY DELAY THE REVIEW AND RETURN SUBMITTALS.

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	1.	ALL WELDING SHALL BE IN STRICT CONFORMANCE WITH THE LATEST EDITION OF AWS D1.1 AND THE CALIFORNIA BUILDING CODE WITH ALL APPLICABLE AMENDMENTS. ALL WELDED JOINTS SHALL BE PRE QUALIFIED PER THE LATEST EDITION OF AWS D1.1	1.	ALL STEEL SHALL BE DETAILED, FABRICATED AND ERE WITH THE LATEST EDITION OF AISC SPECIFICATION FC AND ERECTION OF STRUCTURAL STEEL FOR BUILDING	CTED IN ACCORDANCE IR THE DESIGN, FABRICATION IS AND THE LATEST EDITION OF
		WELDED JOINTS SHALL BE PRE-QUALIFIED PER THE LATEST EDITION OF AWS D1.1. <u>AND THE CALIFORNIA BUILDING CODE</u> WITH ALL APPLICABLE AMENDMENTS. ALL NON PRE- QUALIFIED WELDED JOINTS SHALL BE QUALIFIED BY TEST & PROCEDURE QUALIFICATION TEST RECORD INCLUDED PER THE LATEST EDITION OF AWS D1.1.		AISC SEISMIC PROVISIONS FOR STRUCTURAL STEEL B STRUCTURAL STEEL IS EXPOSED AND INDICATED AS 'A FABRICATION AND ERECTION SHALL ALSO BE IN ACCO STANDARD PRACTICE FOR ARCHITECTURALLY EXPOS STEEL SHALL BE FABRICATED BY A FABRICATOR LICEN	UILDINGS. WHERE THE AESS' ON PLANS OR DETAILS, RDANCE WITH AISC CODE OF ED STRUCTURAL STEEL. ALL STRU
	2. 3.	WELDING OF SHEET METAL AND METAL STUDS SHALL BE IN ACCORDANCE WITH AWS D1.3. WELD LENGTHS CALLED FOR ON PLANS ARE THE NET EFFECTIVE LENGTH REQUIRED. WELD SIZE SHALL BE AISC MINIMUM UNLESS A LARGER SIZE IS NOTED. WHERE	2.	GENERAL CONTRACTOR TO DETERMINE SCOPE OF WO STEEL AND MISCELLANEOUS METAL SUBCONTRACTOR SUBCONTRACTORS ARE USED). THE COMBINED SCOP SUBCONTRACTORS SHALL INCLUDE ALL STRUCTURAL	DRK FOR BOTH STRUCTURAL RS (IF MULTIPLE OF WORK FOR ALL STEFL AND MISCELLANEOUS
	4.	ALL WELDING ELECTRODES AND ELECTRODE FLUX COMBINATIONS (FILLER METAL)	3.	METAL WORK SHOWN ON THE CONTRACT DRAWINGS. STRUCTURAL STEEL SHALL CONFORM TO ASTM DESIG	SNATION AS INDICATED BELOW
		SHALL BEE <u>7XTX, E7XTXX OR E70XXX</u> (MINIMUM 70 KSI), UNLESS NOTED OTHERWISE, AND SHALL MEET THE REQUIREMENTS FOR H16 PER AISC SEISMIC PROVISIONS.		ALL WIDE FLANGE AND WT SHAPES	A992, GRADE 50
	5.	ALL WELDS SHALL HAVE A FILLER METAL WITH CHARPY V-NOTCH TOUGHNESS OF 20 FT-LBS AVERAGE AT MINUS TWENTY DEGREES FAHRENHEIT AND 40FT-LBS AT SEVENTY DEGREES FAHRENHEIT. CERTIFY CONFORMANCE TO CHARPY V-NOTCH TOUGHNESS REQUIREMENTS WITH TESTS BY AN INDEPENDENT TESTING LABORATORY.		STEEL ANGLES AND CHANNELS ALL OTHER STRUCTURAL SECTIONS DECK CLOSURE PLATES AND	A36 UNO A572, GRADE 50
	6.	GMAW AND FCAW-G WELDING PROCESSES SHALL NOT BE PERMITTED WHEN WIND SPEED EXCEEDS 3 MPH.		SHIM MATERIALS BEAM SHEAR PLATES, STIFFENER	A36
	7.	WHERE FIELD WELDING IS NOTED, THE DESIGNATION IS GIVEN AS A SUGGESTED CONSTRUCTION PROCEDURE ONLY. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR IDENTIFYING THE METHOD OF FABRICATION.		PLATES ALL OTHER PLATES HSS (RECTANGULAR, SQUARE OR ROUND)	A572, GRADE 50 UNO A500, GRADE B
	8.	ALL SHOP AND FIELD WELDS SHALL BE PERFORMED BY A FABRICATOR LICENSED BY THE LOCAL JURISDICTION.		STEEL PIPE (NOT LABELED AS HSS) STAINLESS STEEL SHAPES.	A53, GRADE B
	9.	ALL WELDERS SHALL BE QUALIFIED FOR THE WORK THEY WILL BE PERFORMING AND SHALL HAVE CURRENT VALID CERTIFICATIONS ISSUED BY AWS AND THE GOVERNING JURISDICTION		PLATES AND BARS BOLTS	A276 A325X
	10.	FACES OF FILLET WELDS EXPOSED TO VIEW SHALL HAVE AS-WELDED SURFACES THAT ARE REASONABLY SMOOTH AND UNIFORM. NO FINISHING OR GRINDING SHALL BE REQUIRED, EXCEPT WHERE CLEARANCES OR FIT OF OTHER ITEMS MAY SO NECESSITATE.		MACHINE BOLTS (USE ONLY WHERE INDICATED) ANCHOR BOLTS	A307 F1554, GRADE 55 S1, HEADE
	11.	ALL PARTIAL AND FULL PENETRATION WELDS WHICH ARE EXPOSED TO VIEW SHALL BE GROUND SMOOTH AND FLUSH WITH FINISH SURFACE OF STEEL. HOLES SHALL BE FILLED WITH WELD METAL OR BODY SOLDER AND SMOOTHED BY GRINDING OR FILING.		THREADED AND HANGER ROD NUTS FOR BOLTS AND MACHINE BOLTS	A572, GR50 A563
	12.	CLEAN GROOVE PREPARATION THERMAL CUTS BY GRINDING.		UNHARDENED WASHERS	F4 <i>3</i> 6 F844
	13.	WELDS SHALL BE TERMINATED AT THE END OF A JOINT IN A MANNER THAT WILL ENSURE SOUND WELDS. WHENEVER NECESSARY THIS SHALL BE DONE BY USE OF EXTENSION BARS AND RUN OFF TABS.		PLAIN WASHERS	ANSI B18.22.1
	14.	A WRITTEN "WELDING PROCEDURE SPECIFICATION" (WPS), PER AWS D1.1, SHALL BE DEVELOPED BY THE FABRICATOR/ERECTOR, AND REVIEWED BY THE OWNER'S REPRESENTATIVE AND BUILDING DEPARTMENT. THE WPS SHALL CONTAIN ALL THE NECESSARY INFORMATION REQUIRED BY THE CODE, THE SPECIFICATIONS, AND ANY	4.	HOT ROLLED SHAPES WITH FLANGES 1-1/2" THICK OR ARE 2" THICK OR THICKER THAT ARE PART OF THE SEI SYSTEM SHALL HAVE A MINIMUM CHARPY V-NOTCH (C FT-LBS AT 70 DEGREES F.	THICKER AND PLATES THAT SMIC FORCE RESISTING NV) TOUGHNESS OF 20
	15.	OTHER INFORMATION NECESSARY TO PRODUCE WELDS THAT ARE IN COMPLIANCE WITH THESE REQUIREMENTS. THE WPS SHALL INCLUDE THE WELDING PARAMETERS RECOMMENDED BY THE ELECTRODE MANUFACTURER. ALL WELDERS AND INSPECTORS SHALL ADHERE TO THE WPS AND SHALL RETAIN A COPY PROVISION FOR WELDING HEAT EFFECTS: A SEQUENCE OF FIELD WELDING SHALL BE PLANNED TO MINIMIZE LOCKED IN STRESSES AND DISTORTION AND SHALL BE	5.	HIGH STRENGTH BOLTS A. PROVIDE HIGH STRENGTH BOLTS, NUTS AND WASHE ASTM A325 WITH THREADS EXCLUDED FROM THE SH OTHERWISE. PROVIDE PRETENSIONED HIGH STRENG FAYING SURFACE) FOR ALL BOLTED CONNECTIONS	ERS COMPLYING WITH IEAR PLANE UNLESS NOTED GTH BOLTS (WITH CLASS A PART OF THE SEISMIC
		SUBMITTED TO THE ENGINEER AT TIME OF SHOP DRAWING SUBMITTAL. THE OWNER'S REPRESENTATIVE SHALL APPROVE ANY PROPOSED DEVIATIONS FROM THE DETAILS SHOWN ON THE DRAWINGS. THE PROCEDURES AND THE DETAILS USED SHALL		FORCE RESISTING SYSTEM (SFRS, INCLUDING MOME CONNECTIONS) UNLESS NOTED OTHERWISE. B. ASSEMBLE HIGH STRENGTH BOLTS IN COMPLIANCE STRUCTURAL JOINTS USING ASTM A325 OR ASTM A4	ENT FRAMES AND DRAG WITH SPECIFICATION FOR 90 BOLTS.
	16.	SEQUENCE OF FIELD WELDING, BOTH IN THE JOINTS AND FRAMES AS A WHOLE, SHALL BE SUBMITTED TO THE BUILDING DEPARTMENT FOR APPROVAL. NO FIELD WELDING SHALL BE PERFORMED PRIOR TO BUILDING DEPARTMENT APPROVAL. THE FOLLOWING PROVISIONS APPLY TO ALL WELDING AT BEAM-COLUMN MOMENT		C. TIGHTEN ALL BOLTS TO A SNUG TIGHT CONDITION, INSTALL PRETENSIONED BOLTS TO AT LEAST THE M IN THE REFERENCED STANDARD USING ONE OF THE	UNLESS NOTED OTHERWISE. IINIMUM TENSION SPECIFIED E APPROVED METHODS.
		 FRAME CONNECTIONS A. MINIMUM INITIAL PREHEAT TO BE 225 DEGREES F MEASURED +- 3 INCHES FROM THE WELD JOINT. FOR JUMBO SECTIONS, MINIMUM PREHEAT TO BE 350 DEGREES F. MAXIMUM INTERPASS TEMPERATURE 550 DEGREES F SHALL BE MONITORED ON COLUMN FLANCE MAINTAIN PREHEAT TEMPERATURE WHEN 	6.	HEADED ANCHOR STUDS AND THREADED STUDS SHAI LARR 02725) GRANULAR FLUX-FILLED, AND SHALL BE M LOW CARBON STEEL, CONFORMING TO ASTM A-108, GI WITH A MINIMUM TENSILE STRENGTH OF 60,000 PSI. S AND TESTING SHALL CONFORM TO AWS D1.1.	L BE NELSON (ICC ER-2856, ADE FROM COLD FINISHED RADES 1010 THROUGH 1020 TUD WELDING INSPECTION
		 MONITORED ON COLUMIN FLANGE. MAINTAIN PREHEAT TEMPERATURE WHEN WELDING IS INTERRUPTED. VERIFY WITH AWS D1.1 FOR ADDITIONAL REQUIREMENTS. B. EACH FLANGE OF A MOMENT FRAME BEAM TO COLUMN CONNECTION SHALL BE WELDED IN ONE CONTINUOUS PROCESS WITHOUT COOLING BELOW THE 	7.	DEFORMED BAR ANCHOR STUDS SHALL BE NELSON D. GRANULAR FLUX-FILLED REBAR STUDS, AND SHALL BE COLD ROLLED STEEL WITH A MINIMUM TENSILE STREM WELDING INSPECTION AND TESTING SHALL CONFORM	2L (ICC ER-2907, LARR 25860) E MADE OF LOW CARBON IGTH OF 80,000 PSI. STUD TO AWS D1.1.
		 PRE-HEAT TEMPERATURE. C. USE STRINGER PASSES ONLY, NO WEAVING. LAY PASSES IN HORIZONTAL LAYERS. EACH PASS SHALL BE THOROUGHLY DESLAGGED AND CLEANED BY 	8.	HOT DIP GALVANIZE IN ACCORDANCE WITH ASTM A123 STEEL, MISCELLANEOUS METAL AND FASTENERS THA WEATHER. REPAIR GALVANIZING AFTER WELDING IN A	AND ASTM A153 STRUCTURAL TARE EXPOSED TO THE ACCORDANCE WITH ASTM A780.
		 D. PEEN EACH PASS, EXCEPT FIRST AND LAST, IMMEDIATELY AFTER DESLAGGING AND CLEAN USING A POWER SLAGGING GUN WITH A BLUNT TOOL. KEEP GUN AT RIGHT ANGLES TO WELD AND MAKE 4-5 PASSES THE LENGTH OF THE WELD WITH NO NICKS, CUTS OF DEEP INDENTATIONS BEING EVIDENT. 	0.	TO ALL MEMBERS SHOWN TO HAVE CAMBER. AMOUNT PRIOR TO ERECTION SHALL NOT DEVIATE BY MORE TH SPECIFICATIONS. DO NOT CAMBER MEMBERS OCCUR ENTRANCE DOORS.	F MEASURED IN THE FIELD IAN ALLOWED BY THE AISC RING BELOW ELEVATOR
		E. BOTH BEAM FLANGES SHOULD BE WELDED PRIOR TO ANY SUPPLEMENTAL WELDING TO THE SHEAR TAB. WELD RUN OFF TABS SHALL BE REMOVED AND GROUND FLUSH TO THE BEAM FLANGE WITH MINIMAL DISTURBANCE	10. 11.	SPLICE MEMBERS ONLY WHERE INDICATED. THE STRUCTURAL STEEL FABRICATOR SHALL FURNISH REPRESENTATIVE REVIEW BEFORE FABRICATION. SU	H SHOP DRAWINGS FOR OWNER'S BMITTALS SHALL BE IN SIZES
		F. RUN OFF TABS USED AT BEAM FLANGE CONNECTION SHALL BE REMOVED AND THE ENDS OF THE WELDS SHALL BE MADE SMOOTH & FLUSH WITH THE EDGE OF ABUTTING PARTS IN ACCORDANCE WITH AWS D1.1. NO WELD DAMS ARE ALLOWED.	12.	COMMENSURATE WITH A TWO WEEK TURNAROUND TH DRAWINGS EVERY TWO WEEKS IS PERMITTED UNLESS PROVIDED BY THE ARCHITECT TO CHANGE THIS LIMIT. AFTER FABRICATION, ALL STEEL SHALL BE CLEANED F	REE OF RUST, LOOSE MILL
		G. AFTER FULL PENETRATION WELDING, THE BOTTOM BEAM FLANGE BACKING BAR SHALL BE REMOVED, THE WELD ROOT INSPECTED AND TESTED FOR IMPERFECTIONS, WHICH IF FOUND, ARE TO BE REMOVED BY BACKGOUGING TO SOUND MATERIAL & CLEANED BY GRINDING IF BACKGOUGED BY AIR ARC. THE	12.	BOLT HOLES IN STEEL SHALL BE STANDARD HOLES, 1/ DIAMETER THAN NOMINAL SIZE OF BOLT USED, UNLES HOLES IN BASE PLATES MAY BE OVERSIZED PER AISC	16 INCH LARGER IN S NOTED OTHERWISE. BOLT TABLE 14-2 IF WASHERS
		BACKGOUGED AREA IS TO BE WELDED. A FILLET WELD SHALL BE APPLIED TO REINFORCE THE JOINT. SEE DETAILS FOR INFORMATION RELATED TO THE REINFORCING FILLET WELD.	14.	BOLTS SHALL BE SPACED AT 3" O.C. UNLESS NOTED O THE EDGE OF A STANDARDS HOLE TO THE EDGE OF A DIRECTION SHALL NOT BE LESS THAN 1 1/2" U.N.O. TH	THERWISE. THE DISTANCE FROM CONNECTING PART IN ANY E EDGE DISTANCE MAYBE 1 1/4"
17	17. T B	HE FOLLOWING PROVISIONS APPLY TO WELDING BEAM-COLUMN MOMENT FRAME OTTOM FLANGE CONNECTIONS:		FROM CENTER OF BEAM CONNECTION ANGLES AND SH FROM CENTER OF AN OVERSIZED OR SLOTTED HOLE PART SHALL NOT BE LESS THAN THAT REQUIRED FOR OF A CONNECTED PART PLUS THE APPLICABLE INCRE	AN END PLATES. THE DISTANCE TO THE EDGE OF A CONNECTING A STANDARD HOLE TO THE EDGE MENT C/2 FROM AISC TABLE J3.5.
	A	. THE ROOT PASS SHALL BEGIN IN THE CENTER OF THE JOINT, IN THE AREA OF THE WELD ACCESS HOLE, REACHING PAST THE BEAM WEB THROUGH THE COPE HOLE WHEN NEAR END OF WELDING. AFTER THE ARC IS INITIATED, TRAVEL SHALL PROGRESS TOWARD THE EDGE OF BEAM BOTH FLANGES. AND	15.	ALL STRUCTURAL STEEL SURFACES TO BE WELDED O BE ENCASED IN CONCRETE OR TO RECEIVE SPRAY-AP BE LEFT UNPAINTED. FRAME WELDING SEQUENCE: LONGITUDINAL SHRINK/	R HIGH-STRENGTH BOLTED, TO PLIED FIREPROOFING SHALL
	B	 THE WELD SHALL BE TERMINATED ON THE WELD RUN OFF TAB. THE HALF LENGTH ROOT PASS SHALL BE THOROUGHLY CLEANED. THE START OF THE WELD IN THE WELD ACCESS HOLF AREA SHALL BE 		WELDING SHALL BE MINIMIZED BY MAKING WELDED CO MOST CENTRAL BEAM IN THE FRAMES AND PROGRESS COLUMNS. IN THIS MANNER, THE LONGITUDINAL SHOP UNRESTRAINED PORTION OF THE FRAME INWARDS WI SECONDARY TENSILE FORCES. IN ADDITION. ONE FOR	DNNECTIONS STARTING AT THE SING TOWARDS THE EXTERIOR RTENING CAN PULL THE THOUT CREATING EXCESSIVE
		VISUALLY INSPECTED TO ENSURE FUSION, SOUNDNESS, FREE FROM SLAG INCLUSIONS AND EXCESSIVE POROSITY. THE RESULTING BEAD PROFILE SHALL BE SUITABLE FOR OBTAINING GOOD FUSION BY THE SUBSEQUENT PASS TO BE INITIATED ON THE OPPOSITE SIDE OF THE BEAM WEB. IF THE PROFILE IS NOT CONDUCIVE TO GOOD FUSION, THE START OF THE FIRST ROOT PASS SHALL BE GROUND, GOUGED, CHIPPED, OR OTHERWISE PREPARED TO ENSURE ADEOLIDATE FUSION	·	ALLOWED TO COOL BEFORE WELDING THE OTHER EN CONNECTIONS SHALL BE MADE ONLY AFTER FLANGES WELDING SEQUENCE IS TO BE SUBMITTED FOR REVIEW ENGINEER OF RECORD AND FOR APPROVAL TO THE A JURISDICTION OVER THE PROJECT.	D. WELDED AND BOLTED WEB HAVE BEEN WELDED. FINAL W TO THE STRUCTURAL PPROVING AGENCY HAVING
	C	THE SECOND HALF OF THE WELD JOINT SHALL HAVE THE ROOT PASS APPLIED BEFORE ANY OTHER WELD PASSES ARE PERFORMED. THE ARC SHALL BE INITIATED IN THE AREA OF THE START OF THE FIRST ROOT PASS, AND TRAVEL SHALL PROGRESS TO THE END OF THE JOINT TERMINATING ON THE WELD TAP	17.	SEE ARUMMEUTURAL DRAWINGS FOR DETAILS OF FIR	EPROUPING & INTUMESCENT PAIN
	E	. EACH WELD LAYER SHALL BE COMPLETED ON BOTH SIDES OF THE JOINT BEFORE A NEW LAYER IS DEPOSITED.			

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MECHANICAL ANCHORS

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EXPANSION OR WEDGE ANCHORS INTO CONCRETE: HILTI KB TZ (ICC ESR-1917) OR
SIMPSON STRONG BOLT (ICC ESR-1771) TO BE INSTALLED IN ACCORDANCE WITH ICC
REPORT AND MANUFACTURER'S RECOMMENDATIONS.

- EXPANSION OR WEDGE ANCHORS INTO MASONRY: HILTI KB 3 (ICC ESR-1385) OR SIMPSON WEDGE-ALL (ICC ESR-1396) TO BE INSTALLED IN ACCORDANCE WITH ICC
- REPORT AND MANUFACTURER'S RECOMMENDATIONS. UNDERCUT ANCHORS INTO CONCRETE: HILTI HDA (ICC ESR-1546) TO BE INSTALLED
- IN ACCORDANCE WITH ICC REPORT AND MANUFACTURER'S RECOMMENDATIONS.
- HEAVY DUTY SLEEVE ANCHORS INTO CONCRETE: HILTI HSL-3 (ICC ESR-1545) TO BE INSTALLED IN ACCORDANCE WITH ICC REPORT AND MANUFACTURER'S RECOMMENDATIONS.
- FASTENERS SHALL BE STAINLESS STEEL FOR EXTERIOR USE OR WHEN EXPOSED TO WEATHER. PROVIDE GALVANIZED CARBON STEEL ANCHORS AT OTHER LOCATIONS, UNLESS OTHERWISE NOTED.
- IF REINFORCEMENT IS ENCOUNTERED DURING DRILLING, ABANDON AND SHIFT THE HOLE LOCATION TO AVOID THE REINFORCEMENT. PROVIDE A MINIMUM OF 2 ANCHOR DIAMETERS OR 1 INCH, WHICHEVER IS LARGER, OF SOUND CONCRETE BETWEEN THE DOWEL AND THE ABANDONED HOLE. FILL THE ABANDONED HOLE WITH NON-SHRINK GROUT. IF THE ANCHOR OR DOWEL MAY NOT BE SHIFTED AS NOTED ABOVE, THE
- STRUCTURAL ENGINEER WILL DETERMINE A NEW LOCATION. LOCATE REINFORCEMENT AND CONFIRM FINAL ANCHOR LOCATIONS PRIOR TO FABRICATING PLATES, MEMBERS, OR OTHER STEEL ASSEMBLIES ATTACHED WITH MECHANICAL ANCHORS.
- ANCHORS SHALL BE PROOF-TESTED BY OWNER'S TESTING AND INSPECTION AGENCY.
- TEST ANCHORS NO SOONER THAN 24 HOURS AFTER INSTALLATION.
- APPLY TEST LOAD BY ANY METHOD THAT WILL EFFECTIVELY MEASURE THE TENSION ON THE ANCHOR SUCH AS DIRECT PULL WITH A HYDRAULIC JACK, TORQUE WRENCH, OR CALIBRATED SPRING LOADING DEVICES. ETC. REACTION LOADS FROM TEST FIXTURES MAY BE APPLIED CLOSE TO THE ANCHOR
- BEING TESTED, PROVIDED THE ANCHOR IS NOT RESTRAINED FROM WITHDRAWING BY A BASE PLATE OR OTHER FIXTURE. IF RESTRAINT IS FOUND, LOOSEN AND SHIM OR REMOVE THE FIXTURE PRIOR TO TESTING.
- UNLESS OTHERWISE NOTED, PROVIDE MINIMUM EMBEDMENT OF ANCHORS AS SHOWN IN TABLES BELOW.
- TEST 50% OF ANCHORS PER ONE OF THE FOLLOWING METHODS AND IN ACCORDANCE WITH THE VALUES SHOWN IN THE TABLE: HYDRAULIC RAM METHOD: APPLY PROOF TEST LOAD WITHOUT REMOVING THE NUT. IF IT IS NOT POSSIBLE TO TEST WITH THE NUT INSTALLED, REPLACE THE NUT WITH A THREADED COUPLER TO THE SAME TORQUE MEASURED WITH A TORQUE WRENCH, AND THEN APPLY THE LOAD. ANCHOR IS ACCEPTABLE IF NO MOVEMENT IS OBSERVED AT THE TEST LOAD. MOVEMENT MAY BE DETERMINED WHEN THE WASHER UNDER THE NUT BECOMES LOOSE.
- TORQUE WRENCH METHOD: TEST ANCHORS TO THE TORQUE LOAD INDICATED IN THE TABLE WITHIN ONE-HALF TURN OF THE NUT.

WEDGE OR EXPANSION ANCHOR EMBEDMENT DEPTH AND TEST LOAD							
		ANCHORS I	N CONCRETE	ANCHORS IN MASONRY			
ANCHOR DIAMETER	MIN EMBED	TENSION LOAD (LBS)	TORQUE LOAD (FT-LBS)	TENSION LOAD (LBS)	TORQUE LOAD (FT-LBS)		
1/4"	2"	800	10	300	10		
3/8"	2"	1500	25	500	30		
1/2"	3 1/4"	3000	40	1000	35		
5/8"	4	4900	80	1250	55		
3/4"	4 3/4"	6300	110	1700	120		

UNDERCUT ANCHORS IN CONCRETE EMBEDMENT DEPTH AND TEST LOAD					
ANCHOR DIAMETER (MM)	ANCHOR DIAMETER (IN)	MIN EMBED (IN)	TENSION LOAD (LBS)	TORQUE LOAD (FT-LBS)	
M10	3/4	4	8730	37	
M12	7/8	5	10914	59	
M16	1 1/8	7 1/2	21828	89	
M20	1 7/16	10	32742	221	

HEAVY DUTY SLEEVE ANCHORS IN CONCRETE EMBEDMENT DEPTH AND TEST LOAD

ANCHOR DIAMETER (MM)	ANCHOR DIAMETER (IN)	MIN EMBED IN	TENSION LOAD (LBS)	TORQUE LOAD (FT-LBS)
M8	1/2	2 1/2	2728	25
M10	5/8	3	4364	50
M16	3/4	3 1/4	6512	80
M20	15/16	4	9102	120
M24	1 3/16	5	12720	200
M24	1 5/16	6	13904	250

14. IF ANY ANCHOR FAILS TESTING, REPLACE ANCHOR AND TEST ADDITIONAL ANCHORS OF THE SAME CATEGORY NOT PREVIOUSLY TESTED UNTIL TWENTY (20) CONSECUTIVE TESTS PASS, THEN RESUME INITIAL TESTING FREQUENCY.

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ADHESIVE ANCHORS AND DOWELS

ANCHORS AND DOWELS INSTALLED INTO CONCRETE SHALL BEINSTALLED USING HILTI HIT RE 500-SD (ICC ESR-2322). PERFORM INSTALLATION IN ACCORDANCE WITH ICC REPORT AND MANUFACTURER'S RECOMMENDATIONS. EMBEDMENT DEPTH FOR ANCHORS AND DOWELS IS AS FOLLOWS, UNLESS OTHERWISE NOTED. THE TESTING LABORATORY WILL PERFORM TENSION TESTS ON 25% OF ANCHORS AND DOWELS TO THE FOLLOWING TEST LOADS:

ROD DIA OR BAR SIZE	EMBEDMENT	TEST LOAD	BASE MATERIAL
3/8"	4"	3,000#	CONCRETE
1/2"	5"	4,500#	CONCRETE
5/8"	6"	6,500#	CONCRETE
3/4"	7"	9,000#	CONCRETE
7/8"	9"	11,000#	CONCRETE
1"	11"	15,000#	CONCRETE
1 1/4"	14"	20,000#	CONCRETE
#3	5"	3,500#	CONCRETE
#4	6 1/2"	5,500#	CONCRETE
#5	8"	8,500#	CONCRETE
#6	10"	12,000#	CONCRETE
#7	12"	16,500#	CONCRETE
#8	18"	21,500#	CONCRETE
#9	16"	23,000#	CONCRETE
#10	19"	26,500#	CONCRETE

ANCHORS INSTALLED INTO GROUT-FILLED MASONRY SHALL BE INSTALLED USING SET ADHESIVE ANCHOR SYSTEMS BY SIMPSON STRONG-TIE (ICC ESR-1772) OR HILTI HIT HY-150 MAX (ICCESR-1967). PERFORM INSTALLATION IN ACCORDANCE WITH THE ICC REPORT AND

MANUFACTURER'S RECOMMENDATIONS. EMBEDMENT DEPTH FOR ANCHORS AND DOWELS SHOWN BELOW (UNLESS OTHERWISE NOTED). THE TESTING LABORATORY WILL PERFORM TENSION TESTS ON 25% OF ANCHORS AND DOWELS TO THE FOLLOWING TEST LOADS:

ROD DIA OR BAR SIZE	EMBEDMENT	TEST LOAD	BASE MATERIAL
3/8"	3 3/8"	1,900#	GROUTED CMU
1/2"	4 1/2"	2,550#	GROUTED CMU
5/8"	5 5/8"	3,700#	GROUTED CMU
3/4"	6 3/4"	4,900#	GROUTED CMU

ANCHORS INSTALLED IN UNREINFORCED BRICK MASONRY (URM) SHALL BE INSTALLED USING SET ADHESIVE ANCHOR SYSTEMS BY SIMPSON STRONG-TIE (ICC ESR-1772). USE SCREENS AND INSTALL ASSPECIFIED BY THE MANUFACTURER AND THE ICC REPORT. BARS SHALLBE BENT AND INSTALLED AT A 22.5 DEGREE ANGLE. EMBEDMENTDEPTH FOR ANCHORS AND DOWELS SHALL BE IN ACCORDANCE WITHTABLE BELOW (UNLESS OTHERWISE NOTED). THE TESTING LABORATORYWILL PERFORM TENSION TESTS ON 25% OF ANCHORS AND DOWELS TO THE SPECIFIED TEST LOADS

ROD DIA OR BAR SIZE	EMBEDMENT	TEST LOAD	BASE MATERIAL
3/4"	13"	2,400#	URM

ANCHORS SHALL CONFORM WITH ASTM A193 GRADE B7 THREADED RODS USING ASTM A 563 GRADE DH HEAVY HEX NUTS AND ASTM F436 WASHERS U.N.O.

DOWELS SHALL CONFORM WITH ASTM A615 OR ASTM A706 GRADE 60 REINFORCING STEEL U.N.O.

REPLACE ANCHORS AND DOWELS THAT FAIL DURING TESTING AND RETEST. IF MORE THAN 10% OF THE TESTED DOWELS AND ANCHORS FAIL TO ACHIEVE THE SPECIFIED TEST LOAD, TEST 100% OF THE DOWELS AND ANCHORS INSTALLED IN THE LAST 2 DAYS OF ANCHOR INSTALLATION.

CENTER BAR IN THE HOLE AND WEDGE TIGHT WITH WOODEN WEDGES TO HOLD IT IN PLACE UNTIL THE ADHESIVE SETS.

IF REINFORCEMENT IS ENCOUNTERED DURING DRILLING, ABANDON AND SHIFT THE HOLE LOCATION TO AVOID THE REINFORCEMENT. PROVIDE A MINIMUM OF 2 ANCHOR DIAMETERS OR 1 INCH, WHICHEVER IS LARGER, OF SOUND CONCRETE BETWEEN THE DOWEL AND THE ABANDONED HOLE. FILL THE ABANDONED HOLE WITH NON-SHRINK GROUT. IF THE ANCHOR OR DOWEL MAY NOT BE SHIFTED AS NOTED ABOVE, THE ENGINEER WILL DETERMINE A NEW LOCATION.

LOCATE REINFORCEMENT AND CONFIRM FINAL ANCHOR LOCATIONS PRIOR TO FABRICATING PLATES, MEMBERS, OR OTHER STEEL ASSEMBLIES ATTACHED WITH ADHESIVE ANCHORS.

THE STEEL DECKING SHALL BE OF TYPE AND GAUGE AS CALLED FOR ON THE DRAWINGS MANUFACTURED BY ASC PROFILES, INC., ESR-1414 (LARR #23783), VERCO MANUFACTURING COMPANY, ESR-1735P (LARR #23789), OR APPROVED EQUAL. DECKING AND ALL ACCESSORIES SHALL BE FORMED FROM STEEL SHEETS HAVING A MINIMUM YIELD STRENGTH OF 33,000 PSI AND CONFORMING TO ASTM A-653. THE STEEL SHALL BE ZINC-COATED CONFORMING TO ASTM A525, CLASS G60. DECK UNITS SHALL BE CONTINUOUS OVER THREE OR MORE SPANS WHERE POSSIBLE.

MINIMUM BEARING OF DECKING ON SUPPORTS SHALL BE 2 INCHES. SHEETS SHALL BE ATTACHED TO ALL SUPPORTING STEEL MEMBERS BY WELDING AS INDICATED ON DRAWINGS AND IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. UPON COMPLETION OF ERECTION, ALL WELDS IN EXPOSED DECK AREAS SHALL HAVE TOUCH-UP. DE-SLAG. CLEAN AND PRIME WITH A ZINC RICH PRIMER. DECK WELDING SHALL BE AS NOTED ON PLANS. WHERE NO WELDING IS NOTED. THE SIDE LAP OF EACH PANEL SHALL BE FASTENED BY 1 INCH LONG FILLET WELDS AT 3 FEET ON CENTER MAXIMUM, OR BUTTON PUNCHED AT 18 INCHES ON CENTER. SEE DRAWINGS FOR DETAIL OF REINFORCING OF DECK OPENINGS. SEE ARCHITECTURAL, MECHANICAL, ELECTRICAL DRAWINGS, ETC., FOR SIZE AND LOCATION

OF REQUIRED OPENINGS. ALL WELDING OF STEEL DECK SHALL BE PERFORMED BY LIGHT GAUGE WELDERS

CERTIFIED BY THE GOVERNING JURISDICTION. HANGERS SUPPORTED BY METAL DECKING ONLY OR METAL DECKING WITH INSULATING FILL SHALL BE ATTACHED TO STEEL BARS, 3/8" ROUND X 12" OR 1/8"

x 1 1/2" x 12" FLAT, PLACED PERPENDICULAR TO FLUTES. ONLY LIGHT DUCTWORK (12" X 16" MAX.), PIPING (1 1/2" ROUND PIPING MAX), OR CEILINGS MAY BE HUNG FROM SUCH INSTALLATIONS. HANGERS MUST BE TWO FLUTES APART WHERE THEY OCCUR ON THE SAME SPAN. HANGERS SUPPORTED BY METAL DECK WITH STRUCTURAL CONCRETE FILL SHALL BE

INSTALLED USING ICC APPROVED ANCHORAGE SYSTEMS. SUCH HANGERS SHALL BE USED TO SUPPORT DUCTWORK (54" X 16" MAX.), PIPING (4" ROUND MAX.), OR CEILINGS, HANGERS MUST BE AT LEAST TWO FLUTES APART ON SAME DECK SPAN. LARGER DUCTWORK AND PIPING SHALL BE SUPPORTED BY STRUCTURAL BEAMS OR COLUMNS.

METAL DECK AT ROOFS, EXTERIOR BALCONIES, CANOPIES OR EXPOSED TO WEATHER SHALL BE VENTED.

REINFORCING STEEL

ALL REINFORCING STEEL SHALL BE DETAILED AND PLACED IN CONFORMANCE WITH THE 'BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE' (ACI 318) AND THE 'MANUAL OF STANDARD PRACTICE FOR REINFORCED CONCRETE CONSTRUCTION' BY THE C.R.S.I. AND THE W.C.R.S.I., OR AS MODIFIED BY THE CONSTRUCTION DOCUMENTS.

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REINFORCING BARS SHALL CONFORM TO THE FOLLOWING, UNLESS NOTED OTHERWISE.

TYPE

ASTM A615, 60 KSI*

ASTM A706, 60 KSI

CLASSIFICATION REINFORCING STEEL IN GRAVITY BEAMS, GRAVITY COLUMNS, STIRRUPS, TIES, FOUNDATIONS, PILECAPS, AND GRADE

BEAMS (UNO): REINFORCING STEEL TO BE WELDED AND

LONGITUDINAL REINFORCING STEEL IN CONCRETE GRADE BEAM:

* ASTM A706 GR 60 MAY BE CONSIDERED EQUIVALENT TO ASTM A615, BUT ASTM A615 IS NOT EQUIVALENT TO ASTM A706.

- MECHANICAL COUPLERS: LENTON THREADED COUPLERS BY ERICO, ICC #3967 (LARR #24507), XTENDER BY HEADED REINFORCEMENT CORPORATION, ICC #2794 (LARR #25347) OR BAR-LOCK BY DAYTON SUPERIOR CORP, ICC #2495 (LARR #25342). COUPLERS FOR BEAM AND SLAB BARS AT FORMED CONSTRUCTION JOINTS MAY BE LENTON FORM SAVERS BY ERICO, ICC #3967.
- WELDING OF REINFORCEMENT SHALL BE WITH LOW HYDROGEN E90XX ELECTRODES FOR WELDING ASTM A615 BARS AND E80XX ELECTRODES FOR WELDING ASTM A706 BARS. ALL WELDING SHALL BE IN CONFORMANCE WITH AMERICAN WELDING SOCIETY, AWS-D1.4, ONLY WELDERS SPECIFICALLY CERTIFIED FOR REINFORCING STEEL AND IN ACCORDANCE WITH AWS D1.4 SHALL PERFORM WELDING OF REINFORCING STEEL.
- DRAWINGS SHOW TYPICAL REINFORCING CONDITIONS. CONTRACTOR SHALL PREPARE DETAILED PLACEMENT DRAWINGS OF ALL CONDITIONS SHOWING QUANTITY, SPACING, SIZE, CLEARANCES, LAPS, INTERSECTIONS AND COVERAGE REQUIRED BY STRUCTURAL DETAILS, APPLICABLE CODE AND TRADE STANDARDS. CONTRACTOR SHALL NOTIFY REINFORCING INSPECTOR OF ANY ADJUSTMENTS FROM TYPICAL CONDITIONS THAT ARE PROPOSED IN PLACEMENT DRAWINGS TO FACILITATE FIELD PLACEMENT OF REINFORCING STEEL AND CONCRETE.
- 6. ALL REINFORCING BAR BENDS SHALL BE MADE COLD.

UNLESS NOTED OTHERWISE.

- MINIMUM LAP OF WELDED WIRE FABRIC SHALL BE 12 INCHES, OR ONE FULL MESH PLUS TWO INCHES, WHICHEVER IS GREATER.
- REINFORCING SPLICES SHALL ONLY BE MADE AS INDICATED ON THE DRAWINGS. 8 DOWELS BETWEEN FOOTINGS AND WALLS OR COLUMNS SHALL BE THE SAME GRADE, SIZE AND SPACING AS THE VERTICAL REINFORCING, RESPECTIVELY,
- DOWELS BETWEEN SLABS AND WALLS OR COLUMNS SHALL BE THE SAME GRADE, 10 SIZE AND SPACING AS THE VERTICAL REINFORCING, RESPECTIVELY, UNLESS NOTED OTHERWISE.
- 11. ALL BARS SHALL BE MARKED SO THEIR IDENTIFICATION CAN BE MADE WHEN THE FINAL IN-PLACE INSPECTION IS MADE.
- 12. CONTRACTOR SHALL PROVIDE FOR AN ALLOWABLE OF 5 TONS OF REINFORCING TO BE FABRICATED AND PLACED DURING PROGRESS OF WORK AS MAY BE DIRECTED BY THE STRUCTURAL ENGINEER. THE UNUSED PORTION SHALL BE CREDITED TO THE OWNER AT THE COMPLETION OF THE CONCRETE WORK.

POWDER ACTUATED FASTENERS (SHOT PINS)

- POWDER ACTUATED FASTENERS INTO STEEL SHALL BE HILTI X-U FASTENERS (LARR#25675) OR RAMSET SP FASTENERS (LARR#22668). INSTALL ANCHORS IN (LARR#25675) OR RAMSET SP FASTENERS (LARR#22668). INSTALL ANCHORS IN ACCORDANCE WITH ICC REPORT AND MANUFACTURER'S RECOMMENDATIONS. FASTENERS SHALL BE OF SUFFICIENT LENGTH SUCH THAT THE POINT OF THE PIN PENETRATES THROUGH THE STEEL BASE MATERIAL WHEN CONNECTING TO STEEL LESS THAN 3/4 IN THICKNESS. FASTENERS LENGTH SHALL PROVIDE MINIMUM POINT PENETRATION OF 1/2" WHEN CONNECTING TO STEEL 3/4" OR THICKER IN THICKNESS U.N.O.
- POWDER ACTUATED FASTENERS INTO CONCRETE SHALL BE HILTI X-U FASTENERS (LARR#25675) OR RAMSET SP STEPPED SHANK FASTENERS (LARR#22668). INSTALL ANCHORS IN ACCORDANCE WITH ICC REPORT AND MANUFACTURER'S RECOMMENDATIONS. PROVIDE FASTENERS WITH SUFFICIENT LENGTH TO PROVIDE 1-1/2" MINIMUM PENETRATION INTO CONCRETE U.N.O
- FASTENERS SHALL NOT BE INSTALLED UNTIL THE CONCRETE HAS REACHED ITS DESIGNATED STRENGTH.
- FASTENERS SHALL NOT BE INSTALLED IN CONCRETE WITH THICKNESS LESS THAN 4. THREE TIMES THE PENETRATION REQUIRED, EXCEPT 1-1/2" PENETRATION IN 3-1/4" THICK CONCRETE FILL OVER METAL DECK IS ACCEPTABLE.
- PROVIDE A MINIMUM OF 3" BETWEEN THE EDGE OF CONCRETE TO CENTER OF 5 ANCHOR.
- FASTENERS IN THE UNDERSIDE OF CONCRETE FILL OVER METAL DECK SHALL BE PLACED IN THE LOW FLUTES ONLY.
- FASTENERS SHALL BE INSTALLED, BY A PRE-QUALIFIED OPERATOR, ACCORDING TO THE APPLICABLE ICC RESEARCH REPORT AND TESTED AS FOLLOWS: INSPECTOR SHALL OBSERVE THE TESTING OF THE FIRST 10 FASTENERS INSTALLATION. A TEST PULL-OUT LOAD OF NOT LESS THAN TWICE THE APPLICABLE ALLOWABLE LOAD PER ICC TABLES SHALL BE APPLIED TO THE PIN IN SUCH A MANNER AS NOT TO RESIST THE SPALLING TENDENCY OF THE CONCRETE SURROUNDING THE PIN (NOT APPLICABLE TO PINS INSTALLED INTO STEEL). RANDOM TESTS UNDER THE PROJECT INSPECTOR'S SUPERVISION SHALL BE MADE OF APPROXIMATELY 1 IN 20 PINS. SHOULD FAILURE OCCUR ON ANY PIN TESTED, ALL OF THE INSTALLATIONS MUST BE
- WHEN INSTALLING POWDER DRIVEN PINS IN EXISTING REINFORCED CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS

TESTED AND FAILED PINS REPLACED AT CONTRACTOR'S EXPENSE.



STRUCTURAL STEEL OPEN WEB JOISTS

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- I. PROVIDE OPEN WEB JOISTS AND GIRDERS INCLUDING BUT NOT LIMITED TO BRIDGING COMPLYING WITH 2013 CALIFORNIA BUILDING CODE & THE STANDARD SPECIFICATIONS OF THE STEEL JOIST INSTITUTE FOR OPEN WEB STEEL JOISTS. THE MANUFACTURER SHALL DESIGN JOISTS AND GIRDERS FOR UNIFORM LOADS SHOWN, PLUS ADDITIONAL CONCENTRATED LOADS, AXIAL LOADS, ETC. AS NOTED ON THESE PLANS UNDER SEPARATE PERMIT.
- JOISTS ARE TO BE DESIGNED TO MEET THE FOLLOWING DEFLECTION CRITERIA:

 MAXIMUM ROOF LIVE LOAD DEFLECTION = L/360
 MAXIMUM ROOF TOTAL LOAD DEFLECTION = L/240
 THE JOIST(S) DESIGNATED TO SUPPORT THE OPERABLE PARTITION SHALL BE DESIGNED
- TO MEET THE ADDITIONAL CRITERIA: C.1. MAXIMUM DEFLECTION DUE TO OPERABLE PARTITION WEIGHT ONLY = L/2160.
- C.2. MAX. DEFLECTION DUE TO LIVE LOAD + OPERABLE PARTITION WEIGHT = L/600.
 C.3. MAX CAMBER AT OPERABLE PARTITION = L/2160
 3. DESIGN LOADS: SEE PLANS FOR DESIGN LOADS.
- 4. PROVIDE JOISTS CONFIRMING TO CONFIGURATION, DEPTH INDICATED ON STRUCTURAL DRAWINGS. WHERE DESIGN REQUIRES ANY DEVIATION NOTIFY ARCHITECT (STRUCTURAL ENGINEER) IMMEDIATELY AND, IF ACCEPTABLE, PROVIDE AT NO ADDITIONAL COST TO THE OWNER.
- 5. JOIST MANUFACTURER TO DESIGN AND FURNISH BRIDGING AND OR BRACES FOR LATERAL SUPPORT OF JOISTS AND GIRDERS AS REQUIRED. BRIDGING SHALL BE PROVIDED AT MAXIMUM SPACING OF 8'-0". BRIDGING TO PROVIDE PERMANENT TOP CHORD BRACING AND SHALL BE ANCHORED TO WALLS AND SPANDREL STRUCTURAL STEEL MEMBERS.
- 6. MINIMUM THICKNESS FOR TOP CHORDS, WEB MEMBERS AND BRIDGING SHALL BE 1/8"
- 7. WHERE STEEL JOIST OR GIRDER SLOPE EXCEEDS 1/4" PER FOOT, PROVIDE SLOPED BEARING SEAT.
- 8. ALL JOISTS SHALL BE CAMBERED FOR DEAD LOADS.
- 9. WELD ALL JOISTS TO SUPPORTING STEEL MEMBERS.
- 10. SUSPEND CEILINGS, PIPING, DUCTS ETC. ONLY FROM JOIST PANEL POINTS. PROVIDE FIELD INSTALLED EXTRA WEB FOR POINT LOADS WHICH DO NOT OCCUR AT A PANEL POINT.
- 11. ALIGN JOIST PANEL POINTS TO FACILITATE DUCT PASSAGE AS REQUIRED BY THE ARCHITECTURAL OR MECHANICAL DRAWINGS. JOIST MANUFACTURER SHALL VERIFY & COORDINATE W/ MECHANICAL DRAWINGS, THE MINIMUM DUCT SIZE PASSING THROUGH JOIST PANELS.
- 12. ALL JOISTS, WHICH ARE NOT FIREPROOFED, SHALL BE SHOP PAINTED AFTER 100% VISUAL INSPECTION BY TESTING LABORATORY. ALL FIELD CONNECTIONS SHALL BE PAINTED AFTER INSPECTION BY TESTING LABORATORY. ALL SHOP FIELD TOUCHUP AND FIELD PAINTING SHALL BE ACCORDING TO STEEL JOIST SPECIFICATIONS.
- 13. SUBMIT SHOP DRAWINGS AND CALCULATIONS SIGNED BY AND BEARING THE SEAL OF A REGISTERED CIVIL ENGINEER OR STRUCTURAL ENGINEER FOR REVIEW AND TO LADBS AUTHORITY FOR APPROVAL. SUBMIT & OBTAIN APPROVAL PRIOR TO FABRICATION.
- 14. ALL JOISTS SHALL BE PROVIDED BY A LOS ANGELES CITY LICENSED MANUFACTURER

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			TABLE I - MI	NI
	CARBON	EQUIVA	LENT	
	RANGE,	%		
	0.40	MAX		
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	0.46 INCL	- 0.55 JUSIVE		
	0.56 INCL	- 0.65 .USIVE		
	0.66	- 0.75		
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+	WHEN ⁻ BASE M TEMPE	THE BASE IETAL TO A RATURE D	METAL TEMPER AT LEAST 70 DE OURING WELDING	at Gri G.
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	12.	APPRO APPRO CONST OR IS A INTERP	VAL BY THE INSF VED DRAWINGS RUCTION DOCUI MBIGUOUS MUS RETATION OR C	PEC DO MEI T B LAF
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THE STRUCTURAL ENG
TESTING WHICH DOES
DOCUMENTS.

REVIEW WELDING PROCEDURE SPECIFICATION & WELDER CERTIFICATION INSTALLATION OF NON-SLIP CRITICAL HIGH-STRENGTH BOLTS & WASHERS (PROVIDE CONTINUOUS INSPECTION IF INSTALLATION IS PERFORMED WITH CALIBRATED WRENCH) INSTALLATION OF SLIP CRITICALHIGH-STRENGTH BOLTS & WASHERS FIELD ERECTION INSPECTION P SHOP P FIELD FABRICATION INSPECTION C FIELD C SHOP WELDING INSPECTION X SHOP X FIELD NON-DESTRUCTIVE WELD TEST X SHOP X FIELD BOLTING INSPECTION **COMPOSITE STUD INSPECTION & TESTING** STEEL JOIST INSTALLATION INSPECTION INSTALLATION OF ANCHOR BOLTS BEFORE & DURING CONCRETE POUR METAL DECK **REVIEW MILL CERTIFICATES & TEST REPORTS** Р PLACEMENT INSPECTION P WELDING & FASTENING INSPECTION REINFORCING STEEL **REVIEW MILL CERTIFICATES & TEST REPORTS** X REINFORCING BARS X WELDED WIRE FABRIC SAMPLE & TEST PLACEMENT INSPECTION Р WELDING INSPECTION TEST REINFORCING FOR WELDABILITY OTHER THAN ASTM A706 TENSIONING STEEL REVIEW MILL CERTIFICATE AND TEST REPORTS SAMPLE & TEST P PLACEMENT INSPECTION STRESSING AND GROUTING INSPECTION С CONCRETE, SHOTCRETE, CMU, GROUT & MORTAR CONCRETE SHOTCRETE CMU GROUT MORTAR MIX DESIGN Х REVIEW VERIFICATION OF CORRECT MIX DESIGN USED DURING POUR PREPARATION OF SAMPLES FOR TESTING PURPOSES BATCH PLANT INSPECTIONS CAST, PICK-UP, AND COMPRESSION TEST SAMPLES SLUMP, ENTRAINED AIR, & TEMPERATURE TEST SHRINKAGE TEST Х PLACEMENT INSPECTION CURING TEMPERATURE AND TECHNIQUES FORMWORK INSPECTION DEEP FOUNDATION (PILES) REVIEW PILE MATERIALS, SIZE AND LENGTH PILE LOAD TESTING DRILLING OPERATIONS PLACING/INSTALLATION MISCELLANEOUS MECHANICAL ANCHORS ADHESIVE OR GROUTED ANCHORS AND DOWELS BOLTS CAST IN CONCRETE OR MASONRY COLD FORM METAL FRAMING INSTALLATION AND WELDING X, C PLACEMENT OF FILL PER TABLE 1705.6 OF 2013 CBC.

NOTES: C: INDICATES CONTINUOUS INSPECTION

P: INDICATES PERIODIC INSPECTION

X: INDICATES REQUIRED INSPECTION

TEST AND INSPECTION LIST

REVIEW MILL CERTIFICATE, TEST REPORTS AND MATERIAL

IDENTIFICATION DELIVERED TO THE SITE

STRUCTURAL STEEL

G

IMUM PREHEAT AND INTERPASS TEMPERATURES

SIZE OF REINFORCING BAR	MINIMUM PREHEAT AND INTERPASS TEMPERATURE*				
	F	С			
UP TO 18 INCLUSIVE	50	10			
UP TO 11 INCLUSIVE	50++	10++			
14 AND 18	100	38			
UP TO 11 INCLUSIVE	50++	10++			
14 AND 18	200	93			
UP TO 6 INCLUSIVE	100	38			
7 TO 11 INCLUSIVE	200	93			
14 AND 18	300	149			
UP TO 6 INCLUSIVE	300	149			
7 TO 10 INCLUSIVE	400	204			

ITH LOW HYDROGEN ELECTRODES, GAS METAL ARC ELDING, SEE AWS D1.4-79.

TURE IS BELOW 32 DEGREES F (0 C), PREHEAT THE REES F (21 C) AND MAINTAIN THIS MINIMUM

IG AGENCY AND SPECIAL INSPECTORS SHALL BE RETAINED BY THE E TESTS AND INSPECTION AS REQUIRED BY SECTION 1704 OF G CODE. THE CONTRACTOR SHALL PROVIDE ACCESS TO THE THE SITE OR FABRICATION SHOPS AND SHALL FURNISH FOR TESTING AS REQUESTED BY THE TESTING AGENCY AND

ECTIONS MADE BY THE OWNER'S TESTING AGENCY REVEAL THAT ORK DOES NOT COMPLY WITH THE CONTRACT DOCUMENTS, ECTIONS, AND NECESSARY REPAIRS WILL BE MADE AT THE

R PERIODIC SPECIAL INSPECTION FOR ITEMS NOTED IN "TEST AND QUIRED PER THE CHAPTER 17 OF THE CALIFORNIA BUILDING CODE ENDMENTS:

AY NOT BE REQUIRED WHEN THE WORK IS DONE ON THE TOR REGISTERED AND APPROVED BY THE BUILDING OFFICIAL OR VING JURISDICTION OVER THE PROJECT TO PERFORM SUCH WORK CTION.

PONSIBLE FOR THE CONSTRUCTION OF A WIND OR SEISMIC FORCE IENT SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY AL AND TO THE OWNER'S REPRESENTATIVE, PRIOR TO THE WORK ON THE SYSTEM OR COMPONENT. THE CONTRACTOR'S SIBILITY SHALL CONTAIN THE FOLLOWING INFORMATION: MENT OF AWARENESS OF THE SPECIAL REQUIREMENTS CONTAINED INT OF SPECIAL INSPECTIONS.

MENT THAT CONTROL WILL BE EXERCISED TO OBTAIN WITH THE CONSTRUCTION DOCUMENTS APPROVED BY THE AL. OR EXERCISING CONTROL WITHIN THE CONTRACTOR'S

THE METHOD AND FREQUENCY OF REPORTING AND DISTRIBUTION S. AND QUALIFICATIONS OF THE PERSONS EXERCISING SUCH

HEIR POSITIONS IN THE ORGANIZATION.

OR THE STRUCTURAL STEEL PORTIONS OF THE LATERAL FORCE L ALSO COMPLY WITH THE REQUIREMENTS OF AISC 341.

D TESTING: ULTRASONIC TESTING IS REQUIRED FOR ALL (100%) PENETRATION WELDS. TESTING SHALL BE PERFORMED 24 HOURS ETION OF WELDING. WELD BACKING REMOVAL AREAS AND FILLET CTED TO MAGNETIC PARTICLE EXAMINATION.

AN 1-1/2", SUBJECTED TO THROUGH THICKNESS WELD SHRINKAGE ASONICALLY TESTED DIRECTLY BEHIND SUCH WELDS 48 HOURS ETION OF WELDING

RQUE WRENCH A MINIMUM OF ONE (1) HIGH STRENGTH BOLT AT ON. A MINIMUM OF TWO (2) BOLTS PER CONNECTION FOR TS OR MORE AND A MINIMUM OF 2 BOLTS PER FRAME BEAM SHEAR

OF FILLET WELDS BY MAGNETIC PARTICLE (ASTM 109 METHOD). OF CONTINUITY PLATE FILLET WELDS AND BEAM FILLET WELDS b) BY MAGNETIC PARTICLE.

UMN FLANGES LOCATED AT WELDED MOMENT CONNECTIONS LY EXAMINED, PRIOR TO WELDING, FOR EVIDENCE OF IS OR OTHER DISCONTINUITIES. TESTING SHALL BE IN M A435 (STRAIGHT BEAM ULTRASONIC EXAMINATION OF STEEL STRAIGHT BEAM ULTRASONIC EXAMINATION OF ROLLED STEEL S APPLICABLE. THE AREA TO BE TESTED IS A ZONE 6 IN. ABOVE FLANGE CONNECTION. FOR PLATES, ANY DISCONTINUITY CAUSING REFLECTION THAT CANNOT BE CONTAINED WITHIN A CIRCLE 3 CONE-HALF THE PLATE THICKNESS, WHICHEVER IS GREATER, R SHAPES, ASTM 898 LEVEL I CRITERIA IS APPLICABLE.

CTOR OF MATTERS NOT SPECIFICALLY CONSTRUCTED PER THE DES NOT MEAN THE FAILURE TO COMPLY WITH THE ENTS HAS BEEN ACCEPTED. ANY DETAIL THAT FAILS TO BE CLEAR BE REFERRED TO THE STRUCTURAL ENGINEER FOR ARIFICATION.

G REPORTS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER WHEN THE INSPECTION WAS MADE OR WHEN THE TESTING WAS

SINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY INSPECTION OR NOT COMPLY WITH THE REQUIREMENTS OF THE CONTRACT

WELDING OF REINFORCING BARS

PART I - GENERAL REQUIREMENTS

A. SCOPE: REINFORCING STEEL MAY BE SUBJECT TO CRACKING AND EMBRITTLEMENT WHEN WELDED, AND SPECIAL PROCEDURES ARE NEEDED TO MINIMIZE THIS PROBLEM, IN ACCORDANCE WITH THE REQUIREMENTS OF THE RULES AND REGULATIONS CONCERNING PROCEDURES BY WHICH REINFORCING STEEL MAY BE WELDED.

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- APPLICATION: ALL WELDING OF REINFORCING STEEL SHALL USE WELDING PROCEDURES AND REINFORCING STEEL APPROVED IN ACCORDANCE WITH THIS RULE.
- CERTIFICATION OF WELDER: ALL WELDING OF REINFORCING STEEL, EXCEPT THAT PERFORMED IN THE SHOP OF AN APPROVED FABRICATOR, SHALL BE DONE BY OPERATORS WHO HAVE BEEN CERTIFIED BY THE GOVERNING AUTHORITY.
- STANDARDS FOR WELDING: THE DETAILS, PROCEDURES AND WORKMANSHIP OF REINFORCING STEEL WELDING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE REINFORCING STEEL WELDING CODE, AWS D1.4-79 AS PUBLISHED BY THE AMERICAN WELDING SOCIETY.
- PREHEAT AND POST COOLING REQUIREMENTS: ALL REINFORCING STEEL SHALL BE PREHEATED PRIOR TO WELDING TO THE TEMPERATURES SPECIFIED IN TABLE 1, EXCEPT THOSE STEEL R WHICH SPECIAL QUALIFICATION TESTS ARE PERFORMED AS SPECIFIED IN PART III, SECTION B OF THIS RULE. ALL WELD TYPES REQUIRE PREHEATING INCLUDING TACK WELDS, FILLET WELDS AND ARC STRIKES. THE PREHEAT TEMPERATURE SHALL BE PROVIDED IN THAT PART OF THE REINFORCING STEEL THAT IS WITHIN SIX INCHES OF EITHER SIDE OF THE JOINT.
- ARC STRIKES: ARC STRIKES ON REINFORCING STEEL OUTSIDE THE AREA OF PERMANENT WELDS SHALL BE AVOIDED. CRACK OR BLEMISHES RESULTING FROM ACCIDENTAL ARC STRIKES SHALL BE GROUND TO A SMOOTH CONTOUR AND CHECKED TO INSURE SOUNDNESS.
- G. TACK WELDS: TACK WELDS WHICH DO NOT BECOME A PART OF A PERMANENT WELD ARE PROHIBITED UNLESS AUTHORIZED BY THE DESIGN ENGINEER AND APPROVED BY THE GOVERNING AUTHORITY.

PART II - REINFORCING STEEL REQUIREMENTS:

CHEMISTRY IDENTIFICATION: PRIOR TO WELDING, THE CHEMICAL ANALYSIS AND THE "CARBON EQUIVALENT" OF STEEL SHALL BE DETERMINED. THE CARBON EQUIVALENT (C.E.) OF REINFORCING STEEL OR SPLICE MATERIAL SHALL BE CALCULATED FROM ITS

CHEM	CHEMICAL COMPOSITION BY THE FOLLOWING FORMULA:								
	%Mn	%Cu	%Ni	%Cr	%Mo	%V			
C.E. = %C	+ 6 +	- 40 +	20	+ 10	- 50	- 10			
WHERE:	C = CARE Mn = MANO Cu = COPF Ni = NICKI	BON GANESE PER EL	Cr = C Mo = M V = V	HROMIUM IOLYBDENUN ANADIUM	1				

B. QUALIFICATION TEST FOR WELDABILITY

- 1. REQUIRED: REINFORCING STEEL WHOSE CARBON EQUIVALENT IS GREATER THAN 0.65% AND IS EQUAL TO OR LESS THAN 0.75% SHALL NOT BE WELDED UNLESS PRIOR QUALIFICATION TESTS VERIFY ACCEPTABLE WELDABILITY. QUALIFICATION TESTS SHALL FOLLOW THE REQUIREMENTS OF SECTION B OF PART III OF THIS RULE TITLED "QUALIFICATION TEST".
- 2. NOT REQUIRED: THE FOLLOWING REINFORCING STEELS MAY BE WELDED WITHOUT PRIOR QUALIFICATION TESTS:
- a. REINFORCING STEEL CONFORMING TO A706 (GRADE 60).
- b. REINFORCING STEEL CONFORMING TO A615, GRADE 40 AND 60, THAT HAS A CARBON EQUIVALENT OF 0.65% OR LESS AS ESTABLISHED BY THE MANUFACTURER'S CHEMICAL ANALYSIS.
- c. INDIVIDUAL BARS OF REINFORCING STEEL WHERE ITS CHEMICAL COMPOSITION HAS BEEN DETERMINED BY AN APPROVED TESTING AGENCY AND THE CARBON EQUIVALENT DOES NOT EXCEED 0.65%.
- C. WELDING NOT PERMITTED: THE FOLLOWING REINFORCING STEEL SHALL NOT BE WELDED UNDER ANY CIRCUMSTANCE:
 - 1. REINFORCING STEEL WHOSE CHEMISTRY FOR CARBON EQUIVALENT CANNOT BE IDENTIFIED AND/OR IS UNKNOWN.
- 2. REINFORCING STEEL WHOSE CARBON EQUIVALENT EXCEEDS 0.75%.

PART III - WELDING PROCEDURES

- A. QUALIFIED WELDING PROCEDURES: WELDING PROCEDURES ARE ACCEPTED WITHOUT THE PERFORMANCE OF QUALIFICATION TESTS WHEN CONFORMING TO THE DETAILS AND PROVISIONS OF REINFORCING STEEL WELDING CODE, AND WHEN CONFORMING TO THE FOLLOWING CONDITIONS:
- 1. THE REINFORCING STEEL CONFORMS TO THAT STEEL SPECIFIED IN PART II, B2 OF THIS RULE

THE MANUAL OR SEMI-AUTOMATIC ELECTRIC ARC WELDING PROCESS IS USED B. QUALIFICATION TESTS:

- 1. REQUIRED. WELDING PROCEDURES THAT DO NOT CONFORM TO THE CONDITIONS SPECIFIED UNDER PART III, SECTION A TITLED "QUALIFIED WELDING PROCEDURES" BECAUSE OF REINFORCING STEEL, PROCESS OR TECHNIQUE USED SHALL BE QUALIFIED PRIOR TO USE.
- 2. QUALIFICATION PROCEDURES. THE QUALIFICATION TESTS SHALL FOLLOW THE METHOD SPECIFIED IN SECTION 6.2 OF THE REINFORCING STEEL WELDING CODE, AWS D1.4-79. THE DEPARTMENT MAY ACCEPT PREVIOUSLY PERFORMED QUALIFICATION TESTS WHEN THE REINFORCING STEEL AND THE JOINT WELD PROCEDURE CONFORM TO THE LIMITATION SPECIFIED IN SECTION 6.2.1 TITLED "LIMITATION OF VARIABLES", OF REINFORCING STEEL CODE, AWS D1.4-79.
- 3. REPORT AND WITNESS REQUIREMENTS. PROCEDURE SHALL BE WITNESSED AND TESTED BY AN APPROVED TESTING AGENCY. THE REPORT OF WELDING PROCEDURE AND VERIFICATION TESTS IS TO INCLUDE THE FOLLOWING:
- IDENTIFICATION OF THE PARTICULAR REINFORCING STEEL QUALIFIED BY TEST INCLUDING HEAT NUMBER, CHEMICAL FORMULATION, CARBON EQUIVALENT AND BAR SIZE.

WELD TYPE, PREPARATION AND POSITION. WELD PROCESS AND ELECTRODE/FLUX/GAS USED.

- WELD EQUIPMENT TYPE AND SETTINGS INCLUDING AC, DC AND POLARITY.
- PREHEAT TEMPERATURES AND POST WELDING COOLING CONTROL.

WELDER AND WITNESSING AGENCY.

- ULTIMATE TENSILE LOAD, PERCENT OF ELONGATION, STRESS AND IDENTIFICATION OF THE FRACTURE LOCATION AND TYPE.
- APPROVALS REQUIRED. SUCH PROCEDURE AND QUALIFICATION TESTS SHALL BE REVIEWED BY THE DESIGN ENGINEER AND THEN SUBMITTED TO THE GOVERNING AUTHORITY.

PREHEAT TEMPERATURES ARE TO BE VERIFIED BY TEMPERATURE STICKS OR OTHER ACCEPTABLE METHOD.

AFTER COMPLETION OF WELDING, THE REINFORCING STEEL SHALL BE ALLOWED TO COOL NATURALLY IN STILL AIR TO AMBIENT TEMPERATURE. ACCELERATED COOLING IS PROHIBITED. JOINTS ARE TO BE PROTECTED FROM DRAFTS DURING THE COOLING PROCESS.

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TENSION DEVELOPMENT LENGTH SCHEDULE (L) _d													
BAR	f'c=30	000 PSI	f'c=4000 PSI		f'c=50	fc=5000 PSI		f'c=6000 PSI		fc=7000 PSI		fc=8000 PS	
SIZE	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	OTI BA	
#3	22	17	19	15	17	13	15	12	14	12	13	1	
#4	29	22	25	19	22	17	20	16	19	15	18	1	
#5	36	28	31	24	28	22	25	20	24	18	22	1	
#6	43	33	37	29	33	26	31	24	28	22	26	2	
#7	63	48	54	42	49	37	44	34	41	32	38	3	
#8	72	55	62	48	55	43	51	39	47	36	44	3	
#9	81	62	70	54	63	48	57	44	53	41	49	3	
#10	91	70	79	61	70	54	64	49	59	46	56	4	
#11	101	78	87	67	78	60	71	55	66	51	62	4	
#14	121	93	105	81	94	72	86	66	79	61	74	5	
#18	161	124	139	107	125	96	114	88	106	81	99	7	

BAR SPLICE LENGTH SCHEDULE												
BAR SIZE	fc=3	000 PSI	f'c=4000 PSI		f'c=5000 PSI		fc=6000 PSI		f'c=7000 PSI		f'c=8000 F	
	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	OT B/
#3	28	22	24	19	22	17	20	16	18	16	17	
#4	37	29	32	25	29	22	26	20	25	19	23	
#5	47	36	40	31	36	28	33	25	31	24	29	
#6	56	43	48	37	43	33	40	31	37	28	34	
#7	81	63	70	54	63	49	58	44	53	41	50	
#8	93	72	80	62	72	55	66	51	61	47	57	
#9	105	81	91	70	81	63	74	57	69	53	64	
#10	118	91	102	79	91	70	83	64	77	59	72	
#11	131	101	113	87	101	78	93	71	86	66	80	
#14	SEE NOTE #12											
#18	SEE NOTE #12											







T PARALLEL BEAM	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		8 HORIZ C S-013 1" = 1'-0"
D	E	F	G



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		EMBEDDE	ED STEEL P	L SCHEDULE	E	
	NO. O	F STUDS		SIZE OF S	TEEL PLATE	
SECTION	NO. OF ROW	STUDS PER ROW	"W"	"D"	"T"	"a"
C6, W8	4	2	1'-4"	1'-2"	3/4"	3"
W10, W12	4	3	1'-4"	1'-6"	3/4"	4"
W14	4	3	1'-4"	1'-6"	3/4"	4"
W16	4	3	1'-4"	1'-10"	1"	6"
W18	4	3	1'-4"	1'-10"	1"	6"
W24	4	3	1'-4"	2'-0"	1"	6"





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	DECK ATT	ACHMENTS	MAX.	UNSHORED				
CULA	AR TO SUPPORTS	PARALLEL	SEAMS				REMARKS	
	INTERMEDIATE	TO SUPPORT	JLAWIJ	SINGLE	DOUBLE			
DS	4-1/2"Ø PUDDLE WELDS	1/2"Ø PUDDLE WELDS @ 12" O.C.	BUTTON PUNCH @ 18" O.C.	9'-1"	10'-2"	10'-6"	TYPICAL FLOOR DECK	
DS	4-1/2"Ø PUDDLE WELDS	1/2"Ø PUDDLE WELDS @ 12" O.C.	BUTTON PUNCH @ 18" O.C.	8'-6"	9'-6"	9'-10"	-	
DS	4-1/2"Ø PUDDLE WELDS	1/2"Ø PUDDLE WELDS @ 12" O.C.	BUTTON PUNCH @ 18" O.C.	-	-	-	-	
DS	4-1/2"Ø PUDDLE WELDS	1/2"Ø PUDDLE WELDS @ 12" O.C.	VSC2 @ 12" O.C.	7'-6"	9'-6"	9'-6"	-	
DS	4-1/2"Ø PUDDLE WELDS	1/2"Ø PUDDLE WELDS @ 12" O.C.	VSC2 @ 6" O.C.	7'-6"	9'-6"	9'-6"	-	







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—(M.4)

1 S-392 -(N.1)

T.O.S. # ' - ## " INDICATES TOP OF STEEL ELEVATION

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INDICATES BRACE/ KICKER ABOVE

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FRAMING NOTES:

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FOR GENERAL NOTES AND TYPICAL DETAILS SEE S-001 THRU S-018 SHEETS. GENERAL NOTES & TYPICAL DETAILS APPLY TO ALL PARTS OF THE WORK EXCEPT WHERE SPECIFICALLY DETAILED OR U.N.O.

K

- FOR GRAVITY STEEL COLUMN SCHEDULE & DETAILS, SEE SHEET S-301.
- VERIFY ALL DIMENSIONS, ELEVATIONS, SLAB EDGES, SLAB DEPRESSIONS, SLAB OPENINGS, CURBS, FOOTING, PENETRATIONS, WALL OPENINGS WITH ARCHITECTURAL, MECHANICAL, PLUMBING, ELECTRICAL & CIVIL DRAWINGS.
- FOR GRID LINE DIMENSIONS, SEE ARCHITECTURAL DRAWINGS.
- FOR ALL DIMENSIONS & ROOF SLOPES SEE ARCHITECTURAL DRAWINGS.
- TOP OF STEEL ELEVATION SHALL BE TOP OF CONCRETE ELEVATION MINUS THICKNESS OF CONCRETE & METAL DECK, U.N.O.
- BEAMS THAT FRAME AROUND OPENINGS IN SLAB SHOULD BE CENTERED 1'-0" 7. FROM THE EDGE OF SLAB U.N.O.
- PROVIDE MIN. W8x10 BEAMS IN TWO DIRECTION AT VIBRATION ISOLATOR STANCHION. FOR STANCHION BASE PLATE SEE 5/S-612.

			5.8
	W16x26 W16x26	W14x22	W8x10
	W16x26 W16x26	W24x55	W24x55
		W18x35 <c=1-1 4=""></c=1-1>	W8x10
		W18x35 <c=1-1 4=""></c=1-1>	M18x35 W18x35 W14x22 W8x10
		W21x44	₩21x44
		W18x35 <c=1-1 4=""></c=1-1>	
AME No.	◆	W18x35 <c=1-1 4=""></c=1-1>	M18X3 M14X22
	K	W21x44	W21x44
	◆ M12x14	W18x35 <c=1-1 4=""> W18x35 <c=1-1 4=""></c=1-1></c=1-1>	W8x10 W8x10 W19X32 W8x10 W8x10
		W21x44	₩21x44
	₩12x19	W16x26 <c=1-1 4=""></c=1-1>	W8x10 H7X32 H7X32 H7X32
17 S-018 W18x35	WT3x10	W21x44 <c=1> W21x50</c=1>	≥ <u>W8x10</u> ≥
	V WT3x10	WT3x10 ✓ V18x40 ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓	W8x10
W21x44 <c=1-1 4=""></c=1-1>	UT4x7.5	V21x44 <c=3 4=""> WT4x7.5 8"</c=3>	W21X44 W14X22
W21x44 <c=1> W24x68</c=1>	WT4x7.5 WT4x7.5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	SMF WT4x7.5 2x19 2 S-403 W24x55	W24x55

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FOR GENERAL NOTES AND TYPICAL DETAILS SEE S-001 THRU S-018 SHEETS. GENERAL NOTES & TYPICAL DETAILS APPLY TO ALL PARTS OF THE WORK EXCEPT WHERE SPECIFICALLY DETAILED OR U.N.O.

K

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- BEAMS THAT FRAME AROUND OPENINGS IN SLAB SHOULD BE CENTERED 1'-0" FROM THE EDGE OF SLAB U.N.O.
- PROVIDE MIN. W8x10 BEAMS IN TWO DIRECTION AT VIBRATION ISOLATOR STANCHION. FOR STANCHION BASE PLATE SEE 5/S-612.
- DESIGN BUILD TRUSS LOADS: DESIGN ALL OPEN WEB JOISTS FOR THE FOLLOWING SUPERIMPOSED LOADS. THE SELF WEIGHT OF THE OPEN WEB JOISTS IS NOT INCLUDED IN THE LOADS BELOW. LOADS ARE PER ASCE 7/10
- = 142 PLF DEAD LOAD: D REDUCED ROOF LIVE LOAD: LR = 100 PLF ALL JOISTS SHALL BE DESIGNED TO CARRY A SUSPENDED C
- CONCENTRATED LIVE LOAD L=300 POUNDS IN ADDITION TO THE SPECIFIED DEAD AND LIVE LOAD TO BE APPLIED TO ANY ONE PANEL POINT ALONG THE BOTTOM AND TOP CHORD.
- THE TRUSS DESIGNATED TO SUPPORT THE OPERABLE PARTITION SHALL D. BE DESIGNED FOR THE LOADS IN A-C, AS WELL AS AN ADDITIONAL 350 PLF DEAD LOAD DUE TO THE OPERABLE PARTITION.
- SINGLE MAST SIDE FOLD BACKBOARDS SHALL BE SUPPORTED AT JOIST PANEL POINTS. JOIST SHALL BE DESIGNED TO CARRY AN ADDITIONAL CONCENTRATED DEAD LOAD= 350 POUNDS AND LIVE LOAD=250 POUNDS AT THESE PANEL POINTS. SEE ARCHITECTURAL DRAWINGS FOR EXACT MOUNTING LOCATIONS.

SEE GENERAL NOTES FOR DEFLECTION CRITERIA AND ADDITION INFORMATION

<u>LEGEND</u>

777 77	INDICATES CHANGE IN FLOOR ELEVATION
R-# D-#	INDICATES DECK SPAN DIRECTION AND TYPE PER SCHEDULE ON 9/S-016
	INDICATES STEEL COLUMN
	INDICATES CONCRETE WALL BELOW
	INDICATES CONCRETE FILL PER TYPICAL RAISED FLOOR DETAIL
	INDICATES AREA OF D-2 DECK
• 0	INDICATES DRAG BEAM CONN. PER TYP. DETAILS
>	INDICATES MOMENT FRAME CONNECTION
■	INDICATES RIGID MOMENT CONNECTION PER TYP. DETAILS
♦	INDICATES FULL HEIGHT STIFFENER PLATE
<	INDICATES BOTTOM FLANGE BRACE
II	INDICATES BENT BEAM CONNECTION
C.A:	INDICATES COLUMN ABOVE
SMF	DENOTES SPECIAL MOMENT FRAME, SEE SHEETS S-401 THRU S-404
[X]	INDICATES NUMBER OF SHEAR STUDS. IF NOT SHOWN, PROVIDE 3/4"Ø HEADED STUD @ 12"O.C.
<c=x></c=x>	INDICATES UPWARD CAMBER IN BEAM (INCHES)
\rightarrow	INDICATES ANGLE BRACE PER TYP DETAIL 8/S-015
- -	INDICATES TOP OF CONCRETE ELEVATION
T.O.S. # ' - ## "	INDICATES TOP OF STEEL ELEVATION
J#	INDICATES DESIGN BUILD TRUSS. SEE SCHEDULE THIS SHEET FOR REFERENCE SIZES. SEE ARCH FOR ADD'L INFORMATION. SEE PLAN NOTE #9 FOR DESIGN CRITERIA

>	DESI	DICATES OMF CONNECTION P GN BUILD TRUSS SCHE	ER 7/S-015 DULE
	MARK	REFERENCE SIZE	NOTES
	J-1	68-85-68LH	
	J-2	96-113-96LH	

T.O.S. 140' - 3" TYP. @ FRAMING ALONG GRID LINE 5

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1								
							CONCRE	TE BEA
2		MARK	WIDTH	DEPTH		QL SUPPORT LEFT		
		GB-1	30"	30"	<u>ــــــــــــــــــــــــــــــــــــ</u>		6-#9	
					ـــــــــــــــــــــــــــــــــــــ		<u>6-#9</u> 5-#8	
		GB-2	30"	30"			5-#8	
3								
							г	FFT
		<u>NOTE:</u> 1. LEFT 2. ALL (SUPPORT IS GRADE BEAM	DEFINED AS SI REINFORCING	JPPORT TO THE LEFT TO BE A706 STEEL.	OF THE BEAM MARK.	<u>,</u>	SUPPOR T GE
		3. TIES 4. WHE ONLY	WITHIN LEFT RE LAP SPLIC /, AND THEIR	/ RIGHT REGIO E FOR LONGIT LENGTH SHALL	NS CORRESPOND TO UDINAL BARS ARE RE . BE ENCASED BY #4	THE " CLOSED HOOP F QUIRED, THEY SHALL (CLOSED TIES @ 4" O.C.	REGION" ON 14/S-511. DCCUR AT MID-SPAN	
4								
	4 CON S-301 NTS	ICRETE B	EAM SCI	HEDULE				
5								
6								
8								
16 5:08:30 F								
1/22/2(A			В			С	

В

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С

LEVEL 2 118' - 0" LEVEL 1 100' - 0" COLUMN LOCAT

UPPER ROOF 141' - 0"

G

	G	RAVITY	COLU	MN S	SCHE	EDUL	E
UPPER ROOF FRAMING	G PLAN						UPPER ROOF FRAMING PLAN
141' - 0"							141' - 0"
ROOF LOWER							ROOF LOWER
134' - 0"							134' - 0"
LEVEL 2							LEVEL 2
118' - 0"			W10x49		W10X39		118' - 0"
LEVEL 1							LEVEL 1
100' - 0"						-	100' - 0"
- COLUMN LOCATION			N-2, M-2, L- L-3, K-3, M- M-5, L-5, K-	2, K-2, M-3, 4, L-4, K-4, -5, A-3, A-4	N-1, M-1, L- D-1, C-1, E D-5.8, C-{	1, K(12')-1, 3-1, E-5.8, 5.8, B-5.8	
			3/4"x 14	4"x 1' - 2"	3/4"x 12	2"x 1' - 2"	BASE PLATE SIZE (t x B x N) GR 50
			4 - 3	- 3/4"Ø	4 - 3	3/4"Ø	ANCHOR BOLTS (F1554-55) NUMBER & SIZE
				1		1	COLUMN BASE CONN DETAIL

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S-301

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				FO		NOTES:	
NDICATES CHANGE IN FLOOR ELEVATION	GB-#	INDICATES CONCRETE GRADE BE ON S-301	EAM PER SCHEDULE	1.	FOR GENERAL SHEETS. GENE	NOTES AND TYPICAL DE RAL NOTES & TYPICAL E	ETAILS DETAIL
NDICATES CONCRETE WALL	<u> </u>	INDICATES CONCRETE FOOTING			THE WORK EXC	EPT WHERE SPECIFICA	ALLY D
NDICATES CONCRETE WALL OR BEAM BELOW	F — — – SS	INDICATES STEPPED FOOTING PI	ER TYP. DETAIL	2.	VERIFY ALL DIM DEPRESSIONS, WALL OPENING ELECTRICAL &	IENSIONS, ELEVATIONS SLAB OPENINGS, CURE S WITH ARCHITECTURA CIVIL DRAWINGS.	5, SLAE 3S, FO AL, ME
NDICATES CMU WALL BELOW	T.O.F #' - #"	INDICATES TOP OF FOOTING ELE TO TOP OF SLAB ON GRADE @ D	VATION COMPARED ATUM ELEVATION	3.	FOR ALL DIMEN FOR EDGE OF S DIMENSIONS	ISIONS, SEE ARCHITECT BLAB DIMENSION. SEE G	TURAL 3-004 f
NDICATES CONCRETE FOOTING PER SCHEDULE ON THIS SHEET		INDICATES AREA OF CONC OVER	METAL DECK TYPE D-3	4.	FOR SLAB ON G	GRADE SUB-GRADE PRE	PARA
NDICATES DECK SPAN DIRECTION AND TYPE				5.	ALL GRADING 8	FOUNDATION WORK M	IUST B

INDICATES DECK SPAN DIRECTION AND TYPE PER SCHEDULE ON 9/S-016

		WAL	L FOOTING SCH	IEDULE			
	DIMEN	ISIONS		REINF	ORCING		
MARK		WIDTH DEPTH	LONGI	LONGITUDINAL		TRANSVERSE	
	WIDTH		QUANTITY	SIZE	SIZE	SPACING	
CF2	6' - 0"	1' - 6"	4	5	4	1' - 0"	TOP & BO
CF3	4' - 0"	1' - 6"	3	5	4	1' - 0"	TOP & BO

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ROOF - COVERED PARKING NORTH Scale: 1/8" = 1'-0" Ref:

1 S-392

FRAMING NOTES

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FOR GENERAL NOTES AND TYPICAL DETAILS SEE S-001 THRU S-018 SHEETS. GENERAL NOTES & TYPICAL DETAILS APPLY TO ALL PARTS OF THE WORK EXCEPT WHERE SPECIFICALLY DETAILED OR U.N.O.

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- FOR GRAVITY STEEL COLUMN SCHEDULE & DETAILS, SEE SHEET S-301.
- VERIFY ALL DIMENSIONS, ELEVATIONS, SLAB EDGES, SLAB DEPRESSIONS, SLAB OPENINGS, CURBS, FOOTING, PENETRATIONS, WALL OPENINGS WITH ARCHITECTURAL, MECHANICAL, PLUMBING, ELECTRICAL & CIVIL DRAWINGS.
- FOR GRID LINE DIMENSIONS, SEE ARCHITECTURAL DRAWINGS.
- FOR ALL DIMENSIONS & ROOF SLOPES SEE ARCHITECTURAL DRAWINGS.
- TOP OF STEEL ELEVATION SHALL BE TOP OF CONCRETE ELEVATION MINUS THICKNESS OF CONCRETE & METAL DECK, U.N.O.
- BEAMS THAT FRAME AROUND OPENINGS IN SLAB SHOULD BE CENTERED 1'-0" FROM THE EDGE OF SLAB U.N.O.
- 8. PROVIDE MIN. W8x10 BEAMS IN TWO DIRECTION AT VIBRATION ISOLATOR STANCHION. FOR STANCHION BASE PLATE SEE 5/S-612.

LEGEND

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INDICATES CHANGE IN FLOOR ELEVATION

INDICATES DECK SPAN DIRECTION AND TYPE PER SCHEDULE ON 9/S-016

INDICATES STEEL COLUMN

INDICATES CONCRETE WALL BELOW

INDICATES CONCRETE FILL PER TYPICAL RAISED FLOOR DETAIL

INDICATES AREA OF D-2 DECK

INDICATES DRAG BEAM CONN. PER TYP. DETAILS

INDICATES MOMENT FRAME CONNECTION

INDICATES RIGID MOMENT CONNECTION PER TYP. DETAILS

INDICATES FULL HEIGHT STIFFENER PLATE CONNECTION PER 14/S-014

INDICATES BOTTOM FLANGE BRACE CONNECTION PER 13/S-014 INDICATES BENT BEAM CONNECTION

PER TYP. DETAILS INDICATES COLUMN ABOVE

DENOTES SPECIAL MOMENT FRAME, SEE SHEETS S-401 THRU S-404 INDICATES NUMBER OF SHEAR STUDS. IF NOT

SHOWN, PROVIDE 3/4"Ø HEADED STUD @ 12"O.C. INDICATES UPWARD CAMBER IN BEAM (INCHES)

INDICATES ANGLE BRACE PER TYP DETAIL 8/S-015

INDICATES TOP OF CONCRETE ELEVATION

T.O.S. # ' - ## " INDICATES TOP OF STEEL ELEVATION

INDICATES DESIGN BUILD TRUSS. SEE SCHEDULE THIS SHEET FOR REFERENCE SIZES. SEE ARCH FOR ADD'L INFORMATION. SEE PLAN NOTE #9 FOR DESIGN CRITERIA

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INDICATES OMF CONNECTION PER 7/S-015

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	2	 PURPOSE THE STANDARD QUALITY ASSURANCE PLAN (HEREINAFTER REFERRED TO AS "STANDARD QA PLAN") FOR STEEL MOMENT FRAMES PROVIDES SPECIFICATIONS, PROCEDURES, AND ILLUSTRATIVE DETAILS TO COMPLY WITH THE REQUIREMENTS OF THE 2014 LOS ANGELES BUILDING CODE. THE QUALITY ASSURANCE REQUIREMENTS DESCRIBED IN THIS STANDARD QA PLAN ARE INTENDED TO PROMOTE PUBLIC SAFETY AND WELFARE BY STANDARDIZING INSPECTIONS, TESTS, AND ALL OTHER APPLICABLE MEASURES THAT ENSURE SUBSTANTIAL COMPLIANCE WITH THE CODE PERFORMANCE OBJECTIVES OF STEEL MOMENT FRAME CONNECTIONS. II. HOW TO USE THIS STANDARD QA PLAN TO USE THE STANDARD QA PLAN, FOLLOW THE STEPS OUTLINED BELOW: STANDARD QA PLAN SHALL BE ATTACHED TO OR INCORPORATED IN THE STRUCTURAL PLAN WHERE THE STANDARD QA PLAN IS ATTACHED TO THE STRUCTURAL PLAN, THE ENGINEER OF RECORD SHALL: A. IDENTIFY THE TYPE OF STEEL MOMENT FRAME TO BE USED IN THE BUILDING OR STRUCTURE BY PLACING AN "X" MARK IN THE BOX BELOW: SPECIAL MOMENT FRAME (SMF) INTERMEDIATE MOMENT FRAME (IMF) ORDINARY MOMENT FRAME (OMF) 	 WELDING PROCESSES STRUCTURAL WELDING SHALL FLUX CORED ARC WELDING PR BASE METAL REPAIRS OR REST ANY REPAIR OR RESTORATION FOLLOWING: A. ENGINEER OF RECORD SHAP PROCEDURES PRIOR TO WEL B. ENSURE THAT REPAIR PROCE SECTION 5.26 AND ASTM A6/A C. ALL WELDING SHALL BE PER SMAW USING LOW-HYDROGE D. PROVIDE CONTINUOUS VISU E. PROVIDE NON-DESTRUCTIVE DEVIATIONS FROM THE STAND/ DEVIATIONS FROM ANY PART O THE PROCEDURES OUTLINED E A. DEVIATIONS FROM THE STAND BY THE ENGINEER OF RECOF B. ENGINEER OF RECORD SHA AND/OR DETAILS TO JUSTIFY C. SUBMIT THE PROPOSED DEV DEPARTMENT FOR REVIEW A D. SUPPLEMENTAL TESTING AND
		 B. PLACE A NOTE ON THE STRUCTURAL PLAN STATING "ALL SPECIFICATIONS, TABLES, AND NOTES IN THE CITY OF LOS ANGELES' STANDARD QUALITY ASSURANCE PLAN FOR STEEL MOMENT FRAMES SHALL BE PART OF THIS APPROVED STRUCTURAL PLAN." C. SIGN AND STAMP THE STANDARD OA PLAN IN THE BOX PROVIDED AT THE 	JUSTIFY THE DEVIATION. E. CONFORMANCE WITH ALL AI AWS IS REQUIRED. IV. QUALITY ASSURANCE
	3	 LOWER RIGHT CORNER OF EACH SHEET. WHERE THE STANDARD QA PLAN IS INCORPORATED DIRECTLY IN THE STRUCTURAL PLAN, THE ENGINEER OF RECORD SHALL PLACE A NOTE ON THE STRUCTURAL PLAN TO CLEARLY INDICATE THE TYPE OF STEEL MOMENT FRAME TO BE USED IN THE BUILDING OR STRUCTURE. ALL OF THE QUALITY ASSURANCE REQUIREMENTS LISTED IN THE STANDARD QA PLAN SHALL BE APPLIED TO SPECIAL MOMENT FRAMES, INTERMEDIATE MOMENT FRAMES, AND ORDINARY MOMENT FRAMES, UNLESS NOTED OTHERWISE HEREIN. ORGANIZE AND SUBMIT ALL REPORTS REQUIRED IN TABLE 1 ON QUALITY ASSURANCE TABLE SHEET TO THE CITY BUILDING INSPECTOR IN A TIMELY MANNER FOR REVIEW AND APPROVAL. THE PROCEDURES, SPECIFICATIONS AND ILLUSTRATIVE DETAILS AS DESCRIBED IN THE STANDARD QA PLAN SHALL NOT EXEMPT THE ENGINEER OF RECORD FROM USING ENGINEERING JUDGMENT IN DETERMINING THE SUITABILITY OF APPLYING THE STANDARD QA PLAN TO ANY WELDED CONNECTIONS. ANY DEVIATIONS IN THE QUALITY ASSURANCE REQUIREMENT AS SPECIFIED IN THE STANDARD QA PLAN SHALL COMPLY WITH PART III ITEM 5 OF THE STANDARD QA PLAN. 	 CERTIFICATION A. INSPECTORS SHALL BE LADI SECTION 1701.2 AND INFORM REGARDING REGISTRATION EMPLOYMENT SHALL BE IN A 2002-034 "EMPLOYMENT AND B. WELDERS SHALL BE LADBS CLASSIFICATION PER LABCS BULLETIN P/BC 2002-045 "WE C. SHOP WELDS SHALL BE PER SHOP PER LAMC SECTION 96 2002-042 "APPLICATION FOR D. TECHNICIANS PERFORMING CERTIFIED FOR LEVEL II IN A BY A TESTING AGENCY APPF INFORMATION BULLETIN P/BU
	4	 III. GENERAL REQUIREMENTS 1. REFERENCED DOCUMENTS THE DESIGN AND CONSTRUCTION OF STEEL MOMENT FRAMES SHALL BE IN COMPLIANCE WITH THE FOLLOWING: A. CITY OF LOS ANGELES BUILDING CODE, 2014 EDITION (HEREINAFTER REFERRED TO AS "LABC"). B. AISC SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS, PART I AND PART III, DATED MAY 21, 2002 (HEREINAFTER REFERRED TO AS "AISC SEISMIC"). C. AWS D1.1/D1.1M:2002 STRUCTURAL WELDING CODE - STEEL (HEREINAFTER REFERRED TO AS "AWS"). 2. MATERIAL SPECIFICATIONS A. STRUCTURAL STEEL SHALL COMPLY WITH UBC STANDARD 22-1 AND THE FOLLOWING ASTM STANDARD SPECIFICATIONS: I. WIDE FLANGE SHAPES	 TESTING AGENCIES." PRE-CONSTRUCTION MEETING A. THE OWNER (OR OWNER'S F MEETING(S) WITH THE ENGINE DESIGNATED BY THE ENGINE SUB-CONTRACTOR), AND TH WELDING PROCEDURES, BO FOR ALL WELDING AND BOLT B. THE CITY BUILDING INSPECT MAY PARTICIPATE AT HIS/HE C. MEETING RECORD(S) SHALL CITY BUILDING INSPECTOR. STRUCTURAL OBSERVATION STRUCTURAL OBSERVATION SF BULLETIN P/BC 2002-024. THE S
	5	 III. CONTINUITY, DOUBLER AND COLUMN BASE PLATES	 A. PERFORM STRUCTURAL OBS B. PERFORM STRUCTURAL OBS BY FIREPROOFING, ENCASEI C. SUBMIT OBSERVATION REPORT STAGE OBSERVED AND UPO D. STATE IN THE REPORT THAT CONFORMS WITH THE APPRE E. USE THE DEPARTMENT'S ST OBSERVATIONS. STRUCTUR, WWW.LADBS.ORG, KEYWOR 4. DEPUTY INSPECTION THE FOLLOWING ARE THE BASI DEPUTY INSPECTORS: A. ARRIVE ON THE JOB IN SUFF CHECK FOR PRIOR INSPECT INSPECTOR OR PREVIOUS D MATERIALS AND BECOME FASPECIFICATIONS. B. VERIFY THAT STRUCTURAL SLICENSED BY THE DEPARTM C. IDENTIFY MATERIAL FROM A SECTION 2203 AND COMPAR
	6	 SPECIFICATIONS AS REFERENCED IN TABLE 7 ON SHEET 2. II. FILLER METALS SHALL BE CLASSIFIED FOR NOMINAL 70 KSI TENSILE STRENGTH. III. THE MAXIMUM PERMITTED ELECTRODE DIAMETER SHALL BE IN ACCORDANCE WITH TABLE 5 ON MF QUALITY ASSURANCE TABLE. IV. FILLER METALS SHALL HAVE A MINIMUM CHARPY V-NOTCH (CVN) TOUGHNESS OF 20 FT-LBF AT -20°F USING AWS A5 CLASSIFICATION TEST METHODS. V. THE USE OF INTERMIXED WELDS SHALL NOT OCCUR UNLESS IT CAN BE DEMONSTRATED BY TESTING IN ACCORDANCE WITH AWS SECTION 4. VI. THE PARAMETERS ESTABLISHED BY THE ELECTRODE MANUFACTURER SHALL BE REFLECTED IN THE APPROVED WPS. D. OTHER MATERIALS NOT LISTED IN UBC STANDARD 22-1 OR LABC CHAPTER 35 ARE NOT PERMITTED WITHOUT SPECIFIC APPROVAL FROM THE DEPARTMENT. 	 D. VERIFY THAT EACH STEEL P SHOP NAME AND LICENSE N E. VISUAL CHECK SHOP WELDS STAMPS AND COLOR CODES LAMINATION, AND DIMENSIO F. BEFORE ANY WELDING BEG SURFACES TO BE WELDED, S OF ALL WELDERS, AND VOLT G. ENSURE THAT ALL WELDING H. MEASURE VOLTAGE/AMPER. AVERAGING TYPE METER. T A YEAR. THIS EQUIPMENT S DEPUTY INSPECTOR. I. DURING WELDING OPERATIO MULTIPLE PASS WELDS TO A CORRECTLY, PREHEAT AND FINISHED WELDS SHALL BE DISCONTINUITIES. J. MARK STEEL NEAR THE WEI K. VERIFY TYPE AND SIZE OF E VERIFY FAYING SURFACES A THAT MAY INHIBIT FULL CON L. VERIFY CONNECTIONS INVO
			FABRICATED PER PART III ITI PART V ITEM 2, UNLESS SPE
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MOMENT FRAME QUALITY ASSURANCE: TABLES

- E LIMITED TO THE SHIELDED METAL ARC WELDING OR DCESSES.
- ORATIONS OF BASE METAL SHALL COMPLY WITH ALL OF THE REVIEW AND APPROVE THE WPS FOR REPAIR

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- EDURES MEET THE REQUIREMENTS OUTLINED IN AWS M-02 SECTION 9.2, 9.3, 9.4 AND 9.5. FORMED USING LOW-HYDROGEN PROCESS OR WITH
- ELECTRODES. L INSPECTION BY THE DEPUTY INSPECTOR. ETESTING UPON COMPLETION OF THE REPAIR WORK.
- RD QUALITY ASSURANCE PLAN THE STANDARD QA PLAN MAY BE MADE PROVIDED ELOW ARE FOLLOWED: DARD QA PLAN MUST BE REVIEWED AND APPROVED
- PROVIDE ALTERNATE PROCEDURES, SPECIFICATIONS, HE DEVIATIONS. ATIONS FROM THE STANDARD QA PLAN TO THE ID APPROVAL PRIOR TO COMMENCEMENT OF WORK D ADDITIONAL SPECIFICATIONS MAY BE REQUIRED TO
- PLICABLE PROVISIONS OF THE LABC, AISC, AND
- S CERTIFIED DEPUTY INSPECTORS PER LABC ATION BULLETIN P/BC 2002-035 "REGULATIONS
- OR DEPUTY AND CONTROLLED ACTIVITIES INSPECTION." CORDANCE WITH INFORMATION BULLETIN P/BC DUTIES OF A REGISTERED DEPUTY INSPECTOR.' ERTIFIED WELDERS FOR THE STRUCTURAL STEEL CTION 1701.18.1, 2205.10, AND INFORMATION DER CERTIFICATION RULES AND REGULATIONS. ORMED IN AN LADBS CERTIFIED FABRICATOR'S
- 204(G) AND INFORMATION BULLETIN P/BC APPROVAL AS FABRICATOR." NON DESTRUCTIVE TESTING (NDT) SHALL BE CCORDANCE WITH ASNT SNT-TC-1A 2002 EDITION
- OVED PER LAMC SECTION 98.0503 AND 2002-058 "GUIDELINES FOR RECOGNITION OF
- PRESENTATIVE) SHALL ARRANGE A PRE-CONSTRUCTION EER OF RECORD (OR STRUCTURAL OBSERVER ER OF RECORD), THE CONTRACTOR (OR AFFECTED DEPUTY INSPECTOR TO DISCUSS AND REVIEW TING PROCEDURES, AND INSPECTION REQUIREMENTS NG OPERATIONS. OR SHALL BE NOTIFIED OF SUCH MEETING(S) AND DISCRETION.
- BE INCLUDED IN THE FIRST REPORT SUBMITTED TO THE
- HALL BE PERFORMED IN ACCORDANCE WITH INFORMATION TRUCTURAL OBSERVER SHALL ERVATION PRIOR TO PLACEMENT OF DECKING. COVERING IENT IN CONCRETE OR PLACEMENT OF OTHER FINISHES. RT(S) TO THE CITY BUILDING INSPECTOR AT EACH N COMPLETION OF THE STRUCTURAL SYSTEM. THE STEEL MOMENT FRAME SYSTEM SUBSTANTIALLY OVED STRUCTURAL PLANS AND SPECIFICATIONS. RUCTURAL OBSERVATION REPORT FORM TO REPORT ALL OBSERVATION REPORT FORM CAN BE OBTAINED AT "INFORMATION BULLETIN P/BC 2002-024".
- C QUALITY ASSURANCE RESPONSIBILITIES OF THE
- ICIENT TIME TO VERIFY THE PERMIT INFORMATION ONS AND/OR APPROVALS BY THE CITY BUILDING EPUTY INSPECTORS, CHECK THE QUALITY OF ALL MILIAR WITH THE APPROVED STRUCTURAL PLANS AND
- STEEL DELIVERED IS FROM A FABRICATOR CURRENTLY OFFSITE FABRICATOR IN ACCORDANCE WITH LABC TO THE APPROVED PLANS AND SPECIFICATIONS.
- ECE IS LABELED WITH THE APPROVED FABRICATOR'S , JOINT PREPARATION, FAYING SURFACES, INDENTATION OF HIGH STRENGTH STEEL. EXCESSIVE MILL SCALE OR
- VAL CONFORMITY WITH THE APPROVED PLANS. NS. INSPECT JOINT PREPARATION. FIT-UP. CONDITION OF TORAGE AND USE OF ELECTRODES, CURRENT LICENSE AGE/AMPERAGE OF WELDING MACHINES. AND INSPECTION ACTIVITIES COMPLIES WITH AWS.
- AGES NEAR THE ARC WITH A HAND HELD CALIBRATED IE METER SHALL BE CALIBRATED NOT LESS THAN ONCE ALL BE USED BY THE FABRICATOR. ERECTOR. AND
- N. PROVIDE CONTINUOUS INSPECTION PARTICULARLY ON SSURE THAT EACH PASS HAS BEEN PREPARED INTERPASS TEMPERATURES ARE MAINTAINED AND THAT THE CORRECT SIZE AND WITHOUT REJECTABLE
- DMENT TO INDICATE THAT INSPECTION WAS MADE. OLTS AND WASHERS, CHECK MILL CERTIFICATES, AND E FREE OF BURRS, SCALE, RUST, GREASE OR ANYTHING LVING HIGH STRENGTH BOLTS AND WELDS ARE
- M 2(B) AND 2(C) AND ERECTED IN A SEQUENCE PER CIFIED OTHERWISE BY THE ENGINEER OF RECORD.

- M. VERIFY HIGH STRENGTH BOLTS ARE NOT WELDED OR DAMAGED BY PREHEATING. N. VERIFY WASHERS ARE ALWAYS INSTALLED WITH ALL BOLTS, EXCEPT A-490 BOLTS
- WHICH REQUIRE WASHERS UNDER BOTH ELEMENTS. O. VERIFY THAT ANY DEFICIENCY NOTED IN THE STRUCTURAL OBSERVATION REPORT FORM HAS BEEN CORRECTED.
- P. VERIFY THAT THE ENGINEER OF RECORD HAS APPROVED THE WRITTEN WELDING PROCEDURE SPECIFICATION (WPS) PREPARED BY THE FABRICATOR OR ERECTOR. THE WPS SHALL INCLUDE THE FOLLOWING: ALL APPLICABLE REQUIREMENTS FROM THE CODES. THE STANDARD QA PLAN. AND ANY OTHER INFORMATION NECESSARY TO PRODUCE THE WELDS.
- II. LIST THE APPLICABLE BASE METAL TYPES AND THICKNESSES. III. LIST THE WELDING JOINT DETAIL, INCLUDING JOINT TYPE, WELD TYPE, JOINT GEOMETRY, AND APPLICABLE DIMENSIONS. INDIVIDUAL WELD PASSES SHALL BE IDENTIFIED IN SKETCHES AND NUMBERED TO IDENTIFY THE SEQUENCE OF THEIR DEPOSITION (SEE DETAIL 6 ON SHEET 2 FOR EXAMPLE). THE SKETCHES SHALL IDENTIFY THE MAXIMUM LAYER THICKNESSES AND BEAD WIDTHS. IN NO CASE SHALL LAYER THICKNESSES EXCEED 1/4 INCH NOR SHALL
- THE MAXIMUM BEAD WIDTHS EXCEED 5/8 INCH. IV. LIST THE WELDING PROCESSES.
- V. SPECIFY THE REQUIRED WELDING POSITIONS VI. LIST THE FILLER METAL PER AWS FOR ELECTRODE SPECIFICATION AND CLASSIFICATION (SEE TABLE 7 ON MF QUALITY ASSURANCE TABLE). AS WELL AS INFORMATION REGARDING SHIELDING MATERIAL TO BE USED.
- VII. INDICATE THE MINIMUM PREHEAT AND INTERPASS TEMPERATURES (SEE TABLE 4 ON MF QUALITY ASSURANCE TABLE) AND POST WELD HEAT TREATMENT
- PER PART V ITEM 5 VIII. LIST ALL APPLICABLE ELECTRICAL CHARACTERISTICS FOR THE WELDING PROCESS EMPLOYED. WPS SHALL CLEARLY INDICATE THE SPECIFIC VALUES REQUIRED FOR EACH WELDING PASS. THESE ELECTRICAL CHARACTERISTICS SHALL INCLUDE AT
- MINIMUM THE FOLLOWING: (1) ELECTRODE DIAMETER (SEE TABLE 5 ON MF QUALITY ASSURANCE TABLE), (2) TYPE OF CURRENT, AND ACCEPTABLE RANGES OF CURRENT MEASURED IN AMPERAGE. (3) VOLTAGE.
- (4) TRAVEL SPEED (RANGE), AND
- (5) AMPERAGE, VOLTAGE AND ELECTRODE EXTENSION (AS APPLICABLE) SHALL BE WITHIN THE FILLER METAL MANUFACTURER'S RECOMMENDATIONS IX. A COPY OF THE ELECTRODE MANUFACTURER'S TECHNICAL INFORMATION WITH ID # LISTED SHALL BE ATTACHED TO THE WPS
- Q. WELD JOINTS NOT CONFORMING TO AWS CHAPTER 3 MUST BE TESTED BY AN APPROVED TESTING AGENCY. ACCEPTED BY THE ENGINEER OF RECORD. AND APPROVED BY THE DEPARTMENT'S MATERIAL CONTROL SECTION BEFORE THE WELD IS PERFORMED. MATERIAL CONTROL SECTION CAN BE CONTACTED AT:

LADBS MATERIAL CONTROL SECTION 221 N. FIGUEROA ST., SUITE 1540 LOS ANGELES, CA 90012 (213) 482-0380 OR 1-888-LA-4BUILD

- R. NOTIFY THE CONTRACTOR, ENGINEER OF RECORD, AND CITY BUILDING INSPECTOR OF ANY DEVIATIONS OR NON-COMPLIANCE WITH THE APPROVED WPS, PLANS OR SPECIFICATIONS.
- . "DEPUTY INSPECTION REPORT FORM B-94" SHALL BE SUBMITTED ON A WEEKLY BASIS TO THE CITY BUILDING INSPECTOR AND ENGINEER OF RECORD. UNLESS DETERMINED OTHERWISE BY THE CITY BUILDING INSPECTOR
- DURING THE EXECUTION OF THE WORK, THE DEPUTY INSPECTOR SHALL NOT UNDERTAKE OR ENGAGE IN ANY OTHER TASK OR OCCUPATION WHICH WILL INTERFERE WITH THE PROPER PERFORMANCE OF THE DUTIES OF SUCH INSPECTION.
- 5. ELECTRODE STORAGE AND ATMOSPHERIC EXPOSURE A. ELECTRODES ARE CONSIDERED TO BE EXPOSED TO THE ATMOSHPERE IF: I. THE MANUFACTURER'S SEALED ELECTRODE CONTAINERS OR PACKAGINGS ARE OPENED OR DAMAGED. OR II. OUTSIDE OF BAKING OR STORAGE OVENS.
- ERVATION LISTED IN TABLE 6 ON MF QUALITY ASSURANCE TABLE. B. MODIFICATION OR LUBRICATION OF ELECTRODES ARE NOT PERMITTED. C. DRYING OF ELECTRODES IN BAKING OR STORAGE OVENS ARE PERMITTED AS RECOMMENDED BY THE MANUFACTURER. D. ELECTRODES SHALL BE IDENTIFIED TO FACILITATE MONITORING OF TOTAL
 - ATMOSPHERIC EXPOSURE TIME. E. STORAGE AND ATMOSPHERIC EXPOSURE OF AWS A5.1-91 AND A5.5-96 LOW-
 - HYDROGEN SMAW ELECTRODES SHALL BE IN ACCORDANCE WITH AWS SECTION F. FCAW ELECTRODES NOT CONSUMED WITHIN 24 HRS OF ACCUMULATED ATMOSPHERIC EXPOSURE TIME SHALL NOT BE USED. MANUFACTURER'S RECOMMENDATIONS THAT SHOW THAT DRYING EFFECTIVELY REMOVES MOISTURE
 - AND RESTORES ELECTRODES TO THEIR DESIGNATED DIFFUSIBLE HYDROGEN LEVELS ARE PERMITTED. G. FCAW ELECTRODE WELDING SUSPENDED MORE THAN 8 HRS SHALL BE REMOVED FROM THE MACHINES AND STORED IN AN ELECTRODE WIRE BAKING OR STORAGE OVEN MAINTAINED AT A TEMPERATURE BETWEEN 250° AND 550° F. OR AS RECOMMENDED BY THE ELECTRODE MANUFACTURER.
 - 6. PLASTIC HINGING ZONE PROTECTION A. THE PLASTIC HINGING ZONE SHALL BE IDENTIFIED DIAGRAMMATICALLY. AS ILLUSTRATED IN DETAIL 8 ON SHEET 2, ON THE STRUCTURAL PLANS BY THE ENGINEER OF RECORD.
 - B. THE ENGINEER OF RECORD AND CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING SHOP DRAWINGS OF ALL RELEVANT TRADES TO ENSURE COMPLIANCE. THIS SHALL BE DISCUSSED AND DOCUMENTED IN PRE-CONSTRUCTION MEETINGS. C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEVELOPING A PROGRAM TO ENSURE
 - THAT ALL WORKERS ON THE PROJECT, INCLUDING THEIR SUBCONTRACTORS, ARE AWARE OF AND UNDERSTAND THIS REQUIREMENT. FAILURE TO COMPLY WITH THESE REQUIREMENTS MAY CAUSE THE REPLACEMENT OF STEEL D. PLASTIC HINGING ZONES SHALL BE DEFINED BY PERMANENT MARKINGS SUCH AS
 - PAINT OR INK. E. A NOTE, AS ILLUSTRATED IN DETAIL 8 ON SHEET 2, SHALL BE PROMINENTLY
 - PLACED ON THE STRUCTURAL PLANS (GENERAL NOTE SHEET AND ADJACENT TO MOMENT FRAME DETAIL) AND THE CONSTRUCTION DOCUMENTS OF ALL TRADES. F. WELDED, BOLTED, SCREWED, OR SHOT-IN (POWDER DRIVEN) ATTACHMENTS FOR PERIMETER EDGE ANGLES, SHEAR STUDS, EXTERIOR FACADES, PARTITIONS, DUCT WORK, PIPING, OR OTHER CONNECTIONS SHALL NOT BE PERMITTED WITHIN THE
 - PLASTIC HINGING ZONES. G. ANY PENETRATIONS OR DAMAGE FROM TEMPORARY WELDED ATTACHMENTS WITHIN THE PLASTIC HINGING ZONES SHALL BE REPAIRED AS REQUIRED BY THE ENGINEER OF RECORD AND COMPLY WITH PART III ITEM 4.
 - H. INITIALLY, THE PLASTIC HINGING ZONE "WARNING SIGN", AS ILLUSTRATED IN DETAIL 8 ON SHEET 2, MAY BE TEMPORARY. HOWEVER, THE TEMPORARY "WARNING SIGN" SHALL BE REPLACED BY A PERMANENT "WARNING SIGN" BEFORE PROJECT COMPLETION. THIS SIGN AND IDENTIFICATION OF THE PLASTIC HINGING ZONE SHALL BE MAINTAINED DURING CONSTRUCTION; AND MAY REQUIRE REPAIR AFTER OPERATIONS SUCH AS FIREPROOFING.
 - . SIGNS SHALL BE AFFIXED TO THE BEAM AND LOCATED WITHIN THE PLASTIC HINGING ZONE. THE CITY BUILDING INSPECTOR MAY ACCEPT ALTERNATE METHODS OF ATTACHING THE "WARNING SIGN" TO THE PLASTIC HINGING ZONES.

- V. WELDING PROCEDURES
- HOI F

SEQUENCE:

- PFRFORMFI
- STEP (C). 5 OF THE STANDARD QA PLAN.

- 3. WELDING TECHNIQUE AXIS TO A MAXIMUM OF:
- DETAIL 6 ON SHEET 2.

7. ADDITIONAL CHARPY V-NOTCH TOUGHNESS (NOT REQUIRED FOR OMF) WELDS AT THE LOCATIONS INDICATED BELOW SHALL BE MADE WITH FILLER METAL HAVING A CVN TOUGHNESS OF 20 FT-LBF AT -20°F AND 40 FT-LBF AT 70°F AS DETERMINED BY TEST PROCEDURE PRESCRIBED IN THE AISC SEISMIC APPENDIX X "WELD METAL / WELDING PROCEDURE SPECIFICATION TOUGHNESS VERIFICATION

SINGLE PLATE SHEAR CONNECTIONS TO COLUMNS.

8. NON-DESTRUCTIVE TESTING (NDT) REQUIREMENTS A. THE MINIMUM NON-DESTRUCTIVE TESTING AT EACH WELD JOINTS OR PARTS SHALL BE CONDUCTED AT THE LOCATIONS AND FREQUENCIES AS SPECIFIED IN TABLE 2 AND TABLE 3 ON MF QUALITY ASSURANCE TABLE RESPECTIVELY. B. A COPY OF EACH NDT REPORT SHALL BE PROVIDED TO THE CONTRACTOR.

ENGINEER OF RECORD, DEPUTY INSPECTOR, AND CITY BUILDING INSPECTOR WITH I. DOCUMENT THE ACCEPTED AND REJECTED WELDS, PARTS, OR JOINTS.

II. IDENTIFY THE TESTED WELD BY PIECE MARK AND LOCATION IN THE PIECE. III. IDENTIFY THE TESTED WELD LOCATION IN THE STRUCTURE. . NDT TECHNICIAN SHALL PERFORM THE FOLLOWING TASKS: I. COORDINATE THE NDT SCOPE AND SCHEDULE WITH THE DEPUTY INSPECTOR. II. PERFORM NDT IN A TIMELY MANNER (SO AS NOT TO HINDER CONSTRUCTION

WORK) AND TO DETECT WELDING PROBLEMS SOON AFTER OCCURRENCE SO THAT CORRECTIVE MEASURES CAN BE TAKEN BY THE CONTRACTOR. III. MARK THE INSPECTED AND ACCEPTED WELDS, PARTS, AND JOINTS WITH A DISTINGQUISHING MARK OR DIE STAMP.

I. THE RATE OF UT TESTING ON CJP GROOVE WELDS MAY BE REDUCED IF APPROVED BY THE ENGINEER OF RECORD AND THE DEPARTMENT. THE NDT RATE FOR AN INDIVIDUAL WELDER OR WELDING OPERATOR MAY BE REDUCED TO 25%. PROVIDED THE REJECT RATE IS DEMONSTRATED TO BE 5% OR LESS OF THE WELDS TESTED FOR THE WELDER OR WELDING OPERATOR. A SAMPLING OF VI. WELDING AND FABRICATION DETAILS AT LEAST 40 COMPLETED WELDS FOR A JOB SHALL BE MADE FOR SUCH **REDUCTION EVALUATION.** II. THE RATE OF MT TESTING ON CJP GROOVE WELDS MAY BE REDUCED IF

APPROVED BY THE ENGINEER OF RECORD AND THE DEPARTMENT. THE MT RATE FOR AN INDIVIDUAL WELDER OR WELDING OPERATOR MAY BE REDUCED TO 10%. PROVIDED THE REJECT RATE IS DEMONSTRATED TO BE 5% OR LESS OF THE WELDS TESTED FOR THE WELDER OR WELDING OPERATOR. A SAMPLING OF AT LEAST 20 COMPLETED WELDS FOR A JOB SHALL BE MADE FOR SUCH A REDUCTION EVALUATION. THIS REDUCTION IS NOT PERMITTED ON WELDS IN THE K-AREA, AT REPAIR SITES, WELD TAB AND BACKING REMOVAL SITES AND

ACCESS HOLES. III. REJECT RATE SHALL MEAN THE NUMBER OF WELDS CONTAINING REJECTABLE DEFECTS DIVIDED BY THE NUMBER OF WELDS COMPLETED.

THE REPORTS LISTED IN TABLE 1 ON MF QUALITY ASSURANCE TABLE SHALL BE SUBMITTED TO THE CITY BUILDING INSPECTOR IN A TIMELY MANNER.

1. BOTTOM BEAM FLANGE MOMENT CONNECTION WELDING WHERE WELDING OF THE BOTTOM BEAM FLANGE TO THE COLUMN FLANGE IS IN THE FLAT WELDING POSITION, WELDING SHALL BE COMPLETED WITH THE FOLLOWING

A. START WELDING FROM SIDE A (ONE SIDE OF THE BEAM) WITH A MAXIMUM 1/4 INCH THICK ROOT PASS BEYOND THE CENTER OF THE JOINT ON SIDE B (OTHER SIDE OF THE BEAM), REACHING PAST THE BEAM WEB THROUGH THE WELD ACCESS

OF THE SIDE A BEAM FLANGE. TERMINATING ON THE SIDE A WELD TAB. 2. THE SIDE A ROOT PASS, AND THE ROOT PASS DEPOSIT ON SIDE B, SHALL BE THOROUGHLY CLEANED TO ALLOW THE DEPUTY INSPECTOR TO VERIFY THAT THE RESULTING BEAD PROFILE IS SUITABLE FOR OBTAINING GOOD FUSION BY THE SUBSEQUENT ROOT PASS TO BE INITIATED FROM SIDE B. IF THE PROFILE IS NOT CONDUCIVE TO GOOD FUSION. THE START OF THE FIRST ROOT PASS SHALL BE GROUNDED, GOUGED, CHIPPED, OR OTHERWISE PREPARED TO ENSURE ADEQUATE PROFILE TO ACHIEVE FUSION.

D. COMPLETE THE ROOT PASS ON SIDE B BEFORE ANY OTHER WELD PASSES ARE

. THE ARC SHALL BE INITIATED AT THE START OF THE FIRST SIDE A ROOT PASS, AND ELECTRODE TRAVEL SHALL PROGRESS TOWARD THE EDGE OF THE SIDE B BEAM FLANGE, TERMINATING ON THE SIDE B WELD TAB. F. THE ABOVE SEQUENCE SHALL BE REPEATED FOR SUBSEQUENT WELD LAYERS, AND 4. WELD TAB

EACH WELD LAYER SHALL BE COMPLETED ON BOTH SIDES OF THE JOINT BEFORE A NEW LAYER IS DEPOSITED. THE ORDER OF OPERATIONS (SIDE A, THEN SIDE B, OR VICE VERSA) IS NOT RESTRICTED AND MAY VARY FOR EACH WELD LAYER. WELD PASSES SHALL BE PLACED IN HORIZONTAL LAYERS. EACH PASS SHALL BE THOROUGHLY CLEANED OF SLAG AND WIRE BRUSHED. EACH PASS SHALL BE VISUALLY INSPECTED BY THE DEPUTY INSPECTOR. AS DESCRIBED ABOVE IN

AN ALTERNATE WELDING SEQUENCE MAY BE MADE PROVIDED THE WELDER OR CONTRACTOR SUBMITS IN WRITING AN ALTERNATE SEQUENCE THAT IS APPROVED BY THE ENGINEER OF RECORD AND COMPLIES WITH THE REQUIREMENTS OF PART III ITEMVIL EXEMPTIONS

2. SEQUENCE FOR WELDING AT MULTIPLE LOCATIONS WHEN WELDING OCCUR AT MULTIPLE LOCATIONS OF WELDED STEEL MOMENT FRAME CONNECTIONS. THE FOLLOWING SEQUENCE SHALL BE FOLLOWED: A. WELD BOTH TOP AND BOTTOM BEAM FLANGES PRIOR TO ANY SUPPLEMENTAL WELDING TO THE BEAM WEB OR SHEAR TAB

B. ENGINEER OF RECORD SHALL REVIEW AND APPROVE ALL FIELD WELDING SEQUENCES PRIOR TO THE START OF WORK. C. FIELD WELDING OF WEB SHEAR PLATES WITH BOLTS SHALL OCCUR AFTER FIELD WELDING OF BEAM FLANGES TO COLUMN FLANGE. . NOTWITHSTANDING AISC LRFD SPECIFICATION SECTION J1.9 TO THE CONTRARY.

HIGH STRENGTH BOLTS SHALL BE FULLY TENSIONED UPON COMPLETION OF ALL WELDING ACTIVITIES. A. STRINGER BEADS SHALL BE USED DURING ALL WELDING OPERATIONS. MAXIMUM

BEAD WIDTH, BEAD THICKNESS, AND LAYER THICKNESS SHALL BE CONSIDERED. WEAVING IS NOT PERMITTED, EXCEPT WHEN THE WPS APPROVED BY THE ENGINEER OF RECORD LIMITS ELECTRODE OSCILLATION TRANSVERSE TO THE WELD

I. 3D FOR 1G/1F, 2G/2F, AND 4G/4F WELD POSITIONS. OR II. 5D FOR THE 3G/3F POSITION. WHERE D = ELECTRODE DIAMETER. B. WELDING LAYERS SHOULD PROGRESS FROM THE FACE OF THE COLUMN FLANGE OUTWARD TOWARD THE GROOVE FACE OF THE BEAM FLANGE AS ILLUSTRATED IN 4. PREHEAT AND INTERPASS TEMPERATURE A. THE MINIMUM PREHEAT AND INTERPASS TEMPERATURE REQUIREMENTS IN TABLE 4 OF MF QUALITY ASSURANCE TABLE SHALL BE OBSERVED. SPECIAL ATTENTION SHALL

BE GIVEN TO AWS SECTION 3.5.1 AND SECTION 5.6 FOR THE THICKNESS OF THE BASE METAL TO BE WELDED. B. PREHEAT AND ALL SUBSEQUENT INTERPASS TEMPERATURES SHALL BE MAINTAINED

DURING THE WELDING OPERATION FOR A DISTANCE AT LEAST EQUAL TO THE THICKNESS OF THE THICKER WELDED PART. BUT NOT LESS THAN 3", IN ALL DIRECTIONS FROM THE POINT OF WELDING C. WHERE BASE METALS ARE OF DIFFERENT THICKNESS. THE HIGHER MINIMUM PREHEAT

AND INTERPASS TEMPERATURE REQUIREMENTS OF THE THICKER PLATE SHALL GOVERN. D. MAXIMUM PREHEAT AND INTERPASS TEMPERATURE SHALL NOT EXCEED THE LESSER OF: I. 550°F. OR

II. THE MAXIMUM TEMPERATURE RECOMMENDED BY THE MANUFACTURER.

5. POST WELD HEAT TREATMENT UNLESS SPECIFIED OTHERWISE IN AN APPROVED WPS, THE MINIMUM POST WELD HEAT

- TREATMENT SHALL BE PROVIDED AS FOLLOWS A. APPLY TEMPERATURE IN THE 400°F TO 600°F RANGE IMMEDIATELY AFTER COMPLETION OF WELDING TO PREVENT THE WELD METAL FROM COOLING BELOW THE MINIMUM PREHEAT AND INTERPASS TEMPERATURE
- B. MAINTAIN TEMPERATURE FOR APPROXIMATELY 1 HOUR PER INCH OF THICKNESS OF WELD METAL OR 2 HOURS, WHICHEVER IS LESS C. CONDITIONS SPECIFIED IN AWS SECTION 3.14 AND SECTION 5.8 SHOULD
- CAREFULLY BE CONSIDERED WHEN APPLYING POST WELD HEAT TREATMENT ALTERNATIVELY. THE USE OF INSULATING BLANKETS AFTER THE COMPLETION OF WELDING IN LIEU OF POST WELD HEAT TREATMENT MAY BE PERMITTED TO CONTROL THE COOLING OF THE WELDED CONNECTION TO AMBIENT TEMPERATURE IF RECOMMENDED BY THE ENGINEER OF RECORD AND APPROVED BY THE CITY BUILDING INSPECTOR; UNLESS REQUIRED OTHERWISE BY AN APPROVED WPS.

- 1. BASE METAL JOINT PREPARATION A. BASE METAL PREPARATION SHALL BE IN COMPLY WITH AWS SECTION 5.15.
- B. ALL BEAM FLANGE TO COLUMN FLANGE WELDS ARE TO BE MADE WITH AN AWS PREQUALIFIED CJP GROOVE WELDED JOINT DETAIL
- . BEVEL, FIT-UP AND DETAIL TOLERANCES SHALL BE AS REQUIRED BY THE SELECTED PREQUALIFIED WELDED JOINT DETAIL . WHENEVER POSSIBLE. USE THE AWS PREQUALIFIED CJP GROOVE WELDED JOINT
- DETAIL AS ILLUSTRATED IN DETAIL 14 ON SHEET 3 AND THE FOLLOWING: USE SINGLE BEVEL CJP GROOVE WELDS MADE WITH A 30° GROOVE ANGLE OR DOUBLE BEVEL CJP GROOVE WELDS WHEN FLANGE THICKNESS EXCEED 1-1/2

II. "AS FIT-UP" AND "AS DETAILED" SHALL BE THE MAXIMUM TOLERANCES III. MEET ALL PREQUALIFIED WPS VARIABLES IN TABLE 5 ON MF QUALITY ASSURANCE TABLE.

- 2. WELD ACCESS HOLE A. WHERE WELD ACCESS HOLES ARE PROVIDED, THEY SHALL BE DETAILED AS ILLUSTRATED IN DETAIL 12 ON SHEET 3 B. NOTCHES AND GOUGES SHALL BE REPAIRED FOLLOWING A WPS APPROVED BY THER
- ENGINEER OF RECORD. 2. WELD ACCESS HOLES SHALL BE PREPARED BY GRINDING TO A SUITABLE FINISH IN ACCORDANCE WITH AISC LRFD SPECIFICATION SECTION J1.6 AND PROVIDED WITH A MINIMUM RADIUS OF 3/8 INCH AS ILLUSTRATED IN DETAIL 9 ON SHEET 2
- 3. BACKING BAR A. BACKING BAR USED IN CONNECTIONS WITH A CJP GROOVE WELD OF BEAM FLANGE TO COLUMN FLANGE SHALL BE REMOVED EXCEPT THAT TOP FLANGE BACKING BAR ATTACHED TO THE COLUMN BY A CONTINUOUS FILLET WELD ON THE EDGE BELOW THEE CJP GROOVE WELD NEED NOT BE REMOVED. B. AFTER THE ARC IS INITIATED, ELECTRODE TRAVEL SHALL PROGRESS TOWARD THE EDGE. FOLLOWING REMOVAL OF BACKING BAR, THE ROOT PASS SHALL BE BACKGOUGED TO SOUND WELD METAL, AND BACK WELDED. A REINFORCING FILLET WELD WITH A MINIMUM LEG SIZE OF 5/16 INCH OR THE ROOT OPENING PLUS 1/16 INCH. WHICHEVER IS LARGER. SHALL BE PROVIDED. THE REINFORCING FILLET WELD NEED NOT
 - BE GROUNDED. 2. WHEN BACKING BAR IS OTHER THAN AWS TABLE 3.1 AND SECTION 5.2.2 APPROVED BASE METAL IS USED, THE FOLLOWING SHALL APPLY: I. CERAMIC, FLUX OR GLASS TAPE MAY BE USED PROVIDED THE MANUFACTURE'S
 - RECOMMENDATIONS ARE FOLLOWED. II. WHEN A NON-METALLIC BACKING BAR IS USED. THE WPS AND THE WELDER SHALL BE QUALIFED USING THE TYPE OF BACKING BAR INTENDED FOR WELDING. III. NONFERROUS METALLIC (E.G. COPPER) BACKING MATERIALS ARE NOT PERMITTED.
 - A. WELD TABS SHALL BE ALIGNED PARALLEL TO THE JOINT PREPARATION.
 - B. NO WELD DAMS ARE ALLOWED
 - C. WELD TABS SHALL EXTEND BEYOND THE EDGE OF THE JOINT A MINIMUM DISTANCE EQUAL TO THE PART THICKNESS. BUT NOT LESS THAN ONE INCH D. WELD TAB SHALL BE REMOVED UPON COMPLETION OF THE WELDED JOINT AS FOLLOWS:
 - I. NO MORE THAN 1/8 INCH BEYOND THE EDGE OF THE JOINT SHALL REMAIN, EXCEPT
 - AT CONTINUITY PLATE WHERE UP TO 1/4 INCH IS ACCEPTABLE II. EDGES OF THE WELD TAB SHALL BE FINISHED TO A SURFACE ROUGHNESS VALUE OF 500 MICRO INCH OR BETTER. GRINDING TO A FLUSH CONDITION IS NOT REQUIRED.

1. REDUCTION FROM CERTAIN QUALITY ASSURANCE COMPONENTS OF THIS STANDARD QA PLAN, AS LISTED IN PART VII ITEM 2, ARE PERMITTED FOR THE FOLLOWING BUILDINGS OR

- STRUCTURES A. ONE OR TWO FAMILY DWELLINGS NOT MORE THAN 1 STORY IN HEIGHT AND 2.500 SF OF
- FLOOR AREA. B. BUILDINGS OR STRUCTURES ACCESSORY TO RESIDENTIAL USES (SUCH AS CARPORT,
- STORAGE, GARAGE). AND C. MISCELLANEOUS STRUCTURES (SUCH AS WALKWAY, CANOPY, PATIO COVER, GAZEBO,
- STORAGE RACK). D. HIGH STRENGTH BOLTS SHALL BE IN THE SNUG TIGHT CONDITION PRIOR TO WELDING. 2. BUILDINGS OR STRUCTURES, AS LISTED IN PART VII ITEM 1, ARE EXEMPT FROM PROVIDING
 - THE FOLLOWING QUALITY ASSURANCE COMPONENTS: A. ELECTRODE STORAGE AND ATMOSPHERIC EXPOSURE, PART IV ITEM 5(F) AND 5(G). B. PLASTIC HINGING ZONE PROTECTION, PART IV ITEM 6.

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- C. ADDITIONAL CVN NOTCH TOUGHNESS TESTING, PART IV ITEM 7.). NON-DESTRUCTIVE TESTING, PART IV ITEM 8.
- . PREHEAT AND INTERPASS TEMPERATURE. PART V ITEM 4. POST WELD HEAT TREATMENT, PART V ITEM 5

Table 5. PRECURALIFIED WPS REQUIREMENTS (1.2.3) Variable WeLD WeLD File (s) S16 in. 12 in. Maximum File (F) Goode (d) 144 in. 18 in. Demeter Horizontal (H) Goode (d) 316 in. 302 in. Verbal (V) All 316 in. 302 in. Overhead (OH) All 316 in. 302 in. Maximum Current All Goode well (root Mill (H) Goode well (root Maximum Current All Goode well (root Bill (F) Goode well (root Bill (F) Maximum Root Hall Goode well (root Bill (F) Sid (n) 12 n. 12 n. Maximum Root Hall Goode well (root Sid (n) 12 n. 12 n. 12 n. Maximum Root Horizontal (H) All Sid (n) 14 n. 12 n. 12 n. Maximum Root Horizontal (H) All Sid (n) 14 n. 12 n. 12 n. Maximum Root Horizontal (H) All Sid (n) 14 n. 12 n. 12 n. Past La
Maximum Belorized Dameter Fat (F) Tend. (4) Protection Root Pass 144 in. 184 in. Horizontal (H) Horizontal (H) Groove (4) 144 in. 186 in. 186 in. Maximum Current All Groove vell root (gening Groove vell root (gening) 316 in. 332 in. 564 in. Maximum Current All File! Within the range Groove vell root (gening) Within root (gening) </th
Name Root Pass 3/16 in. Herizontal (H) Fillet 1/4 in. 1/8 in. Verbaal (V) All 3/16 in. 3/32 in. Overhead (OH) All 3/16 in. 3/32 in. Overhead (OH) All 3/16 in. 5/64 in. Maximum Current All Fillet Within the range or coverestor on periadic by the coverage of t
Diameter Heriz (H) Filed Groove 114 n. 138 n. Vertical (V) All 3/16 in. 3/32 in. Overhead (OH) All 3/16 in. 3/32 in. Maximum Current All Flore vector of pass without of groove vector of pass without of groove vector of groove vector of pass of the state of the state of groove vector of pass of the state of groove vector of groove vector of groove vector of pass of the state of groove vector of groove vector of pass of the state of groove vector of groove groove vector of groove groove vector of groove vector of groove groove vector of groovector of groove groovector groove groove groovector
Vertical (V) All 3/16 in. 3/32 in. Overhead (OH) All 3/16 in. 6/64 in. All Filet With the range Groove weld root pass with opening Groove weld root pass without mendacture and Groove weld root pass without mendacture and Groove weld root pass without pass without mendacture and Groove weld root pass without pass without the wPS sproved by engineer of record. With the range of record mendacture and mendacture and groove weld root pass without by engineer of record. With the range of record mendacture and mendacture and groove weld root pass without by engineer of record. 3/8 in. Maximum Fill Pass Thickness (5) Vertical (V) Overhead (OH) All 5/16 in. 3/8 in. Maximum Single Pass Layer Weith Size All 3/16 in. 1/2 in. 5/16 in. Maximum Single Pass Layer Weith Size All All 3/16 in. 1/2 in. Maximum Single Pass Layer Weith Size All All 3/16 in. 1/2 in. Maximum Single Pass Layer Weith Size All Any layer of with mendacture (B) 5/16 in. 5/16 in. Not applicable provisions of AWS D11/01 1/M 2002 Section 3 'Prequalification of WPS's must be maintained to prequalification of WPS's must be maintained to prequalification of WPS's must be maintained to prequal on the WS D1/101 1/M 2002. Menda Coepers Stuckers, sprequaled (B)
Overhead (OH) All Stift in. 564 in. All Filet With the range Groove weld root pass with opening Groove weld root pass without apass withou
All Pillet Within the range of recommended of record. Within the range of record on the filler metal and undertabuter and a WPS approved by well state and a WPS approved by well state and a WPS approved by the pass without and the range of record. Within the range of record. Maximum Root Flat. (F) All 38 in 39 in 39 in Maximum Root Flat. (F) All 516 in 516 in 516 in Maximum Single Flat. (F) Flat. (F) 12 in 516 in 516 in 60 in Maximum Single Flat. (F) Flat. (F) Flat. (F) 516 in 38 in 12 in 516 in 516 in 60 in 60 in Maximum Single Flat. (F) Flat. (F) Flat. (F) 516 in 38 in 12 in 516 in 516 in 516 in 516 in 60 in
Maximum Current All Or exonine transfer of pass without of pass without of pass without and the transfer of manufacture and a WPS approved by engineer of the transfer of record. Imanufacture and a WPS approved by engineer of record. Maximum Rott Flat (F) All 38 in. 38 in. Maximum Rott Flat (F) All 516 in. 516 in. Maximum Single Flat (F) Flat (F) 516 in. 516 in. Maximum Single Flat (F) Flat (F) 516 in. 516 in. Maximum Single Flat (F) Flat (F) 516 in. 516 in. Maximum Single Flat (F) Flat (F) 38 in. 12 in. Maximum Single Flat (F) Flat (F) 516 in. 516 in. Maximum Single Flat (F) Flat (F) 38 in. 12 in. Size Flat (F) Flat (F) Size (Farmed V) Size (Farmed V) Size (Farmed V) Not applicable Overhead (OH) Flat (F) Size (Farmed V) Size (Farmed V) Size (Farmed V) Not applicable provisions of AWS D1 1/D1 1M 2002 Secton 3 'Prequalification of WPS's must be maintained for prequalifies the MS D1 1/OrnWite Web (Size (Farmed V)) Size (Farmed V)
Maximum Current All pass without memory interaction memory interaction Maximum Current All passes a WPS approved by engineer of nexture and a WPS approved passes fact (F) Fact (F) a WI a WPS approved by engineer of nexture and a WPS approved pass Horizontal (H) All a WI
Groove weld nill Bit II (F) Bit II (F) Hair (F) Fild (F) Pass Thickness (5) Vertical (N) Overhead (OH) Bit II (F) Maximum Rotot Horizontal (H) Overhead (OH) Bit II (F) Maximum Fill Pass All Maximum Single Horizontal (H) Vertical (V) Fild (F) Size Overhead (OH) Maximum Single Horizontal (H) Pass Layer With All Maximum Single Horizontal (H) Pass Layer With All NOTES: 38 in 1. Applicable provisions of AWS D1:101:1M:2002 Section 3 "Prequalification of WPSs" must be maintained for prequalified status of SMW and FCAW WPSs. 2. Refer to Defail 13 on Sinel 3 for diagram of weld pass sequence. 3. Applicable provisions of AWS D1:101:1M:2002 Metricit American Welding Sciecty, Table 3.7. 4. Except on passes 5. See AWS D1:101:1M:2002 Section 3.7.2 for width-0-depth limitations. 1. Table 6. STRUCTURAL OBSERVATION PROGRAM (Steel Moment Frame for Sestimic Application) 1. Overhead of ound bases, as required on the plans. 2. Recept on planse. 3. Recept onother AWS D1:101:1M:2002, Recetion 3.7.2 fo
Flat (F) All 38 in. 38 in. Pass 38 in. 38 in. 38 in. Pass Thickness (s) Vertical (V) Overhead (OH) 576 in. 576 in. Maximum Single Flat (F) 38 in. 12 in. 12 in. Pass Thickness Flat (F) 38 in. 11 in. 14 in. Maximum Single Flat (F) 38 in. 12 in. 576 in. 38 in. 12 in. Pass Filet Wed Fortical (V) Overhead (OH) 576 in. 38 in. 12 in. 12 in. 10 in. 14 in. Maximum Single Flat (F) Solid overhead (OH) 576 in. 576 in. <td< td=""></td<>
$ \begin{array}{ c c c c c c } \hline Flat (F) & $
Maximum Rod Pass Thickness (s) Overhead (OH) All 12 in. 12 in. Maximum Fill Pass Thickness All All 3/16 in. 1/4 in. Maximum Single Flat (F) 3/8 in. 1/2 in. 5/16 in. Maximum Single Flat (F) 3/8 in. 1/2 in. 5/16 in. Size Vertical (V) Fillet 5/16 in. 5/16 in. Maximum Single All Root opening >1/2 in. Not applicable. Split layers Pass Layer Width All Root opening >1/2 in. Not applicable. Split layers NOTES: 1. Applicable provisions of AWS D1.1/D1.1M.2002 Section 3 *Prequalification of WPS' must be maintained for prequalified status of SMAV and FCAW WPSs. Split layers 2. Refer to Detail 13 on Shew D1.1/D1.1M.2002, Mami: American Welding Sotiutral Welding Code - Steel, AWS D1.1/D1.1M.2002, Mami: American Welding Sotiutral Stude 3.7. 4. Except not passes. Site MWB D1.1/D1.1M.2002, Mami: American Welding Sotich. In the V position for nontubulars of the 50 or 60 for tubulars, split layers when the width w > 50 inch. In the V position for nontubulars, split layers when the layer width w > 50 inch. 3. Removal of numofi tabs, as required on the plans. Removal of bacing basis, as required on the plans. 3. Removal of numofi tabs, as required on the plans.
Overhead (OH) 5/16 in. 5/16 in. Maximum Fill Pass Thickness All All 3/16 in. 1/4 in. Maximum Single Pass Fillet Weid Size Fillet (F) 3/8 in. 1/2 in. 1/2 in. Maximum Single Pass Fillet Weid Size Vertical (V) Fillet 5/16 in. 5/16 in. 5/16 in. Maximum Single Pass Layer Width All Root opening >1/2 in. Any layer of width w Not applicable. (6) NOTES: Split layers (6) (6) (6) NOTES: Refer to Detail 13 on Sheel 3 for diagram of weld pass sequence. 3. Adapted with permission from the AWS D1.1/D.1.1M.2002. Memi: American Welding Structural Welding Code - Steel, AWS D1.1/D.1.1M.2002. Memi: American Welding Sciety, Table 3.7. Except not passas See AWS D1.101.1M.2002. Section 3.7.2. for width-to-depth limitations. In the F, H or OP positions for nontubulars, split layers withen the layer width w > 5/8 inch. In the V position for nontubulars or the 5/5 or 6/6 for tubulars, split layers See AWS D1.101.1M.2002. Section 3.7.2. for width-to-depth limitations. In the F, H or OP position for nontubulars or the 5/5 or 6/6 for tubulars, split layers when the width w > 18 inch. Weiding Code - Steel, AWS D1.102.01.1M.2002. Memory and the plans. Presence of countinutry plates, as required on the plans.
Nammum Fill Pass All All 3/16 in. 1/4 in. Thickness Flat (F) 3/8 in. 1/2 in. Maximum Single Horizontal (H) Fillet 3/8 in. 1/2 in. Maximum Single All Root opening >1/2 in. 5/16 in. 3/8 in. Maximum Single All Root opening >1/2 in. Not applicable. Split layers Pass Layer Width All Root opening >1/2 in. Not applicable. Split layers NOTES: All All Root opening >1/2 in. Not applicable. Split layers 1. Applicable provisions of AWS D1.1/D1.1M.2002 Section 3 "Prequalification of WPSs" must be maintained for prequalified status of SMAW and FCAW WPSs. Refer to Detail 13 on Sheed 5 for diagram of weld pass sequence. 3. Adapted with permission from the AWS D1.1 Committee on Structural Welding Society, Table 3.7. 4. Except root passes. 5. See AWS D1.101.1M.2002, Section 3.7.2, for width-to-depth limitations. In the F, H, of CH positions for nortubulars, split layers when the layer width w > 5 8 inch. In the V position for nortubulars of the SG or 6G for tubulars, split layers when the width w > 1 inch. Table 6. STRUCTURAL OBSERVATION PROGRAM (Steel Moment Frame for Seismic Application) Secorot continuity plates, as required on the plans.
Intentions Flat (F) 3/8 in. 1/2 in. Maximum Single Pass Filet Weld Flat (F) 5/16 in. 3/8 in. 1/2 in. Maximum Single Pass Layer Width All Root opening >1/2 in. Any layer of width w 5/16 in. 5/16 in. 5/16 in. Maximum Single Pass Layer Width All Root opening >1/2 in. Any layer of width w Not applicable. Split layers NOTES: . All Root opening >1/2 in. Any layer of width w Not applicable. Split layers 1. Applicable provisions of AWS D1.1/D1.1M.2002 Section 3 "Prequalification of WPSs" must be maintained for prequalified status of SMAW and FCAW WPSs. Refer to Detail 13 on Sheet 3 for diagram of weld pass sequence. 3. Adapted with permission from fom KAWS D1.1/D1.1M: 2002, Miami: American Welding Society, Table 3.7. Except root passes. See AWS D1.1/D1.1M:2002, Section 3.7.2, for width-to-depth limitations. In the F, H, or OH positions for nontubulars, split layers when the layer width w > 5/8 inch. In the V position for nontubulars or the 5/3 or 6/6 for tubulars, split layers when the width w > 1/16.h. Stee AWS D1.1/D1.1M:2002, Section 3.7.2, for width-to-depth limitations. 6. In the F, H, or OH positions for nontubulars, split layers when the layer width w > 5/8 inch. In the V position for nontubulars or the 5/0 or 6/6 for tubulars, split layers when the width w > 5/8 inch. Inch.
Maximum Single Pass Filtet Weld Horizontal (H) Vertical (V) Overhead (OH) Fillet 5/16 in. 3/8 in. Maximum Single Pass Layer Width All Root opening >1/2 in. Any layer of width w Not applicable. Split layers NOTES: All Root opening >1/2 in. Any layer of width w Not applicable. Split layers 0 All Root opening >1/2 in. Any layer of width w Not applicable. Split layers 0 All Root opening >1/2 in. Any layer of width w Not applicable. Split layers 0 Alge to be provisions of AWS D1.1/D1.1M.2002 Section 3 "Prequalification of WPSs" must be maintained for prequalified status of SMAW and FCAW WPSs. Refer to Detail 13 on Sheet 3 for diagram of weld pass sequence. 3 Adapted with permission from the AWS D1.1/D1.1M.2002, Mamit. American Welding Society, Table 3.7. Except root passes. 5 See AWS D1.1/D1.1M.2002, Section 3.7.2, for width-to-depth limitations. In the F, H, or OH positions for nontubulars, split layers when the layer width w > 5/8 inch. In the V position for nontubulars or the 5G or 6G for tubulars, split layers when the width w > 1 inch. Table 6. STRUCTURAL OBSERVATION PROGRAM (Steel Moment Frame for Seismic Application) © Orientation and placement of connected components. Removal of backing bars, as required on the plans. © Presence of doubler plates, as required on the plans. © Configuration and finish of weld access holes, if applicable.
Size Vertical (V) International (V) 1/2 in. 1/2 in. 1/2 in. Maximum Single Pass Layer Width All Root opening >1/2 in. Any layer of width w Not applicable. Split layers NOTES: All Root opening >1/2 in. Any layer of width w Not applicable. Split layers NOTES: Applicable provisions of AWS D1.1/D1.1M.2002 Section 3 "Prequalification of WPSs" must be maintained for prequalified status of SMAW and FCAW WPSs. Refer to Detail 13 on Sheet 3 for diagram of weld pass sequence. 3. Adapted with permission for monthe AWS D1.1/D1.1M.2002, Miami: American Welding Structural Welding Code - Steel, AWS D1.1/D1.1M.2002, Miami: American Welding Society, Table 3.7. Except root passes. 5. See AWS D1.1/D1.1M.2002, Section 3.7.2, for width-to-depth limitations. In the F, H, or OH positions for nontubulars, split layers when the layer width w > 1 inch. Table 6. STRUCTURAL OBSERVATION PROGRAM (Steel Moment Frame for Selsmic Application) Steel MS dia nch. In We position for nontubulars, as required on the plans. Removal of runoff tabs, as required on the plans. © reference of continuity plates, as required on the plans. Presence of doubler plates, as required on the plans. © Configuration and finish of weld access holes, if applicable. Configuration shot weld attachments occur in the plats linging region. © Verify that no welded attachments occur in the plats lingi
Image: State of the s
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I ASTM A36 < 3/4 in. SMAW A5.1 E70XX I ASTM A36 < 3/4 in.
I ASTM A36 < 3/4 in. A5.20 (5) E70XT-X, E7XT-XM
A5.29 (6) E70XTX-X, E7XTX-XM
ASTM A36 ≥ 3/4 IN SMAW A5.1 E7016, E7016, E7018, E7028
II ASTM A572 Grade 50 A5.5 (6) E70XX-X ASTM A913 Grade 50 A5.20 (5) E70XT-X E7XT XM
ASTM A992 FCAW A5.29 (6) E70XTX-X, E7XTX-XM
RELATIONSHIP BASE METAL (S) FILLER METAL STRENGTH
Any steel to itself or any steel
Matching to another in the same group Any filler metal listed in the same group
steel in another Any filler metal listed for a lower strength group [SMAW electrodes shall be the
Under-Matching Any steel to any steel to any group low-hydrogen classification]
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SURANCE: TABLES

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Table 1. REPORTS TO BE SUBMITTED TO THE CITY BUILDING INSPECTOR

PREPARED BY	TYPE OF REPORT
Structural Observer(s)	Structural Observation Reports
Deputy Inspector(s)	Deputy Inspection Reports
NDT Technician(s)	Non-Destructive Testing Reports

Table 2. NON-DESTRUCTIVE TEST LOCATIONS

REQUIRED LOCATIONS	OMF	IMF	SMF
CJP Groove Weld JItrasonic test shall be performed on all CJP groove welds in materials 5/16 inch (8 mm) thick or greater. In addition, magnetic particle test shall be performed on all beam-to-column CJP groove welds.	В	A	A
"k" Area When welding of doubler plates, continuity plates, or stiffeners has been performed in the k-area, the web shall be tested for cracks using magnetic particle testing. The magnetic particle test area shall include the k-area base metal within 3 in. (75 mm) of the weld.	С	В	В
Beam Cope and Access Hole At welded splices and connections, thermally cut surfaces of beam copes and access holes shall be tested using magnetic particle testing, when the flange thickness exceeds 1-1/2 in. (38 mm) for rolled shapes.	С	В	В
Reduced Beam Section Repair Magnetic particle testing shall be performed on any weld and adjacent area of the RBS plastic hinge region that has been repaired by welding, or on the base metal of the RBS plastic hinge region if a sharp notch has been removed by grinding.	В	В	A
Base Metal Lamellar Tearing and Laminations at CJP Groove Weld Base metal thicker than 1-1/2 in. (38 mm) shall be ultrasonically tested for discontinuities behind and adjacent to the fusion line when the base metal is loaded in tension in the through thickness direction in tee and corner joints and the connected material is greater than 3/4 in. (19 mm). Any base metal discontinuities found within t/4 of the steel surface shall be accepted or rejected on the basis of criteria of AWS D1.1 Table 6.2, where t is the thickness of the part subjected to the through-thickness strain.	В	В	A
End of Weld at Weld Tab Removal Site Magnetic particle testing shall be performed on the end of welds from which the weld tabs have been removed, except for continuity plate weld tabs.	С	В	В
PJP Groove Weld Ultrasonic testing shall be performed on PJP groove welds used in column splices with an effective throat of 3/4 in. (19.1 mm) thick or greater.	С	В	A

A, B, and C are the frequencies of non-destructive tests listed in Table 3

Table 3. NON-DESTRUCTIVE TEST FREQUENCY

	Fre	equency Designation	
	Α	В	C
nic Testing (UT)	100% of joints	50% of joints	25% of joints
tic Particle Testing (MT)	50% of joints	25% of joints	Not Required

r to Table 2 for locations of non-destructive testing. of non-destructive testing may be reduced as permitted in Sheet 1, Part IV, Item 8(d).

Table 4. PREQUALIFIED MINIMUM PREHEAT AND

	IN I EKPAJJ	IEMPERATURE	
STEEL ECIFICATION	WELDING PROCESS	THICKNESS OF THICKEST PART AT POINT OF WELDING (in.)	MINIMUM PREHEAT AND INTERPASS TEMPERATURE (°F)
A36 A572 Grade 50 A913 Grade 50 A992	SMAW with low-hydrogen electrodes, FCAW	1/8 to 3/4 incl.	32
		Over 3/4 to 1-1/2 incl.	50
		Over 1-1/2 to 2-1/2 incl.	150
		Over 2-1/2	225

ces to be welded and surfaces adjacent to welds shall be free of moisture pursuant to S D1.1/D1.1M:2002 Section 5.15. Use a higher preheat temperature from this Table to ve moisture.

ted with permission from the AWS D1.1 Committee on Structural Welding, Structural ng Code - Steel, AWS D1.1/D1.1M: 2002, Miami: American Welding Society, Table 3.2.

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