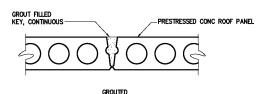


P 3/8"X6"X6" WITH 2-1/2" ØX4" STUDS, TYP - P_ 1/4"X3"X6" PLUG & FILL VOID WITH CONC 9" BEYOND EACH END OF P, TYP PRESTRESSED CONC ROOF PANEL GROUT KEYWAY

NOTE: WELDED CONNECTION IS REQUIRED ONLY WHERE SHOWN ON PLANS, EITHER WELDED CONNECTION DETAIL MAY BE USED.

- P 1/4x4x0'-6" P 1/4x3x0'-6' WITH ANCHORS, TYP 3/16



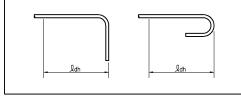
PRECAST PANEL CONNECTION

0341203

DEVELOPMENT LENGTH OF STANDARD HOOKS

fy = 6	0,000 psi	fc' = 4000 psi OR GREATER		
BAR	DEVELOPMENT LENGTH, \$\overline{1}\$ dh			
SIZE	BASIC	W/ CONC COVER *		
#3	8'	6"		
#4	10"	7"		
#5	1'-0"	9"		
#6	1'-3"	11"		
#7	1'-5"	1'-0"		
#8	1'-7"	1'-2"		
#9	1'-10"	1'-4"		
#10	2'-1"	1'-6"		
#11	2'-3"	1'-7"		

*SIDE COVER NORMAL TO PLANE OF HOOK AT LEAST 2 1/2"; AND FOR 90" HOOK END COVER BEYOND OUTSIDE END OF



GENERAL CONCRETE NOTES:

- CONCRETE PROTECTION FOR REINFURGURE STATES
 OTHERWISE NOTED ON THE DRAWNGS:
 A CONCRETE DEPOSITED DIRECTLY AGAINST SOIL—
 B CONCRETE EXPOSED TO WEATHER (#5 OR SMALLER)—
 (#6 OR LARGER)— 1 CONCRETE PROTECTION FOR REINFORCING SHALL BE AS FOLLOWS UNLESS AT SURFACES CONTACTING WATER OR SEWAGE —
 D — BEAMS AND COLUMNS (TO MAIN REINFORCEMENT) (TO COLUMN TIES OR STIRRUPS)——1 1/2
- SURFACES EXPOSED TO SEAWATER -SURFACES EXPOSED TO SEAWATER —

 E — WALLS 12' OR MORE—

 WALLS LESS THAN 12' (#5 OR SMALLER) —

 (#6 OR LARGER) —

 SURFACES EXPOSED TO SEAWATER —

 F — FOR SURFACES EXPOSED TO WAITER OR SEWAGE IN BEAMS,

 COLUMNS AND WALLS ADD 1/2' TO ABOVE.
- 2 SPLICES SHALL BE CLASS 'B' CONFORMING TO THE PROVISIONS OF ACI 318 UNLESS NOTED OTHERWISE.
- 3 ALL EMBEDDED ITEMS SHALL BE INSTALLED AND SECURED IN PLACE BEFORE CONCRETE PLACEMENT. CONSULT ELECTRICAL, MECHANICAL AND HVAC DRAWINGS FOR PIPING, EMBEDDED ITEMS AND OPENINGS.
- ALL JOINTS IN WATER BEARING STRUCTURES SHALL HAVE A WATERSTOP.
 ALL JOINTS BELOW GRADE IN WALLS OR SLABS WHICH ENCLOSE AN
 ACCESSIBLE AREA SHALL HAVE WATERSTOPS.
- CONSTRUCTION JOINTS NOT SHOWN SHALL BE SUBMITTED BY THE CONTRACTOR FOR THE APPROVAL OF THE ENGINEER PRIOR TO SUBMITTING REBAR SHOP DRAWINGS.
- 6 PROVIDE VERTICAL CONSTRUCTION JOINTS IN WALLS AND HORIZONTAL JOINTS IN SLABS NOT GREATER THAN 45'-0" ON CENTER.
- 7 NO BACKFILL SHALL BE PLACED AGAINST ANY SUBSTRUCTURE WALLS UNLESS ADJACENT FLOOR SLABS HAVE TAKEN THEIR FINAL SET, OR WALLS HAVE BEEN PROPERLY BRACED, AND IN ANY CASE NOT SOONER THAN 28 DAYS AFTER THE PLACING OF CONCRETE UNLESS APPROVED BY THE ENGINEER.

BASIC DEVELOPMENT LENGTH AND SPLICE LENGTH FOR BARS IN COMPRESSION ,000 psi fc' = 4000 psi OR GREATER BASIC DEVELOPMENT LENGTH SPLICE LENGTH CONFINEMENT * BASIC CONFINEMENT * BASIC # 3 12" 1'-3' 1'-0" 1'-11" 1'-6" #6 1'-1" 1'-5" # 7 2'-3" 1'-9" 1'-7" 1'-3' # 8 2'-6" 1'-11" 1'-10" 1'-4" 2'-10" 2'-2" 2'-1" 3'-3" 2'-6" 2'-3" 1'-8" 3'-7" 2'-9" # 11 BAR ENCLOSED WITHIN SPIRALS OF NOT LESS THAN 1/4 INCH DIAMETER AND NOT MORE THAN 4 INCH PITCH OR WITHIN #4 TIES IN CONFORMANCE WITH ACI 318. SECTION 7.10.5 AT NOT MORE THAN 4 INCHES ON CENTER, FACTOR 0.75 USED.

RASIC DEVELOPMENT LENGTH AND SPLICE LENGTH

FOR BARS IN TENSION								
fy = 60,000 psi fc' = 4000 psi OR GREATER, NORMAL WEIGHT CONCRETE								
BASIC DEVELOPMENT LENGTH **			BAR	CLASS B SPLICE LENGTH ## 1.3 x 2 d				
CLEAR SP	ACING≥3"	CLEAR SP	ACING < 3"	SIZE	CLEAR SPACING≥3" CLEAR SPAC		ACING < 3"	
BASIC	TOP *	BASIC	TOP *		BASIC	TOP *	BASIC	TOP *
1'-0"	1'-0"	1'-0"	1'-4"	# 3	1'-0"	1'-3"	1'-4"	1'-8"
1'-0"	1'-3"	1'-7"	2'-1"	# 4	1'-3"	1'-8"	2'-1"	2'-8"
1'-3"	1'-7"	2'-4"	3'-0"	# 5	1'-7"	2'-0"	3'-0"	3'-11"
1'-5"	1'-11"	3'-1"	4'-0"	# 6	1'-11"	2'-5"	4'-0"	5'-2"
2'-5"	3'-1"	4'-11"	6'-4"	# 7	3'-1"	4'-0"	6'-4"	8'-3"
3'-0"	3'-11"	6'-0"	7'-9"	# 8	3'-11"	5'-1"	7'-9"	10'-1"
3'-8"	4'-9"	6'-8"	8'-8"	# 9	4'-9"	6'-2"	8'-8"	11'-4"
4'-5"	5'-8"	7'-5"	9'-8"	# 10	5'-8"	7'-5"	9'-8"	12'-7"
5'-2"	6'-8"	8'-2"	10'-8"	# 11	6'-8"	8'-8"	10'-8"	13'-10"

- TOP REINFORCEMENT IS HORIZONTAL REINFORCEMENT SO PLACED THAT MORE THAN 12 INCHES OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE REINFORCEMENT.
- LENGTHS SHOWN IN CHART SHALL BE MODIFIED WHERE REQUIRED TO CONFORM TO THE PROVISIONS OF ACI 318, SECTION 12.2.

				DESIGNED H & S	
				DRAWN H&S	
				CHECKED	
3	RECORD DRAWING	JAN 2006	RLT	PROJ. ENGR. H&S	
2	CONSTRUCTION	JAN 2004	RLT	1	
1	REGULATORY APPROVAL	NOV 2003	RLT		
NO	ISSUED EUD	DATE	DV	ADDDOVED	

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THIS DOCUMENT ORIGINALLY ISSUED FOR CONSTRUCTION AND SEALED BY ROBERT S. DIFIORE, SEAL NO. 22769

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TYPICAL BAR PLACEMENT

0331704

RECORD DRAWING

THIS DRAWING HAS BEEN MODIFIED TO REFLECT FIELD CHANCES REPORTED BY THE CONTRACTOR OR ANOTHER PARTY, BUT NOT VERFIELD BY THE CERTIFYNG ENGINEER. THIS DOCUMENT ORIGINALLY ISSUED AND SEALED BY CHRISTOPHER T. PHILLIPS, 033796. THIS MEDIA SHALL NOT BE CONSIDERED A CERTIFIED DOCUMENT.

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CITY OF ROANOKE VIRGINIA

SLAB, WALL, OR FOOTING

REGIONAL WATER POLLUTION CONTROL PLANT PROCESS TRAIN IMPROVEMENTS

MISCELLANEOUS STANDARD DETAILS

	THE SCALE BAR SHOWN BELOW MEASURES ONE INCH LONG ON THE ORIGINAL DRAWING.	DATE JANUARY 2004			
		H & S JOB NUMBER	30788C		
		CONTRACT NUMBER C	DRAWING NUMBER D8		
			l		