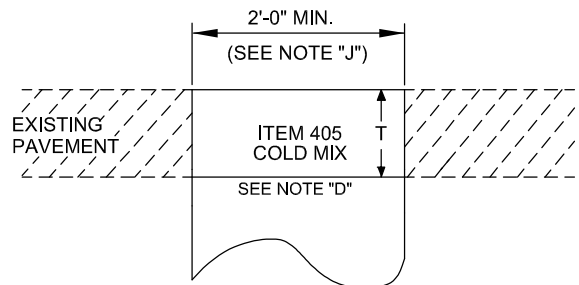
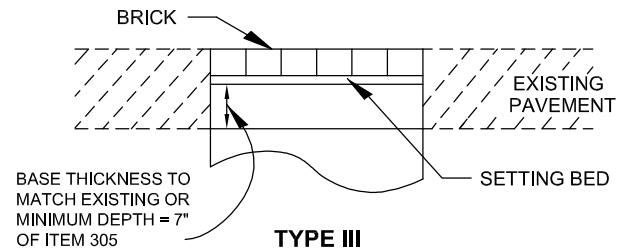


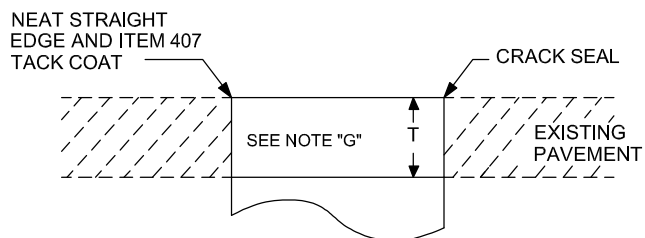
TYPE I
STANDARD FLEXIBLE ASPHALT REPAIR
(SEE NOTES "B" & "C")



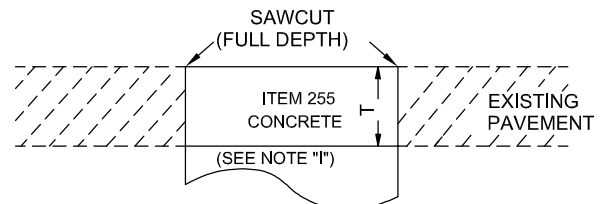
TYPE II
WINTER OPERATIONS FLEXIBLE ASPHALT REPAIR
(SEE NOTE "E")



TYPE III
BRICK STREET REPAIR
(SEE NOTE "F")



TYPE IV
ALLEY REPAIR
(SEE NOTE "G")



TYPE V
CONCRETE STREET REPAIR, CONCRETE BASE, CONCRETE BUS PAD OR CONCRETE PANEL REPLACEMENT
(SEE NOTE "I")

BACKFILL FOR ALL TYPES SHALL MEET THE REQUIREMENTS SHOWN IN TYPE I ABOVE.

T: MATCH EXISTING PAVEMENT THICKNESS, HOWEVER, MINIMUM OF 10" ON ALL STREET CUTS AND 6" ON ALL ALLEYS.

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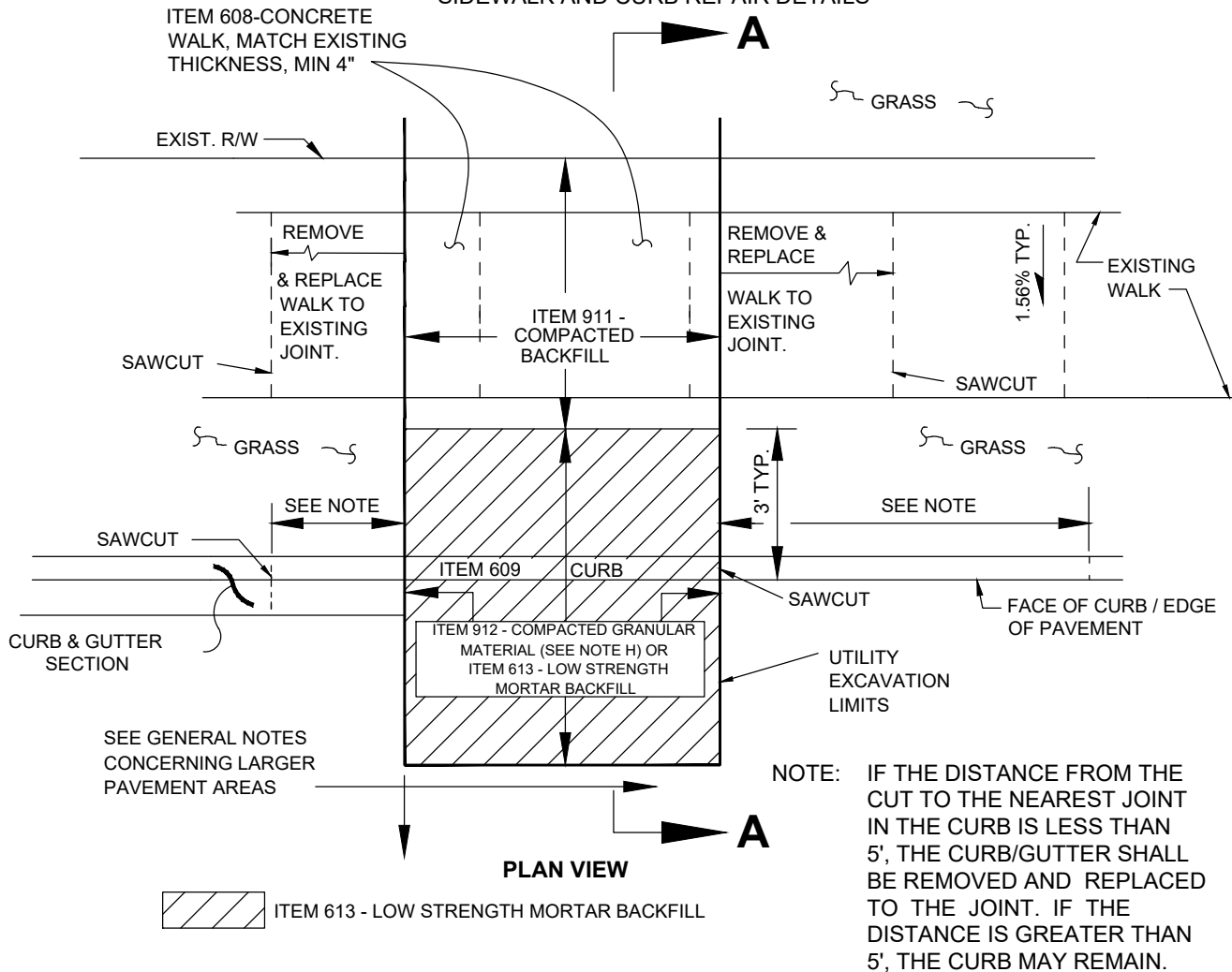
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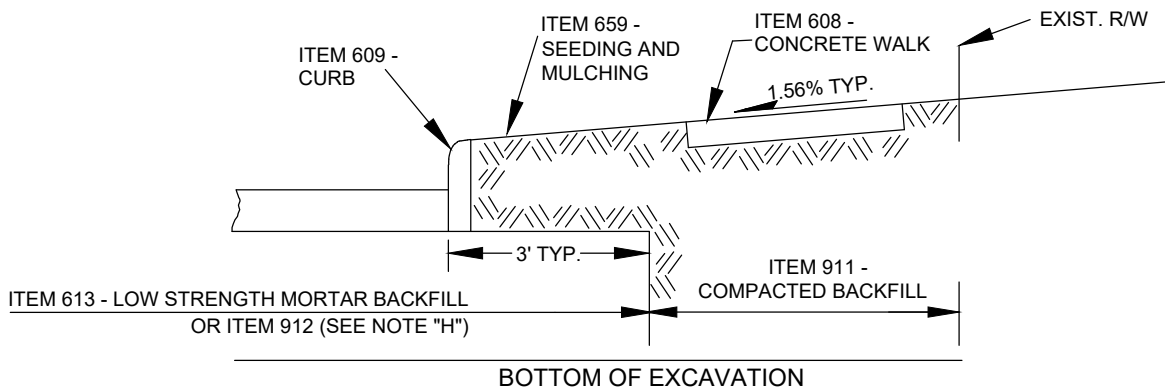
CITY ENGINEER

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SIDEWALK AND CURB REPAIR DETAILS



SECTION A-A



ALL GRASS AREAS SHALL BE SEEDED IN ACCORDANCE WITH ITEM 659 - SEEDING AND MULCHING.

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GENERAL NOTES

EXCAVATION PERMIT REQUIRED: A CITY OF COLUMBUS STREET EXCAVATION PERMIT IS REQUIRED FOR ALL EXCAVATIONS WITHIN THE PUBLIC RIGHT-OF-WAY, AS SET FORTH BY COLUMBUS CITY CODE, CHAPTER 903 AND ISSUED IN ACCORDANCE WITH PROVISIONS IN THE GENERAL RULES AND REGULATIONS OF THE DEPARTMENT OF PUBLIC SERVICE (DPS).

SCOPE OF WORK

THE CONTRACTOR SHALL FULLY COMPLY WITH THE CITY OF COLUMBUS ADA RULES AND REGULATIONS AND THE CITY OF COLUMBUS CONSTRUCTION AND MATERIAL SPECIFICATIONS, CURRENT EDITION.

THIS WORK SHALL CONSIST OF PAVEMENT REMOVAL, NECESSARY EXCAVATION, AND PAVEMENT REPLACEMENT IN ACCORDANCE WITH THE DETAILS SHOWN HEREIN. ALL WORK AND MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT CITY OF COLUMBUS CONSTRUCTION AND MATERIALS SPECIFICATION (CMSC).

PROCEDURES USED FOR THE PAVEMENT REMOVAL AND REPLACEMENT SHALL NOT CAUSE SPALLING OR CRACKING OF ADJACENT PAVEMENT.

WHEN THE PAVEMENT IS REMOVED AND THE CONTRACTOR IS UNABLE TO COMPLETE THE REQUIRED REPLACEMENT IN TIME FOR IT TO BE OPENED TO TRAFFIC AS INDICATED ON THE PERMIT, THE EXCAVATION SHALL BE FILLED WITH THOROUGHLY COMPACTED ITEM 405 BITUMINOUS COLD MIX WITH A DURABLE SURFACE (OR APPROVED BITUMINOUS MATERIAL) OR PROPERLY PLATED PER CHAPTER 903 AND SHEETS 12 AND 13 OF THIS STANDARD DRAWING. THE CONTRACTOR WILL BE REQUIRED TO MAINTAIN THESE TEMPORARY MEASURES WHILE THEY ARE IN SERVICE. THE COST OF PLACING, MAINTAINING, REMOVING AND DISPOSING OF THE TEMPORARY PATCHES OR PLATES WILL BE AT THE CONTRACTOR'S EXPENSE.

WHEN ITEM 613 LOW STRENGTH MORTAR BACKFILL (LSMB) IS USED AS A BACKFILL, NO PAVEMENT SHALL BE PLACED UNTIL BLEED WATER HAS BEEN EVAPORATED FROM THE LSMB SURFACE OR HAS BEEN DRAINED OR REMOVED FROM THE SURFACE. ITEM 613 LSMB IS NOT PERMITTED AS A TEMPORARY DRIVING SURFACE OR WITHIN THE DEPTH OF THE PAVEMENT REPAIR. LSMB SHALL NOT BE PLACED HIGHER THAN THE SUBGRADE ELEVATION AND NOT EXTEND INTO THE PAVEMENT BUILD-UP.

THE PAVEMENT REPAIR SHALL BE PERFORMED BY THE CONTRACTOR OR PERMITTEE IN ACCORDANCE WITH CITY SPECIFICATIONS. IF DESIRED, ANY OR ALL OF THIS WORK CAN BE PERFORMED BY THE CITY OF COLUMBUS. THE CITY SHALL COLLECT APPROPRIATE FEES AT THE TIME THE PERMIT IS ISSUED FOR SAID WORK. PAVEMENT RESTORATION MAY TRIGGER REQUIRED ADA IMPROVEMENTS PER CITY OF COLUMBUS ADA RULES AND REGULATIONS.

RESTORATION OF ANY SIDEWALK, CURB, STREET PAVEMENT (INCLUDING CRACK SEALING OR HEAT WELDING), ETC., SHALL OCCUR NO LATER THAN 30 DAYS AFTER CONCLUSION OF ANY UTILITY REPAIR OR INSTALLATION ACTIVITY. CONSTRUCTION ACTIVITY COMPLETED DECEMBER THROUGH APRIL SHALL BE RESOLVED NO LATER THAN MAY 31ST. ADDITIONAL PERMITS SHALL NOT BE ISSUED UNTIL THE VIOLATIONS ARE CORRECTED TO THE SATISFACTION OF THE DEPARTMENT OF PUBLIC SERVICE. IN ADDITION, EACH VIOLATION MAY BE ENFORCED IN ACCORDANCE WITH SECTION 903.99 OF THE COLUMBUS CITY CODE.

CITY CHAPTER 903 - SECTION 9 - NEW PAVEMENT OR REPAVEMENT

A THREE (3) YEAR MORATORIUM SHALL BE ENFORCED FOR ALL NEW PAVEMENT OR REPAVEMENT/RESURFACING. **NO PERMIT SHALL BE GRANTED FOR THE PURPOSE OF OPENING SUCH PAVEMENT FOR A PERIOD OF NO LESS THAN THREE (3) YEARS AFTER COMPLETION,** EXCEPT FOR THE PURPOSE OF REPAIRING LEAKING PIPES OR WORK DEEMED NECESSARY BY THE DIRECTOR OF PUBLIC SERVICE, CITY ENGINEER OR DESIGNEE. EMERGENCY REPAIRS OR PAVEMENT OPENINGS WITHIN THE THREE (3) YEAR MORATORIUM SHALL HAVE ADDITIONAL AND SPECIFIC REQUIREMENTS BEYOND THE MINIMUM REQUIREMENT OF STD DWG 1441.

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SCOPE OF WORK (CONTINUED FROM PREVIOUS SHEET)

SPECIAL IMPROVED STREETS

SPECIAL IMPROVED STREETS, AS APPROVED BY THE DIRECTOR OF PUBLIC SERVICE, CITY ENGINEER OR DESIGNEE SHALL HAVE FIVE (5) YEAR MORATORIUM. NO PERMIT SHALL BE GRANTED FOR THE PURPOSE TO MAKE ANY OPENING ON ANY HARD SURFACE AREAS SUCH AS PAVEMENT, SIDEWALK, CURB, ETC., WITHIN THE RIGHT OF WAY OF SPECIAL IMPROVED STREET FOR A PERIOD OF NO LESS THAN FIVE (5) YEARS AFTER COMPLETION OF SUCH HARD SURFACE AREA. EMERGENCY REPAIRS OR PAVEMENT OPENINGS WITHIN THE FIVE (5) MORATORIUM SHALL HAVE ADDITIONAL AND SPECIFIC REQUIREMENTS BEYOND THE MINIMUM REQUIREMENTS OF STD DWG 1441 AND APPROVED ONLY BY THE DIRECTOR OF THE PUBLIC SERVICE AND CITY ENGINEER OR DESIGNEE.

CURB RAMP INSTALLATION

ALL CURB RAMPS SHALL BE INSTALLED PER STANDARD DRAWINGS 2300, 2319 AND DPS ADA RULES AND REGULATIONS.

SPECIAL PAVEMENT, BASE, AND STORMWATER BMPS

WHEN PAVEMENT CUTS OR REPAIRS IMPACT NON-CONVENTIONAL PAVEMENT BUILDUPS, THE CITY ENGINEER OR DESIGNEE WILL PROVIDE DIRECTION ON THE REQUIRED RESTORATION. IF THE NON-CONVENTIONAL PAVEMENT IS NOT IDENTIFIED IN THE DESIGN STAGE, IT IS THE PERMIT HOLDER'S RESPONSIBILITY TO BRING THIS TO THE ATTENTION OF THE DEPARTMENT OF PUBLIC SERVICE. SOME EXAMPLES OF NON-CONVENTIONAL PAVEMENT INCLUDE, FABRICS AND GRIDS USED TO STABILIZE SUBGRADE AND PAVEMENT, SPECIALITY BACKFILL AND SOIL SUPPORT STRUCTURES, PERMEABLE PAVEMENT AND STORMWATER BEST MANAGEMENT PRACTICES (BMPS).

TRAFFIC CONTROL

WHEN PAVEMENT CUTS OR REPAIRS REMOVE EXISTING STRIPING OR OTHERWISE RENDER STRIPING UNSERVICEABLE AS DETERMINED BY THE ENGINEER, TEMPORARY PAVEMENT MARKINGS PER CMSC 614 SHALL APPLY. TEMPORARY CLASS II MARKINGS SHALL BE PLACED IMMEDIATELY. CLASS II MARKINGS ARE ONLY FOR LANE LINES, CENTERLINES AND GORE MARKINGS AND PLACED FOR A MAXIMUM OF 14 DAYS. ALL TEMPORARY MARKINGS PLACED FOR A PERIOD LONGER THAN 14 DAYS BUT LESS THAN 30 DAYS SHALL BE ITEM 642 CLASS III MARKINGS. PERMANENT THERMOPLASTIC OR SPRAY THERMOPLASTIC SHALL BE PLACED WITHIN 30 DAYS ON A SURFACE COURSE. WHEN THERMOPLASTIC OR SPRAY THERMOPLASTIC IS TO BE INSTALLED, TEMPORARY MARKINGS SHALL BE CLASS III. ALL OVER WINTER TEMPORARY MARKINGS SHALL BE TYPE 1. ALL TEMPORARY PAVEMENT MARKINGS ON CONCRETE SHALL BE AS PER 740.06, TYPE I. PERMANENT PAVEMENT MARKINGS ON CONCRETE SHALL MATCH THE EXISTING PAVEMENT MARKINGS DIRECTED BY THE ENGINEER.

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SPECIAL NOTES

NOTE 'A' : LOW STRENGTH MORTAR BACKFILL (LSMB)

WHEN USING LOW STRENGTH MORTAR BACKFILL (LSMB), THE OPTIONAL FILL AREA OVER THE CONDUIT MAY BE BACKFILLED WITH SAND, GRANULAR MATERIAL, OR OTHER SUITABLE 912 MATERIAL, FOR A DISTANCE NOT TO EXCEED 1 FT. A PROTECTIVE BARRIER OF VISQUEEN OR SIMILAR MATERIAL IS PERMITTED.

NOTE 'B' : TYPE 1 PAVEMENT REPAIR SEALING

FOR TYPE I PAVEMENT REPAIR SEALING OPTIONS - THE FOLLOWING METHODS ARE PERMITTED:

1. CRACK SEALING METHOD: SEAL THE PERIMETER SURFACE OF THE REPAIRED AREA BY APPLYING A NOMINAL 4 INCH STRIP OF APPROVED ITEM 423 - CRACK SEALING, TYPE II OR III.
2. HEAT WELD METHOD: FOR PAVEMENT REPAIR LOCATIONS, THE AREA TO BE HEAT WELDED IS TO INCLUDE THE CUT AND EXTEND FOR 6 INCHES BEYOND EACH SIDE OF THE CUT FOR A NOMINAL DEPTH OF 2 INCHES.

NOTE 'C' : TYPE 1 PAVEMENT REPAIR RESURFACING (SEE SHEETS 9-11)

FOR TYPE I PAVEMENT REPAIR APPLICATIONS, THE FOLLOWING METHODS ARE PERMITTED:

1. IF LANE WIDTH TO BE RESURFACED: USE ITEM 441 ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2, (BINDER MATCHING SURFACE COURSE) PLACED IN LIFTS NOT EXCEEDING 3 INCHES TO REPAIR PAVEMENT TO THE SURFACE. DURING THE LATER MILL AND ASPHALT OVERLAY OPERATION, USE ITEM 441 ASPHALT CONCRETE SURFACE COURSE, TYPE 1.
2. IF NO LANE WIDTH RESURFACING: USE ITEM 441 ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2, PLACED IN LIFTS NOT EXCEEDING 3 INCHES AND ITEM 441 ASPHALT CONCRETE, SURFACE COURSE, TYPE 1 PLACED AT A MAXIMUM 1.5 INCH LIFT THICKNESS. THE INTERMEDIATE COURSE MATERIAL IS NOT PERMITTED AS THE FINAL SURFACE COURSE.

THE ASPHALT BINDER FOR INTERMEDIATE AND SURFACE COURSE ASPHALT SHALL BE PG 70-22 ON ARTERIAL ROADWAYS, BUS ROUTES, AND WHERE SPECIFIED BY THE PERMIT OFFICE. ALL OTHER ROADS SHALL BE PG 64-22.

TRENCHES THAT REQUIRE FULL LANE RESURFACING SHALL INCLUDE FULL LANE RESURFACING ON ALL CONNECTING TRENCHES AND ASSOCIATED VALVE OR CASTING WORK AREAS ALONG ADJACENT STREETS (UTILITY SERVICE REPAIRS SHALL BE AS PER SHEETS 9, 10 AND 11.) REGARDLESS OF THE LENGTH OF THE CONNECTING TRENCH.

WHEN AN EXCAVATION EXCEEDS 100 FT IN LENGTH, THE REPAIR SHALL INCLUDE ITEM 254 PLANING OF A FULL LANE WIDTH (OR ANY OTHER LANE WIDTH AS DIRECTED BY THE DEPARTMENT OF PUBLIC SERVICE) TO A DEPTH OF 1- 1/2 INCHES FOR THE ENTIRE LENGTH OF THE EXCAVATION. THE RESURFACING SHALL NOT INTRODUCE ANY LONGITUDINAL PAVEMENT JOINTS. WHEN RESURFACING OUTSIDE LANES, RESURFACING SHALL EXTEND TO THE FACE OF CURB OR EDGE OF PAVEMENT. IF PAVEMENT PLANING DOES NOT PROVIDE A UNIFORM PLANED SURFACE DUE TO THE EXISTING PAVEMENT CONDITION, THE DEPTH OF THE PAVEMENT REMOVAL AND RESURFACING SHALL BE ADJUSTED ACCORDINGLY. WHERE THE PROPOSED RESURFACING IS IN CLOSE PROXIMITY TO AN EXISTING LONGITUDINAL JOINT, THE RESURFACING SHALL BE EXTENDED TO MEET OR OVERLAP THAT JOINT. WHEN RESURFACING ADJOINS AN AREA WITH EXISTING OVERLAID GUTTER, THE RESURFACING SHALL EXTEND THE FULL LANE WIDTH TO THE EXISTING PAVEMENT EDGE AT THE FACE OF CURB. THE PLANED AREA SHALL BE TACKED USING ITEM 407.02 MATERIAL PRIOR TO PLACING AND COMPACTING APPROVED ASPHALT CONCRETE WITH A PAVER IN ACCORDANCE WITH CURRENT CITY STANDARD SPECIFICATIONS. ITEM 423 -CRACK SEALING, TYPE II OR III SHALL BE APPLIED TO EXPOSED JOINTS ONCE THE PAVING OPERATION HAS BEEN COMPLETED.

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WHEN AN EXCAVATION CROSSES LANES, ALL LANES AFFECTED SHALL REQUIRE PLANING AND RESURFACING AS DESCRIBED ABOVE. THIS WORK SHALL INCLUDE ALL OF THE AFFECTED PAVEMENT AREA. WHEN EXCAVATION WORK FOR LATERALS CROSS LANES AT A FREQUENCY OF 2 OR MORE TRENCHES WITHIN 100 FT OF ROADWAY, THE REPAIR SHALL INCLUDE THE RESURFACING OF A FULL LANE WIDTH AS DESCRIBED ABOVE FOR THE AFFECTED LANES EXTENDING A MINIMUM OF 2 FT BEYOND THE LATERAL EXCAVATIONS LOCATED FARTHEST APART.

FULL LANE WIDTH RESURFACING OUTSIDE TRAVEL LANES SHALL EXTEND TO THE EDGE OF PAVEMENT FACE OF CURB UNLESS A SHOULDER WIDER THAN 4 FEET IS SEPARATED BY AN EXISTING LONGITUDINAL JOINT.

WHEN 2 OR MORE PAVEMENT REPAIRS ARE LOCATED WITHIN 100 FT OF EACH OTHER IN THE SAME LANE, THE REPAIR SHALL INCLUDE THE RESURFACING OF A FULL LANE WIDTH AS DESCRIBED ABOVE OF THE AFFECTED LANES EXTENDING A MINIMUM OF 2 FT BEYOND THE PAVEMENT REPAIRS LOCATED FARTHEST APART.

IF APPROVED BY THE CITY OF COLUMBUS, WHEN A PAVEMENT REPAIR AREA IS GREATER THAN 5 FT IN WIDTH AND/OR GREATER THAN 100 FT IN LENGTH, THE PAVEMENT REPAIR SECTION MAY CONFORM TO 3 INCHES OF ITEM 441 ASPHALT CONCRETE ON 7 INCHES OF ITEM 301 ASPHALT CONCRETE BASE (PLACED IN 2 LIFTS). LANE WIDTH RESURFACING REQUIREMENTS STILL APPLY. THIS OPTION MUST BE NOTED ON THE PERMIT APPLICATION AND APPROVED BY THE CITY OF COLUMBUS.

NOTE 'D' : TYPE II BITUMINOUS COLD MIX PLACEMENT

COLD MIX SHALL BE ITEM 405 BITUMINOUS COLD MIX OR OTHER COLD MIX APPROVED BY THE CITY OF COLUMBUS. IN LIEU OF COLD MIX, THE CONTRACTOR MAY USE STOCKPILED ITEM 441 ASPHALT CONCRETE AND REHEAT IT TO PLACE IN CUT AS TEMPORARY PAVEMENT REPAIR. TYPE II PAVEMENT REPLACEMENT SHALL CONSIST OF FULL DEPTH ITEM 405 COLD MIX FOR SMALL EXCAVATIONS.

NOTE 'E' : TYPE II TEMPORARY COLD MIX PLACEMENT

THE TEMPORARY COLD MIX IS TO BE REPLACED WITH ITEM 441 ASPHALT CONCRETE FOLLOWING PAVEMENT REPAIR PROCEDURES. THIS WORK SHALL BE PERFORMED AS SOON AS ASPHALT IS AVAILABLE.

NOTE 'F' : TYPE III REPAIR OF BRICK STREETS

1. THE CITY OF COLUMBUS MAINTAINS TWO TYPES OF BRICK STREETS: 1) HISTORICAL BRICK STREETS; AND 2) NEWER STYLE ROADWAY PAVER STREETS THAT COMPLY WITH SUPPLEMENTAL SPECIFICATION 1524. WHEN EXCAVATING AND REPAIRING BRICK STREETS, THE MATERIAL USED FOR REPLACEMENT SHALL MATCH THE EXISTING.
2. BRICKS OR PAVERS REMOVED FROM A REPAIR AREA SHALL BE STORED IN A SAFE PLACE BY THE CONTRACTOR FOR REUSE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ANY BRICKS OR PAVERS THAT ARE STOLEN OR DAMAGED, AT NO ADDITIONAL COST TO THE CITY.
3. IF BRICKS OR PAVERS ARE SUPPLIED BY THE CONTRACTOR, THEY MUST CLOSELY MATCH THE EXISTING BRICKS OR PAVERS AND FIRST BE APPROVED BY THE CITY BEFORE THEY ARE USED. SEE THE DEPARTMENT OF PUBLIC SERVICE APPROVED PRODUCERS / PRODUCTS LISTS THAT CAN BE FOUND AT THE "DOCUMENT LIBRARY ON DEPARTMENT OF PUBLIC SERVICE WEBSITE"
4. SAW CUTTING: ALL PARTIAL BRICKS SHALL BE SAWCUT. FURTHER, NO BRICK WILL BE PERMITTED TO BE CUT, FOR REPLACEMENT, TO A LENGTH LESS THAN 1/2 ITS ORIGINAL LENGTH. THIS MAY REQUIRE SAW CUTTING OF ADJACENT UNDISTURBED BRICK(S).
5. DURING REMOVAL OF THE EXISTING BASE MATERIAL, IT SHALL BE CUT BACK TO AS NEARLY VERTICAL AS POSSIBLE. IF SHEARING OF THE ADJACENT BASE RESULTS, THE CONTRACTOR SHALL REMOVE ADDITIONAL BASE MATERIAL UNTIL A VERTICAL FACE IS ACHIEVED.

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6. DURING INSTALLATION, THE BRICK IS TO BE RESET IN REASONABLY CLOSE CONFORMITY TO THE PATTERN OF THE EXISTING BRICK PAVEMENT ON A SETTING BED OVER ITEM 305 CONCRETE BASE. THE SETTING BED FOR HISTORICAL BRICK STREETS SHALL CONSIST OF 1 INCH OF SAND; WHEREAS, 3/4-INCH BITUMINOUS SETTING BED FOR NEWER STYLE ROADWAY PAVERS. THE CONCRETE BASE THICKNESS SHALL MATCH THE EXISTING BASE OR A MINIMUM OF 7 INCHES.
- 6A. HISTORICAL BRICKS WITHOUT SPACING LUGS: THE MAXIMUM WIDTH OF A BRICK JOINT SHALL BE 1/2 INCH. THIS RESTRICTION SHALL ALSO APPLY TO THE JOINT FORMED ADJACENT TO THE PERIMETER OF A REPAIR AREA, WHERE THE ROWS MAY NOT BE PARALLEL TO ONE ANOTHER. ALL JOINTS SHALL BE FILLED WITH POLYMERIC SAND FROM THE APPROVED MATERIALS LIST FOLLOWING MANUFACTURER'S INSTRUCTIONS. THIS MAY REQUIRE MORE THAN ONE APPLICATION. FURTHER, MECHANICAL VIBRATION WILL BE REQUIRED FOR CONSOLIDATION OF DRY MORTAR MIX.
- 6B. NEWER STYLE ROADWAY PAVERS: INSTALLATION AND MATERIALS SHALL MEET WITH THE REQUIREMENTS OF COLUMBUS SUPPLEMENTAL SPECIFICATION 1524.

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SPECIAL NOTES

NOTE 'G': TYPE IV ALLEY REPAIR

FOR ALLEY REPAIRS, THE PAVEMENT REPLACEMENT SHALL CONFORM TO THE TYPE AND THICKNESS OF THE EXISTING PAVEMENT. CHIP AND SEAL TYPE ALLEYS SHALL REQUIRE MATCHING THE EXISTING THICKNESS OF PAVEMENT WITH THE APPROPRIATE COMBINATION OF MATERIALS BASED ON THE SIZE OF THE EXCAVATION. THE MINIMUM PAVEMENT THICKNESS SHALL CONSIST OF 6 INCHES OF ITEM 441 ASPHALT CONCRETE. FINISHED CONCRETE PAVEMENT IS NOT PERMITTED. MATERIALS USED SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT CMSC.

IF MORE THAN 1/3 OF THE WIDTH OF AN ALLEY IS REMOVED, THE PAVEMENT SHALL BE REPLACED AS PER TYPE 1 AND THEN OVERLAYED OVER THE TOTAL WIDTH OF PAVEMENT AND LENGTH OF TRENCH.

NOTE 'H': ITEM 912 - COMPACTED GRANULAR MATERIAL

THIS METHOD OF BACKFILL CAN ONLY BE USED WITH FULL TIME CITY INSPECTION. AN INSPECTION FEE MUST BE POSTED WHEN THE PERMIT IS ISSUED.

NOTE 'I': CONCRETE BASE OR FULL DEPTH CONCRETE PAVEMENT

FULL DEPTH CONCRETE PAVEMENT

IF THE UTILITY TRENCH CUT IS WITHIN 6 FT OF A TRANSVERSE OR LONGITUDINAL JOINT, THE LIMITS OF THE REPAIR SHALL EXTEND TO THE JOINT. THIS MAY REQUIRE THE ENTIRE PANEL TO BE REPLACED. AT A MINIMUM, THE LIMITS OF THE CONCRETE REPAIR SHALL EXTEND 1 FT BEYOND THE LIMITS OF THE TRENCH.

IF MAINTENANCE OF TRAFFIC REQUIREMENTS ALLOW FOR SUFFICIENT CURING TIME SO THAT FAST SETTING CONCRETE IS NOT NEEDED, STANDARD CONCRETE BASE OR FULL DEPTH CONCRETE PAVEMENT MAY BE PLACED AS PER CMSC ITEM 255. THIS OPTION MUST BE NOTED ON THE PERMIT APPLICATION AND APPROVED BY THE CITY OF COLUMBUS. THE ENTIRE IMPACTED CONCRETE PANEL SHALL BE REPLACED WHEN THE UTILITY CUT IS LOCATED IN THE DOWNTOWN BUSINESS DISTRICT.

PAVEMENT WITH A CONCRETE BASE THE NEW CONCRETE BASE THICKNESS SHALL MATCH THE EXISTING (7 INCHES MINIMUM) AND IT SHALL BE PLACED TO THE LEVEL OF THE ADJACENT CONCRETE BASE WITH 1-1/2 INCHES OF ITEM 441 ASPHALT CONCRETE OVERLAY. LANE WIDTH RESURFACING REQUIREMENTS OF TYPE 1 STILL APPLY.

NOTE 'J': MINIMUM TRENCH RESTORATION WIDTH

THE TRENCH WIDTH FOR SMALL PIPES AND CONDUITS SHALL BE OF SUFFICIENT WIDTH TO ALLOW FOR THE PROPER PLACEMENT OF THE BACKFILL MATERIAL. THE PAVEMENT PORTION OF THE TRENCH SHALL BE A MINIMUM OF 2 FT IN WIDTH. THIS IS TO ALLOW FOR THE PROPER COMPACTION OF THE ASPHALT PAVEMENT. IF THE TRENCH FOR PLACING CONDUIT IS NARROWER THAN 2 FT THEN THE PAVEMENT PORTION SHALL BE CUT BACK TO PROVIDE THE 2 FT MINIMUM FOR PAVING OPERATIONS.

NOTE 'K': TEMPORARY CONCRETE PAVEMENT

CONCRETE MAY BE USED AS A PAVEMENT REPAIR OPTION AND A TEMPORARY PAVEMENT SURFACE FOR TYPE 1 PAVEMENT REPAIR IF APPROVED BY THE CITY. THE CONCRETE SHALL BE PLACED PER CMSC ITEM 255 AND FOLLOW THE REQUIREMENTS OF TYPE V PAVEMENT REPAIR. 1-1/2 INCHES OF ITEM 441 ASPHALT OVERLAY WILL BE REQUIRED OVER THE CONCRETE WHEN WORK IS COMPLETED. THIS OPTION MUST BE NOTED ON THE PERMIT APPLICATION APPROVED BY THE CITY OF COLUMBUS.

NOTE 'L': SURFACE REPAIR SHAPE (SEE SHEET 11)

THE SURFACE REPAIR OF ALL IRREGULAR-SHAPED EXCAVATIONS SHALL ALWAYS BE A RECTANGLE WITH PARALLEL SIDES THAT ARE PERPENDICULAR TO THE DIRECTION OF TRAVEL OF THE ROADWAY.

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ACCEPTABLE UTILITY CUT REPAIRS

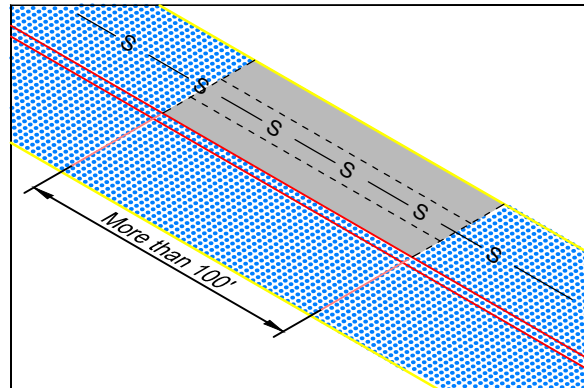
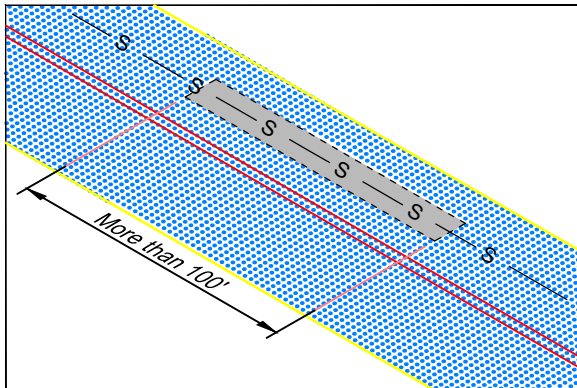
EXCAVATION EXCEEDING 100' IN LENGTH LOCATED WITHIN LANE

WHEN AN EXCAVATION EXCEEDS 100 FT IN LENGTH, THE REPAIR SHALL INCLUDE ITEM 254 PAVEMENT PLANING OF A FULL LANE WIDTH (OR ANY OTHER LANE WIDTH AS DIRECTED BY THE DEPARTMENT OF PUBLIC SERVICE) TO A DEPTH OF 1-1/2 INCHES FOR THE ENTIRE LENGTH OF THE EXCAVATION. THE PLANED AREA SHALL BE THOROUGHLY CLEANED AND DRY, THEN TACKED USING ITEM 407 TACK COAT MATERIAL PRIOR TO PLACING AND COMPACTING APPROVED ASPHALT CONCRETE WITH A PAVER IN ACCORDANCE WITH CURRENT CITY STANDARD SPECIFICATIONS. ITEM 423 CRACK SEALING, TYPE II OR III, SHALL BE APPLIED TO EXPOSED JOINTS ONCE THE PAVING OPERATION HAS BEEN COMPLETED.

NOT ACCEPTABLE

SEE NOTE "C"

ACCEPTABLE



FOR AN EXCAVATION IN A SINGLE LANE, PERFORM A FULL-LANE-WIDTH PLANE AND REPAIR.

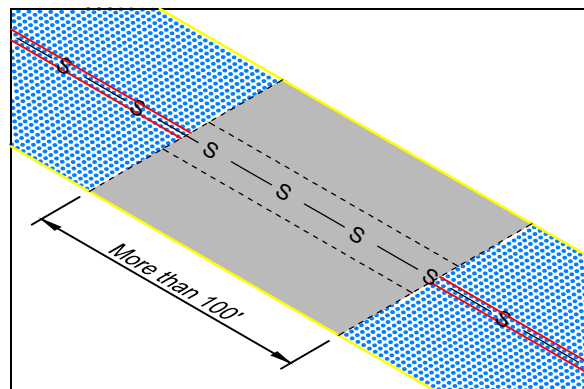
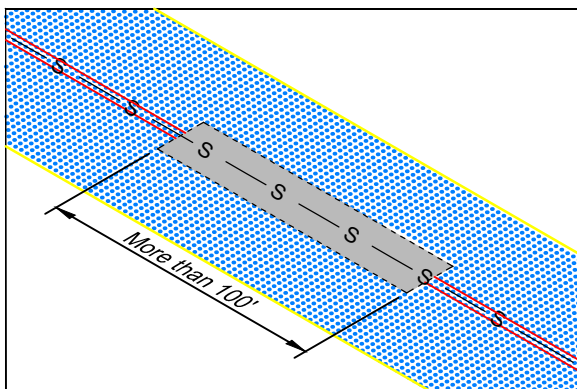
EXCAVATION EXCEEDING 100' IN LENGTH BETWEEN OR CROSSING LANES

WHEN AN EXCAVATION CROSSES LANES, ALL AFFECTED LANES SHALL REQUIRE PLANING AND RESURFACING AS DESCRIBED ABOVE. THIS WORK SHALL INCLUDE ALL OF THE PAVEMENT AREA WITHIN THE AFFECTED LANES FOR THE LIMITS OF THE EXCAVATION.

NOT ACCEPTABLE



SEE NOTE "C"

ACCEPTABLE



FOR AN EXCAVATION IN MULTIPLE LANES, PERFORM A FULL-LANE-WIDTH PLANE AND REPAIR FOR ALL IMPACTED LANES.

LEGEND

-  EXISTING PAVEMENT
-  NEW PAVEMENT REPAIR

NOTE:
EXCAVATIONS ARE CONCEPTUAL ONLY. SEE DETAILED CROSS SECTION AND PROFILE SHEETS FOR CONSTRUCTION PROCEDURES AND WIDTHS.

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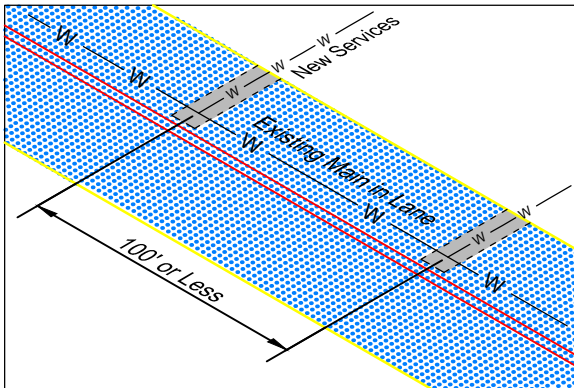
ACCEPTABLE UTILITY CUT REPAIRS

UTILITY EXCAVATIONS CROSSING ONE LANE WITHIN 100'

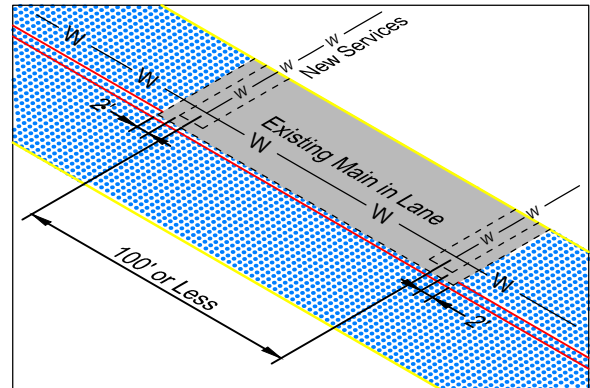
WHEN EXCAVATION WORK FOR LATERALS CROSSES A LANE AT A FREQUENCY OF 2 OR MORE LATERAL EXCAVATIONS WITHIN 100 FEET OF EACH OTHER, THE REPAIR SHALL INCLUDE ITEM 254 PAVEMENT PLANING FOR THE FULL LANE WIDTH TO A DEPTH OF 1- 1/2" INCHES AND FOR A MINIMUM OF 2 FEET BEYOND THE FURTHEST LATERAL EXCAVATIONS. THE PLANED AREA SHALL BE THOROUGHLY CLEANED AND DRY, THEN TACKED USING ITEM 407 TACK COAT MATERIAL PRIOR TO PLACING AND COMPACTING APPROVED ASPHALT CONCRETE WITH A PAVER IN ACCORDANCE WITH CURRENT CITY STANDARD SPECIFICATIONS. ITEM 423 CRACK SEALING, TYPE II OR III, SHALL BE APPLIED TO EXPOSED JOINTS ONCE THE PAVING OPERATION HAS BEEN COMPLETED.

SEE NOTE "C"

NOT ACCEPTABLE



ACCEPTABLE



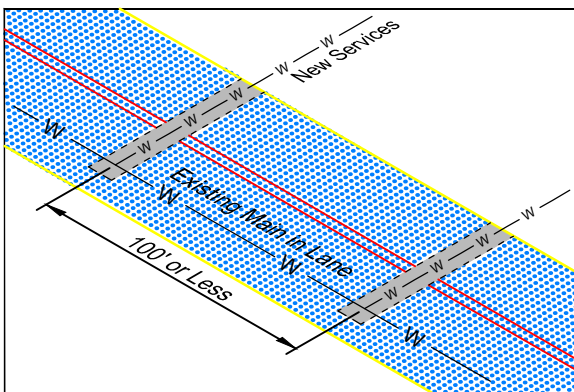
FOR MULTIPLE EXCAVATIONS WITHIN 100', PERFORM A FULL-LANE-WIDTH PLANE AND REPAIR.

UTILITY EXCAVATIONS CROSSING MULTIPLE LANES WITHIN 100'

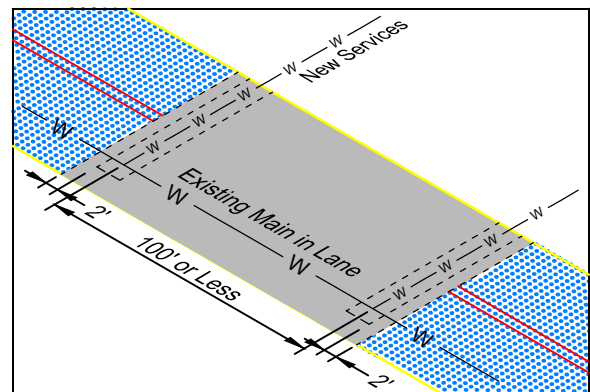
WHEN EXCAVATION WORK CROSSES MULTIPLE LANES, ALL AFFECTED LANES SHALL REQUIRE PLANING AND RESURFACING AS DESCRIBED ABOVE. THIS WORK SHALL INCLUDE ALL OF THE PAVEMENT AREA WITHIN THE AFFECTED LANES FOR THE LIMITS OF THE LATERAL EXCAVATIONS.

SEE NOTE "C"

NOT ACCEPTABLE





ACCEPTABLE



FOR MULTIPLE EXCAVATIONS WITHIN 100' IN MULTIPLE LANES, PERFORM A FULL-LANE-WIDTH PLANE AND REPAIR FOR ALL IMPACTED LANES.

LEGEND

-  EXISTING PAVEMENT
-  NEW PAVEMENT REPAIR

NOTE:
EXCAVATIONS ARE CONCEPTUAL ONLY. SEE
DETAILED CROSS SECTION AND PROFILE
SHEETS FOR CONSTRUCTION PROCEDURES
AND WIDTHS.

PAVEMENT & UTILITY CUT REPAIR STANDARDS

CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF DESIGN AND CONSTRUCTION

STD DWG

1441

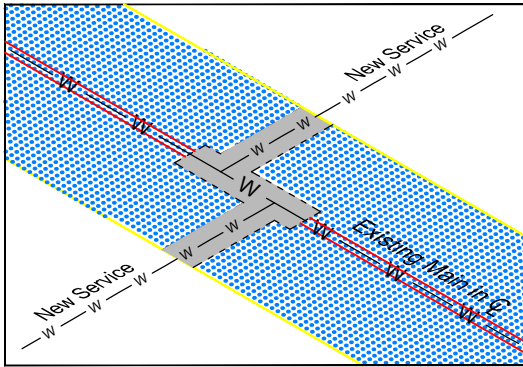
4/22/2019

SHT 10 OF 13

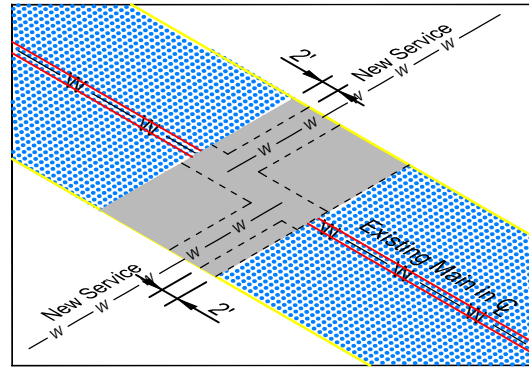
ACCEPTABLE UTILITY CUT REPAIRS

SEE NOTE "C"

NOT ACCEPTABLE

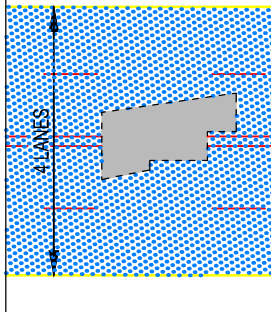


ACCEPTABLE

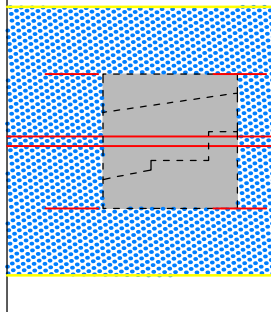


IRREGULAR SHAPES - SEE NOTE "L"

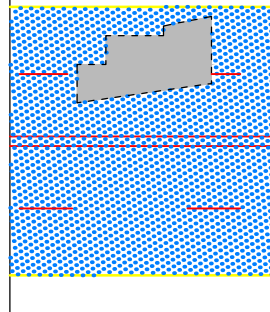
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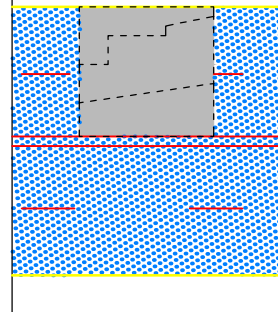
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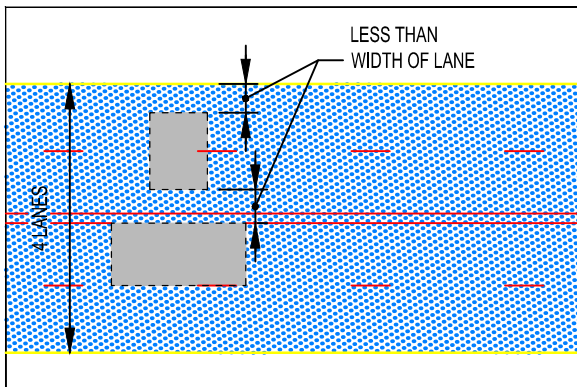
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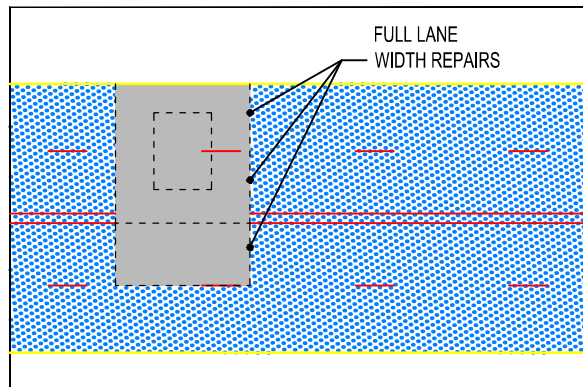
ACCEPTABLE





NOT ACCEPTABLE



ACCEPTABLE



LEGEND

-  EXISTING PAVEMENT
-  NEW PAVEMENT REPAIR

NOTE:
EXCAVATIONS ARE CONCEPTUAL ONLY. SEE
DETAILED CROSS SECTION AND PROFILE
SHEETS FOR CONSTRUCTION PROCEDURES
AND WIDTHS.

PAVEMENT & UTILITY CUT REPAIR STANDARDS

CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF DESIGN AND CONSTRUCTION

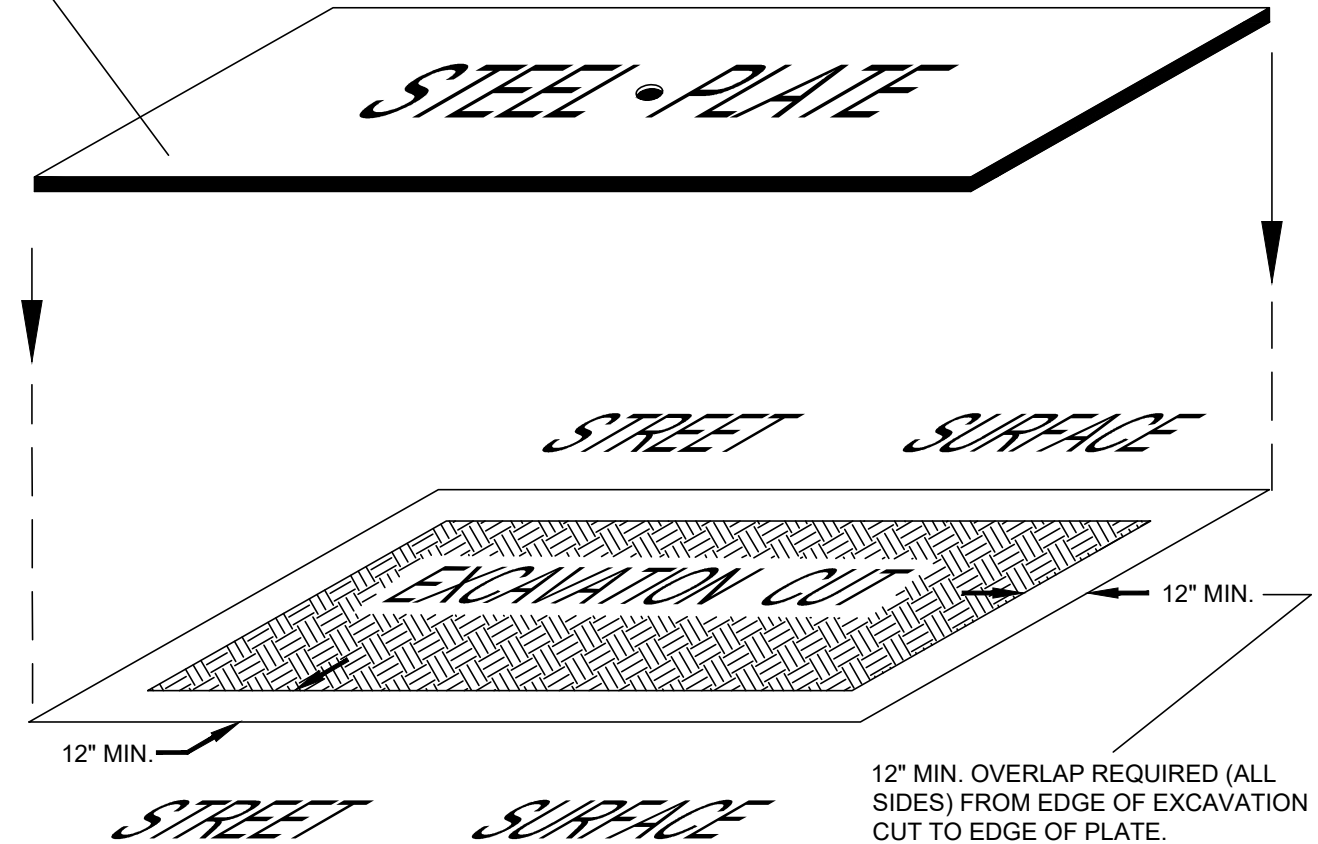
STD DWG

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1. OWNER'S NAME.
2. A 24 HOUR EMERGENCY CONTACT PHONE NUMBER.



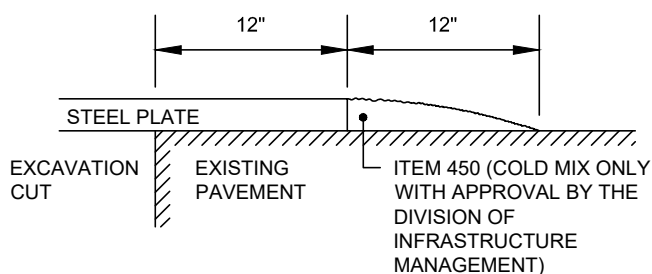
ALL STEEL PLATES MUST HAVE THE FOLLOWING INFORMATION CLEARLY AND LEGIBLY 'ETCHED' INTO THEIR TOP SURFACE:

1. OWNER'S NAME.
2. A 24 HOUR EMERGENCY CONTACT PHONE NUMBER.
3. CONTACT CITY OF COLUMBUS DIVISION OF INFRASTRUCTURE MANAGEMENT TO REPORT LOCATION OF STEEL PLATE (614) 645-5550

MINIMUM THICKNESS OF STEEL PLATES	
SIZE OF PLATE	THICKNESS
4' x 4'	1/2"
4' x 6'	3/4"
LARGER	1"

NO STEEL PINS ARE PERMITTED.

SEE SHEET 13 FOR SIGNING REQUIREMENTS.



STEEL PLATE REQUIREMENTS

PAVEMENT & UTILITY CUT REPAIR STANDARDS

CITY OF COLUMBUS, OHIO
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SIGNS ARE TO BE 36"x36" FOR RESIDENTIAL AND DOWNTOWN AREAS AND 48"x48" ON MULTI-LANE, HIGH SPEED (45 MPH OR GREATER) ROADWAYS.

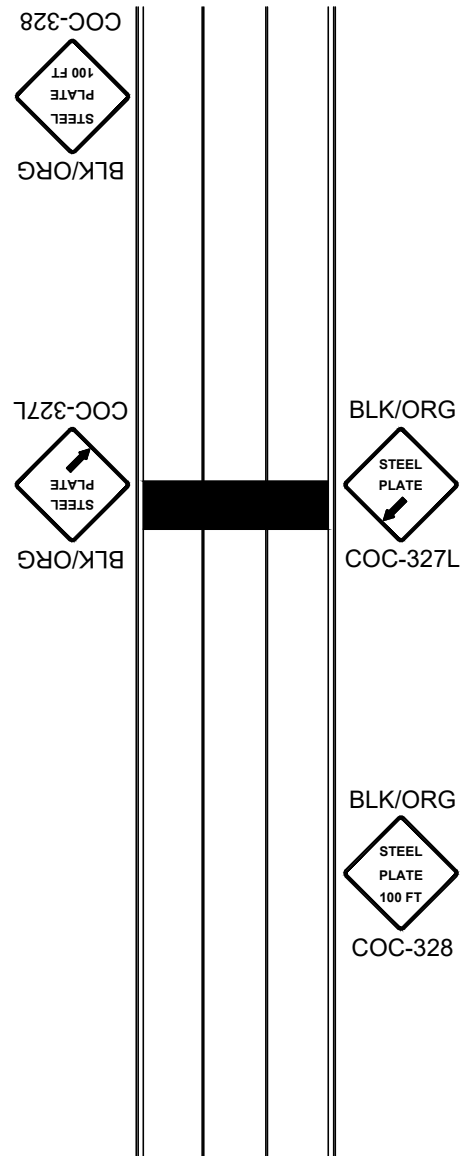
SIGN COC-327 (R/L) IS REQUIRED AT ALL PLATE LOCATIONS. SIGN COC-328 IS REQUIRED WHEN POSTED SPEED IS 35 MPH OR GREATER.

SIGNS SHOULD BE PLACED IN ALL DIRECTIONS THAT ARE AFFECTED. SIGN SPACING SHALL INCREASE TO 250' WHEN SPEED EXCEEDS 45 MPH.

SIGNS SHOULD BE DUAL MOUNTED ON MULTI-LANE, ONE-WAY ROADWAYS.

ALL SIGNS SHALL BE MOUNTED IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD).

SIGNS SHALL NOT BE PLACED IN A MANNER THAT WOULD BLOCK PARKING, BIKE LANES, OR RESTRICT A PEDESTRIAN FROM USING ANY SIDEWALK INCLUDING CURB RAMPS. PAR SHALL BE MAINTAINED AT ALL TIMES.



STEEL PLATE REQUIREMENTS

PAVEMENT & UTILITY CUT REPAIR STANDARDS

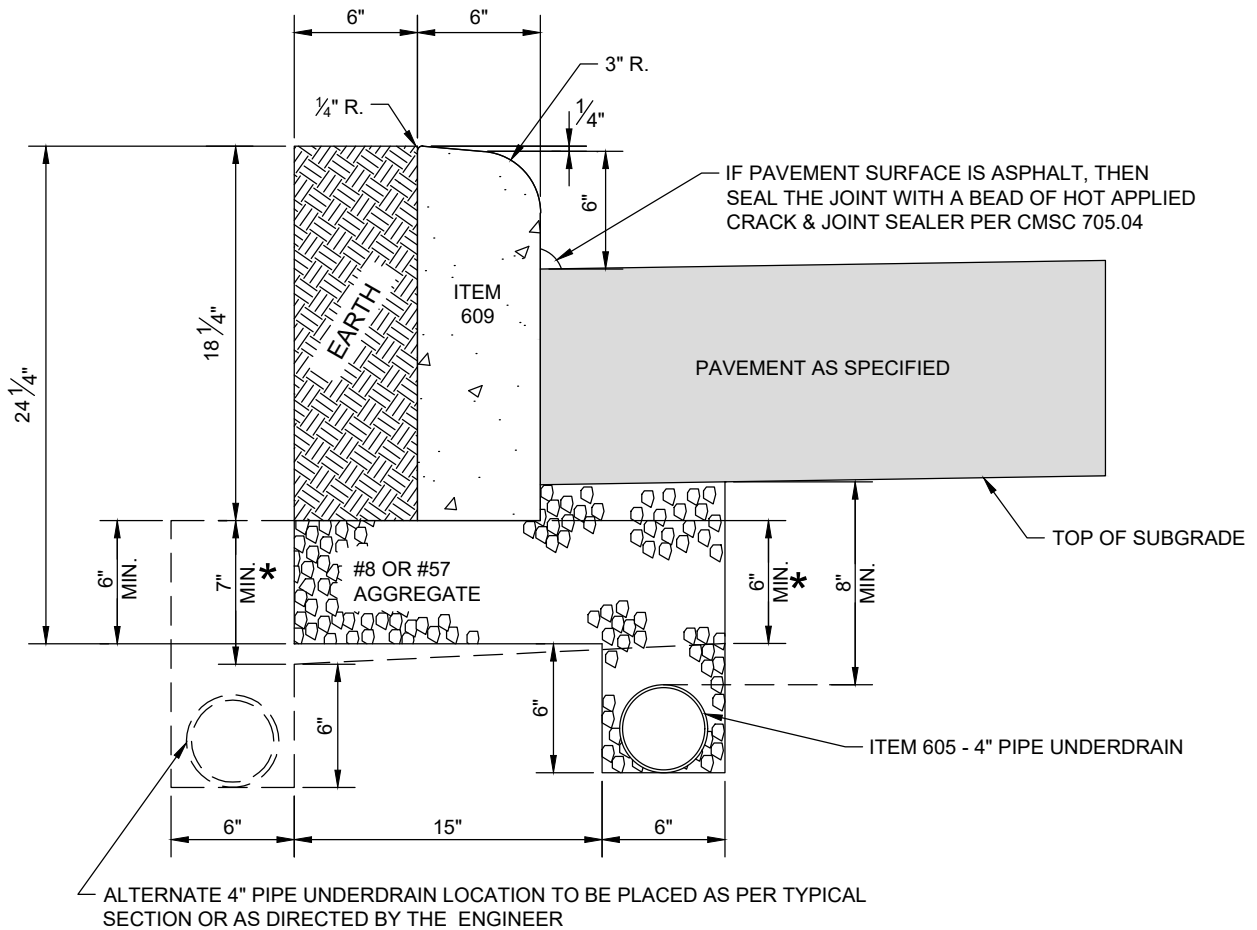
CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC SERVICE
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* CURB AGGREGATE COURSE-WHERE THE ROADWAY PAVEMENT HAS AGGREGATE BASE, MATCH THE BOTTOM OF THE CURB AGGREGATE COURSE TO THE TOP OF SUBGRADE. ENSURE ROADWAY SUB BASE MEETS UNDERDRAIN AGGREGATE.

IF THE TOP OF THE SUBGRADE IS BELOW THE BOTTOM OF THE CURB, THE UNDERDRAIN SHALL BE ADJUSTED TO KEEP THE TOP OF THE UNDERDRAIN AT LEAST 8" BELOW THE TOP OF THE SUBGRADE; AGGREGATE DEPTH BETWEEN BOTTOM OF CURB AND TOP OF UNDERDRAIN MAY VARY IF THIS OCCURS.

SUBGRADE COMPACTION SHALL BE COMPLETED BEFORE UNDERDRAIN INSTALLATION.

WHEN A CURB AND GUTTER INLET IS INSTALLED, THE TOP OF THE CASTING SHALL BE THE SAME AS THE TOP OF CURB ELEVATION. THE EDGE OF PAVEMENT ELEVATION SHALL BE 3/8" HIGHER THAN THE GRATE WHEREVER THEY MEET.

FOR REPLACEMENT WORK, THE CURB SHALL BE REMOVED AT AN EXISTING JOINT OR NO CLOSER THAN 5 FEET FROM AN EXISTING JOINT.

1/2" EXPANSION MATERIAL WILL BE INSTALLED BEHIND THE CURB WHEN A CONCRETE WALK, DRIVE, OR OTHER CONCRETE ITEM IS ADJOINING IT.

UNDERDRAIN IS NOT REQUIRED WHEN CURB IS ALONG CONCRETE MEDIAN.

0.74 C.F. CONCRETE PER L.F.

CURB, STRAIGHT 18"

CITY OF COLUMBUS, OHIO
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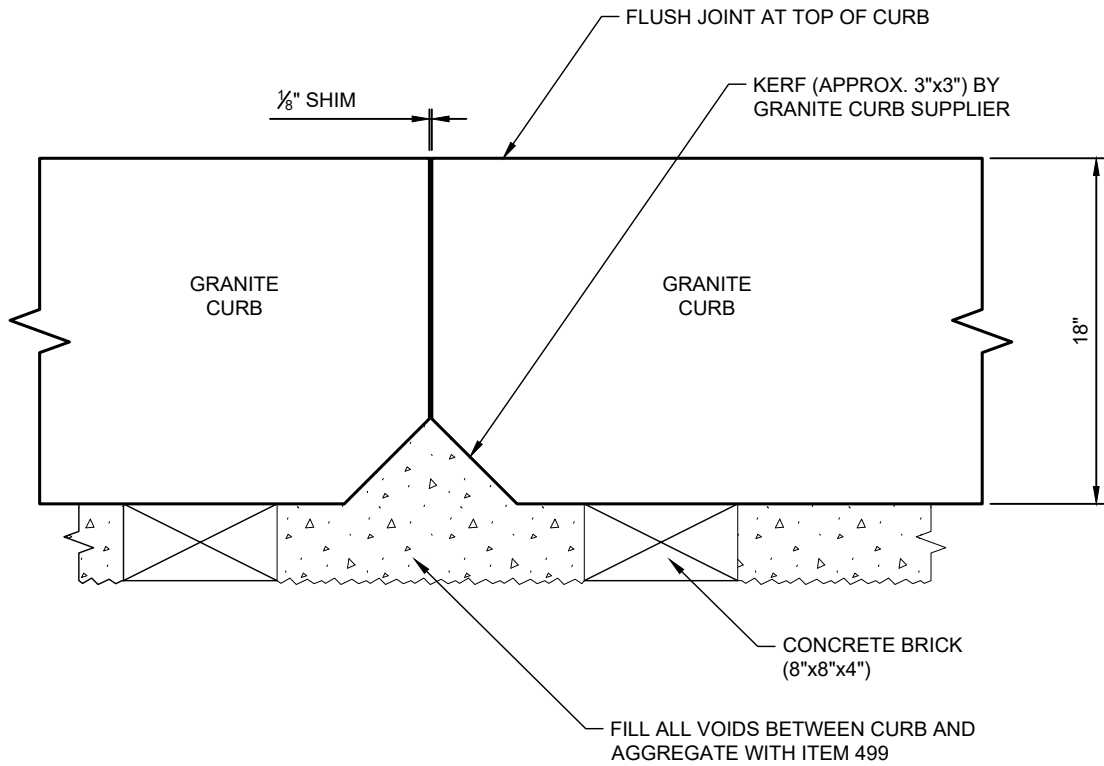
CITY ENGINEER

STD DWG
2000

3/30/2018

SHT 1 OF 1

CITY ENGINEER



ELEVATION

CURB GRANITE

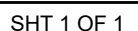
CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF DESIGN AND CONSTRUCTION

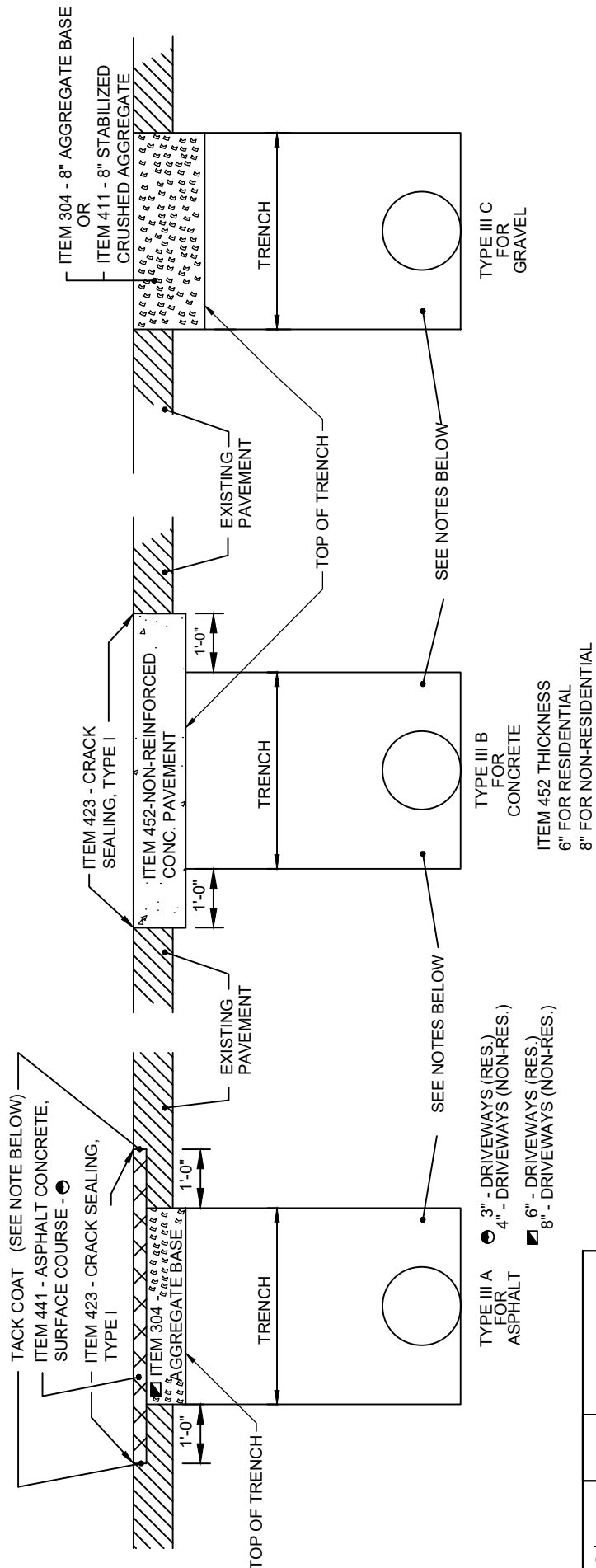
STD DWG
2005

3/30/2018

SHT 2 OF 2

Technical drawing of a mechanical part with dimensions: $4 \frac{5}{8}"$, $4 \frac{1}{4}"$, $\frac{3}{8}"$, and $\frac{1}{4}" R$.





DRIVEWAY REPLACEMENT

CITY ENGINEER

FOR USE ON A PARCEL WITH A SINGLE DWELLING

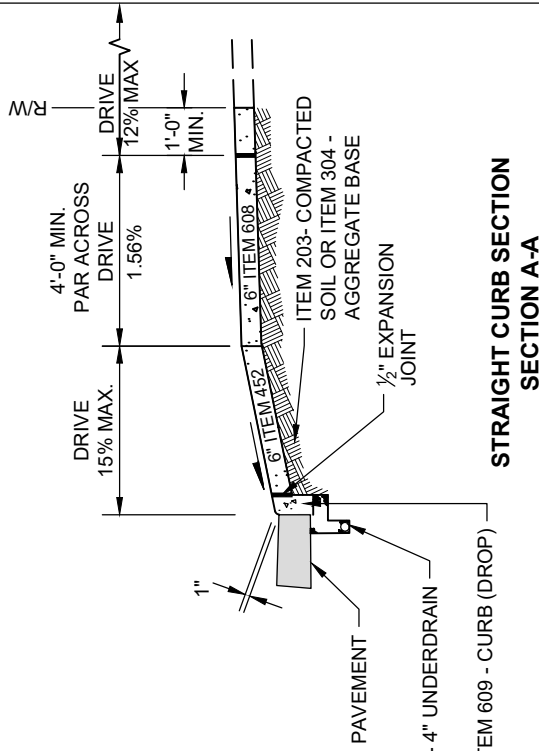
* CURB OR COMBINED CURB AND GUTTER SHALL BE TAKEN OUT AND REPLACED WITH CONCRETE, SEPARATED FROM THE DRIVE BY 1/2" PREMOLED EXPANSION JOINT. WHEN LESS THAN 5 FT. OF A CURB SECTION REMAINS AFTER THE CURB CUT IS LOCATED, IT SHALL ALSO BE REMOVED AND REPLACED. CURB SHALL BE CONSTRUCTED IN MINIMUM 5 FT. SECTIONS AND MAXIMUM 10 FT. SECTIONS.

** SIDEWALK WIDTH SHALL BE PER STANDARD DRAWING 2300. SIDEWALK THICKNESS SHALL BE 6" CONCRETE TO ONE FULL PANEL (MIN. 5 FT.) BEYOND THE EDGE OF THE FULL WIDTH SECTION OF THE DRIVE.

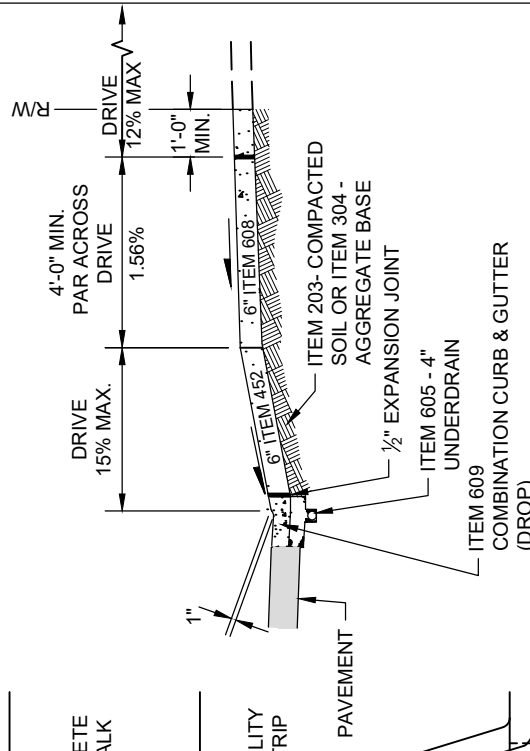
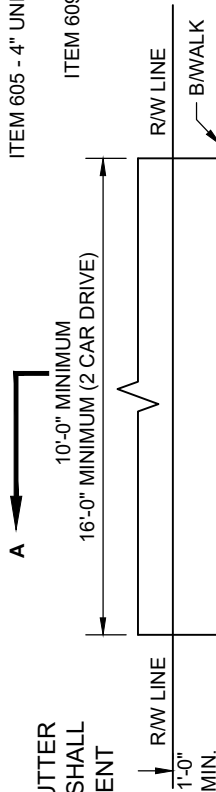
*** 5 FT. ON ROADWAYS WITH 35 MPH SPEED LIMIT, 2 FT. FOR SPEED LIMITS LESS THAN 35 MPH.

PAR = PEDESTRIAN ACCESS ROUTE. SET PAR THROUGH APPROACH AT SIDEWALK GRADE TO AVOID RAMP OR TRANSITION. IF NOT POSSIBLE, THEN MINIMIZE TRANSITION FROM SIDEWALK TO APPROACH.

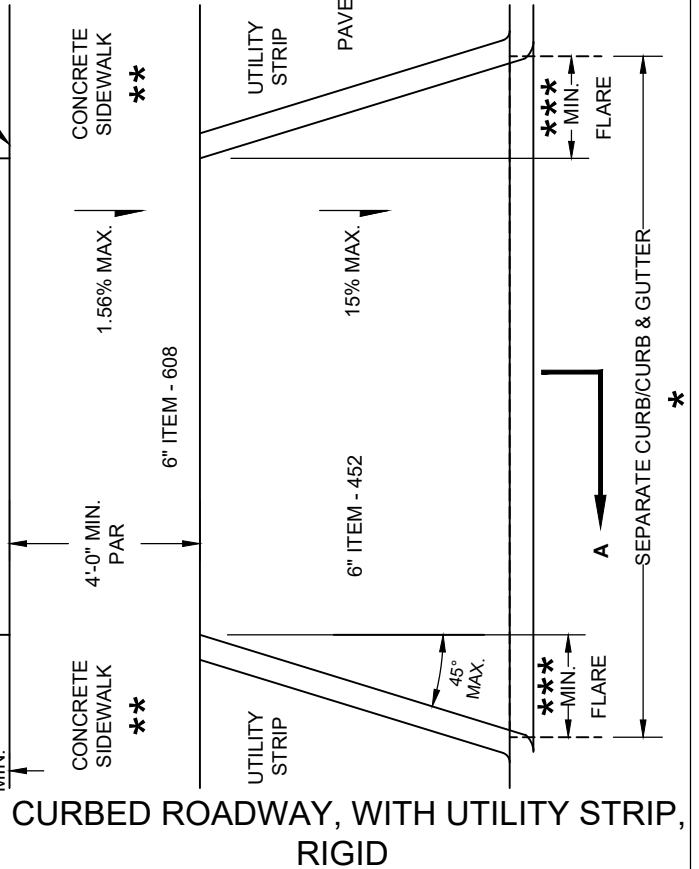
WHEN A CURB OR CURB AND GUTTER ARE PRESENT ALL DRIVEWAYS SHALL BE ITEM 452 CONCRETE PAVEMENT



STRAIGHT CURB SECTION
SECTION A-A



COMBINATION CURB AND GUTTER SECTION
SECTION A-A



CURBED ROADWAY, WITH UTILITY STRIP,
RIGID

DRIVEWAY, RESIDENTIAL

CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF DESIGN AND CONSTRUCTION

CITY ENGINEER

STD DWG
2201

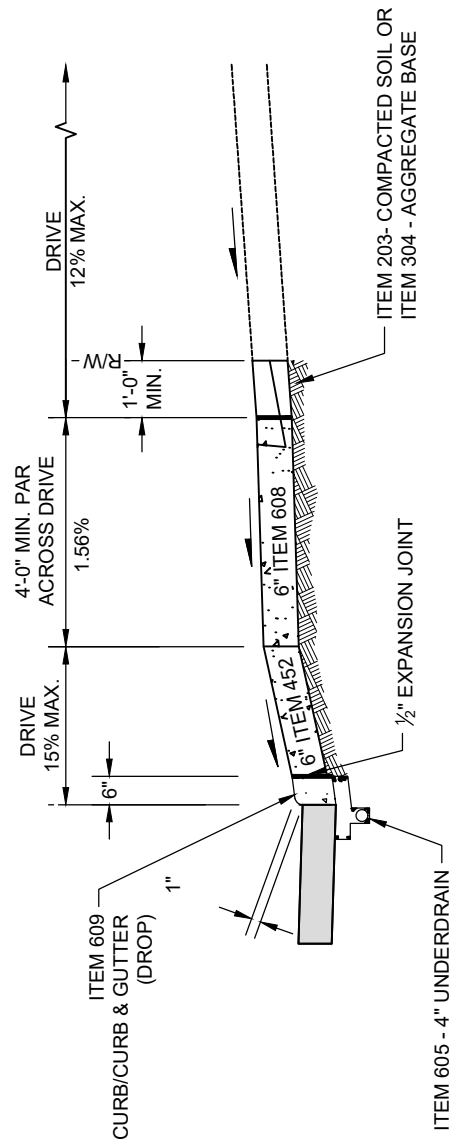
12/31/18

SHT 1 OF 6

Technical drawing of a sidewalk cross-section. The drawing is divided into two main sections by a vertical centerline. The left section is labeled "B/WALK" and the right section is labeled "R/W LINE". The total width of the sidewalk is indicated as "16'-0\" MINIMUM (2 CAR DRIVE)". The sidewalk is composed of several layers: a top layer of "6\" ITEM - 452" with a slope of "15% MAX.", a middle layer of "4'-0\" MIN. PAR" with a slope of "1.56% MAX.", and a bottom layer of "7.69% MAX." with a slope of "7.69% MAX.". The drawing also shows a "SIDEWALK WIDTH PER STANDARD DRAWING 2300" and a "10% ALONG THE FACE OF THE CURB" slope. A dimension of "6\" is shown at the bottom right. A note "A" is present on the left side, and a note "R/W LINE" is on the right side.

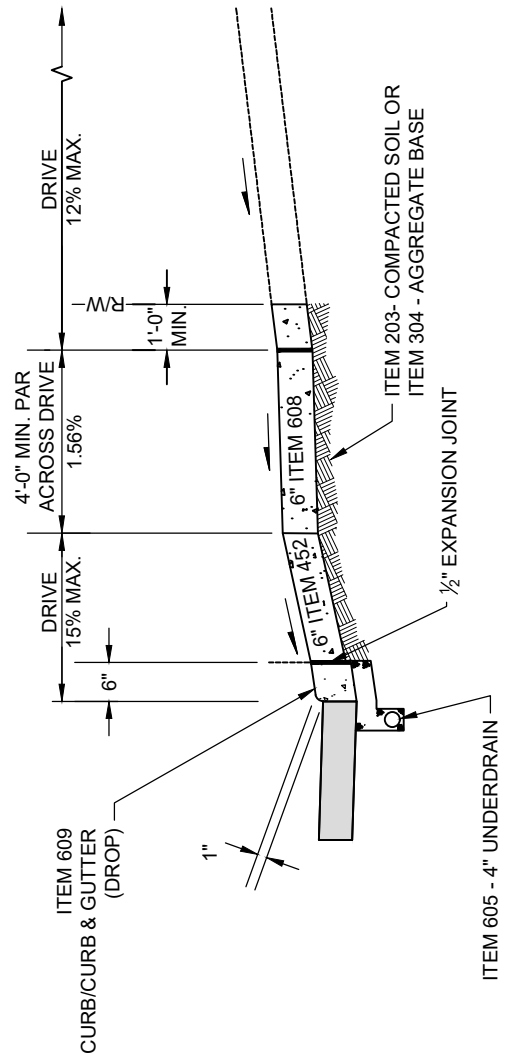
DRIVEWAY, RESIDENTIAL

STD DWG
2201
12/03/18
SHT 2 OF 6



SECTION A-A
SEE SHEET 1 OF 6 FOR NOTES

**** THE FIRST FULL PANEL AT THE EDGE OF THE FULL WIDTH SECTION OF THE DRIVE INCLUDING THE DRIVE FLARE SHALL BE 6" ITEM 608**



SECTION A-A
SEE SHEET 1 OF 6 FOR NOTES

<h1>DRIVEWAY, RESIDENTIAL</h1>	
CITY OF COLUMBUS, OHIO DEPARTMENT OF PUBLIC SERVICE DIVISION OF DESIGN AND CONSTRUCTION	STD DWG 2201
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	SHT 3 OF 6



SHT 4 OF 6

FOR USE ON A PARCEL WITH A SINGLE DWELLING

* REPLACEMENT OF EXISTING DRIVES SHALL MATCH PAVEMENT (TYPE, DESIGN) IN KIND TO EXISTING DRIVE. NEW DRIVES SHALL BE PAVEMENT (TYPE, DESIGN) SIMILAR TO MAIN ROADWAY (TYPE, DESIGN).

DRIVE PAVEMENT (TYPE, FLEXIBLE)

ITEM 441 - 1.5" ASPHALT CONCRETE, SURFACE COURSE, (TYPE 1), PG 64-22

ITEM 441 - 2.5" ASPHALT CONCRETE, INTERMEDIATE COURSE, (TYPE 2), 448

ITEM 304 - 4" AGGREGATE BASE

** SIDEWALK SHALL BE PER STANDARD DRAWING 2300. SIDEWALK THICKNESS SHALL BE 6" CONCRETE TO ONE FULL PANEL (MIN. 5 FT.) BEYOND THE EDGE OF THE FULL WIDTH SECTION OF THE DRIVE.

PAR = PEDESTRIAN ACCESS ROUTE. SET PAR THROUGH APPROACH AT SIDEWALK GRADE TO AVOID RAMP OR TRANSITION. IF NOT POSSIBLE, THEN MINIMIZE TRANSITION FROM SIDEWALK TO APPROACH.

WHEN CONDITIONS EXIST USE THE FOLLOWING;
IF THE DISTANCE FROM THE SIDEWALK TO THE EDGE OF PAVEMENT IS:

>5' ----- HOLD THE FLARE TO 45° AND ADJUST THE WIDTH ACCORDINGLY, MAINTAIN THE MINIMUM 2' WIDE PERPENDICULAR AREA OF THE APPROACH

5'-7' --- MAINTAIN THE 5' MAXIMUM FLARE WIDTH, VARY THE ANGLE, AND MAINTAIN THE MINIMUM 2' WIDE PERPENDICULAR AREA OF THE APPROACH

>7' ----- DECREASE THE 45° ANGLE (ADJUST ACCORDINGLY), MAINTAIN THE MINIMUM 2' WIDE PERPENDICULAR AREA OF THE APPROACH

NON-CURBED ROADWAY,
DRIVE PAVEMENT FLEXIBLE

DRIVEWAY, RESIDENTIAL

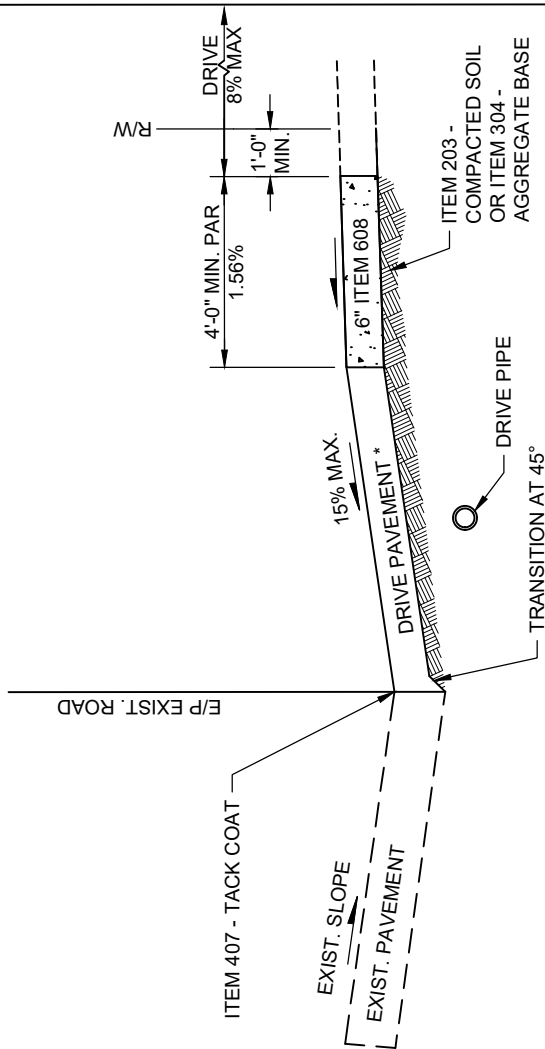
CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF DESIGN AND CONSTRUCTION

STD DWG

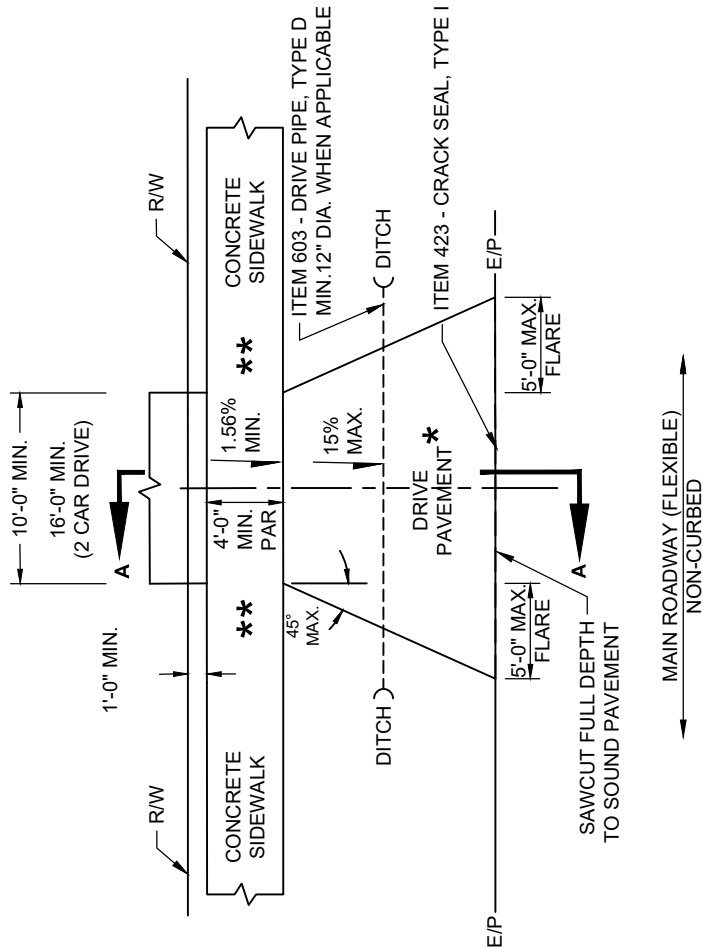
2201

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SHT 5 OF 6



SECTION A-A



FOR USE ON A PARCEL WITH A SINGLE DWELLING

*** DRIVE PAVEMENT (TYPE, RIGID)**
ITEM 452 - 6" NON-REINFORCED PORTLAND CEMENT CONCRETE

**** SIDEWALK SHALL BE PER STANDARD DRAWING 2300. SIDEWALK THICKNESS SHALL BE 6" CONCRETE TO ONE FULL PANEL (MIN. 5 FT.) BEYOND THE EDGE OF THE FULL WIDTH SECTION OF THE DRIVE.**

PAR = PEDESTRIAN ACCESS ROUTE. SET PAR THROUGH APPROACH AT SIDEWALK GRADE TO AVOID RAMP OR TRANSITION. IF NOT POSSIBLE, THEN MINIMIZE TRANSITION FROM SIDEWALK TO APPROACH.

WHEN CONDITIONS EXIST USE THE FOLLOWING;

IF THE DISTANCE FROM THE SIDEWALK TO THE EDGE OF PAVEMENT IS:

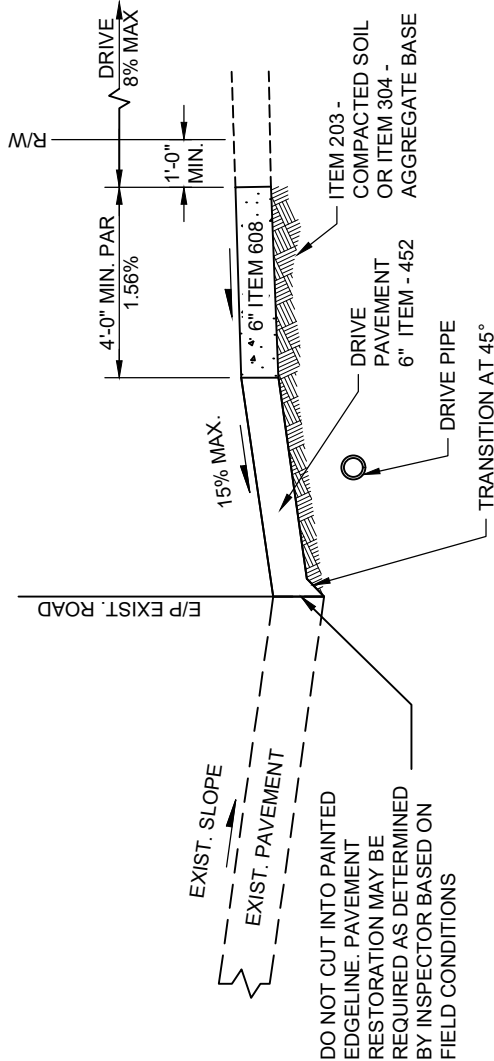
>5' ----- HOLD THE FLARE TO 45° AND ADJUST THE WIDTH ACCORDINGLY, MAINTAIN THE

MINIMUM 2' WIDE PERPENDICULAR AREA OF THE APPROACH

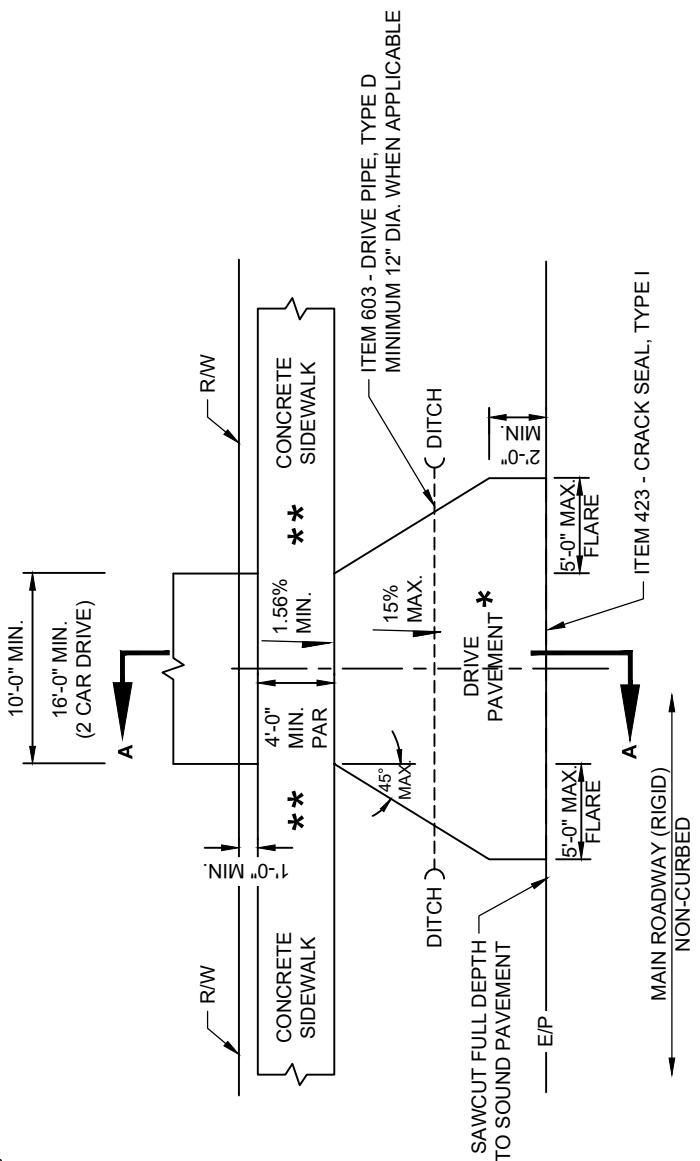
5'-7' ----- MAINTAIN THE 5' MAXIMUM FLARE WIDTH, VARY THE ANGLE, AND MAINTAIN THE

MINIMUM 2' WIDE PERPENDICULAR AREA OF THE APPROACH

>7' ----- DECREASE THE 45° ANGLE (ADJUST ACCORDINGLY), MAINTAIN THE MINIMUM 2' WIDE PERPENDICULAR AREA OF THE APPROACH



SECTION A-A



NON-CURBED ROADWAY
DRIVE PAVEMENT, RIGID

DRIVEWAY, RESIDENTIAL

CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF DESIGN AND CONSTRUCTION

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2201

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SHT 6 OF 6

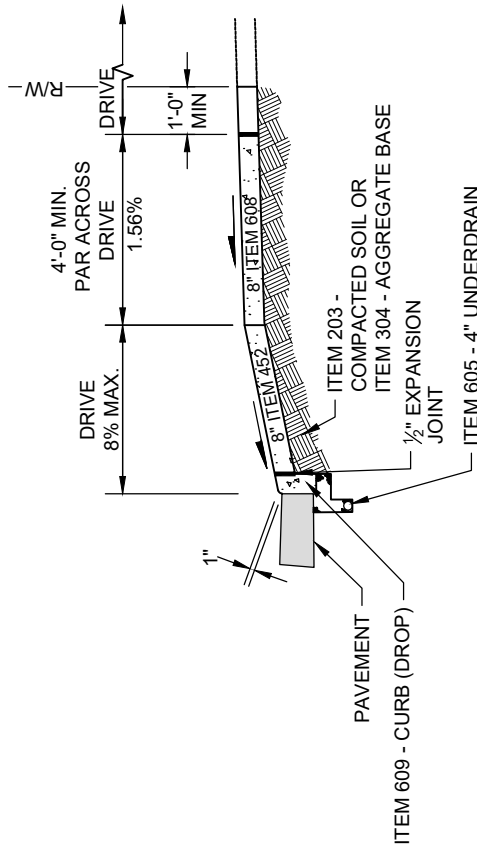
THIS STANDARD DRAWING IS FOR DRIVES ON LOCAL OR COLLECTOR STREETS WITH SPEEDS ≤ 35 MPH, UNLESS APPROVED OTHERWISE BY DEPARTMENT OF PUBLIC SERVICE.

* CURB OR COMBINED CURB AND GUTTER SHALL BE TAKEN OUT AND REPLACED WITH CONCRETE, SEPARATED FROM THE DRIVE BY 1/2" PREMOLDED EXPANSION JOINT. WHEN LESS THAN 5 FT. OF A CURB SECTION REMAINS AFTER THE CURB CUT IS LOCATED, IT SHALL ALSO BE REMOVED AND REPLACED. CURB SHALL BE CONSTRUCTED IN MINIMUM 5 FT. SECTIONS AND MAXIMUM 10 FT. SECTIONS.

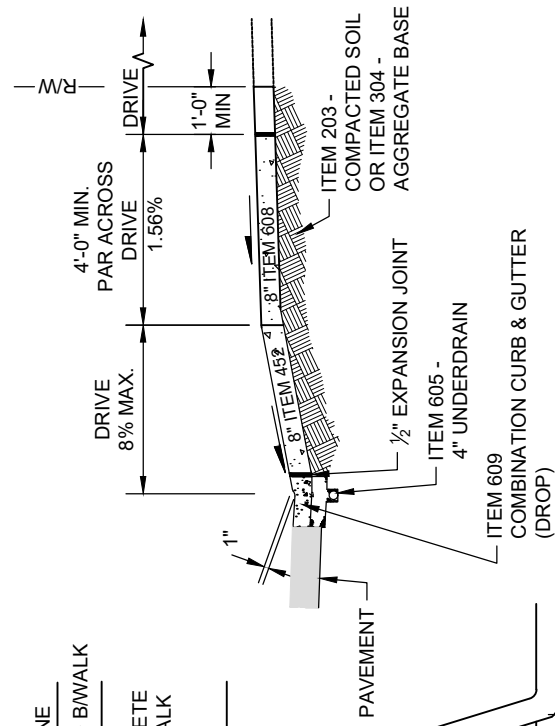
** SIDEWALK WIDTH SHALL BE PER STANDARD DRAWING 2300. SIDEWALK THICKNESS SHALL BE 8" CONCRETE TO ONE FULL PANEL (MIN. 5 FT.) BEYOND THE EDGE OF THE FULL WIDTH SECTION OF THE DRIVE.

PAR = PEDESTRIAN ACCESS ROUTE. SET PAR THROUGH APPROACH AT SIDEWALK GRADE TO AVOID RAMP OR TRANSITION. IF NOT POSSIBLE, THEN MINIMIZE TRANSITION FROM SIDEWALK TO APPROACH.

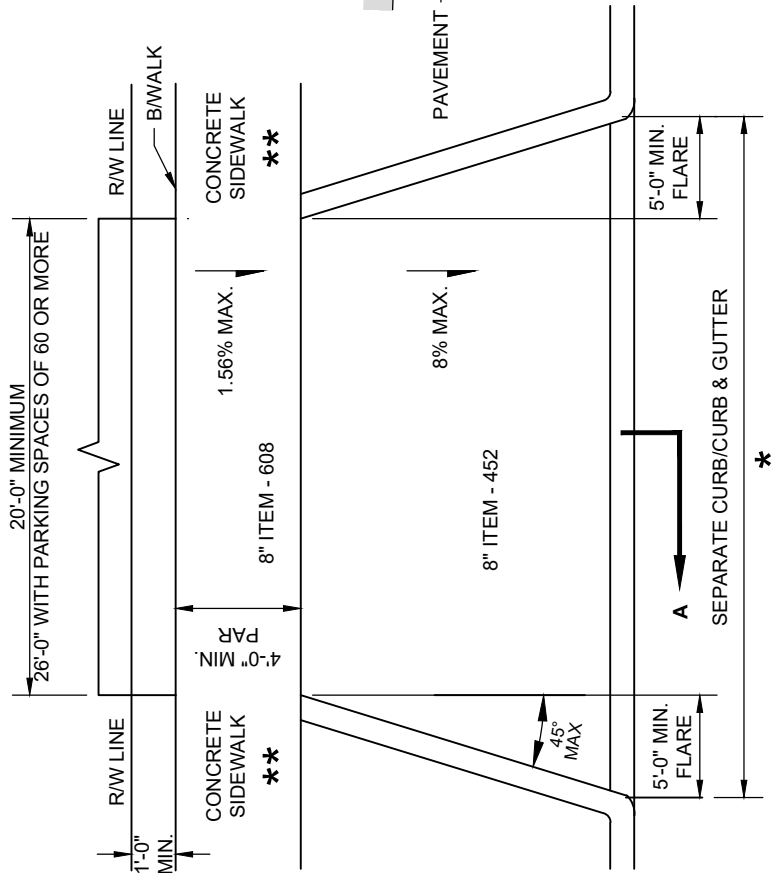
WHEN CURB OR CURB OR CURB AND GUTTER ARE PRESENT ALL DRIVEWAYS SHALL BE ITEM 452 CONCRETE PAVEMENT



STRAIGHT CURB SECTION
SECTION A-A



COMBINATION CURB AND GUTTER SECTION
SECTION A-A



CURBED ROADWAY WITH FLARES, TYPE A

DRIVEWAY, NON-RESIDENTIAL

CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF DESIGN AND CONSTRUCTION

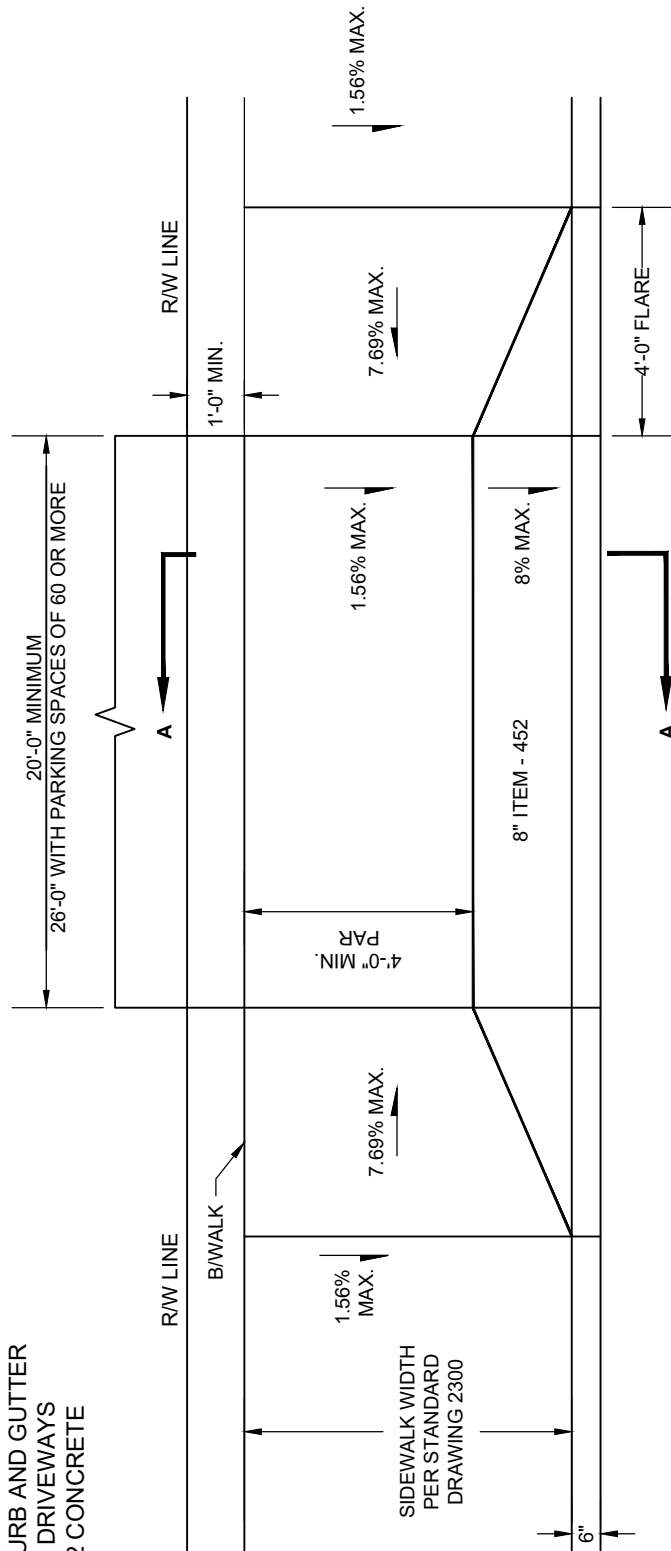
STD DWG
2202

CITY ENGINEER

12/31/18

SHT 1 OF 14

WHEN CURB OR CURB AND GUTTER
ARE PRESENT ALL DRIVEWAYS
SHALL BE ITEM 452 CONCRETE
PAVEMENT



CURBED ROADWAY WITH FLARES, TYPE B

DRIVEWAY, NON-RESIDENTIAL

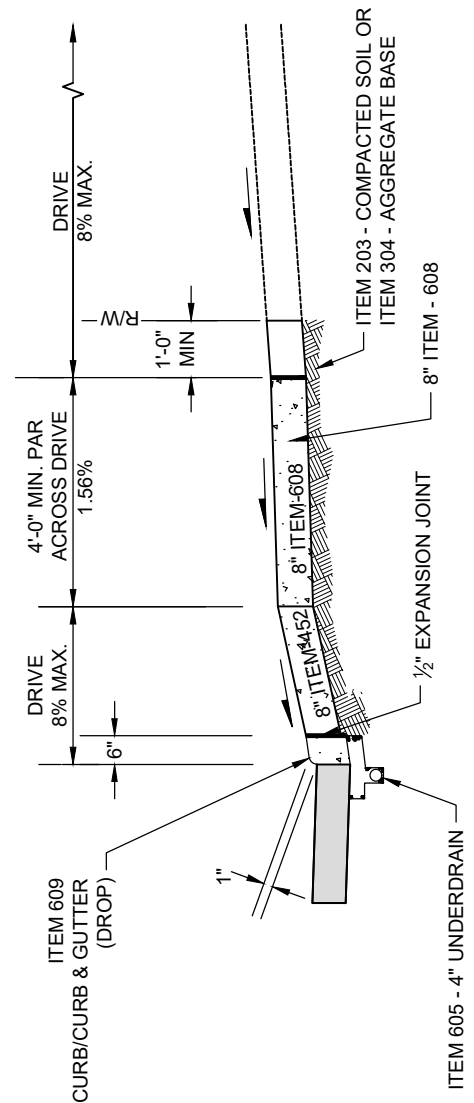
CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF DESIGN AND CONSTRUCTION

STD DWG

2202

12/31/18

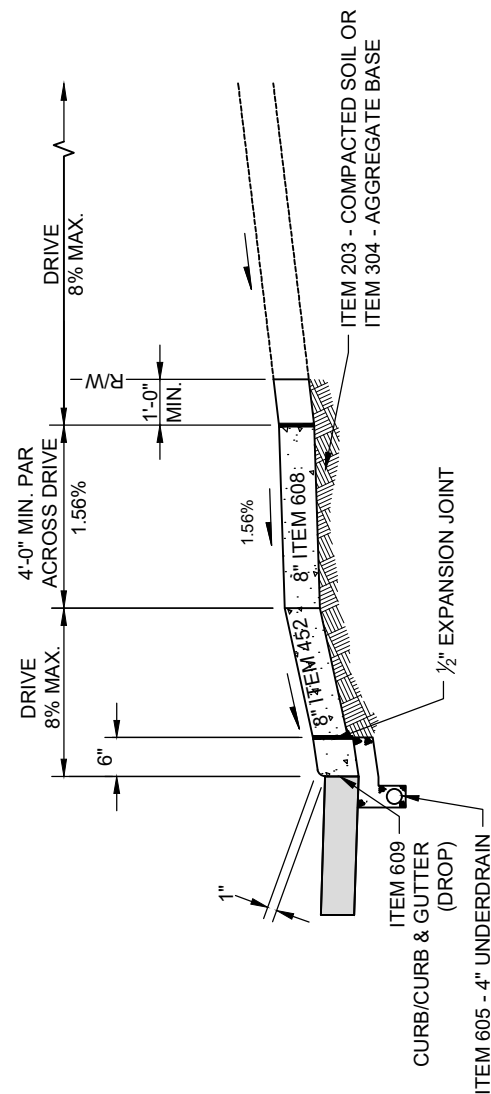
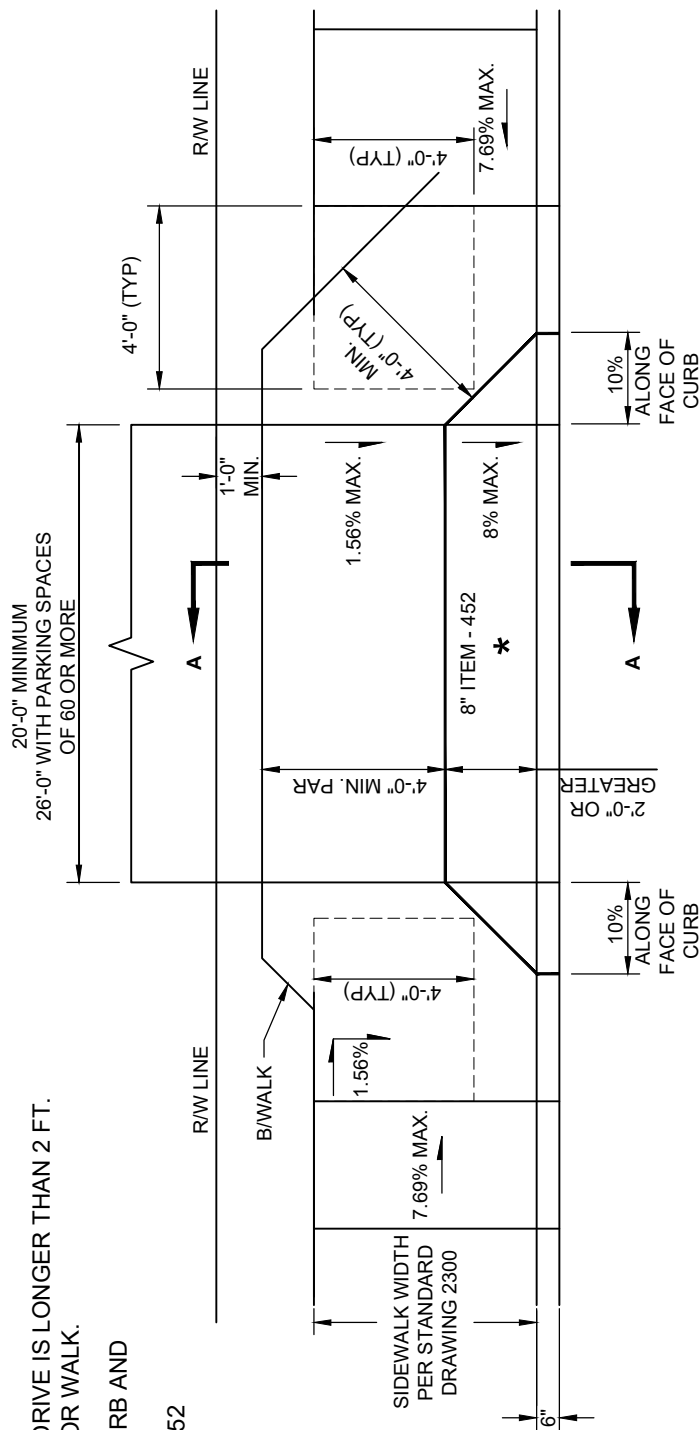
SHT 2 OF 14



SECTION A-A

SEE SHEET 1 OF 14 FOR NOTES

WHEN CURB OR CURB OR CURB AND
GUTTER ARE PRESENT ALL
DRIVEWAYS SHALL BE ITEM 452
CONCRETE PAVEMENT



CURBED ROADWAY WITH FLARES, TYPE C

DRIVEWAY, NON-RESIDENTIAL

CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF DESIGN AND CONSTRUCTION

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2202

12/31/18

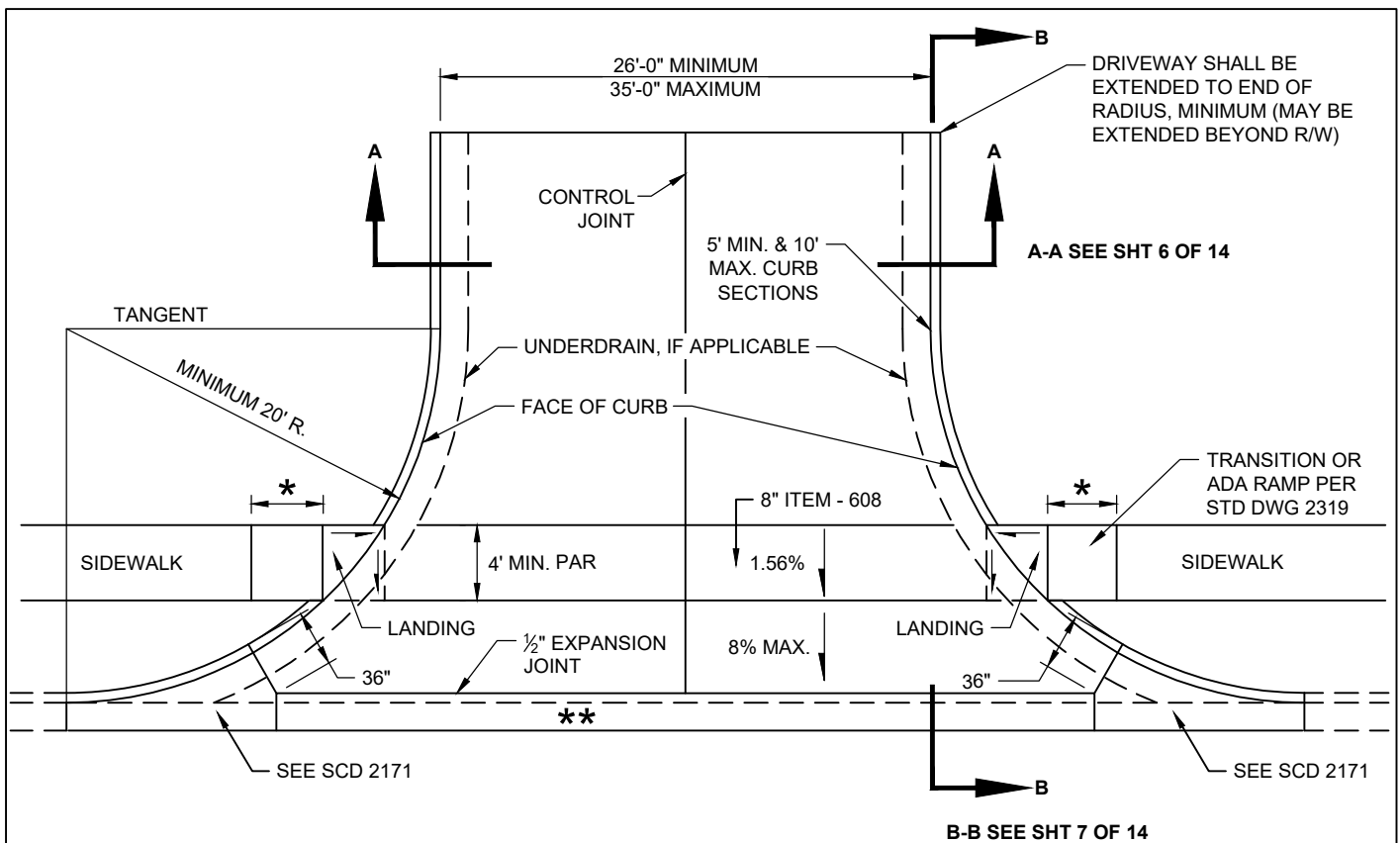
SHT 3 OF 14

SECTION A-A
SEE SHEET 1 OF 14 FOR NOTES



CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF DESIGN AND CONSTRUCTION

SHT 4 OF 14



* 8" CONCRETE SIDEWALK FOR 1 FULL PANEL (MIN. 5 FT.) BEYOND EDGE OF DRIVE.

** MAINTAIN 4" PIPE UNDERDRAIN. CURB OR COMBINED CURB AND GUTTER SHALL BE TAKEN OUT AND REPLACED WITH CONCRETE, SEPARATED FROM THE DRIVE BY 1/2" PREMOLDED EXPANSION JOINT. WHEN LESS THAN 5 FT. OF A CURB SECTION REMAINS AFTER THE CURB CUT IS LOCATED, IT SHALL ALSO BE REMOVED AND REPLACED. CURB/GUTTER SHALL BE CONSTRUCTED IN MINIMUM 5 FT. SECTIONS AND MAXIMUM 10 FT. SECTIONS.

PAR = PEDESTRIAN ACCESS ROUTE. SET PAR THROUGH APPROACH AT SIDEWALK GRADE TO AVOID RAMP OR TRANSITION. IF NOT POSSIBLE, THEN MINIMIZE TRANSITION FROM SIDEWALK TO APPROACH.

NO DOWELS REQUIRED ON DRIVES.

WHEN A CURB OR CURB AND GUTTER ARE PRESENT ALL DRIVEWAYS SHALL BE ITEM 452 CONCRETE PAVEMENT

CURBED ROADWAY WITH RADIUS

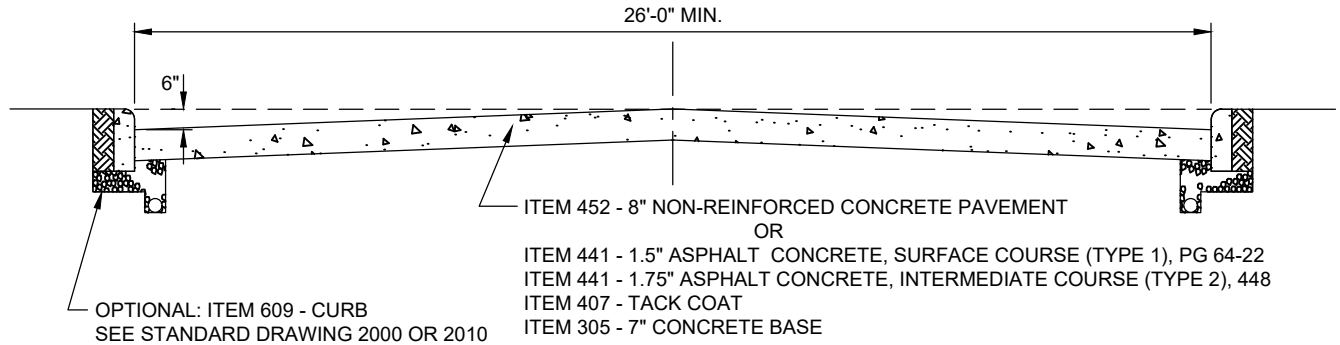
DRIVEWAY, NON-RESIDENTIAL

CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF DESIGN AND CONSTRUCTION

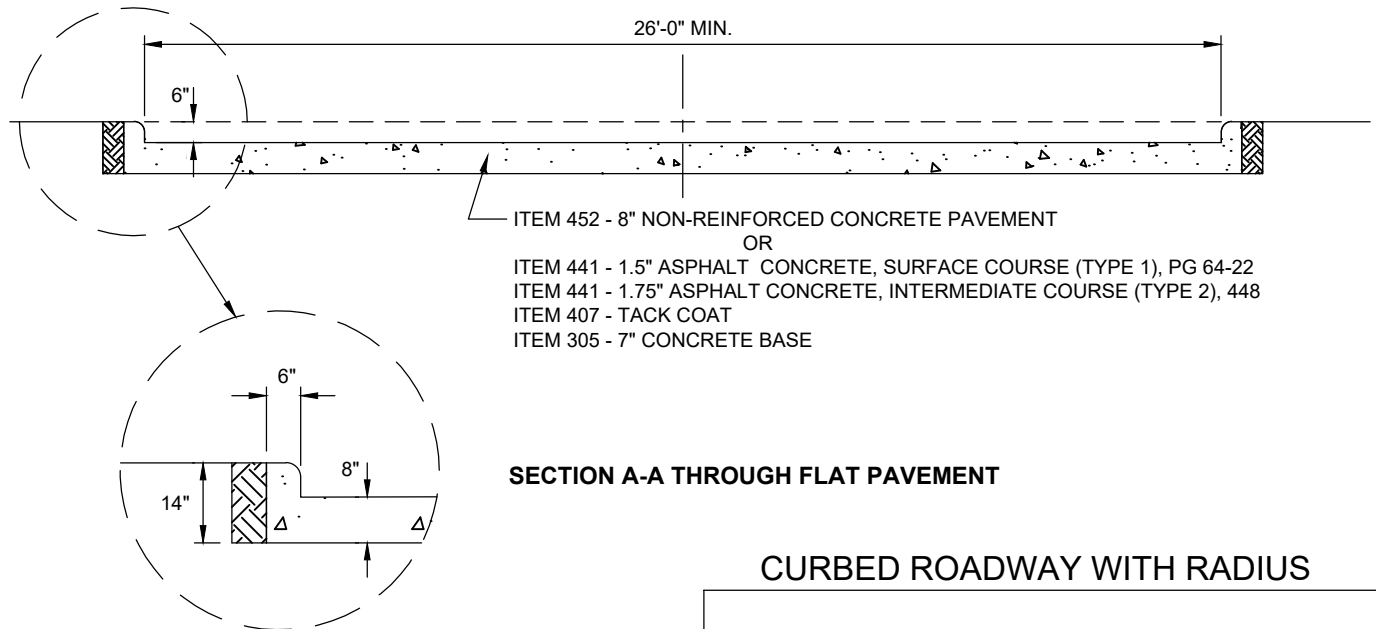
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SECTION A-A THROUGH CROWNED PAVEMENT



SECTION A-A THROUGH FLAT PAVEMENT

CURBED ROADWAY WITH RADIUS

DRIVEWAY, NON-RESIDENTIAL

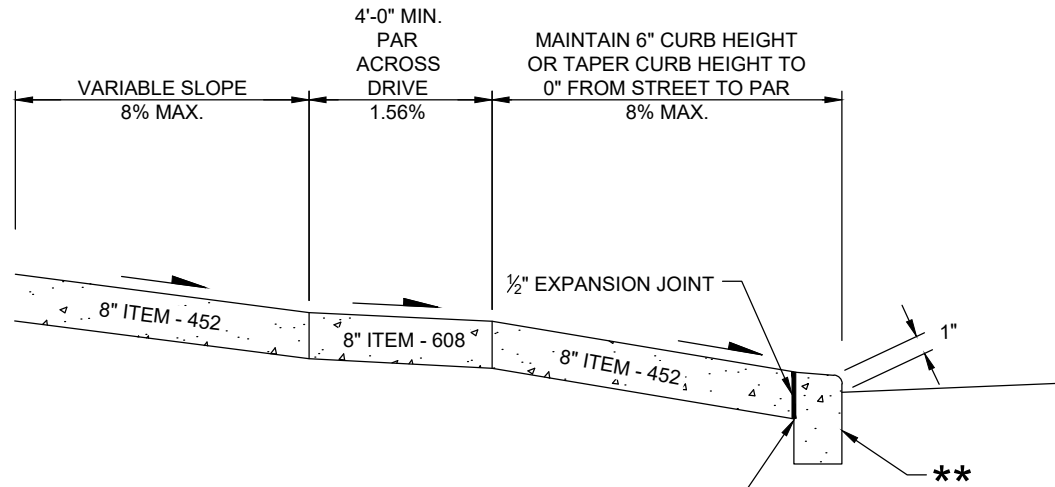
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2202

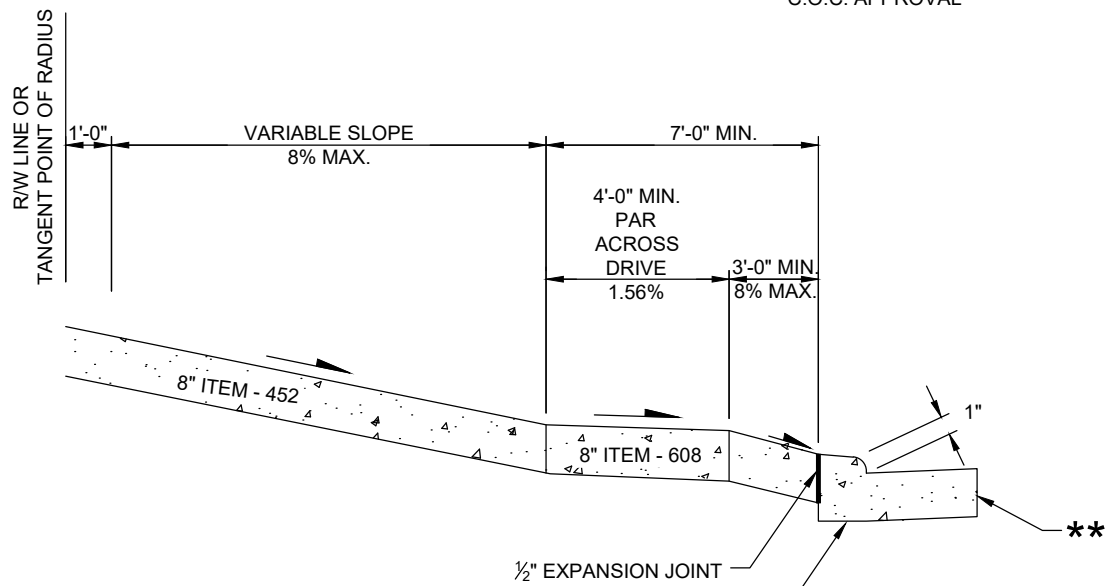
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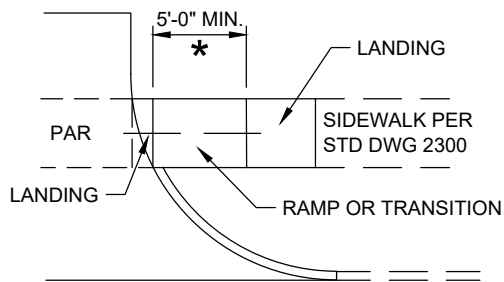
SECTION B-B WITH STRAIGHT CURB

ITEM 609 - CURB (DROP)
CONC. APPROACH MAY BE POURED
INTEGRAL WITH CURB WITH PRIOR
C.O.C. APPROVAL



**SECTION B-B WITH
CURB AND GUTTER**

ITEM 609 - CURB & GUTTER (DROP)



PAR = PEDESTRIAN ACCESS ROUTE. SET PAR
THROUGH APPROACH AT SIDEWALK GRADE TO
AVOID RAMP OR TRANSITION. IF NOT POSSIBLE,
THEN MINIMIZE TRANSITION FROM SIDEWALK TO
APPROACH.

* 8" ITEM - 608

** STRAIGHT CURB OR CONCRETE CURB & GUTTER.

CURBED ROADWAY WITH RADIUS

DRIVEWAY, NON-RESIDENTIAL

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FOR USE ON A NON-RESIDENTIAL PARCEL

DRIVE PAVEMENT (TYPE, RIGID)
ITEM 452 - 8" NON-REINFORCED PORTLAND
CEMENT CONCRETE

SIDEWALK SHALL BE PER STANDARD DRAWING 2300.
SIDEWALK THICKNESS SHALL BE 8" CONCRETE TO ONE FULL
PANEL (MIN. 5 FT.) BEYOND THE EDGE OF THE FULL WIDTH
SECTION OF THE DRIVE.

* PAR = PEDESTRIAN ACCESS ROUTE. SET PAR THROUGH
APPROACH AT SIDEWALK GRADE TO AVOID RAMP OR
TRANSITION. IF NOT POSSIBLE, THEN MINIMIZE TRANSITION
FROM SIDEWALK TO APPROACH.

WHEN CONDITIONS EXIST USE
THE FOLLOWING;
IF THE DISTANCE FROM THE
SIDEWALK TO THE EDGE OF
PAVEMENT IS:

- >5' ----- HOLD THE FLARE TO 45° AND
ADJUST THE WIDTH
ACCORDINGLY, MAINTAIN THE
MINIMUM 2' WIDE
PERPENDICULAR AREA OF
THE APPROACH
- 5'-7' --- MAINTAIN THE 5' MAXIMUM
FLARE WIDTH, VARY THE
ANGLE, AND MAINTAIN THE
MINIMUM 2' WIDE
PERPENDICULAR AREA OF
THE APPROACH
- >7' ----- DECREASE THE 45° ANGLE
(ADJUST ACCORDINGLY),
MAINTAIN THE MINIMUM 2'
WIDE PERPENDICULAR AREA
OF THE APPROACH

NON-CURBED ROADWAY WITH FLARES DRIVE PAVEMENT, RIGID

DRIVEWAY, NON- RESIDENTIAL

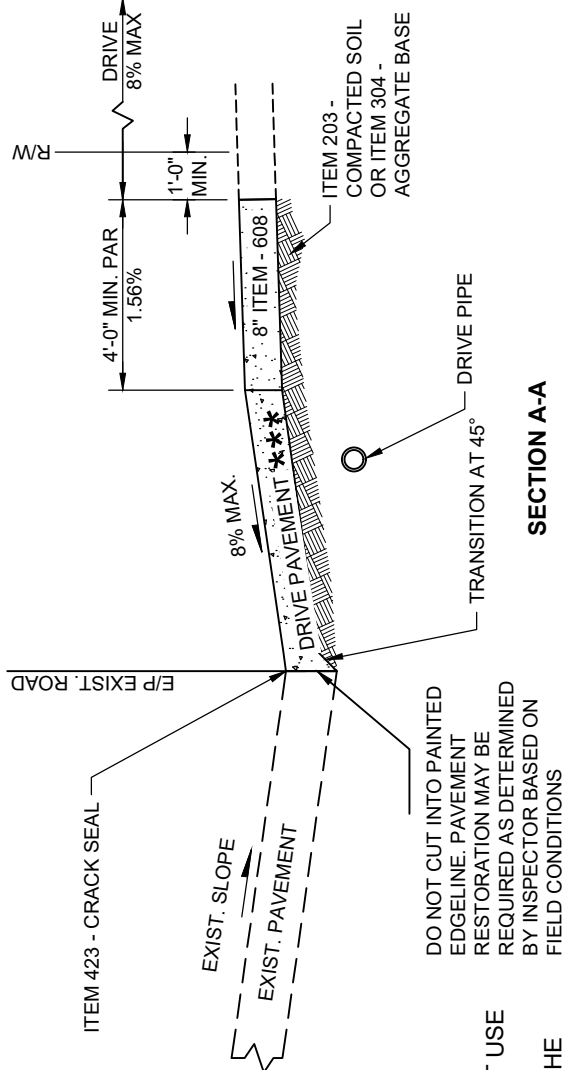
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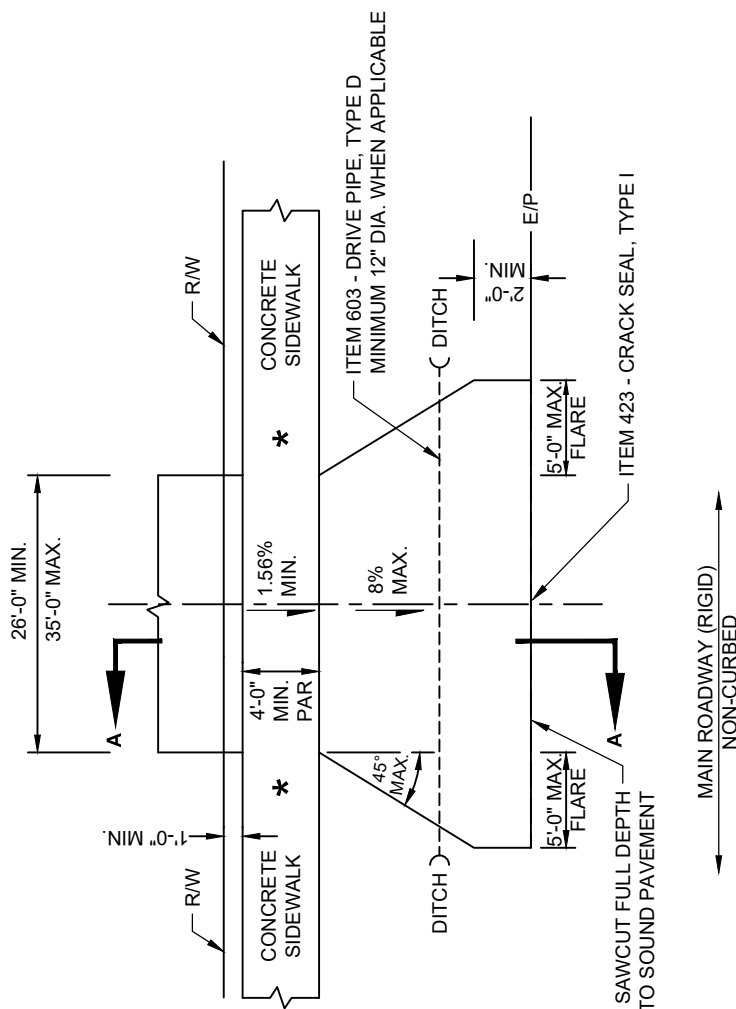
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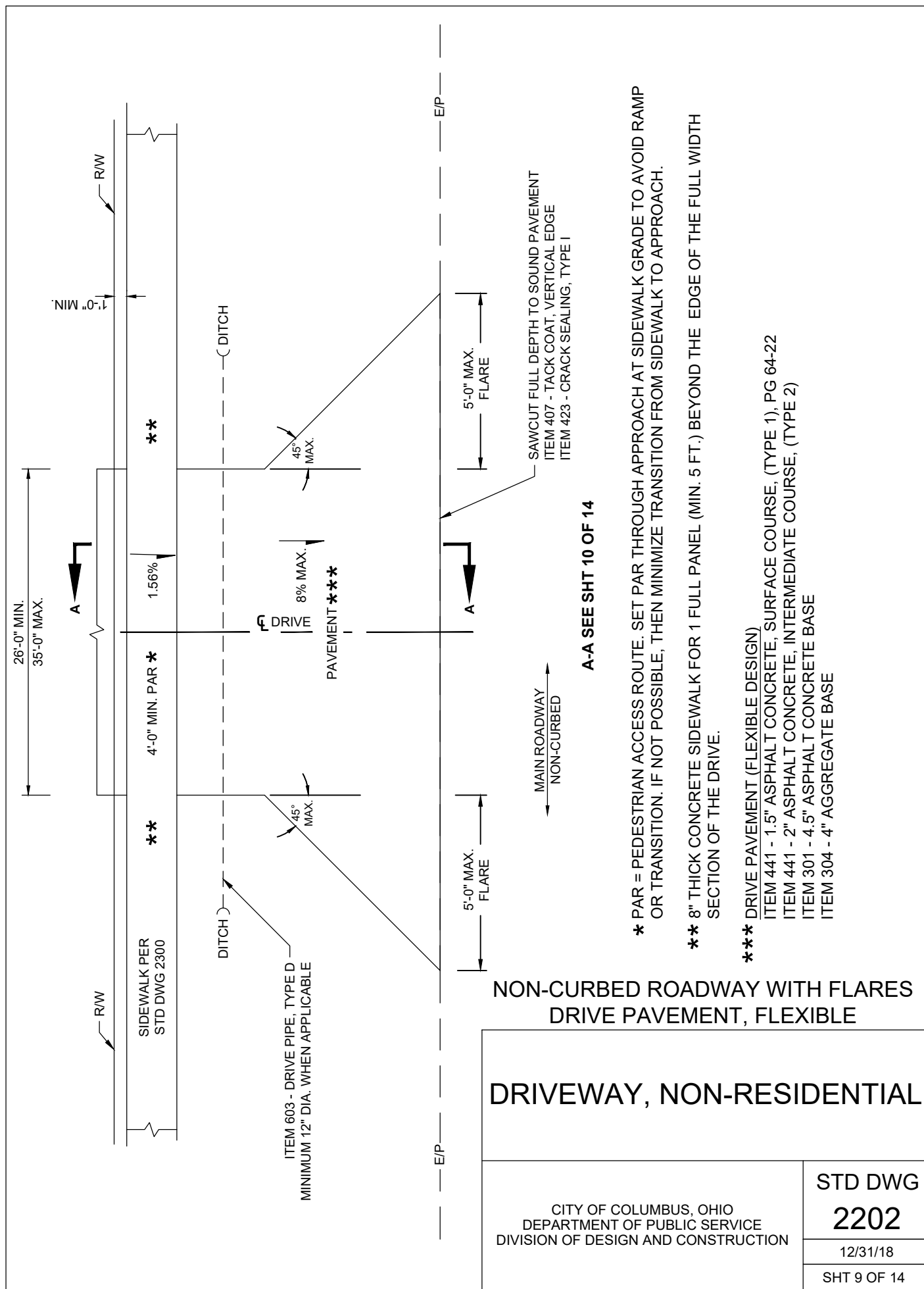
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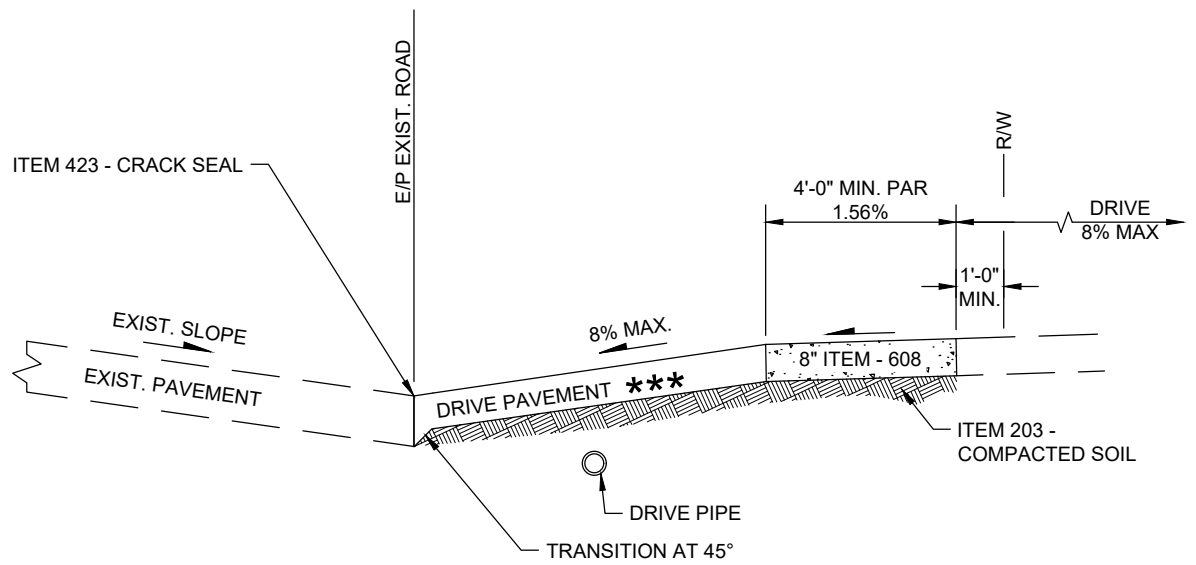
SHT 8 OF 14



SECTION A-A







SECTION A-A

**NON-CURBED ROADWAY WITH FLARES
DRIVE PAVEMENT, FLEXIBLE**

DRIVEWAY, NON-RESIDENTIAL

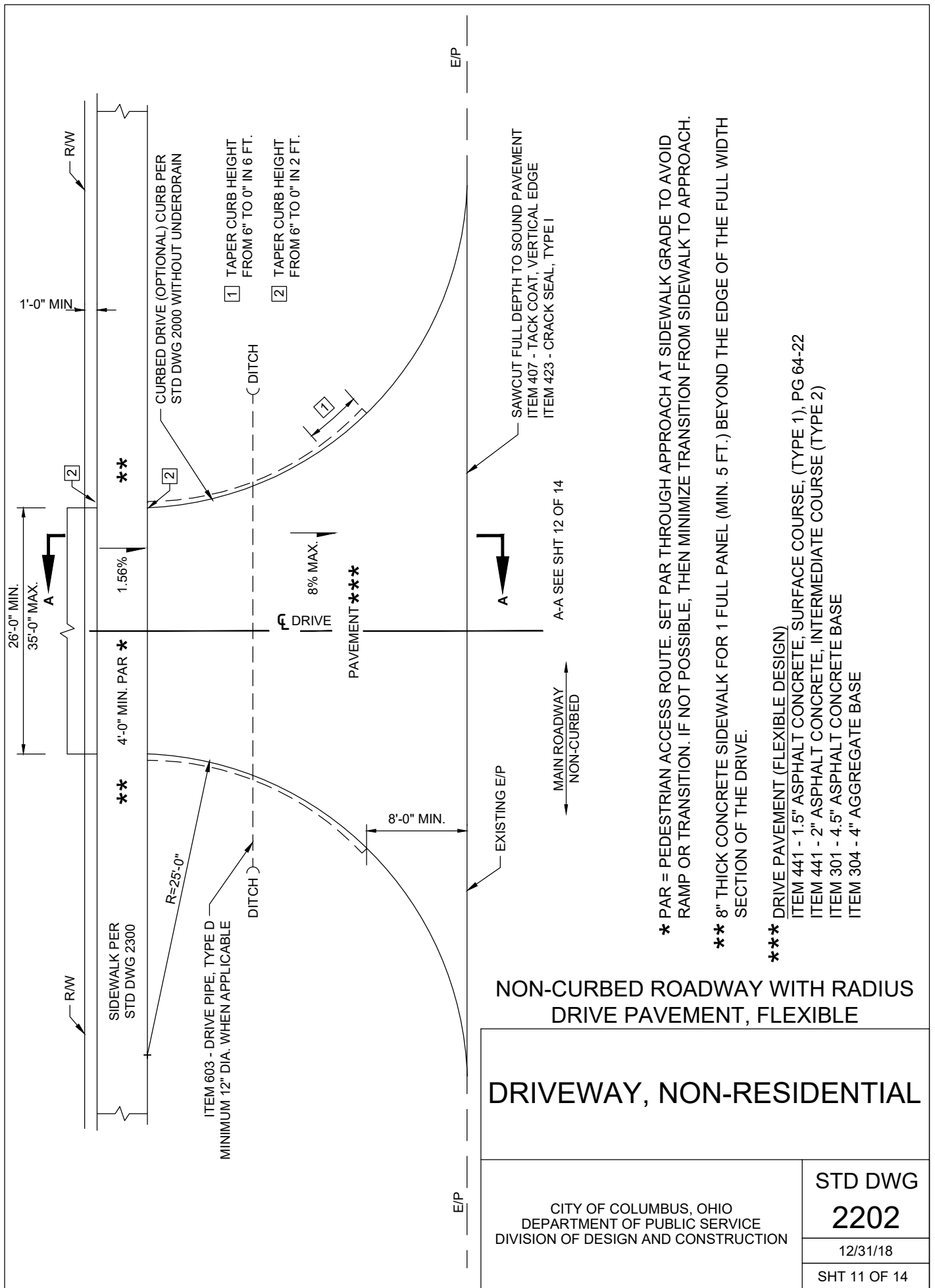
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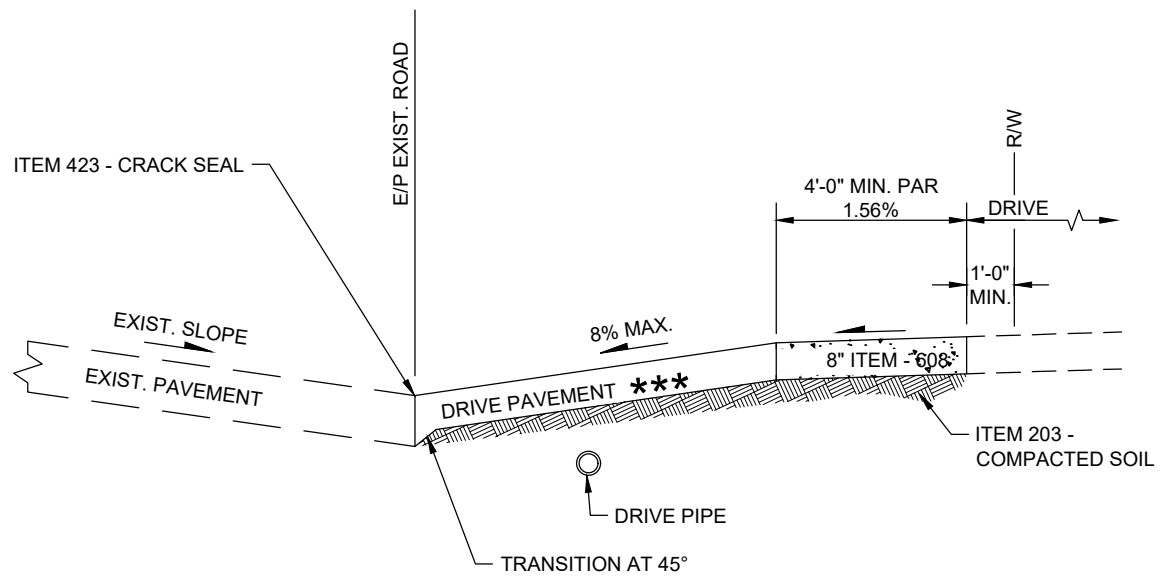
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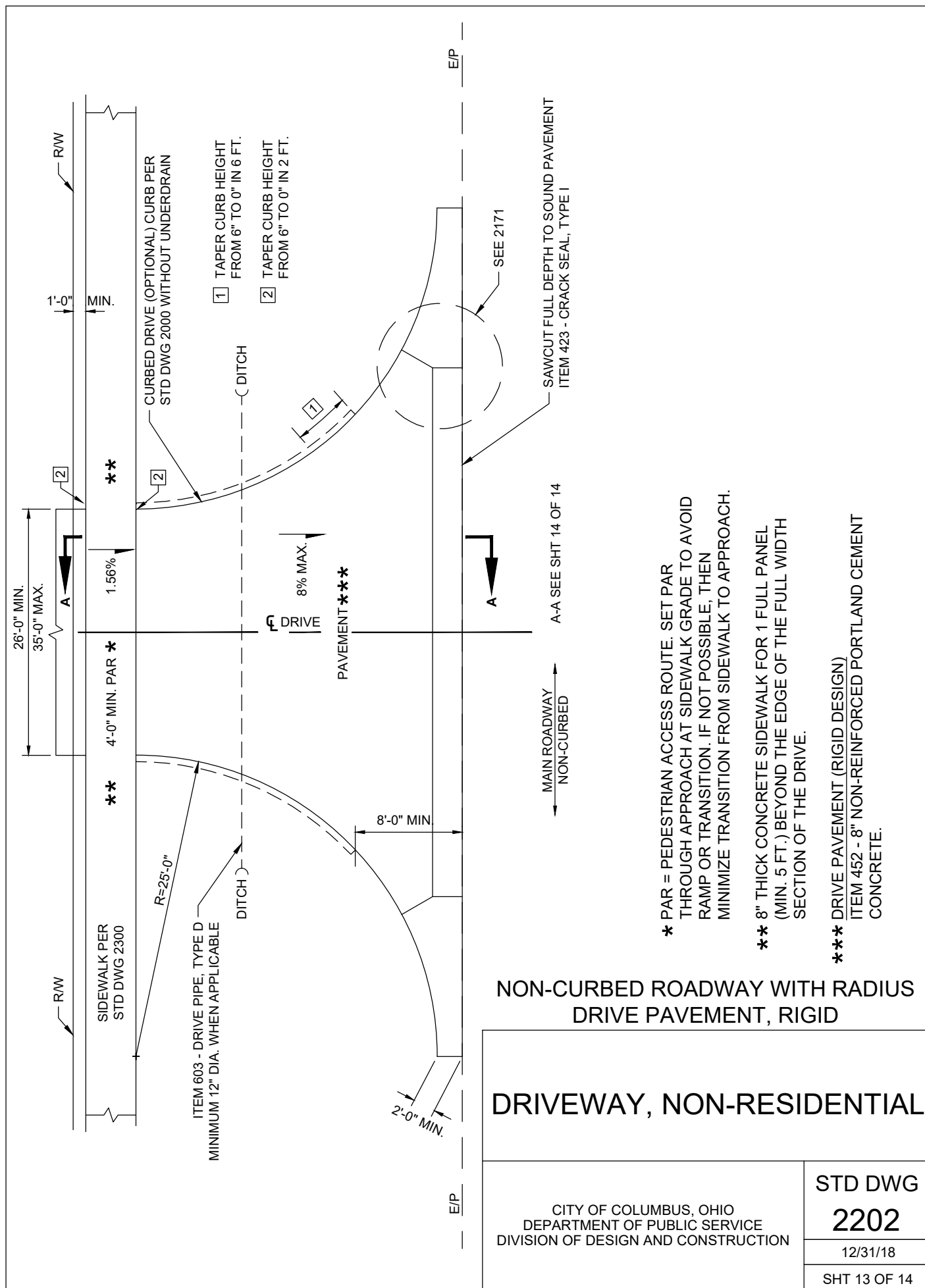
NON-CURBED ROADWAY WITH RADIUS, DRIVE PAVEMENT, FLEXIBLE

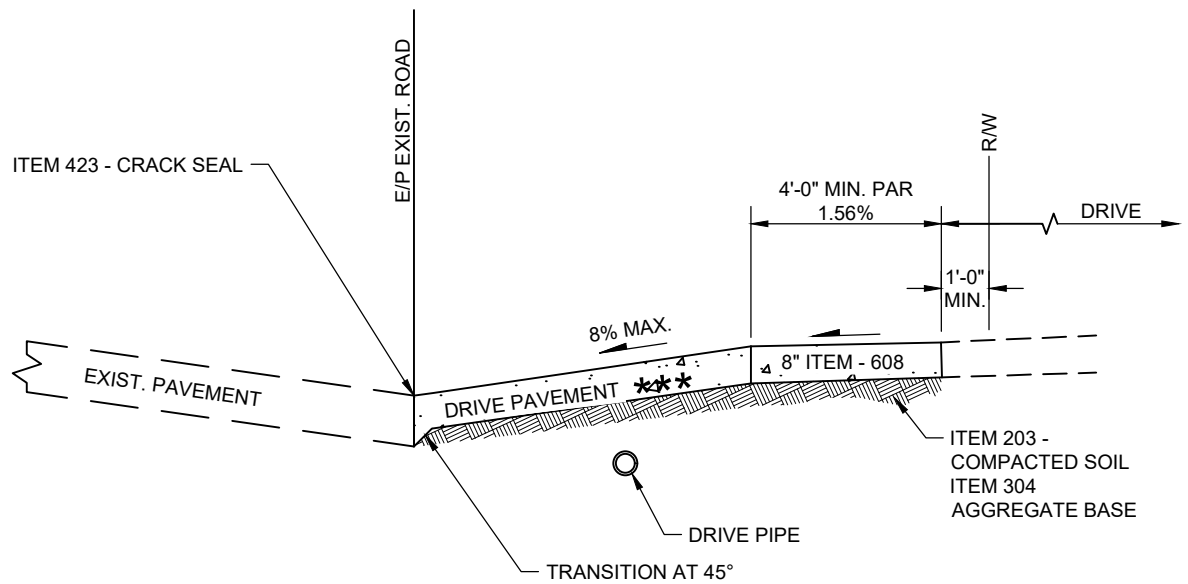
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SECTION A-A

**NON-CURBED ROADWAY WITH RADIUS
DRIVE PAVEMENT, RIGID**

DRIVEWAY, NON-RESIDENTIAL

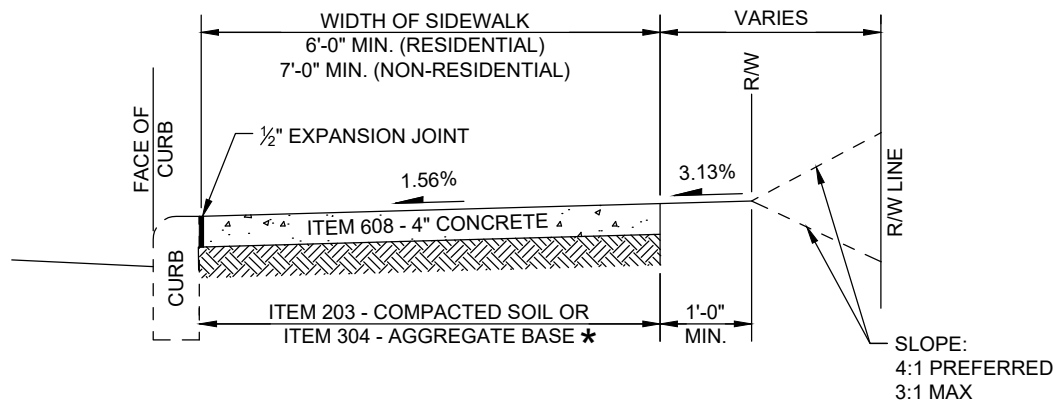
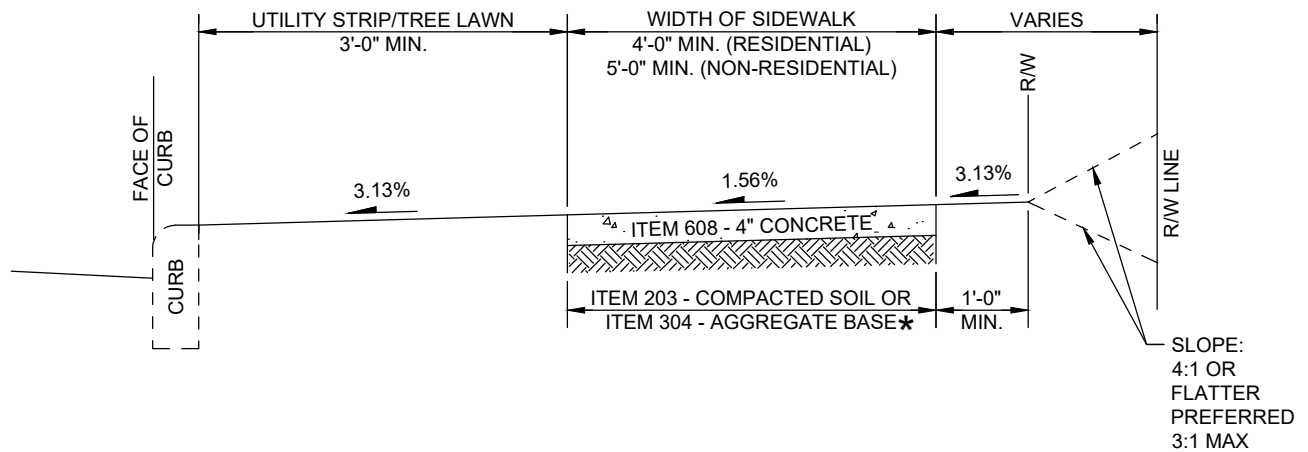
CITY OF COLUMBUS, OHIO
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WHERE SIDEWALKS ABUT DRIVEWAYS OR ALLEY APPROACHES, THE CONCRETE THICKNESS OF THE WALK SHALL EQUAL THE THICKNESS OF THE APPROACH (6" MINIMUM) FOR A DISTANCE OF ONE (1) FULL PANEL OR MINIMUM 5 FEET. SEE STANDARD DRAWING OF THE APPLICABLE DRIVEWAY OR ALLEY.

WHERE NEW WALK ABUTS ADJOINING WALK, SAWCUT EXISTING WALK TO NEAREST JOINT AND INSTALL EXPANSION JOINT.

EXPANSION JOINT LOCATION AND SPACING PER ITEM 608.03.

WATER AND UTILITY BOXES IN THE SIDEWALK AREA SHALL BE ADJUSTED FLUSH WITH FINAL SURFACE.

ROOF DRAINS SHALL BE EXTENDED UNDER THE SIDEWALK AND THROUGH THE CURB. SEE STD DWG 2320.

ITEM NUMBERS REFER TO THE CITY OF COLUMBUS CMSC, CURRENT EDITION. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THESE SPECIFICATIONS.

★ #57 AGGREGATE MAY BE USED FOR REPLACEMENT WORK.

SIDEWALK

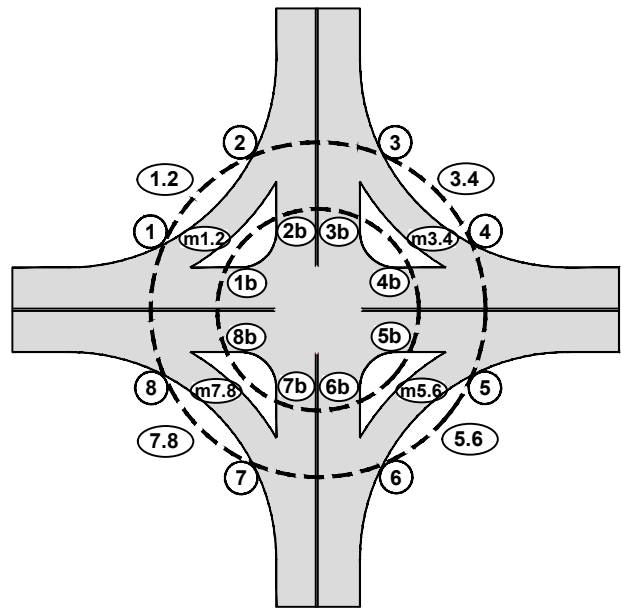
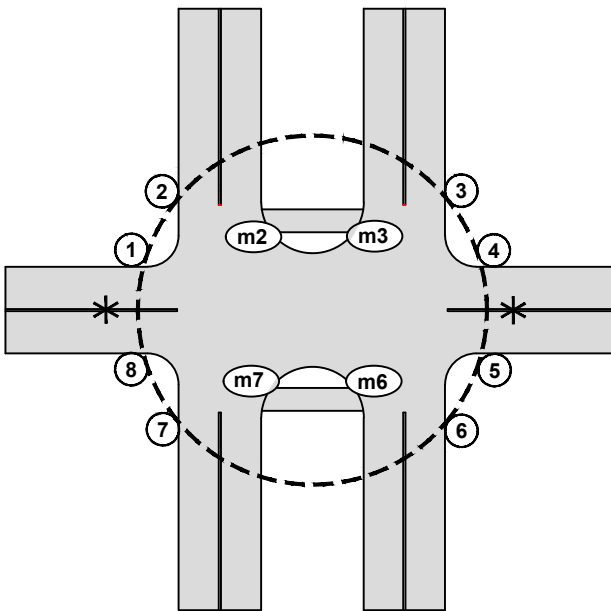
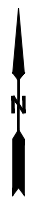
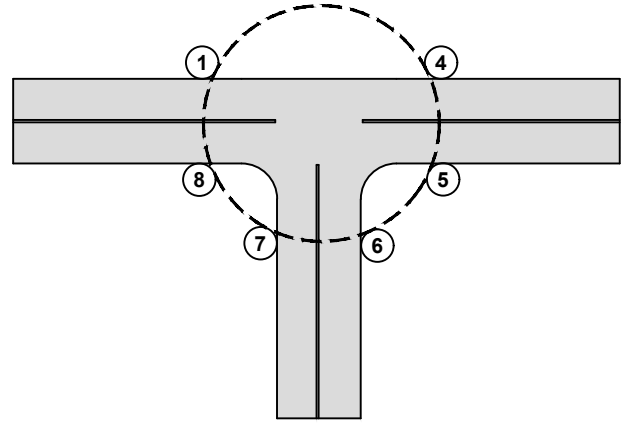
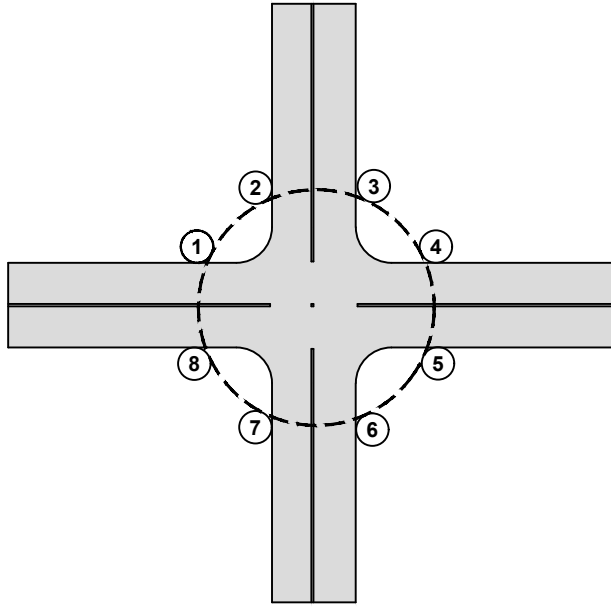
CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF DESIGN AND CONSTRUCTION

CITY ENGINEER

STD DWG
2300

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SHT 1 OF 1



ALL NUMBERING BEGINS FROM THE NORTHWEST CORNER AND GOES CLOCKWISE. EACH CORNER HAS ITS SPECIFIC NUMBER THAT SHALL BE USED IF CURB RAMPS ARE IN THESE LOCATIONS.

* MEDIAN RAMPS ON THE WEST AND/OR EAST LEGS WOULD BE M1, M8, AND M4, M5 RESPECTIVELY.

INTERSECTION CURB RAMP NUMBERING SYSTEM

CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF DESIGN AND CONSTRUCTION

STD DWG
2319

CITY ENGINEER

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SHT 1 OF 21

GENERAL NOTES, CURB RAMPS

1. CURB RAMPS SHALL BE INSTALLED PER STD DWGS 2300, 2319, CMSC 608, AND DPS ADA RULES AND REGULATIONS.
2. MATERIAL: THE RAMP PANEL AND FLARED SIDES SHALL BE CONCRETE.
3. RAMP TYPES ARE CATEGORIZED BELOW IN TIERS BY REQUIRED ORDER OF USE. LOCATING THE RAMP AS CLOSE AS POSSIBLE TO THE INTERSECTION FOLLOWING THE CURB RAMP DESIGN BOUNDARY CONTAINED IN THE ADA RULES AND REGULATIONS IS THE FIRST PRIORITY. THE DESIGNER SHALL NOT USE A LOWER TIERED RAMP WITHOUT FIRST DETERMINING AND HAVING JUSTIFICATION THAT THE UPPER TIER RAMPS ARE NOT CONSTRUCTIBLE.

CITY OF COLUMBUS RAMP TYPE HIERARCHY

TIER 1 (THESE PERPENDICULAR RAMPS SHOULD BE UTILIZED WHENEVER POSSIBLE.)

- TYPE D
- TYPE C
- TYPE A

TIER 2 (PARALLEL RAMPS SHOULD ONLY BE USED DUE TO RIGHT OF WAY (ROW) OR OTHER SPACE CONSTRAINTS WHERE A TIER 1 RAMP CANNOT BE USED.)

- TYPE P-6 (6' OF ROW AVAILABLE)
- TYPE P-7 (7' OF ROW AVAILABLE)
- TYPE P-5 (5' OF ROW AVAILABLE)
- TYPE P-4 (4' OF ROW AVAILABLE)

TIER 3 (TIER 3 RAMPS CAN ONLY BE USED WITH WRITTEN APPROVAL BY THE CITY ENGINEER OR DESIGNEE. TIER 3 RAMPS SHALL BE IDENTIFIED IN THE DESIGN SCOPE OR APPROVAL REQUESTED BY THE DESIGNER JUSTIFYING THAT THIS RAMP TYPE IS NECESSARY.)

- TYPE J (MODIFIED ALLEY RAMP), USE SHOULD BE LIMITED DUE TO DRAINAGE CONCERNS
- RADIAL RAMPS
- SINGLE SHARED RAMPS

SPECIALTY RAMPS (SHALL ONLY BE USED FOR THE LISTED SITUATION, OR WRITTEN APPROVAL BY THE CITY ENGINEER OR DESIGNEE.)

- TYPE G - ONLY TO BE USED ON ALLEY CROSSINGS
 - TYPE H - ONLY TO BE USED ON ALLEY CROSSINGS
 - TYPE L-1 - ONLY FOR MEDIAN CROSSINGS
 - TYPE L-2 - ONLY FOR MEDIAN CROSSINGS
 - PEDESTRIAN PADS - USED FOR ACCESS TO PUSHBUTTONS WHERE THERE IS NO EXISTING SIDEWALK. THE INTENT IS TO PROVIDE ACCESS TO CROSS THE INTERSECTION IN BOTH DIRECTIONS WITHOUT ENTERING THE STREET TO ACCESS TO OTHER CROSSING. THE FOLLOWING IS THE ORDER OF PREFERENCE ON PEDESTRIAN PADS:
 1. PP-1 TWO CONNECTED RAMPS WITH UTILITY STRIP
 2. PP-2 TWO CONNECTED RAMPS WITH SIDEWALK AGAINST CURB
 3. PP-3 USED AS SINGLE SHARED RAMP THAT CAN ACCESS BOTH CROSSWALK LEGS AND THE PUSHBUTTON
 4. PP-3 USED TO ONLY ACCESS THE LEG OF THE INTERSECTION CONTROLLED BY THE PUSHBUTTON
4. RAMP RUNNING SLOPE: THE RUNNING SLOPE SHALL BE NO GREATER THAN 7.69%.
 5. ALL JOINTS BETWEEN NEW AND EXISTING MATERIALS SHALL BE FLUSH.
 6. LANDINGS:
 - LANDINGS SHALL HAVE A MAXIMUM 1.56% SLOPE IN ALL DIRECTIONS FOR ALL CURB RAMP TYPES.
 - A PARALLEL RAMP, CONSTRAINED ON TWO (2) SIDES, E.G., TYPE P-7, SHALL HAVE A LANDING 5-FT WIDE BY 5-FT DEEP A PARALLEL RAMP, CONSTRAINED ON ONE (1) SIDE, E.G., TYPES P-4, 5, & 6, SHALL HAVE A LANDING NO LESS THAN 4-FT MINIMUM BY 5-FT. THE 5-FT DIMENSION SHALL BE PROVIDED AS SHOWN IN THESE STANDARD DRAWINGS.

CURB RAMP GENERAL NOTES

CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF DESIGN AND CONSTRUCTION

STD DWG

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- ALL PERPENDICULAR RAMPS SHALL HAVE A LANDING NO LESS THAN 4-FT MINIMUM BY 4-FT. A PERPENDICULAR RAMP THAT IS CONSTRAINED AT THE BACK OF SIDEWALK SHALL HAVE A LANDING 4-FT BY 5-FT. THE 5-FT DIMENSION SHALL BE PROVIDED IN THE DIRECTION OF RAMP RUN, AS SHOWN IN THESE STANDARD DRAWINGS.
 - LANDING AT INTERSECTING SIDEWALKS - WHEREVER SIDEWALKS INTERSECT, THERE SHALL BE A LANDING.
7. STREET COUNTER SLOPE: THE COUNTER SLOPE AT THE BASE OF THE RAMP SHALL BE A MAXIMUM OF 5% FOR A MINIMUM OF 2-FT.
 8. CLEAR SPACE: AT MARKED CROSSINGS THE RAMP AND STREET CLEAR SPACE MUST BE FULLY CONTAINED WITHIN THE MARKED CROSSWALK. AT UNMARKED CROSSINGS THE RAMP AND CLEAR MUST BE WITHIN THE CURB RAMP DESIGN BOUNDARY.
 9. SURFACES: RAMP, FLARE, AND LANDING SURFACES MUST BE STABLE AND SLIP RESISTANT. RAMPS SHALL BE BROOM FINISHED, TRANSVERSE TO THE DIRECTION OF TRAVEL. GRATINGS, VALVE BOXES, AND UTILITY BOXES SHALL NOT BE LOCATED IN THE RAMP OR LANDING.
 10. DETECTABLE WARNINGS: DETECTABLE WARNINGS SHALL BE INSTALLED ACCORDING TO THESE STANDARD DRAWINGS, CMSC 608, AND DPS ADA RULES AND REGULATIONS.
 11. CURB WALLS MAY BE NECESSARY FOR CURB RAMP CONSTRUCTION WHERE SPACE RESTRICTION DO NOT ALLOW FOR GRADING WITHIN ROW AT A 3:1 SLOPE OR FLATTER. THE MAXIMUM HEIGHT OF 6" THICK, NON-REINFORCED CURB WALL IS 12" ABOVE THE SIDEWALK SURFACE. THE BURIED PORTION OF THE NON-REINFORCED CURB WALL SHALL BE EQUAL TO THE EXPOSED REVEAL. RETAINING EMBANKMENT TO A HEIGHT OF MORE THAN 12" ABOVE THE SIDEWALK WILL REQUIRE A DESIGNED RETAINING WALL OR CELLULAR WALL.
 12. RAMPS MUST BE CONSTRUCTED TO ALLOW FOR POSITIVE DRAINAGE. THE RAMP ITSELF SHALL NOT HOLD EXCESS WATER AND THE ADJACENT PAVEMENT SHALL NOT BE ALTERED TO INHIBIT FLOW OF WATER. IF AN EXISTING CONSTRAINT PREVENTS BUILDING THE RAMP AND ADJACENT AREA WITH POSITIVE DRAINAGE IT MUST BE BROUGHT TO THE CITY'S ATTENTION PRIOR TO CONSTRUCTION AND FINAL DESIGN APPROVED BY THE CITY.

CURB RAMP GENERAL NOTES

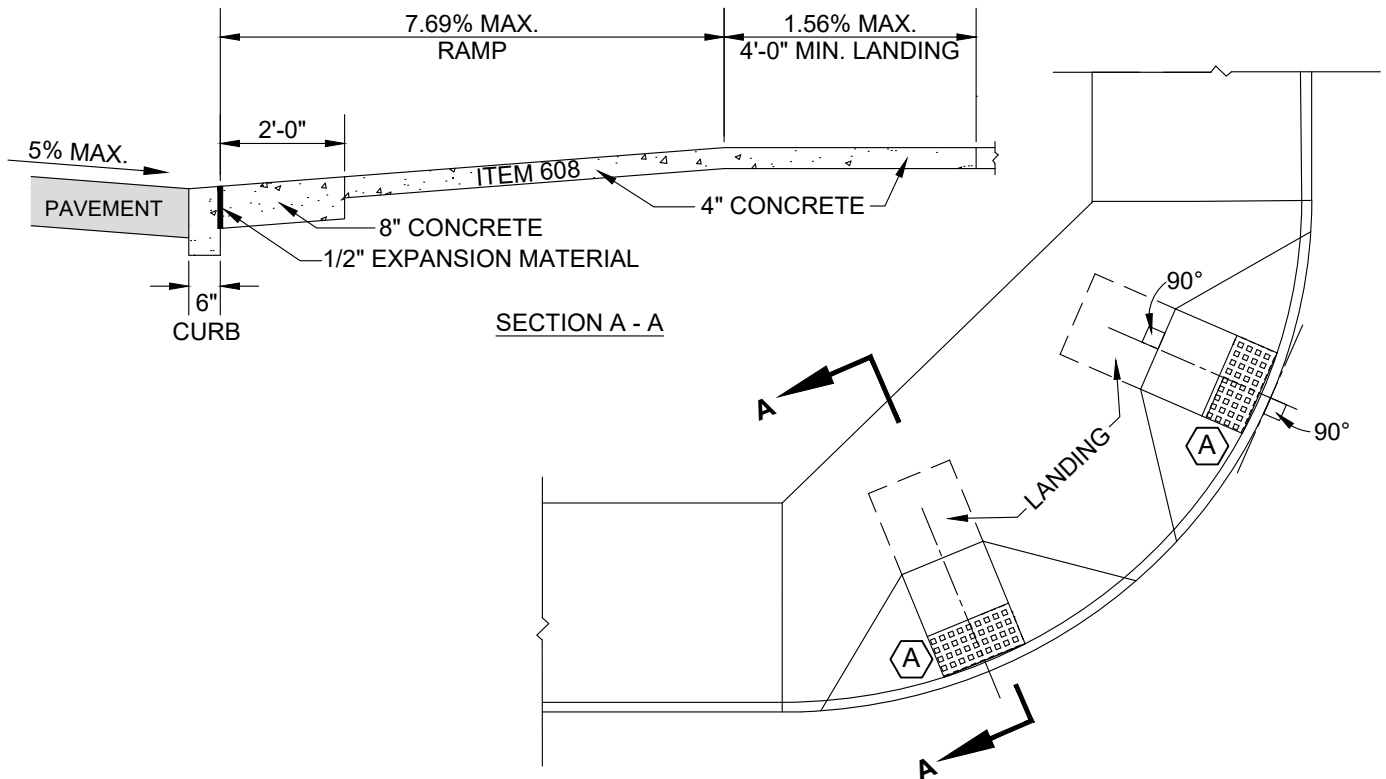
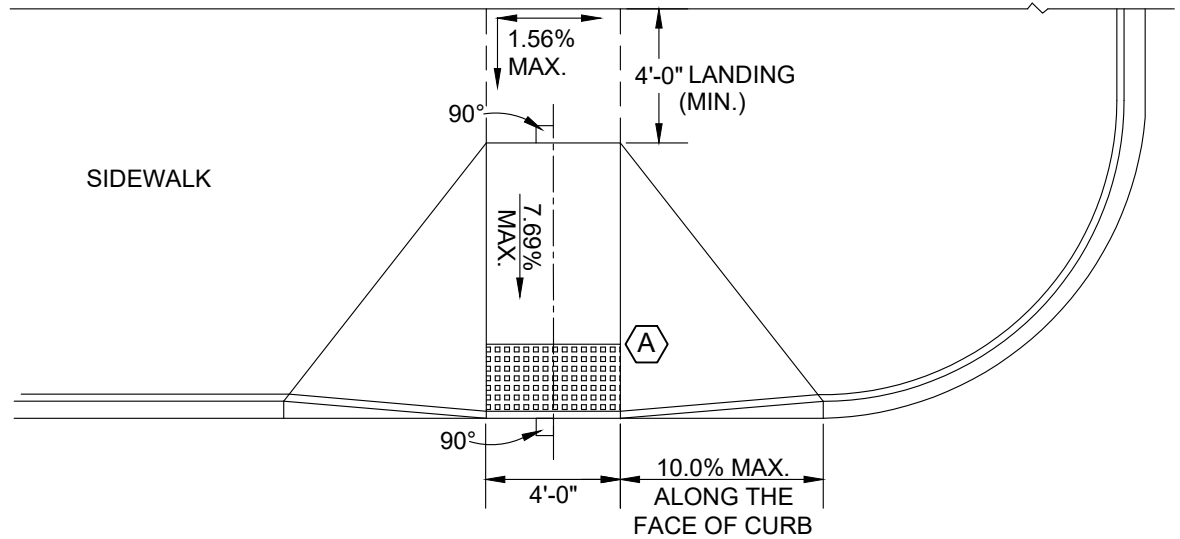
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CODING NOTES:

(A) SEE SHEET 21 FOR DETECTABLE WARNING DETAILS

GENERAL NOTES:

1. SEE SHEET 2 FOR ADDITIONAL DETAILED INFORMATION.

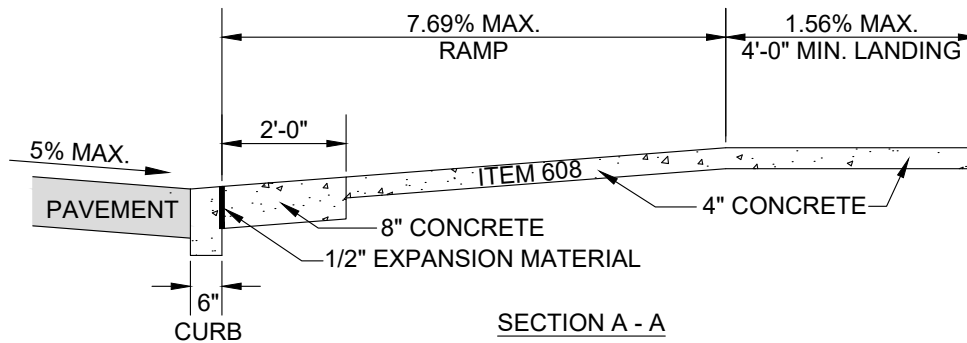
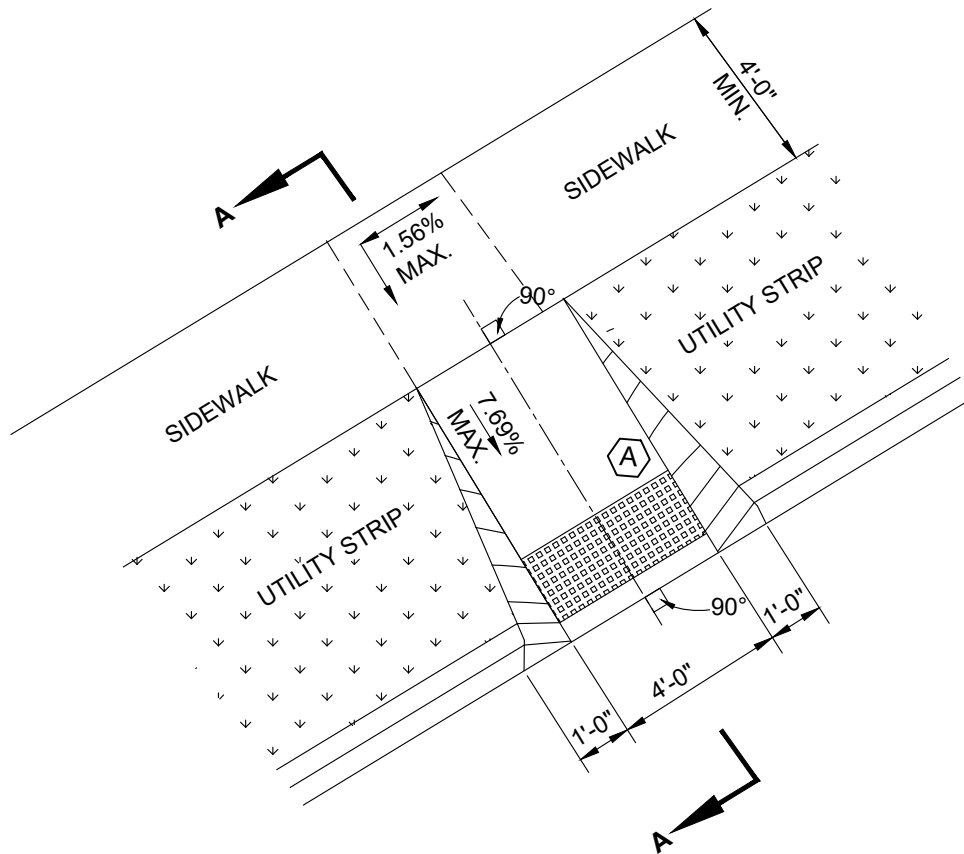
CURB RAMP TYPE A

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CODING NOTES:

(A) SEE SHEET 21 FOR DETECTABLE WARNING DETAILS

GENERAL NOTES:

1. SEE SHEET 2 FOR ADDITIONAL DETAILED INFORMATION.

CURB RAMP TYPE C

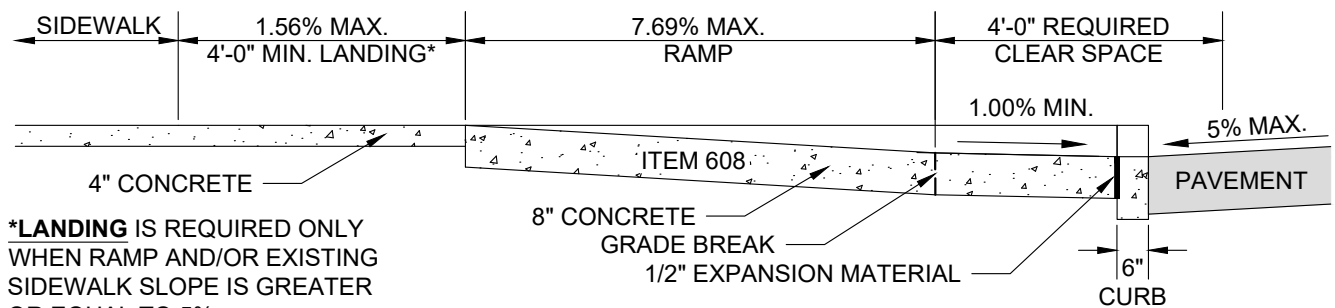
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STD DWG

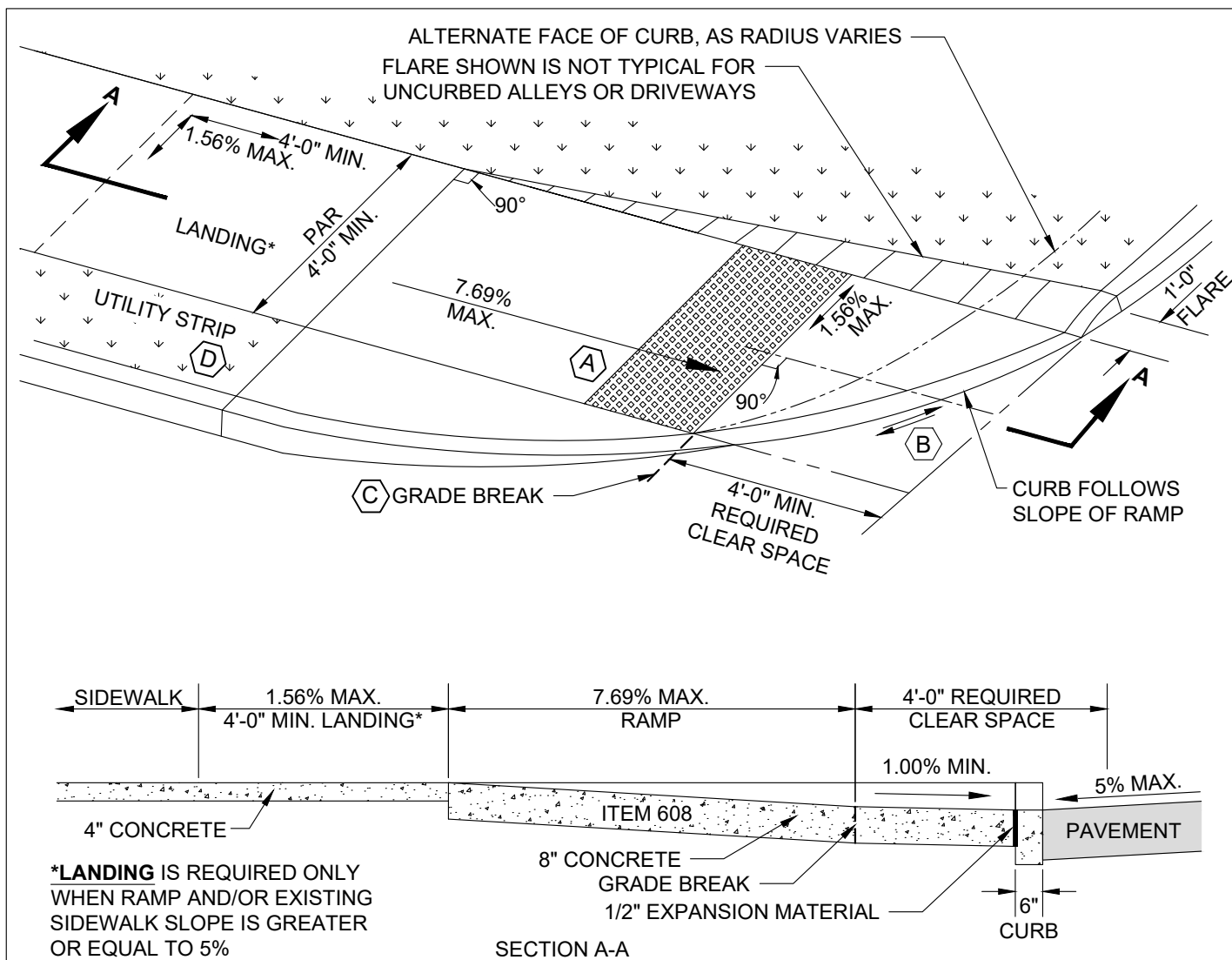
2319

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CODED NOTES:

- (A) SEE SHEET 21 FOR DETECTABLE WARNING DETAILS
- (B) PROVIDE POSITIVE DRAINAGE ALONG CURBLINE, SHOULD BE 1.00% MINIMUM SLOPE
- (C) WHERE THE DISTANCE FROM EITHER END OF THE BOTTOM OF THE GRADE BREAK TO THE BACK OF CURB IS GREATER THAN 5-FT, THE DETECTABLE WARNING SHALL BE PLACED AT THE BACK OF CURB
- (D) FOR THE LENGTH OF THE RAMP, THE UTILITY STRIP MAY BE REMOVED AND REPLACED WITH 8" CONCRETE (ITEM 608), PROVIDED THE UTILITY STRIP IS NO WIDER THAN 2-FT

GENERAL NOTES:

1. SEE SHEET 2 FOR ADDITIONAL DETAILED INFORMATION.
2. THE EDGE OF THE CURB WITHIN THE CLEAR SPACE SHALL BE FLUSH WITH THE EDGE OF THE ADJACENT PAVEMENT AND GUTTER.

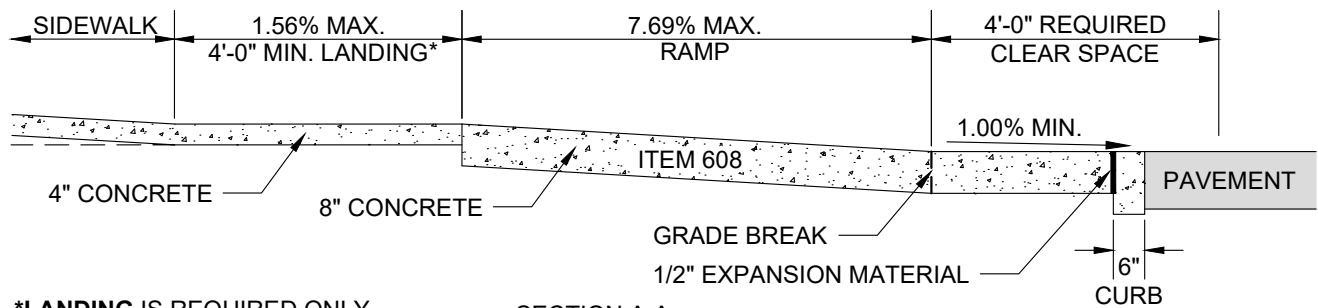
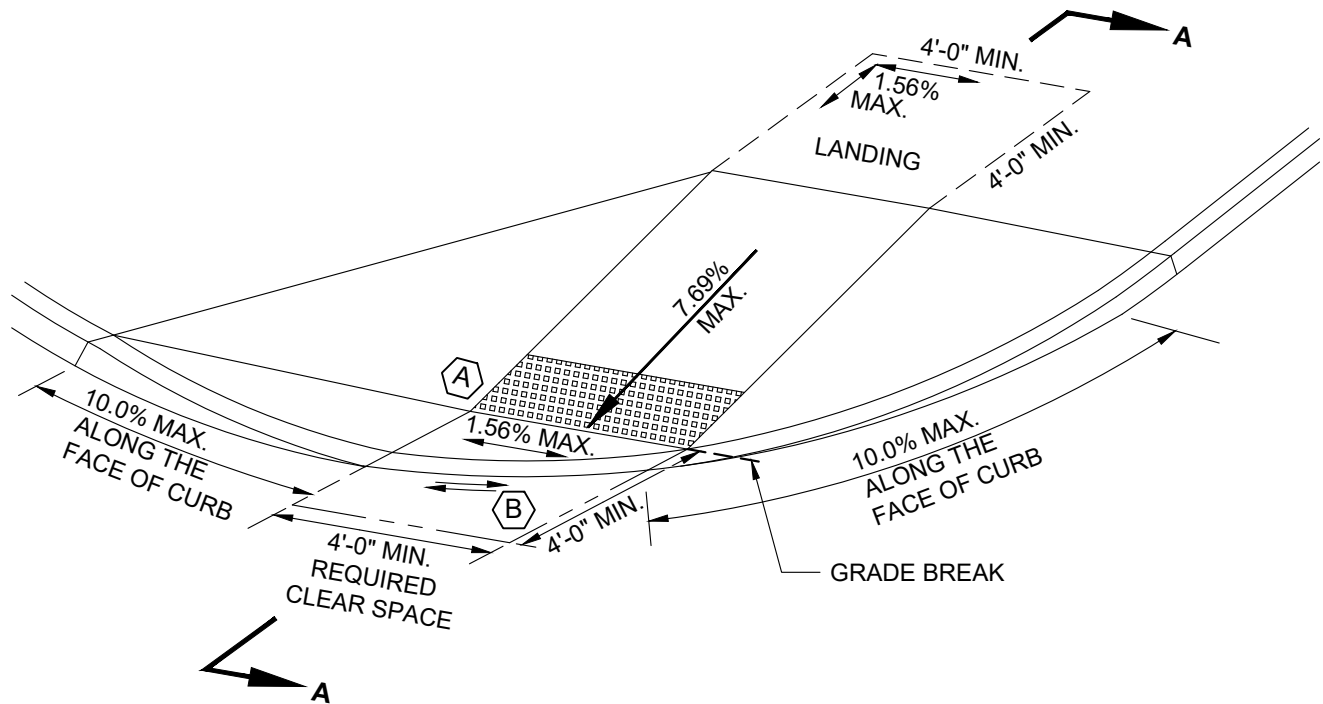
CURB RAMP TYPE H

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***LANDING** IS REQUIRED ONLY WHEN RAMP AND/OR EXISTING SIDEWALK SLOPE IS GREATER OR EQUAL TO 5%

SECTION A-A

CODED NOTES:

- (A) SEE SHEET 21 FOR DETECTABLE WARNING DETAILS
- (B) PROVIDE POSITIVE DRAINAGE ALONG CURBLINE, SHOULD BE 1.00% MINIMUM SLOPE

GENERAL NOTES:

1. SEE SHEET 2 FOR ADDITIONAL DETAILED INFORMATION.
2. THE EDGE OF THE CURB WITHIN THE CLEAR SPACE SHALL BE FLUSH WITH THE EDGE OF THE ADJACENT PAVEMENT AND GUTTER.

CURB RAMP TYPE J

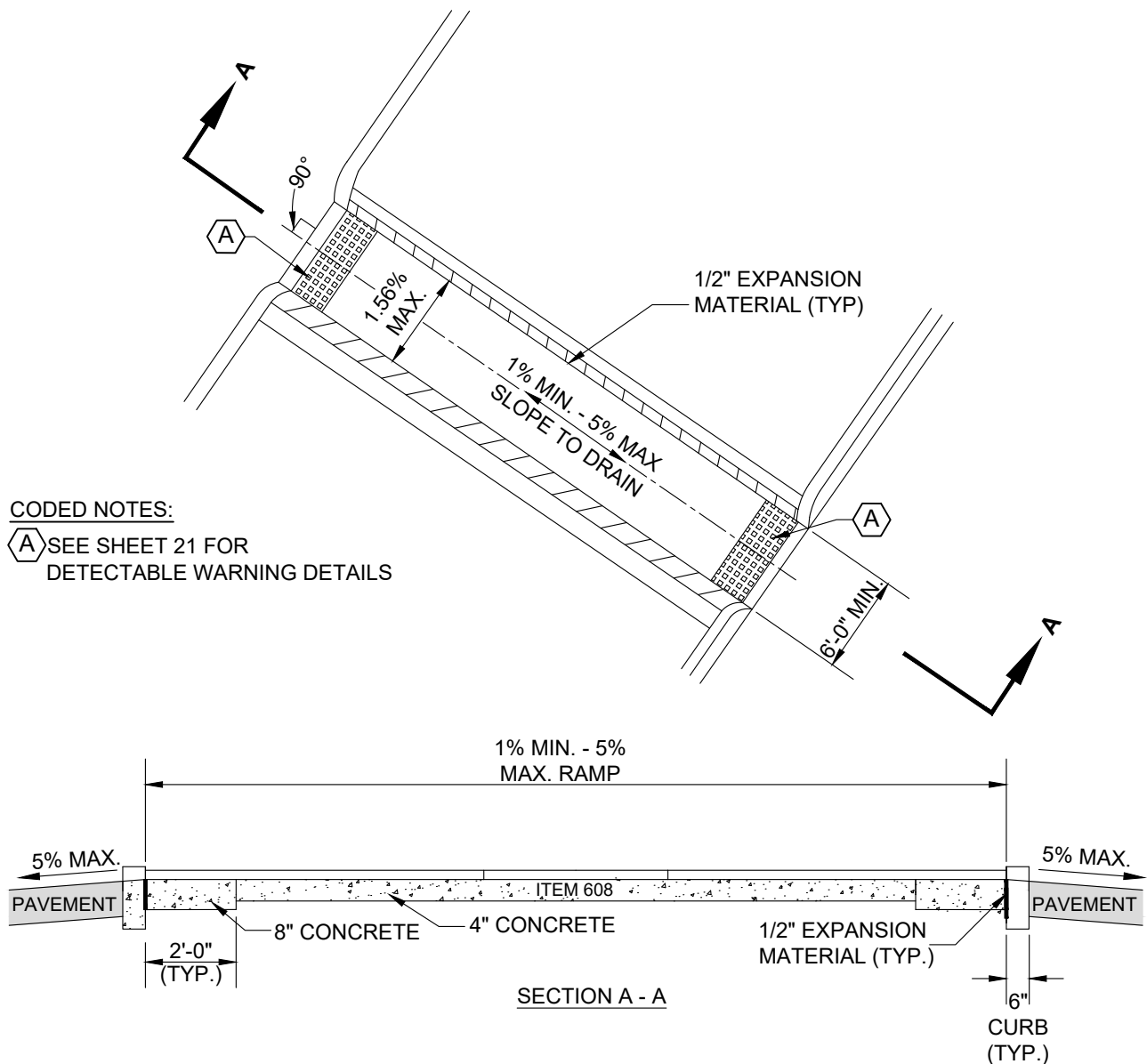
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GENERAL NOTES:

1. SEE SHEET 2 FOR ADDITIONAL DETAILED INFORMATION.
2. RAMP L-1 SHALL BE USED IN ALL CIRCUMSTANCES WHERE NOT PROHIBITED BY DRAINAGE ISSUES. AN L-1 RAMP SHOULD NOT BE PLACED IN A WAY THAT WOULD CONVEY THE CURB FLOW OF WATER THROUGH THE MEDIAN PASSTHROUGH. WHERE THE ROADWAY CROSS-SLOPE DIRECTS WATER TOWARDS THE MEDIAN AND FLOWS THROUGH THE GUTTER LINE ADJACENT TO THE PASSTHROUGH, USE AN L-2 RAMP.
3. MEDIANS / ISLANDS WITHIN COMMERCIAL DRIVES REQUIRE DETECTABLE WARNINGS ONLY WHEN OPPOSING CURB RAMPS REQUIRE DETECTABLE WARNINGS. (SEE SHEET 21 OF 21, NOTE 1)

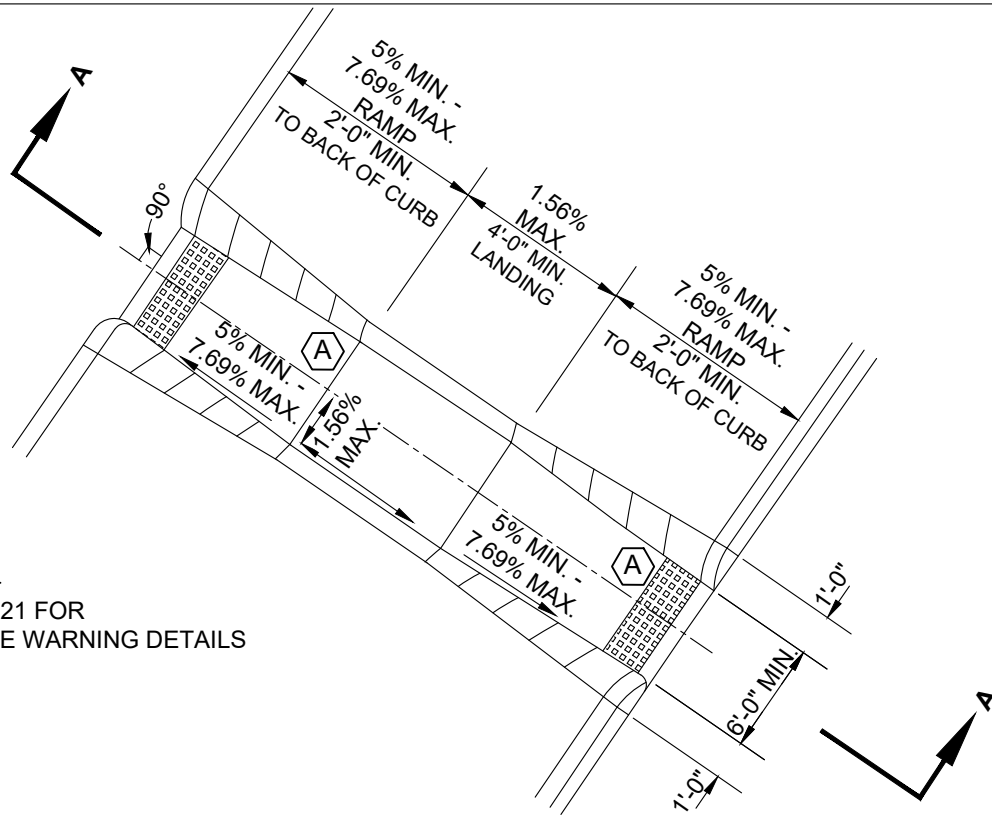
CURB RAMP TYPE L-1

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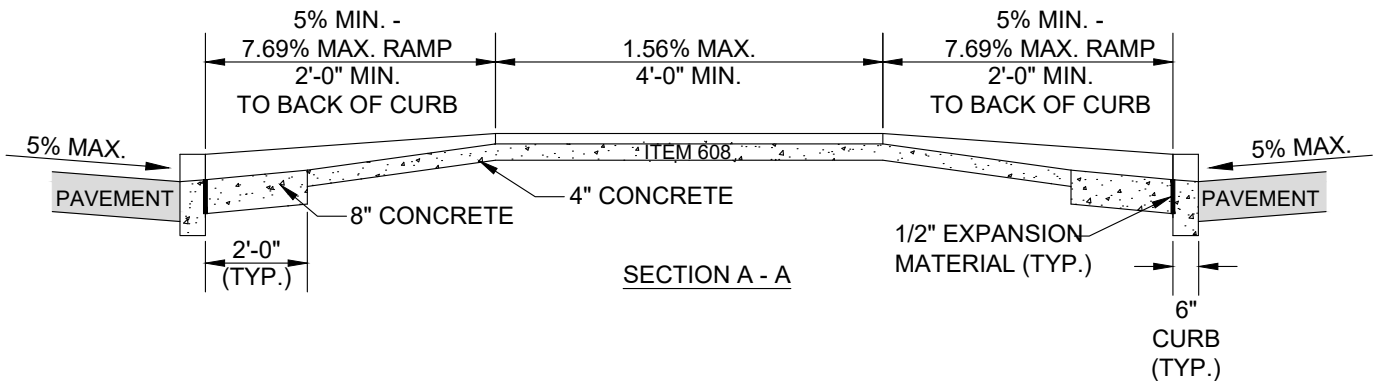
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CODING NOTES:

A SEE SHEET 21 FOR
DETECTABLE WARNING DETAILS



GENERAL NOTES:

1. SEE SHEET 2 FOR ADDITIONAL DETAILED INFORMATION.
2. MEDIANS / ISLANDS WITHIN COMMERCIAL DRIVES REQUIRE DETECTABLE WARNINGS ONLY WHEN OPPOSING CURB RAMPS REQUIRE DETECTABLE WARNINGS. (SEE SHEET 21 OF 21, NOTE 1).
3. TYPE L-2 RAMPS ARE ONLY TO BE INSTALLED WHEN IT IS NOT POSSIBLE TO INSTALL A TYPE L-1 RAMP DUE TO DRAINAGE ISSUES.
4. TYPE L-2 RAMPS CAN ONLY BE USED ON MEDIANS 8 FEET WIDE OR MORE.

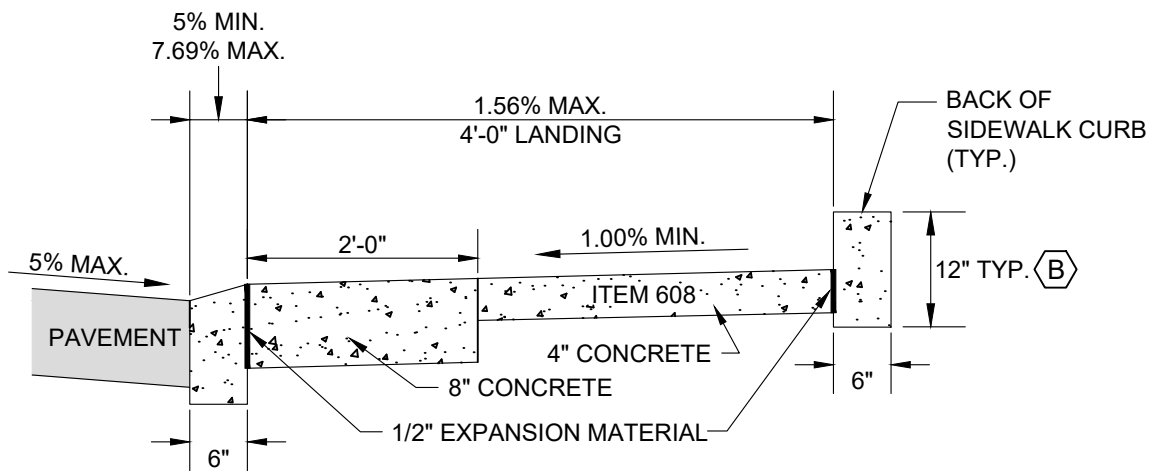
CURB RAMP TYPE L-2

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DIVISION OF DESIGN AND CONSTRUCTION

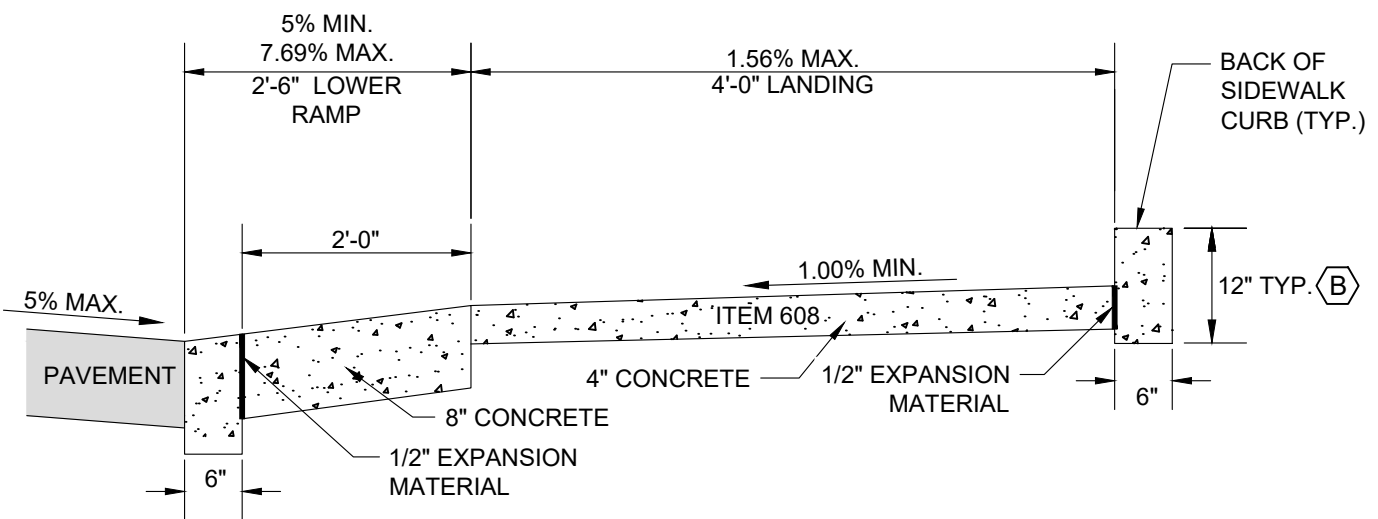
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SHT 12 OF 21



SECTION A-A

CODED NOTES:

- (A)** SEE SHEET 21 FOR DETECTABLE WARNING DETAILS
- (B)** EXPOSED REVEAL MUST EQUAL BURIED DEPTH;
12" MAXIMUM REVEAL; FOR ADDITIONAL DETAILS
SEE CURB WALL SPECIFICATION

GENERAL NOTES:

1. SEE SHEET 2 FOR ADDITIONAL DETAILED INFORMATION.

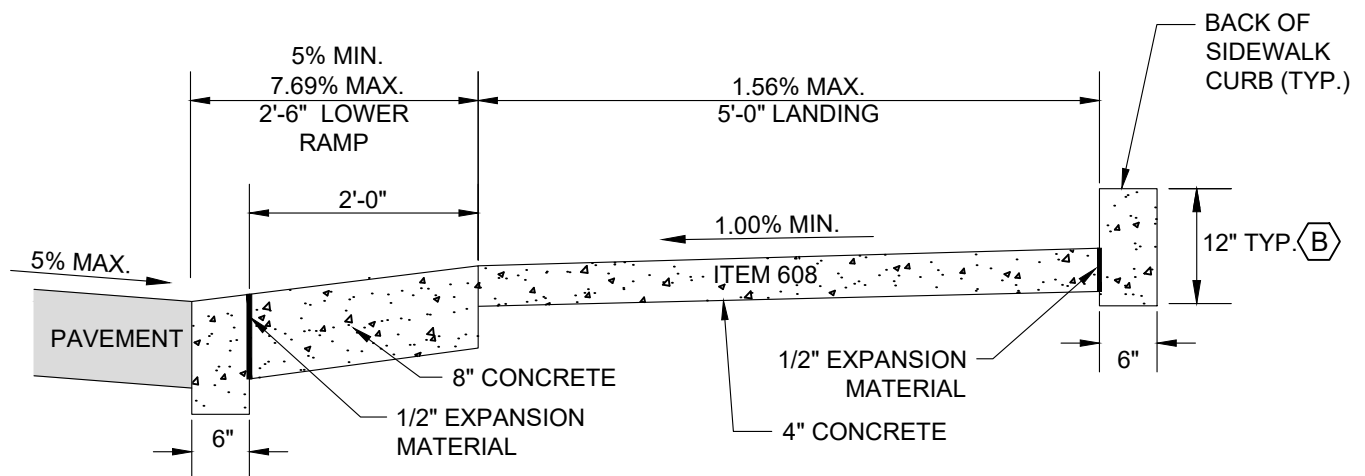
CURB RAMP TYPE P-6

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SECTION A-A

CODED NOTES:

- (A)** SEE SHEET 21 FOR DETECTABLE WARNING DETAILS
- (B)** EXPOSED REVEAL MUST BE EQUAL BURIED DEPTH;
12" MAXIMUM REVEAL; FOR ADDITIONAL DETAILS
SEE CURB WALL SPECIFICATION

GENERAL NOTES:

1. SEE SHEET 2 FOR ADDITIONAL DETAILED INFORMATION.

CURB RAMP TYPE P-7

CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC SERVICE
TRANSPORTATION DIVISION

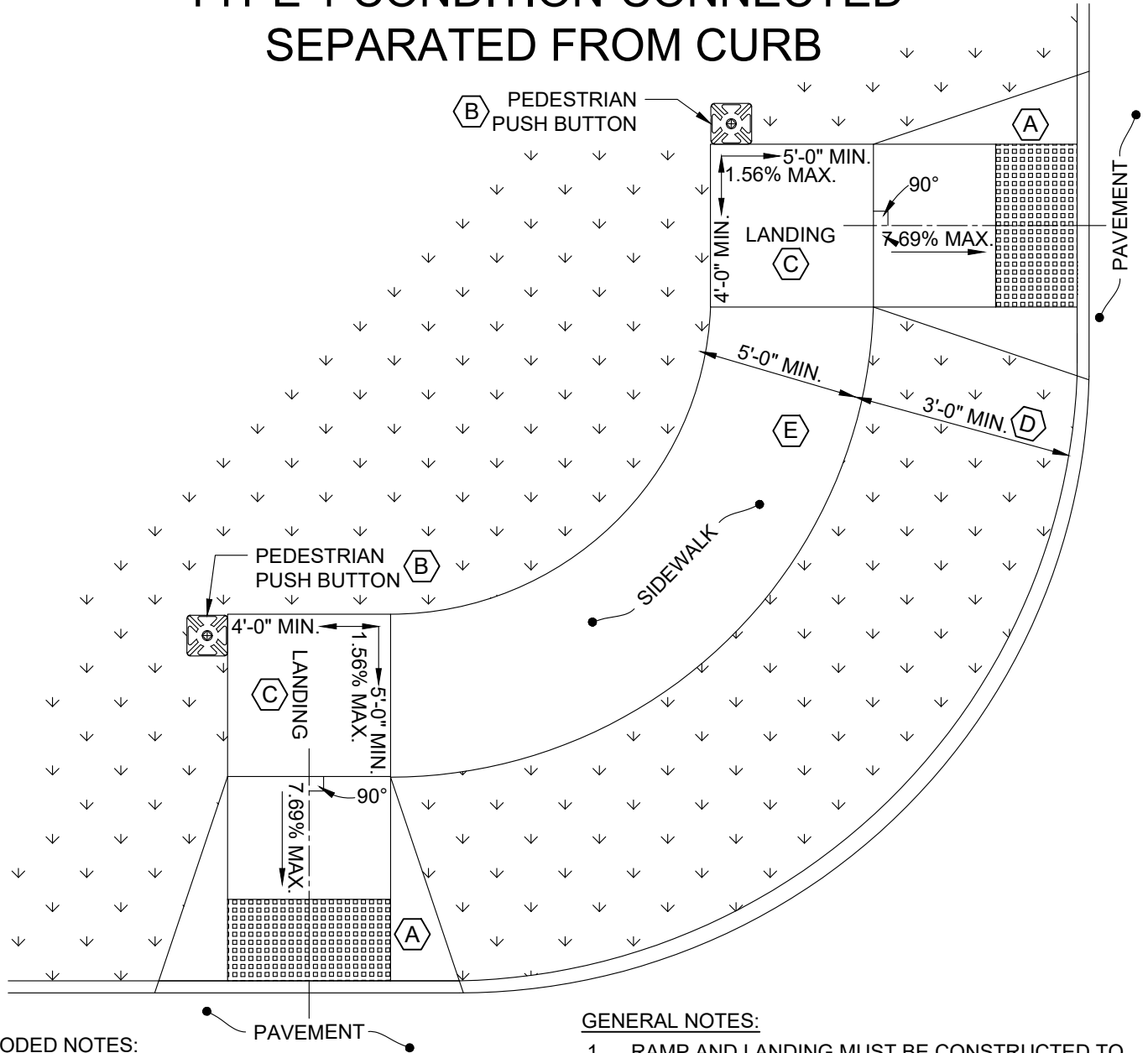
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PEDESTRIAN PAD (PP) TYPE 1 CONDITION-CONNECTED SEPARATED FROM CURB



CODED NOTES:

- (A)** USE 1-FT FLARES ON CURBED ROADWAY. ON UNCURBED ROADWAY RAMP SHALL BE CONSTRUCTED WITHOUT FLARES, SEE STANDARD DRAWING FOR DETECTABLE WARNING PLACEMENT DETAILS. THE FRONT TWO FEET OF THE RAMP AND FLARES SHALL BE CONSTRUCTED USING CONCRETE 8" THICK AND TRANSITIONING TO 4" CONCRETE FURTHER THAN 2 FEET FROM THE BACK OF THE CURB
- (B)** ORIENTATION/LOCATION OF PUSH BUTTON/PEDESTAL TO BE PER POLICY
- (C)** LANDING SHALL BE 5-FT BY 5-FT WHEN SURROUNDED BY CURB WALL, AND THE PEDESTRIAN PUSH BUTTON SHALL BE INTEGRAL WITH THE CURB WALL
- (D)** IF UTILITY STRIP IS LESS THAN 3-FT, SIDEWALK SHALL BE CONSTRUCTED ADJACENT TO CURB, SEE PP-2
- (E)** SIDEWALK WIDTH AND LANDING DEPTH MAY BE REDUCED TO 4' DUE TO CONSTRAINTS.

GENERAL NOTES:

1. RAMP AND LANDING MUST BE CONSTRUCTED TO DRAIN, TYPICALLY TOWARDS THE ROADWAY, BUT MAY VARY BASED ON EXISTING TOPOGRAPHY. WEEP HOLES ARE NOT PERMITTED FOR DRAINAGE.
2. SEE SHEET 2 FOR ADDITIONAL DETAILED INFORMATION.

CURB RAMP TYPE PP-1

CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF DESIGN AND CONSTRUCTION

STD DWG
2319

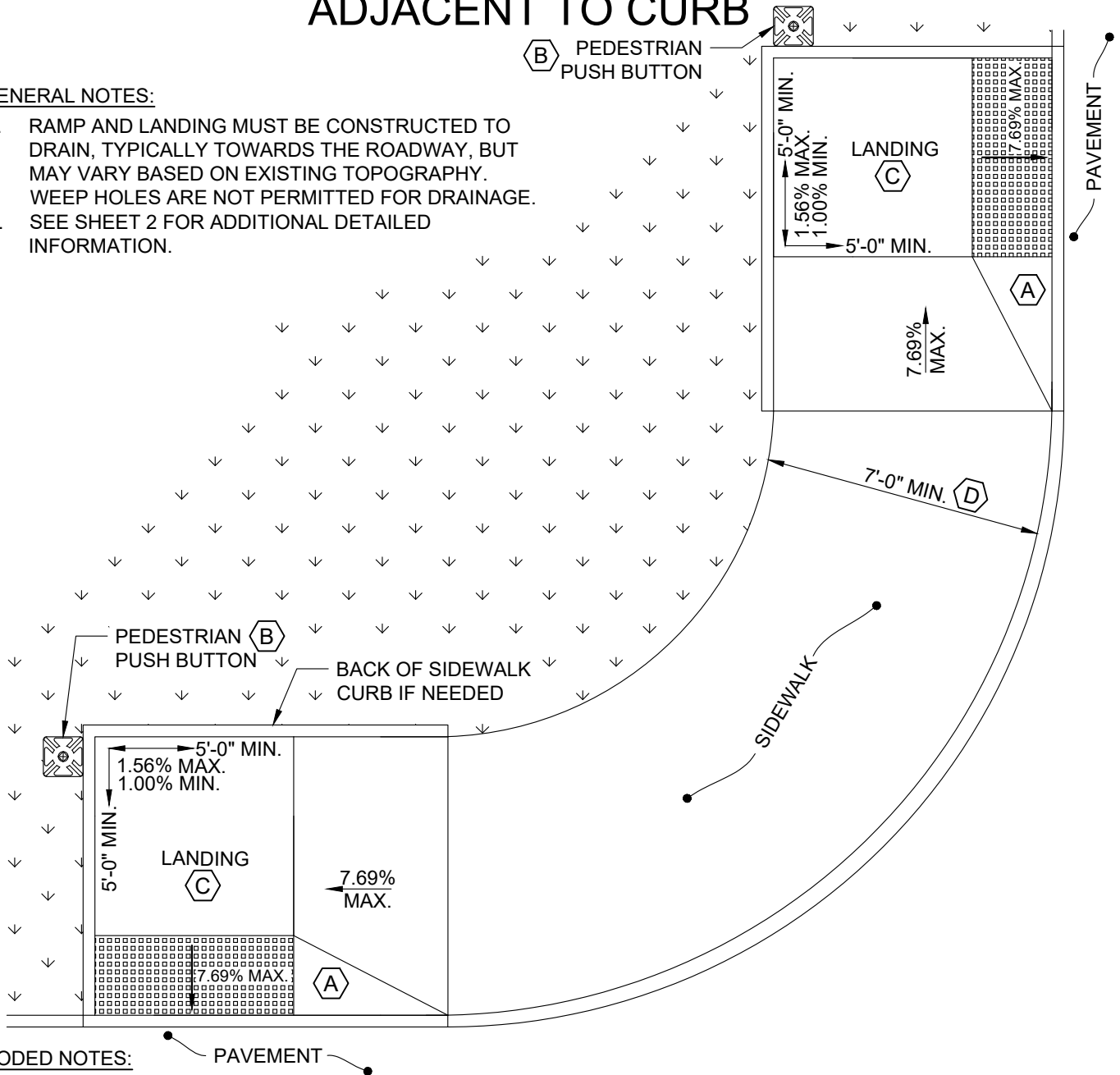
3/30/2018

SHT 16 OF 21

PEDESTRIAN PAD (PP) TYPE 2 CONDITION-CONNECTED ADJACENT TO CURB

GENERAL NOTES:

1. RAMP AND LANDING MUST BE CONSTRUCTED TO DRAIN, TYPICALLY TOWARDS THE ROADWAY, BUT MAY VARY BASED ON EXISTING TOPOGRAPHY. WEEP HOLES ARE NOT PERMITTED FOR DRAINAGE.
2. SEE SHEET 2 FOR ADDITIONAL DETAILED INFORMATION.



CODED NOTES:

- (A) SEE SHEET 21 FOR DETECTABLE WARNING DETAILS. THE FRONT TWO FEET OF THE RAMP AND FLARES SHALL BE CONSTRUCTED USING CONCRETE 8" THICK AND TRANSITIONING TO 4" CONCRETE FURTHER THAN 2 FEET FROM THE BACK OF THE CURB
- (B) ORIENTATION/LOCATION OF PUSH BUTTON/PEDESTAL TO BE PER POLICY
- (C) WIDTH OF THE RAMP AND LANDING MAY BE REDUCED TO 4-FT WHERE NO CURB WALL IS PRESENT
- (D) SIDEWALK WIDTH MAY BE REDUCED TO 5-FT MIN. WHEN CONSTRAINED. SEE RAMP TYPE P-4, SECTION A-A FOR RAMP AND LANDING

CURB RAMP TYPE PP-2

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DIVISION OF DESIGN AND CONSTRUCTION

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2319

3/30/2018

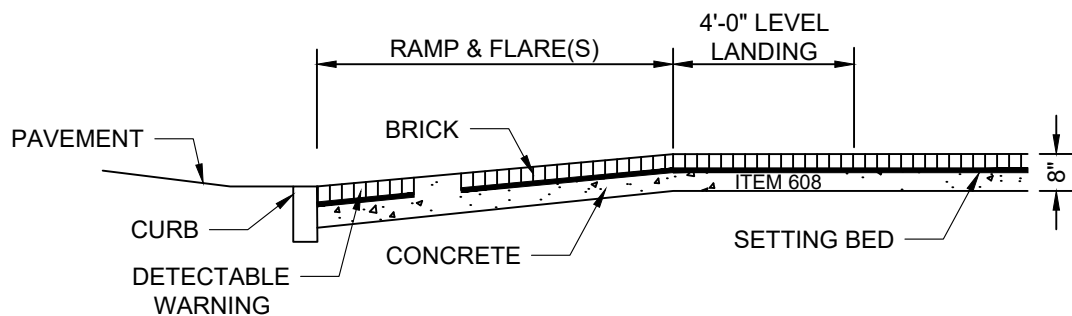
SHT 17 OF 21

Diagram illustrating the layout and dimensions of a pedestrian landing area at a curb.

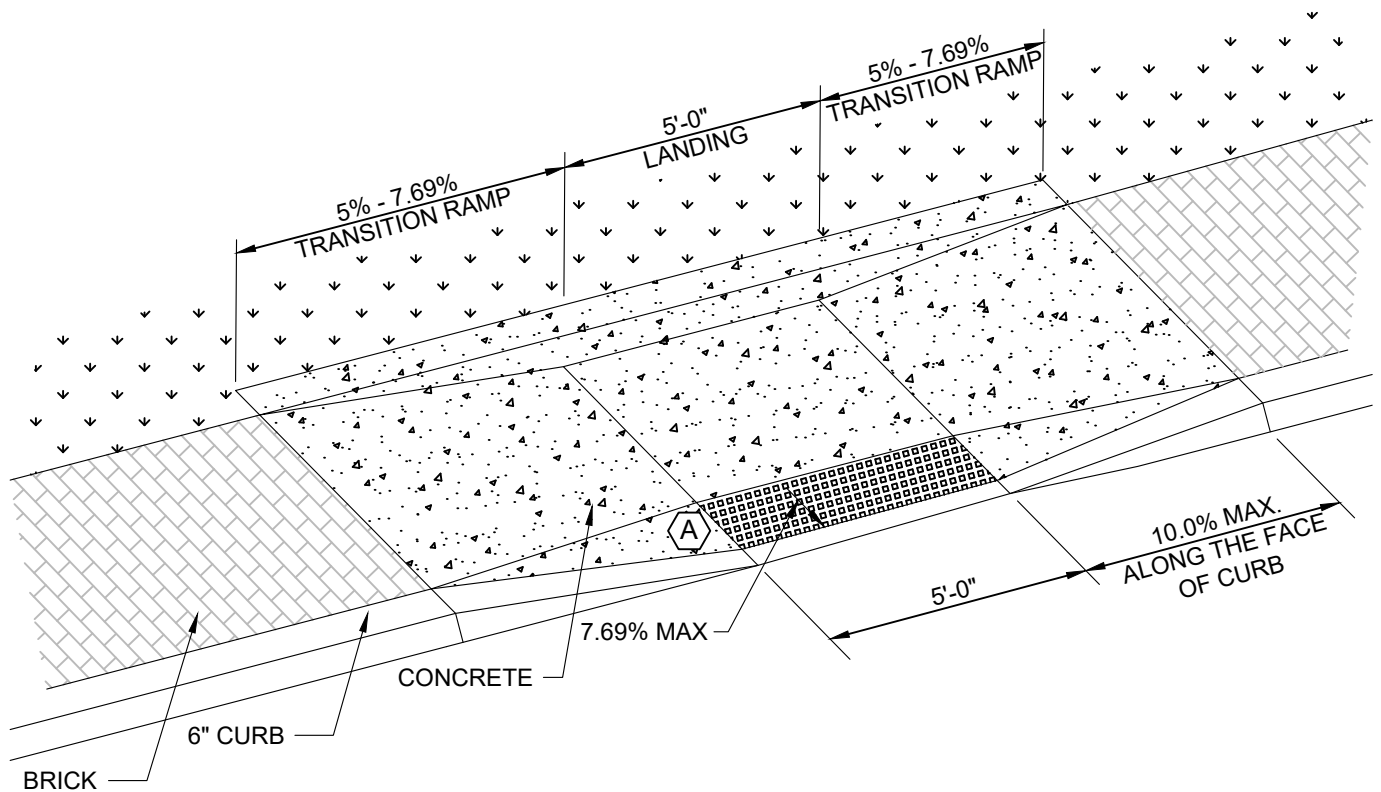
Key Features and Dimensions:

- PEDESTRIAN PUSH BUTTON:** Located on the landing area, marked with a hexagonal symbol **B**.
- OPTIONAL CURB WALL:** Located adjacent to the landing area, marked with a hexagonal symbol **C**.
- LANDING:** The rectangular area defined by the curb and the push button. Dimensions are **5'-0" MIN.** by **5'-0" MIN.**.
- Slopes:** The landing area is divided into two sections with slopes of **7.69% MAX.** and **1.00% MIN.**.
- Angle:** A **90°** angle is indicated between the landing boundaries.
- BACK OF CURB:** The line defining the rear boundary of the landing area.
- FACE OF CURB:** The line defining the front boundary of the landing area.
- CLEAR SPACE:** A **4'-0" MIN.** clear space is required between the landing area and the curb.
- PAVEMENT:** The area adjacent to the landing area.
- Dimensions:**
 - 2'-0" (TYP.)** dimension is shown for the curb height.
 - 2'-0" (TYP.)** dimension is shown for the landing width.

SHT 18 OF 21



SHT 19 OF 21



1. WRITTEN APPROVAL FROM THE CITY ENGINEER OR AN AUTHORIZED REPRESENTATIVE SHALL BE OBTAINED PRIOR TO THE DESIGN OR CONSTRUCTION OF GRANITE OR AN ALTERNATE MATERIAL CURB RAMP.
2. ALONG WITH THE REQUIREMENT OF THIS SHEET FOR BRICK OR GRANITE CURB RAMPS, ALL OTHER APPLICABLE REQUIREMENTS OF 2319 SHALL BE FOLLOWED.
3. BRICK OR GRANITE CURB RAMPS SHALL BE TYPED PER 2319. TYPICALLY TYPE A OR TYPE D WILL BE USED. ALL APPLICABLE DIMENSIONS AND REQUIREMENTS FOR THE SELECTED TYPE OF RAMP SHALL BE FOLLOWED.
4. LONG FLARES WILL BE USED WHEREVER POSSIBLE. A MODIFIED FLARE SHALL BE USED WHEN AN OBSTRUCTION EXISTS.
5. THE INSTALLATION OF THE BRICK OR GRANITE PAVERS SHALL BE DONE PER STD DWG 2301, BRICK SIDEWALK.

CODED NOTES:

A SEE SHEET 21 FOR DETECTABLE WARNING DETAILS

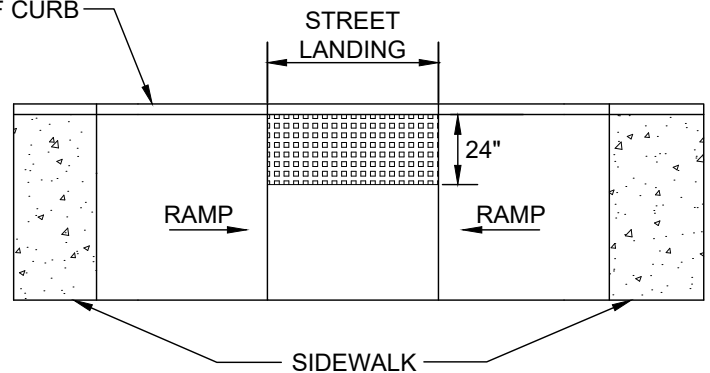
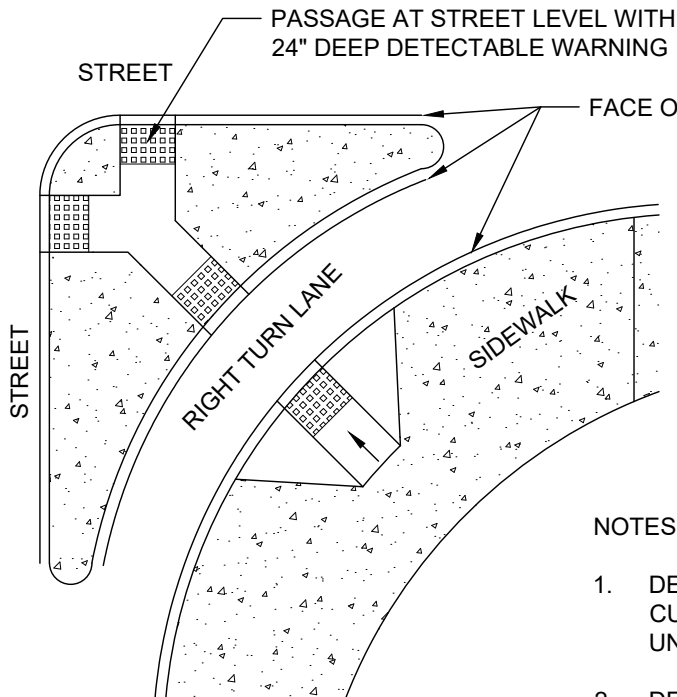
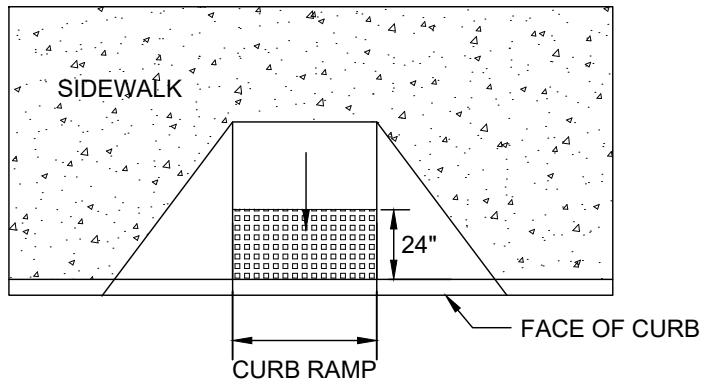
PARALLEL CURB RAMP BRICK SIDEWALK

CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF DESIGN AND CONSTRUCTION

STD DWG
2319

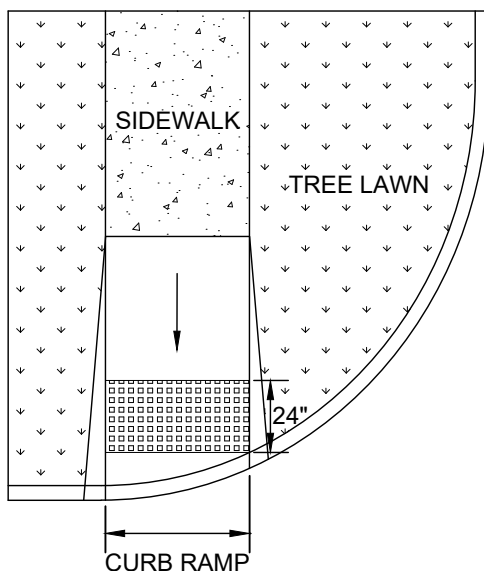
3/30/2018

SHT 20 OF 21



NOTES:

1. DETECTABLE WARNINGS SHALL BE PROVIDED WHEREVER A CURB RAMP CROSSES A VEHICULAR WAY. EXCLUDING UNSIGNALIZED DRIVEWAY CROSSINGS.
2. DETECTABLE WARNINGS SHALL BE PROVIDED 24" IN THE DIRECTION OF TRAVEL AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR FLUSH SURFACE. THE DETECTABLE WARNING SHALL BE LOCATED ADJACENT TO THE CURB LINE.
3. MATERIALS SHALL COMPLY WITH CMSC 608 AND DPS ADA RULES AND REGULATIONS.
4. DETECTABLE WARNINGS SHALL BE PLACED 6" TO 8" BEHIND THE FACE OF CURB AND BEHIND THE CURB JOINT.
5. CAST IN PLACE OR ANY NON-SURFACE APPLIED DETECTABLE WARNING SHALL HAVE A MINIMUM OF 3" OF CONCRETE ON EACH SIDE OF THE WARNING.



CURB RAMP DETECTABLE WARNINGS

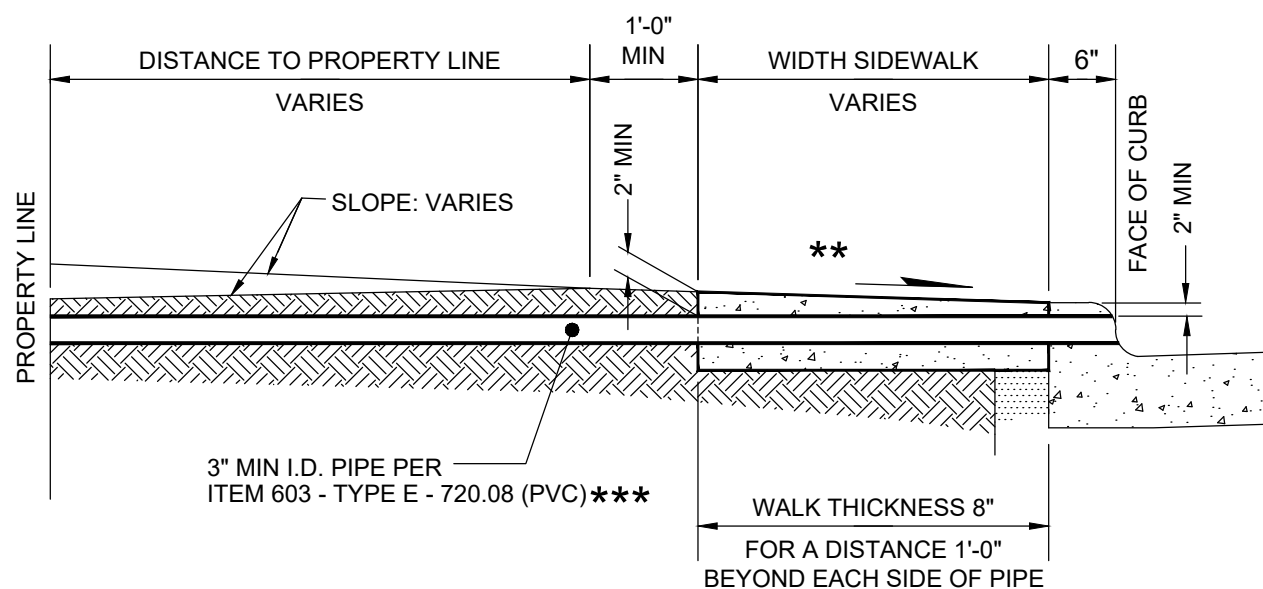
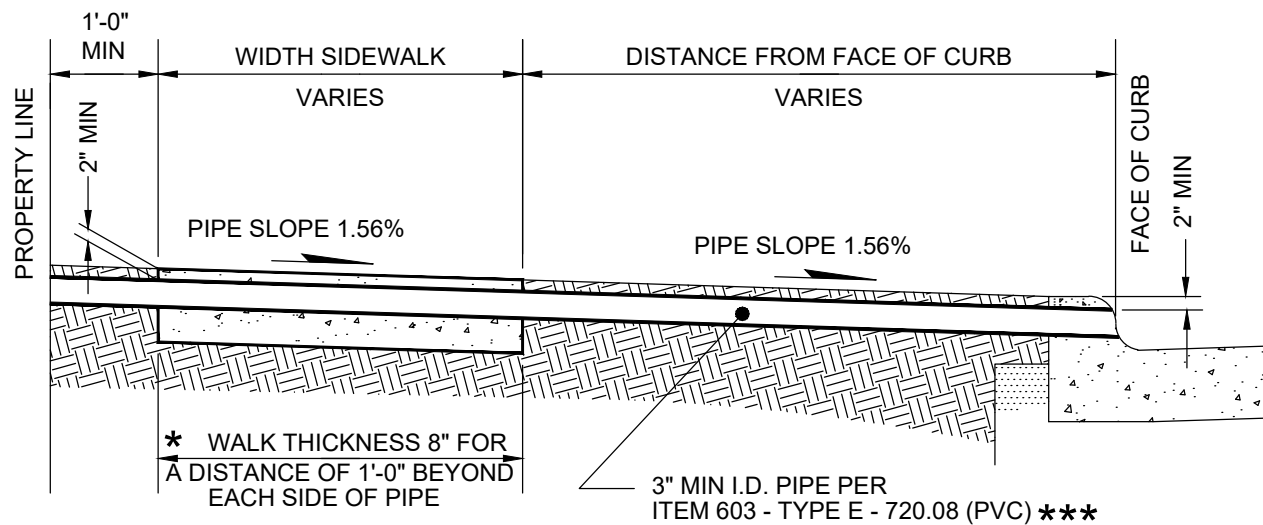
CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC SERVICE
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STD DWG

2319

3/30/2018

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* APPLICABLE ONLY WHERE THICKNESS OF CONCRETE OVER PIPE IS LESS THAN 4".

** SLOPE 1.56% ON SIDEWALK AREA.

*** IF THERE IS EXISTING ROOF DRAIN PIPE, THEN MATCH EXISTING SIZE.
IF EXISTING ROOF DRAIN IS LARGER THAN 3", RUN SMALLER PARALLEL PIPES
TO MAINTAIN 3" PIPE AT FACE OF CURB.

MOUNTABLE CURB SHALL BE CORE DRILLED ONLY FOR ROOF DRAIN OPENING.

PIPE ROOF DRAIN

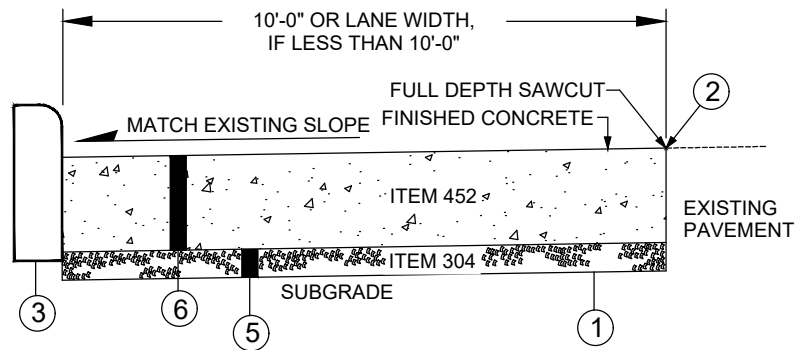
CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF DESIGN AND CONSTRUCTION

CITY ENGINEER

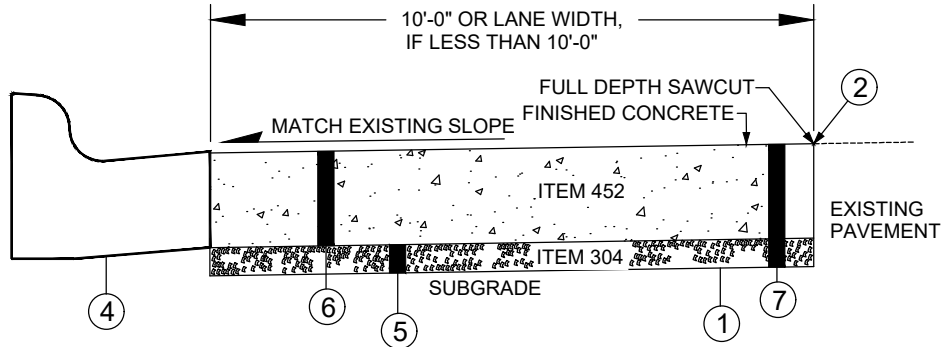
STD DWG
2320

4/30/2018

SHT 1 OF 1



TYPE A: CONCRETE BUS PAD AT LOCATIONS WITH STRAIGHT CURB



TYPE B: CONCRETE BUS PAD AT LOCATIONS WITH COMBINATION CURB & GUTTER

- ① ITEM 204 - SUBGRADE COMPACTION
- ② ITEM 423 - CRACK SEALING, TYPE I
- ③ ITEM 609 - EXISTING CURB OR, CURB STRAIGHT 18" (STANDARD DRAWING 2000)
- ④ ITEM SPECIAL - COMBINATION CURB AND GUTTER, TYP. SPECIAL 10" (STANDARD DRAWING 2020, MODIFIED)
- ⑤ ITEM 304 - 6" AGGREGATE BASE
- ⑥ ITEM 452 - 10" NON-REINFORCED CONCRETE PAVEMENT
- ⑦ PAVEMENT REMOVAL AND ITEM 203 - EXCAVATION

ITEM SPECIAL, CONCRETE BUS PAD, S.Y., SHALL INCLUDE THE FOLLOWING ITEMS:

ALL SAWCUTTING, PAVEMENT REMOVAL, ITEM 203 - EXCAVATION, ITEM 204 - SUBGRADE COMPACTION, ITEM 304 - 6" AGGREGATE BASE, ITEM 423 - CRACK SEALING, TYPE I, AND ITEM 452 - 10" NON-REINFORCED CONCRETE PAVEMENT.

FOR TYPE B CONDITION, THE EXISTING COMBINATION CURB & GUTTER SHALL BE REPLACED TO LIMITS OF BUS PAD INSTALLATION UNLESS WAIVED BY ENGINEER.

CONCRETE BUS PAD

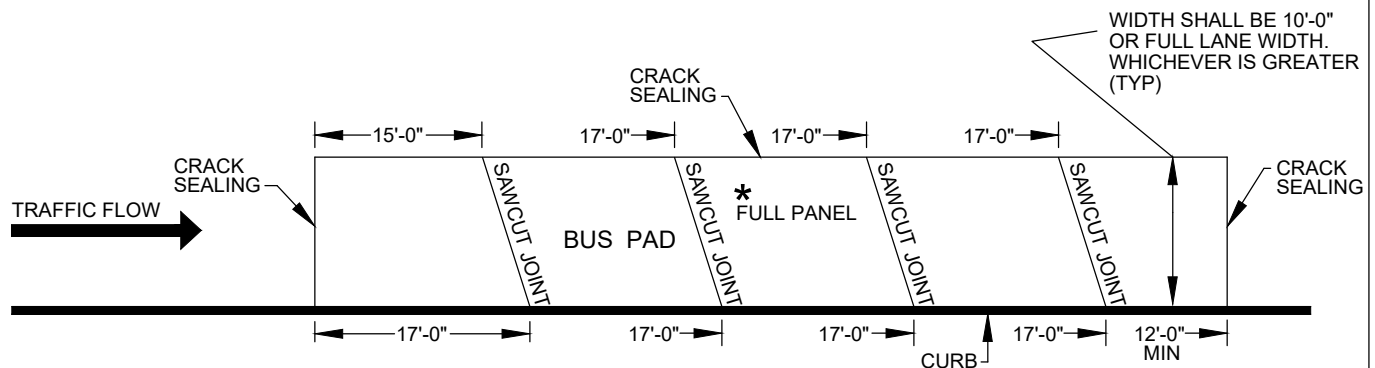
CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF DESIGN AND CONSTRUCTION

CITY ENGINEER

STD DWG
2332

4/30/2018

SHT 1 OF 3



TRANSVERSE JOINT PLAN VIEW

TRANSVERSE JOINT

EACH CONCRETE BUS PAD SHALL BE SAWCUT TO PROVIDE EQUAL PANELS WITH CONTRACTION JOINTS SPACED AT A MAXIMUM OF 17 FEET.

THE JOINT SHALL BE SKEWED WITH THE RIGHT EDGE OF THE JOINT 2 FEET AHEAD OF THE LEFT EDGE IN THE DIRECTION OF TRAVEL OVER WIDTH OF BUS PAD (SEE PLAN VIEW ABOVE AND DETAIL "A").

EACH SAWCUT JOINT SHALL BE SEALED WITH ITEM 705.04.

PARTIAL BUS PAD REPLACEMENT

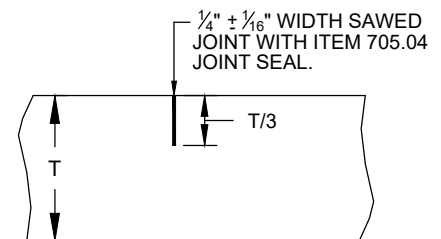
* ANY PARTIAL REPLACEMENT SHALL BE NO LESS THAN A FULL PANEL.

CONSTRUCTION JOINT

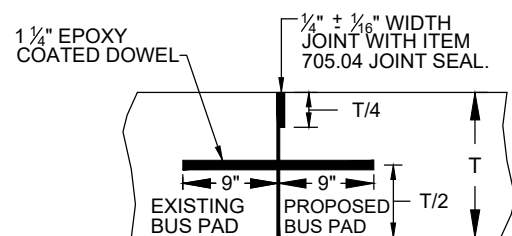
1) AT LOCATIONS WHERE A CONSTRUCTION JOINT IS REQUIRED (WHERE THE BUS PAD REQUIRES PARTIAL REPLACEMENT OR LENGTHENING), 1 1/4" EPOXY COATED DOWELS ARE TO BE USED AS SHOWN IN DETAIL "B".

2) DOWELS SHALL BE SPACED AT 12" CENTERS FOR TRANSVERSE JOINTS, BEGINNING 6" FROM THE JOINT.

3) THIS WORK SHALL BE PAID FOR UNDER ITEM 509 - EPOXY COATED REINFORCING (POUNDS) AND ITEM 510 - DOWEL HOLES (EACH).



DETAIL "A"



DETAIL "B"

TRANSVERSE JOINT

CONCRETE BUS PAD

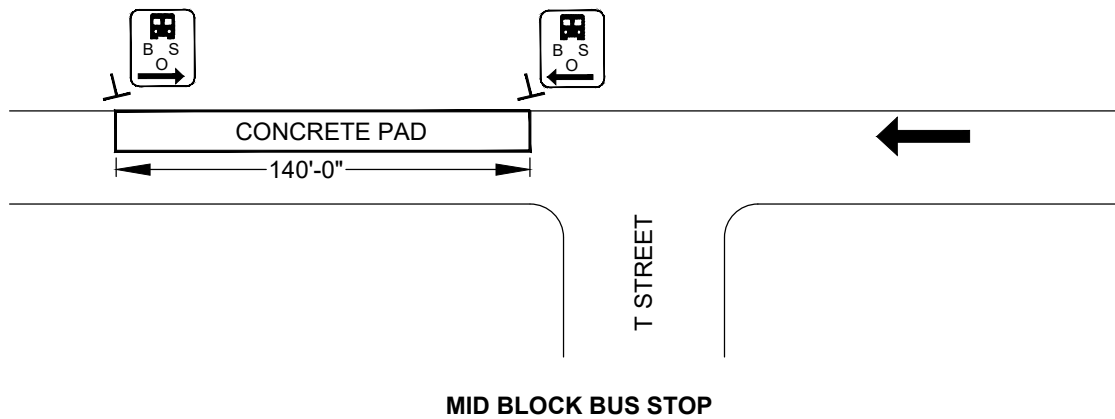
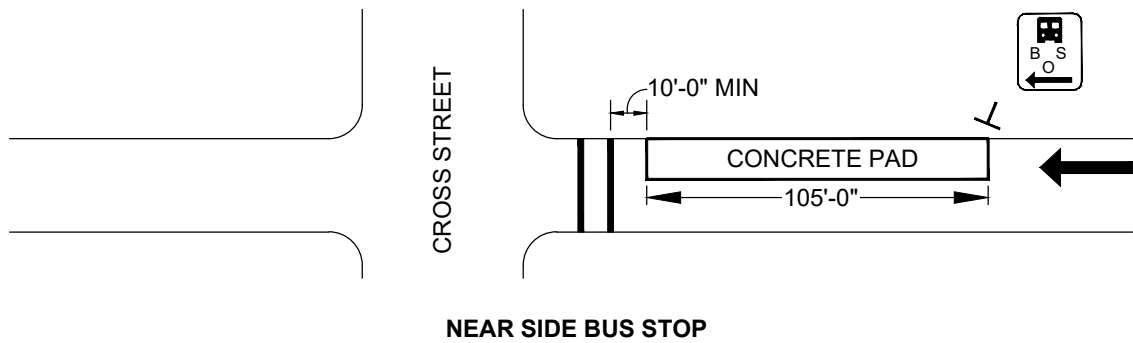
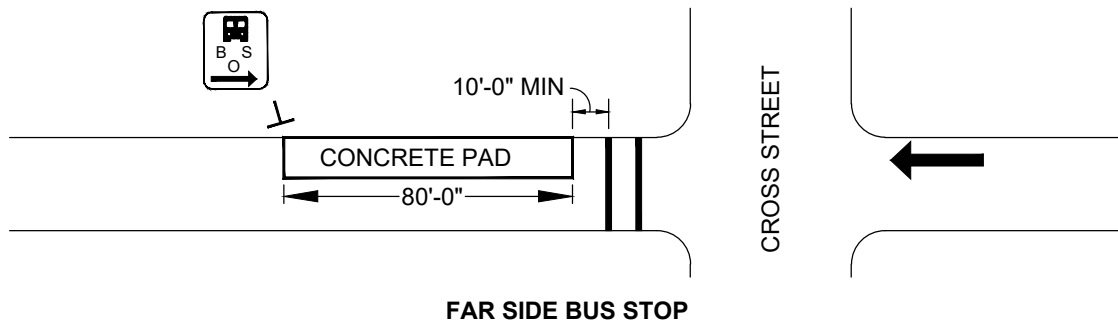
CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF DESIGN AND CONSTRUCTION

STD DWG

2332

4/30/2018

SHT 2 OF 3



← DIRECTION OF TRAVEL

TYPICAL LOCATIONS

CONCRETE BUS PAD

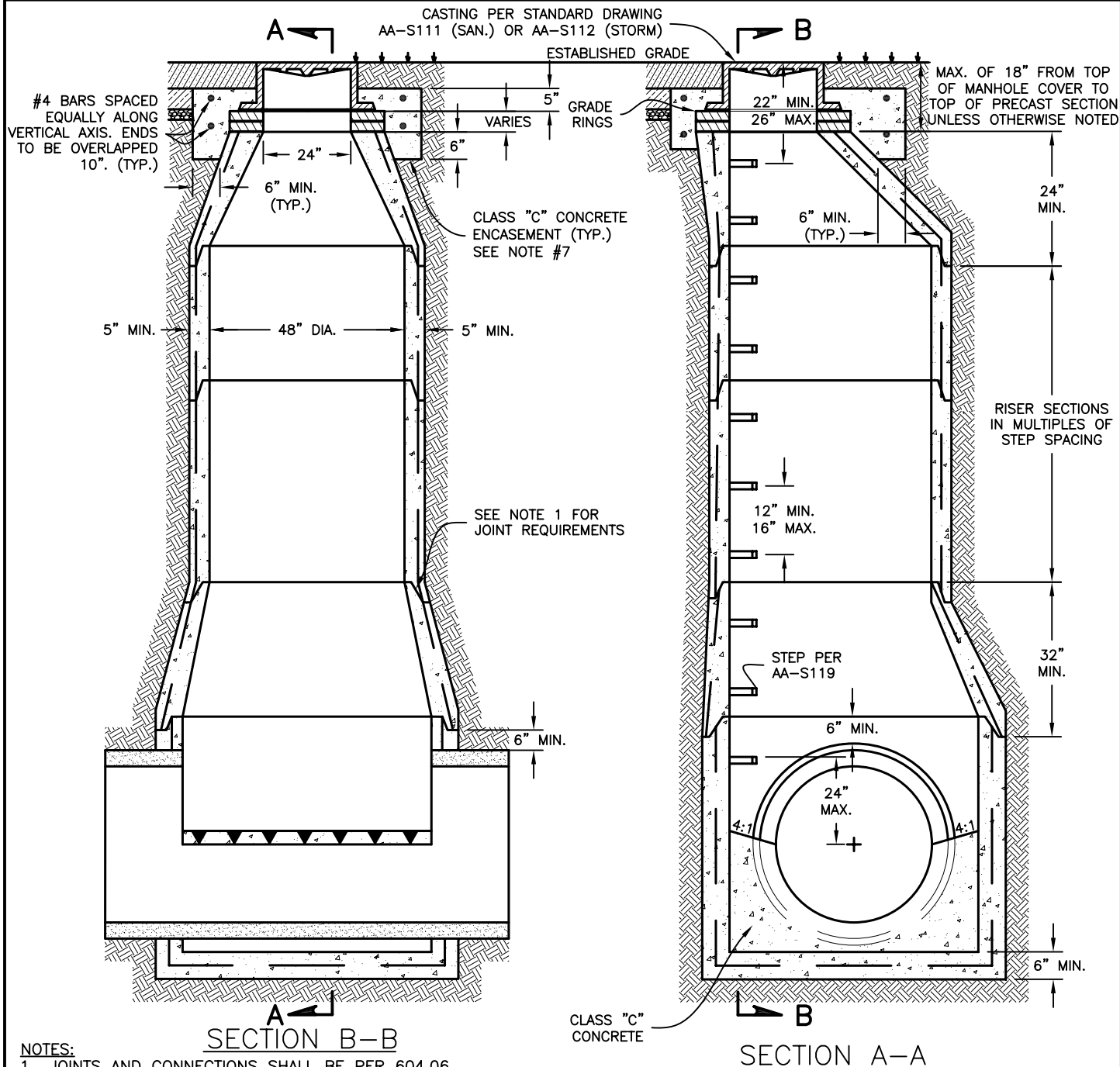
CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF DESIGN AND CONSTRUCTION

STD DWG

2332

4/30/2018

SHT 3 OF 3



NOTES:

- JOINTS AND CONNECTIONS SHALL BE PER 604.06.
- PRECAST MANHOLES SHALL BE IN ACCORDANCE WITH ASTM C-478.
- PRECAST WALLS SHALL HAVE A MIN. THICKNESS OF 5" AND BE SUFFICIENTLY REINFORCED TO PERMIT SHIPPING AND HANDLING WITHOUT DAMAGE.
- FINISH MANHOLE CHANNEL ACCORDING TO STANDARD DRAWING AA-S117.
- SEE TABLE FOR MANHOLE BASE DIAMETER.
- MANHOLES MUST BE SET ON FOUNDATION OF CRUSHED #57 LIMESTONE, 6" MIN. THICKNESS.
- ONLY SANITARY MANHOLES IN IMPERVIOUS AREAS SHALL REQUIRE A CONCRETE COLLAR, UNLESS OTHERWISE SPECIFIED. SANITARY MANHOLES LOCATED WITHIN PERVIOUS AREAS SHALL REQUIRE A FLEXIBLE CHIMNEY SEAL.

MANHOLE BASE I.D. (INCHES)	MAXIMUM PIPE O.D.	
	STRAIGHT PIPE (INCHES)	RIGHT ANGLE (INCHES)
48	31	25
60	42	32
72	51	38
84	—	44
96	—	50

CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC UTILITIES
DIVISION OF SEWERAGE & DRAINAGE

TYPE "C" MANHOLE

STANDARD DRAWING
AA-S102

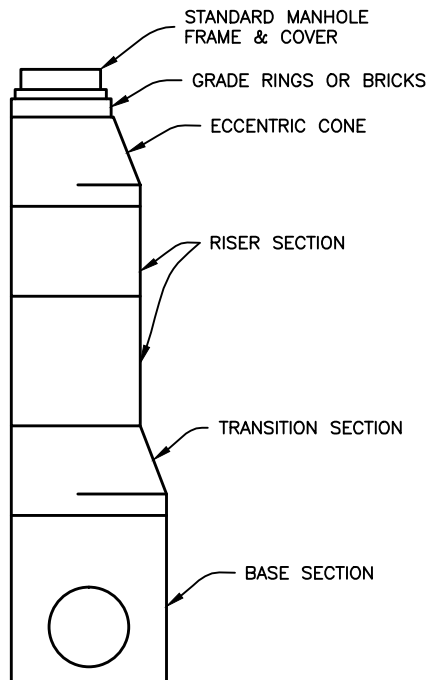
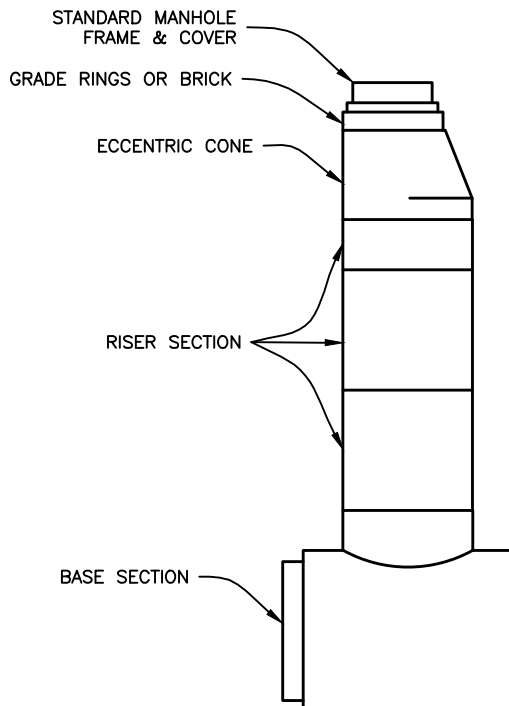
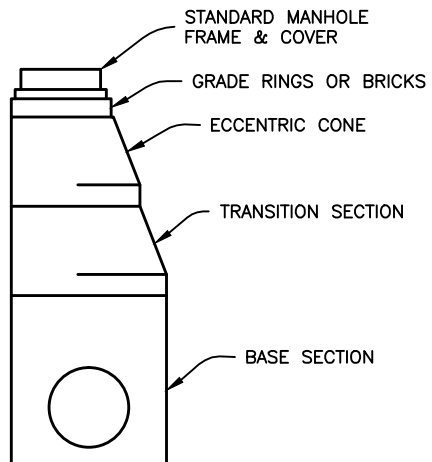
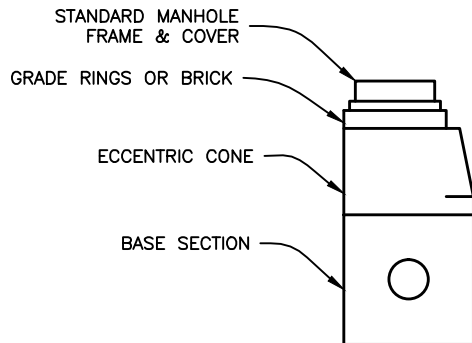
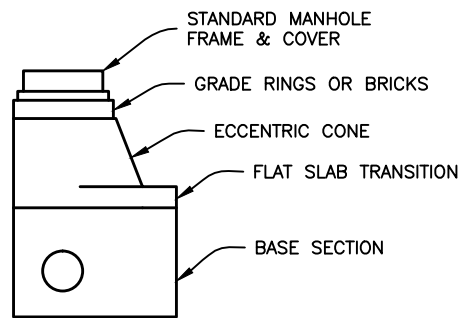
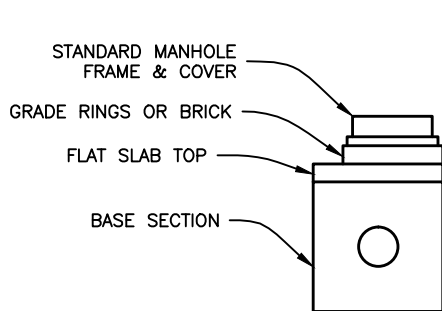
REVISED 12/6/13

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CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC UTILITIES
DIVISION OF SEWERAGE & DRAINAGE

TYPICAL ASSEMBLY
COMBINATIONS
FOR
PRECAST MANHOLES

STANDARD DRAWING
AA-S106

REVISED 7/9/12

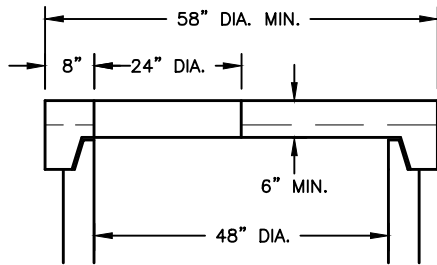
SSS MANAGER

John H. Newson

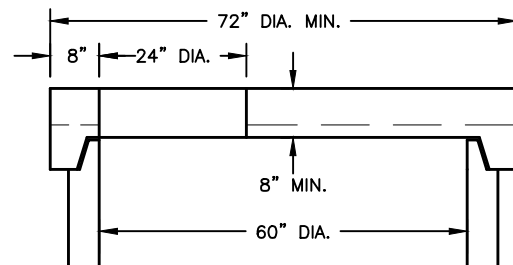
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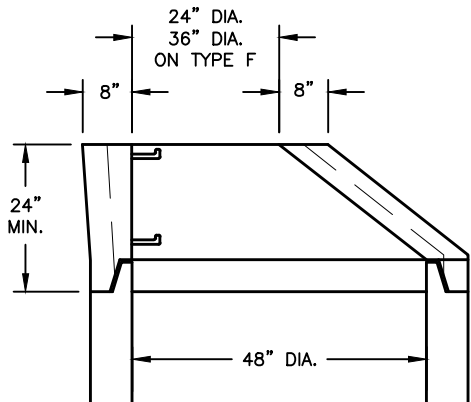
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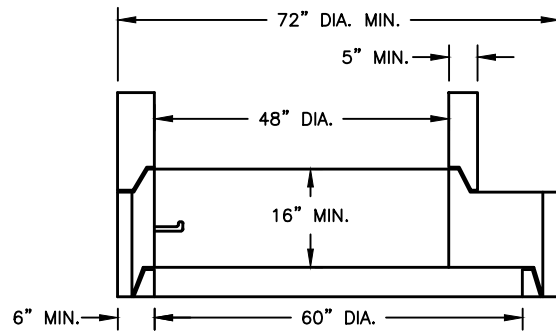
FLAT SLAB TOP
(48" RISERS)



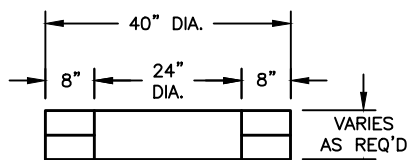
FLAT SLAB TOP
(60" RISERS)



ECCENTRIC CONE TOP
(48" RISERS)



FLAT SLAB TRANSITION
(60" TO 48")



STANDARD GRADE RING

NOTE:
ALL PRE-CAST MANHOLE SECTIONS SHALL BE IN ACCORDANCE WITH ASTM C478.

CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC UTILITIES
DIVISION OF SEWERAGE & DRAINAGE

John J. Newson

SSES MANAGER

MISCELLANEOUS ITEMS
PRECAST MANHOLES

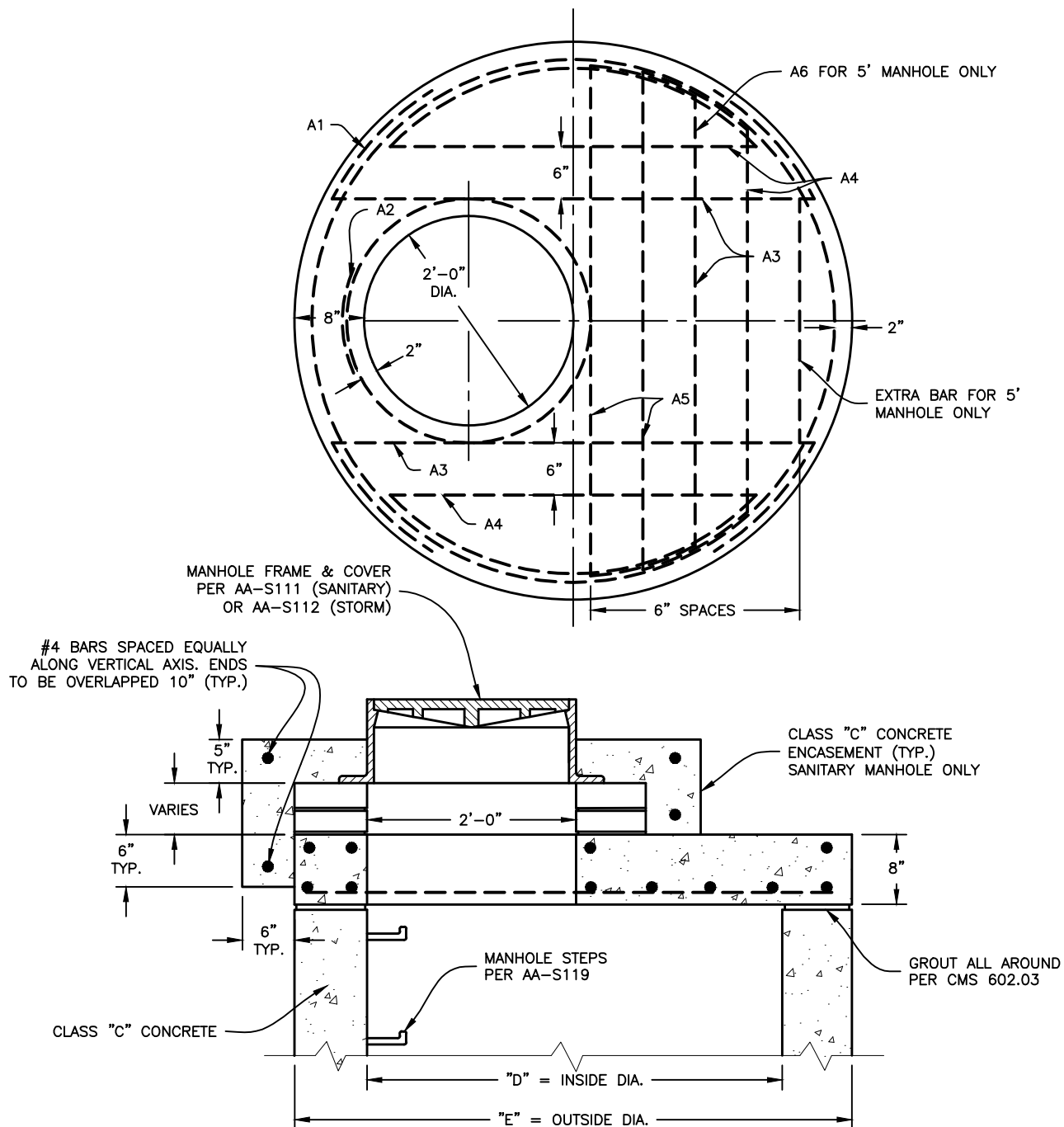
STANDARD DRAWING
AA-S107

REVISED 7/9/12

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NOTES:

1. 2" MIN. COVER ON ALL REINFORCEMENT STEEL.
2. ALL REINFORCING STEEL SHALL MEET CMS 709.2 SPECIFICATIONS.

DIMENSIONS AND QUANTITIES FOR TOP SLAB

M.H. DIA. "D"	M.H. DIA. "E"	#4 STEEL REINFORCEMENT BARS												WEIGHT STEEL LBS.	APPROXIMATE CONCRETE VOLUME CU. YD.		
		A1			A2			A3		A4		A5				A6	
		NO.	LENGTH	RADIUS	NO.	LENGTH	RADIUS	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH			NO.	LENGTH
4'-0"	4'-10"	2	17'-5"	2'-3"	2	9'-0"	1'-2"	3	5'-11"	3	5'-3"	2	6'-6"		66	0.38	
5'-0"	6'-0"	2	20'-6"	2'-10"	2	9'-0"	1'-2"	3	7'-2"	3	6'-8"	2	7'-8"	1	7'-6"	82	0.63

CITY OF COLUMBUS, OHIO
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DIVISION OF SEWERAGE & DRAINAGE

CAST-IN-PLACE
CONCRETE TOP SLAB
FOR SHALLOW
MANHOLES

STANDARD DRAWING
AA-S108

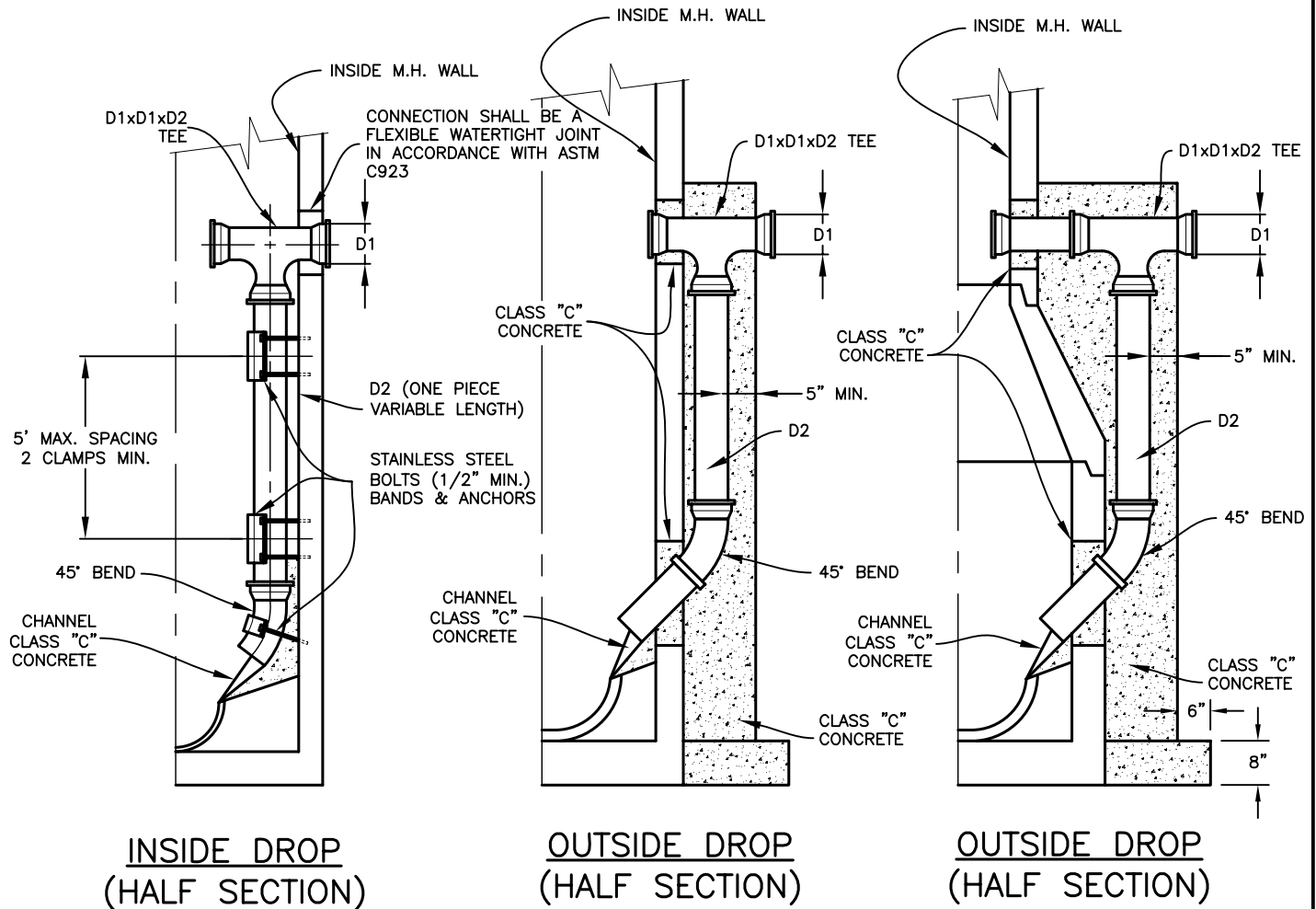
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1

SSS MANAGER

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NOTES:

1. DROP IS REQUIRED WHEN INVERT DIFFERENTIAL IS 24 INCHES OR GREATER.
2. HEIGHT OF DROP PIPE IS TO BE SHOWN ON THE PLANS OR WILL BE DETERMINED AT THE TIME OF CONSTRUCTION.
3. ALL WORK AND MATERIALS REQUIRED TO CONSTRUCT THE INSIDE OR OUTSIDE DROP SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 604, OR ITEM 901.
4. UNLESS OTHERWISE REQUIRED BY THE PLANS AN OUTSIDE DROP WILL BE CONSTRUCTED ON NEW MANHOLES.
5. MATERIALS FOR THE TEE, DROP PIPE AND BEND SHALL BE OF ONE TYPE AND BE ONE OF THE FOLLOWING; INSIDE DROP: CAST-IRON OR PVC. OUTSIDE DROP: CAST IRON, VCP, OR PVC.
6. OUTSIDE DROP PIPES REQUIRE A 5" THICK (MINIMUM) CLASS "C" CONCRETE ENCASUREMENT ON THREE SIDES OF PIPE AND SHALL BE TIED TO MANHOLE WALL WITH 5/8" STAINLESS STEEL-"U" RODS x 5" LONG @ 12".
7. INSIDE DROP MAY BE USED ON NEW CONSTRUCTION PROVIDED THAT 60" BASE AND RISER SECTIONS ARE USED.

PIPE DIAMETER	
D1	D2
8"	8"
10"	8"
12"	8"
15"	10"
18"	10"
21"	12"
24"	12"

CITY OF COLUMBUS, OHIO
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DIVISION OF SEWERAGE & DRAINAGE

INSIDE DROP &
OUTSIDE DROP PIPE
FOR MANHOLES

STANDARD DRAWING
AA-S110

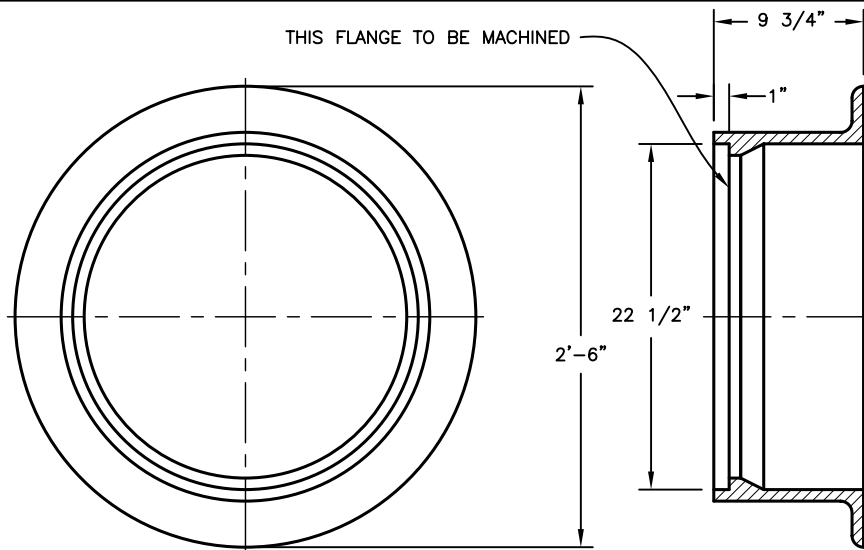
REVISED 9/20/12

SSS MANAGER

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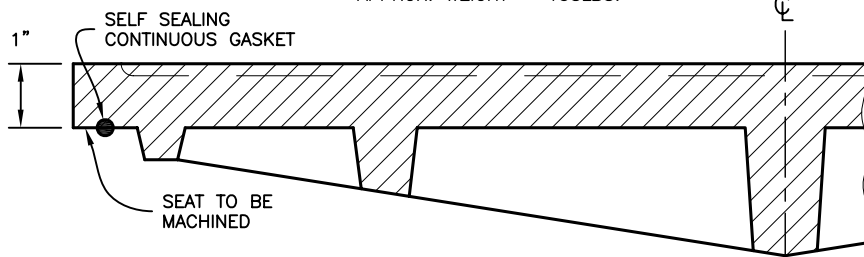
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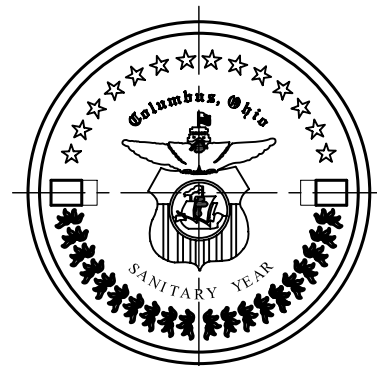
PLAN

SECTION

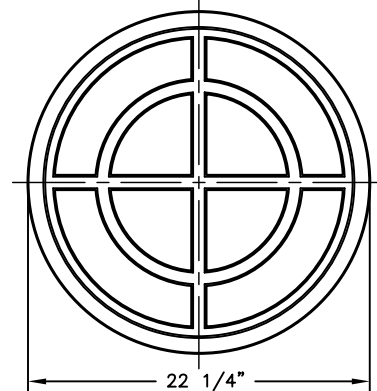
GROUND RIM
APPROX. WEIGHT = 138LBS.



SECTION A-A

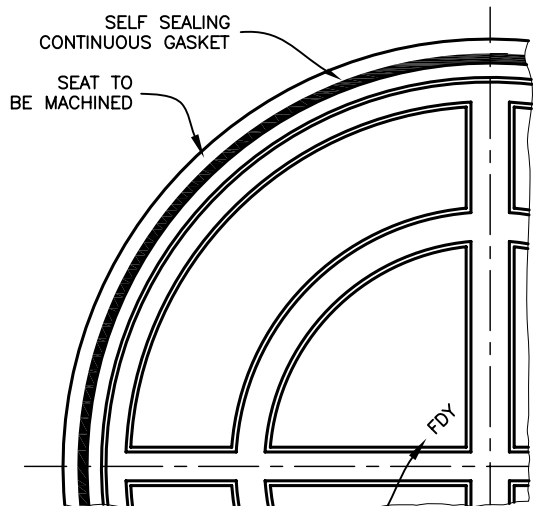


TOP

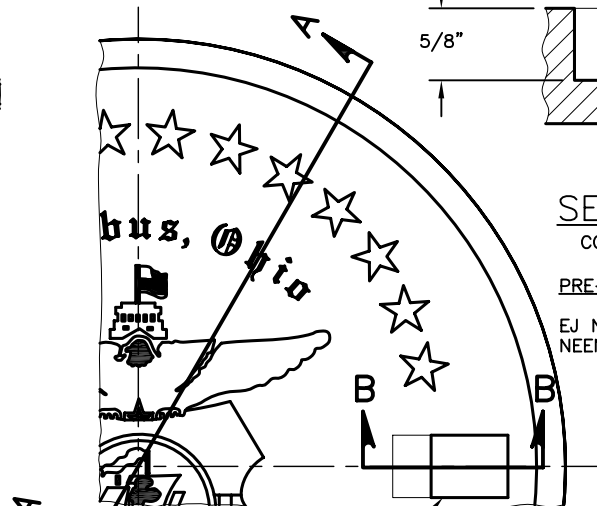


BOTTOM
LID

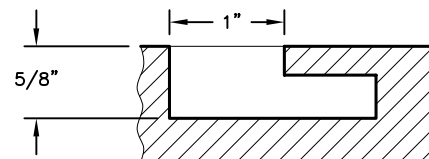
APPROX. WEIGHT = 126 LBS.



BOTTOM



TOP



SECTION B-B
CONCEALED PICKHOLE

PRE-APPROVED CASTINGS:

EJ NO. - 1660A3GS, 1661Z1
NEENAH NO. - 1762 WITH T-SEAL

NOTE:

FRAMES, GRATES, AND COVERS SHALL
MEET THE REQUIREMENTS OF 604.02
AND AASHTO M306

CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC UTILITIES
DIVISION OF SEWERAGE & DRAINAGE

STANDARD DIMENSIONS
FOR MANHOLE FRAME
& COVER CASTING
(SANITARY SEWERS)

STANDARD DRAWING
AA-S111

REVISED 12/6/13

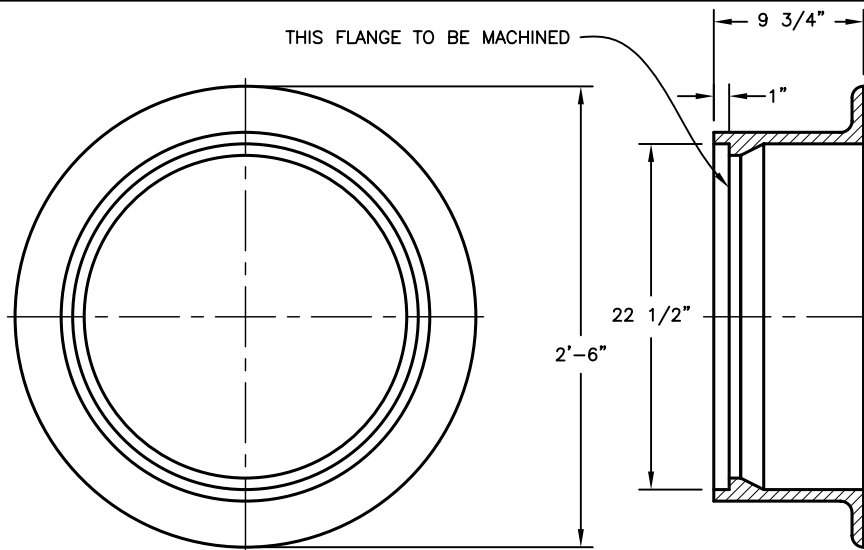
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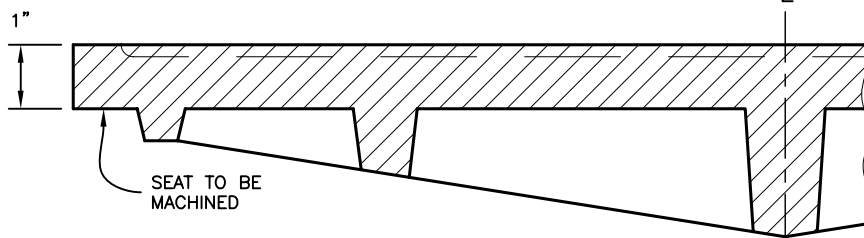
John H. Newson



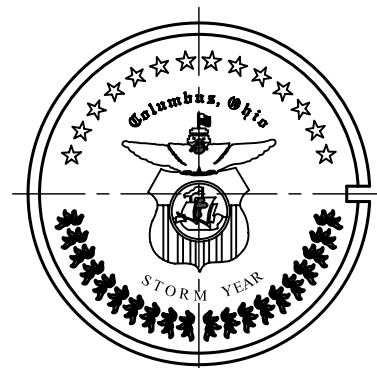
PLAN

SECTION

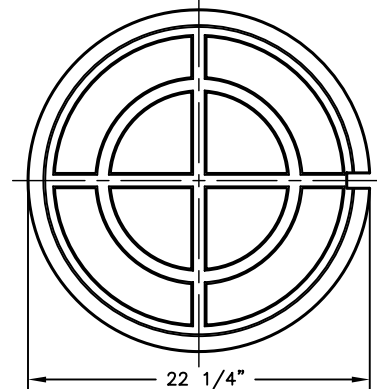
GROUND RIM
APPROX. WEIGHT = 138LBS.



SECTION A-A



TOP

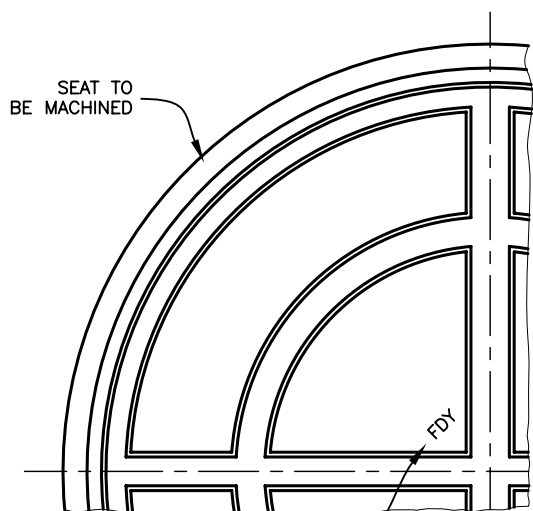


BOTTOM
LID

APPROX. WEIGHT = 126 LBS.

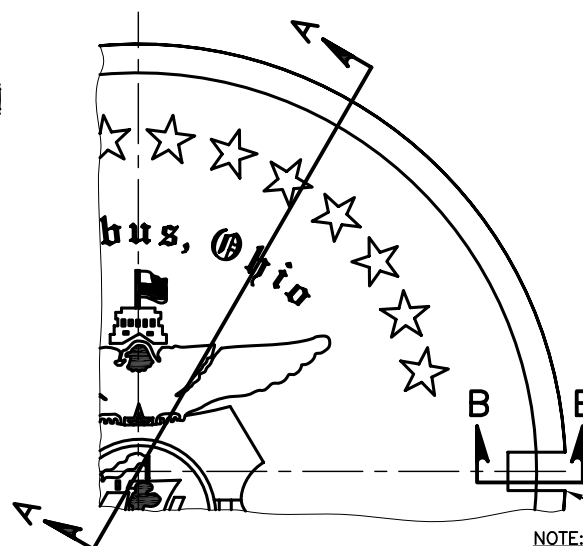
PRE-APPROVED CASTINGS:

EJ NO. - 1660A3, 1661Z1
NEENAH NO. - 1762

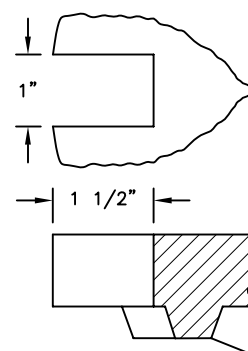


CAST FOUNDARY NAME
ON UNDERNEATH SURFACE

BOTTOM



TOP



SECTION B-B
PICKHOLE

NOTE:

FRAMES, GRATES, AND COVERS SHALL
MEET THE REQUIREMENTS OF 604.02
AND AASHTO M306

CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC UTILITIES
DIVISION OF SEWERAGE & DRAINAGE

STANDARD DIMENSIONS
FOR MANHOLE FRAME
& COVER CASTING
(STORM SEWERS)

STANDARD DRAWING
AA-S112

REVISED 12/6/13

PAGE

1

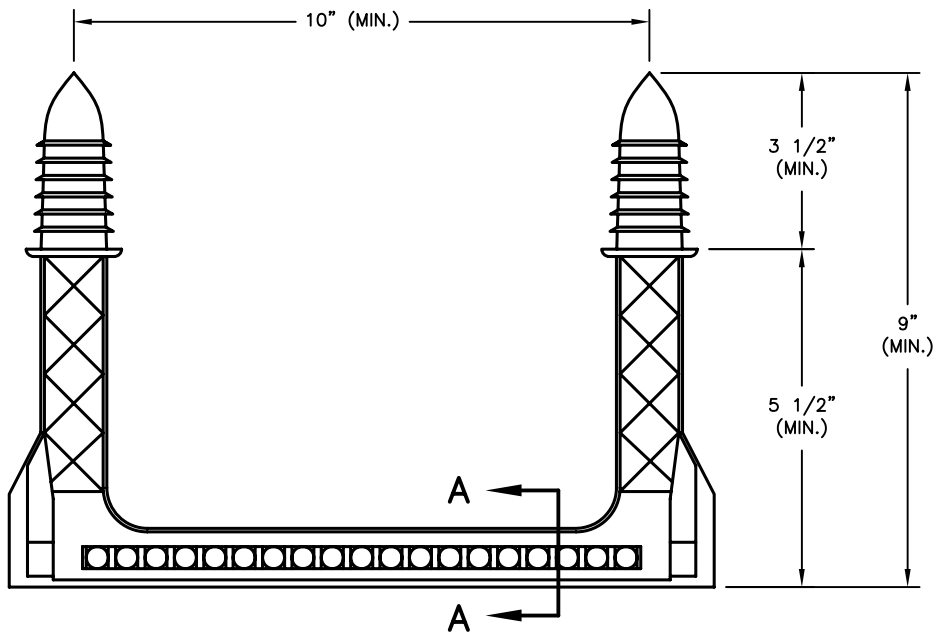
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SSS MANAGER

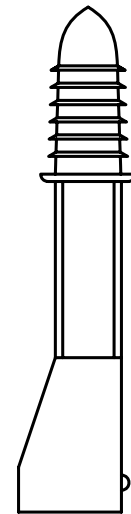
John H. Newson



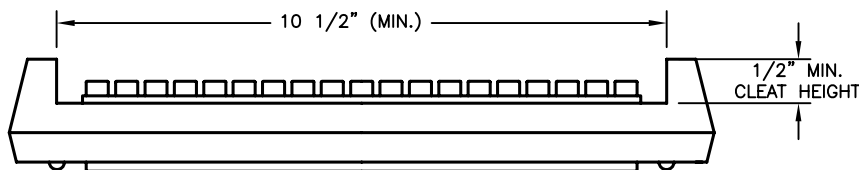
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TOP VIEW



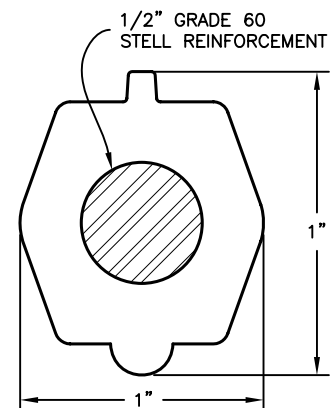
SIDE VIEW



FRONT VIEW

NOTES:

1. STEPS SHALL MEET THE REQUIREMENTS OF ASTM C478, AND SHALL BE INSTALLED WITH A UNIFORM VERTICAL SPACING OF 12" TO 16"
2. STEPS INSTALLED IN EXISTING STRUCTURES SHALL BE SET IN A QUICK SETTING NON-SHRINK EPOXY.
3. STEPS SHALL CONFORM TO MATERIAL REQUIREMENTS OF CMS 711.31. ALL STEPS SHALL HAVE A DEPRESSED TREAD OR 1/2" MINIMUM CLEAT HEIGHT AT THE ENDS.
4. THE ENGINEER MAY REQUIRE THE CONTRACTOR TO TEST LOAD A MAXIMUM OF ONE STEP PER STRUCTURE PER ASTM C478. IF THE SELECTED STEP FAILS THE ASTM TEST, THE REMAINING STEPS IN THAT STRUCTURE SHALL ALSO BE TESTED. ALL STEPS NOT PASSING THE ASTM TEST SHALL BE REMOVED. ALL NEW STEPS SHALL BE TESTED PER ASTM C478. THE COST OF TESTING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR SAID STRUCTURE.



SECTION A-A

CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC UTILITIES
DIVISION OF SEWERAGE & DRAINAGE

MANHOLE STEP

STANDARD DRAWING

AA-S119

REVISED 8/8/14

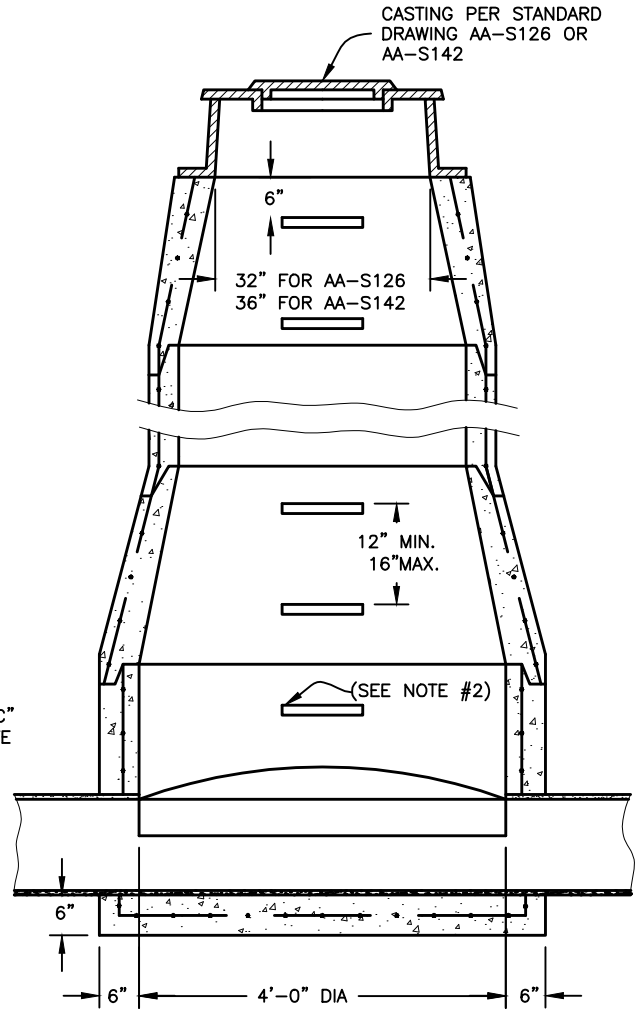
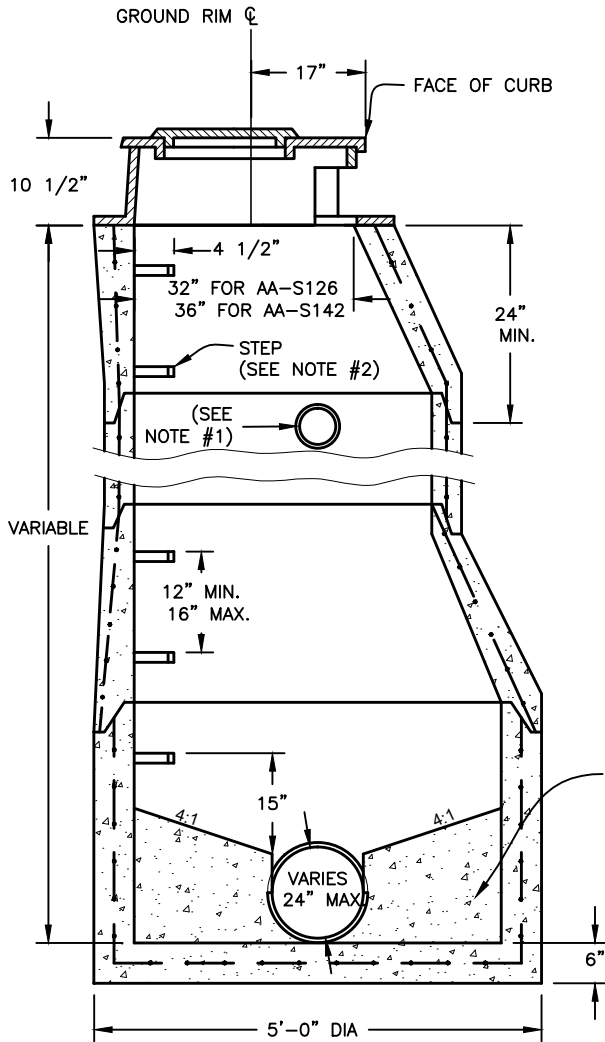
PAGE

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SSS MANAGER

John J. Newson



NOTES:

1. PLACE STANDARD 4" CURB DRAIN STUBS 30" BELOW THE TOP OF THE CURB OR AS DIRECTED.
2. INSTALL STANDARD STEPS PER AA-S119.
3. PRE-CAST WALLS SHALL HAVE A 5" MIN. THICKNESS & BE SUFFICIENTLY REINFORCED TO PERMIT SHIPPING & HANDLING WITHOUT DAMAGE.
4. MANHOLE SHALL BE IN ACCORDANCE WITH ASTM C478.

CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC UTILITIES
DIVISION OF SEWERAGE & DRAINAGE

CURB INLET MANHOLE

STANDARD DRAWING
AA-S121

REVISED 7/9/12

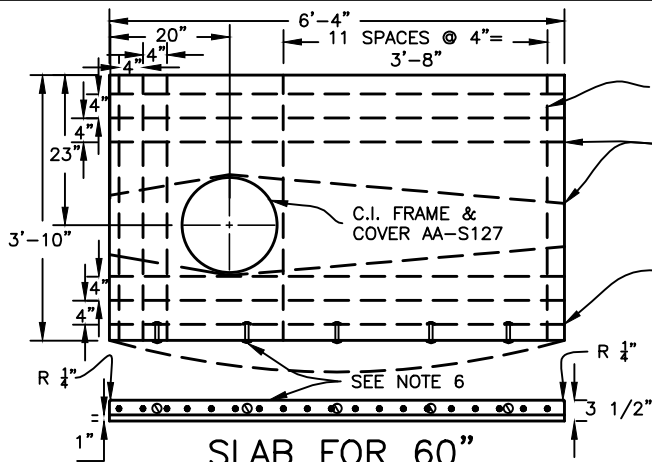
SSS MANAGER

John J. Newson

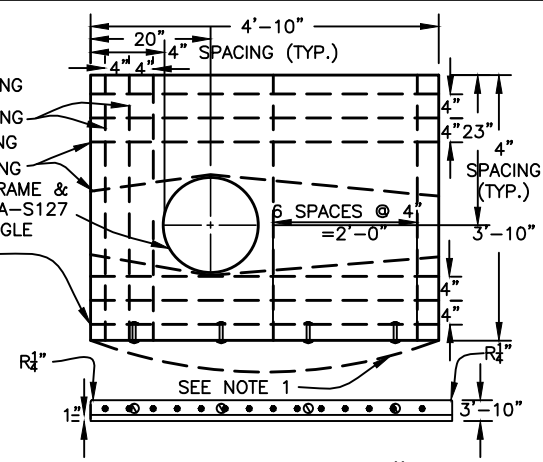
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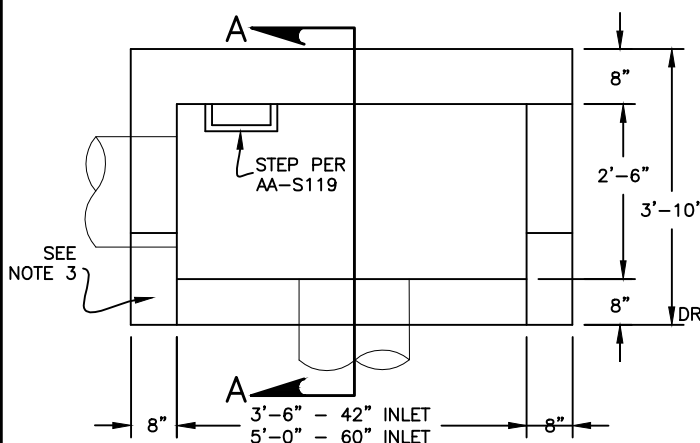
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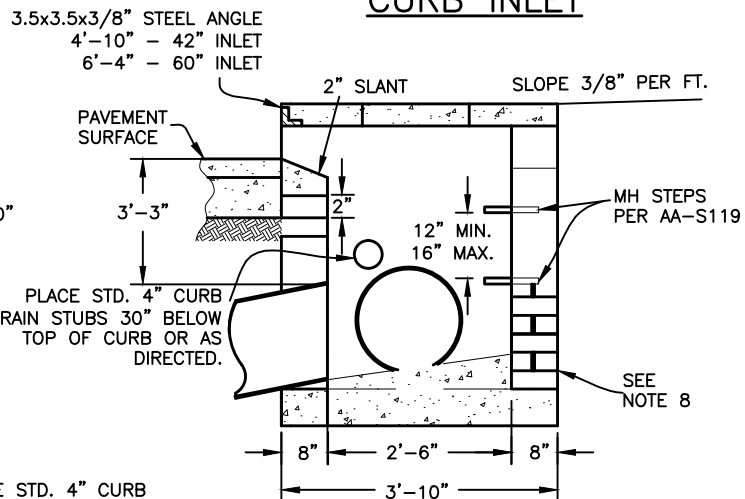
**SLAB FOR 60"
CURB INLET**



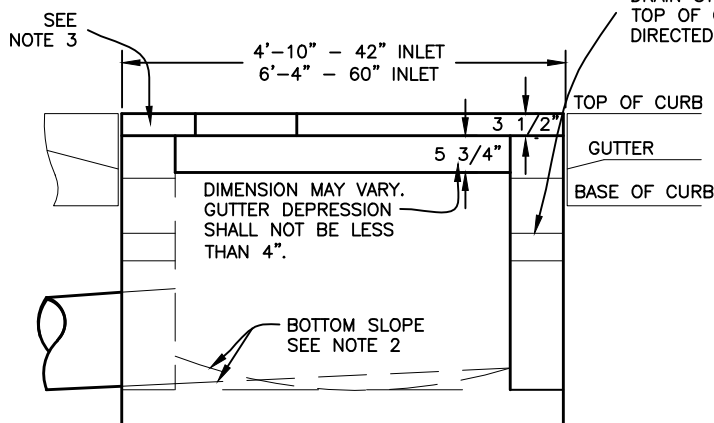
**SLAB FOR 42"
CURB INLET**



PLAN



SECTION A-A



ELEVATION

NOTES:

- WHERE INLET IS TO BE LOCATED WITHIN LIMITS OF CURVED CURB, IF ORDERED, THE SLAB EDGE OF CURB LINE SHALL BE BUILT TO CONFORM TO THE REQUIRED RADIUS.
- THE INLET BOTTOM SHALL BE SHAPED TO PROVIDE MINIMUM SLOPE OF 2" TO OUTLET PIPE, THE CROSS SECTIONAL FORM OF BOTTOM AND AS DIRECTED.

- IN BRICK WALL CONSTRUCTION, SUITABLE CONCRETE OR STONE BLOCKS NOT LESS THAN 8"x8"x16" IN SIZE SHALL BE USED AT CORNERS ABUTTING CURB.
- OUTLET PIPE MAY BE LOCATED IN END OR SIDEWALL. THE OUTLET SHALL BE DIRECTED TOWARD THE CENTER OF THE BASIN.
- IN EXISTING PAVEMENTS ON AREAS APPROX. 12'x4' FOR 60" INLETS, AND 10'x4' FOR 42" INLETS, OR AS OTHERWISE ORDERED SHALL BE CUT OUT SO THAT REPAVING MAY BE SHAPED TO MEET THE DEPRESSED LIP OF THE INLET OPENING AS DIRECTED.
- FOR ANCHORS USE 6"x3/8" BOLTS OR #3 REBAR 10" LONG WITH 2" 90° BENDS WITH ONE END WELDED TO INSIDE FACE OF ANGLE IN APPROVED MANNER.
- WHEN USED IN CONJUNCTION WITH CURB OPENING EXTENSION (AA-S124) TOP FINISHED SURFACE OF INLET WALL TO BE BUILT AT LOWER LEVEL AS DIRECTED.
- CONSTRUCT WALLS OF CLASS "C" CONCRETE OR BRICK. IF WALLS ARE CONSTRUCTED OF BRICK, SEE CMS 602.03.
- PRECAST UNITS SHALL BE IN ACCORDANCE WITH ASTM C913 AND HAVE A MINIMUM THICKNESS OF 6". THEY SHALL BE REINFORCED SUFFICIENTLY TO BE SHIPPED AND HANDLED WITHOUT DAMAGE.

CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC UTILITIES
DIVISION OF SEWERAGE & DRAINAGE

42" AND 60"
CURB INLETS

STANDARD DRAWING
AA-S123

REVISED 8/8/14

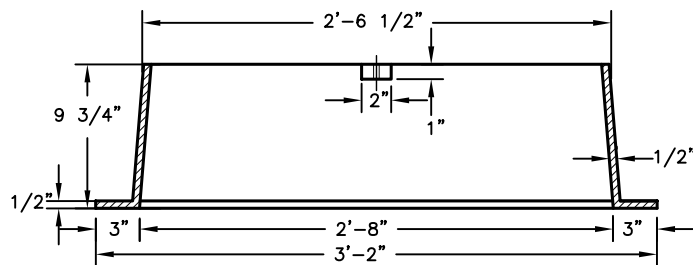
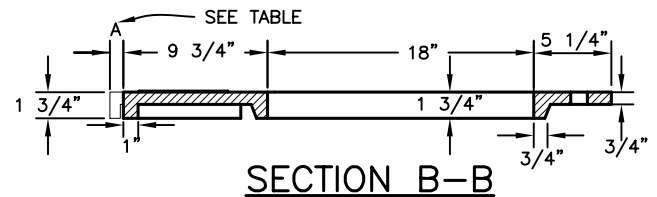
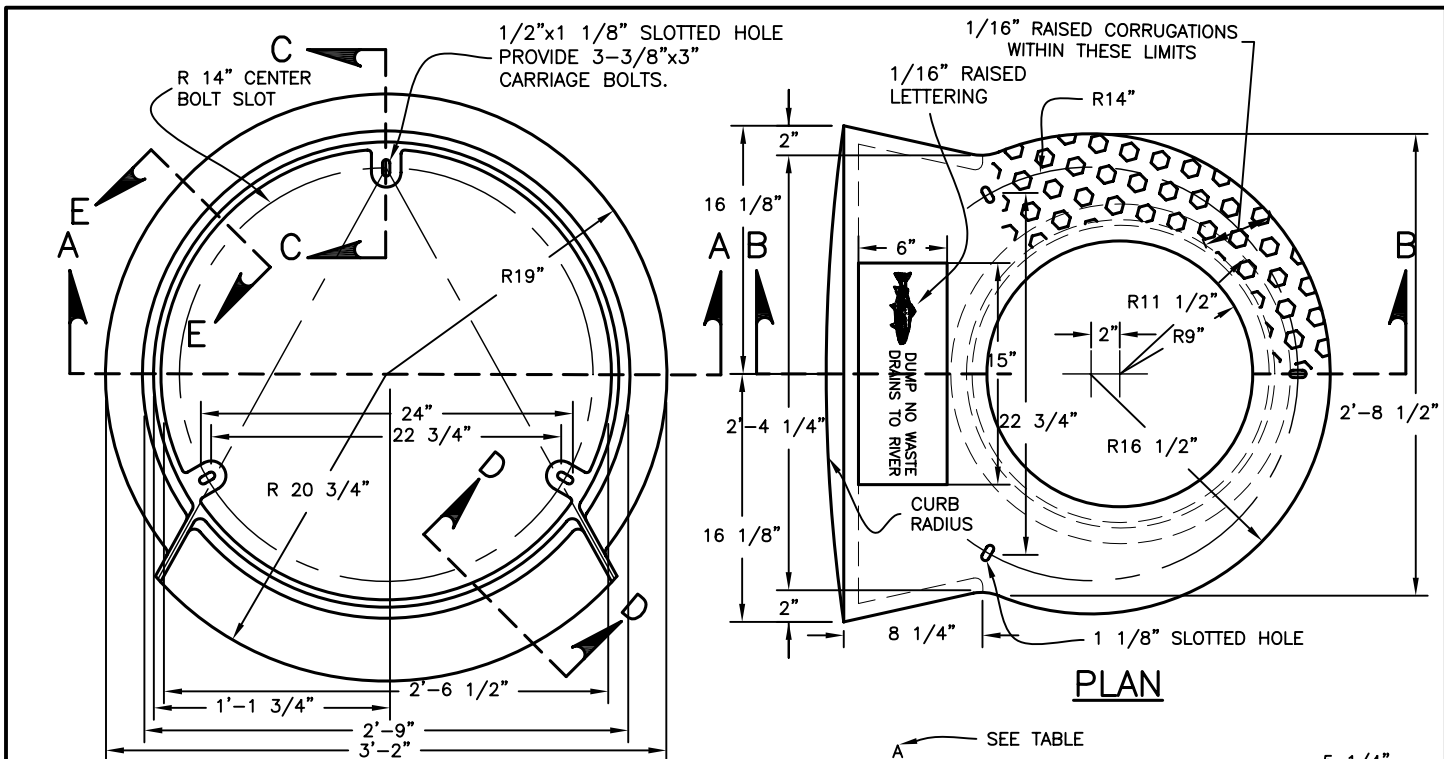
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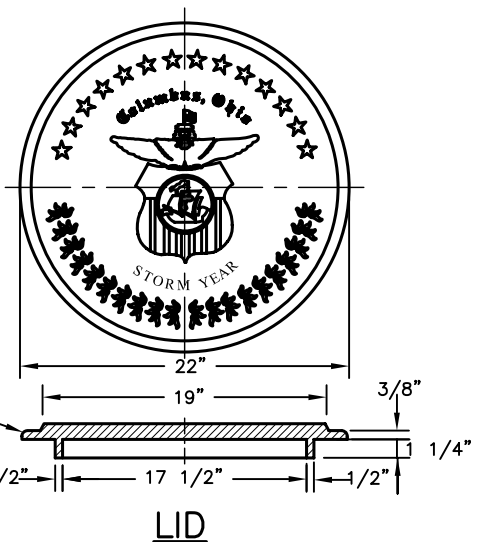
SSS MANAGER

John J. Newson



APPROX. WEIGHTS

FRAME = 214LBS.
TOP = 163LBS.
LID = 50LBS.



NOTES:

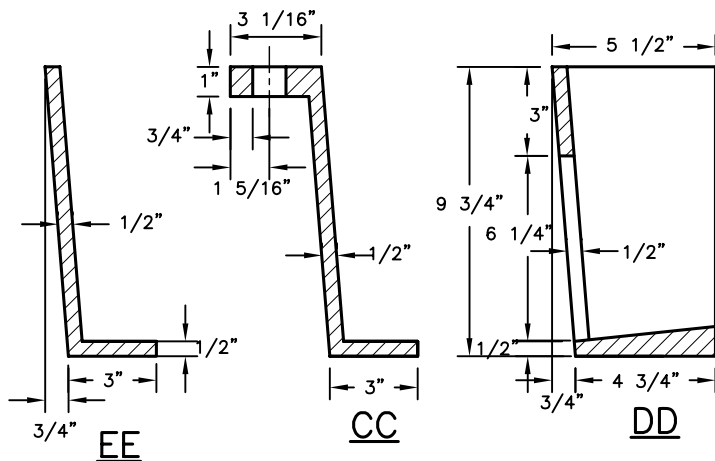
1. FRAMES, GRATES, AND COVERS SHALL MEET REQUIREMENTS OF 604.02.
2. FOUNDRY NAME SHALL BE CAST ON THE UNEXPOSED SURFACE OF ALL CASTINGS.

PRE-APPROVED CASTINGS:

EJ NO. - 7530
NEENAH NO. - 3256

DIMENSION "A" TABLE	
CURB	"A"
STRAIGHT	0.00"
20' RAD.	0.54"
8' RAD.	1.36"

SECTIONS



CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC UTILITIES
DIVISION OF SEWERAGE & DRAINAGE

John H. Newson

SSS MANAGER

CASTINGS
FOR
CURB INLETS

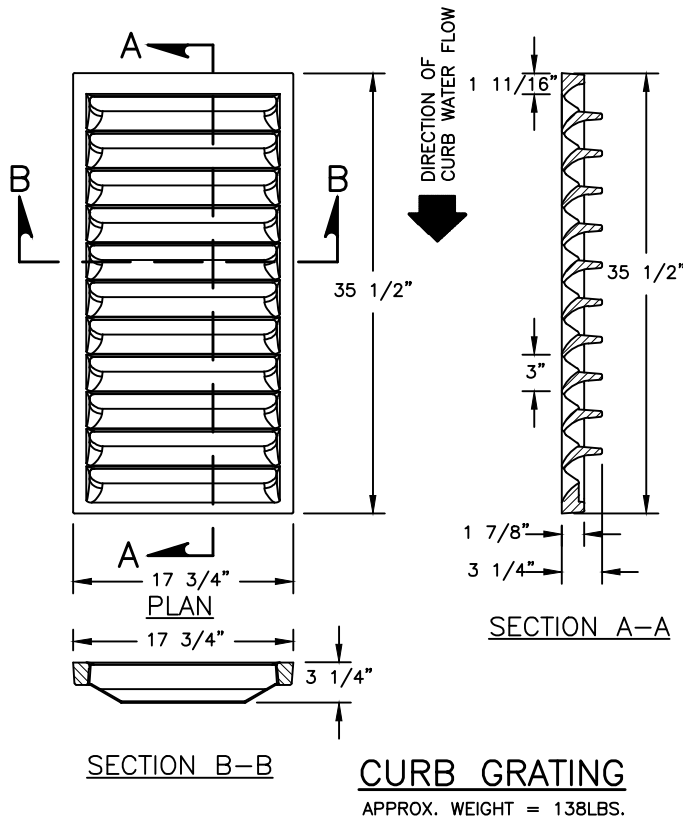
STANDARD DRAWING
AA-S126

REVISED 12/6/13

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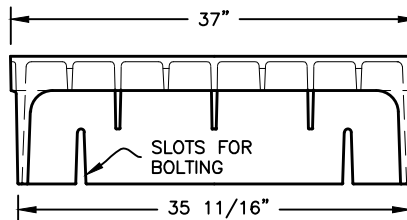
PRE-APPROVED CASTINGS:

EJ NO. - 7030 WITH Z1 FRAME, M4 GRATE & T6 BACK

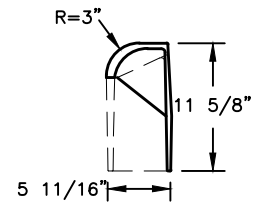
NEENAH NO. - 3067-V OR (R-32900022 TYPE "N" SQUARE BACK)



TOP



ELEVATION



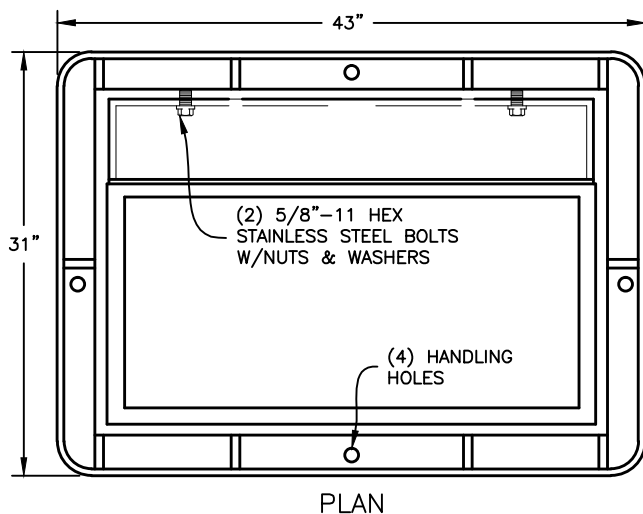
SECTION

**STANDARD CATCH BASIN
ADJUSTABLE BACK**

APPROX. WEIGHT = 79LBS.

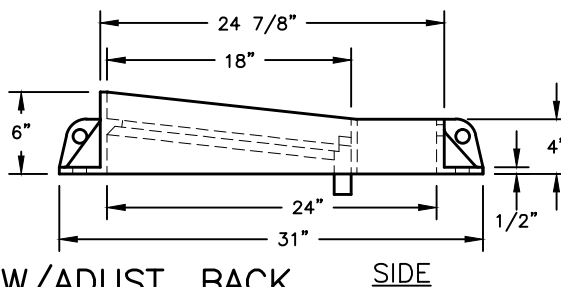
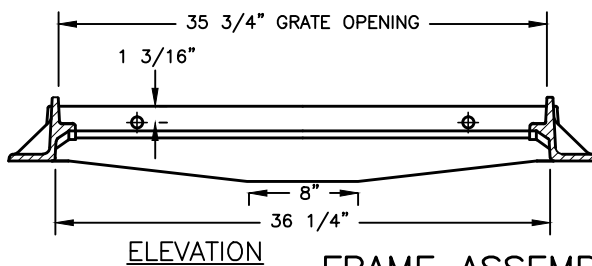
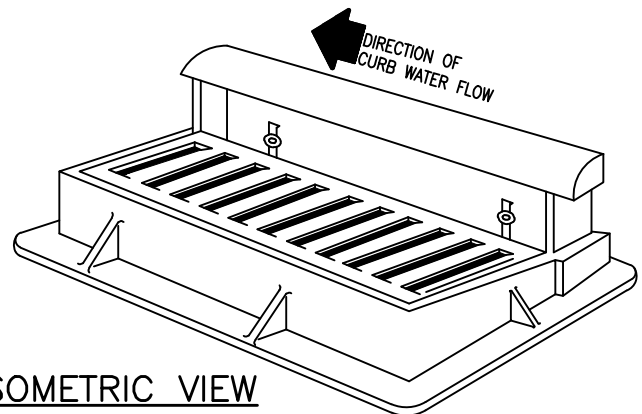
NOTE:

1. CURB ADJUSTMENT 6" TO 11".
2. FOR GRANITE OR OTHER SQUARE CURB SECTIONS A SQUARE BACK CASTING WITH AN ENVIRONMENTAL NOTICE OR MOUNT PLATE SHALL BE USED.



NOTE:

1. FRAMES, GRATES AND COVERS, SHALL MEET REQUIREMENTS OF 604.02 & AASHTO M306



FRAME ASSEMBLY W/ADJUST. BACK

APPROX. WEIGHT = 198LBS. (FRAME ONLY)

CITY OF COLUMBUS, OHIO
 DEPARTMENT OF PUBLIC UTILITIES
 DIVISION OF SEWERAGE & DRAINAGE

CAST IRON FRAME
 AND GRATE FOR CURB
 & GUTTER INLET
 (HEAVY DUTY)

STANDARD DRAWING
 AA-S128

REVISED 8/8/14

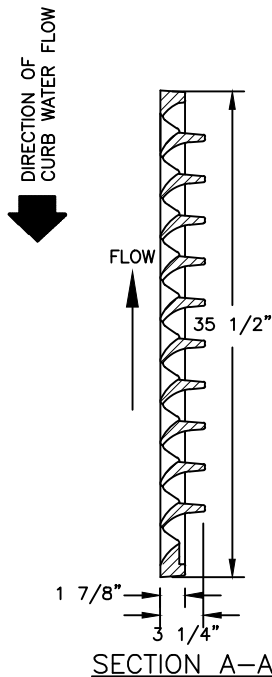
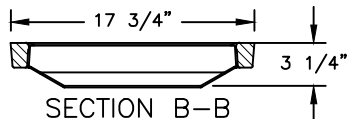
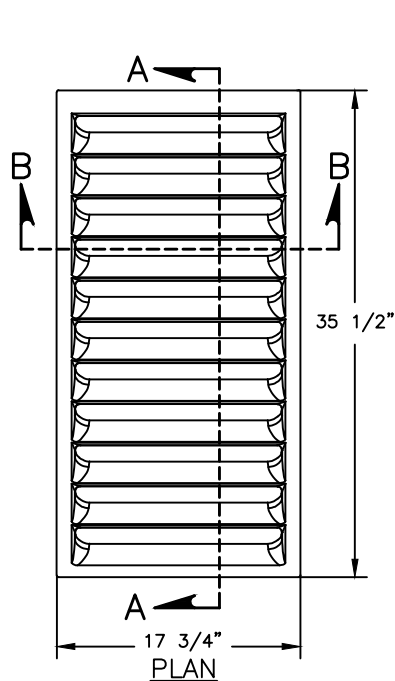
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SSS MANAGER

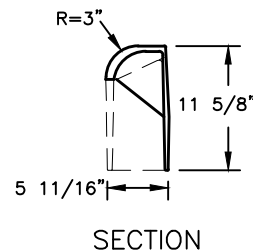
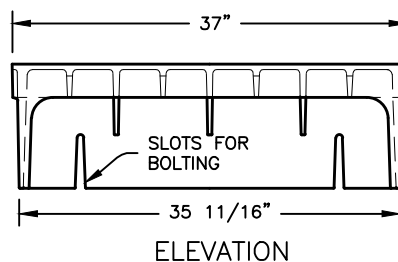
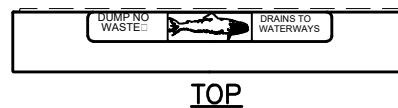
John J. Newson



PRE-APPROVED CASTINGS:

EJ NO. - 7031, 7032 WITH Z1 FRAME, M4 GRATE & T6 BACK

NEENAH NO. - 3295-2 WITH TYPE V GRATE OR
(R-32900022 TYPE "N" SQUARE BACK)



**STANDARD CATCH BASIN
ADJUSTABLE BACK**

APPROX. WEIGHT = 79LBS.

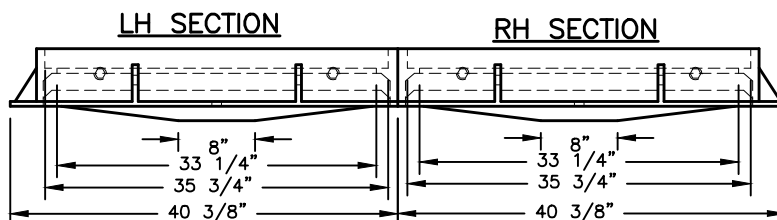
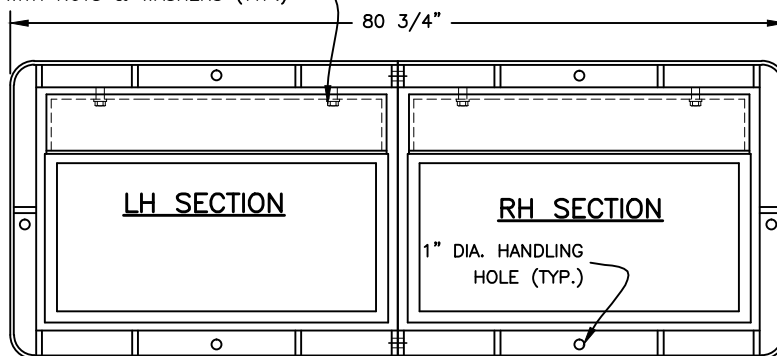
NOTE:

1. CURB ADJUSTMENT 6" TO 11".
2. FOR GRANITE OR OTHER SQUARE CURB SECTIONS A SQUARE BACK CASTING WITH AN ENVIRONMENTAL NOTICE OR MOUNT PLATE SHALL BE USED.

CURB GRATING

APPROX. WEIGHT = 138LBS.

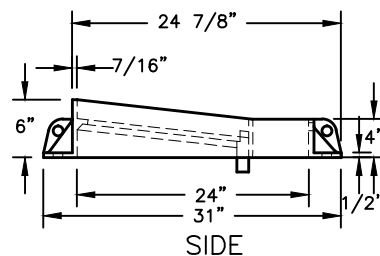
5/8"-HEX STAINLESS STEEL
WITH NUTS & WASHERS (TYP.)



DOUBLE SECTION

NOTES:

1. FRAMES, GRATES & COVERS, SHALL MEET REQUIREMENTS OF 604.02 & AASHTO M306.
2. SEE SHEETS AA-S125A, B, AND C FOR MULTIPLE CATCH BASIN CONFIGURATIONS.
3. LEFT, RIGHT, & CENTER FRAME SECTIONS PROVIDED BY MANUFACTURER.



CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC UTILITIES
DIVISION OF SEWERAGE & DRAINAGE

CAST IRON FRAME
AND GRATE FOR CURB
& GUTTER INLET
(HEAVY DUTY)

STANDARD DRAWING
AA-S128

REVISED 8/8/14

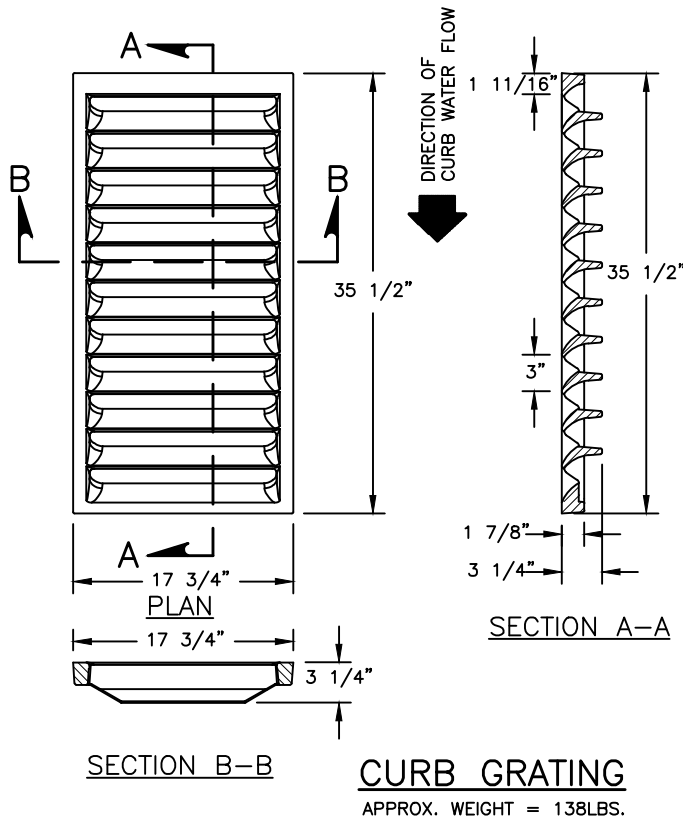
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SSS MANAGER

John J. Newson



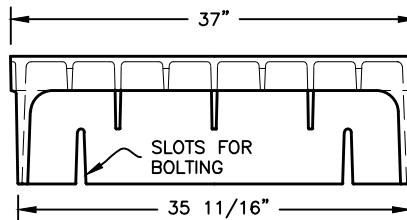
PRE-APPROVED CASTINGS:

EJ NO. - 7030 WITH Z1 FRAME, M4 GRATE & T6 BACK

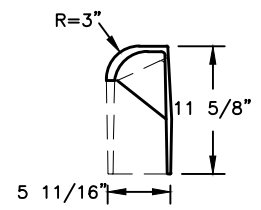
NEENAH NO. - 3067-V OR (R-32900022 TYPE "N" SQUARE BACK)



TOP



ELEVATION



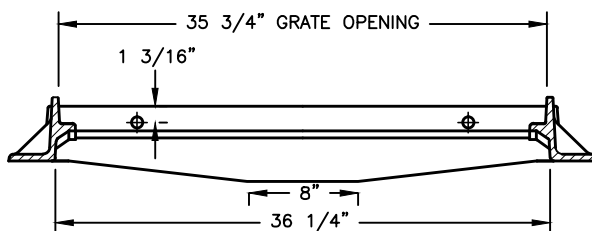
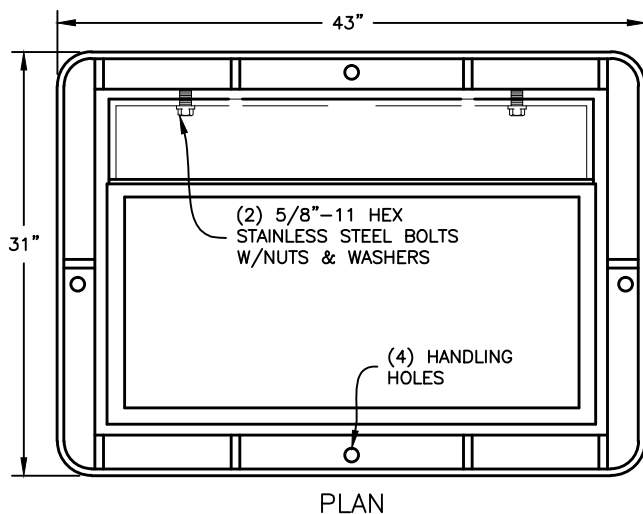
SECTION

**STANDARD CATCH BASIN
ADJUSTABLE BACK**

APPROX. WEIGHT = 79LBS.

NOTE:

1. CURB ADJUSTMENT 6" TO 11".
2. FOR GRANITE OR OTHER SQUARE CURB SECTIONS A SQUARE BACK CASTING WITH AN ENVIRONMENTAL NOTICE OR MOUNT PLATE SHALL BE USED.

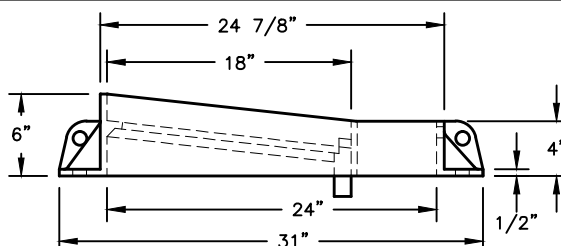
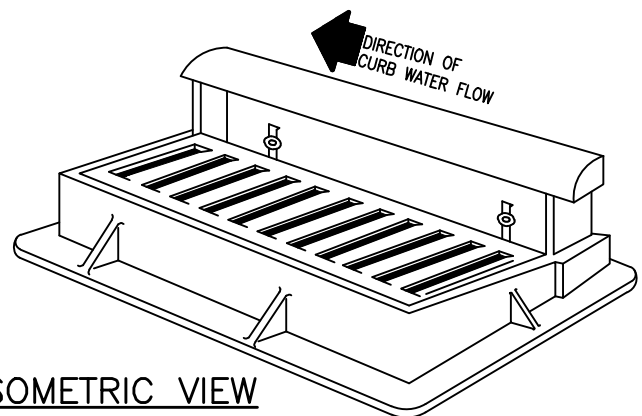


FRAME ASSEMBLY W/ADJUST. BACK

APPROX. WEIGHT = 198LBS. (FRAME ONLY)

NOTE:

1. FRAMES, GRATES AND COVERS, SHALL MEET REQUIREMENTS OF 604.02 & AASHTO M306



CITY OF COLUMBUS, OHIO
 DEPARTMENT OF PUBLIC UTILITIES
 DIVISION OF SEWERAGE & DRAINAGE

CAST IRON FRAME
 AND GRATE FOR CURB
 & GUTTER INLET
 (HEAVY DUTY)

STANDARD DRAWING
 AA-S128

REVISED 8/8/14

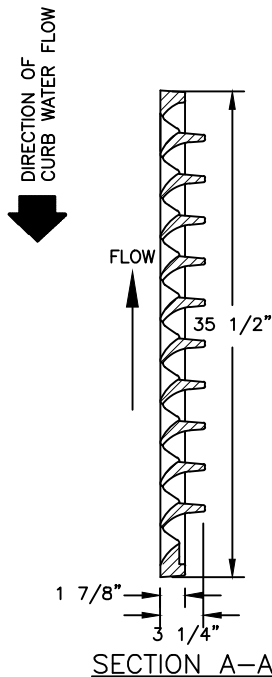
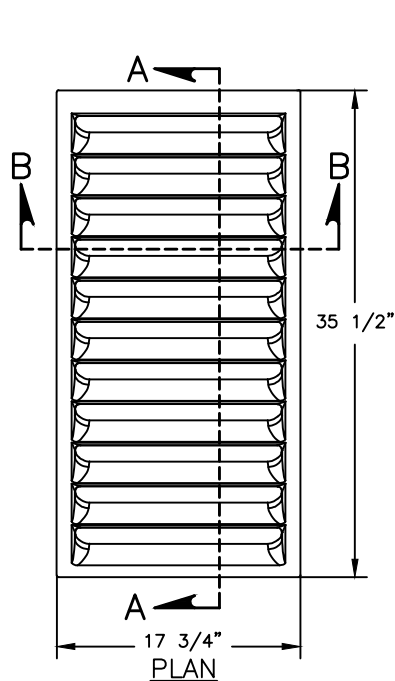
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SSS MANAGER

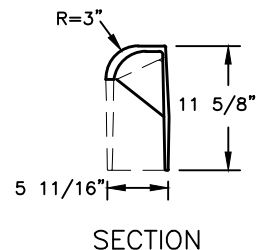
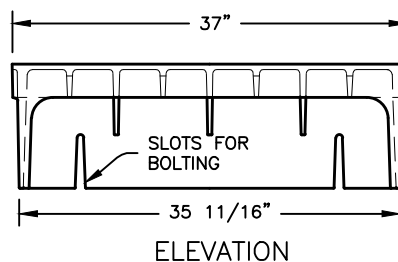
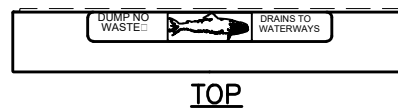
John J. Newson



PRE-APPROVED CASTINGS:

EJ NO. - 7031, 7032 WITH Z1 FRAME, M4 GRATE & T6 BACK

NEENAH NO. - 3295-2 WITH TYPE V GRATE OR
(R-32900022 TYPE "N" SQUARE BACK)



**STANDARD CATCH BASIN
ADJUSTABLE BACK**

APPROX. WEIGHT = 79LBS.

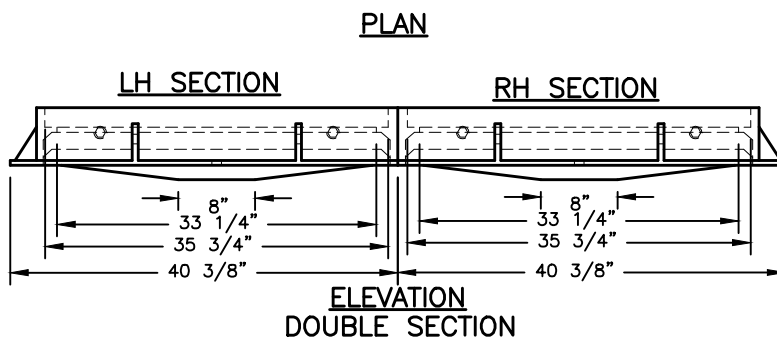
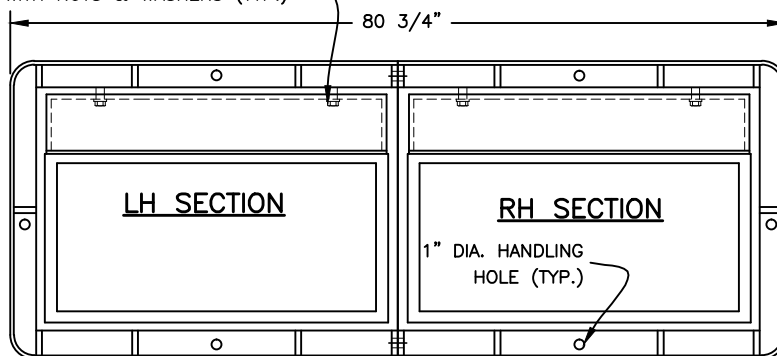
NOTE:

1. CURB ADJUSTMENT 6" TO 11".
2. FOR GRANITE OR OTHER SQUARE CURB SECTIONS A SQUARE BACK CASTING WITH AN ENVIRONMENTAL NOTICE OR MOUNT PLATE SHALL BE USED.

CURB GRATING

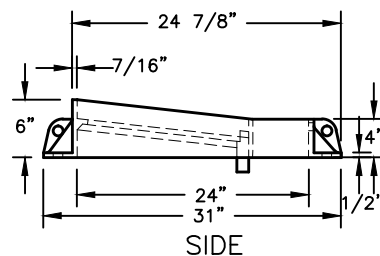
APPROX. WEIGHT = 138LBS.

5/8"-HEX STAINLESS STEEL
WITH NUTS & WASHERS (TYP.)



NOTES:

1. FRAMES, GRATES & COVERS, SHALL MEET REQUIREMENTS OF 604.02 & AASHTO M306.
2. SEE SHEETS AA-S125A, B, AND C FOR MULTIPLE CATCH BASIN CONFIGURATIONS.
3. LEFT, RIGHT, & CENTER FRAME SECTIONS PROVIDED BY MANUFACTURER.



CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC UTILITIES
DIVISION OF SEWERAGE & DRAINAGE

CAST IRON FRAME
AND GRATE FOR CURB
& GUTTER INLET
(HEAVY DUTY)

STANDARD DRAWING
AA-S128

REVISED 8/8/14

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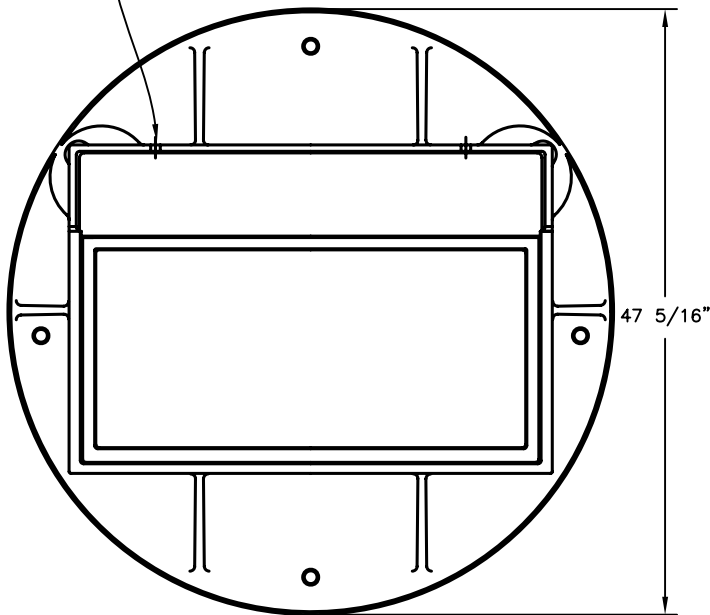
SSS MANAGER

John J. Newson

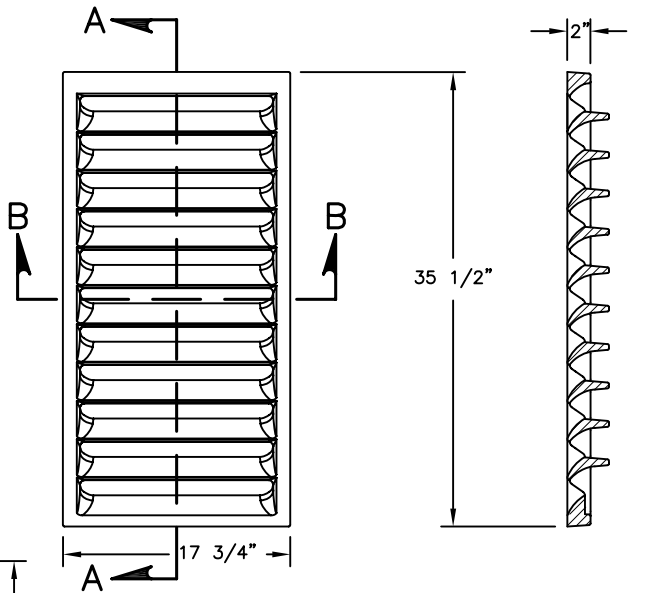
NOTE:

1. FRAMES, GRATES AND COVERS, SHALL MEET REQUIREMENTS OF 604.02 & AASHTO M306
2. CURB ADJUSTABLE FROM 3 1/4" TO 9".

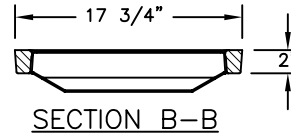
(2) 5/8"-11 HEX STAINLESS STEEL BOLTS W/NUTS AND WASHERS



PLAN



SECTION A-A

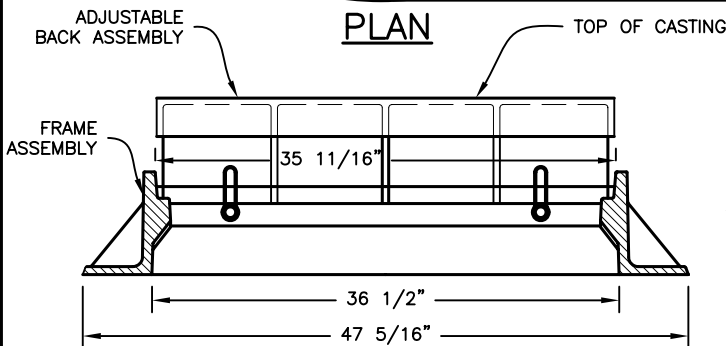


SECTION B-B

CURB GRATING

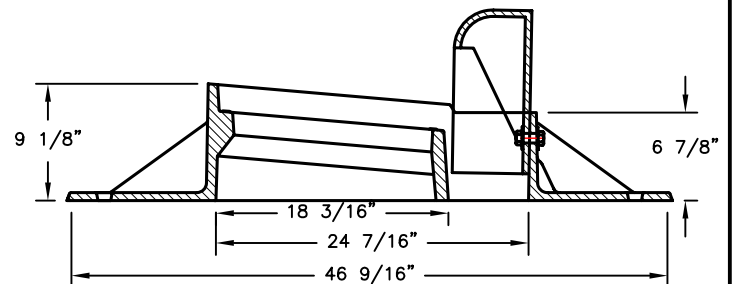
PRE-APPROVED CASTINGS:

EJ NO. - 7360Z WITH 7030M4 GRATE & 7030T6 BACK
NEENAH NO. - 3246-F WITH TYPE V GRATE



ELEVATION

FRAME ASSEMBLY
W/ADJUST. BACK



SECTION

CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC UTILITIES
DIVISION OF SEWERAGE & DRAINAGE

CURB & GUTTER INLET
FOR CURB INLET
MANHOLES

STANDARD DRAWING
AA-S142

REVISED 12/6/13

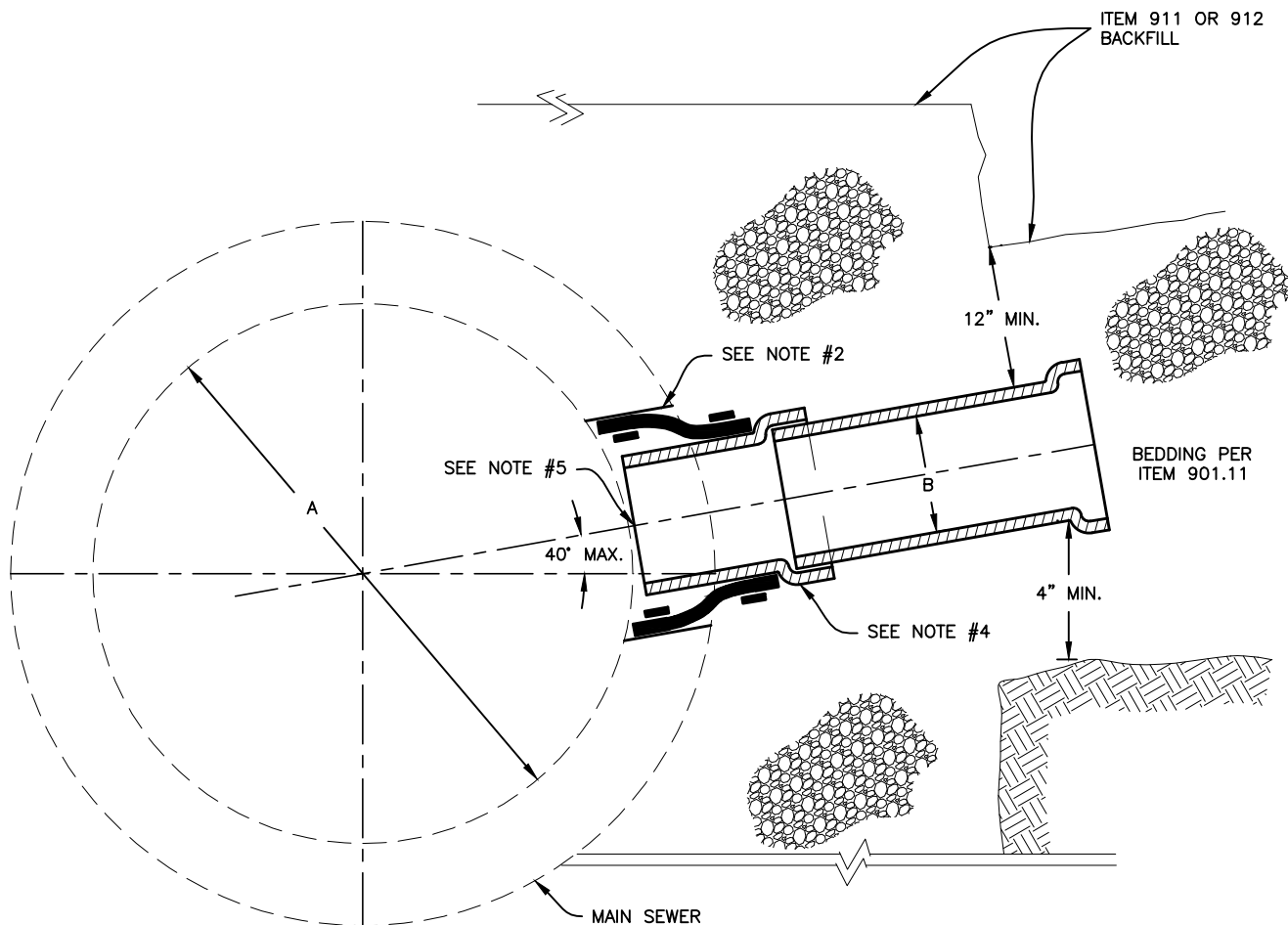
PAGE

1

1

SSS MANAGER

John J. Newson



NOTES:

1. THIS DETAIL PERTAINS TO LATERAL SEWER CONNECTIONS TO EXISTING MAIN LINE SEWERS 30" IN DIAMETER AND LARGER.
2. THE PENETRATION IN THE MAIN SEWER SHALL BE CORED FOR THE DIAMETER REQUIRED FOR THE INSERT-A-TEE (OR APPROVED EQUAL) FLEXIBLE CONNECTOR.
3. PIPE MATERIALS SHALL BE IN CONFORMANCE WITH 901.02.
4. BEGINNING OF BELL SECTION OF STUB PIPE TO BE FLUSH WITH END OF FLEXIBLE CONNECTOR.
5. STUB PIPE SHALL NOT EXTEND INTO MAIN SEWER.
6. INTERNAL AND EXTERNAL CLAMPS SHALL BE STAINLESS STEEL.
7. MINIMUM DISTANCE FROM CENTERLINE OF MAIN SANITARY SEWER TO FIRST MANHOLE ON LATERAL - 25 FEET; MAXIMUM 50 FEET.

A DIA.(ID)	B DIA.(OD)MAX.
30"	14.5"
36"	18.5"
42" & LARGER	21.1"

CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC UTILITIES
DIVISION OF SEWERAGE & DRAINAGE

BLIND
CONNECTION
DETAIL

STANDARD DRAWING
AA-S159

REVISED 7/9/12

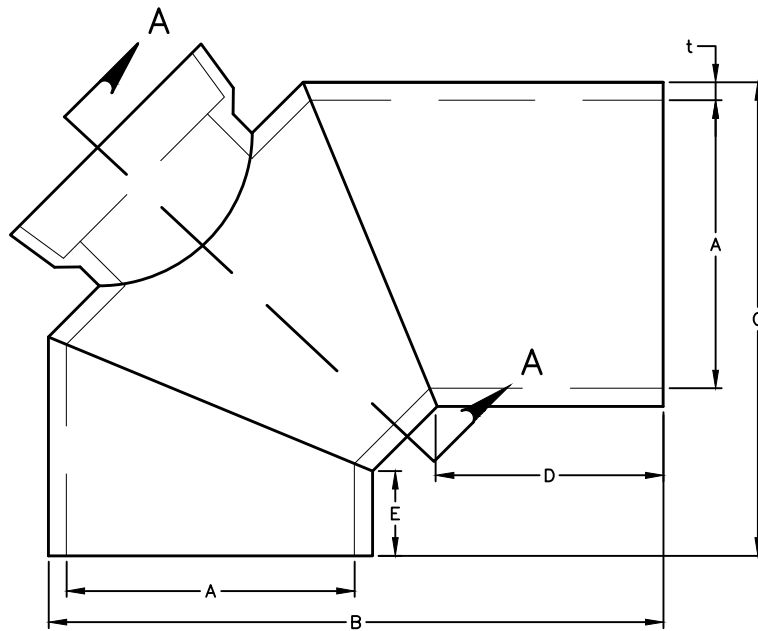
SSS MANAGER

John J. Newson

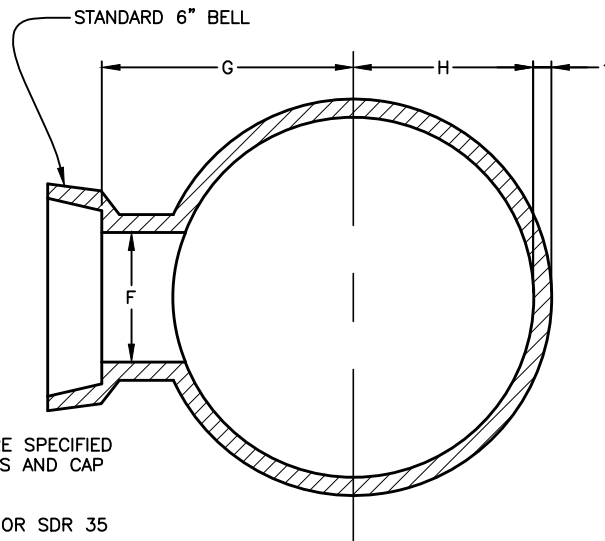
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SIDE VIEW



SECTION A-A

GENERAL NOTES:

1. WHEN 8" OR 10" H-H TRAPS ARE SPECIFIED USE PREFABRICATED TEE SECTIONS AND CAP THE APPROPRIATE OPENING.
2. H.H. TRAPS MAY BE EITHER VCP OR SDR 35 PVC PIPE.
3. IN LIEU OF AN H.H. TRAP, A TIDEFLEX SERIES TF-1 CHECK VALVE, SERIES 35-1 CHECK VALVE OR CHECKMATE VALVE MAY BE INSTALLED. ALL INSTALLATIONS SHALL BE PER THE MANUFACTURERS RECOMMENDATION.
4. FOR SEWERS LARGER THAN 15" IN DIAMETER A TIDEFLEX SERIES TF-1 CHECK VALVE, SERIES 35-1 CHECK VALVE OR RODNEY HUNT SERIES FV-AC FLAP GATE MAY BE INSTALLED AT THE DISCRETION OF SSES.

STANDARD DIMENSIONS FOR 12" & 15" H.H. CATCH BASIN TRAPS

TYPE	A	B	C	D	E	F	G	H	t
12" TRAP	12" DIA.	2'-4"	1'-9"	13"	4"	6"	8 3/4"	6"	1"
15" TRAP	15" DIA.	2'-7 3/4"	2'-3 3/4"	13"	6"	6"	10 3/4"	7 1/2"	1 1/4"

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H.H. INLET & MANHOLE
TRAP 15" DIAMETER &
SMALLER

STANDARD DRAWING
AA-S163

REVISED 8/8/14

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SSES MANAGER

John J. Newson