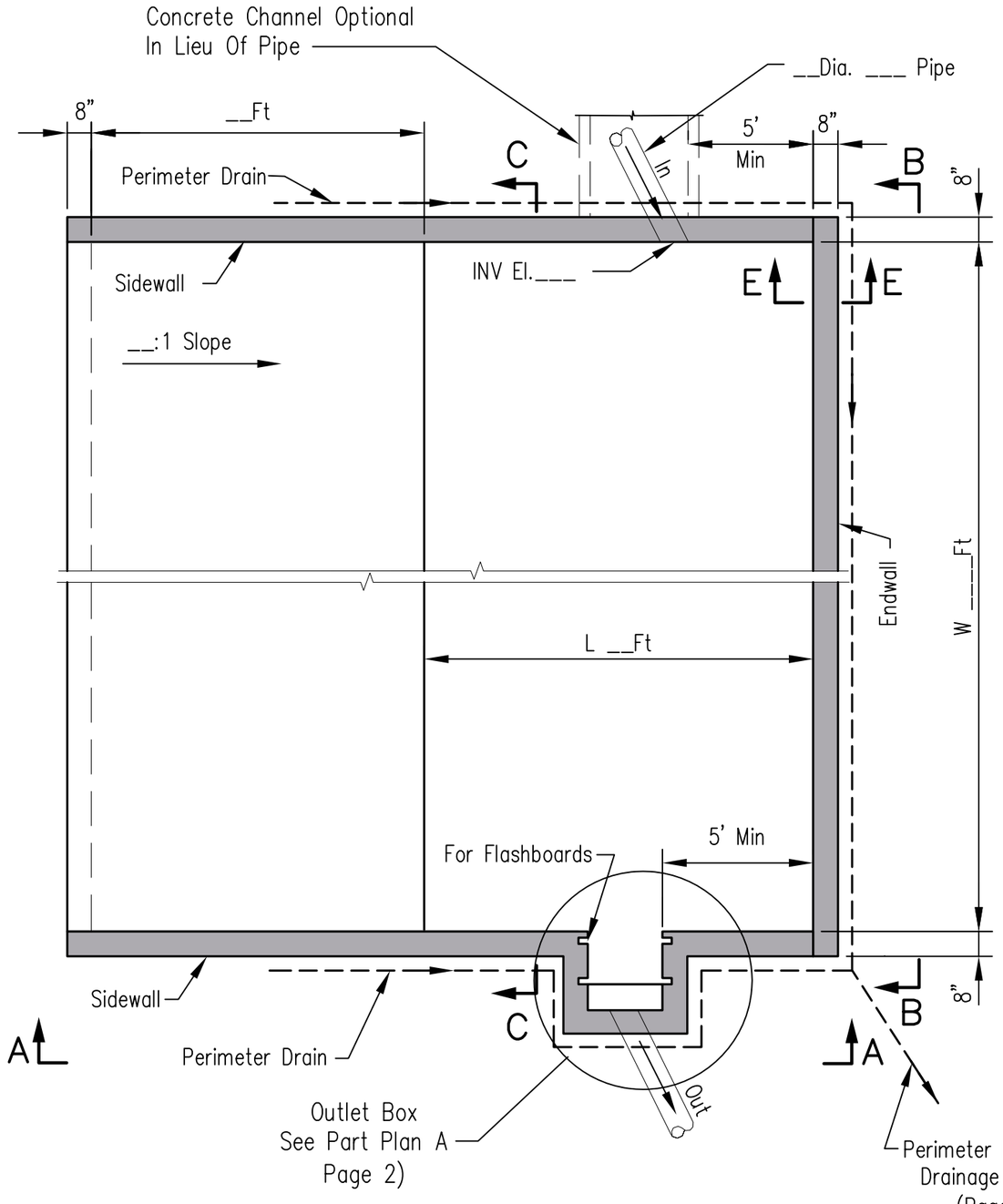
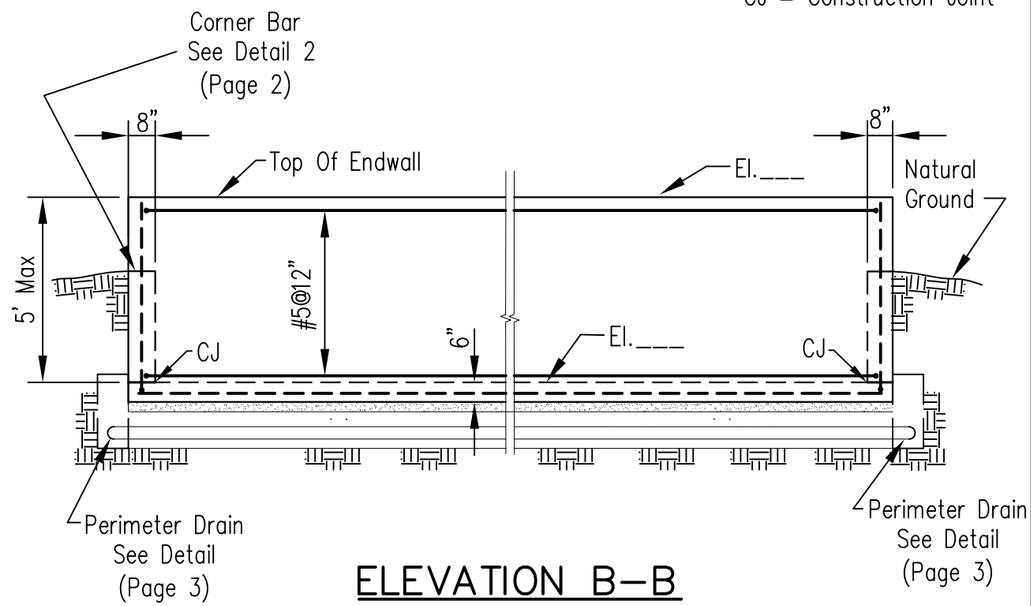


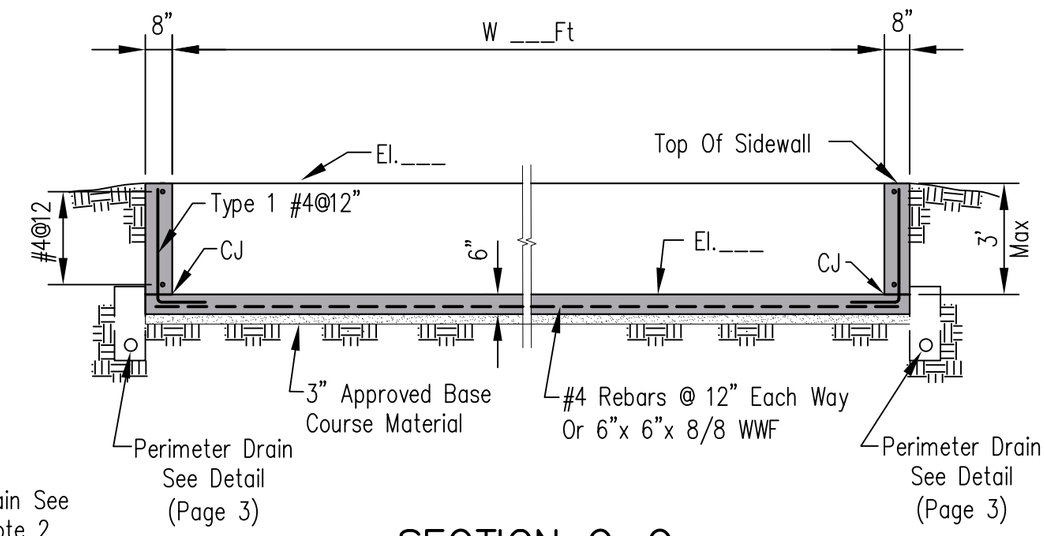
PLAN

Legend:
CJ = Construction Joint



ELEVATION B–B

For Construction Joint Note
(See Page 4)



SECTION C–C

For Construction Joint Note
(See Page 4)

Not To Scale

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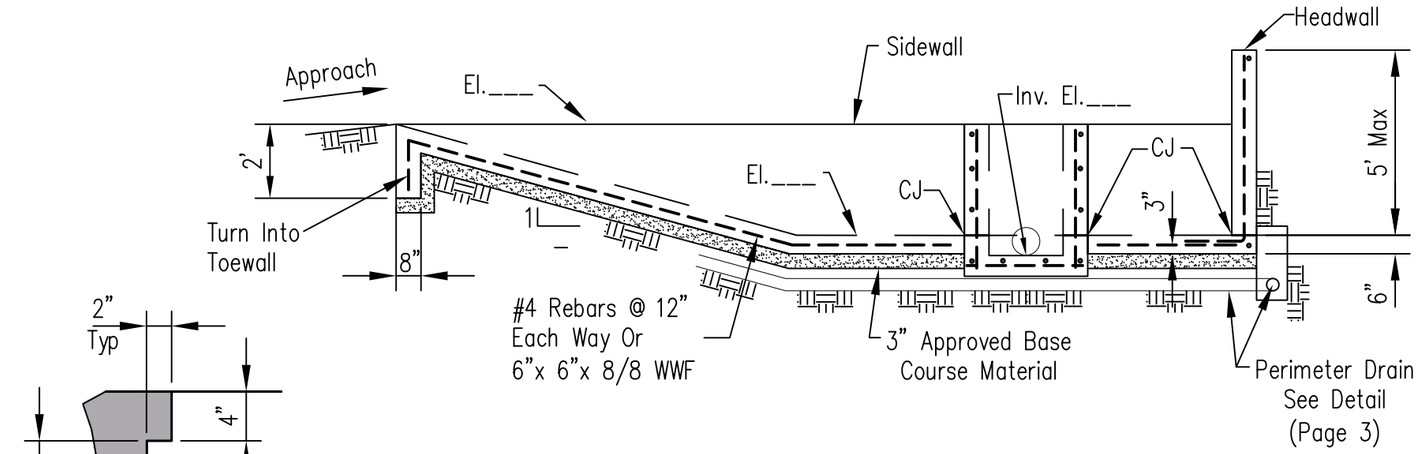
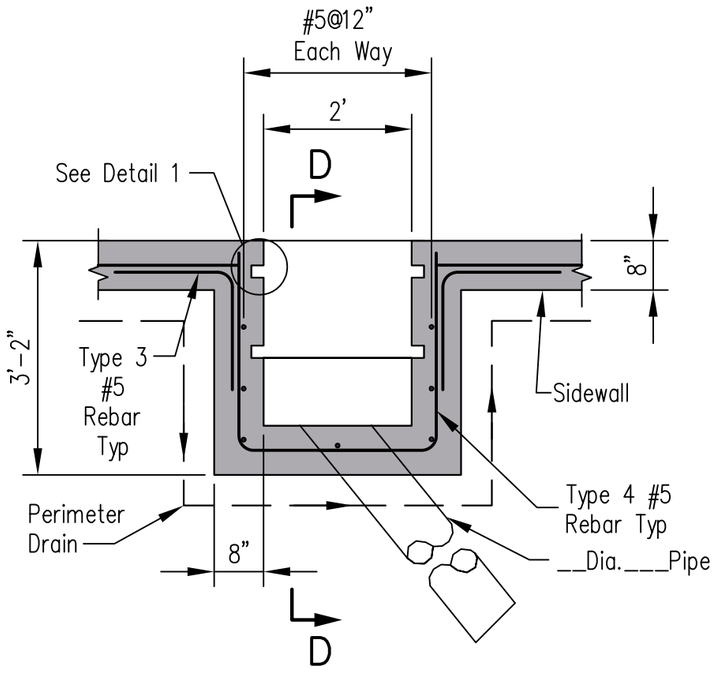


ELEVATION A–A

OUTLET BOX & PIPE
For Construction Joint Note
(See Page 4)

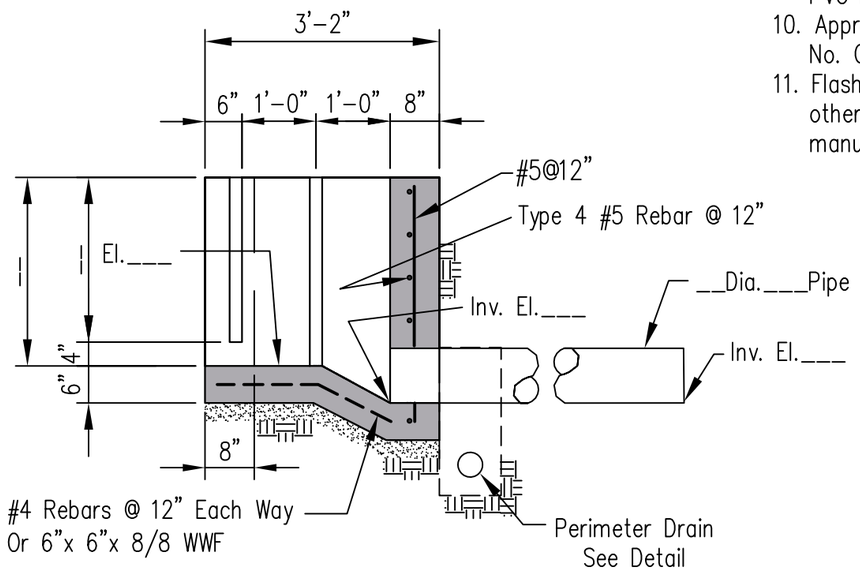
DETAIL 1

Scale 1" = 1'–0"



PART PLAN A

OUTLET BOX & PIPE
Scale 1/2" = 1'–0"

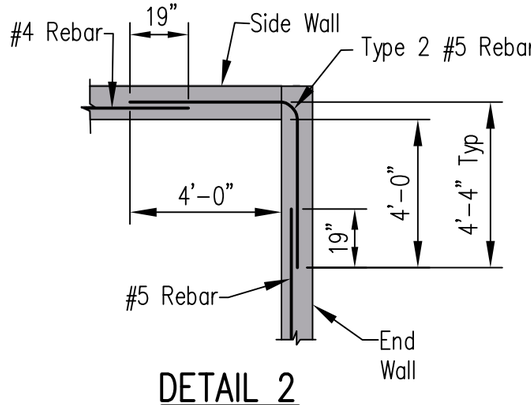


SECTION D–D

Scale 1/2" = 1'–0"

GENERAL NOTES:

1. Concrete shall be designed to provide a 28–day compressive strength of 4000 PSI. The concrete shall be placed with all the steel tied securely in place.
2. Steel in the floor shall be #4 rebars @ 12" center to center, each way, or 6"x 6"x 8/8 WWF.
3. The walls and floor will be built with expansion joints. No section of wall or floor will be over 30 feet long between expansion joints. See Expansion Joint Details.
4. A construction joint must be placed any where the concrete placement is not continuous. See Construction Joint Notes on page 4.
5. The rebars in the endwalls and outlet box shall be #5 rebars each way. The rebars in sidewalls shall be #4 rebars, at 12 inches each way.
6. The vertical rebars in all the walls shall be bent 90 degrees with the shorter leg of rebar tied to the floor reinforcing. Where the #4 rebars join other #4 rebars, the bar lap shall be a minimum of 15 inches. The bar lap for #5 rebars to #5 rebars or #5 rebars to #4 rebars shall be 19 inches.
7. All rebars shall have a minimum concrete cover of 2 inches except when concrete is placed on or against the earth, then the minimum cover shall be three inches.
8. Field bend or cut vertical and horizontal bars in sidewalls and outlet box to clear pipe by a minimum of 2 inches.
9. PVC pipe shall meet the requirements of ASTM D–1785 PVC PLASTIC PIPE SCHEDULE 40 or 80.
10. Approved base course material includes IDOT Gradation No. CA 7, 8, 11, 12, 14, 15, 16 or FA 1, 2, 4.
11. Flashboards shall be constructed of treated lumber or othersuitable material that could withstand exposure to manure without major corrosion and rot.



DETAIL 2

Corner Bar Detail

Not To Scale Unless Noted

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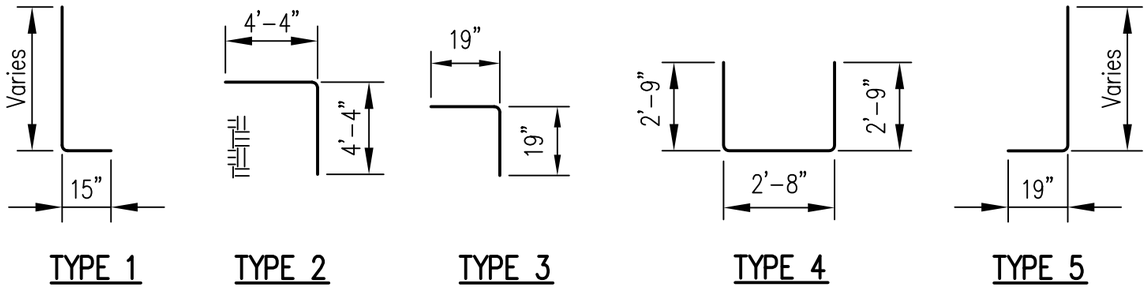
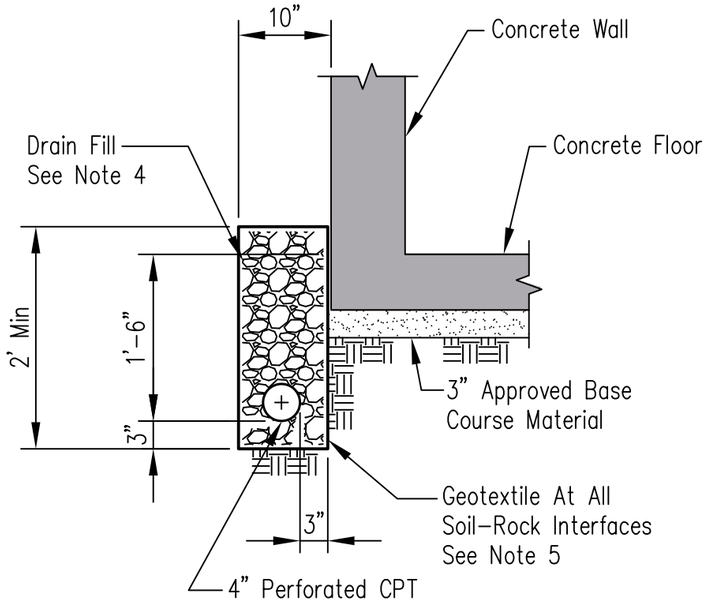
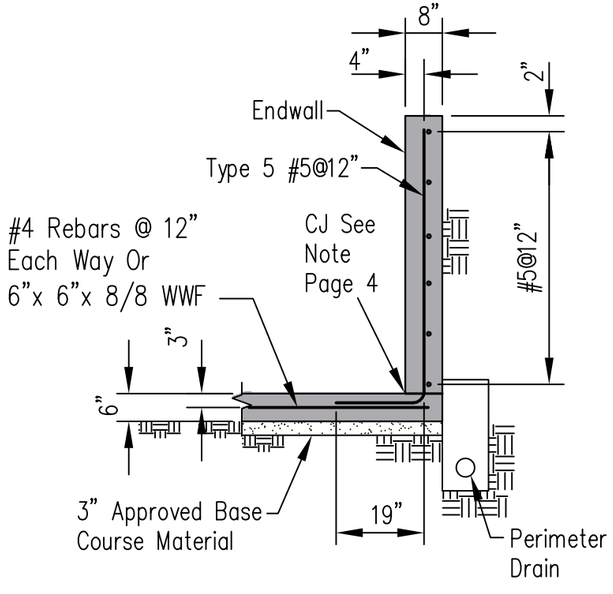


TYPE 1 TYPE 2 TYPE 3 TYPE 4 TYPE 5



PERIMETER DRAIN DETAIL

Scale 3/4" = 1'-0"



SECTION E-E

Scale 3/8" = 1'-0"

DRAINAGE NOTES:

1. Provide perimeter drain to adequate outlet if water table can rise above floor level.
2. Perimeter drain pipe and gravel/geotextile filter is to be routed around 3 sides of the basin and drain freely to a surface water outlet or other subsurface drainage outlet.
3. Perimeter drain pipe and fittings shall be perforated, corrugated polyethylene (CPT) meeting ASTM Specifications listed below:

CPT	ASTM F405, F667
Dual Wall CPT	ASTM F2306, F2648, F405, F667

4. Drain fill shall consist of sand, gravel or concrete aggregate mixture with a maximum size of 3" and not more than 5% passing a #200 sieve. Qualifying IDOT gradations include:
   CA-1, CA-3, CA-5, CA-7, CA-8, CA-11,
   CA-12, CA-13, CA-14, CA-15, CA-16, CA-18

5. Geotextile (non-woven, needle punched) minimum criteria:
   Grab tensile strength (lb) ASTM D 4632_____202
   Elongation at failure (%) ASTM 4632_____≥50
   Trapezoidal tear strength (lb) ASTM D 4533_____79
   Puncture strength (lb) ASTM D 6241_____433
   Ultraviolet light (% retained strength) ASTM D 4355_____min 50
   Apparent opening size (AOS) ASTM D 4751___
   max 0.22 mm (US sieve size 70)
   Permittivity sec^{-1} ASTM D 4491_____min 0.70

ESTIMATED QUANTITIES

ITEM	UNIT	QUANTITY
Concrete (28 Days, 4000 PSI)	Cu. Yd.	
Reinforcing Steel #4 Rebars	Lbs.	
Reinforcing Steel #5 Rebars	Lbs.	
Reinforcing 6"x6"x 8/8 WWF	Sq. Ft.	
6" Nonmetallic Water Stop	Lin. Ft.	
Inlet ___ Pipe_____Dia.	Lin. Ft.	
Outlet ___ Pipe_____Dia.	Lin. Ft.	
Base Course Material	Tons	
Geotextile	Sq. Ft.	
Perimeter Drain Fill	Tons	
4" Perforated CPT	Lin. Ft.	

Scale As Noted

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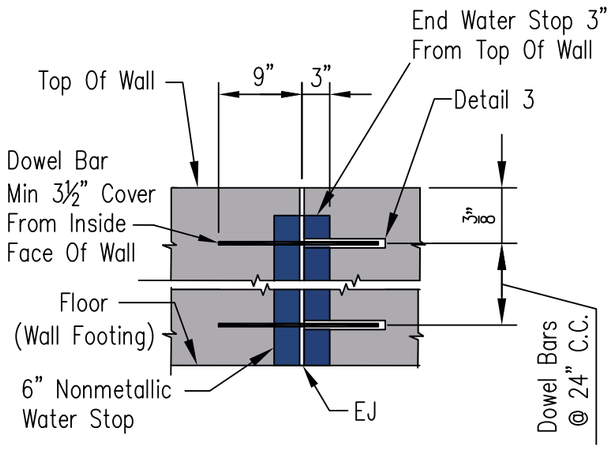
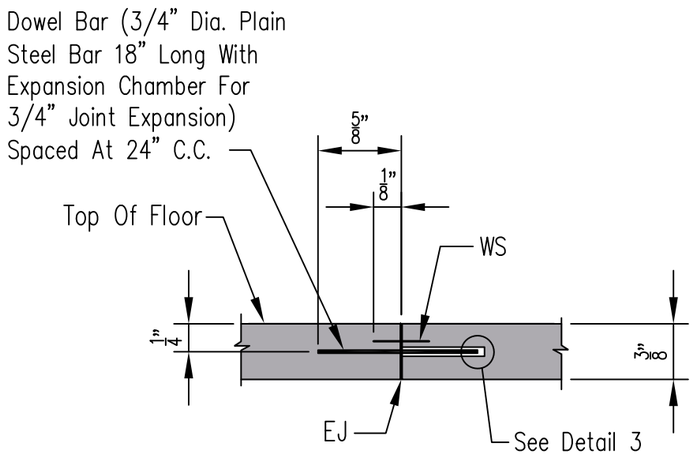


Spacing Not Greater Than 30' C.C.

EXPANSION JOINT DETAIL–WALL

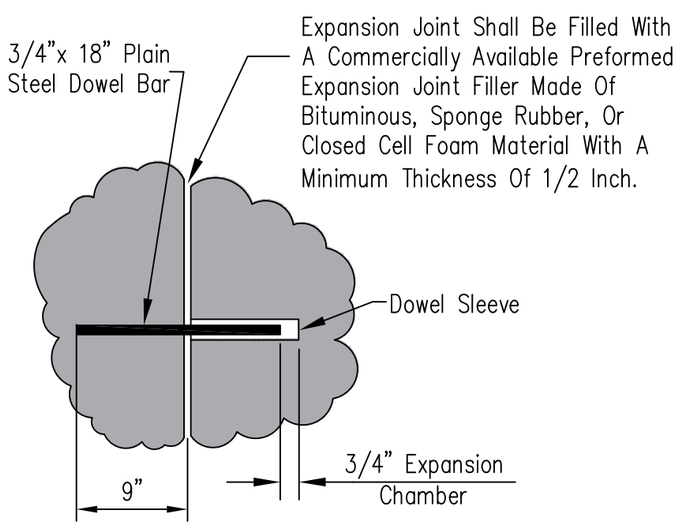
Scale 3/4" = 1'–0"



Spacing Not Greater Than 30' C.C.

EXPANSION JOINT DETAIL–FLOOR

Scale 3/4" = 1'–0"



DETAIL 3

Scale 1" = 1'–0"

Construction Joint Notes

1. A construction joint must be prepared when the concrete pour is not continuous, typically between the floor and wall.
2. Prepare all surfaces that will be in contact with new concrete as per note 5.
3. Let concrete cure at least 12 hours prior to steel tying and form construction for the next pour.
4. New concrete must not be placed until the hardened concrete has cured at least 12 hours.
5. Construction joints must be prepared using one of the following two methods:
   Method 1 – Water–Air or Sandblasting. Clean the joint surface of all unsatisfactory concrete, laitance, coating, stains, and debris by sandblasting or high–pressure air–water cutting, or both. Sandblasting can be used after the concrete has gained sufficient strength to resist excessive cutting, and high–pressure air–water cutting can be used as soon as the concrete has hardened sufficiently to prevent the jet from displacing the coarse aggregates. The surface of the concrete in place must be cut to expose clean, sound aggregate, but not so deep as to undercut the edges of larger particles of the aggregate. Cut the surface to at least 1/4" depth. Thoroughly wash the surface to remove all material after cutting.
   Method 2 – Mechanical. Clean the joint surface of all unsatisfactory concrete, laitance, coatings, stains, and debris by washing and scrubbing with a wire brush, wire broom, or other means approved by the engineer to expose coarse aggregate without displacing it. The surface must be roughened to at least 1/4" depth.
6. All construction joints must be wetted and standing water removed immediately before new concrete is placed.
7. New concrete must be sufficiently vibrated to ensure good contact into the prepared joint.
8. Keyways or steel plates cannot be substituted for the construction joint methods above.

LEGEND

WS = 6" Nonmetallic Water Stop
EJ = Expansion Joint
CJ = Construction Joint

Scale As Noted

Date
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