

Iowa NRCS Standard Drawing IA-1610
Details of Non-Structural Concrete Pavement Slab
with Non-Water Tight Joints

Specific Project Input Details:

IA-1610 will be plan sheet _____ of _____?

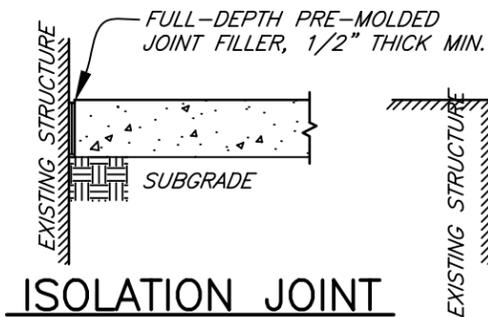
Drawing Number _____?

Project Name _____?

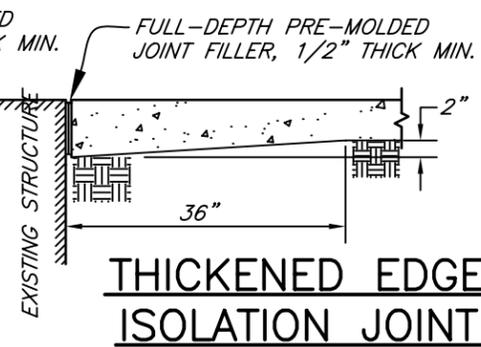
County and State _____?

Designed By _____? Date _____?

Checked By _____? Date _____?



ISOLATION JOINT



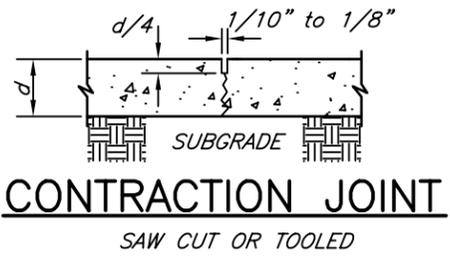
THICKENED EDGE ISOLATION JOINT

Design Slab Thickness = 5" or 6"

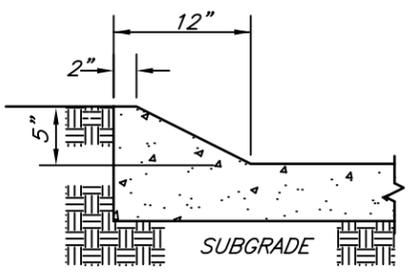
Quantities		
Concrete Volume =		Cu. Yd.
No. of Tie Bars (#4 - 2 ft long) =		Each
Saw Cut/Tooled Joint Length =		Lin. Ft.
Optional Granular Base Volume =		Cu. Yd.

NOTES:

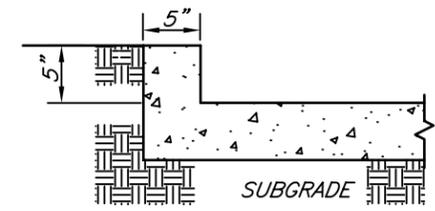
- Proper subgrade preparation is essential to the long-term performance of the slab. Subgrade shall be uniformly firm, smooth, moist, well-compacted and able to support construction traffic without rutting. Subgrade materials shall be blended or unsuitable materials removed and replaced, as required to obtain uniform materials, moisture and compaction. Sand base is not a substitute for proper subgrade preparation. Subgrade shall be free of frost, ruts, mud and standing water prior to placement of concrete. Grading tolerances shall be as specified in Construction Specification IA-32.
- Imported granular base is required only if a firm, uniform subgrade cannot be achieved using in-place materials, or if needed for drainage or ease of construction. Where required, granular base shall be min. 4" thick, meeting all requirements for subgrade listed in Note 1 above. For most applications, material provided should be dense-graded with less than 15% by weight passing the No. 200 sieve. Suggested gradations are IDOT No. 11 (Granular Surface and Shoulder) or No. 14 (Modified Subbase). Extremely wet site conditions may require a larger or cleaner gradation placed between the existing subgrade and base layer. If weather conditions are dry, a topping of limestone screenings may facilitate finish grading.
- Slab grade should be designed to provide proper drainage. Minimum pavement slope to prevent puddling of water is 1%.
- Isolation joints shall be used between the new slab and any fixed object, such as existing slabs, buildings or posts. Thickened edge isolation joints shall be used at locations where joint will receive frequent or heavy wheel loads.
- Contraction joints shall be used to control shrinkage cracks. See chart on this page for required joint spacing. Joints shall be saw cut or tooled to a depth of 1/4 of slab thickness. Contraction joint layout pattern shall be designed in advance to divide the slab into approximate square panels. Joint corners should always be aligned.
- Construction joints shall be used wherever concrete will have a chance to harden between pours. Construction joints should be located at planned contraction joint locations.
- Curbs shall be used on ramps to channel liquids from open lot to sediment basin or waste storage pond. Joints in pavement slabs shall be carried through adjacent curbs.
- Deformed steel tie bars shall be provided along the first joint in from the outside edge of the slab on all sides of the perimeter, to prevent separation of outer slab segments. Tie bars shall be provided along center line joint of roads/driveways unless edges are restrained by an integral curb. Tie bars shall be #4, Grade 40 or 60 reinforcing steel, 24 inches long. Tie bar spacing shall be 30 inches on center and shall be located in the center of the slab thickness. See detail this sheet for a typical layout.
- Subgrade, granular base (if used), forms and tie bars shall be inspected prior to placement of concrete.
- This standard drawing is not applicable to any site where subgrade soils are expansive.
- See Construction Specification IA-32, Concrete for Non-Structural Slabs, for further details on concrete placement for slabs.



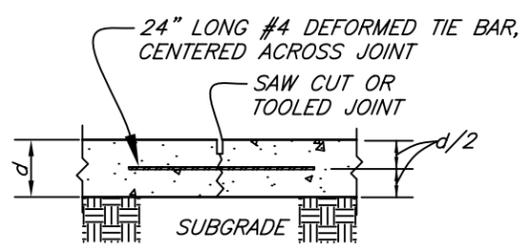
CONTRACTION JOINT
SAW CUT OR TOOLED



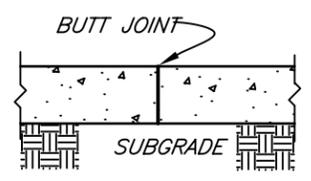
CURB DETAIL
OPTION #1-Mountable Curb



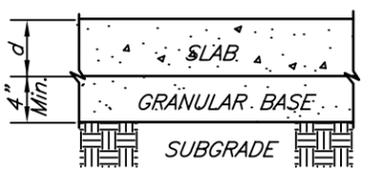
CURB DETAIL
OPTION #2-Barrier Curb



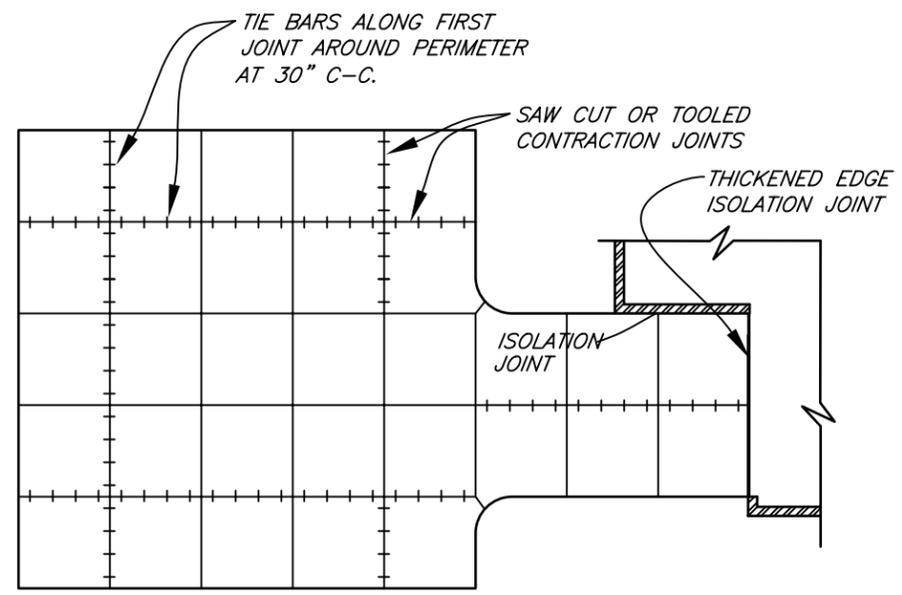
TIE BAR AT CONTRACTION JOINT



CONSTRUCTION JOINT, BUTT



OPTIONAL GRANULAR BASE



TYPICAL JOINT LAYOUT WITH PERIMETER TIE BARS

Design Slab Dimensions		
Anticipated Slab Use	Req'd Slab Thickness	Max. Contraction Joint Spacing
Medium Equipment: Tractor/loader, tractor/spreader	5"	12.5 ft
Large Equipment: Frequent use or large tank wagons	6"	15 ft

NOT TO SCALE

STANDARD DWG. NO. IA-1610

DATE: October 2007 SHEET 1 OF 1

Date	10/07
Designed	
Drawn	JGibbs
Checked	
Approved	

DETAILS OF NON-STRUCTURAL CONCRETE SLAB NON-WATER TIGHT JOINTS



File No. IA-905.dwg

Drawing No.

Sheet of