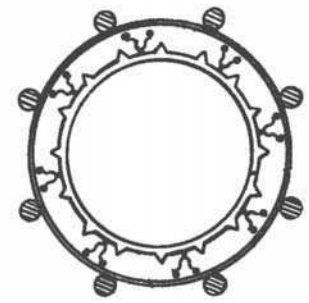
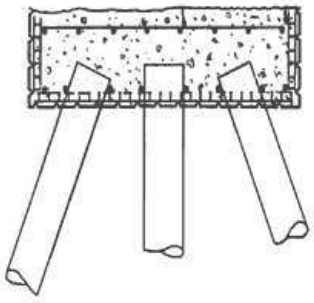
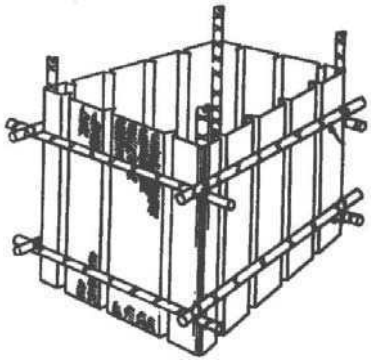
STAY-FORM®

the stay-in-place concrete form

Application Detail Manual
Load Tables and Spec Data Sheets







THE DIAGRAMS PRESENTED IN THIS BOOKLET ARE TO DEMONSTRATE A SUGGESTED METHOD OF ASSEMBLY ONLY. SPACING DIMENSIONS AND FOOTING ANCHORS MAY VARY DEPENDING ON POUR RATES AND DEFLECTION SPEC. THE DIAGRAMS SHOULD NOT LIMIT NOR RESTRICT IDEAS OR KNOWLEDGE THE WORKMEN HAVE ABOUT FORMING METHODS OR TECHNIQUES.

THE ENCLOSED LOAD TABLES CAN BE USED AS A GUIDE WHERE DATA PRESENTED IN LOAD TABLES ARE APPLICABLE. IF DATA IN LOAD TABLES ARE NOT APPLICABLE, THEN A SEPARATE CALCULATION MUST BE MADE TO MEET YOUR REQUIRED SPEC. ALL FORMING METHODS, HOWEVER, MUST COMPLY WITH AMICO'S PUBLISHED LOAD TABLES, OR SEPARATE CALCULATION.

on line: www.amico-online.com

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SALES DEPARTMENT
800/366-2642

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MISSION STATEMENT

"AMICO is committed to providing quality products and quality service with a quality attitude. We will continue to strive for improvements in order to reach our goal of complete customer satisfaction."

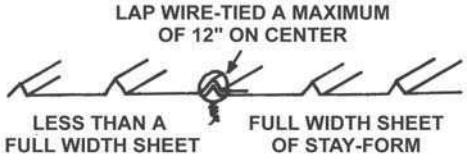
GUIDE LINES FOR LOADING SPECIFICATIONS

Support Spacing (Running Perpendicular to Stay-Form Ribs)

SUPPORT SPACING	30" ON CENTER		24" ON CENTER		16" ON CENTER	
Stay-Form Type	#66	#77	#66	#77	#66	#77
Lateral Loading (psf)	391	460	612	720	1360	1600
Liquid Head (feet)	2.6	3.1	4.1	4.8	9.1	10.7
Pour Rate (feet / hour)	1.3	1.7	2.6	3.2	6.1	10.7
Maximum Deflection (inches)	1.42	1.42	0.92	0.92	0.43	0.43

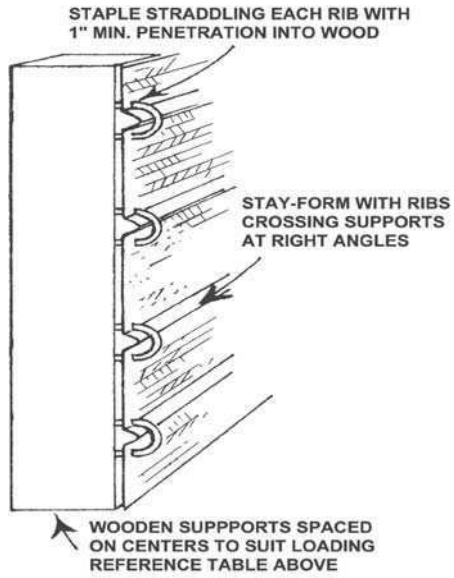
THE ABOVE LOADING SPECIFICATIONS ARE BASED ON THE FOLLOWING CONDITIONS:

1. Optimum density of wet concrete should be @ 150 lbs./ ft.³ and 50ºF temperature.
2. Concrete discharge nozzle at no more than 2 feet above the pour surface.
3. Each rib saddle-tied at each support with 16 Ga. tie-wire in “figure 8” configuration.
4. End laps require at least 2” of Stay-Form over lapping each other. Laps should occur over a support with both adjoining sheets secured with wire ties at the lap as well as over and around the support.
5. Side Laps require outside rib of each adjoining sheet be nested into the other and wire-tied at a maximum of 12” on center.
6. Place Stay-Form with ribs facing away from supports and projecting toward and into pour.
7. Concrete to be prepared with a 3” to 6” slump. Higher slump rates can be used but may result in some grout flow through the Stay-Form. Pour rates listed in the table above are without additives or retarders.
8. The data above is extrapolated from preliminary physical testing with 100% safety factor applied.
9. When side lapping sheets of Stay-Form, which may include less than full sheet widths, the Stay-Form is cut to allow side lapping of the ribs and is then wire-tied maintaining a maximum distance between ties of 12” on centers between supports if at all possible. (see Side Lap Detail below)

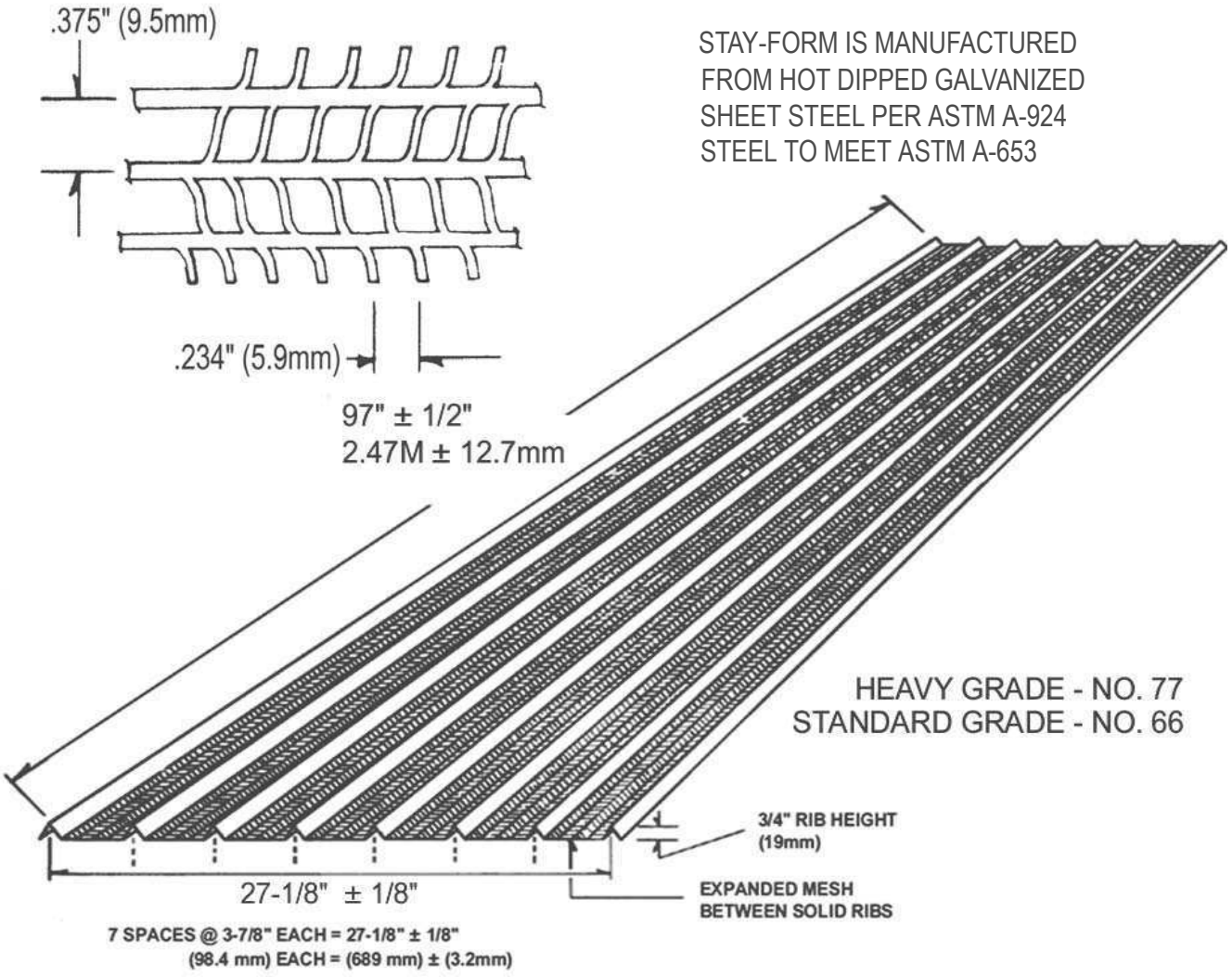


SIDE LAP DETAIL

10. The loading guidelines listed above are based on a continuous span configuration.
11. CAUTION: When consolidating concrete, keep vibrator at least 4” away from Stay-Form. Be sure not to allow vibrator to come into physical contact with Stay-Form. When Stay-Form is used with con ventional sheathing on opposite side for wall forming, use external form vibrator on conventional liner, if possible, for compaction. Otherwise, hand compact withgrating tamper.
12. If Stay-Form is applied on wooden supports, fasten Stay-Form to supports with 14 ga. circular crown staples straddling each rib cross ing each support driven deep enough to clinch the rib but not deep enough to deform the rib. Use two staples for each rib over an end lap and at the end supports.



DIMENSIONAL SPECIFICATIONS



STAY-FORM IS MANUFACTURED FROM HOT DIPPED GALVANIZED SHEET STEEL PER ASTM A-924 STEEL TO MEET ASTM A-653

STANDARD PACKAGING

18 Square Feet	1 Sheet	(1.60m²)	11.88 Lbs.	13.86 Lbs.
90 Square Feet	5 Sheets (1 Bundle)	(8.37m²)	59.50 Lbs.	69.30 Lbs.
4,500 Square Feet	250 Sheets (1 Pallet)	(418.0m²)	2,970 Lbs.	3,465 Lbs.

NOTE: See load table on page 3 for spacing and load information.
It is preferable to orientate ribs into first pour.

TECHNICAL SUPPORT
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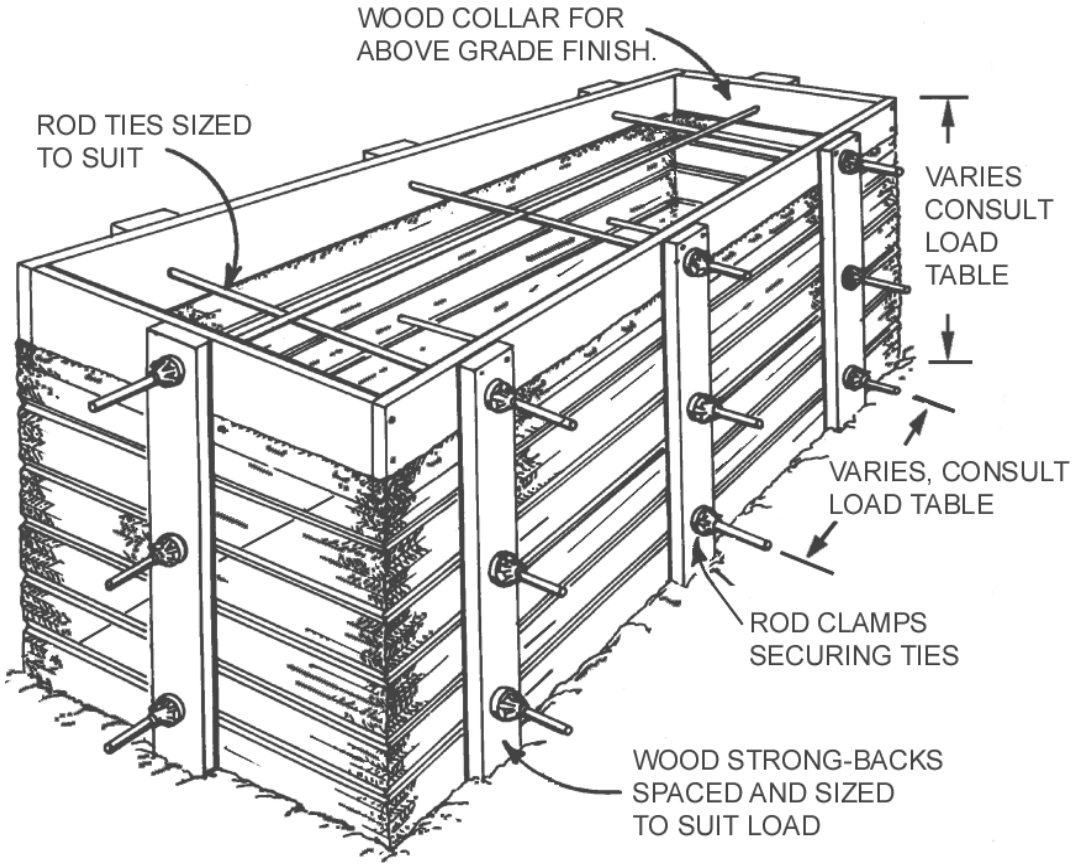
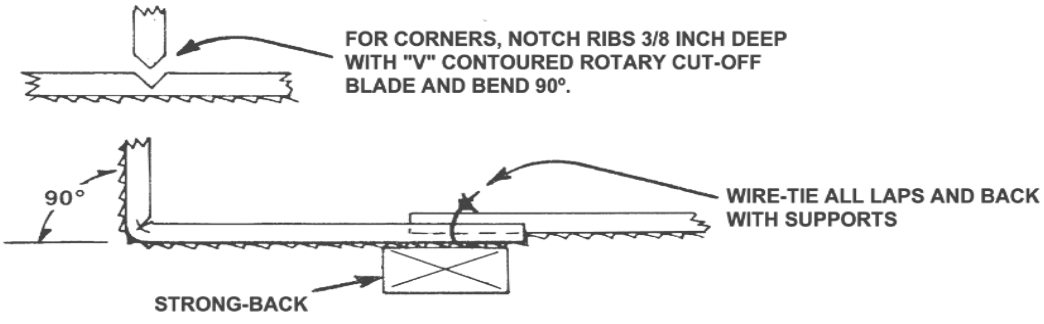
FORMING FOOTINGS AND MAT SLABS WITH STAY-FORM





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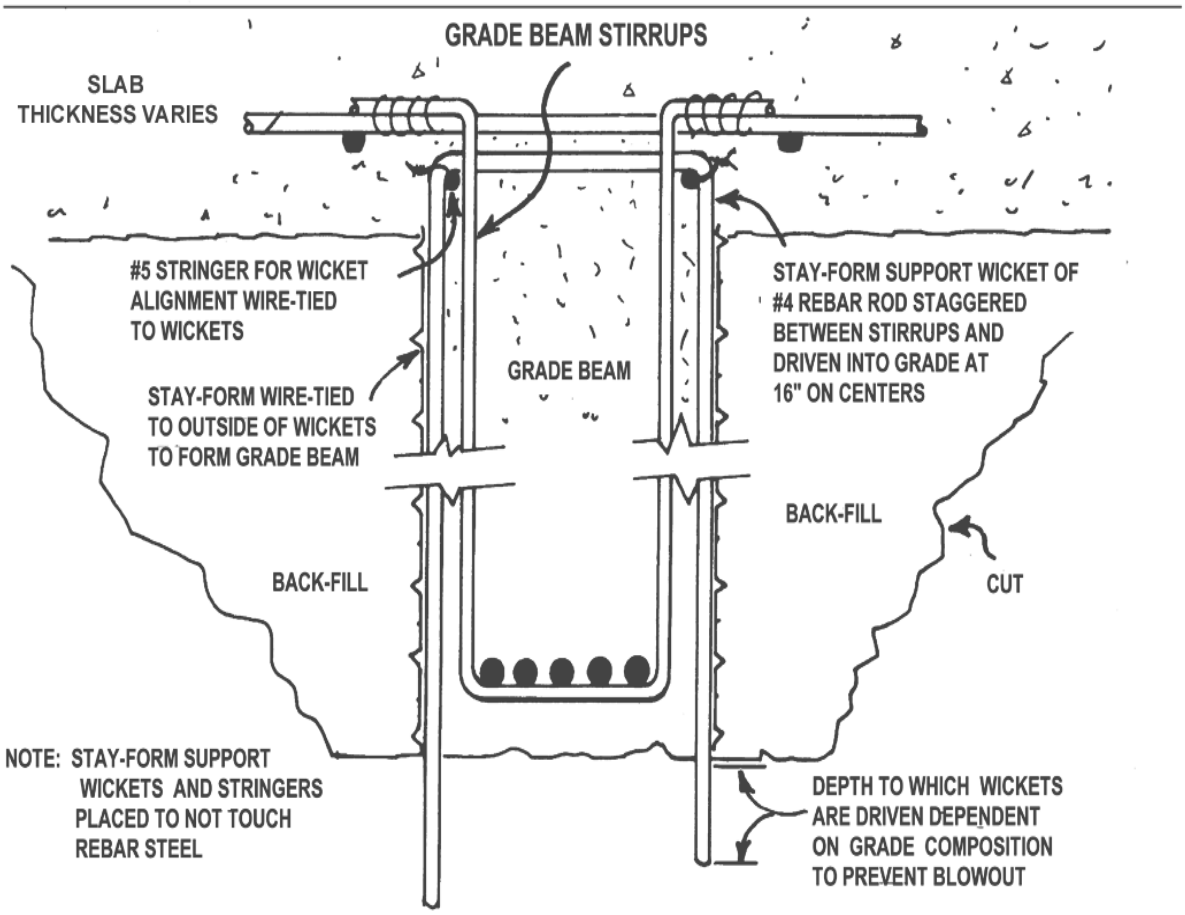
GRADE BEAMS WITH STAY-FORM FOR BACK-FILLING BEFORE CONCRETE PLACEMENT



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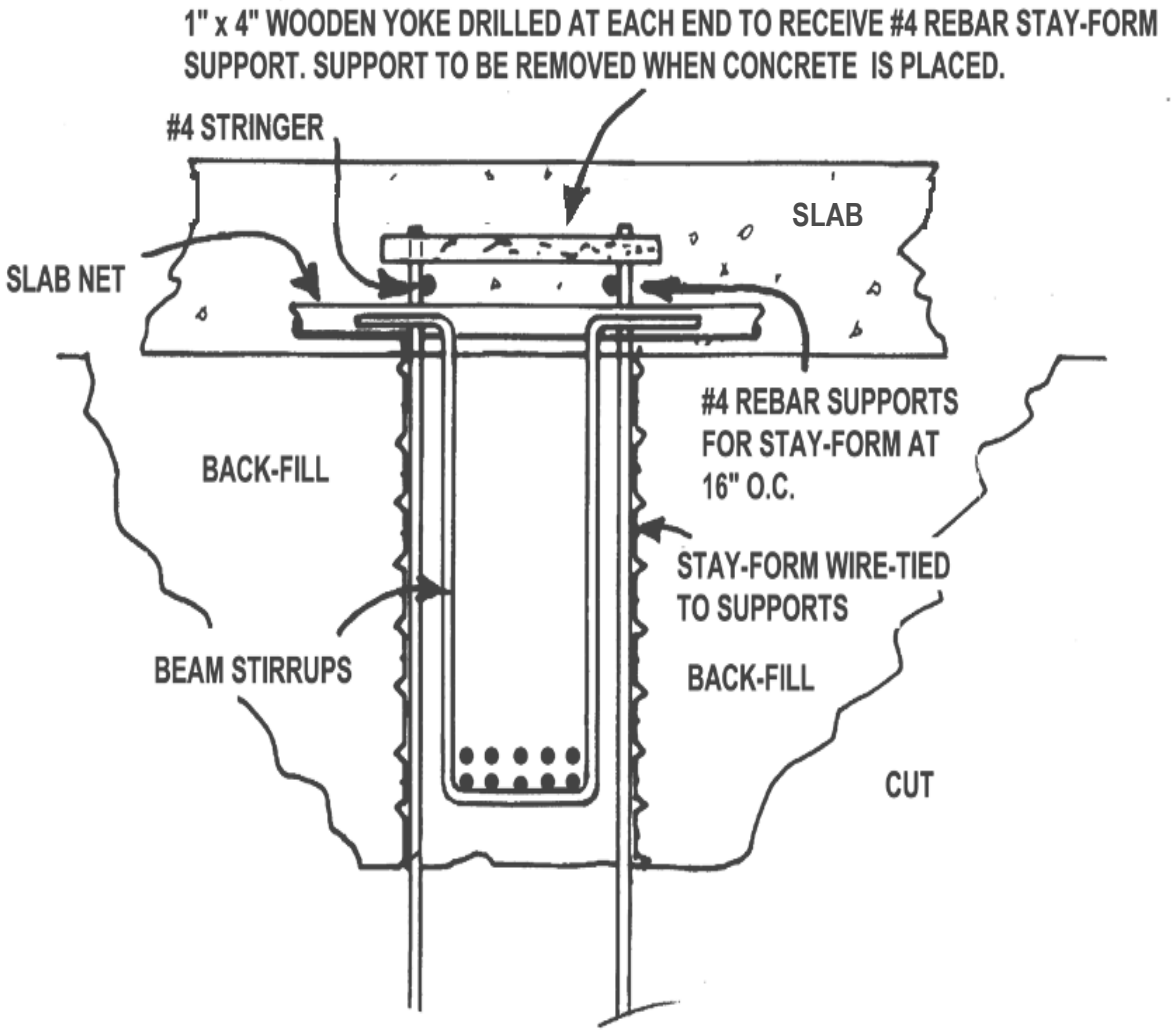
GRADE BEAMS WITH STAY-FORM FOR BACK-FILLING BEFORE CONCRETE PLACEMENT



ALTERNATE INSTALLATION

NOTE: See load table on page 3 for spacing and load information.
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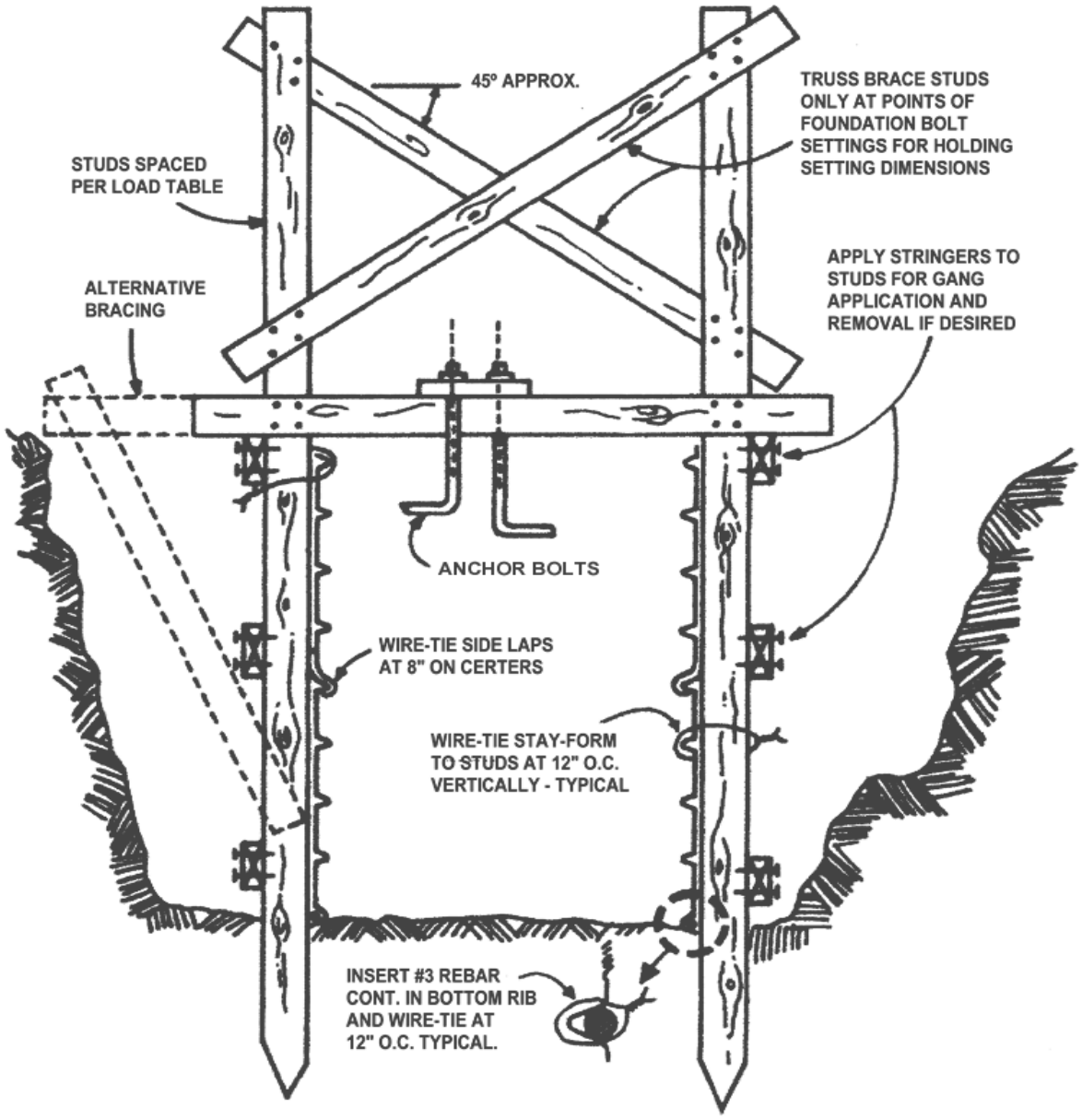
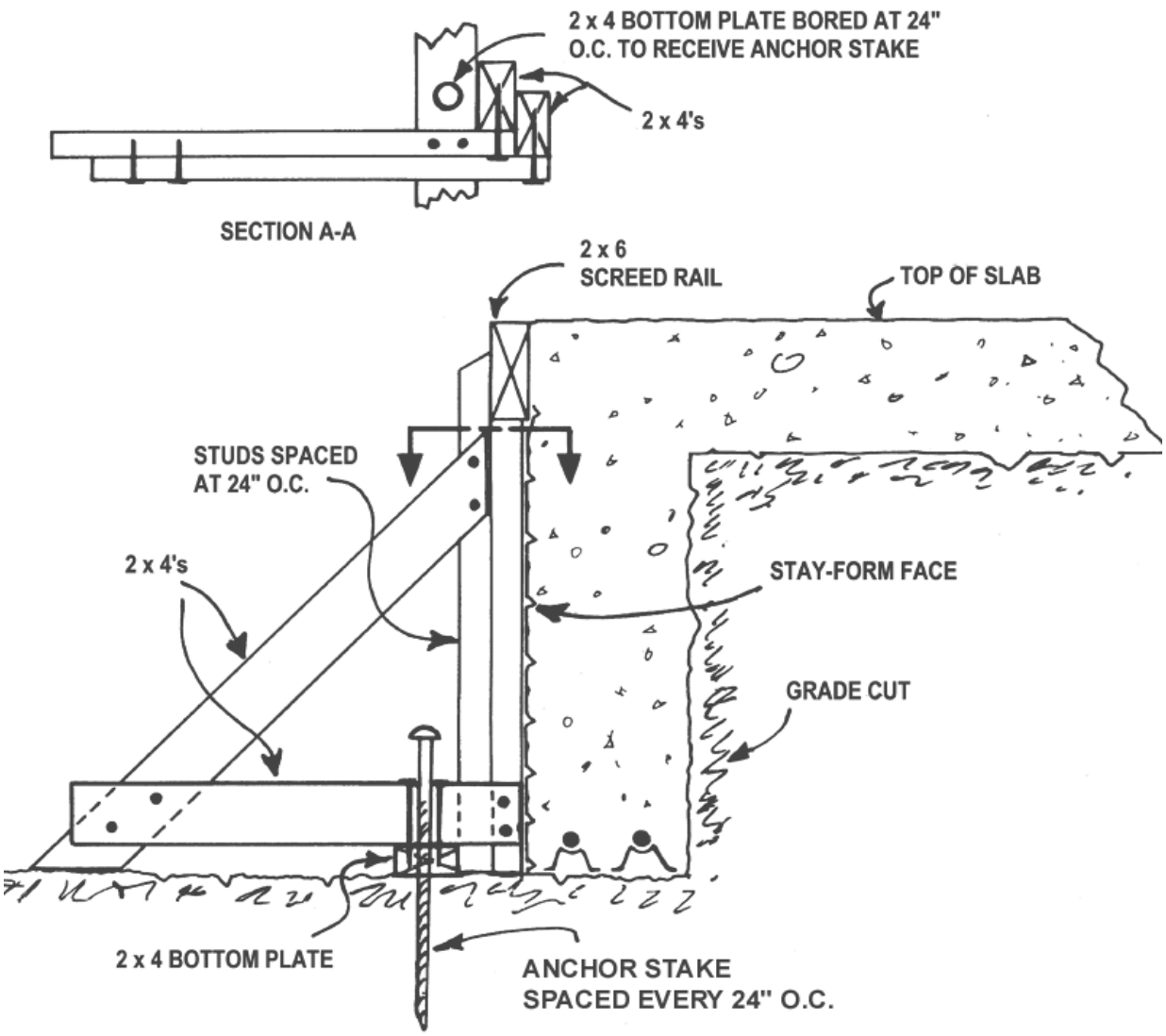
GRADE BEAM FORMWORK USING STAY-FORM



NOTE: See load table on page 3 for spacing and load information.
It is preferable to orientate ribs into first pour.

FORMING PERIMETER GRADE BEAM WITH INTEGRAL (MONOLITHIC POUR) USING STAY-FORM



NOTE: See load table on page 3 for spacing and load information.
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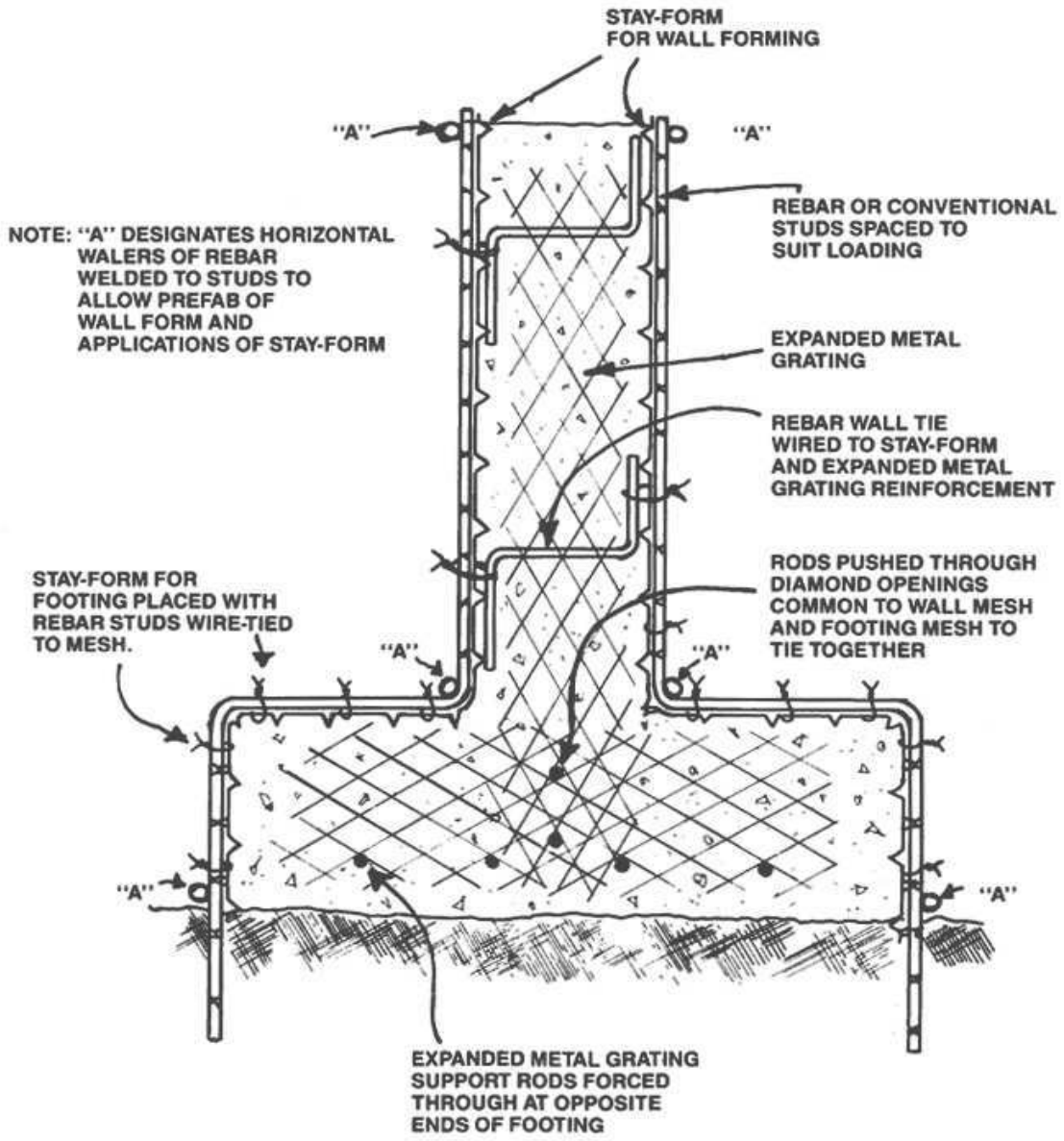
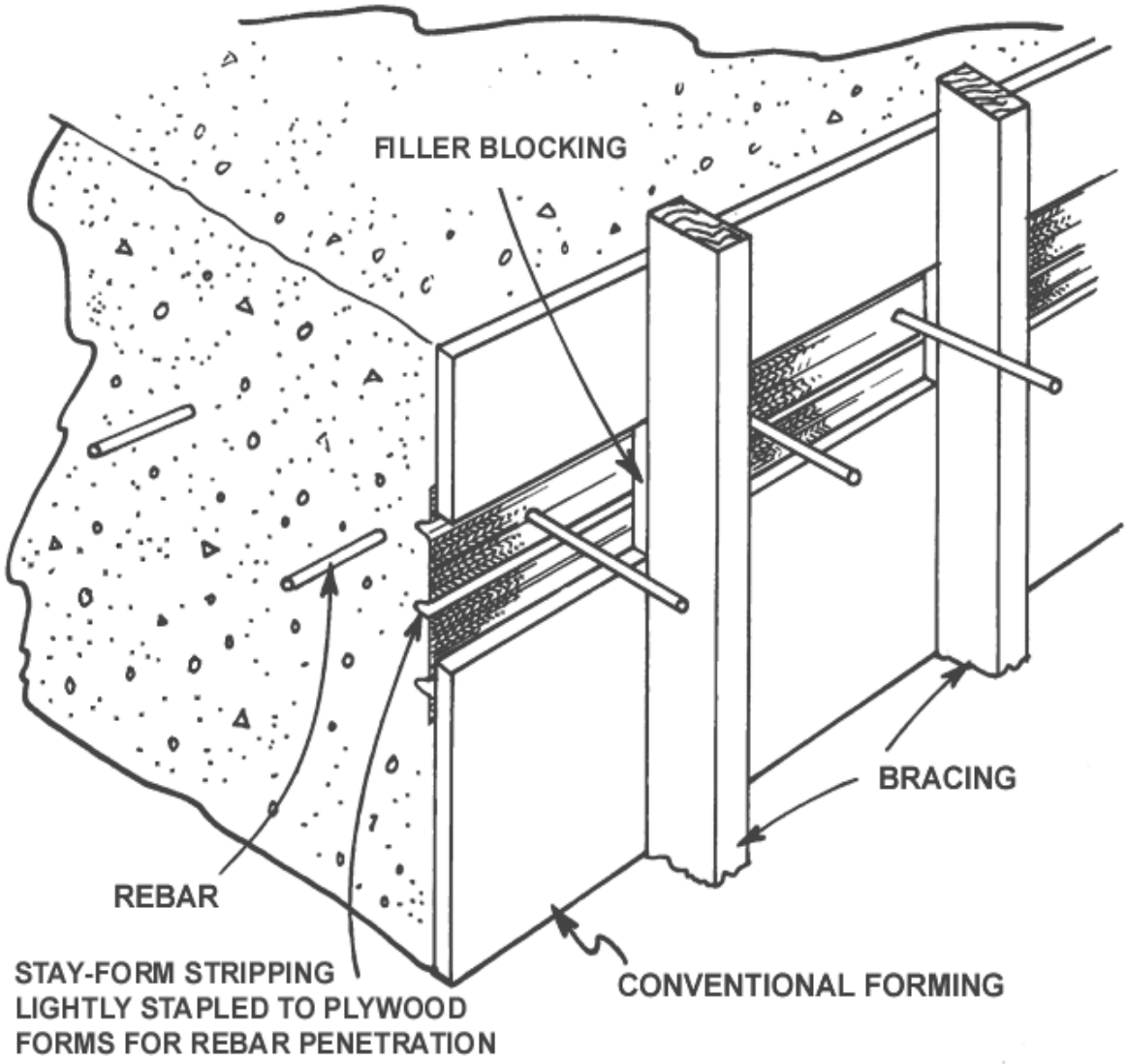
FLOOD WALL USING STAY-FORM
WITH EXPANDED METAL GRATING REINFORCEMENT



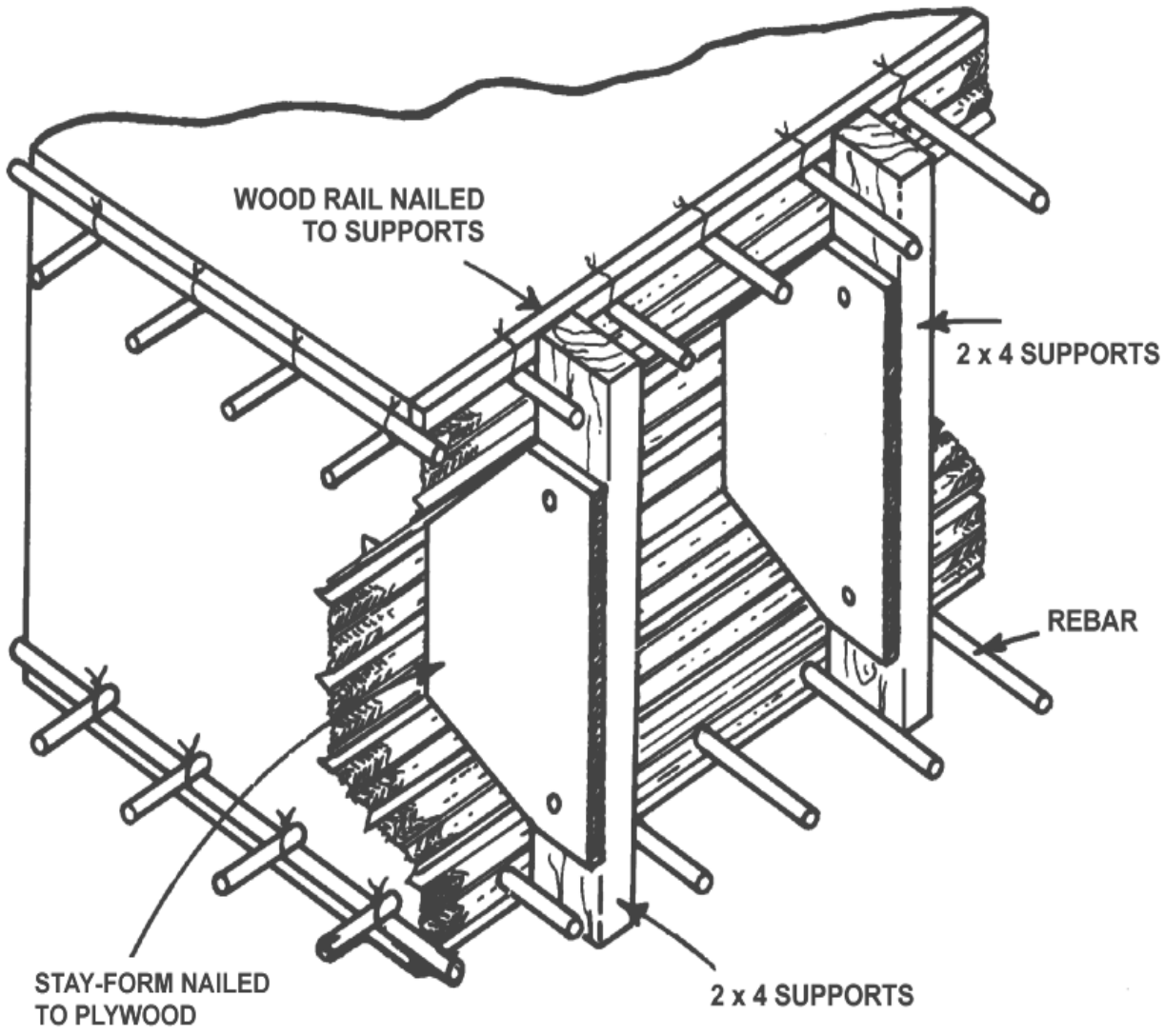
NOTE: See load table on page 3 for spacing and load information.
It is preferable to orientate ribs into first pour.

REBAR PENETRATION OF BULKHEAD FORMING USING STAY-FORM



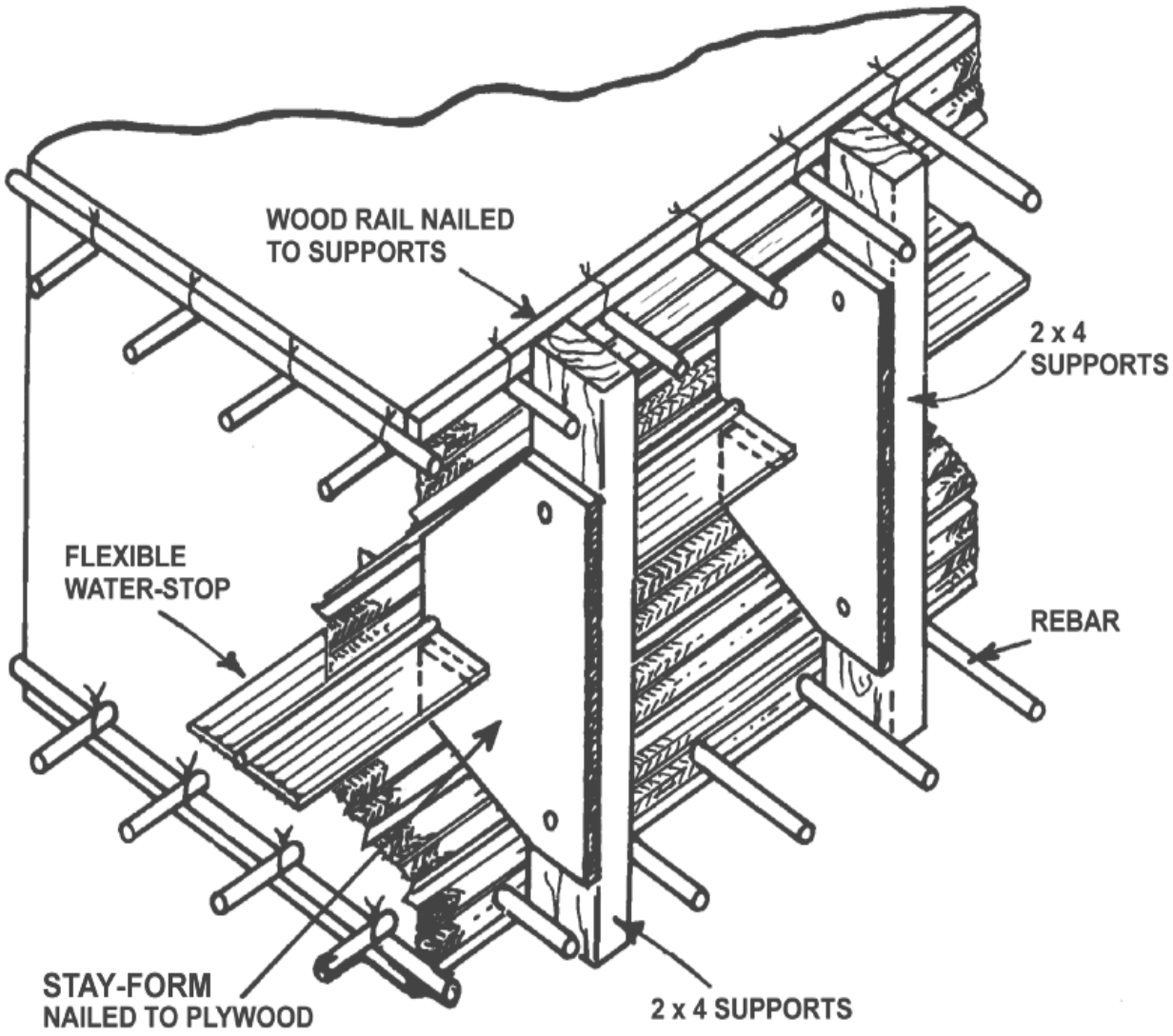
NOTE: See load table on page 3 for spacing and load information.
It is preferable to orientate ribs into first pour.

FORMING WALL OR HEAVY MAT BULKHEAD / CONSTRUCTION JOINT USING STAY-FORM



NOTE: See load table on page 3 for spacing and load information.
It is preferable to orientate ribs into first pour.

FORMING WALL OR HEAVY MAT BULKHEAD / CONSTRUCTION JOINT WITH KEYWAY & WATER STOP USING STAY-FORM



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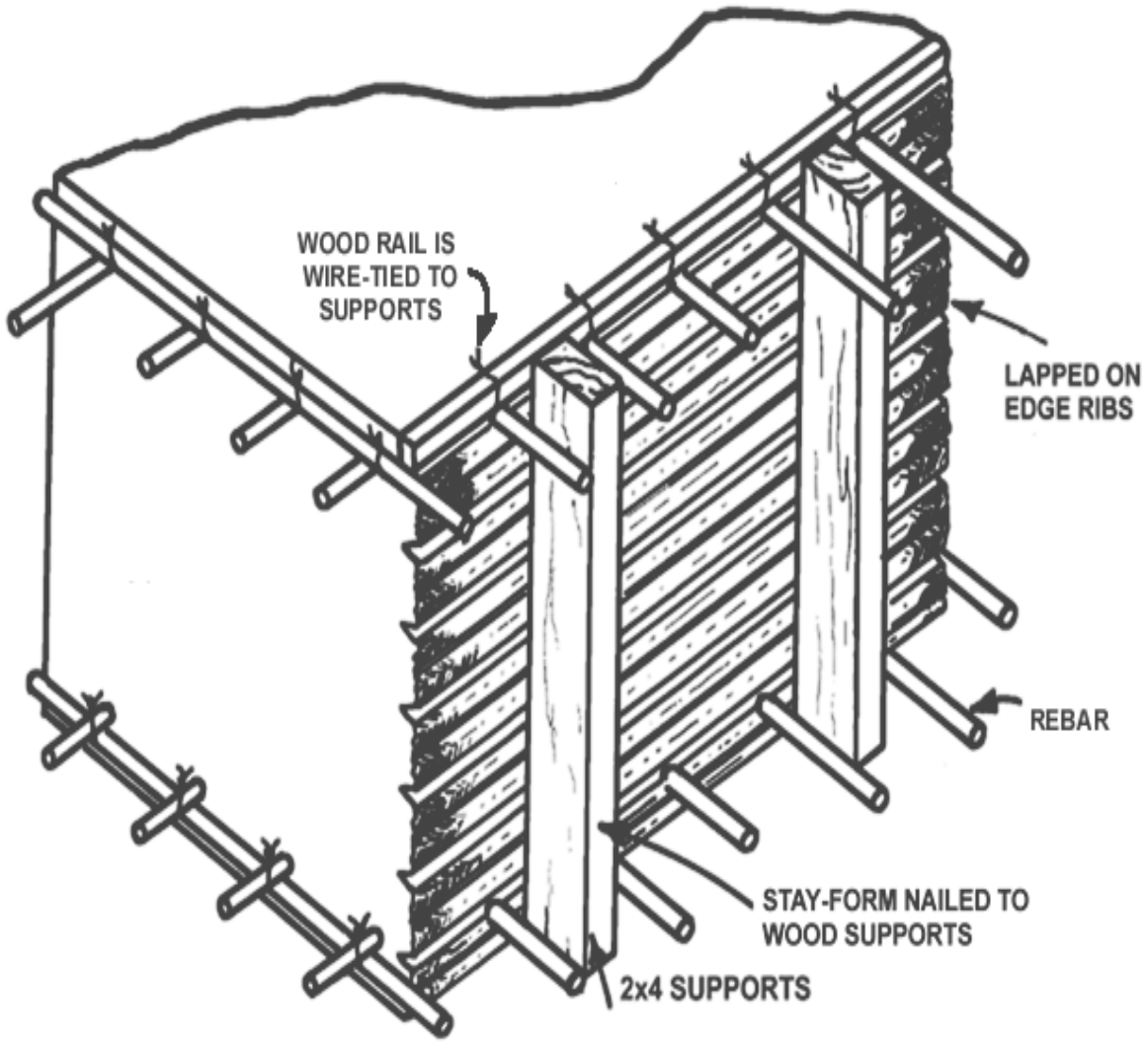
FORMING WALL OR HEAVY MAT BULKHEAD / CONSTRUCTION JOINT USING STAY-FORM



NOTE: See load table on page 3 for spacing and load information.
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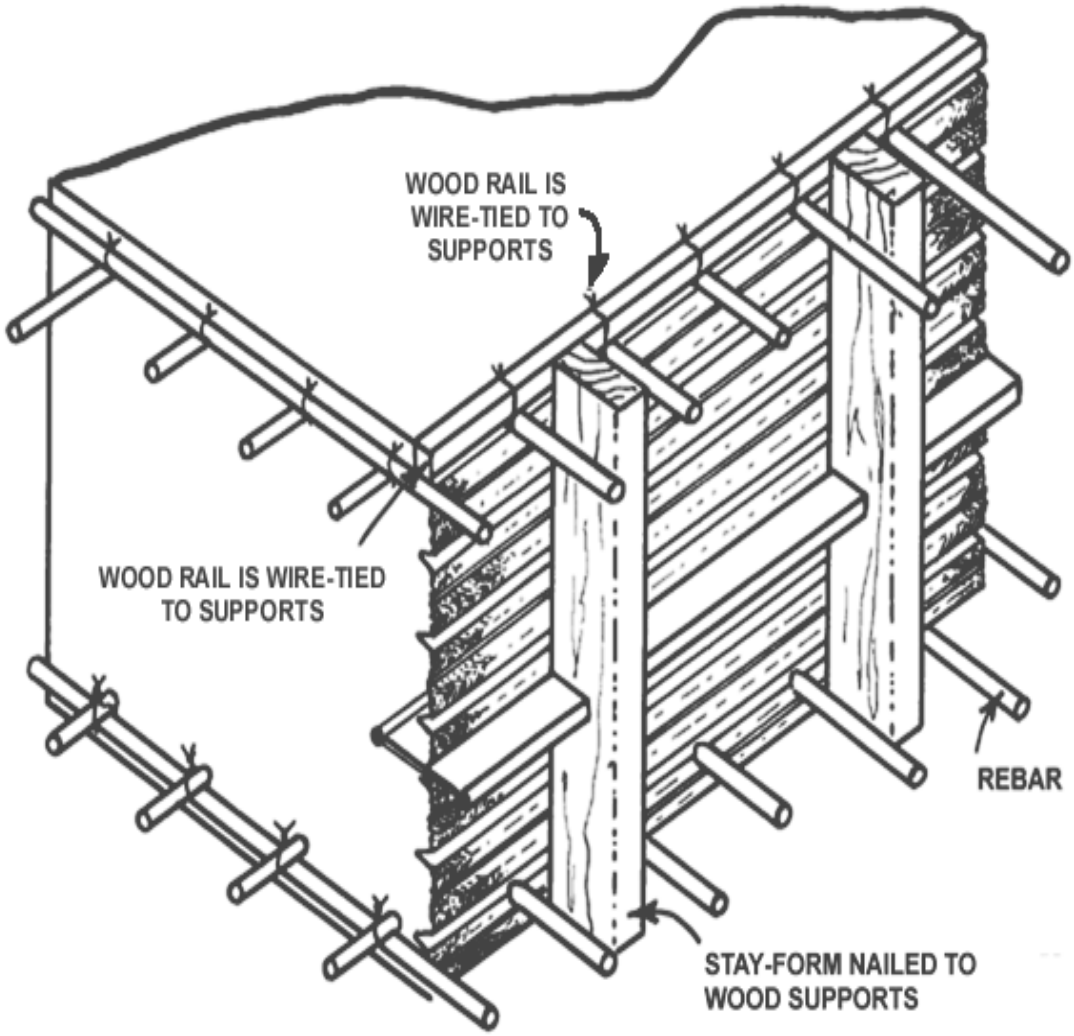
FORMING WALL OR HEAVY MAT BULKHEAD / CONSTRUCTION JOINT WITH WATERSTOP USING STAY-FORM



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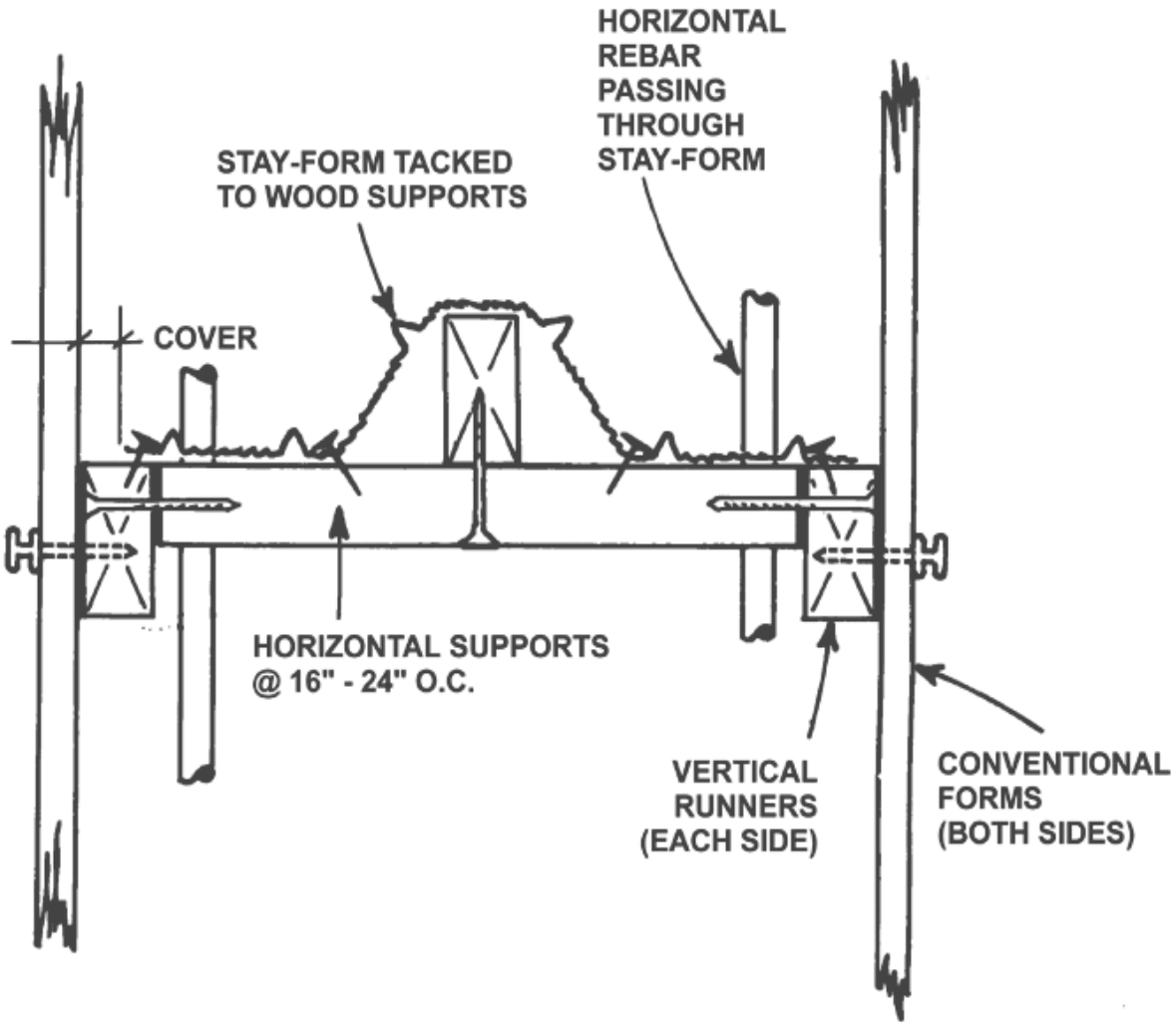
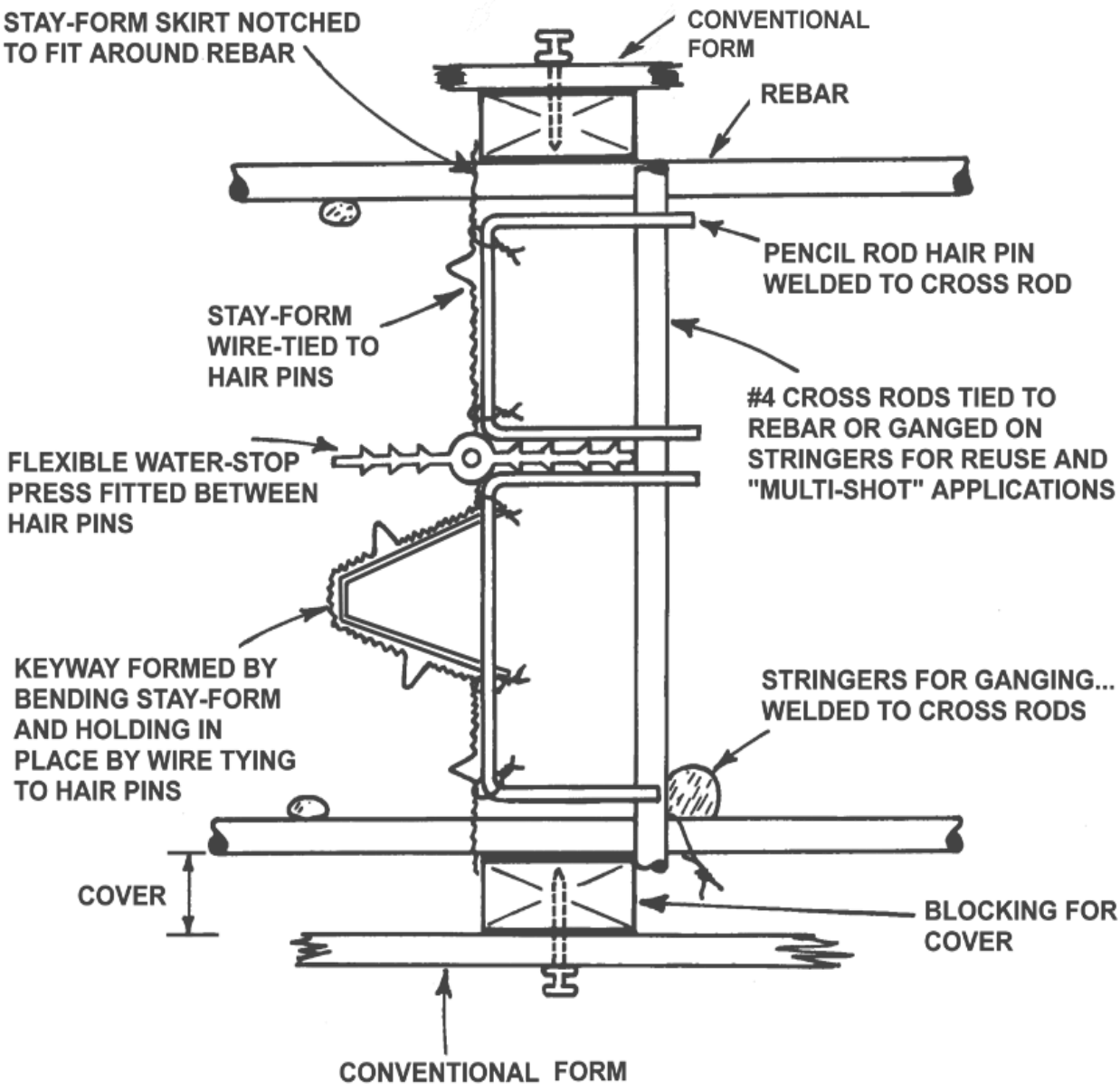
FORMING WALL BULKHEAD / CONSTRUCTION JOINT WITH KEYWAY USING STAY-FORM



NOTE: IF NAIL OR STAPLES BY WHICH STAY-FORM IS FASTENED TO WOOD SUPPORTS ARE CHOSEN PROPERLY, WOOD SUPPORT LATICE MAY BE REUSED.

NOTE: See load table on page 3 for spacing and load information.
It is preferable to orientate ribs into first pour.

FORMING WALL OR SLAB BULKHEAD / CONSTRUCTION JOINT WITH OFFEST KEYWAY & WATERSTOP USING STAY-FORM



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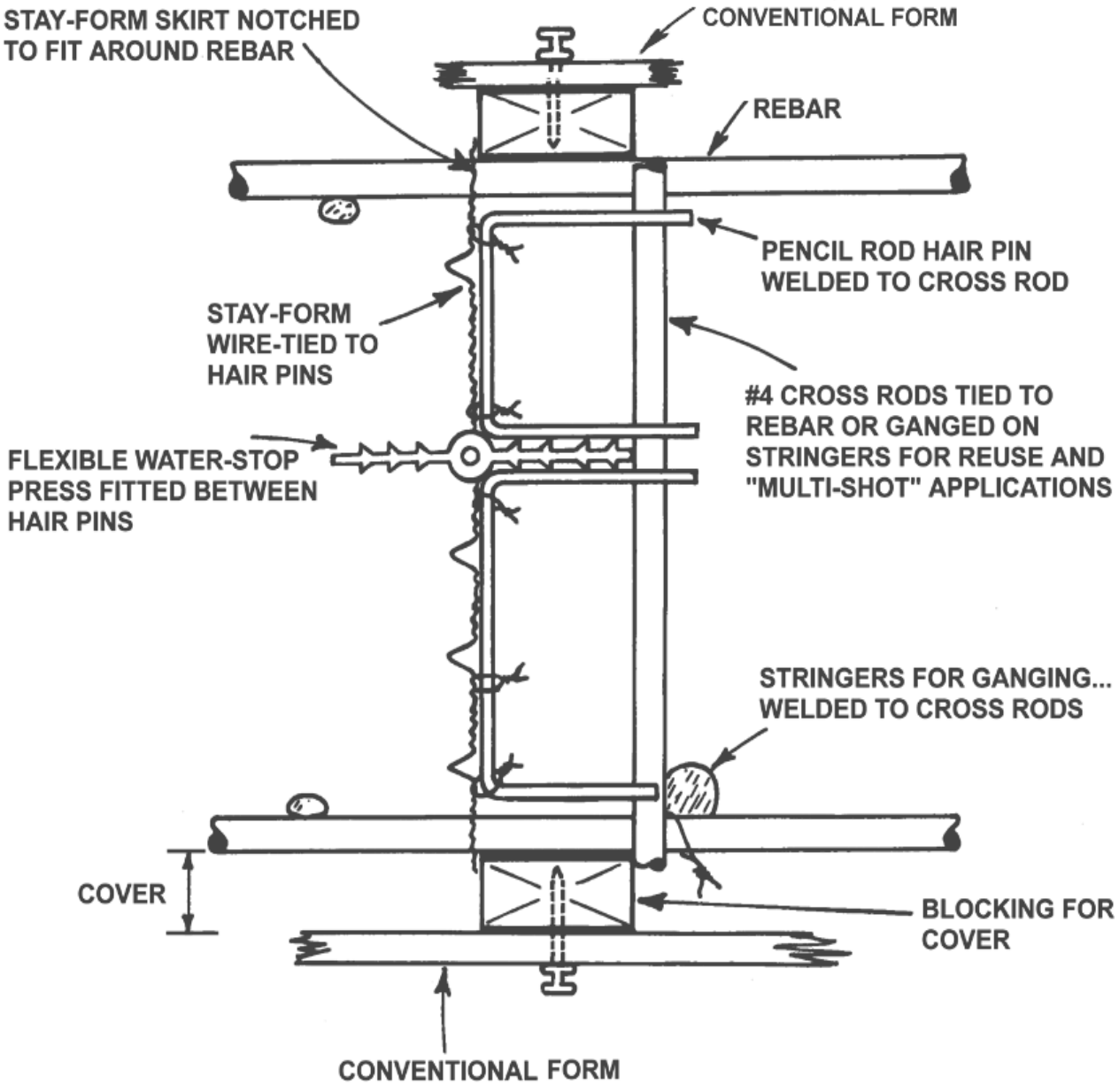
FORMING WALL BULKHEAD / CONSTRUCTION JOINT WITH WATER STOP USING STAY-FORM



NOTE: See load table on page 3 for spacing and load information.
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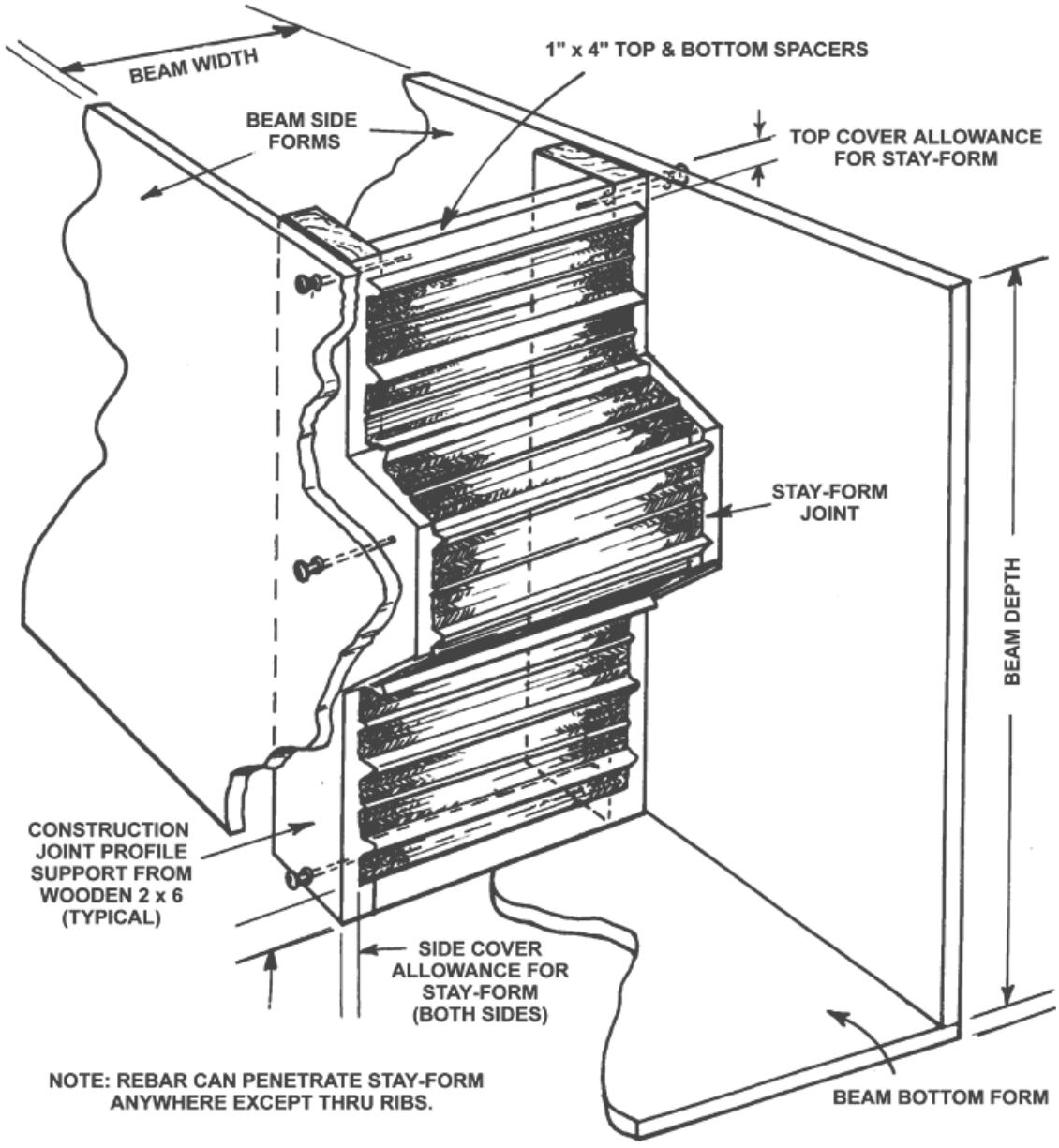
BEAM KEYED CONSTRUCTION JOINT WITH STAY-FORM



NOTE: See load table on page 3 for spacing and load information.
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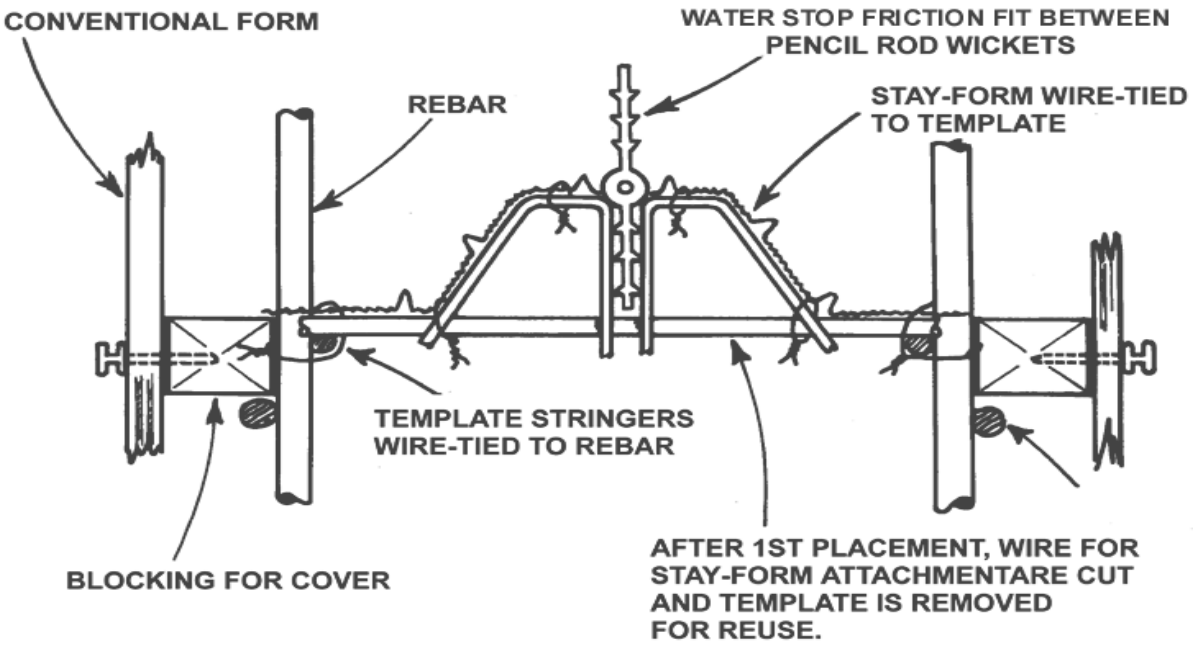
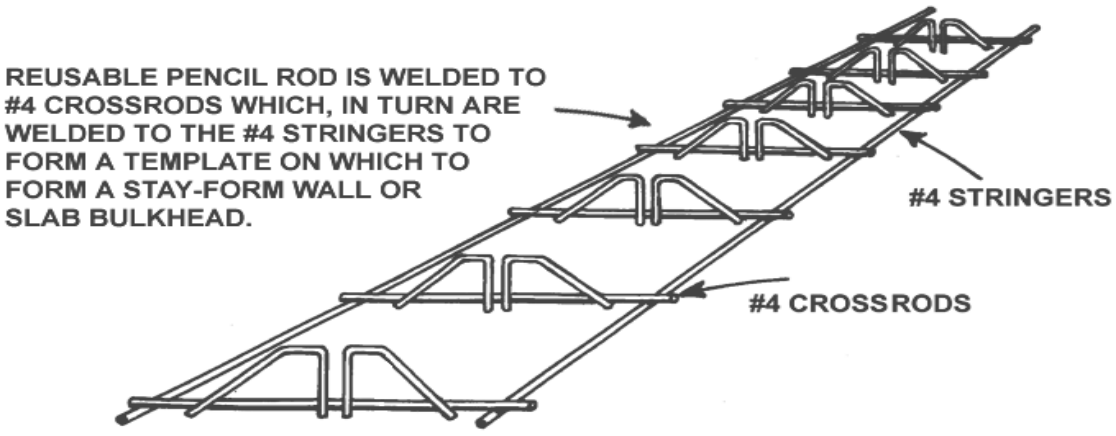
FORMING WALL OR SLAB BULKHEAD / CONSTRUCTION JOINT WITH KEYWAY & WATER STOP USING STAY-FORM





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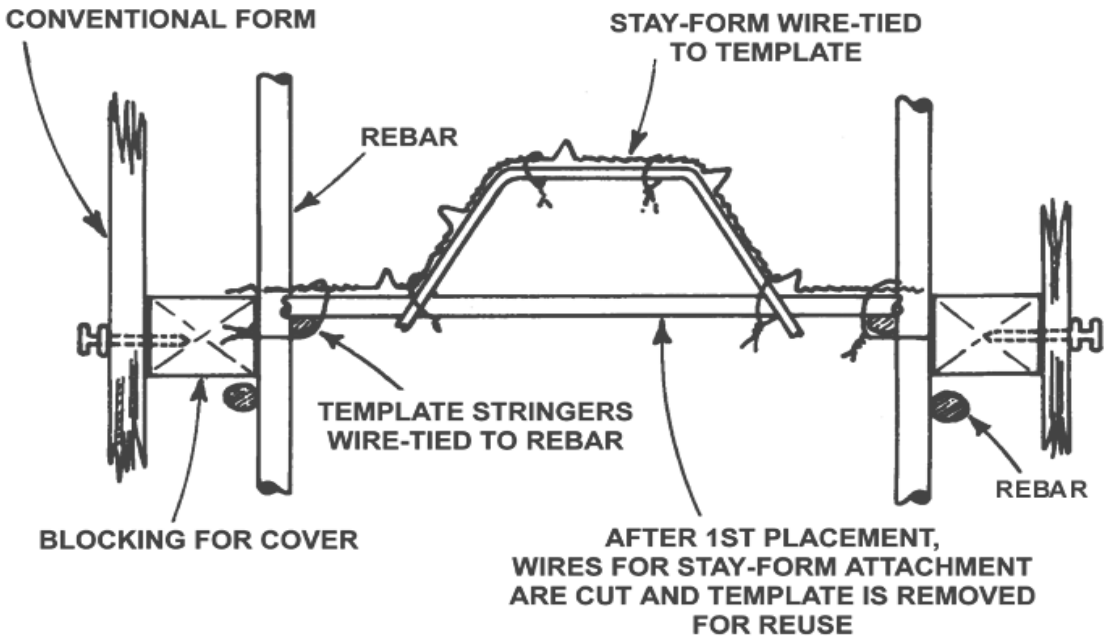
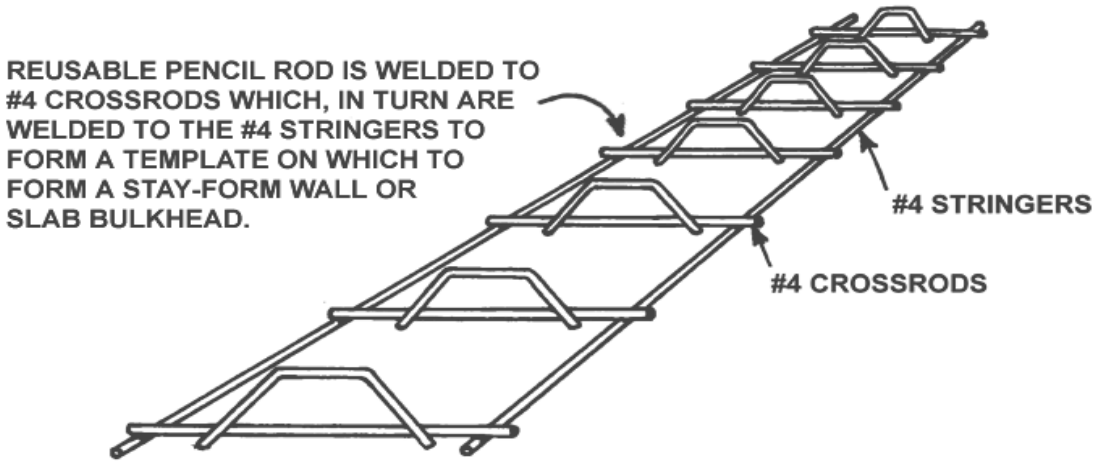
FORMING WALL OR SLAB BULKHEAD / CONSTRUCTION JOINT WITH KEYWAY USING STAY-FORM





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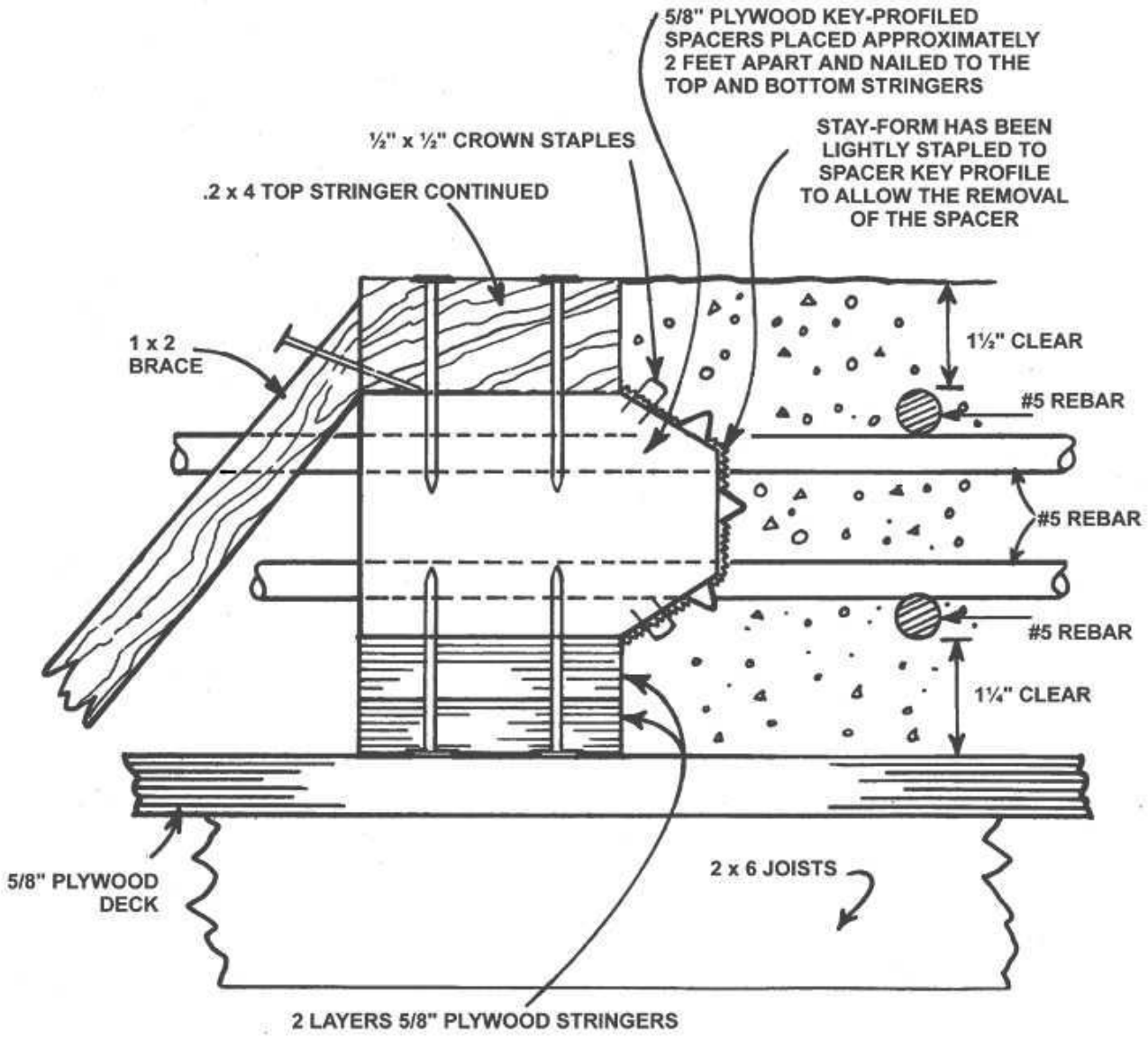
SUSPENDED SLAB CONSTRUCTION JOINT USING STAY-FORM



NOTE: See load table on page 3 for spacing and load information.
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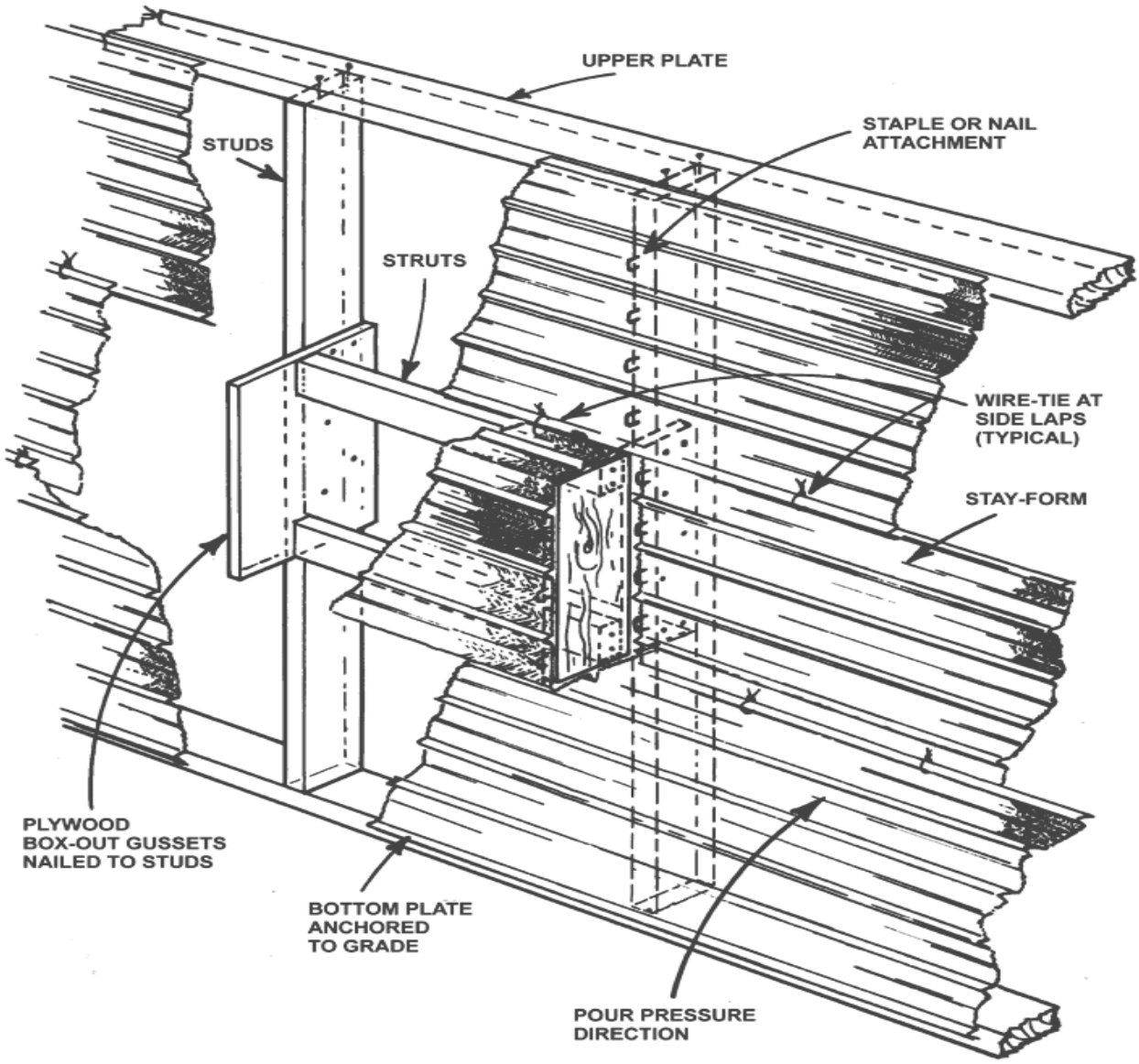
FORMING GRADE BEAM BOX-OUTS IN PILE CAPS USING STAY-FORM



NOTE: See load table on page 3 for spacing and load information.
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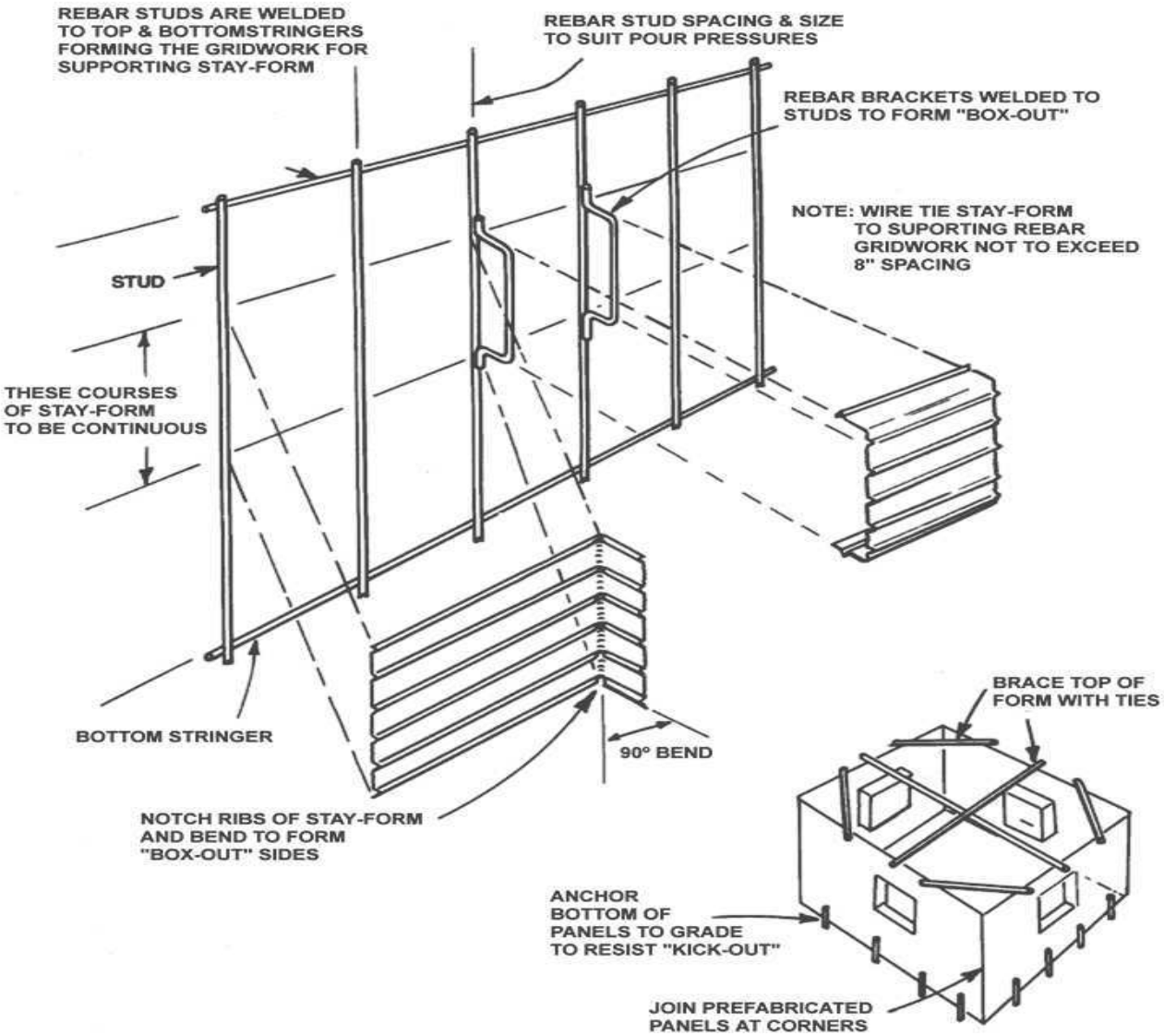
PILE CAP FORMWORK WITH BOX-OUTS USING STAY-FORM & REBAR



PILE CAP FORM ASSEMBLY

NOTE: See load table on page 3 for spacing and load information.
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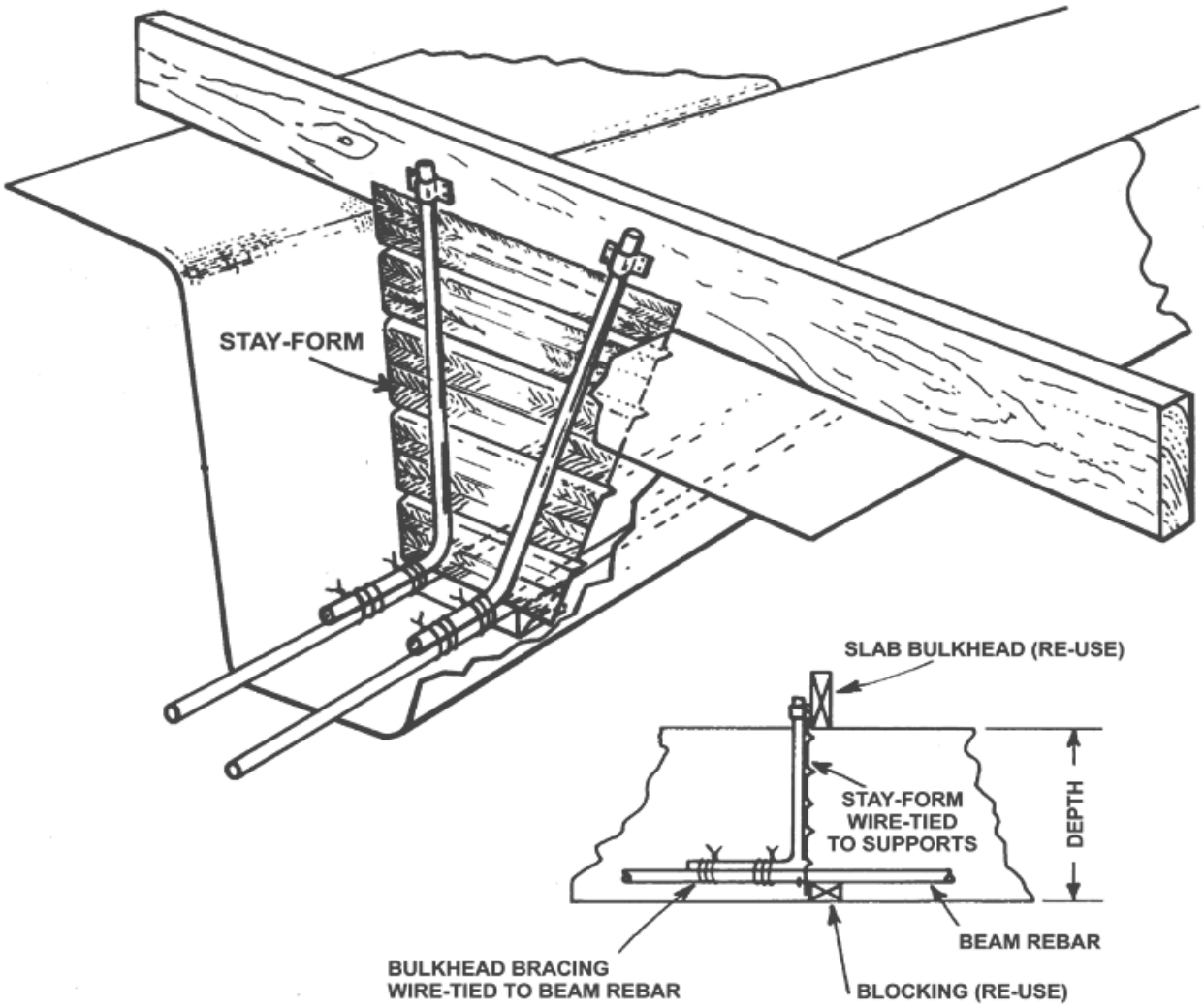
PAN JOIST CONSTRUCTION JOINT WITH STAY-FORM (RIBS HORIZONTAL)



CROSS SECTION VIEW

NOTE: See load table on page 3 for spacing and load information.
It is preferable to orientate ribs into first pour.

REBAR STUD DESIGN TABLES
FOR BLIND SIDE WALLS UTILIZING STAY-FORM

REBAR STUD SIZING, REBAR AND TIE SPACING FOR VARIOUS POUR PRESSURES

REBAR STUD SPACING (IN)	#66 SF @ 30"	#66 SF @ 24"	#66SF @ 24"	#66 SF @ 24"	#66 SF @ 24"	#66 SF @ 24"	#66SF @ 12"	#66 SF @ 24"
POUR PRESSURE (PSF)	391	200	300	210	400	500	800	612
TIE SPACING ALONG REBAR LENGTH (IN)	10¼"	25"	16¾"	12"	12½"	10"	12"	8-3/16"
REBAR STUD SIZE ACI DESIGNATION	#6's	#8's	#7's	#5's	#7's	#6's	#6's	#6's

REBAR STUD SPACING (IN)	#66 SF @ 16 "	#66 SF @ 16 "	#66 SF @ 16 "	#66 SF @ 16 "	#66 SF @ 16 "	#66 SF @ 16 "	#77 SF @ 16 "	#77SF @ 12 "	#77 SF @ 16 "
POUR PRESSURE (PSF)	200	500	800	1000	1200	1360	1600	1600	470
TIE SPACING ALONG REBAR LENGTH (IN)	15¼ "	15¼ "	9-7/8 "	7½ "	6¼ "	5½ "	4¾ "	6¼"	16"
REBAR STUD SIZE ACI DESIGNATION	#5's	#7's	#6's	#7's	#5's	#5's	#5's	#5's	#7's

NOTE: THE ABOVE VALUES ARE BASED ON 0.221" DIAMETER TIES
WITH AN ALLOWABLE TENSILE STRENGTH OF 22 KSI.

NOTE: See load table on page 3 for spacing and load information.
It is preferable to orientate ribs into first pour.

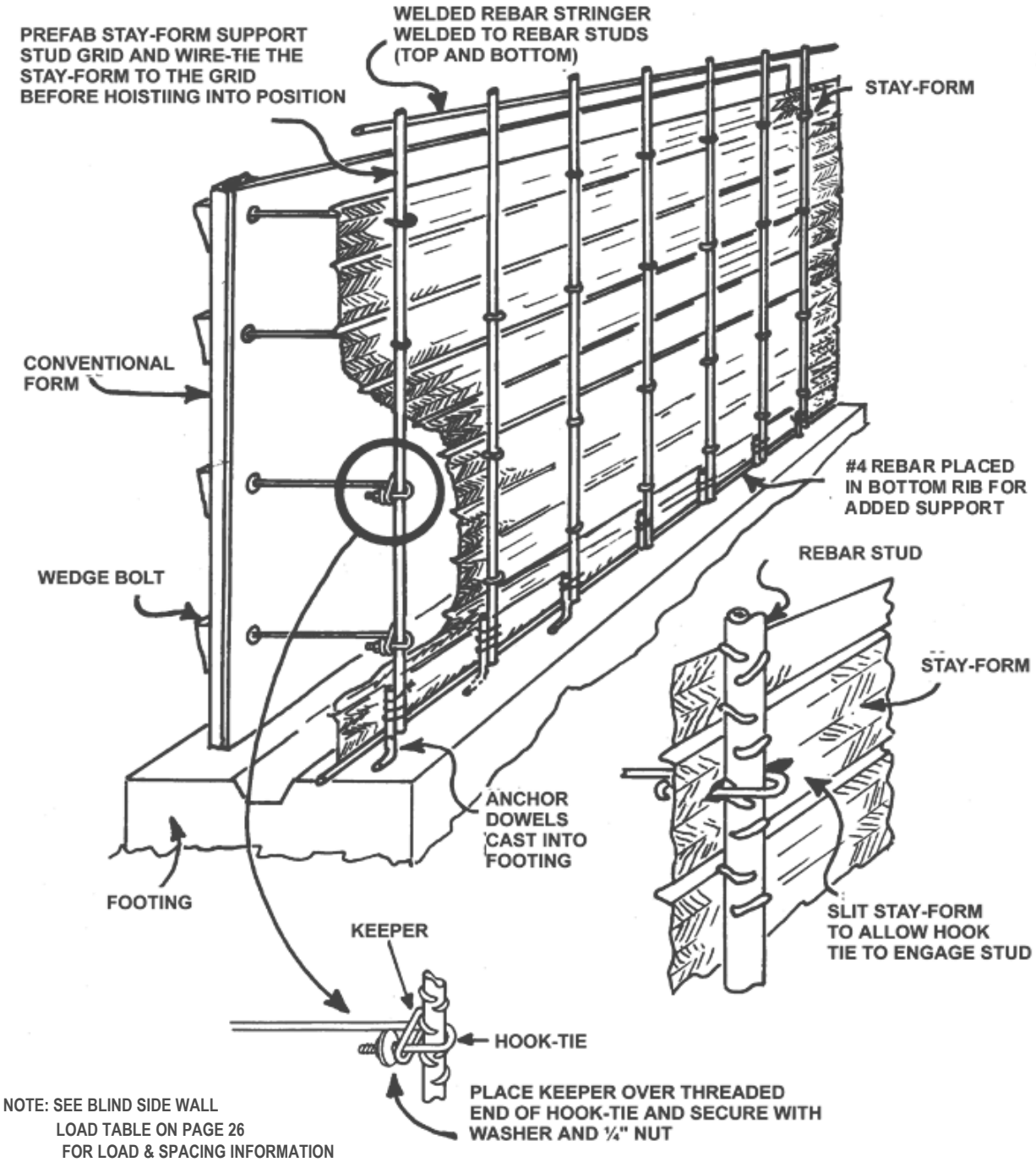
REBAR STUD SIZING, REBAR AND TIE SPACING FOR VARIOUS POUR PRESURES

LOAD SPECIFICATIONS ON PAGE 26 ARE BASED ON THE FOLLOWING CRITERIA:

1. THE DENSITY OF WET CONCRETE @ 150 LBS/FT³ AND 50ºF TEMPERATURE.
2. CONCRETE DISCHARGE NOZZLE SHOULD NOT BE MORE THAN 2 FEET ABOVE POUR SURFACE.
3. ADJOINING SHEET END LAPS OF NO LESS THAN 2" WITH LAPS TO OCCUR OVER A SUPPORT WITH BOTH ADJOINING SHEETS SECURED WITH WIRE TIES AT THE LAP AND OVER AND AROUND THE SUPPORT.
4. PLACE STAY-FORM WITH RIBS FACING AWAY FROM THE SUPPORTS AND PROTRUDING TOWARD AND INTO THE POUR.
5. SIDE LAPS, (LONG DIMMENSION OF SHEET), OUTSIDE RIB OF EACH ADJOINING SHEET TO BE NESTED INTO OTHER AND EACH WIRE TIED AT 12" O.C., MAXIMUM.
6. FOR BLIND SIDE WALL APPLICATIONS, LAP TWO RIBS ON THE FIRST TWO LAPS FOR ADDED STRENGTH AND WIRE TIE BOTH RIBS ON 12 INCH CENTERS.
7. CONCRETE TO BE PREPARED TO 3" TO 5" SLUMP. POUR RATES FOR THE ABOVE TABLES ARE WITHOUT THE ADDITTION OF ADDITIVES OR RETARDANTS. HIGHER SLUMP RATES CAN BE UTILIZED THOUGH A HIGHER RATE OF GROUT FLOW THROUGH THE STAY-FORM MAY RESULT.
8. LOAD TABLES ARE BASED ON CONTINUOUS SPAN CONFIGURATION.
9. ALL SHEETS OF STAY-FORM SHALL BE ATTACHED WITH THE RIBS RUNNING PERPENDICULAR TO THE REBAR STUDS.
10. A #4 REBAR SHOLD BE INSERTED CONTINUOUSLY INTO THE BOTTOM RIB OF THE STAY-FORM AND WIRE TIED IN PLACE TO GIVE ADDED SUPPORT TO THE BOTTOM OF THE POUR.
11. A REBAR STUB MUST BE PLACED IN THE FOOTING OR SLAB TO CORRESPOND WITH EACH REBAR STUD. THE REBAR STUDS SHOULD BE WELDED TO THE PROTRUDING STUB IN ORDER TO KEEP THE BOTTOM OF THE WALL FROM SHIFTING DURING THE POUR.

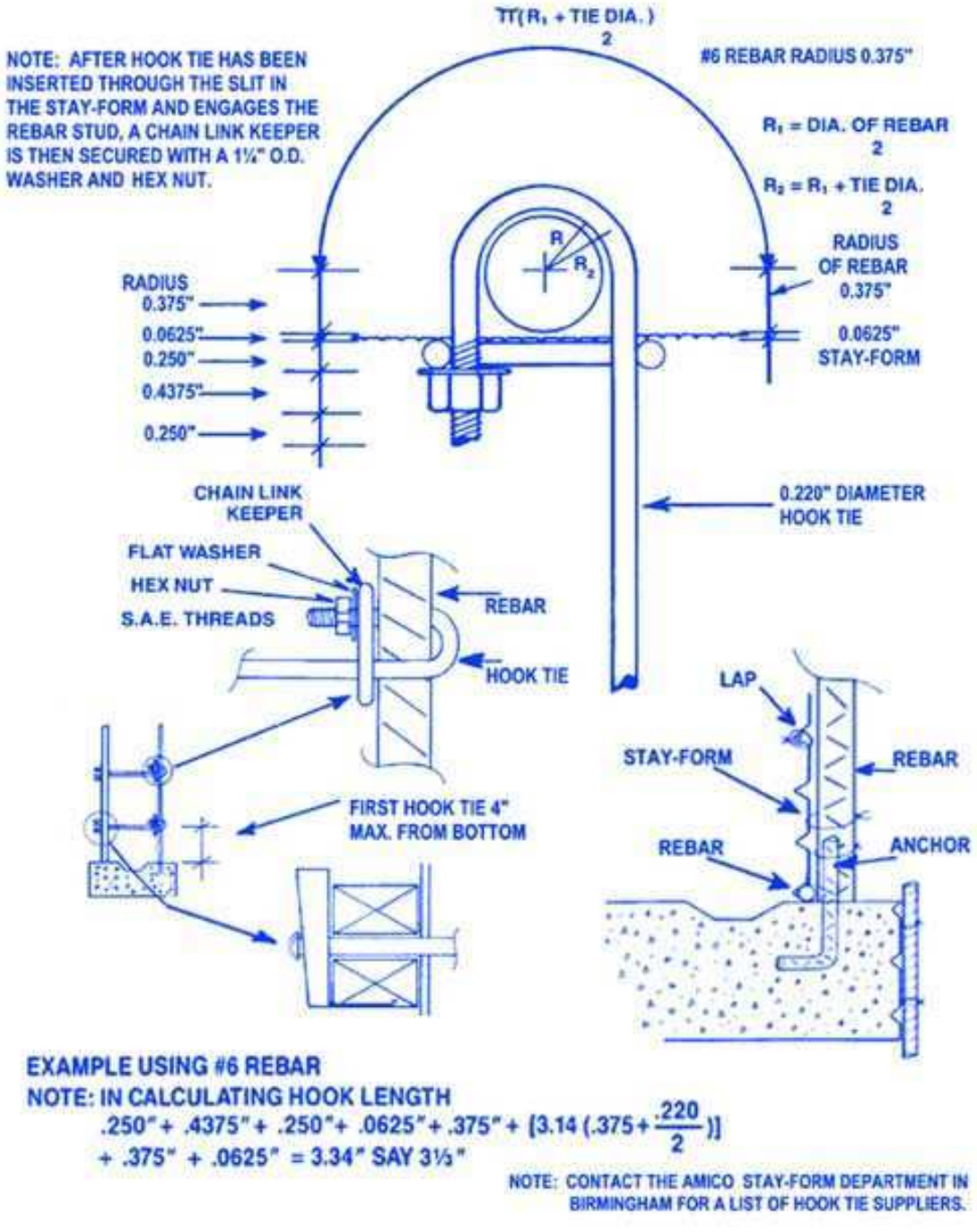
NOTE: USE ACI FORMULAS TO CONVERT TOTAL PRESSURES TO HOURLY POUR RATES. SEE STAY-FORM GUIDELINE LOADING SPECIFICATIONS FOR SPECIFIC APPLICATIONS ON PAGE 3.

BLIND SIDE WALL FORM USING STAY-FORM



NOTE: SEE BLIND SIDE WALL LOAD TABLE ON PAGE 26 FOR LOAD & SPACING INFORMATION

HOOK TIE INSTALLATION FOR BLIND SIDE WALL APPLICATIONS USING STAY-FORM



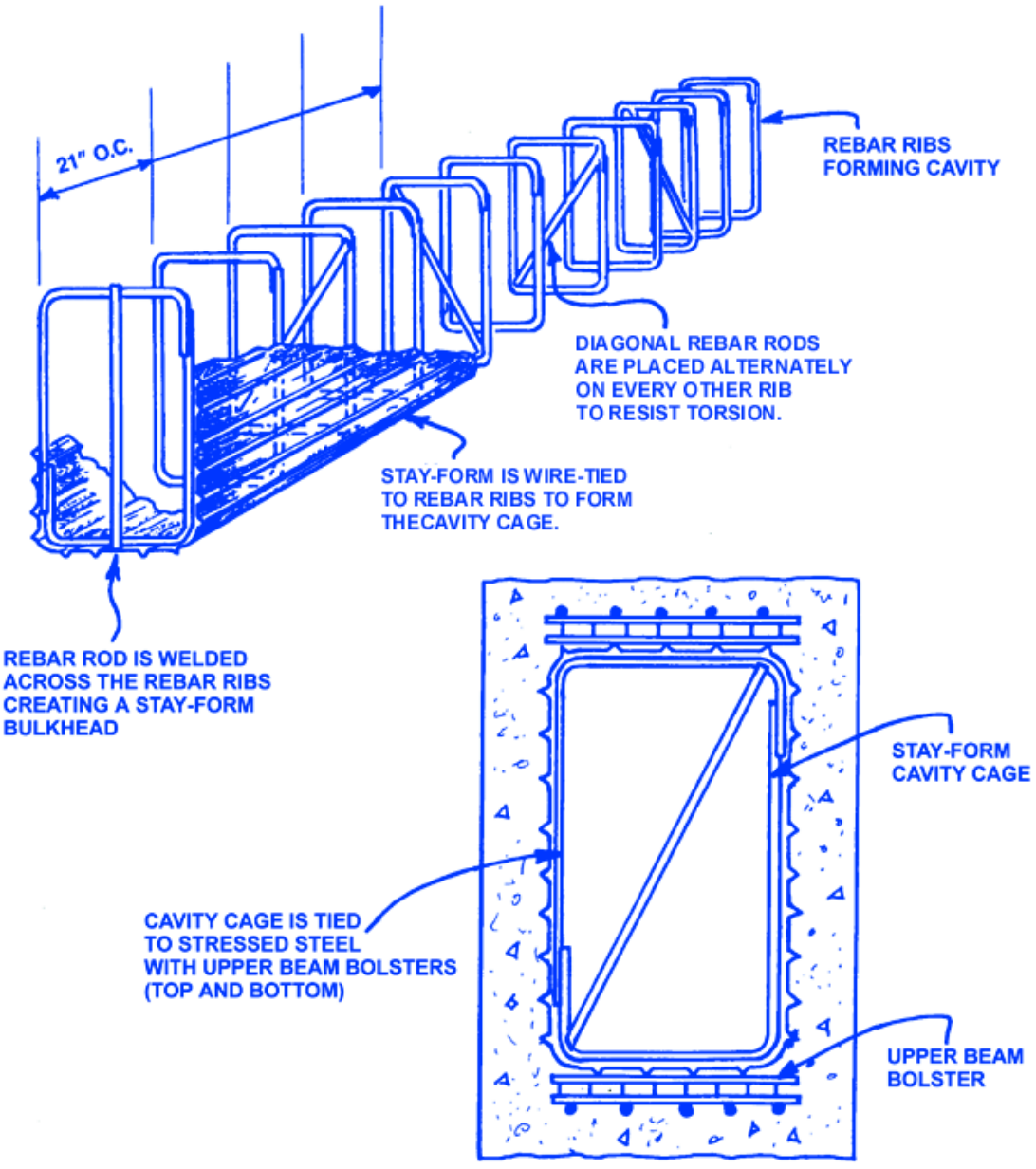
EXAMPLE USING #6 REBAR

NOTE: IN CALCULATING HOOK LENGTH

$$.250" + .4375" + .250" + .0625" + .375" + \left[3.14\left(.375 + \frac{.220}{2}\right)\right] + .375" + .0625" = 3.34" \text{ SAY } 3\tfrac{1}{3}"$$

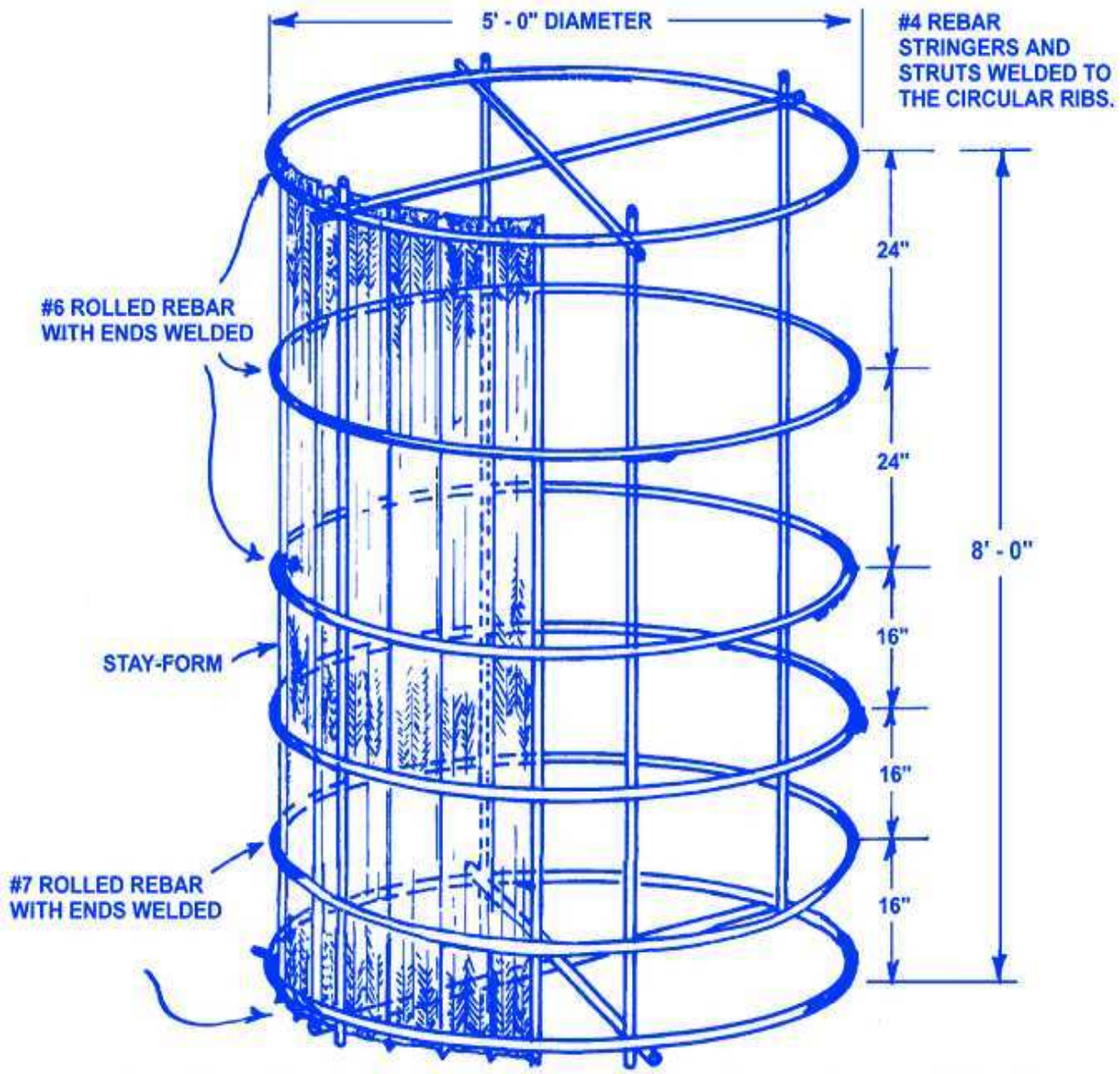
NOTE: CONTACT THE AMICO STAY-FORM DEPARTMENT IN BIRMINGHAM FOR A LIST OF HOOK TIE SUPPLIERS.

BOX BEAM CAVITIES WITH STAY-FORM



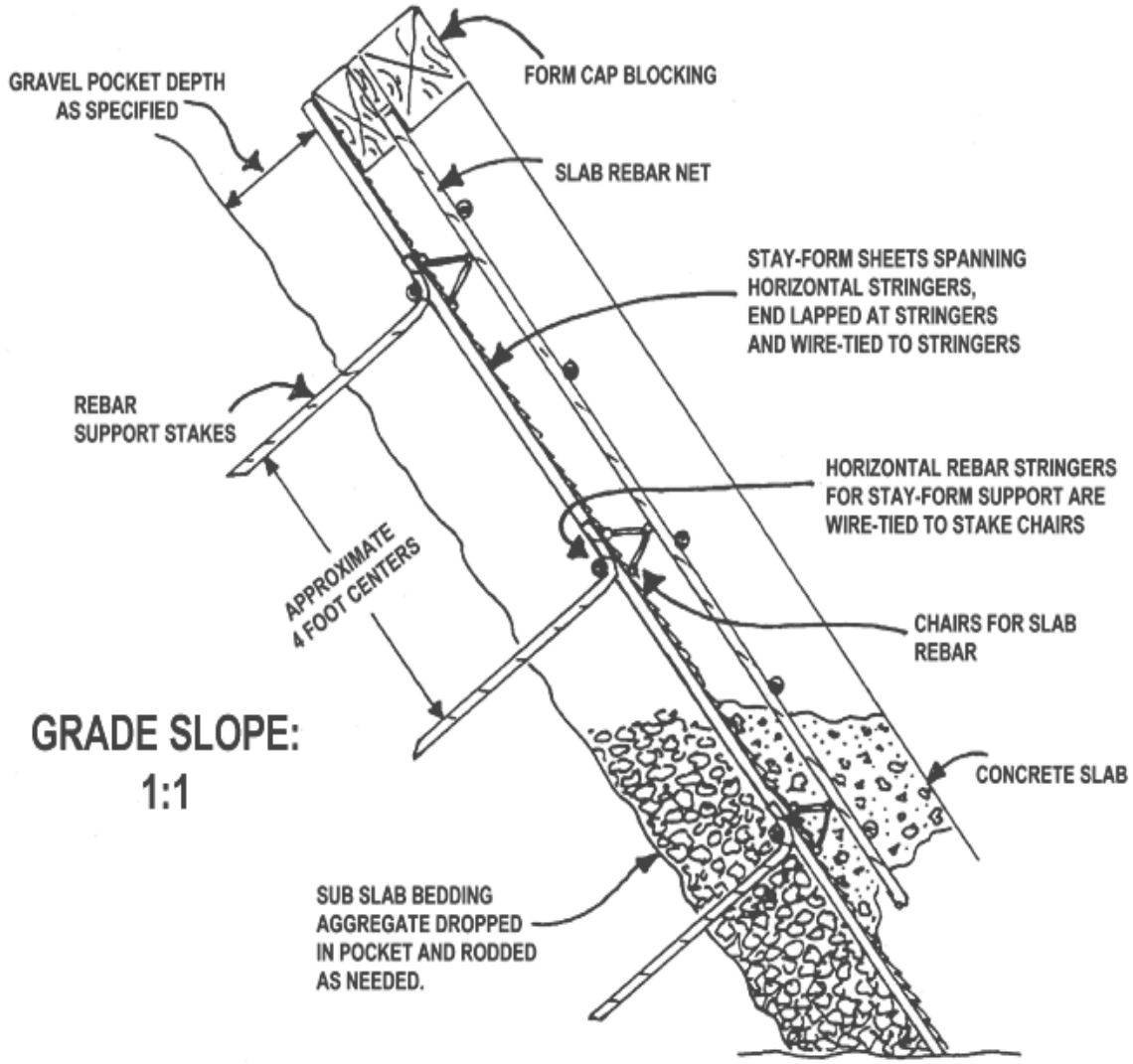
NOTE: See load table on page 3 for spacing and load information.
It is preferable to orientate ribs into first pour.

FORMING 5 FOOT DIAMETER x 8 FOOT DEEP CONCRETE FOOTING WITH ONE POUR USING STAY-FORM



STAY-FORM IS PRODUCED IN 8' LENGTHS. STAY-FORM IS THEN PLACED UPRIGHT, AND WIRE-TIED TO ROLLED REBAR RIBS (HOOPS) WITH 14 GA. WIRE EVERY 8" ON CENTER.
SEE THE STAY-FROM GUIDELINE LOADING SPECIFICATIONS ON PAGE 3.

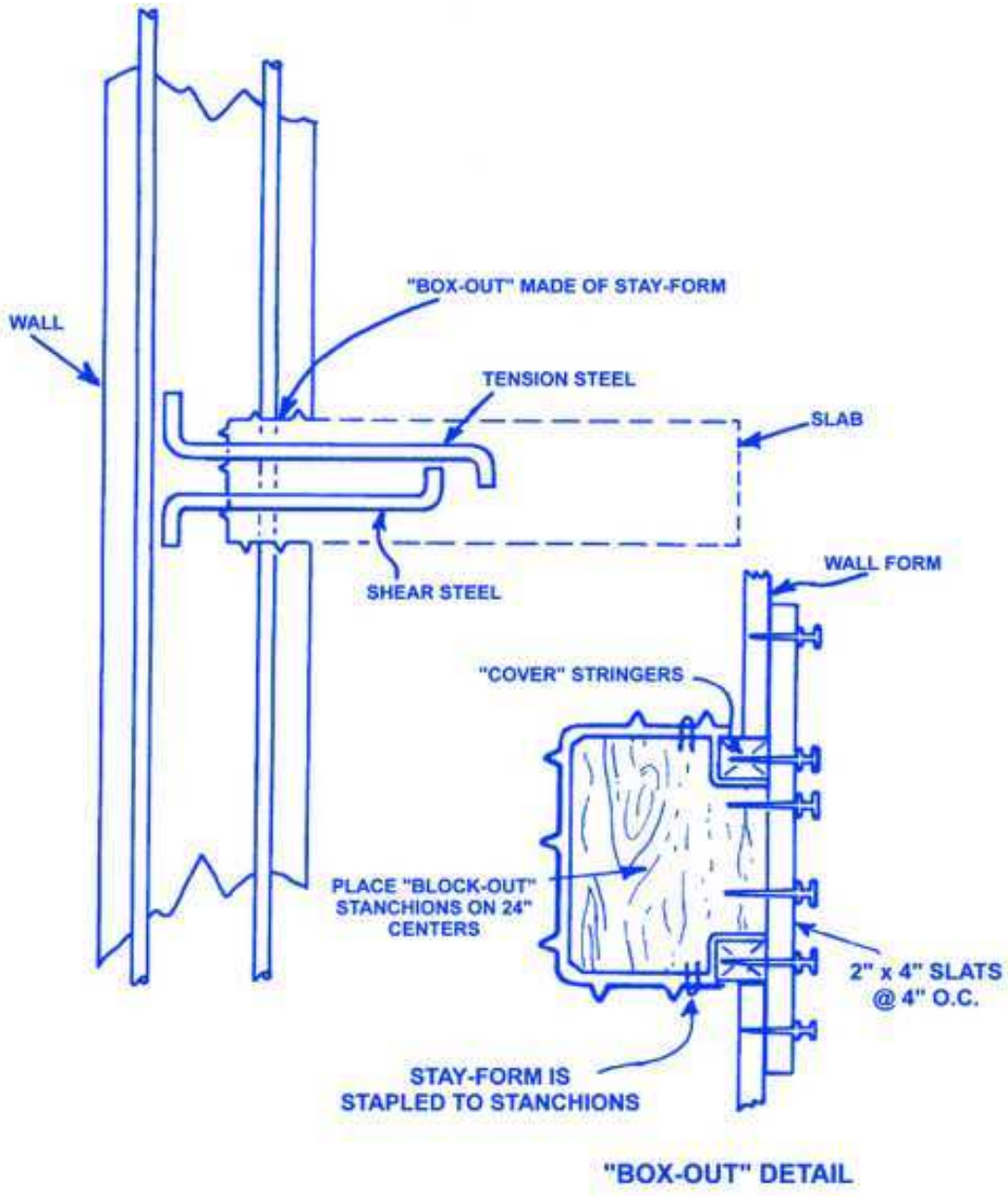
ON GRADE STEEP SLOPED SLAB USING STAY-FORM



NOTE: Steep slope slabs may be used in ground stabization applications using shotcrete and Stay-Form with minor variations in design.

NOTE: See load table on page 3 for spacing and load information. It is preferable to orientate ribs into first pour.

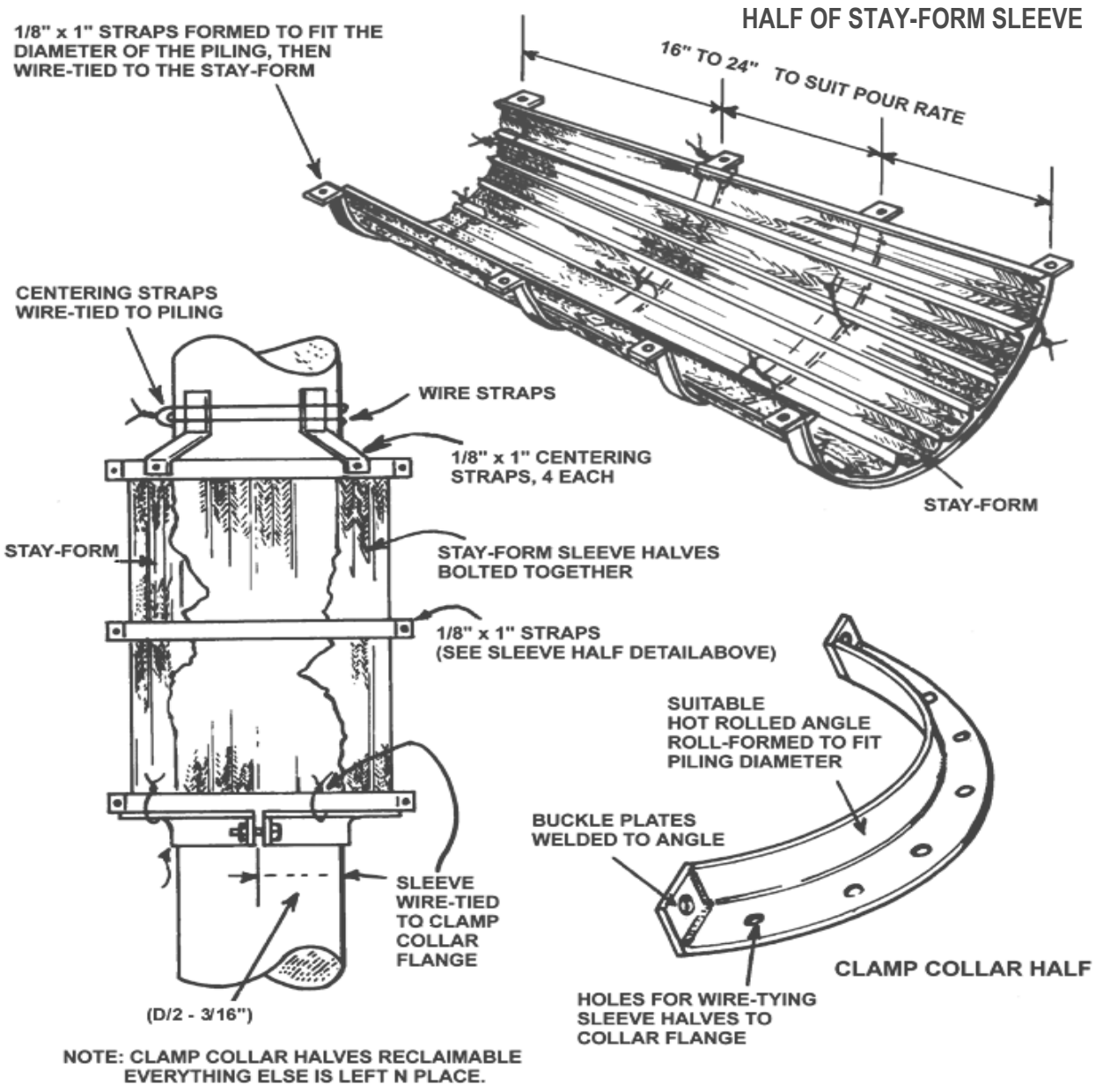
FORMING SLAB POCKET WITH STAY-FORM



"BOX-OUT" DETAIL

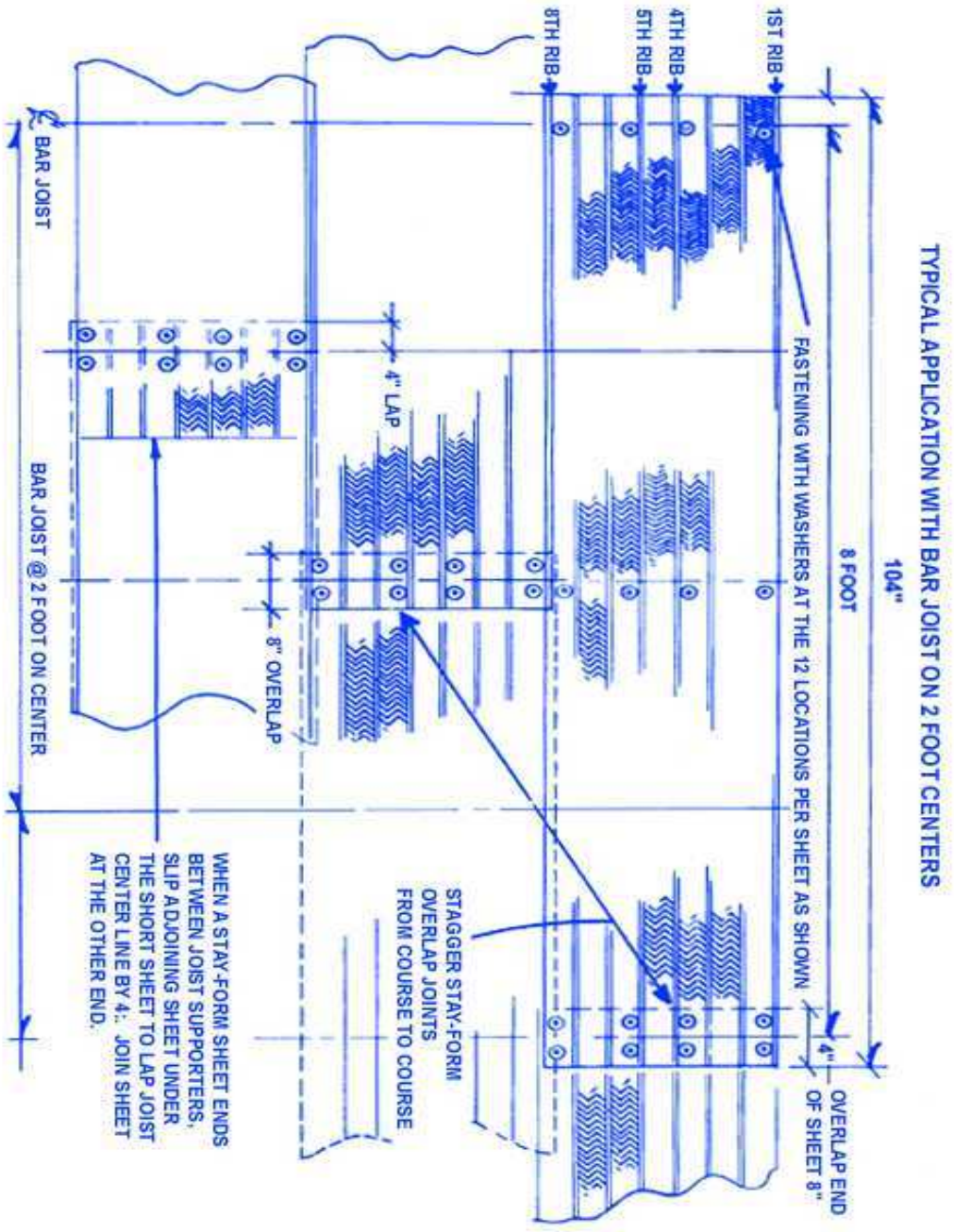
NOTE: See load table on page 3 for spacing and load information.
It is preferable to orientate ribs into first pour.

UNDER WATER PILING REPAIR WITH STAY-FORM

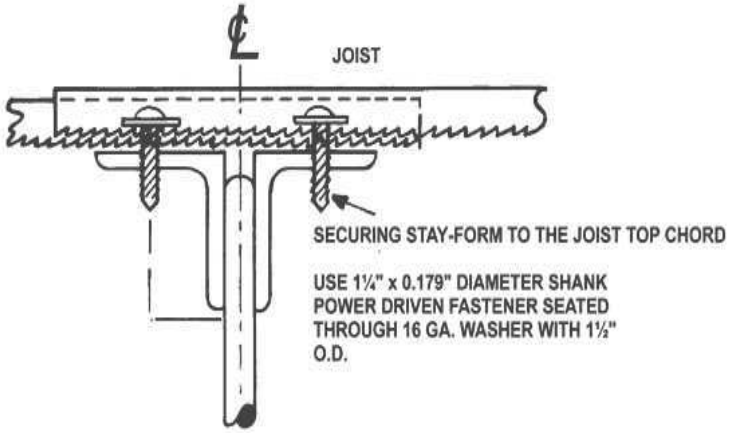


NOTE: See load table on page 3 for spacing and load information.
It is preferable to orientate ribs into first pour.

BAR JOIST PLACEMENT & FASTENING OF STAY-FORM
CENTERING STAY-FORM OVER JOISTS IN HORIZONTAL APPLICATIONS



LAPING STAY-FORM AND FASTENER DETAILS

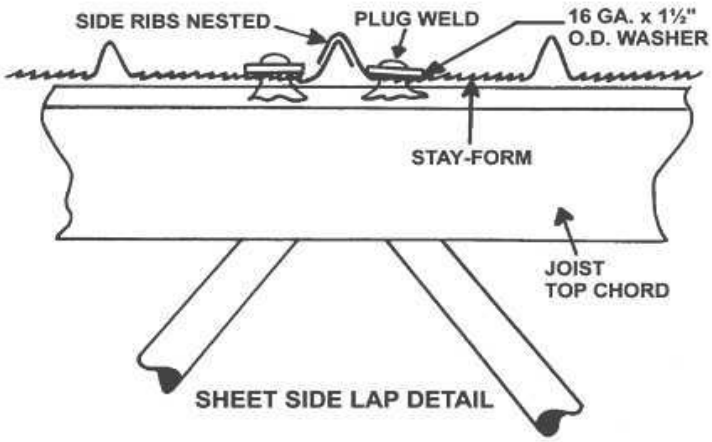


NOTES:
APPROVED FASTENER -
POWER DRIVEN #10 SHANK x 1¼" HEX HEAD, SELF-DRILLING, SELF-TAPPING SCREW, CADMIUM PLATED WITH 1½"O.D., 16 GA. WASHER.

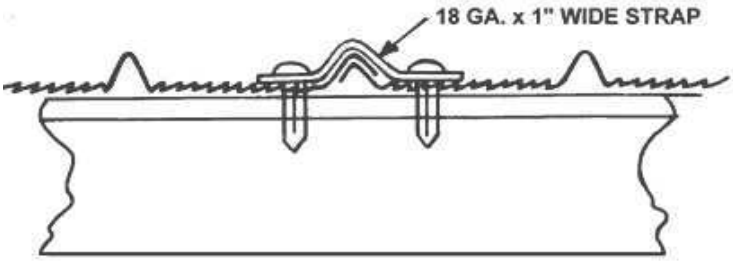
WHEN LOCATING FASTENER, PLACE SCREW AS CLOSE TO THE NEAREST RIB AS POSSIBLE.

WHEN PLACING WET CONCRETE OVER STAY-FORM DECKING, DISTIBUTE CONCRETE WEIGHT UNIFORMLY WITH TRUNK HOSING AND ALSO PROVIDE TEMPORARY PLYWOOD WALKWAYS TO FACILITATE WORKER MOBILITY.

ALTERNATE FASTENING BY PLUG WELDING THRU WASHER INTO TOP CHORD



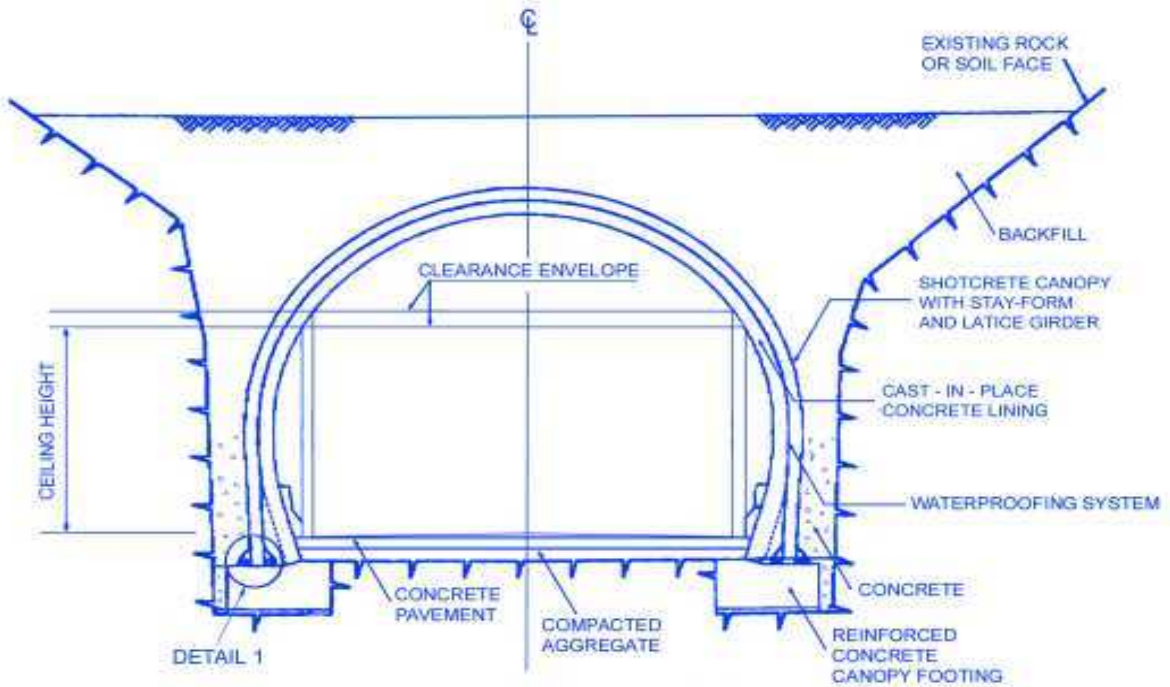
SHEET SIDE LAP DETAIL



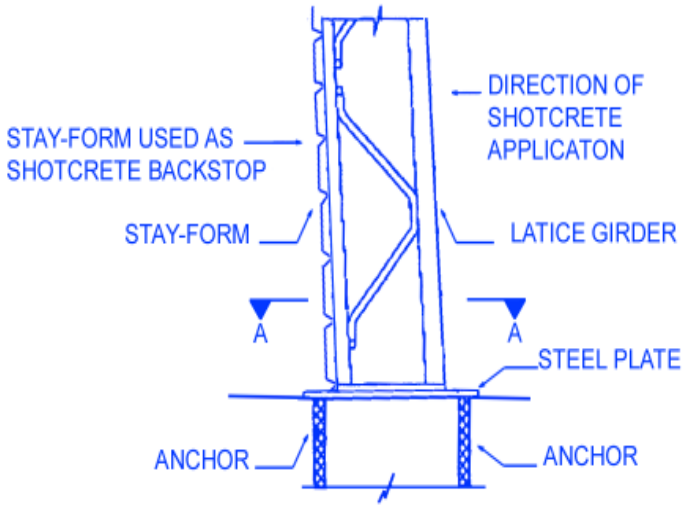
ALTERNATE SIDE LAP DETAIL

NOTE: See load table on page 3 for spacing and load information.
It is preferable to orientate ribs into first pour.

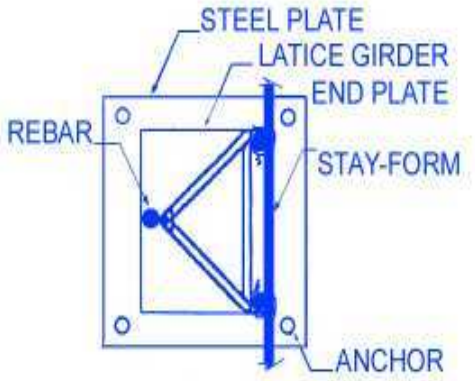
STAY-FORM USED AS A BACKSTOP FOR SHOTCRETE IN TUNNEL APPLICATION



TYPICAL CANOPY CROSS SECTION



LATICE GIRDER AND END PLATE
DETAIL 1



STAY-FORM ATTACHED TO REBAR WITH TIE-WIRE
SECTION A - A