CORESLAB®

Information Package

2015

Your Precast Solutions Team

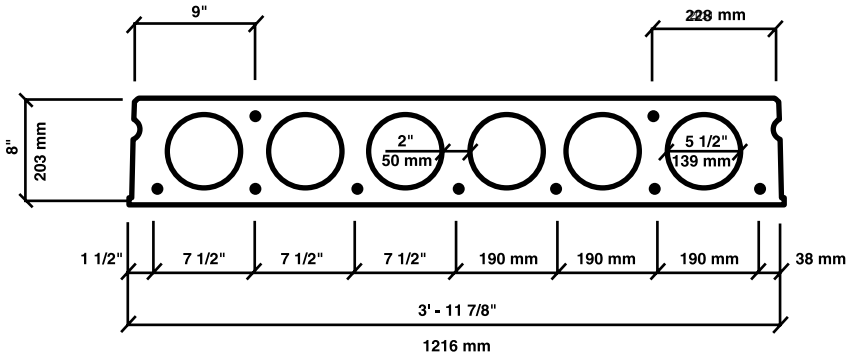
Since 1975 Coreslab's Ontario facilities have been offering a wide range of structural precast components to the entire provincial market. We are a full service company that provides technical sales consulting, engineering, drafting, manufacturing, installation and finishing of our products.

Products

- Beams
- Columns
- Load bearing wall panels
  - Insulated
  - Non-insulated
- Non-load bearing wall panels
  - Insulated
  - Non-insulated
- Stadia seating
- Custom solid units
- Hollow core slabs
- Landings
- Balconies

CORESLAB 8 INCH IMPERIAL LOAD TABLE

# of 1/2" Ø strands	Mu (lb·ft)	TOTAL UNIFORMLY DISTRIBUTED SUPERIMPOSED SERVICE LOAD - lbs/ft^2																			
		SIMPLE SPAN - CENTRE TO CENTRE OF BEARING - FEET																			
		14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
7	106660	674	580	504	440	387	342	304	271	242	217	195	176	159	143	130	117	106	96	87	79
6	96050	602	517	449	391	344	303	268	239	213	190	171	153	138	124	112	101	91	82	73	
5	80720	497	427	369	321	281	246	217	192	171	152	135	121	108	96	86	76	68	60		
4	66960	404	345	297	257	224	196	172	151	133	117	103	91	80	71	62	54				
3	39060	214	180	152	129	109	93	79	66	56											



NOTES:
1. Shaded portion of table controlled by shear.
2. Table based on maximum deflection of L/360.

CORESLAB PROPERTIES		
PROP.	METRIC	IMPERIAL
A	153000 mm^2	237.1 in^2
Y_b	101.6 mm	4 in
I_x	7.367x10^8 mm^4	1770 in^4
b_w	395.2 mm	15.55 in
f_{pu}	1860 MPa	270 ksi
f'_c	41 MPa	6000 psi
f'_{ci}	28 MPa	4000 psi
S_w	2.96 kPa	62 psf

CORESLAB 200 mm METRIC LOAD TABLE

# of 13mm Ø strands	Mu (kN·m)	TOTAL UNIFORMLY DISTRIBUTED SUPERIMPOSED SERVICE LOAD - kPa (kN/m^2)																			
		SIMPLE SPAN - CENTRE TO CENTRE OF BEARING - METRES																			
		4.00	4.50	5.00	5.50	6.00	6.50	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75	9.00	9.25	9.50	9.75	10.00	10.50
7	144.50	37.0	28.7	22.8	18.4	15.1	12.5	10.4	9.5	8.8	8.0	7.4	6.8	6.3	5.8	5.3	4.9	4.5	4.2	3.8	3.3
6	130.20	33.1	25.6	20.3	16.3	13.3	11.0	9.1	8.4	7.6	7.0	6.4	5.9	5.4	5.0	4.6	4.2	3.8	3.5	3.2	
5	109.40	27.4	21.1	16.6	13.3	10.8	8.8	7.3	6.6	6.0	5.5	5.0	4.6	4.1	3.8	3.4	3.1	2.8			
4	90.70	22.3	17.1	13.4	10.6	8.5	6.9	5.6	5.1	4.6	4.1	3.7	3.4	3.0	2.7						
3	52.90	12.0	8.9	6.8	5.2	4.0	3.0														

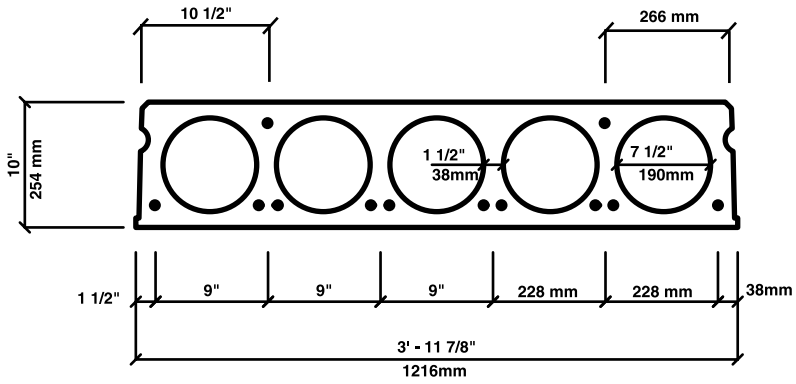
* PLEASE CONTACT CORESLAB STRUCTURES (ONT) INC. TO ADDRESS LINEAR LOADS, POINT LOADS OR ANY OTHER SPECIAL LOADING CONDITIONS.

ONT 04/04

CORESLAB® STRUCTURES (ONT) INC.

CORESLAB 10 INCH IMPERIAL LOAD TABLE

# of 1/2" Ø strands	Mu (lb·ft)	TOTAL UNIFORMLY DISTRIBUTED SUPERIMPOSED SERVICE LOAD - lbs/ft²																			
		SIMPLE SPAN - CENTRE TO CENTRE OF BEARING - FEET																			
		24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43
9	170978	334	303	276	251	229	209	192	176	161	148	136	124	114	105	96	88	81	74	68	62
8	159615	308	279	253	230	210	191	175	160	146	134	122	112	103	94	86	78	71	65	59	53
7	144340	272	246	223	202	184	167	152	139	126	115	105	95	87	79	72	65	59	53	47	
6	126867	232	209	189	170	154	139	126	114	104	94	85	76	69	62	55	50				
5	107633	187	168	151	135	121	109	98	88	78	70	62	55								
4	87433	141	125	111	98	87	77	68	60	52											



NOTES:
1. Shaded portion of table controlled by shear.
2. Table based on maximum deflection of L/360.

CORESLAB PROPERTIES		
PROP.	METRIC	IMPERIAL
A	162555 mm²	252 in²
Y_b	127 mm	5 in
I_x	1.318×10^9 mm⁴	3166 in⁴
b_w	288.23 mm	11.34 in
f_{pu}	1860 MPa	270 ksi
f'_c	41 MPa	6000 psi
f'_{ci}	28 MPa	4000 psi
S_w	3.54 kPa	74 psf

CORESLAB 250 mm METRIC LOAD TABLE

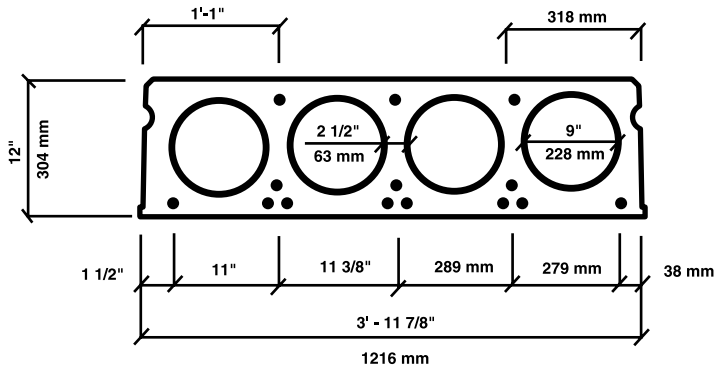
# of 13mm Ø strands	Mu (kN·m)	TOTAL UNIFORMLY DISTRIBUTED SUPERIMPOSED SERVICE LOAD - kPa (kN/m²)																			
		SIMPLE SPAN - CENTRE TO CENTRE OF BEARING - METRES																			
		7.00	7.50	8.00	8.50	9.00	9.50	10.00	10.25	10.50	10.75	11.00	11.25	11.50	11.75	12.00	12.25	12.50	12.75	13.00	13.50
9	231.80	17.7	15.1	12.9	11.1	9.6	8.3	7.2	6.7	6.2	5.8	5.4	5.1	4.7	4.4	4.1	3.8	3.5	3.3	3.0	2.6
8	216.39	16.3	13.9	11.8	10.1	8.7	7.5	6.5	6.0	5.6	5.2	4.9	4.5	4.2	3.9	3.6	3.4	3.1	2.9	2.6	
7	195.68	14.5	12.2	10.4	8.9	7.6	6.5	5.6	5.2	4.8	4.4	4.1	3.8	3.5	3.2	3.0	2.7	2.5	2.3		
6	172.00	12.4	10.4	8.8	7.5	6.3	5.4	4.6	4.2	3.9	3.6	3.3	3.0	2.7	2.5						
5	145.92	10.1	8.4	7.0	5.9	4.9	4.1	3.4	3.1	2.8											
4	118.55	7.6	6.3	5.1	4.2	3.4	2.8														

* PLEASE CONTACT CORESLAB STRUCTURES (ONT) INC. TO ADDRESS LINEAR LOADS, POINT LOADS OR ANY OTHER SPECIAL LOADING CONDITIONS.

CORESLAB® STRUCTURES (ONT) INC.

CORESLAB 12 INCH IMPERIAL LOAD TABLE

# of 1/2" Ø strands	Mu (lb·ft)	TOTAL UNIFORMLY DISTRIBUTED SUPERIMPOSED SERVICE LOAD - lbs/ft^2																			
		SIMPLE SPAN - CENTRE TO CENTRE OF BEARING - FEET																			
		31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
11	260750	290	268	248	229	212	197	182	169	157	146	135	125	116	108	100	93	86	79	73	67
10	246700	271	250	230	213	197	182	169	156	145	134	124	115	106	98	91	84	77	71	65	60
9	222080	236	217	200	184	170	157	145	133	123	113	104	96	88	81	75	68	62	57	52	47
8	207720	217	199	183	168	154	142	131	120	110	101	93	85	78	71	65	59	54	49	44	
7	188440	190	174	159	146	133	122	112	102	94	85	78	71	64	58	52	47				
6	166780	160	145	133	121	110	100	91	82	75	67	61	54								
5	142090	125	113	102	92	83	75	67	60	53											



NOTES:
1. Shaded portion of table controlled by shear.
2. Table based on maximum deflection of L/360.

CORESLAB PROPERTIES		
PROP.	METRIC	IMPERIAL
A	203150 mm^2	314.90 in^2
Y_b	152.4 mm	6 in
I_x	2.1x10^9 mm^4	5552 in^4
b_w	323.25 mm	12.72 in
f_{pu}	1860 MPa	270 ksi
f'_c	41 MPa	6000 psi
f'_{ci}	28 MPa	4000 psi
S_w	4.12 kPa	86 psf

CORESLAB 300 mm METRIC LOAD TABLE

# of 13mm Ø strands	Mu (kN·m)	TOTAL UNIFORMLY DISTRIBUTED SUPERIMPOSED SERVICE LOAD - kPa (kN/m^2)																			
		SIMPLE SPAN - CENTRE TO CENTRE OF BEARING - METRES																			
		9.50	10.00	10.50	11.00	11.50	12.00	12.25	12.50	12.75	13.00	13.25	13.50	13.75	14.00	14.25	14.50	14.75	15.00	15.25	15.50
11	353.30	13.7	12.0	10.6	9.3	8.2	7.3	6.9	6.4	6.1	5.7	5.4	5.0	4.7	4.4	4.2	3.9	3.7	3.4	3.2	3.0
10	334.30	12.7	11.2	9.8	8.6	7.6	6.7	6.3	5.9	5.6	5.2	4.9	4.6	4.3	4.0	3.8	3.5	3.3	3.1	2.8	2.6
9	330.90	12.6	11.0	9.7	8.5	7.5	6.6	6.2	5.8	5.5	5.1	4.8	4.5	4.2	3.9	3.7	3.4	3.2	3.0	2.8	
8	281.50	10.2	8.9	7.7	6.7	5.9	5.1	4.8	4.4	4.1	3.8	3.6	3.3	3.1	2.8	2.6	2.4	2.2	2.0		
7	255.30	8.9	7.7	6.7	5.8	5.0	4.3	4.0	3.7	3.4	3.2	2.9	2.7	2.5	2.3						
6	226.00	7.5	6.4	5.5	4.7	4.0	3.4	3.1	2.9	2.6											
5	192.50	5.9	5.0	4.2	3.5	2.9	2.4														

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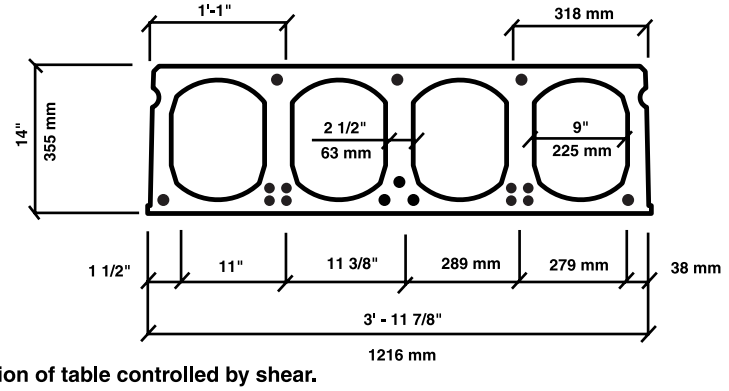
CORESLAB® STRUCTURES (ONT) INC.

ONT 04/04

CORESLAB 14 INCH IMPERIAL LOAD TABLE

# of 1/2" Ø strands	Mu (lb·ft)	TOTAL UNIFORMLY DISTRIBUTED SUPERIMPOSED SERVICE LOAD - lbs/ft²																			
		SIMPLE SPAN - CENTRE TO CENTRE OF BEARING - FEET																			
		31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
13	390169	462	429	399	371	345	322	301	281	263	246	230	216	210	197	185	174	164	154	145	129
12	364354	426	395	367	341	317	296	276	257	240	224	210	196	191	179	168	158	148	139	131	115
11	337064	388	360	334	310	288	268	249	232	216	202	188	176	171	160	150	141	132	123	116	101
10	309775	351	324	300	278	258	240	223	207	192	179	167	155	152	142	132	124	115	108	100	86
9	281747	312	288	266	246	227	211	195	181	168	156	144	134	131	122	114	106	98	91	85	71
8	252983	272	250	231	213	196	181	167	154	143	132	121	112	111	103	95	88	81	75	69	
7	223480	231	212	194	179	164	151	138	127	117	107	98	90	89	82	75	69				
6	193240	189	172	157	144	131	120	109	99	90	82	74	67								
5	163000	147	133	120	109	98	89	80	71	64											



NOTES:
1. Shaded portion of table controlled by shear.
2. Table based on maximum deflection of L/360.

CORESLAB PROPERTIES		
PROP.	METRIC	IMPERIAL
A	194655 mm²	301.71 in²
Y_b	177.8 mm	7 in
I_x	3.16x10⁹ mm⁴	7591.9 in⁴
b_w	299 mm	11.77 in
f_{pu}	1860 MPa	270 ksi
f'_c	41 MPa	6000 psi
f'_{ci}	28 MPa	4000 psi
S_w	4.52 kPa	95 psf

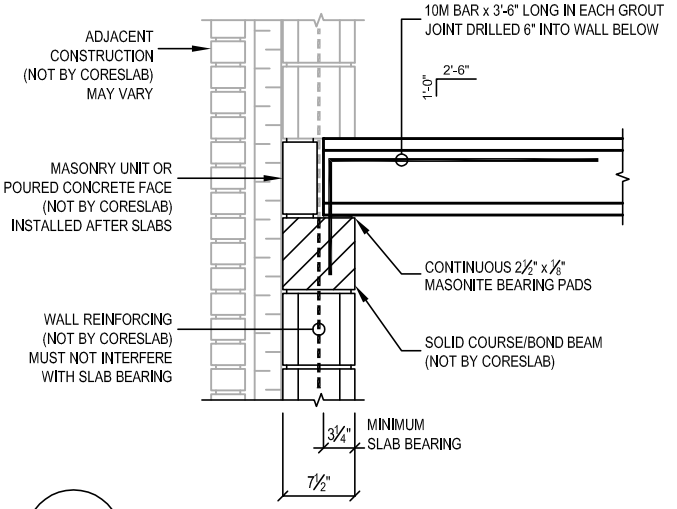
CORESLAB 350 mm METRIC LOAD TABLE

# of 13mm Ø strands	Mu (kN·m)	TOTAL UNIFORMLY DISTRIBUTED SUPERIMPOSED SERVICE LOAD - kPa (kN/m²)																			
		SIMPLE SPAN - CENTRE TO CENTRE OF BEARING - METRES																			
		9.50	10.00	10.50	11.00	11.50	12.00	12.25	12.50	12.75	13.00	13.25	13.50	13.75	14.00	14.25	14.50	14.75	15.00	15.25	15.50
13	529.0	21.8	19.3	17.2	15.3	13.7	12.3	11.6	11.0	10.5	9.9	9.4	8.9	8.5	8.0	7.6	7.2	6.9	6.5	6.2	5.9
12	494.0	20.1	17.8	15.8	14.1	12.6	11.2	10.6	10.0	9.5	9.0	8.5	8.1	7.6	7.2	6.9	6.5	6.2	5.8	5.5	5.2
11	457.0	18.4	16.2	14.3	12.7	11.3	10.1	9.5	9.0	8.5	8.0	7.6	7.2	6.8	6.4	6.1	5.7	5.4	5.1	4.8	4.5
10	420.0	16.6	14.6	12.9	11.4	10.1	9.0	8.5	8.0	7.5	7.1	6.7	6.3	5.9	5.6	5.3	5.0	4.7	4.4	4.1	3.9
9	382.0	14.7	12.9	11.4	10.0	8.9	7.8	7.4	6.9	6.5	6.1	5.7	5.4	5.1	4.7	4.5	4.2	3.9	3.7	3.4	
8	343.0	12.8	11.2	9.8	8.6	7.6	6.6	6.2	5.8	5.5	5.1	4.8	4.5	4.2	3.9	3.6	3.4	3.1	2.9		
7	303.0	10.9	9.5	8.2	7.2	6.2	5.4	5.1	4.7	4.4	4.1	3.8	3.5	3.2	3.0						
6	262.0	8.9	7.7	6.6	5.7	4.9	4.2	3.9	3.6	3.3											
5	221.0	6.9	5.9	5.0	4.2	3.5	2.9														

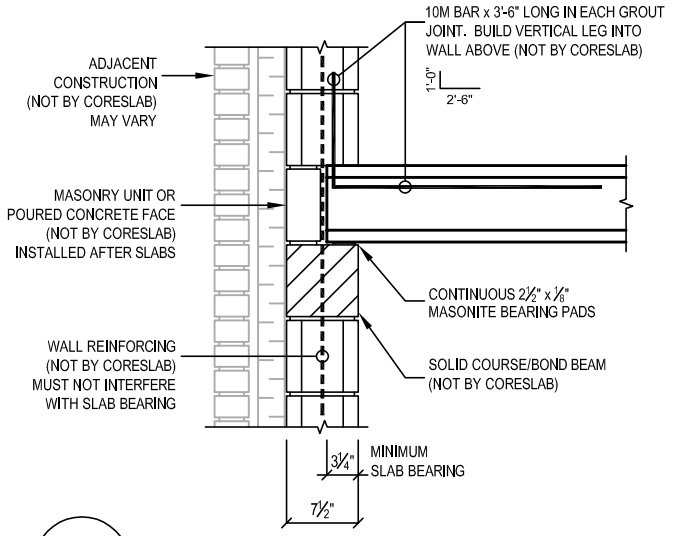
* PLEASE CONTACT CORESLAB STRUCTURES (ONT) INC. TO ADDRESS LINEAR LOADS, POINT LOADS OR ANY OTHER SPECIAL LOADING CONDITIONS.

CORESLAB® STRUCTURES (ONT) INC.

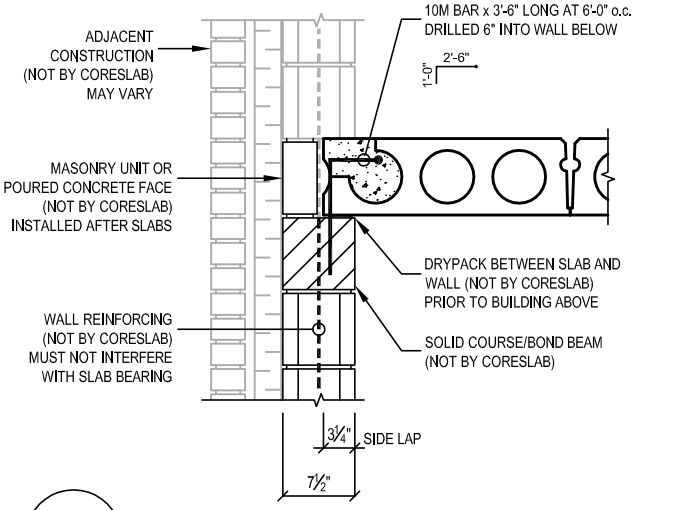
CONNECTION DETAILS TO MASONRY



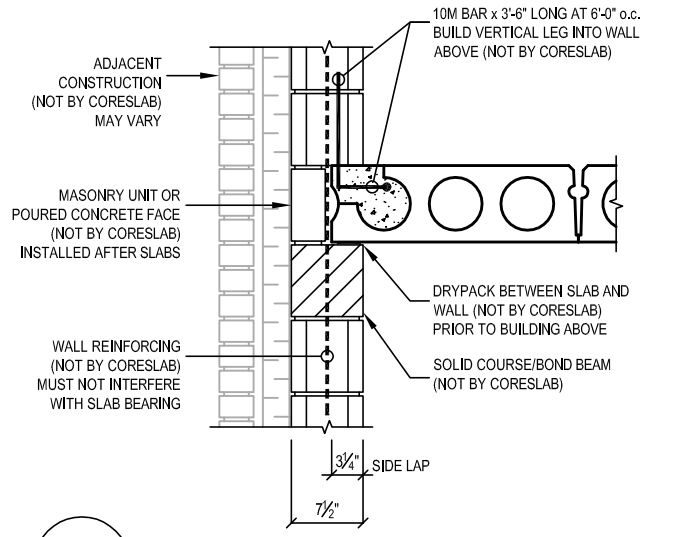
M1 STANDARD END BEARING / TIE DOWN



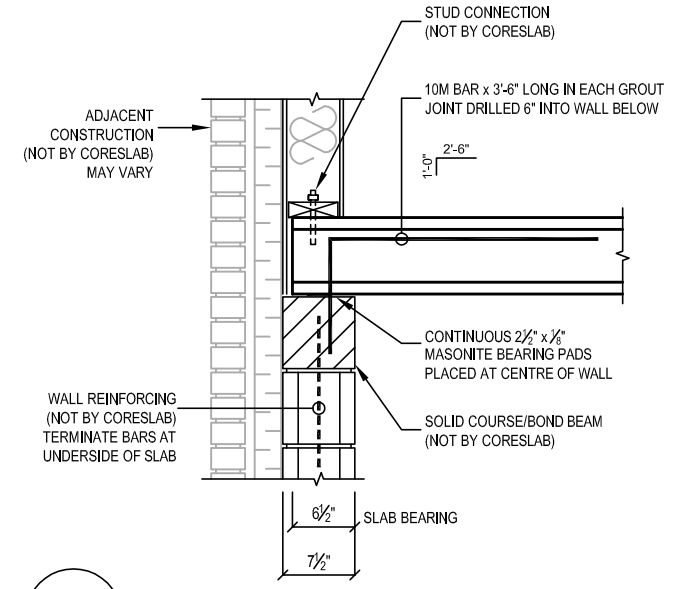
M2 STANDARD END BEARING / WALL ABOVE / TIE UP



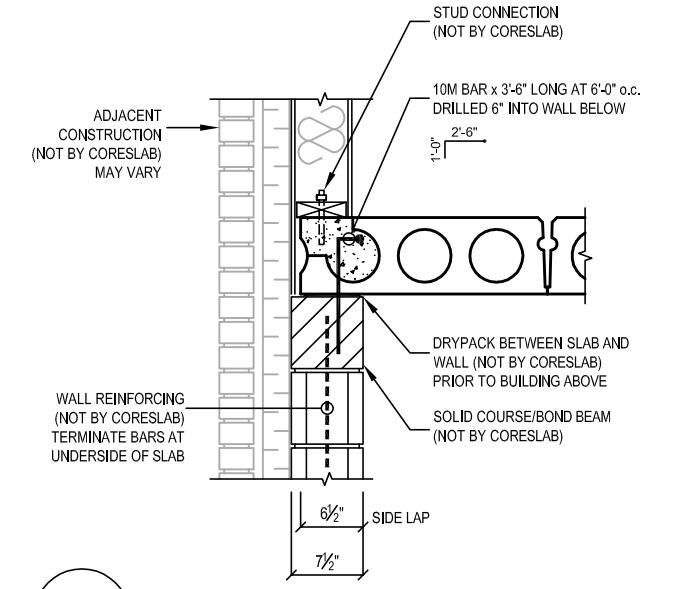
M3 SIDE LAP / TIE DOWN



M4 SIDE LAP / WALL ABOVE / TIE UP



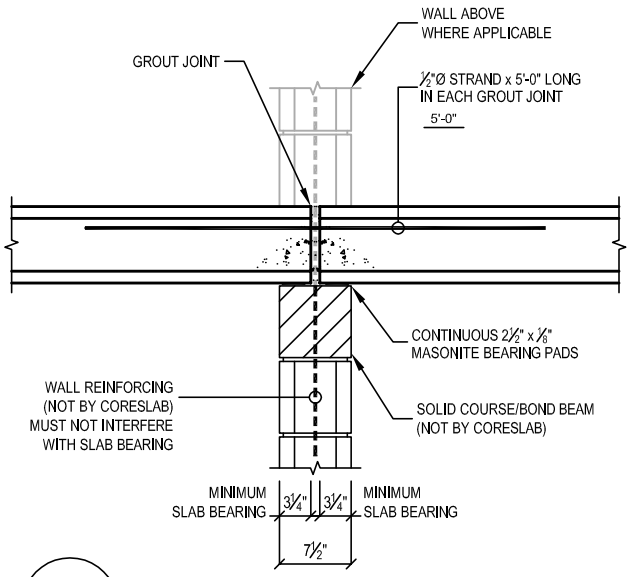
M5 END BEARING / TIE DOWN / STUD ABOVE



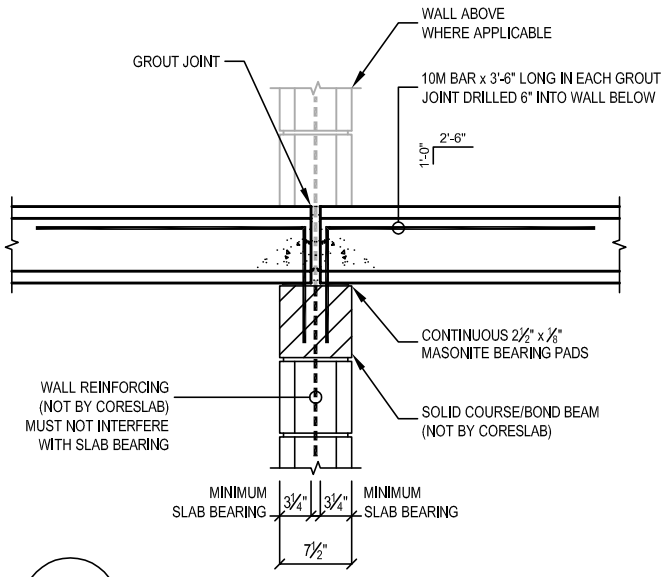
M6 SIDE LAP / TIE DOWN / STUD ABOVE

****All connection details shown are for **reference purposes only**. The building consultant must ensure that the details selected will satisfy the design criteria for the entire project.
Connection details and bearing requirements for 10", 12", and 14" slabs may vary ~ contact Coreslab Engineer.

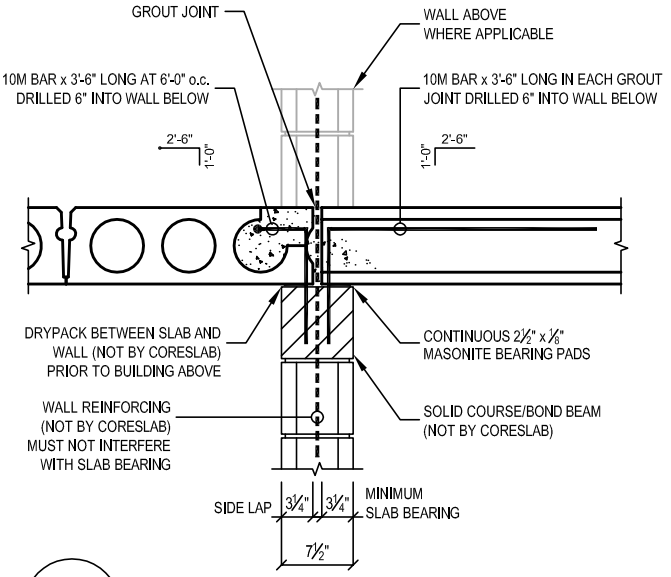
CONNECTION DETAILS TO MASONRY (continued)



M7 SHARED END BEARING / TIE ACROSS



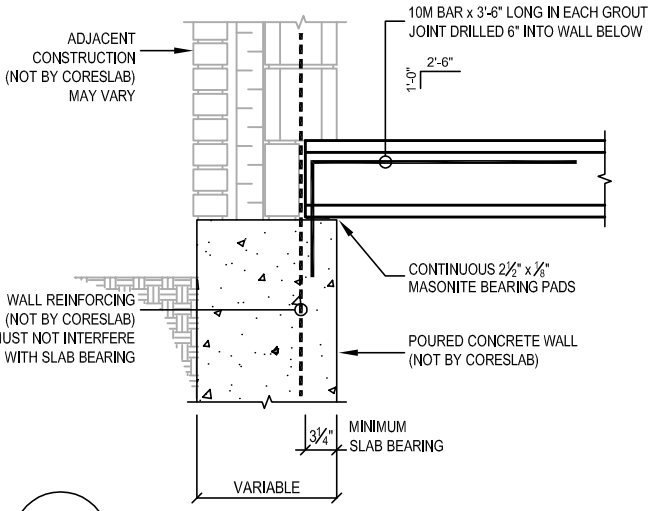
M8 SHARED END BEARING / TIE DOWN



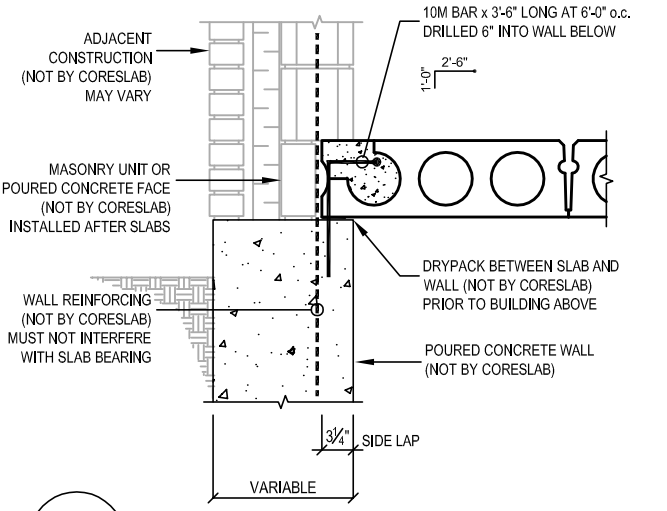
M9 PERPENDICULAR BEARING / TIE DOWN

****All connection details shown are for **reference purposes only**. The building consultant must ensure that the details selected will satisfy the design criteria for the entire project. Connection details and bearing requirements for 10", 12", and 14" slabs may vary ~ contact Coreslab Engineer.

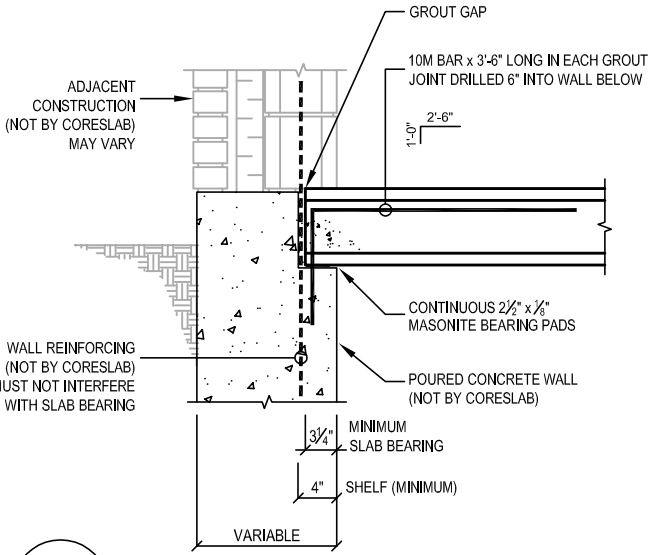
CONNECTION DETAILS TO POURED CONCRETE



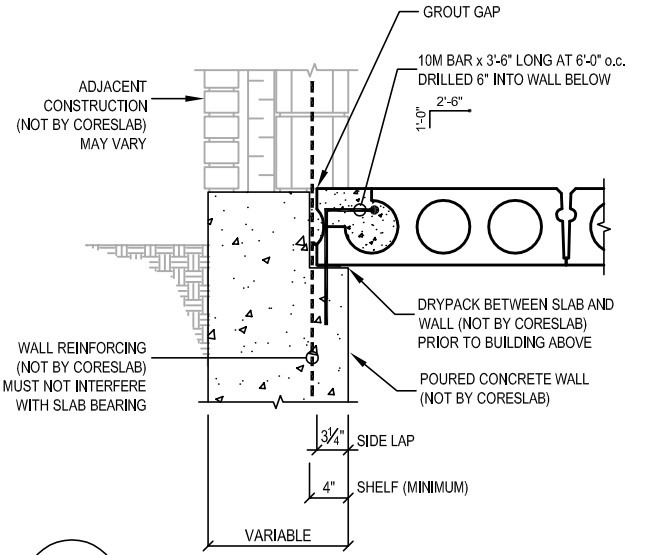
PC1 END BEARING ON POURED CONCRETE



PC2 SIDE LAP ON POURED CONCRETE



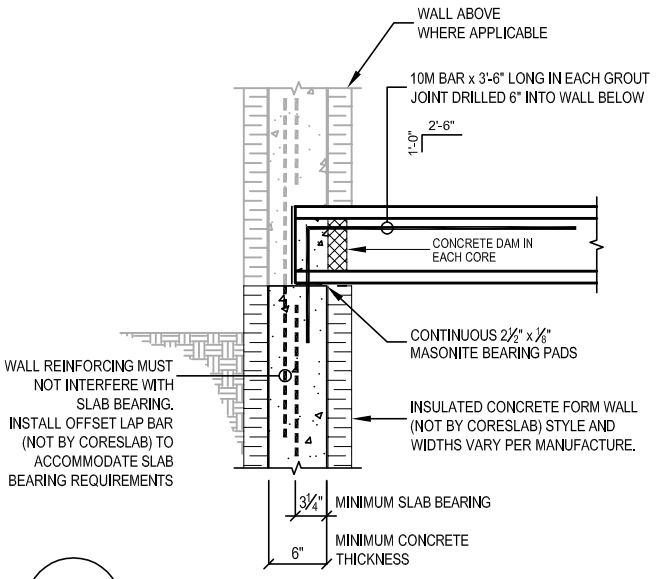
PC3 END BEARING ON POURED CONCRETE WITH SHELF



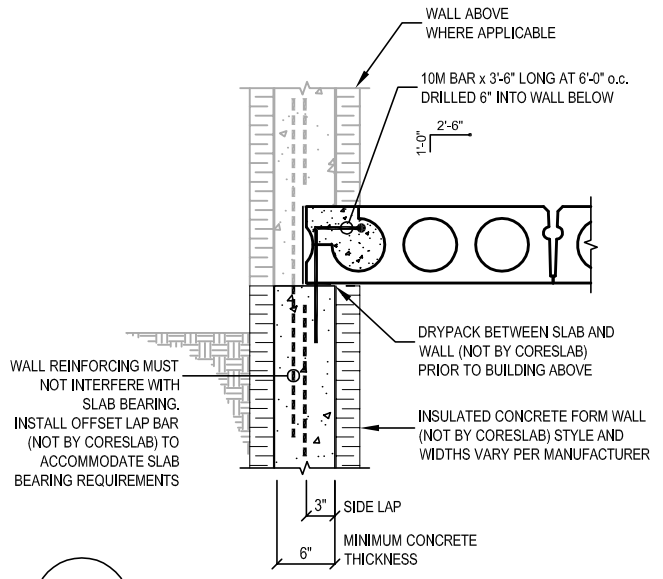
PC4 SIDE LAP ON POURED CONCRETE WITH SHELF

****All connection details shown are for **reference purposes only**. The building consultant must ensure that the details selected will satisfy the design criteria for the entire project.
Connection details and bearing requirements for 10", 12", and 14" slabs may vary ~ contact Coreslab Engineer.

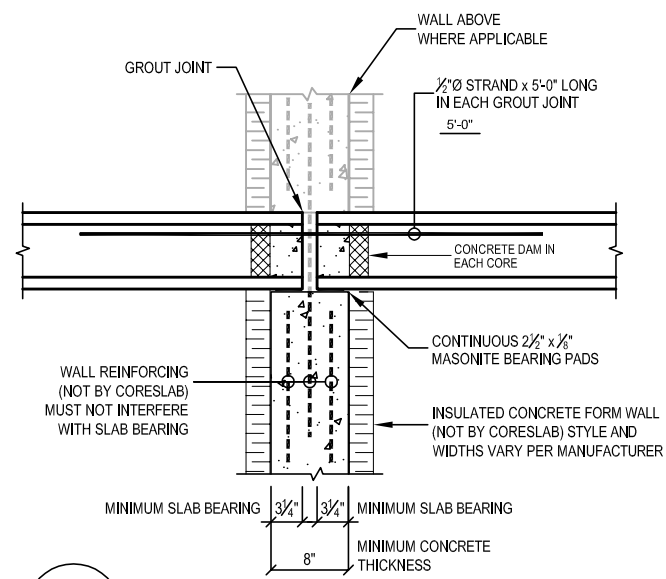
CONNECTION DETAILS TO INSULATED CONCRETE FORM "ICF" WALLS



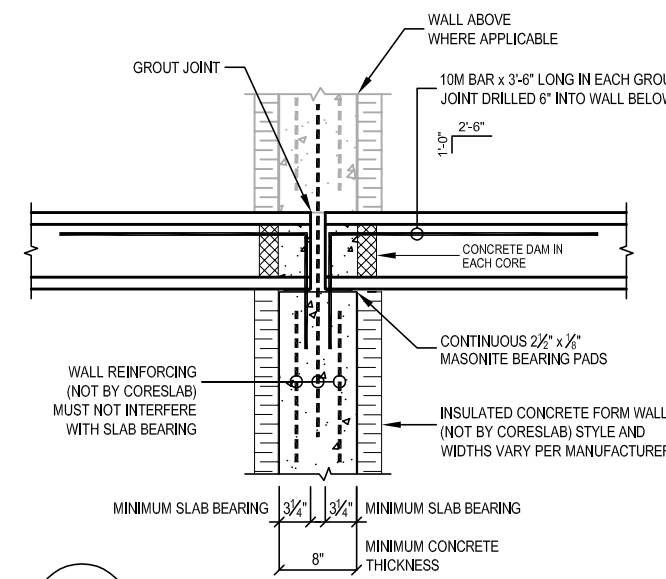
ICF1 END BEARING / TIE DOWN



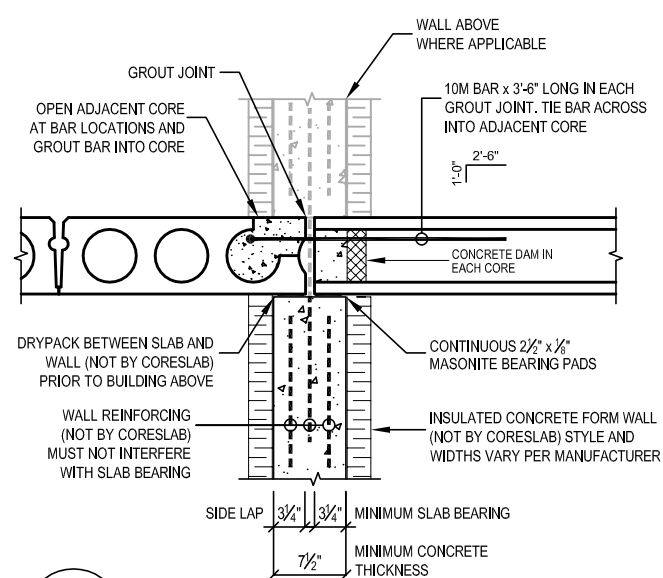
ICF2 SIDE LAP / TIE DOWN



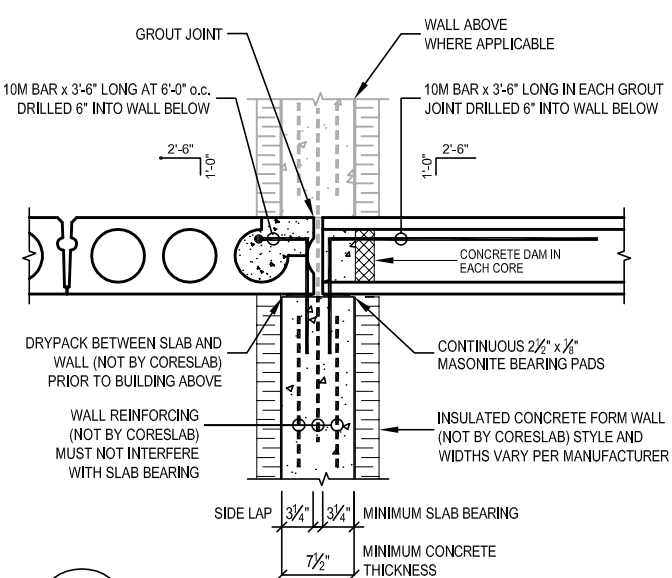
ICF3 SHARED END BEARING / TIE ACROSS



ICF4 SHARED END BEARING / TIE DOWN



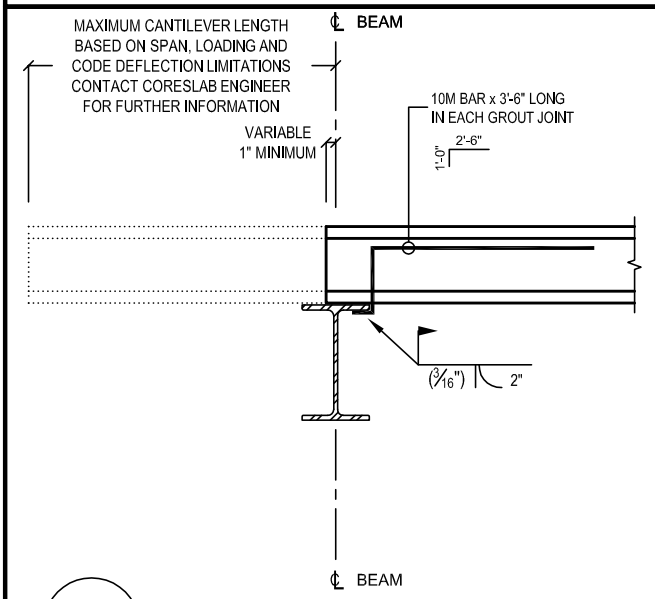
ICF5 PERPENDICULAR BEARING / TIE ACROSS



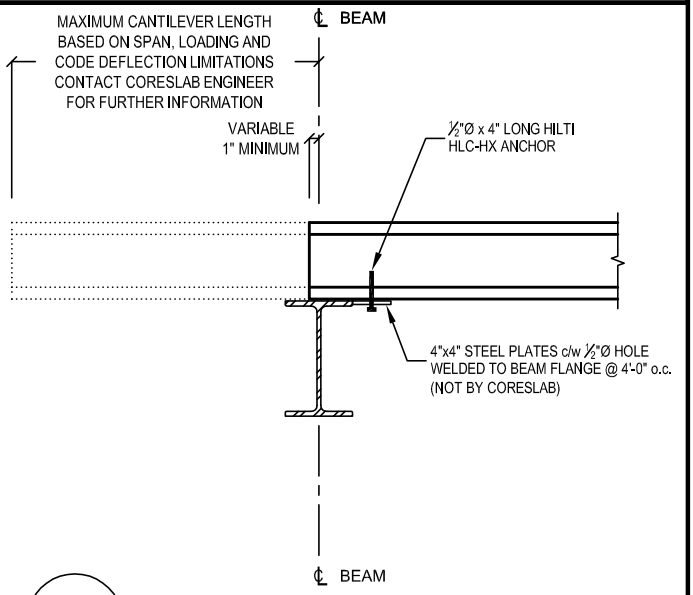
ICF6 PERPENDICULAR BEARING / TIE DOWN

****All connection details shown are for **reference purposes only**. The building consultant must ensure that the details selected will satisfy the design criteria for the entire project. Connection details and bearing requirements for 10", 12", and 14" slabs may vary ~ contact Coreslab Engineer.

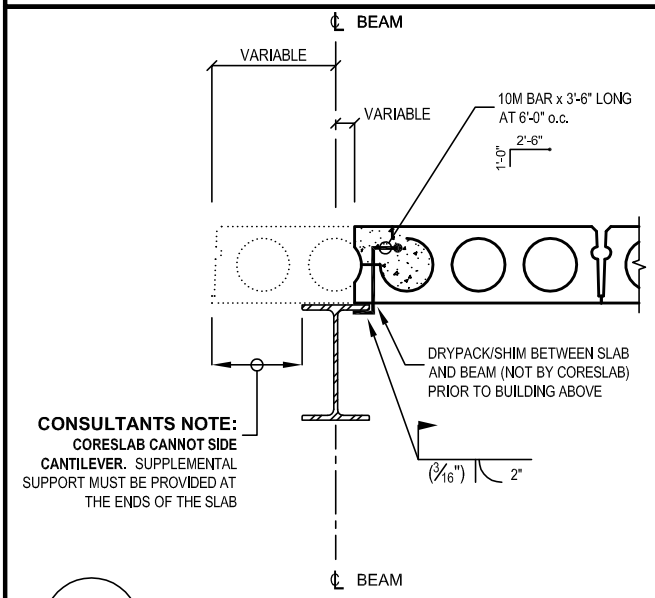
CONNECTION DETAILS TO STRUCTURAL STEEL



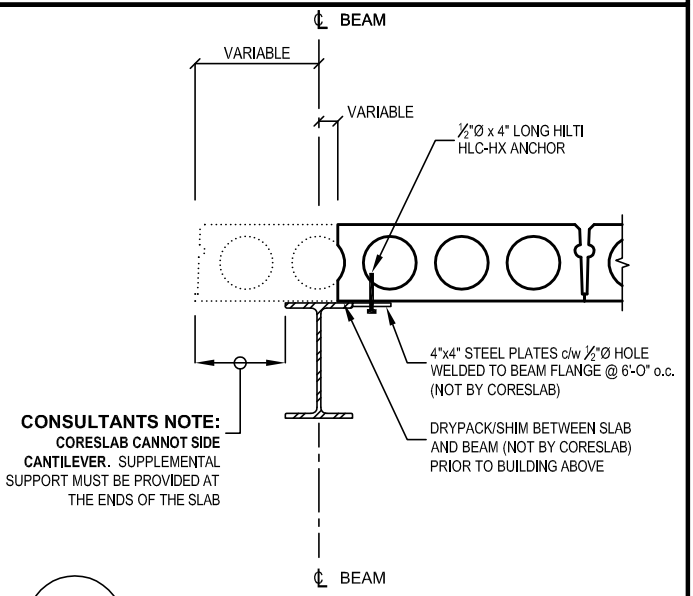
S1 END BEARING / TIE DOWN



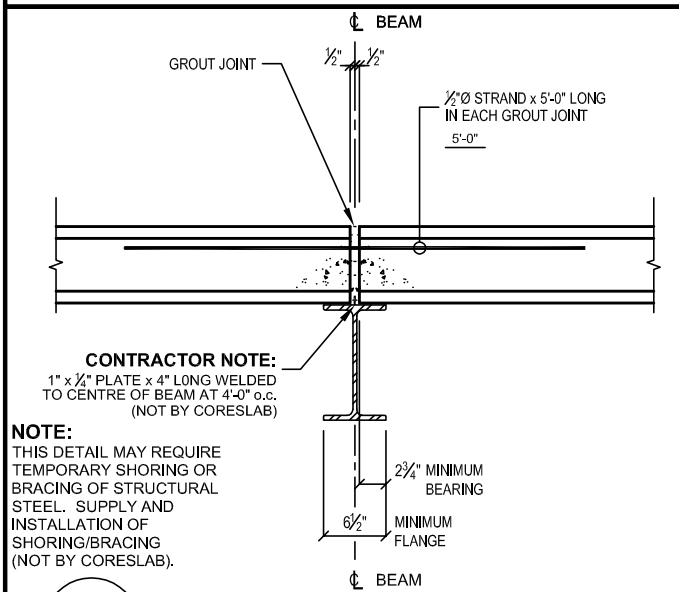
S1H END BEARING / HILTI CONNECTION



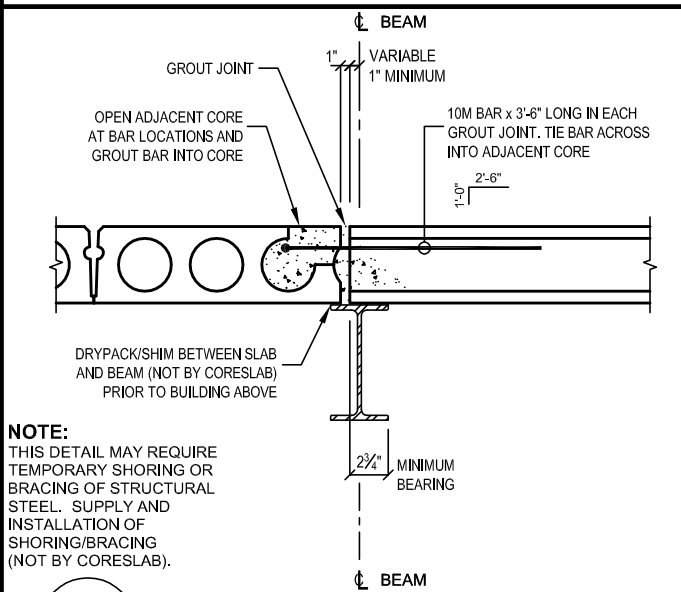
S2 SIDE LAP / TIE DOWN



S2H SIDE LAP / HILTI CONNECTION



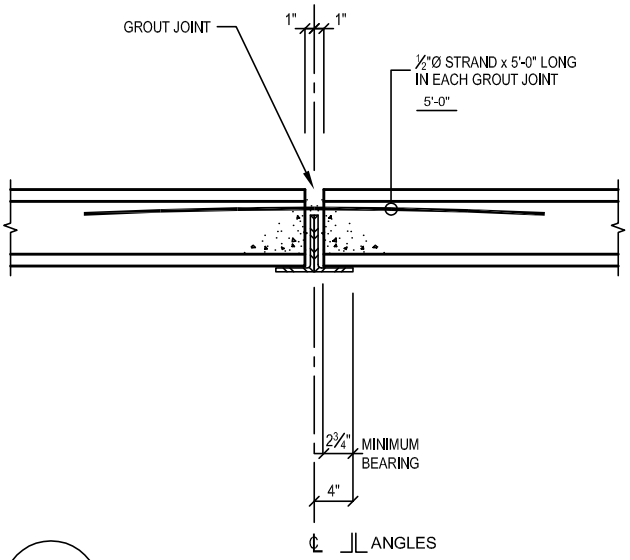
S3 SHARED BEARING / TIE ACROSS



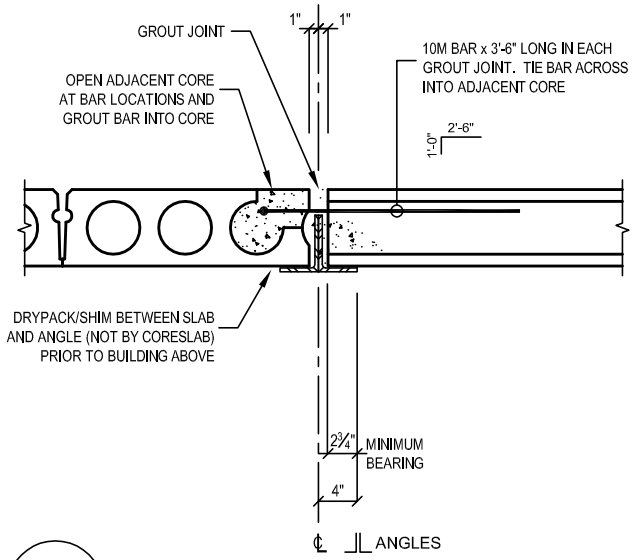
S4 PERPENDICULAR / TIE ACROSS

****All connection details shown are for **reference purposes only**. The building consultant must ensure that the details selected will satisfy the design criteria for the entire project.
Connection details and bearing requirements for 10", 12", and 14" slabs may vary ~ contact Coreslab Engineer.

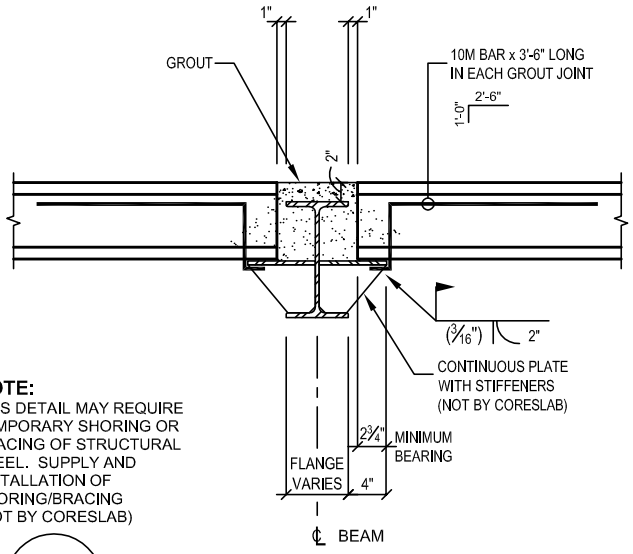
CONNECTION DETAILS TO STRUCTURAL STEEL (continued)



S5 END BEARING / BACK TO BACK ANGLES / TIE ACROSS

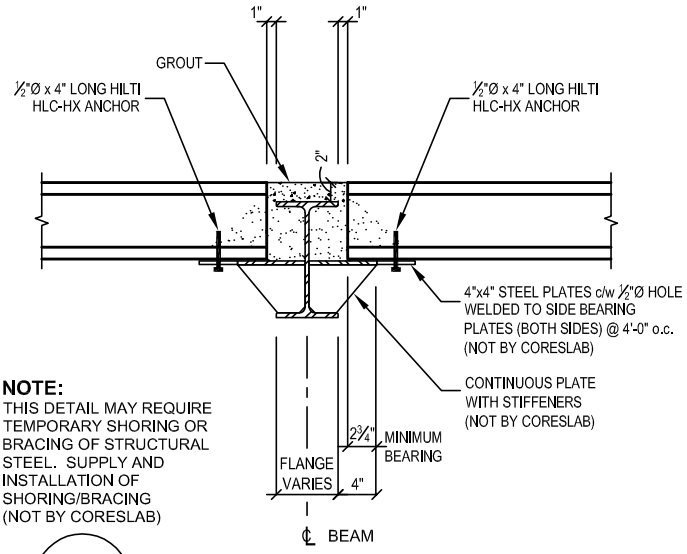


S6 PERPENDICULAR / BACK TO BACK ANGLES TIE ACROSS



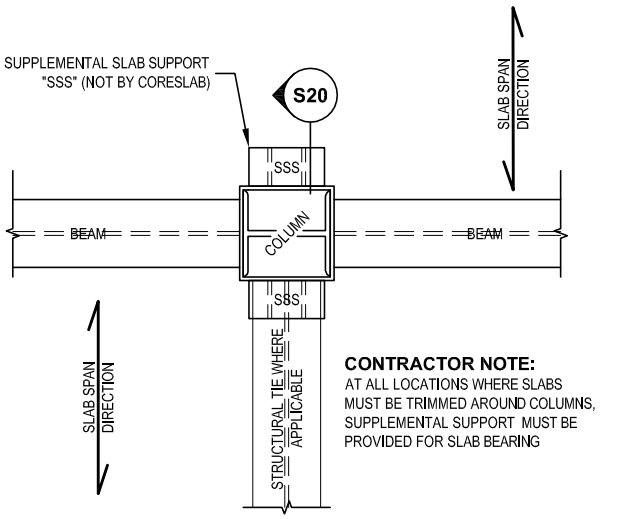
NOTE:
THIS DETAIL MAY REQUIRE TEMPORARY SHORING OR BRACING OF STRUCTURAL STEEL. SUPPLY AND INSTALLATION OF SHORING/BRACING (NOT BY CORESLAB)

S7 ELEVATED BEAM / SIDE PLATES / TIE DOWN



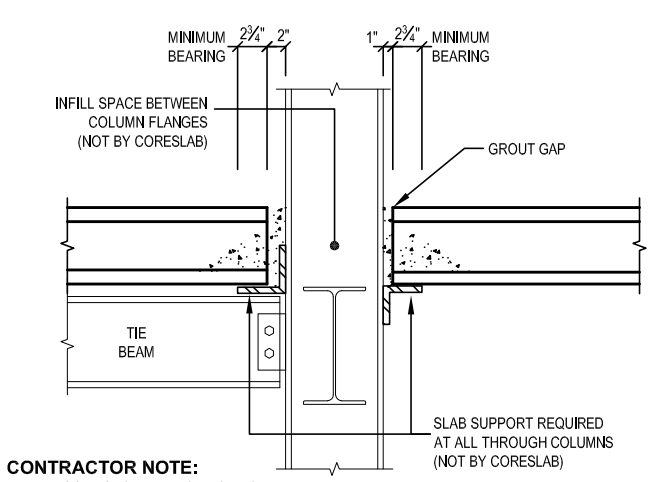
NOTE:
THIS DETAIL MAY REQUIRE TEMPORARY SHORING OR BRACING OF STRUCTURAL STEEL. SUPPLY AND INSTALLATION OF SHORING/BRACING (NOT BY CORESLAB)

S7H ELEVATED BEAM / SIDE PLATES / HILTI CONNECTION



CONTRACTOR NOTE:
AT ALL LOCATIONS WHERE SLABS MUST BE TRIMMED AROUND COLUMNS, SUPPLEMENTAL SUPPORT MUST BE PROVIDED FOR SLAB BEARING

S8 SUPPORT AT THROUGH COLUMNS PLAN VIEW

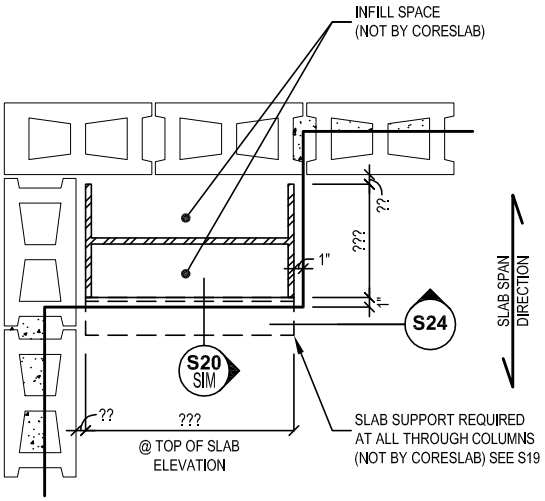


CONTRACTOR NOTE:
AT ALL LOCATIONS WHERE SLABS MUST BE TRIMMED AROUND COLUMNS, SUPPLEMENTAL SUPPORT MUST BE PROVIDED FOR SLAB BEARING

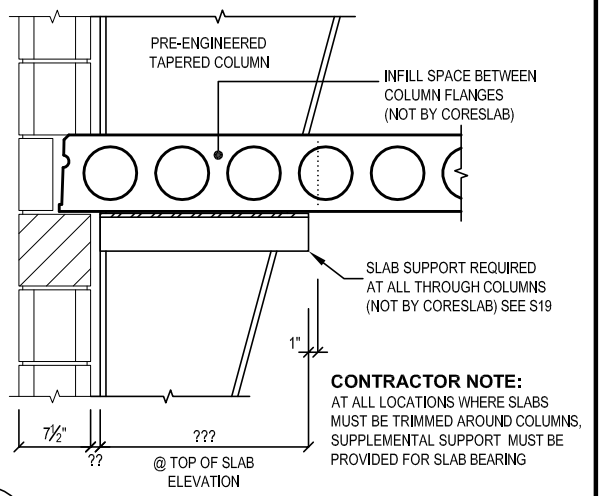
S9 SUPPORT AT THROUGH COLUMNS SECTION

****All connection details shown are for **reference purposes only**. The building consultant must ensure that the details selected will satisfy the design criteria for the entire project.
Connection details and bearing requirements for 10", 12", and 14" slabs may vary ~ contact Coreslab Engineer.

CONNECTION DETAILS TO STRUCTURAL STEEL (continued)

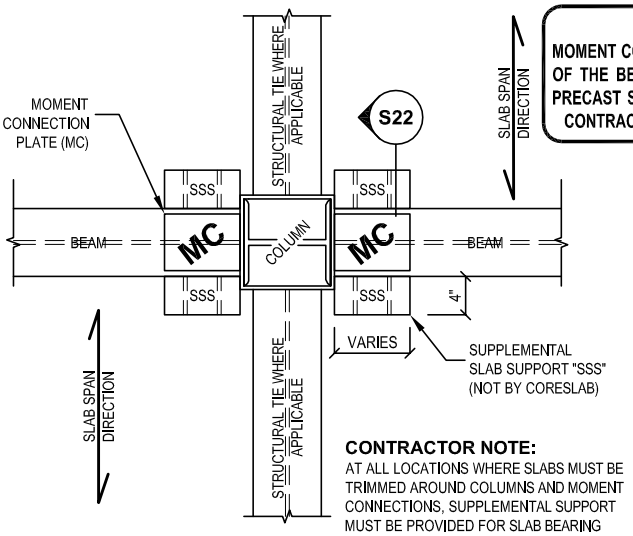


S10 SUPPORT AT PRE-ENGINEERED COLUMNS
PLAN VIEW



CONTRACTOR NOTE:
AT ALL LOCATIONS WHERE SLABS MUST BE TRIMMED AROUND COLUMNS, SUPPLEMENTAL SUPPORT MUST BE PROVIDED FOR SLAB BEARING

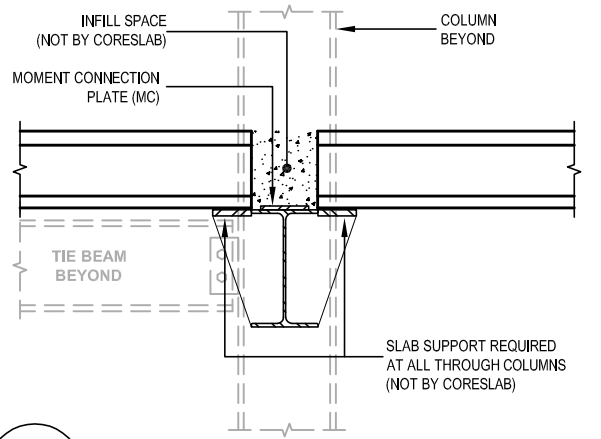
S11 SUPPORT AT PRE-ENGINEERED COLUMNS
SECTION



CONTRACTOR NOTE:
AT ALL LOCATIONS WHERE SLABS MUST BE TRIMMED AROUND COLUMNS AND MOMENT CONNECTIONS, SUPPLEMENTAL SUPPORT MUST BE PROVIDED FOR SLAB BEARING

S12 SUPPORT AT MOMENT CONNECTIONS
PLAN VIEW

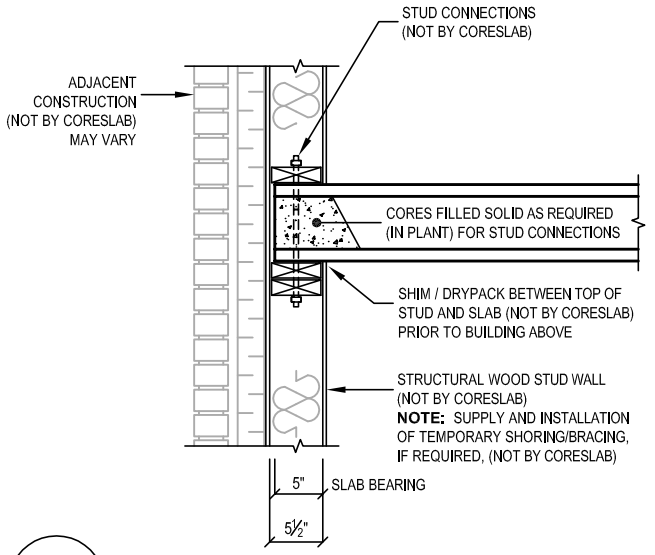
MOMENT CONNECTIONS
MOMENT CONNECTION PLATES ARE NOT TO BE LOCATED ON TOP OF THE BEAM WHERE THEY INTERFERE WITH BEARING OF THE PRECAST SLABS. IF TOP MOUNTED PLATES ARE UNAVOIDABLE, CONTRACTOR MUST PROVIDE SUPPLEMENTAL SLAB SUPPORT.



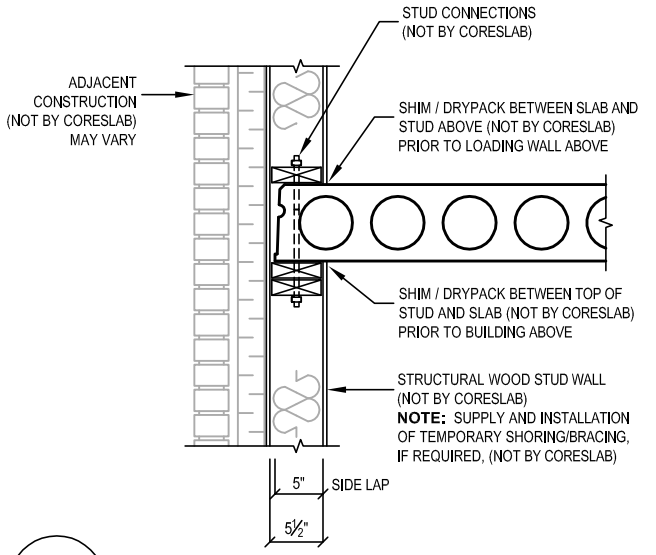
S13 SUPPORT AT MOMENT CONNECTIONS
SECTION

****All connection details shown are for **reference purposes only**. The building consultant must ensure that the details selected will satisfy the design criteria for the entire project.
Connection details and bearing requirements for 10", 12", and 14" slabs may vary ~ contact Coreslab Engineer.

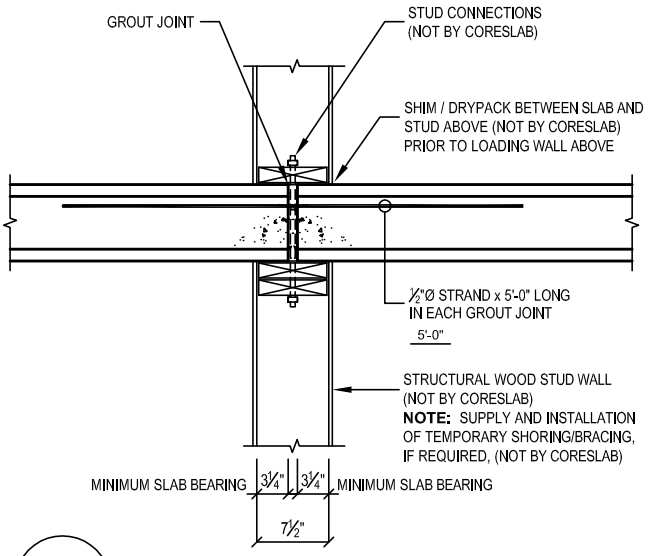
CONNECTION DETAILS TO STRUCTURAL WOOD STUD WALLS



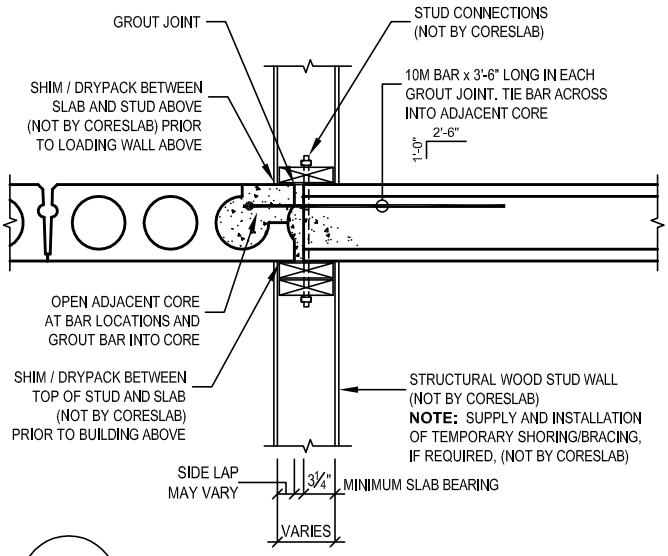
WS1 END BEARING



WS2 SIDE LAP



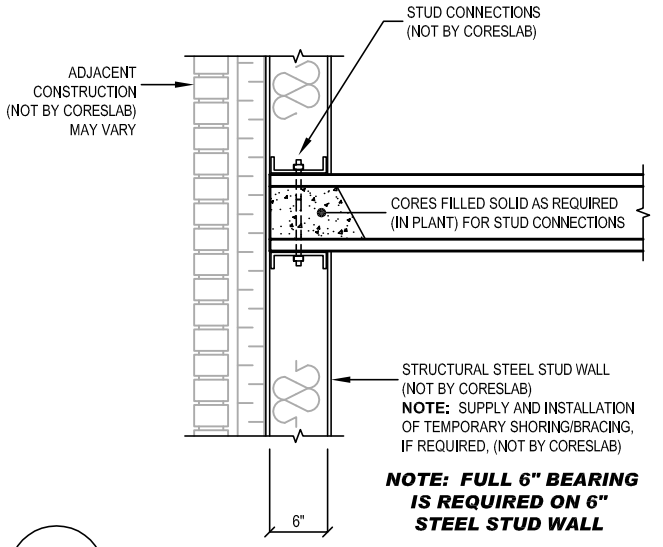
WS3 SHARED END BEARING



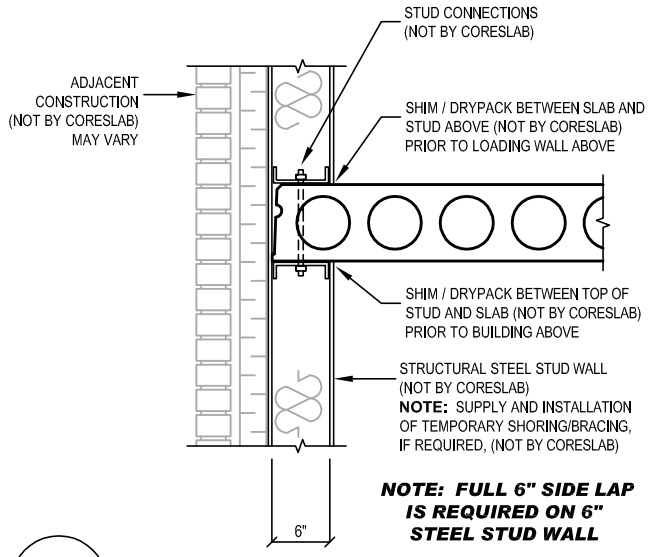
WS4 PERPENDICULAR BEARING

****All connection details shown are for **reference purposes only**. The building consultant must ensure that the details selected will satisfy the design criteria for the entire project. Connection details and bearing requirements for 10", 12", and 14" slabs may vary ~ contact Coreslab Engineer.

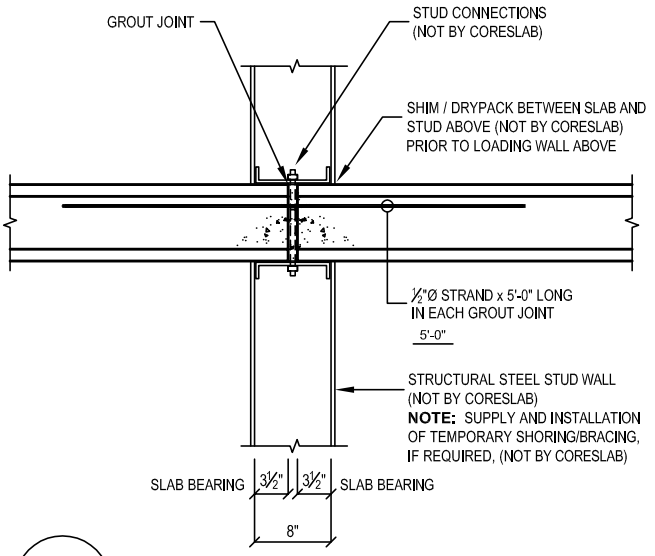
CONNECTION DETAILS TO STRUCTURAL STEEL STUD WALLS



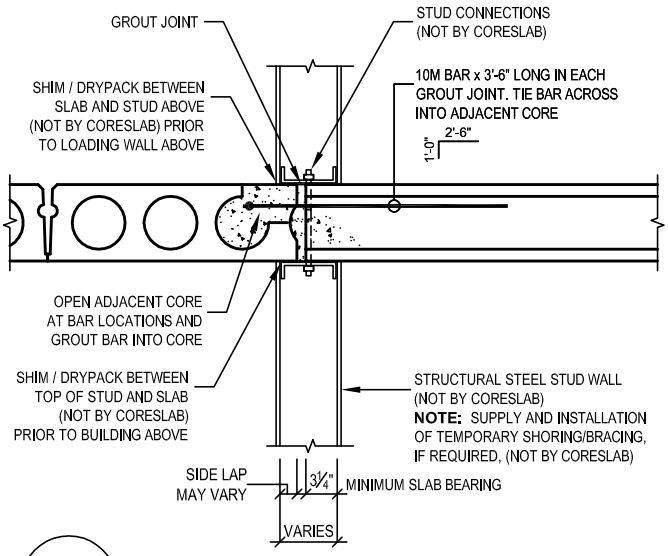
SS1 END BEARING



SS2 SIDE LAP



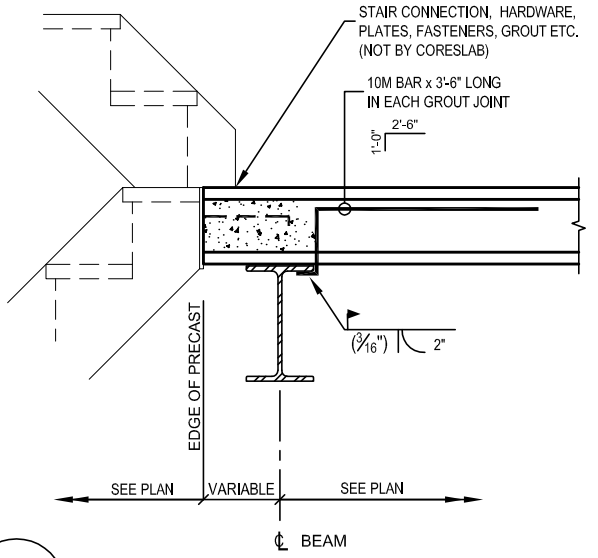
SS3 EQUAL SHARED END BEARING



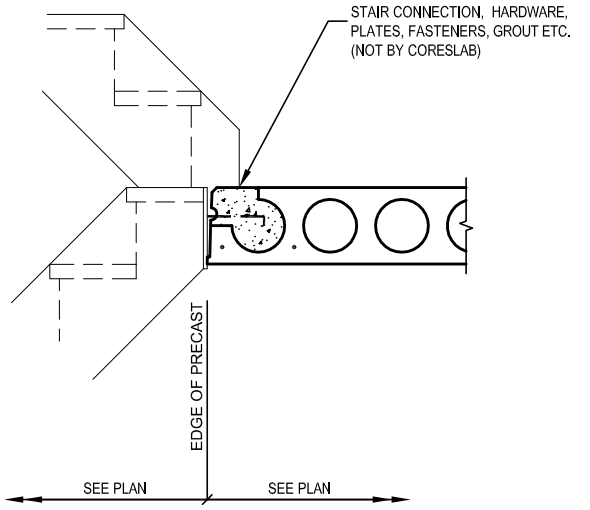
SS4 PERPENDICULAR BEARING

****All connection details shown are for **reference purposes only**. The building consultant must ensure that the details selected will satisfy the design criteria for the entire project.
Connection details and bearing requirements for 10", 12", and 14" slabs may vary ~ contact Coreslab Engineer.

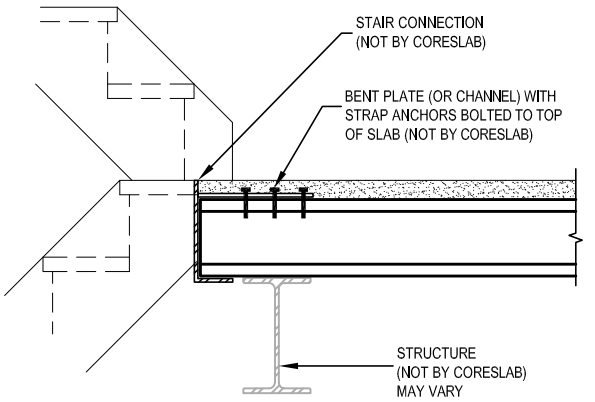
CONNECTION DETAILS TO STAIRS



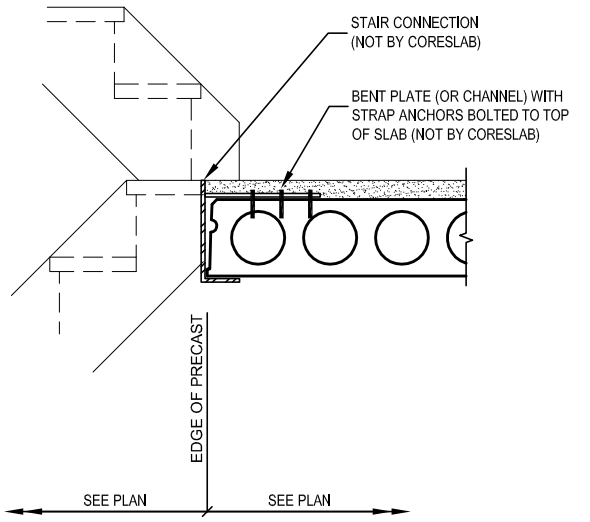
ST1 WOOD OR STEEL STAIR TO END OF SLAB



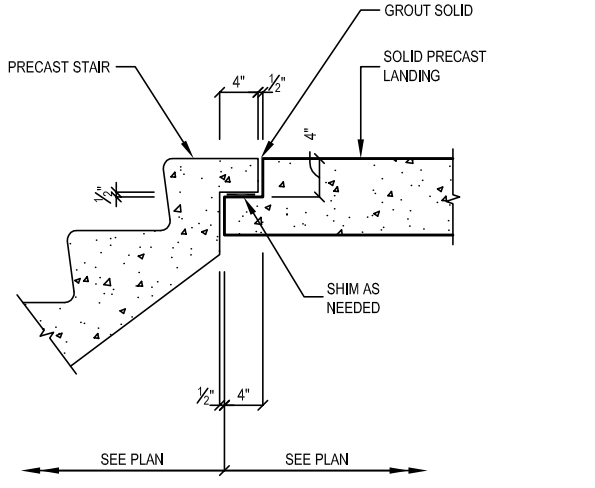
ST2 WOOD OR STEEL STAIR TO SIDE OF SLAB



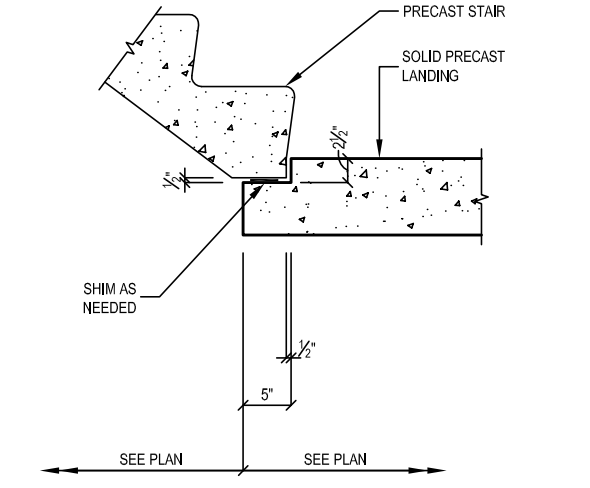
ST3 STEEL STAIR TO END OF SLAB WITH TOPPING



ST4 STEEL STAIR TO SIDE OF SLAB WITH TOPPING



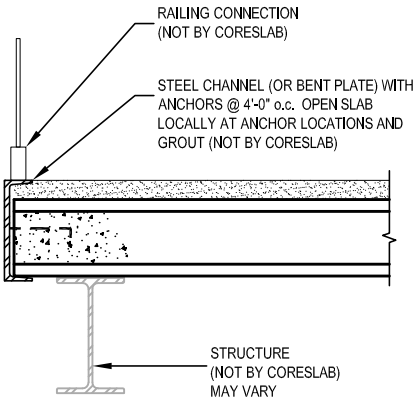
ST5 PRECAST STAIR / SOLID PRECAST LANDING / DOWN



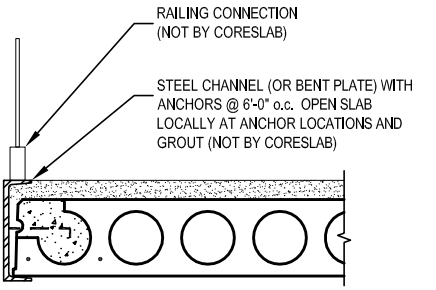
ST6 PRECAST STAIR / SOLID PRECAST LANDING / UP

****All connection details shown are for **reference purposes only**. The building consultant must ensure that the details selected will satisfy the design criteria for the entire project. Connection details and bearing requirements for 10", 12", and 14" slabs may vary ~ contact Coreslab Engineer.

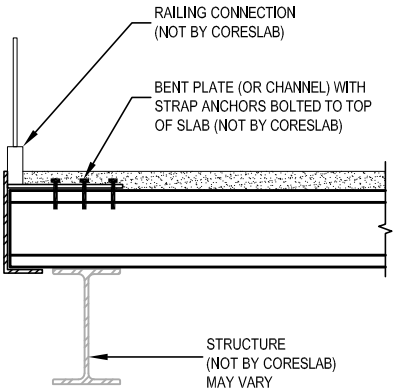
RAILING CONNECTIONS



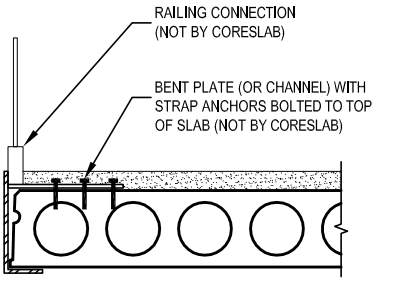
R1 RAILINGS TO END OF SLAB CHANNEL



R2 RAILINGS TO SIDE OF SLAB CHANNEL



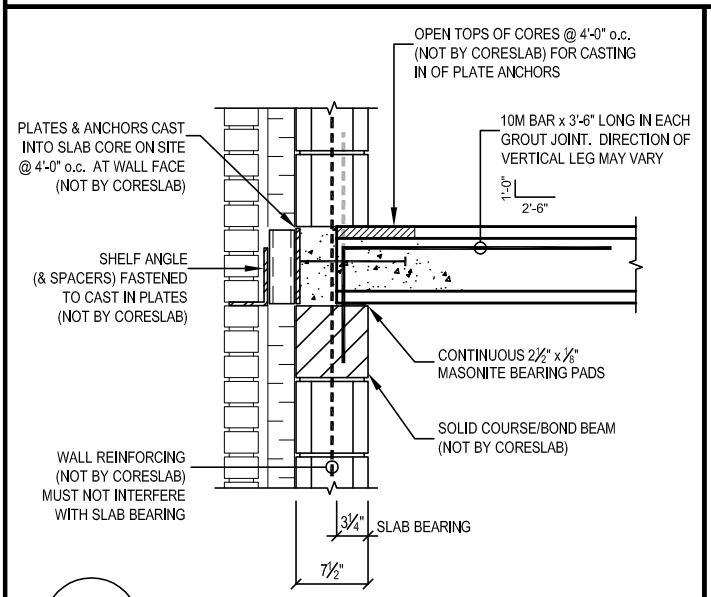
R3 RAILINGS TO END OF SLAB BENT PLATE AND STRAPPING



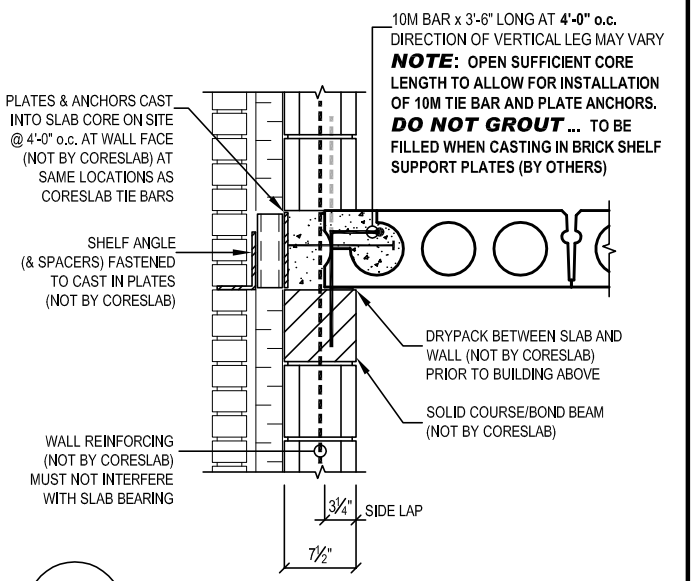
R4 RAILINGS TO END OF SLAB BENT PLATE AND STRAPPING

****All connection details shown are for **reference purposes only**. The building consultant must ensure that the details selected will satisfy the design criteria for the entire project.
Connection details and bearing requirements for 10", 12", and 14" slabs may vary ~ contact Coreslab Engineer.

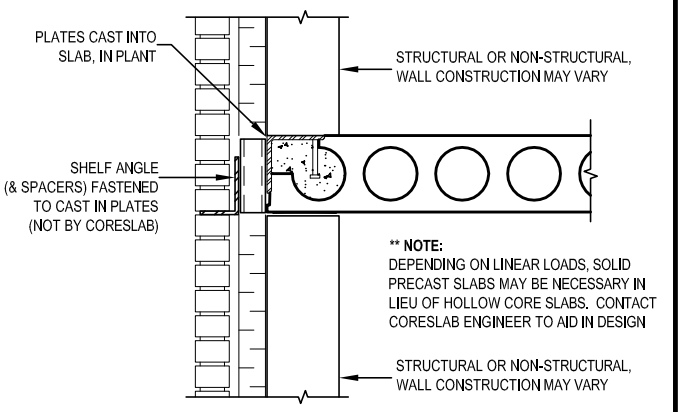
EXTERIOR CLADDING SUPPORT DETAILS



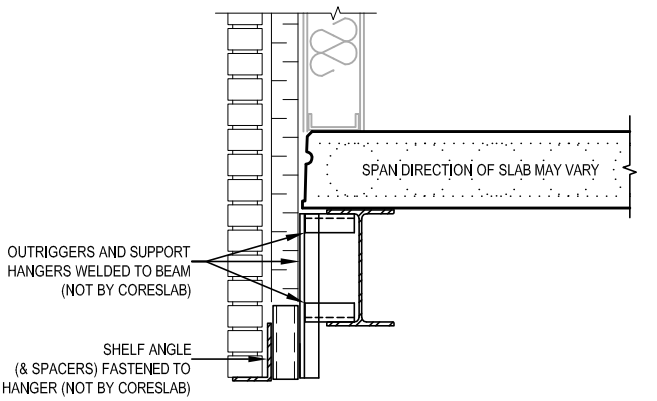
EC1 BRICK SUPPORT / END BEARING



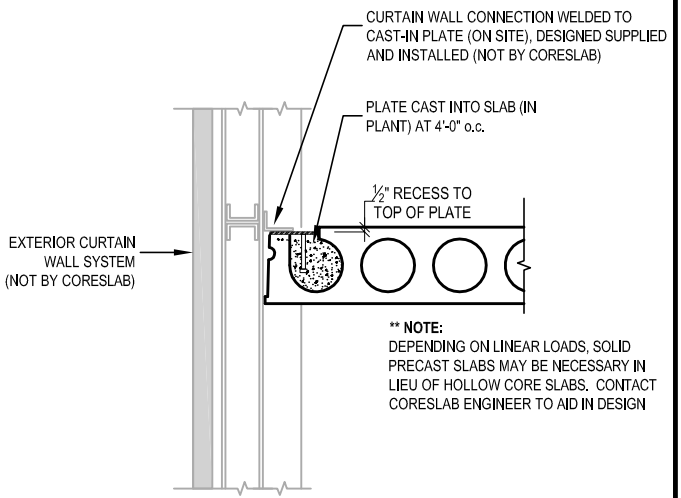
EC2 BRICK SUPPORT / SIDE LAP



EC3 BRICK SUPPORT / HOLLOW CORE SLAB**



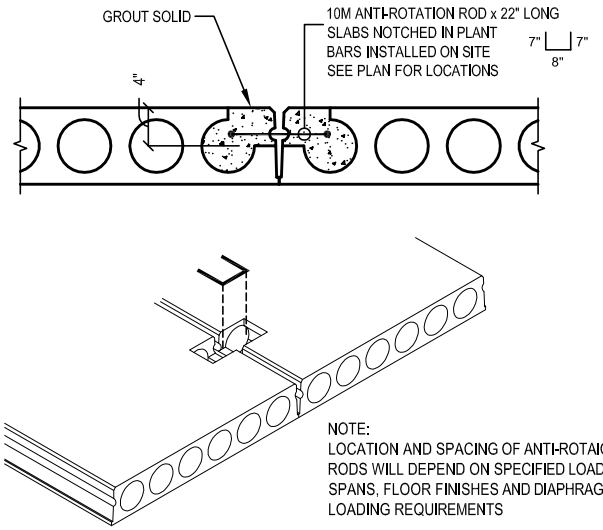
EC4 BRICK SUPPORT / STRUCTURAL STEEL FRAMING



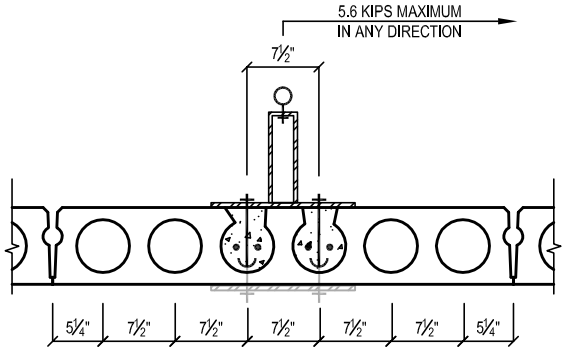
EC5 CURTAIN WALL SUPPORT / HOLLOW CORE SLAB**

****All connection details shown are for **reference purposes only**. The building consultant must ensure that the details selected will satisfy the design criteria for the entire project.
Connection details and bearing requirements for 10", 12", and 14" slabs may vary ~ contact Coreslab Engineer.

MISCELLANEOUS DETAILS



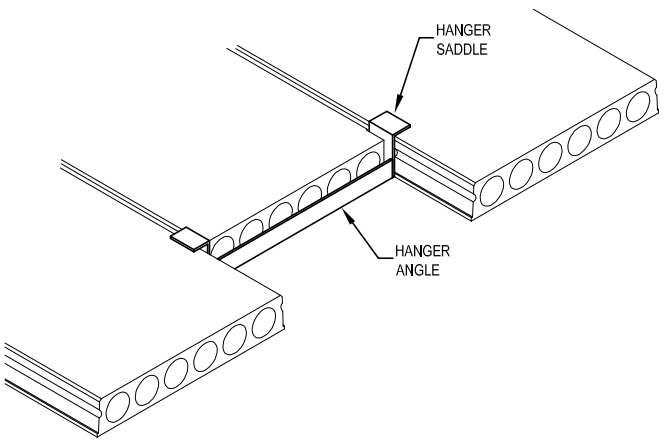
MSC1 ANTI-ROTATION ROD DETAIL



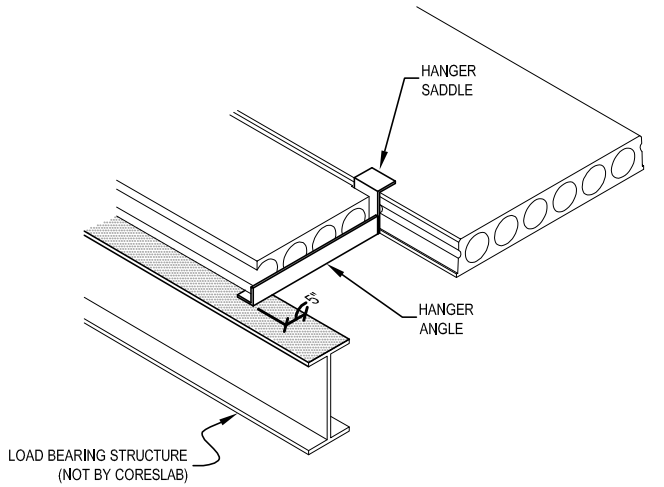
FALL PROTECTION ANCHOR SYSTEMS VARY PER MANUFACTURER.
TOP MOUNTED HARDWARE AND EMBEDDED REINFORCEMENT OR
PENETRATING THROUGH BOLTS - DESIGNED, SUPPLIED AND
INSTALLED (NOT BY CORESLAB)

NOTE: THERE ARE NUMEROUS PARAMETERS TO CONSIDER FOR
INSTALLING ROOF ANCHORS INTO HOLLOW CORE SLABS.
CONTACT CORESLAB ENGINEER TO AID IN CONNECTION DESIGN
AND LOCATING TO ENSURE INTENDED ROOF ANCHOR ACTION.

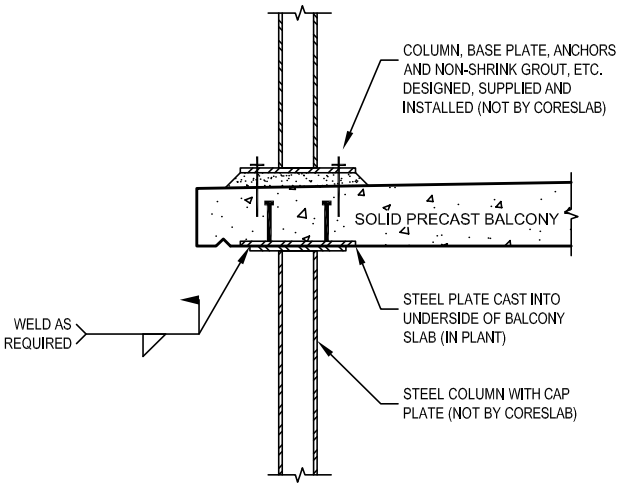
MSC2 FALL PROTECTION "ROOF" ANCHOR CONNECTION



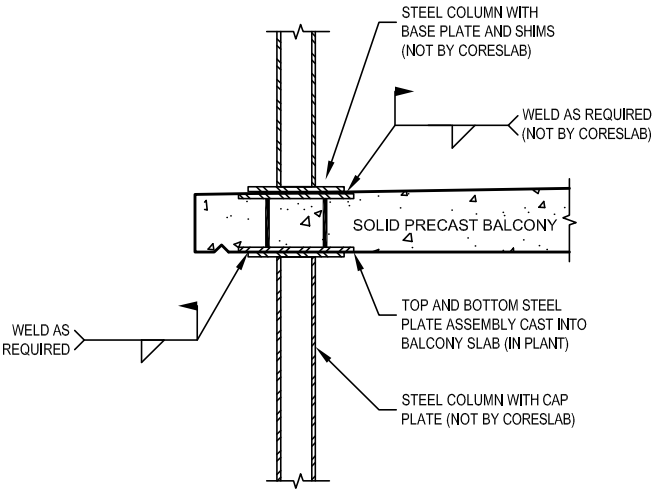
MSC3 HANGER DETAIL / SLAB TO SLAB



MSC4 HANGER DETAIL / SLAB TO WALL (OR BEAM)



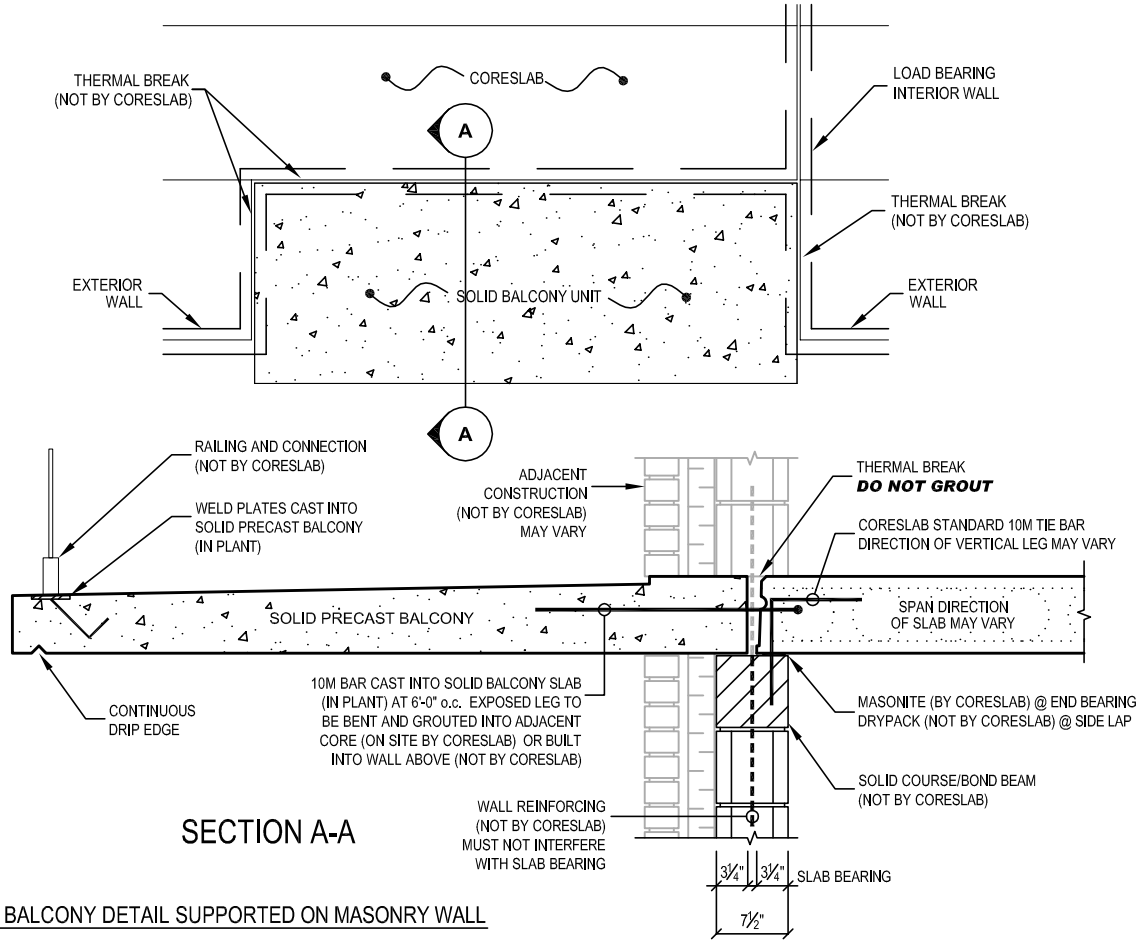
MSC5 COLUMN TO SOLID BALCONY
WELDED BELOW - BOLTED ABOVE



MSC6 COLUMN TO SOLID BALCONY
WELDED BELOW AND ABOVE

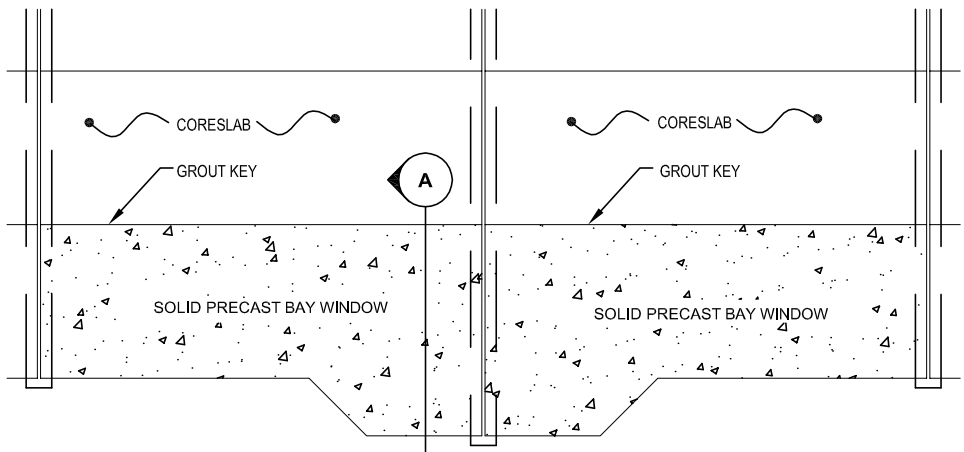
****All connection details shown are for **reference purposes only**. The building consultant must ensure that the details selected will satisfy the design criteria for the entire project.
Connection details and bearing requirements for 10", 12", and 14" slabs may vary ~ contact Coreslab Engineer.

MISCELLANEOUS DETAILS (continued)

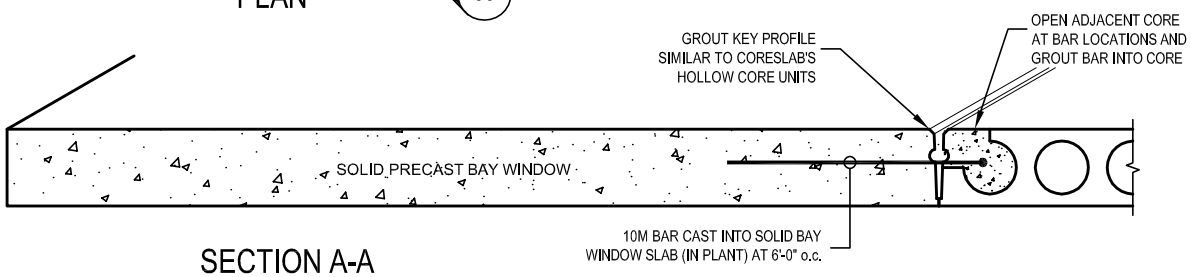


SECTION A-A

MSC7 BALCONY DETAIL SUPPORTED ON MASONRY WALL



PLAN

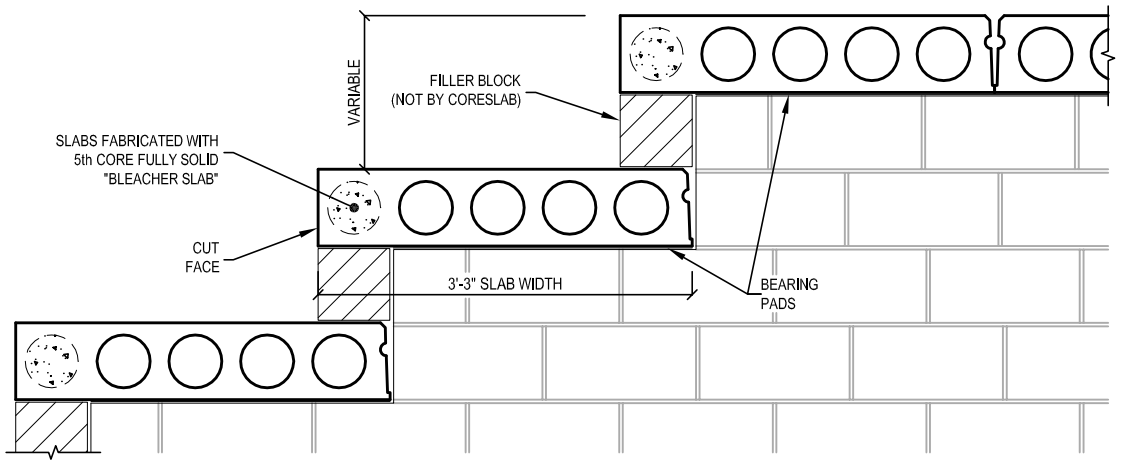


SECTION A-A

MSC8 SOLID BAY WINDOW UNIT

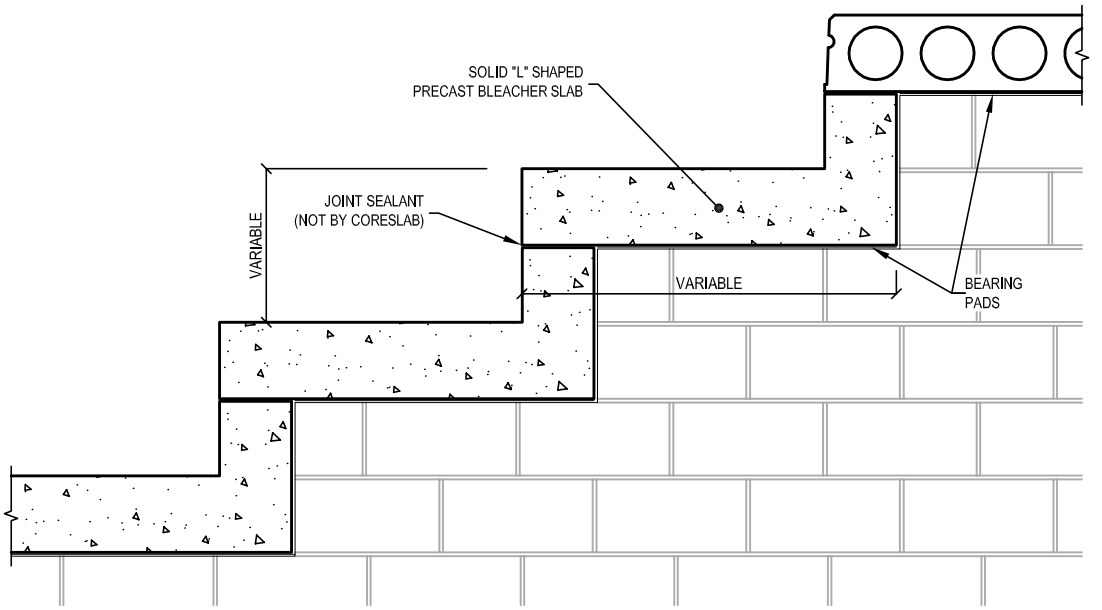
****All connection details shown are for **reference purposes only**. The building consultant must ensure that the details selected will satisfy the design criteria for the entire project. Connection details and bearing requirements for 10", 12", and 14" slabs may vary ~ contact Coreslab Engineer.

BLEACHER SEATING



MSC9 HOLLOW CORE BLEACHER SEATING

SLABS WILL HAVE SOME CAMBER. CONSULT CORESLAB FOR SPANS, DETAILS AND LOADING INFORMATION

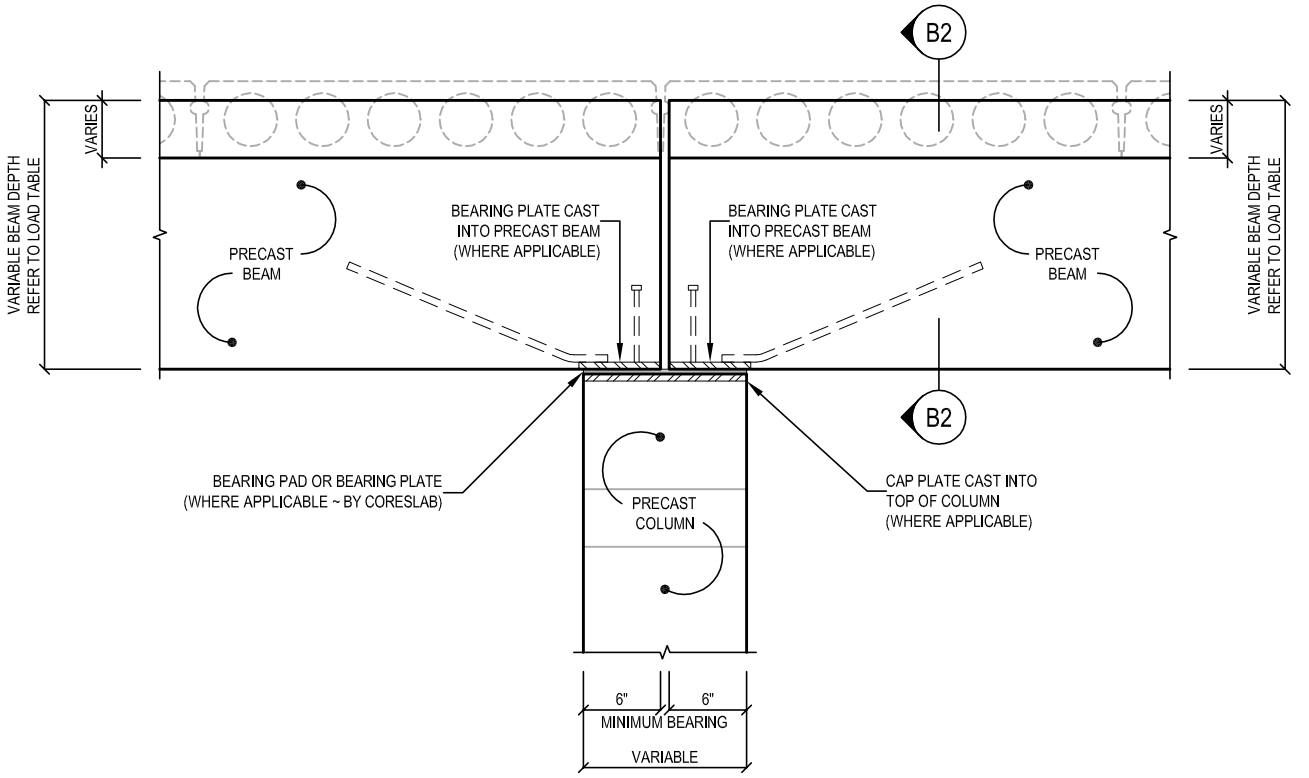


MSC10 SOLID PRECAST BLEACHER SEATING

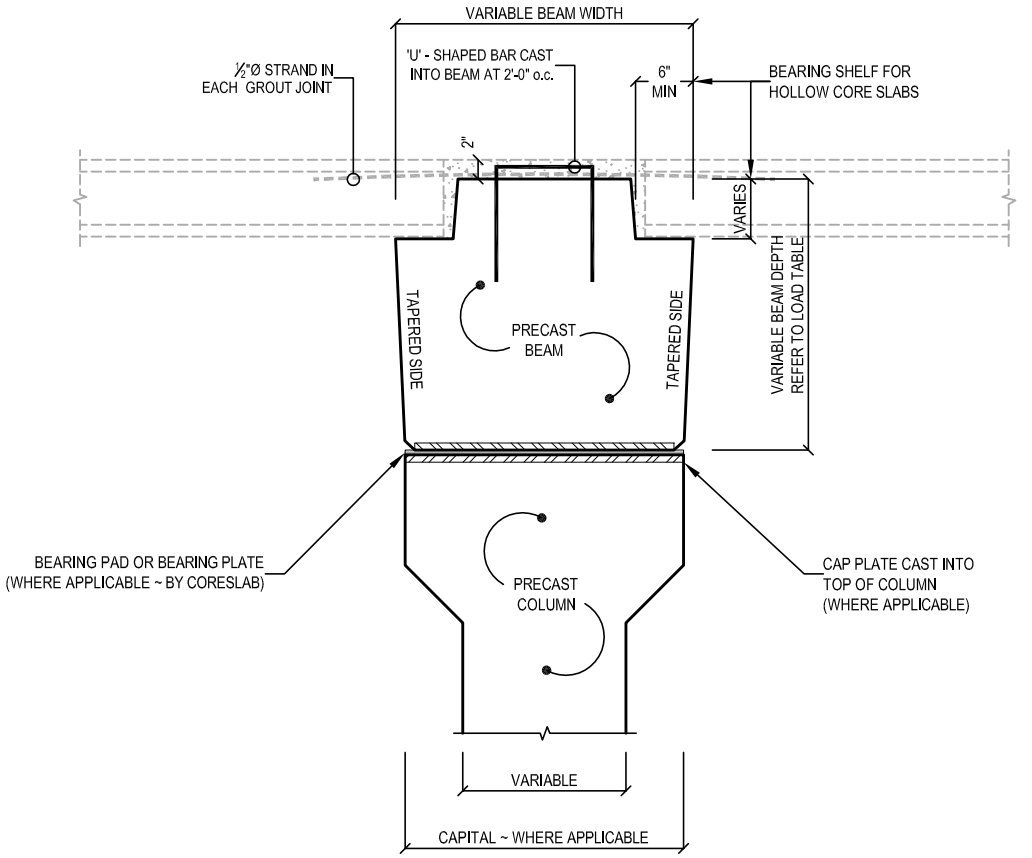
SLABS WILL HAVE SOME CAMBER. CONSULT CORESLAB FOR VARIOUS WIDTHS, SPANS, DETAILS AND LOADING INFORMATION

****All connection details shown are for **reference purposes only**. The building consultant must ensure that the details selected will satisfy the design criteria for the entire project. Connection details and bearing requirements for 10", 12", and 14" slabs may vary ~ contact Coreslab Engineer.

PRECAST BEAM DETAILS



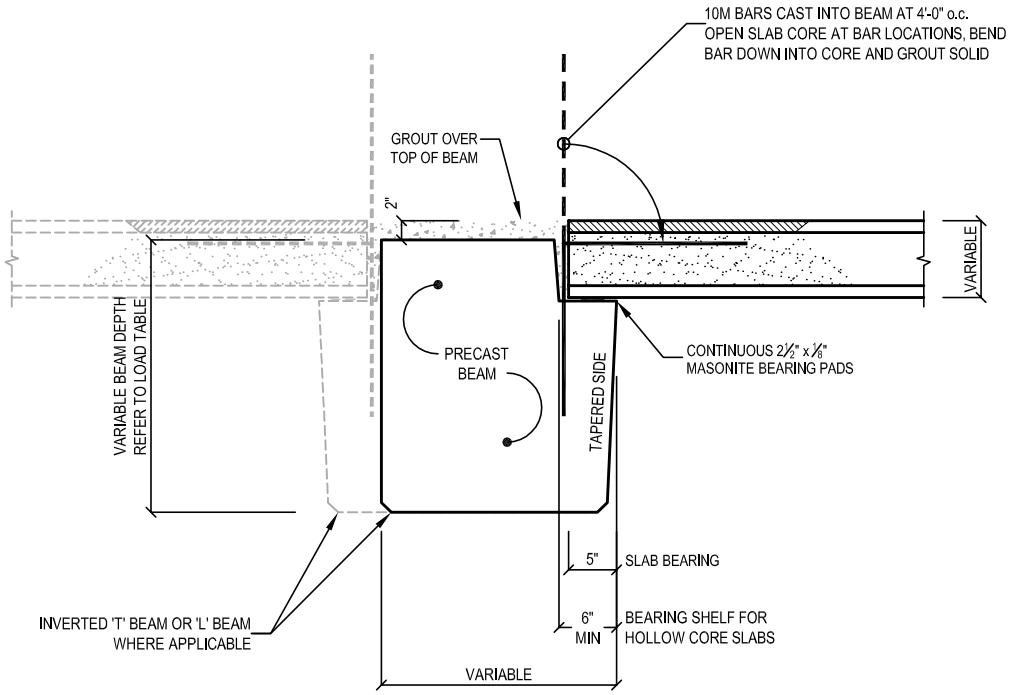
B1 SHARED BEARING ON COLUMN



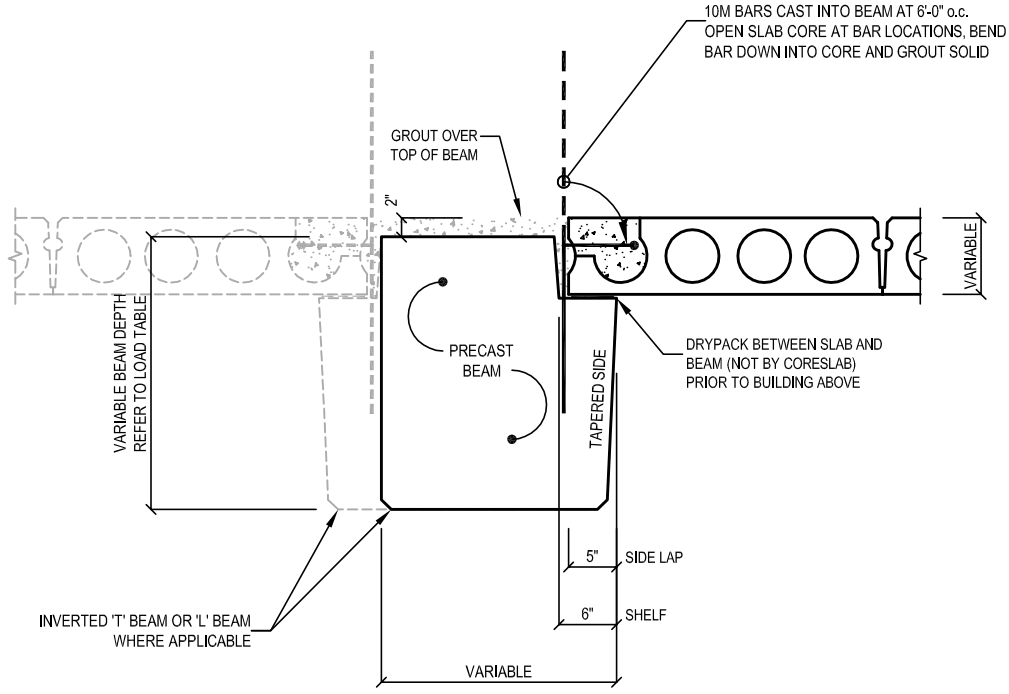
B2 BEAM TO COLUMN CONNECTION

****All connection details shown are for **reference purposes only**. The building consultant must ensure that the details selected will satisfy the design criteria for the entire project. Connection details and bearing requirements may vary ~ contact Coreslab Engineer.

PRECAST BEAM DETAILS



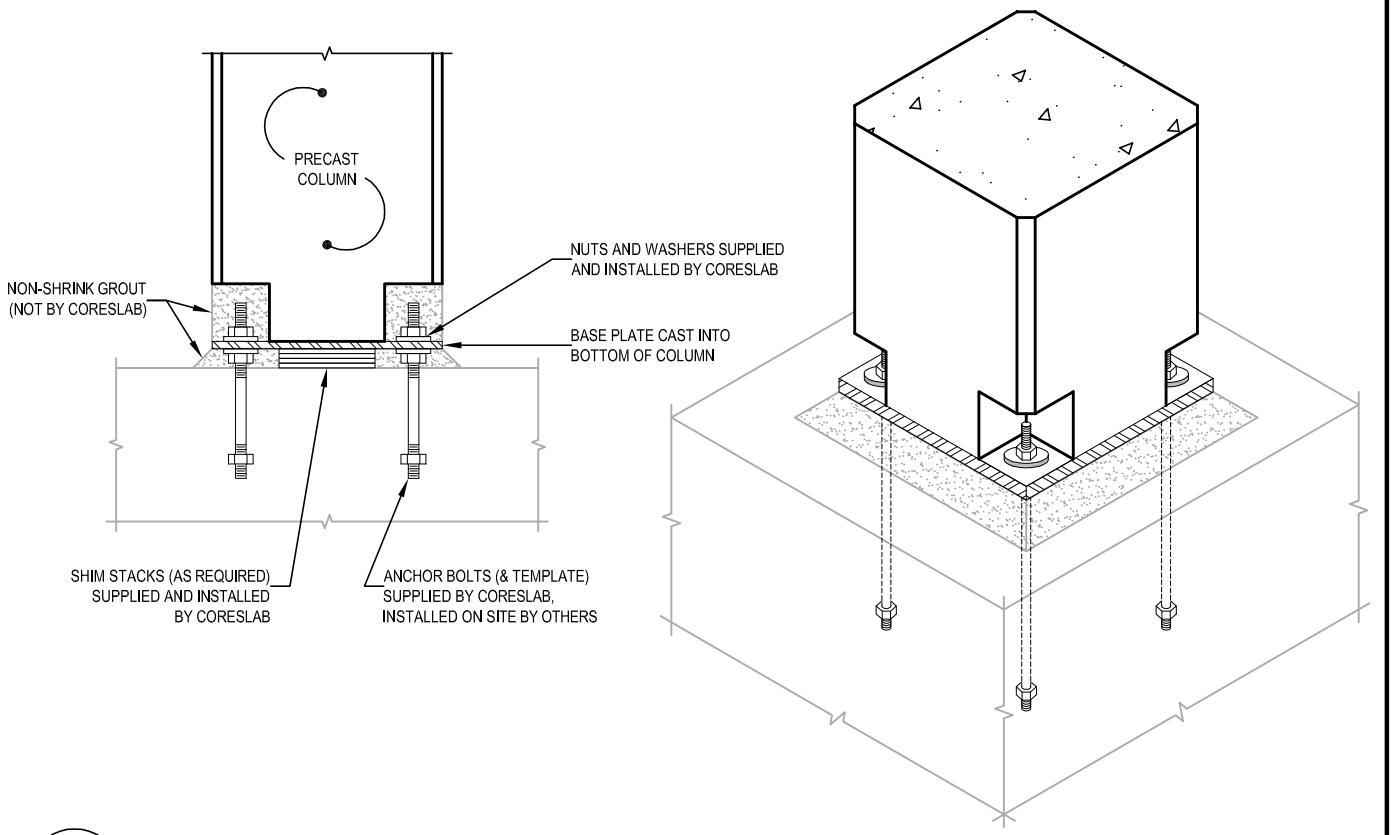
B3 HOLLOW CORE SLABS ~ END BEARING ON PRECAST BEAM



B4 HOLLOW CORE SLABS ~ SIDE LAP ON PRECAST BEAM

****All connection details shown are for **reference purposes only**. The building consultant must ensure that the details selected will satisfy the design criteria for the entire project. Connection details and bearing requirements may vary ~ contact Coreslab Engineer.

PRECAST COLUMN DETAILS



C1 COLUMN DETAIL AT BASE

****All connection details shown are for **reference purposes only**. The building consultant must ensure that the details selected will satisfy the design criteria for the entire project. Connection details and bearing requirements may vary ~ contact Coreslab Engineer.

SPECIFICATIONS

PRECAST PRESTRESSED CONCRETE

PART 1 – GENERAL

1.1 Related Work

1.1.1 Cast-in-Place Concrete: Section 03300

1.2 Reference Standards

1.2.1 Do precast prestressed concrete work in accordance with CSA-A23.4 and CSA3-A23.3 and PCI MNL 116.

1.2.2 Do welding in accordance with CSA W59 for welding to steel structures and CSA W186 for welding reinforcement.

1.3 Qualifications of Manufacturer

1.3.1 Manufacturers of precast concrete elements to be certified to the requirements of CSA-A23.4 and PCI MNL 116.

1.3.2 Manufacturers shall be approved by CMHC.

1.4 Design Criteria

1.4.1 Design precast prestressed concrete units to CSA-A23.3 and to carry handling stresses.

1.4.2 Design loads in accordance with applicable codes for use and occupancy, wind, temperature and earthquake.

1.4.3 Consider vibration characteristics in accordance with NBC.

1.4.4 Design prestressed units to meet two (2) hour fire resistance rating.

1.5 Source Quality Control

1.5.1 Upon request, provide Engineer with certified copies of quality control tests and inspection related to project as specified in CSA-A23.4 and PCI MNL 116.

1.5.2 Inspection of prestressed concrete tendons is required in accordance with ASTM A416.

1.5.3 Upon request, provide Engineer with certified copy of mill test report of reinforcing steel supplied, showing physical and chemical analysis.

1.6 Shop Drawings

1.6.1 Submit shop drawings in accordance with Section 01340 – Shop Drawings, Product Data.

1.6.2 Submit shop drawings in accordance with CSA-A23.4 and CSA-A23.3. Upon request, the following items shall be provided:

1.6.2.1 Design calculations for items designed by Manufacturer

1.6.2.2 Estimated camber

1.6.2.3 Finishing schedules

1.6.2.4 Methods of handling and erection

1.6.2.5 Openings, inserts and related reinforcement

1.6.3 Each drawing submitted to bear stamp of qualified Professional Engineer registered in the Province of Ontario.

1.7 Warranty

1.7.1 The Contractor hereby warrants that the precast prestressed elements will not spall or show visible evidence of cracking, except for normal hairline shrinkage cracks, in accordance with GC24, for a one year period.

PART 2 – PRODUCTS

2.1 Materials

2.1.1 Cement, aggregates, water, admixtures: To CSA-A23.4 and CSA-A23.1 and PCI MNL 116.

2.1.2 Prestressing steel: Uncoated 7 wire cable conforming to ASTM A416.

2.1.3 Reinforcing steel: to CSA G30.18.

2.1.4 Anchorages and couplings: To CSA-A23.1.

2.1.5 Embedded steel: To CSA-G40.21, Type M300W.

2.1.6 Welding materials: To CSA W48.1.

2.1.7 Bearing pads: 3 mm Masonite smooth one side and 3mm Korolath.

2.1.8 Air entrainment admixtures: To CSA-A266.1.

2.1.9 Chemical admixtures: To CSA-A266.2.

2.2 Concrete Mixes

2.2.1 Use concrete mix designed to produce 41 MPa (6,000 psi) compressive cylinder strength at 28 days with maximum water/cement ratio to CSA-A23.1, Table 2 for Class N exposure.

2.2.2 Air entrainment of concrete mix: To CSA-A266.4.

2.2.3 Admixtures: To CSA-A266.4, CSA-A266.5.

2.2.4 Do not use calcium chloride or products containing calcium chloride.

2.3 Grout Mix

2.3.1 Cement grout: 20 MPa (3000 psi) at 28 days or one part type 10 Portland cement, 2-1/2 parts sand, sufficient water for placement and hydration.

2.4 Manufacture

2.4.1 Manufacture units in accordance with CSA A23.4 and PCI MNL 116.

2.4.2 Mark each precast unit to correspond to identification mark on shop drawings for location on part of unit which will not be exposed.

2.4.3 Provide hardware suitable for handling elements.

PART 3 – EXECUTION

3.1 Erection

3.1.1 Erect elements within allowable tolerances indicated or specified.

3.1.2 Non-cumulative erection tolerances in accordance with CSA-A23.4, Section 12 and PCI MNL 116, Appendix B.

3.1.3 Install 3 mm masonite bearing pads, smooth side up on bearing ends, of concrete or masonry.

3.1.4 Set units in a tight, level position on true level bearing surface provided by others. Minimum bearing 90 mm (3-1/2") on masonry and 75 mm (3") on structural steel. Thicker or longer span slabs may require more bearing length for structural stability.

3.1.5 Fasten precast units in place as indicated on reviewed shop drawings.

3.1.6 Level differential elevation of horizontal joints with grout to slope not more than 1:12.

3.1.7 Clean field welds with wire brush and touch up with primer.

3.1.8 Field cut holes and openings up to 150 mm (6") diameter for mechanical trades. Openings larger than 150 mm (6") to be located on shop drawings at time of approval and to be cut in field. Do not cut reinforcing without approval of precast slab manufacturer and Engineer.

3.2 Topping

3.2.1 Contractor shall provide a suitable top finish to accept direct application of finished flooring/roofing as per room finish schedule.

3.2.2 Where concrete topping (minimum 37 mm [1-1/2"]) is to be applied. (Refer to appropriate specifications). The top surface of the precast prestressed slab is to be raked (roughened) for bonding of topping.

3.3 Exposed Ceilings

3.3.1 Caulk exposed ceiling longitudinal joints, using standard caulking.

3.3.2 The underside of precast shall be finished as per CSA A23.4 (26.2.3) STANDARD GRADE.

3.4 Clean-up

3.4.1 Upon completion of the work of this section, all surplus materials and debris shall be removed from this site.

*Items relating to precast prestressed slabs to be carried out by other trades, and covered in their respective specifications:

(1) Drypacking of gap between precast prestressed slabs at all locations where load bearing walls are parallel to length of slab.
(2) Perimeter caulking.
(3) Electrical holes.
(4) Concrete topping (37 mm [1-1/2”] +/-).

FIRE RATING

A 2-hour fire resistance rating is achieved by meeting the following requirements in the Supplementary Standard SB-2 to the Ontario Building Code 2006:

1 The equivalent thickness of the slab is calculated as described in Subsection 1.6. OBC requires a minimum thickness of 124 mm as listed in Table 2.2.1.A forming part of sentence 2.2.1 (1).

2 The concrete cover over the reinforcement is 39 mm. OBC requires a minimum cover of 39 mm as listed in Table 2.2.1.B forming part of sentence 2.2.1 (2).

TECHNICAL INFORMATION

Slab thickness:	8 inch	(203 mm)
Slab weight:	62 psf	(2.96 kPa)
X-section area:	237 in^2	(153,000 mm^2)
Concrete cover:	1.55 inch	(39 mm)
Concrete type:	Type N	

Slab thickness:	10 inch	(254 mm)
Slab weight:	74 psf	(3.44 kPa)
X-section area:	277 in^2	(178,700 mm^2)
Concrete cover:	1.55 inch	(39 mm)
Concrete type:	Type N	

Slab thickness:	12 inch	(304 mm)
Slab weight:	86 psf	(4.12 kPa)
X-section area:	315 in^2	(203,200 mm^2)
Concrete cover:	1.55 inch	(39 mm)
Concrete type:	Type N	

Slab thickness:	14 inch	(355 mm)
Slab weight:	95 psf	(4.52 kPa)
X-section area:	301 in^2	(194,655 mm^2)
Concrete cover:	1.55 inch	(39 mm)
Concrete type:	Type N	

SOUND TRANSMISSION

*Sound transmission class (STC) and impact insulation class (IIC) of concrete floor constructions.

Assembly	STC	IIC
Normal density concrete, prestressed hollow core slabs (bare) 8" (200mm), 10" (250mm), 12" (300mm), 14" (350mm)	50	28
8" hollow core slab with carpet and pad	50	73
8" hollow core slab with 1/2" (13mm) wood block flooring adhered directly	51	47
8" hollow core slab with 1/2" (13mm) wood block flooring adhered to 1/2" (13mm) sound-deadening board underlayment adhered to concrete	52	54
8" hollow core slab with 1/2" (13mm) wood block flooring adhered to 1/2" (13mm) plywood adhered to 7/16" (11mm) sound-deadening board underlayment adhered to concrete	52	55
8" hollow core slab with 5/16" (8mm) wood block flooring adhered to 1/4" (6mm) polystyrene underlayment adhered to concrete	50	51
8" hollow core slabs with vinyl tile adhered to 1/2" (13mm) plywood adhered to 7/16" (11mm) sound-deadening board underlayment adhered to concrete	50	55
8" hollow core with vinyl tile adhered to 1/4" (6mm) inorganic felt supported cushion underlayment adhered to concrete	50	51
8" hollow core slabs with vinyl tile adhered to 1/8" (3mm) polyethylene foam underlayment adhered to concrete	50	58
8" hollow core slabs with 1 1/2" (38mm) concrete topping with carpet & pad	50	76
8" hollow core slabs with 1 1/2" (38mm) concrete topping with vinyl tile adhered to concrete	50	44
8" hollow core slabs with 1 1/2" (38mm) concrete topping with vinyl tile adhered to 3/8" (9mm) plywood adhered to 1/2" (13mm) sound-deadening board adhered to concrete	52	55
8" hollow core slabs with 1 1/2" (38mm) concrete with 1/2" (13mm) wood block flooring adhered to 1/2" (13mm) sound-deadening board adhered to concrete	51	53
8" hollow core slabs with 1 1/2" (38mm) concrete with 5/16" (8mm) wood block flooring adhered to foam backing adhered to concrete	51	54
8" hollow core slabs with 3/4" (19mm) gypsum concrete with 5/16" (8mm) wood block flooring adhered to foam backing adhered to concrete	50	53
8" hollow core slab with 1/2" (13mm) wood block flooring adhered to 1/2" (13mm) sound-deadening board underlayment adhered to concrete with acoustical ceiling	59	61
8" hollow core slabs with quarry tile, 1 1/4" (32mm) reinforced mortar bed with 0.4" (10mm) nylon and carbon black spinerette matting	60	54
8" hollow core slabs with quarry tile, 1 1/4" (32mm) reinforced mortar bed with 0.4" (10mm) nylon and carbon black spinerette matting with suspended 5/8" (16mm) gypsum board ceiling with 3 1/2" (90mm) insulation	61	62

*From CPCI Metric Design Manual - Second Edition

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BEAMS AND SPANDRELS

Explanation of Tables

1. The values shown are based on sections containing the maximum practical number of prestressing strands. Fifty percent of the capacity as shown is assumed to be dead load.

2. For economy, minimize the number of different sections on a single project.

3. Specifications:

Concrete	-	41 MPa (6000 psi) @ 28 days 28 MPa (4000 psi) minimum release strength
Strand	-	99 mm^2 (1/2" Ø) Strand fpu = 1860 MPa (270 ksi)
Rebar	-	400 MPa (60 Grade)

4. These Span-Load Tables were derived from computer calculated data intended as an aid to preliminary sizing and must be interpreted on the basis of sound engineering judgement. Deflections and allowable service load stresses should be investigated on a case by case basis.

5. These Tables are intended as a guide only. Other cross-sections and higher loads may be produced.
Contact **CORESLAB STRUCTURES** for details.

WALLS AND COLUMNS

1. Contact **CORESLAB STRUCTURES** for your wall and column design.

2. For economy, minimize the number of different sections on a single project.

3. Use the same footing elevations whenever possible.

4. Specifications:

Concrete	-	41 MPa (6000 psi) for Columns,30 MPa (4000 psi) for Walls @ 28 days
Strand	-	99 mm^2 (1/2" Ø) Strand fpu = 1860 MPa (270 ksi)
Rebar	-	400 MPa (60 Grade)

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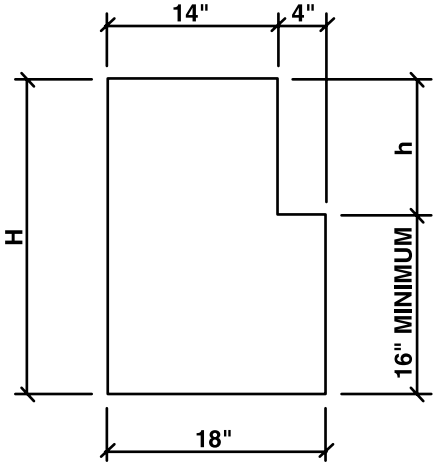
18" WIDE ELL BEAM

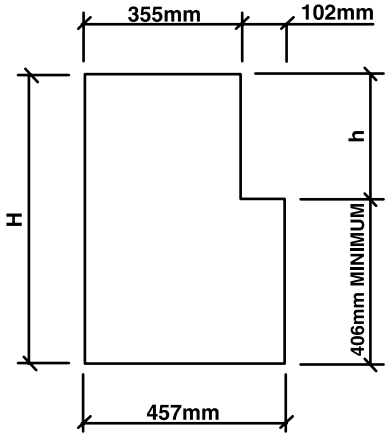


SECTION PROPERTIES (IMPERIAL)							
Depth H (in)	A (in^2)	I (in^4)	S_b (in^3)	S_t (in^3)	Y_b in	Y_t in	SW plf
416	400	18353	1615	1452	11.4	12.6	417
444	428	23231	1896	1690	12.3	13.7	446
472	456	28956	2200	1951	13.2	14.8	475
500	484	35587	2528	2234	14.1	15.9	504
528	512	43178	2878	2540	15.0	17.0	533
556	540	51789	3250	2866	15.9	18.1	563
584	568	61476	3643	3214	16.9	19.1	592
612	596	72295	4057	3582	17.8	20.2	621
640	624	84302	4491	3970	18.8	21.2	650

ALLOWABLE SUPERIMPOSED SERVICE LOADS (klf)

Depth (in)		SIMPLE SPAN - CENTRE TO CENTRE OF BEARING - FEET										
H	h	18	20	22	24	26	28	30	32	34	36	38	40
24	8	6.33	5.06	4.12	3.40	2.84	2.40	2.04	1.75	1.51	1.31	1.14	0.99
26	10	8.58	6.88	5.62	4.66	3.91	3.32	2.84	2.45	2.12	1.85	1.62	1.42
28	12	10.30	8.26	6.75	5.61	4.72	4.01	3.44	2.97	2.58	2.26	1.99	1.75
30	14	12.16	9.76	7.99	6.64	5.59	4.76	4.09	3.54	3.09	2.71	2.38	2.11
32	16	14.17	11.38	9.33	7.76	6.54	5.58	4.80	4.16	3.63	3.19	2.81	2.49
34	18		13.12	10.75	8.96	7.56	6.45	5.55	4.82	4.21	3.71	3.27	2.91
36	20		14.93	12.24	10.21	8.62	7.36	6.34	5.51	4.82	4.25	3.76	3.34
38	22			13.82	11.53	9.74	8.33	7.18	6.25	5.47	4.82	4.27	3.80
40	24				12.93	10.93	9.35	8.07	7.02	6.15	5.43	4.81	4.29

460 mm WIDE ELL BEAM



SECTION PROPERTIES (METRIC)							
Depth H (mm)	A (mm^2)	I ($x10^9$ mm^2)	S_b ($x10^7$ mm^2)	S_t	Y_b (mm)	Y_t (mm)	SW (kN/m)
610	258064	7.64	2.65	2.38	289.6	320.0	6.09
660	276128	9.67	3.11	2.77	312.4	348.0	6.51
711	294193	12.05	3.61	3.20	335.3	375.9	6.93
762	312257	14.81	4.14	3.66	358.1	403.9	7.35
813	330322	17.97	4.72	4.16	381.0	431.8	7.78
864	348386	21.56	5.33	4.70	403.9	459.7	8.22
914	366451	25.59	5.97	5.27	429.3	485.1	8.64
965	384515	30.09	6.65	5.87	452.1	513.1	9.06
1016	402580	35.09	7.36	6.51	477.5	538.5	9.49

ALLOWABLE SUPERIMPOSED SERVICE LOADS (kN/m)

Depth (mm)		SIMPLE SPAN - CENTRE TO CENTRE OF BEARING - METERS												
H	h	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	10.5	11	11.5	12
610	203	92.0	76.4	64.3	54.7	47.0	40.7	35.4	31.0	27.3	24.1	21.3	19.0	16.9	15.1
660	254	124.7	103.9	87.6	74.8	64.4	55.9	48.9	43.0	38.0	33.7	30.0	26.9	24.1	21.7
711	305	149.6	124.7	105.4	90.0	77.6	67.5	59.1	52.0	46.1	41.0	36.6	32.8	29.5	26.6
762	356	176.6	147.3	124.6	106.5	92.0	80.0	70.2	61.9	54.9	48.9	43.7	39.3	35.4	32.0
813	406	205.8	171.8	145.4	124.4	107.5	93.6	82.2	72.5	64.4	57.5	51.5	46.3	41.8	37.8
864	457	236.9	197.9	167.6	143.5	124.1	108.2	95.0	83.9	74.6	66.6	59.7	53.8	48.6	44.0
914	508	269.5	225.2	190.8	163.4	141.4	123.3	108.4	95.9	85.2	76.2	68.4	61.6	55.8	50.6
965	559	303.9	254.1	215.3	184.6	159.8	139.4	122.6	108.5	96.6	86.4	77.6	70.0	63.4	57.5
1016	610	340.4	284.7	241.3	206.9	179.2	156.5	137.6	121.9	108.5	97.1	87.3	78.8	71.4	64.9

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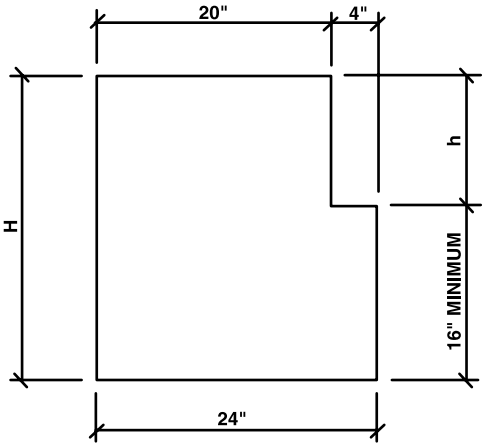
24" WIDE ELL BEAM

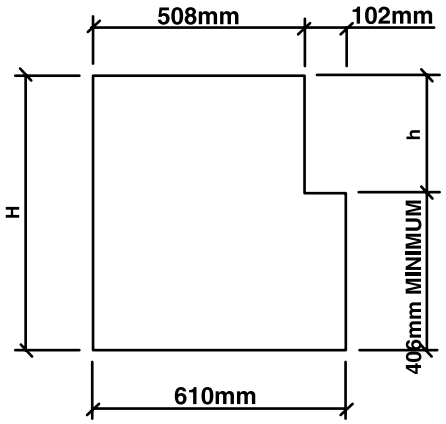


SECTION PROPERTIES (IMPERIAL)							
Depth H (in)	A (in^2)	I (in^4)	S_b (in^3)	S_t (in^3)	Y_b (in)	Y_t (in)	SW (plf)
24	544	25308	2195	2029	11.5	12.5	567
26	584	32083	2576	2368	12.5	13.5	608
28	624	40019	2989	2738	13.4	14.6	650
30	664	49199	3434	3138	14.3	15.7	692
32	704	59702	3909	3569	15.3	16.7	733
34	744	71610	4413	4028	16.2	17.8	775
36	784	85002	4946	4517	17.2	18.8	817
38	824	99961	5508	5034	18.1	19.9	859
40	864	116565	6099	5580	19.1	20.9	900

ALLOWABLE SUPERIMPOSED SERVICE LOADS (klf)

Depth (in)		SIMPLE SPAN - CENTRE TO CENTRE OF BEARING - FEET											
H	h	18	20	22	24	26	28	30	32	34	36	38	40
24	8	10.46	8.38	6.84	5.67	4.75	4.03	3.45	2.97	2.57	2.24	1.96	1.72
26	10	12.62	10.12	8.27	6.87	5.77	4.90	4.20	3.63	3.15	2.75	2.42	2.13
28	12		12.39	10.14	8.43	7.09	6.04	5.19	4.49	3.91	3.43	3.02	2.67
30	14		14.33	11.74	9.76	8.23	7.01	6.03	5.22	4.56	4.00	3.53	3.12
32	16			13.85	11.54	9.73	8.30	7.15	6.21	5.42	4.77	4.21	3.74
34	18				13.11	11.07	9.45	8.14	7.07	6.19	5.44	4.82	4.28
36	20					12.94	11.06	9.54	8.30	7.27	6.40	5.67	5.05
38	22					14.88	12.74	11.01	9.59	8.42	7.44	6.61	5.90
40	24						14.01	12.10	10.54	9.25	8.16	7.24	6.46

600 mm WIDE ELL BEAM



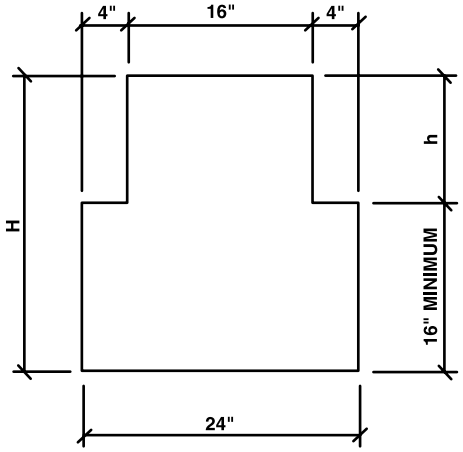
SECTION PROPERTIES (METRIC)							
Depth H (mm)	A (mm^2)	I ($x10^9$ mm^2)	S_b ($x10^7$ mm^2)	S_t	Y_b (mm)	Y_t (mm)	SW (kN/m)
610	350967	10.53	3.60	3.32	292.1	317.5	8.27
660	376773	13.35	4.22	3.88	317.5	342.9	8.87
711	402580	16.66	4.90	4.49	340.4	370.8	9.49
762	428386	20.48	5.63	5.14	363.2	398.8	10.10
813	454193	24.85	6.41	5.85	388.6	424.2	10.70
864	479999	29.81	7.23	6.60	411.5	452.1	11.31
914	505805	35.38	8.11	7.40	436.9	477.5	11.92
965	531612	41.61	9.03	8.25	459.7	505.5	11.19
1016	557418	48.52	9.99	9.14	485.1	530.9	13.13

ALLOWABLE SUPERIMPOSED SERVICE LOADS (kN/m)

Depth (mm)		SIMPLE SPAN - CENTRE TO CENTRE OF BEARING - METERS												
H	h	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	10.5	11	11.5	12
610	203	152.0	126.6	106.8	91.0	78.4	68.0	59.4	52.2	46.1	40.9	36.4	32.5	29.1	26.2
660	254	183.4	152.8	129.1	110.2	95.0	82.5	72.2	63.6	56.3	50.0	44.6	40.0	35.9	32.3
711	305		187.0	158.1	135.1	116.6	101.5	89.0	78.4	69.5	61.9	55.4	49.7	44.8	40.5
762	356		216.2	182.9	156.5	135.2	117.7	103.3	91.2	80.9	72.1	64.6	58.1	52.4	47.4
813	406			215.8	184.8	159.8	139.3	122.3	108.1	96.0	85.7	76.9	69.2	62.5	56.7
864	457				209.9	181.6	158.4	139.1	123.0	109.4	97.8	87.7	79.1	71.5	64.8
914	508					212.1	185.2	162.8	144.1	128.3	114.7	103.1	93.0	84.2	76.5
965	559						213.0	187.5	166.2	148.2	132.8	119.5	108.0	98.0	89.2
1016	610							206.3	182.8	162.9	145.8	131.2	118.5	107.5	97.7

CORESLAB® STRUCTURES (ONT) INC.

24" WIDE INVERTED TEE BEAM

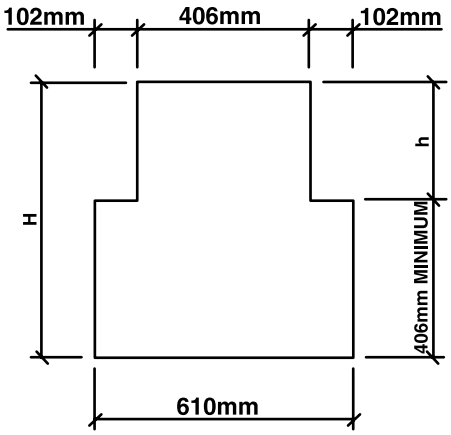


SECTION PROPERTIES (IMPERIAL)							
Depth H (in)	A (in^2)	I (in^4)	S_b (in^3)	S_t (in^3)	Y_b (in)	Y_t (in)	SW (plf)
24	512	22698	2063	1746	11.0	13.0	533
26	544	28612	2419	2018	11.8	12.2	567
28	576	35584	2809	2320	12.7	15.3	600
30	608	43682	3229	2651	13.5	16.5	633
32	640	52974	3678	3009	14.4	17.6	667
34	672	63529	4156	3395	15.3	18.7	700
36	704	75411	4660	3805	16.2	19.8	733
38	736	88687	5190	4240	17.1	20.9	767
40	768	103424	5745	4701	18.0	22.0	800

ALLOWABLE SUPERIMPOSED SERVICE LOADS (klf)

Depth (in)		SIMPLE SPAN - CENTRE TO CENTRE OF BEARING - FEET											
H	h	18	20	22	24	26	28	30	32	34	36	38	40
24	8	7.88	6.29	5.12	4.23	3.53	2.98	2.54	2.17	1.87	1.62	1.40	1.22
26	10	9.11	7.29	5.94	4.91	4.11	3.47	2.96	2.54	2.19	1.90	1.66	1.45
28	12	11.57	9.27	7.57	6.27	5.27	4.47	3.83	3.30	2.86	2.49	2.18	1.92
30	14	14.27	11.45	9.37	7.78	6.55	5.57	4.78	4.13	3.60	3.15	2.77	2.44
32	16	15.72	12.62	10.33	8.58	7.23	6.15	5.28	4.57	3.98	3.49	3.07	2.71
34	18		15.14	12.40	10.32	8.71	7.42	6.38	5.54	4.83	4.25	3.75	3.32
36	20			14.87	12.39	10.47	8.93	7.70	6.69	5.85	5.15	4.56	4.05
38	22				14.41	12.18	10.41	8.98	7.81	6.84	6.03	5.34	4.76
40	24					13.60	11.63	10.04	8.74	7.66	6.75	5.99	5.34

600 mm WIDE INVERTED TEE BEAM



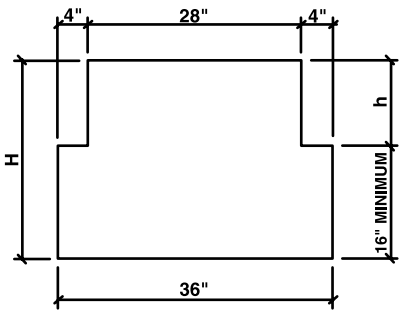
SECTION PROPERTIES (METRIC)							
Depth (mm)	A (mm^2)	I ($x10^9$ mm^2)	S_b ($x10^7$ mm^2)	S_t ($x10^7$ mm^2)	Y_b (mm)	Y_t (mm)	SW (kN/m)
610	330322	9.45	3.38	2.86	279.4	330.2	7.78
660	350967	11.91	3.96	3.31	299.7	309.9	8.27
711	371612	14.81	4.60	3.80	322.6	388.6	8.76
762	392257	18.18	5.29	4.34	342.9	419.1	9.24
813	412902	22.05	6.03	4.93	365.8	447.0	9.73
864	433548	26.44	6.81	5.56	388.6	475.0	10.22
914	454193	31.39	7.64	6.24	411.5	502.9	10.70
965	474838	36.91	8.50	6.95	434.3	530.9	11.19
1016	495483	43.05	9.41	7.70	457.2	558.8	11.67

ALLOWABLE SUPERIMPOSED SERVICE LOAD (kN/m)

Depth (mm)		SIMPLE SPAN - CENTRE TO CENTRE OF BEARING - METERS												
H	h	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10	10.5	11	11.5	12
610	203	114.5	95.1	80.0	68.0	58.4	50.5	43.9	38.4	33.8	29.8	26.4	23.5	20.9	18.6
660	254	132.4	110.1	92.7	78.9	67.8	58.7	51.2	44.9	39.5	35.0	31.0	27.6	24.6	22.0
711	305	168.0	139.9	118.1	100.8	86.8	75.3	65.9	57.9	51.2	45.4	40.5	36.2	32.5	29.2
762	356	207.3	172.9	146.1	124.9	107.7	93.7	82.1	72.3	64.1	57.0	51.0	45.7	41.1	37.1
813	406		190.5	161.1	137.7	118.8	103.4	90.6	79.9	70.8	63.1	56.4	50.6	45.6	41.2
864	457			193.3	165.4	143.0	124.6	109.3	96.5	85.7	76.5	68.5	61.6	55.6	50.4
914	508				198.5	171.7	149.8	131.6	116.4	103.5	92.5	83.0	74.8	67.6	61.3
965	559					199.7	174.4	153.3	135.7	120.8	108.0	97.1	87.6	79.3	72.0
1016	610						194.6	171.2	151.6	135.0	120.8	108.6	98.1	88.9	80.8

CORESLAB® STRUCTURES (ONT) INC.

36" WIDE INVERTED TEE BEAM

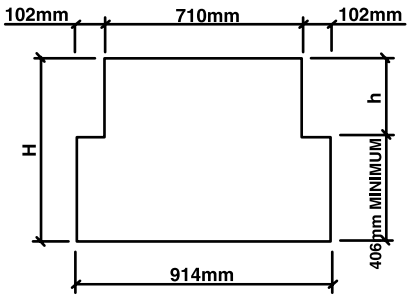


SECTION PROPERTIES (IMPERIAL)							
Depth (in)	A (in^2)	I (in^4)	S_b (in^3)	S_t (in^3)	Y_b (in)	Y_t (in)	SW (plf)
24	800	36707	3231	2904	11.4	12.6	833
26	856	46462	3792	3379	12.3	13.7	892
28	912	57913	4401	3901	13.2	14.8	950
30	968	71173	5056	4469	14.1	15.9	1008
32	1024	86357	5757	5079	15.0	17.0	1067
34	1080	103579	6500	5733	15.9	18.1	1125
36	1136	122952	7287	6428	16.9	19.1	1183
38	1192	144590	8114	7164	17.8	20.2	1242
40	1248	168605	8983	7941	18.8	21.2	1300

ALLOWABLE SUPERIMPOSED SERVICE LOADS (klf)

Depth (in)		SIMPLE SPAN - CENTRE TO CENTRE OF BEARING - FEET										
H	h	20	22	24	26	28	30	32	34	36	38	40
24	8	12.61	10.29	8.53	7.16	6.07	5.20	4.48	3.88	3.38	2.96	2.60
26	10	14.74	12.04	10.00	8.40	7.13	6.11	5.28	4.59	4.01	3.51	3.09
28	12		14.35	11.93	10.04	8.54	7.33	6.34	5.52	4.83	4.25	3.76
30	14			14.02	11.81	10.06	8.65	7.50	6.54	5.74	5.06	4.48
32	16				13.73	11.71	10.08	8.74	7.64	6.71	5.93	5.26
34	18					13.47	11.61	10.08	8.82	7.76	6.86	6.10
36	20						13.25	11.52	10.09	8.88	7.87	7.00
38	22						14.93	12.99	11.38	10.03	8.89	7.92
40	24							14.55	12.76	11.26	9.99	8.90

900 mm WIDE INVERTED TEE BEAM



SECTION PROPERTIES (METRIC)							
Depth (mm)	A (mm^2)	I ($x10^9$ mm^2)	S_b ($x10^7$ mm^2)	S_t	Y_b (mm)	Y_t (mm)	SW (kN/m)
610	516128	15.28	5.29	4.76	289.6	320.0	12.16
660	552257	19.34	6.21	5.54	312.4	348.0	13.02
711	588386	24.11	7.21	6.39	335.3	375.9	13.86
762	624515	29.62	8.29	7.32	358.1	403.9	14.71
813	660644	35.94	9.43	8.32	381.0	431.8	15.57
864	696773	43.11	10.65	9.39	403.9	459.7	16.42
914	732902	51.18	11.94	10.53	429.3	485.1	17.26
965	769031	60.18	13.30	11.74	452.1	513.1	18.12
1016	805160	70.18	14.72	13.01	477.5	538.5	18.97

ALLOWABLE SUPERIMPOSED SERVICE LOADS (kN/m)

Depth (mm)		SIMPLE SPAN - CENTRE TO CENTRE OF BEARING - METERS												
H	h	6	6.5	7	7.5	8	8.5	9	9.5	10	10.5	11	11.5	12
610	203	190.4	160.6	137.0	118.0	102.4	89.5	78.7	69.5	61.7	54.9	49.1	44.0	39.5
660	254		187.9	160.4	138.3	120.1	105.1	92.5	81.9	72.8	64.9	58.1	52.2	47.0
711	305			191.3	165.1	143.6	125.8	110.9	98.3	87.5	78.2	70.2	63.2	57.0
762	356				194.1	169.0	148.2	130.8	116.1	103.5	92.7	83.3	75.1	67.9
813	406					196.5	172.5	152.4	135.3	120.8	108.3	97.5	88.0	79.7
864	457						198.4	175.4	156.0	139.4	125.1	112.7	101.8	92.3
914	508							200.2	178.1	159.3	143.1	129.0	116.7	106.0
965	559								200.8	179.7	161.5	145.7	132.0	119.9
1016	610									201.3	181.1	163.5	148.2	134.7

CORESLAB® STRUCTURES (ONT) INC.

Finishes

- Wide range of patterns, textures and colours available
- Reduces on-site labour
- Fast installation
- Manufactured in a controlled environment for top quality finishes

Reveals

Exposed Aggregate

Form Liners

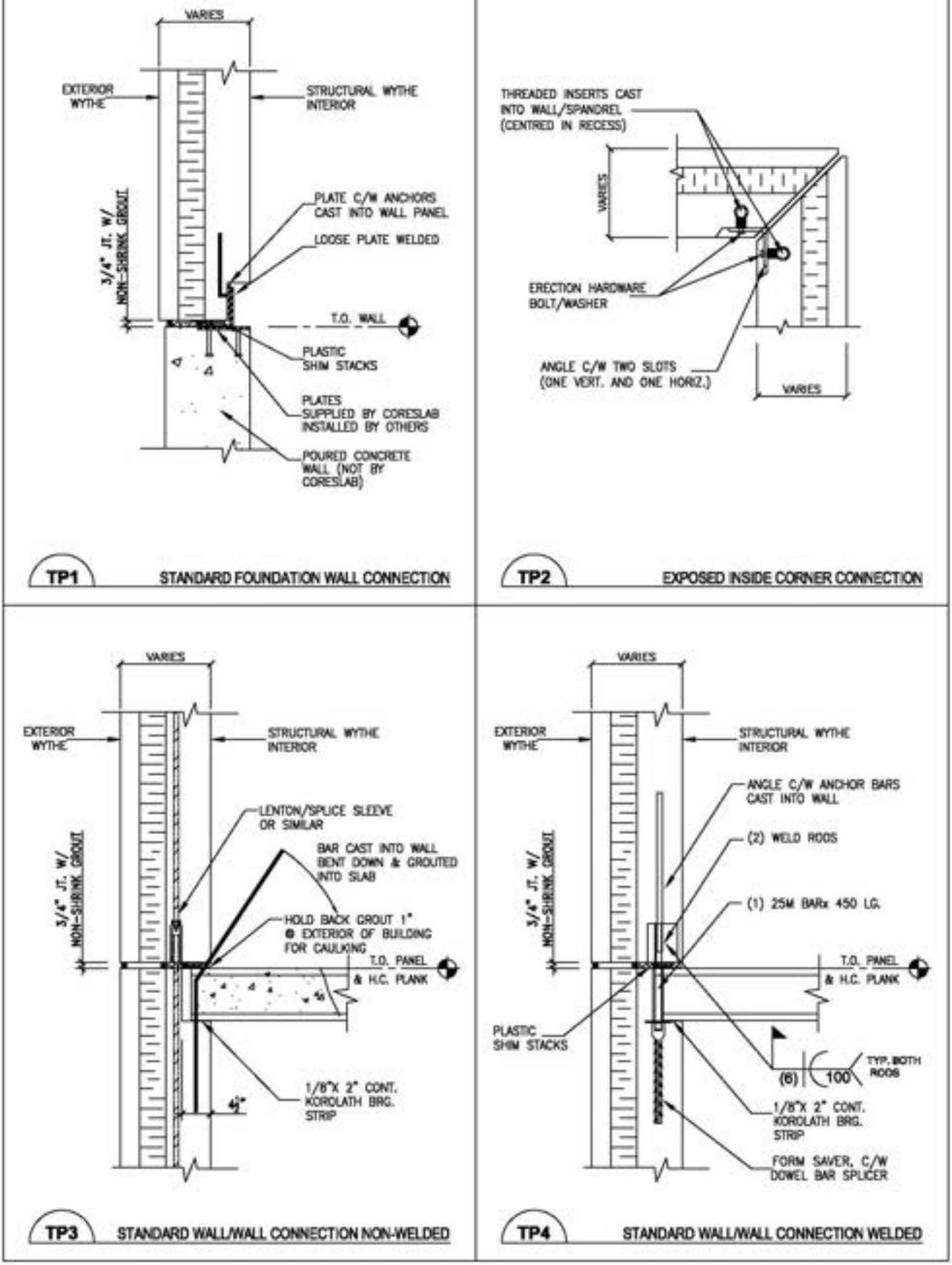
Colour

Staining

Staining is available in any colour and all staining and caulking is completed on site by Coreslab.

Details

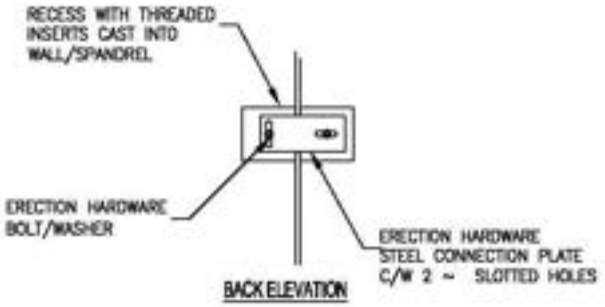
PRECAST WALL CONNECTION DETAILS

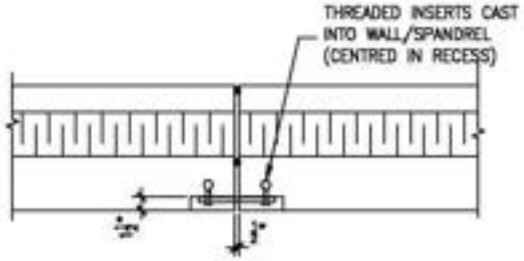


All connection details shown are for reference purposes only. The building consultants must ensure that the details selected will satisfy the design criteria for the entire project. Connection details and bearing requirements may vary ~ contact Coreslab Engineer.

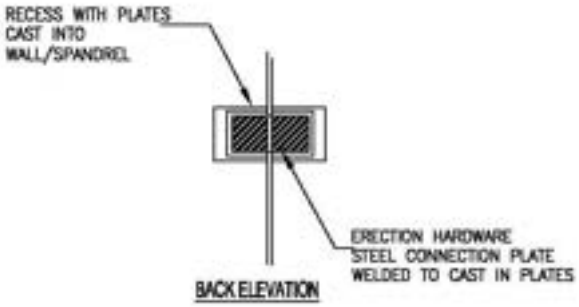
Details

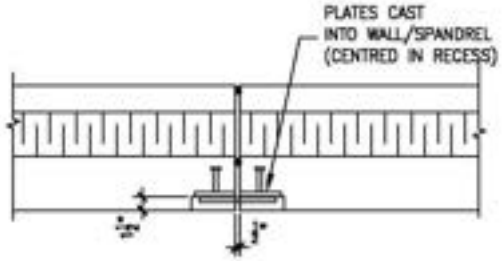
PRECAST WALL CONNECTION DETAILS



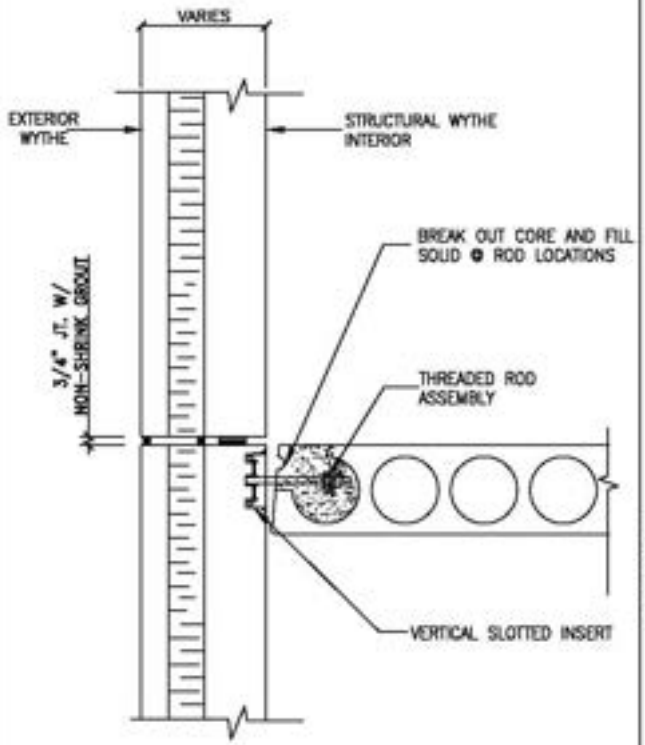


TP5 EXPOSED PANEL/PANEL BOLTED

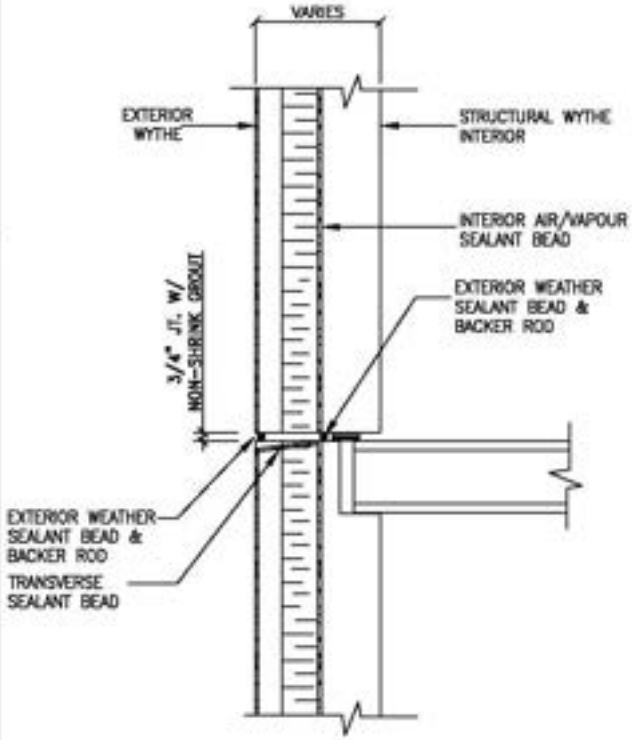




TP6 EXPOSED PANEL/PANEL WELDED



TP7 STANDARD SIDE LAP CONNECTION



TP8 STANDARD JOINT SEALING DETAIL

All connection details shown are for reference purposes only. The building consultants must ensure that the details selected will satisfy the design criteria for the entire project. Connection details and bearing requirements may vary ~ contact Coreslab Engineer.

Certification

ENSURE ONLY THE HIGHEST QUALITY PRECAST IS SPECIFIED ON YOUR PROJECT

CPCI Precast Concrete Certification Program for Precast Concrete Products and Systems

CPCI (Canadian Precast/Prestressed Concrete Institute) has introduced an updated audit based process certification program to ensure conformance to CSA A23.4 and related standards. This program will reintroduce strict measurable nationwide standards for precast certification. CPCI Certification will be a superior program at no additional cost.

Benefits to Owners, Architects, Engineers and Contractors:

- Easy identification of plants committed to fulfill the highest level of certification available in North America.
- Assurance that bidders have demonstrated their ability to manufacture quality products and have an ongoing quality system in place.
- Certified manufacturers with a confirmed capability to produce superior products and systems.
- Get the job done right the first time – saving time, money and headaches.
- Quality products help speed erection and reduce construction time.
- Deal with established producers who have earned a reputation for superior, reliable workmanship.
- No additional cost to you – CPCI certified manufacturers pay fees that are comparable with the existing CSA program.
- Increased assurance to owners and designers that CPCI Certified manufacturers will furnish products ideally suited for each project.

Program Requirements:

- The manufacturing of precast concrete products must conform to all the requirements of:
- CSA Standard A23.4-05 Precast Concrete – Materials and Construction
- PCI Quality Control Manual; MNL-116 – Manual for Quality Control for Plants and Production of Precast and Prestressed Concrete Products
- PCI Quality Control Manual, MNL-117 – Manual for Quality Control for Plants and Production of Architectural Precast Concrete Products.
- The more stringent requirements of these specifications become the governing criteria.

How to Specify CPCI Certification:

The Construction Specifications Canada (CSC) TEC-AID for 03 45 00 Architectural Precast Concrete and 03 41 00 Structural Precast/Prestressed Concrete contains the following Clause 1.8 Quality Assurance:

.2 Manufacturer: certified to Canadian Precast/Prestressed Concrete Institute (CPCI) Certification Program.

.1 Manufacturer must meet requirements of CSA A23.4, including Appendices A and B, with PCI MNL-116 and 117 and CPCI Certification requirements.

CSA International is a separate division of CSA involved in testing and certification of a wide range of products and systems. It is not a requirement of the National Building Code, Provincial Building Code or CSA Standards that products and systems be certified by CSA International.

For more information check out our **NEW** CERTIFICATION tab or visit www.precastcertification.ca.

Notes

Notes

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