

Standard Drawing Index

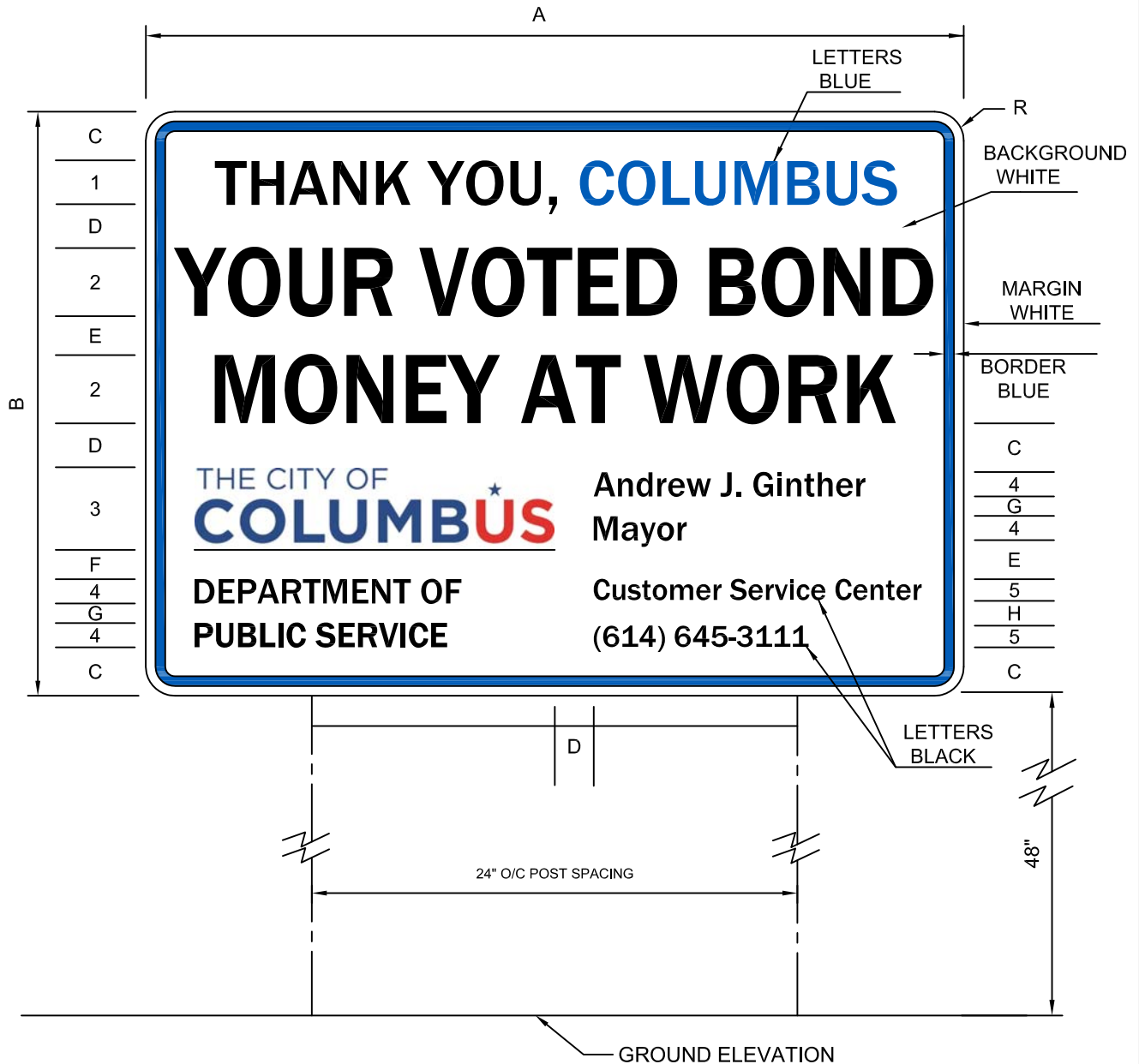
City of Columbus, Ohio
Department of Public Service
Division of Design and Construction

Reference Index of Standard Construction Drawings
[1440-2400]

STANDARD DRAWING No.	STANDARD DRAWING TITLE	REVISION DATE
1440	Your Bond Money at Work Sign	01/04/2016
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2000	Curb, Straight 18"	06/01/2014
2005	Curb, Granite	12/01/2014
2010	Combination Curb & Gutter, Type Standard	08/01/2014
2020	Combination Curb & Gutter, Type Special 8"	08/01/2014
2030	Combination Curb & Gutter, Type Mountable	06/01/2013
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2135	Uncurbed Section, Side Ditch	06/01/2013
2145	Curbed Section Approach to Non-Curbed Roadway	06/01/2013
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2166	Directional Boring	06/01/2013
2170	Joint Details for Portland Cement Concrete Paving	06/01/2013

[illegible]

A	B	LETTERS					C	D	E	F	G	H	R	BORDER	MARGIN	NUMBER OF POSTS	POSTS LENGTH
		1	2	3	4	5											
42"	30"	2-1/4" D	3-1/2" C	4-1/4" C	1-1/4" C	1-1/8" C	2-1/2"	2-1/4"	2"	1-1/2"	1"	1-1/4"	1-1/2"	1/2"	1/2"	2	13'



METAL SIGNS ARE TO BE MOUNTED ON 2 LB. POSTS.
WOOD SIGNS ARE TO BE MOUNTED ON TWO 4"x4" POSTS.
WOOD SIGNS MAY HAVE SQUARE CORNERS.

SIGNS SHALL BE FASTENED TO POSTS BY (4) 5/16" GALV. STEEL HEX HEAD BOLTS WITH A 3/8" I.D. x 1" O.D. WIDE WASHER PLACED UNDER EACH BOLT HEAD AND USING A LOCKWASHER AND HEX NUT. PLACE BOLTS 6" FROM TOP OF SIGN AND 6" FROM BOTTOM, 18" APART. DO NOT PLACE BOLTS WITHIN TEXT AREA OR IN A LOCATION THAT WASHERS COVER ANY PORTION OF TEXT.

YOUR BOND MONEY AT WORK SIGN

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

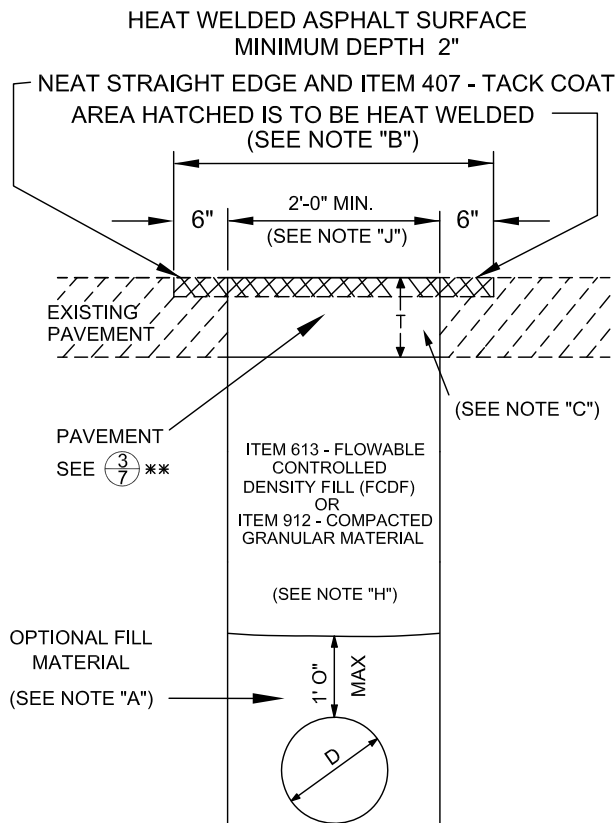
CITY ENGINEER

STD DWG

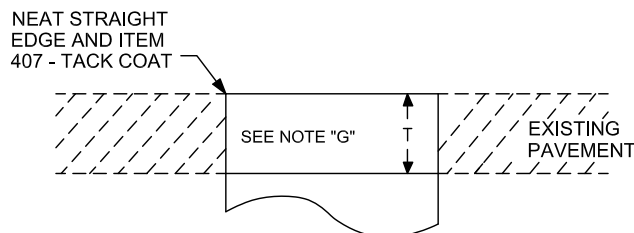
1440

1/4/2016

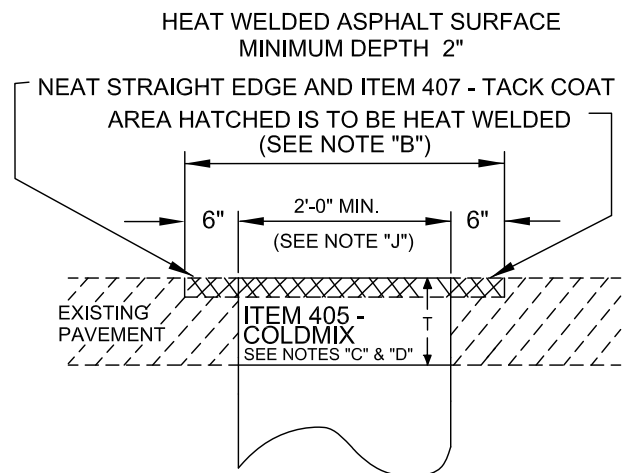
SHT 1 OF 1



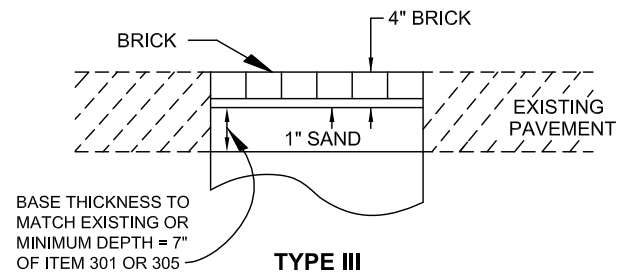
TYPE I
STANDARD FLEXIBLE ASPHALT REPAIR
WITH HEATWELD SURFACE
(SEE NOTE "B")



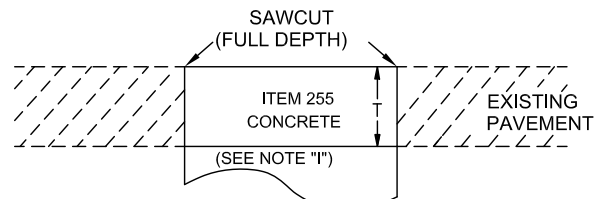
TYPE IV
ALLEY REPAIR



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



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



TYPE V
CONCRETE STREET REPAIR
OR
CONCRETE BUS PAD

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.

PAVEMENT & UTILITY CUT REPAIR STANDARDS

CITY OF COLUMBUS, OHIO
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CITY ENGINEER

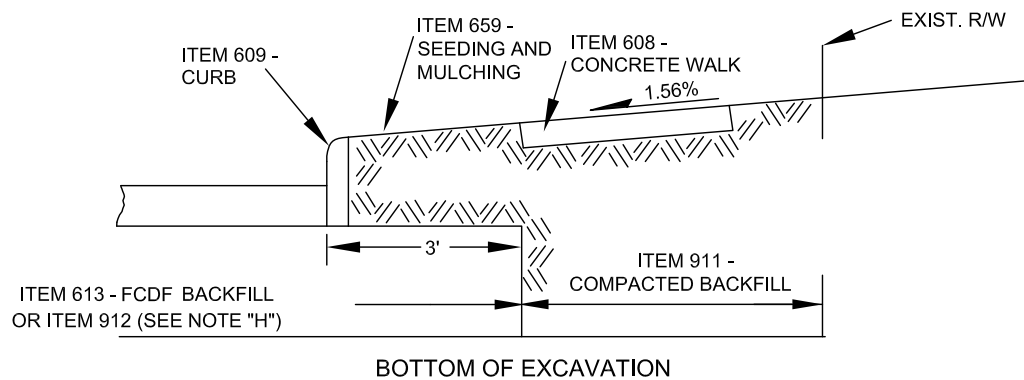
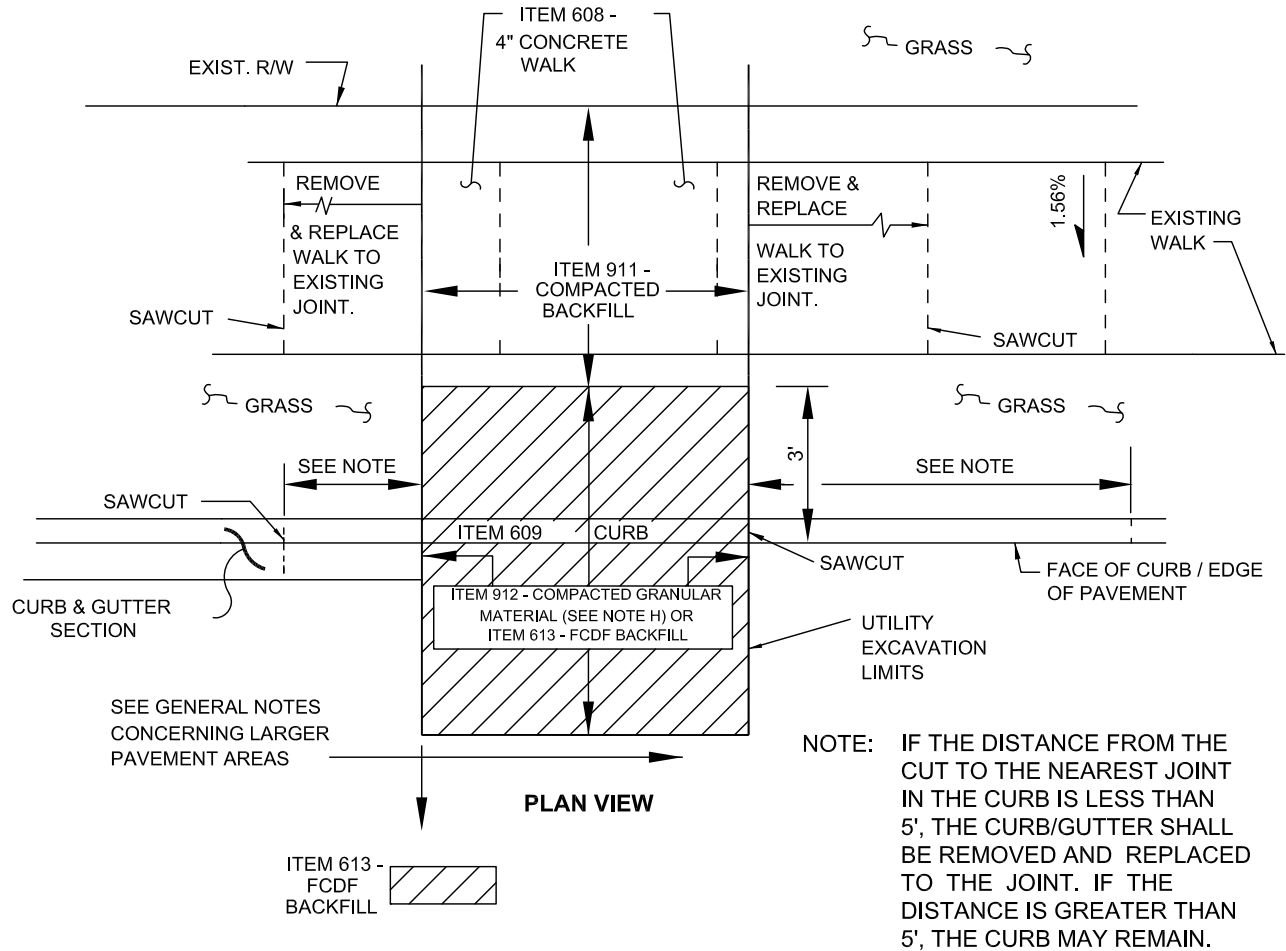
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SIDEWALK AND CURB REPAIR DETAILS



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

PAVEMENT & UTILITY CUT REPAIR STANDARDS

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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.

SCOPE OF WORK

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 A BITUMINOUS PATCH MATERIAL WITH A DURABLE SURFACE OR PROPERLY PLATED. (AS PER CITY CODE CHAPTER 903 &/OR SHEET 7 OF THIS STANDARD DRAWING) THE CONTRACTOR WILL BE REQUIRED TO MAINTAIN THESE PATCHES WHILE THEY ARE IN SERVICE. THE COST OF PLACING, MAINTAINING, AND REMOVING AND DISPOSING OF THE TEMPORARY PATCHES OR PLATES WILL BE AT THE CONTRACTOR'S EXPENSE.

WHEN ITEM 613 FCDF IS USED AS A BACKFILL, NO PAVEMENT SHALL BE PLACED UNTIL BLEED WATER HAS BEEN EVAPORATED FROM THE FCDF SURFACE OR HAS BEEN DRAINED OR REMOVED FROM THE SURFACE. ITEM 613 FCDF IS NOT PERMITTED AS A TEMPORARY DRIVING SURFACE.

THE BACKFILLING PAVEMENT REPAIR AND/OR HEAT WELDING SHALL BE DONE BY THE CONTRACTOR OR PERMITEE 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.

RESTORATION OF ANY SIDEWALK, CURB, STREET PAVEMENT, 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 DEALT WITH IN ACCORDANCE WITH SECTION 903.99 OF THE COLUMBUS CITY CODE.

**** PAVING STANDARDS FOR LARGE TRENCHES OR PAVING AREAS**

THE PAVEMENT REPAIR SECTION SHALL CONFORM TO 3" OF ITEM 448 - ASPHALT CONCRETE ON EITHER 7" OF ITEM 301 - ASPHALT CONCRETE BASE OR ITEM 305 - PORTLAND CEMENT CONCRETE BASE.

PAVEMENT & UTILITY CUT REPAIR STANDARDS	
CITY OF COLUMBUS, OHIO DEPARTMENT OF PUBLIC SERVICE DIVISION OF DESIGN AND CONSTRUCTION	STD DWG
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WHEN A TRENCH EXCEEDS 100 FT. IN LENGTH, THE REPAIR SHALL INCLUDE PLANING A FULL LANE WIDTH (OR ANY OTHER LANE WIDTH AS DIRECTED BY THE DEPARTMENT OF PUBLIC SERVICE) TO A DEPTH OF 1½" FOR THE ENTIRE LENGTH OF THE TRENCH. THE PLANED AREA SHALL THEN BE REPAVED WITH A PAVER IN ACCORDANCE WITH CURRENT CITY STANDARD SPECIFICATIONS. ITEM 423 - CRACK SEALING, TYPE 1 SHALL BE APPLIED TO EXPOSED JOINTS ONCE THE PAVING OPERATION HAS BEEN COMPLETED.

WHEN TRENCHING WORK CROSSES LANES, ALL AFFECTED LANES SHALL REQUIRE PLANING AND RESURFACING AS DESCRIBED ABOVE. THIS WORK SHALL INCLUDE ALL OF THE AFFECTED PAVEMENT AREA.

SPECIAL NOTES

NOTE 'A' : WHEN USING FLOWABLE CONTROLLED DENSITY FILL (FCDF), 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' : FOR TYPE I AND TYPE II CUT REPAIRS, THE AREA TO BE HEAT WELDED IS TO INCLUDE THE CUT AND EXTEND FOR 6" BEYOND EACH SIDE OF THE CUT FOR A NOMINAL DEPTH OF 2".

NOTE 'C' : FOR TYPE I AND TYPE II PAVEMENT REPAIR, THE ITEM 448 - HOT ASPHALT CONCRETE OR ITEM 405 - COLD MIX SHALL BE PLACED IN LIFTS NOT EXCEEDING 3" AND COMPACTED WITH A COMBINATION VIBRATORY PLATE COMPACTOR, OR A VIBRATORY STEEL WHEELED ROLLER WITH A MINIMUM CERTIFIED FORCE OF 2000 POUNDS. IN ALL CASES THE SURFACE LIFT SHALL BE COMPACTED WITH THE VIBRATORY STEEL WHEELED ROLLER. WHEN PLACING ITEM 405 - COLD MIX FULL DEPTH, MATERIAL TEMPERATURE SHALL BE 70 DEGREES OR ABOVE.

NOTE 'D' : COLD MIX SHALL BE ITEM 405 - COLD MIX OR OTHER COLD MIX APPROVED BY THE CITY OF COLUMBUS. IN LIEU OF COLD MIX, THE CONTRACTOR MAY STOCKPILE ITEM 448 - ASPHALT CONCRETE AND REHEAT IT TO PLACE IN CUT AS PAVEMENT REPAIR. TYPE II PAVEMENT REPLACEMENT SHALL CONSIST OF FULL DEPTH ITEM 405 - COLD MIX FOR SMALL EXCAVATIONS. LARGE EXCAVATIONS SHALL REQUIRE A MINIMUM OF 7" OF FAST SETTING PORTLAND CEMENT AND 2" OF ITEM 405 - COLD MIX.

NOTE 'E' : THE COLD MIX IS TO BE REPLACED WITH ITEM 448 - ASPHALT CONCRETE WHICH IS TO BE HEAT WELDED AS SET FORTH IN NOTE 'B'. THIS WORK SHALL BE PERFORMED AS SOON AS ASPHALT IS AVAILABLE.

PAVEMENT & UTILITY CUT REPAIR STANDARDS

CITY OF COLUMBUS, OHIO
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NOTE 'F': REPAIR OF BRICK STREETS

1. BRICKS REMOVED FROM A REPAIR AREA SHALL BE STORED IN A SAFE PLACE BY THE CONTRACTOR FOR REUSE. THE CONTRACTOR WILL BE RESPONSIBLE FOR REPLACING ANY BRICKS THAT ARE STOLEN OR DAMAGED, AT NO ADDITIONAL COST TO THE CITY.
2. IF BRICKS ARE SUPPLIED BY THE CONTRACTOR, THEY MUST FIRST BE APPROVED BY THE CITY BEFORE THEY ARE USED.
3. 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).
4. THE EXISTING BASE MATERIAL 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.
5. THE MAXIMUM WIDTH OF A BRICK MORTAR JOINT SHALL BE 1/2". 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.
6. MORTARING OF JOINTS: ALL JOINTS SHALL BE MORTARED WITH A 50/50 MIXTURE BY VOLUME OF SAND AND CEMENT SO AS TO PROVIDE A FLUSH FINISH. THIS MAY REQUIRE MORE THAN ONE APPLICATION. FURTHER, MECHANICAL VIBRATION WILL BE REQUIRED FOR CONSOLIDATION OF DRY MORTAR MIX.

NOTE 'G': 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 SHALL CONSIST OF 6" OF ITEM 448 - 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 PAVEMENT

IF PAVING REQUIREMENTS ALLOW FOR SUFFICIENT CURING TIME SO THAT FAST SETTING CONCRETE IS NOT NEEDED, STANDARD CONCRETE BASE OR PAVEMENT MAY BE PLACED AS PER THE CMSC. THIS OPTION MUST BE NOTED ON THE PERMIT APPLICATION AND APPROVED BY THE CITY OF COLUMBUS.

NOTE 'J': 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.

PAVEMENT & UTILITY CUT REPAIR STANDARDS

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

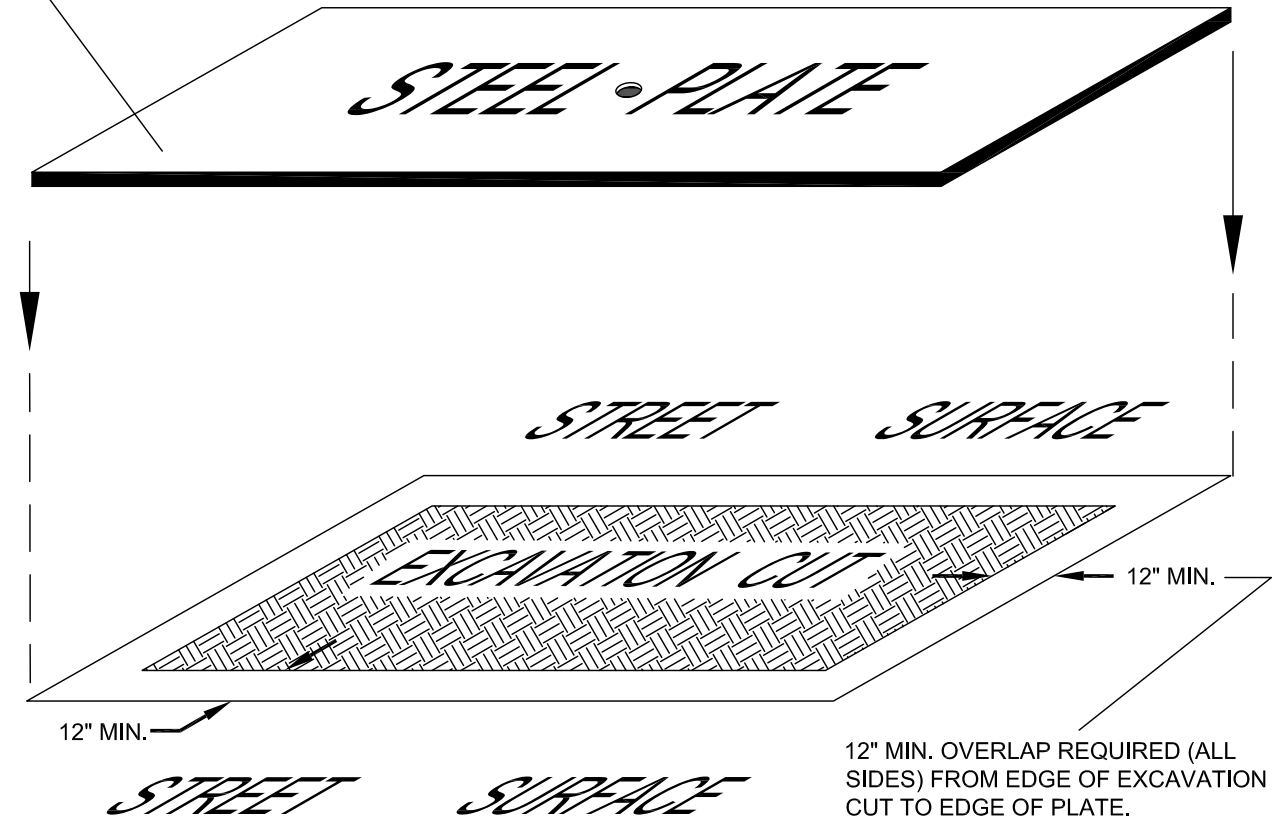
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1. OWNER'S NAME.
2. A 24 HOUR EMERGENCY CONTACT PHONE NUMBER.



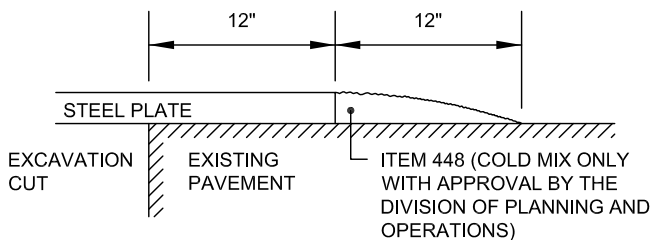
ALL STEEL PLATES MUST HAVE THE FOLLOWING INFORMATION CLEARLY AND LEGIBLY 'ETCHED' INTO THEIR TOP SURFACE:

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

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 7 FOR SIGNING REQUIREMENTS.



STEEL PLATE REQUIREMENTS

PAVEMENT & UTILITY CUT REPAIR STANDARDS

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

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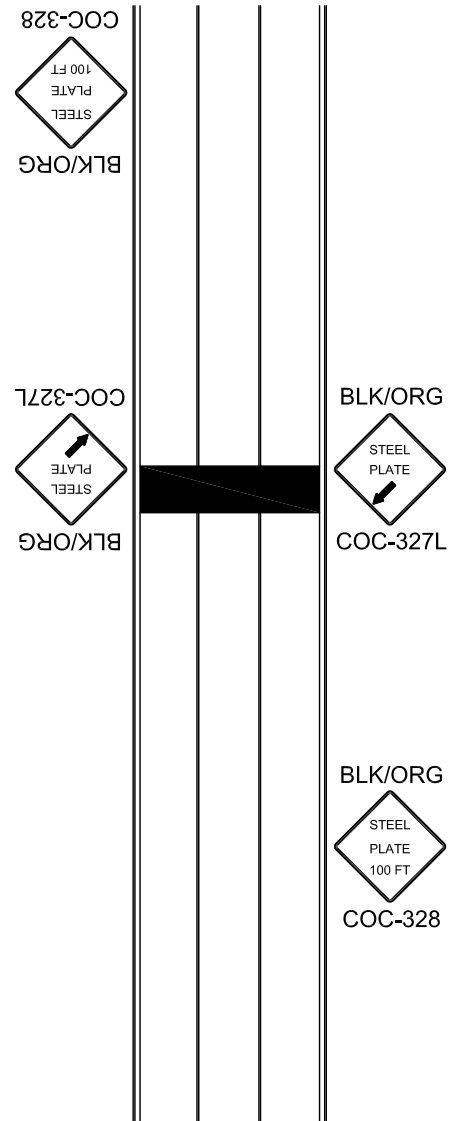
SIGNS ARE TO BE 36"x36" FOR RESIDENTIAL AND DOWNTOWN AREAS AND 48"x48" ON MULTI-LANE, HIGH SPEED (45 MPH OR GREATER) ROADWAYS.

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.

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

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



STEEL PLATE REQUIREMENTS

PAVEMENT & UTILITY CUT REPAIR STANDARDS

CITY OF COLUMBUS, OHIO
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DIVISION OF DESIGN AND CONSTRUCTION

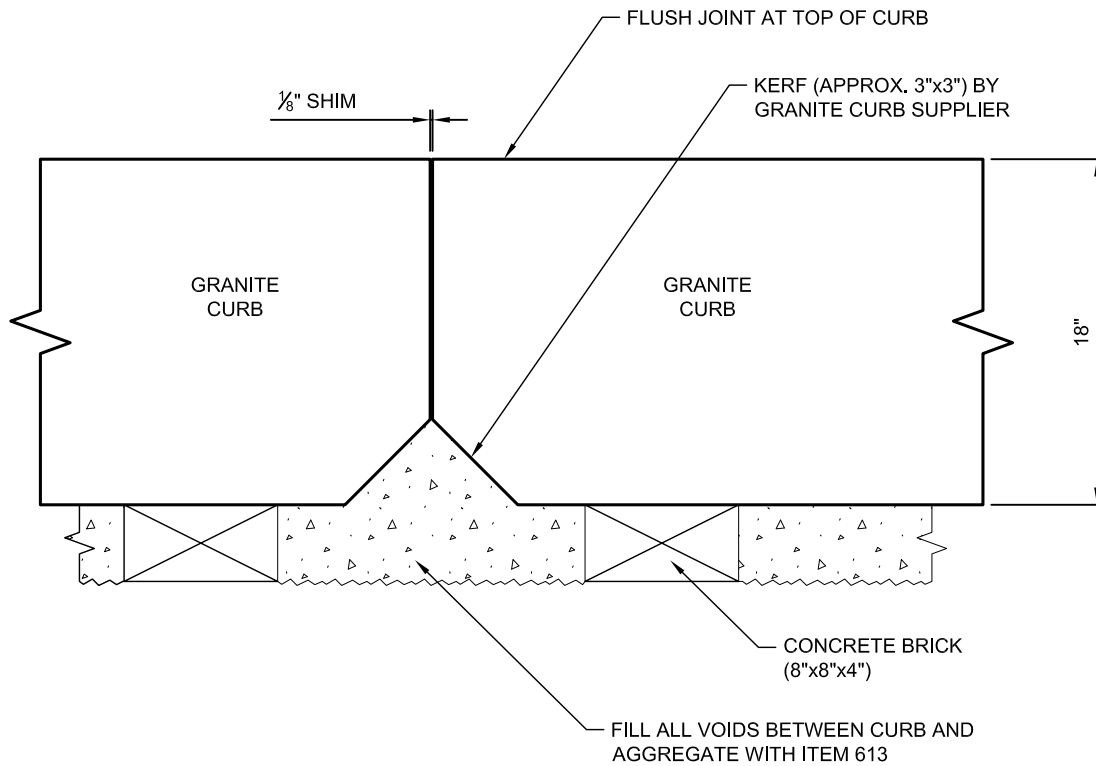
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ELEVATION

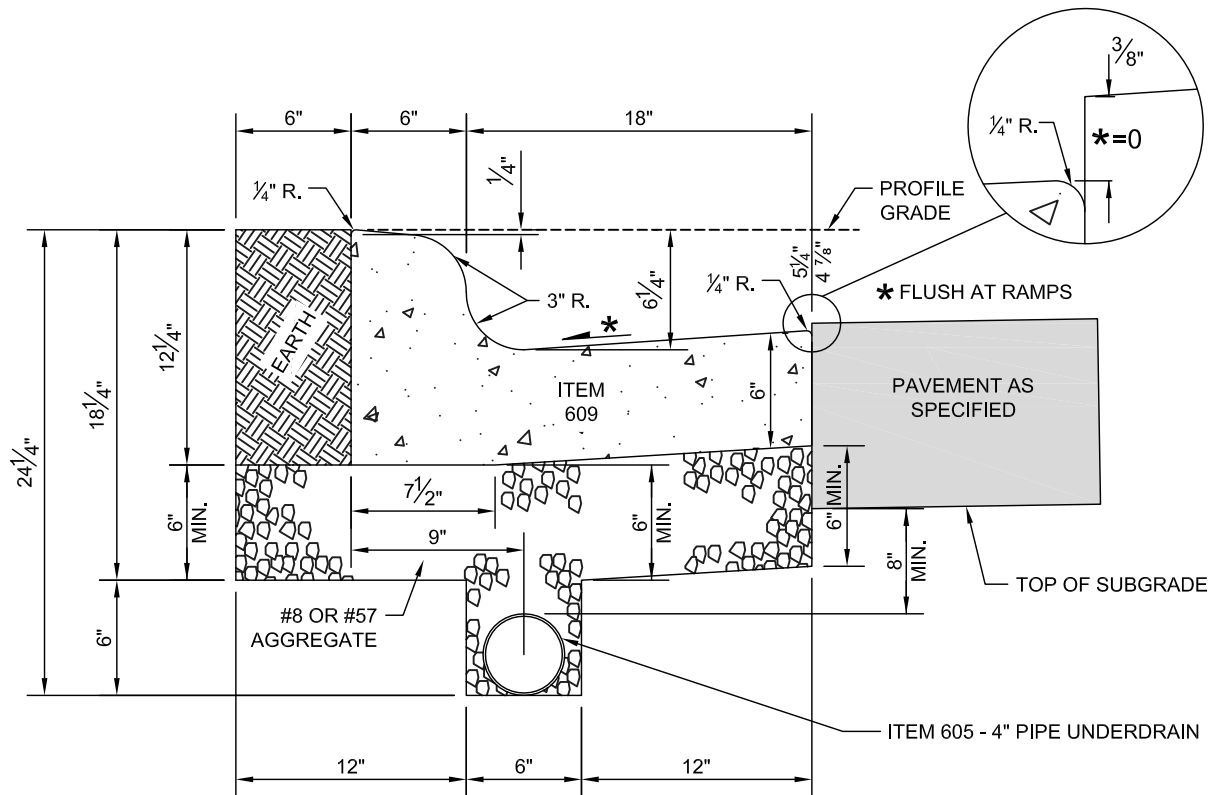
CURB GRANITE

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

STD DWG
2005

12/1/14

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* AT CURB RAMP LOCATIONS, THE GUTTER SLOPE SHALL NOT EXCEED 4.7%. TRANSITION GUTTER OVER 3' TO MATCH EXISTING CURB & GUTTER SLOPE. THE PAVEMENT SHALL BE FLUSH AT THE GUTTER IN FRONT OF CURB RAMPS. CURB RAMPS SHALL BE BUILT PER STD DWG 2319.

1.26 C.F. CONCRETE PER L.F.

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 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 ITEM IS ADJOINING IT.

WHEN CONNECTING TO AN EXISTING COMBINATION CURB AND GUTTER, TRANSITION THE GUTTER PAN AS REQUIRED, OVER A DISTANCE OF 10 FEET MAXIMUM, TO MAINTAIN POSITIVE DRAINAGE.

COMBINATION CURB & GUTTER, TYPE STANDARD

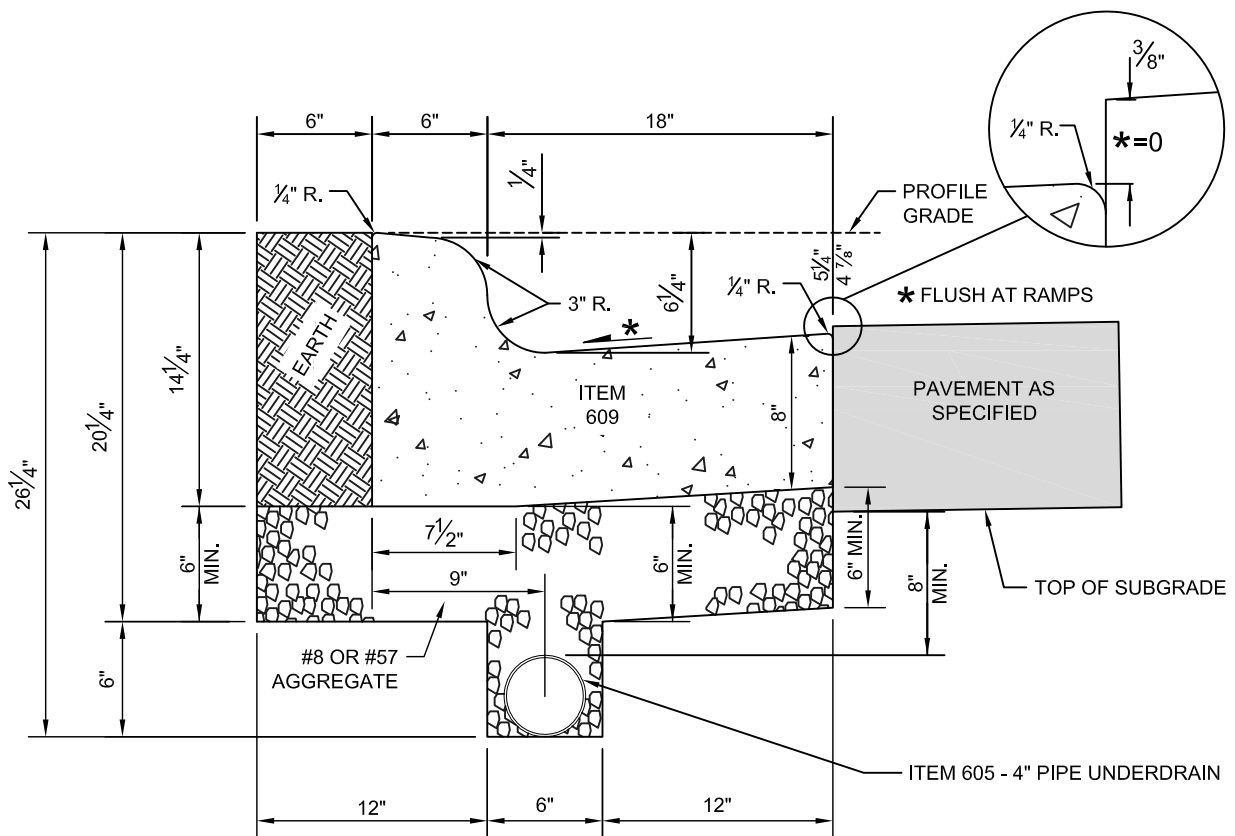
CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF DESIGN AND CONSTRUCTION

STD DWG
2010

CITY ENGINEER

8/1/14

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* AT CURB RAMP LOCATIONS, THE GUTTER SLOPE SHALL NOT EXCEED 4.7%. TRANSITION GUTTER OVER 3' TO MATCH EXISTING CURB & GUTTER SLOPE. THE PAVEMENT SHALL BE FLUSH AT THE GUTTER IN FRONT OF CURB RAMPS. CURB RAMPS SHALL BE BUILT PER STD DWG 2319.

1.26 C.F. CONCRETE PER L.F.

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.

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

WHEN CONNECTING TO AN EXISTING COMBINATION CURB AND GUTTER, TRANSITION THE GUTTER PAN AS REQUIRED, OVER A DISTANCE OF 10 FEET MAXIMUM, TO MAINTAIN POSITIVE DRAINAGE.

COMBINATION CURB & GUTTER, TYPE SPECIAL 8"

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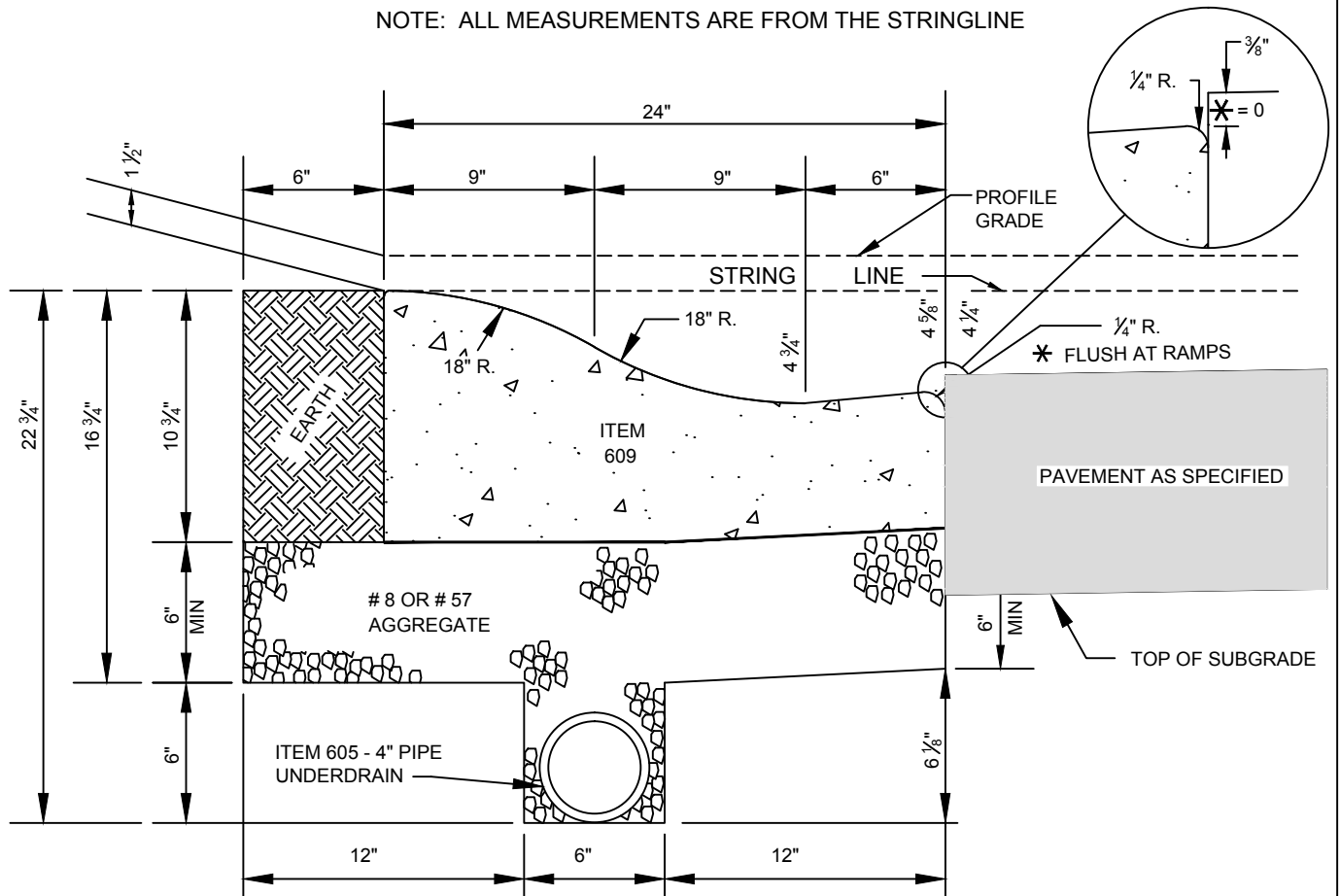
STD DWG
2020

CITY ENGINEER

8/1/14

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NOTE: ALL MEASUREMENTS ARE FROM THE STRINGLINE



- * THE PAVEMENT SHALL BE FLUSH AT THE GUTTER IN FRONT OF CURB RAMPS. CURB RAMPS SHALL BE BUILT AS PER STD DWG 2319.

1.33 C.F. CONCRETE PER L.F.

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 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 ITEM IS ADJOINING IT.

COMBINATION CURB & GUTTER, TYPE MOUNTABLE

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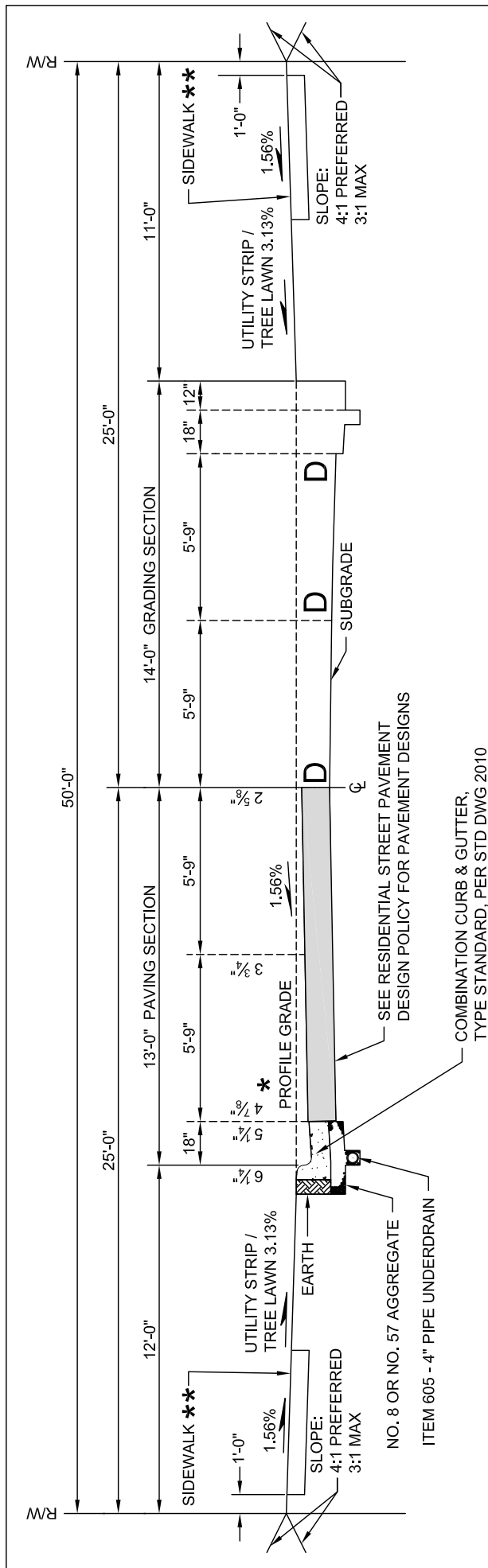
CITY ENGINEER

STD DWG

2030

6/1/13

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* FOR COMBINATION CURB AND GUTTER, TYPE STANDARD, THE PROFILE GRADE AND STRING LINE ELEVATIONS ARE THE SAME.

** SIDEWALK WIDTH PER STANDARD DRAWING 2300

A MINIMUM 7FT WIDE PEDESTRIAN ACCESS ROUTE (PAR) SHALL BE PROVIDED BETWEEN OPPOSING RAMPS AND SHALL HAVE A CROSS-SLOPE (THE LONGITUDINAL STREET SLOPE) NO GREATER THAN 1.56%.

TACK RATES:

- a) RESURFACING = .10 GAL/SY
- b) RUBBERIZED ON CONCRETE BASE OR BRICK = 0.08 GAL/SY
- c) NEW CONSTRUCTION = SURFACE .08 GAL/SY
- d) NEW CONSTRUCTION (INTERMEDIATE) = 0.04 GAL/SY

ITEM 407 TACK COAT SHALL BE APPLIED AT A RATE OF 0.08 GAL/SY IF STREET IS PUT INTO SERVICE PRIOR TO PLACEMENT OF FINAL PAVEMENT COURSE.

D = DIMENSION FROM PROFILE GRADE (STRING LINE) TO SUBGRADE. CALCULATE AND PROVIDE DIMENSIONS BASED ON THE PAVEMENT BUILD-UP SELECTED.

26' SECTION (RESIDENTIAL) COMBINATION CURB & GUTTER, TYPE STANDARD

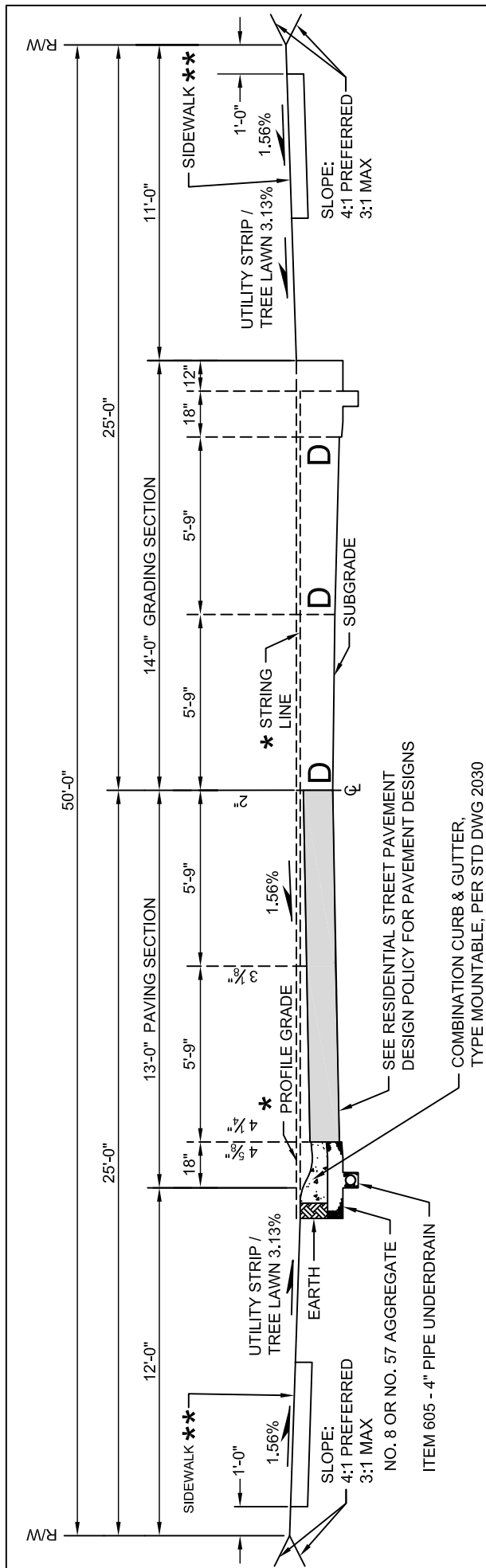
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DIVISION OF DESIGN AND CONSTRUCTION

CITY ENGINEER

STD DWG
2100

8/1/14

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*** FOR COMBINATION CURB AND GUTTER, TYPE MOUNTABLE, THE PROFILE GRADE ELEVATION IS 1 ½" ABOVE THE STRING LINE. ALL MEASUREMENTS ARE TAKEN FROM THE STRING LINE.**

SIDWALK WIDTH PER STANDARD DRAWING 2300
CUTTING LINE!

A MINIMUM 7FT WIDE PEDESTRIAN ACCESS ROUTE (PAR) SHALL BE PROVIDED BETWEEN OPPOSING RAMPS AND SHALL HAVE A CROSS-SLOPE (THE LONGITUDINAL STREET SLOPE) NO GREATER THAN 1.56%.

TACK RATES:

- a) RESURFACING = .10 GAL/SY
- b) RUBBERIZED ON CONCRETE BASE OR BRICK = 0.08 GAL/SY
- c) NEW CONSTRUCTION = SURFACE .08 GAL/SY
- d) NEW CONSTRUCTION (INTERMEDIATE) = 0.04 GAL/SY

ITEM 407 TACK COAT SHALL BE APPLIED AT A RATE OF 0.08 GAL/SY IF STREET IS PUT INTO SERVICE PRIOR TO PLACEMENT OF FINAL PAVEMENT COURSE.

D = DIMENSION FROM STRING LINE TO SUBGRADE. CALCULATE AND PROVIDE DIMENSIONS BASED ON PAVEMENT BUILD-UP SELECTED.

26' SECTION (RESIDENTIAL)
COMBINATION CURB & GUTTER,
TYPE MOUNTABLE

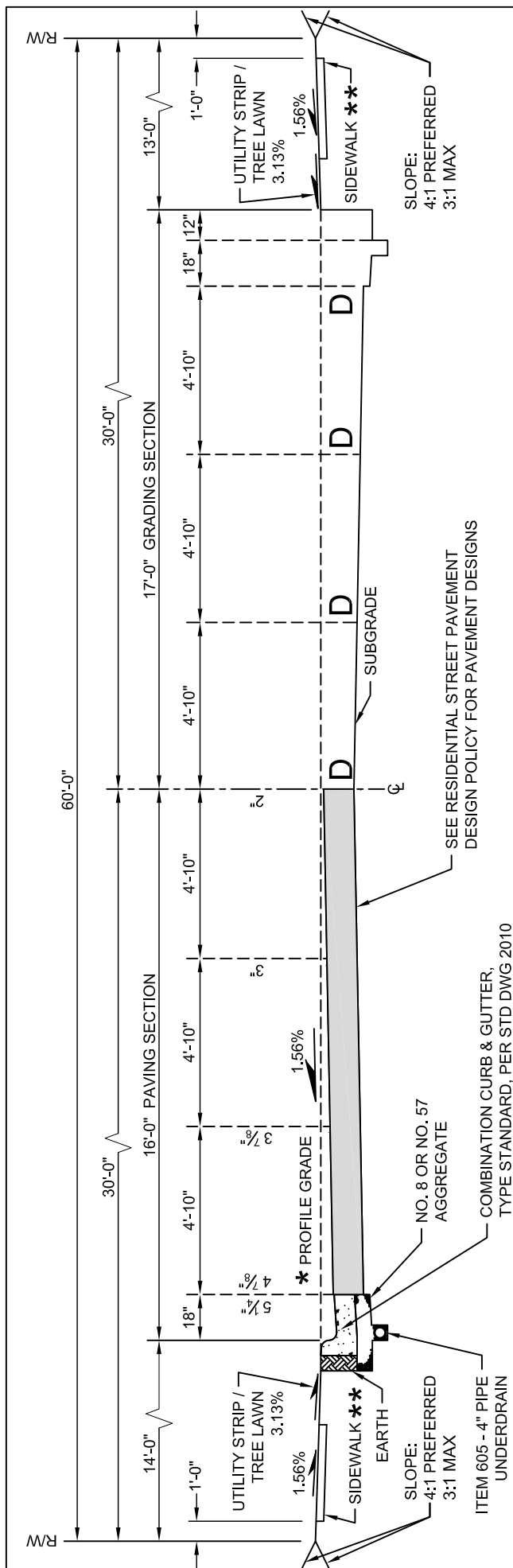
CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF DESIGN AND CONSTRUCTION

CITY ENGINEER

STD DWG
2101

8/1/14

SHT 1 OF 1



*** FOR COMBINATION CURB AND GUTTER, TYPE STANDARD, THE PROFILE GRADE AND STRING LINE ELEVATIONS ARE THE SAME.**

*** SIDEWALK WIDTH PER STANDARD DRAWING 2300

A MINIMUM 7FT WIDE PEDESTRIAN ACCESS ROUTE (PAR) SHALL BE PROVIDED BETWEEN OPPOSING RAMPS AND SHALL HAVE A CROSS-SLOPE (THE LONGITUDINAL STREET SLOPE) NO GREATER THAN 1.56%.

TACK RATES:

- a) RESURFACING = .10 GAL/SY
- b) RUBBERIZED ON CONCRETE BASE OR BRICK = 0.08 GAL/SY
- c) NEW CONSTRUCTION = SURFACE .08 GAL/SY
- d) NEW CONSTRUCTION (INTERMEDIATE) = 0.04 GAL/SY

ITEM 407 TACK COAT SHALL BE APPLIED AT A RATE OF 0.08 GAL/SY IF STREET IS PUT INTO SERVICE PRIOR TO PLACEMENT OF FINAL PAVEMENT COURSE.

D = DIMENSION FROM PROFILE GRADE (STRING LINE) TO SUBGRADE. CALCULATE AND PROVIDE DIMENSIONS BASED ON THE PAVEMENT BUILD-UP SELECTED

32' SECTION (RESIDENTIAL)
COMBINATION CURB & GUTTER,
TYPE STANDARD

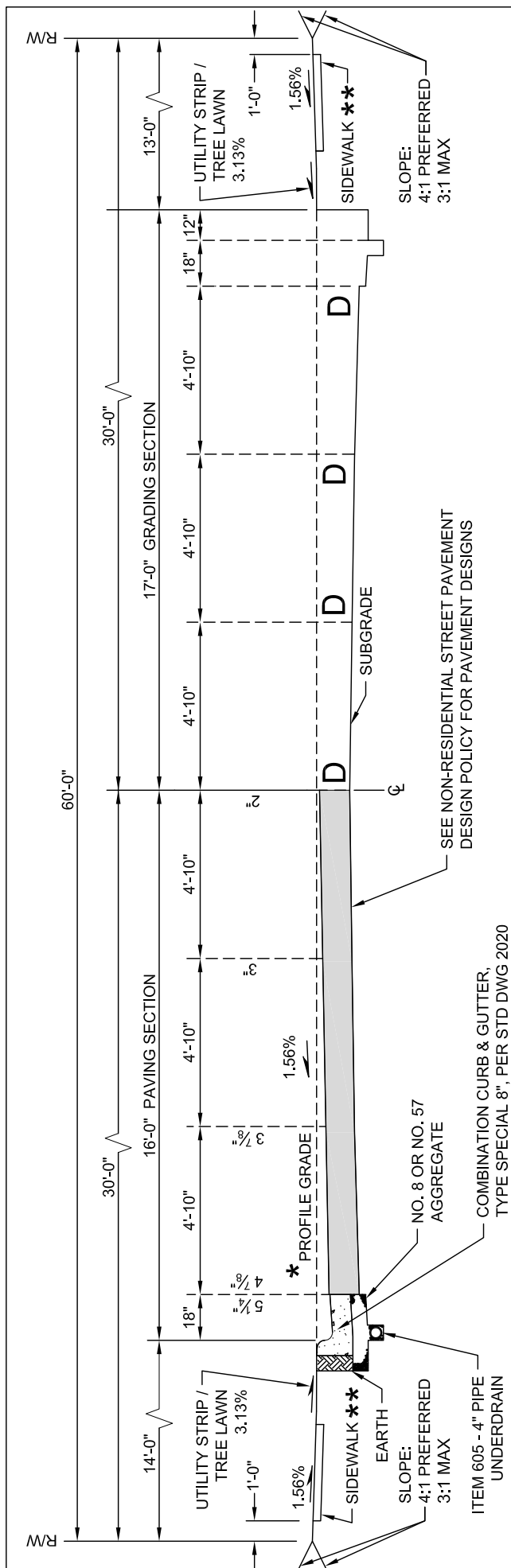
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STD DWG
2110

8/1/14

SHT 1 OF 1



*** FOR COMBINATION CURB AND GUTTER, TYPE SPECIAL 8", THE PROFILE GRADE AND STRING LINE ELEVATIONS ARE THE SAME.**

**** SIDEWALK WIDTH PER STANDARD DRAWING 2300**

A MINIMUM 7FT WIDE PEDESTRIAN ACCESS ROUTE (PAR) SHALL BE PROVIDED BETWEEN OPPOSING RAMPS AND SHALL HAVE A CROSS-SLOPE (THE LONGITUDINAL STREET SLOPE) NO GREATER THAN 1.56%.

TACK RATES:

- a) RESURFACING = .10 GAL/SY
- b) RUBBERIZED ON CONCRETE BASE OR BRICK = 0.08 GAL/SY
- c) NEW CONSTRUCTION = SURFACE .08 GAL/SY
- d) NEW CONSTRUCTION (INTERMEDIATE) = 0.04 GAL/SY

ITEM 407 TACK COAT SHALL BE APPLIED AT A RATE OF 0.08 GAL/SY IF STREET IS PUT INTO SERVICE PRIOR TO PLACEMENT OF FINAL PAVEMENT COURSE.

D = DIMENSION FROM PROFILE GRADE (STRING LINE) TO SUBGRADE. CALCULATE AND PROVIDE DIMENSIONS BASED ON THE PAVEMENT BUILD-UP SELECTED.

32' SECTION (NON-RESIDENTIAL)
COMBINATION CURB & GUTTER,
TYPE SPECIAL 8"

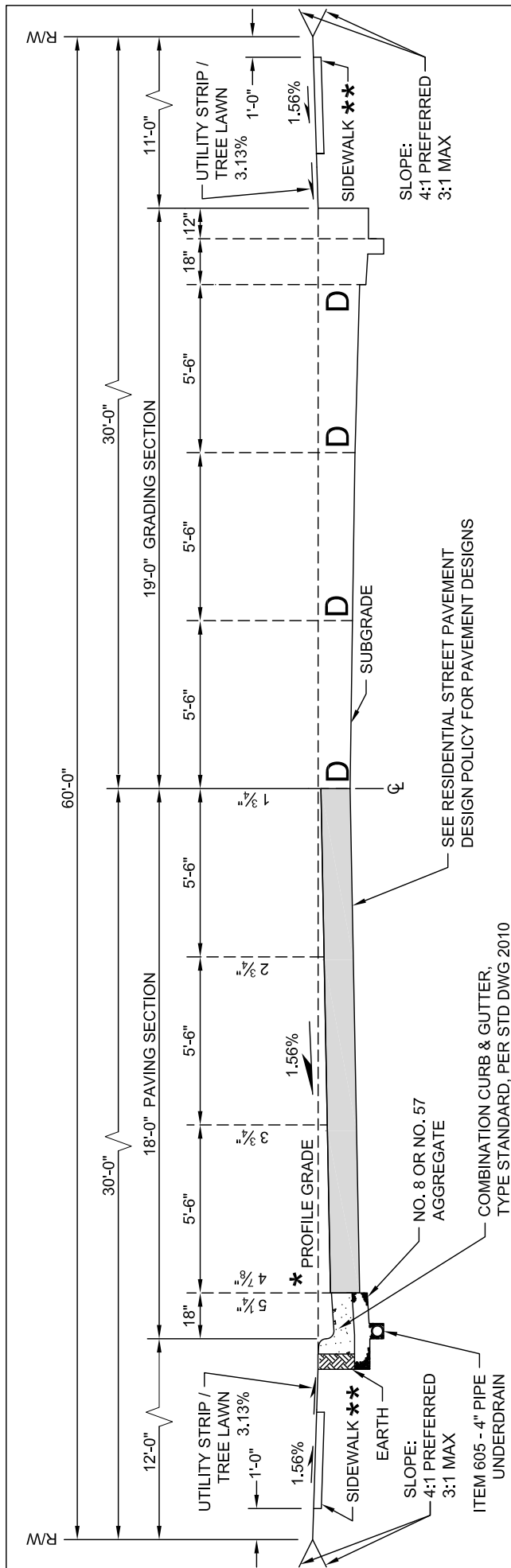
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STD DWG
2111

8/1/14

SHT 1 OF 1



36' SECTION (RESIDENTIAL) COMBINATION CURB & GUTTER, TYPE STANDARD

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CITY ENGINEER

STD DWG
2115

8/1/14

SHT 1 OF 1

* FOR COMBINATION CURB AND GUTTER, TYPE STANDARD, THE PROFILE GRADE AND STRING LINE ELEVATIONS ARE THE SAME.

** SIDEWALK WIDTH PER STANDARD DRAWING 2300

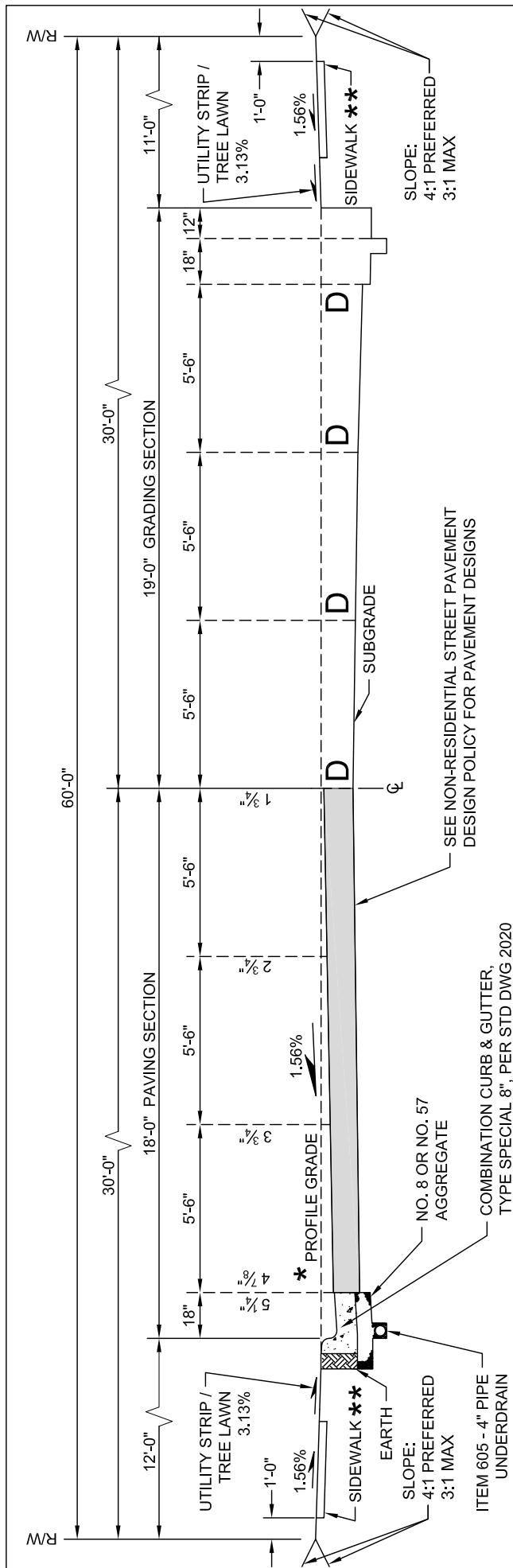
A MINIMUM 7FT WIDE PEDESTRIAN ACCESS ROUTE (PAR) SHALL BE PROVIDED BETWEEN OPPOSING RAMPS AND SHALL HAVE A CROSS-SLOPE (THE LONGITUDINAL STREET SLOPE) NO GREATER THAN 1.56%.

TACK RATES:

- a) RESURFACING = .10 GAL/SY
- b) RUBBERIZED ON CONCRETE BASE OR BRICK = 0.08 GAL/SY
- c) NEW CONSTRUCTION = SURFACE .08 GAL/SY
- d) NEW CONSTRUCTION (INTERMEDIATE) = 0.04 GAL/SY

ITEM 407 TACK COAT SHALL BE APPLIED AT A RATE OF 0.08 GAL/SY IF STREET IS PUT INTO SERVICE PRIOR TO PLACEMENT OF FINAL PAVEMENT COURSE.

D = DIMENSION FROM PROFILE GRADE (STRING LINE) TO SUBGRADE. CALCULATE AND PROVIDE DIMENSIONS BASED ON THE PAVEMENT BUILD-UP SELECTED.



*** FOR COMBINATION CURB AND GUTTER, TYPE SPECIAL 8", THE PROFILE GRADE AND STRING LINE ELEVATIONS ARE THE SAME.**

**** SIDEWALK WIDTH PER STANDARD DRAWING 2300**

A MINIMUM 7FT WIDE PEDESTRIAN ACCESS ROUTE (PAR) SHALL BE PROVIDED BETWEEN OPPOSING RAMPS AND SHALL HAVE A CROSS-SLOPE (THE LONGITUDINAL STREET SLOPE) NO GREATER THAN 1.56%.

TACK RATES:

- a) RESURFACING = .10 GAL/SY
- b) RUBBERIZED ON CONCRETE BASE OR BRICK = 0.08 GAL/SY
- c) NEW CONSTRUCTION = SURFACE .08 GAL/SY
- d) NEW CONSTRUCTION (INTERMEDIATE) = 0.04 GAL/SY

ITEM 407 TACK COAT SHALL BE APPLIED AT A RATE OF 0.08 GAL/SY IF STREET IS PUT INTO SERVICE PRIOR TO PLACEMENT OF FINAL PAVEMENT COURSE.

D = DIMENSION FROM PROFILE GRADE (STRING LINE) TO SUBGRADE. CALCULATE AND PROVIDE DIMENSIONS BASED ON THE PAVEMENT BUILD-UP SELECTED.

36' SECTION (NON-RESIDENTIAL) COMBINATION CURB & GUTTER, TYPE SPECIAL 8"

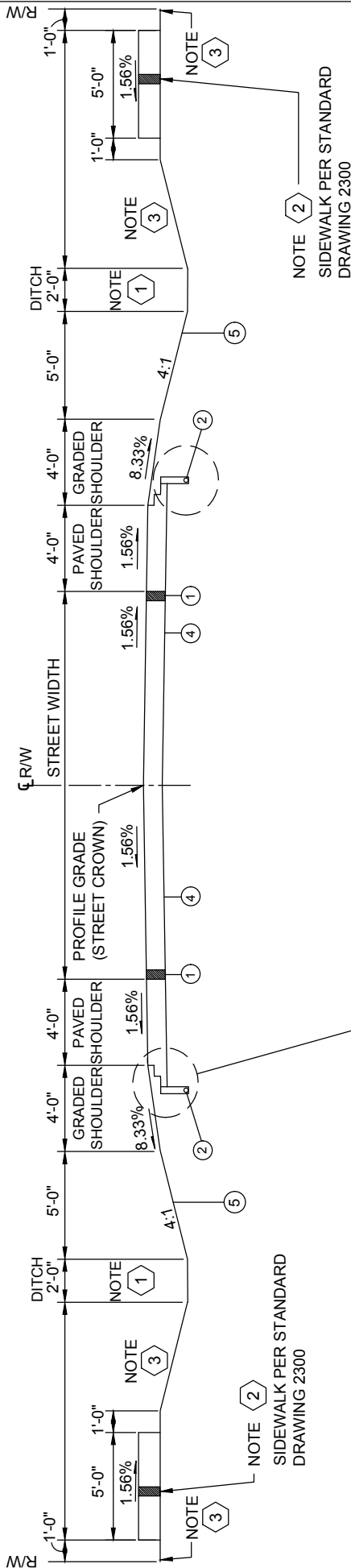
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DIVISION OF DESIGN AND CONSTRUCTION

CITY ENGINEER

STD DWG
2116

8/1/14

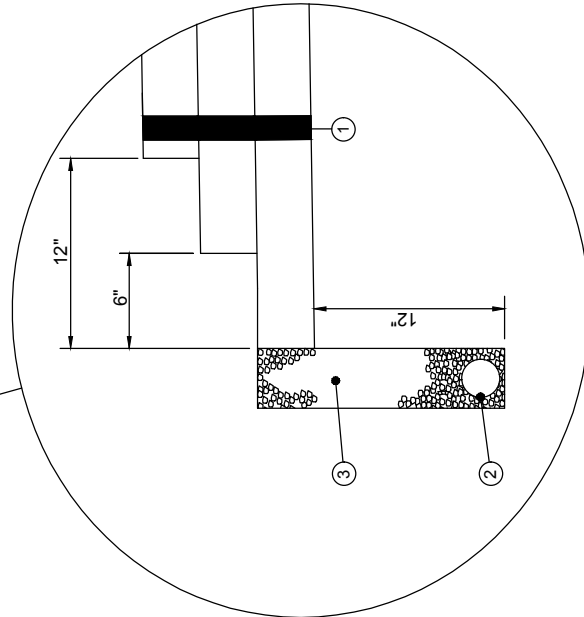
SHT 1 OF 1



- ① PAVEMENT DESIGN PER CITY OF COLUMBUS
NON-RESIDENTIAL STREET PAVEMENT DESIGN POLICY
- ② ITEM 605 - 4" PIPE UNDERDRAIN
- ③ NO. 8 OR NO. 57 AGGREGATE
- ④ ITEM 204 - SUBGRADE COMPACTION AND PROOF ROLLING
- ⑤ ITEM 659 - SEEDING AND MULCHING

NOTES:

- ① DITCH DESIGN PER CITY STORM DRAINAGE MANUAL.
- ② PUBLIC ACCESS EASEMENT REQUIRED FOR ANY WALK
OUTSIDE OF RW.
- ③ SLOPE: 4:1 PREFERRED
3:1 MAX



UNCURBED SECTION SIDE DITCH

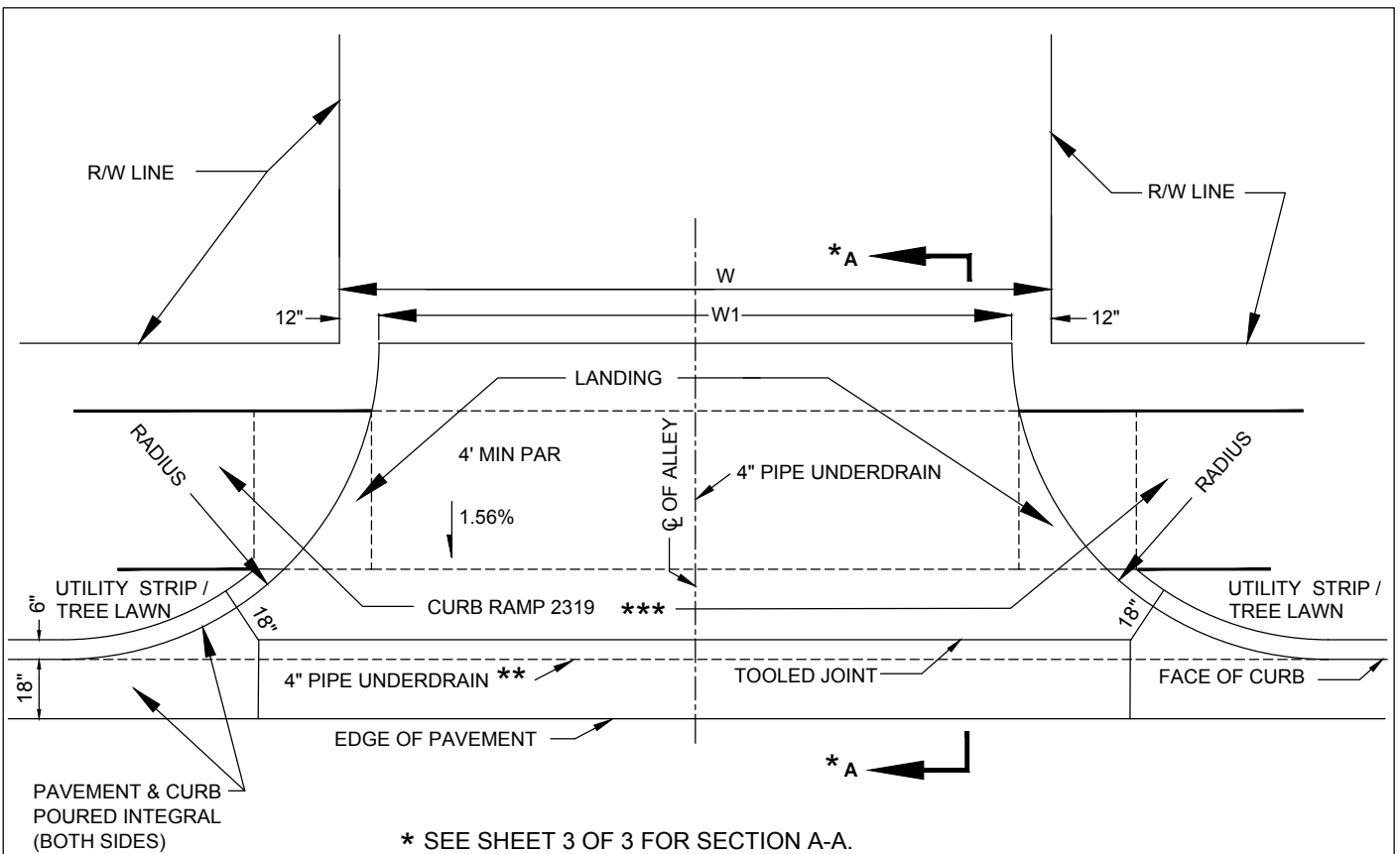
CITY OF COLUMBUS, OHIO
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CITY ENGINEER

STD DWG
2135

6/1/13

SHT 1 OF 1



* SEE SHEET 3 OF 3 FOR SECTION A-A.

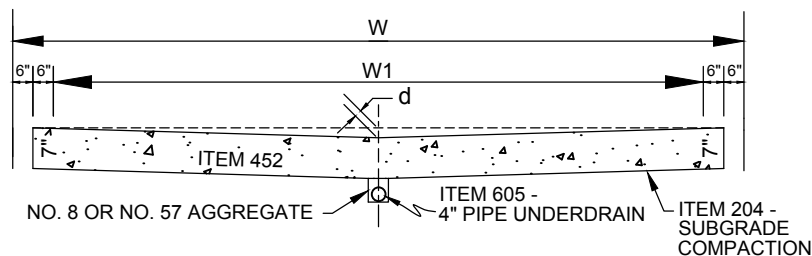
** MAINTAIN CONCRETE GUTTER AND 4" PIPE UNDERDRAIN.

*** IF SIDEWALK IS BUILT AT GRADE AND CURB IS DROPPED THEN ONLY DETECTABLE WARNINGS ARE REQUIRED.

RAISED EDGE OR CURB ON ALLEY SECTION WILL BE INCLUDED IN THE AREA OF CONCRETE PAVING AND PAID FOR UNDER THIS ITEM.

PAR = PEDESTRIAN ACCESS ROUTE.

d = DISTANCE FROM STRINGLINE TO CENTERLINE INVERT.



SECTION AT R/W LINE

COMBINATION CURB & GUTTER

ALLEY APPROACH

W	W1	d
15'	13'	2 ³ / ₄ "
16'	14'	3"
18'	16'	3 ¹ / ₄ "
20'	18'	3 ¹ / ₂ "
26'	20'	3 ³ / ₄ "

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

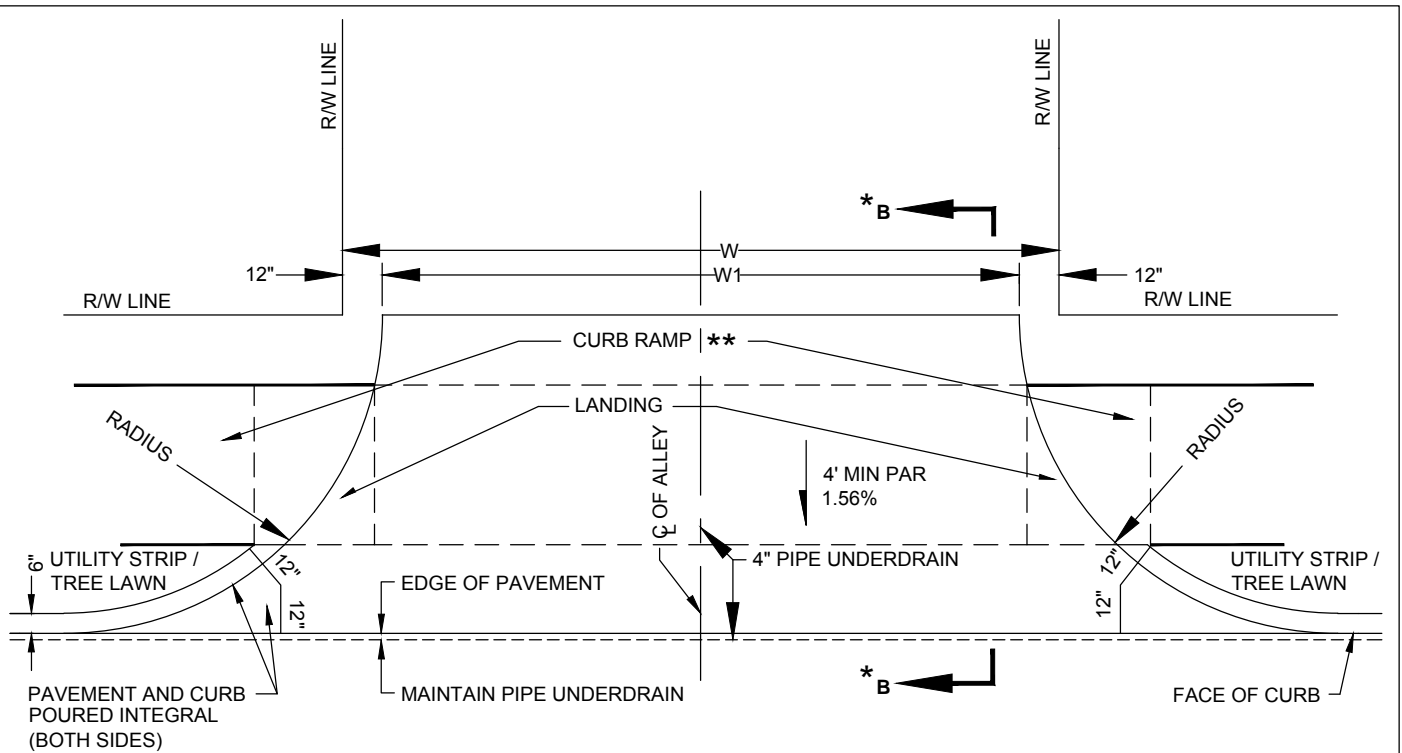
Hassan Zahra
CITY ENGINEER

STD DWG

2150

6/1/13

SHT 1 OF 3



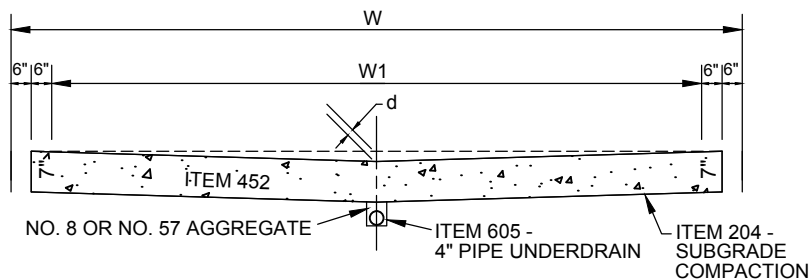
* SEE SHEET 3 OF 3 FOR SECTION B-B.

** IF SIDEWALK IS BUILT AT GRADE AND CURB IS DROPPED THEN ONLY DETECTABLE WARNINGS ARE REQUIRED.

RAISED EDGE OR CURB ON ALLEY SECTION WILL BE INCLUDED IN THE AREA OF CONCRETE PAVING AND PAID FOR UNDER THIS ITEM.

PAR = PEDESTRIAN ACCESS ROUTE.

d = DISTANCE FROM STRINGLINE TO CENTERLINE INVERT.



SECTION AT R/W LINE

CURB, STRAIGHT 18"

W	W1	d
15'	13'	2 3/4"
16'	14'	3"
18'	16'	3 1/4"
20'	18'	3 1/2"
26'	20'	3 3/4"

ALLEY APPROACH

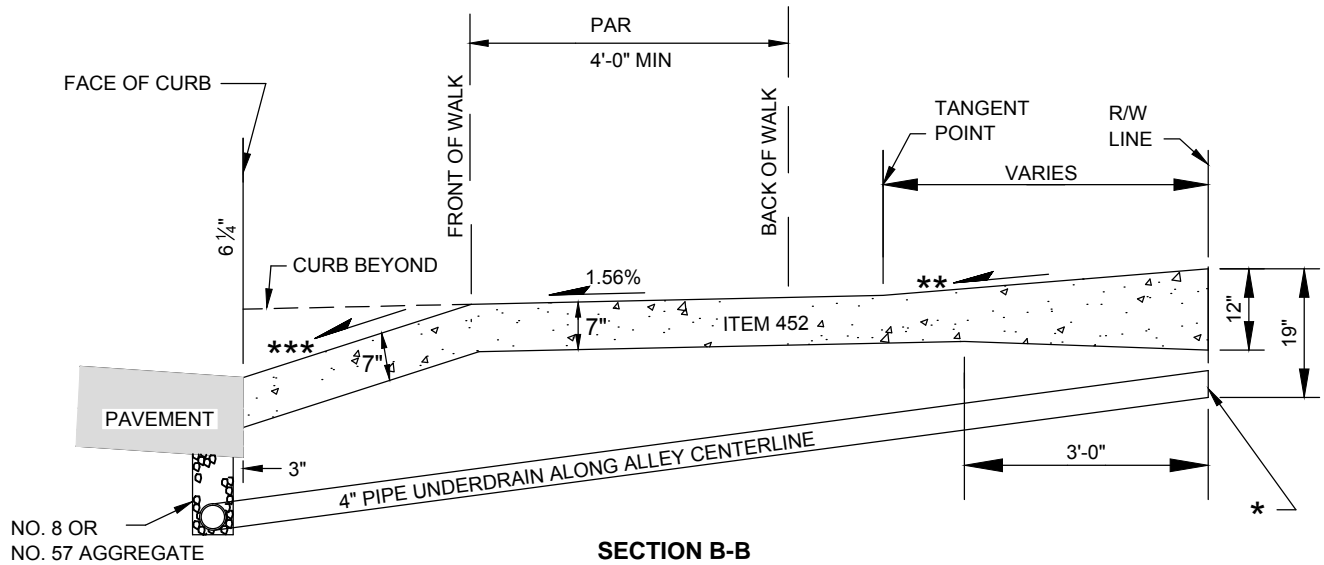
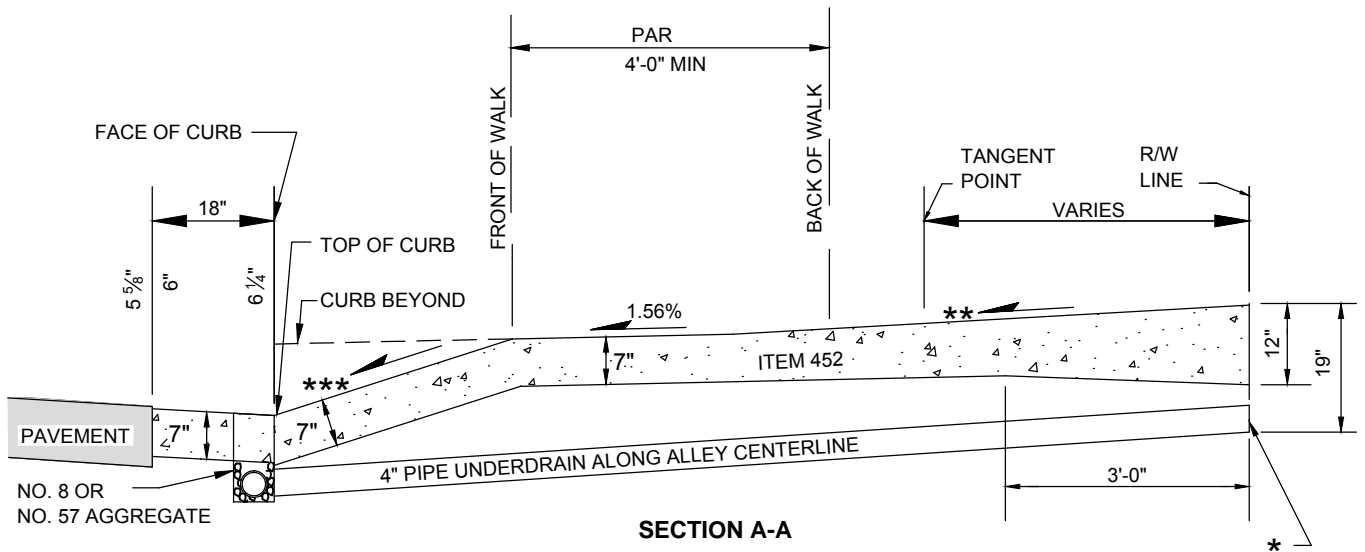
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STD DWG

2150

6/1/13

SHT 2 OF 3



* CAP END IF NOT CONNECTED TO PIPE UNDERDRAIN AT TIME OF CONSTRUCTION.

** SLOPE VARIES.

*** TOP OF PAVEMENT 8% MAX SLOPE FROM GUTTER TO FRONT OF WALK.

PAR = PEDESTRIAN ACCESS ROUTE.

TYPICAL SECTION

ALLEY APPROACH

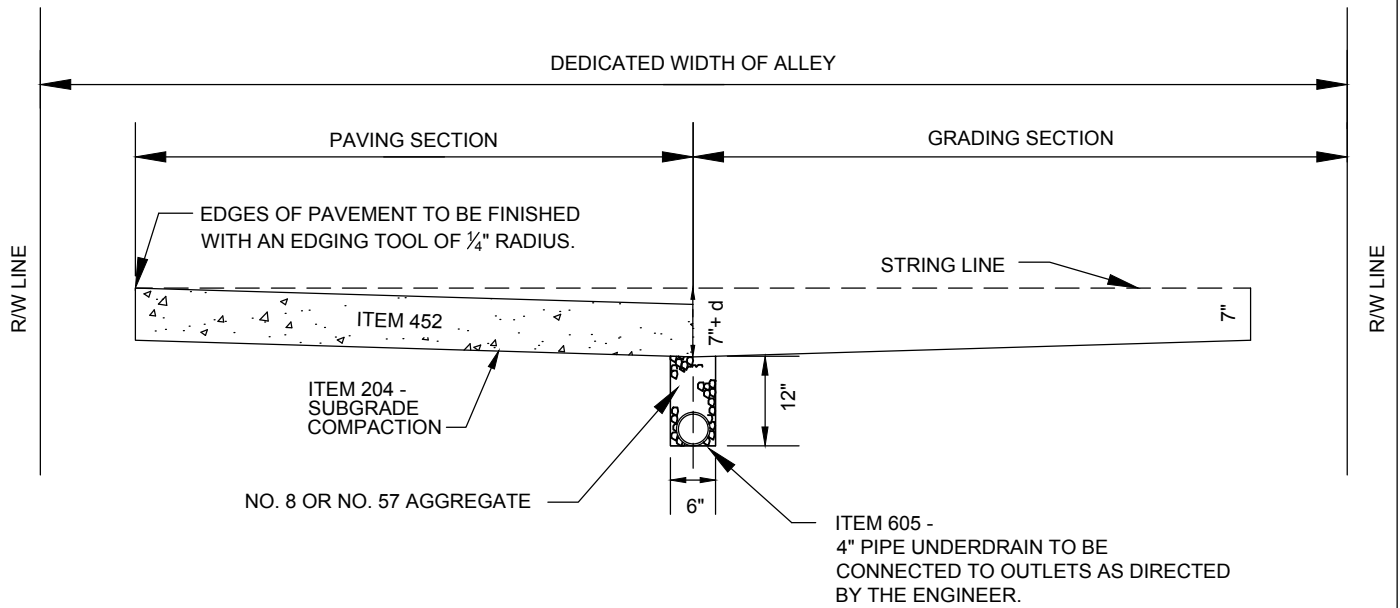
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STD DWG

2150

6/1/13

SHT 3 OF 3



R/W WIDTH	PAVING WIDTH	"d"	AREA BELOW STRING LINE (EXCLUDING UNDERDRAIN TRENCH)
15'	13'	2 $\frac{3}{4}$ "	9.07 SQ. FT.
16'	14'	3"	9.92 SQ. FT.
18'	16'	3 $\frac{1}{4}$ "	11.50 SQ. FT.
20'	18'	3 $\frac{1}{2}$ "	13.13 SQ. FT.
OVER 20'	20'	3 $\frac{3}{4}$ "	14.79 SQ. FT.
OVER 24'	24'	4 $\frac{1}{2}$ "	18.50 SQ. FT.

TYPICAL SECTION

ALLEY

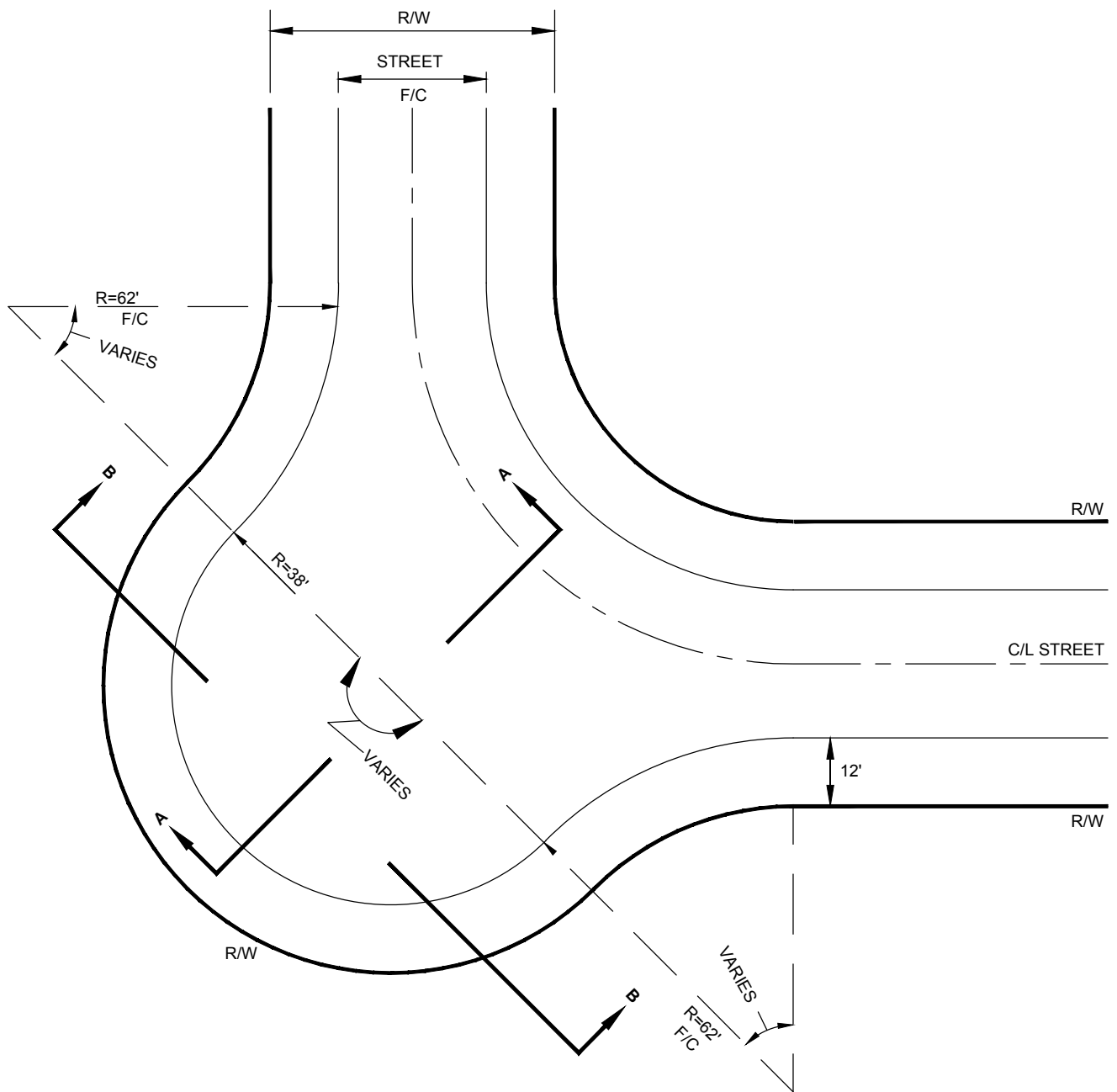
CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF DESIGN AND CONSTRUCTION

CITY ENGINEER

STD DWG
2151

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SHT 1 OF 1



PLAN VIEW

RIGHT-OF-WAY

EYEBROW

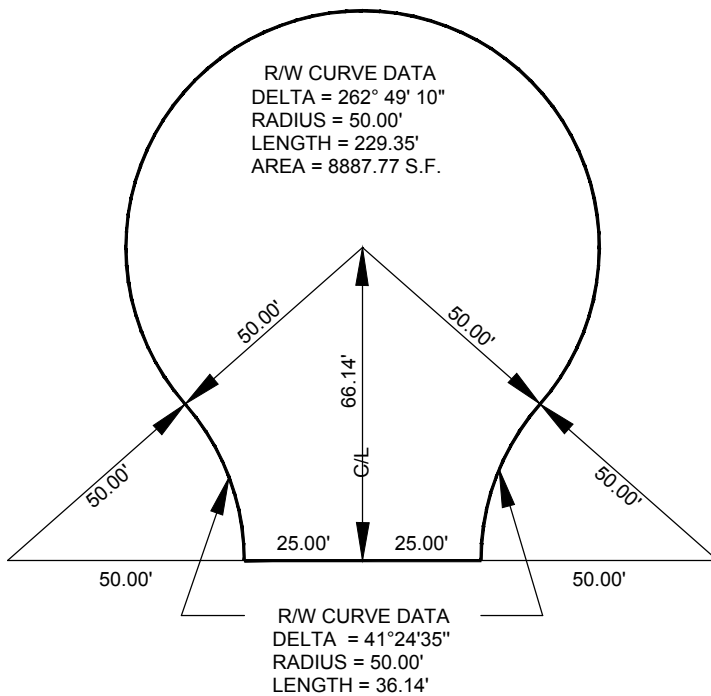
CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF DESIGN AND CONSTRUCTION

Hassan Zahran
CITY ENGINEER

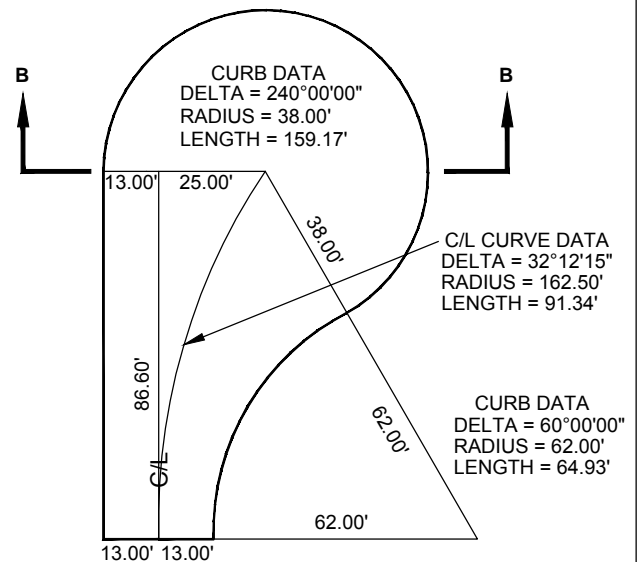
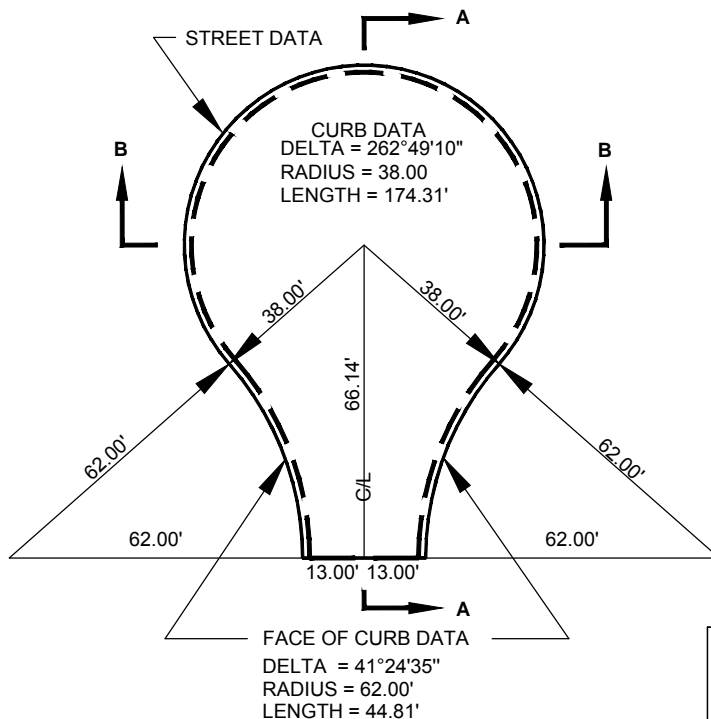
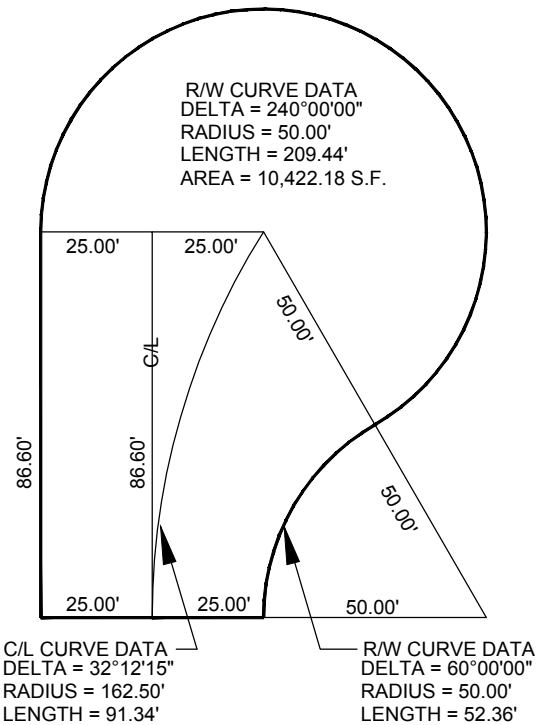
STD DWG
2154

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SHT 1 OF 3



NOTE: ALL DIMENSIONS SHOWN ARE
 FOR RIGHT-OF-WAY ONLY.



PAVEMENT AREA
 — — — PAVEMENT AREA ONLY
 AREA = 5102.09 Sq. Ft.

NOTE: ALL DIMENSIONS SHOWN ARE
 TO FACE OF CURB ONLY.

CUL-DE-SAC FOR 26' WIDE STREET ON A 50' RIGHT-OF-WAY

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

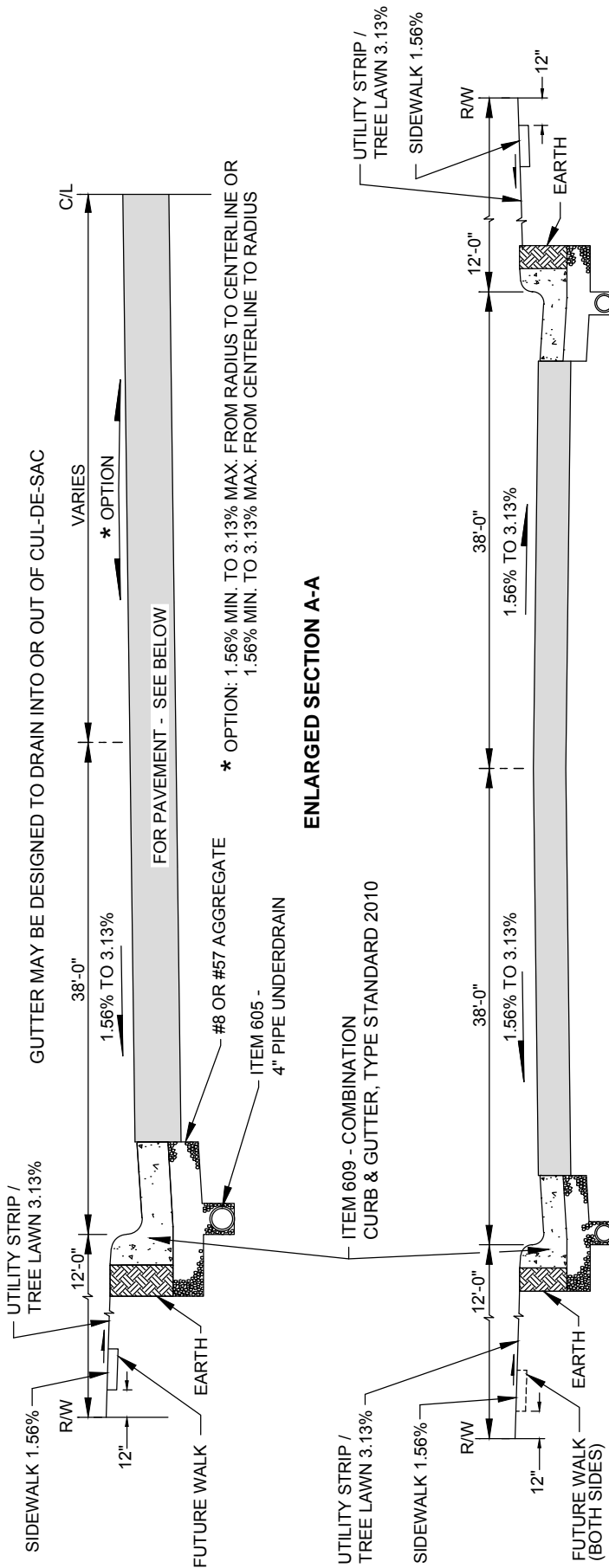
CITY ENGINEER

STD DWG

2156

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SHT 1 OF 3



ENLARGED SECTION A-A

ENLARGED SECTION B-B

TYPICAL SECTION
COMBINATION CURB &
GUTTER, TYPE STANDARD

CUL-DE-SAC FOR 26' WIDE STREET ON A 50' RIGHT-OF-WAY

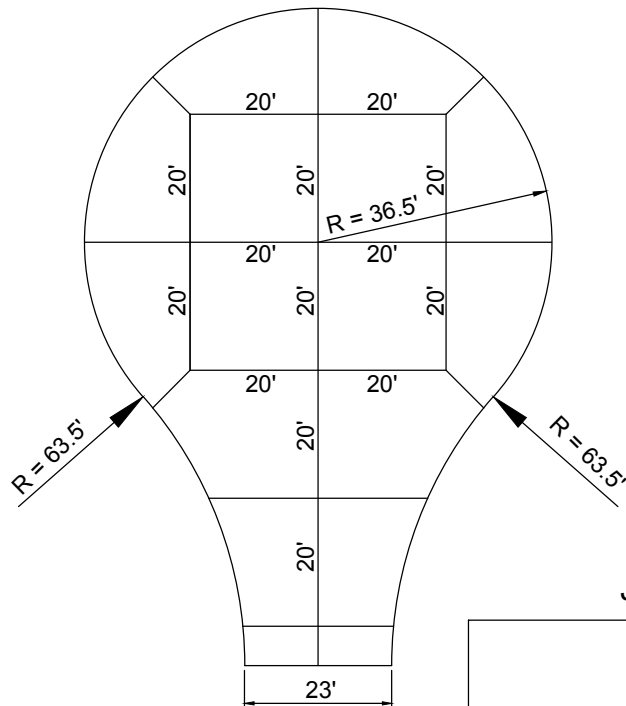
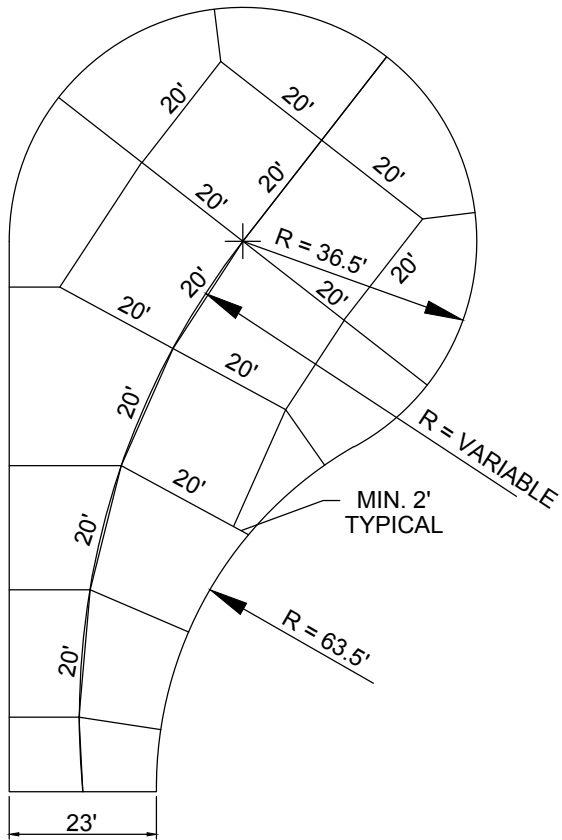
CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF DESIGN AND CONSTRUCTION

STD DWG
2156
6/1/13
SHT 2 OF 3

SAW CONTRACTION JOINTS PER STANDARD DRAWING 2156,
SHEET 3 OF 3.

THE TYPE OF CURB AROUND THE CUL-DE-SAC SHALL BE THE
SAME AS THE TYPE USED ON THE ADJACENT STREET.

PAVEMENT SHALL BE THE SAME AS THE PAVEMENT ON THE
ADJACENT STREET.



JOINT SPACING DETAIL

CUL-DE-SAC

NOTE: DETAIL APPLIES TO CONCRETE PAVEMENT
OR CONCRETE BASE ONLY.

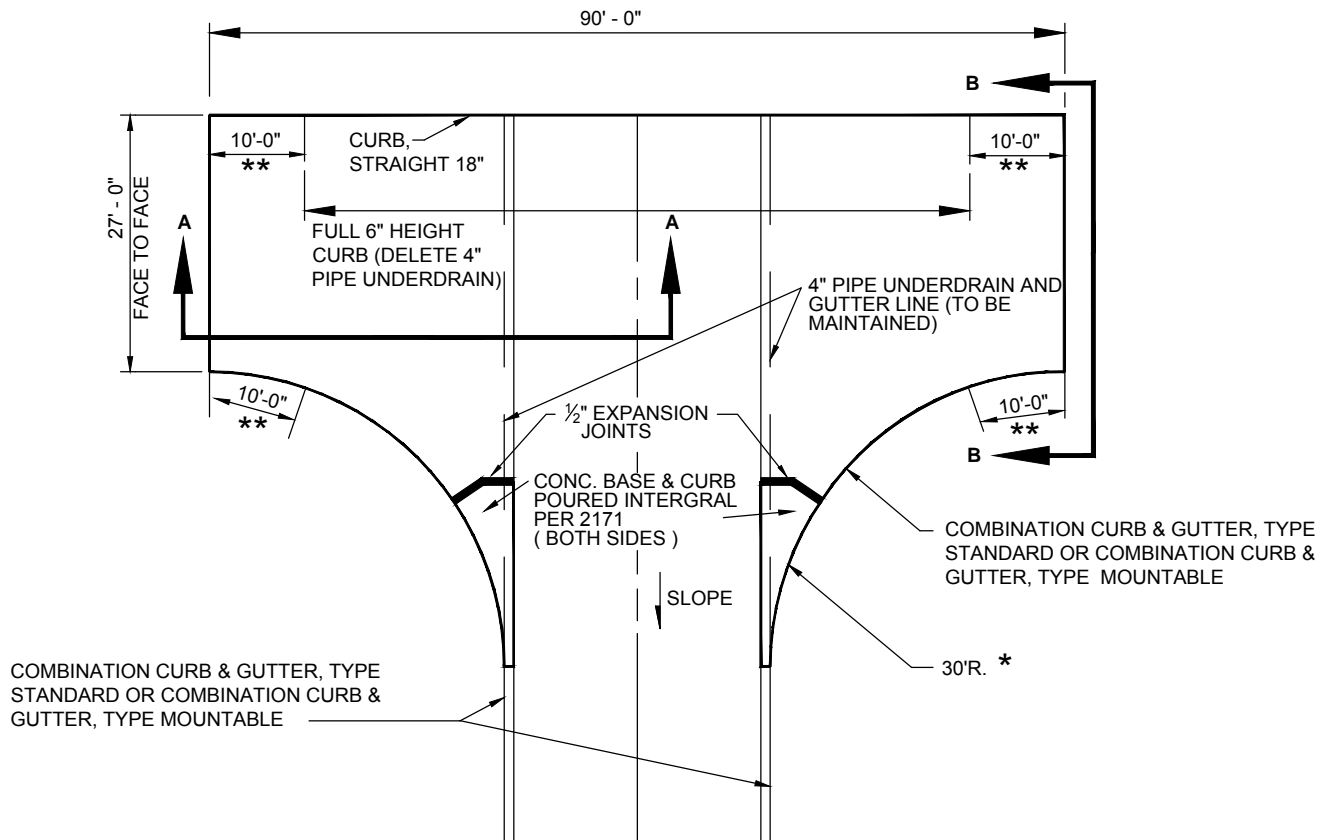
CITY OF COLUMBUS, OHIO
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STD DWG

2156

6/1/13

SHT 3 OF 3



* 20' RADIUS IF 200' OR LESS FROM CENTERLINE OF STREET TO CENTERLINE OF TURNAROUND.

** TAPER CURB 6" TO 1".

UNDERDRAIN SHALL BE SLOPED FOR POSITIVE DRAINAGE TO CURB INLET.

R/W AND EASEMENTS FOR T-TURNAROUND TO BE DETERMINED DURING SITE DEVELOPMENT PHASE AND PLATTING PROCESS.

T - TURNAROUND

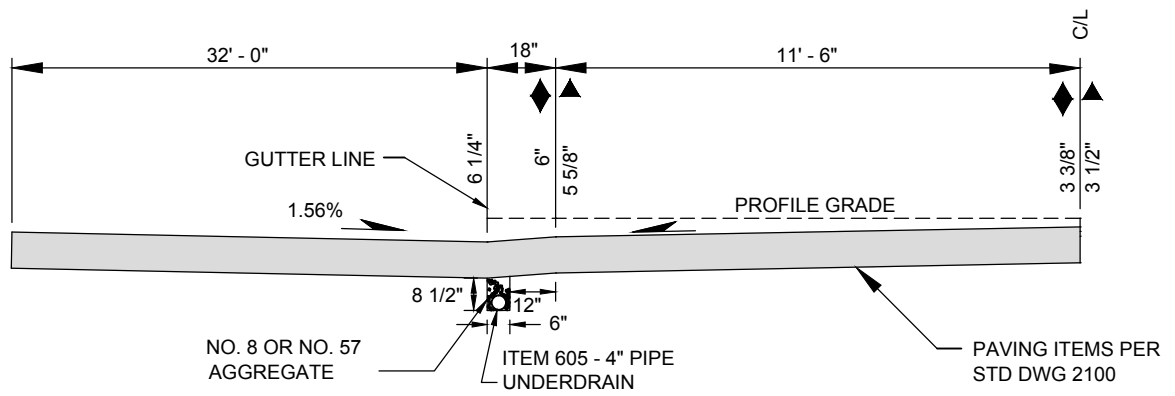
CITY OF COLUMBUS, OHIO
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CITY ENGINEER

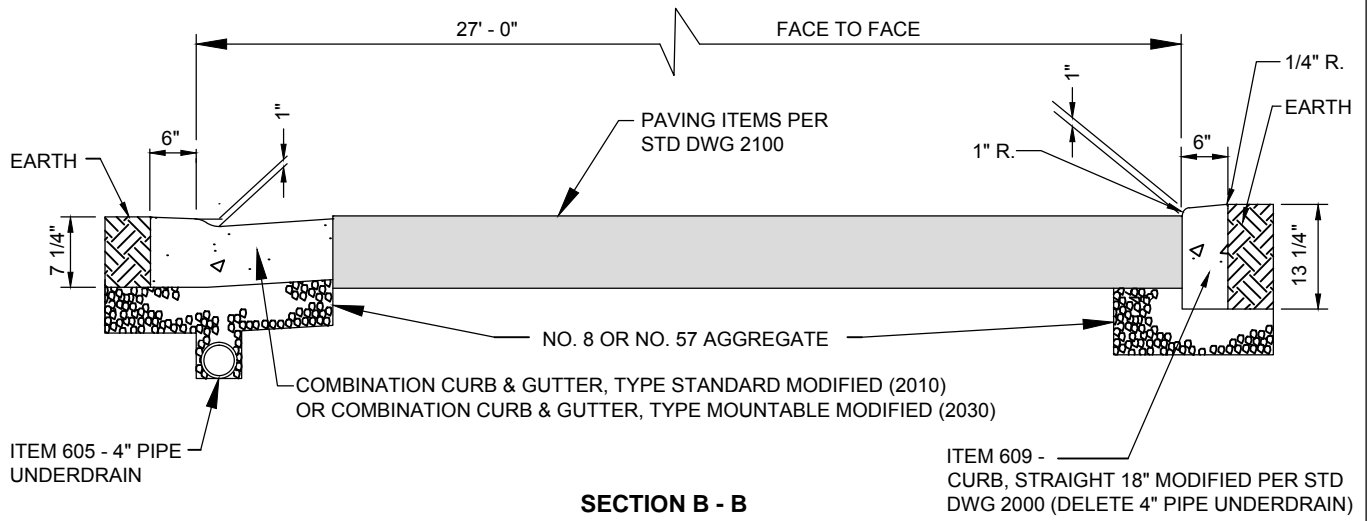
STD DWG
2157

6/1/13

SHT 1 OF 3



SECTION A - A



SECTION B - B

TYPICAL SECTION

T - TURNAROUND

◆ USING COMBINATION CURB AND GUTTER, TYPE STANDARD PER STD DWG 2010.

▲ USING COMBINATION CURB & GUTTER, TYPE MOUNTABLE PER STD DWG 2030.

UNDERDRAIN SHALL BE SLOPED FOR POSITIVE DRAINAGE TO CURB INLET.

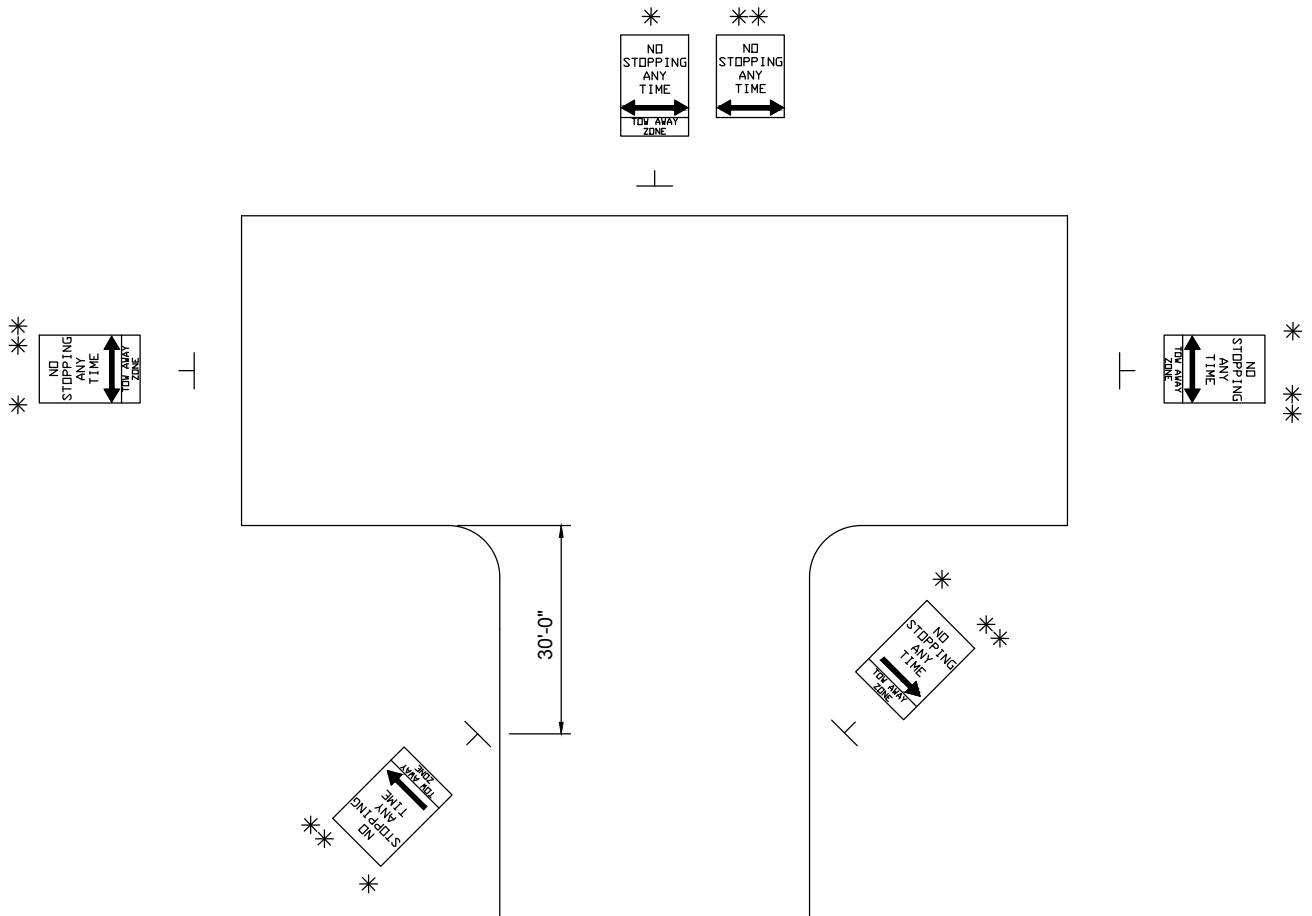
CITY OF COLUMBUS, OHIO
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DIVISION OF DESIGN AND CONSTRUCTION

STD DWG

2157

6/1/13

SHT 2 OF 3



SIGNING SHALL BE INSTALLED TO KEEP
TURNAROUND CLEAR FOR EMERGENCY VEHICLES.
SIGNS ARE TO BE REMOVED IF AND WHEN THE
STREET IS CUT THROUGH.

REFERENCE SUPPLEMENTAL SPECIFICATIONS 1630.

* FOR USE ON
PRIVATE STREETS
ONLY



CP-116.16 (L)(R)(D)
12"x 24"

** FOR USE ON PUBLIC R/W



CP-114.01 (L)(R)(D)
12"x 18"

└─ U-CHANNEL DRIVE POST

SIGNING

T - TURNAROUND

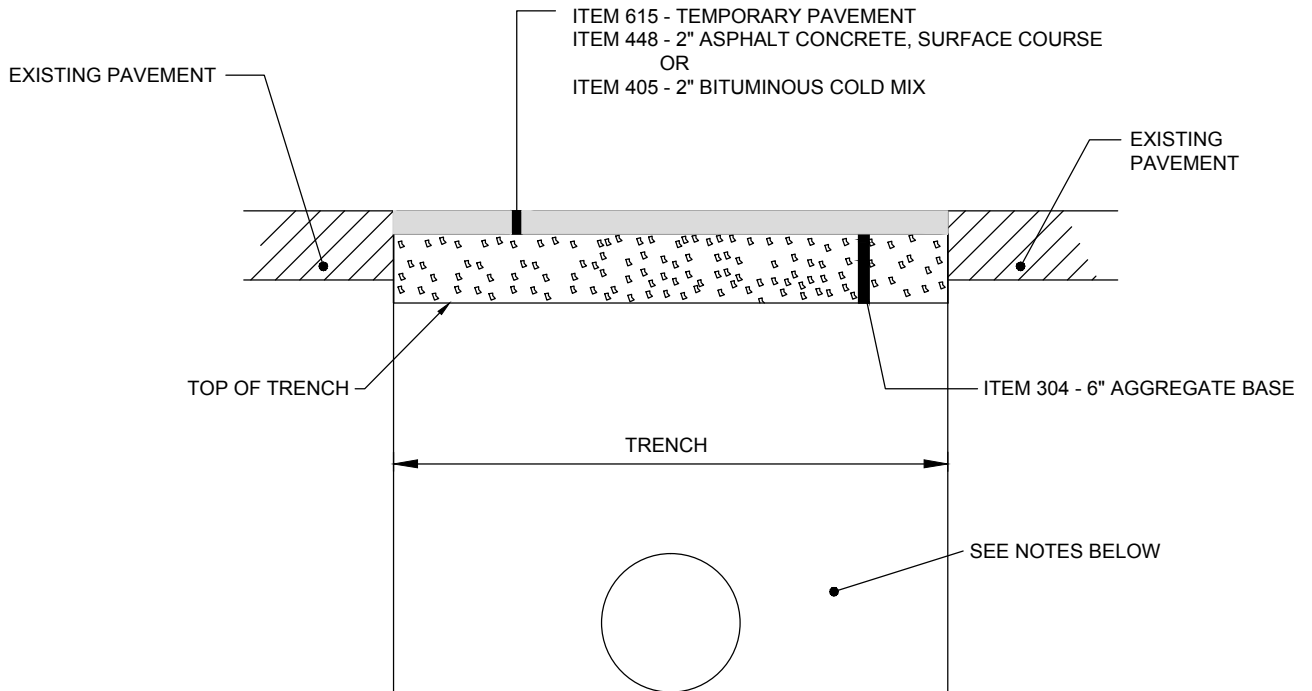
CITY OF COLUMBUS, OHIO
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2157

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SHT 3 OF 3



BACKFILL OF ALL TRENCHES SHALL BE IN ACCORDANCE WITH APPLICABLE SPECIFICATIONS.
TEMPORARY PAVEMENT SHALL BE PLACED ON THE SAME DAY THE ORIGINAL PAVEMENT IS CUT.

TEMPORARY PAVEMENT

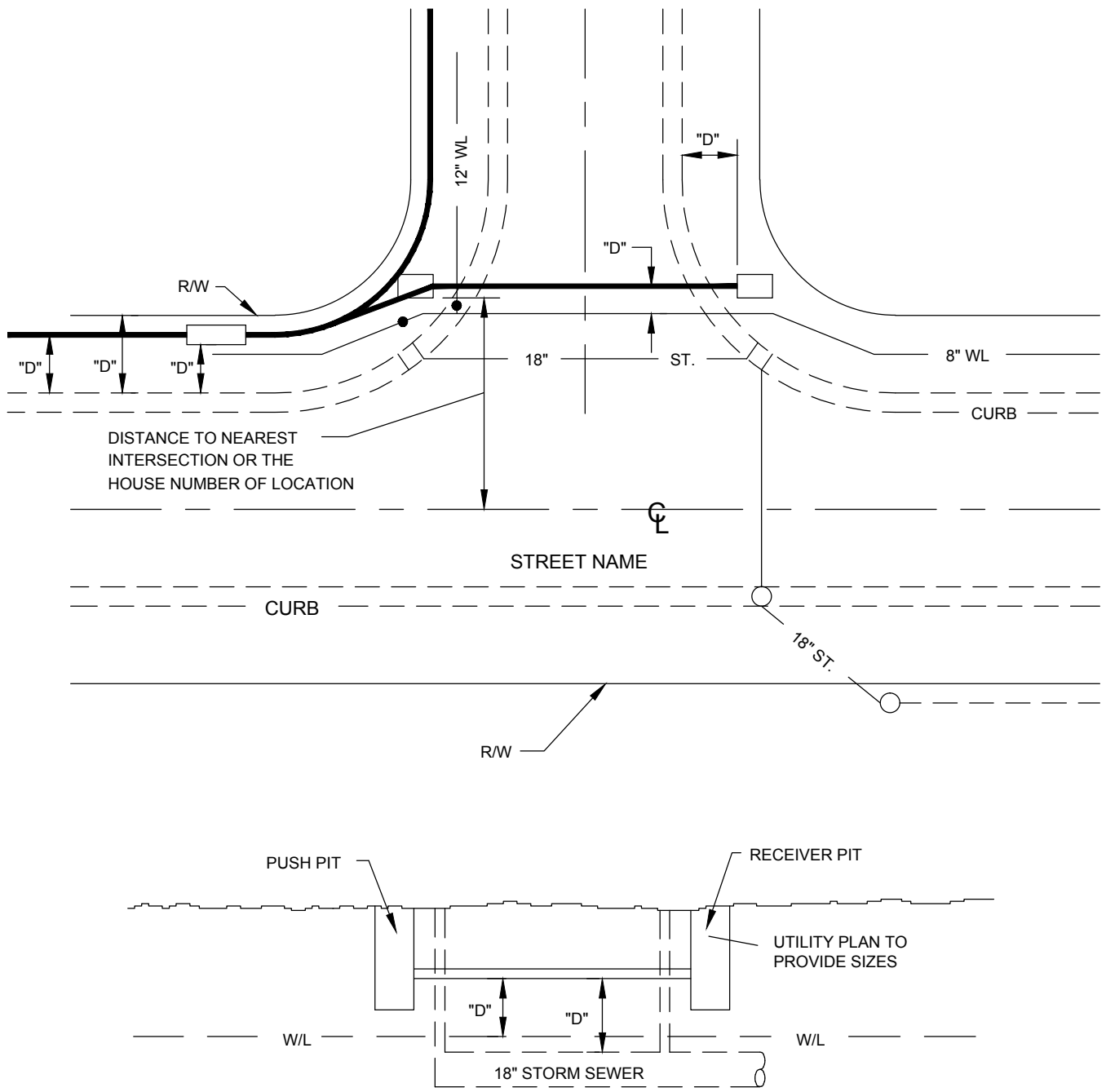
CITY OF COLUMBUS, OHIO
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CITY ENGINEER

STD DWG
2161

6/1/13

SHT 1 OF 1



"D" DENOTES WHERE DIMENSIONS ARE NEEDED

PAVEMENT REPLACEMENT SHALL BE
PER STANDARD DRAWING 1441

DIRECTIONAL BORING

CITY OF COLUMBUS, OHIO
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DIVISION OF DESIGN AND CONSTRUCTION

CITY ENGINEER

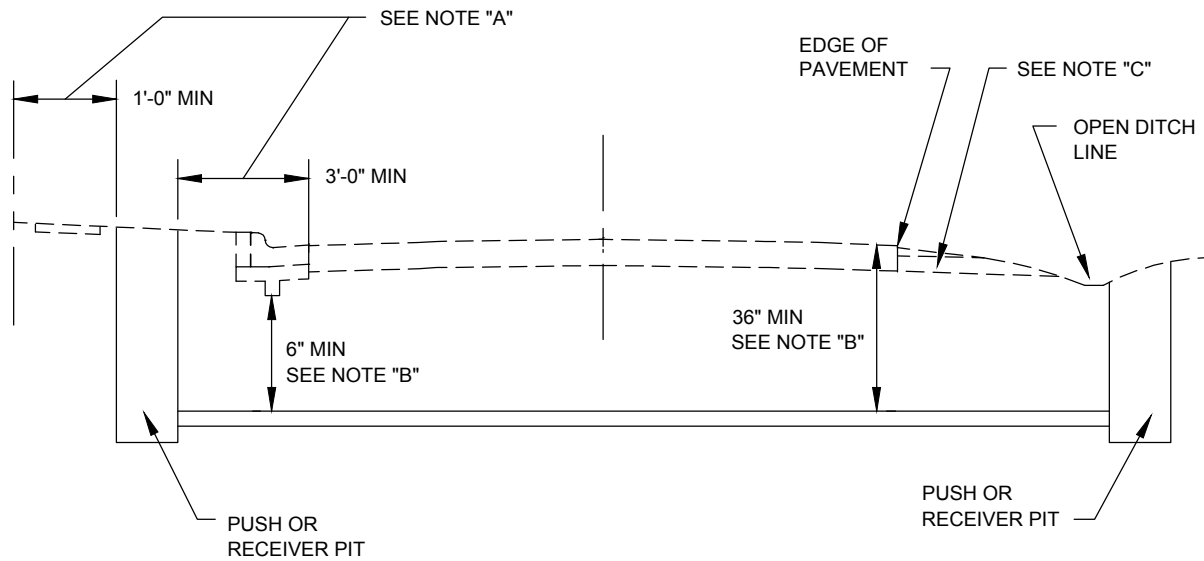
STD DWG
2166

6/1/13

SHT 1 OF 2

TYPICAL LOCATION
FOR CURBED STREETS

TYPICAL LOCATION
FOR UNCURBED STREETS



NOTES:

- "A" MINIMUM OFFSETS SHALL BE 1 FOOT FROM RIGHT-OF-WAY LINES OR 3 FEET FROM EDGE OF PAVEMENT OR EDGE OF SHOULDER.
- "B" MINIMUM DEPTH FROM TOP OF PUSH TO TOP OF CURB FOR STANDARD COMBINED CURB AND GUTTER IS 30", STRAIGHT CURB 36", AND FLEXIBLE PAVEMENT 36" BELOW TOP OF PAVEMENT.
- "C" IF AGGREGATE DRAINS ARE DISTURBED, THEY SHALL BE REPLACED.

DIRECTIONAL BORING

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

STD DWG

2166

6/1/13

SHT 2 OF 2

NOTES

GENERAL: NOTES AND DETAILS SHOWN ON THIS DRAWING SHALL BE CONSIDERED IN CONJUNCTION WITH AND SUPPLEMENTAL TO THE PERTINENT SPECIFICATIONS FOR PORTLAND CEMENT CONCRETE PAVEMENT AND BASES, AND RELATED INCIDENTALS.

JOINT COMPONENTS: THIS DRAWING IS INTENDED FOR USE WITH A UNIFORM DEPTH PAVEMENT. WHEN THE PROJECT INVOLVES THE PLACING OF VARIABLE DEPTH PAVEMENT, THE JOINT COMPONENTS SHALL BE HELD IN PLACE IN ACCORDANCE WITH THE METHOD SHOWN IN THE PLANS OR AS APPROVED BY THE ENGINEER.

CONTRACTION JOINTS: CONTRACTION JOINTS IN ITEM 305 - CONCRETE BASE SHALL BE DOWELLED WHERE THEY ARE LOCATED IN MAINLINE PAVEMENT, RAMPS, ACCELERATION/DECELERATION LANES, OR COLLECTOR/DISTRIBUTOR LANES, OR IN SHOULDERS WITHIN 500' OF A PRESSURE RELIEF JOINT.

CONTRACTION JOINTS IN ITEM 305 - CONCRETE BASE SHALL NOT BE DOWELLED IN ALLEYS, PRIVATE DRIVES, OR COMMERCIAL DRIVES.

CONTRACTION JOINTS OF THE TYPE SPECIFIED SHALL BE SPACED IN ACCORDANCE WITH THE CONTRACTION JOINT SPACING TABLE.

CONTRACTION JOINT SPACING	
TYPES OF PAVEMENT OR BASE	MAXIMUM SPACING BETWEEN JOINTS
ITEM 451 - REINFORCED CONCRETE PAVEMENT	21'
ITEM 452 - NON-REINFORCED CONCRETE PAVEMENT	15'
ITEM 305 - CONCRETE BASE	15'

CONSTRUCTION JOINTS: IN ITEM 305 - CONCRETE BASE, A CONSTRUCTION JOINT SHALL NOT BE LOCATED CLOSER THAN 6' TO ANOTHER PARALLEL JOINT.

KERF AND SEAL CONFORMING IN ALL ASPECT TO DETAILS SHOWN FOR CONTRACTION JOINTS SHALL BE PROVIDED AT EACH CONSTRUCTION JOINT IN CONCRETE PAVEMENT AND BASE.

JOINT DETAILS FOR PORTLAND CEMENT CONCRETE PAVING

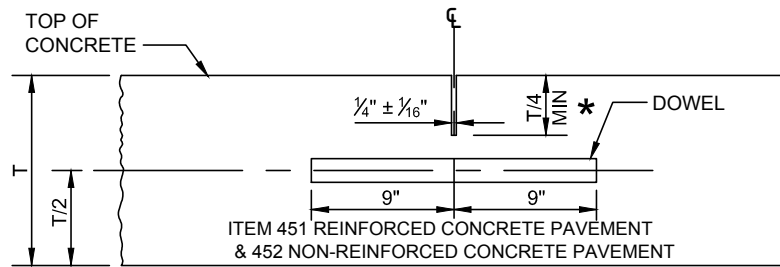
CITY OF COLUMBUS, OHIO
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CITY ENGINEER

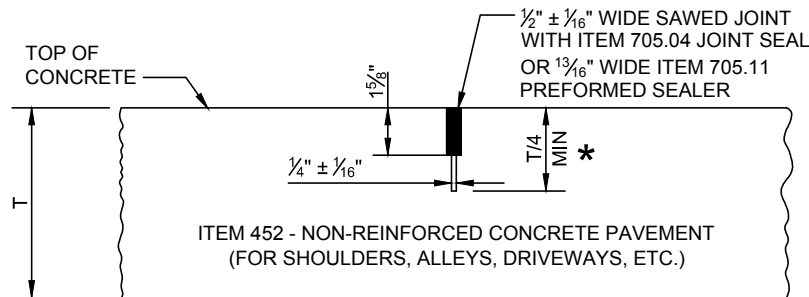
STD DWG
2170

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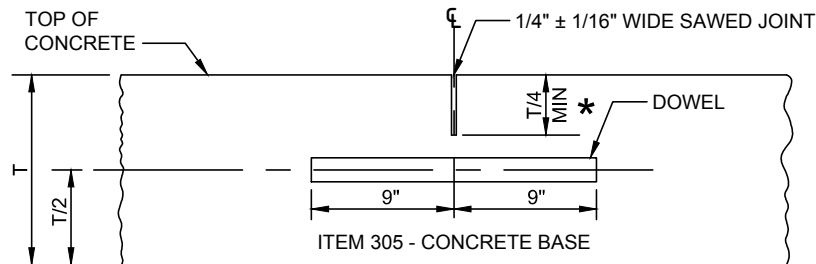
SHT 1 OF 6



ITEM 451 & 452 W/UNSEALED JOINTS
(DOWEL BAR OMITTED FOR SHOULDERS, ALLEYS, DRIVEWAYS, ETC.)



ITEM 452 W/SEALED JOINTS



ITEM 305
(DOWEL BAR OMITTED FOR SHOULDERS, ALLEYS, DRIVEWAYS, ETC.)

* WHERE $T > 10"$, THE SAWCUT DEPTH SHALL BE $T/3$.

CONTRACTION JOINT SECTIONS

JOINT DETAILS FOR PORTLAND CEMENT CONCRETE PAVING

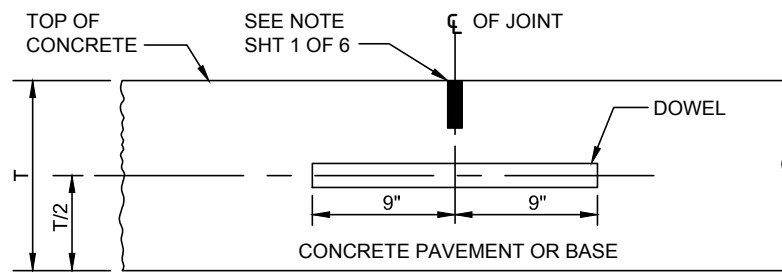
CITY OF COLUMBUS, OHIO
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DIVISION OF DESIGN AND CONSTRUCTION

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SHT 2 OF 6



SECTION THROUGH CONSTRUCTION JOINT

CONSTRUCTION JOINT

**JOINT DETAILS FOR
PORTLAND CEMENT
CONCRETE PAVING**

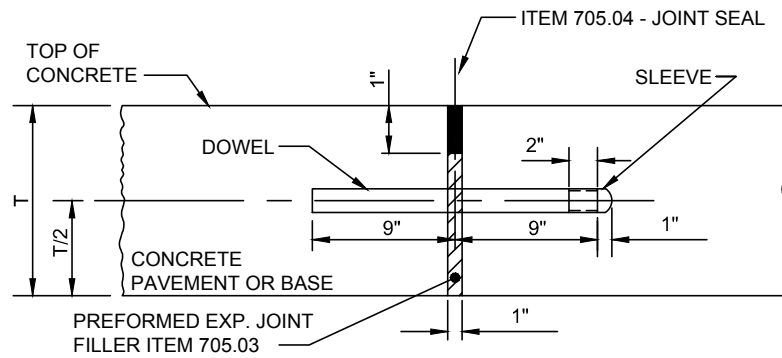
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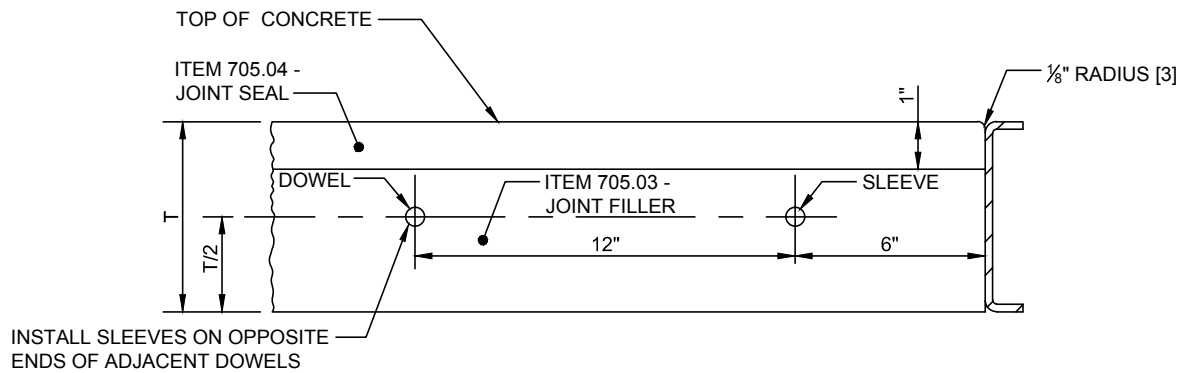
2170

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SECTION THROUGH EXPANSION JOINT



SIDE ELEVATION OF EXPANSION JOINT
(THROUGH CONCRETE PAVEMENT OR BASE)

EXPANSION JOINTS

JOINT DETAILS FOR PORTLAND CEMENT CONCRETE PAVING

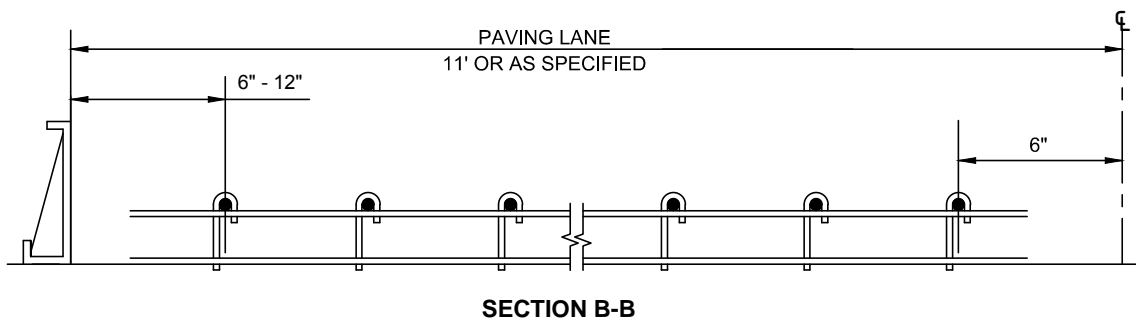
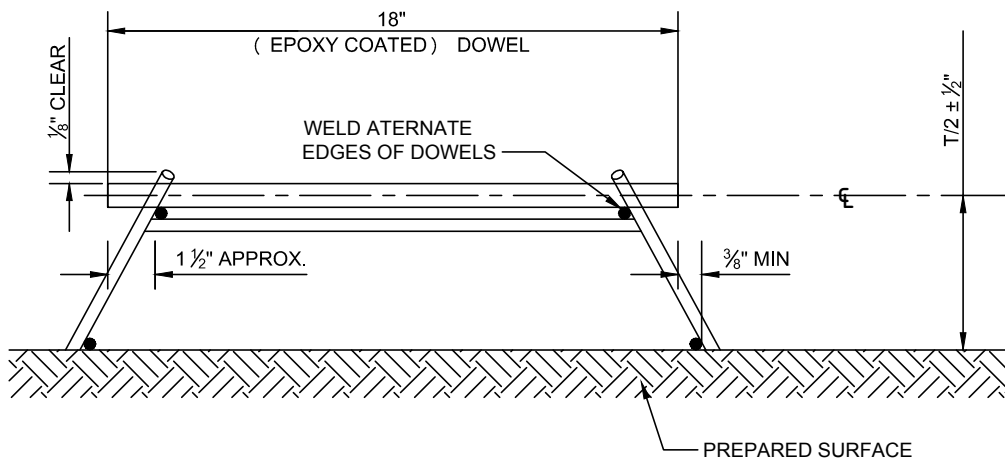
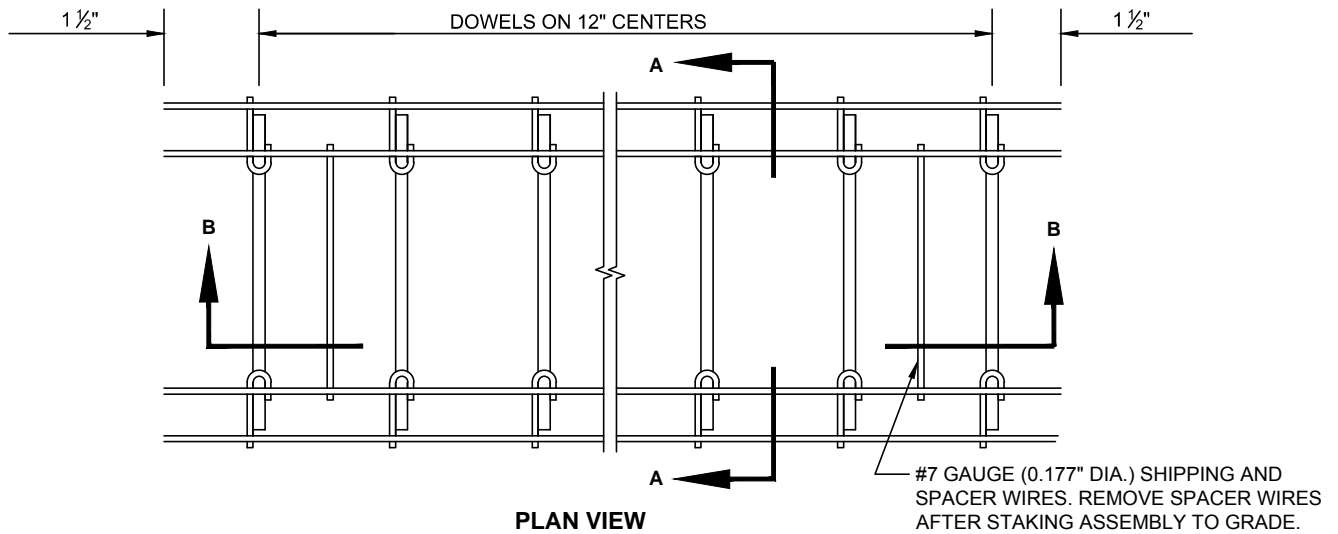
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DOWEL BASKET ASSEMBLY

JOINT DETAILS FOR PORTLAND CEMENT CONCRETE PAVING

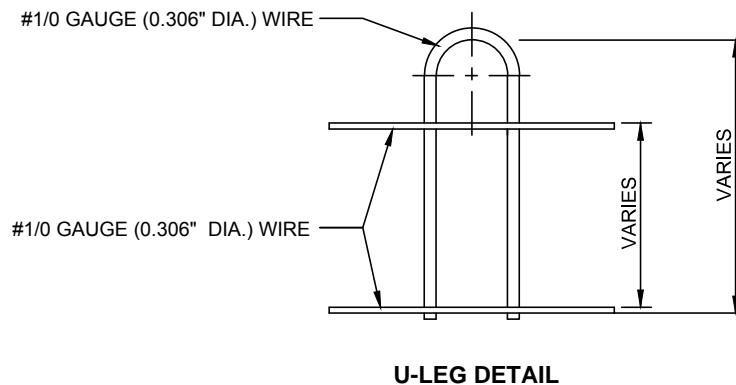
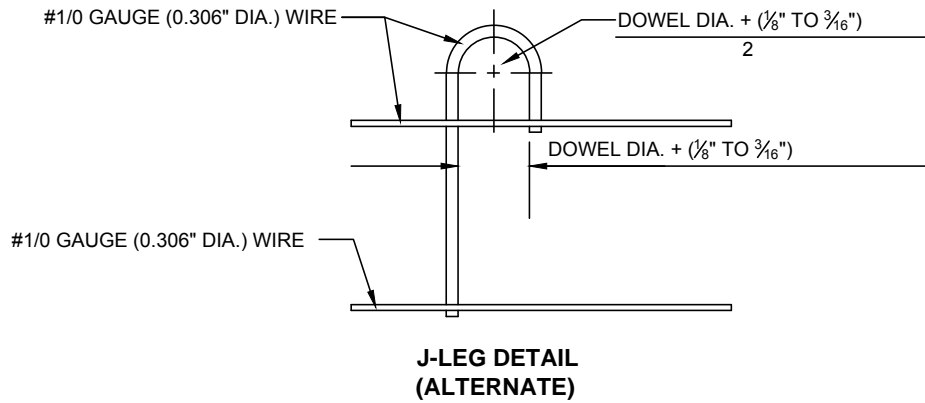
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REFER TO CMSC 451.08 B AND 709.13 FOR DOWEL SPECIFICATIONS.

WIRE SIZES SHOWN ARE MINIMUM REQUIRED.

ALL WIRE INTERSECTIONS ARE TO BE WELDED.

STAKES TYPICALLY APPLIED AT WORKING ENDS OF DOWEL.

TOLERANCES:

- A) $\pm \frac{1}{4}$ " PER FOOT UNLESS OTHERWISE SPECIFIED.
- B) CENTERLINE OF INDIVIDUAL DOWELS SHALL BE PARALLEL TO EACH OTHER, THE SURFACE AND THE CENTERLINE OF THE SLAB.
- C) ON CENTERS SHOULD BE $\pm \frac{1}{2}$ ".
- D) DOWELS SHOULD BE PLACED AT MID-DEPTH OF SLAB.

J-LEG OR U-LEG TO BE INSTALLED ON INSIDE OR OUTSIDE OF SUBFRAME.

DOWEL BASKET ASSEMBLY

JOINT DETAILS FOR PORTLAND CEMENT CONCRETE PAVING

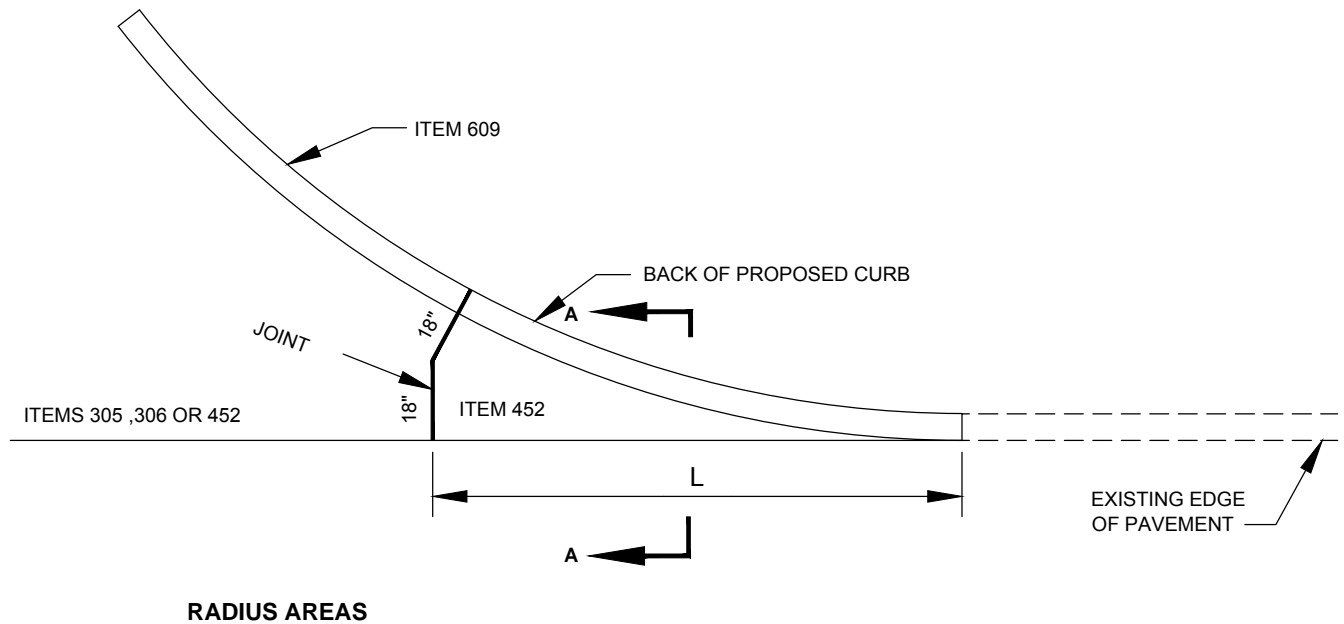
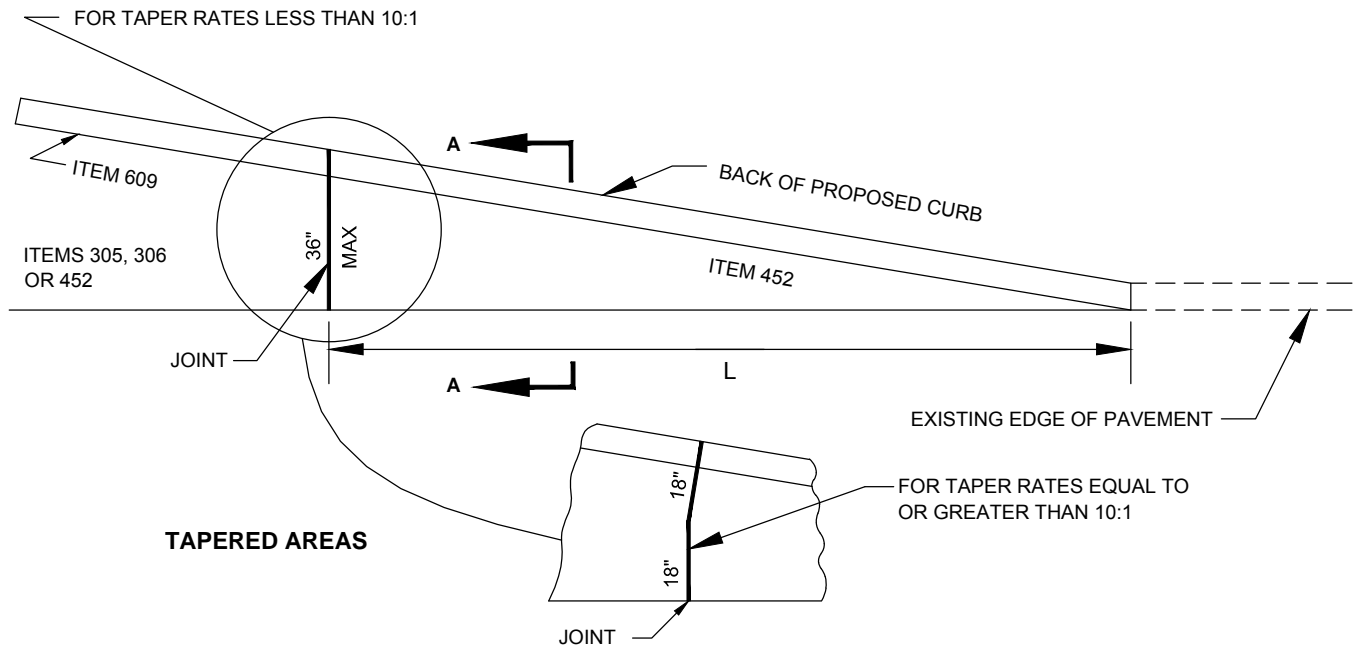
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JOINT LOCATIONS

TRANSITION SECTION TO BE USED WHEN WIDTH OF CONCRETE BASE MATERIAL IS LESS THAN 36".

IF LENGTH L IS GREATER THAN 9 FEET, SAW IN EQUAL SEGMENTS 5 FEET TO 9 FEET LONG.

TRANSITION SECTION FOR CONCRETE PAVEMENT

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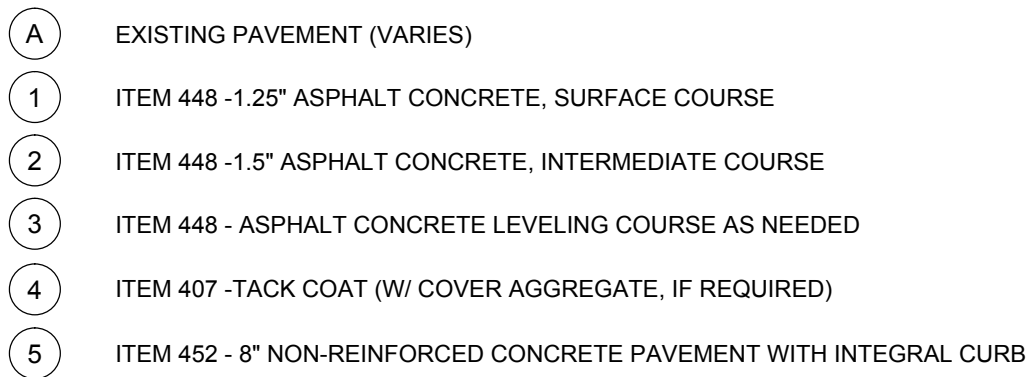
CITY ENGINEER

STD DWG

2171

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SHT 1 OF 2



SECTION A - A

TRANSITION SECTION FOR CONCRETE PAVEMENT

STD DWG

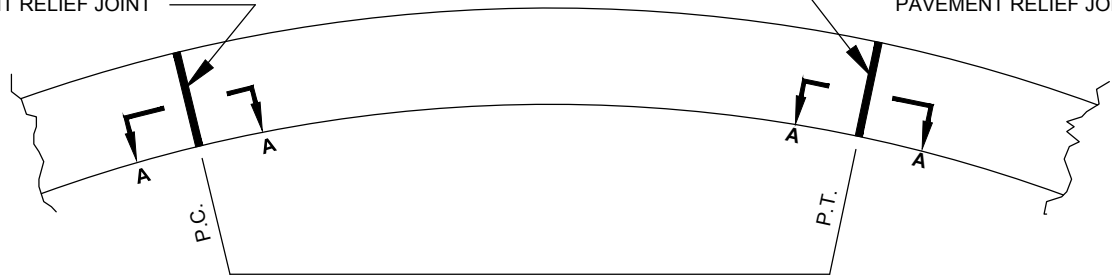
2171

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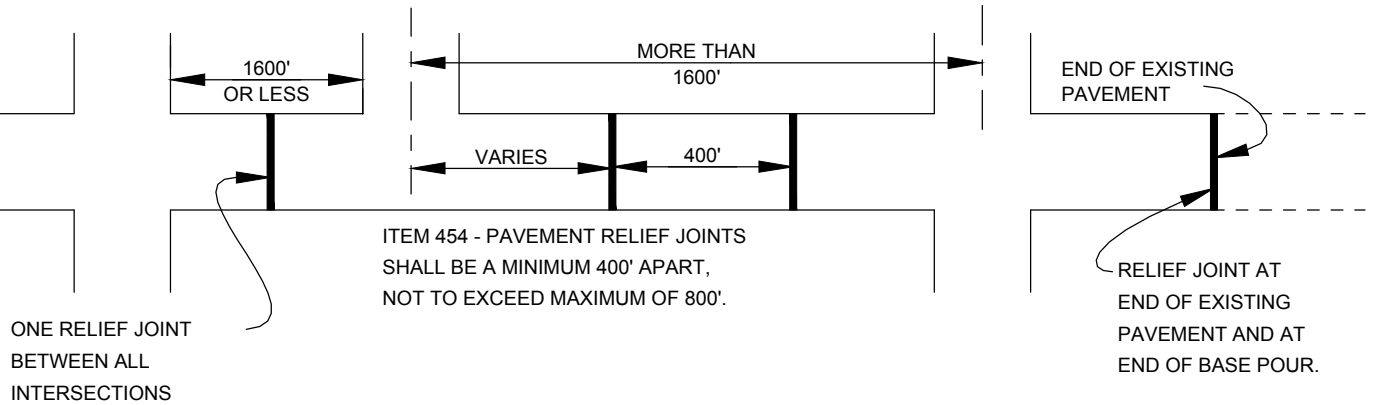
SHT 2 OF 2

ITEM 454 -
PAVEMENT RELIEF JOINT

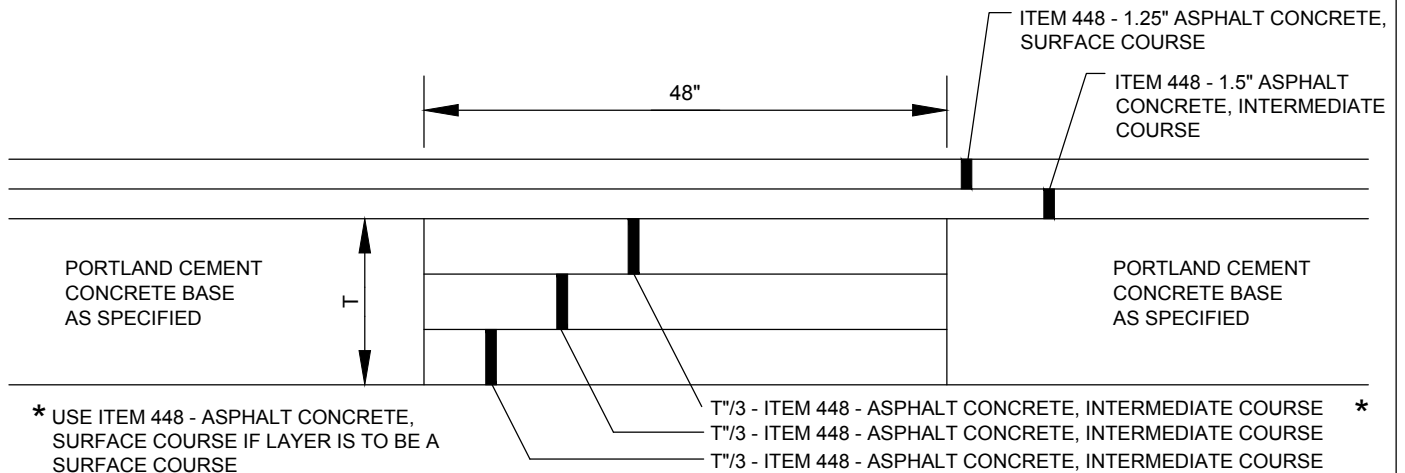
ITEM 454 -
PAVEMENT RELIEF JOINT



RELIEF JOINT DETAIL IS FOR PAVEMENT SECTIONS WITH A CENTERLINE
RADIUS OF UP TO 500' AND A DELTA (Δ) GREATER THAN 50°



TYPICAL LOCATION PLAN



SECTION A-A

FOR CONCRETE BASE PAVEMENT

2" EXPANSION MATERIAL SHALL BE
PLACED AT ALL PAVEMENT RELIEF
JOINTS IN THE STRAIGHT CURB,
OR CURB AND GUTTER AND
CENTERED ON THE PAVEMENT
RELIEF JOINT.

PAVEMENT RELIEF JOINT DETAIL (RESIDENTIAL)

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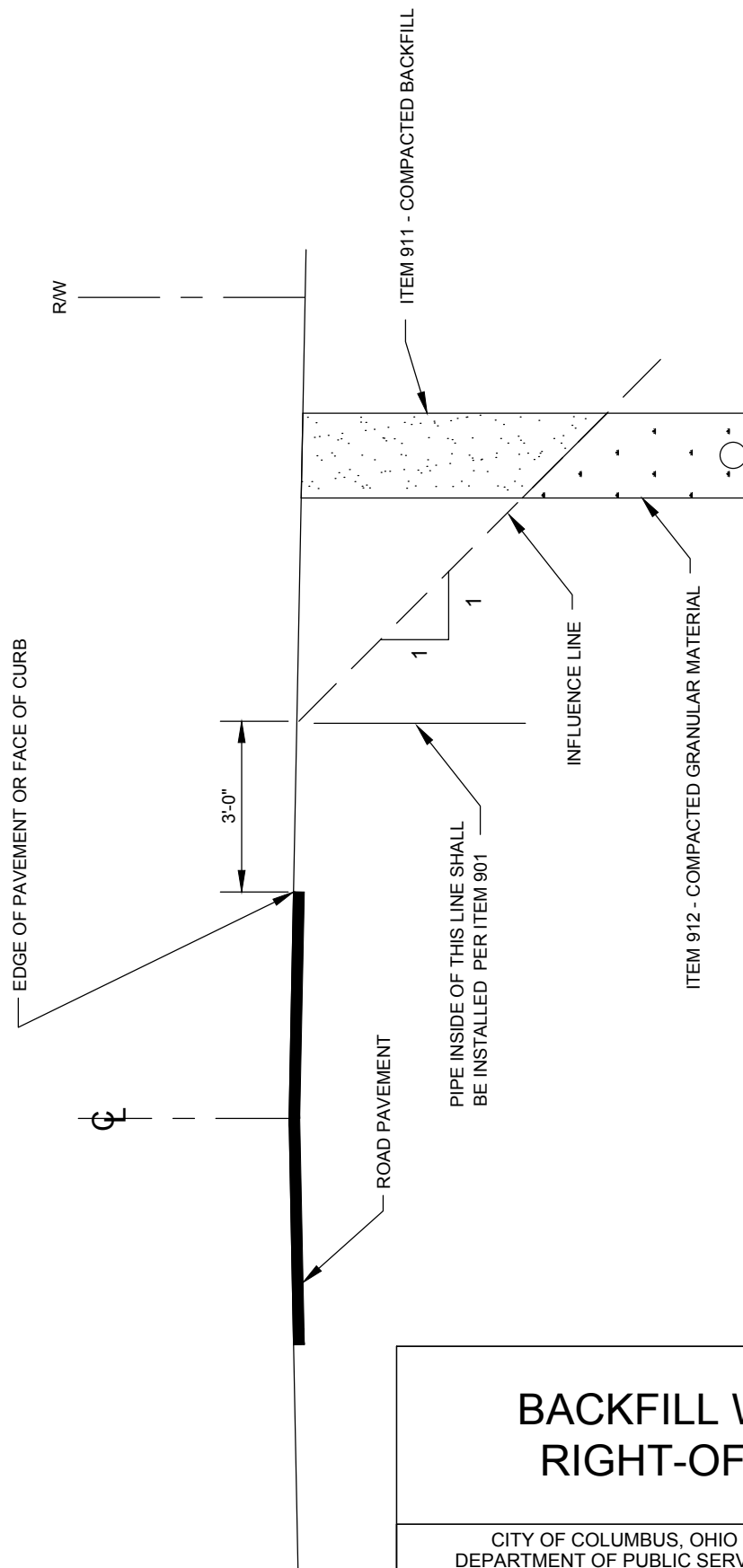
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SHT 1 OF 1



BACKFILL WITHIN RIGHT-OF-WAY

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DIVISION OF DESIGN AND CONSTRUCTION

CITY ENGINEER

Hassan Zahran

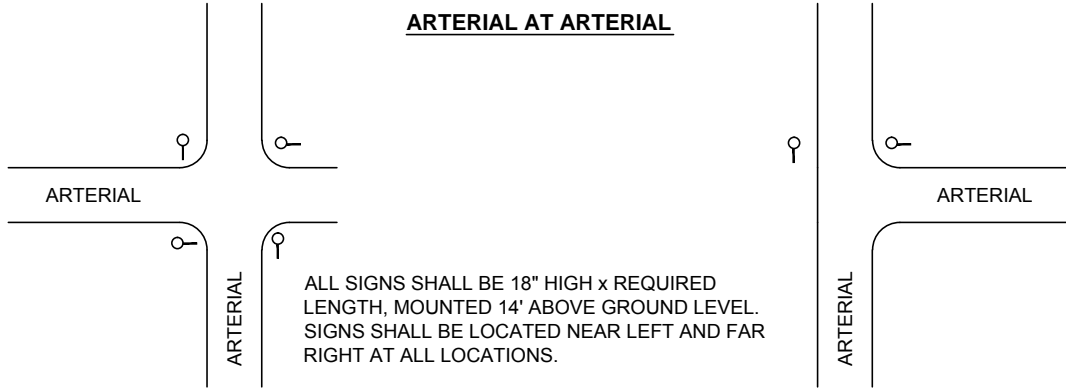
STD DWG

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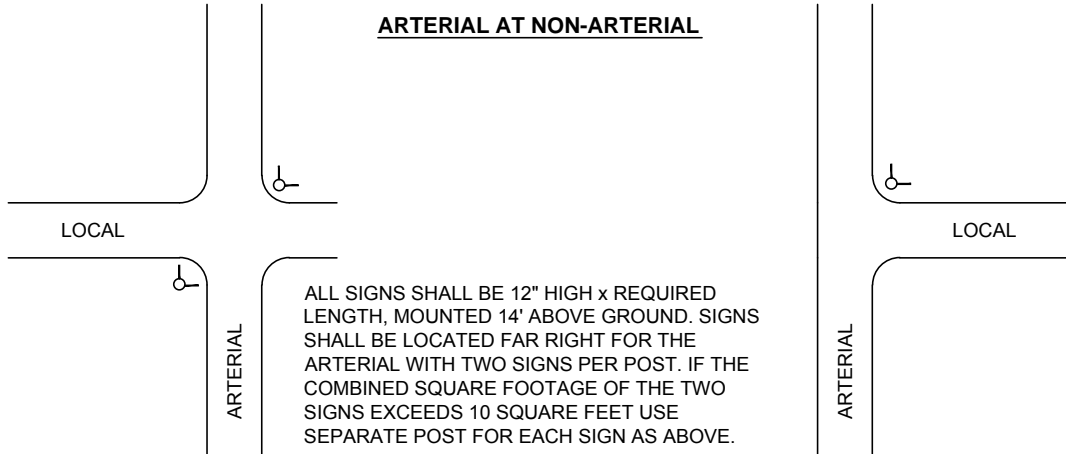
6/1/13

SHT 1 OF 1

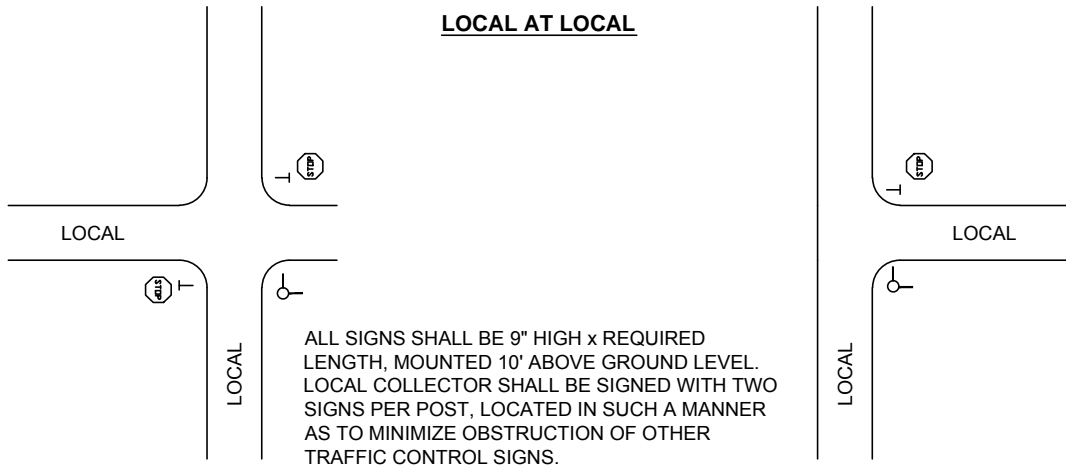
ARTERIAL AT ARTERIAL



ARTERIAL AT NON-ARTERIAL



LOCAL AT LOCAL



PLACEMENT

LOCAL COLLECTOR AND RESIDENTIAL
STREETS SHALL HAVE THE SAME SIZE POST
AND PLACEMENT STANDARDS.

STREET NAME SIGN

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DEPARTMENT OF PUBLIC SERVICE
DIVISION OF DESIGN AND CONSTRUCTION

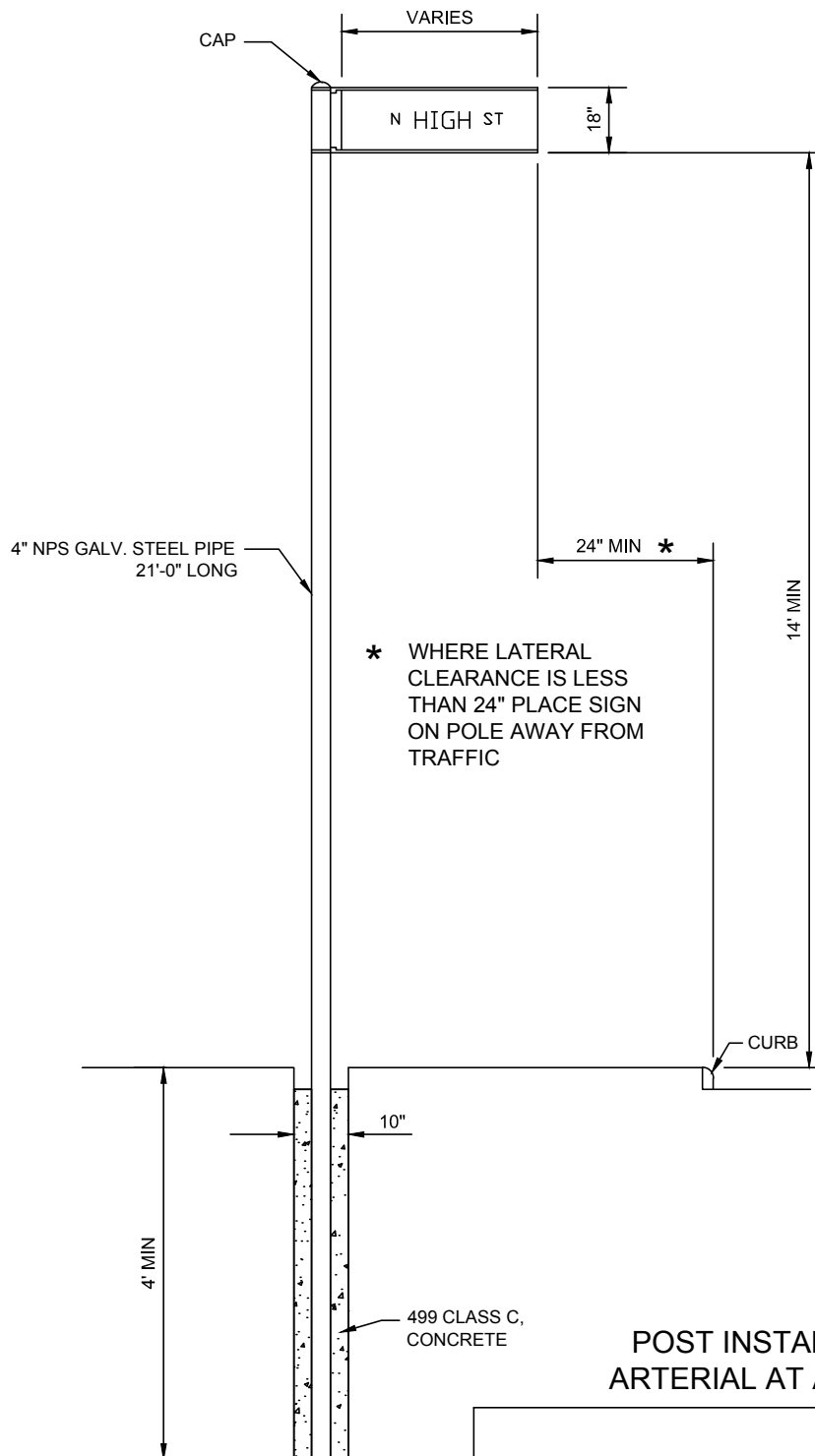
CITY ENGINEER

STD DWG

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SHT 1 OF 9



DIMENSIONS SHOWN SHALL BE CONSIDERED MINIMUM DIMENSIONS FOR NEW INSTALLATIONS AS WELL AS FOR INSTALLATIONS USING EXISTING SUPPORTS SUCH AS UTILITY POLES AND TRAFFIC SIGNAL POLES.

ONLY ONE STREET NAME SIGN PER SUPPORT SHALL BE LOCATED NEAR-LEFT AND FAR-RIGHT AT ALL LOCATIONS UNLESS OTHERWISE SPECIFIED.

STREET NAME SIGN

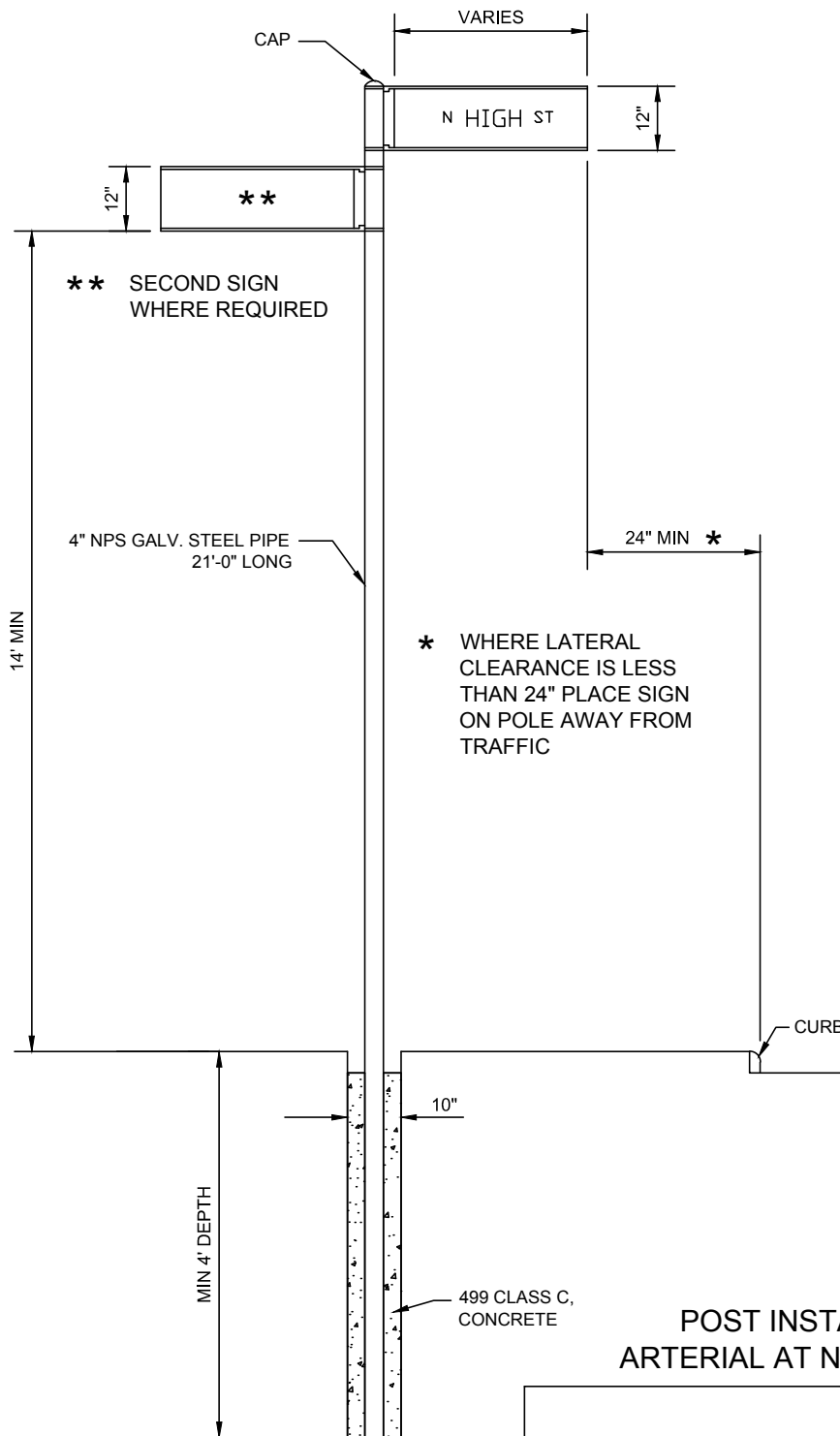
CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF DESIGN AND CONSTRUCTION

STD DWG

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SHT 2 OF 9



POST INSTALLATION ARTERIAL AT NON-ARTERIAL

STREET NAME SIGN

SIGNS SHALL BE LOCATED FAR-RIGHT FOR THE ARTERIAL WITH 2 SIGNS PER SUPPORT. IF THE COMBINED SQUARE FOOTAGE EXCEEDS 10 SQUARE FEET, A SEPARATE SUPPORT SHALL BE USED FOR EACH SIGN.

CITY OF COLUMBUS, OHIO
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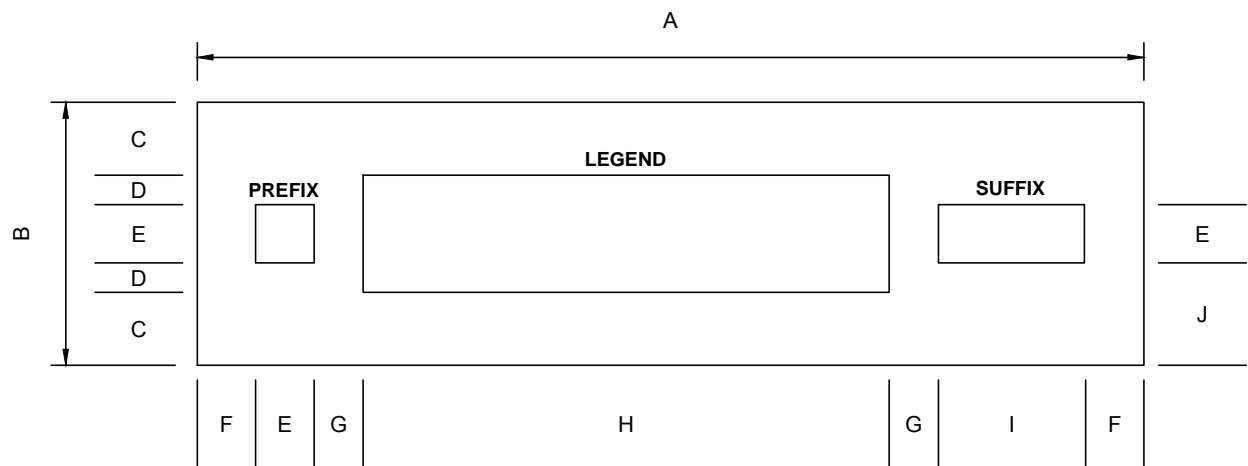
STD DWG

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SHT 4 OF 9



SIZE	A	B	C	D	E	F	G	H	I	J
9" SIGN	VARIES	9.0"	2.5"	1.0"	2.0"	2.0" MIN	2.0" MIN	VARIES	VARIES	3.5"
12" SIGN	VARIES	12.0"	3.0"	1.5"	3.0"	3.0" MIN	3.0" MIN	VARIES	VARIES	4.5"
18" SIGN	72.0" MAX	18.0"	5.0"	2.0"	4.0"	4.0" MIN	4.0" MIN	VARIES	VARIES	7.0"

BLADE

STREET NAME SIGN

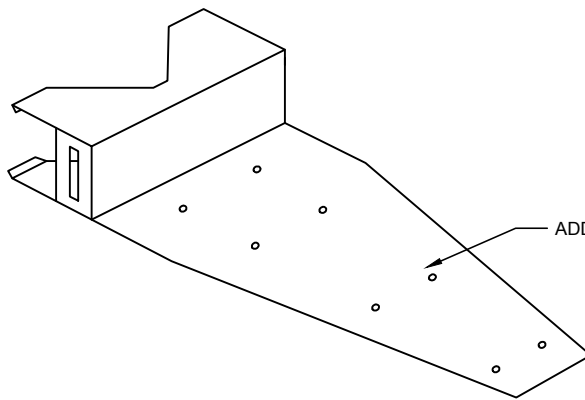
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DIVISION OF DESIGN AND CONSTRUCTION

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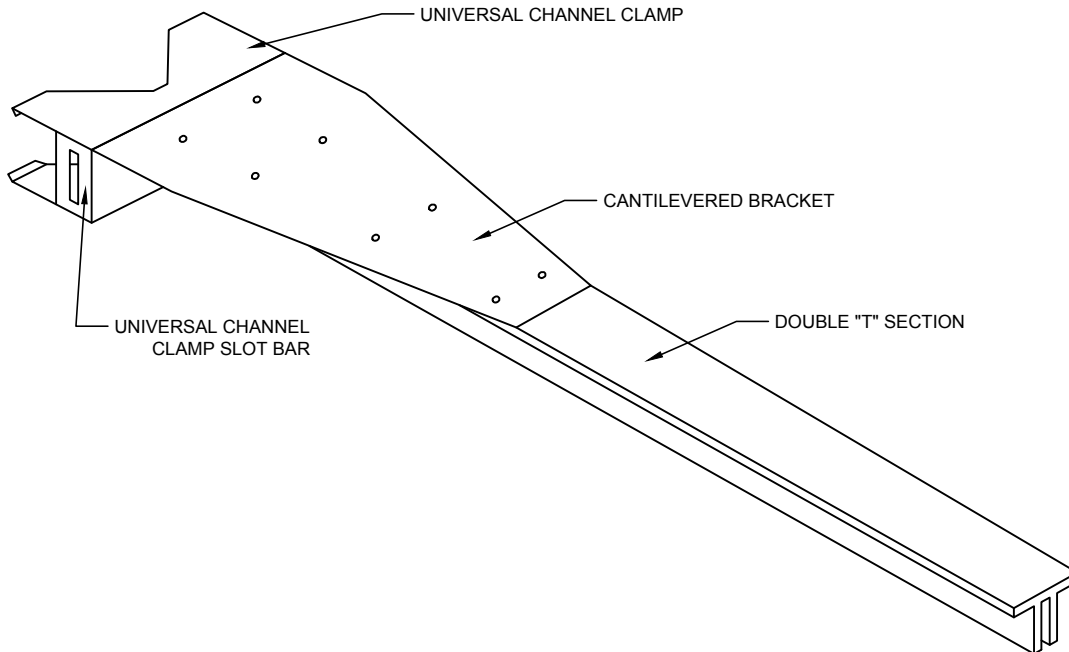
12/1/13

SHT 5 OF 9



ADDITIONAL CANTILEVERED BRACKET *

* USED WHEN SIGN AREA EXCEEDS SIX (6) SQUARE FEET. PLACE TWO (2) BRACKETS BACK TO BACK ON TOP AND BOTTOM OF SIGN BLADE.



MOUNTING HARDWARE

STREET NAME SIGN

FASTEN TO SUPPORT WITH PRE-ASSEMBLED BUCKLE-STRAP COMBINATION ASSEMBLY.

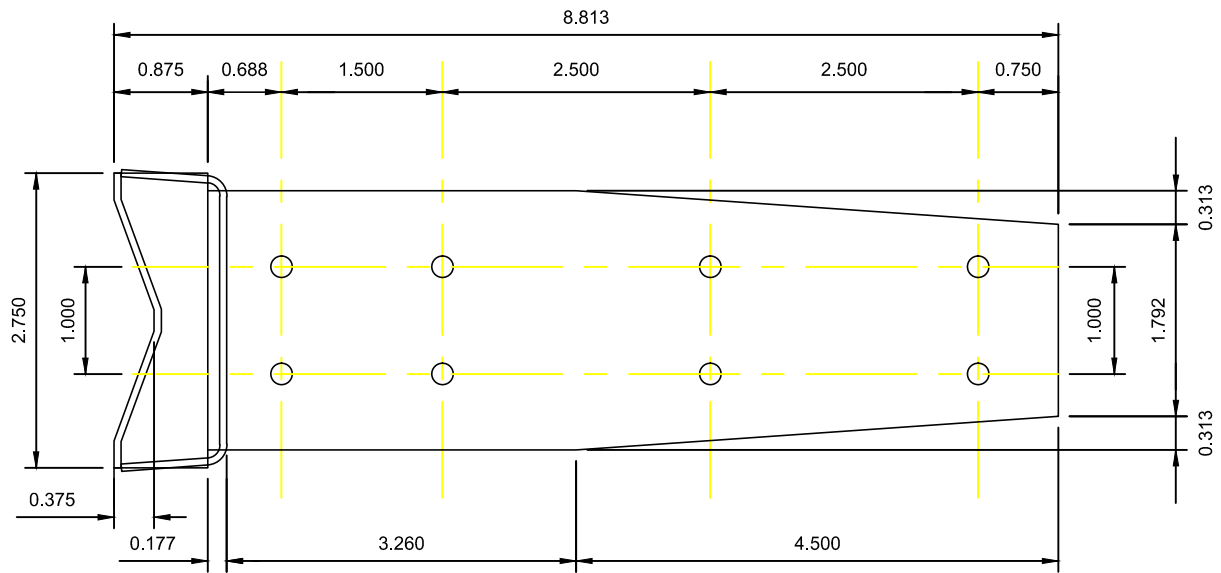
CITY OF COLUMBUS, OHIO
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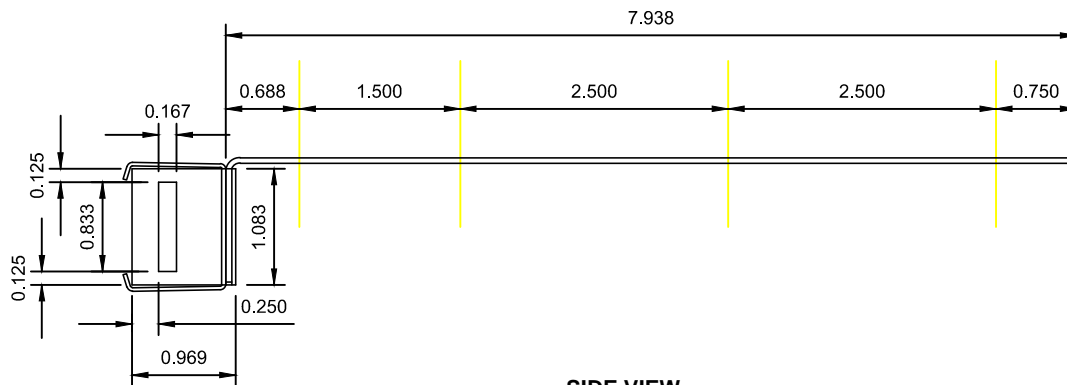
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SHT 6 OF 9



TOP VIEW



SIDE VIEW

MOUNTING HARDWARE CANTILEVER BRACKET

STREET NAME SIGN

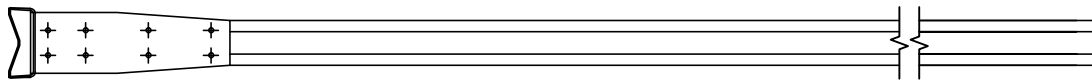
CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF DESIGN AND CONSTRUCTION

STD DWG

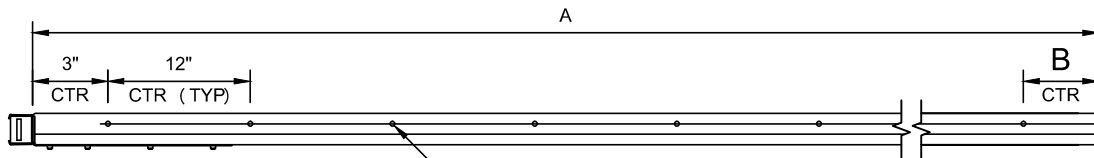
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SHT 7 OF 9



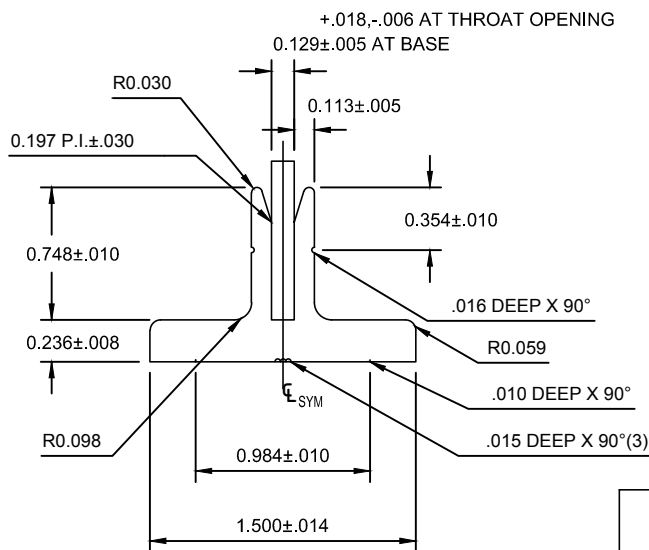
PLAN



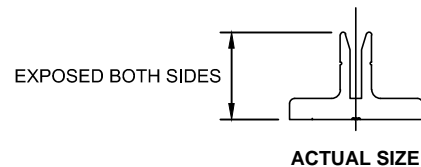
N HOLES, 13/64" DIA FOR 3/16" RIVET

ELEVATION

A (inches)	B (inches)	N (number of holes)
42	3	4
48	1	4
54	3	5



SECTION



MOUNTING HARDWARE
DOUBLE TEE, TYPE II

STREET NAME SIGN

USE TYPE II TEE FOR 9" AND 12" BLADES THAT ARE
42", 48" AND 54" LONG.

USE TYPE I TEE FOR 9" AND 12" BLADES THAT ARE
LESS THAN 42" LONG.

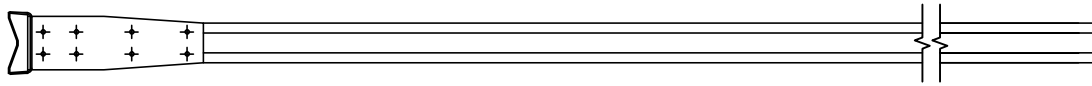
CITY OF COLUMBUS, OHIO
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STD DWG

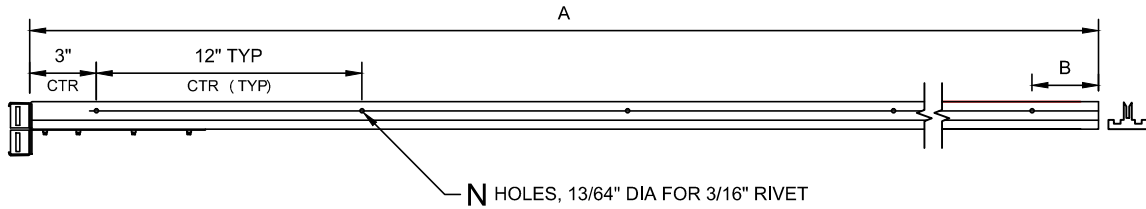
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SHT 8 OF 9

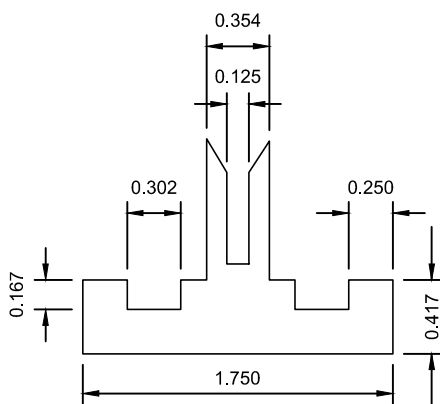


PLAN



ELEVATION

A (inches)	B (inches)	N (number of holes)
42	3	4
48	1	4
54	3	5
60	1	6
72	1	7



SECTION

USE TYPE III TEES FOR 9" AND 12" BLADES THAT ARE 60", 66" & 72" LONG AND ALL 18" BLADES WITH BACK TO BACK CANTILEVER BRACKETS.

MOUNTING HARDWARE DOUBLE TEE, TYPE III

STREET NAME SIGN

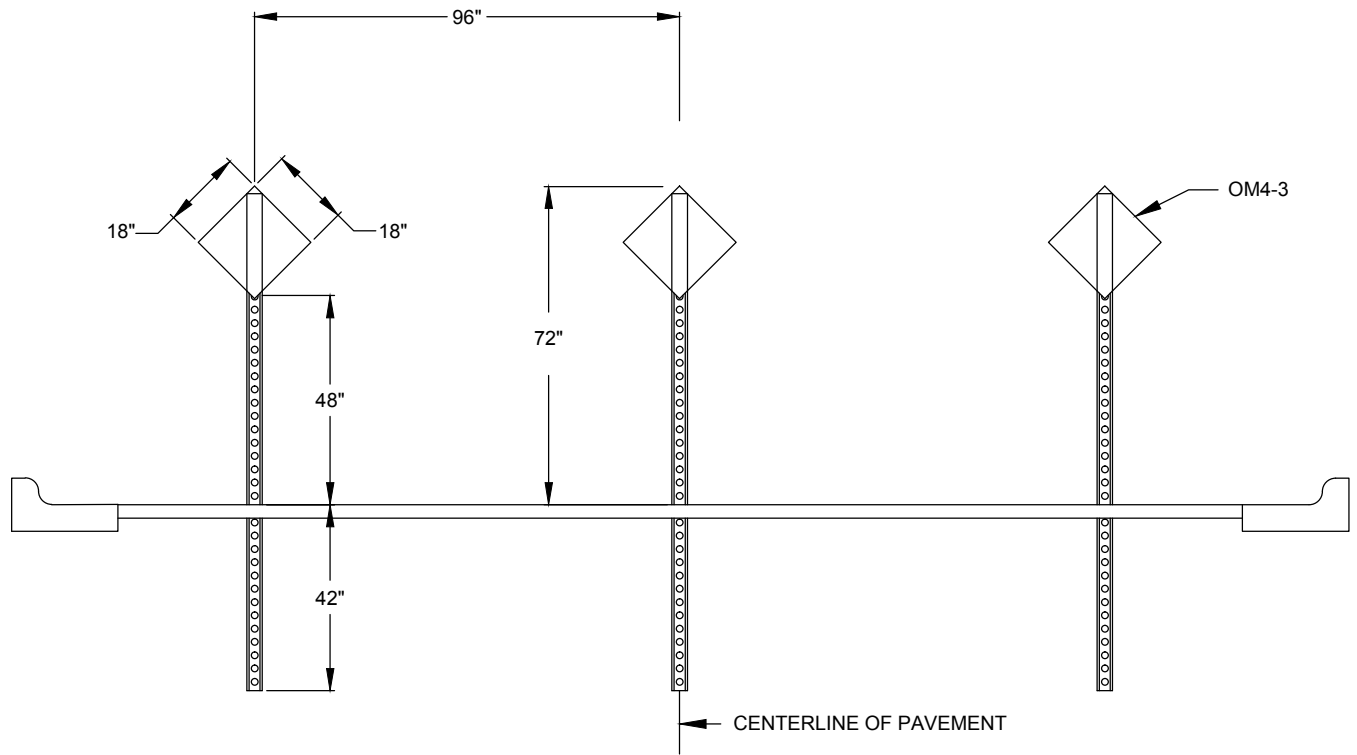
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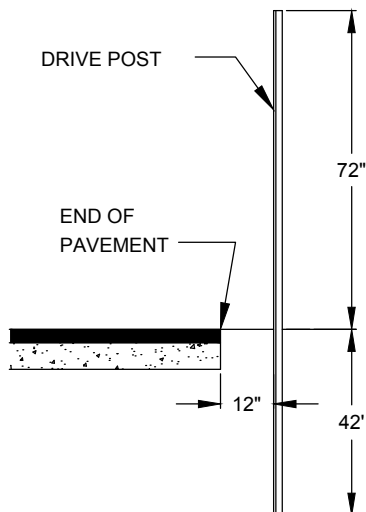
SHT 9 OF 9



NUMBER OF ASSEMBLIES TO BE INSTALLED:

PAVEMENTS 24' OR LESS IN WIDTH = 2
 PAVEMENTS 25'-32' IN WIDTH = 3
 PAVEMENTS 33'-40' IN WIDTH = 4
 PAVEMENTS 41'-48' IN WIDTH = 5
 PAVEMENTS 49'-56' IN WIDTH = 6
 PAVEMENTS 57'-64' IN WIDTH = 7

THE OM4-3 IS A 18"X18" .080 GAUGE ALUMINUM PANEL COVERED WITH RED REFLECTIVE SHEETING.



REFERENCE SUPPLEMENTAL SPECIFICATION 1630.

BARRICADE FOR END OF ROADWAY PAVEMENT

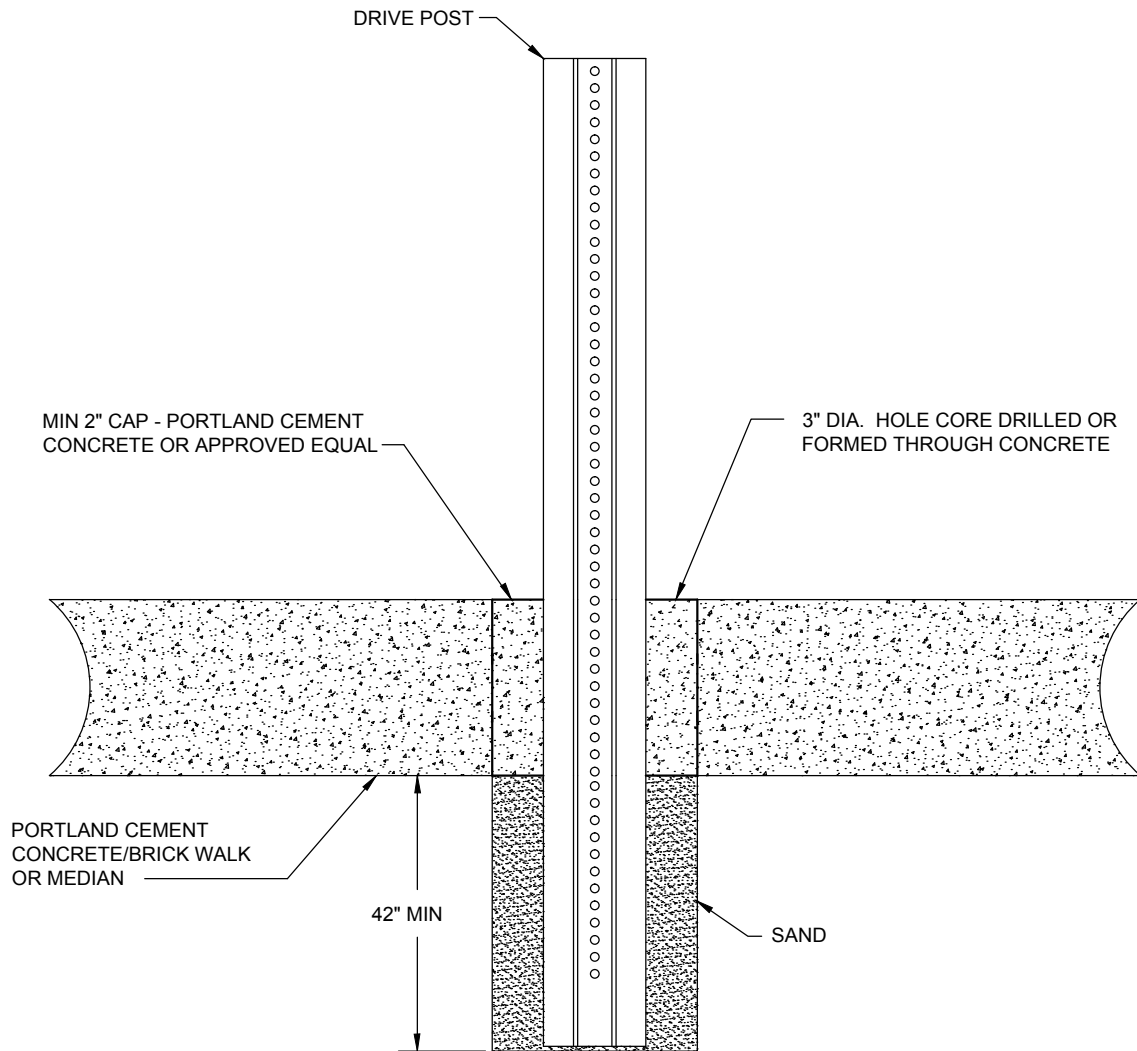
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 CITY ENGINEER

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NOTES: MAINTAIN STANDARD INSTALLATION
DEPTH OF DRIVE POST.

REFERENCE SUPPLEMENTAL SPECIFICATION 1630.

DRIVE POST INSTALLATION THROUGH CONCRETE / BRICK

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SHT 1 OF 1

3 1/2" X 18" PANEL WITH HIGH INTENSITY
REFLECTIVE SHEETING
RED - NO OUTLET
YELLOW - OTHER
(TWO PER BOLLARD)

TREATED 4" X 4"
WOOD POST

3/4" DEEP SAW CUT
ALONG ALL FOUR SIDES

PAVEMENT
SURFACE

6"

2"

1 1/2" LAG
BOLT (2 REQ.)

PAVEMENT

STEEL TUBING
4" X 4" X 3/16"
(PAINT W/RUST
INHIBITOR)

4'-0" MINIMUM

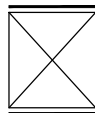
5'-0"

PAVEMENT
SURFACE

3'-0"

FOR USE IN AREAS OPEN TO PEDESTRIAN TRAFFIC

TYPE A



TOP VIEW

BREAK-AWAY BOLLARD

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

CITY ENGINEER

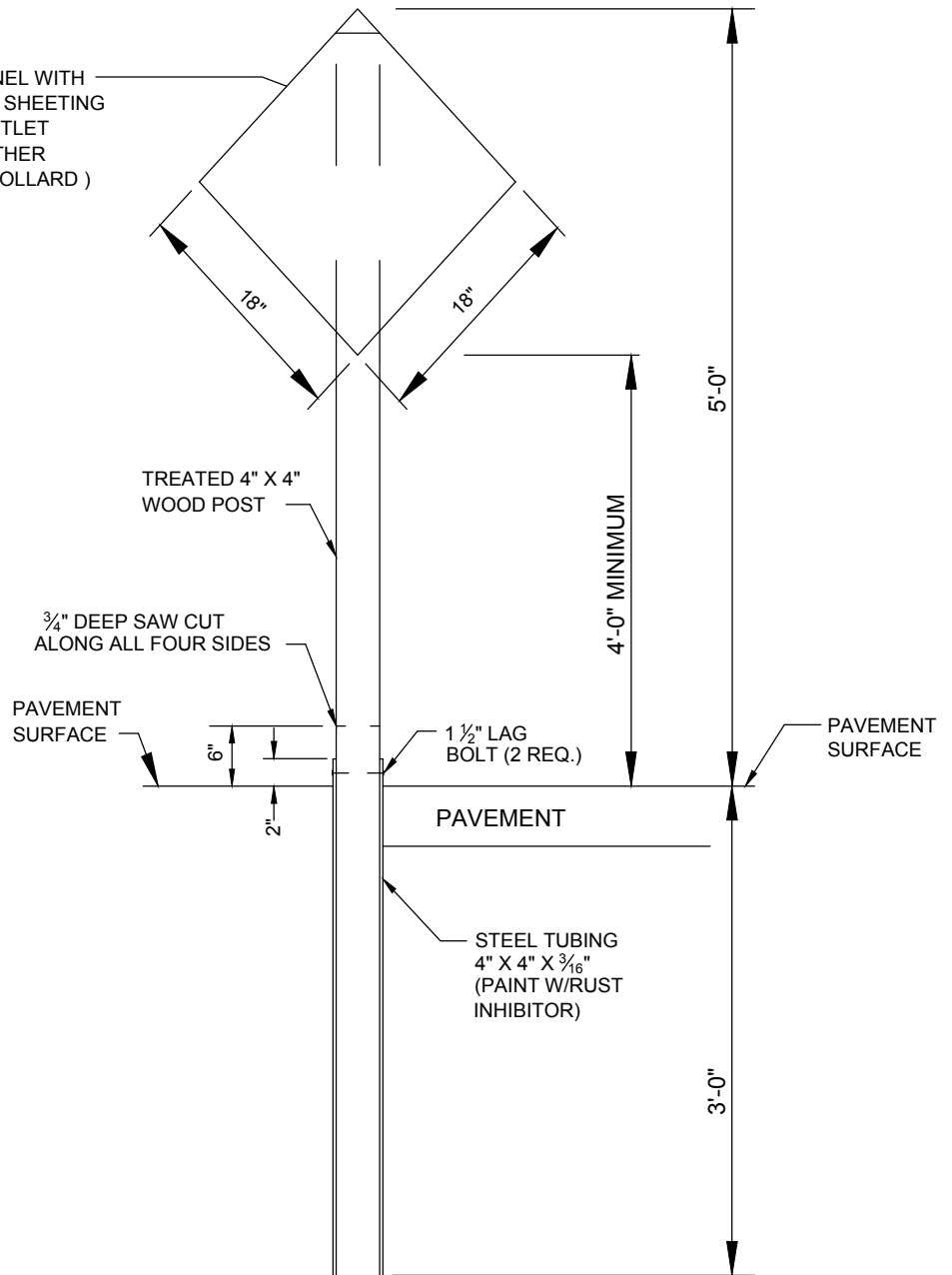
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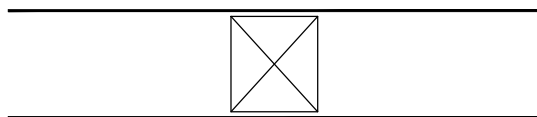
SHT 1 OF 2

18" X 18" PANEL WITH
REFLECTIVE SHEETING
RED - NO OUTLET
YELLOW - OTHER
(TWO PER BOLLARD)



FOR USE IN LIMITED ACCESS AREAS

TYPE B



TOP VIEW

BREAK-AWAY BOLLARD

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SHT 2 OF 2

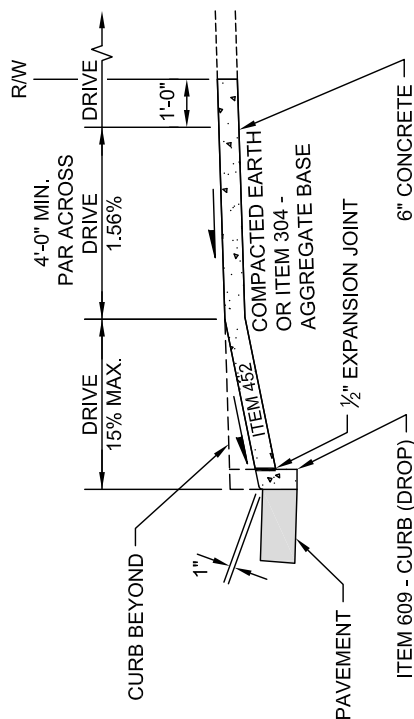
* CURB OR COMBINED CURB AND GUTTER SHALL BE TAKEN OUT AND REPLACED WITH CONCRETE, SEPARATED FROM THE DRIVE BY 1/2" PREMOLDED EXPANSION JOINT. WHEN LESS THAN 5 FT. OF A CURB SECTION REMAINS AFTER THE CURB CUT IS LOCATED, IT SHALL ALSO BE REMOVED AND REPLACED. CURB SHALL BE CONSTRUCTED IN MINIMUM 5 FT.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

* 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.

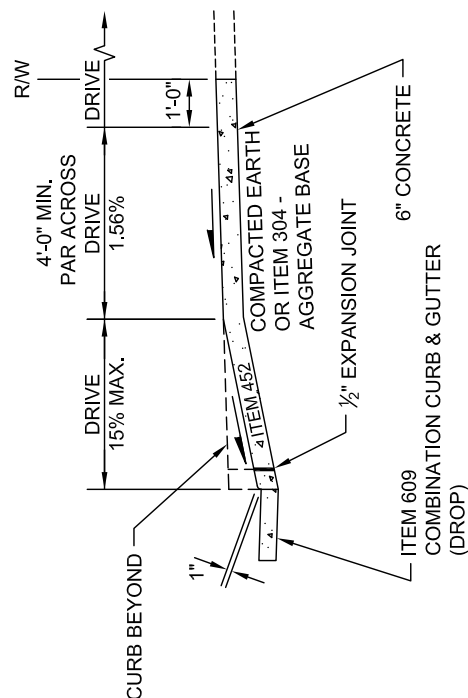
**** SIDEWALK WIDTH SHALL BE PER STANDARD DRAWING 2300. SIDEWALK THICKNESS SHALL BE 6" CONCRETE TO ONE FULL PANEL (MIN. 5 FT.) BEYOND EDGE OF DRIVE.**

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

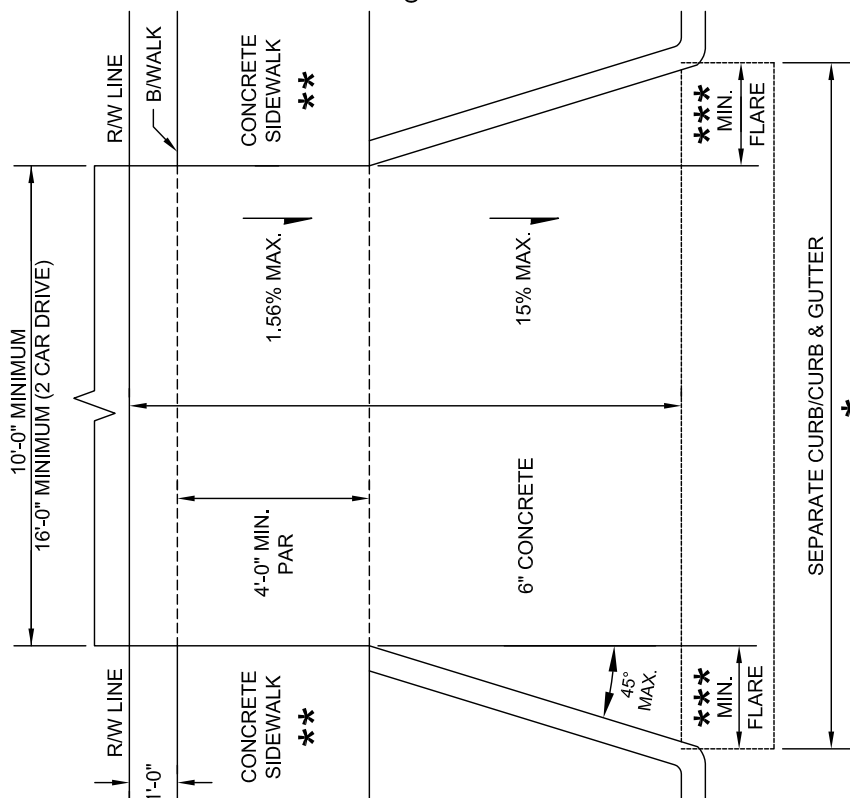
PAR = PEDESTRIAN ACCESS ROUTE. SET PAR THROUGH APPROACH AT SIDEWALK GRADE TO AVOID RAMP OR TRANSITION. IF NOT POSSIBLE, THEN MINIMIZE TRANSITION FROM SIDEWALK TO APPROACH.



STRAIGHT CURB SECTION



COMBINATION CURB AND GUTTER SECTION



DRIVEWAY, RESIDENTIAL CURBED ROADWAY

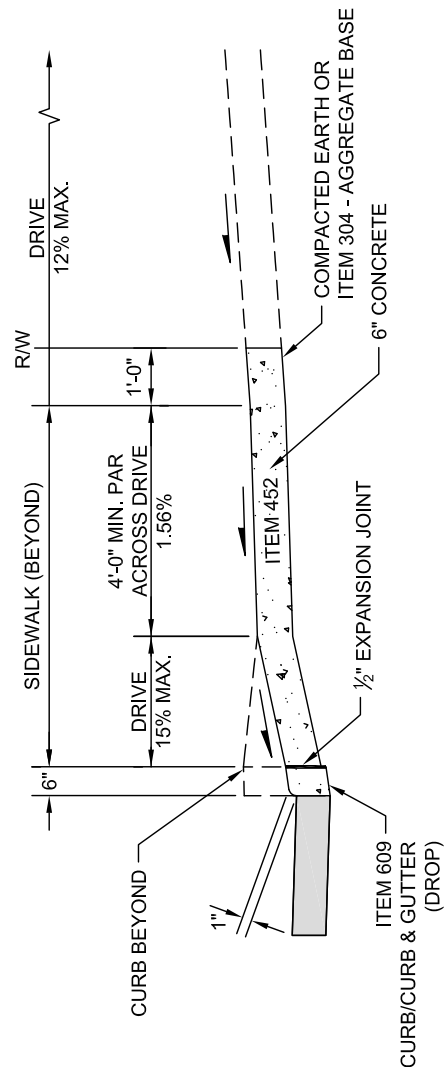
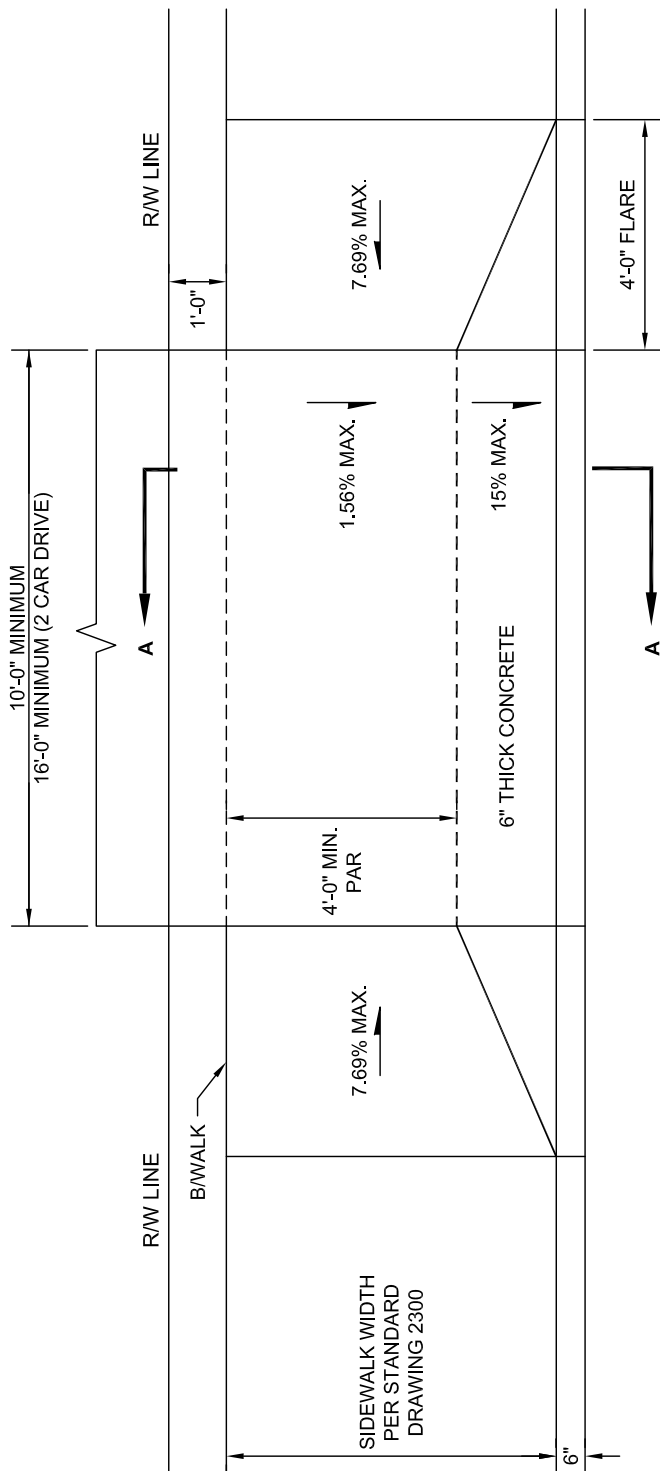
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2201

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SHT 1 OF 4



SIDEWALK ADJACENT TO CURB

DRIVEWAY, RESIDENTIAL CURBED ROADWAY

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

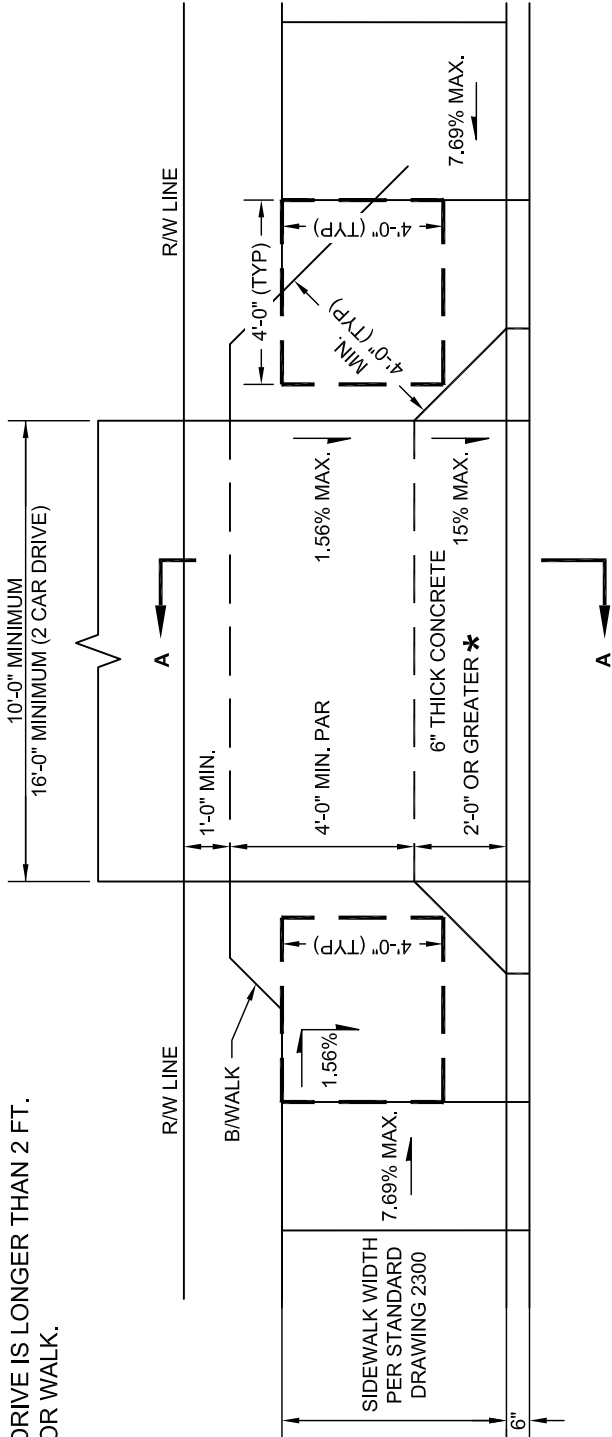
STD DWG
2201

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SHT 2 OF 4

SECTION A-A
SEE SHEET 1 OF 4 FOR ADDITIONAL INFORMATION

* USE WHEN FRONT RAMP OF DRIVE IS LONGER THAN 2 FT.
 MAINTAIN R/W CLEARANCE FOR WALK.

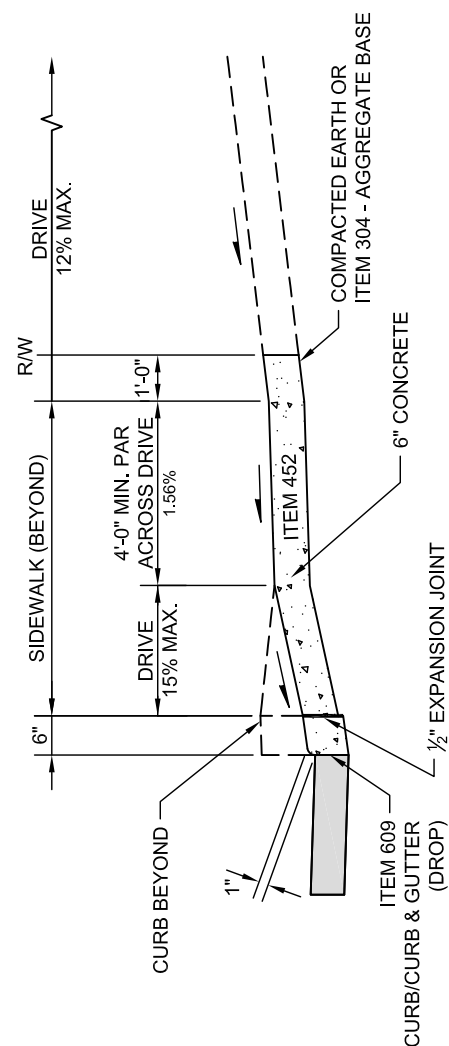


SIDEWALK ADJACENT TO CURB WITH RUN-AROUND

DRIVEWAY, RESIDENTIAL CURBED ROADWAY

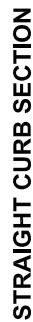
CITY OF COLUMBUS, OHIO
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2201
12/1/14
SHT 3 OF 4

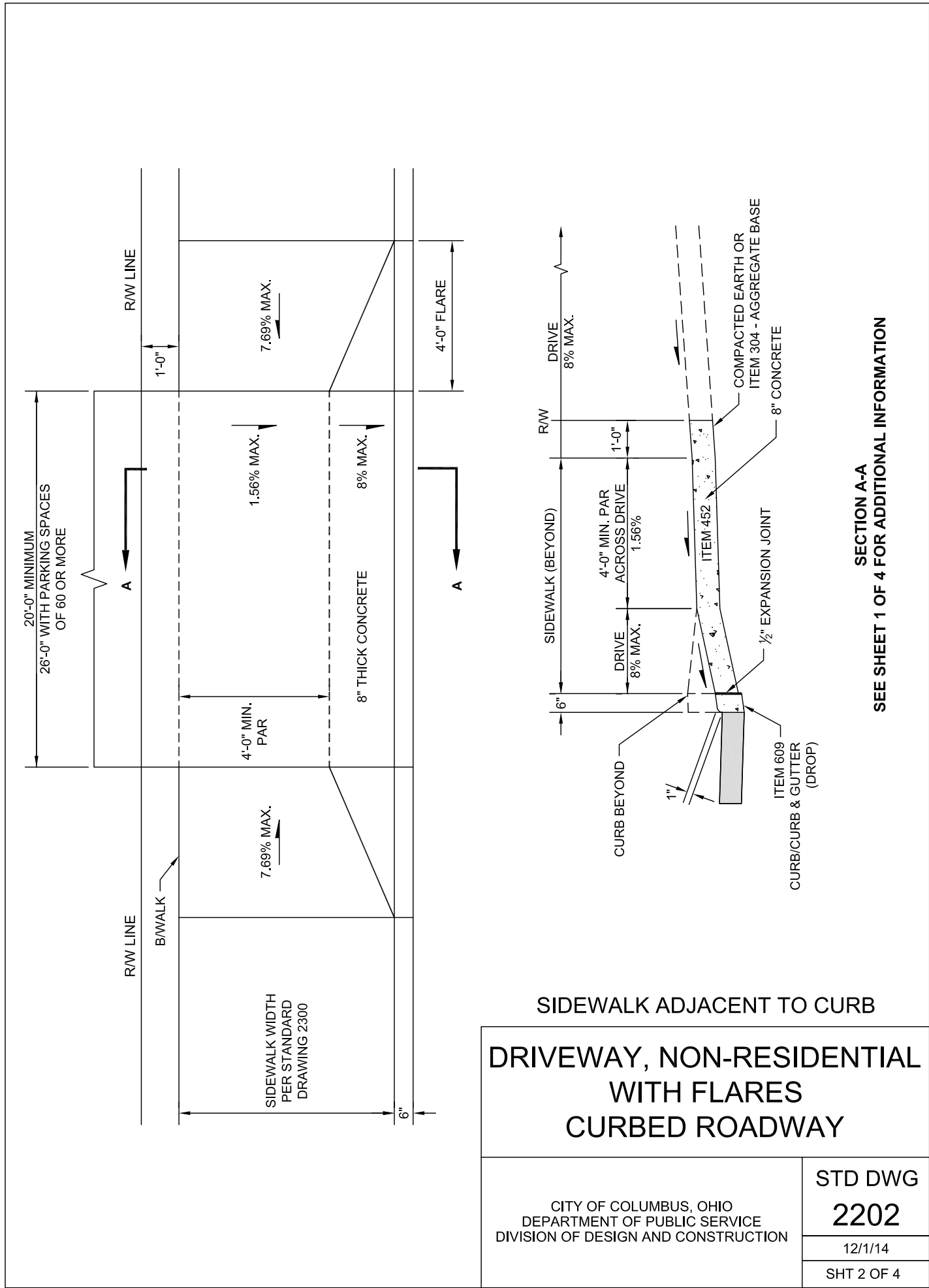


SECTION A-A
 SEE SHEET 1 OF 4 FOR ADDITIONAL INFORMATION

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.



CITY ENGINEER



SIDEWALK ADJACENT TO CURB

DRIVEWAY, NON-RESIDENTIAL
WITH FLARES
CURBED ROADWAY

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

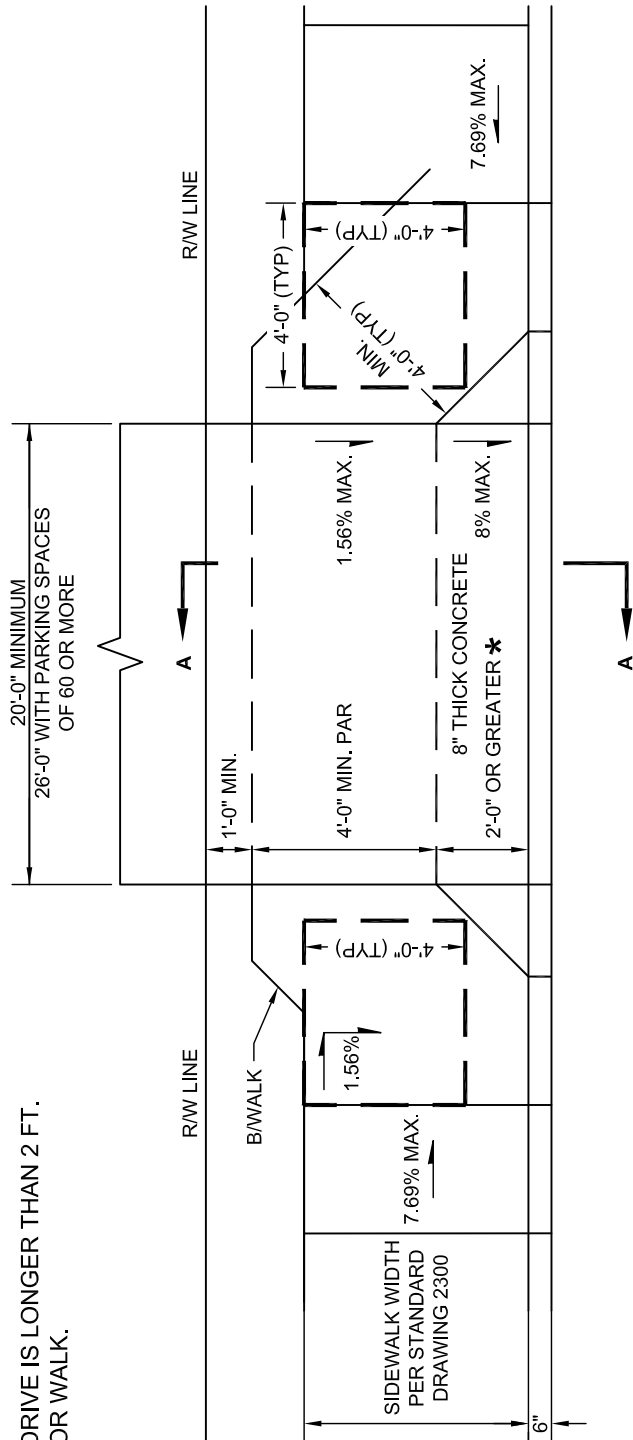
STD DWG
2202

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SHT 2 OF 4

SECTION A-A
SEE SHEET 1 OF 4 FOR ADDITIONAL INFORMATION

* USE WHEN FRONT RAMP OF DRIVE IS LONGER THAN 2 FT.
MAINTAIN R/W CLEARANCE FOR WALK.



SIDEWALK ADJACENT TO
CURB WITH RUN-AROUND

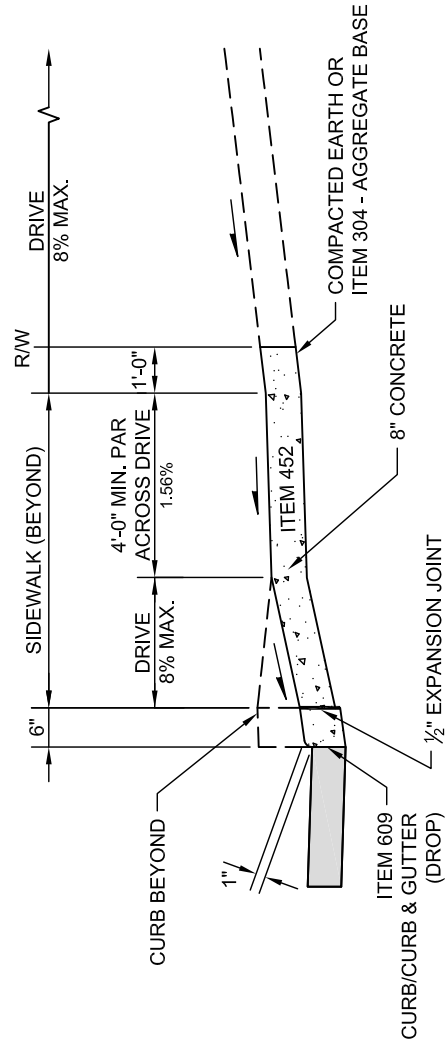
DRIVEWAY, NON-RESIDENTIAL WITH FLARES CURBED ROADWAY

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

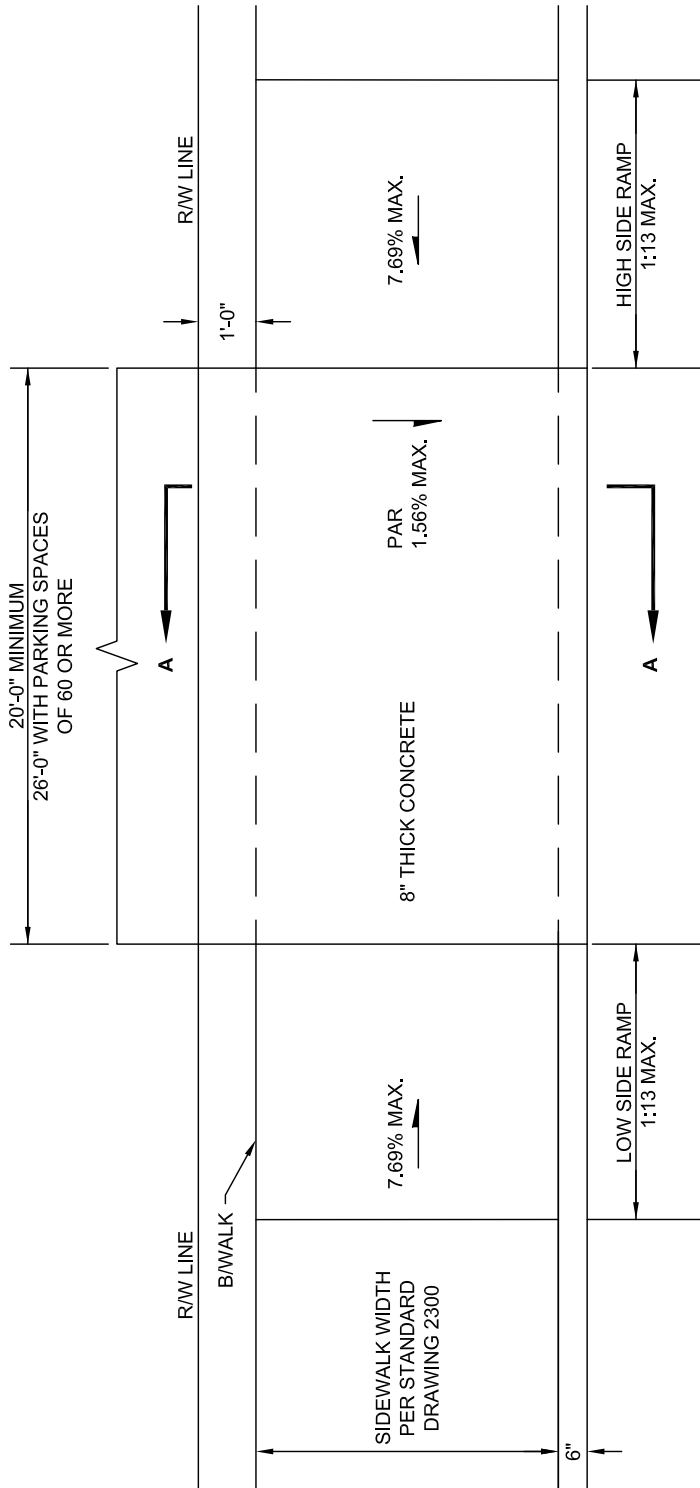
STD DWG
2202

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SHT 3 OF 4



SECTION A-A
SEE SHEET 1 OF 4 FOR ADDITIONAL INFORMATION



SIDEWALK ADJACENT TO CURB

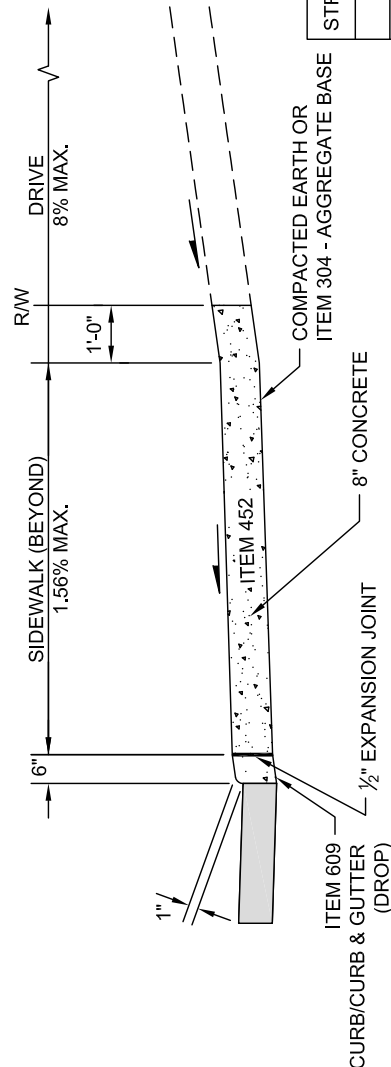
DRIVEWAY, NON-RESIDENTIAL WITH FLARES CURBED ROADWAY

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

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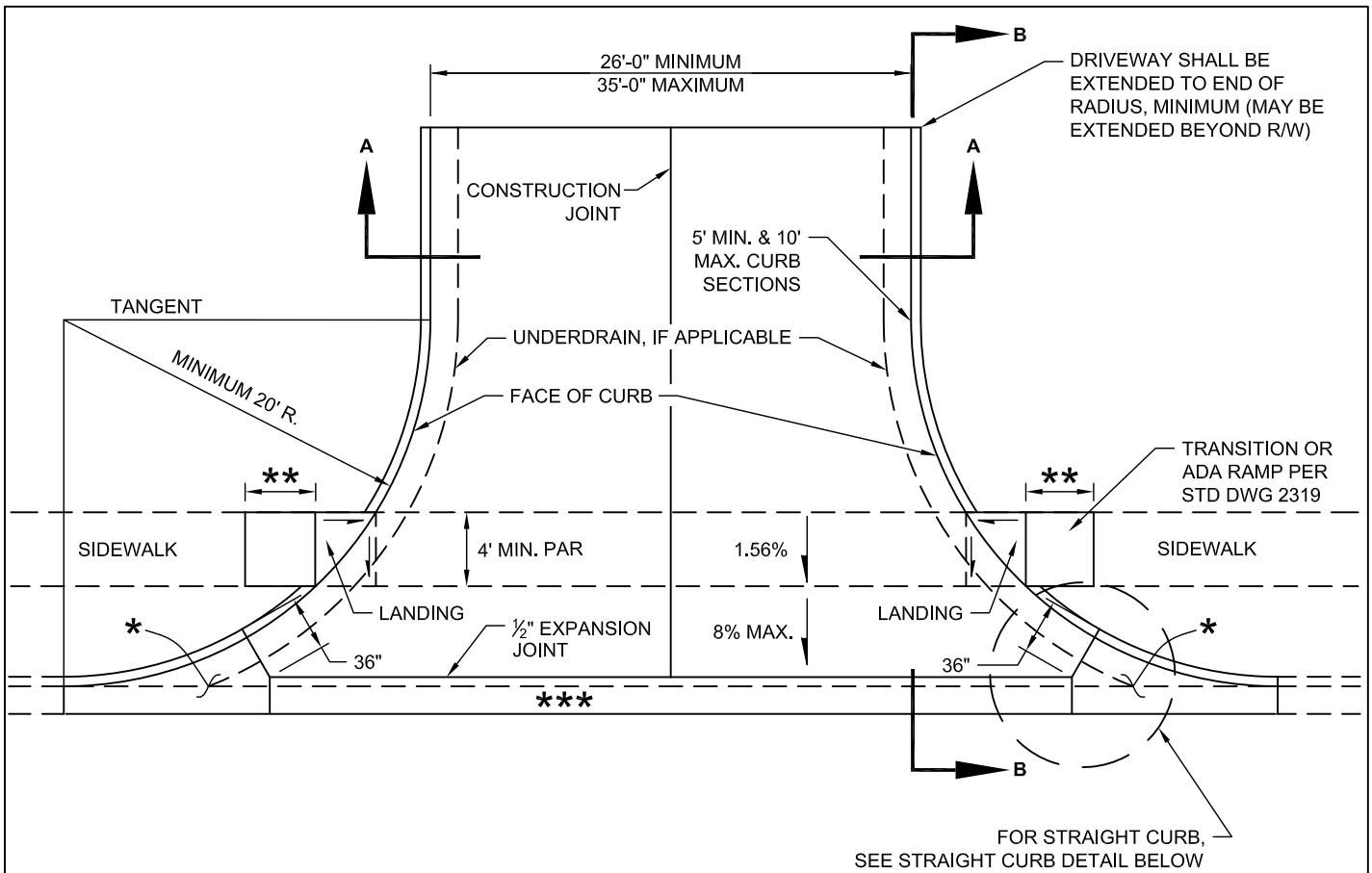
SHT 4 OF 4



STREET GRADE	RAMP LENGTH (1:13)	
	LOW SIDE *	HIGH SIDE *
1%	5'-6"	7'-2"
2%	5'-0"	8'-4"
3%	4'-6"	10'-0"
4%	4'-2"	12'-6"
5%	3'-10"	16'-8"

* MEASURED ALONG THE BACK OF CURB

SECTION A-A
SEE SHEET 1 OF 4 FOR ADDITIONAL INFORMATION



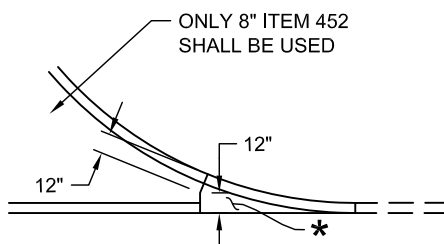
* PAVEMENT & CURB MAY BE POURED INTEGRAL WITH PRIOR C.O.C. APPROVAL.

** 8" THICK 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.



STRAIGHT CURB DETAIL

DRIVEWAY, NON-RESIDENTIAL WITH RADIUS CURBED ROADWAY

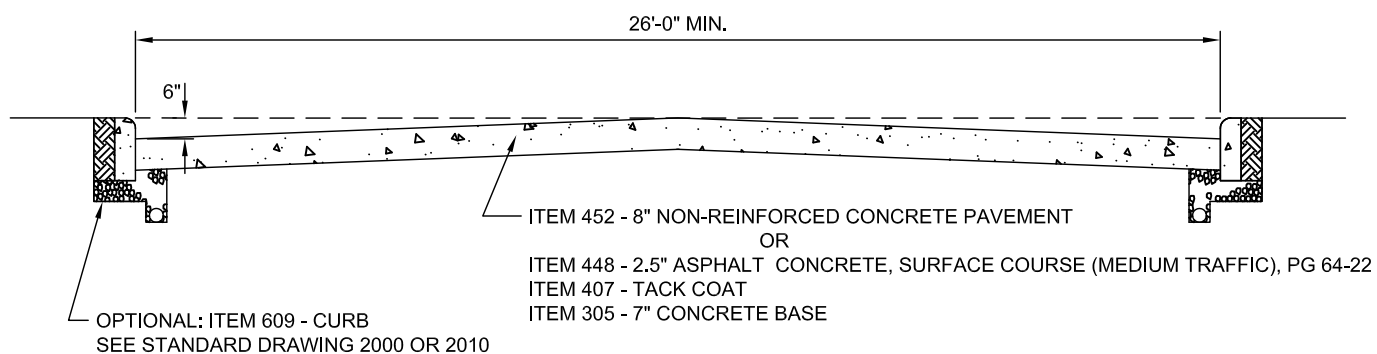
CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF DESIGN AND CONSTRUCTION

STD DWG
2203

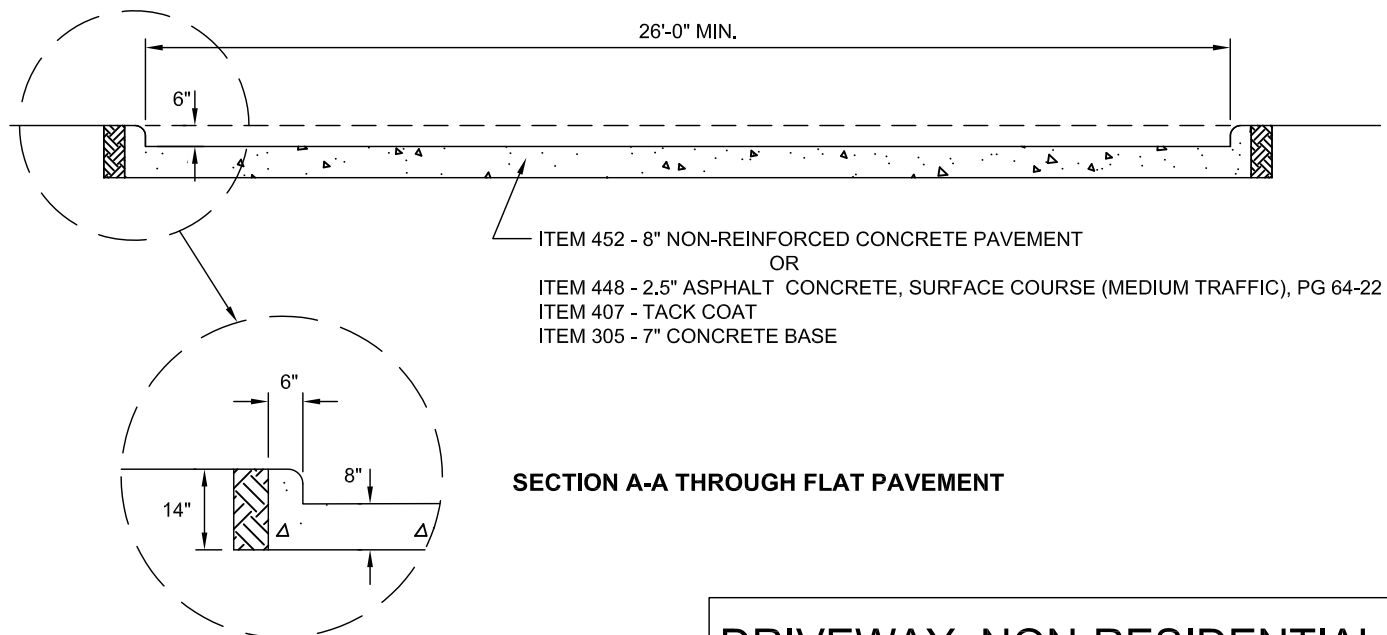
CITY ENGINEER

12/1/14

SHT 1 OF 3



SECTION A-A THROUGH CROWNED PAVEMENT



SECTION A-A THROUGH FLAT PAVEMENT

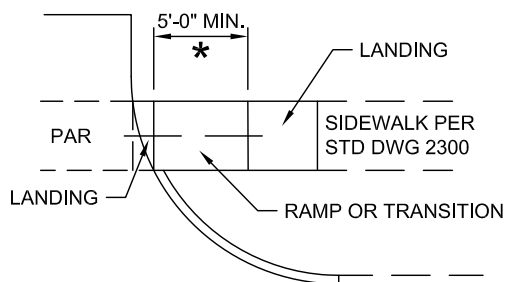
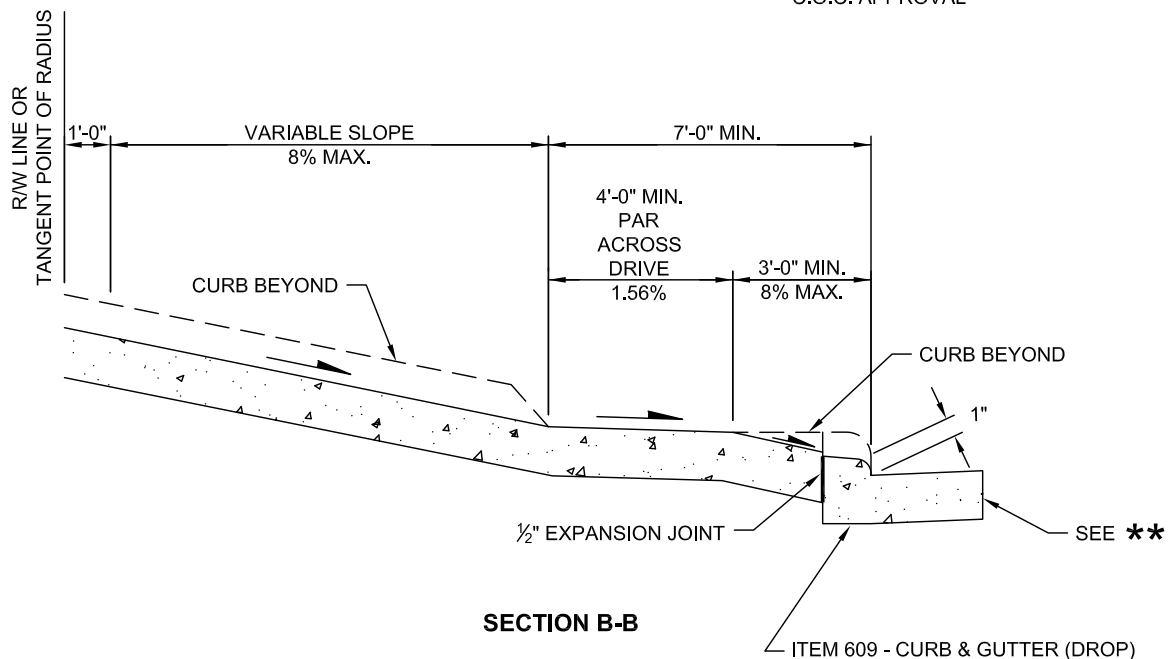
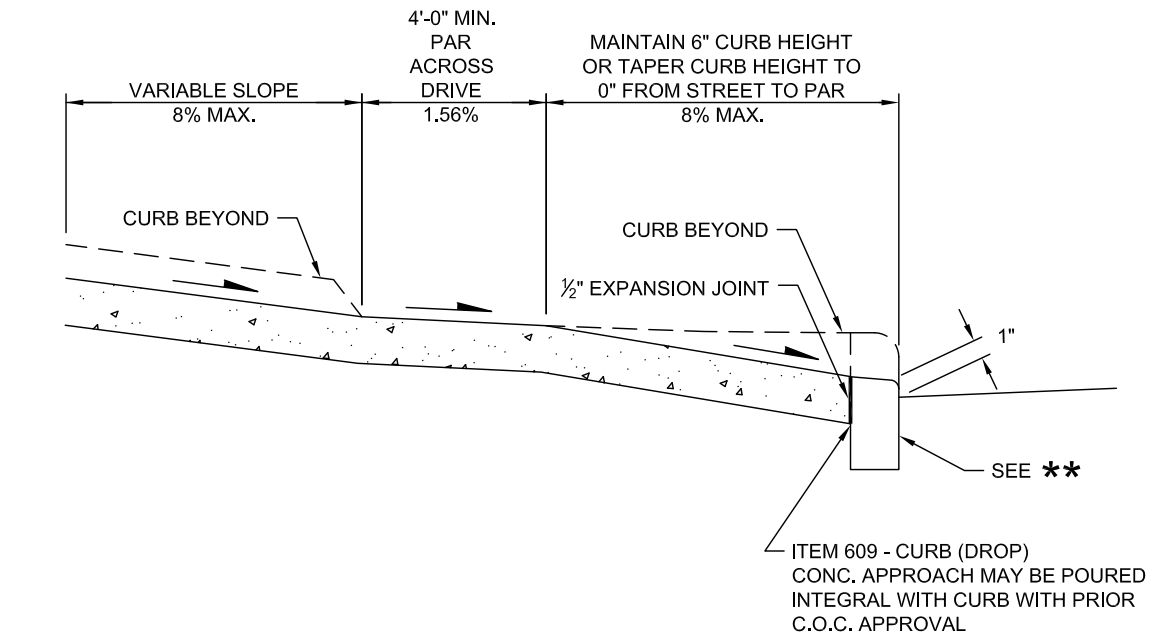
DRIVEWAY, NON-RESIDENTIAL WITH RADIUS CURBED ROADWAY

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

**STD DWG
2203**

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SHT 2 OF 3



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" CONCRETE.

** STRAIGHT CURB OR CONCRETE CURB & GUTTER.

DRIVEWAY, NON-RESIDENTIAL WITH RADIUS CURBED ROADWAY

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

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2203

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SHT 3 OF 3

***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).**

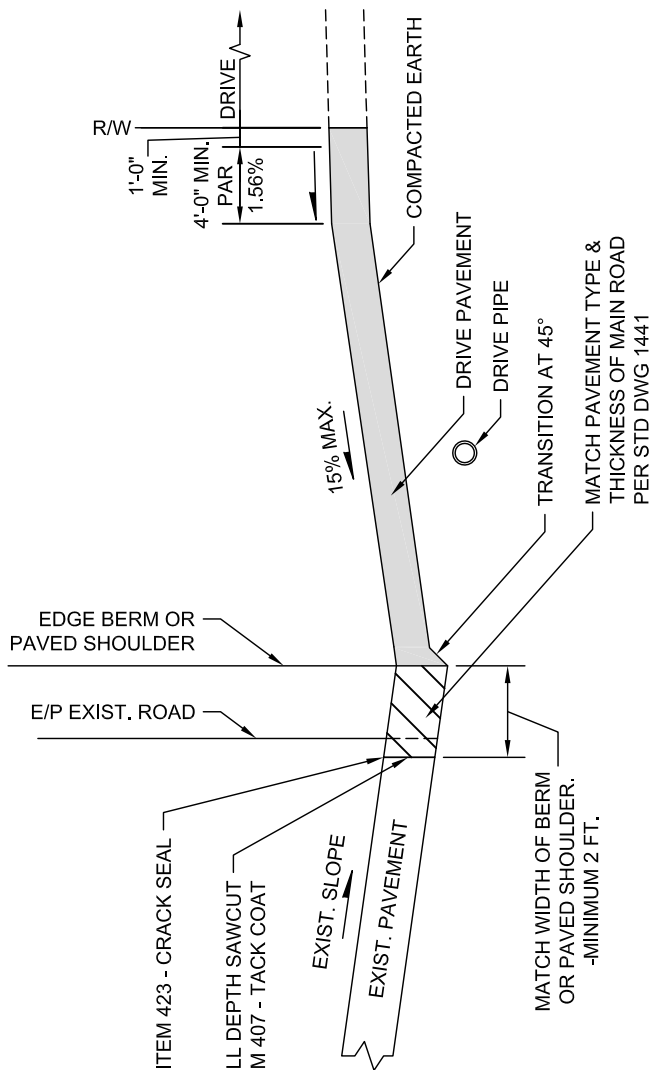
ITEM 448 - 2" ASPHALT CONCRETE, SURFACE COURSE,

ITEM 448 - 2" ASPHALT CONCRETE, INTERMEDIATE COURSE,

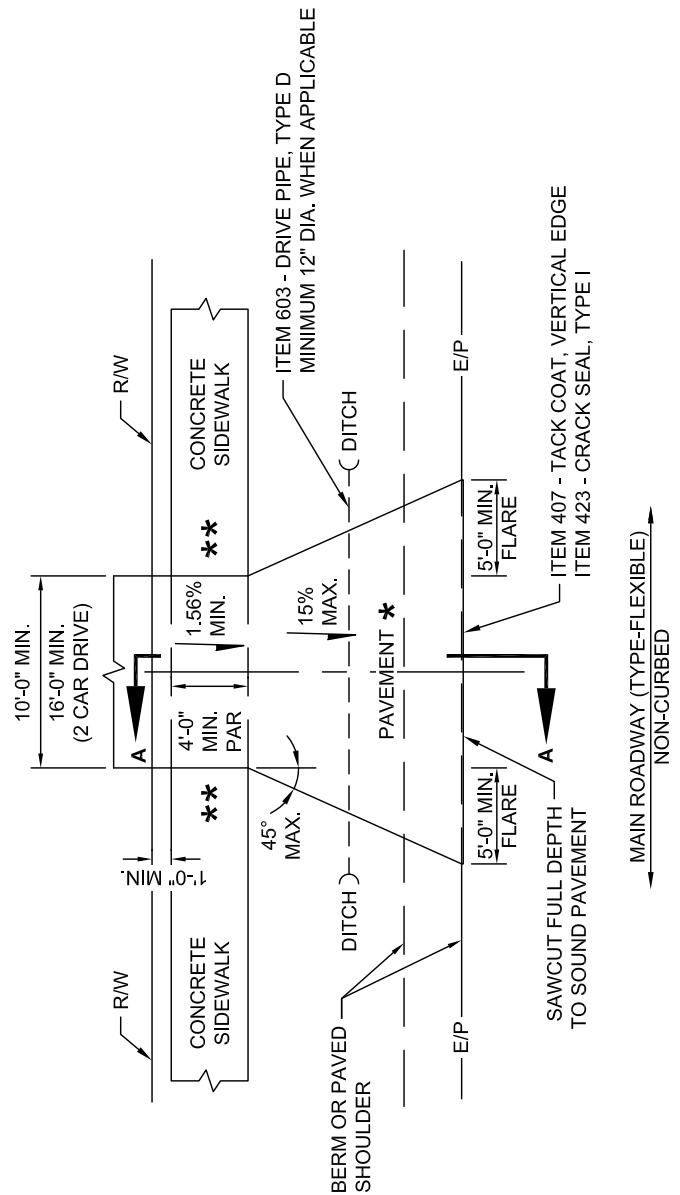
ITEM 304 - 4" AGGREGATE BASE

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



SECTION A-A



DRIVE PAVEMENT (TYPE, FLEXIBLE)

DRIVEWAY, RESIDENTIAL NON-CURBED ROADWAY

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

STD DWG
2206

6/1/14

CITY ENGINEER

SHT 1 OF 2

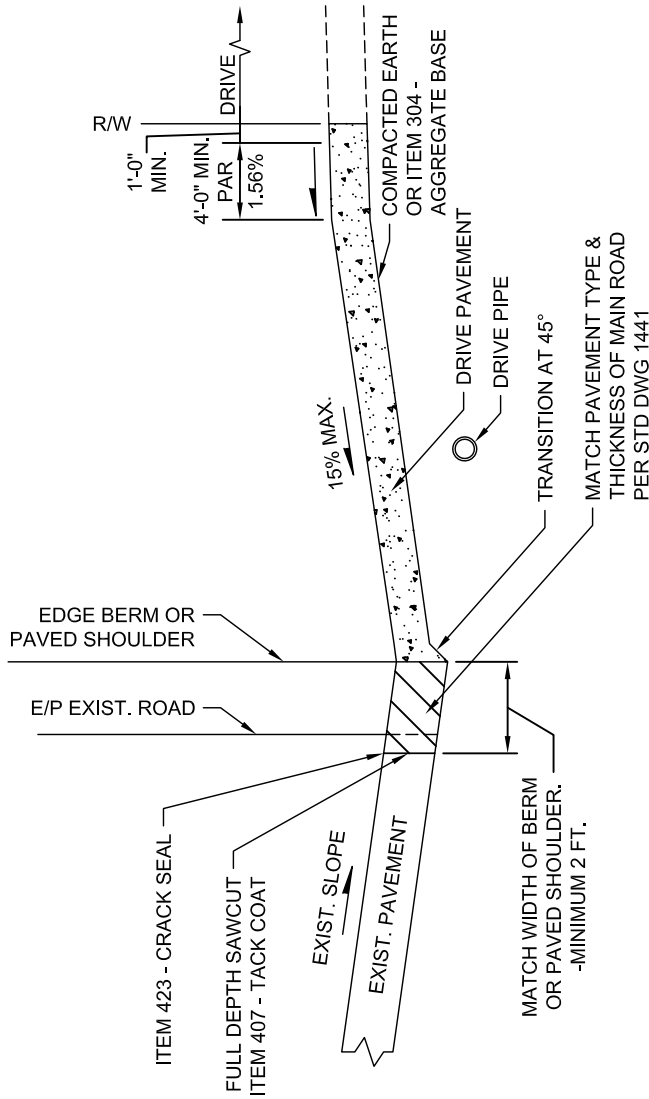
FOR USE ON A PARCEL WITH A SINGLE DWELLING

***** 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).

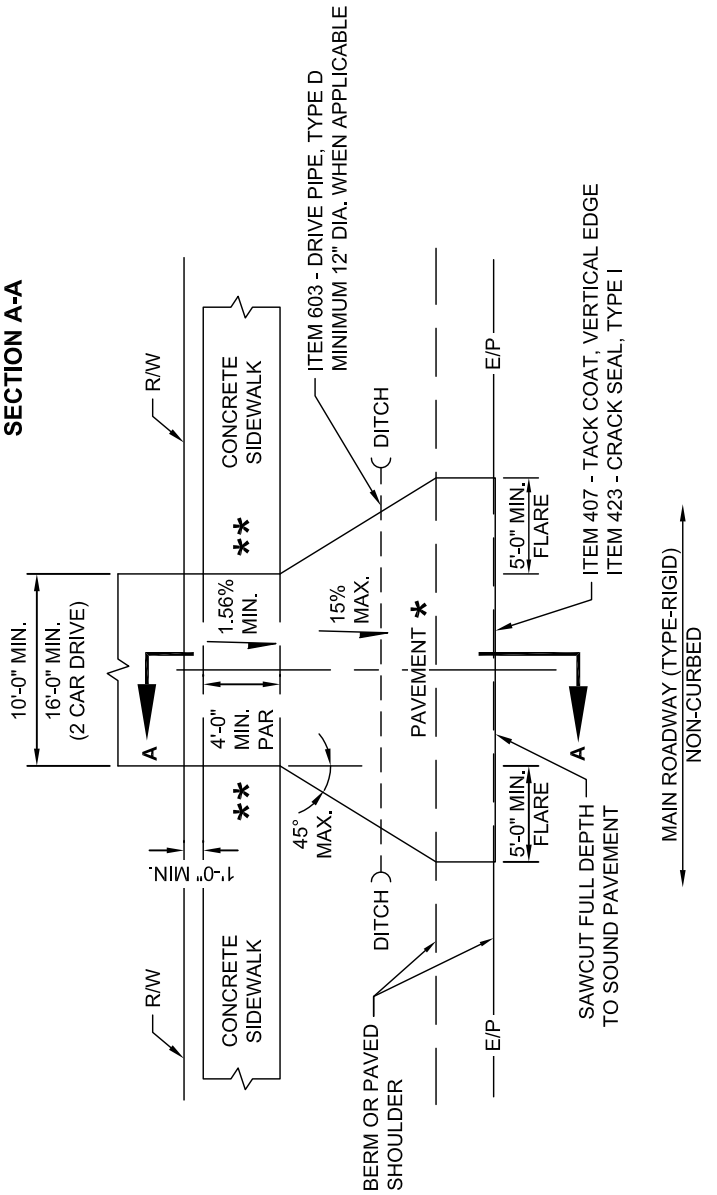
DRIVE PAVEMENT (TYPE, RIGID)
ITEM 452 - 6" NON-REINFORCED PORTLAND CEMENT CONCRETE

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



SECTION A-A



DRIVE PAVEMENT (TYPE, RIGID)

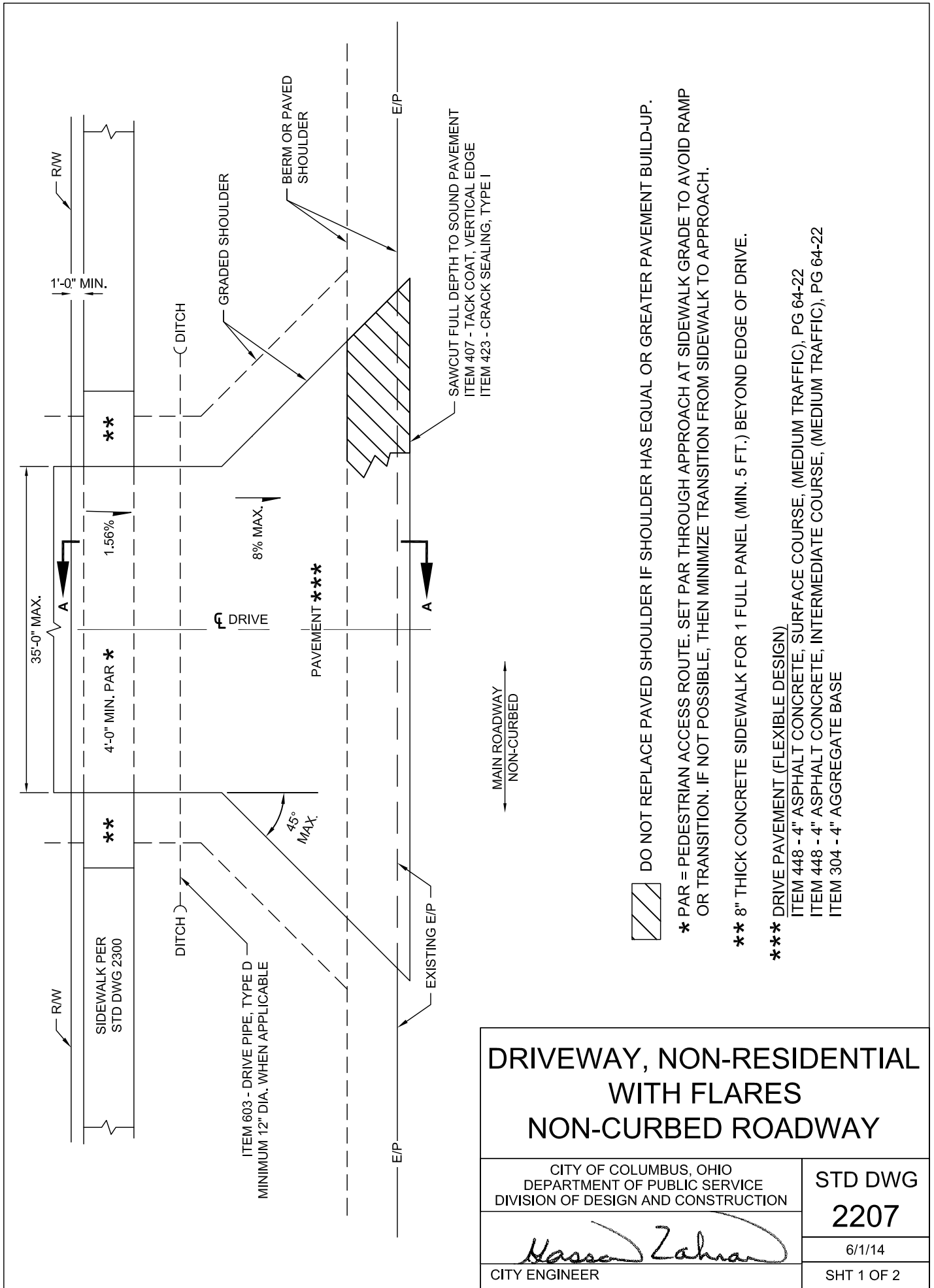
DRIVEWAY, RESIDENTIAL NON-CURBED ROADWAY

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

STD DWG
2206

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SHT 2 OF 2



DO NOT REPLACE PAVED SHOULDER IF SHOULDER HAS EQUAL OR GREATER PAVEMENT BUILD-UP.

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

*** DRIVE PAVEMENT (FLEXIBLE DESIGN)

ITEM 448 - 4" ASPHALT CONCRETE, SURFACE COURSE, (MEDIUM TRAFFIC), PG 64-22
ITEM 448 - 4" ASPHALT CONCRETE, INTERMEDIATE COURSE, (MEDIUM TRAFFIC), PG 64-22
ITEM 304 - 4" AGGREGATE BASE

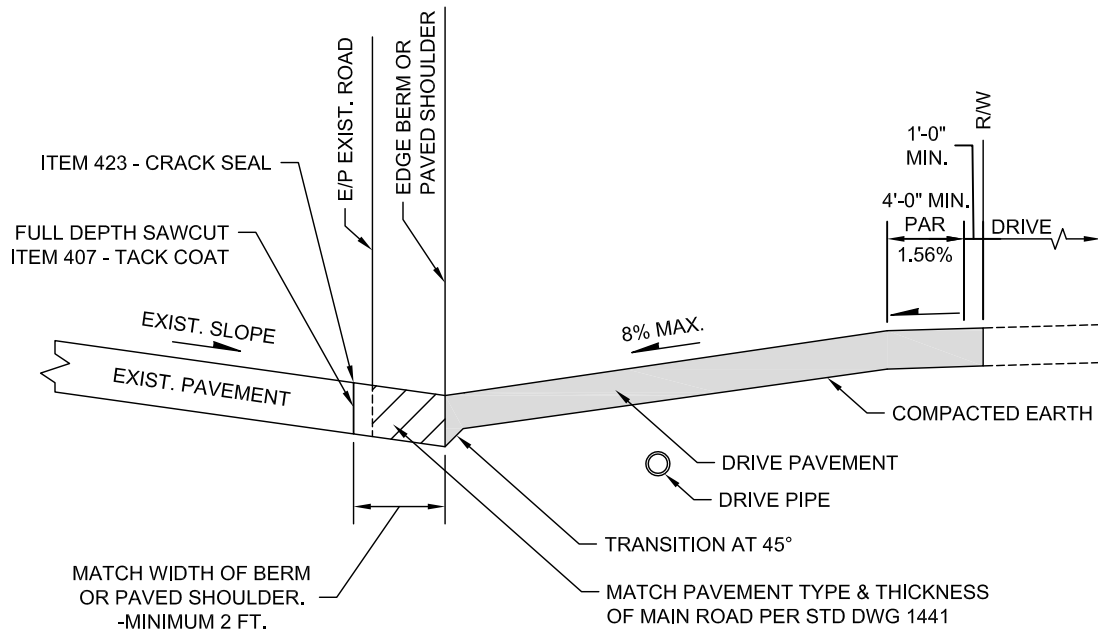
DRIVEWAY, NON-RESIDENTIAL WITH FLARES NON-CURBED ROADWAY

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

STD DWG
2207

Hassan Zahran
CITY ENGINEER

6/1/14
SHT 1 OF 2



SECTION A-A

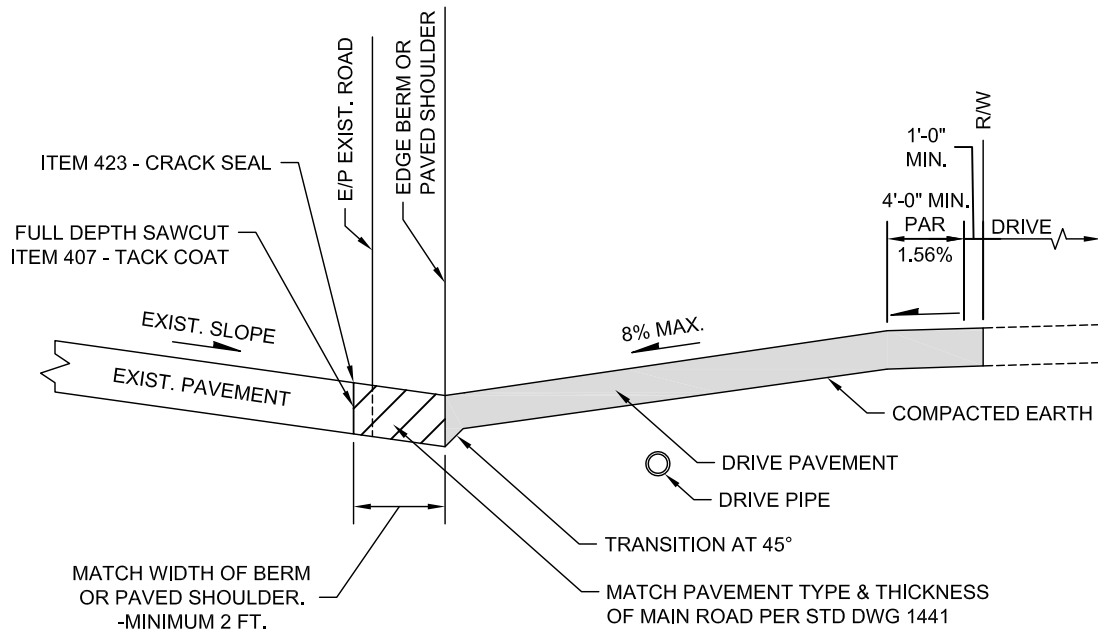
DRIVEWAY, NON-RESIDENTIAL WITH FLARES NON-CURBED ROADWAY

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

**STD DWG
2207**

6/1/14

SHT 2 OF 2



SECTION A-A

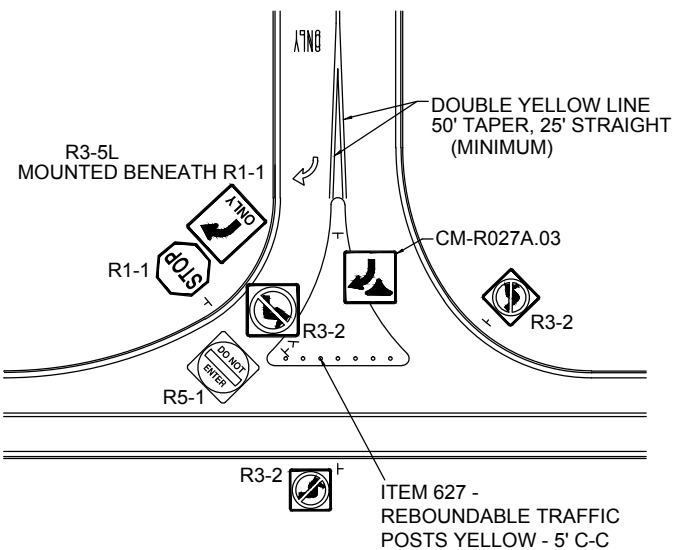
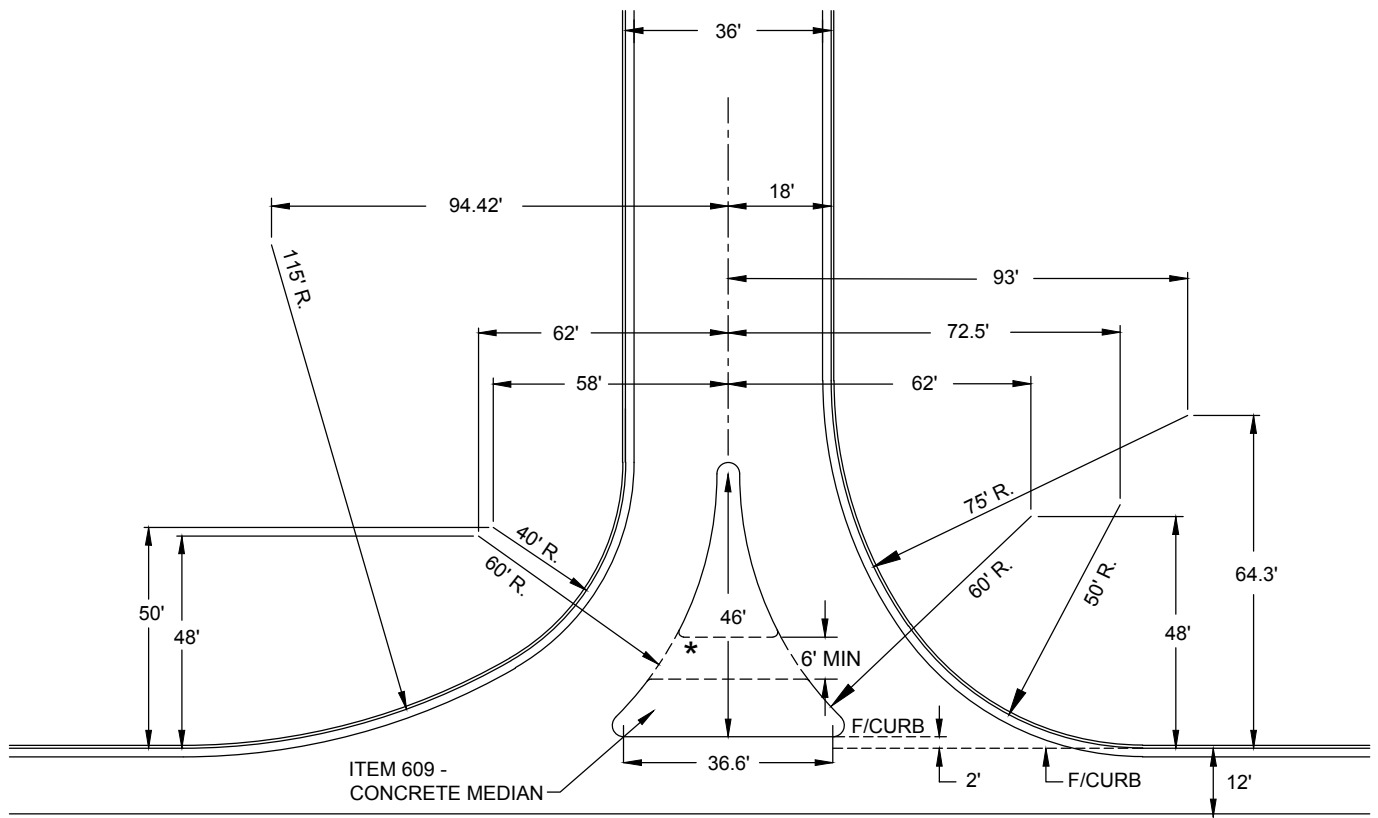
DRIVEWAY, NON-RESIDENTIAL WITH RADIUS NON-CURBED ROADWAY

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

**STD DWG
2208**

6/1/14

SHT 2 OF 2



DIMENSIONS ARE TO FACE OF CURB
(UNLESS OTHERWISE NOTED).

DESIGN IS FOR WB-50 TURNING TEMPLATE.

CHANGES FROM THESE DRAWINGS REQUIRE
CITY OF COLUMBUS APPROVAL.

* DRIVE ISLANDS SHALL BE BUILT WITH AN ADA
COMPLIANT PEDESTRIAN CROSSING. SEE STD DWG
2319.

ISLAND CORNER RADII ARE 2' MIN.

DRIVEWAY RIGHT IN & RIGHT OUT

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

CITY ENGINEER

STD DWG
2211

6/1/13

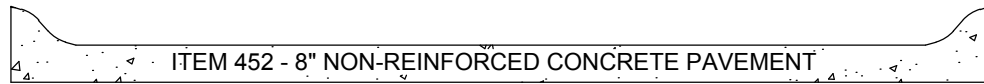
SHT 1 OF 1

*** DRIVE ISLANDS SHALL BE BUILT WITH AN ADA COMPLIANT PEDESTRIAN CROSSING. SEE STD DWG 2319.**

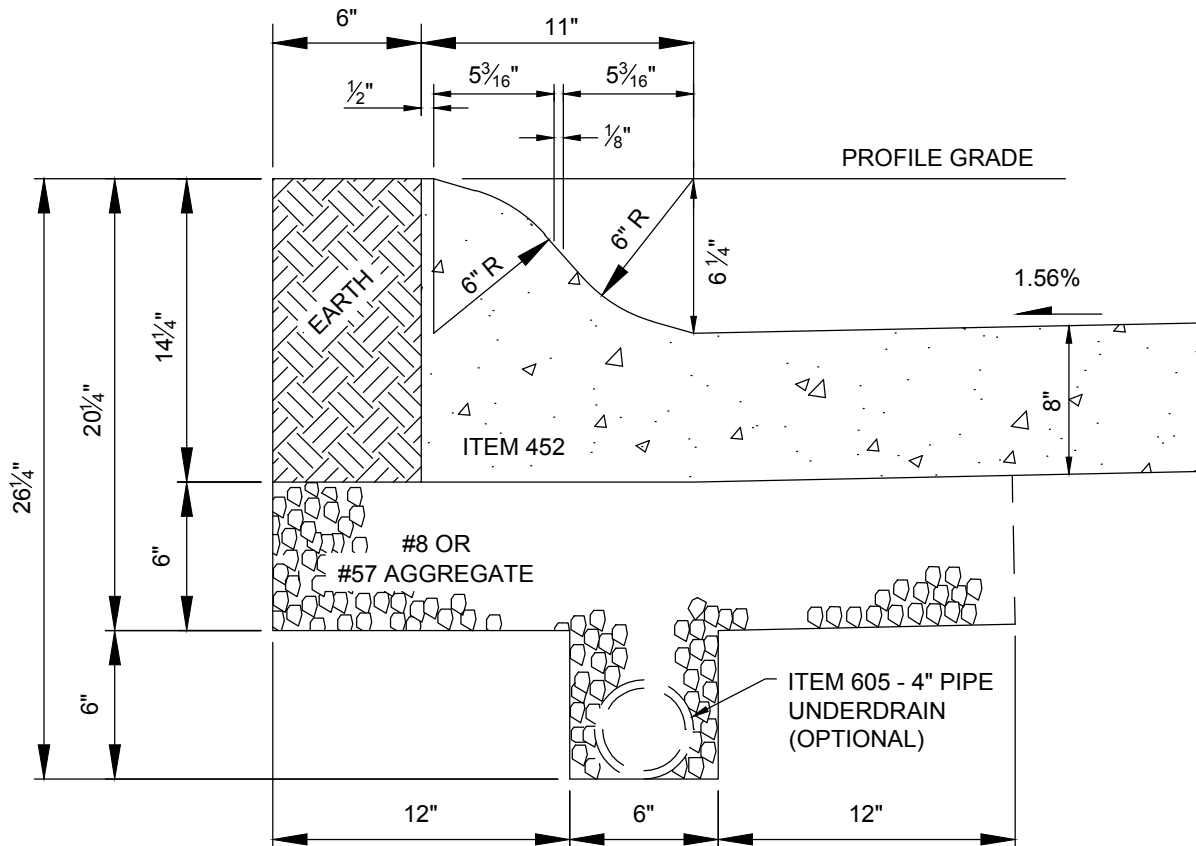


CITY ENGINEER

Hasse Zahran



SECTION VIEW OF DRIVE



ITEM 452 - 8" NON-REINFORCED CONCRETE PAVEMENT WITH INTEGRAL CURB

INTEGRAL CURB, GUTTER, AND PAVEMENT FOR COMMERCIAL DRIVES

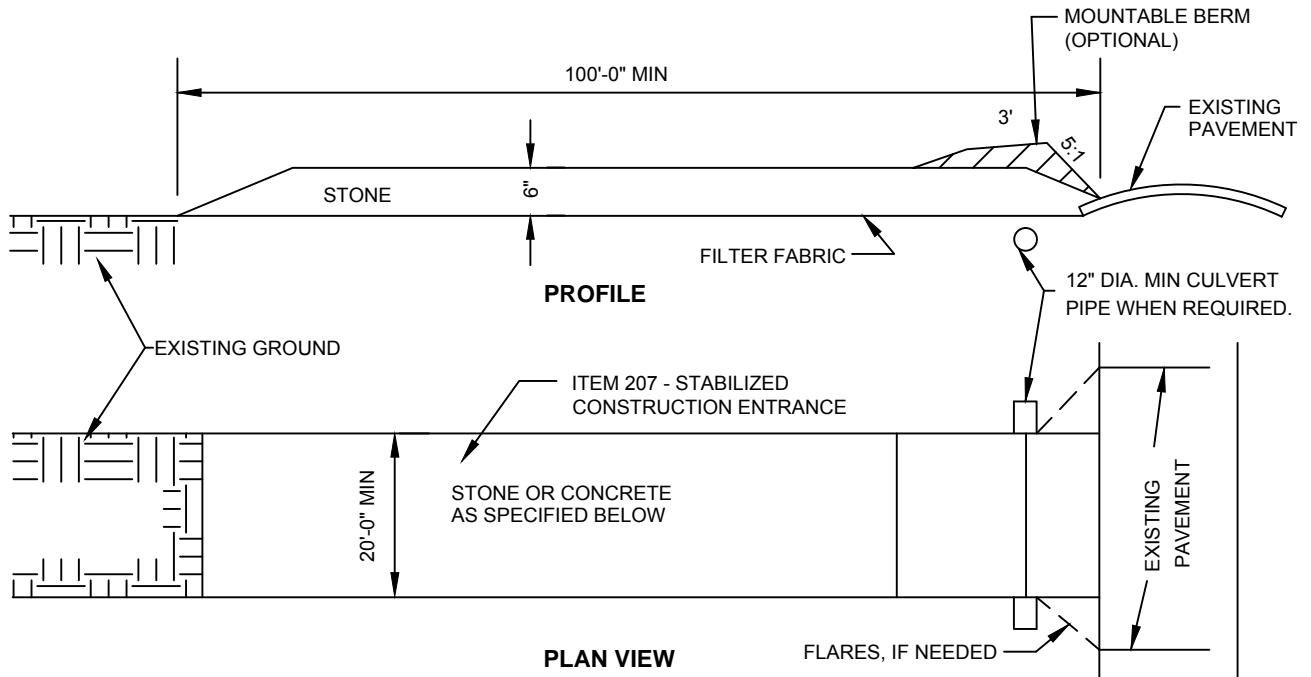
CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF DESIGN AND CONSTRUCTION

Hassan Zahran
CITY ENGINEER

STD DWG
2225

6/1/13

SHT 1 OF 1



1. STONE SIZE - USE 2" STONE OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - A MINIMUM OF 100', BUT MAY BE LONGER AS DETERMINED BY THE CITY OF COLUMBUS.
3. THICKNESS - NOT LESS THAN SIX (6) INCHES.
4. WIDTH - TWENTY (20) FEET MINIMUM BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. MAY BE WIDER AS DETERMINED BY THE CITY OF COLUMBUS.
5. FLARES OR RADII SHALL BE INSTALLED AT THE ENTRANCE IF THE PUBLIC ROADWAY SPEEDS AND/OR TRAFFIC CONDITIONS WARRANT IT, OR IF DIRECTED BY C.O.C. PERSONNEL.
6. FILTER FABRIC - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING THE STONE.
7. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES SHALL BE PERMITTED.
8. CULVERT PIPE - 12" MINIMUM PIPE IS REQUIRED IF A STORM DITCH OR SWALE EXISTS AT THE PROPOSED ENTRANCE. THE CULVERT PIPE INVERTS SHALL MATCH THE EXISTING DITCH AT BOTH SIDES OF THE ENTRANCE.
9. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PROTECT THE PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED IMMEDIATELY.
10. WASHING - WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE INTO PUBLIC RIGHT-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE
11. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.
12. MAINTENANCE OF TRAFFIC SIGNAGE SHALL BE A 48" x 48" CONSTRUCTION ENTRANCE AHEAD, 200' (ADEQUATE SIGHT DISTANCE SHALL BE CONSIDERED) BEFORE THE ENTRANCE ON BOTH SIDES OF THE ROAD OR AS APPROVED BY THE C.O.C. TEMPORARY TRAFFIC CONTROL COORDINATOR. YOU SHALL CALL THE TTCC @ 645-6269 OR 645-5845 BEFORE STARTING THE ENTRANCE WORK.

TEMPORARY CONSTRUCTION ENTRANCE

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

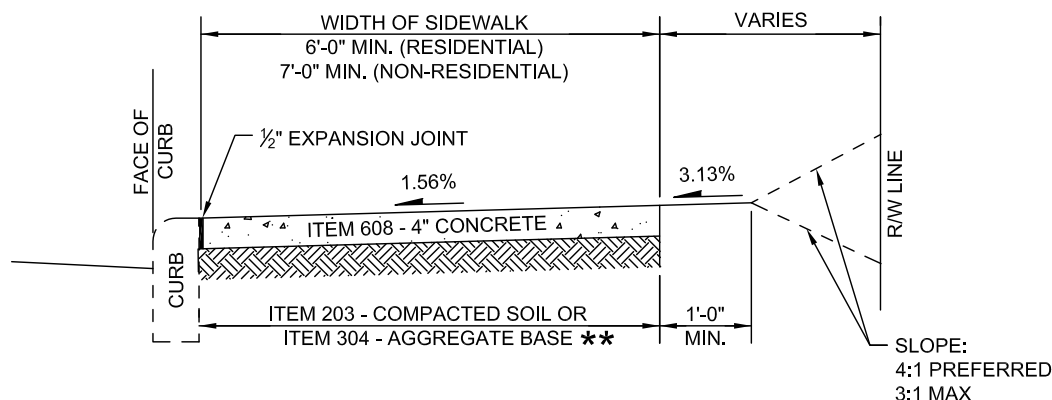
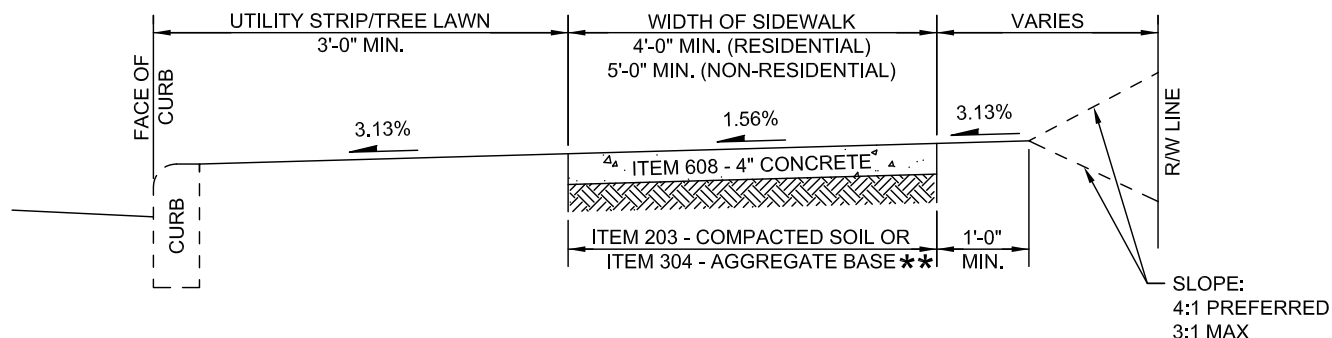
CITY ENGINEER

STD DWG

2230

6/1/13

SHT 1 OF 1



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.

WHEN A SIDEWALK IS CONSTRUCTED FOR THE ENTIRE WIDTH FROM THE CURB TO THE R/W LINE, THE WALK SHALL BE CONSTRUCTED PART WIDTH AT A TIME, ALLOWING FOR SUFFICIENT UNOBSTRUCTED AREA 48" WIDE FOR SAFE MOVEMENT OF PEDESTRIAN TRAFFIC, OR AS APPROVED BY ENGINEER.

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

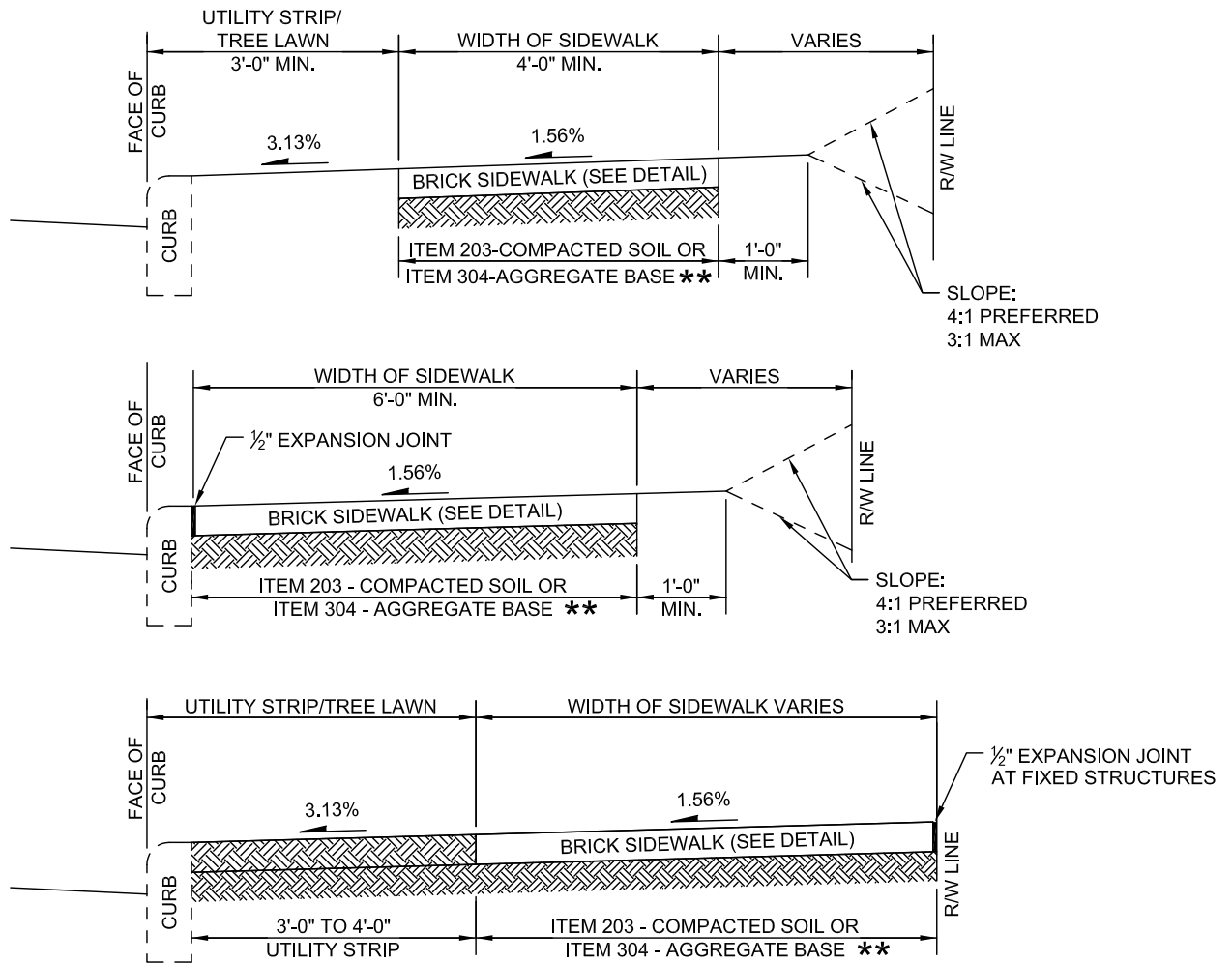
CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF DESIGN AND CONSTRUCTION

STD DWG
2300

CITY ENGINEER

6/1/14

SHT 1 OF 1



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

EXPANSION JOINT LOCATIONS 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.

WHEN A SIDEWALK IS CONSTRUCTED FOR THE ENTIRE WIDTH FROM THE CURB TO THE R/W LINE, THE WALK SHALL BE CONSTRUCTED PART WIDTH AT A TIME, ALLOWING FOR SUFFICIENT UNOBSTRUCTED AREA 48" WIDE FOR SAFE MOVEMENT OF PEDESTRIAN TRAFFIC, OR AS APPROVED BY ENGINEER.

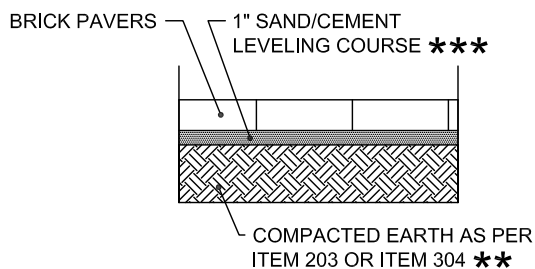
ITEM NUMBERS REFER TO THE CITY OF COLUMBUS CMSC, CURRENT EDITION. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THESE SPECIFICATIONS.

**** #57 AGGREGATE MAY BE USED FOR REPLACEMENT WORK.**

***** THE SAND TO CEMENT RATIO IS 5 PARTS SAND TO ONE PART CEMENT.**

RESIDENTIAL

BRICK SIDEWALK



DETAIL

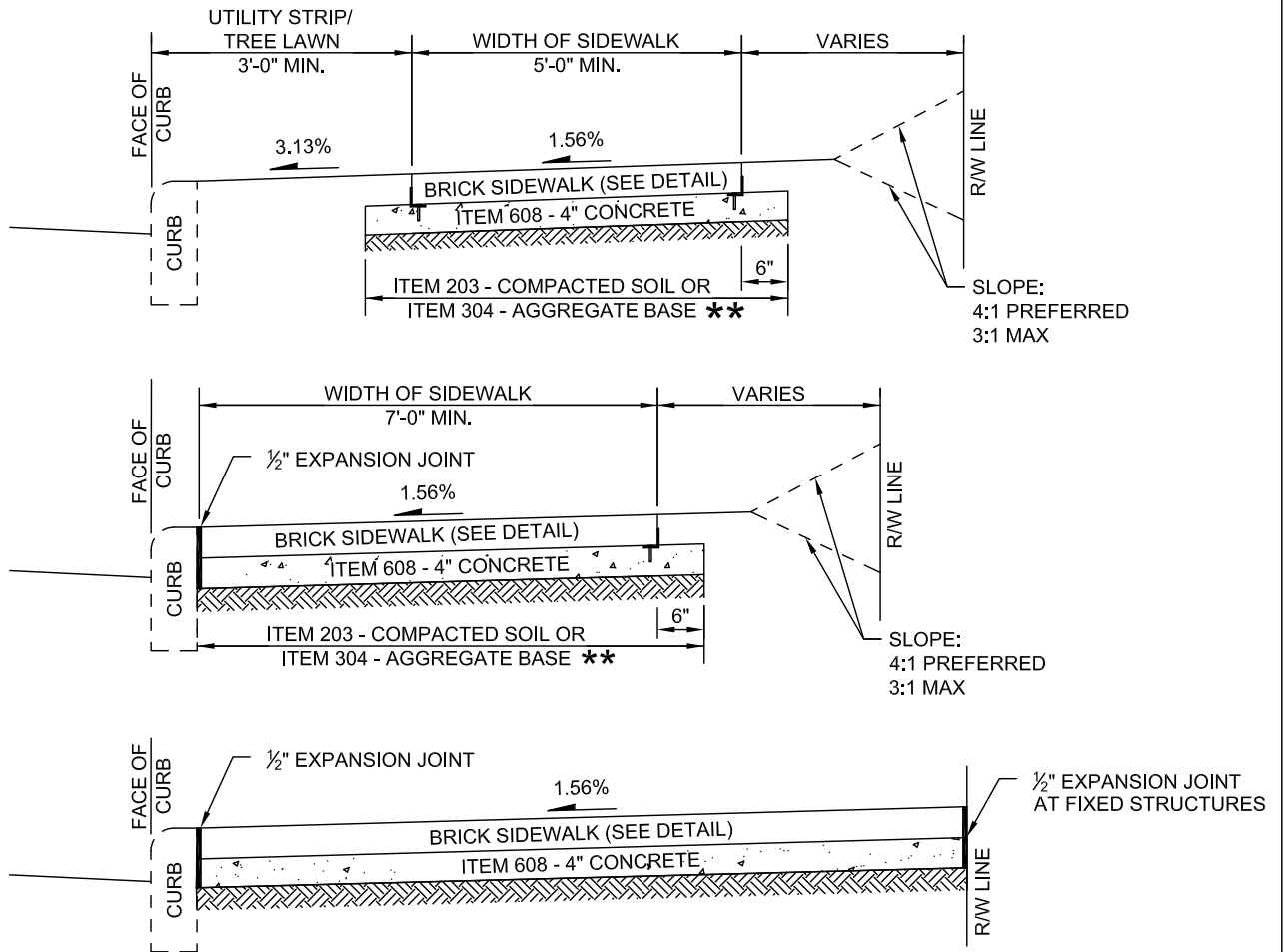
CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF DESIGN AND CONSTRUCTION

CITY ENGINEER

STD DWG
2301

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SHT 1 OF 3



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 LOCATIONS 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.

WHEN A SIDEWALK IS CONSTRUCTED FOR THE ENTIRE WIDTH FROM THE CURB TO THE R/W LINE, THE WALK SHALL BE CONSTRUCTED PART WIDTH AT A TIME, ALLOWING FOR SUFFICIENT UNOBSTRUCTED AREA 48" WIDE FOR SAFE MOVEMENT OF PEDESTRIAN TRAFFIC, OR AS APPROVED BY ENGINEER.

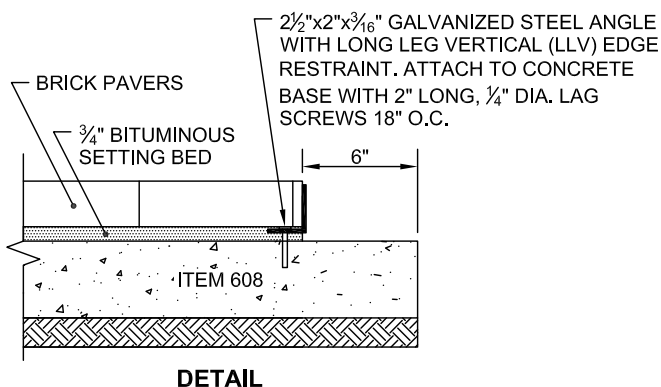
ONE INCH CONTRACTION JOINTS SHALL BE SAWED IN THE CONCRETE EVERY 10 FT.

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.**

NON-RESIDENTIAL

BRICK SIDEWALK



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

STD DWG
2301

6/1/14

SHT 2 OF 3

ITEM SPECIAL - BRICK PAVERS INCLUDING CONCRETE BASE

MATERIAL NOTES:

NEOPRENE-MODIFIED ASPHALT ADHESIVE - FURNISH NEOPRENE-MODIFIED ASPHALT ADHESIVE THAT CONTAINS 2% NEOPRENE GRADE WMI OXIDIZED ASPHALT WITH A 150°F SOFTENING POINT (77 PENETRATION), AND 10% LONG FIBERED INERT MATERIAL AS SUPPLIED BY (OR APPROVED EQUAL):

SEIDEL COMPANY, INC.
11 MARKET SQUARE
NEWBURYPORT, MASSACHUSETTS 01950
(617) 649-6740

HASTINGS PAVEMENT COMPANY, INC.
410 LAKEVILLE ROAD
LAKE SUCCESS, NEW YORK 11042
(516) 379-3500

BITUMINOUS SETTING BED - FURNISH ASPHALT CEMENT CONFORMING TO ASTM D3381, VISCOSITY GRADE AC-10 OR AC-20.

FURNISH FINE AGGREGATE OF NATURAL SAND AND/OR STONE SAND, COMPOSED OF HARD, TOUGH, DURABLE, UNCOATED PARTICLES, FREE FROM CLAY, SILT, ORGANIC MATERIAL OR OTHER DELETERIOUS SUBSTANCES. ENSURE THE SAND IS UNIFORMLY GRADED WITH ALL MATERIAL PASSING THE NO. 4 SIEVE AND MEETING THE REQUIREMENTS OF ASTM C136.

COMBINE THE DRIED FINE AGGREGATE WITH HOT ASPHALT CEMENT AND MIX HEAT TO APPROXIMATELY 300°F AT AN ASPHALT PLANT.

- A. PROVIDE AN APPROXIMATE PROPORTION OF MATERIALS OF 7% ASPHALT CEMENT AND 93% FINE AGGREGATE.
- B. PROVIDE EACH TON APPORTIONED BY WEIGHT TO 140 POUNDS OF ASPHALT CEMENT AND 1,860 POUNDS OF FINE AGGREGATE.

PAVERS - ALL BRICK PAVERS SHALL BE SOLID CONCRETE PAVING UNITS CONFORMING TO ASTM C936 (4" W x 8" L x 2 $\frac{3}{8}$ " H). OTHER SIZES MAY BE USED WITH PRIOR C.O.C. APPROVAL.

CONCRETE BASE - ALL WORK FOR THE CONCRETE BASE SHALL CONFORM TO ITEM 608, EXCEPT THAT THE 608 REQUIREMENTS FOR EDGING OUTSIDE EDGES AND CONTROL JOINTS AT 5 FOOT INTERVALS SHALL BE WAIVED.

METHOD OF MEASUREMENT - PAVERS WILL BE MEASURED BY THE SQUARE FOOT FINISHED PAVERS COMPLETE IN PLACE.

BASIS OF PAYMENT - THE ACCEPTED QUANTITIES OF BRICK PAVERS WILL BE PAID FOR AT THE CONTRACT PRICES DESIGNATED FOR EACH OF THE PAVER TYPES SHOWN ON THE PLANS. EXCAVATION, BACKFILL, EXPANSION JOINT MATERIAL, ASPHALT ADHESIVE, BITUMINOUS SETTING BED, 4 INCH CONCRETE BASE, AND OTHER RELATED MISCELLANEOUS ITEMS WILL NOT BE PAID FOR SEPARATELY, BUT THE COST THEREOF SHALL BE INCLUDED IN THE COST OF THE BRICK PAVERS OF WHICH THEY ARE A PART.

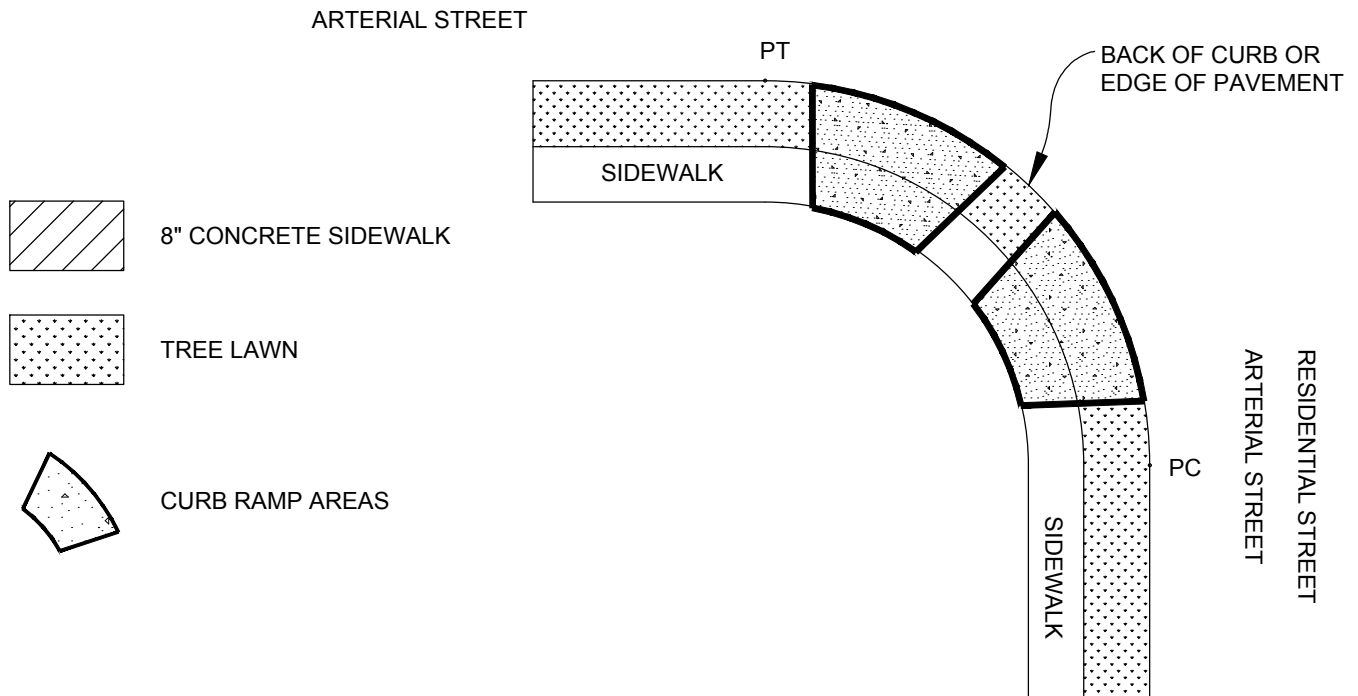
**BRICK
SIDEWALK**

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

**STD DWG
2301**

6/1/14

SHT 3 OF 3



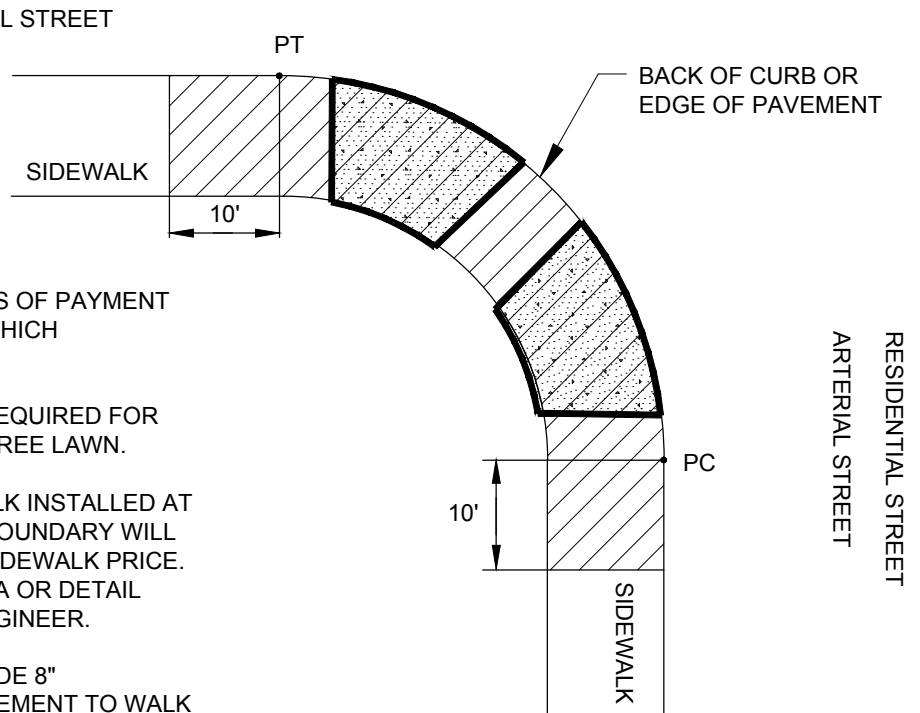
NOTE:

THIS DETAIL DEFINES THE LIMITS OF PAYMENT FOR 8" CONCRETE SIDEWALK, WHICH INCLUDES CURB RAMPS.

EIGHT-INCH SIDEWALK IS NOT REQUIRED FOR SIDEWALK WHICH IS BEHIND A TREE LAWN.

ALL OTHER CONCRETE SIDEWALK INSTALLED AT THIS LOCATION OUTSIDE THIS BOUNDARY WILL BE PAID AT THE 4" CONCRETE SIDEWALK PRICE. ANY CHANGES TO THIS CRITERIA OR DETAIL MUST BE APPROVED BY THE ENGINEER.

WHERE NO CURB EXISTS PROVIDE 8" CONCRETE FROM EDGE OF PAVEMENT TO WALK OR PUSHBUTTON.



8" CONCRETE SIDEWALK AT AN INTERSECTION WITH AN ARTERIAL STREET

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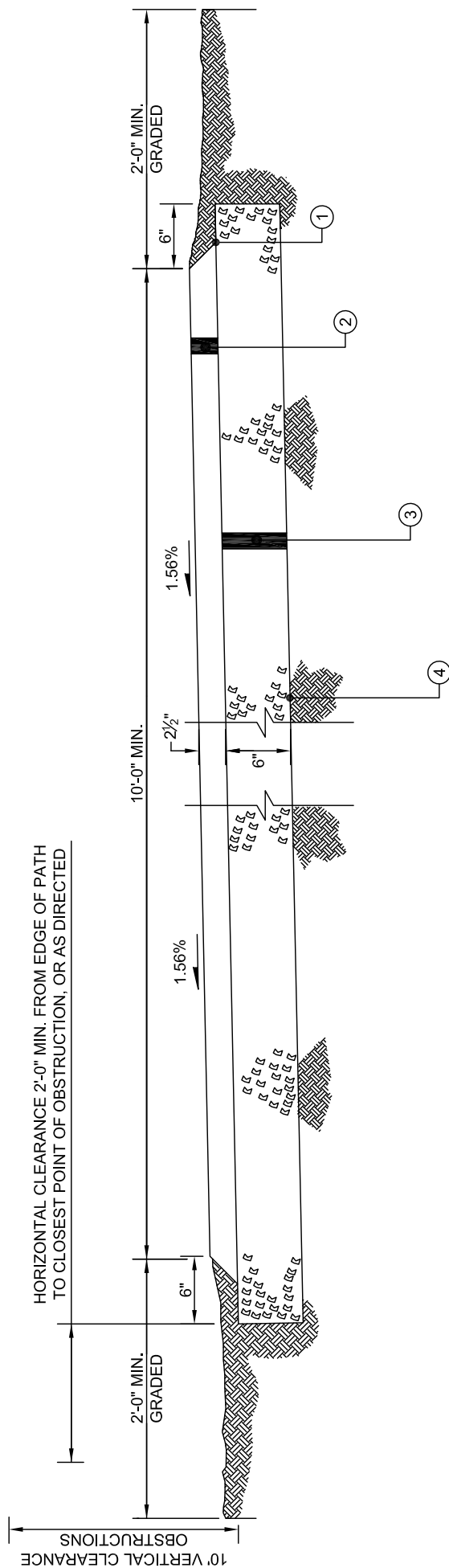
CITY ENGINEER

STD DWG

2303

6/1/13

SHT 1 OF 1



- ① ANGLE HAND TAMP AT 45°
- ② ITEM 448 - 2.5" ASPHALT CONCRETE SURFACE COURSE (LIGHT TRAFFIC), PG 64-22
- ③ ITEM 304 - 6" AGGREGATE BASE
- ④ ITEM 204 - SUBGRADE COMPACTION

PAVEMENT DETAIL

SHARED USE PATH

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

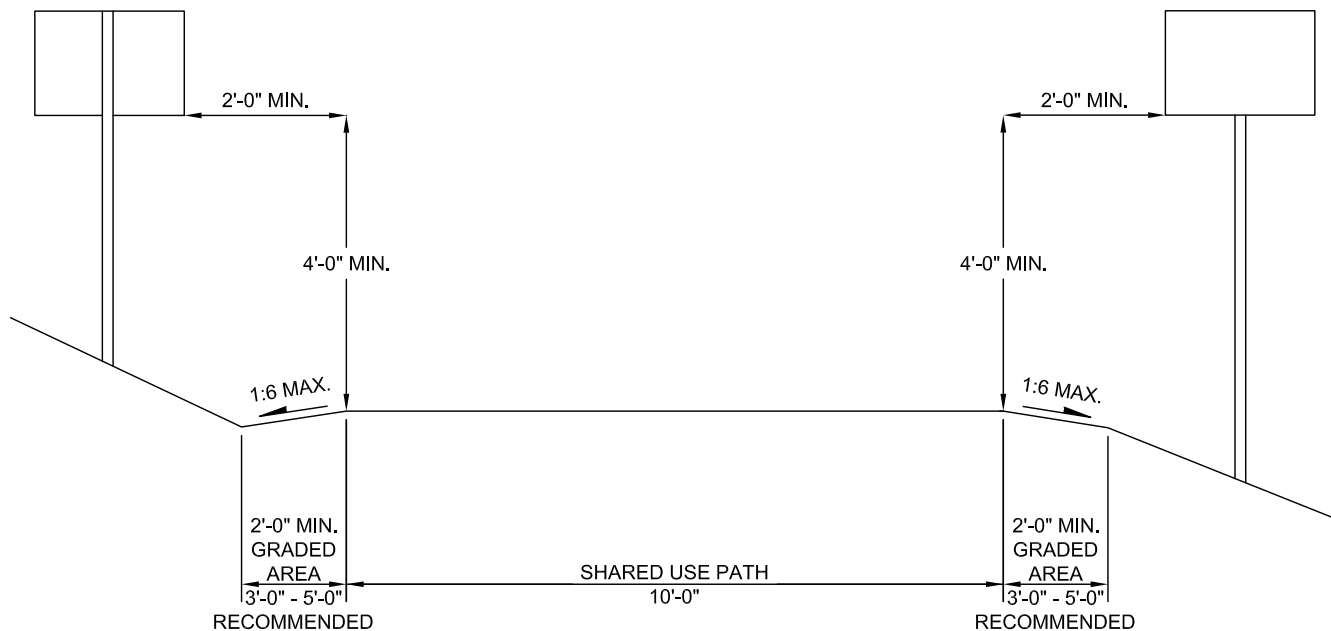
STD DWG
2310

CITY ENGINEER

Hassan Zahran

6/1/14

SHT 1 OF 5



REFERENCE GUIDE TO BICYCLE FACILITIES,
4TH EDITION FOR SAFETY RAIL REQUIREMENTS.

SIGN DETAIL

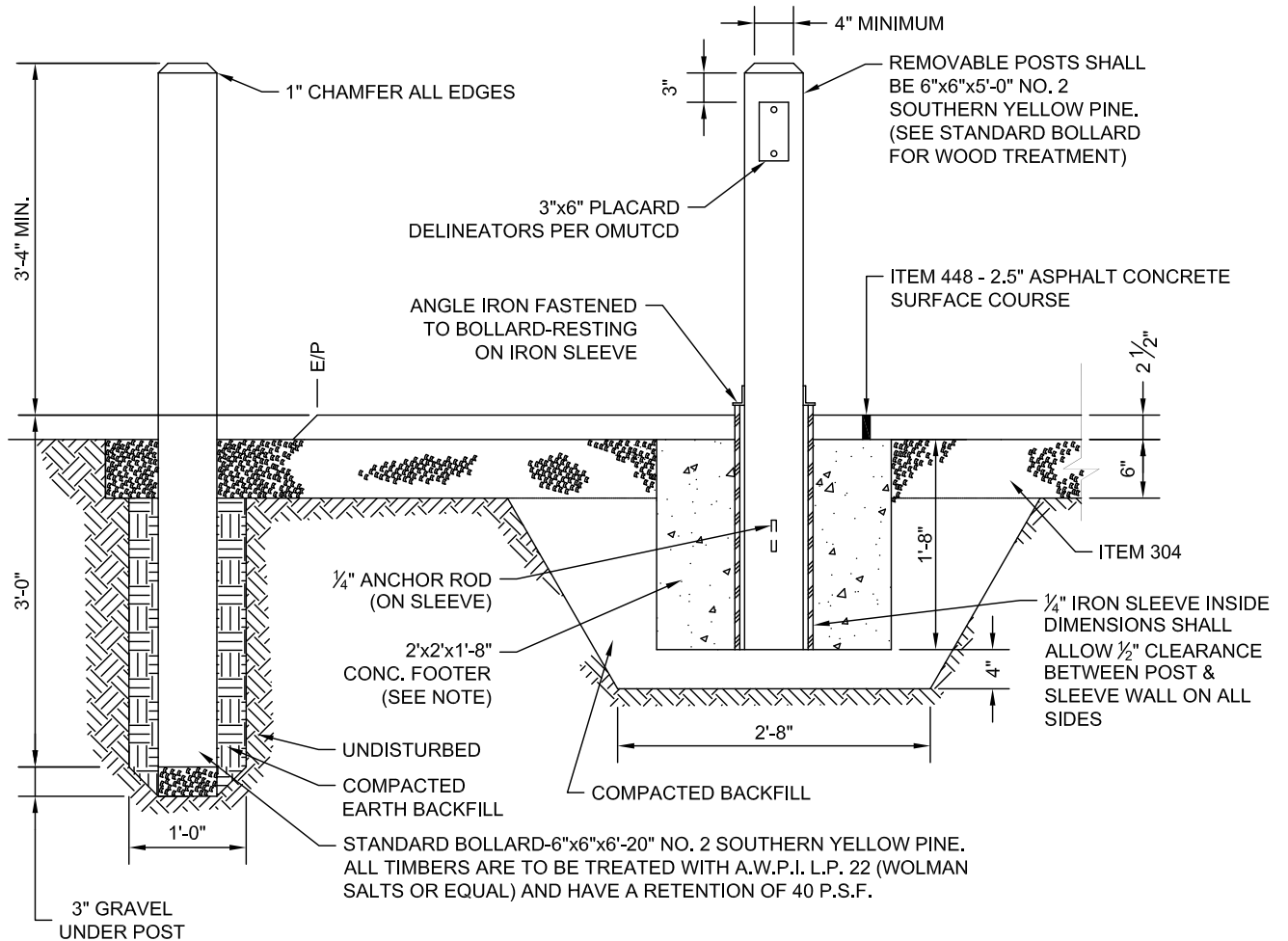
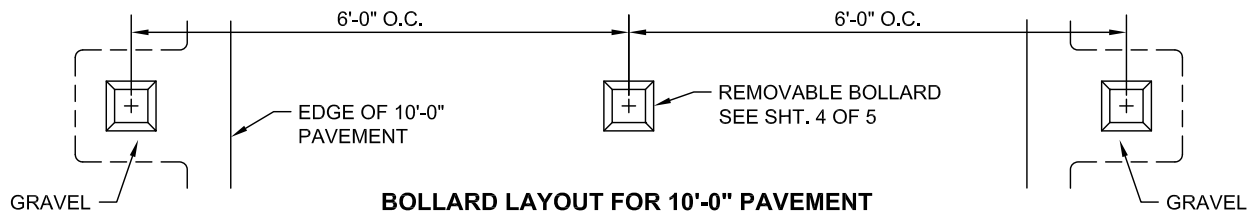
SHARED USE PATH

CITY OF COLUMBUS, OHIO
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2310

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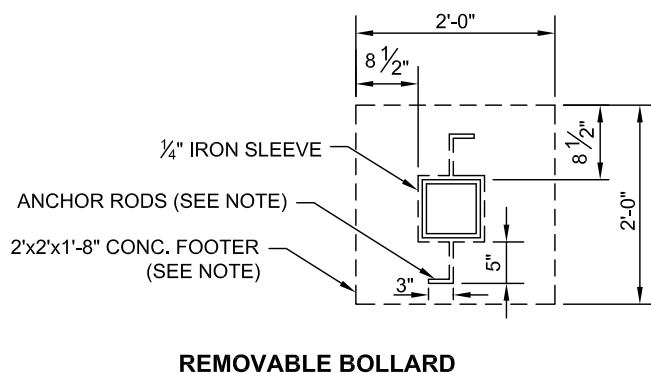


THE CONTRACTOR SHALL INSTALL THE EARTH BACKFILL IN 6" LIFTS AND TAKE CARE TO PLUMB EACH POST.

THE IRON SLEEVES, ANGLE IRON, AND ANCHOR RODS SHALL BE PAINTED WITH TWO COATS OF RUST-OLEUM NO769 DAMP-PROOF RED PRIMER OR EQUAL PRIOR TO INSTALLATION.

THE CONTRACTOR MAY SUBSTITUTE A 24" CIRCULAR FOOTER IN PLACE OF THE ONE SHOWN BELOW.

WOOD BOLLARD DETAIL



SHARED USE PATH

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SHT 3 OF 5



REMOVABLE BOLLARD DETAIL

SHARED USE PATH

SHT 4 OF 5

RAMPS SHALL BE ADA COMPLIANT: SEE STANDARD DRAWINGS 2319/2300/2303.

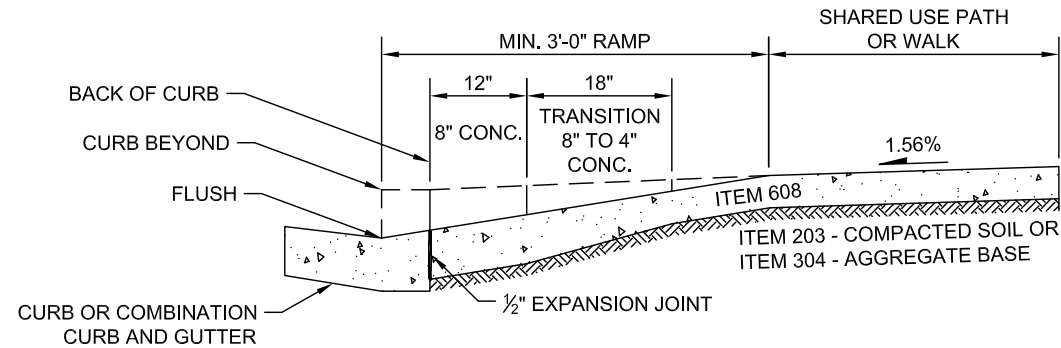
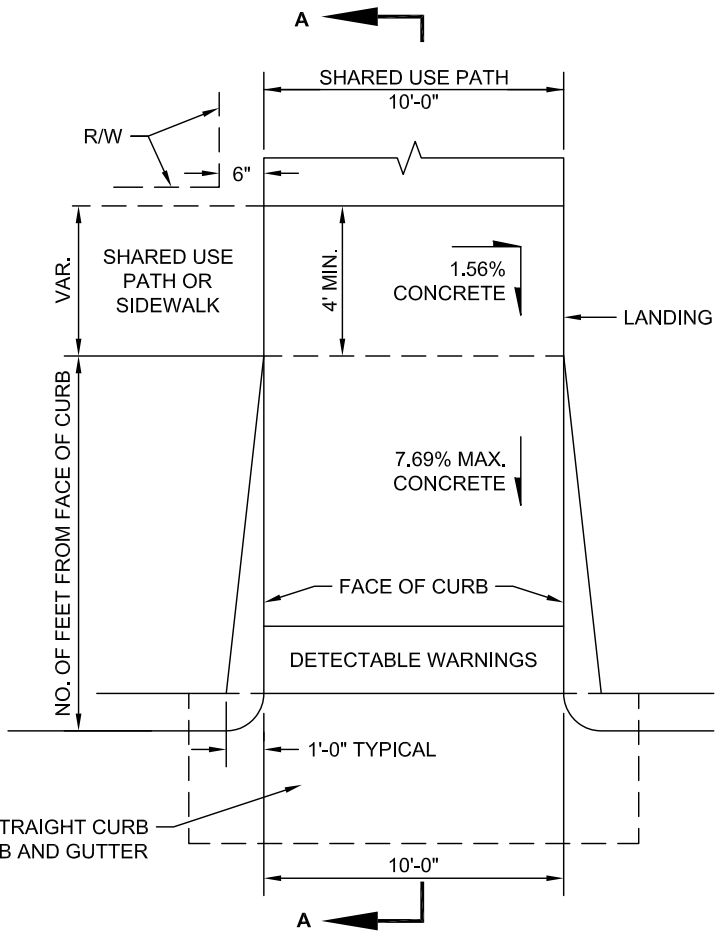
EXISTING CURB OR COMBINATION CURB AND GUTTER SHALL BE REMOVED AND REPLACED AS REQUIRED FOR INSTALLATION OF RAMP. INSTALL EXPANSION JOINT AT BACK OF CURB. REFERENCE STANDARD DRAWINGS 2000/2010/2020/2030.

FOR REPLACEMENT WORK THE CURB OR CURB/GUTTER SHALL BE REMOVED TO AN EXISTING JOINT OR NO CLOSER THAN 5 FT. FROM AN EXISTING JOINT. WHEN LESS THAN 5 FT. OF A CURB SECTION REMAINS AFTER THE CURB CUT IS LOCATED, IT ALSO SHALL BE REMOVED AND REPLACED. CURB SHALL BE CONSTRUCTED IN MIN. 5 FT. SECTIONS & MAX. 10 FT. SECTIONS.

FILLS, IF REQUIRED, SHALL BE PER ITEM 203 OR ITEM 304.

RAMP SHALL BE CONSTRUCTED PER ITEM 608.

EXPANSION JOINTS SHALL BE PLACED TO FORM UTILITY STRIPS WHERE REQUIRED AND WHEREVER NEW CONCRETE TOUCHES EXISTING CONSTRUCTION.



SECTION A-A

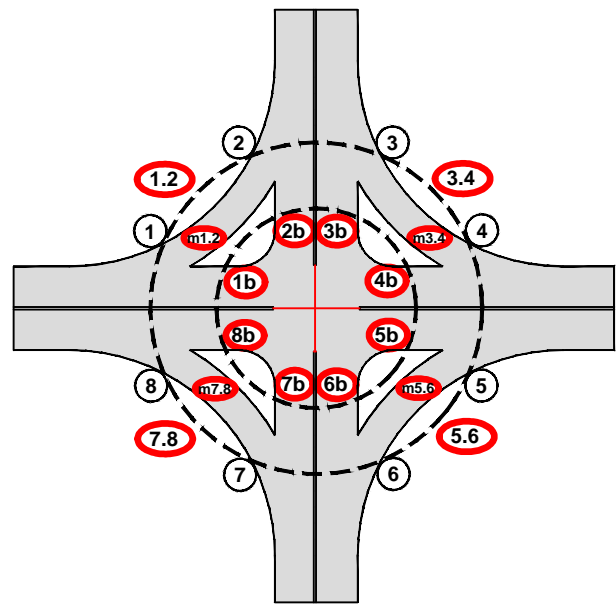
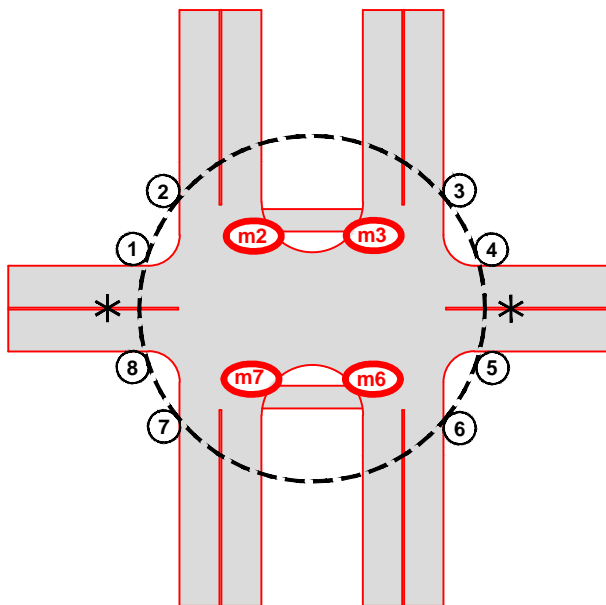
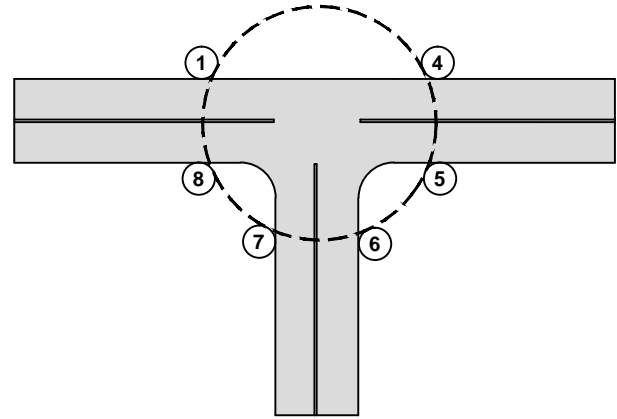
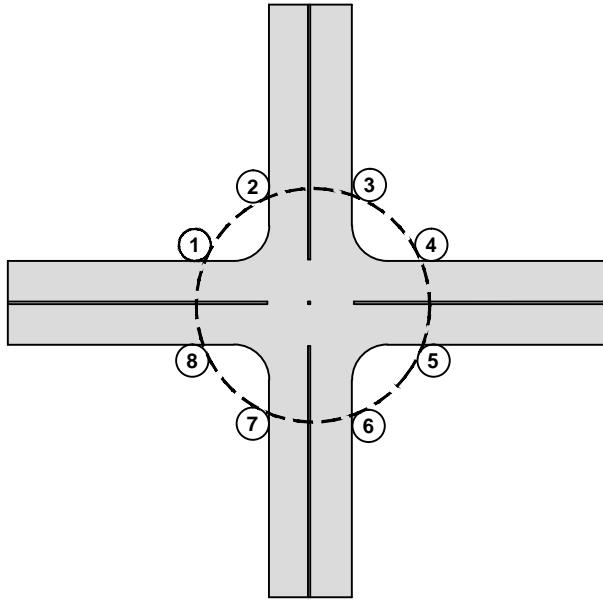
RAMP

SHARED USE PATH

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STD DWG
2310

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SHT 5 OF 5



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.

CURB RAMP NUMBERING SYSTEM

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SHT 1 OF 12

GENERAL NOTES, CURB RAMPS

1. CURB RAMPS SHALL BE INSTALLED PER STD DWGS, 2300, 2303, 2319 AND SUPPLEMENTAL SPECIFICATIONS 1551.
2. CURB RAMP COMPONENTS: THE CURB RAMP INCLUDES THE RAMP PANEL, FLARED SIDES, AND LANDING WHEN NEEDED.
3. MATERIAL: THE RAMP PANEL AND FLARED SIDES SHALL BE CONCRETE. EXCEPTION: WITH PRIOR WRITTEN APPROVAL FROM C.O.C. ADMINISTRATOR OF PLANNING AND OPERATION (OR AUTHORIZED REPRESENTATIVE) BRICK OR GRANITE PAVERS MAY BE ALLOWED FOR SPECIFIC APPLICATIONS.
4. CURB RAMP TYPE: CURB RAMPS SHALL BE SPECIFIED BY THE APPROPRIATE TYPE AND SHALL BE PERPENDICULAR TO THE CURB EXCEPT TYPES G AND H.
 - TYPE A - PERPENDICULAR RAMP WITH LONG FLARES (SHT 3)
 - TYPE C - PERPENDICULAR RAMP IN UTILITY STRIP (SHT 4)
 - TYPE D - PERPENDICULAR RAMP OBSTRUCTED ON ONE SIDE (SHT 5)
 - TYPE G - RAMP WITH RECESSED LOWER LANDING FOR ALLEYS AND DRIVES. MAY BE USED AT OTHER LOCATIONS WITH PRIOR WRITTEN CITY APPROVAL (SHT 6)
 - TYPE H - RAMP WITH RECESSED LOWER LANDING FOR ALLEYS AND DRIVES. MAY BE USED AT OTHER LOCATIONS WITH PRIOR WRITTEN CITY APPROVAL (SHT 7)
 - TYPE L - MEDIAN RAMP WITH CENTER LANDING (SHT 8)
 - TYPE P1 - COMBINED PERPENDICULAR AND PARALLEL RAMP (SHT 9)
 - TYPE P2 - COMBINED PERPENDICULAR AND PARALLEL RAMP IN ONE DIRECTION (SHT 10)

NOTE: CITY OF COLUMBUS ORDER OF PREFERENCE IS (1) PERPENDICULAR AND (2) PARALLEL.
5. CURB RAMPS AT ALLEY AND ARTERIAL CROSSINGS SHALL BE 8" THICK CONCRETE
6. RAMP RUNNING SLOPE: THE RUNNING SLOPE SHALL BE 5% TO 7.7%. THE RUNNING SLOPE MAY BE INCREASED TO 10 % WITH PRIOR WRITTEN CITY APPROVAL.
7. RAMP CROSS SLOPE: THE MAXIMUM CROSS SLOPE SHALL BE 1.56% .
8. PERPENDICULAR RAMP WIDTH: THE MINIMUM WIDTH OF A RAMP SHALL BE 4-FT.
9. PARALLEL RAMP WIDTH: TYPE P RAMPS SHALL BE A MINIMUM OF 4-FT BY 5-FT, PER THE STD DWG
10. ALL JOINTS BETWEEN NEW AND EXISTING MATERIALS SHALL BE FLUSH.
11. LONG FLARES: THE LENGTH MEASUREMENT OF THE FLARE AT THE FACE OF CURB SHALL BE A MINIMUM OF 10 TIMES THE CURB HEIGHT.
12. 1-FT FLARES: THE MEASUREMENT OF THE FLARE AT THE FACE OF CURB SHALL BE A MINIMUM OF 1-FT.
13. LANDINGS: LANDINGS SHALL BE A MINIMUM OF 4-FT BY 4-FT WITH A 1.56% CROSS SLOPE FOR ALL CURB RAMP TYPES EXCEPT PARALLEL CURB RAMPS. OFF STREET LANDINGS FOR PARALLEL CURB RAMPS SHALL BE A MINIMUM OF 4-FT BY 5-FT AS INDICATED IN THE STD DWG. LANDINGS ARE REQUIRED AS FOLLOWS:
 - TOP LANDING - CURB RAMP TYPES A, C, D, AND L SHALL HAVE LANDINGS AT THE TOP OF THE RAMP IF TURNING IS REQUIRED.
 - LOWER RECESSED LANDING - CURB RAMP TYPES G AND H SHALL HAVE A RECESSED LANDING AT THE BOTTOM OF THE RAMP WHERE IT INTERSECTS THE CURB LINE.
 - LANDING AT INTERSECTING SIDEWALKS - WHEREVER SIDEWALKS INTERSECT, THERE SHALL BE A LANDING MEETING THE ABOVE REQUIREMENTS.
14. STREET COUNTER SLOPE: THE COUNTER SLOPE AT THE BASE OF THE RAMP SHALL BE A MAXIMUM OF 5% FOR A MINIMUM OF 2-FT.
15. RAMPS AT MARKED AND UNMARKED CROSSINGS: AT MARKED CROSSINGS THE RAMP AND STREET LANDING MUST BE FULLY CONTAINED WITHIN THE MARKED CROSSWALK. AT UNMARKED CROSSINGS THE RAMP AND STREET LANDING MUST BE WITHIN THE PEDESTRIAN RIGHT-OF-WAY AS DEFINED BY CITY CODE.
16. SURFACES: RAMP, FLARE, AND LANDING SURFACES MUST BE STABLE AND SLIP RESISTENT. RAMPS SHALL BE MEDIUM BROOMED TRANSVERSE TO THE DIRECTION OF TRAVEL. GRATINGS, VALVE BOXES, AND UTILITY BOXES SHALL NOT BE LOCATED IN THE RAMP, LANDING, OR TRANSITION AREAS.
17. OFFSET INTERSECTIONS: AT OFFSET 'T' INTERSECTIONS RAMPS BETWEEN OFFSET STREETS MAY BE DELETED IF THE CENTERLINES OF OFFSET STREETS ARE NO MORE THAN 200-FT APART.
18. DETECTABLE WARNINGS: DETECTABLE WARNINGS SHALL BE INSTALLED ACCORDING TO C.O.C. STD DWG 2319 SHEET 12/12 AND SUPPLEMENTAL SPECIFICATION 1551.
19. OPPOSING RAMPS SHALL HAVE A PEDESTRIAN WALKWAY ACROSS THE STREET, ATLEAST 7' WIDE, WITH A CROSS SLOPE (LONGITUDINAL STREET SLOPE) OF NO GREATER THAN 1.56%. VERTICAL CURVES SHALL BE INSTALLED AS NEEDED.

CURB RAMP GENERAL NOTES

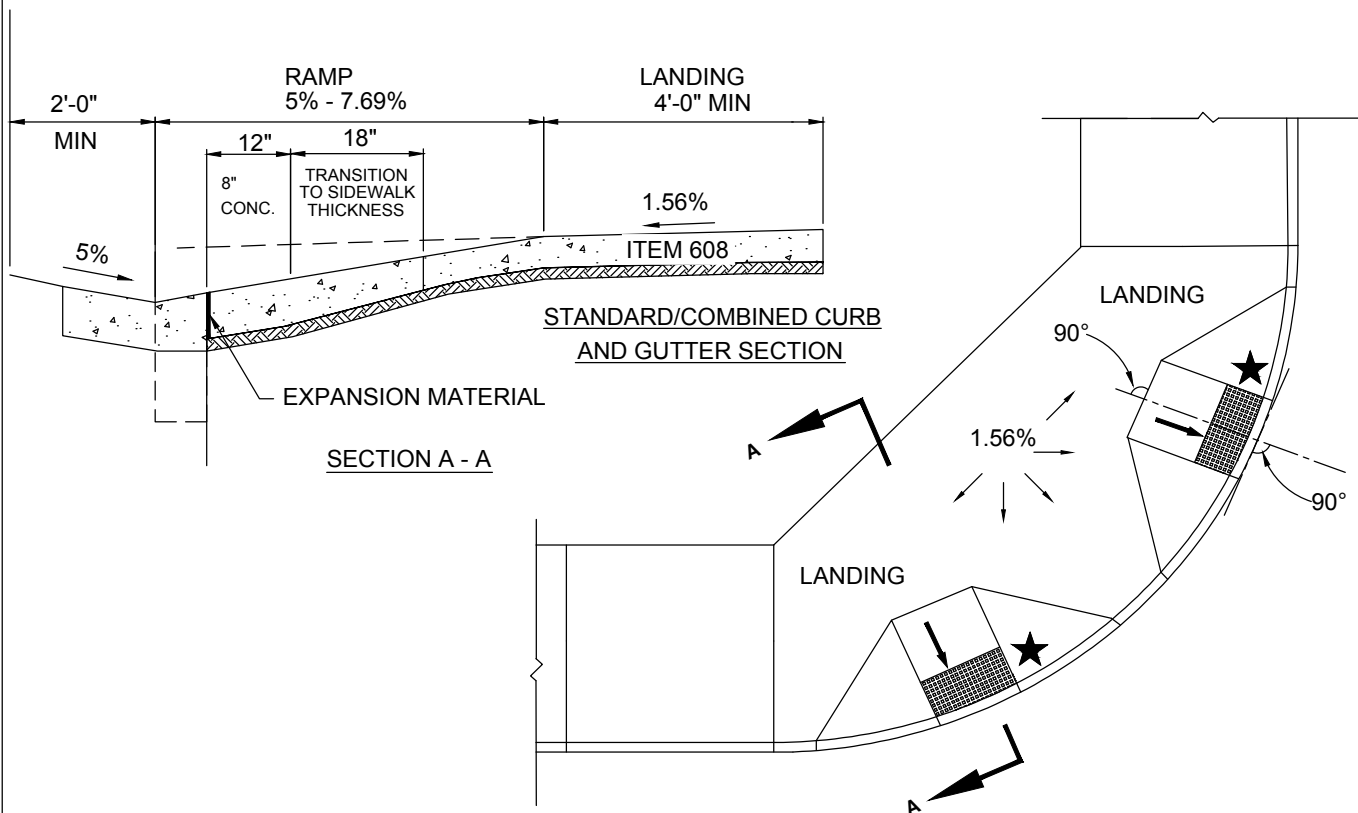
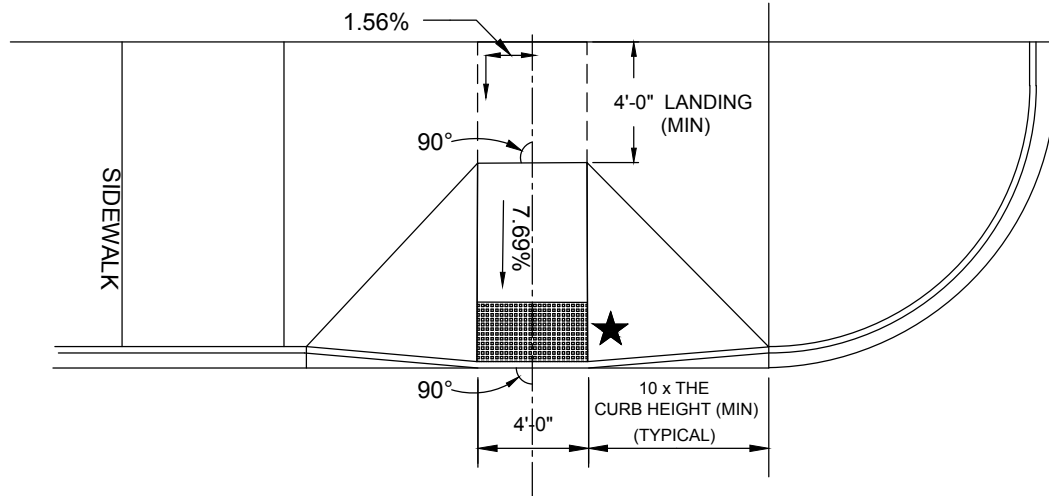
CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF DESIGN AND CONSTRUCTION

STD DWG

2319

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SHT 2 OF 12



★ SEE SHEET 12/12 FOR DETECTABLE WARNING DETAILS

CURB RAMP TYPE A

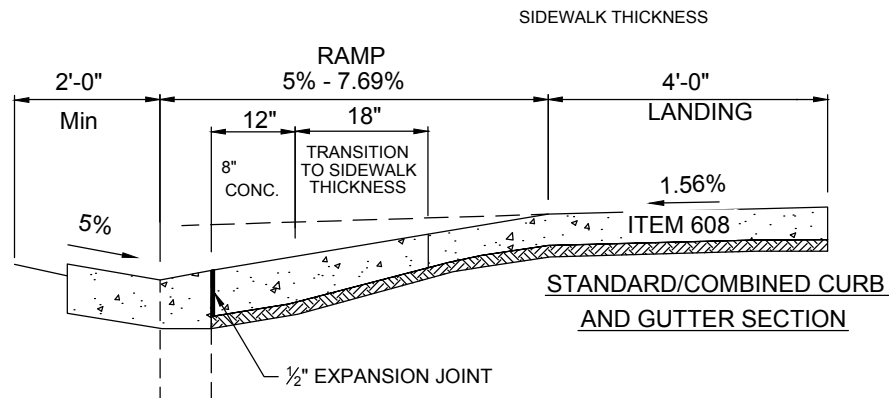
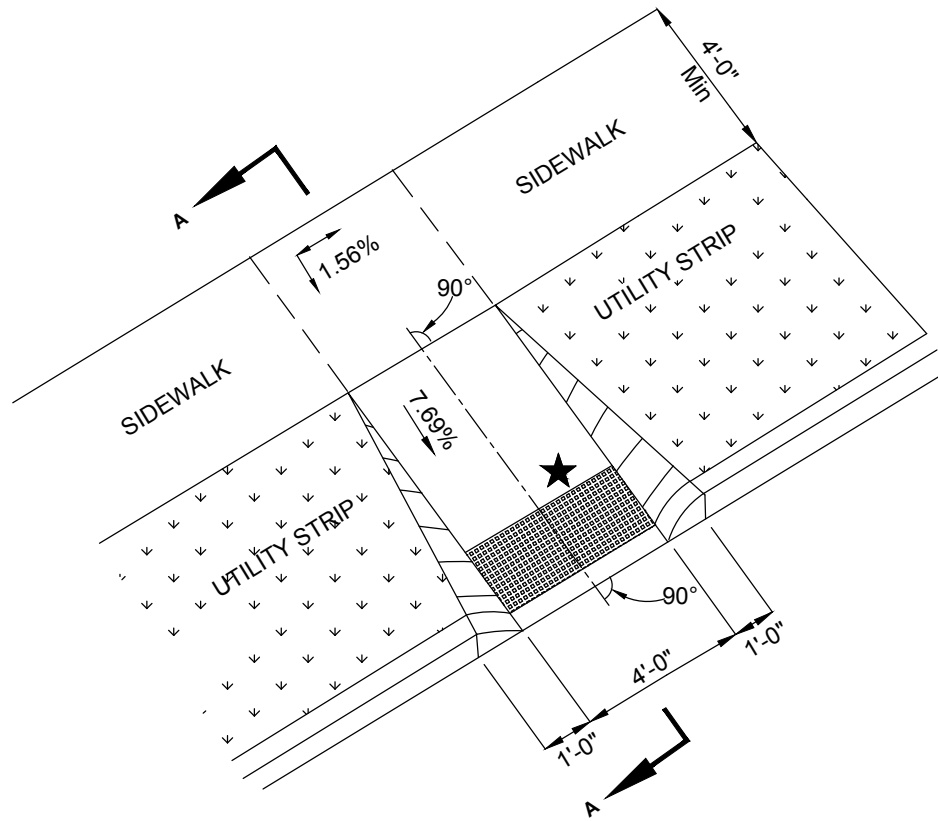
CITY OF COLUMBUS, OHIO
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DIVISION OF DESIGN AND CONSTRUCTION

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SECTION A - A

CURB RAMP TYPE C

★ SEE SHEET 12/12 FOR DETECTABLE
WARNING DETAILS

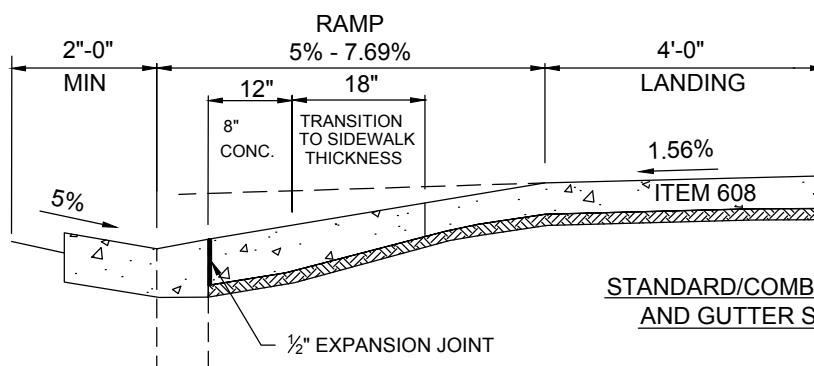
CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF DESIGN AND CONSTRUCTION

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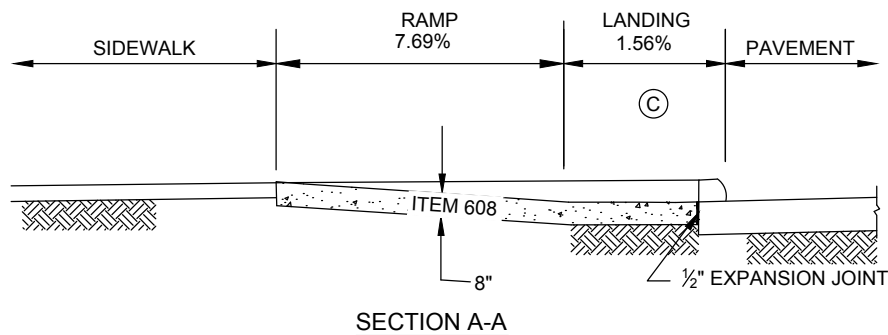
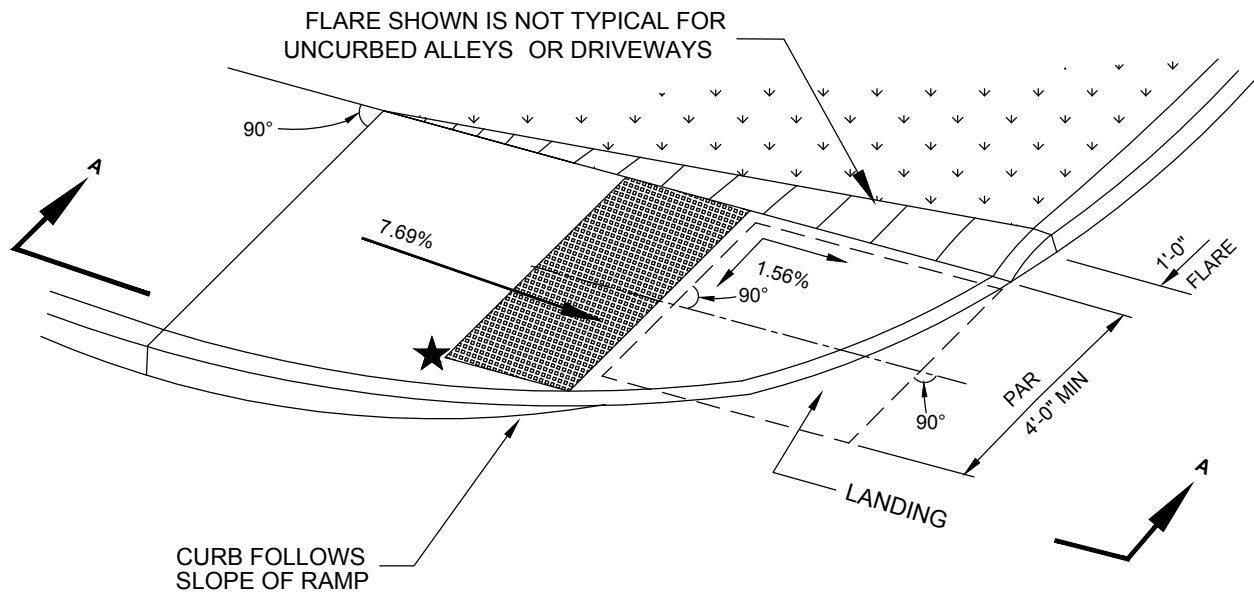
2319

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SHT 5 OF 12



SUPPLEMENTAL NOTES

- THE BOTTOM EDGE OF THE RAMP SHALL CHANGE PLANES PERPENDICULAR TO THE LANDING.
- THE EDGE OF THE CURB SHALL BE FLUSH WITH THE EDGE OF THE ADJACENT PAVEMENT AND GUTTER.
- THE LANDING AT THE BOTTOM OF THE RAMP SHALL BE ≥ 2.5 -FT BY 4-FT WITH A MAXIMUM CROSS SLOPE OF 1.56% IN TWO DIRECTIONS.
- THE PEDESTRIAN ACCESS ROUTE (PAR) BETWEEN THE TWO RAMPS SHALL HAVE A MAXIMUM OF 1.56% CROSS SLOPE WITH A 5% MAXIMUM RUNNING SLOPE

★ SEE SHEET 12/12 FOR DETECTABLE
WARNING DETAILS

CURB RAMP TYPE G

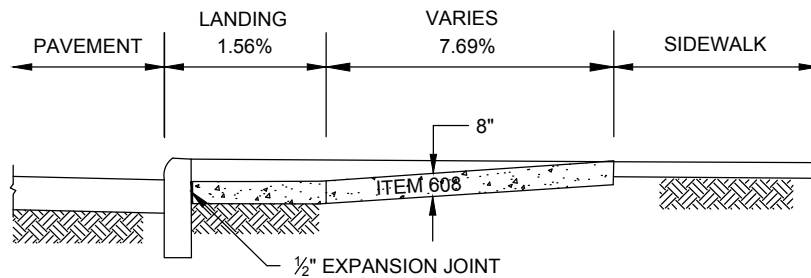
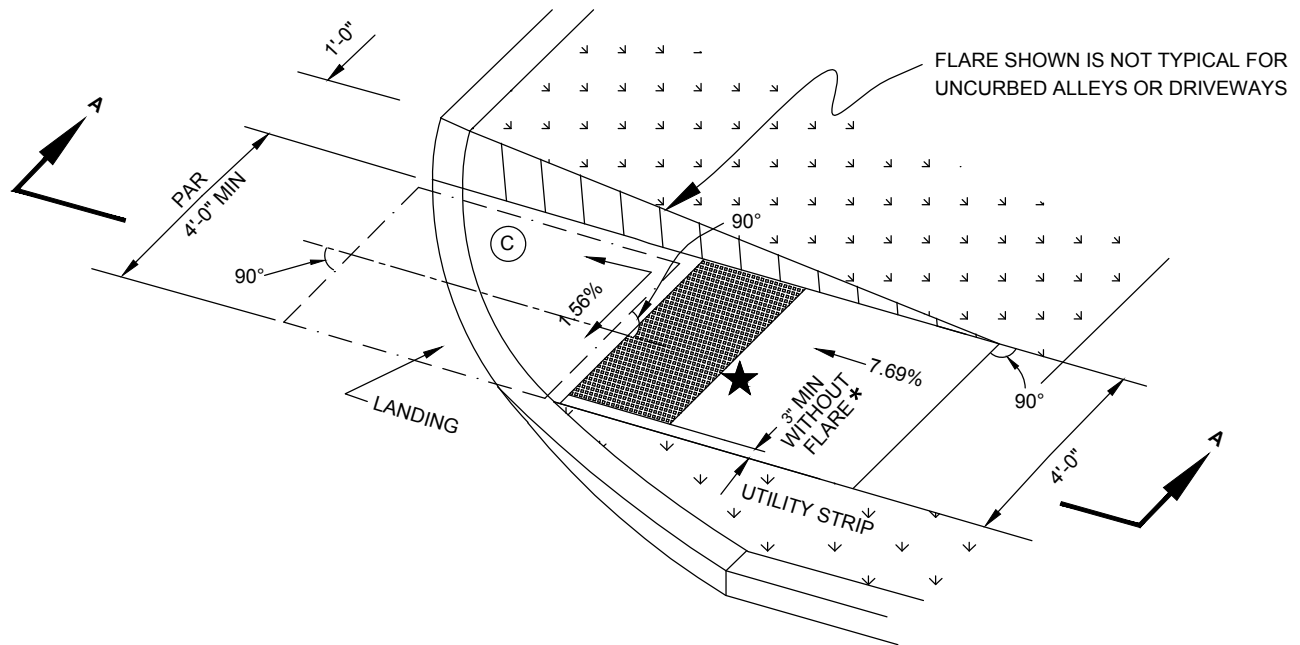
CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF DESIGN AND CONSTRUCTION

STD DWG

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SECTION A-A

SUPPLEMENTAL NOTES

- A. THE BOTTOM EDGE OF THE RAMP SHALL CHANGE PLANES PERPENDICULAR TO THE LANDING.
- B. THE EDGE OF THE CURB SHALL BE FLUSH WITH THE EDGE OF THE ADJACENT PAVEMENT AND GUTTER.
- C. THE LANDING AT THE BOTTOM OF THE RAMP SHALL BE \geq 2.5-FT BY 4-FT WITH A MAXIMUM CROSS SLOPE OF 1.56% IN TWO DIRECTIONS.
- D. THE PEDESTRIAN ACCESS ROUTE (PAR) BETWEEN THE TWO RAMPS SHALL HAVE A MAXIMUM OF 1.56% CROSS SLOPE WITH A 5% MAXIMUM RUNNING SLOPE.

* THIS IS FOR EMBEDDED (NON-SURFACE APPLIED) DETECTABLE WARNINGS ONLY.

★ SEE SHEET 12/12 FOR DETECTABLE WARNING DETAILS

CURB RAMP TYPE H

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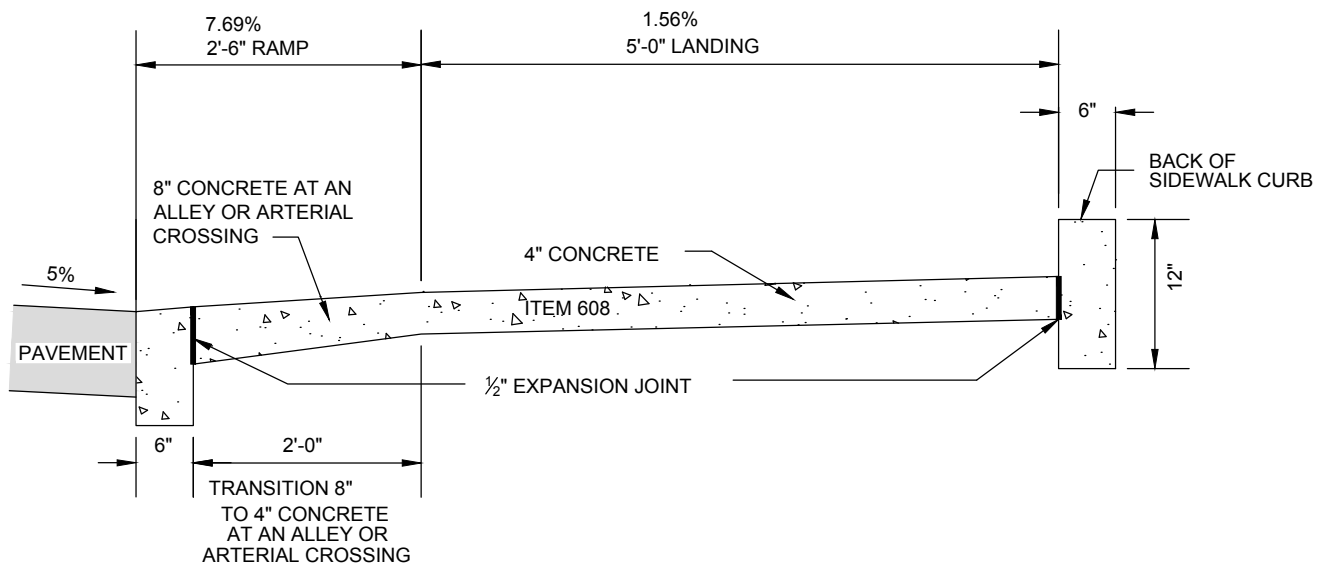
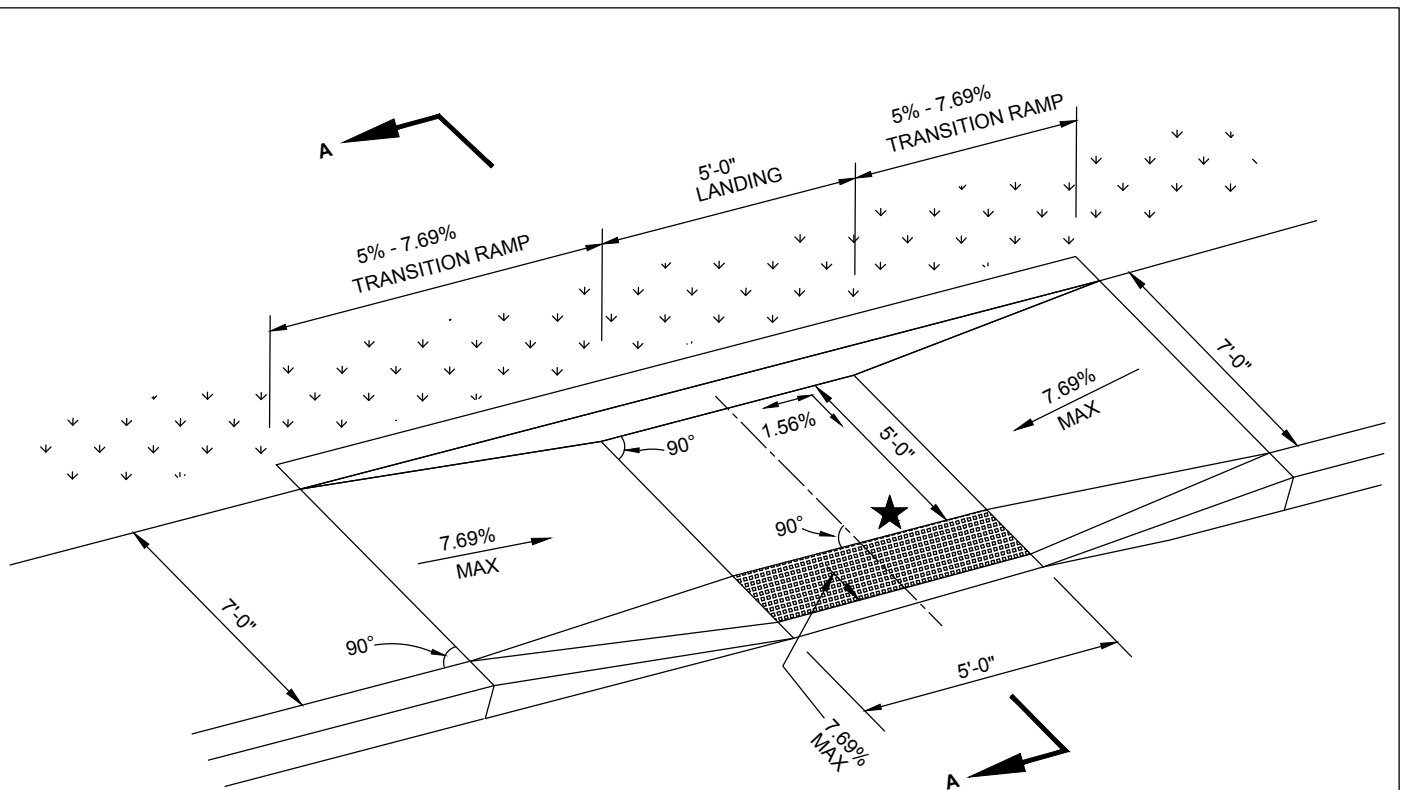
STD DWG

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SHT 8 OF 12



SECTION A-A

★ SEE SHEET 12/12 FOR DETECTABLE WARNING DETAILS

CURB RAMP TYPE P-1

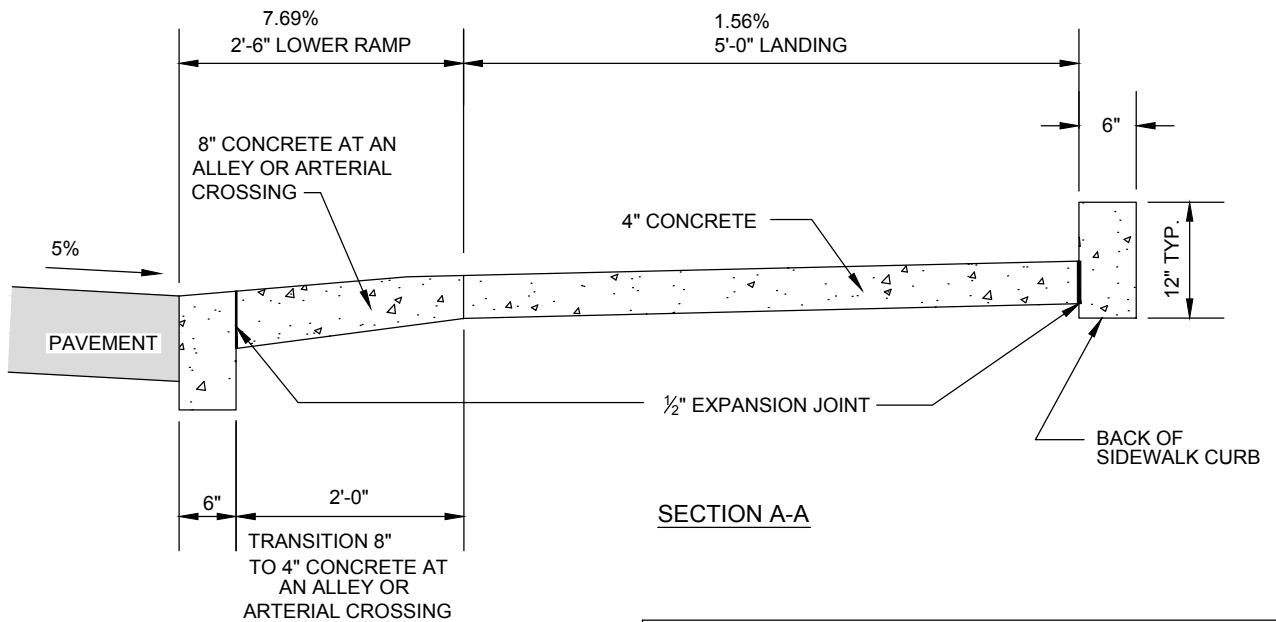
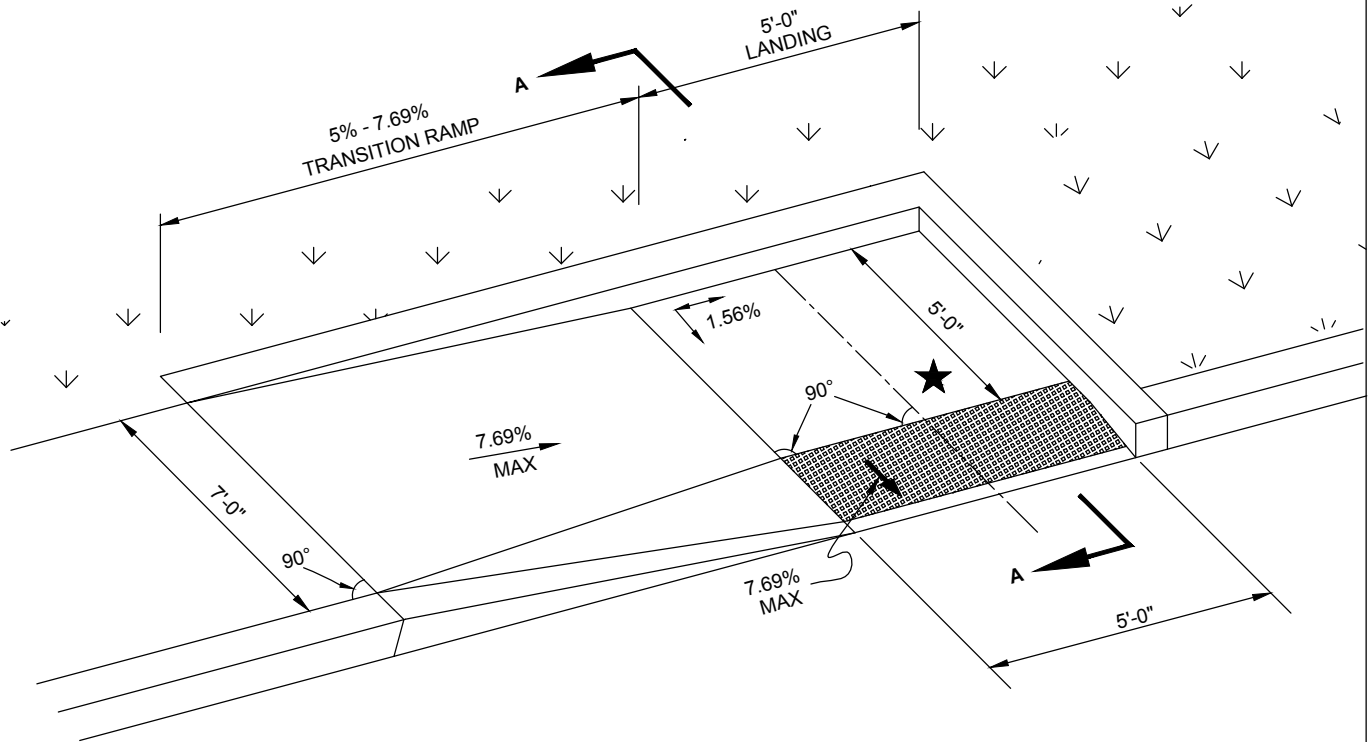
CITY OF COLUMBUS, OHIO
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF DESIGN AND CONSTRUCTION

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★ SEE SHEET 12/12 FOR DETECTABLE WARNING DETAILS

CURB RAMP TYPE P-2

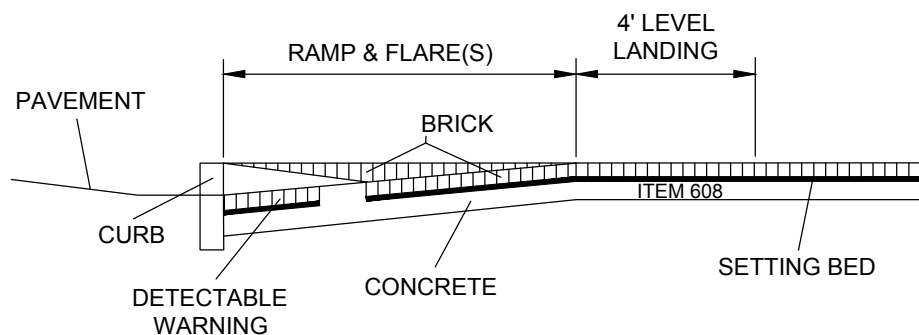
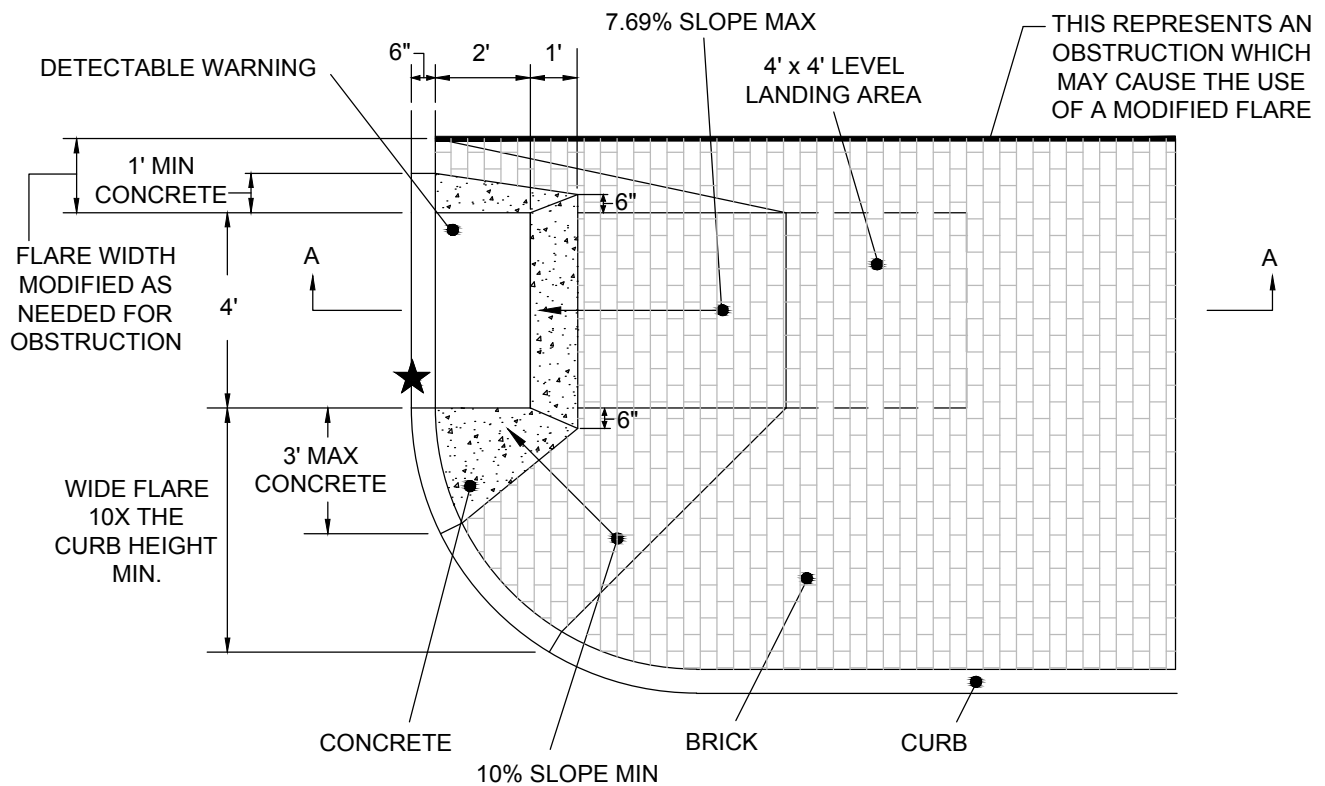
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SECTION A-A

1. WRITTEN APPROVAL FROM THE C.O.C. ADMINISTRATOR OF PLANNING & OPERATIONS 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.

★ SEE SHEET 12/12 FOR DETECTABLE WARNING DETAILS

CURB RAMP BRICK SIDEWALK

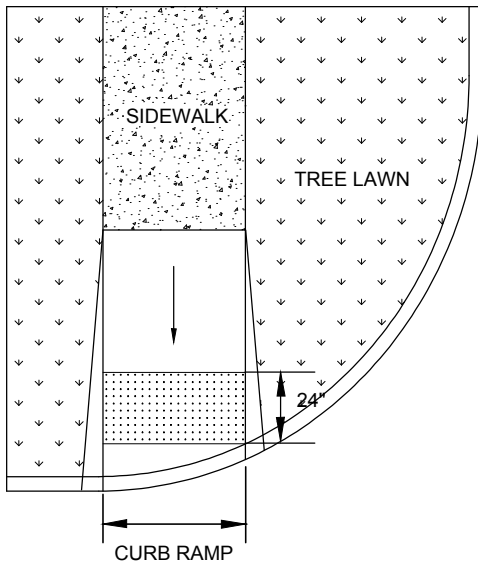
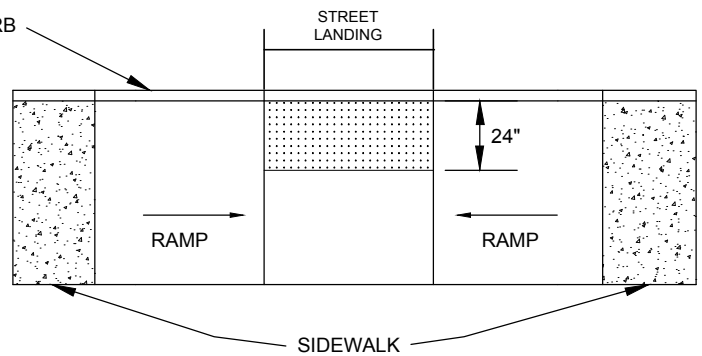
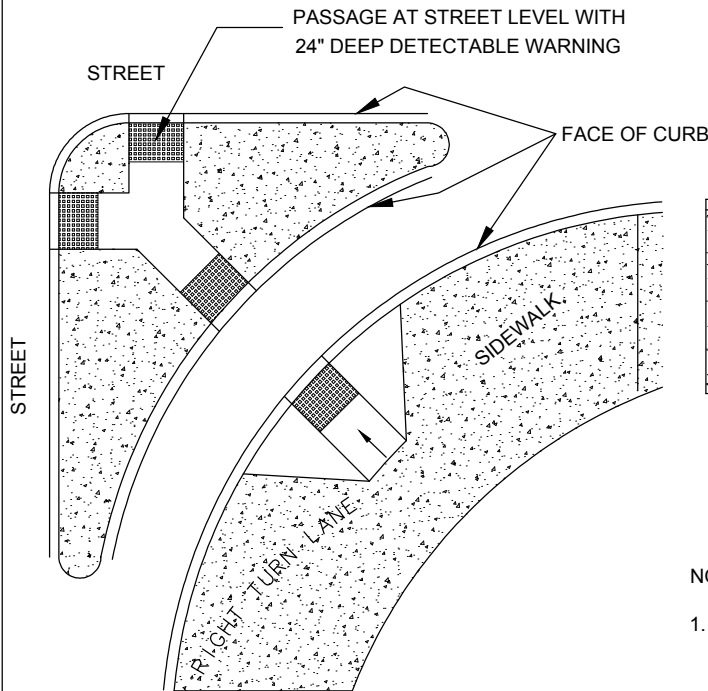
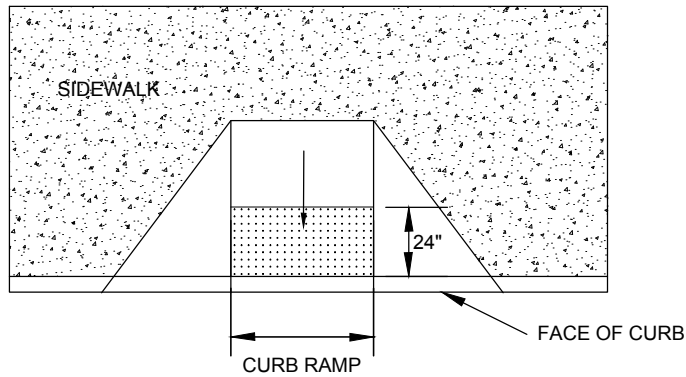
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DIVISION OF DESIGN AND CONSTRUCTION

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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 C.O.C. SUPPLEMENTAL SPECIFICATION 1551.
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

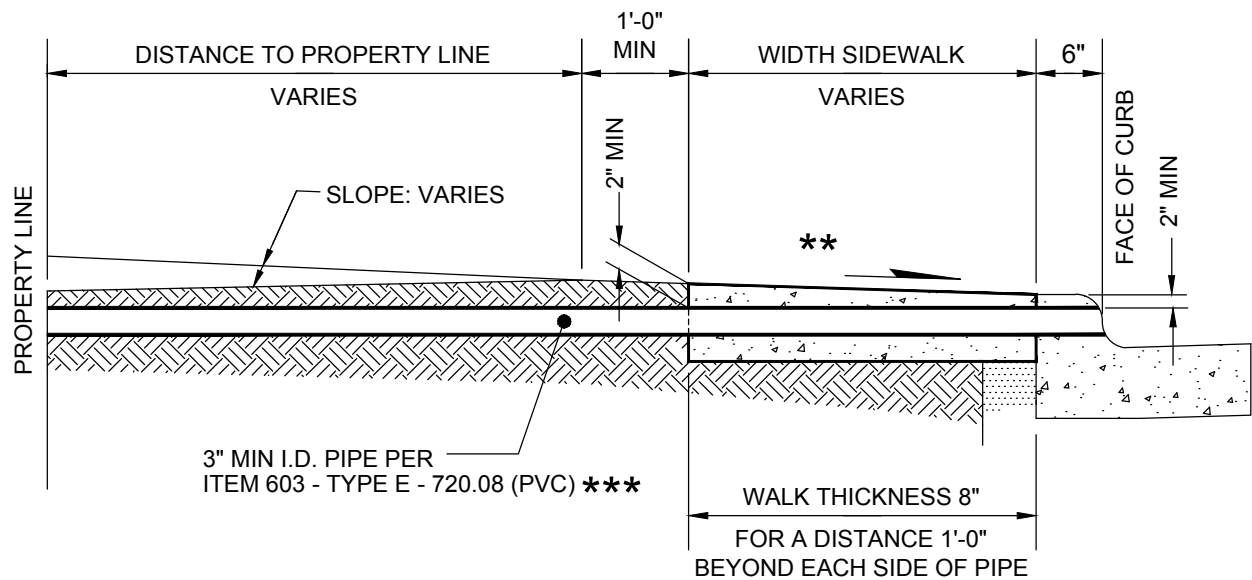
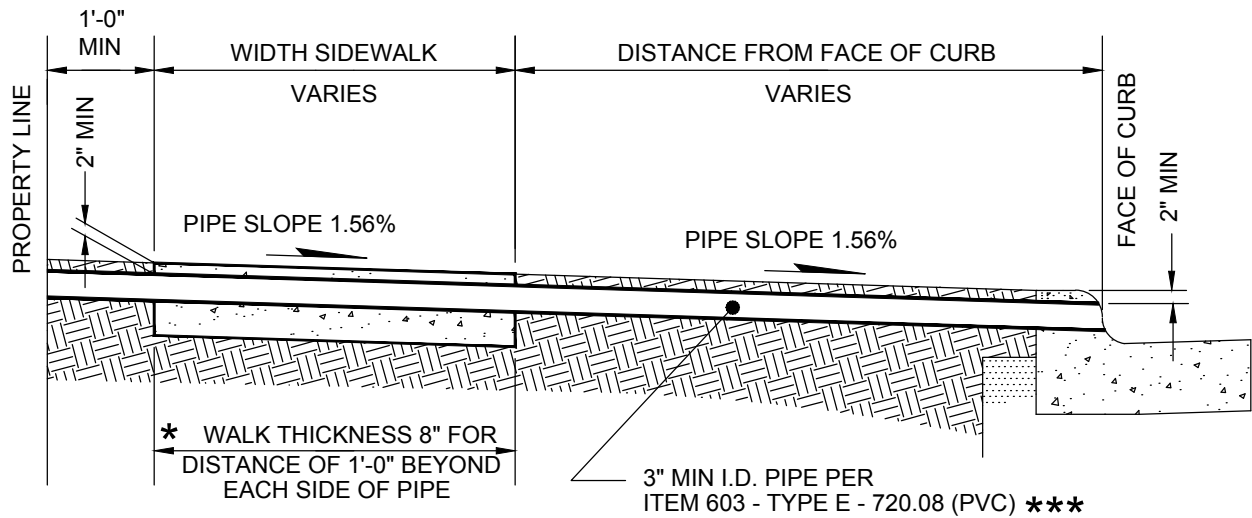
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* APPLICABLE ONLY WHERE THICKNESS OF CONCRETE OVER PIPE IS LESS THAN 4".

** 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

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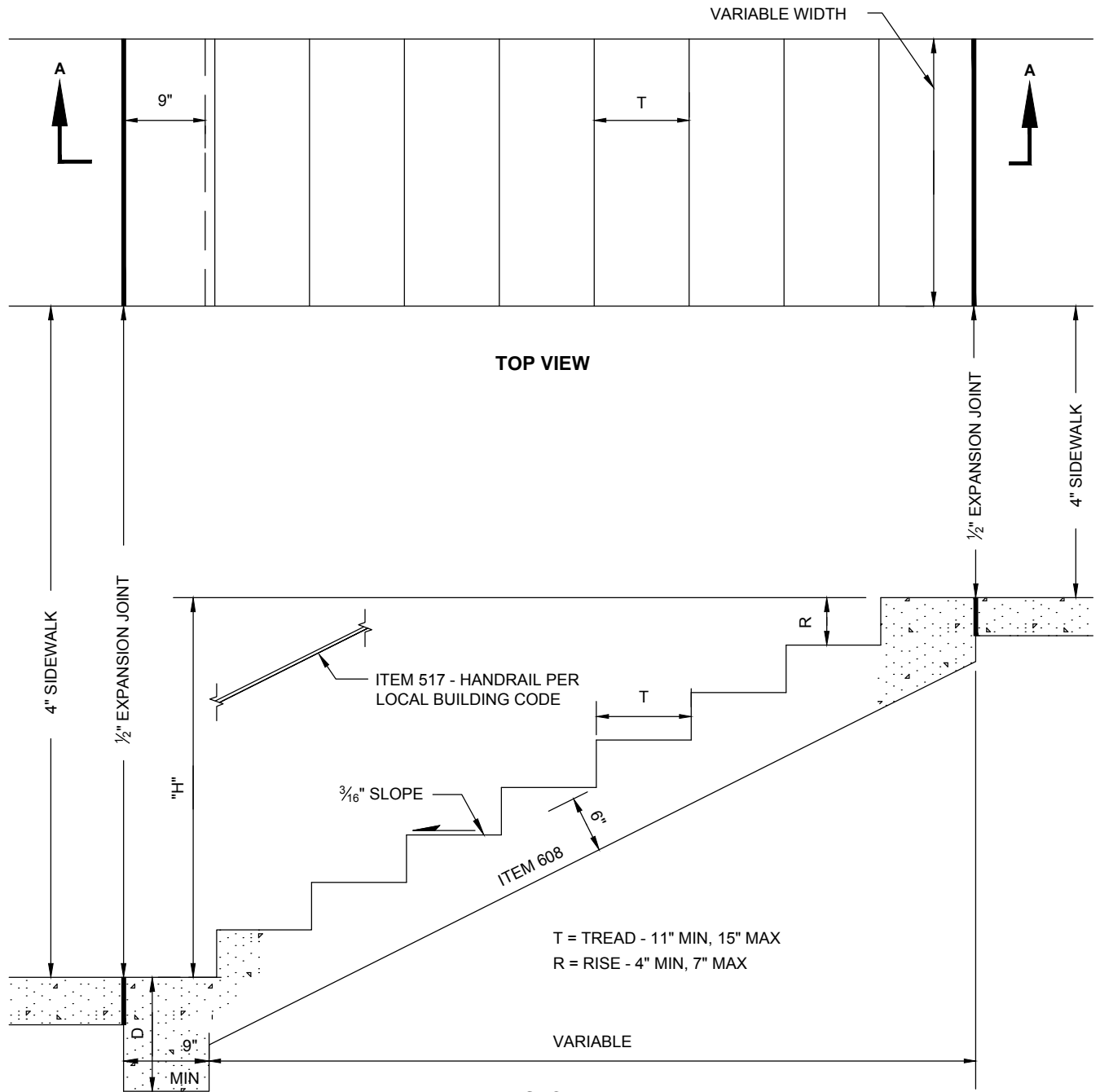
CITY ENGINEER

STD DWG

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SHT 1 OF 1



FOR "H"=24" AND UNDER
SEE SHEET 2 OR 3

NO. OF RISERS	"D"
4	8"
5	10"
6	10"
7	12"
8	12"

STAIR TREADS AND RISERS SHALL BE OF EQUAL SIZE AND SHAPE. TOLERANCE BETWEEN THE LARGEST AND SMALLEST RISER HEIGHT OR BETWEEN THE LARGEST AND SMALLEST TREAD DEPTHS SHALL NOT EXCEED $\frac{3}{8}$ INCHES.

CONCRETE STEPS

CITY OF COLUMBUS, OHIO
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DIVISION OF DESIGN AND CONSTRUCTION

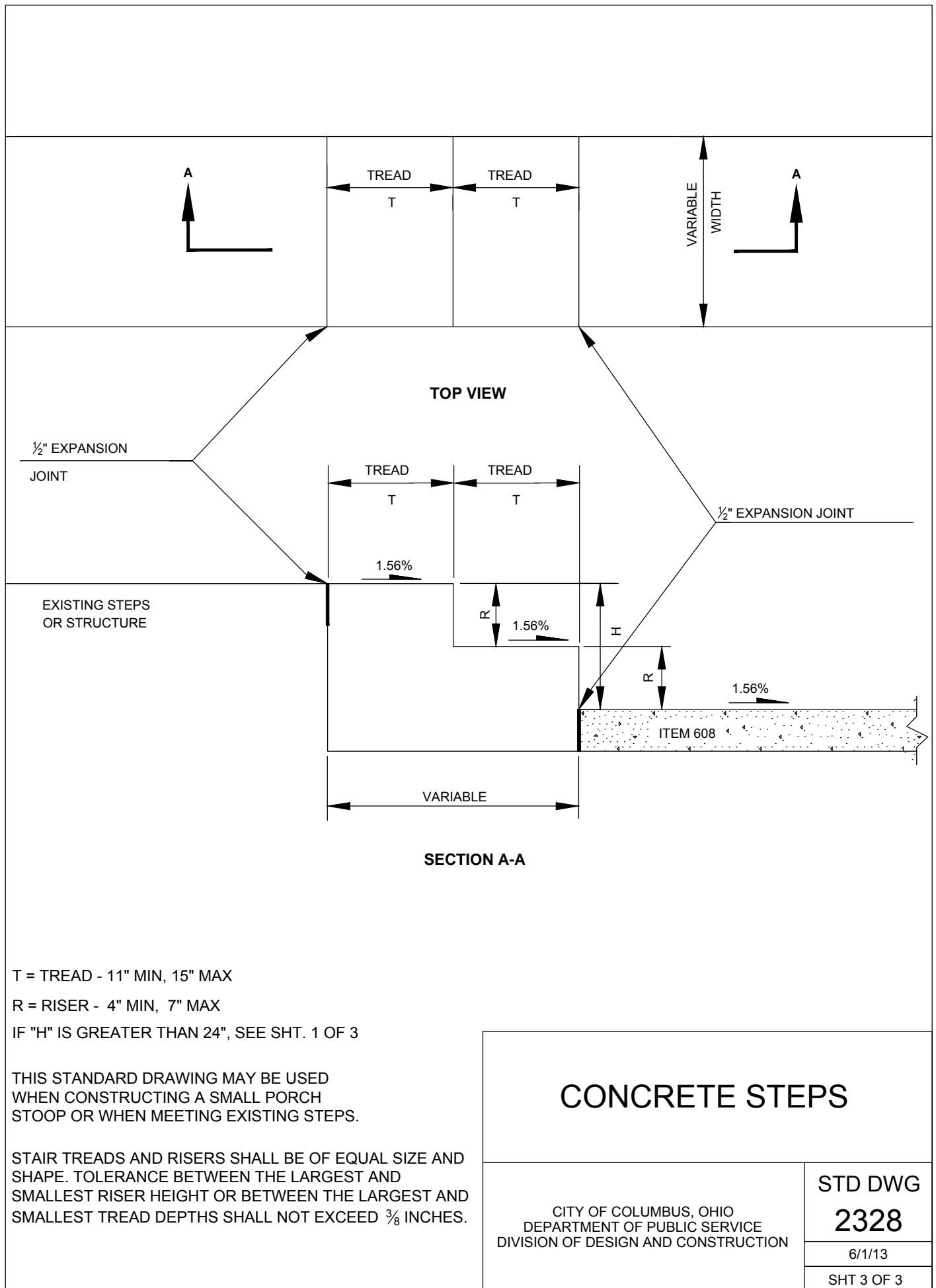
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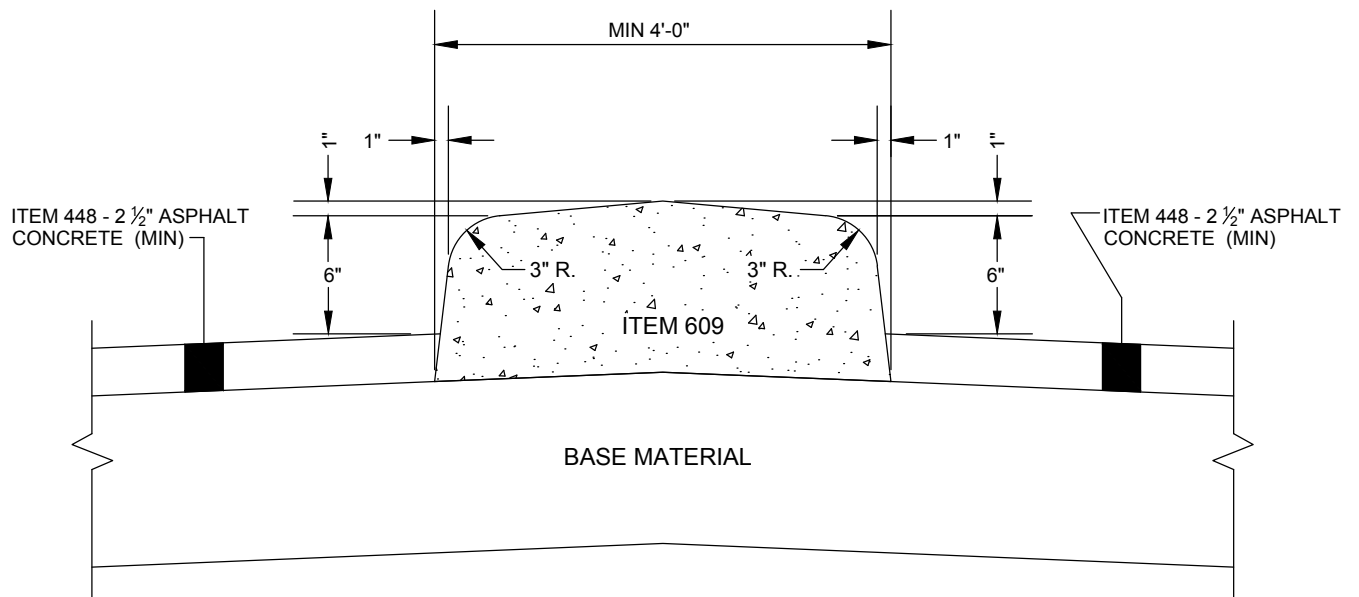
STD DWG

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2.74 C.F. CONCRETE PER L.F. FOR 4' WIDTH.

3.99 C.F. CONCRETE PER L.F. FOR 6' WIDTH.

JOINTS: $\frac{1}{4}$ " CONTRACTION JOINTS SHALL BE CONSTRUCTED OR SAWED AT 10' INTERVALS TO A 2" MINIMUM DEPTH AND ALIGNED WITH TRANSVERSE CONSTRUCTION JOINTS IN BASE.

SLOPE OF TOP OF MEDIAN TO BE IN SAME DIRECTION AS PAVEMENT SLOPE ON EITHER SIDE OF MEDIAN.

MEDIAN NOSE SHALL BE TAPERED FROM 6" TO 2" IN 4'-0" OR GREATER.

CITY OF COLUMBUS PAVEMENT MARKING MANAGER SHALL BE CONTACTED FOR DIRECTION ON PAINTING REQUIREMENTS OF MEDIAN NOSE.

CONCRETE MEDIAN

CITY OF COLUMBUS, OHIO
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DIVISION OF DESIGN AND CONSTRUCTION

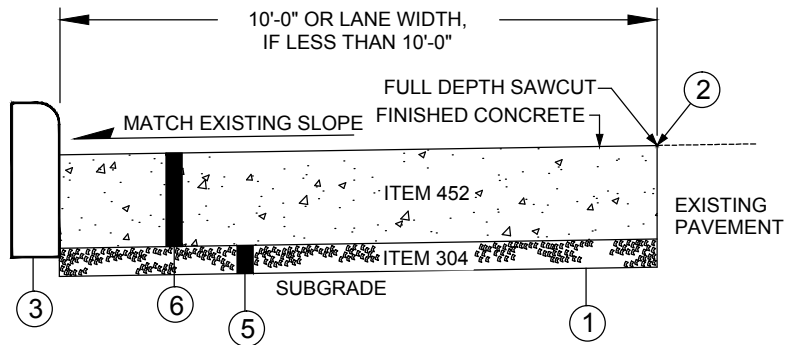
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STD DWG

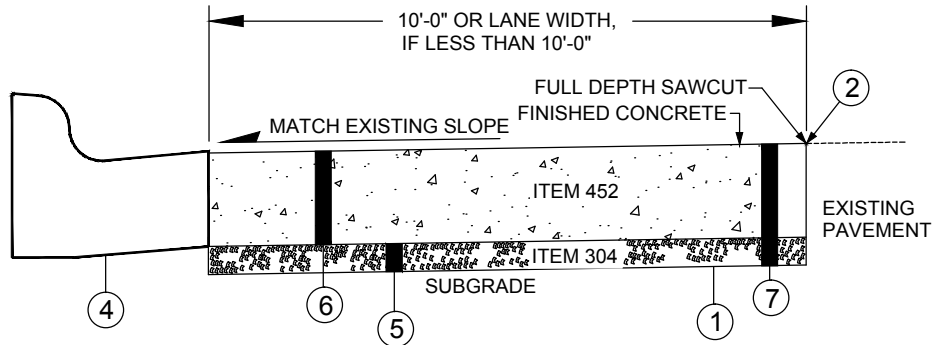
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SHT 1 OF 1



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

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DIVISION OF DESIGN AND CONSTRUCTION

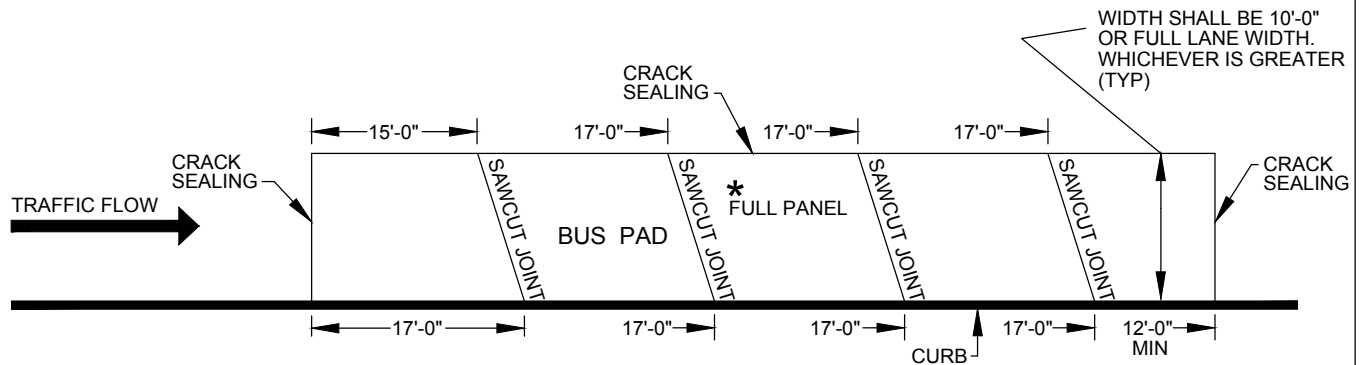
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TRANSVERSE JOINT PLAN VIEW

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

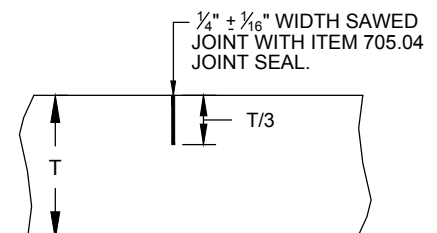
* ANY PARTIAL REPLACEMENT SHALL BE NO LESS THAN A FULL PANEL.

CONSTRUCTION JOINT

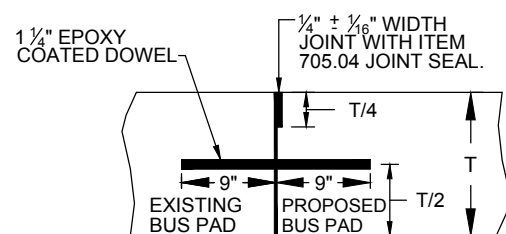
1) AT LOCATIONS WHERE A CONSTRUCTION JOINT IS REQUIRED (WHERE THE BUS PAD REQUIRES PARTIAL REPLACEMENT OR LENGTHENING), 1 1/4" EPOXY COATED DOWELS ARE TO BE USED AS SHOWN IN DETAIL "B".

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

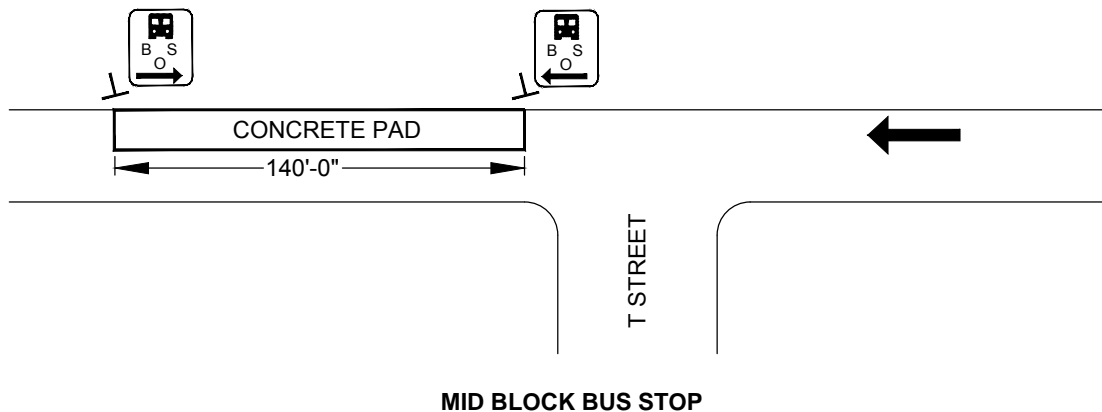
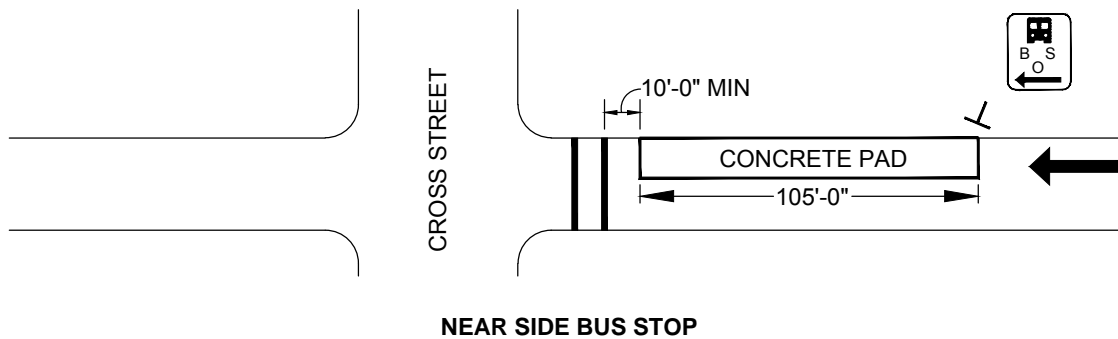
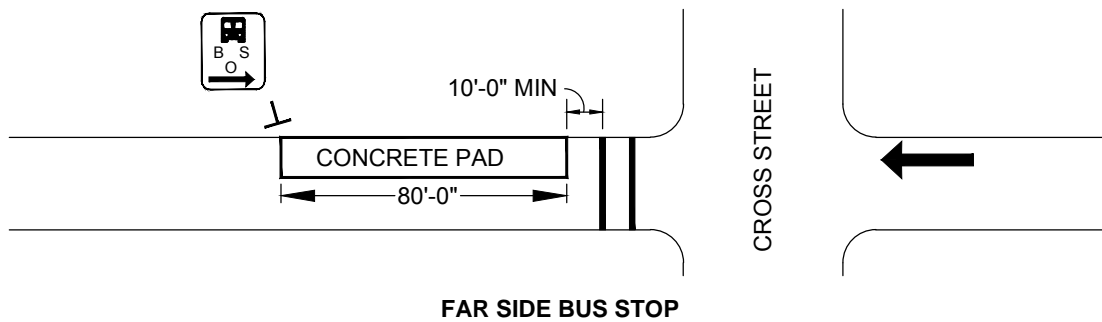
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← DIRECTION OF TRAVEL

TYPICAL LOCATIONS

CONCRETE BUS PAD

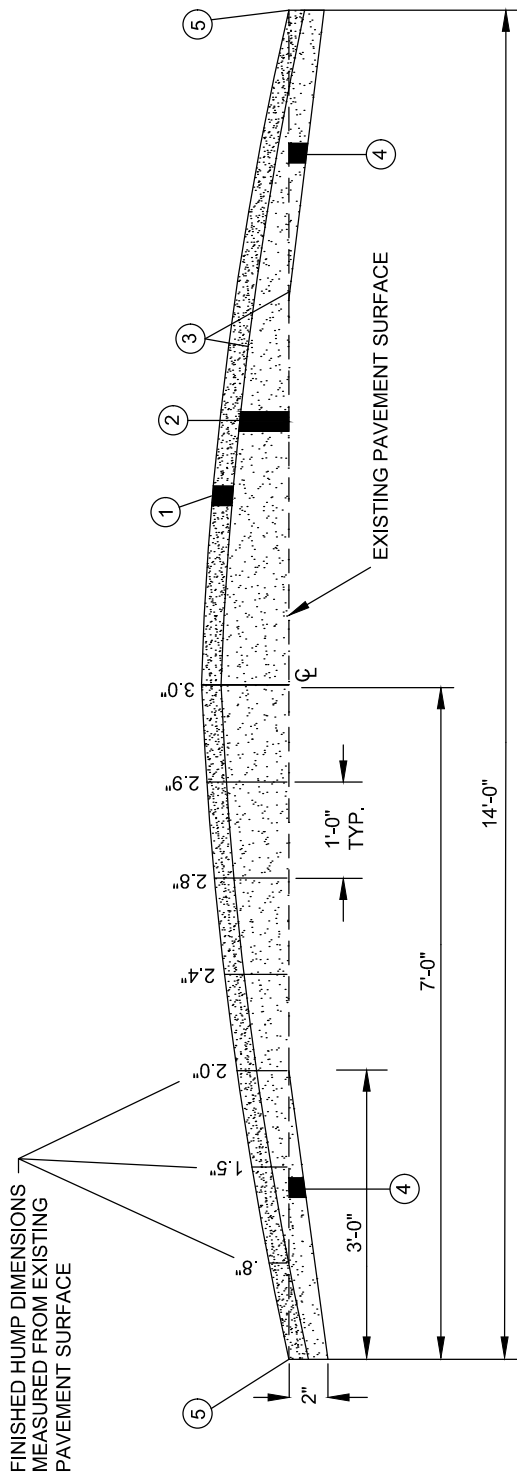
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- ① ITEM 448 - 1 1/2" ASPHALT CONCRETE, SURFACE COURSE (MEDIUM TRAFFIC), PG64-22
- ② ITEM 448 - VAR. ASPHALT CONCRETE, INTERMEDIATE COURSE (MEDIUM TRAFFIC), PG64-22
- ③ ITEM 407 - TACK COAT
- ④ ASPHALT REMOVED
- ⑤ ITEM 423 - CRACK SEALING, TYPE I

THE TEMPERATURE FOR ITEM 448 - ASPHALT CONCRETE, INTERMEDIATE COURSE SHALL BE < 150° F BEFORE ITEM 448 - ASPHALT CONCRETE, SURFACE COURSE CAN BE PLACED.

ITEM SPECIAL: 14' SPEED HUMP (EACH)

TOLERANCES (@ CREST) -1/4" TO +1/2"

CONTACT CITY OF COLUMBUS PAVEMENT MARKING MANAGER FOR DIRECTION ON REQUIRED PAVEMENT MARKINGS.

CROSS - SECTION

14' SPEED HUMP

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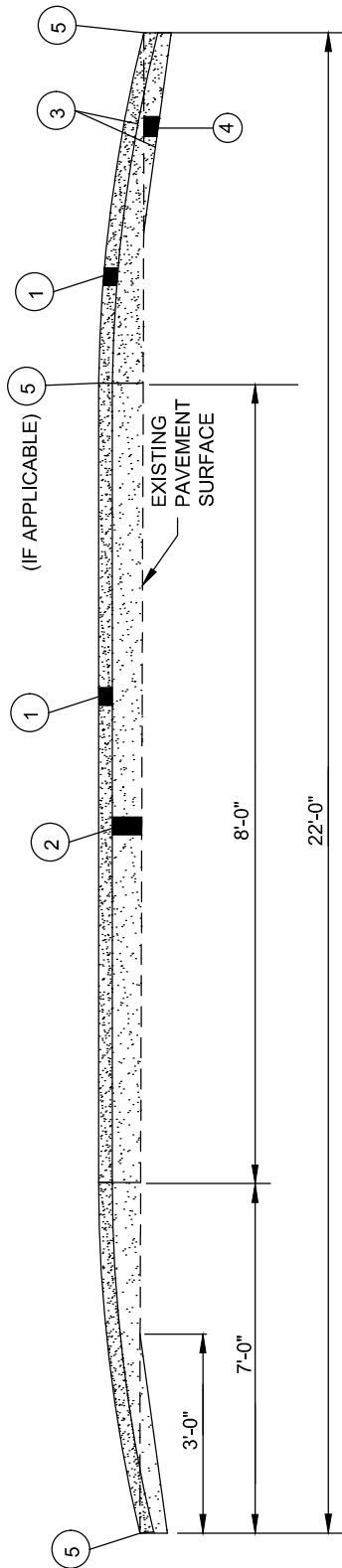
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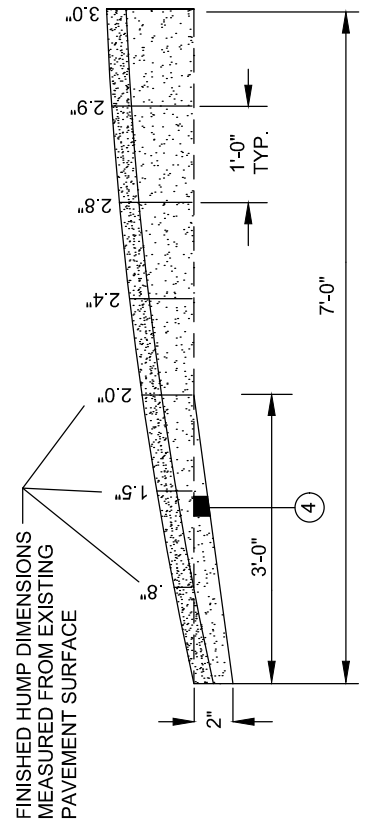
- ① ITEM 448 - 1 1/2" ASPHALT CONCRETE, SURFACE COURSE (MEDIUM TRAFFIC), PG64-22
- ② ITEM 448 - VAR. ASPHALT CONCRETE, INTERMEDIATE COURSE (MEDIUM TRAFFIC), PG64-22
- ③ ITEM 407 - TACK COAT
- ④ ASPHALT REMOVED
- ⑤ ITEM 423 - CRACK SEALING, TYPE I

THE TEMPERATURE FOR ITEM 448 - ASPHALT CONCRETE, INTERMEDIATE COURSE SHALL BE < 150° F BEFORE ITEM 448 - ASPHALT CONCRETE, SURFACE COURSE CAN BE PLACED.

ITEM SPECIAL: 22' SPEED HUMP (EACH)

TOLERANCES (@ CREST) -1/4" TO +1/2"

CONTACT CITY OF COLUMBUS PAVEMENT MARKING MANAGER FOR DIRECTION ON REQUIRED PAVEMENT MARKINGS.



CROSS - SECTION

22' SPEED HUMP

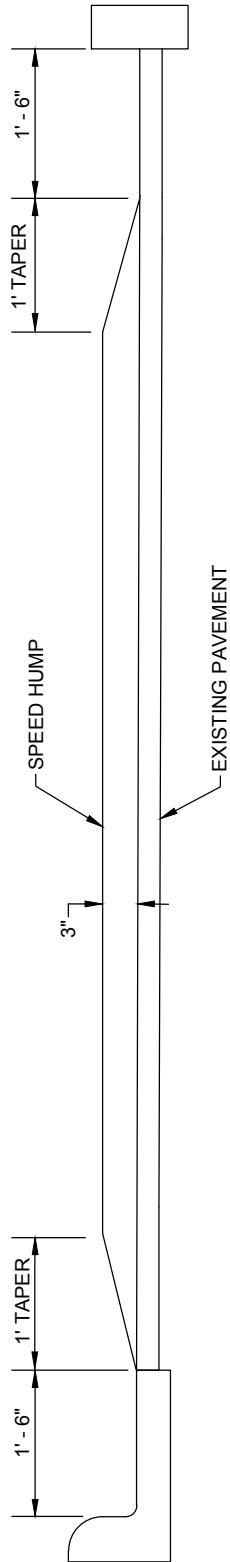
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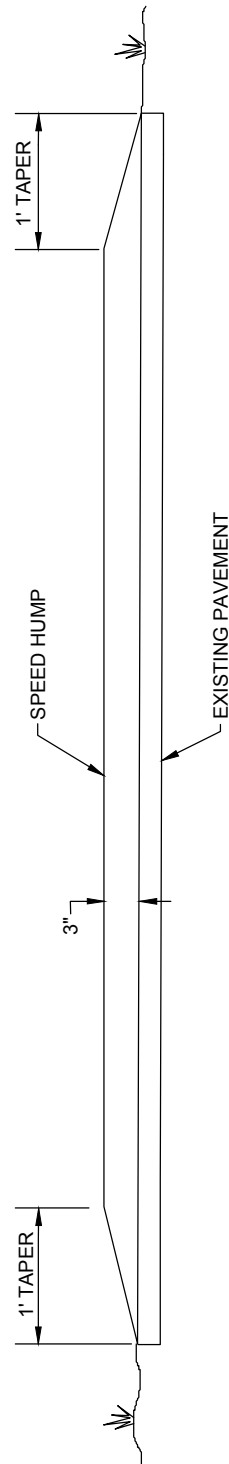
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CURB & GUTTER OR STRAIGHT CURB



UNCURBED

ROADWAY CROSS - SECTION

SPEED HUMP

NOTE: DRAWING DOES NOT SHOW REQUIRED ASPHALT REMOVAL. REFER TO SHEETS 1 OF 3 AND 2 OF 3.

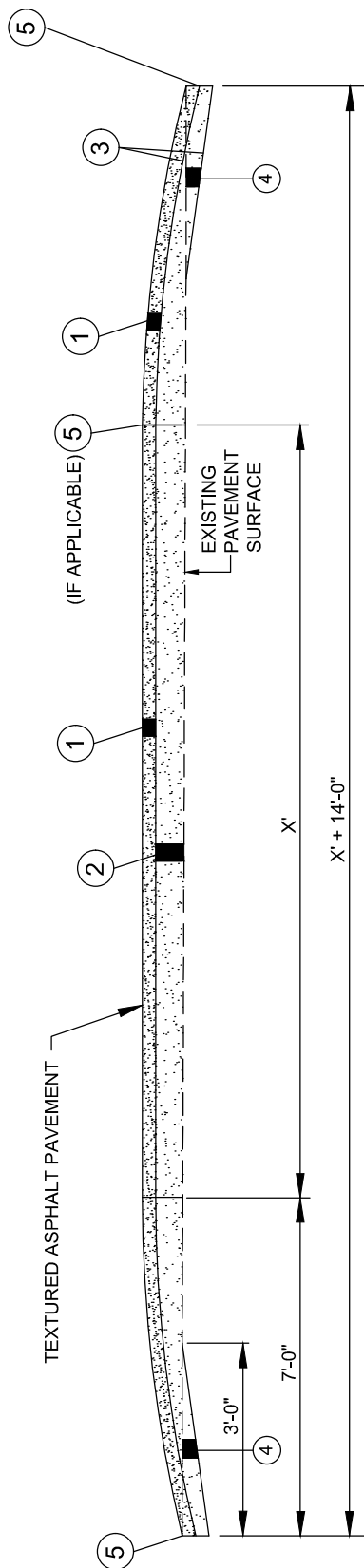
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- ① ITEM 448 - 1 1/2" ASPHALT CONCRETE, SURFACE COURSE (MEDIUM TRAFFIC), PG64-22
- ② ITEM 448 - VAR. ASPHALT CONCRETE, INTERMEDIATE COURSE (MEDIUM TRAFFIC), PG64-22
- ③ ITEM 407 - TACK COAT
- ④ ASPHALT REMOVED
- ⑤ ITEM 423 - CRACK SEALING, TYPE I

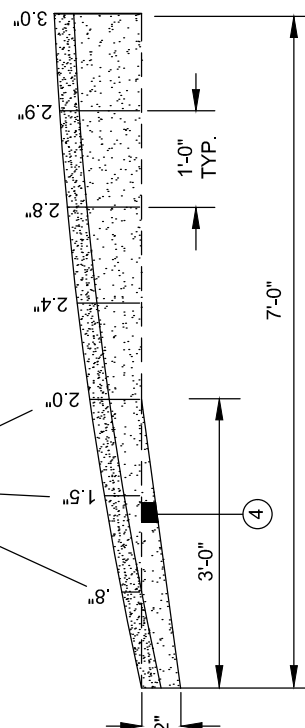
THE TEMPERATURE FOR ITEM 448 - ASPHALT CONCRETE, INTERMEDIATE COURSE SHALL BE $< 150^{\circ} \text{F}$ BEFORE ITEM 448 - ASPHALT CONCRETE, SURFACE COURSE CAN BE PLACED.

X = VARIES ACCORDING TO STREET WIDTH.

ITEM SPECIAL: INTERSECTION SPEED TABLE (EACH)

CONTACT CITY OF COLUMBUS PAVEMENT MARKING MANAGER FOR DIRECTIONS ON REQUIRED PAVEMENT MARKING.

FINISHED SPEED TABLE DIMENSIONS MEASURED FROM EXISTING PAVEMENT SURFACE



CROSS - SECTION

INTERSECTION SPEED TABLE

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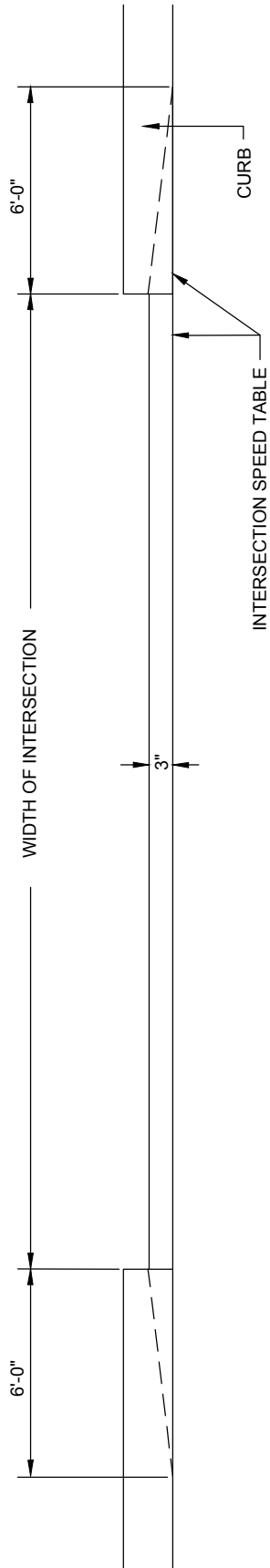
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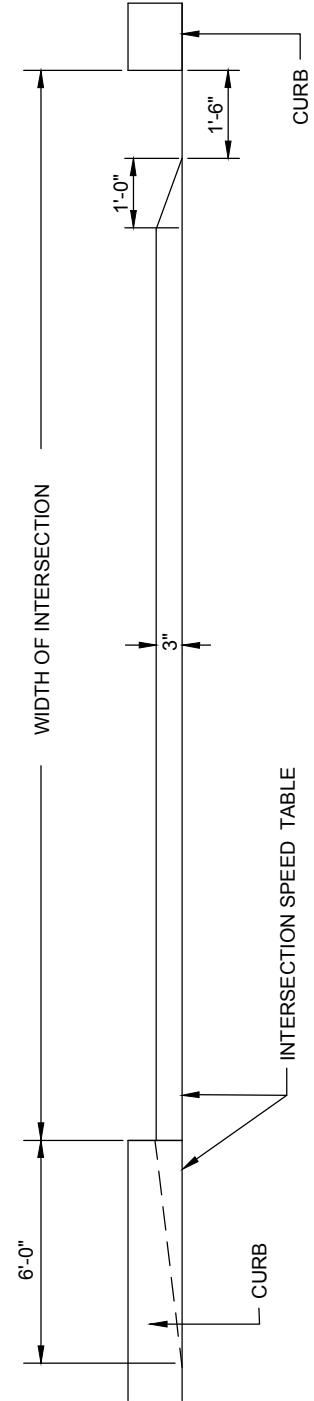
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FOUR - LEG INTERSECTION



THREE - LEG INTERSECTION

ROADWAY CROSS - SECTION

INTERSECTION
SPEED TABLE

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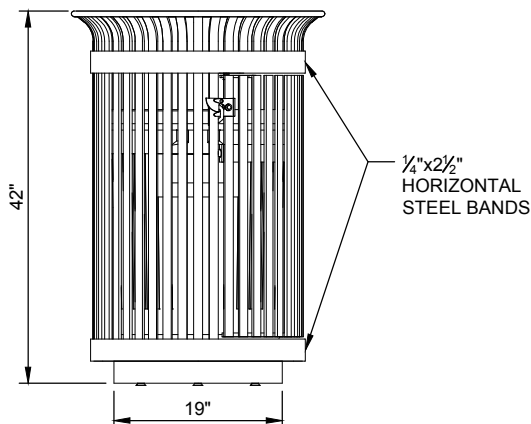
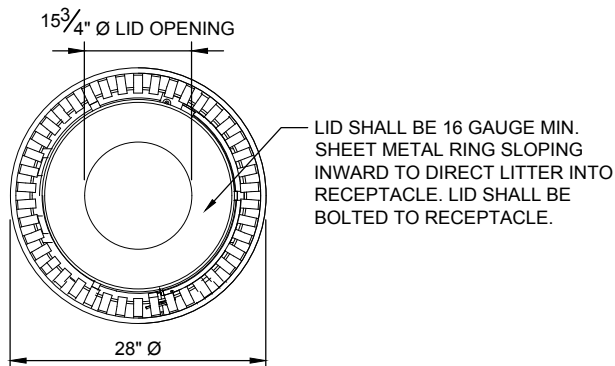
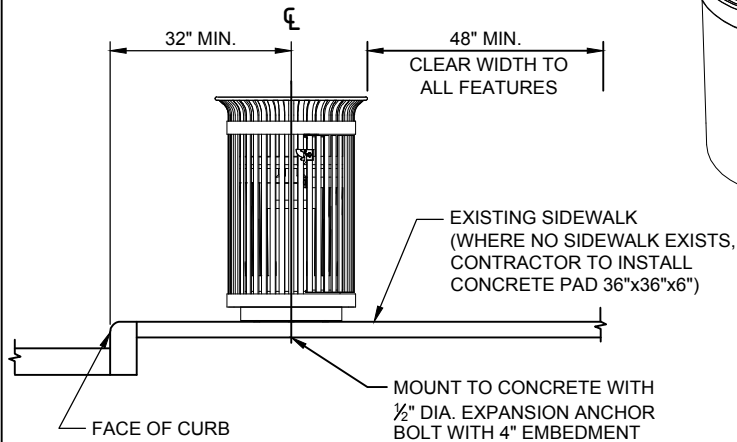
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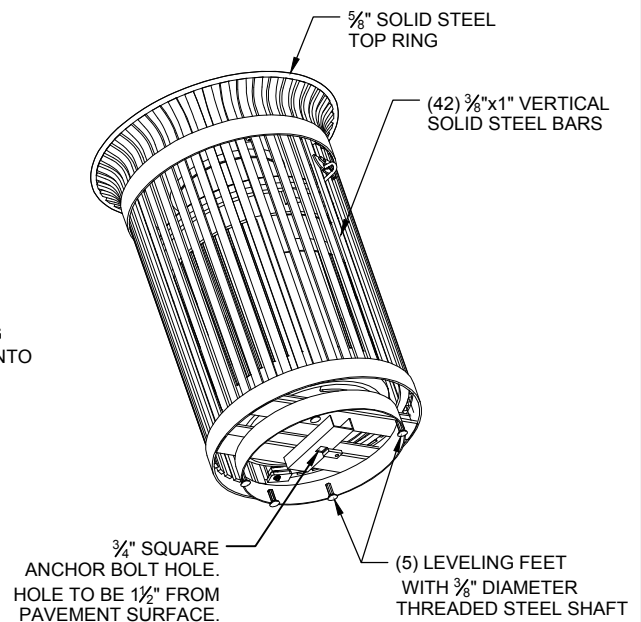
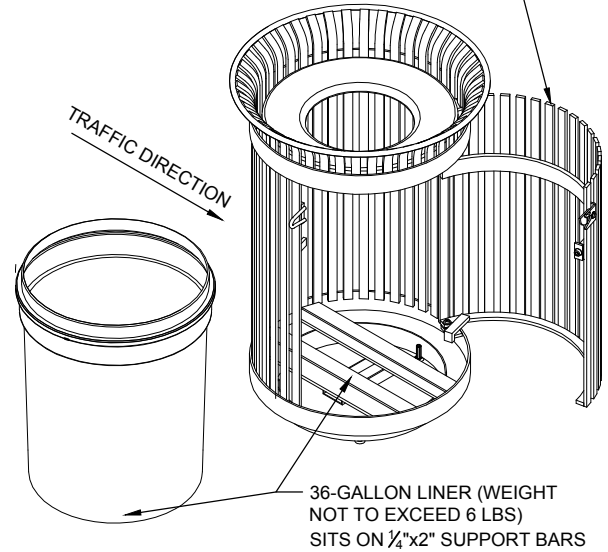
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NOTES:

1. SHIPPING WEIGHT OF RECEPTACLE SHALL BE 280 LBS, MIN.
2. RECEPTACLE SHALL HAVE SIDE DOOR ACCESS. USE OIL IMPREGNATED BRONZE BUSHINGS AND STAINLESS STEEL PIVOT PINS FOR DOOR MOVEMENT, WITH 3/16" SOLID STEEL LATCH ASSEMBLY (NO LOCK).
3. ALL FABRICATED METAL COMPONENTS SHALL BE STEEL SHOTBLASTED, ETCHED, PHOSPHATIZED, PREHEATED, AND ELECTROSTATICALLY POWDER-COATED WITH T.G.I.C. POLYESTER POWDER COATINGS, 8-10 MILS THICK. ALL PARTS SHALL BE BLACK POWDER COATED.
4. RECEPTACLES SHALL NOT BE INSTALLED NEXT TO ON-STREET PARKING.
5. LINER SHALL BE BLACK HIGH-DENSITY POLYETHYLENE PLASTIC. PLASTIC LINER REINFORCED, RIBBED AND MOLDED FOR LONGER LIFE, MINIMUM HEIGHT 26-3/4" - MAXIMUM 27-1/4", DIAMETER MINIMUM 21-1/2" - MAXIMUM 21-3/4".



DOOR TO BE PLACED ON OPPOSITE SIDE OF TRAFFIC FLOW SUCH THAT REFUSE WORKER IS FACING ONCOMING TRAFFIC DURING LINER REMOVAL



LITTER RECEPTACLE 36 GALLON CAPACITY

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CITY ENGINEER

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2400

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