GENERAL NOTES		<u>D — CAST—IN—PLACE CONC</u>	I CRETE
SPECIFICATIONS	REFER TO PROJECT SPECIFICATIONS FOR DETAILED REQUIREMENTS FOR MATERIAL AND WORKMANSHIP.	D1) CONCRETE STRENGTH	PROVIDE THE FOLLOWING 28 DAY COMPRESSIVE STRENGTH FOR FIELD CONCRETE: i.) 4,000 PSI (MIN.) NORMAL WEIGHT FOR ALL CAST—IN—PLACE CONCRETE FOUNDATIONS,
SHOP DRAWINGS SIMILAR CONDITIONS	THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND COORDINATION DRAWINGS FOR THE ENGINEER'S APPROVAL AS STATED IN THE SPECIFICATIONS. IN THE EVENT THAT CERTAIN DETAILS OF THE CONSTRUCTION ARE NOT FULLY SHOWN OR NOTED		COLUMNS, BASEMENT WALLS, SLABS—ON—GRADE, SLABS—ON—METAL DECK, MECHANICAL PADS, AND CURBS. ii.) 1,000 PSI (MAX.) NORMAL WEIGHT FOR ALL LEAN CONCRETE USED IN SOLDIER PILES
	ON THE DRAWINGS, THEIR CONSTRUCTION SHALL BE OF THE SAME TYPE AS FOR SIMILAR CONDITIONS WHICH ARE SHOWN AND NOTED, SUBJECT TO THE STRUCTURAL ENGINEER'S APPROVAL.	D2) PORTLAND CEMENT	OF EARTH—RETENTION SYSTEM. ASTM C150, TYPE II. WATER CEMENT RATIO AS REQUIRED FOR DESIGN STRENGTH.
DRAWINGS BY OTHERS	SEE ARCHITECTURAL DRAWINGS FOR THE FOLLOWING: A. SIZE AND LOCATION OF ALL NON-LOAD BEARING PARTITIONS, AND ROOF TOP PARAPETS. B. SIZE AND LOCATION OF ALL CONCRETE CURBS, FLOOR DRAINS, SLOPES, INSERTS, ETC.,	D3) AGGREGATE D4) WATER D5) SLUMP	NORMAL WEIGHT: ASTM C33, WITH MAXIMUM SIZE OF 1 IN. POTABLE 4 INCH MAXIMUM. PRIOR TO ADDITION OF ADMIXTURES.
	EXCEPT AS SHOWN. C. SIZE AND LOCATION OF ALL FLOOR AND ROOF OPENINGS, EXCEPT AS SHOWN. D. FLOOR AND ROOF FINISHES.	D6) ADMIXTURES	SEE SPECIFICATIONS. ASTM C260 AIR-ENTRAINING AGENT AS REQUIRED FOR A TOTAL ENTRAINED AIR CONTENT OF 6% (±1%) FOR ALL CONCRETE EXPOSED TO FREEZING. ASTM C494 WATER REDUCING AGENT IN ALL CONCRETE. DO NOT USE CALCIUM CHLORIDE. USE CORROSION-INHIBITING ADMIXTURE FOR ALL DRIVING SURFACES IN PARKING GARAGE.
	E. DETAILS OF ALL ARCHITECTURALLY EXPOSED STRUCTURAL STEEL (AESS). SEE MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION, & TELECOMMUNICATION DRAWINGS FOR THE FOLLOWING:	D7) STEEL REINFORCEMENT	ASTM A615 GRADE 60. ASTM A185 FOR WELDED WIRE FABRIC (WWF). USE FLAT SHEETS ONLY (NO ROLLS)
	A. PIPE AND DUCT RUNS, SLEEVES, HANGERS, TRENCHES, WALL AND SLAB OPENINGS, ETC., EXCEPT AS SHOWN OR NOTED.		PROVIDE #6 CHAIR BARS, HIGH CHAIRS, TIES, CLIPS, SLAB BOLSTERS AND OTHER ACCESSORIES WHERE NOT SPECIFIED ON THE DRAWINGS IN ACCORDANCE WITH MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES, ACI 315 OR CRSI-WRSI MANUAL OF
	 B. ELECTRICAL CONDUIT RUNS, BOXES, OUTLETS IN WALLS AND SLABS. C. CONCRETE INSERTS FOR ELECTRICAL, MECHANICAL OR PLUMBING FIXTURES. D. SIZE AND LOCATION OF MACHINE OR EQUIPMENT BASES, ANCHOR BOLTS FOR MOTOR MOUNTS, 		STANDARD PRACTICE. USE PLASTIC TIPS ON ALL CHAIRS PLACED ON THE SIDES OF CONCRETE FORMWORK. FIELD WELDING OF CROSSING BARS ("TACK" OR "SPOT" WELDING) IS NOT PERMITTED. DO NOT CUT BARS OR OMIT BARS BECAUSE OF SLEEVES OR OPENINGS IN FLOORS, EXCEPT AS
ELEVATIONS & DIMENSIONS	EXCEPT AS SHOWN OR NOTED. ALL ELEVATIONS AND DIMENSIONS SHOWN FOR NEW CONSTRUCTION ARE BASED ON THE DESIGN DRAWINGS FOR THE EXISTING BUILDINGS. FIELD VERIFY ALL	D8) OPENINGS	SPECIFICALLY DETAILED IN DRAWINGS. OPENINGS, POCKETS, ETC. LARGER THAN 6" SHALL NOT BE PLACED IN CONCRETE SLABS, DECKS, OR WALLS, UNLESS SPECIFICALLY DETAILED ON THE STRUCTURAL DRAWINGS.
BUILDING CODE	ELEVATIONS AND DIMENSIONS BEFORE PROCEEDING WITH CONSTRUCTION. BOCA -1999	D9) REINFORCEMENT AT OPENINGS	PROVIDE 2 — #6 AT EACH SIDE OF ALL OPENINGS IN WALLS AND SLABS AND EXTEND 2 FT—6 IN. BEYOND THE OPENING OR AS DETAILED, EXCEPT VERTICAL BARS AT SIDES OF OPENINGS IN WALLS
<u>A — DESIGN LOADS</u> a1) live	LEVEL 1 125 PSF	D10) MINIMUM CONCRETE	ARE TO EXTEND FROM FLOOR TO FLOOR. BARS MAY BE MOVED ASIDE AT OPENINGS OR SLEEVES, BUT DO NOT CUT OR OMIT. CONCRETE PLACED AGAINST EARTH: 3 IN.
	LEVEL 1 MEZZANINE 60 PSF LEVEL 2 60 PSF LEVEL 2 MEZZANINE 60 PSF	COVER	SLABS-ON-GRADE BOTTOM:1-1/2 IN.SLABS-ON-GRADE TOP:1 IN.SLABS-ON-GRADE TOP EXPOSED TO WATER OR WEATHER:2 IN.
	LEVEL 3 80 PSF & 20 PSF CATWALKS 50 PSF OR 2,000 LB CONCENTRATED LOAD ACCESS PLATFORM 50 PSF OR 2,000 LB CONCENTRATED LOAD		FORMED CONCRETE EXPOSED TO EARTH, WATER OR WEATHER: 2 IN. FORMED SLABS, TOP AND BOTTOM: 1 IN. INTERIOR FACES OF WALLS: 1 IN.
	PROVISION FOR TWO 14' STORY VERTICAL EXPANSION INCLUDES: LEVEL 4 OFFICE AND PARTITIONS 80 PSF & 20 PSF LEVEL 5 MIN. ROOF LIVE (SNOW GOVERNS) 20 PSF	D11) WALLS AND GRADE BEAMS	COLUMNS OR PIERS (MAIN REINFORCEMENT): 1-1/2 IN. PLACE WALLS AND GRADE BEAMS IN LEVEL, FULL HEIGHT LIFTS WITH CONSTRUCTION JOINTS WHERE INDICATED ON ARCHITECTURAL AND STRUCTURAL DRAWINGS. PROVIDE OPENINGS FOR WATER, MECHANICAL,
A2) DEAD A3) SEISMIC	LEVEL 5 MIN. ROOF LIVE (SNOW GOVERNS) 20 PSF ALL PERMANENT STATIONARY CONSTRUCTION AND EQUIPMENT. USE GROUP I—2 WITH EMERGENCY TREATMENT FACILITIES	D12) SPLICING OF	ELECTRICAL, AND OTHER SERVICES AS REQUIRED. PROVIDE KEYS AND DOWELS AT ALL CONSTRUCTION JOINTS. AS SHOWN IN TABLE ON THIS SHEET, BUT NOT LESS THAN 40 BAR DIAMETERS FOR SLABS AND BEAM
rie) Glioline	SEISMIC HAZARD EXPOSURE GROUP III SEISMIC PERFORMANCE CATEGORY C $A_V = A_A = 0.11$	REINFORCEMENT	BOTTOM BARS, AND NOT LESS THAN 48 BAR DIAMETERS FOR WALLS AND BEAM TOP STEEL. PROVIDE A LAP OF 8 IN OR 1-1/2 SPACES, WHICHEVER IS LARGER, FOR WWF. TIE WIRES TOGETHER AT LAP.
	SITE COEFFICIENT, S = 1.2 STRUCTURAL SYSTEM - LOAD BEARING REINFORCED CONCRETE SHEAR WALLS	D13) MINIMUM REINFORCEMENT	REINFORCE ALL WALLS LESS THAN 8" THICK WITH AT LEAST #4 @ 12 IN. EACH WAY EACH FACE AND 2 — #6 EACH EDGE, UON. REINFORCE ALL WALLS 8" TO 12" THICK WITH AT LEAST #5@12" O.C., E.W., E.F. W/ 2—#7 EACH EDGE, UON. REINFORCE ALL WALLS THICKER THAN 12" WITH AT LEAST #6@12" O.C., E.W., E.F. W/ 2—#8
	R = 4.5 C _D = 4 ANALYSIS PROCEDURE - EQUIVALENT LATERAL FORCE (PER CODE)	D14) SHOP DRAWINGS	EACH EDGE, UON. IN SLABS, PROVIDE AT LEAST 0.0018 TIMES THE AREA OF CONCRETE IN EACH DIRECTION. REINFORCE ALL SLAB—ON—GRADE WITH MINIMUM W5xW5—6x6 SUBMIT FOR ENGINEER'S APPROVAL COMPLETE BENDING AND PLACING DETAILS OF ALL REINFORCING STEEL
A4) WIND	REFERENCE WIND PRESSURE = 20.7 PSF BASIC WIND VELOCITY = 90 MPH EXPOSURE C	D15) STANDARD	INCLUDING WELDED WIRE FABRIC, INDICATING POSITION OF SPLICES. INCLUDE ACCESSORY DRAWINGS. INCLUDE PRECISE LOCATIONS OF ALL SLEEVES CAST INTO CONCRETE TO ACCOMMODATE PLUMBING AND ELECTRICAL WORK. COMPLY WITH THE LATEST RECOMMENDATIONS AND SPECIFICATIONS OF THE AMERICAN
A5) SNOW	GROUND SNOW = 60 PSF = 1.2	SPECIFICATIONS	CONCRETE INSTITUTE: ACI 301 STRUCTURAL CONCRETE FOR BUILDINGS ACI 302 CONCRETE FLOOR AND SLAB CONSTRUCTION
D	FLAT ROOF SNOW = 51 PSF DRIFT LOADING = (PER ASCE 7-95)		ACI 302 CONCRETE FEOOR AND SLAB CONSTRUCTION ACI 304 MEASURING, MIXING, TRANSPORTING AND PLACING CONCRETE ACI 305 HOT WEATHER CONCRETING ACI 306 COLD WEATHER CONCRETING
B - FOUNDATIONS B1) GEOTECHNICAL	THE CONTRACTOR SHALL BE RESPONSIBLE FOR READING, UNDERSTANDING & IMPLEMENTING THE		ACI 306 COLD WEATHER CONCRETING ACI 315 DETAILING REINFORCING STEEL ACI 318 GENERAL DESIGN OF ITEMS NOT OTHERWISE SPECIFIED ACI 347 FORMWORK
REPORTS	RECOMMENDATIONS OUTLINED IN THE FOLLOWING GEOTECHNICAL REPORT BY S.W. COLE, INC.: I.) "GEOTECHNICAL ENGINEERING INVESTIGATION PROPOSED CENTRAL UTILITIES PLANT PRELIMINARY REPORT, MAINE MEDICAL CENTER CORPORATION, GILMAN STREET,	D16) CONSTRUCTION	CRSI MANUAL OF STANDARD PRACTICE PROVIDE KEYS AND DOWELS AT ALL CONSTRUCTION JOINTS. PROVIDE DOWELS WITH AN AREA EQUAL TO THE
	PORTLAND, MAINE", DATED 13 NOVEMBER 2002. COPIES OF THE GEOTECHNICAL REPORT ARE AVAILABLE FROM THE PROJECT ARCHITECT. WHERE RECOMMENDATIONS	JOINTS	WALL OR SLAB REINF, BUT NOT LESS THAN 0.003 TIMES THE CONCRETE CROSS SECTIONAL AREA AT THE CONSTRUCTION JOINT. SUBMIT THE PROPOSED LOCATION OF CONSTRUCTION JOINTS TO THE DESIGNER FOR APPROVAL. MAXIMUM SPACING OF CONSTRUCTION JOINTS TO BE 60 FT. FOR WALLS AND STRUCTURAL
B2) SOIL BEARING	IN THESE REPORTS VARY FROM INFORMATION CONTAINED IN THESE DRAWINGS & THE PROJECT SPECIFICATIONS, THE DRAWINGS AND SPECIFICATIONS SHALL GOVERN. CONCRETE SPREAD & STRIP FOOTINGS ARE DESIGNED FOR AN ALLOWABLE BEARING PRESSURE OF 5,000 PSF	D17) FOUNDATION DOWELS D18) SURFACE TREATMENT	FLOORS AND 80 FT. FOR SLABS ON GRADE. PROVIDE HOOKED DOWELS TO MATCH SIZE AND SPACING OF LONGITUDINAL BARS IN WALLS UON. ROUGHEN ALL EXISTING CONCRETE SURFACES COMMON WITH NEW CONCRETE TO AN AMPLITUDE OF 1/4" (MIN.).
B3) EXCAVATION	AT A DEPTH OF 4.5 FEET BELOW THE EXISTING GRADE. BEAR ALL FOOTINGS ON COMPACTED STRUCTURAL FILL, U.O.N. ALL FOUNDATION EXCAVATION TO BE INSPECTED BY THE GEOTECHNICAL ENGINEER. EXCAVATE TO LINES AND GRADES	D19) STRUCTURAL TESTING & INSPECTION	A MINIMUM OF THREE (3) CYLINDERS SHALL BE TAKEN NOT LESS THAN ONCE A DAY NOR LESS THAN ONCE FOR 100 CUBIC YARDS OF CONCRETE FOR COMPRESSIVE STRENGTH TESTING. TESTING IS TO BE PAID FOR BY THE OWNE THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD AT LEAST 24 HOURS PRIOR TO CASTING ANY CONCRETE
	TO PROPERLY INSTALL FOUNDATIONS ON COMPACTED STRUCTURAL FILL APPROVED BY THE GEOTECHNICAL ENGINEER FOR THE REQUIRED BEARING CAPACITY. THE ELEVATIONS SHOWN ON THE DRAWINGS ARE ANTICIPATED AND ACTUAL ELEVATIONS ARE TO BE ESTABLISHED IN THE FIELD BY THE GEOTECHNICAL ENGINEER, BUT IN NO CASE SHALL THE	D20) EMBEDDED ITEMS	SO THAT STRUCTURAL TESTING & INSPECTION CAN BE COORDINATED. ABSOLUTELY NO CONCRETE IS TO BE CAST PRIOR TO REBAR BEING INSPECTED AND APPROVED. ALL CONDUIT, PIPING, DUCTWORK, ETC. TO BE EMBEDDED WITHIN CIP SLABS, WALLS, BEAMS OR COLUMNS SHALL BE
	BOTTOM OF FOOTING BE LOCATED LESS THAN 4.5 FEET BELOW THE LOWEST ADJACENT SURFACE EXPOSED TO FREEZING. THE DIFFERENCE IN ELEVATION BETWEEN THE BOTTOMS OF ADJACENT FOOTINGS SHALL BE EQUAL TO OR LESS THAN THE HORIZONTAL DISTANCE BETWEEN THEM. ANY ADJUSTMENT OF FOOTING ELEVATIONS DUE TO FIELD CONDITIONS	,	CLEARLY SHOWN ON THE SHOP DRAWINGS AND SHALL BE SUBJECT TO APPROVAL BY THE EOR. APPROVED EMBEDDE ITEMS SHALL BE LOCATED AND EVENLY DISTRIBUTED IN SUCH A MANNER TO PREVENT ADVERSELY AFFECTING THE STRENGTH OF CONCRETE MEMBERS.
B4) UTILITIES AND OTHER UNDERGROUND STRUCT.	MUST HAVE THE PRIOR APPROVAL OF THE ENGINEER. FOOTINGS TO BEAR BELOW AN IMAGINARY REFERENCE LINE DRAWN UPWARD AND OUTWARD ON A 1V:1H SLOPE FROM THE BOTTOM OF ANY ADJACENT UTILITIES OR OTHER UNDERGROUND STRUCTURES.	D21) FOOTING SUBGRADE D22) BASE PLATE GROUTING	NO CONCRETE FOOTING SHALL BE POURED UNTIL SUBGRADE FOR SAME HAS BEEN APPROVED BY A LICENSED PROFESSIONAL ENGINEER. 8000 PSI 28-DAY COMPRESSIVE STRENGTH NON-SHRINK GROUT.
B5) DEWATERING SYSTEM	A DEWATERING SYSTEM SHALL BE USED TO REMOVE EXCESS WATER FROM THE EXCAVATION AND TO PREVENT PREMATURE HYDROSTATIC UPLIFT PRESSURES ON THE FOUNDATIONS. THE DEWATERING	D23) CURING COMPOUNDS D24) SHEAR KEYS	DO NOT USE CURING COMPOUNDS WITHOUT WRITTEN APPROVAL FROM THE ENGINEER. UNLESS OTHERWISE NOTED ON THE DRAWINGS, SHEAR KEYS BELOW WALL BOTTOMS SHALL BE 4" WIDE BY 3" DEEP. SHEAR KEYS AT WALL TOPS SHALL
B6) FOOTING SUBGRADE	SYSTEM CAN BE DEACTIVATED AFTER THE FOUNDATIONS ARE COMPLETELY CAST AND THE FOUNDATION WALLS HAVE BEEN WATERPROOFED. FOLLOW RECOMMENDATIONS OF GEOTECHNICAL REPORT INCLUDED IN PROJECT MANUAL. PLACE ALL SPREAD AND	D25) HOUSEKEEPING PADS	BE 3" WIDE BY 2" DEEP. DO NOT USE EPS MATERIAL FOR FORMING KEYS UNLESS IT IS FIRMLY ATTACHED TO RIGID BACKUP MATERIALS. PADS AND CURBS MAY BE SHOWN ON PLAN IN CERTAIN INSTANCES FOR REFERENCE
PREPARATION AND FILL	STRIP FOOTINGS ON 6" MINIMUM LAYER OF COMPACTED STRUCTURAL FILL. ALL FOOTINGS SHALL EXTEND AT LEAST 4'-6" BELOW GRADE FOR FROST PROTECTION.	AND CURBS	ONLY. SEE ARCHITECTURAL AND MECHANICAL DRAWINGS AND SPECIFICATIONS AND COORDINATE WITH EQUIPMENT MANUFACTURER'S REQUIREMENTS AND LOCATION. USE SAME CONCRETE AS BASE SLAB U.O.N. MAXIMUM PAD THICKNESS IS 6 INCHES, U.O.N.
B7) SLAB SUBGRADE PREPARATION AND FILL	FOLLOW RECOMMENDATIONS OF GEOTECHNICAL REPORT INCLUDED IN PROJECT MANUAL. PLACE SLAB ON GRADE ON A 7" BED OF COMPACTED STRUCTURAL FILL WITH CONTINUOUS VAPOR BARRIER (LAP 8" AND TAPE ALL JOINTS) BETWEEN THE SLAB AND COMPACTED STRUCTURAL FILL. (U.O.N.)	<u>E – STRUCTURAL STEEL</u>	
B8) BACKFILL UNDER SLAB-ON-GRADE	PROOF-ROLL EXISTING SOILS PER SPECIFICATION #02200 "EARTHWORK". BACKFILL BELOW SLABS-ON-GRADE WITH APPROVED STRUCTURAL FILL PLACED IN 6 IN. LAYERS AND COMPACTED TO 95% DENSITY AT OPTIMUM MOISTURE CONTENT AS DEFINED BY ASTM D-1557, METHOD D. USE A POLYETHYLENE VAPOR BARRIER	E1) STRUCTURAL SHAPES	WIDE FLANGE SHAPES AND CHANNELS: ASTM A992, OR ASTM A572 GRADE 50 (Fy = 50,000 PSI) ANGLES, BARS AND PLATES: ASTM A36 UON
B9) BACKFILL AGAINST	BETWEEN THE COMPACTED STRUCTURAL FILL AND THE SLAB-ON-GRADE. DO NOT BACKFILL AGAINST RETAINING WALLS UNTIL WALL CONCRETE IS AT FULL DESIGN STRENGTH. BACKFILL	E2) HOLLOW STRUCTURAL SECTIONS (HSS) E3) PIPE	ASTM A500 - GRADE B (FY = 46,000 PSI). ASTM A53 TYPE E GRADE B OR ASTM A501
CANTILEVERED RETAINING WALLS B10) BACKFILL AGAINST	WITH APPROVED MATERIAL PLACED IN 6 IN. LAYERS AND COMPACTED TO 95% DENSITY AT OPTIMUM MOISTURE CONTENT AS DEFINED BY ASTM D-1557, METHOD D. DO NOT BACKFILL AGAINST FOUNDATION WALLS UNTIL WALL CONCRETE IS AT FULL DESIGN STRENGTH AND UNTIL	E4) BOLTED CONNECTIONS	FOR BOLTED BEAM CONNECTIONS NOT SHOWN ON THE DRAWINGS, PROVIDE THE FOLLOWING MINIMUM NUMBER OF 3/4" DIAMETER A325X OR A490X BOLTS: 2 FOR W8 AND W10 BEAMS,
FOUNDATION WALLS	SLABS AT BASE AND TOP OF WALL ARE IN PLACE, AND HAVE REACHED THEIR DESIGN STRENGTH. U.O.N. IN GEOTECHNICAL REPORT, BACKFILL WITH APPROVED MATERIAL PLACED IN 6 IN. LAYERS AND COMPACTED TO 95% DENSITY AT OPTIMUM MOISTURE CONTENT AS DEFINED BY ASTM D-1557, METHOD D.		3 FOR W12 AND W14 BEAMS, 4 FOR W16 AND W18 BEAMS, AND 5 FOR W21 AND W24 BEAMS. PROVIDE ANGLES OR PLATES WITH A THICKNESS TO DEVELOP THE CAPACITY OF THE BOLTS PROVIDED. TENSION CONTROL BOLTS ARE ACCEPTABLE. SEE TYPICAL STEEL DETAILS
B11) FOUNDATION PLACEMENT & PROTECTION	PROTECT ALL SOIL BEARING SURFACES FROM FREEZING BEFORE AND AFTER FOUNDATION CONSTRUCTION. IF CONSTRUCTION IS PERFORMED DURING FREEZING WEATHER, BACKFILL FOOTINGS TO A SUFFICIENT DEPTH	E5) ANCHOR BOLTS E6) WELDING ELECTRODES	ASTM A307 OR ASTM F1554 GRADE 36 BOLTS UON ON THE DRAWINGS. CONFORM TO AWS SPECIFICATIONS FOR ELECTRODES BASED ON WELDING PROCESS AND THE TYPE AND GRADE OF STEEL
	(UP TO FOUR AND ONE HALF FEET) AS SOON AS POSSIBLE AFTER CONSTRUCTION. ALTERNATIVELY, USE APPROVED INSULATING BLANKETS OR OTHER APPROVED MEANS FOR PROTECTION AGAINST FREEZING. DO NOT PLACE FOUNDATION CONCRETE IN WATER OR ON FROZEN GROUND. PROTECT IN-PLACE FOUNDATIONS AND SLABS FROM FROST PENETRATION UNTIL THE PROJECT IS COMPLETE.	E7) ERECTION	TYPE AND GRADE OF STEEL. PROVIDE ANCHOR BOLTS, STEEL WEDGES, THREADED SCREWS OR SHIMS TO SUPPORT AND PLUMB ALL COLUMNS. GROUT SOLID UNDER BASE PLATES IMMEDIATELY AFTER COLUMNS ARE PLUMB.
B9) DE-ICING	DO NOT USE SALT OR CHLORIDE-COMPOUNDS TO DE-ICE SITE.		PROVIDE BEARING PLATES AND WALL ANCHORS OR ANCHOR BOLTS FOR ALL BEAMS RESTING ON CONCRETE AND ALL OTHER NECESSARY CONNECTING HARDWARE. SET ANCHOR BOLTS USING TEMPLATE. DO NOT FIELD CUT OR FIELD MODIFY ANY STRUCTURAL STEEL WITHOUT PRIOR
<u>C – EARTH RETENTION</u>	SYSTEM	E8) PAINT	WRITTEN APPROVAL BY ARCHITECT FOR EACH SPECIFIC CASE. SHOP PRIME ALL STEEL NOT ENCASED IN CONCRETE OR TO BE FIREPROOFED. FOR ALL EXPOSED STEEL, USE A THREE COAT PAINT SYSTEM WITH A ZINC-RICH PRIMER, AN EPOXY INTERMEDIATE COAT, AND A
C1) SOLDIER PILES	CHANNELS, COVER PLATES AND BEARING PLATES: ASTM A992, OR ASTM A572 GRADE 50 (FY = 50,000 PSI) HOT-DIP GALVANIZE ALL STEEL AFTER FABRICATION IS COMPLETE.	E9) FABRICATION	PROTECTIVE TOP COAT, OR HOT-DIP GALVANIZE THE STEEL AFTER FABRICATION IS COMPLETE. SHOP FABRICATE TO GREATEST EXTENT POSSIBLE BY WELDING INCLUDING BEAM STIFFENERS, COLUMN
C2) SHEAR STUDS	HEADED TYPE STUDS WHICH CONFORM TO ASTM 108 GRADE 1015 OR 1020 COLD FINISHED CARBON STEEL. SPACE STUDS AT 12 IN. ON CENTER. PROVIDE 1 IN. DIAMETER BY 6 IN. LONG STUDS, UON.		CAPS AND BASE PLATES, HOLES AND CONNECTIONS. SUBMIT COMPLETE SHOP DRAWINGS, FROM FIELD DIMENSIONS, FOR DESIGNER'S APPROVAL. DO NOT START FABRICATION OF STRUCTURAL STEEL MEMBERS UNTIL THE SHOP DRAWINGS HAVE BEEN REVIEWED AND APPROVED BY THE ENGINEER OF RECORD (EOR).
C3) LEAN CONCRETE	USE COLD GALVANIZING COMPOUND TO REPAIR ANY AREAS DAMAGED DURING STUD INSTALLATION. PROVIDE A MIX THAT WILL RESULT IN A FIRM, STABLE MASS CAPABLE OF RETAINING SHAPE AND POSITION	E10) STANDARD SPECIFICATIONS	COMPLY WITH THE LATEST RECOMMENDATIONS AND SPECIFICATIONS OF: AISC SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS, ALLOWABLE STRESS DESIGN AND PLASTIC DESIGN. AISC LOAD AND RESISTANCE FACTOR DESIGN SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS
-2, LEW OUTONLIL	DURING EXCAVATION OPERATIONS, YET ALLOW RELATIVE EASE IN CHIPPING OUT FOR PLACEMENT OF LAGGING. PROVIDE COMPRESSIVE STRENGTH OF 1,000 PSI (MAX) AT 28 DAYS.		LOAD AND RESISTANCE FACTOR DESIGN SPECIFICATION FOR STEEL HOLLOW STRUCTURAL SECTIONS. SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS. AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES.
C4) STRUCTURAL CONCRETE	PROVIDE COMPRESSIVE STRENGTH OF 4,000 PSI (MIN) AT 28 DAYS USING NORMAL—WEIGHT AGGREGATE FOR ALL STRUCTURAL CONCRETE USED IN EARTH—RETENTION SYSTEM.	E11) LINTELS	AWS D1.1 STRUCTURAL WELDING CODE — STEEL. FOR OPENINGS IN MASONRY WALLS NOT OTHERWISE PROVIDED FOR ON ARCHITECT'S DRAWINGS, PROVIDE LOOSE LINTEL PER SCHEDULE IN TYPICAL STEEL DETAILS. STEEL ANGLES IN PAIRS SHALL BE PLUG WELDED TOGETHER EVERY 12 INCHES. PROVIDE A MINUTEL OF SIX INCHES OF BEARING FOR ALL LINTELS.
C5) SHOTCRETE	PROVIDE WET MIX PROCESS WITH 2,600 PSI MINIMUM COMPRESSIVE STRENGTH AT 7 DAYS AND 4,000 PSI (MIN) AT 28 DAYS. ACCEPTED BASED ON 28 DAY COMPRESSIVE STRENGTH.		ALL EXTERIOR LINTELS TO BE HOT—DIPPED GALVANIZED.
C6) TIMBER LAGGING	PRESSURE TREATED STRUCTURAL LUMBER MEETING ASTM D1760, CONSTRUCTION GRADE, OF A SPECIES PROVIDING A MIN. 1,100 PSI ALLOWABLE BENDING STRESS PER ASTM D245.	E12) FIREPROOFING E13) FRAMING	FIREPROOF BEAMS AND COLUMNS AS SHOWN ON THE ARCHITECTURAL DRAWINGS AND/OR SPECIFICATIONS. BEAMS EQUALLY SPACED U.O.N. CANTILEVER BEAMS ARE SAME SIZE AS BACKSPAN U.O.N.
C7) STRAND TENDONS (POST-TENSIONED TIEBACKS)	LANG POLYSTRAND GROUND ANCHOR OR APPROVED EQUAL. SHALL CONFORM TO ASTM A416 GRADE 270.		U.O.N. ON PLANS, MINIMUM BOLT SIZE SHALL BE 3/4" DIAMETER. ALL SHOP CONNECTIONS SHALL BE HIGH STRENGTH BOLTED OR WELDED. ALL ENDS OF COLUMNS AT SPLICES AND OTHER SURFACES IN CONTACT ON
C8) SPACERS	SHALL SEPARATE ELEMENTS OF MULTI-ELEMENT TENDON. SHALL PERMIT THE FREE FLOW OF GROUT. SHALL BE FABRICATED FROM PLASTIC, STEEL, OR OTHER MATERIAL NOT DETRIMENTAL TO THE PRESTRESSING STEEL.		BEARING CONNECTIONS SHALL BE SQUARE CUT TO COMPLETE TRUE BEARING. U.O.N., ALL BEAM TO BEAM MOMENT CONNECTIONS SHALL DEVELOP THE STRENGTH OF THE SMALLER MEMBER BEING CONNECTED.
C9) CENTRALIZER	WOOD SHALL NOT BE USED. SHALL BE FABRICATED FROM PLASTIC, STEEL, OR OTHER MATERIAL NOT DETRIMENTAL TO EITHER THE		CONNECTION FORCES SHOWN ON DRAWINGS ARE SERVICE FORCES U.O.N. SHEAR REACTIONS SHOWN ON PLAN AT ONE BEAM END ARE THE SAME AT BOTH BEAM ENDS. DO NOT TAKE 33% ALLOWABLE STRESS INCREASE.
OU) OLININALIZLIN	PRESTRESSING STEEL OR ANY ELEMENT OF THE TENDON CORROSION PROTECTION. WOOD SHALL NOT BE USED. SHALL MAINTAIN TENDON POSITION SUCH THAT GROUT COVER IS 1/2 IN. MINIMUM.		INCLUDE FULL DEPTH SHEAR CONNECTION IN DESIGN OF BEAMS WITH AXIAL FORCE SHOWN ON PLAN IN ADDITION TO THE FLANGE CONNECTIONS REQUIRED TO TRANSFER THE LOADS.
C10) GROUT	ASTM C150 TYPE II CEMENT AGGREGATE SHALL CONFORM TO REQUIREMENTS FOR FINE AGGREGATE.	E14) SLIP CRITICAL CONNECTIONS	GALVANIZED NUTS AND BOLTS TO BE MATCHED ASSEMBLIES. - BOLTED MOMENT CONNECTIONS - TRUSS MEMBER CONNECTIONS
C11) GEOINCLUSION	6" GEOINCLUSION INCORPORATING TERRAFLEX ELASTICIZED GEOFOAM BY GEOTECH SYSTEMS CORP., OR APPROVED EQUAL. GEOINCLUSION SHALL INCLUDE INTEGRAL DRAINAGE BOARD, GEOTEXTILE AND INSULATION AND SHALL BE INSTALLED PER	CONTECTIONS	- TRUSS MEMBER CONNECTIONS - AS REQUIRED BY DETAILS AND SECTIONS
C12) RIGID INSULATION	THE MANUFACTURERS RECOMMENDATIONS. TYPE II EXTRUDED POLYSTYRENE (EPS) MEETING ASTM C578, W/ MINIMUM COMPRESSIVE STRENGTH OF 25 PSI.		
C13) SHOP DRAWINGS AND SUBMITTALS	THE CONTRACTOR SHALL SUBMIT COMPLETE SHOP DRAWINGS AND MATERIAL DATA SHEETS FOR ALL ELEMENTS OF THE EARTH—RETENTION SYSTEM FOR REVIEW BY THE STRUCTURAL ENGINEER OF RECORD (SER). DO NOT		
	START FABRICATION OF EARTH—RETENTION SYSTEM UNTIL ALL SHOP DRAWINGS AND MATERIAL DATA SHEETS HAVE BEEN REVIEWED AND APPROVED BY THE SER.		
C14) UTILITIES	THE GENERAL CONTRACTOR SHALL COORDINATE INSTALLATION OF NEW LITHTIES AND DECOMMISSIONING OF		

C14) UTILITIES

THE GENERAL CONTRACTOR SHALL COORDINATE INSTALLATION OF NEW UTILITIES AND DECOMMISSIONING OF

EXISTING UTILITIES WITH THE CONSTRUCTION OF THE EARTH RETENTION SYSTEM.

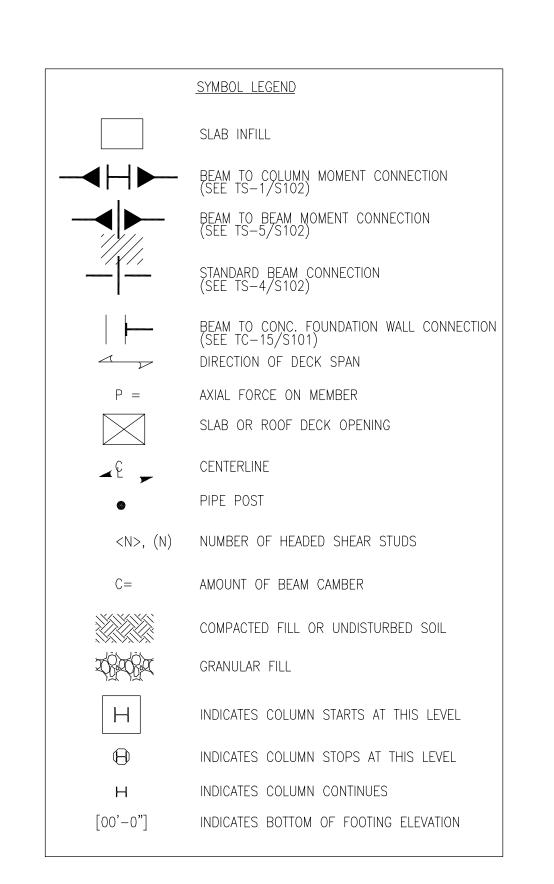
<u>F - METAL DECK AND SHEAR STUDS</u> PROVIDE METAL DECK MADE FROM GALVANIZED STEEL WITH MINIMUM YIELD STRENGTH OF 33 KSI. SEE DRAWINGS AND SPECIFICATIONS FOR GAUGE AND PROFILE. PROVIDE SHEET METAL POUR STOPS F1) METAL DECK WITH THICKNESS BASED ON SDI CRITERIA (SDI PUBLICATION #29); 14 GAUGE MIN. THICKNESS. PROVIDE HEADED TYPE STUDS WHICH CONFORM TO ASTM A108 GRADE 1015 OR 1020 COLD FINISHED CARBON STEEL. THE NUMBER OF SHEAR STUDS REQUIRED PER BEAM IS INDICATED BY $[\ \#\]$ ON THE DRAWINGS. PROVIDE 3/4 IN. DIAMETER BY 5 IN. LONG STUDS UON. F2) SHEAR STUDS SPACE STUDS UNIFORMLY ALONG LENGTH OF BEAM. PROVIDE A MINIMUM OF 1 IN. BETWEEN THE EDGE OF ANY STUD AND THE FACE OF CONCRETE, A METAL DECK RIB OR SIMILAR DISCONTINUITY. F3) STUD PLACEMENT AISC SPECIFICATIONS PER F10 ABOVE, AISI SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS, SDI CODE OF RECOMMENDED PRACTICE AND SPECIFICATIONS FOR COMPOSITE STEEL FLOOR DECK, AND AWS STRUCTURAL WELDING CODE — STEEL AND STRUCTURAL STEEL WELDING CODE — SHEET STEEL. F4) STANDARD SPECIFICATIONS WHERE REQUIRED, DECK BOTTOM REINFORCEMENT SHALL BE CONTINUOUS F5) REINFORCEMENT IN EACH BÀY. MAXIMUM OUTER DIAMETER 1", SPACE NO CLOSER THAN 3 DIAMETERS ON CENTER, MINIMUM CONCRETE COVER: 3/4". DO NOT USE ANY ALUMINUM PIPE OR CONDUIT. ADD SUBFRAMING AS DIRECTED BY ENGINEER WHERE THESE PARAMETERS CANNOT BE SATISFIED. F6) EMBEDDED CONDUIT AND PIPE F7) SHORING COMPOSITE BEAM DESIGN ASSUMES UNSHORED DECK CONSTRUCTION. DECK DESIGN REQUIRES SHORING OF SINGLE SPAN SHEETS. F8) EXPANSION ANCHORS SET EXPANSION ANCHORS AT DECK RIBS ONLY. DO NOT CUT ANY REINFORCEMENT IN DECK RIBS. <u>ABBREVIATIONS</u> <u>ABBREVIATION</u> WORD OR PHASE <u>WORD OR PHASE</u> <u>ABBREVIATION</u> ALLOWABLE STRESS DESIGN KIP (1000 POUNDS) AMERICAN CONCRETE INSITITUTE AMERICAN INSTITUTE OF STEEL CONSTRUCTION AMERICAN IRON AND STEEL INSTITUTE AMERICAN SOCIETY FOR TESTING AND MATERIALS AMERCIAN WELDING SOCIETY ANCHOR BOLT KIPS/SQUARE FOOT LIGHTWEIGHT LIGHTWEIGHT CONCRETE

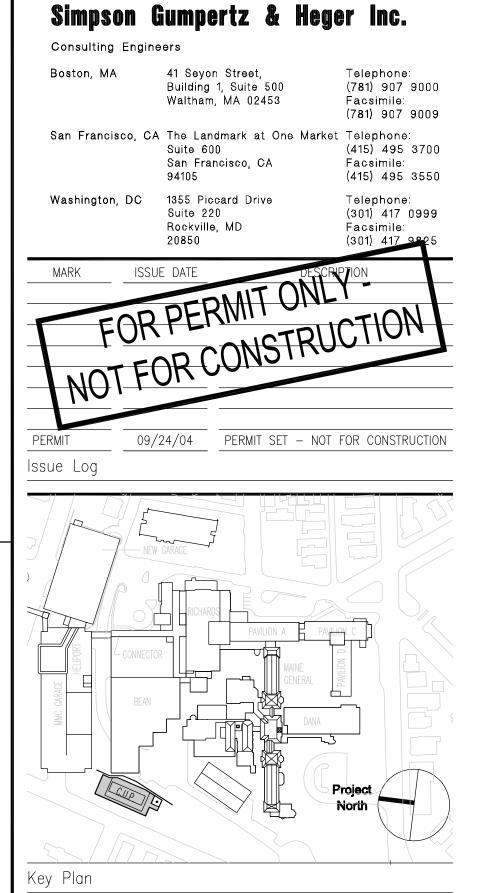
AWS AB	AMERCIAN WELDING SOCIETY ANCHOR BOLT	LWC LRFD	LIGHTWEIGHT CONCRETE LOAD & RESISTANCE FACTOR DESIGN
ARCH.	ANCHOR BOLT ARCHITECT ARCHITECTURALLY EXPOSED STRUCTURAL STEEL	LLH	LOAD & RESISTANCE FACTOR DESIGN LONG LEG HORIZONTAL LONG LEG VERTICAL LOW POINT LONG SLOTTED HOLE MANUFACTURER
AESS	ARCHITECTURALLY EXPOSED STRUCTURAL STEEL	LLV	LONG LEG VERTICAL
BAL.	AT RATE OF BALANCE	LP LSH	LOW POINT LONG SLOTTED HOLE
BM	BEAM	MFR	MANUFACTURER
B OR BOT.	BOTTOM	MATL	MATERIAL
BEW B.E.	BOTTOM EACH WAY	MAX. MECH.	MAXIMUM MECHANICAL
BSMT.	BOUNDARY ELEMENT BASEMENT	MIN.	MINIMUM
CIP	CAST-IN-PLACE	NF	NEAR FACE
CG CG	CENTER OF GRAVITY CENTER OF GRAVITY	NWC	NORMAL WEIGHT CONCRETE NORTH
CTRD.	CENTERED	N NTS	NOT TO SCALE
C OR CL	CENTERLINE	NO. OR #	NUMBER
CO	CLEAN OUT	O.C. "	ON CENTER
CLR. COL.	CLEAR COLUMN	O.H. OPNG	OPPOSITE HAND OPENING
CONC.	CONCRETE	PCI	PRECAST CONCRETE INSTITUTE
CMU	CONCRETE CONCRETE MASONRY UNIT	PCS	PIECES
CRSI CONN.	CUNCRETE REINFURCING STEEL INSTITUTE	PL. OR LP PVC	PLATE POLYVINYL CHLORIDE
CONST.	CONNECTION CONSTRUCTION	PSF	POLYVINYL CHLORIDE POUNDS/SQUARE FOOT POUNDS/SQUARE INCH
CONST. JT.	CONSTRUCTION JOINT	PSI	POUNDS/SQUARE INCH
CY	CONTROL JOINT	PC REF.	PRECAST REFERENCE
CONT.	CUBIC YARD CONTINUOUS	REINF.	REINFORCE OR REINFORCEMENT
DEPR.	DEPRESSION	REM. RE	REMAINDER
DET.	DETAIL	RE	RIGHT END ROOF DRAIN
DIA. OR Ø	DIAMETER DIMENSION	RD RO	ROUGH OPENING
DIR.	DIRECTION	S.A.D.	SEE ARCHITECTURAL DRAWINGS SECTION
DO DWI C	DITTO	SECT.	
DWLS DN	DOWELS DOWN	SC SHT	SHEAR CONNECTOR OR SLIP CRITICAL BOLT SHEET
DWG	DRAWING	SLV	SHORT LEG VERTICAL
EA.	EACH	SIM. SPA.	SIMILAR
EA. EE EF ES EW E EL.	EACH END EACH FACE	SPA.	SPACES SLAB-ON-GRADE
FS	FACH SIDE	SOG	SOUTH
ĒW	EACH SIDE EACH WAY	ŠQ.	SQUARE
E	EAST ELEVATION	SS STD	STAINLESS STEEL STANDARD
ELEV.	ELEVATION	STL	STEEL
EOR	ENGINEER OF RECORD	SDI	STEEL DECK INSTITUTE
EQ. EX.	EQUAL	STIFF	STIFFENER
EXP. BOLT	EXISTING EXPANSION BOLT	STR. SP	STRUCTURAL SUMP PIT
EXP. JT OR EJ	EXPANSION JOINT	SUP	SUPPORT
EXT.	EXTERIOR	SYM	SYMMETRICAL
FF FT OR '	FAR FACE FEET	SCHED.	SCHEDULE TOP
FIN.	FINISH	т́ & В	TOP & BOTTOM
FIN. FL.	FINISH FLOOR	TEMP	TEMPERATURE OR TEMPORARY
FL. FD	FLOOR FLOOR DRAIN	TOC TOS	TOP OF CONCRETE TOP OF STEEL
FTG.	FOOTING	TOW	TOP OF WALL
FND	FOUNDATION	TYP.	TYPICAL
FP FY	FULL PENETRATION WELD YIELD STRENGTH OF STEEL	UON V OR VERT.	UNLESS OTHERWISE NOTED VERTICAL
GALV.	GALVANIZED	VEF	VERTICAL EACH FACE VERTICAL INSIDE FACE
GA	GAUGE	VIF	VERTICAL INSIDE FACE
GENL GR.	GENERAL GRADE	V.I.F. VOF	VERIFY IN FIELD VERTICAL OUTSIDE FACE
GB	GRADE BEAM	WWF	WELDED WIRE FABRIC
HP	HIGH POINT	W	WEST
HS HSS	HIGH STRENGTH HOLLOW STRUCTURAL SECTION	W/ WP	WITH WORKING POINT
H OR HORIZ	HORIZONTAL	**1	HOMMING TOHAT
HEF	HORIZONTAL EACH FACE		
HIF HOF	HORIZONTAL INSIDE FACE HORIZONTAL OUTSIDE FACE		
IN. OR "	INCH		
INCL.	INCLUSIVE OR INCLUDING		
INFO.	INFORMATION		

(CLASS B TENSION SPLIC	E FOR NORMAL-WEIGHT CONCRETE							ŀ	-y=6000	0 PSI
	MINIMUM SPI	LICE and DEVELOPN	IENT L	ENG	TH S	SCHE	DULE	_ - _			
		(UNLESS OTHERWISE SH	OWN ON [RAWING	S)						
			#3	#4	#5	#6	#7	#8	#9	#10	#11
PSI	SPLICE LENGTH	TOP BARS	24"	32"	40"	48"	70"	80"	90"	102"	113"
		OTHER BARS	18"	25"	31"	37"	54"	62"	70"	78"	87"
=4000	DEVELOPMENT LENGTH	TOP BARS	18"	25"	31"	37"	54"	62"	70"	78"	87"
f'c=		OTHER BARS	14"	19"	24"	28"	42"	47"	54"	60"	67"
		·	#3	#4	#5	#6	#7	#8	#9	#10	#11
PSI	SPLICE LENGTH	TOP BARS	22"	29"	36"	43"	63"	72"	81"	91"	101"
		OTHER BARS	17"	22"	28"	33"	48"	55"	62"	70"	78"
f'c=5000	DEVELOPMENT LENGTH	TOP BARS	17"	22"	28"	33"	48"	55"	62"	70"	78"
f,		OTHER BARS	13"	17"	21"	25"	37"	42"	48"	54"	60"

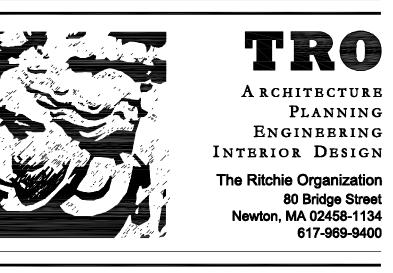
1. AVOID SPLICES IN REGIONS OF MAXIMUM MOMENT. IF THIS IS NOT POSSIBLE STAGGER SPLICES SO THAT NOT MORE THAN 50% OF THE BARS ARE SPLICED WITHIN A REQUIRED SPLICE LENGTH OTHERWISE INCREASE SPLICE LENGTH BY 30%.

2. TOP BARS ARE DEFINED AS HORIZONTAL BARS WITH MORE THAN 12" OF CONCRETE CAST IN THE MEMBER BELOW THE REINFORCEMENT. WALL REINFORCING IS CLASSIFIED AS OTHER BARS.



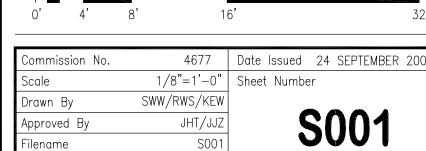


General Notes:



Central Utility Plant Portland, Maine

CENTRAL UTILITY PLANT (CUP)
GENERAL NOTES



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