

BEAM GIRDER CONNECTIONS:

CONTI (OVER 1 COLUMI (COLUM BEAM PENETRATIONS MARKS: BEAM PENETRATION

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40			30			20	
FRAMING SYMBOLS			STEEL FRAMING NOTATION				SYMBOL SCHEDULE
IN MARKS:			MEMBER NOTATIONS:				LINES
	- STEEL WIDE FLANGE CO	DLUMN			E REAM SECTIC	NS	
			<u></u>				
$\bigcirc$	<ul> <li>CIRCULAR HOLLOW STR SECTION (HSS) COLUMN</li> </ul>	UCTURAL STEEL OR PIPE		W 1	4 x 45 <sub>5</sub>		
	— COLUMN TRANSFER (AT	LEVEL SHOWN)	WIDE FLANGE			- SECTION WEIGHT	
ST			NOMINAL DEPTH			IN POUNDS PER LINEAR FOOT	
	- STUB COLUMN (DOWN T	O FRAMING		ANG	SLE SECTIONS		
	BELOW)						COLUMN REFERENCE SYMBOL
	<ul> <li>SQUARE, RECTANGULAR</li> <li>STRUCTURAL STEEL SEC</li> </ul>	R HOLLOW CTION (HSS)		L 6	x 4 x 1/2		( <u>A</u> )
R MARKS:				/			
·	- STEEL CHANNEL HANGE	R	LEG (INCHES)			LEG (INCHES)	
	- STEEL ANGLE HANGER		BACK T	O BACK A	NGLES FOR EQU	JAL LEG ANGLES	SECTION REFERENCE SYMBOL
	- STEEL DOUBLE ANGLE F	IANGER		2L	6 x 4 x 1/2		S1070
0 -	<ul> <li>STEEL CIRCULAR HOLLC SECTION HANGER</li> </ul>	W	SECTION TYPE	/		- THICKNESS (INCHES)	
	<ul> <li>STEEL SQUARE HOLLOW SECTION HANGER</li> </ul>	I				LEG (INCHES)	
				BACK	K TO BACK TEES	<u>1</u>	
				2 WT	8 x 50		
DSITE BEAM MARKS:	NUMBER OF SHEAR ST	UDS			<b>≜ ≜</b>	- SECTION WEIGHT IN	
MINAL DEPTH S x WEIGHT		FACTORED MEMBER END	STRUCTURAL TEE CUT				
W18 x 35 (2	22) 100	REACTION IN KIPS IF DIFFERENT THAN SCHEDULED REACTION.	SHAPE			(INCHES)	DETAIL REFERENCE SYMBOL
<0-3/4">[6/	- <i>2)</i> [100]						B S2050
			HOLLO	OW STRUC	TURAL SECTION	NS (CIRCULAR)	
PAN	VARIATION F STEEL ELEVA	ROM BASE ATION (IN.)		HS	S 10.00 x 0	.500	
			HOLLOW STRUCTURAL		ł	THICKNESS (INCHES)	
EVER FRAMING MARKS:						- NOMINAL DIAMETER (INCHES)	
VER	MOMENT CONNECTION, TYPICAL						
			HOLLOW	STRUCT	JRAL SECTIONS	(RECTANGULAR)	GENERAL ELEVATION SYMBOLS
		l l					TICLAD
(SIMILA	R AT GIRDERS)			HSS '	10 x 4 x 1/2		← T/SLAD ← EL. +16'-6" ←
	TURAL STEEL BRACING		HOLLOW STRUCTURAL				ELEV. +15'-6"
NG MARKS: TO LEV	EL ABOVE					- DEPTH (INCHES)	
			HOU	OW STRU	CTURAL SECTIO	NS (SOUARE)	WP
GIRDER CONNECTIONS:				HSS	10 x 10 x 1	/2	MISCELLANEOUS SYMBOLS
	E SHEAR CONNECTION		HOLLOW STRUCTURAL			THICKNESS (INCHES)	
/ MOME						WIDTH (INCHES)	
CONTI (OVER	INUOUS BEAM/GIRDER R TOP OF COLUMN)					PKS	
						DECK SLAB	× × ×
	MN TRANSFER IMN ABOVE)				(SEE SCHEDULE)		
HANGI	ER BELOW		RSI		REINFORCED STEEL (SEE SCHEDULE)	DECK SLAB	
U U							
PENETRATIONS MARKS:			RDI		NON-COMPOSITE ST	EEL ROOF DECK	
4	RECTANGULAR BEAM P	PENETRATION			(SEE SCHEDULE)		
ATION	(SEE SCHEDULE)			CONCRE	TE ERAMING NO	τατιών	B [+0]
3	CIRCULAR BEAM PENET	TRATION					
	(SEE SCHEDULE)		SI		REINFORCED CONCF (SEE SCHEDULE)	RETE ONE-WAY SLAB	
					TWO-WAY REINFORC	CED CONCRETE SLAB T SLAB)	
					INDICATES PT TENDO	ON STRESSING END ANCHOR	
					INDICATES PT TENDO	JN JEAU EIND ANCHUK	
					INDICATES PT TENDO	ON INTERMEDIATE	
			L				1

CENTERLINE         8         AND         K.           -         CENTERLINE         SECTION DESIGNATION         KSF           -         HIDDEN OUTLINE         ABS.         ABSOLUTE         L           -         ADDEN OUTLINE         ABS.         ABSOLUTE         L           -         ADDEN OUTLINE         ADJUSTABLE         LESS         LESS           -         NOTES         ABJCENT NEITUTE OF STELL CONSTRUCTURAL STEEL         LESS           -         NOTES         ABSC         AMERICAN CONCRETE INSTITUTE         LESS           -         NOTES         ABSC         AMERICAN NEITUTE OF STELL CONSTRUCTURAL STEEL         LESS           -         NOTES         ABSC         AMERICAN SOCIETY OF OTESTING MATELY         LL           DIMENSION LINE         APPROX.         APROXIMATE, APPROXIMATELY         LL         LL           -         ARCH         ARCH ROTION AL         ASC         AMERICAN SOCIETY OF TESTING MATERIALS         LOC           -         ARCH ARCHITECT ARCHITECT ARCHITECT URALLY ARCHITECT URAL         LL         LA         ASC         AMERICAN SOCIETY OF TESTING MATERIALS         LOC           -         ARCH ARCHARGE AURILY OF TESTING MATERIALS         LOC         ASC         AMERICAN SOCIETY OF TESTING MATERIALS	KIPS (1000 POUNDS) KIPS PER LINEAL FOOT KIPS PER SQUARE FOOT KIPS PER SQUARE INCH ANGLE (STRUCTURAL STEEL) DOUBLE ANGLE (STRUCTURAL STEEL) POUNDS LENGTH LEVEL LINEAL FOOT, LINEAL FEET LONG LEFT HAND LIVE LOAD LONG LEG BACK TO BACK LONG LEG HORIZONTAL LONG LEG HORIZONTAL LONG LONGITUDINAL L.P.LOW POINT LOAD AND RESISTANCE FACTOR DESIGN LONG SIDE HORIZONTAL LONG SIDE VERTICAL LIMITED LIMITED LIMITED KIETER SQUARE METERS CUBIC METERS MATERIAL MAXIMUM MECHANICAL, ELECTRICAL, AND PLUMBING MECHANICAL, ELECTRICAL, AND PLUMBING METER METER SQUARE MILLIMETERS CUBIC MILLIMETERS CUBIC MILLIMETERS CUBIC MILLIMETERS CUBIC MILLIMETERS MILLIMETER SQUARE MILLIMETERS MIDDLE MEXAMINA MECHANICAL (N/mm2) MIDDLE STRIP NEWTON NOT APPLICABLE
CENTERLINE         4         CREATER THAN         KLF           -         CREATER THAN         KSI           -         HIDDEN OUTLINE         ASS.         ASSOLUTE         L           ADDI.         ADDI.         ADDI.         ADDI.         LESS THAN         KSI           ADDI.         ADDI.         ADDI.         ADDI.         LESS         LESS         ADDI.         LESS           ADJ.         ADJ.         ADJ.         ADJ.         ADJ.         LESS         ADJ.         LESS           ADJ.         ADJ.         ADJ.         ADJ.         ADJ.         LESS         ADJ.         LESS         ADJ.         LESS         ADJ.         LESS         ADJ.         LESS         ADJ.         ADJ.         LESS         ADJ.	KIPS PER LINEAL FOOT         KIPS PER SQUARE FOOT         KIPS PER SQUARE INCH         ANGLE (STRUCTURAL STEEL)         DOUBLE ANGLE (STRUCTURAL STEEL)         POUNDS         3.       LENGTH         LEVEL         LINEAL FOOT, LINEAL FEET         LONG         LEFT HAND         LIVE LOAD         LONG LEG BACK TO BACK         LONG LEG HORIZONTAL         LONG LEG VERTICAL         LOCATION         3.       LONG LONGITUDINAL         L.P.LOW POINT         OLONG SIDE HORIZONTAL         LONG SIDE VERTICAL         LONG SIDE VERTICAL         LONG SIDE VERTICAL         LIMITED         T.         LTWT.LIGHT WEIGHT         LIGHT WEIGHT         METER         SQUARE METERS         CUBIC METERS            MATERIAL         MAXIMUM         H.         MECHANICAL         MECHANICAL         MECHANICAL         MECHANICAL         MECHANICAL         MECHANICAL         MECHANICAL         MECHANICAL         MECHANICAL
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B/     BOTTOM OF     LW       BLDG,     BUILDING     BUDG,       BLDG,     BUILDING     M2       BRD     BOTTOM     M2       BRD     BUILDING REFERENCE DATUM     M3       SECTION DESIGNATION (NUMBER OR LETTER)     BS     BRITISH STANDARD     MATI       BS     BOTTOM OF STEEL     MAX       BS.     BOTTOM OF STEEL     MAX       BS.     BOTH SIDES     MEC       BW     BOTH WAYS     MEZ       SHEET NUMBER (S-1070)     °C     CELSIUS (DEGREES)     MISC       C4C.     CALC.     CALC.     CALC.     MISC       C4RD.     CHAN.     CHANNEL     mm3       CHRD.     CHORD     MPa       CHRD.     CHORD     MPa       CIP     CAST-IN-PLACE     M2       ON SAME SHEET     CJ     CONSTRUCTION JOINT, CONTROL JOINT     N       (NUMBER OR LETTER)     CIP     CONSTRUCTION JOINT, CONTROL JOINT     N       CLR     CIECULAR     MIC     MIC       CIP     CAST-IN-PLACE     MIC       CIP     CONSTRUCTION JOINT, CONTROL JOINT     N       ON SAME SHEET     CJ     CONSTRUCTION JOINT, CONTROL JOINT     N       CLR     CIECULAR     MIC     MIC	LIGHT WEIGHT METER SQUARE METERS CUBIC METERS CUBIC METERS MATERIAL MAXIMUM H, MECHANICAL, ELECTRICAL, AND PLUMBING MECHANICAL, ELECTRICAL, AND PLUMBING MIDDLE MECHANICAL, ELECTRICAL, AND PLUMBING MIDDLE MIDDLE MECHANICAL, ELECTRICAL, AND PLUMBING MILLIMETER SQUARE MILLIMETERS MEGAPASCAL (N/mm2) MIDDLE STRIP NEWTON NOT APPLICABLE
BM.     BEAM     M       BOTTOM     BOTTOM     M2       BRD     BUILDING REFERENCE DATUM     M3       SECTION DESIGNATION (NUMBER OR LETTER)     BS     BRITISH STANDARD     MATI       B/S     BOTTOM OF STEEL     MAX       B/S     BOTH SIDES     MEC       BU     BUILT-UP     MEP       BW     BOTH WAYS     MEZ       SHEET NUMBER     'C     CELSIUS (DEGREES)     MID.       (S-1070)     'C     CELSIUS (DEGREES)     MID.       CALC.     CALC. CALC ULATIONS     MISC       C-F     CENTER TO FACE     mm2       CHAN.     CHANNEL     mm3       CHRD.     CHOD     MPa       CIP.     CASTIN-PLACE     MS.       CIR.     CIRCULAR     MAS.       CIR.     CIRCULAR     MAS.       CIR.     CIRCULAR     NAS.	METER SQUARE METERS CUBIC METERS MATERIAL MAXIMUM H, MECHANICAL MECHANICAL, ELECTRICAL, AND PLUMBING MEZZ.MEZZANINE MFR.MANUFACTURER MIDDLE MISC.MISCELLANEOUS MILLIMETER SQUARE MILLIMETERS CUBIC MILLIMETERS CUBIC MILLIMETERS MEGAPASCAL (N/mm2) MIDDLE STRIP NEWTON NOT APPLICABLE
SECTION DESIGNATION (NUMBER OR LETTER) SECTION DESIGNATION (NUMBER OR LETTER) SHEET NUMBER (S-1070) SHEET NUMBE	CUBIC METERS         MATERIAL         MAXIMUM         H, MECHANICAL         MECHANICAL, ELECTRICAL, AND PLUMBING         Z. MEZZ.MEZZANINE         MFR.MANUFACTURER         MIDDLE         . MISC.MISCELLANEOUS         MILLIMETER         SQUARE MILLIMETERS         CUBIC MILLIMETERS         MEGAPASCAL (N/mm2)         MIDDLE STRIP         NEWTON         NOT APPLICABLE
(NUMBER OR LETTER) B.S. BOTH UNIO 5 JELL MAA B.S. BOTH UNIO 5 JELL MAA B.S. BOTH UNIO 5 JELL MAA B.S. BOTH UDIS BU BUILT-UP BW BOTH WAYS MEZ MFR GC CC CELSIUS (DEGREES) CALC. CALC.CALCULATIONS C-C CC CENTER TO CENTER MID. C-F CENTER TO CENTER MM3 C-F CENTER TO FACE MM3 CHAN CHANNEL MM3 CHAN CHAN CHANNEL MM3 CHAN CHAN CHAN CHAN CHANNEL MM3 CHAN CHAN CHAN CHAN CHAN CHAN CHAN CHAN	H, MECHANICAL MECHANICAL, ELECTRICAL, AND PLUMBING MEZZ.MEZZANINE MFR.MANUFACTURER MIDDLE MISC.MISCELLANEOUS MILLIMETER SQUARE MILLIMETERS CUBIC MILLIMETERS MEGAPASCAL (N/mm2) MIDDLE STRIP NEWTON NOT APPLICABLE
BW BOTH WAYS MEZ BW BOTH WAYS MEZ MFR MFR MFR MFR MFR MFR MFR MFR	<ul> <li>MEZZ.MEZZANINE</li> <li>MFR.MANUFACTURER</li> <li>MIDDLE</li> <li>MISC.MISCELLANEOUS</li> <li>MILLIMETER</li> <li>SQUARE MILLIMETERS</li> <li>CUBIC MILLIMETERS</li> <li>MEGAPASCAL (N/mm2)</li> <li>MIDDLE STRIP</li> <li>NEWTON</li> <li>NOT APPLICABLE</li> </ul>
SHEET NUMBER (S-1070)°CCELSIUS (DEGREES)MID.CALC.CALC. CALC.CALCULATIONSMISCC-CCENTER TO CENTERmmC-FCENTER TO FACEmm2CHAN.CHANNELmm3CHRD.CHORDMPaCIPCAST-IN-PLACEMS.CIR.CIRCULARCJPCJPCONSTRUCTION JOINT, CONTROL JOINTNCLG.CEITERINECLG.CLG.CEITINGNFCLG.CEITINGNFCLG.CEITINGNFCLG.CEITINGNFCLG.CEINTIRETERNWCMUCONCRETE MASONRY UNITNO.COL.COUVERTE MASONRY UNITNO.CONFIG.CONFIG.CONFIGURATIONCONFIG.CONCRETENTSCONC.CONCRETENTSCONFIG.CONFIGURATIONNTSCONFIG.CONFIGURATIONNTSCONFIG.CONFIGURATIONNTSCONFIG.CONFIGURATIONNTSCONFIG.CONFIGURATIONNTSCONFIG.CONFIGURATIONNTSCONFIG.CONFIGURATIONNTSCONFIG.CONFIGURATIONNTSCONFIG.CONFIGURATIONNTSCONFIG.CONFIGURATIONNTSCONFIG.CONFIGURATIONNTSCONFIG.CONFIGURATIONNTSCONFIGURATIONCONFIGURATIONNTSCONFIGURATIONCONFIGURATIONCONFIGURATIONCONFIGURATIONCONFIGURA	MIDDLE MISC.MISCELLANEOUS MILLIMETER SQUARE MILLIMETERS CUBIC MILLIMETERS MEGAPASCAL (N/mm2) MIDDLE STRIP NEWTON NOT APPLICABLE
C-C CENTER TO CENTER (1990) C-F CENTER TO FACE mm2 CHAN. CHANNEL mm3 CHRD. CHORD MPa CHRD. CHORD MPa CIP CAST-IN-PLACE M.S. CIR. CIRCULAR CJP COMPLETE JOINT CONTROL JOINT N CJP COMPLETE JOINT PENETRATION N/A CL CENTERLINE CLG. CEILING CL CENTERLINE NET. CLG. CEILING NF CLR. CLEAR NIC CMU CONCRETE MASONRY UNIT NO., COL. COLUMN NOM COMP. COMPOSITE N-S CONC. CONCRETE MASONRY UNIT N-S CONFIG. CONFIGURATION CONFIG. CONFIGURATION	MILLIMETER SQUARE MILLIMETERS CUBIC MILLIMETERS MEGAPASCAL (N/mm2) MIDDLE STRIP NEWTON NOT APPLICABLE
CHAN. CHANNEL mm3 CHRD. CHORD MPa CIP CAST-IN-PLACE M.S. CIR CIRCULAR CJ CONSTRUCTION JOINT, CONTROL JOINT N CJP COMPLETE JOINT PENETRATION N/A CL CENTERLINE CLG. CENTERLINE CLG. CEILING CLR. CLEAR CLR. CLEAR CLR. CLEAR CLR. CLEAR CLR. CLEAR CLR. CLEAR CLR. CLEAR CLR. CLEAR CLR. CLEAR CLC. CONCRETE MASONRY UNIT CONC. CONCRETE MASONRY UNIT COMP. COMPOSITE CONC. CONCRETE MASONRY UNIT CONC. CONCRETE MASONRY UNIT CONC. CONCRETE MASONRY UNIT CONC. CONCRETE MASONRY UNIT CONC. CONCRETE CONC. CONCRETE CONC. CONCRETE CONFIG. CONFIGURATION CONFIG. CONFIGURATION	CUBIC MILLIMETERS MEGAPASCAL (N/mm2) MIDDLE STRIP NEWTON NOT APPLICABLE
CIPCAST-IN-PLACEM.S.SECTION DESIGNATION ON SAME SHEET (NUMBER OR LETTER)CIR.CIRCULARCJCONSTRUCTION JOINT, CONTROL JOINTNCJPCOMPLETE JOINT PENETRATIONN/ACLCENTERLINENET.'CLG.CELINGNFCLR.CLEARNICCMUCONCRETE MASONRY UNITNO.,CCOL.COLUMNNOMCOMP.COMPOSITEN-SCONFIG.CONFIG.CONFIGURATIONCONFIG.CONFIGURATIONNTSCONFIG.CONFIGURATIONNTSCONFIG.CONFIGURATIONCONFIGURATIONCONFIG.CONFIGURATIONCONFIGURATION	MIDDLE STRIP NEWTON NOT APPLICABLE
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CL       OL       OL       NLT.         CLG.       CEILING       NF         CLR.       CLEAR       NIC         Cm       CENTIMETER       NW         CMU       CONCRETE MASONRY UNIT       NO.,(         COL.       COLUMN       NOM         COMP.       COMPOSITE       N-S         CONC.       CONCRETE       NTS         CONFIG.       CONFIGURATION       CONFIGURATION	
Cm     CENTIMETER     NW       Cm     CENTIMETER     NW       CMU     CONCRETE MASONRY UNIT     NO.,(       COL.     COLUMN     NOM       COMP.     COMPOSITE     N-S       CONFIG.     CONCRETE     NTS       CONFIG.     CONFIGURATION     NTS	NEAR FACE NOT IN CONTRACT
DETAIL DESIGNATION (NUMBER OR LETTER) COL. COLUMN NOM COMP. COMPOSITE N-S CONC. CONCRETE CONFIG. CONFIGURATION	NORMAL WIGHT DR# NUMBER
(NUMBER OR LETTER) CONC. CONCRETE NTS CONFIG. CONFIGURATION	NOMINAL NORTH-SOUTH
	NOT TO SCALE
SHEET NUMBER CONST. CONSTRUCTION OC (\$ 2050) CONST. CONSTRUCTION OD	ON CENTER OUTSIDE DIAMETER
CONT. CONTINUOUS OH CONTR. CONTRACTOR OPNO CORP. COPPORATION OPP	G. OPENING OPENING
CR COLD ROLLED OTB	OPEN TO BELOW
DETAIL DESIGNATION     C.S.     COLUMN STRIP     Pa       ON SAME SHEET     CU.     CUBIC     PAR	PASCAL . PARTITION
(NUMBER OR LETTER)CU. FT.CUBIC FEETPCCCU. IN.CUBIC INCHEPCT.	PRECAST CONCRETE OR PERCENT
CU. YD.CUBIC YARDPERFCYL.CYLINDERPJP	P. PERPENDICULAR PARTIAL JOINT PENETRATION
PL D DEPTH PLS.	PLATE PLASTIC
DBL. DOUBLE PLF DEFINITION DET DETAIL	POUNDS PER LINEAL FOOT IB PLUMBING
ELEVATION (IN FEET, BRD UNO) DEV DEVELOP, DEVELOPMENT PRO	I. PROJECT POUNDS PER SQUARE FOOT
DIAG. DIAGONAL PSI DIM. DIMENSIONAL PT	POUNDS PER SQUARE INCH POST-TENSION
SPOT ELEVATION (IN FEET, BRD UNO)DIST.DISTANCE DEAD LOADPT.	POINT
DN. DOWN QTY DWG. DRAWING	QUANTITY
WORK POINT DWL. DOWEL, STARTER BAR RAD.	RADIUS REINFORCED CONCRETE
EA. EACH RD EF EACH FACE REF.	REF.REFERENCE
EL. ELEVATION REIN ELEC. ELECTRICAL	F. REINF.REINFORCE, REINFORCING, REINFORCED, REINFORCEMENT
REINFORCING BAR ELEV ELEVATOR REQU MECHANICAL COUPLER EOR ENGINEER OF RECORD REV	D. REQD.REQUIRED REV.REVISION, REVISED
WELDED TO STRUCTURALEOSEDGE OF SLABRHSTEELEQ.EQUALRS	RIGHT HAND REINFORCED STEEL DECK SLAB
EQUIP. EQUIPMENT RSA EW EACH WAY RSC	ROLLED STEEL ANGLE ROLLED STEEL CHANNEL
STEEL DECK EWEF EACH WAY EACH FACE SC STEEL DECK EXISTING SCH	SLIP CRITICAL ED. SCHED SCHEDULE, SCHEDULED
EXP EXPANSION SDI EXT EXTERIOR SDL	STEEL DECK INSTITUTE SUPERIMPOSED DEAD LOAD
WELDED WIRE REINFORCEMENT SECTORS SECTORS SECTORS SECTORS SECTORS SECTORS SECTORS SHT.	. SECTION SHEET
FAB.FAB.FABRICATE, FABRICATIONSIMFFFAR FACESLBE	SIMILAR SHORT LEG BACK TO BACK
CHANGE IN ELEVATION     F-F     FACE TO FACE     SPEC       FIG.     FIGURE     SQ. F	C. SPECIFICATION T. SQUARE FOOT, SQUARE FEET
EPOXY ANCHORED DOWEL FIN. FINISH DIMENSION SSE	STAINLESS STEEL SPECIALTY STRUCTURAL ENGINEER STUB COLUMN
FIN. FIN. FIN. FINISH FLOOR FIN. GRD. FINISH GRADE STD FI.G. FLANGE STIF	STD.STANDARD 5. STIFF.STIFFENER
EXPANSION ANCHOR FLR. FLOOR STL. FND. FOUNDATION STL.	STEEL PL. STEEL PLATE
FT.FOOT, FEETSTR.FTG.FOOTINGSTRI	STL. STRUCTURAL STEEL ICT. STRUCTURE, STRUCTURAL
UPTURNED RC BEAM B1 WITH TOP OF BEAM 6 INCHES ABOVE SLAB LEVEL GA. GAUGE, GAGE	SYMETRICAL
GEN. GENERAL T&B	
GRND. GROUND TEMP THK.	<ul> <li>TEMP.TEMPERATURE, TEMPORARY</li> <li>THICK</li> </ul>
HGR. HANGER THRI HGT. HEIGHT TR	D. THRD.THREAD, THREADED COLMN TRANSFER
HK. HOOK T/S HORIZ. HORIZONTAL TYP.	TOP OF STEEL TYPICAL
H + PHALVORSON AND PARTNERSH.P.HIGH POINTUBUDUDUD	STRUCTURAL STEEL UNIVERSAL BEAM
HS HEADED STUD UC HSFG HIGH STRENGTH FRICTION GRIP UL HSS HOLLOW STRENGTH PAL SHARE (STRENGTHRAL STEEL) UNO	UNDERWRITERS LABORATORY UNLESS NOTED OTHERWISE
ID INSIDE DIAMETER UTIL	UPTURNED BEAM UTIL.UTILITIES, UTILITY
IE INVERT ELEVATION IN. IN.INCH, INCHES VER	. VERTICAL
INC. INC.INCORPORATED VIF INCL. INCL.INCLUDED, INCLUDING, INCLUSIVE	
INFO. INFO.INFORMATION W INSUL. INSULATION W/	AISC SPECIFIED WIDE FLANGE WITH STRUCTURAL STEEL MUDE ELANCE
ISO. ISOMETRIC WGT	WEIGHT WITHOUT
JST. JOIST WP JT. JOINT WT	
kg KILOGRAM WWF	WORK POINT STRUCTURAL TEE (CUT FROM STEEL WIDE FLANGE
km     KILOMETER       kN     KILONEWTON       kPa     KILOPASCAL (Kr/m2)	WORK POINT STRUCTURAL TEE (CUT FROM STEEL WIDE FLANGE WELDED WIRE REINFORCEMENT



- 1. CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE (APPLICABLE BUILDING CODE). LATEST EDITION, AND ANY OTHER APPLICABLE CODES OF REGULATORY AGENCIES HAVING JURISDICTION.
- 2. THE CONTRACTOR SHALL COMPLY WITH THE LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY BEARING UPON THE PERFORMANCE OF THE WORK.
- 3. THE WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE SPECIFICATIONS AND THE CONTRACT DRAWINGS. REPORT DISCREPANCIES BETWEEN THE SPECIFICATIONS AND THE CONTRACT DRAWINGS TO THE ARCHITECT IN WRITING FOR CLARIFICATION PRIOR
- TO IMPLEMENTING WORK. WHERE REQUIREMENTS SHOWN ON THE DRAWINGS DIFFER FROM THE SPECIFICATIONS, THE MORE SEVERE OF THE TWO SHALL GOVERN. 4. ALL ELEVATIONS ARE REFERENCED TO BUILDING REFERENCE DATUM (B.R.D.), UNLESS
- NOTED OTHERWISE. (+0'-0" B.R.D. = PLUMBING, AND FIRE PROTECTION DRAWINGS FOR THE FOLLOWING: a. ELEVATIONS AND SLOPES.
- b. SIZE, LOCATION, AND EXTENT OF CURBS, FLOOR DEPRESSIONS, AND TOPPING
- c. SIZE AND LOCATION OF DRAINS, TRENCHES, SLAB OPENINGS, AND WALL OPENINGS; d. SIZE AND LOCATION OF RECESSES AND REVEALS IN CONCRETE WORK; SIZE, TYPE, AND LCOATION ON NON-LOAD BEARING PARTITIONS;
- CONCRETE AND STEEL FINISHES; SIZE AND LOCATION OF SLEEVES AND HANGERS;
- ITEMS EMBEDDED IN THE STRUCTURE OR PENETRATING THE STRUCTURE; CONNECTION OF MEPFP ITEMS / EQUIPMENT TO THE STRUCTURE; CONNECTION OF ARCHITECTURAL ITEMS TO THE STRUCTURE; k. CONNECTION OF ANY ITEMS NOT TYPICALLY DETAILED ON THE STRUCTURAL
- DRAWINGS I. SITE AND SUBGRADE DRAINAGE SYSTEMS;
- m. WATERPROOFING AND DAMP PROOFING; n. REQUIRED FIRE RATINGS AND FIRE PROOFING.

WHEN SHOWN, OPENING SIZES AND LOCATIONS FOR PIPES, DUCTS, ETC. ARE FOR GENERAL INFORMATION ONLY AND SHALL BE VERIFIED WITH THE ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION DRAWINGS. ANY DISCREPANCIES SHALL BE REPORTED TO THE ARCHITECT IN WRITING PRIOR TO IMPLEMENTING THE WORK.

- 6. CONNECTIONS OF ARCHITECTURAL, MECHANCIAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION ITEMS TO THE STRUCTURE SHALL BE DESIGNED AND DETAILED BY THE MANUFACTURER. SUPPLIER. OR CONTRACTOR RESPONSIBLE FOR THAT WORK. CONNECTIONS TO STRUCTURAL MEMBERS SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW. RESPONSIBILITY FOR THE PERFORMANCE OF THE SUPPLIED SYSTEM
- AND ASSOCIATED CONNECTIONS SHALL REMAIN THAT OF THE PARTY FURNISHING THE DESIGN AND DETAILING. 7. OPENINGS AND PENETRATIONS THROUGH STRUCTURAL ELEMENTS AND ITEMS
- EMBEDDED IN STRUCTURAL ELEMENTS THAT ARE NOT INDICATED ON THE STRUCTURAL DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW PRIOR TO IMPLEMENTING THE WORK.
- 8. THE CONTRACTOR SHALL SUPPLY THE ARCHITECT WITH A SUBMITTAL VERIFYING THE FINAL LOCATIONS OF ALL MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION ITEMS/ EQUIPMENT WEIGHING 50 LBS. AND GREATER, AND PIPING PENETRATIONS 6 INCHES IN DIAMETER AND LARGER. SEE THE STRUCTURAL NOTES FOR SPECFIC MATERIALS AND THE CONTRACT DRAWINGS FOR ANY ADDITIONAL CRITERIA.
- 9. PLAN, SECTION AND DETAIL DRAWINGS SHALL NOT BE SCALED FOR DETERMINATION \_\_\_\_ OF QUANTITIES, LENGHTS, FIT OF MATERIALS, ETC. 10. DO NOT PLACE MATERIALS OR EQUIPMENT ON FLOORS OR ROOFS IN EXCESS OF THE INDICATED SUPERIMPOSED DEAD AND LIVE DESIGN LOADS. AVOID IMPACT
- LOADING. 11. DETAILS, SECTIONS, AND NOTES DESIGNATED AS "TYPICAL" ARE INTENDED TO SHOW INTENT. THEY SHALL ALSO APPLY TO SIMILAR SITUATIONS, UNLESS NOTED OTHERWISE
- 12. EXISTING CONDITIONS AND RELATED DIMENSIONS INDICATED ON THE CONTRACT DOCUMENTS SHALL BE FIELD VERIFIED PRIOR TO IMPLEMENTING THE WORK. CONDITIONS THAT DIFFER FROM THOSE INDICATED IN THE CONTRACT DOCUMENTS SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW PRIOR TO IMPLEMENTING THE WORK.
- 13. THE SPECIFICATIONS AND STRUCTURAL DRAWINGS REPRESENT THE FINISHED STRUCTURE AND, UNLESS NOTED OTHERWISE, DO NOT INDICATE THE METHOD OF CONSTRUCTION.
- 14. THE BUILDING IS DESIGNED FOR PERMANENT LOADS APPLIED TO THE STRUCTURE IN ITS FINAL CONFIGURATION. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF THE STRUCTURE DURING CONSTRUCTION AND SHALL PROVIDE ADEQUATE SHORING AND/OR TEMPORARY SUPPORT, WHEREVER REQUIRED, TO THE EXISTING AND NEW STRUCTURES, DURING THE ENTIRE CONSTRUCTION PERIOD. 15. THE CONTRACTOR SHALL MAKE NO DEVIATIONS FROM THE CONTRACT DRAWINGS
- WITHOUT WRITTEN APPROVAL FROM THE ARCHITECT.

- A. GENERAL
- THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS SHOWING THE L CONSTRUCTION JOINTS, CONTROL JOINTS, CURBS, SLAB DEPRESSIO OPENINGS, ETC. SEE ARCHITECTURAL PLANS FOR CONTROL JOINT WITH EXPOSDED CONCRETE FLOORING
- 2. CONCRETE SLABS AND WALLS SHALL NOT BE SLEEVED ON THE STR REINFORCING INTERRUPTED. EXCEPT AS INDICATED ON THE STRUC ADDITIONAL SLEEVES OR BOX-OUTS MAY BE REQUIRED FOR ARCHIT INDICATING ALL SLEEVES AND BOX-OUTS REQUIRED FOR THE WORK PRIOR TO CONSTRUCTION. A COMPOSITE DRAWING SHALL BE SUBN SLAB AND/OR WALL AND THE SIZE AND DIMENSIONED LOCATION OF OUTS, CORES, ETC. SHALL BE INDICATED.
- 3. CONCRETE BEAMS SHALL NOT BE SLEEVED OR BOXED-OUT OR HAV INTERRUPTED, EXCEPT AS INDICATED ON THE STRUCTURAL DRAWIN
- 4. FORMWORK FOR ARCHITECTURALLY EXPOSED CONCRETE SHALL BI PROVIDE A FINISH ACCEPTABLE TO THE ARCHITECT. ANY FINS OR M RUBBED SMOOTH. REFER TO ARCHITECTURAL DRAWINGS FOR ALL EXPOSED CONCRETE.
- 5. MINIMUM SLAB-ON-GRADE THICKNESSES SHALL BE 5" FOR SIDEWAL AUTOMOBILE TRAFFIC AREAS, AND 10" FOR TRUCK TRAFFIC AREAS, OTHERWISE ON THE DRAWINGS.
- 6. SEE SPECIFICATION SECTION 033000, "CAST-IN-PLACE CONCRETE" B. CONCRETE
- ALL CAST-IN-PLACE CONCRETE SHALL BE OF THE TYPES AND HAVIN COMPRESSIVE STRENGTHS AS INDICATED IN THE CONCRETE MATER ON THIS SHEET.

CONCRETE MATERIALS SCHEDU									
LOCATION	CONCRETE COMPRESSIVE STRENGTH (28-DAY)	CONCRETE TYP							
COMPOSITE SLABS	6000 PSI	115 PCF LIGHT WEIGHT							
SLABS-ON-GRADE	4000 PSI	145 PCF NORMAL WEIGH							
STRUCTURAL CURBS ABOVE GRADE	4000 PSI	145 PCF NORMAL WEIGH							
ARCHITECTURAL FILLS AND EQUIPMENT PADS	4000 PSI	145 PCF NORMAL WEIGH							
FOOTINGS AND FOUNDATIONS	4000 PSI	145 PCF NORMAL WEIGH							

- ALL CONCRETE SHALL CONTAIN A SPECIFIED WATER REDUCING, PL/ ADMIXTURE. A SPECIFIED, HIGH-RANGE, WATER REDUCING ADMIXTURE UTILIZED AT THE CONTRACTOR'S OPTION. ALL CONCRETE PERMANE TO THE WEATHER SHALL ALSO CONTAIN A SPECIFIED AIR-ENTRAININ TO PROVIDE PERCENTAGE OF AIR REQUIRED FOR EXPOSURE CATEO CLASS F2\_PER ACL318
- 3. NO CALCIUM CHLORIDE SHALL BE USED IN ANY CONCRETE. C. REINFORCING
- 1. ALL REINFORCING BARS SHALL BE NEW BILLET STEEL CONFORMING STANDARDS OF ASTM A615, GRADE 60. REINFORCING BARS TO BE W BE ASTM A706.
- 2. REINFORCING IN THE FOLLOWING AREAS SHALL BE EPOXY COATED CONFORM TO THE STANDARDS OF ASTM A775. a. ALL EXPOSED CONCRETE INCLUDING PIERS AND FOUNDATIONS BUILDING ENCLOSURE, ABOVE FROST DEPTH..
- 3. ALL WELDED WIRE REINFORCEMENT (W.W.R.) SHALL CONFORM TO T ASTM A185. EPOXY COATED W.W.R. SHALL CONFORM TO THE STAND CLASS A.
- 4. ALL HEADED SHEAR STUD REINFORCEMENT SHALL CONFORM TO TH ASTM A1044.
- 5. ALL CONCRETE REINFORCEMENT SHALL BE DETAILED, FABRICATED SUPPORTED, SPACED IN FORMS, AND SECURED IN PLACE IN ACCOR PROCEDURES AND REQUIREMENTS OUTLINED IN THE LATEST EDITION CODE REQUIREMENTS FOR STRUCTURAL CONCRETE", ACI 318. AND STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STR
- 6. THE CONTRACTOR SHALL SUBMIT CHECKED SHOP DRAWINGS SHOW DETAILS, INCLUDING STEEL SIZES, SPACING, PLACEMENT AND SUPP DOWELS AT EXPANSION JOINTS FOR REVIEW PRIOR TO FABRICATIO ALL REINFORCING SPLICES SHALL CONFORM TO THE REQUIREMENT
- "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE:, LA UNLESS NOTED OTHERWISE. 8. ALL WELDED WIRE REINFORCEMENT SHALL LAPPED (2) FULL MESH F
- TIED SECURELY. 9. WHERE REQUIRED, DOWELS SHALL MATCH THE SIZE AND NUMBER (
- UNLESS NOTED OTHERWISE. 10. ALL WALLS AND STRUCTURAL SLABS SHALL BE REINFORCED WITH AT 12 INCHES ON CENTER EACH WAY, EACH FACE, UNLESS NOTED C SLABS-ON-GRADE SHALL BE REINFORCED WITH AT LEAST ONE (1) L 6x6-W2.9xW2.9 W.W.R., UNLESS NOTED OTHERWISE. PROVIDE ONE (
- 6x6-W1.4xW1.4 W.W.R. TOP CONTINUOUS IN ALL CONCRETE FILLS AB SLABS. ALL MECHANICAL, PLUMBING AND ELECTRICAL EQUIPMENT REINFORCED WITH AT LEAST ONE (1) LAYER OF 6x6-W4.0xW4.0 W.W.I UNLESS NOTED OTHERWISE. (SEE HVAC, PLUMBING AND ELECTRICA ADDITIONAL REINFORCING REQUIREMENTS FOR PADS).
- 11. PROVIDE A MINIMUM OF ONE (1) LAYER OF 4x4-W2.9xW2.9 EPOXY CO. ALL SIDEWALKS, UNLESS NOTED OTHERWISE.
- 12. PROVIDE A MINIMUM OF ONE (1) LAYER OF 4x4-W6.0xW6.0 EPOXY CO. ALL AUTOMOBILE TRAFFIC AREAS, UNLESS NOTED OTHERWISE.
- 13. PROVIDE A MINIMUM OF ONE (1) LAYER OF EPOXY COATED No. 4 BAF CENTER, EACH WAY, FOR ALL TRUCK TRAFFIC AREAS, UNLESS NOTE
- 14. ADDITIONAL BARS SHALL BE PROVIDED AROUND ALL FLOOR AND WA INDICATED ON DETAILS.
- 15. BAR SUPPORTS IN CONTACT WITH EXPOSED SURFACES SHALL BE P 16. IN NON-PRESTRESSED CAST-IN-PLACE CONCRETE, THE SPECIFIED (
- FOR REINFORCEMENT SHALL NOT BE LESS THAN THE FOLLOWING, U COVER IS NOTED ELSEWHERE:
- a. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EAI b. CONCRETE EXPOSED TO EARTH OR WEATHER:
- No. 5 BAR W31, OR D31 WIRE AND SMALLER
- SLABS, WALLS, JOISTS: No.14 AND No. 18 BARS No.11 AND SMALLER BEAMS. COLUMNS

No. 6 THROUGH No. 18 BARS c. CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH G

PRIMARY REINFORCEMENT, TIES, STIRRUPS, SPIRALS

	30	
	STRUCTURAL CONCRETE NOTES: (CONT.)	
	E. CONSTRUCTION JOINTS	E
THE LOCATIONS OF ALL RESSIONS, SLEEVES, OINT LAYOUT AT AREAS	FURTHER APART THAN 40 FEET IN ANY DIRECTION.	E
E STRUCTURAL DRAWINGS	2. ALL CONSTRUCTION JOINTS SHALL BE WIRE BRUSHED, CLEANED AND MOISTENED IMMEDIATELY PRIOR TO PLACING NEW CONCRETE.	
STRUCTURAL DRAWINGS. RCHITECTURAL, HVAC, WORK OF ALL DISCIPLINES SUBMITTED FOR EACH DN OF ALL SLEEVES, BOX-	3. PLACE ALL SLABS-ON-GRADE IN STRIP POURS OF 30'-0" MAXIMUM WIDTH WITH A MINIMUM OF 24 HOURS BETWEEN ADJACENT POURS. STRIP POURED SLABS SHALL SAW CUT CONTROL JOINTS SPACED AT 36 TIMES THE SLAB THICKNESS (15'-0" MAXI ON CENTER. SAW CUTTING SHOULD BE PERFORMED BEFORE THE CONCRETE STAI TO COOL AFTER PEAK HEAT OF CEMENT HYDRATION, AND AS SOON AS THE CONCI HAS HARDENED ENOUGH TO SUPPORT EQUIPMENT WITHOUT DAMAGE AND NOT RA THE CONCRETE DURING CUTTING. SAW CUTTING SHALL BE DONE WITHIN 12 HOUR	HAVE MUM) RTS RETE AVEL S OF
R HAVE THE REINFORCING RAWINGS.	CONCRETE PLACEMENT. 4. ALLOW A MINIMUM OF 24 HOURS BETWEEN PLACEMENT OF CONCRETE FOR COLUM	/NS,
IALL BE SMOOTH TO S OR MARKS SHALL BE R ALL REVEALS IN	WALLS OR PIERS AND PLACEMENT OF CONCRETE ON THE ADJACENT FLOOR. F. CURING AND SEALING	
EWALK, 8" FOR REAS, UNLESS NOTED	PROVIDE SPECIFIED CURING COMPOUND AND SEALER FOR THE TOP SURFACE OF SLAB WORK, UNLESS NOTED OTHERWISE.	
ETE"	2. PROVIDE SPECIFIED CURING COMPOUND, SEALER, AND HARDENER FOR ALL SLABS AND STORAGE AREAS, UNLESS NOTED OTHERWISE.	
	3. VERIFY COMPATIBILITY OF SPECIFIED SEALERS AND/OR HARDENERS WITH ARCHIT TOPPINGS AND FINISHES.	ECTURAL
HAVING MINIMUM, 28-DAY MATERIALS SCHEDULE	<ul> <li>G. TOLERANCES</li> <li>1. ALL CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF ACI 117, LATES EDITION, "SPECIFICATIONS FOR TOLERANCES FOR CONCRETE CONSTRUCTION ANI MATERIALS AND COMMENTARY", EXCEPT AS MODIFIED BY THESE DOCUMENTS</li> </ul>	зт Э
JLE	2. SEE ARCHITECTURAL DRAWINGS FOR TYPE AND LOCATION OF ALL FLOOR FINISHE     FLOOR DEPRESSIONS AND NON-STRUCTURAL CURBS. JE SLAB FINISHES ARE NOT	S,
R E M A R K S	INDICATED ON THE ARCHITECTURAL DRAWINGS, SLABS SHALL BE FINISHED AS IND IN THE SPECIFICATION SECTION 033000, "CAST-IN-PLACE CONCRETE". 3. TROWEL FINISHED SLABS SHALL MEET THE FLOOR FLATNESS (F F) AND FLOOR FINI	ICATED SHES.
CF EIGHT	LEVELNESS (FL) TOLERANCES INDICATED IN SPECIFICATION SECTION 033000. USIN METHODS DESCRIBED IN ASTM E155, FLOOR SLAB SURFACES SHALL BE MEASURED AND REPORTED WITHIN 72 HOURS AFTER COMPLETION OF CONCRETE FINISHING A	G THE ) ND
CF VEIGHT	PRIOR TO REMOVAL OF ANY SUPPORTING SHORES OF FORMWORK. FLOOR LEVELN (FL) MEASUREMENTS ARE NOT REQUIRED FOR COMPOSITE STEEL DECK SLABS.	IESS
CF VEIGHT	4. FINISHED SLABS SHALL MEET THE TOLERANCES INDICATED IN SPECIFICATION SEC 033000. USING THE MANUAL "10-FT STRAIGHTEDGE METHOD", AS DESCRIBED IN AC	TION I 117,
CF VEIGHT	AFTER COMPLETION OF CONCRETE FINISHING AND PRIOR TO REMOVAL OF ANY SUPPORTING SHORES OR FORMWORK.	
CF VEIGHT	5. FINISHED FLOOR SLABS THAT DO NOT MEET THE SPECIFIED SURFACE TOLERANCE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. CONTRACTOR TO SUBMIT PROPOSED REPAIR PROCEDURES TO THE ARCHITECT/STRUCTURAL ENGINEER FO REVIEW AND APPROVAL PRIOR TO EXECUTION OF REPAIR WORK.	.s R
IG, PLASTICIZING MIXTURE MAY BE RMANENTLY EXPOSED RAINING ADMIXTURE	<ol> <li>THE CONTRACTOR SHALL PERFORM AND SUBMIT DAILY INSTRUMENT ELEVATION SURVEYS OF TOP SURFACES OF FINISHED REINFORCED CONCRETE AND STEEL DE CONCRETE SLABS, BOTH BEFORE AND AFTER REMOVAL OF FORMWORK AND/OR SHORING SYSTEMS, TO VERIFY AS-BUILT TOLERANCES AND ANTICIPATED SLAB DEFLECTIONS.</li> </ol>	CK
CATEGORY F,	7. SEE FLOOR FRAMING PLANS, SPECIFICATIONS, AND SCHEDULES FOR CAMBER REQUIREMENTS.	
RMING TO THE		
BE WELDED SHALL	STRUCTURAL STEEL FRAMING NOTES	
ATED AND SHALL	A. GENERAL	
TIONS BEYOND THE	<ol> <li>ALL DETAILING, FABRICATION, AND ERECTION SHALL CONFORM TO THE REQUIREMENTS OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) LOAD AND REISITANCE FACTOR DESIGN (LRFD) SPECIFICATIONS AND CODES, LATEST EDITIONS</li> </ol>	
TO THE STANDARDS OF ASTM A884,	<ol> <li>ALL WELDING WORK SHALL CONFORM TO THE REQUIREMENTS OF AWS D1.1 "STRUCTURAL WELDING CODE - STEEL", LATEST EDITION, AND SHALL BE PERFORMED BY AWS CERTIFIED WELDERS.</li> </ol>	
CATED, LABELED, CCORDANCE WITH THE EDITION OF THE "BUILDING 3. AND THE "MANUAL OF	3. ALL STEEL BEAM SIZES INDICATED IN PLAN THAT ARE FOLLOWED BY A NUMBER IN PARENTHESES, (XX), ARE COMPOSITE STEEL BEAMS WITH HEADED STUD SHEAR CONNECTORS. THE NUMBER INDICATED IS THE NUMBER OF STUDS REQUIRED. SEE "STRUCTURAL COMPOSITE STEEL DECK NOTES" FORDDITIONAL INFORMATION.	<u>:</u>
E STRUCTURES", ACI 315. SHOWING REINFORCING	4. COMPOSITE BEAMS HAVE BEEN DESIGNED FOR UN-SHORED CONDITIONS ASSUMIN A CONSTRUCTION LIVE LOAD OF 20 PSF, UNLESS NOTED OTHERWISE. SHORE BEAM	G MS
CATION.	<ol> <li>THERE SHALL BE NO FIELD CUTTING OF STRUCTURAL STEEL MEMBERS FOR THE WORK OF OTHER TRADES WITHOUT THE PRIOR WRITTEN APPROVAL OF THE</li> </ol>	
TE:, LATEST EDITION,	ARCHITECT. 6. ALL STRUCTURAL STEEL SHALL BE FIREPROOFED WITH A U.L. APPROVED SPAY-ON CEMENTITIOUS FIREPROOFING MATERIAL TO ATTAIN THE APPLICABLE FIRE RATING	5
IBER OF MAIN REINFORCING.	REQUIRED BY CODE. SEE THE ARCHITECTURAL DRAWINGS FOR SPECIFIC FIREPRO REQUIREMENTS.	OFING
WITH AT LEAST No. 4 BARS DTED OTHERWISE. ALL	<ol> <li>AFTER FABRICATION AND JUST PRIOR TO SITE APPLICATION OF SPRAY-ON FIREPROOFING, ALL STRUCTURAL STEEL SHALL BE CLEANED OF ALL RUST, LOOSE MILL SCALE AND OTHER FOREIGN MATERIALS. PRIMING AND PAINTING OF STRUCTURAL STEEL WILL NOT BE REQUIRED EXCEPT FOR STEEL THAT IS PERMANENTLY EXPOSED.</li> </ol>	
ONE (1) LAYER OF LLS ABOVE STRUCTURAL MENT PADS SHALL BE	8. WHERE REQUIRED, PRIME PAINT STRUCTURAL STEEL PER THE REQUIREMENTS NOTED IN THE SPECIFICATIONS. CLEAN AND TOUCH UP PAINT AFTER ERECTION.	
W.W.R. TOP CONTINUOUS, TRICAL DRAWINGS FOR	9. GALVANIZE ALL STRUCTURAL STEEL PERMANENTLY EXPOSED TO THE WEATHER CLEAN AND TOUCH UP GALVANIZING AFTER ERECTION.	
XY COATED W.W.R. FOR	10. SEE SPECIFICATION SECTION 051200, "STRUCTURAL STEEL FRAMING", FOR ADDITIONAL REQUIREMENTS NOT NOTED HEREIN.	
XY COATED W.W.R. FOR E.	11. THESE DRAWINGS SHALL NOT BE CONSIDERED "RELEASED FOR CONSTRUCTION" UNTIL SPECIFICALLY SO INDICATED IN THE DRAWING ISSUE BLOCK.	
4 BARS 12 INCHES ON NOTED OTHERWISE.	B. MATERIALS	
ND WALL OPENINGS, AS	1. STRUCTURAL STEEL GRADES FOR ROLLED SHAPES AND PLATES SHALL BE AS FOLLOWS:	
L BE PLASTIC TIPPED. FIED CONCRETE COVER /ING, UNLESS LARGER	WIDE FLANGE BEAMSASTM A992 (Fy = 50 ksi)WIDE FLANGE COLUMNSASTM A992 (Fy = 50 ksi)WT'SASTM A992 (Fy = 50 ksi)ANGLES AND CHANNELSASTM A36 (Fy = 36 ksi)BUILT-UP PLATE GIRDERS AND COLUMNSASTM A372, GRADE 50 (Fy = 100 ksi)COLUMN DASE DI ATESASTM A20 (Fu = 20 ksi)	50 ksi)
TO EARTH: 3 IN.	ASTM A36 (Fy = 36 ksi), TYPICAL         ASTM A572, GRADE 50 (Fy = 36 ksi), TYPICAL         MISCELLANEOUS PLATES         ASTM A36 (Fy = 36 ksi), TYPICAL         ASTM A572, GRADE 50 (Fy = 36 ksi), TYPICAL         ASTM A572, GRADE 50 (Fy = 36 ksi), TYPICAL         ASTM A572, GRADE 50 (Fy = 36 ksi), TYPICAL	50 ksi) XAL 50 ksi)
2 IN. 1 1/2 IN.	2. ALL RECTANGULAR HOLLOW STRUCTURAL SECTIONS (HSS) SHALL CONFORM TO T	HE
VITH GROUND:	REQUIREMENTS OF ASTM A500, GRADE B (Fy = 46 ksi), UNLESS NOTED OTHERWISE.	
1 1/2 IN. 3/4 IN.	<ol> <li>ALL ROUND HOLLOW STRUCTURAL SECTIONS (HSS) SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500, GRADE B (Fy = 42 ksi), UNLESS NOTED OTHERWISE.</li> <li>ALL OTDUCTURAL OTECL DISC CONTRACTOR FOR THE AUTOMATION OF A STRUCTURAL OT THE AUTOMATION OF AUTOMATICAL AUTOMATICAL AUTOMATION OF A STRUCTURAL AUTO</li></ol>	150
ALS 1 1/2 IN.	<ol> <li>ALL STRUCTURAL STEEL PIPE SHALL CONFORM TO THE REQUIREMENTS OF ASTM A GRADE B (Fy = 35 ksi), TYPE S, UNLESS NOTED OTHERWISE.</li> </ol>	153,
	5. ALL THREADED STEEL RODS SHALL BE ASTM A36 (Fy = 36 ksi)	

6. ALL BOLTS, NUTS AND WASHERS SHALL BE HIGH STRENGTH AND CONFORM TO THE REQUIREMENTS OF ASTM A325 OR A490.

7. ALL ANCHOR RODS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F1554, GRADE 36 (ASTM F1554), GRADE 55 WHERE WHERE NOTED)

8. WELDING ELECTRODES SHALL BE E70XX FOR SHOP WELDS AND E7018 FOR FIELD WELDS.

### STRUCTURAL STEEL FRAMING NOTES C. CONNECTIONS 1. ALL CONNECTIONS FOR WHICH NO DESIGNS ARE INDICATED SHALL BE DESIGNED AND DETAILED BY THE FABRICATOR. DETAILING SHALL BE PERFORMED USING RATIONAL ENGINEERING DESIGN AND STANDARD PRACTICE IN ACCORDANCE WITH THE AISC MANUAL OF STEEL CONSTRUCTION (LRFD) AND THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE GENERAL DETAILS INDICATED ON THE DRAWINGS ARE CONCEPTUAL ONLY AND DO NOT INDIATE THE REQUIRED NUMBER OF BOLTS OR WELD SIZES, UNLESS SPECIFICALLY NOTED. THE CONTRACTOR SHALL SUBMIT ENGINEERING CALCULATIONS AND CONNECTION DETAIL DRAWINGS FOR EACH CONNECTION TYPE, MEMBER SIZE, AND REACTION INDICATED ON THE DRAWINGS FOR REVIEW TOGETHER WITH THE SUBMITTAL OF TYPICAL STRUCTURAL STEEL CONNCETION DETAIL DRAWINGS. AFTER REVIEW, THESE DETAIL DRAWINGS SHALL BE UTILIZED AS THE STANDARD FOR FABRICATION AND SHOP DRAWING DETAILING. THE DESIGN CALCULATIONS SHALL BE PREPARED AND SEALED BY A QUALIFIED STRUCTURAL ENGINEER LICENSED IN THE STATE OF THE PROJECT.

- 2. ALL CONNECTIONS, UNLESS NOTED OTHERWISE, SHALL BE SIMPLE SHEAR CONNECTIONS UTILIZING "SHORT SLOTTED" HOLES AND HIGH-STRENGTH BOLTS IN BEARING-TYPE CONNECTIONS WITH THREADS INCLUDED IN THE SHEAR PLANE. THE MINIMUM ALLOWABLE SHEAR CAPACITY FOR EACH CONNECTION SHALL BE AS INDICATED BELOW.
- 3. BEAM-TO-COLUMN AND BEAM-TO-BEAM CONNECTIONS SHALL BE MOMENT CONNECTED WHERE INDICATED ON THE DRAWINGS. THE WEB SHEAR CONNECTION FOR THESE MEMBERS SHALL UTILIZE SLIP-CRITICAL TYPE HIGH-STRENGTH BOLTS FOR THE CAPACITIES INDICATED BELOW. THE FLANGE CONNECTIONS SHALL BE DETAILED TO DEVELOP THE FULL BENDING CAPACITY OF THE MEMBER.
- 4. HIGH STRENGTH BOLTS FOR CONNECTIONS, OTHER THAN THOSE DESIGNATED AS SLIP-CRITICAL, SHALL BE TIGHTENED TO A SNUG-TIGHT CONDITION. HIGH STRENGTH BOLTS FOR CONNECTIONS DESIGNATED AS SLIP-CRITICAL, SHALL BE TIGHTENED AS PER APPLICABLE VALUES IN THE RCSC "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS".
- 5. MINIMUM ALLOWABLE SHEAR CONNECTION CAPACITIES FOR STANDARD ROLLED SHAPES (ASTM A36 AND ASTM A992) (FACTORED LOADS) SHALL BE AS FOLLOWS:

		W16	41 KIPS
W33	89 KIPS	W14, C15	31 KIPS
W30	89 KIPS	W12, C12	31 KIPS
W27	89 KIPS	W10, C10	22 KIPS
W24	65 KIPS	W8, C8	14 KIPS
W21	65 KIPS	W6, C6	10 KIPS
W18, C18	58 KIPS	W5, C5	8 KIPS

- ARE NOTED, IN KIPS, IN A BOX AT EITHER END OF THE MEMBER ON THE STRUCTURAL FRAMING PLANS.
- 6. THE MINIMUM NUMBER OF BOLTS PER CONNECTION SHALL BE TWO (2) 3/4 INCH DIAMETER, A325 BOLTS.
- 7. MINIMUM FILLET WELD SIZES SHALL COMPLY WITH THE AISC SPECIFICATION REQUIREMENTS, BUT SHALL NOT BE LESS THA 1/4 INCH, UNLESS NOTED OTHERWISE.
- D. DETAILING AND FABRICATION
- 1. THE CONTRACTOR SHALL SUBMIT DETAILED, ENGINEERED, COORDINATED AND CHECKED SHOP DRAWINGS FOR ALL STRUCTURAL STEEL MEMBERS FOR REVIEW PRIOR TO THE START OF FABRICATION. AS NOTED ABOVE, CONNECTION CALCULATIONS SHALL BE SUBMITTED IN ADVANCE TO ALLOW REVIEWED CONNECTIONS TO BE INCORPORATED IN TO THE SHOP DRAWINGS.
- 2. ALL BEAMS SHALL BE FABRICATED WITH THE NATURAL CAMBER UP. PROVIDE
- ADDITIONAL CAMBERS AS INDICATED THUS, <C=X">, ON THE STRUCTURAL DRAWINGS. 3. ALL SIMPLE SHEAR CONNECTIONS SHALL BE CAPABLE OF END ROTATION AS PER THE REQUIREMENTS OF THE AISC SPECIFICATION, CHAPTER J1.2, "SIMPLE CONNECTIONS". 4. ALL STRUCTURAL STEEL BEAMS FRAMING INTO NEW AND/OR EXISTING CONCRETE OR MASONRY MEMBERS SHALL BE DETAILED TO SUIT THE HORIZONTAL FIELD
- TOLERANCES. E. ERECTION
- 1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL OF ALL ERECTION PROCEDURES AND SEQUENCES, INCLUDING, BUT NOT LIMITED TO, TEMPERATURE DIFFENTIALS, ERECTION TOLERANCES, AND WITH RESPECT TO STRUCTURAL STEEL FRAMING INTO REINFORCED CONCRETE WALLS, BEAMS, OR COLUMNS, OR FRAMING INTO EXISTING CONSTRUCTION.
- 2. ALL ERECTION PROCEDURES, DESIGNS, AND CALCULATIONS SHALL BE PERFORMED BY THE CONTRACTOR'S QUALIFIED STRUCTURAL ENGINEER LICENSED IN THE STATE OF THE PROJECT. ANY REVIEW OF SUCH CALCULATIONS AND/OR DRAWINGS WILL BE SOLELY LIMITED TO ANY EFFECTS ON THE INTEGRITY OF THE PERMANENT, PRIMARY STRUCTURE.
- 3. ALL ADDITIONAL STEEL REQUIRED BY THE CONTRACTOR FOR ERECTION PURPOSES AND SITE ACCESS OF STOCKPILED MATERIALS SHALL BE PROVIDED AT NO COST TO THE OWNER. ALL SUCH ADDITIONAL STEEL SHALL BE REMOVED BY THE CONTRACTOR UNLESS APPROVED BY THE ARCHITECT IN WRITING. F. TESTING AND INSPECTION
- TESTING AND INSPECTION OF BOTH SHOP AND FIELD STRUCTURAL STEEL FABRICATION AND ERECTION WORK, INCLUDING WELDED AND BOLTED CONNECTIONS, SHALL BE AS FOLLOWS: 1. THE OWNER'S STRUCTURAL STEEL TESTING LABORATORY SHALL PERFORM ALL SHOP
- AND FIELD INSPECTION AND TESTING AS OUTLINED BELOW.
- 2. ALL STRUCTURAL STEEL FABRICATION AND ERECTION SHALL BE VISUALLY INSPECTED. 3. ALL WELDERS SHALL BE CERTIFIED AS PER AWS D1.1.
- 4. ALL WELDS SHALL BE AWS/AISC PREQUALIFIED UNLESS AS NOTED IN
- THE SPECIFICATIONS.
- 5. ALL WELDS SHALL BE VISUALLY INSPECTED PER AWS D1.1 WELD MEASUREMENTS SHALL BE PERFORMED FOR 15 PERCENT OF ALL WELDS ON A RANDOM BASIS.
- 6. MAGNETIC PARTICLE TESTING IN ACCORDANCE WITH ASTM E709 SHALL BE PERFORMED FOR A MINIMUM OF:
- a. 10 PERCENT OF ALL SHEAR PLATE AND TRUSS CONNECTION FILLET WELDS, CHOSEN AT RANDOM, FINAL PASS ONLY.
- b. 20 PERCENT OF ALL CONTINUITY PLATE AND BRACING GUSSET PLATE FILLET WELDS, CHOSEN AT RANDOM, FINAL PASS ONLY.
- c. 100 PERCENT OF TENSION MEMBER CONNECTION FILLET WELD (I.E., HANGER CONNECTION PLATES, ETC.) FOR ROOT AND FINAL PASSES.
- d. 100 PERCENT OF BUILT-UP MEMBER PARTIAL PENETRATION WELDS FOR ROOT
- AND FINAL PASSES. e. 100 PERCENT OF BUILT-UP MEMBER FILLET WELDS IN ZONES OF MOMENT
- CONNECTIONS FOR ROOT AND FINAL PASSES. f. 20 PERCENT OF OTHER BUILT-UP MEMBER FILLET WELDS, AT CHOSEN AT
- RANDOM, FOR FINAL PASS ONLY. g. 10 PERCENT OF OTHER MISCELLANEOUS FILLET WELDS, CHOSEN AT RANDOM,
- FOR FINAL PASS ONLY. 7. ULTRASONIC TESTING, IN ACCORDANCE WITH AWS D1.1, SHALL BE PERFORMED FOR
- A MINIMUM OF: a. 100 PERCENT OF ALL FULL PENETRATION WELDS. b. 20 PERCENT OF ALL COLUMN SPLICE WELDS, CHOSEN AT RANDOM.
- 8. THE REQUIRED CONTACT SURFACE CONDITION OF ALL SHEAR CONNECTIONS SHALL BE VISUALLY INSPECTED IMMEDIATELY PRIOR TO BEAM ERECTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY REMEDIAL WORK REQUIRED TO CONTACT SURFACES.
- 9. ALL BOLTED CONNECTIONS SHALL BE VISUALLY INSPECTED AND SLIP-CRITICAL CONNECTIONS SHALL BE TESTED WITH A CALIBRATED TORQUE WRENCH TO VERIFY A MINIMUM OF 25 PERCENT OF BOLTS IN EACH CONNECTION (TWO BOLTS PER CONNECTION, MINIMUM) IN ACCORDANCE WITH THE RCSC "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS".
- 10. THE STRUCTURAL STEEL FABRICATOR AND ERECTOR SHALL SCHEDULE ALL WORK TO ALLOW THE ABOVE INSPECTION AND TESTING REQUIREMENTS TO BE COMPLETED.

STEEL ROOF DECK NOTES:

- A. GENERAL
- 1. THE STEEL ROOF DECK HAS BEEN DESIGNED FOR A 20 PSF CONSTRUCTION LIVE LOAD. THE CONTRACTOR SHALL NOT EXCEED THE ASSUMED CONSTRUCTION DESIGN LIVE LOAD. WITHOUT FIRST TAKING ALL NECESSARY SAFETY PRECAUTIONS SUCH AS SHORING. ETC
- 2. THE STEEL ROOF DECK HAS BEEN DESIGNED TO SPAN ACROSS A MINIMUM OF TWO SPANS. IF THE DECK AREA ONLY EXTENDS ONE BAY IN THE DIRECTION OF THE SPAN, PROVIDE DECK THAT HAS AN EQUIVALENT LOAD CARRYING CAPACITY TO A TWO SPAN CONDITION.
- NO LOADS SHALL BE PERMITTED TO BE HUNG FROM ANY STEEL ROOF DECKING. ALL DUCTWORK, PIPING, ETC., SHALL BE HUNG ON HANGERS DIRECTLY ATTACHED TO THE STRUCTURAL STEEL FRAMING OR FROM SUPPLEMENTARY FRAMING MEMBERS PROVIDED BY THE MEP CONTRACTOR. ALL HANGING LOAD MAGNITUDES AND DETAILS SHALL BE SUBMITTED FOR REVIEW.
- 4. SEE ARCHITECTURAL DRAWINGS FOR FIRE RATING REQUIREMENTS. 5. SEE SPECIFICATION SECTION 053100, "STEEL DECKING", FOR ADDITIONAL REQUIREMENTS.
- B. MATERIALS
- 1. ALL STEEL ROOF DECK SHALL BE FABRICATED FROM STEEL CONFORMING TO THE STANDARDS OF ASTM A653, STRUCTURAL QUALITY, HAVING A MINIMUM YIELD STRENGHT OF 33,000 PSI. ALL STEEL ROOF DECK SHALL BE HOT-DIPPED GALVANIZED THE STANDARDS OF ASTM A525 WITH A COATING CLASS OF G-90. MINIMUM, WHERE APPLICABLE, VERIFY COMPATIBILITY OF GALVANIZING AND SPRAY-ON FIRE PROOFING WITH FIRE PROOFING SUPPLIER ALL ACOUSTICAL ROOF DECK SHALL BE GALVANIZED AND PRIME PAINTED.
- 2. ALL INSULATED STEEL ROOF DECK SHALL BE FORMED WITH TELESCOPED ENDS TO ALLOW ENDS OF SHEETS TO BE LAPPED A MINIMUM OF 2 INCHES.
- 3. ALL STEEL ROOF DECK SHALL BE WIDE RIBBED, UNLESS NOTD OTHERWISE, WITH THE DEPTH AND GAGE AS INDICATED ON THE STRUCTURAL DRAWINGS. THE DECK GAGE SHALL NOT BE LESS THAN 20 GAGE.

- THE CONTRACTOR SHALL PROVIDE DETAILED AND CHECKED SHOP DRAWINGS INDICATING LOCATION, GAGE, AND SIZE OF EACH PIECE OF DECKING AND RELATED DECKING ACCESSORIES. THE DRAWINGS SHALL CLEARLY SHOW WELDING DETAILS TO STRUCTURAL FRAMING ELEMENTS, SIDE LAP CONNECTION DETAILS, DECK OPENING/EDGE CLOSURES, AND SUPPLEMENTARY DECK AND/OR CLOSURE REINFORCING.
- PROVIDE CONTINUOUS SHEET STEEL CLOSURES AT ALL DECK OPENINGS AND DECK EDGES, UNLESS NOTED OTHERWISE.
- PROVIDE, AS REQUIRED, ALL RIDGE AND VALLEY PLATES, COLUMN CLOSURES, CANT STRIPS, SUMP PLATES AT PIPING PENETRATIONS, AND RECESSED SUMP PANS AT ROOF DRAINS, PROVIDE SUPPLEMENTAL STRUCTURAL STEEL FRAMING, INCLUDING BEAMS, ANGLES, AND/OR REINFORCING PLATES AT OPENINGS, AS REQUIRED FOR SUPPORT OF THE STEEL ROOF DECK. ALL DECK OPENINGS SHALL BE COORDINATED WITH ARCHITECTURAL AND MECHANICAL DRAWINGS.
- ALL STEEL ROOF DECK ACCESSORIES SHALL BE HOT-DIPPED GALVANIZED TO A COATING CLASS OF G-90, MINIMUM.

## D. ERECTION / INSTALLATION

- 1. ALL STEEL ROOF DECK SHALL BE WELDED TO STRUCTURAL STEEL BY QUALIFIED WELDERS USING PRE-QUALIFIED PROCEDURES. THE AWS SPECIFICATIONS ESTABLISH A PROCEDURE FOR PRE-QUALIFICATION OF THE PLUG WELDING OF THE STEEL DECKING TO THE STRUCTURAL STEEL FOR THE PATICULAR GAGES USED. PRIOR TO THE START OF ERECTION OF THESTEEL COMPOSITE DECK, AND ON A PERIODIC BASIS AS DEEMED NECESSARY BY THE ARCHITECT AND THE OWNER'S TESTING LABORATORY, EACH WELDER SHALL BE QUALIFIED USING THIS PROCEDURE AS WITNESSED BY THE OWNER'S TESTING LABORATORY.
- 2. ALL STEEL ROOF DECK SHALL BE WELDED AT 12 INCHES MAXIMUM ON CENTER TO THE SUPPORTING STEEL WITH A 3/4" DIAMETER PLUG WELD. SIDE LAPS SHALL BE FASTENED AT 30 INCHES MAXIMUM ON CENTER, UNLESS NOTED OTHERWISE.
- 3. THE OWNER'S TESTING AGENCY SHALL INSPECT AND TEST ALL STEEL ROOF DECK INSTALLATION.

### COMPOSITE STEEL DECK NOTES

# A. GENERAL

- 1. THE COMPOSITE STEEL DECK HAS BEEN DESIGNED FOR A 20 PSF CONSTRUCTION LIVE LOAD. THE CONTRACTOR SHALL NOT EXCEED THE ASSUMED CONSTRUCTION DESIGN LIVE LOAD WITHOUT FIRST TAKING ALL NECESSARY SAFETY PRECAUTIONS SUCH AS SHORING, ETC.
- 2. THE COMPOSITE STEEL DECK HAS BEEN DESIGNED TO SPAN ACROSS A MINIMUM OF TWO SPANS. IF THE DECK AREA ONLY EXTENDS ONE BAY IN THE DIRECTION OF THE SPAN, PROVIDE DECK THAT HAS AN EQUIVALENT LOAD CARRYING CAPACITY TO A TWO SPAN CONDITION.
- 3. NO LOAD EXCEEDING 50 LBS. SHALL BE PERMITTED TO BE HUNG FROM ANY COMPOSITE STEEL DECK SLABS. ALL DUCTWORK, PIPING, ETC., SHALL BE HUNG ON HANGERS DIRECTLY ATTACHED TO THE STRUCTURAL STEEL FRAMING OR FROM SUPPLEMENTARY FRAMING MEMBERS PROVIDED BY THE MEP CONTRACTOR. ALL HANGING LOAD MAGNITUDES AND DETAILS SHALL BE SUBMITTED FOR REVIEW.
- 4. CONDUIT AND PIPING FOR THE WORK OF OTHER TRADES SHALL NOT BE PLACED IN COMPOSITE STEEL DECK SLABS, UNLESS NOTED OTHERWISE
- 5. SEE ARCHITECTURAL DRAWINGS FOR FIRE RATING REQUIREMENTS.
- 6. SEE SPECIFICATION SECTION 053100, "STEEL DECKING", FOR ADDITIONAL REQUIREMENTS.

# **B. MATERIALS**

- 1. ALL COMPOSITE STEEL DECK SHALL BE FABRICATED FROM STEEL CONFORMING TO THE STANDARDS OF ASTM A653, STRUCTURAL QUALITY, HAVING A MINIMUM YIELD STRENGTH OF 33.000 PSI. ALL COMPOSITE FLOOR DECK SHALL BE HOT-DIPPED GALVANIZED TO THE STANDARDS OF ASTM A525 WITH A COATING CLASS OF G-60, MINIMUM. ALL COMPOSITE DECK AT ROOF LEVELS, PARKING/VEHICULAR AREAS, LOADING DOCKS, AND SIDEWALKS SHALL BE HOT-DIPPED GALVANIZED WITH A COATING CLASS OF G-90, MINIMUM. WHERE APPLICABLE, VERIFY COMPATIBILITY OF GALVANIZING AND SPRAY-ON FIRE PROOFING WITH FIRE PROOFING SUPPLIER.
- 2. COMPOSITE STEEL DECK SHALL HAVE WIDE RIBS SUITABLE FOR THE REPLACEMENT OF HEADED STEEL STUD SHEAR CONNECTORS. THE DEPTH AND GAGE OF THE DECK SHALL BE AS INDICATED ON THE STRUCTURAL DRAWINGS. THE DECK GAGE SHALL NOT BE LESS THAN 20 GAGE.
- HEADED STEEL STUD SHEAR CONNECTORS:
- a. THE SHEAR CONNECTORS SHALL BE 4-1/2" LONG x 3/4" DIAMETER HEADED STEEL STUDS.
- b. SHEAR STUD CONNECTORS SHALL CONFORM TO THE REQUIREMENTS OF AWS D1.1 (CHAPTER 7, TYPE B) AND ASTM A108 (Fu = 60 KSI).
- c. SHEAR STUD CONNECTORS SHALL BE PLACED AT THE BEAM CENTERLINE, UNLESS NOTED OTHERWISE.
- d. THE CENTER-TO-CENTER SPACING OF HEADED STUD SHEAR CONNECTORS
- SHALL NOT EXCEED 8 TIMES THE TOTAL SLAB THICKNESS NOR 36 INCHES. e. THE CONTRACTOR SHALL SUBMIT CHECKED SHOP DRAWINGS INDICATING
- EACH BEAM. f. THE NUMBER OF SHEAR STUD CONNECTORS PER BEAM SHOWN ON THE DRAWINGS IS BASED ON AN ASSUMED HORIZONTAL SHEAR DESIGN VALUE OF 26.5 KIPS PER STUD IN NORMAL WEIGHT CONCRETE. THE ACTUAL NUMBER OF SHEAR STUD CONNECTORS HAS BEEN ADJUSTED TO ACCOUNT FOR RIB WIDTH, NUMBER OF STUDS PER RIB, DECK-RIB ORIENTATION, CONCRETE DENSITY, AND SLAB THICKNESS AS PER AISC LRFD SPECIFICATIONS FOR COMPOSITE CONSTRUCTION, CHAPTER 1.

THE SHEAR STUD LAYOUT INCLUDING SIZE, SPACING AND GROUPING FOR

g. STEEL STUD SHEAR CONNECTORS SHALL BE EITHER WELDED DIRECTLY TO STRUCTURAL STEEL ELEMENTS AT LOCATIONS WITHOUT DECK OR WELDED THROUGH THE METAL DECK BY AWS PRE-QUALIFIED METHODS. IF THROUGH DECK WELDING IS UNFEASIBLE, THE STUDS SHALL BE INSTALLED IN PRE-PUNCHED HOLES IN THE STEEL DECK.

### C. DETAILING AND FABRICATION

- 1. THE CONTRACTOR SHALL PROVIDE DETAILED AND CHECKED SHOP DRAWINGS INDICATING LOCATION, GAGE, AND SIZE OF EACH PIECE OF DECKING AND RELATED DECKING ACCESSORIES. THE DRAWINGS SHALL CLEARLY SHOW WELDING DETAILS TO STRUCTURAL FRAMING ELEMENTS, SIDE LAP CONNECTION DETAILS, DECK OPENING/EDGE CLOSURES, AND SUPPLEMENTARY DECK AND/OR CLOSURE REINFORCING.
- PROVIDE CONTINUOUS SHEET STEEL CLOSURES AT ALL SLAB OPENINGS AND SLAB EDGES AND CONTINUOUS DECK CLOSURES AT ALL DECK ENDS, UNLESS NOTED OTHERWISE
- 3. PROVIDE, AS REQUIRED, ALL RIDGE AND VALLEY PLATES, COLUMN CLOSURES, CANT STRIPS, SUMP PLATES AT PIPING PENETRATIONS, AND RECESSED SUMP PANS AT ROOF DRAINS. PROVIDE SUPPLEMENTAL STRUCTURAL STEEL FRAMING. INCLUDING BEAMS, ANGLES, AND/OR REINFORCING PLATES AT OPENINGS, AS REQUIRED FOR SUPPORT OF THE COMPOSITE STEEL DECK. ALL SLAB OPENINGS SHALL BE COORDINATED WITH ARCHITECTURAL AND MECHANICAL DRAWINGS.
- 4. ALL STEEL DECK ACCESSORIES SHALL BE HOT-DIPPED GALVANIZED TO A COATING CLASS OF G-60. MINIMUM. D. ERECTION / INSTALLATION

AS WITNESSED BY THE OWNER'S TESTING LABORATORY.

- ALL COMPOSITE STEEL DECKING SHALL BE WELDED TO STRUCTURAL STEEL BY QUALIFIED WELDERS USING PRE-QUALIFIED PROCEDURES. THE AWS SPECIFICATIONS ESTABLISH A PROCEDURE FOR PRE-QUALIFICATION OF THE PLUG WELDING OF THE STEEL DECKING TO THE STRUCTURAL STEEL FOR THE PATICULAR GAGES USED. PRIOR TO THE START OF ERECTION OF THE STEEL COMPOSITE DECK. AND ON A PERIODIC BASIS AS DEEMED NECESSARY BY THE ARCHITECT AND THE OWNER'S TESTING LABORATORY, EACH WELDER SHALL BE QUALIFIED USING THIS PROCEDURE
- 2. ALL COMPOSITE DECK SHALL BE ANCHORED TO THE SUPPORTING STEEL AT A SPACING NOT TO EXCEED 18 INCHES. SUCH ANCHORAGE SHALL BE PROVIDED BY SHEAR STUD CONNECTORS OR A COMBINATION OF SHEAR STUD CONNECTORS AND 3/4" DIAMETER PUDDLE WELDS. SIDE LAPS SHALL BE FASTENED AT 30 INCHES MAXIMUM ON CENTER, UNLESS NOTED OTHERWISE.
- THE OWNER'S TESTING AGENCY SHALL INSPECT AND TEST ALL COMPOSITE STEEL DECK AND SHEAR STUD CONNECTOR INSTALLATION WORK.

# ANY CONNECTION REACTIONS EXCEEDING THE ABOVE MINIMUM SHEAR CAPACITIES



	50	40	
	PROJECT DESIGN LOAD DATA:	GENERAL FOUNDATION NOTES:	
	1. APPLICABLE DESIGN CODES	1. A GEOTECHNICAL EXPLORATION REPOR	T, CONTAINING SOIL BORING DATA, HAS BEEN PREPARE
	a. INDIANA BUILDING CODE, 2008	PATRIOT ENGINEERING	
	c. ASCE7-05, "MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES"	Indianapolis, Indiana 46250 Patriot Project No. 1-13-0326	
	<ol> <li>FLOOR LIVE LOADS (GRAVITY LOADS):</li> <li>a. CLASSROOM 40 PSF**</li> </ol>	DATED: March 27, 2013	
6	b. OFFICE 50 PSF** c. CORRIDORS 80 PSF** d. MECHANICAL ROOM ACTUAL LOAD	THIS REPORT IS AVAILABLE FROM THE OWN ARE PROVIDED FOR INFORMATION ONLY AN OR REPRESENTING ALL CONDITIONS TO BE	NER. THE SOILS CONDITIONS DESCRIBED IN THE REPOR ND ARE NOT WARRANTED BY THE OWNER AS ACCURATE ENCOUNTERED IN THE WORK. THE REQUIREMENTS.
	e. EXIT STAIRS 100 PSF	RECOMMENDATIONS, AND OTHER CONDITION REQUIREMENTS OF THE CONTRACT DOCUM	ONS OF THE GEOTECHNICAL REPORT ARE HEREBY MAD MENTS.
	3. ROOF LIVE LOADS (GRAVITY LOADS):	2. ALL SOIL SUPPORTED FOOTINGS SHALL F WITH A MINIMUM ALLOWABLE BEARING CAP	BE FOUNDED UPON UNDISTURBED, NATURAL SUBGRAD
	a. ROOF DESIGN LIVE LOAD 20 PSF b. CODE MINIMUM SNOW LOAD 22 PSF	- TYPICAL: 3 KSF AT ISOLATED FOOTINGS ( - BASEMENT: 5 KSF AT ISOLATED FOOTING AS INDICATED IN THE GEOTECHNICAL REPO	(2.5 KSF FOR STRIP/WALL FOOTINGS) SS (4.0 KSF FOR STRIP/WALL FOOTINGS), DRT. THE BOTTOM OF FOOTING ELEVATIONS AND SOIL
	GROUND SNOW LOAD, Pg: 20 PSF FLAT-ROOF SNOW LOAD, Pf: 22 PSF SNOW EXPOSURE FACTOR, Ce: 1.0	BEARING CAPACITIES INDICATED ON THE DI IT IS THE INTENT OF THE CONTRACT DOCUM ELEVATIONS INDICATED. SHOULD UNSUITAE	RAWINGS ARE ESTIMATED FROM THE SOIL BORING DAT. MENTS THAT THE FOUNDATIONS ARE TO BE BUILT AT TH BLE SOIL OR FILL BE ENCOUNTERED AT THE NOTED
	SNOW LOAD IMPORTANCE FACTOR, Is: 1,1 THERMAL FACTOR, Ct: 1,0	BEARING ELEVATIONS, THEN ALL SUCH UNS ENGINEERED FILL MATERIAL, PLACED AND (	SUITABLE SOIL SHALL BE REMOVED AND REPLACED WIT COMPACTED AS SPECIFIED AND AS RECOMMENDED IN
	4. MINIMUM DESIGN WIND LOADS:	AMOUNT OF UNDERCUTTING REQUIRED. TH DETERMINE WHETHER SUCH SOILS ARE SA	IE GEOTECHNICAL REFORT FOR AN ESTIMATE OF THE IE OWNER'S SOILS TESTING LABORATORY SOLELY SHAL TISFACTORY OR REQUIRE REPLACEMENT. FINAL, EXACT
	BASIC WIND SPEED, V: 90 MPH WIND IMPORTANCE FACTOR, Iw: 1.15	THE OWNER'S SOILS TESTING LABORATORY	Y DURING CONSTRUCTION.
	BUILDING CATEGORY: III WIND EXPOSURE CATEGORY (TYPICAL)B INTERNAL PRESSURE COEFFICIENT, GCPI: +/- 0.18	3. ALL ORGANIC AND/OR OTHER UNSUITABI AND SLAB SUBGRADES AND BACKFILL AREA FILL COMPACTED TO 95 PERCENT OF MAXIN	LE MATERIALS SHALL BE REMOVED FROM FOUNDATION AS, AND THEN BACKFILLED WITH ACCEPTABLE GRANULA MUM DENSITY AT OPTIMUM MOISTURE CONTENT (ASTM
	a. MAIN WIND FORCE RESISTING SYSTEM 15 (BASE) TO 35 (PARAPET) PSF MIN.	D1557). 4. THE SOIL SUBGRADE FOR ALL FOOTINGS	S AND SLABS SHALL BE INSPECTED AND APPROVED BY
	c. ROOF UPLIFT 15 PSF MIN. d. COMPONENTS AND CLADDING (SEE ARCHITECTURAL DRAWINGS)	THE OWNER'S TESTING LABORATORY IMME CONCRETE MUD SLABS.	DIATELY PRIOR TO PLACING FOUNDATION CONCRETE C
	5. EARTHQUAKE/SEISMIC DESIGN DATA: CODE MINIMUM SEISMIC DESIGN LOADS BASED ON THE FOLLOWING:	5. ALL FOOTING SUBGRADES, AS REQUIRED THE UPPER 12 INCHES OF ALL SLAB SUBGR	D BY THE OWNER'S SOILS TESTING LABORATORY, AND ADES, INCLUDING PIT SLABS, SHALL BE COMPACTED TO
5	SEISMIC IMPORTANCE FACTOR, le: 1.25 SEISMIC USE GROUP: III MAPPED SPECTRAL RESPONSE ACCELERATIONS:	95 PERCENT OF MAXIMUM DENSITY AT OPTI AROUND AND ABOVE ALL FOUNDATION ELE AND PITS SHALL BE PLACED IN LAYERS NOT	IMUM MOISTURE CONTENT (ASTM D1557). ALL BACKFILL IMENTS, INCLUDING FOOTINGS, GRADE BEAMS, WALLS I TO EXCEED 8 INCHES IN THICKNESS AND SHALL BE
	Ss 0.175 g (FROM SOILS REPORT) SI 0.072 g (FROM SOILS REPORT) SITE CLASS' "C" (EROM SOILS REPORT)	COMPACTED TO 90 PERCENT OF THE MAXIN D1557) TO WITHIN 12 INCHES OF THE SLAB S	MUM DENSITY AT OPTIMUM MOISTURE CONTENT (ASTM SUBGRADE.
	SPECTRAL RESPONSE COEFFICIENTS: Sds 0.140 g (FROM SOILS REPORT)	6. DO NOT BACKFILL AGAINST BASEMENT W SLABS HAVE BEEN PLACED AND THE SLAB ( COMPRESSIVE STRENGTH	VALLS UNTIL THE GROUND FLOOR AND LOWER LEVEL CONCRETE HAS ATTAINED ITS SPECIFIED 28-DAY
	SGI 0.081 g (FROM SOLS REPORT) SEISMIC DESIGN CATEGORY: B BASIC SEISMIC-FORCE-RESISTING SYSTEM(S):	7. THE CONTRACTOR SHALL PROVIDE ALL N	NECESSARY MEASURES TO PREVENT ANY WATER, FROS
	MASONRY BEARING WALLS – IN TERMEDIA TE MASONRY DESIGN BASE SHEAR:	OR ICE FROM PENETRATING ANY FOOTING ( PLACING OF CONCRETE AND UNTIL SUCH S BUILDING STRUCTURE.	OR STRUCTURAL SLAB SUBGRADE BEFORE AND AFTER SUBGRADES ARE FULLY PROTECTED BY THE PERMANEN
	Vb (NORTH-SOUTH): 360 KIPS Vb (EAST-WEST): 360 KIPS	8. NO MUD SLABS, FOOTINGS OR STRUCTU SUBGRADES CONTAINING FREE WATER. FR	RAL SLABS SHALL BE PLACED INTO OR AGAINST OST. OR ICE. SHOULD WATER OR FROST ENTER A
	ANALYSIS PROCEDURE USED: EQUIVALENT LATERAL FORCE PROCEDURE	FOOTING, MUD SLAB OR STRUCTURAL SLAE SUBGRADE SHALL BE REINSPECTED BY THE REMOVAL OF WATER FROST OR ICE	3 EXCAVATION AFTER SUBGRADE APPROVAL, THE E OWNER'S SOILS TESTING LABORATORY AFTER
	SPECIAL INSPECTION, STRUCTURAL TESTING, AND STRUCTURAL OBSERVATIONS FOR SEISMIC RESISTANCE SHALL BE PROVIDED PER THE STANDARDS OF IBC 2006, SECTION 1707, "SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE," SECTION 4709, "STRUCTURAL TESTING FOR SEISMIC	9. ALL EXCAVATIONS, REINFORCEMENT, AN	ID MUD SLABS (WHERE APPLICABLE), SHALL BE
	RESISTANCE", AND SECTION 1709, "STRUCTURAL OBSERVATIONS".	10. THE CONCRETE FOR EACH ISOLATED FO	OOTING SHALL BE PLACED IN ONE (1) CONTINUOUS
	<ol> <li>OTHER LOADS:</li> <li>a. HANDRAILS AND GUARDRAILS:</li> </ol>	POUR. 11. SLABS-ON-GRADE AT THE FIRST FLOOR	SHALL BE PLACED OVER A CONTINUOUS VAPOR
	50 PLF UNIFORM LOAD OR 200 LBS. CONCENTRATED LOAD APPLIED AT TOP IN ANY DIRECTION. UNIFORM AND CONCENTRATED LOADS DO NOT ACT CONCURRENTLY.	RETARDER OVER A MINIMUM OF 6 INCHES O MAXIMUM DRY DENSITY AT OPTIMUM MOIST COMPACTED SOIL SUBGRADE. IN ADDITION	DF GRANULAR MATERIAL COMPACTED TO 95% OF THE TURE CONTENT (ASTM D1557) WHICH IS PLACED OVER A I PROVIDE 9" LAYER OF OPEN-GRADED INDOT NO. 5
	b. INTERMEDIATE RAILS, BALUSTERS AND PANEL FILLERS:	STONE AT BASEMENT SLAB AND BASEMENT REPORT.	PERIMETER WALL, AS INDICATED IN THE GEOTECHNIC
4	50 LB. HORIZONTAL LOAD APPLIED NORMAL TO THE ELEMENT OVER AN AREA OF ONE (1) SQUARE FOOT.	12. ALL PERIMETER WALL AND COLUMN FO FINISHED GRADES INDICATED ON THE CIVIL	OTINGS SHALL BEAR A MINIMUM OF 2'-6" BELOW THE . DRAWINGS.
	GENERAL EXCAVATION NOTES:	13. SEE PLUMBING AND CIVIL DRAWINGS FO SYSTEMS, AND SPECIAL GRANULAR FILL MA	OR UNDER FLOOR AND PERIMETER WALL DRAINAGE ATERIALS FOR SUCH DRAINAGE SYSTEMS.
	1. THE CONTRACTOR IS RESPONSIBLE FOR DETERMING IF EXCAVATION MUST BE RETAINED BY A SOIL RETENTION SYSTEM. THE DESIGN, INSTALLATION, MAINTENANCE AND REMOVAL OF	14. SEE ARCHITECTURAL DRAWINGS FOR A	ALL WATERPROOFING AND DAMP PROOFING DETAILS.
	ANY REQURIED RETENTION SYSTEM SHALL BE THE COMPLETE AND SOLE RESPONSIBILITY OF THE CONTRACTOR.	15. SEE THE FOLLOWING SPECIFICATION SE SECTION 312000, "EARTH MOVING"	ECTIONS FOR ADDITIONAL REQUIREMENTS:
	2. ANY EXCAVATION RETENTION SYSTEM SHALL BE DESIGNED AND INSTALLED BY THE CONTRACTOR IN ACCORDANCE WITH THE GEOTECHNICAL DESIGN PARAMETERS AND SOIL PRESSURES AS INDICATED IN THE GEOTECHNICAL EXPLORATION REPORT		
	3. THE CONTRACTOR SHALL PROVIDE ALL MEASURES AND PRECAUTIONS NECESSARY TO		
	OUTSIDE THE PROJECT LIMITS. ANY DAMAGE TO NEW OR EXISTING CONSTRUCTION, INSIDE OR OUTSIDE OF THE PROJECT LIMITS, CAMPAGE TO NEW OR EXISTING CONSTRUCTION, INSIDE OR OUTSIDE OF THE PROJECT LIMITS, CAMPAGE BY CONSTRUCTION TECHNIQUES OR MOVEMENT OF		
	<ul> <li>THE CONTRACTOR SHALL COORDINATE ALL ELEMENTS OF THE SOIL RETENTION SYSTEM</li> </ul>		
	WITH ALL ELEMENTS OF THE PERMANENT BUILDING. 5. PRIOR TO ANY EXCAVATION OR INSTALLATION OF ELEMENTS OF THE SOIL RETENTION		
	SYSTEM, THE CONTRACTOR SHALL ESTABLISH A GRID OF SURVEY POINTS AROUND THE PERIMETER OF THE AREA TO BE EXCAVATED, INCLUDING POINTS UP TO 200 FEET BEYOND THE PERIMETER, THESE POINTS SHALL BE SURVEYED FOR VERTICAL AND HORIZONTAL MOVEMENT.		
	AT FREQUENT INTERVALS DURING ACTUAL EXCAVATION, AND CONTINUED DURING EACH SUBSEQUENT PHASE OF THE WORK, AND SUBMITTED TO THE ARCHITECT FOR INFORMATION.		
	6. ALL EXCAVATION SHALL BE BASED UPON ENGINEERING DRAWINGS PREPARED BY THE CONTRACTOR, INCLUDING PLANS AND SECTIONS OF EXCAVATION SEQUENCES. THE		
3	EXCAVATION SEQUENCES SHALL BE CONTROLLED TO MATCH THE REQUIREMENTS OF THE DESIGN OF THE SOIL RETENTION SYSTEM AND SHALL INCLUDE MONITORING OF WALL AND GROUND MOVEMENTS.		
	7. THE GENERAL EXCAVATION ACROSS THE SITE AND THE EXCAVATIONS FOR WALL FOOTINGS. SPREAD FOOTINGS. PITS. ETC. SHALL SATISFY THE RECOMMENDATIONS IN THE		
	GEOTECHNICAL REPORT		
	DISTURBANCE TO THE NATURAL SUBGRADE, AND AS RECOMMENDED IN THE SOILS REPORT, TO ACHIEVE REQUIRED BEARINGS. AS SOON AS THE EXCAVATION AREA IS CLEANED OF LOOSE		
	SHALL BE IMMEDIATELY COVERED WITH A CONCRETE MUD SLAB BEFORE PROCEEDING TO THE NEXT AREA.		
	9. ALL EXCAVATION BELOW THE SLAB LEVEL REQUIRED FOR PITS SHALL BE RETAINED BY LOCALIZED SOIL RETENTION SYSTEMS, AS MAY BE NECESSARY, BASED ON THE CONTRACTOR'S		
	DESIGN USING APPROPRIATE EARTH AND HYDRAULIC PRESSURES AS INDICATED IN THE GEOTECHNICAL EXPLORATION REPORT, AND OTHER CONSTRUCTION LOADS.		
	10. THE CONTRACTOR SHALL PROVIDE POSITIVE PROTECTION (MAT/SHEET COVERINGS) FOR ALL EXCAVATION SLOPES TO PROTECT SLOPES FROM INSTABILITY AND DETERIORATION DUE TO RAIN WIND, SNOW, OR ICE		
	11. THE CONTRACTOR SHALL PROVIDE SURFACE DRAINAGE CHANNELS AND SUMPS AND		
	AFTER APPROVAL OF ANY SUBGRADE WILL BE CAUSE FOR COMPLETE REMOVAL OF CONCRETE MUD SLABS AND THE COMPLETE REPREPARATION AND APPROVAL OF THE SUBGRADE.		
	12. AFTER COMPLETION OF THE FULL LENGTH OF THE PERIMETER SOIL RETENTION SYSTEM, THE SITE SHALL BE DEWATERED, AS REQUIRED, BEFORE (OR AS) THE EXCAVATION PROCEEDS.		
•	THE CONTRACTOR SHALL PROVIDE ALL CONSTRUCTION AND EQUIPMENT FOR THE DEWATERING SYSTEM INCLUDING, BUT NOT LIMITED TO, TRENCHES, SUMPS, DEWATERING WELLS, WELL POINTS, OBSERVATION WELLS. PUMPING SYSTEM. DISPOSAL LOCATION. SETTLING BASINS		
2	MAINTENANCE AND EMERGENCY BACK-UP EQUIPMENT, ETC. THE DEWATERING SYSTEM SHALL MAINTAIN THE WATER LEVEL A MINIMUM OF 3 FEET BELOW THE DEEPEST FOUNDATION SUBGRADE AT ALL TIMES. THE DEWATERING SYSTEM SHALL BE MAINTAINED LINTH ALL LOWER		
	LEVEL AND GROUND LEVEL SLABS, PERIMETER WALLS AND WATERPROOFING ARE INSTALLED AND THE PERMANENT BUILDING DRAINAGE SYSTEM IS FULLY OPERATIONAL.		
	13. THE OWNER'S SOIL TESTING LABORATORY SHALL REVIEW AND CONTINUOUSLY MONITOR THE EXCAVATION, DEWATERING AND SOIL RETENTION SYSTEMS. THE CONTRACTOR SHALL		
	INSTALL AND CONTINUOUSLY SURVEY: 14. VERTICAL AND HORIZONTAL MOVEMENTS OF THE TOP OF THE SOIL RETENTION SYSTEM; 15. BENCH MARKS ADJACENT TO AND AWAY FROM THE SITE PERIMETER FOR VERTICAL AND		
	HORIZONTAL MOVEMENTS; AND 16. OBSERVATION WELLS FOR MONITORING WATER LEVELS BELOW GROUND SURFACE.		
	17. SEE "GENERAL FOUNDATION NOTES" ON DRAWING S-001 FOR ADDITIONAL INFORMATION.		
	a. SECTION 311000, "SITE CLEARING"		
	J. SLUTION 312000, EARTH MOVING		

SECTION 312319, "DEWATERING" SECTION 315000, "EXCAVATION SUPPORT AND PROTECTION" d.















K	EY
F4 -	<ul> <li>FOOTING MARK</li> <li>TOP OF FOOTING</li></ul>
XX'-X" -	ELEVATION, (U.N.O.)











KE	Y
F4	FOOTING MARK TOP OF FOOTING ELEVATION, (U.N.O.)







14 2:29:55 PM **J** 























	STRUCTURAL STEEL		REINFORCED CONCRETE FOOTIN									
	COLUMN. SEE S301 FOR COLUMN BASE DETAILS				SIZE			REINFOR				
				SHORT SIDE	LONG SIDE	DEPTH "H"	BOTTON	I BARS	ARS TOP E			
		N	MARK	"A" (FT.IN.)	"B" (FT.IN.)	(FT.IN.)	A-BARS	<b>B-BARS</b>	C-BARS	D-BARS		
	SLAB-ON-GRADE.		F1	5' - 0"	5' - 0"	1' - 0"	5-#5	5-#5				
	AND REINFORCEMENT.		F2	6' - 0"	6' - 0"	1' - 0"	6-#5	6-#5				
	SEE S201 FOR		F3	7' - 0"	7' - 0"	1' - 2"	8-#5	8-#5				
	TYPICAL DETAILS.		F4	8' - 0"	8' - 0"	1' - 4"	12-#6	12-#6				
			F5	9' - 0"	9' - 0"	1' - 8"	14-#5	14-#5				
/			F6	10' - 0"	10' - 0"	1' - 8"	12-#6	12-#6				
4	T/SLAB		F7	11' - 0"	11' - 0"	2' - 0"	14-#6	14-#6				
x x	L EL SEE PLAN		F8	16' - 0"	16' - 0"	2' - 6"	24-#7	24-#7				
	COMPACTED TO 95%					GRAD	DE BEAM	SCHEDU	DULE			
	AND APPROVED BY			SIZE	LON	NGITUDINAL RE	INFORCEMEN	NT			STIRRUF	
THE STREET STREET	SUIL LESTING AGENUT.				TOP BA	RS	BOTTOM BA	RS			ę	
			В	H		OPPOSITE		SIDE I	BARS			



![](_page_8_Figure_10.jpeg)

![](_page_8_Figure_11.jpeg)

![](_page_9_Figure_0.jpeg)

![](_page_9_Figure_1.jpeg)

![](_page_9_Figure_3.jpeg)

![](_page_9_Figure_13.jpeg)

![](_page_10_Figure_0.jpeg)

![](_page_10_Figure_13.jpeg)

![](_page_11_Figure_0.jpeg)

![](_page_11_Figure_8.jpeg)

	FOUNDATION SECTION - NEW DOOR OPENING IN EXIST. WALL
3	SCALE: NOT TO SCALE

![](_page_11_Figure_13.jpeg)

![](_page_12_Figure_0.jpeg)

![](_page_13_Figure_0.jpeg)

![](_page_13_Figure_5.jpeg)

![](_page_13_Figure_6.jpeg)

3RD FLR-LINE ELEVATION

4

SCALE: 1/8" = 1'-0"

2. ALL MEMBERS NOTED WITH A (\*) SHALL BE AESS MEMBERS 3. BOTTOM GUSSET PLATE SHALL NOT EXTEND BELOW DIMENSION NOTED FROM TOP OF STEEL. SEE ALSO DETAILS 2 AND 3 ON S302. 4. FACTORED AXIAL LOADS PROVIDED IN BRACES AND CHORDS (IN KIPS). TENSION (+) / COMPRESSION (-) = T OR C.

REVISED FOR DRAWING SCALE PRINT CORRECTION

![](_page_13_Figure_25.jpeg)

![](_page_14_Figure_0.jpeg)

![](_page_14_Figure_11.jpeg)

T.O. PARAPET 145' - 4"																								
								X33								W10X33	W10X33							
THIRD FLOOR 128' - 8"				W10X33			23	W10								TRANSFER								
	W12X53	W10X49 W12X53	W10X45		W10X45	W10X49	A12X	PLICE—	W10X33		W12X53	W10X33	W10X39	W10X39	W12X53				W12X96					
SECOND FLOOR 114' - 0"				TRANSFER													TRANSFER			W10X33				
										V10X33											V10X49	V10X49	V12X96	V12X53
FIRST FLOOR 100' - 0"						S	PLICE	W10X45												+				
							W12X53																	
BASEMENT 88' - 0"																								
Column Locations	A-1, A-2 A	-3, A-4 B-	B-2	B(3' - 6 1/2")-8	C-3	C-4	C-5	C-6	C-7	C-8, E-7	D-1, D-6, D-7	D-2	D-3	D-4	D-5	D-8(-6' - 10")	D(-7' - 6 7/8")-8(-8' 10 1/8")	'- D-8.7(1' - 10")	D-9	E-6.4, E-8.7	E-8	AA-4.5	AA-5, AA-6	AA-7, AA-8
T.O. PARAPET										T.O. PARAPET											Colu		ate Schedul	
145' - 4"										145' - 4"										Cc T	olumn B Type	ase Plate E W	Base Plate L	Base Plate
																				W102 W10 W10	JX33         16           JX39         16           JX39         16           JX45         16	"16 ,"16 ; 1/2"16	6" 6" 6 1/2"	1 1/4" 1 1/4" 1 1/2"
THIRD FLOOR 128' - 8"		V10X49 V12X72	V12X72	V12X53	V12X53	2X53		W12X87	V12X106	THIRD FLOOR 128' - 8"										W10 W12 W12 W12	JX49         16           2X53         18           2X72         18           2X87         18	1/2     16       "     1       5"     1       3"     1	8" 8" 8"	1 1/2" 1 1/2" 2" 2"
		> >	>	>	2	M	10X33		>											W12 W12	2X96 18 2X106 18	" 18 " 18 NI S ON S301 EC	8" 8"	2" 2"
SECOND FLOOR	96 X						2			SECOND FLOOR										PLATE BASE	E TYPES, ANCI E DETAILS.	HOR BOLTS ANI	ND OTHER CO	UMN
114' - 0"		NSFER TRAN	SFER TRANS	FER TRANSFER	TRANSFER		TRANSFER	TRANSFER	TRANSFER	114' - 0"														
FIRST FLOOR										FIRST FLOOR														
100' - 0"										100' - 0"														
BASEMENT										BASEMENT														
88' - 0" Column Locations	AA-9 E	3B-4.5 BB	5 BB-6	) BB-7	BB-8	BB-9	EE-7, EE-8	D-CC	BB-CC	88' - 0"														

FLOOR SLAB OR SECOND FLOOR AS INDICATED IN SCHEDULE ONLY. COLUMNS SPLICED AT 4'-0" ABOVE FLOOR. ALL OTHER COLUMNS MAY BE SPLICED WITH AESS WELDED SPLICES AT CONTRACTOR'S DISCRETION. 2. SEE BASE PLATE SCHEDULE FOR TYPICAL SIZE BASE PLATES FOR COLUMN SIZES INDICATED. 3. WHERE TRANSFER IS SPECIFIED SEE DETAILS 1 AND 2 ON S304 FOR BASE PLATE AND TRANSFER DETAILS. DO NOT FOLLOW BASE PLATE SCHEDULE.

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![](_page_15_Figure_9.jpeg)

![](_page_15_Figure_21.jpeg)

![](_page_16_Figure_0.jpeg)

![](_page_16_Figure_16.jpeg)

![](_page_17_Figure_0.jpeg)

![](_page_17_Figure_3.jpeg)

![](_page_17_Figure_4.jpeg)

![](_page_17_Figure_5.jpeg)

![](_page_17_Figure_6.jpeg)

![](_page_17_Figure_7.jpeg)

![](_page_17_Figure_13.jpeg)

![](_page_18_Figure_0.jpeg)

		"D" TO QOPENING (IN.)	TYPE	PENETRATION SIZE		TOP AND BOTTOM	PLATE EXTENSION,		
MA	ARK			W (IN.)	H (IN.)	EACH SIDE (IN. x IN.)	Lp (IN)	EACH SIDE	REMARKS
	1>	င့် BEAM	1	xx	xx	X/X x XX	ХХ	X/X x XX	
~2	2	XX	2	xx	xx	LX x X x X/X	ХХ		
	3								

![](_page_18_Figure_7.jpeg)

![](_page_19_Figure_0.jpeg)

![](_page_19_Figure_7.jpeg)

![](_page_20_Figure_0.jpeg)

![](_page_20_Figure_13.jpeg)

![](_page_21_Figure_0.jpeg)

![](_page_22_Figure_0.jpeg)

![](_page_22_Figure_3.jpeg)

![](_page_22_Figure_4.jpeg)

![](_page_23_Figure_0.jpeg)

![](_page_23_Figure_1.jpeg)

![](_page_23_Figure_2.jpeg)

![](_page_23_Figure_4.jpeg)

![](_page_23_Figure_11.jpeg)