GENERAL

TYPICAL DETAILS AND GENERAL NOTES SHALL APPLY IN ALL CASES UNLESS SPECIFICALLY SHOWN OTHERWISE ON THE DRAWINGS. WHERE NO DETAIL IS SHOWN, CONSTRUCTION SHALL BE AS SHOWN FOR OTHER SIMILAR WORK. NO DEVIATIONS FROM THE DRAWINGS SHALL BE PERMITTED WITHOUT THE PERMISSION OF THE ENGINEER.

STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ARCHITECTURAL, ELECTRICAL AND MECHANICAL DRAWINGS AND SPECIFICATIONS. REFER TO ARCHITECTURAL AND MECHANICAL DRAWINGS FOR SLAB DEPRESSIONS, SLOPES, CURBS, DRAINS, OPENINGS, ETC. NOT SHOWN ON THE STRUCTURAL DRAWINGS. ALL MECH. & ELECT. EQUIP. SHALL BE BRACED & ANCHORED ADEQUATELY FOR SEISMIC LOADS PER TITLE 24, SECTION 2-2312 (g), & TABLE 2-23J, PART B.

WHERE CONSTRUCTION MATERIALS ARE TEMPORARILY STORED ON THE ROOF FRAMING, THEY SHALL BE DISTRIBUTED SO THAT THE LOAD DOES NOT EXCEED 20 LBS / SF.

THE CONTRACTOR SHALL:

1. VERIFY ALL (E) EXISTING CONDITIONS AND DIMENSIONS AND REPORT ANY DIFFERENCES IN ASSUMED CONDITIONS TO THE ARCHITECT PRIOR TO PROCEEDING.
2. PROVIDE & BE SOLELY RESPONSIBLE FOR ALL TEMPORARY SHORING, GUYS AND BRACING NECESSARY FOR STRUCTURAL WORK SHOWN ON THESE DRAWINGS.
3. PERFORM ALL WORK AND RECEIVE ALL TESTS AND INSPECTIONS IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, DRAWINGS AND TITLE 24, PART 2 OF THE CALIFORNIA ADMINISTRATIVE CODE.
4. BE SOLELY RESPONSIBLE FOR CONDITIONS AT THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY.

ALL SUPPORT SERVICES PERFORMED BY THE ENGINEER DURING CONSTRUCTION SHALL BE DISTINGUISHED FROM CONTINUOUS AND DETAILED INSPECTION SERVICES WHICH ARE FURNISHED BY OTHERS. THESE SUPPORT SERVICES PERFORMED BY THE ENGINEER, ARE PERFORMED SOLELY FOR THE PURPOSE OF ASSISTING IN QUALITY CONTROL AND IN ACHIEVING CONFORMANCE WITH THE CONTRACT DRAWINGS AND SPECIFICATIONS. THESE SUPPORT SERVICES DO NOT GUARANTEE THE CONTRACTOR'S PERFORMANCE AND SHALL NOT BE CONSTRUED AS SUPERVISION OF CONSTRUCTION.

PERFORM ALL DEMOLITION, REMOVAL, DISPOSAL AND EARTHWORK IN CONFORMANCE WITH ALL APPLICABLE LAWS, ORDINANCES, RULES AND REGULATIONS. EXCESS MATERIAL SHALL BE REMOVED FROM THE SITE AND DISPOSED OF OFF SITE UNLESS OTHERWISE DIRECTED BY THE ARCHITECT.

ALL WORK SHALL CONFORM TO THE MINIMUM STANDARDS OF THE 1979 U.B.C. AND TITLE 24, PART 2, CALIFORNIA ADMINISTRATIVE CODE.

ALL WORK TO BE PERFORMED UNDER CONTINUOUS INSPECTION OF OSA APPROVED INSPECTOR.

REINFORCING STEEL

MATERIALS SHALL BE CONTINUOUS, DEFORMED BARS CONFORMING TO ASTM A615:
ALL BARS..... GRADE 40

CONTINUOUS BAR SPLICES (U.N.O. ON DRAWINGS) SHALL BE:
MASONRY.....40 BAR DIAMETERS (2'0" MIN.)
CONCRETE.....30 BAR DIAMETERS (2'0" MIN.)

CONCRETE COVERAGE FOR REINFORCEMENT:
CAST AGAINST EARTH & PERMANENTLY EXPOSED TO EARTH.....3"
CAST AGAINST EARTH & PERMANENTLY EXPOSED TO EARTH OR WEATHER.....2"
CAST AGAINST FORMS & NOT PERMANENTLY EXPOSED TO EARTH OR WEATHER
SLABS, WALLS & JOISTS.....3/4"
BEAMS, GIRDERS & COLUMNS.....1-1/2"

FOUNDATIONS

FOOTINGS AND SLABS SHALL BE PLACED ONLY ON FIRM BEARING AND NOT ON LOOSE SOIL OR UNCOMPACTED FILL.

SOIL TYPE: SANDY LOAM

BASIC ALLOWABLE BEARING PRESSURE: 1000 PSF

CONTRACTOR SHALL PERFORM ALL WORK AND RECEIVE ALL REQUIRED TESTS AND INSPECTIONS IN ACCORDANCE WITH THE SPECIFICATIONS, TITLE 24 SECTION 2-2903

CONCRETE

MATERIALS SHALL CONFORM TO THE FOLLOWING SPECIFICATIONS:
PORTLAND CEMENT (ONE BRAND ONLY: DOMESTIC).....ASTM C150
WATER.....DOMESTIC SUPPLY
AGGREGATES (PIPE & COARSE).....ASTM C33
(AGGREGATES SHALL CONTAIN NOT MORE THAN 2% SHALE OR OTHER DELETERIOUS PARTICLES.)
ADMIXTURES (TYPE A, WATER REDUCING).....ASTM C494
CURING COMPOUND.....ASTM C309
(SHALL NOT IMPAIR IN ANY WAY THE APPLICATION OF FINISHES, COVERINGS, OR PAINT)

CONCRETE MIX AND CONSTRUCTION SHALL CONFORM TO THE FOLLOWING:

ALL CONCRETE - TYPE II, REGULAR WEIGHT (145 LBS)	
MINIMUM ULTIMATE COMPRESSIVE STRENGTH @ 28 DAYS...	3000 PSI
MAXIMUM SLUMP (PER ASTM C-143).....	4 INCHES
MAXIMUM AGGREGATE SIZE.....	1/4 INCHES
MINIMUM CEMENT CONTENT.....	5 SACKS/CY
MAXIMUM WATER/CEMENT RATIO.....	.55

CONTRACTOR SHALL SUBMIT THE CONCRETE DESIGN MIX, APPROVED BY A CALIFORNIA LICENSED CIVIL ENGINEER, TO THE ARCHITECT FOR REVIEW 15 WORKING DAYS PRIOR TO CONCRETE PLACEMENT.

PROOF LOAD TESTS FOR EXPANSION TYPE ANCHOR BOLTS:
ALL CONCRETE ANCHOR BOLTS OF THE EXPANSION TYPE WHERE NOT USED FOR EQUIPMENT ANHORAGE (LOADED IN EITHER PULLOUT OR SHEAR) SHALL HAVE 50 PERCENT OF THE BOLTS (ALTERNATE BOLTS IN ANY GROUP ARRANGEMENT) PROOF TESTED IN TENSION TO TWICE THE ALLOWABLE TENSION LOAD. IF THERE ARE ANY FAILURES, THE IMMEDIATELY ADJACENT BOLTS MUST THEN ALSO BE TESTED. ALL BOLTS MUST HAVE I.C.B.O. APPROVAL.

TYPE OF MATERIALS	TYPE OF TEST	BOLT DIAMETER			
		3/8"	1/2"	5/8"	3/4"
HARD ROCK CONCRETE	DIRECT PULL-TENSION, LBS.	1300	2000	2900	4300
	TORQUE WRENCH-TORQUE, FT. LBS.	25	50	110	150

MASONRY

CONCRETE BLOCK SHALL BE GRADE N-1, MEDIUM OR LIGHT WEIGHT (WITH A DRY NET WEIGHT OF NOT MORE THAN 115 LBS. PER CUBIC FOOT), OPEN-END UNITS AND CONFORM TO ASTM C-90 MINIMUM COMPRESSIVE STRENGTHS.

MINIMUM MORTAR STRENGTH @ 28 DAYS (TYPE S).....1000 PSI
(SHALL CONTAIN NO ADMIXTURES)
MINIMUM GROUT STRENGTH @ 28 DAYS.....2000 PSI
(SHALL CONTAIN "SIKA GROUT AID, TYPE II" AS PER MANUFACTURERS RECOMMENDATIONS. NO OTHER ADMIXTURE SHALL BE ADDED.)

FILL ALL CELLS WITH GROUT. NO SPLICES SHALL BE PERMITTED IN VERTICAL REINFORCING EXCEPT WHERE DETAILED ON THE DRAWINGS. ALL ISOLATED BOLTS EMBEDDED IN MASONRY SHALL BE GROUTED SOLIDLY IN PLACE WITH NOT LESS THAN 1" OF GROUT SURROUNDING THE BOLT. IF WORK IS STOPPED FOR ONE HOUR OR LONGER, PROVIDE HORIZONTAL CONSTRUCTION JOINTS BY STOPPING THE GROUT 1-1/2" BELOW THE TOP OF THE BLOCK. PROVIDE NOT LESS THAN ONE BAR DIA BETWEEN CONC BLOCK AND REINF BAR.

ALL MASONRY WORK SHALL BE CONTINUOUSLY INSPECTED BY AN OSA APPROVED INSPECTOR.

STRUCTURAL STEEL

MATERIAL SHALL CONFORM TO THE FOLLOWING SPECIFICATIONS:
SHAPES, PLATES, BARS, RODS, ETC.....ASTM A36...Fy=36 ksi

WELDING ELECTRODES.....AWS E70XX
MACHINE BOLTS.....ASTM A307

WELDING SHALL BE DONE BY THE ELECTRIC SHIELDED ARC OR SUBMERGED ARC PROCESS. WELDERS SHALL BE CERTIFIED AND WORK DONE IN ACCORDANCE WITH THE STRUCTURAL WELDING CODES, AWS D1.1 FABRICATION AND ERECTION SHALL CONFORM TO THE LATEST EDITION OF THE AISC SPECIFICATIONS. ALL STEEL NOT IN CONTACT WITH CONCRETE SHALL RECEIVE ONE COAT OF SHOP PAINT IN ACCORDANCE WITH THE PROVISIONS OF THE CODE OF STANDARD PRACTICE OF AISC.

BENT PLATES SHALL BE BENT COLD TO THE FOLLOWING INSIDE RADII IN TERMS OF THICKNESS, T"
PLATES 1/2" THICK AND LESS.....1-1/2 TIMES T"
PLATES GREATER THAN 1/2" AND LESS THAN 1" THICK.....2 TIMES T"

ALL WELDING SHALL BE INSPECTED BY AN OSA APPROVED INSPECTOR PER TITLE 24, SECTION 2-2727 (c).

METAL DECKING

METAL DECKING, WELDING AND ACCESSORIES SHALL BE OF THE DEPTH, GAGE AND TYPE INDICATED ON THE DRAWINGS AND AS SHOWN BELOW.

MATERIALS SHALL CONFORM TO THE FOLLOWING SPECIFICATIONS:

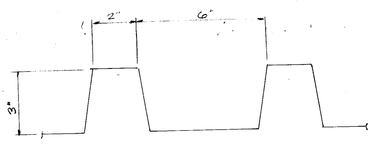
METAL DECK TYPE ..... "ASC. TYPE NR-ROOF DECK"
METAL DECK UNITS..... GRADE A, ASTN A-446 (Fy = 33 ksi)-(DE,I/SC, Fs=25#, NO TESTING REQ)
METAL DECK GALVANIZING..... ASTM A-525 (G-90)

FASTENERS
FASTENERS SHALL BE #12 DIAMETER "TEKS" SELF-DRILLING FASTENERS FOR SHEETING. (WITH WATERTIGHT WASHERS)

FASTNER PATTERN SHALL BE:
2 FASTENERS PER FOOT AT ALL ENDS AND END LAPS
1 FASTENER PER FOOT AT EACH INTERMEDIATE SUPPORT
1 FASTENER PER 2'-6" O.C. AT SIDE LAPS

SECTION PROPERTIES:
SHEETING MATERIAL ..... 18 GAGE (0.49 INCHES THICK)
SECTION MODULUS(S) PER FOOT OF WIDTH ..... .735 (INCHES³)
MOMENT OF INERTIA (I) PER FOOT OF WIDTH ..... 1.222 (INCHES⁴)

DECKING CROSS SECTION:



WOOD

FRAMING LUMBER SHALL BE GRADE MARKED AS FOLLOWS (U.N.O.):
2X4 & SMALLER (DOUGLAS FIR).....STANDARD OR BETTER
2X6 & DEEPER (DOUGLAS FIR).....NO. 2
3X & LARGER (DOUGLAS FIR).....NO. 1
SILLS (HEM-FIR OR DOUGLAS FIR).....PRESSURE TREATED (LP-2)

STANDARD CUT WASHERS SHALL BE USED UNDER BOLT HEADS AND NUTS THAT WOULD OTHERWISE BEAR ON WOOD SURFACES. ALL LIGHT GAGE METAL CONNECTORS SHALL BE MANUFACTURED BY "SIMPSON STRONG-TIE CO., INC.". ALL "HD" CONNECTORS SHALL BE INSTALLED WITH WASHERS AS PER MANUFACTURERS RECOMMENDATIONS. RETIGHTEN BOLTS BEFORE CLOSING IN.

ALL NAILS SHALL BE UNCOATED AND HAVE FULL HEADS. WHERE DRIVING NAILS CAUSES SPLITTING, LEAD HOLES WITH A DIAMETER EQUALING 60 TO 75 PERCENT OF THE NAIL DIAMETER SHALL BE PROVIDED. NAILS SHALL BE COMMON GAGE.

LAG SCREWS OR LAG BOLTS SHALL BE INSERTED IN LEAD HOLES AS FOLLOWS:
1. THE CLEARANCE HOLE FOR THE SHANK SHALL HAVE THE SAME DIAMETER AS THE SHANK AND THE SAME DEPTH OF PENETRATION AS THE LENGTH OF UNTHREADED SHANK.
2. THE LEAD HOLE FOR THE THREADED PORTION SHALL HAVE A DIAMETER EQUAL TO 60 PERCENT TO 75 PERCENT OF THE SHANK DIAMETER AND A LENGTH EQUAL TO AT LEAST THE LENGTH OF THE THREADED PORTION.
3. THE THREADED PORTION OF THE SCREW SHALL BE INSERTED IN ITS LEAD HOLE BY TURNING WITH A WRENCH, NOT BY DRIVING WITH A HAMMER.

NAILING SCHEDULE:

JOISTS OR RAFTERS TO SIDES OF STUDS	
EIGHT (8) INCH JOISTS OR LESS	3-16d
FOR EACH ADDITIONAL FOUR (4) INCHES IN DEPTH OF JOIST	1-16d
JOISTS OR RAFTERS AT ALL BEARINGS (T.N., EA. SIDE)	2-10d
CEILING JOISTS, LAPS OVER PARTITIONS (F.N.)	3-16d
CEILING JOISTS TO PARALLEL RAFTERS (F.N.)	3-16d
BLOCKING BETWEEN JOISTS OR RAFTERS	
TO JOIST OR RAFTERS (T.N. EA. SIDE, EA. END)	2-10d
TO JOIST OR RAFTER BEARINGS (T.N., EA. SIDE)	3-10d
BLOCKING BETWEEN STUDS (EA. END)	2-10d TOE NAILS OR 2-16d
BRIDGING TO JOIST (T.N., EA. END)	2-8d
SOLE PLAVE TO JCIST OR BLOCKING (F.N.)	16d @ 16" O.C.
TOP PLATE TO STUD (END NAIL)	2-16d
STUD TO SOLE PLATE (T.N.)	4-8d
DOUBLED STUDS (F.N.)	16d @ 24" O.C.
TOP PLATES, LAPS AND INTERSECTIONS (F.N.)	2-16d
DOUBLE TOP PLATES (F.N.)	16d @ 12" O.C. U.N.O.
BUILT-UP CORNER STUDS	16d @ 24" O.C.
RIBBONS TO STUDS - ONE (1) INCH RIBBONS	2-8d
RIBBONS TO STUDS - TWO (2) INCH RIBBONS	2-16d
CONTINUOUS HEADER, TWO PIECES	16d @ 6" O.C. ALONG EACH EDGE
CONTINUOUS HEADER TO STUD (T.N.)	4-8d
1" BRACE TO EACH STUD AND PLATE (F.N.)	2od @ 24" O.C. @ TOP & BOTTOM
BUILT-UP GIRDER AND BEAMS	& STAGGERED PLUS 3-20d @ ENDS & EA. SPLICE PLUS 2-16d & EA. BEARING

PLYWOOD SHEATHING AND NAILING NOTES:

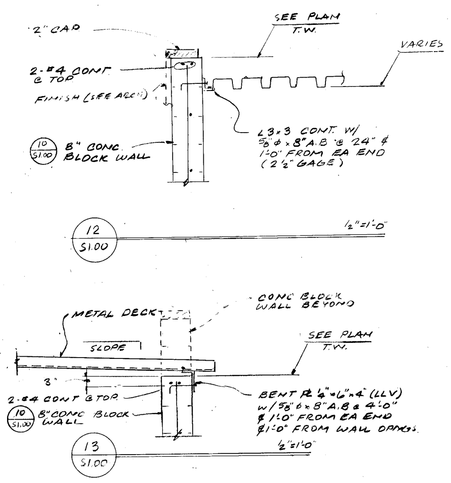
1. PLYWOOD AND NAILING SHALL BE AS SHOWN ON THE DRAWINGS AND SCHEDULES.
2. PLYWOOD SHALL BE APPLIED DIRECTLY TO WOOD MEMBERS AND STAGGERED AS SHOWN ON DRAWINGS.
3. USE OF MACHINE NAILING IS SUBJECT TO A SATISFACTORY JOBSITE DEMONSTRATION AND THE APPROVAL BY THE PROJECT ARCHITECT OR STRUCTURAL ENGINEER AND THE OFFICE OF THE STATE ARCHITECT. THE APPROVAL IS SUBJECT TO CONTINUED SATISFACTORY PERFORMANCE. IF NAILHEADS PENETRATE THE OUTER PLY MORE THAN ONE HALF OF THE NAILHEAD THICKNESS OR IF MINIMUM ALLOWABLE EDGE DISTANCES WOULD BE NORMAL FOR A HAND HAMMER OR IF MINIMUM ALLOWABLE EDGE DISTANCES ARE NOT MAINTAINED THE PERFORMANCE WILL BE DEEMED UNSATISFACTORY.

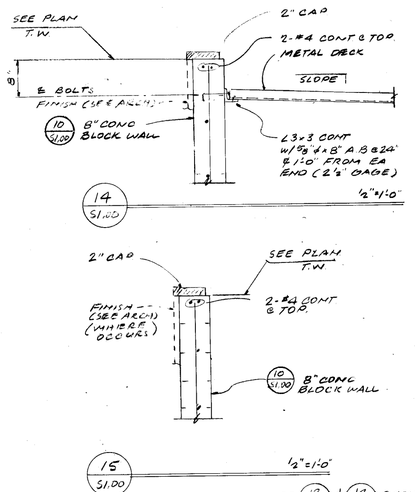
MISCELLANEOUS

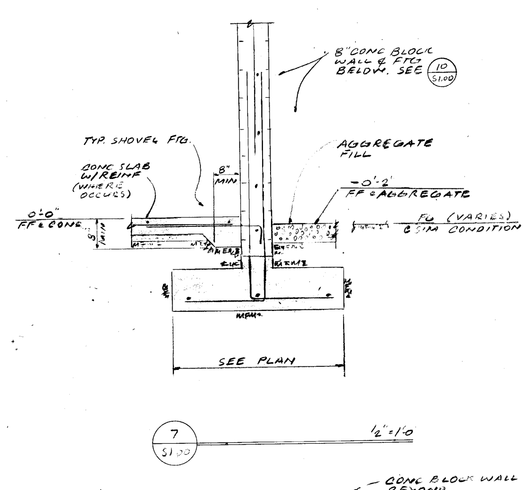
BUILDING 100
(E) CLGS IN ROOMS 110 & 132 MAY REMAIN WHERE NEW CLGS ARE SHOWN ON ARCH DRWGS.

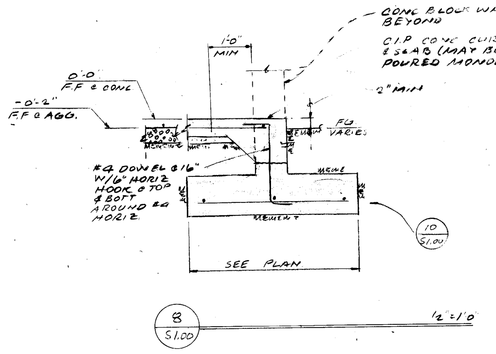
(E) CLG IN ROOM 128 SHALL BE REMOVED AS PER 2/S1.00

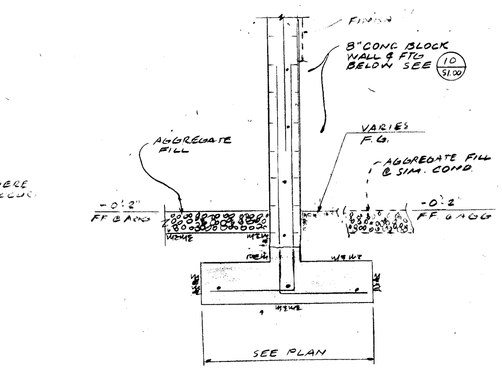
BUILDINGS 200, 300, 400 & 500
(E) ACOUSTIC TILES SHALL BE REMOVED WHERE NEW CLGS ARE SHOWN ON ARCH DRWGS. (E), 2'-9"-STRAIGHT MAY REMAIN

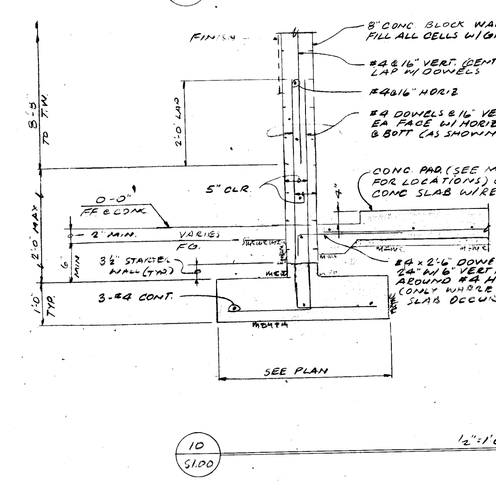


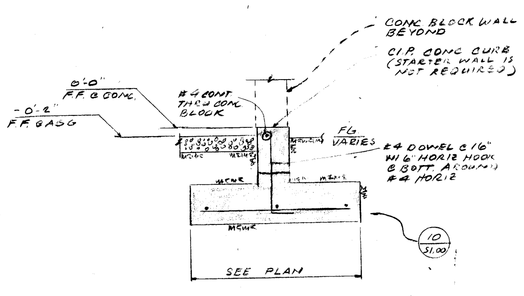


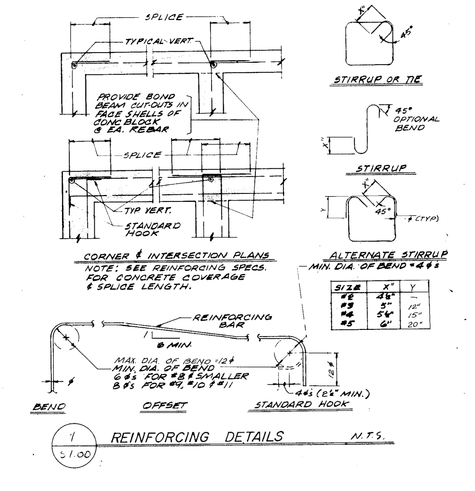


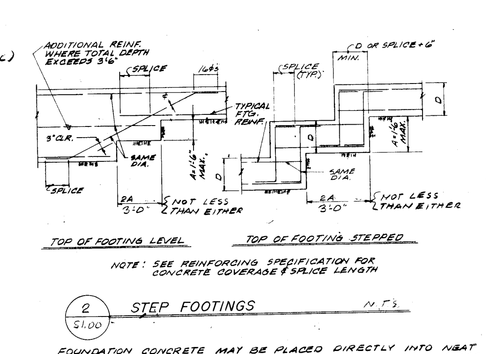




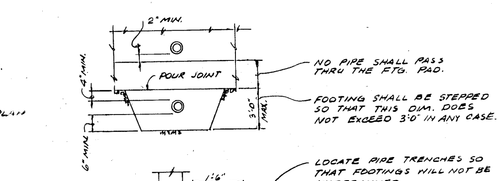


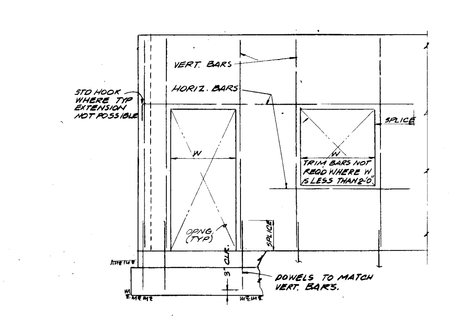






FOUNDATION CONCRETE MAY BE PLACED DIRECTLY INTO NEAT EXCAVATIONS PROVIDED THE FOUNDATION TRENCH WALLS ARE STABLE AS DETERMINED BY THE ARCHITECT/STRUCTURAL ENGINEER) SUBJECT TO THE APPROVAL OF THE OFFICE OF THE STATE ARCHITECT. IN SUCH CASE THE MINIMUM FORMWORK SHOWN ON THE DRAWINGS IS MANDATORY TO INSURE CLEAN EXCAVATIONS IMMEDIATELY PRIOR TO AND DURING THE PLACING OF CONCRETE.





bfgc

JOHN Q. FORESTELLE
STRUCTURAL ENGINEER
EXP 3/1/92
920 WIBLE ROAD BAKERSFIELD
CALIFORNIA 93304 (805) 397-7800

ROOSEVELT SCHOOL MODERNIZATION

FOR

BAKERSFIELD CITY SCHOOL DISTRICT

GENERAL NOTES AND DETAILS

bfgc architects planners inc.
p.o. box 9698 bakersfield california 93389-9698
31 south real road 93309 (805) 832 8122
C-3132 C-6564 C-8021 C-

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