

GENERAL NOTES:

EARTH WORK GENERAL NOTES:

THE FOLLOWING GENERAL EARTHWORK PROCEDURE SHALL BE FOLLOWED FOR CONSTRUCTION OF ROADWAYS, EMBANKMENTS, AND OTHER GENERAL GRADING ACTIVITIES FOR PROJECTS TO BE OWNED BY THE CITY OF MORRISTOWN. EARTHWORK FOR BUILDING FOUNDATIONS AND OTHER STRUCTURES SHALL BE PERFORMED IN ACCORDANCE WITH APPROVED ARCHITECTURAL PLANS.

- 1) INSTALL EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION (TDEC) AND CITY OF MORRISTOWN REQUIREMENTS. THIS INCLUDES HAVING A LAND DISTURBANCE PERMIT FROM THE CITY OF MORRISTOWN BEFORE ANY EARTHWORK BEGINS.
- 2) ALL TREES, SHRUBS AND OTHER VEGETATION SHALL BE CLEARED UNLESS MARKED TO REMAIN. DISPOSAL OF CLEARED AND GRUBBED MATERIALS SHALL BE PERFORMED IN ACCORDANCE WITH LOCAL AND STATE ORDINANCES.
- 3) EXISTING FOUNDATIONS, FENCES, SLABS, PAVEMENTS, AND BELOW-GRADE STRUCTURES SHALL BE REMOVED FROM THE AREA TO BE GRADED. REMOVE ORGANIC MATERIAL AND SOFT OR OTHERWISE UNSUITABLE MATERIAL FROM THE AREA TO BE GRADED.
- 4) TOPSOIL, IF PRESENT, SHALL BE STRIPPED AND STOCKPILED FROM ALL AREAS WITH SUITABLE TOPSOIL. THE QUANTITY OF TOPSOIL STRIPPED AND STOCKPILED SHALL BE SUFFICIENT TO PROVIDE A MINIMUM OF 4-INCHES OF TOPSOIL OVER ALL AREAS TO BE SEEDED. CONTRACTOR SHALL APPLY STABILIZATION FABRIC TO ALL SLOPES STEEPER THAN 3H:1V. CONTRACTOR SHALL GRASS DISTURBED AREAS TO PROVIDE A HEALTHY LEAFY STAND OF GRASS.
- 5) SUB GRADE MATERIAL SHALL BE PLACED IN LOOSE LIFTS NOT TO EXCEEDING 8-INCHES IN THICKNESS WITH A MAXIMUM PARTICLE SIZE OF 3 INCHES AND COMPACTED TO AT LEAST 95 PERCENT OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D 698) AT A MOISTURE CONTENT NO MORE THAN 2 PERCENTAGE POINTS BELOW TO 2 PERCENTAGE POINTS ABOVE THE OPTIMUM. LARGER PARTICLES SHALL BE WELL DISTRIBUTED WITHIN THE FILL TO MITIGATE THE POTENTIAL FOR INFILTRATION OF SURFACE WATER. FOR ALL AREAS TO BE PAVED THE UPPER SIX INCHES OF ALL CUT AND FILL SURFACES SHALL BE SCARIFIED AND THEN DENSIFIED TO 100 PERCENT OF THE STANDARD PROCTOR (ASTM D 698).
- 6) AFTER FINAL GRADING AND IMMEDIATELY PRIOR TO THE PREPARATION OF AN AREA FOR SEEDING THE CONTRACTOR SHALL SPREAD A MINIMUM OF 4-INCHES OF TOPSOIL ON THE AREA TO BE SEEDED. ALL AREAS TO BE SEEDED AND MULCHED ACCORDING TO SPECIFICATIONS.
- 7) CONTRACTOR IS TO REFER TO THE TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION DIVISION OF WATER POLLUTION CONTROL FOR DETAILS ON INSTALLING AND MAINTAINING THE EROSION CONTROL DEVICES CALLED FOR IN THIS PLAN.

GEOTECHNICAL QUALITY ASSURANCE

1. THE CONTRACTOR / DEVELOPER WILL RETAIN THE SERVICES OF A CITY APPROVED INDEPENDENT GEOTECHNICAL ENGINEERING FIRM TO DETERMINE PROJECT CONFORMANCE OF EARTHWORK & PAVEMENT MATERIALS (AND THE COMPLETED WORK ELEMENTS) WITH THE PROJECT SPECIFICATIONS AND MORRISTOWN STREET STANDARDS. ALL GEOTECHNICAL REPORTS AND TESTS SHALL BE SUBMITTED TO THE CITY ENGINEER WEEKLY DURING ACTIVE CONSTRUCTION. ALL TEST RESULTS SHALL BE SUBMITTED VIA EMAIL USING PDF FORMATTED DOCUMENTS.
2. WORK SHALL BE PERFORMED IN A MANNER THAT DOES NOT DISTURB EXISTING UTILITIES, STRUCTURES, OR OTHER SITE FACILITIES NOT INDICATED TO BE REMOVED. SOURCE QUALITY CONTROL
3. PROPOSED MATERIALS AND SOURCE OF SUPPLY SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER AS SPECIFIED, PRIOR TO AND USE DURING CONSTRUCTION.
4. TESTING OF PROPOSED SOILS TO BE USED FOR SOIL FILL (FOR DETERMINATION OF ACCEPTABILITY OF SOIL AND FOR QUALITY CONTROL DURING COMPACTION):
 1. SOIL CLASSIFICATION (ASTM D 2487): MINIMUM OF ONE TEST PER MATERIAL TYPE OF MATERIAL.
 2. LABORATORY MOISTURE CONTENT (ASTM D 2216): MINIMUM OF ONE TEST PER MATERIAL
 3. MOISTURE-DENSITY CURVE (ASTM D 698): MINIMUM OF ONE TEST PER MATERIAL TYPE.
 4. ATTERBERG LIMITS (ASTM D 4318): MINIMUM OF ONE TEST PER MATERIAL TYPE.

SOIL FILL

SOIL FILL SHALL CONSIST OF SANDS WITH FINES (SP-SM, SP-SC, SM, SC), SILT (ML), LOW TO MEDIUM PLASTICITY CLAY (CL), OR BLENDS OF THESE MATERIALS AS DEFINED BY THE UNIFIED SOIL CLASSIFICATION SYSTEM (USCS). FILL MATERIALS NOT INDICATED WITHIN THE ABOVE CLASSIFICATIONS MUST BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO USE IN ROADWAY CONSTRUCTION.

FIELD QUALITY CONTROL

THE FOLLOWING TESTS SHALL BE PERFORMED THE INDEPENDENT GEOTECHNICAL QUALITY CONTROL FIRM DURING PLACEMENT OF SOIL FILL:

1. IN-PLACE DENSITY (USING ASTM D 2922, ASTM D 1556, OR OTHER APPROPRIATE TEST METHODS): MINIMUM OF ONE TEST PER 5,000 SQUARE FEET FOR EACH ONE-FOOT THICK FILL LAYER.
2. MOISTURE CONTENT (USING ASTM D 3017, ASTM D 2216, OR OTHER APPROPRIATE TEST METHOD): MINIMUM OF ONE TEST PER 5,000 SQUARE FEET FOR EACH ONE-FOOT THICK SOIL LAYER.

GENERAL SITE GRADING

1. GRADE EXISTING MATERIAL TO THE ELEVATIONS AND LIMITS SHOWN ON THE DRAWINGS. TOLERANCES FOR GRADING SHALL BE AS SPECIFIED AS SHOWN IN THE CIVIL DRAWINGS.
 2. UNSUITABLE SUBGRADE SOILS ENCOUNTERED DURING SITE GRADING IN AREAS REQUIRING FILL PLACEMENT SHALL BE REMOVED AND REPLACED UNDER THE DIRECTION OF THE GEOTECHNICAL ENGINEER.
 3. SHAPE AND COMPACT FILL WITH UNIFORM LEVELS OR SLOPES BETWEEN POINTS WHERE ELEVATIONS ARE SHOWN ON THE DRAWINGS.
 4. GRADE AREAS ADJACENT TO STRUCTURES TO ACHIEVE DRAINAGE AWAY FROM THE STRUCTURES AND TO PREVENT PONDING.
- PROOFROLLING AND STABILIZATION OF SUBGRADE

1. AFTER STRIPPING OF TOPSOIL AND EXCAVATION TO GRADE, AS APPLICABLE, SCARIFY AND RECOMPACT THE EXISTING SUBGRADE SOILS TO A DEPTH OF AT LEAST SIX INCHES PRIOR TO FILL PLACEMENT.
2. PROOFROLL THE EXPOSED SUBGRADE TO DETECT UNSTABLE CONDITIONS. PROOFROLLING SHALL BE PERFORMED AFTER A SUITABLE PERIOD OF DRY WEATHER TO AVOID DEGRADING THE SUBGRADE. PERFORM PROOFROLLING WITH A LOADED DUMP TRUCK OR SIMILAR EQUIPMENT ACCEPTABLE TO THE GEOTECHNICAL ENGINEER. MAKE SEVERAL PASSES OVER EACH SECTION WITH THE PROOFROLLING EQUIPMENT.
3. THE CONTRACTOR MAY BE REQUIRED TO EXCAVATE UNSUITABLE SUBGRADE SOILS TO A DEPTH SUFFICIENT TO PRODUCE A STABLE BEARING SURFACE FOR FILL PLACEMENT AS DETERMINED BY THE GEOTECHNICAL QUALITY CONTROL FIRM. EXCAVATION SHALL CONTINUE UNTIL SUITABLE SUBGRADE SOILS ARE EXPOSED AS DETERMINED BY THE GEOTECHNICAL QUALITY CONTROL FIRM.
4. SOFT OR HIGHLY PLASTIC SOILS WHICH PUMP, RUT OR WAVE DURING PROOFROLLING, AS DETERMINED BY THE GEOTECHNICAL QUALITY CONTROL FIRM SHALL BE CLASSIFIED AS UNSUITABLE SUBGRADE SOILS AND SHALL BE EXCAVATED AND REMOVED.
5. FOR PAVEMENT AREAS WHERE FILL MATERIAL IS NOT REQUIRED, THE SUBGRADE SOILS SHALL BE PREPARED AS FOLLOWS: SCARIFY TO A DEPTH OF 12 INCHES; ADJUST MOISTURE CONTENT AS NECESSARY; RECOMPACT; AND MAINTAIN SPECIFIED SUBGRADE MOISTURE CONTENT UNTIL AGGREGATE BASE COURSE IS PLACED.

SURVEY AND EXISTING UTILITY RELATED NOTES:

1. THE SURVEY AND EXISTING CONDITIONS ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY. THE CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS, GRADES, AND DIMENSIONS PRIOR TO BEGINNING CONSTRUCTION. IF THE CONTRACTOR DISCOVERS ANY ERRORS, OMISSIONS, OR DISCREPANCIES, HE SHALL NOTIFY THE ENGINEER OF RECORD AND REQUEST DIRECTION ON HOW TO PROCEED.
2. THE UNDERGROUND UTILITIES SHOWN HEREON HAVE BEEN LOCATED FROM A FIELD SURVEY. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES, THEREFORE, THE UTILITIES SHOWN HEREON ARE TO BE CONSIDERED AS APPROXIMATE LOCATIONS. THERE IS NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ANY AND ALL UTILITIES PRIOR TO ANY CONSTRUCTION. TENNESSEE ONE-CALL (1-800-351-1111) UTILITY LOCATION AND/OR LOCAL UTILITY COMPANIES SHOULD BE CONTACTED FOR LOCATION ASSISTANCE. THE CONTRACTOR IS RESPONSIBLE FOR ANY UTILITY DAMAGE CAUSED BY CONSTRUCTION ACTIVITIES.
3. A MINIMUM OF 3 PERMANENT CONCRETE MONUMENTS SHALL BE INSTALLED PER 4,000 FT OF ROADWAY BEING PROPOSED. ALL CONTROL DATA SHALL BE SUBMITTED TO THE CITY OF MORRISTOWN ENGINEERING OFFICE AT THE COMPLETION OF THE PROJECT. ALL PROJECT CONTROL DATA THAT IS USED FOR PROJECT CONSTRUCTION SHALL BE SUBMITTED ELECTRONICALLY TO THE CITY ENGINEER'S OFFICE BEFORE CONSTRUCTION BEGINS.

DRIVEWAYS AND HANDICAP RAMPS:

1. THE CONTRACTOR SHALL USE STANDARD TDOT DRAWINGS & SPECIFICATIONS WHEN INSTALLING ENTRANCES. SPECIFICALLY, STANDARD DRAWINGS RP-D-15, RP-D-16 DATED 2-15-07. NOTE THAT THE OPTIONAL GRASS STRIP SECTION LOCATED IN THE CURB HEIGHT TRANSITION AREA WILL NOT BE APPROVED BY THE CITY OF MORRISTOWN UNLESS SPECIFICALLY ALLOWED IN WRITING BY THE CITY ENGINEER.
2. THE CONTRACTOR SHALL USE STANDARD TDOT DRAWINGS & SPECIFICATIONS WHEN INSTALLING HANDICAP RAMPS. SPECIFICALLY, STANDARD DRAWINGS RP-H-3, RP-H-7, RP-H-8, AND RP-H-9. NOTE THAT STEEL TRUNCATED DOME SURFACES MAY BE ALLOWED WITH THE CITY ENGINEER'S WRITTEN APPROVAL.

ASPHALT:

1. THE CONTRACTOR SHALL USE STANDARD TDOT ASPHALT SPECIFICATIONS WHEN INSTALLING ASPHALT PAVEMENTS. ASPHALT PLANT MATERIAL CERTIFICATIONS SHALL BE SENT ELECTRONICALLY TO THE CITY ENGINEER'S OFFICE ON A WEEKLY BASES IN PDF FORMAT AND KEPT ON THE JOB SITE IN AN ORDERLY FASHION. ASPHALT, CONCRETE, AND STONE TICKETS ARE TO BE MADE AVAILABLE AT THE JOB SITE FOR CITY STAFF TO REVIE UPON REQUEST.
2. THE CONTRACTOR SHALL PAY SPECIAL ATTENTION TO ASPHALT MIX AS IT IS DELIVERED. THE CITY OF MORRISTOWN WILL NOT ACCEPT ASPHALT THAT IS SEGREGATED OR DOESNT HAVE PROPERLY CONSTRUCTED SEAMS AND JOINTS. THE CONTRACTOR MUST FOLLOW THE INSTALLATION PROCEDURES IN THE TDOT STANDARD SPECIFICATIONS MANUAL IN SECTION 407 (BITUMINOUS PLANT MIX PAVEMENTS (GENERAL)).
3. THE CONTRACTOR / DEVELOPER WILL PROVIDE TEST STRIPS OF ALL ASPHALT COURSES FOR THE PURPOSES OF CALIBRATING TESTING EQUIPMENT AND ESTABLISHING PROTOTYPE AREAS TO DETERMINE PRODUCT FINISH QUALITY FOR THE PROJECT (SEE TDOT 407.15 TEST STRIPS)
4. THE CITY ENGINEER'S OFFICE MUST INSPECT AND APPROVE THE TEST STRIP AREAS BEFORE THE CONTRACTOR MAY PROCEED WITH ANY WORK ON THE ASPHALT SURFACES.

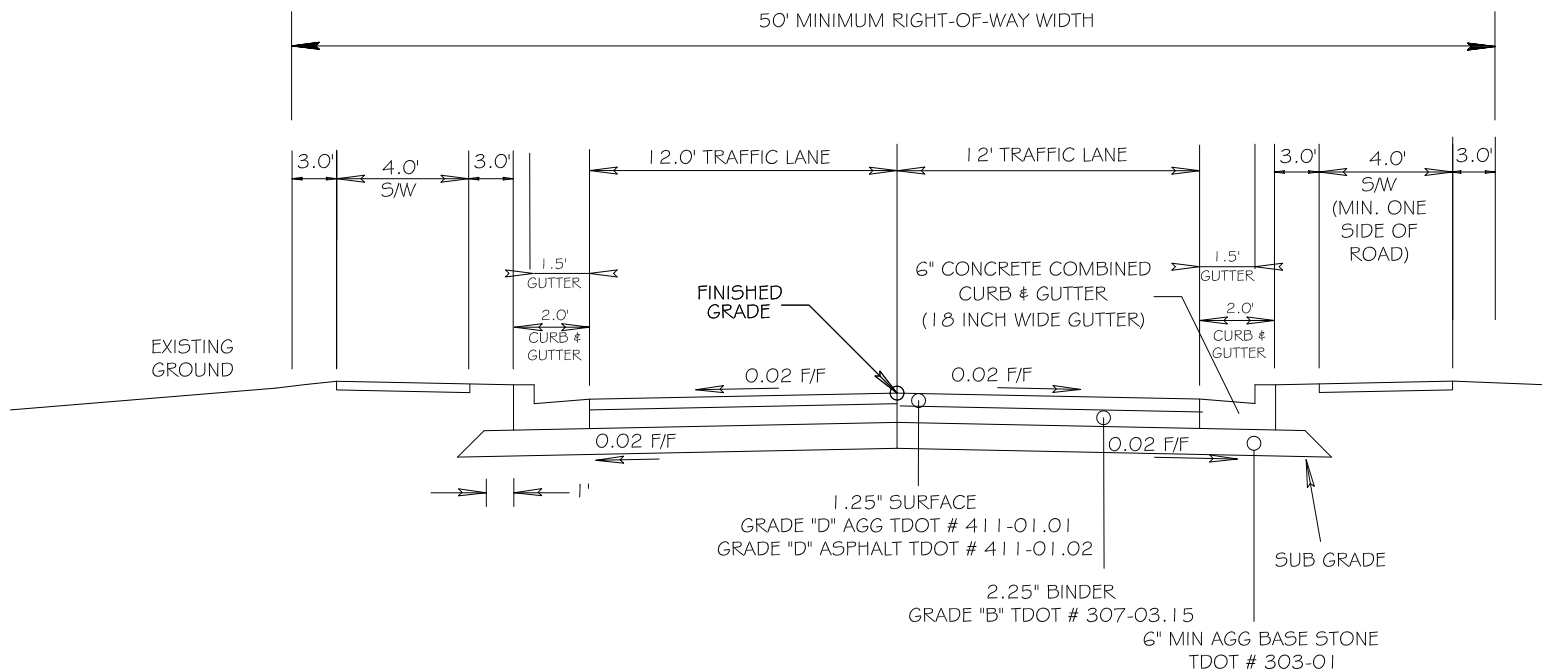
STANDARD STREET SECTION NOTES:

1. TYPICAL SHOWS A CROSS SLOPE OF 2%, BUT EXISTING CONDITIONS COULD BE DIFFERENT. THE CONTRACTOR IS TO EXTEND THE ASPHALT AT THE SAME PERCENT SLOPE AS THE EXISTING CONDITIONS.
2. THE PROPOSED GUTTER CROSS SLOPE IS TO MATCH THE EXISTING AND PROPOSED PAVEMENT. THE WIDTH OF THE PROPOSED GUTTER SHALL BE 18 INCHES INSTEAD OF THE TDOT STANDARD 24 INCHES. A 2% CROSS SLOPE IS CONSIDERED THE MINIMUM CROSS SLOPE ALLOWED, LARGER SLOPES MAY BE NEEDED WHERE DRAINAGE ISSUES CONTROL.
3. PAVING, AGGREGATE BASE, DRAINAGE STRUCTURES, AND CURBING SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION TDOT SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION.
4. THIS STANDARD ASPHALT SECTION ASSUMES A SUBGRADE CBR OF 9 OR GREATER. IF THE SUBGRADE HAS A CBR OF LESS THAN 8, THE CITY ENGINEER WILL REVIEW ASPHALT DESIGN RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER AND ESTABLISH A SPECIFIC ASPHALT PAVEMENT DESIGN.
5. THE CITY ENGINEER MUST APPROVE IN WRITING ANY ASPHALT SECTION DESIGNS FOR ASPHALT SECTIONS PLACED ON SUBGRADES WITH WITH SUBGRADE DENSITIES MEASURING LESS THAN A CBR OF 8. THE DEVELOPER MUST SUBMIT CBR'S FOR ALL ROADWAY SUBGRADES AND SUBMIT FINDINGS TO THE CITY ENGINEER FOR APPROVAL BEFORE CONSTRUCTION OF CURBING, BASE STONE, OR ASPHALT SURFACES.
6. REFER TO SUBDIVISION REGULATIONS SECTION 5 FOR SPECIFIC REQUIREMENTS FOR SIDEWALK, DRAINAGE, AND CONSTRUCTION PLAN REQUIREMENTS.
7. REFER TO SUBDIVISION REGULATIONS SECTION 4 FOR SPECIFIC REQUIREMENTS FOR RIGHT OF WAY WIDTHS AND ROADWAY GEOMETRICS.
8. CATCH BASINS THAT REQUIRE SINGLE GRATES SHALL BE EAST JORDAN IRON WORKS(EJIW) MODEL 7030 (OR/CITY OF MORRISTOWN APPROVED EQUIVALENT). ALL DOUBLE AND TRIPLE GRATES SHALL BE A BOLT UP EJIW MODEL 7031 AND 7032 (OR CITY OF MORRISTOWN APPROVED EQUIVALENT). ALL GRATES SHALL INCLUDE AN EJIW TYPE T1 CURB IRON AND TYPE M6 VANE GRATES. ALL CURB IRONS MUST HAVE EMBOSSED LETTERING "DUMP NO WASTE!" WITH A FISH IMAGE.
9. CATCH BASIN GRATES AND CURB IRONS MUST BE COMPATIBLE WITH EJIW MODEL 7030 SERIES.
10. GRATES SHALL BE SPACED ALONG THE ROADWAY TO PROHIBIT THE SPREAD OF STORMWATER GREATER THAN 7 FEET FROM THE CURB FACE DURING A 10 YR (24 HR) STORM EVENT. GRATE CAPACITY MUST BE PROVIDED AT ALL INTERSECTIONS AND VERTICAL SAGS TO COMPLETELY REMOVE WATER FROM THE ROADWAY DURING A 10 YR (24HR) STORM EVENT.

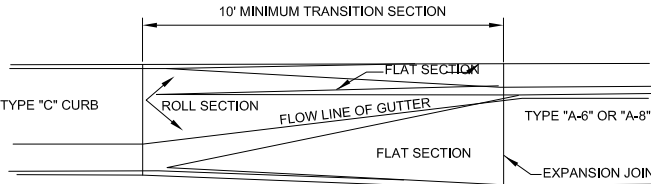
11. WHEN MOUNTABLE CURBING (TYPE "C" CURBING) IS BEING PROPOSED STANDARD CATCH BASIN GRATES SPECIFIED ABOVE SHALL BE USED WITH THE CURB TRANSITION DETAIL 07-0003.

STORM SEWER AND DRAINAGE NOTES:

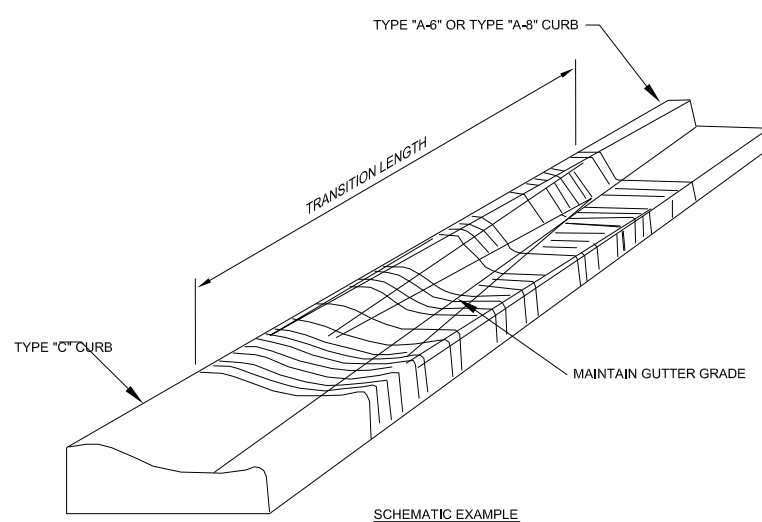
- 1) ALL STORM WATER PIPING SHALL BE RCP UNLESS ANOTHER MATERIAL IS SPECIFICALLY APPROVED BY THE CITY ENGINEER IN WRITING. ALL CONCRETE PIPE JOINTS SHALL GASKETED WATERTIGHT AND INSTALLED AS SPECIFIED BY TDOT.
- 2) ALL PIPING SHALL BE BEDDED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS AND OR AS SPECIFIED BY TDOT (MOST CONSERVATIVE BEDDING METHOD TO BE USED).
- 3) MINIMUM COVER FROM TOP OF PIPE TO FINISH GRADE SHALL BE 2' - 0" UNLESS OTHERWISE SPECIFIED AND SPECIFICALLY APPROVED BY THE CITY ENGINEER IN WRITING.
- 4) IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITIONS OR BETTER.
- 5) CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS FOR ALL NATURAL AND PAVED AREAS AND TOWARDS DRAINAGE STRUCTURES. THE AREA OUTSIDE OF ALL STRUCTURES SHALL BE SLOPED AT A MIN. OF 1.0% UNLESS OTHER WISE NOTED.
- 6) CONTRACTOR SHALL USE TDOT STANDARD DRAWINGS D-PB-1 DATED 04150, D-MH-4, AND D-CB-# (FOR PRE-CAST STRUCTURES ONLY) FOR CONSTRUCTION OF DRAINAGE STRUCTURES AND PIPING.
- 7) TDOT STANDARD DRAWINGS CAN BE OBTAINED VIA THE WEB AT http://www.tdot.state.tn.us/Chief_Engineer/engr_library/design/Std_Drwa_Eng.htm.



TYPICAL CURB & GUTTER ROAD SECTION
TWO LANE - LOCAL ROAD
NTS



PLAN



NOTE: Concrete shall be installed using TDOT approved methods and materials. Concrete shall have a minimum strength of 3000 psi.

Standard Drawing 07-0003
Curb Transition
NTS

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| Drawn: JWB |  | <div>CITY OF MORRISTOWN</div> <div>DEPARTMENT OF ENGINEERING</div> | <div>Standard Drawing 09-0001</div> <div>STREET STANDARDS</div> |
| Date: 122908 | | | |
| File: 2009 STREET STANDARDS | | | |
| Scale: NONE | | | |