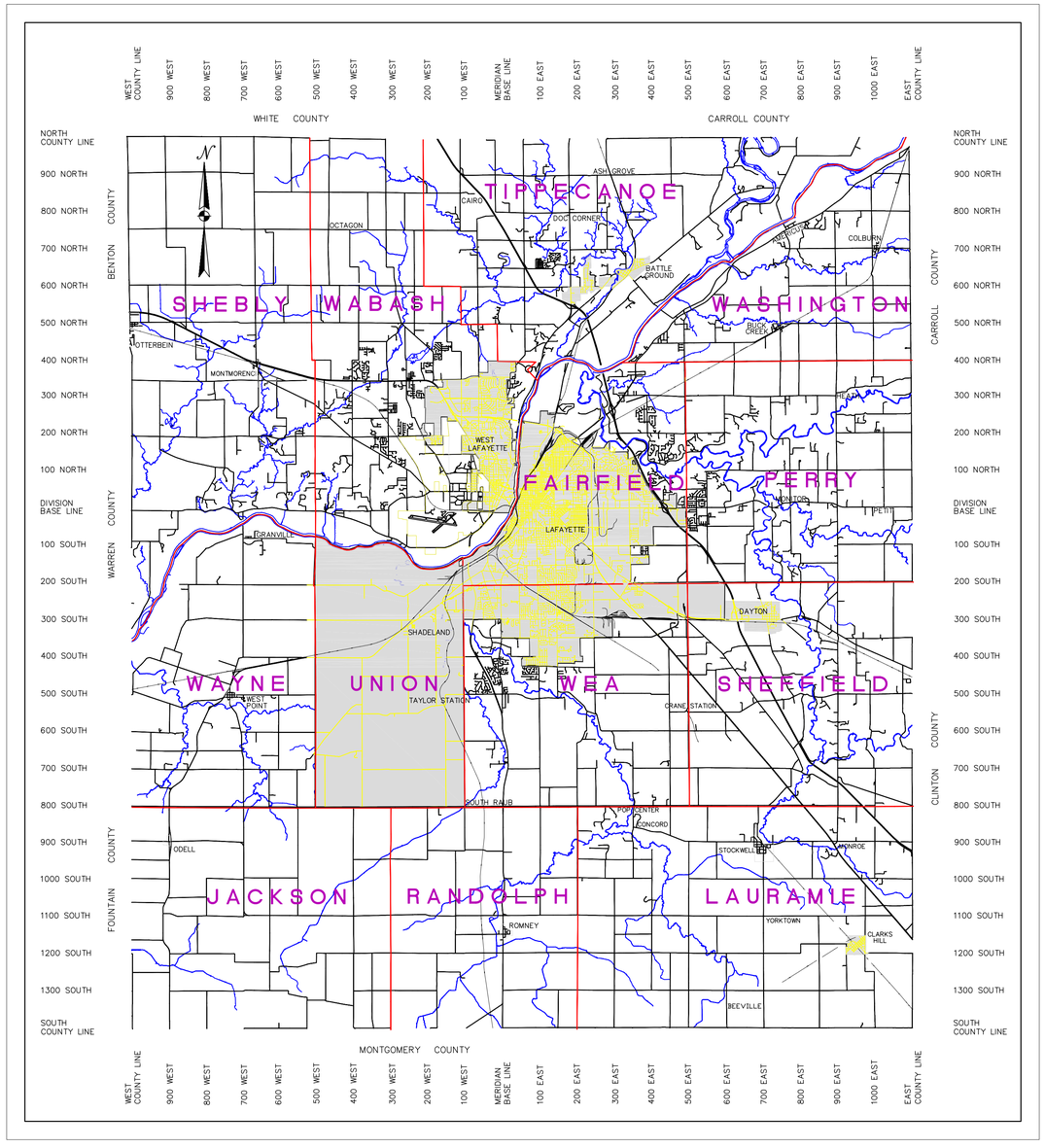
TIPPECANOE COUNTY HIGHWAY

TYPICAL CONSTRUCTION GUIDELINES AND DETAILS

2006



HOME OF PURDUE UNIVERSITY

TIPPECANOE COUNTY

COMMISSIONERS

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COUNTY HIGHWAY

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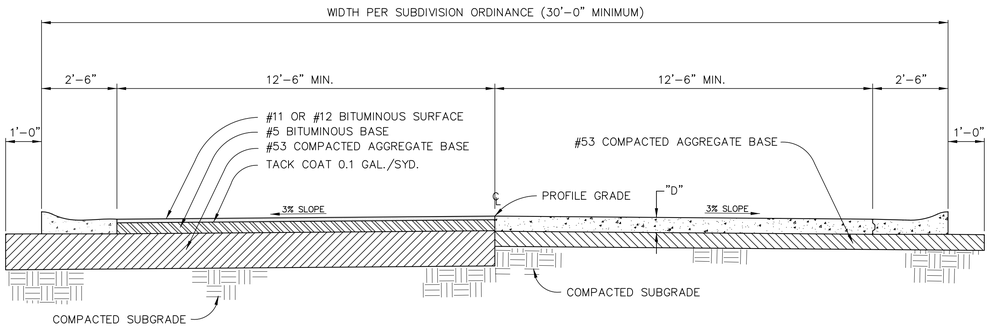
TIPPECANOE COUNTY
HIGHWAY DEPARTMENT
20 NORTH THIRD STREET
LAFAYETTE, INDIANA 47901
765-423-9210
www.tippecanoe.in.gov

DATE: APRIL 2006

SHEET
CVR

PROJECT SHEET NUMBER

OF



FLEXIBLE PAVEMENT

SCALE: NONE

RIGID PAVEMENT

SCALE: NONE

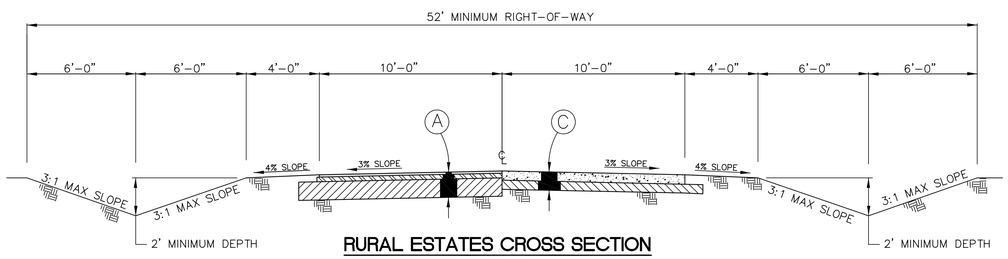
ITEM	MATERIAL TYPE	INDOT SPECIFICATIONS SECTION
SUBGRADE	EARTH	207
CURB	COMBINED CURB AND GUTTER	605.04-a,b,c,f,g,h
BASE (AGGREGATE)	COMPACTED AGGREGATE	303, No53
BASE (ASPHALT)	ASPHALTIC CONCRETE	401,402,403 (5D) (5)
BINDER	ASPHALTIC CONCRETE	401,402,403
SURFACE	ASPHALTIC CONCRETE	401,402,403
TACK COAT	AE-T	406
PAVEMENT (CONCRETE)	NON-REINFORCED CONCRETE	501
SIDEWALKS, RAMPS, ETC.	PORTLAND CEMENT CONCRETE	604
JOINT SEALANT	SEALANT	906

SPECIFICATIONS

CLASS OF STREET	CURB	SUBGRADE THICKNESS	ASPHALT PAVEMENT (2)			CONCRETE PAVEMENT (2)		
			#11 OR #12 (SURFACE)	#5 (BASE)	#53 COMPACTED AGGREGATE BASE	"D" (PVT.THICKNESS)	#53 COMPACTED AGGREGATE BASE	TRANSVERSE JOINT SPACING
COLLECTOR (1)	30" ROLLED BACK 6" NON-MOUNTABLE	6"	1.5"	4.5"	12" COMPACTED (2 LIFTS)	6"	6"	14'
LOCAL	30" ROLLED BACK 6" NON-MOUNTABLE	6"	1.5"	4.5"	12" COMPACTED (2 LIFTS)	6"	6"	14'

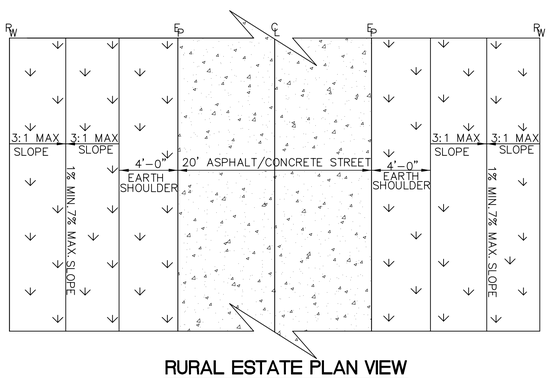
(1) COLLECTOR STATUS IS DETERMINED BY THE COUNTY HIGHWAY DEPARTMENT.

(2) ALTERNATE PAVEMENT DESIGNS WILL BE CONSIDERED. DESIGN MUST BE APPROVED BY THE COUNTY HIGHWAY ENGINEER'S OFFICE. ALTERNATE PAVEMENT DESIGN MUST BE SUBMITTED FOR REVIEW BEFORE CONSTRUCTION PLAN APPROVAL.



RURAL ESTATES CROSS SECTION

SCALE: NONE



RURAL ESTATE PLAN VIEW

SCALE: NONE

LEGEND

(A) ASPHALT SECTION:
1.5" HAC SURFACE ON
4.5" HAC BASE ON
12" COMPACTED AGGREGATE BASE, NO.53
TACK COAT AS REQUIRED

(C) CONCRETE SECTION:
6" PORTLAND CEMENT CONCRETE
6" COMPACTED AGGREGATE BASE, NO.53

GRASS

GENERAL NOTES

1. A PRE-CONSTRUCTION MEETING SHALL BE HELD AND WILL INCLUDE REPRESENTATIVES FROM THE TIPPECANOE COUNTY HIGHWAY DEPARTMENT, THE TIPPECANOE COUNTY SURVEYOR, AND THE VARIOUS UTILITY COMPANIES ALONG WITH ANY OTHER GOVERNMENT AGENCIES INVOLVED, AND THE CONTRACTOR.
2. NO CONSTRUCTION WILL BEGIN UNTIL SAID PRE-CONSTRUCTION MEETING HAS BEEN HELD.
3. A MINIMUM OF 48 HOURS NOTICE WILL BE PROVIDED TO THE APPROPRIATE GOVERNMENTAL AGENCY PRIOR TO CONSTRUCTION, RESTART, OR CHANGE OF OPERATION. ANY WORK THAT HASN'T BEEN INSPECTED WILL BE REJECTED.
4. ACCEPTANCE AND SIGNING OF PLANS BY THE TIPPECANOE COUNTY HIGHWAY DEPARTMENT DOES NOT RELIEVE THE DESIGN ENGINEER, DEVELOPER, OR CONTRACTOR FROM COMPLIANCE WITH ALL TIPPECANOE COUNTY, INDOT, AASTHO AND GENERALLY ACCEPTED STANDARDS AND DESIGN PROCEDURES.
5. OBSTRUCTIONS ARE NOT ALLOWED WITHIN TIPPECANOE COUNTY RIGHT-OF-WAY UNLESS PRE-APPROVED BY THE COUNTY HIGHWAY EXECUTIVE DIRECTOR.
6. NO WATER VALVES OR MANHOLES ARE ALLOWED IN THE PAVEMENT OR CURBS.
7. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRS TO ANY EXISTING CONDITIONS DAMAGED DURING CONSTRUCTION, SUCH AS, BUT NOT LIMITED TO, DRAINAGE, UTILITIES, PAVEMENT, STRIPING, CURBS, ETC. REPAIRS SHALL BE EQUAL TO OR BETTER THAN EXISTING CONDITIONS.
8. ALL UTILITIES ARE REQUIRED TO GET APPROPRIATE PERMITS FROM THE COUNTY HIGHWAY DEPARTMENT BEFORE THEY DO ANY WORK IN THE EXISTING COUNTY RIGHT-OF-WAY. THESE PERMITS WILL SHOW DETAILS OF THE CONNECTION OF ANY NEW FACILITY TO AN EXISTING FACILITY
9. TEMPORARY TRAFFIC CONTROL DURING CONSTRUCTION SHALL CONFORM TO APPLICABLE LOCAL AND STATE STANDARDS.
10. ALL CONSTRUCTION ACTIVITY ON THE SITE TO BE PERFORMED IN COMPLIANCE WITH APPLICABLE O.S.H.A. STANDARDS FOR WORKER SAFETY.
11. CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES AT LEAST 24 HOURS PRIOR TO ANY CONSTRUCTION OR EXCAVATION. DURING CONSTRUCTION, ALL UTILITIES SHALL BE ADEQUATELY SUPPORTED TO MINIMIZE DAMAGE.
12. ALL PERMITS AND EASEMENTS WILL BE OBTAINED BY THE OWNER WITH ANY REQUIRED INSURANCE OR BONDS TO BE PROVIDED BY THE CONTRACTOR PRIOR TO THE START OF WORK ON THE PROJECT.
13. WHEREVER PROPRIETARY EQUIPMENT IS SPECIFIED, "OR APPROVED EQUAL" IS IMPLIED ALL PROPOSALS FOR SUBSTITUTION SHALL BE SUBMITTED TO THE COUNTY AND DESIGN ENGINEER IN WRITING FOR THEIR APPROVAL.
14. ALL AREAS DISTURBED BY THE CONSTRUCTION PROCESS SHALL BE FERTILIZED AND SEEDED. ADEQUATE MULCHING SHALL BE PLACED AFTER SEEDING AND FERTILIZING. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO SEE THAT ADEQUATE GROWTH IS ESTABLISHED. SODDING WILL BE REQUIRED AS SHOWN ON THE PLANS.
15. TRENCHES UNDER PAVED AREAS (EXCLUDING SIDEWALKS) SHALL BE BACKFILLED WITH GRANULAR MATERIAL PER INDIANA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS", LATEST EDITION, SECTION 211, AND COMPACTED IN 6" LIFTS. GRANULAR MATERIAL TO EXTEND FIVE FEET BEYOND THE LIMITS OF THE PAVED AREA WITH A 1:1 SLOPE TO THE BOTTOM OF THE TRENCH. FLOWABLE MORTAR PER SECTION 213 OF INDIANA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS", LATEST EDITION, MAY BE USED IN LIEU OF GRANULAR MATERIAL.
16. INSTALLATION OF OR PROVISIONS FOR THE INSTALLATION OF ALL UNDERGROUND UTILITIES INCLUDING SERVICE LATERALS TO BE PLACED UNDER THE PAVEMENTS SHALL BE ESTABLISHED PRIOR TO THE CONSTRUCTION OF THE PAVEMENTS
17. 18" VERTICAL SEPARATION AND 10'- 0" HORIZONTAL SEPARATION IS TO BE MAINTAINED BETWEEN WATER MAINS, AND SEWERS (STORM AND SANITARY)
18. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING A SAFE CONSTRUCTION SITE AND FOR KEEPING SURROUNDING STREETS NEAT AND CLEAN. THE CONTRACTOR WILL PROVIDE ALL TRAFFIC CONTROL REQUIRED ON PUBLIC WAYS NEAR THE PROJECT.
19. THE CONSTRUCTION WORK SHALL CONFORM TO THE REQUIREMENTS OF ALL AGENCIES HAVING JURISDICTION OVER THE PROJECT.
20. THE CONTRACTOR WILL PROVIDE SAFE ACCESS TO THE CONSTRUCTION SITE FOR ALL TECHNICIANS AND WILL PROVIDE MATERIAL SAMPLES FOR TESTING.
21. INFORMATION REQUIRED FOR PREPARING "AS-BUILT" DRAWINGS MUST BE RECORDED PRIOR TO THE BACKFILLING OF THE UNDERGROUND FACILITY.
22. ALL SIGN, MARKINGS AND OTHER TRAFFIC CONTROL DEVICES SHALL COMPLY WITH INDOT STANDARDS AND IMUTCD.

TYPICAL CROSS SECTIONS

TIPPECANOE COUNTY HIGHWAY DEPARTMENT

20 NORTH THIRD STREET LAFAYETTE, INDIANA 47901

765-423-9210 www.tippecanoe.in.gov

DATE: APRIL 2006

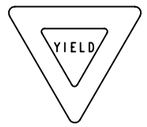
SHEET 1 OF 5

PROJECT SHEET NUMBER

OF

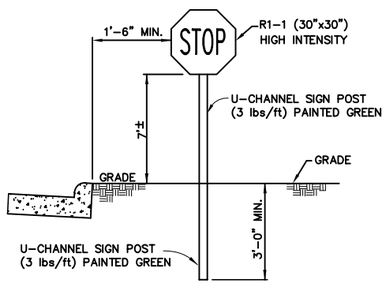
TRAFFIC CONTROL AND SIGN NOTES

1. THE CONTRACTOR/DEVELOPER SHALL PROVIDE AND INSTALL ALL STREET NAME AND ROAD SIGNS PER CURRENT INDOT STANDARDS AND TIPPECANOE COUNTY GUIDELINES AND DETAILS. ALL TRAFFIC CONTROL DEVICES SHALL COMPLY WITH THE CURRENT IMUTCD.
2. MATERIALS SHALL BE FREE OF BURR PITS AND BLEMISHES AND SHALL PRESENT A SMOOTH CLEAN SURFACE.
3. SIGN BLANKS SHALL MEET INDOT SPECIFICATIONS UNLESS OTHERWISE SPECIFIED.
4. ALL PUBLIC STREET NAME SIGNS SHALL HAVE HIGH INTENSITY (ASTM SHEETING TYPE III OR HIGHER) GREEN BACKGROUND WITH 6" HIGH INTENSITY (ASTM SHEETING TYPE III OR HIGHER) LETTERS/NUMBERS ON 8" FLAT, NON-EXTRUDED, ALUMINUM BLANKS, WITHOUT BORDER.
5. STOP SIGNS SHALL BE 30" HIGH INTENSITY.
6. SIGN BOLTS TO BE PER INDOT STANDARD SPECIFICATIONS. BOLTS ARE TO BE THEFT PROOF.
7. SPEED LIMIT SIGNS SHALL BE 24" X 30" HIGH INTENSITY
8. SIGN POSTS SHALL BE DRIVEN INTO THE GROUND. NO EXCAVATION SHALL BE DONE TO PLACE SIGN POSTS. POSTS SHALL NOT BE SET IN CONCRETE.
9. SIGNS GREATER THAN 30" LONG REQUIRE DOUBLE POSTS.



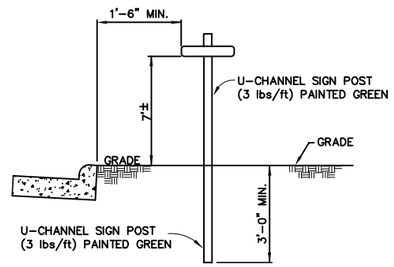
R1-2 (36"x36"x36")
HIGH INTENSITY

R2-4 (24"x30")
HIGH INTENSITY



URBAN SIGN

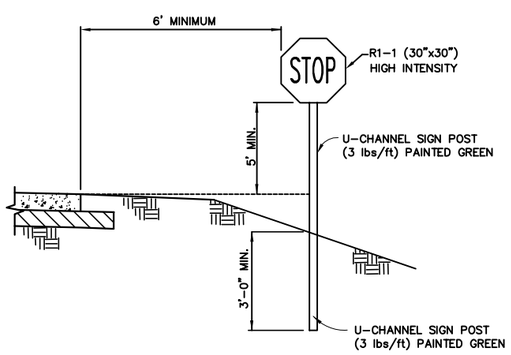
SCALE: NONE



URBAN STREET NAME SIGN

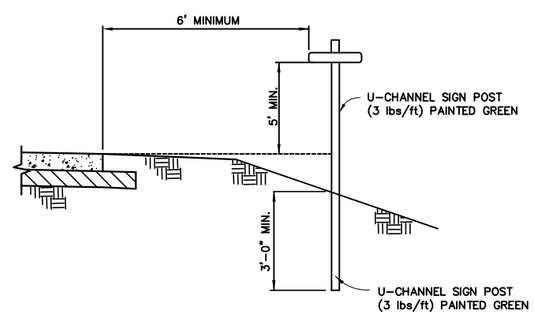
SCALE: NONE

STREET NAME SIGNS TO BE LOCATED AT ALL STREETS.
(SEE NOTES)



RURAL SIGN

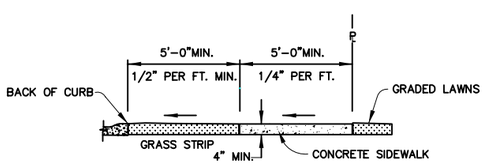
SCALE: NONE



RURAL STREET NAME SIGN

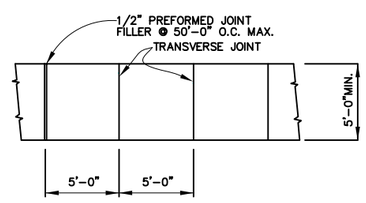
SCALE: NONE

STREET NAME SIGNS TO BE LOCATED AT ALL STREETS.
(SEE NOTES)



SIDEWALK SECTION

SCALE: NONE

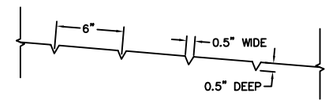


SIDEWALK PLAN

SCALE: NONE

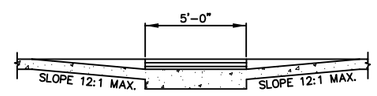
EROSION CONTROL NOTES:

1. CONTRACTOR SHALL INSTALL ALL REQUIRED SILT FENCES, SILT TRAPS, TREE PROTECTION AND INLET PROTECTION FOR EXISTING INLETS PRIOR TO THE START OF ANY EARTH MOVING OR STRIPPING.
2. CONTRACTOR SHALL INSTALL A GRAVEL CONSTRUCTION ENTRANCE OR SOME OTHER DEVICE PRIOR TO THE START OF EARTHWORK AS NECESSARY TO PREVENT SOIL FROM BEING TRACKED OR WASHED INTO EXISTING ROADWAYS.
3. LAND ALTERATIONS WHICH STRIP THE LAND OF VEGETATION, INCLUDING REGRADING, SHALL BE DONE IN A WAY THAT WILL MINIMIZE EROSION. WHENEVER FEASIBLE, NATURAL VEGETATION SHALL BE RETAINED AND PROTECTED. AS GRADING IS DONE, INSTALL SILT TRAPS, SILT FENCES, SLOPE DRAINS, TEMPORARY DIVERSIONS AND OTHER RUNOFF CONTROL MEASURES AT APPROPRIATE LOCATIONS TO KEEP SEDIMENT CONTAINED ON SITE.
4. ALL DISTURBED AREAS SHALL BE SEEDED AND STRAW MULCHED AS SHOWN ON THE PLANS IMMEDIATELY AFTER COMPLETION OF GROUND DISTURBING ACTIVITY, FOR EACH PHASE AS THE DIFFERENT PHASES OF THE SITE ARE CONSTRUCTED.
5. PERMANENT AND FINAL VEGETATION OR STRUCTURAL EROSION CONTROL DEVICES SHALL BE INSTALLED AS SOON AS PRACTICAL.
6. THE DURATION OF TIME WHICH AN AREA REMAINS EXPOSED SHALL BE KEPT TO A PRACTICAL MINIMUM DEPENDING UPON THE WEATHER. IF CONSTRUCTION ACTIVITY IS TO CEASE FOR MORE THAN TWO WEEKS, THE DISTURBED AREAS SHALL BE TEMPORARILY SEEDED.
7. ALL STORM SEWER INLET PROTECTION DEVICES SHALL BE PUT IN PLACE AT THE TIME EACH INLET IS CONSTRUCTED.
8. CONTRACTOR SHALL MAINTAIN EROSION CONTROL MEASURES AND DEVICES DURING CONSTRUCTION AND UNTIL SILTATION OF THE STREETS AND STORM SEWERS WILL NO LONGER OCCUR.
9. ONCE ON-SITE EROSION AND SILTATION OF THE STREETS AND STORM SEWERS WILL NO LONGER OCCUR, THE CONTRACTOR SHALL REMOVE AND DISPOSE OF THE TEMPORARY EROSION CONTROL DEVICES.
10. THESE GENERAL PROCEDURES MAY NOT COVER ALL SITUATIONS. REFER TO EROSION CONTROL PLANS FOR SPECIFIC NOTES AND ADDITIONAL DETAILS.
11. EROSION CONTROL SHALL COMPLY WITH INDIANA 327 IAC AND RULE #5, AND INDIANA HANDBOOK FOR EROSION CONTROL IN DEVELOPING AREAS.
12. THE COUNTY HIGHWAY ENGINEER'S DEPARTMENT HAS THE AUTHORITY TO REQUEST ADDITIONAL EROSION CONTROL MEASURES.
13. THE CONTRACTOR MAY SUBSTITUTE DIFFERENT EROSION CONTROL DEVICES FOR THOSE SHOWN ON THE DRAWINGS SO LONG AS THE SUBSTITUTED DEVICES PERFORMS AS REQUIRED BY INDIANA 327 IAC AND "RULE 5".
14. THE CONTRACTOR IS TO INSTALL, MONITOR AND MAINTAIN ALL REQUIRED EROSION CONTROL DEVICES IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF THE "INDIANA HANDBOOK FOR EROSION CONTROL IN DEVELOPING AREAS" LATEST EDITION, WHICH IS HEREBY INCORPORATED INTO THESE STANDARDS BY REFERENCE AND MADE A PART THEREOF.



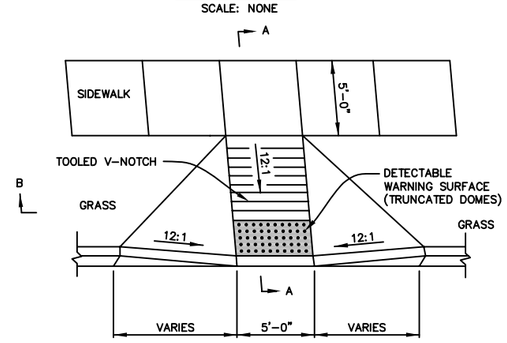
TOOLED V-NOTCH

SCALE: NONE



SECTION B-B

SCALE: NONE



CURB RAMP DEPRESSIONS ARE TO BE CONSTRUCTED PRIOR TO STREET ACCEPTANCE. DRIVEWAYS ARE NOT PERMITED AT HANDICAP RAMP LOCATIONS. CONSTRUCTION AND COMPLETION PER ADA AND INDIANA DEPARTMENT OF TRANSPORTATION REQUIREMENTS.

STANDARD HANDICAP RAMP DETAILS

SCALE: NONE

QUALITY CONTROL AND TESTING REQUIREMENTS

ALL TESTING SHALL BE IN ACCORDANCE WITH THE LATEST INDOT STANDARD SPECIFICATIONS. ALL TESTS WHERE PRACTICABLE SHALL BE WITNESSED BY A REPRESENTATIVE OF THE COUNTY HIGHWAY DEPARTMENT. CONTRACTOR SHALL COORDINATE TESTING SCHEDULE WITH THE COUNTY HIGHWAY DEPARTMENT. ALL TEST RESULTS SHALL BE SUBMITTED TO THE COUNTY HIGHWAY DEPARTMENT WITHIN 48 HOURS OF THE COMPLETION OF EACH TEST AND PRIOR TO PLACING ANY MATERIAL ON THE SUBBASE/SUBGRADE. THE FREQUENCY OF TESTING WHERE SHOWN IS A MINIMUM. ADDITIONAL TESTING MAY BE REQUIRED AT THE DIRECTION OF A REPRESENTATIVE OF THE COUNTY HIGHWAY DEPARTMENT.

THE DEVELOPER/CONTRACTOR SHALL RETAIN AN INDEPENDENT TESTING FIRM (UNLESS OTHERWISE NOTED) TO PERFORM THE FOLLOWING TESTING:

A. SUBGRADE, B-BORROW AND BACKFILL: CONSTRUCTED IN ACCORDANCE WITH SECTION 203, 207 AND 211 OF THE 2006 INDOT STANDARD SPECIFICATIONS.
   1. SOIL PROCTORS: LOCATIONS AND FREQUENCY AS DIRECTED BY A REPRESENTATIVE OF THE COUNTY HIGHWAY DEPARTMENT. PROCTORS TO BE CERTIFIED BY INDEPENDENT TESTING LABORATORY PRIOR TO CONSTRUCTION.
   2. STRUCTURE BACKFILL: TESTING FREQUENCY TO BE DETERMINED BY A REPRESENTATIVE OF THE COUNTY HIGHWAY DEPARTMENT. REQUIRED FOR ANY EXCAVATION PARALLEL TO THE STREET THAT THE INSIDE FACE OF THE TRENCH IS WITHIN 5' OF THE BACK OF CURB. EXCAVATION PERPENDICULAR TO THE ROAD IS TO HAVE STRUCTURE BACKFILL EXTEND 5' BEYOND THE LIMITS OF THE PAVED AREA WITH A 1:1 SLOPE TO THE BOTTOM OF THE TRENCH
   3. EXCAVATION AND EMBANKMENT FOR FILL SECTIONS OF THE SUBGRADE: 1 PASSING IN-PLACE DENSITY TEST PER LIFT PER 500 LF OF SINGLE LANE WIDTH MINIMUM.
   4. SUBGRADE: PROOFROLL SHALL BE WITNESSED BY A REPRESENTATIVE OF THE COUNTY HIGHWAY DEPARTMENT USING A FULLY LOADED TRI-AXLE DUMP TRUCK ON ALL STREET SUBGRADE PRIOR TO PLACING THE SUBBASE. PROOFROLL MUST COMPLY WITH THE 2006 INDOT STANDARD SPECIFICATION SECTION 203.26. TRI-AXLE DUMP TRUCK - GROSS WEIGHT 68,000 #

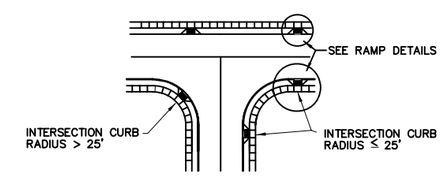
B. SUBBASE: #53 COMPACTED AGGREGATE
   1. GRADUATION - 1 TEST PER 1000 TONS OR 1 PER WEEK, Q NUMBERS ARE TO BE SUPPLIED AT THE TIME OF CONSTRUCTION
   2. COMPACTION - 1 PASSING IN-PLACE DENSITY TEST PER 500 LF OF SINGLE LANE WIDTH MINIMUM. PROOFROLL SHALL BE WITNESSED BY A REPRESENTATIVE OF THE COUNTY HIGHWAY DEPARTMENT USING A FULLY LOADED TRI-AXLE DUMP TRUCK BEFORE CONCRETE CURB PLACEMENT AND BEFORE HMA OR CONCRETE STREETS ARE PLACED.

C. CONCRETE CURB AND GUTTER:
   1. YIELD - 1 TEST PER 100 CYDS, MINIMUM 1 TEST PER DAY.
   2. SLUMP - 1 TEST PER 100 CYDS, MINIMUM 1 TEST PER DAY
   3. AIR - 1 TEST PER 100 CYDS, MINIMUM 1 TEST PER DAY
   4. COMPRESSIVE STRENGTH TESTS - A MINIMUM OF 3 CYLINDERS SHALL BE TAKEN TO VERIFY THE STRENGTH AT 7, 14, AND 28 DAYS. CONCRETE STRENGTH SHALL BE A MINIMUM 4000 PSI BEFORE OPEN TO TRAFFIC

D. CONCRETE PAVEMENT:
   1. YIELD - 1 TEST PER 100 CYDS, MINIMUM 1 TEST PER DAY.
   2. SLUMP - 1 TEST PER 100 CYDS, MINIMUM 1 TEST PER DAY.
   3. AIR - 1 TEST PER 100 CYDS, MINIMUM 1 TEST PER DAY
   4. COMPRESSIVE STRENGTH TESTS - A MINIMUM OF 3 CYLINDERS SHALL BE TAKEN TO VERIFY THE STRENGTH AT 7, 14, AND 28 DAYS. CONCRETE STRENGTH SHALL BE A MINIMUM 4000 PSI BEFORE OPEN TO TRAFFIC

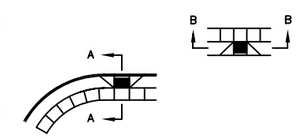
E. HMA PAVEMENT (BASE, INTERMEDIATE AND SURFACE):
   1. ASPHALT EXTRACTION - 1 TEST PER EACH TYPE OF MATERIAL USED PER JOB TEST TO INCLUDE GRADATION, ASPHALT CONTENT, CRUSHED PARTICLE DETERMINATION AND DELETERIOUS DETERMINATION. TEST SHALL BE CERTIFIED PER INDOT CERTIFICATION REQUIREMENTS.
   2. DENSITY- THE TARGET DENSITY SHALL BE DETERMINED FROM A TEST STRIP CONSTRUCTED PER INDOT SPECIFICATIONS. THE TARGET DENSITY SHALL NOT BE LESS THAN 96% OF THE UNIT WEIGHT. THE DENSITY OF EACH SUBLOT WILL BE THE AVERAGE OF FIVE TESTS. A SUBLOT SHALL BE 1000 LF OF SINGLE LANE WIDTH. BREAKDOWN ROLLER SHALL BE MINIMUM 10 TON OR APPROVED VIBRATORY.

F. PAVEMENT CORING: LOCATIONS AND FREQUENCY DETERMINED BY REPRESENTATIVE OF TIPPECANOE COUNTY HIGHWAY DEPARTMENT



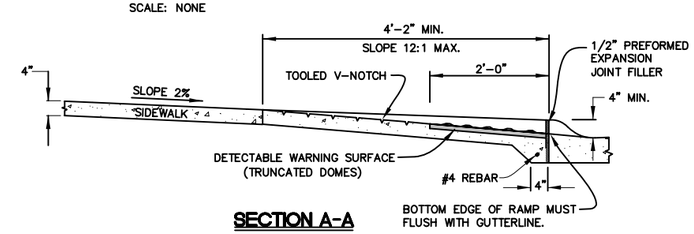
TYPICAL LOCATION PLAN

SCALE: NONE



RAMP DETAILS

SCALE: NONE



SECTION A-A

SCALE: NONE

TRAFFIC CONTROL/ HANDICAP RAMPS/ SIDEWALK DETAILS AND NOTES

TIPPECANOE COUNTY HIGHWAY DEPARTMENT
20 NORTH THIRD STREET LAFAYETTE, INDIANA 47901
765-423-9210 www.tippecanoe.in.gov

DATE: APRIL 2006
SHEET 2 OF 5
REVISED: AUGUST 2006
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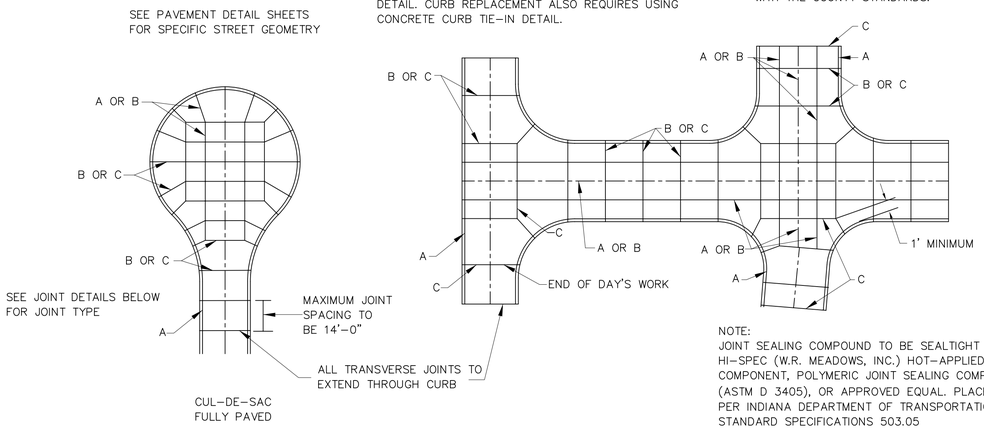
OF
REVISED: August 2008

STREET AND OR CURB WITH A FAILURE, MUST BE REMOVED TO THE NEAREST TRANSVERSE/LONGITUDINAL JOINTS. REPOUR USING TYPE C STREET TIE-IN DETAIL. CURB REPLACEMENT ALSO REQUIRES USING CONCRETE CURB TIE-IN DETAIL.

THE CONTRACTOR MUST SUBMIT A JOINT LAYOUT DETAIL TO THE TIPPECANOE COUNTY HIGHWAY DEPARTMENT. JOINT LOCATIONS AND TYPE SHALL BE IN ACCORDANCE WITH THE COUNTY STANDARDS.

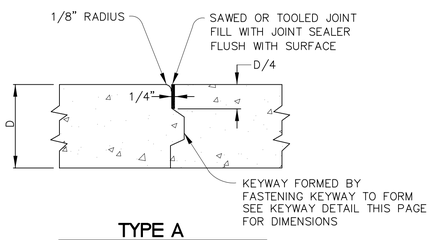


CONCRETE JOINT LAYOUT

SCALE: NONE

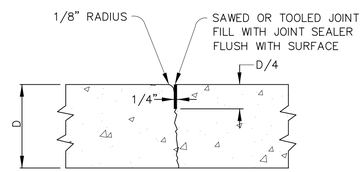
NOTE:
JOINT SEALING COMPOUND TO BE SEALTIGHT HI-SPEC (W.R. MEADOWS, INC.) HOT-APPLIED, SINGLE COMPONENT, POLYMERIC JOINT SEALING COMPOUND (ASTM D 3405), OR APPROVED EQUAL. PLACEMENT PER INDIANA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS 503.05

APPLY CURING COMPOUND IMMEDIATELY AFTER FINISHING OPERATIONS HAVE BEEN COMPLETED, PER INDIANA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS 501.20



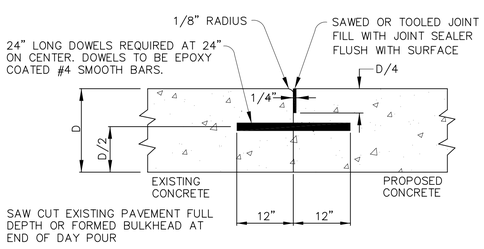
TYPE A

LONGITUDINAL CONSTRUCTION JOINT



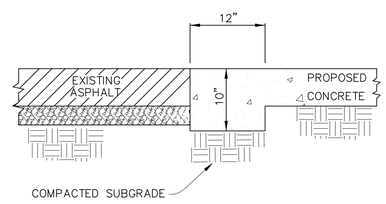
TYPE B

SAWED OR TOOLED TRANSVERSE OR, SAWED LONGITUDINAL CONTRACTION JOINT



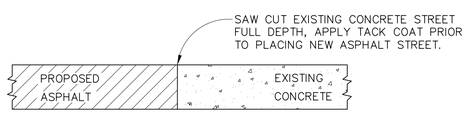
TYPE C
CONCRETE TO CONCRETE STREET TIE-IN DETAIL

TRANSVERSE CONSTRUCTION JOINT



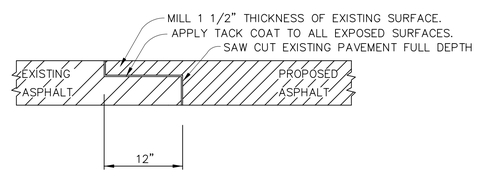
CONCRETE TO ASPHALT STREET TIE-IN DETAIL

SCALE: NONE



ASPHALT TO CONCRETE STREET TIE-IN DETAIL

SCALE: NONE

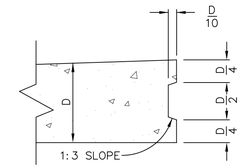


ASPHALT TO ASPHALT STREET TIE-IN DETAIL

SCALE: NONE

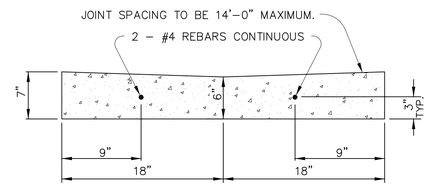
STREET JOINT AND TIE-IN DETAILS

NOT TO SCALE



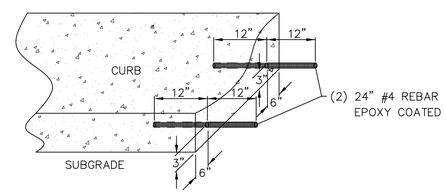
KEYWAY DETAIL

SCALE: NONE



CONCRETE GUTTER - STREET

SCALE: NONE

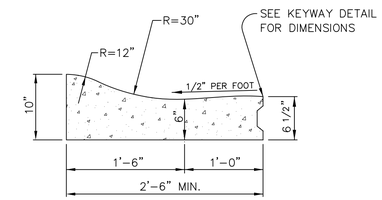


NOTE:

REBAR REINFORCEMENT IS TO BE CHEMICALLY ANCHORED INTO THE EXISTING CURB WITH EPOXY GROUT, PER THE MANUFACTURER'S GUIDELINES FOR PLACEMENT.
REBAR IS TO BE CENTERED AT THE JOINT.
PLACEMENT SHALL BE IN ACCORDANCE WITH THE FOLLOWING:
CENTER OF REBAR SHALL BE 3" FROM BOTTOM OF CURB,
EACH REBAR SHALL BE 6" FROM EITHER THE FRONT OR BACK OF CURB.

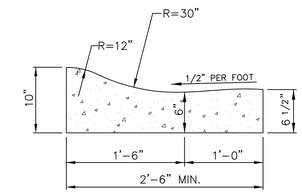
CONCRETE CURB TIE-IN DETAIL

SCALE: NONE



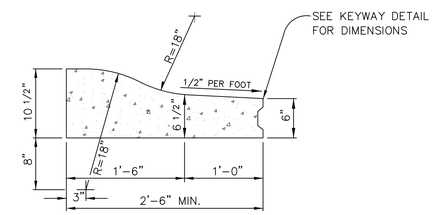
ROLLED CONCRETE CURB AND GUTTER

FOR CONCRETE PAVEMENT
TYPE 1



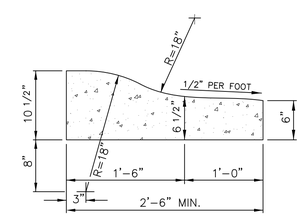
ROLLED CONCRETE CURB AND GUTTER

FOR BITUMINOUS PAVEMENT
TYPE 1



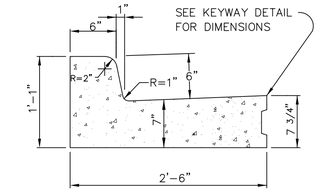
ROLLED CONCRETE CURB WITHOUT GUTTER

FOR CONCRETE PAVEMENT



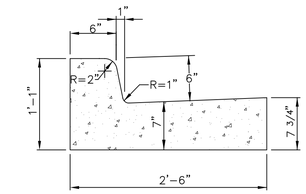
ROLLED CONCRETE CURB WITHOUT GUTTER

FOR BITUMINOUS PAVEMENT



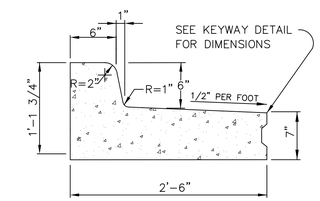
6" NON-MOUNTABLE CONCRETE CURB AND GUTTER

FOR CONCRETE PAVEMENT



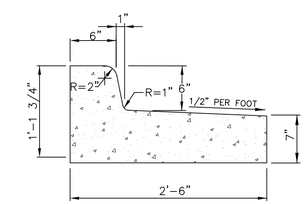
6" NON-MOUNTABLE CONCRETE CURB AND GUTTER

FOR BITUMINOUS PAVEMENT



6" NON-MOUNTABLE CONCRETE CURB WITHOUT GUTTER

FOR CONCRETE PAVEMENT



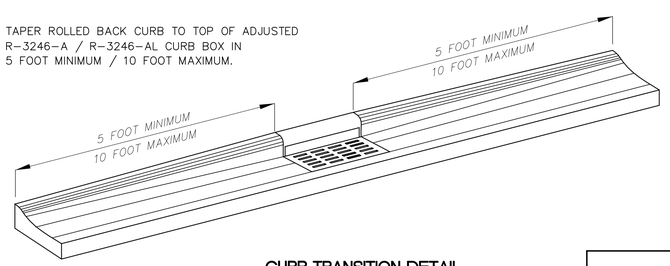
6" NON-MOUNTABLE CONCRETE CURB WITHOUT GUTTER

FOR BITUMINOUS PAVEMENT

CONCRETE CURB SECTIONS

SCALE: NONE

TAPER ROLLED BACK CURB TO TOP OF ADJUSTED R-3246-A / R-3246-AL CURB BOX IN 5 FOOT MINIMUM / 10 FOOT MAXIMUM.



CURB TRANSITION DETAIL

SCALE: NONE

CURB AND JOINT DETAILS

TIPPECANOE COUNTY HIGHWAY DEPARTMENT
20 NORTH THIRD STREET LAFAYETTE, INDIANA 47901
765-423-9210 www.tippecanoe.in.gov

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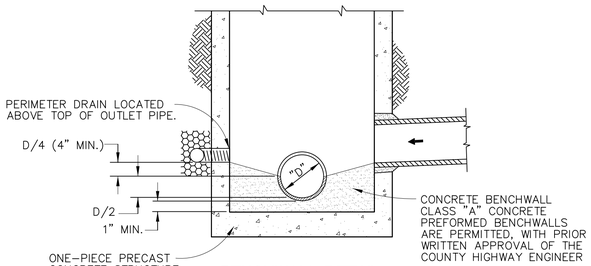
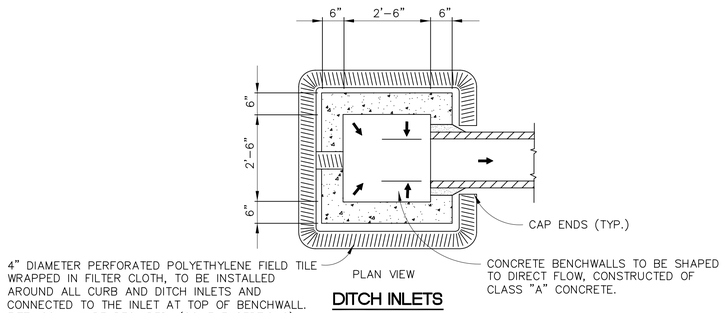


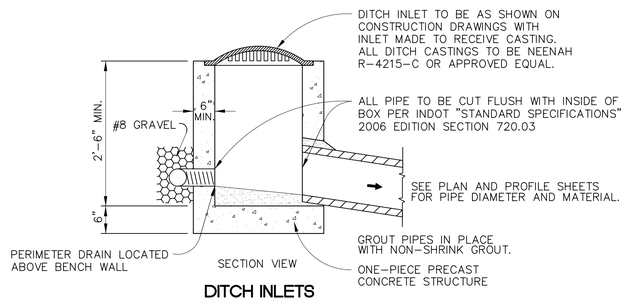
BENCHWALL DETAIL

SCALE: NONE



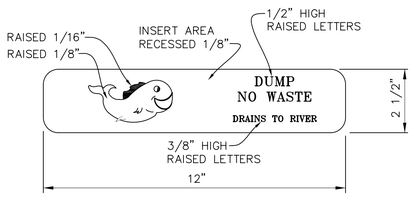
DITCH INLETS

SCALE: NONE



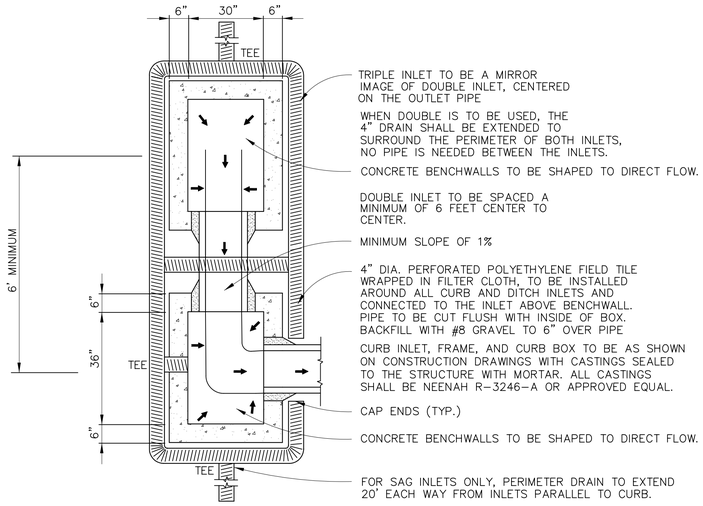
DITCH INLETS

SCALE: NONE



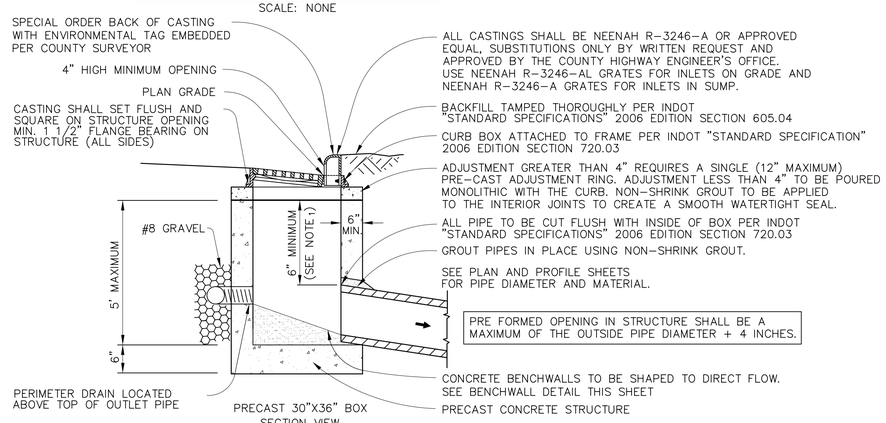
ENVIRONMENTAL TAG

SCALE: NONE



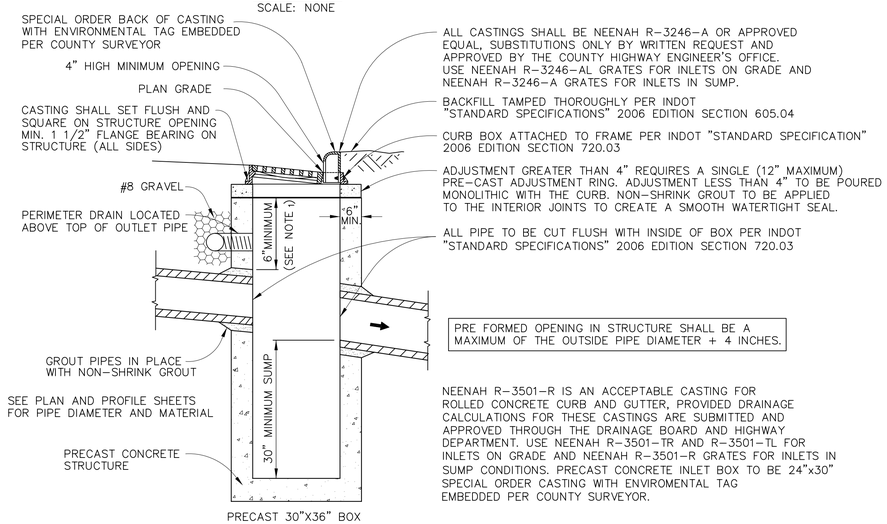
DOUBLE/SINGLE CURB INLET PLAN VIEW

SCALE: NONE



CURB INLET

SCALE: NONE



CURB CATCH BASIN

SCALE: NONE

STORM SEWER NOTES

1. CONSTRUCTION PROCEDURES AND MATERIALS SHALL COMPLY WITH APPLICABLE SECTIONS OF THE INDIANA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS LATEST EDITION
2. STORM SEWER PIPE SHALL BE CONSTRUCTED OF REINFORCED CONCRETE PIPE (RCP), POLYVINYL CHLORIDE (PVC) PIPE (24" MAXIMUM), OR HIGH DENSITY POLYETHYLENE (HDPE) PIPE. STORM PIPE LOCATED UNDER THE MAJOR ENTRANCE MUST BE CONSTRUCTED WITH REINFORCED CONCRETE PIPE (RCP) OR CORREGATED METAL PIPE (CMP)
3. ALL STORM SEWERS SHALL BE HIGH PRESSURE WATER JET CLEANED AND TELEVISED. FOR ALL PLASTIC PIPE, A DEFLECTION TEST WILL BE PERFORMED USING A GO-NO-GO MANDREL THAT IS 95% OF THE INSIDE DIAMETER OF THE PIPE. THE TEST IS TO BE PERFORMED WITH A REPRESENTATIVE OF THE COUNTY HIGHWAY DEPARTMENT PRESENT. TEST TO BE PERFORMED JUST PRIOR TO CURB PLACEMENT. ALL COSTS OF TESTING ARE THE RESPONSIBILITY OF THE CONTRACTOR.
4. ALL PLASTIC PIPES, EXCEPT LONGITUDINAL UNDERDRAINS, WHICH ARE NOT FABRICATED WITH HYDROSTATIC DESIGN BASIS RATED RESINS AND ARE INSTALLED WITHIN 5' OF OF THE BACK OF CURB SHALL BE BACKFILLED WITH FLOWABLE BACKFILL. FLOWABLE BACKFILL SHALL BE IN ACCORDANCE WITH SECTION 203.07 OF THE 2006 INDOT STANDARD SPECIFICATIONS. STRUCTURE BACKFILL SHALL BE PLACED IN ACCORDANCE WITH SECTION 211.04
5. HOLES FOR PIPES IN PRECAST INLET BOXES MUST BE PRECAST OR CORED. THE DIAMETER OF THE HOLE SHALL BE NO LARGER THAT 4 INCHES GREATER THAN THE OUTSIDE DIAMETER OF THE PIPE THAT IS TO FIT INTO THE HOLE. A MINIMUM OF 6 INCHES OF STRUCTURE IS REQUIRED BETWEEN TOP OF HOLE AND TOP OF STRUCTURE. STRUCTURES WITH KNOCKOUTS OR SAWED HOLES ARE NOT PERMITTED.
6. STORM SEWER PIPES ARE NOT TO ENTER AT THE CORNER OF THE PRECAST CONCRETE DRAINAGE STRUCTURE. PIPES MUST ENTER THROUGH ON VERTICAL FACE OF THE STRUCTURE OR USE A CIRCULAR MANHOLE.
7. ALL MANHOLES AND INLET STRUCTURES MUST BE PRECAST CONCRETE AND SHALL MEET TIPPECANOE COUNTY STANDARDS.
8. THE WALL THICKNESS OF THE INLET BOX TO BE A MINIMUM OF 6 INCHES.
9. ALL INLETS SHALL BE DEPRESSED 0.1 FT. BELOW PLAN GRADE.
10. ALL STORM SEWER LINES SHALL HAVE 0.1 FT. DROP THROUGH MANHOLES.
11. CASTINGS SHALL BE CENTERED ON OPENING IN STRUCTURES.
12. 1 1/2" FLANGE BEARING REQUIRED ON ALL SIDES OF STRUCTURE.
13. MINIMUM 4" OPENING REQUIRED ON BACK OF CURB INLET CASTING.
14. PIPES TO BE CUT FLUSH WITH INSIDE FACE OF STRUCTURES.
15. ALL STORM SEWERS SHALL MAINTAIN A MINIMUM 2' OF COVER TO THE TOP OF FINISHED SUBGRADE.
16. ALL CASTINGS SHALL BE NEENAH R-3246-A OR APPROVED EQUAL, SUBSTITUTION ONLY BY WRITTEN REQUEST AND APPROVED BY THE COUNTY HIGHWAY. USE NEENAH R-3246-AL GRATES FOR INLETS ON GRADE AND NEENAH R-3246-A GRATES FOR INLETS IN SUMP.
17. VERTICAL ADJUSTMENT GREATER THAN 4" REQUIRES A SINGLE (12" MAXIMUM) PRECAST ADJUSTMENT RING. ADJUSTMENT LESS THAN 4" TO BE POURED MONOLITHIC WITH THE CURB. NON-SHRINK GROUT TO BE APPLIED TO THE INTERIOR JOINTS TO CREATE A SMOOTH WATERTIGHT SEAL.
18. BICYCLE SAFE GRATES REQUIRED IN PAVED AREAS EXCLUDING, PAVED FLOW LINES IN SWALES OR DETENTION AREAS
19. TOP OF MANHOLE FRAMES TO BE SET AT PROPOSED YARD OR SIDEWALK GRADE WHEN LOCATED IN FRONT AREA OF LOT OR RIGHT OF WAY.
20. ANIMAL GUARDS SHALL BE PERMANENTLY INSTALLED ON ALL PIPE END SECTIONS 18" OR LARGER IN DIAMETER. GUARDS SHALL HAVE A MAXIMUM CLEAR OPENING OF 4" AND BE REMOVABLE.
21. IF ANY EXISTING FIELD TILE SYSTEMS ARE ENCOUNTERED DURING THE CONSTRUCTION PROCESS THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECONSTRUCTING THE TILE TO ITS ORIGINAL CONDITIONS OR CONNECT IT INTO THE PROPOSED STORM DRAINAGE SYSTEM
22. BACKFILL BEHIND THE BACK OF CURB AND INLET CASTINGS SHALL BE COMPACTED PER INDOT STANDARD SPECIFICATION, 2006 EDITION, SECTION 605.04(G).
23. PRECAST CONCRETE BOX WITH A DEPTH GREATER THAN 5' TO THE FLOWLINE, MUST BE A STORM SEWER MANHOLE TYPE STRUCTURE.

TELEVISION INSPECTION CRITERIA

STORM SEWERS

SEWERS SHALL BE "FLOODED" BEFORE TELEVISION INSPECTION. THE IMAGE SHALL BE CLEAR ENOUGH TO ENABLE THE COUNTY HIGHWAY REPRESENTATIVE AND OTHERS VIEWING THE MONITOR TO EASILY EVALUATE THE INTERIOR CONDITION OF THE PIPE.

ALL UNACCEPTABLE CONDITIONS FOUND DURING TELEVISION INSPECTION MUST BE CORRECTED BY THE CONTRACTOR AND RE-TELEVISED.

UNACCEPTABLE CONDITIONS ARE CONDITIONS THAT ADVERSELY EFFECT THE ABILITY OF THE SYSTEM TO FUNCTION AS DESIGNED OR TO BE PROPERLY MAINTAINED AND MAY INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:

A. CRACKED OR FAULTY PIPE
B. MISALIGNED OR DEFORMED PIPE
C. DEBRIS IN LINE
D. INFILTRATION/EXFILTRATION
E. EXCESSIVE GAPS AT JOINTS
F. BELLIES OR SAGS WITH A DEPTH GREATER THAN OR EQUAL TO 10% (OR A MAXIMUM OF 3") OF PIPE DIAMETER AND/OR A LENGTH GREATER THAN 25 FEET

STORM SEWER DETAILS

TIPPECANOE COUNTY HIGHWAY DEPARTMENT

20 NORTH THIRD STREET LAFAYETTE, INDIANA 47901

765-423-9210 www.tippecanoe.in.gov

DATE: APRIL 2006

SHEET 4 OF 5

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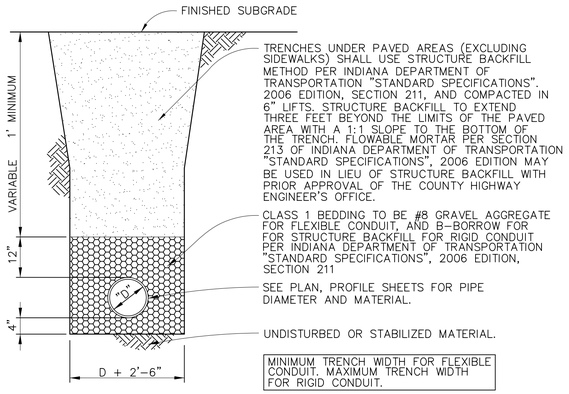
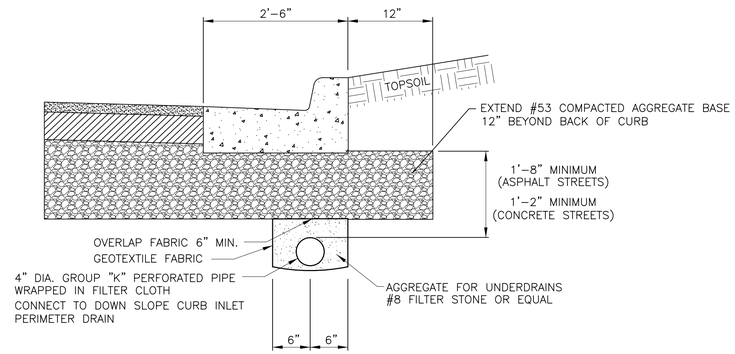


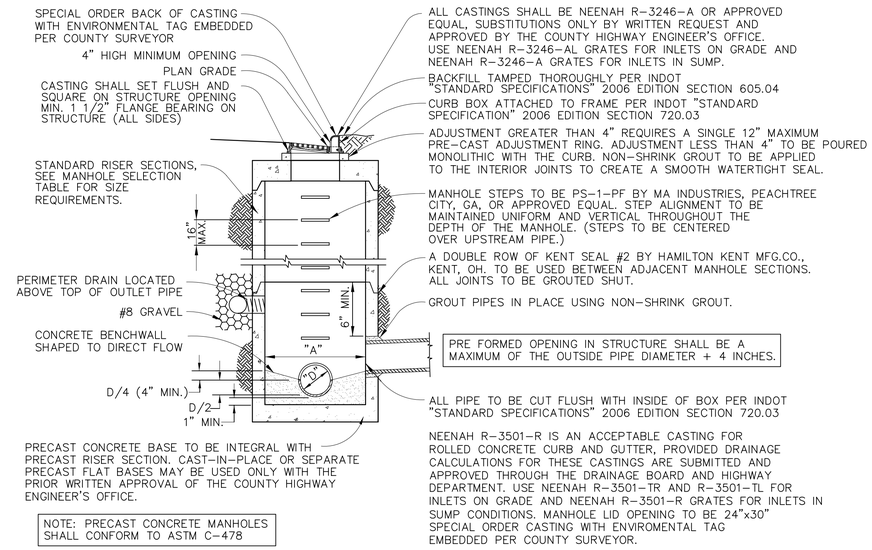
STANDARD BEDDING DETAIL

SCALE: NONE



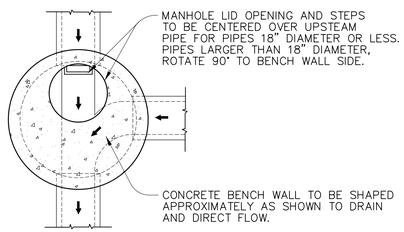
UNDERDRAIN DETAIL

SCALE: NONE



STORM SEWER MANHOLE - INLET

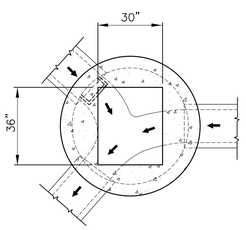
SCALE: NONE



SOLID LID OPENING

MANHOLE LID

SCALE: NONE



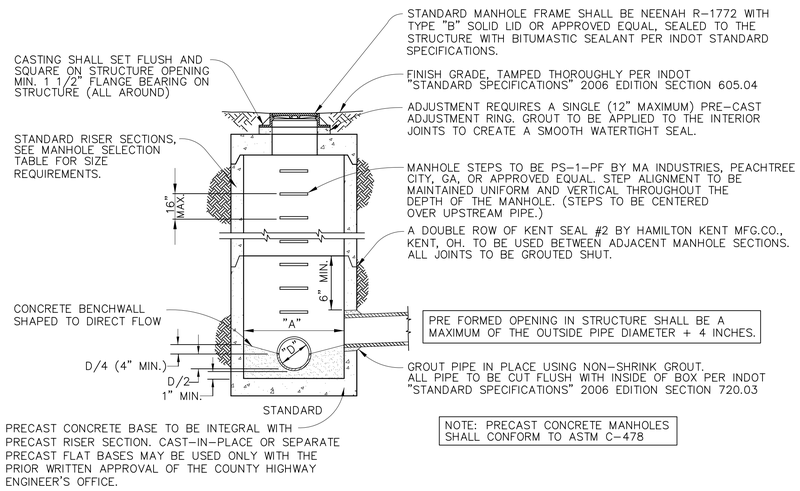
CURB INLET OPENING

MANHOLE LID

SCALE: NONE

OPENING DIMENSIONS SHOWN IN THE MANHOLE LID IS FOR A HEENAH R-3246-A TYPE CASTING. OPENING DIMENSIONS IN THE MANHOLE LID FOR A NEENAH R-3501-R SHALL BE 24"x30".

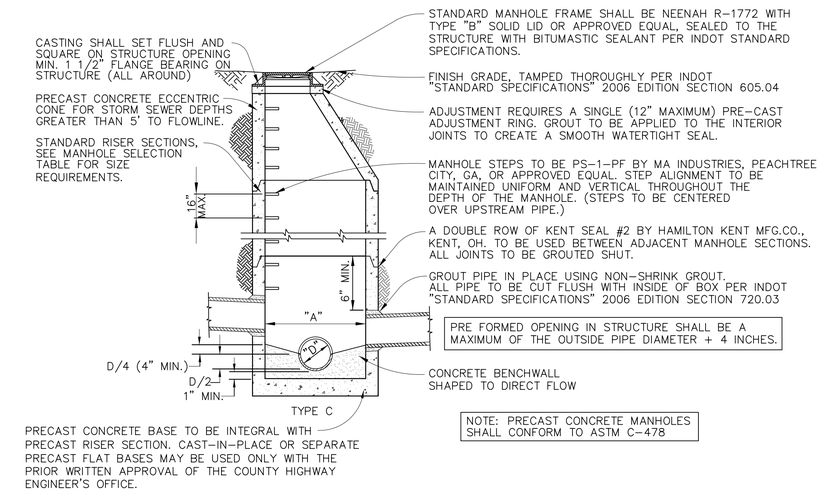
SEE SHEET 4 OF 5 FOR STORM SEWER NOTES AND TELEVISION INSPECTION CRITERIA.



STORM SEWER MANHOLE

SCALE: NONE

PREFORMED OPENING IN STRUCTURE SHALL BE A MAXIMUM OF THE OUTSIDE PIPE DIAMETER + 4 INCHES. MINIMUM OF 6" OF STRUCTURE REQUIRED BETWEEN TOP OF PREFORMED OPENING AND TOP OF STRUCTURE



STORM SEWER MANHOLE

SCALE: NONE

MANHOLE SELECTION TABLE

PIPE DIAMETER "D"	RISER DIAMETER "A"	MAXIMUM PIPE SIZE FOR MAIN LINE	MAXIMUM PIPE SIZE @90 TO MAIN LINE
UP TO 24"	48"	24"	24"
24"-33"	60"	33"	30"
33"-36"	72"	36"	33"
36"-48"	84"	48"	36"

STORM SEWER/BEDDING/UNDERDRAIN DETAILS

TIPPECANOE COUNTY HIGHWAY DEPARTMENT

20 NORTH THIRD STREET LAFAYETTE, INDIANA 47901

765-423-9210 www.tippecanoe.in.gov

DATE: APRIL 2006

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