STREET AND STORM SEWER GENERAL NOTES

1. THESE (STANDARD DETAIL SHEETS 1 THROUGH 5) ARE THE DOCUMENTS SPECIFYING STREET AND STORM DRAINAGE CONSTRUCTION STANDARD DETAILS. THE FOLLOWING PUBLICATIONS MAY ALSO ESTABLISH DESIGN AND CONSTRUCTION STANDARDS FOR STREET AND STORM DRAINAGE CONSTRUCTION: CITY OF OTTAWA COMPREHENSIVE PLAN, CITY OF OTTAWA SUBDIVISION REGULATIONS, STANDARD SPECIFICATIONS FOR STATE ROAD AND BRIDGE CONSTRUCTION (A KANSAS DEPARTMENT OF TRANSPORTATION PUBLICATIONS), AND STANDARD SPECIFICATIONS AND DESIGN CRITERIA (A PUBLICATION OF THE KANSAS CITY METROPOLITAN CHAPTER OF THE AMERICAN PUBLIC WORKS ASSOCIATION).

2. THE CITY OF OTTAWA PLAN REVIEW IS ONLY FOR GENERAL CONFORMANCE WITH THE CITY OF OTTAWA DESIGN CRITERIA AND THE CITY CODES. THE CITY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, OR ELEVATIONS WHICH SHALL BE CONFIRMED AT THE JOBSITE. THE CITY OF OTTAWA THROUGH APPROVAL OF THIS DOCUMENT, ASSUMES NO RESPONSIBILITY FOR COMPLETENESS OR ACCURACY.

3. CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE PUBLIC WORKS DIRECTOR TO SCHEDULE A PRE-CONSTRUCTION MEETING PRIOR TO PROCEEDING WITH WORK OUTLINED IN THESE CONSTRUCTION DOCUMENTS.

4. ANY EXPENSE FOR INSPECTION SERVICES IS TO BE PAID BY THE DEVELOPER/CONTRACTOR.

5. CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING ALL SITE CONDITIONS PRIOR TO SUBMITTING A BID FOR THE PROJECT.

6. CONTRACTOR SHALL MAINTAIN DRAINAGE DURING CONSTRUCTION AND IS RESPONSIBLE FOR ANY DEWATERING NECESSARY FOR CONSTRUCTION.

7. THE UTILITY INFORMATION SHOWN HEREIN IS BASED ON THE INFORMATION AVAILABLE TO THE ENGINEER AT THE TIME OF DESIGN. THE CONTRACTOR SHALL VERIFY ALL UTILITY DEPTHS AND LOCATIONS PRIOR TO CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR REPAIR/REPLACEMENT OF ANY UTILITIES DAMAGED DURING CONSTRUCTION OF THIS PROJECT.

8. ALL CLEARING, GRUBBING, AND TREE REMOVAL NECESSARY TO ACCOMPLISH THIS PROJECT SHALL BE PERFORMED BY THE CONTRACTOR. ALL CLEARING DEBRIS SHALL BE DISPOSED OF BY THE CONTRACTOR OFF SITE IN ACCORDANCE WITH KANSAS STATUTES. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE CITY FIRE CHIEF PRIOR TO BURNING. THE CONTRACTOR SHALL SATISFY HIMSELF (BY JOBSITE INSPECTION) AS TO THE CLEARING REQUIRED PRIOR TO SUBMITTING BID. THE CITY OF OTTAWA DOES NOT HAVE A "BRUSH DISPOSAL SITE" AVAILABLE FOR USE BY CONTRACTORS.

9. ALL CULVERTS, STRUCTURES AND/OR FENCES WITHIN THE RIGHT-OF-WAY ARE TO BE REMOVED.

10. ALL EARTHWORK ON THIS PROJECT SHALL BE CLASSIFIED AS "UNCLASSIFIED EXCAVATION" OR "COMPACTED FILL."

    10.1. ALL CUT AREAS SHALL HAVE THE EXISTING TOPSOIL REMOVED AND STOCKPILED. TOPSOIL SHALL BE TAKEN IN THE UPPER 6" TO 8" OF SOIL, BE HIGH IN HUMUS CONTENT, FREE OF ROCKS, STICKS AND OTHER DEBRIS, AND CAPABLE OF SUSTAINING PLANT LIFE INDIGENOUS TO THE PROJECT LOCATION. TOPSOIL IS TO BE USED AS FILL BEHIND THE CURB AND GUTTER, AND AS THE FINAL LIFT FOR ALL GRADED AREAS.

    10.2. ALL ROADWAY FILL AREAS SHALL BE TYPE B (MR-90) COMPACTION, PLACED IN LIFTS NOT TO EXCEED 6 INCHES.

    10.3. THE SUBGRADE SHALL BE PROOF-ROLLED WITH A LOADED, 12 TON, TANDEM-AXLE DUMP TRUCK OR SIMILAR TYPE OF PNEUMATIC TIRED EQUIPMENT PRIOR TO AGGREGATE BASE CONSTRUCTION.

    10.4. ROCK EXCAVATION SHALL BE HAULED OFF SITE BY THE CONTRACTOR TO A LOCATION PROVIDED BY THE CONTRACTOR, AT HIS EXPENSE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DISPOSAL OFF SITE AT A LOCATION PROVIDED BY THE CONTRACTOR OF ALL LARGE CONCRETE CHUNKS, CLEARING AND MISCELLANEOUS DEBRIS.

    10.5. CONTRACTOR SHALL APPLY 6" OF TYPE B (MR-90) EMBANKMENT COMPACTION UNDER ALL SIDEWALKS AND RAMPS.

    10.6. THE CONTRACTOR SHALL GRADE AND OTHERWISE RESTORE ALL DISTURBED AREAS TO A CONDITION READY FOR SEEDING. TOPSOIL (6" DEPTH) IS TO BE PLACED OVER ALL DISTURBED AREAS.

11. CONTRACTOR SHALL CONTACT THE CITY INSPECTOR 48 HOURS IN ADVANCE FOR INSPECTION OF THE SUBGRADE ELEVATION AND COMPACTION, AND FOR SEPARATE INSPECTION OF ROCK BASE ELEVATION AND COMPACTION PRIOR TO PAVING. NOTIFICATION FOR THE INSPECTIONS IS REQUIRED NO LESS THAN 48 HOURS IN ADVANCE.

12. RAMPS AND OTHER ELEMENTS WITHIN THE PEDESTRIAN ACCESS SYSTEM SHALL COMPLY WITH ALL APPROPRIATE REGULATIONS, INCLUDING, BUT NOT LIMITED TO, THE AMERICANS WITH DISABILITIES ACT. FAMILIARITY WITH CURRENT STANDARDS AND SPECIFICATIONS THAT MAY BE ESTABLISHED BY THE US ACCESS BOARD, KDOT, OR OTHER BODY WITH REGULATORY AUTHORITY SHALL BE THE RESPONSIBILITY OF THE DEVELOPER/DESIGN ENGINEER/CONTRACTOR.

13. STORM SEWERS SHALL BE BEDDED WITH A MINIMUM OF 6" OF CLEAN CRUSHED ROCK (CA-5). PIPES SHALL BE COVERED WITH CA-5 TO 12" ABOVE THE TOP OF PIPE OUTSIDE STREET AREAS. PIPES INSTALLED IN PROPOSED STREET AREAS SHALL BE BACKFILLED WITH CA-5 TO 6" ABOVE THE TOP OF PIPE AND TO SUBGRADE ELEVATION WITH FLOWABLE MORTAR. TRENCHES OUTSIDE OF PAVED AREAS SHALL BE BACKFILLED ABOVE CA-5 WITH SUITABLE SOIL IN LIFTS NOT GREATER THAN 8 INCHES IN DEPTH. COMPACTION SHALL BE ACCOMPLISHED TO TYPE B (MR-90) REQUIREMENTS USING KDOT APPROVED MECHANICAL METHODS. SUITABILITY OF SOIL SHALL BE DETERMINED BY THE CITY OF OTTAWA INSPECTOR.

14. REQUIREMENTS FOR RIP-RAP DESIGNATED AT VARIOUS LOCATIONS ON THE PLANS SHALL BE ACCORDING TO THE CURRENT EDITION OF THE KANSAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR STATE ROAD AND BRIDGES SUBSECTION 1116.

15. RIP-RAP SHALL BE INSTALLED ON GEOTEXTILE FABRIC LINER WHERE SPECIFIED. GEOTEXTILE FABRIC SHALL BE SUPPLIED AND INSTALLED IN CONFORMANCE WITH THE STANDARD SPECIFICATIONS FOR STATE ROAD AND BRIDGE CONSTRUCTION, 1990 EDITION AND ANY APPLICABLE SPECIAL PROVISIONS.

16. ALL AREAS DISTURBED DURING THE CONSTRUCTION OF THIS PROJECT SHALL BE FERTILIZED, SEEDED AND MULCHED OR SODDED BY THE CONTRACTOR IN ACCORDANCE WITH THE FOLLOWING SPECIFICATIONS:

    16.1. BEFORE SEEDING/SODDING, THE ENTIRE AREA TO BE SEEDED/SODDED SHALL BE FERTILIZED WITH A 10-10-10 OR 12-12-12 COMMERCIAL FERTILIZER APPLIED AT A RATE OF 600 LBS./ACRE. THE ENTIRE AREA SHALL THEN BE RAKED TO MIX THE FERTILIZER THOROUGHLY INTO THE UPPER 2 INCHES OF SOIL.

    16.2. SEED & MULCH OR SOD SHALL BE FURNISHED AND PLACED IN GENERAL CONFORMANCE WITH DIVISION 900 OF THE STANDARD SPECIFICATIONS FOR STATE ROAD AND BRIDGE CONSTRUCTION, CURRENT EDITION.

17. CONSTRUCTION STAKING TO BE PROVIDED BY THE CONTRACTOR.

18. THE CONTRACTOR SHALL PROVIDE APPROPRIATE TRAFFIC CONTROL AS SPECIFIED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION.

19. ALL STOP SIGNS, STREET NAME SIGNS, WARNING SIGNS AND NO PARKING SIGNS SHALL BE INSTALLED BY THE CONTRACTOR PER THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.) LATEST EDITION. THE CONTRACTOR SHALL SUBMIT PROPOSED SIGN ORDER TO THE CITY OF OTTAWA PRIOR TO PURCHASING SIGNS. STREET NAME SIGNS SHALL BE GREEN COVERED EXTRUDED ALUMINUM (9" TALL) WITH 6" WHITE LETTERING (AND POST). THESE SHALL BE MOUNTED ON THE STOP SIGN POSTS AT INTERSECTIONS WHERE "STOP" SIGNS EXIST, NOT ON SEPARATE POLES. CONFORMANCE WITH M.U.T.C.D. REQUIRED.

20. BID ITEM FOR "STREET SIGNS" SHALL INCLUDE ALL NECESSARY LABOR AND MATERIALS TO COMPLETE THE INSTALLATION OF THE SIGNS AS SHOWN ON THE PLANS.

21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PERMITTING, FOLLOWING APPLICABLE FEDERAL, STATE AND LOCAL EROSION AND SEDIMENTATION CONTROL REQUIREMENTS.

22. STREET LIGHTS SHALL BE INSTALLED BY THE CITY OF OTTAWA AND THE OWNER WILL PAY FOR ALL MATERIALS AND LABOR TO ACCOMPLISH THIS ITEM.

23. BLASTING SHALL NOT BE ALLOWED UNLESS APPROVED BY THE CITY FIRE CHIEF.

24. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING ANY EXISTING MANHOLES, VALVES, OR ANY OTHER UTILITY ITEMS TO GRADE PRIOR TO ACCEPTANCE OF THE IMPROVEMENTS BY THE CITY.

25. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FINISH GRADING ALL AREAS TO DRAIN PRIOR TO THE ACCEPTANCE OF THE IMPROVEMENTS BY THE CITY.

26. UPON COMPLETION OF THE PROJECT, CONTRACTOR SHALL PROVIDE RECORD DRAWINGS OF THE PROJECT TO THE CITY OF OTTAWA.

27. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MINIMIZING OFF-SITE TRACKING OF SOILS AND MATERIALS. PRIOR TO THE END OF EACH WORKDAY, ANY SOIL OR MATERIALS TRACKED OFF-SITE SHALL BE REMOVED AND STORED/DISPOSED OF PROPERLY.

28. ALL CONCRETE MATERIALS SHALL CONFORM TO KDOT SPECIFICATION SECTION 403 OR SECTION 15-04001. LIMESTONE IS NOT AN ACCEPTABLE MATERIAL FOR COURSE AGGREGATE.

29. BACKFILL FOR TRENCHES WITHIN PUBLIC RIGHT-OF-WAY SHALL CONFORM TO THE TRENCH COMPACTION REQUIREMENTS POLICY PUBLISHED BY THE CITY OF OTTAWA PUBLIC WORKS DEPARTMENT DATED FEBRUARY 10, 2003.

Rev. No.	Description	Date
3	Updated City Engineer & Note 28	09/20/18
2	Revised Notes	12/05/16
1	Changed City Manager	01/11/10
Original		12/22/05

REVISIONS

OTTAWA KANSAS

CITY OF OTTAWA, KANSAS

STANDARD GENERAL NOTES

Standard Detail Sheet No. 1 of 5

David Hamby, P.E., CFM
BG Consultants, Inc.
City Engineer

Richard U. Nienstedt
City Manager

Sheet No. ___ of ___

GENERAL NOTES

1. THESE SHEETS (STANDARD DETAIL SHEETS 1 THROUGH 5) ARE THE PRIMARY DOCUMENT SPECIFYING STREET CONSTRUCTION STANDARDS IS THE CITY OF OTTAWA STREET & STORM DRAINAGE CONSTRUCTION SPECIFICATIONS. THE FOLLOWING PUBLICATIONS MAY ALSO ESTABLISH DESIGN AND CONSTRUCTION STANDARDS FOR STREET CONSTRUCTION: CITY OF OTTAWA COMPREHENSIVE PLAN, CITY OF OTTAWA SUBDIVISION REGULATIONS, STANDARD SPECIFICATIONS FOR STATE ROAD AND BRIDGE CONSTRUCTION (A KANSAS DEPARTMENT OF TRANSPORTATION PUBLICATIONS), AND STANDARD SPECIFICATIONS AND DESIGN CRITERIA (A PUBLICATION OF THE KANSAS CITY METROPOLITAN CHAPTER OF THE AMERICAN PUBLIC WORKS ASSOCIATION).

2. STREET CLASSIFICATION AND REQUIREMENTS SHALL BE AS FOLLOWS:

	RURAL ARTERIAL	URBAN ARTERIAL	RURAL COLLECTOR	URBAN COLLECTOR	LOCAL COMM./IND.	LOCAL RESID.
# OF LANES	2–5	2–5	2–3	2–3	2	2
ROW WIDTH	120 FT.	100 FT.	100 FT.	80 FT.	80 FT.	60 FT.
PAVEMENT WIDTH	28 FT.+	28 FT.+	28 FT.+	28 FT.+	25 FT.+	23 FT.+
CURB AND GUTTER REQ.	NO	YES	NO	YES	YES	YES
SHOULDER WIDTH	6 FT.+	N/A	6 FT.+	N/A	N/A	N/A

(NOTE: PAVEMENT WIDTH DOES NOT INCLUDE CURB AND GUTTER)

3. MINIMUM LANE WIDTH: LOCAL RESIDENTIAL STREETS SHALL BE DESIGNED WITH DRIVING LANES NO LESS THAN ELEVEN AND ONE–HALF FEET (11.5') WIDE. LOCAL COMMERCIAL/INDUSTRIAL STREETS SHALL BE DESIGNED WITH DRIVING LANES NO LESS THAN TWELVE AND ONE–HALF FEET (12.5') WIDE. TWO–LANE COLLECTOR AND ARTERIAL STREETS SHALL BE DESIGNED WITH DRIVING LANES NO LESS THAN FOURTEEN FEET (14') WIDE. COLLECTOR AND ARTERIAL STREETS WITH MORE THAN 2 LANES MAY BE CONSTRUCTED WITH 12' WIDE LANES. ALL LANE WIDTHS DO NOT INCLUDE CURB AND GUTTER. MINIMUM TURNING RADII AT INTERSECTIONS IS DEPENDENT ON STREET CLASSIFICATION.

4. ON–STREET PARKING: ON–STREET PARKING SHALL NOT BE PERMITTED ON ARTERIAL, COLLECTOR AND LOCAL COMMERCIAL/INDUSTRIAL STREETS. ON–STREET PARKING ON LOCAL RESIDENTIAL STREETS WILL BE ALLOWED ON ONE SIDE OF THE STREET WHEN ADEQUATE JUSTIFICATION IS PROVIDED AS DETERMINED BY THE CITY OF OTTAWA.

5. STREET BASE SHALL BE NOT LESS THAN SIX INCHES (6") OF COMPACTED SOIL COVERED BY AN AGGREGATE BASE NOT LESS THAN SIX INCHES (6") THICK. THESE MATERIALS SHALL BE INSTALLED PER THE GUIDELINES ON THIS SHEET.

6. PAVEMENT THICKNESSES SHALL BE DETERMINED BY ENGINEERING DESIGN, BUT SHALL BE NO LESS THAN:

CLASSIFICATION	ASPHALT	CONCRETE
LOCAL/RESIDENTIAL	8"	6"
COLLECTOR	10"	8"
ARTERIAL	12"	10"

7. FOR ASPHALTIC CONCRETE STREETS:

   7.1. ¾" PREMOLDED BITUMINOUS EXPANSION JOINT FILLER (NON–EXTRUDING) CUT TO DIMENSION OF CURB AND GUTTER SHALL BE USED AT A SPACING NOT EXCEEDING 100 FEET AND AT THE END OF CURB RETURNS.

   7.2. CONTRACTION JOINTS IN CONCRETE CURB AND GUTTER SHALL BE SPACED AT 10 FOOT INTERVALS (SAWCUT ONLY) UNLESS SPECIFIED OTHERWISE IN A JOINTING PLAN.

8. FOR PORTLAND CEMENT CONCRETE STREETS:

   8.1. CONCRETE PAVEMENT DESIGNS SHALL BE SUBMITTED TO THE CITY FOR APPROVAL DURING THE DESIGN PHASE. PORTLAND CEMENT CONCRETE STREETS SHALL BE NON–REINFORCED, DOWEL JOINTED MEETING OR EXCEEDING CURRENT KDOT STANDARD DRAWING DETAILS AND CITY OF OTTAWA MATERIAL REQUIREMENTS.

   8.2. THE CONCRETE CURB AND GUTTER DEPTH SHALL BE INCREASED TO MATCH THE THICKNESS OF THE ADJACENT CONCRETE PAVEMENT.

   8.3. PAVEMENT JOINTS IN PORTLAND CEMENT CONCRETE PAVEMENT SHALL BE CONTINUED THROUGH THE CURB AND GUTTER.

   8.4. EXPANSION JOINTS IN CURB AND GUTTER SHALL BE PLACED OPPOSITE EXPANSION JOINTS IN THE CONCRETE PAVEMENT.

   8.5. EXPANSION JOINTS SHALL BE PLACED AT THE ENDS OF THE PAVEMENT SLAB WHERE THE NEW PAVEMENT ABUTS THE ENDS OF BRIDGES OR OTHER RIGID STRUCTURES. WHERE NEW PAVEMENT CONSTRUCTION ABUTS EXISTING CONCRETE PAVEMENT, PLACE EXPANSION JOINTS 12 FEET FROM THE JUNCTION WITH THE EXISTING CONCRETE PAVEMENT.

   8.6. PAVEMENT JOINTS SHALL BE CONSTRUCTED AT LOCATIONS AS SPECIFIED ON THIS SHEET AS WELL AS THE LOCATIONS SHOWN IN THE PLANS.

9. ALL CONCRETE MATERIALS SHALL CONFORM TO KDOT SPECIFICATION SECTION 403 OR SECTION 15–04001. LIMESTONE IS NOT AN ACCEPTABLE MATERIAL FOR COURSE AGGREGATE. MINIMUM STRENGTH OF CONCRETE IS 4,000 PSI.

10. ONLY TYPE I CURB AND GUTTER SHALL BE ALLOWED FOR STREETS LOCATED IN AREAS ZONED FOR COMMERCIAL OR INDUSTRIAL USE.

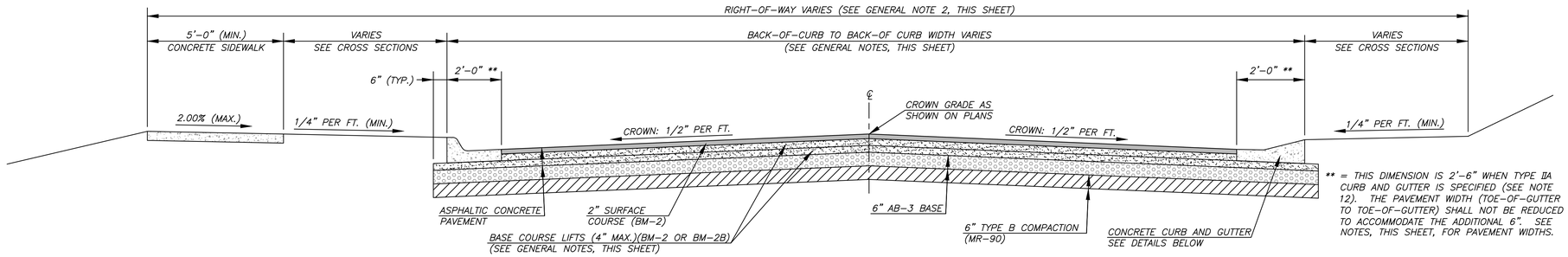
11. STREETS CLASSIFIED AS COLLECTOR OR ARTERIAL STREETS SHALL BE CONSTRUCTED WITH TYPE I CURB AND GUTTER.

12. TYPE IIA CURB AND GUTTER SHALL ONLY BE PERMITTED ON LOCAL RESIDENTIAL STREETS AND SHALL CONFORM TO THE FOLLOWING RESTRICTIONS: ONLY TYPE I CURB AND GUTTERS SHALL BE ALLOWED AT INTERSECTIONS OF LOCAL RESIDENTIAL STREETS. THE CURB RETURNS AND 30 FEET FROM THE END OF CURB RETURNS (ECR'S) SHALL BE CONSTRUCTED OF TYPE I CURB AND GUTTER. PROVIDE A 10 FOOT TRANSITION FROM TYPE I TO TYPE IIA CURB AND GUTTER.

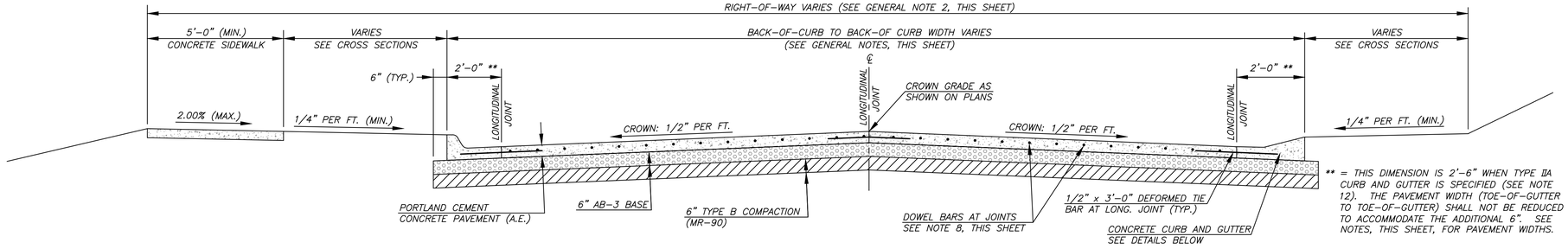
13. NO DRIVEWAYS SHALL BE ALLOWED ON ARTERIAL OR COLLECTOR STREETS UNLESS APPROVED BY THE CITY OF OTTAWA. NO DRIVEWAYS SHALL BE ALLOWED WITHIN 30 FEET OF A CURB RETURN OF AN INTERSECTION.

14. LOCAL RESIDENTIAL STREETS SHALL HAVE ONE SIDEWALK ON ONE SIDE OF THE STREET. ARTERIAL, COLLECTOR AND LOCAL COMMERCIAL/INDUSTRIAL STREETS SHALL HAVE SIDEWALKS ON BOTH SIDES OF THE STREET (UNLESS SPECIFIED OTHERWISE BY THE CITY ENGINEER).

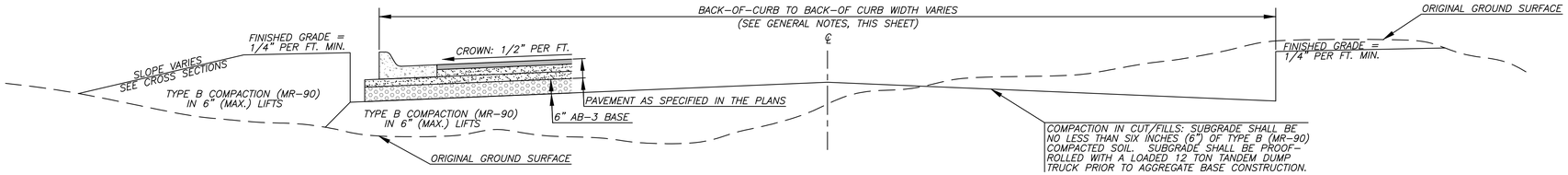
15. REINFORCING BARS SHALL BE DEFORMED, GRADE 60 AND SHALL MEET ASTM A 615 SPECIFICATIONS.



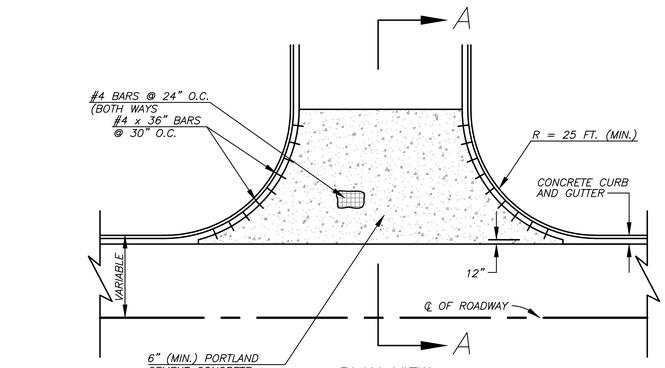
TYPICAL SECTION ASPHALTIC CONCRETE STREET



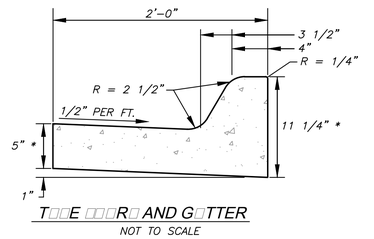
TYPICAL SECTION PORTLAND CEMENT CONCRETE STREET (NRD)



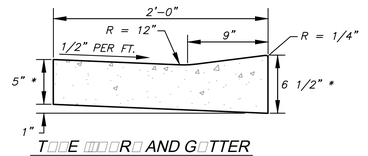
TYPICAL SECTION GRADING FOR NEW STREETS



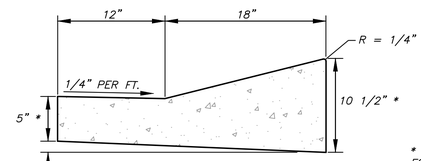
CONCRETE APRON AND INTERSECTIONS
NOT TO SCALE



TYPE I CURB AND GUTTER
NOT TO SCALE

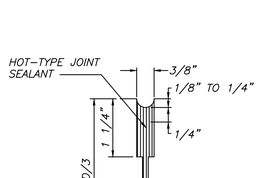


TYPE I CURB AND GUTTER
NOT TO SCALE

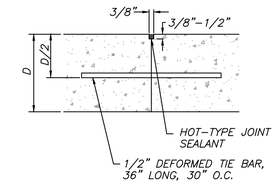


TYPE IA CURB AND GUTTER
NOT TO SCALE

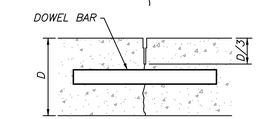
* = SEE NOTE 8.2, THIS SHEET FOR CURB AND GUTTER THICKNESS WHEN PORTLAND CEMENT CONCRETE PAVEMENTS ARE USED



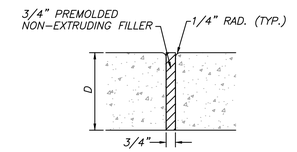
CONTRACTION JOINT
NOT TO SCALE



LONGITUDINAL JOINT
NOT TO SCALE



EXPANSION JOINT
NOT TO SCALE



EXPANSION JOINT
NOT TO SCALE

D = DEPTH OF CONCRETE PAVEMENT/CURB AND GUTTER

CITY OF OTTAWA, KANSAS

STANDARD DETAILS FOR CITY STREETS

Standard Detail Sheet No. 2 of 5

Rev. No.	Description	Date
3	Updated City Engineer & Notes	09/20/18
2	Revised Standard Details	12/05/16
Original		12/22/05

REVISIONS

David Hamby, P.E., CFM
BG Consultants, Inc.
City Engineer

Richard U. Nienstedt
City Manager

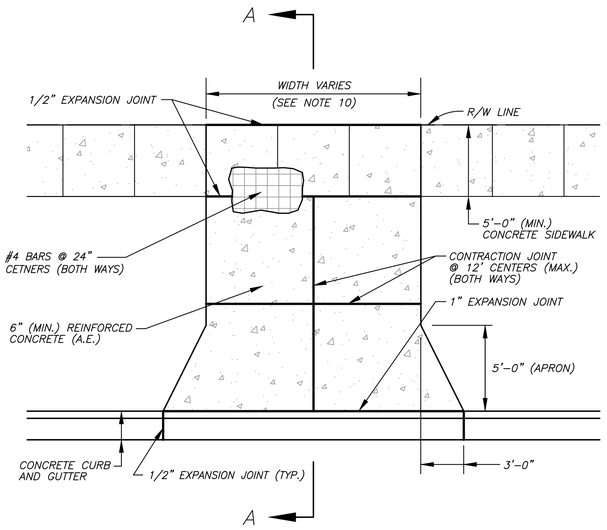
Sheet No. ___ of ___

GENERAL NOTES

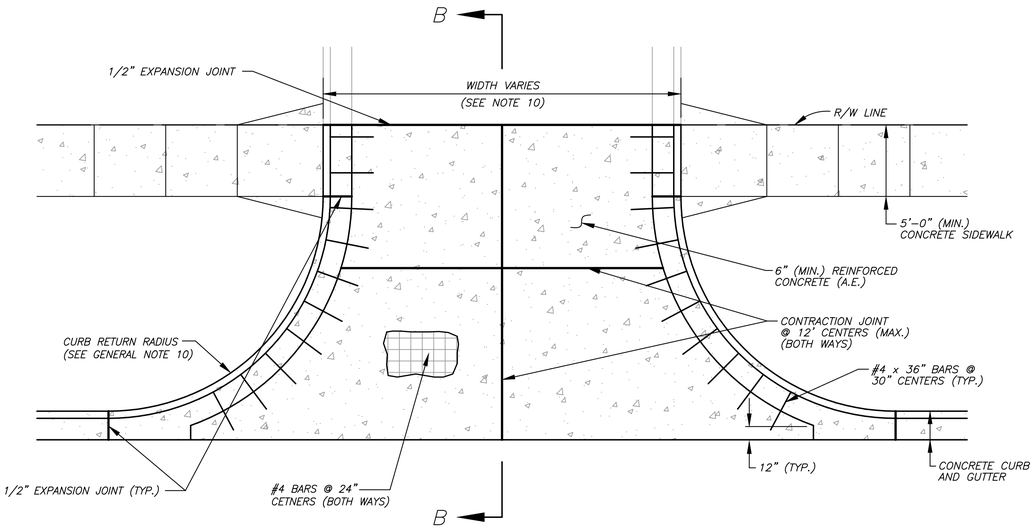
1. WHEN NEW ENTRANCE CONSTRUCTION IS LOCATED ADJACENT TO EXISTING CURB AND GUTTER, THE EXISTING CONCRETE CURB AND GUTTER SHALL BE NEATLY SAW CUT AT RIGHT ANGLES PRIOR TO REMOVAL. NEW ENTRANCES SHALL BE CONSTRUCTED PERPENDICULAR TO THE CENTERLINE OF THE ADJACENT STREET. ENTRANCE CONSTRUCTION SHALL MATCH EXISTING CONSTRUCTION AND SHALL MAINTAIN THE ORIGINALLY DESIGNED DRAINAGE FLOW LINE.
2. ¾" PREMOLDED BITUMINOUS EXPANSION JOINT FILLER (NON-EXTRUDING) CUT TO DIMENSION OF CURB AND GUTTER SHALL BE USED AT A SPACING NOT EXCEEDING 100 FEET, AT THE END OF CURB RETURNS AND WHERE NEWLY CONSTRUCTED CURB AND GUTTER ABUTS EXISTING CURB AND GUTTER.
3. CONTRACTION JOINTS SHALL BE SPACED IN CONCRETE CURB AND GUTTER AT 10 FOOT INTERVALS (SAWCUT ONLY).
4. THE ENTIRE APRON, INCLUDING RADIUS/TAPER, SHALL FALL ON THE PERMIT HOLDER'S SIDE OF THE EXTENDED SIDE PROPERTY LINE.
5. ENTRANCES CONSTRUCTED WHERE THERE IS NO CONCRETE CURB AND GUTTER SHALL MATCH THE EXISTING ROADWAY IN SUCH A MANNER AS TO CAUSE SURFACE DRAINAGE TO FLOW IMMEDIATELY TO A DITCH ADJACENT TO THE ENTRANCE.
6. SIDEWALKS WITHIN ENTRANCES IN PUBLIC RIGHT-OF-WAY SHALL BE CONSTRUCTED TO A MINIMUM OF 6" CONCRETE (AIR ENTRAINED) AND REINFORCED WITH #4 BARS AT 24" CENTERS AS SHOWN IN THE DETAILS ON THIS SHEET. THE SLOPE OF THE ENTRANCE SHALL BE CONSTRUCTED TO MATCH THE CROSS SLOPE OF THE ADJACENT SIDEWALK (2.00% MAX.).
7. THE SLOPE OF AN ENTRANCE LOCATED WITHIN PUBLIC RIGHT-OF-WAY SHALL BE NO GREATER THAN A TWELVE (12) PERCENT INCREASE OR AN EIGHT (8) PERCENT DECREASE.
8. ENTRANCE WIDTHS SHALL CONFORM TO THE FOLLOWING LIMITATIONS:

ENTRANCE TYPE	MIN. WIDTH	MAX. WIDTH	"CR" RADIUS
RESIDENTIAL (SINGLE-FAMILY)	12 FEET	32 FEET	------
RESIDENTIAL (MULTI-FAMILY)	24 FEET	44 FEET	------
COMMERCIAL	24 FEET	40 FEET	15 FEET
COMMERCIAL (ONE-WAY)	16 FEET	24 FEET	15 FEET
INDUSTRIAL	24 FEET	60 FEET	25 FEET
INDUSTRIAL (ONE-WAY)	16 FEET	24 FEET	25 FEET

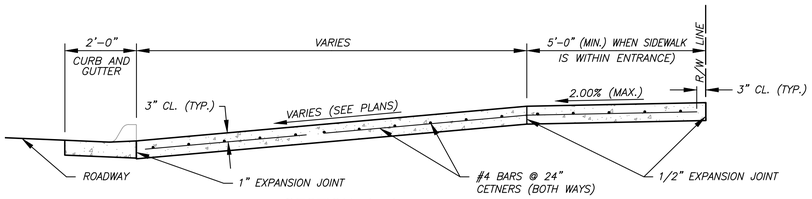
9. RESIDENTIAL ENTRANCE WIDTHS IN THE TABLE ABOVE ARE CUMULATIVE. PROPERTIES MAY HAVE MORE THAN ONE ENTRANCE, SUCH AS A CIRCULAR DRIVEWAY. HOWEVER, SUCH INSTALLATIONS MUST FALL WITHIN THE LIMITATIONS OF THE MAXIMUM CUMULATIVE WIDTH.
10. COMMERCIAL ENTRANCES WITH A MAXIMUM APPROACH WIDTH OF 52 FEET SHALL BE ALLOWED WHEN A MEDIAN NO LESS THAN FOUR (4) FEET WIDE IS INSTALLED TO SEPARATE ENTRANCE AND EXIT LANES.
11. REINFORCING BARS SHALL BE DEFORMED, GRADE 60 AND SHALL MEET ASTM A 615 SPECIFICATIONS.
12. ALL CONCRETE MATERIALS SHALL CONFORM TO KDOT SPECIFICATION SECTION 403 OR SECTION 15-04001. LIMESTONE IS NOT AN ACCEPTABLE MATERIAL FOR COURSE AGGREGATE. MINIMUM STRENGTH OF CONCRETE IS 4,000 PSI. THIS INCLUDES ENTRANCE APRONS, SIDEWALKS AND CURB AND GUTTER.



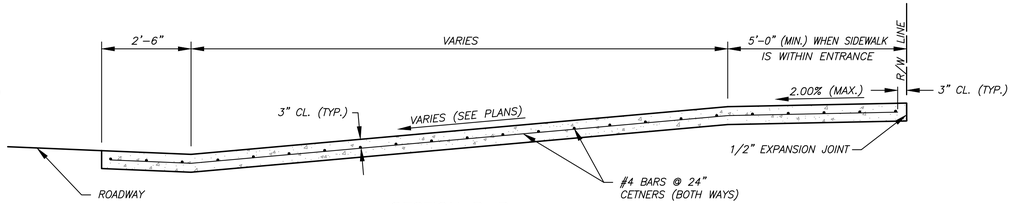
PLAN VIEW



PLAN VIEW



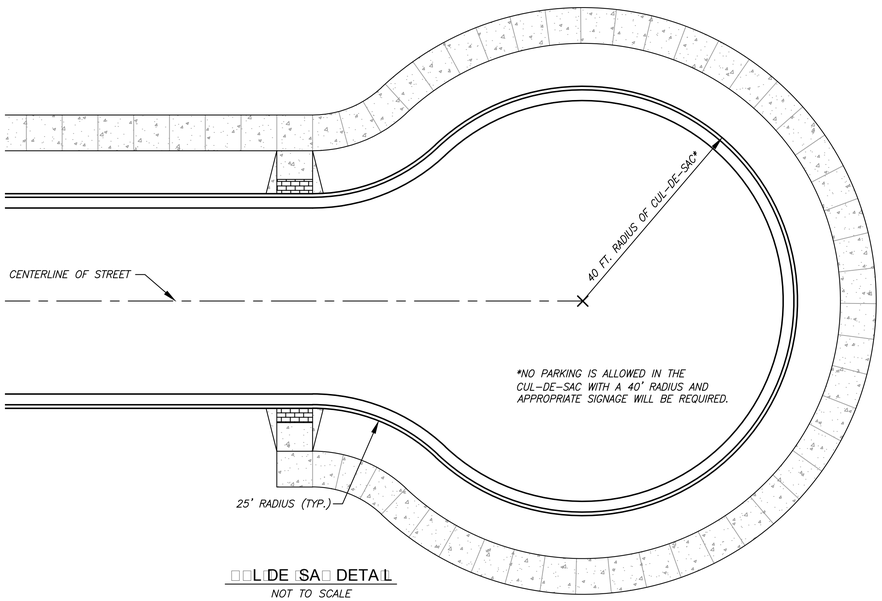
SECTION A-A



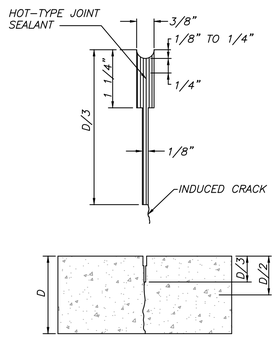
SECTION B-B

RESIDENTIAL ENTRANCE DETAIL
NOT TO SCALE

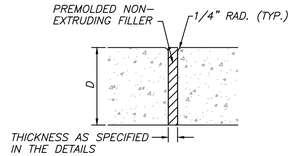
COMMERCIAL AND INDUSTRIAL ENTRANCE DETAIL
NOT TO SCALE



CUL DE SAC DETAIL
NOT TO SCALE



CONTRACTION JOINT
NOT TO SCALE



EXPANSION JOINT
NOT TO SCALE

D = DEPTH OF CONCRETE PAVEMENT/CURB AND GUTTER

Rev. No.	Description	Date
3	Updated City Engineer & Notes	09/20/18
2	Revised Standard Details	12/05/16
1	Changed City Manager	01/11/10
Original		12/22/05

REVISIONS

CITY OF OTTAWA, KANSAS

STANDARD DETAILS FOR ENTRANCES AND CUL-DE-SACS

Standard Detail Sheet No. 3 of 5

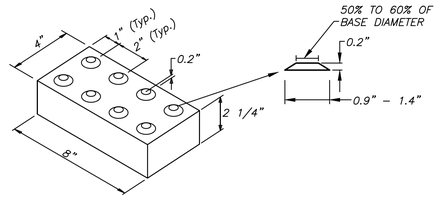
David Hamby, P.E., CFM
BG Consultants, Inc.
City Engineer

Richard U. Nienstedt
City Manager

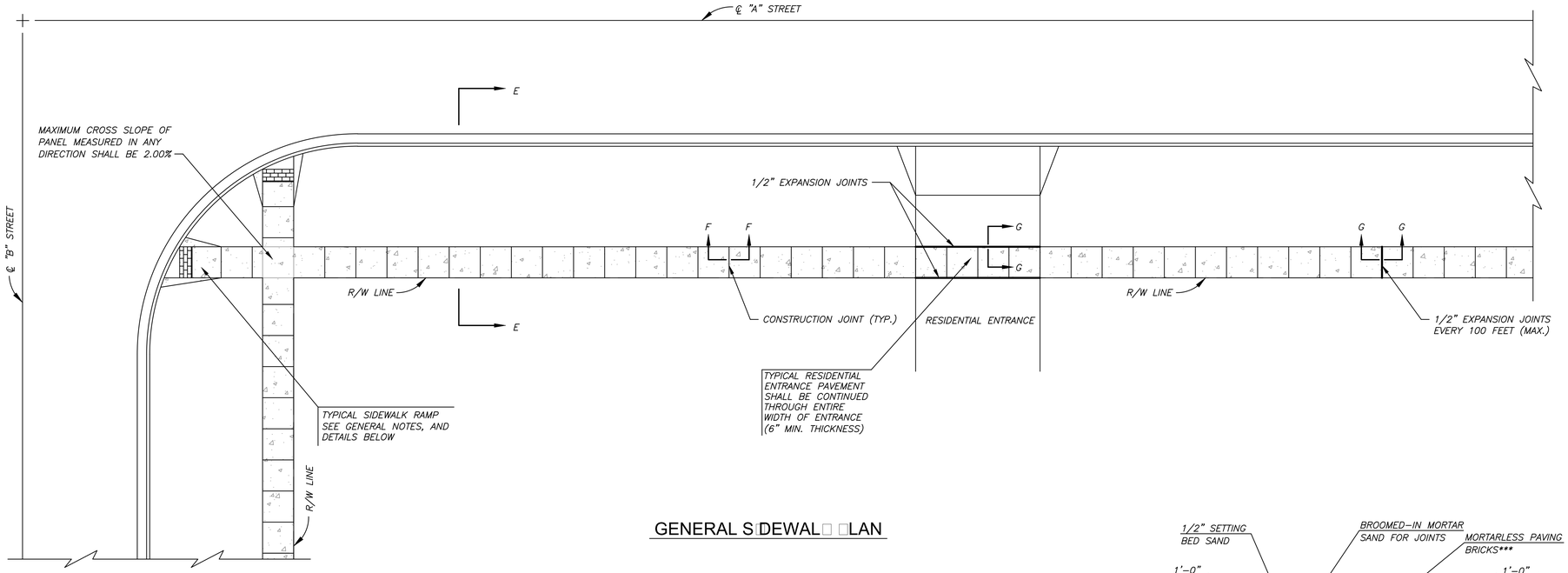
Sheet No. ___ of ___

GENERAL NOTES

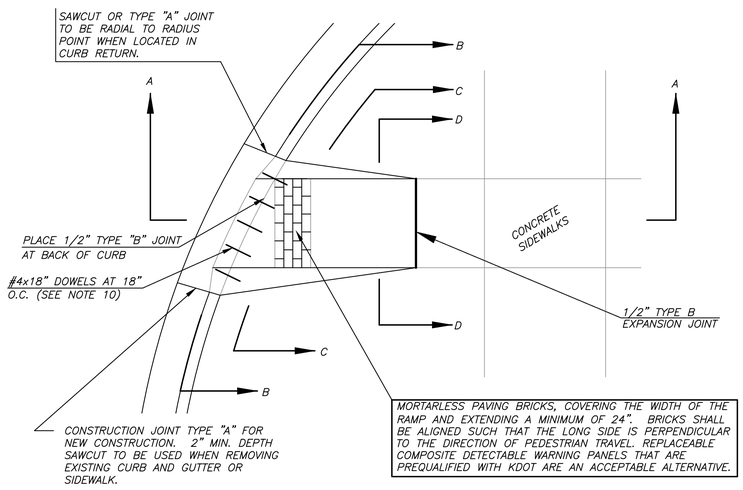
1. RAMPS AND OTHER ELEMENTS WITHIN THE PEDESTRIAN ACCESS SYSTEM SHALL COMPLY WITH ALL APPROPRIATE REGULATIONS, INCLUDING, BUT NOT LIMITED TO, THE AMERICANS WITH DISABILITIES ACT.
2. THE MINIMUM WIDTH OF CONCRETE SIDEWALKS SHALL BE 5'–0" ALONG COMMERCIAL/INDUSTRIAL AND RESIDENTIAL STREETS. THE MINIMUM WIDTH OF CONCRETE SIDEWALKS SHALL BE 6'–0" ALONG ARTERIAL AND COLLECTOR STREETS.
3. ALL CONCRETE MATERIALS SHALL CONFORM TO KDOT SPECIFICATION SECTION 403 OR SECTION 15–04001. LIMESTONE IS NOT AN ACCEPTABLE MATERIAL FOR COURSE AGGREGATE. MINIMUM STRENGTH OF CONCRETE IS 4,000 PSI.
4. CONTRACTION JOINTS SHALL BE PLACED IN 5' WIDE SIDEWALKS AT 5'–0" INTERVALS AND AT 6'–0" INTERVALS IN 6' WIDE SIDEWALKS. WHEN OTHER WIDTHS OF SIDEWALK ARE USED, CONTRACTION JOINTS SHALL BE PLACED AS DIRECTED BY THE CITY ENGINEER OR AN AUTHORIZED REPRESENTATIVE.
5. EXPANSION JOINTS SHALL BE PLACED AT ALL LOCATIONS WHERE SIDEWALK ABUTS EXISTING STRUCTURES AND AT 100' INTERVALS ON LONG RUNS.
6. THE PRICE BID FOR 4" CONCRETE SIDEWALK SHALL INCLUDE ALL LABOR, EQUIPMENT AND MATERIALS REQUIRED FOR THE COMPLETE INSTALLATION OF SIDEWALK, INCLUDING ALL EXCAVATION AND COMPACTION EXCEPT AS OTHERWISE INDICATED ON THE PLANS.
7. SIDEWALK RAMPS SHALL BE CONSTRUCTED AT ALL LOCATIONS WHERE SIDEWALKS INTERSECT NEW STREET CONSTRUCTION AND AS OTHERWISE SHOWN ON THE PLANS.
8. COMPACTION OF THE SIDEWALK SUBGRADE SHALL BE TYPE B, MR–90 TO A DEPTH OF 6".
9. RESIDENTIAL DRIVE CONSTRUCTION SHALL CONFORM TO CITY STANDARDS.
10. WHERE SIDEWALKS ADJOIN STORM SEWER STRUCTURES OR RAMPS ADJOIN CURB AND GUTTER, #4 BARS DOWELS SHALL BE PLACED AT 18" O.C. THROUGH 1/2" PREMOLDED EXPANSION JOINTS. DOWELS SHALL BE 18" LONG WITH 9" GREASED ENDS IN THE STRUCTURE TOP. SLEEVED DOWELS ARE AN ACCEPTABLE SUBSTITUTE.



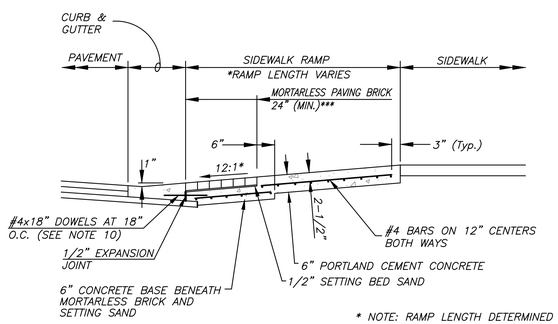
MORTARLESS PAVING BRICK



GENERAL SIDEWALK PLAN

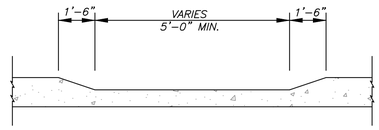


SIDEWALK RAMP DETAIL

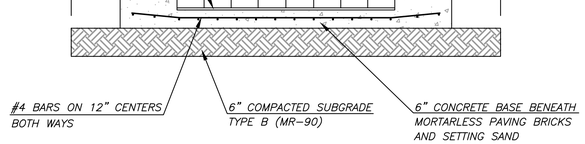


* NOTE: RAMP LENGTH DETERMINED BY RAMP SLOPE. MAXIMUM RAMP SLOPE: 1" PER FOOT.

SECTION A-A

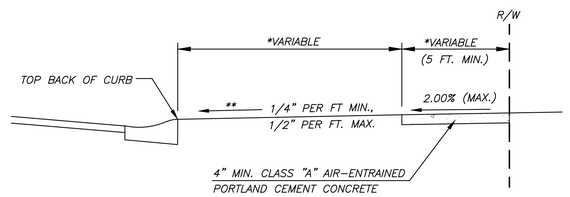


SECTION B-B



SECTION C-C

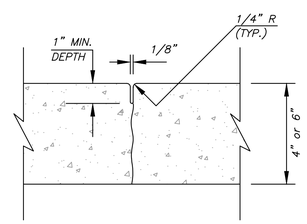
*** REPLACEABLE COMPOSITE DETECTABLE WARNING PANELS THAT ARE PREQUALIFIED WITH KDOT ARE AN ACCEPTABLE ALTERNATIVE.



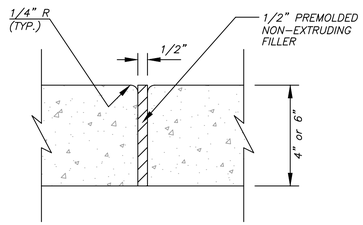
* SEE PLAN AND PROFILE AND/OR CROSS–SECTION SHEETS FOR DISTANCES AND/OR THICKNESS.

** SLOPE DOWNWARD TO THE CURB WITH THE SAME MINIMUM AND MAXIMUM SLOPE LIMITS WHERE SO DIRECTED BY THE ENGINEER.

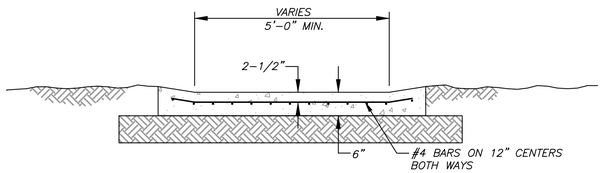
SECTION E-E



SECTION F-F CONTRACTION JOINT



SECTION G-G EXPANSION JOINT



SECTION D-D

CITY OF OTTAWA, KANSAS

STANDARD DETAILS FOR CONCRETE SIDEWALKS

Standard Detail Sheet No. 4 of 5

Rev. No.	Description	Date
3	Updated City Engineer & Notes	09/20/18
2	Revised Standard Details	12/05/16
1	Changed City Manager	01/11/10
Original		12/22/05

REVISIONS

David Hamby, P.E., CFM
BG Consultants, Inc.
City Engineer

Richard U. Nienstedt
City Manager

Sheet No. ___ of ___

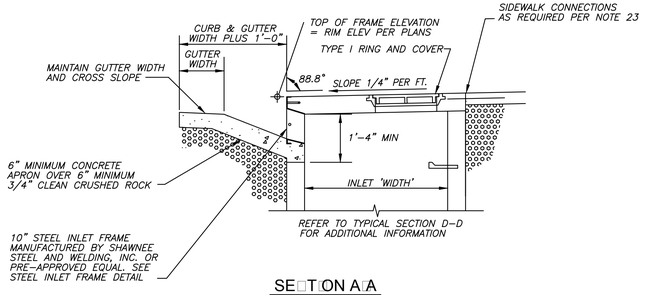
GENERAL NOTES

1. DRAINAGE SHOULD GENERALLY BE CONSIDERED "PUBLIC" IF STORM WATER IN SIGNIFICANT QUANTITIES FROM LOCATIONS UPSTREAM PASSES THROUGH A PARTICULAR DEVELOPMENT/PARCEL. SUCH DRAINAGE MAY BE THROUGH UNDERGROUND SYSTEMS OR IN STREAMS/DITCHES/SWALES.
2. STORM DRAINAGE EASEMENTS ARE REQUIRED WHERE PUBLIC STORM DRAINAGE CROSSES PRIVATE PROPERTY. THESE EASEMENTS ARE TO PROVIDE ADEQUATE SPACE FOR PERFORMANCE OF VARIOUS MAINTENANCE ACTIVITIES THAT MAY BECOME NECESSARY OVER TIME.
3. THE MINIMUM WIDTH OF A STORM DRAINAGE EASEMENT SHALL BE TWENTY FEET (20'). LARGER EASEMENTS MAY BE REQUIRED FOR LARGER DRAINAGE STRUCTURES. REQUIRED DIMENSIONS WILL BE DEPENDENT ON THE DEVELOPMENT AND CHARACTERISTICS OF THE DRAINAGE BASIN, AND WILL BE APPROVED BY THE CITY ENGINEER.
4. THE CITY OF OTTAWA SHALL MAINTAIN UNDERGROUND STORM DRAINAGE SYSTEMS IN THE RIGHT-OF-WAY OR IN DEDICATED PERMANENT STORM DRAINAGE EASEMENTS WHICH ARE DESIGNED, CONSTRUCTED, INSPECTED AND ACCEPTED ACCORDING TO THE PROVISIONS OF THE DEVELOPMENT PROCEDURES POLICY MANUAL. OPEN DITCH DRAINAGE SYSTEMS IN THE RIGHT-OF-WAY OR IN DEDICATED PERMANENT STORM DRAINAGE EASEMENTS MAY BE GRADED AS NECESSARY TO MAINTAIN ADEQUATE FLOW OF STORM WATER RUNOFF. MOWING AND OTHER ROUTINE GROUNDS MAINTENANCE FUNCTIONS IN THE RIGHT-OF-WAY OR IN DEDICATED PERMANENT STORM DRAINAGE EASEMENTS SHALL BE THE RESPONSIBILITY OF THE ADJACENT PRIVATE PROPERTY OWNER.
5. POST-DEVELOPMENT RUNOFF IN ANY DEVELOPMENT PROJECT SHALL NOT EXCEED PRE-DEVELOPMENT RUNOFF IN A 100-YEAR STORM EVENT. DESIGN ENGINEERS AND DEVELOPERS SHALL PROVIDE FOR THIS DETENTION CAPACITY.
6. STORM DRAINAGE STRUCTURES UNDER STREETS CLASSIFIED AS "LOCAL/RESIDENTIAL" OR "COLLECTOR" SHALL BE DESIGNED TO CONVEY THE 10-YEAR STORM EVENT WITHIN THE CONDUIT. STORM DRAINAGE STRUCTURES UNDER STREETS CLASSIFIED AS "ARTERIAL" SHALL BE DESIGNED TO CONVEY THE 50-YEAR STORM EVENT WITHIN THE CONDUIT. THE COMBINED CAPACITY OF THE OVERFLOW CHANNEL AND IN-SYSTEM CONVEYANCE UNDER STREETS SHALL BE SUFFICIENT TO CONVEY THE 100-YEAR STORM EVENT AT ALL LOCATIONS; EXCEPT THAT AN OVERFLOW DEPTH NOT EXCEEDING SEVEN (7") AT THE LOWEST POINT OF THE TRAVELED WAY WILL BE PERMITTED WHERE CULVERTS CROSS STREETS.
7. STANDARD DRAWINGS SHALL APPLY ONLY TO STRUCTURES WITHIN THE FOLLOWING LIMITS:
   A. INSIDE PLAN DIMENSIONS SHALL NOT EXCEED 40 SQUARE FEET.
   B. WALL HEIGHT SHALL NOT EXCEED 10 VERTICAL FEET.

   STRUCTURES WHICH EXCEED THESE LIMITS SHALL BE CONSIDERED NON-STANDARD AND MUST BE DESIGNED AND DETAILED BY A LICENSED PROFESSIONAL ENGINEER.
8. THE MINIMUM WIDTH OF ALL STRUCTURES SHALL BE 4 FEET OR AS REQUIRED FOR PIPE CLEARANCE.
9. STEPS ARE REQUIRED IN ALL STRUCTURES WITH WALL HEIGHT GREATER THAN 4 FEET.
10. FRAMES, LIDS, CASTINGS, STEPS, INVERT, SUBSURFACE DRAINS, PIPE CONNECTIONS AND OTHER ITEMS SHOWN SHALL BE CONSIDERED SUBSIDIARY TO EACH STANDARD STRUCTURE.
11. SUBSURFACE DRAINS ARE REQUIRED IN ALL STRUCTURES IN THE PUBLIC RIGHT-OF-WAY WITH WALL HEIGHT GREATER THAN 3 FEET. ONE DRAIN PER WALL SHALL BE INSTALLED ONLY IN WALLS WHICH ARE PERPENDICULAR TO THE STREET CENTERLINE.
12. JUNCTION BOXES SHALL HAVE TYPE II RING AND COVER WHERE POSSIBLE. JUNCTION BOXES IN PAVED AREAS SHALL HAVE TYPE II RING AND COVER.
13. REINFORCING BARS SHALL BE DEFORMED, GRADE 60 AND SHALL MEET ASTM A 615 SPECIFICATIONS.
14. PLACEMENT OF REINFORCEMENT SHALL COMPLY WITH ACI 318, INCLUDING EMBEDMENT, LAP LENGTHS, BAR SUPPORTS AND MINIMUM CONCRETE COVER.
15. ALL PRECAST AND CAST-IN-PLACE CONCRETE SHALL BE AIR-ENTRAINED, PORTLAND CEMENT CONCRETE WITH THE FOLLOWING PROPERTIES:

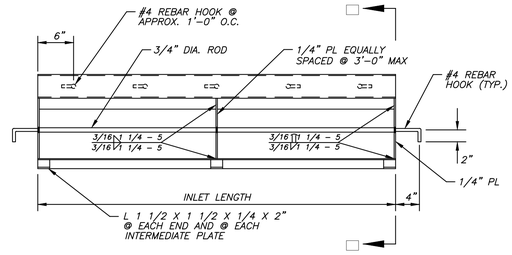
MAXIMUM 28-DAY COMPRESSIVE STRENGTH	4000 PSI
MAXIMUM WATER/CEMENT RATIO	0.40
COARSE AGGREGATE	KDOT CLASS 1
AIR CONTENT	5% TO 7%
SLUMP	2" TO 4"

16. READY-MIX CONCRETE SHALL COMPLY WITH ASTM C 94 SPECIFICATIONS.
17. ADMIXTURES SHALL NOT BE ADDED TO ANY CONCRETE WITHOUT PRIOR APPROVAL.
18. TRANSPORT, PLACEMENT AND CURING OF CONCRETE SHALL COMPLY WITH ACI 318, INCLUDING HOT WEATHER AND COLD WEATHER PROTECTION.
19. FAILURE TO COMPLY WITH MATERIAL SPECIFICATIONS SHALL BE GROUNDS FOR REJECTION OF CONCRETE. WATER CONTENT MAY NOT EXCEED THE SPECIFIED RATIO.
20. ALL REINFORCED CONCRETE SHALL BE MECHANICALLY VIBRATED DURING PLACEMENT. PROPER METHODS SHALL BE APPLIED TO AVOID AGGREGATE SEGREGATION.
21. EXPANSION JOINTS SHALL EXTEND THROUGH THE FULL DEPTH OF SECTION AND SHALL COMPLETELY SEPARATE ADJACENT SURFACES.
22. ALL EXPOSED CONCRETE SHALL HAVE A LIGHT BROOM FINISH AND 1/4" TOOLED EDGES.
23. WHERE SIDEWALKS MUST ADJOIN STORM SEWER STRUCTURES, #4 BARS DOWELS SHALL BE PLACED AT 18" O.C. THROUGH 1/2" PREMOLDED EXPANSION JOINTS. DOWELS SHALL BE 18" LONG WITH 6" GREASED ENDS IN THE STRUCTURE TOP.
24. CURB INLET DIMENSIONS SHALL BE STATED AS 'LENGTH' x 'WIDTH' ON ALL CONSTRUCTION NOTES.
25. THE MINIMUM LENGTH OF CURB INLET OPENING SHALL BE 5 FEET.
26. CURB INLET FRAME TOP CHANNEL SHALL BE FABRICATED FROM 0.15 MAX. CARBON, FORMING QUALITY, OR A36 HOT ROLLED STEEL PLATE.
27. ALL FLAT PLATE AND RODS SHALL BE M1020 MERCHANT QUALITY OR A36 HOT ROLLED STEEL.
28. ALL CURB INLET FRAME MATERIALS SHALL BE FREE FROM RUST AND MILL SCALE.
29. ALL WELDING SHALL CONFORM TO THE PROVISIONS OF THE AWS "STRUCTURAL WELDING CODE."
30. CURB INLET FRAMES SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION PER ASTM A 123.
31. CURB INLET FRAMES SHALL BE SLOPED TO MATCH THE STREET CENTERLINE GRADE.
32. CURB INLET STAMPING TOOLS SHALL BE APPROVED PRIOR TO USE.
33. PIPE FOR STORM SEWER SHALL BE REINFORCED CONCRETE (RCP) AND SHALL MEET KDOT STANDARD SPECIFICATIONS FOR "CROSS ROAD" USE. HIGH DENSITY POLYETHYLENE (HDPE) SHALL BE ALLOWED FOR USES OTHER THAN "CROSS ROAD" APPLICATIONS, WHERE ADEQUATE COVER CAN BE PROVIDED (AS DETERMINED BY THE CITY ENGINEER). ALL END SECTIONS, REGARDLESS OF STORM SEWER MATERIAL, SHALL BE REINFORCED CONCRETE.
34. GRANULAR EMBEDMENT FOR PIPE SHALL MEET CA-5 GRADATION REQUIREMENTS, AND SHALL BE CLEANED CRUSHED ROCK.



SECTION A-A

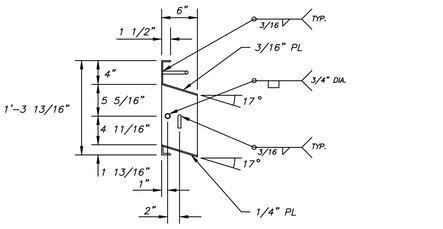
SCALE 1/2" = 1'-0"



FRONT VIEW

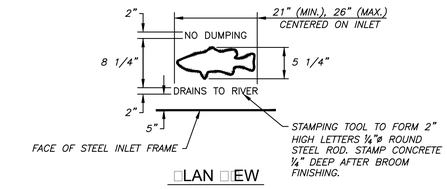
SCALE 1" = 1'-0"

STEEL INLET FRAME



SECTION

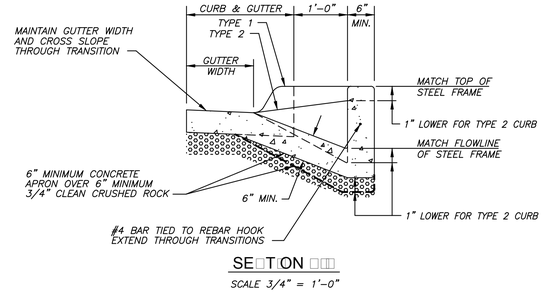
SCALE 1" = 1'-0"



PLAN VIEW

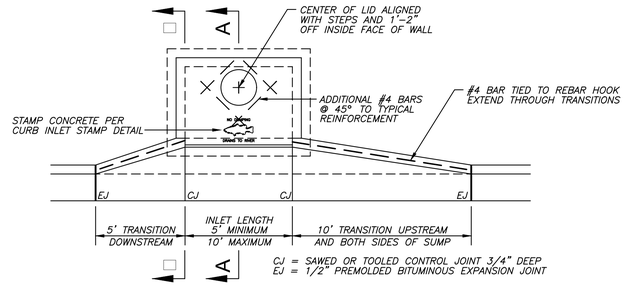
NOT TO SCALE

CURB INLET STAMP



SECTION

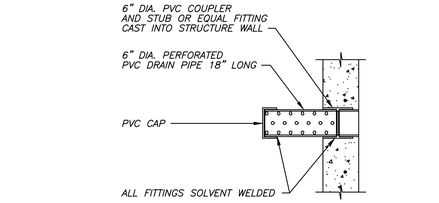
SCALE 3/4" = 1'-0"



PLAN

SCALE 1/4" = 1'-0"

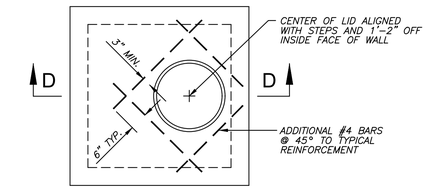
STANDARD CURB INLET



SECTION

SCALE 1" = 1'-0"

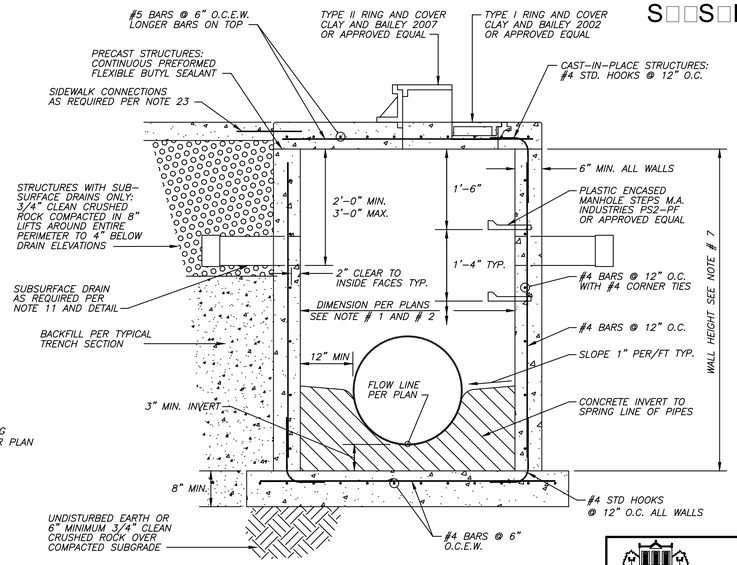
SUBSURFACE DRAIN



PLAN

SCALE 1/2" = 1'-0"

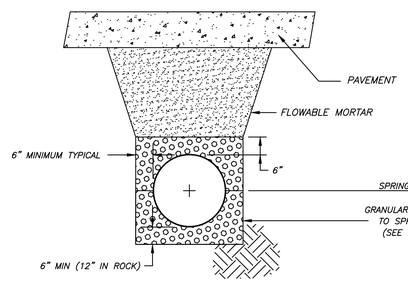
STANDARD CONNECTION COX



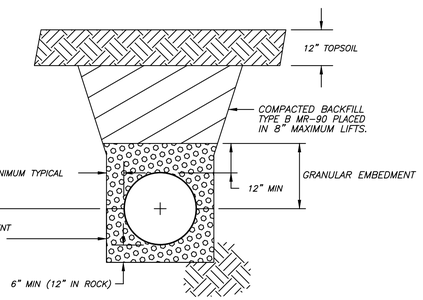
TYPICAL SECTION D-D

SCALE 3/4" = 1'-0"

STANDARD STRUCTURES

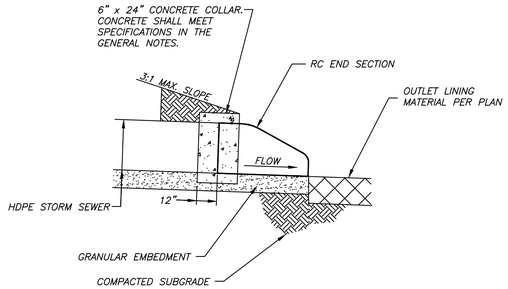


STREET DRIVEWAY OR SIDEWALK CROSSING



OUTSIDE OF PAVEMENT

TYPICAL TRENCH SECTION



NOTE: THE NOMINAL SIZES OF THE HDPE STORM SEWER AND THE RC END SECTION SHALL BE THE SAME.

SECTION

NOT TO SCALE

STANDARD END SECTION CONNECTION TO RC END SECTION

Rev. No.	Description	Date
3	Updated City Engineer	09/20/18
2	Revised Standard Detail	12/05/16
1	Changed City Manager	01/11/10
Original		12/22/05

REVISIONS

CITY OF OTTAWA, KANSAS

STANDARD DETAILS FOR STORM SEWERS

Standard Detail Sheet No. 5 of 5

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City Engineer

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City Manager

Sheet No. ___ of ___