

City of Canton, Ohio
Engineering Department
Fawcett Ct. NW Drainage Project
GP 1300
Plan Notes

- 1) **Project Description:** The purpose of this project is to create three (3) detention basins to alleviate flooding in the Fawcett Ct NW and Glen Pl NW vicinity. The detention basins will be located in the NE, NW, and SW vicinities of the intersection of Fawcett Ct NW and Glen Pl NW. There are seven (7) properties owned by the City of Canton at these locations:

115 Fawcett Ct NW
121 Fawcett Ct NW
123 Fawcett Ct NW
126 Fawcett Ct NW
129 Fawcett Ct NW
130 Fawcett Ct NW
133 Fawcett Ct NW

All of the structures in these properties except 126 Fawcett Ct NW will be demolished as part of the project (126 Fawcett Ct was demolished in 2019 and a small detention basin was created at that time.) Asbestos abatement is required before demos occur. After demos, the lots will be excavated and graded to create detention basins per the plans. Two of the detention basins – the NW and SW basins - will need to have storm sewers installed and tied into the existing storm sewer in Fawcett Ct, to serve as outlets. The NE detention basin will be expanded to the north as part of this project. Sidewalks will be replaced along the west side of Fawcett Ct in front of where the NW and SW detention basins will be located (new sidewalk was installed in 2019 along the east side of Fawcett Ct in front of where the expanded NE detention basin will be located).

- 2) **NPDES Construction Storm Water Permit Not Required:** This project's earth-disturbance is less than one (1) acre; thus, a National Pollutant Discharge Elimination System (NPDES) Construction Storm Water Permit is not required from Ohio EPA.
- 3) **2019 Specifications:** ODOT item numbers in the plans/project notes refer to the 2019 State of Ohio Department of Transportation Construction and Material Specifications.
- 4) **City of Canton Standard Construction Drawings:** The following City of Canton standard construction drawings apply:
No. 19 Utility Trench Requirements (6/10/2013)
No. 32 Typical Section – Local Street (11/20/19)
No. 33 Wheelchair Ramp (Jan 2015)
- 5) **City of Canton Supplemental Specifications:** The following City of Canton Supplemental Specifications apply:
01-00 Project Documentation and Submittal Requirements for All Public Works Projects and Subdivision Improvements (5/12/20)
- 6) **Pre-Construction Incidentals:**

- a. Project Specifications/Requirements: All work required to complete this improvement shall be performed in accordance with specifications/requirements of the City of Canton and the latest edition of the State of Ohio Department of Transportation Construction and Material Specifications, except as herein amended. In the case of a conflict between the City of Canton and the Ohio Department of Transportation Specifications/Requirements, the City of Canton requirements will take precedence, unless otherwise directed by the City Engineer.

The Contractor shall comply with the City of Canton Supplemental Specification 01-00 Project Documentation and Submittal Requirements.

- b. Administrative Requirements: The Contractor shall be responsible for fully complying with all of the administrative duties herein contained.
- c. Pre-Construction Meeting: A pre-construction meeting with the Contractor, representatives of all utility companies, the City of Canton Engineering Department, the City of Canton Water Department, and the City of Canton Building Department is required for this project prior to the start of any construction activity. The City Engineer will contact the Contractor to arrange a meeting date.
- d. Pre-Construction Video: Contractor shall perform pre-construction video requirements per City of Canton Supplemental Specification 01-00.
- e. Project Safety: Public streets shall be kept clean and free of debris (mud, stone, etc.) at all times. The Contractor shall alert all local emergency agencies (Fire, Police, Ambulance, etc.) of the nature of the proposed project prior to beginning any construction activity. Access for emergency vehicles shall be maintained at all times.
- f. Utilities: It shall be the Contractor's responsibility to have all existing utility service connections for the property located, shut off and disconnected at the location directed by the utility owner. An approved marker shall be set at grade locating the bulkhead or shutoff point for each disconnected underground utility service. All existing utilities shall be disconnected prior to the commencement of demolition operations. The contractor is forewarned that multiple service connections for each of the utilities may exist.

The Contractor shall provide all temporary utilities necessary to perform his operations. No separate payment shall be made for shutting off/disconnecting existing utilities or for providing temporary utilities.

Listed below are all utilities located within the project construction limits together with their respective owners:

NATURAL GAS DIST./TRANS.

DOMINION EAST OHIO GAS

320 SPRINGSIDE DR.

AKRON, OHIO 44333

330-664-2541

ATTN: MICAH RISACHER

relocation@dominionenergy.com

EMERGENCY NO.
1-800-521-2600

TELEPHONE

AT&T
50 WEST BOWERY STREET
AKRON, OHIO 44308
ATTN: STEVE HYLTON
330-384-3055
EMERGENCY NO. - 24 HRS
1-800-572-4545 OPTION#4

COMMUNICATIONS CABLE

CHARTER (SPECTRUM)
5520 WHIPPLE AVE N.W.
NORTH CANTON, OHIO 44720
330-494-9200
ext. 330-555-3009
ATTN: RON ICKES
216-392-7964(CELL)

ELECTRIC

AMERICAN ELECTRIC POWER
301 CLEVELAND AVE. S.W.
P.O. BOX 24400
CANTON, OHIO 44701-4400
330-438-7739
ATTN: MICHAEL ALLMAN
330-312-6981 (CELL)
ATTN: KEITH SCHALMO
330-438-7720
EMERGENCY NO.
1-800-672-2017
cantondistrictppr@aep.com

SANITARY AND STORM SEWER

CITY ENGINEER'S OFFICE
2436-30TH ST. N.E.
CANTON, OHIO 44705
ATTN: DAN MOEGLIN
330-489-3381

WATER

CANTON WATER DEPT.
2664 HARRISBURG RD. N.E.
CANTON, OHIO 44708

ATTN: BRENT BURRIER OR LEWI MILLER
330-489-3310

TRAFFIC INTERCONNECT
CITY ENGINEER'S OFFICE
2436-30TH ST. N.E.
CANTON, OHIO 44705
ATTN: NICK LOUKAS
330-489-3381

Dominion East Ohio Gas Line: It is the Contractor's responsibility to maintain the lateral and subjacent support of Dominion's pipelines, in compliance to 29 CFR, Part 1926, Subpart P, (Safe Excavation and Shoring). One-foot minimum vertical and horizontal clearance must be maintained between Dominion East Ohio's (DEO) existing pipeline(s) and all other improvements. Extreme care should be taken not to harm any DEO facility (pipelines, etc.) or appurtenance (pipe coating, tracer wire, cathode protection test station wires and devices, valve boxes, etc.). DEO facilities must be protected with a tarp during bridge construction. The contractor will be responsible and liable for ensuring that all DEO existing facilities, above and below ground, remain undamaged, accessible and in working order. The crossing of DEO's pipeline with another steel facility may create a potential corrosion issue for the proposed facility and the existing DEO facility. Please contact Dominion's Corrosion Department: Dave Cutlip (330-266-2121), Rick McDonald (330-266-2122), or Al Humrichouser (330-478-3757).

7) Construction Incidentals:

a. Maintenance of Utility Services:

The Contractor should expect at a minimum one sanitary sewer lateral, one roof drain, one water service, and one gas service for each lot.

b. Construction Noise: Construction noise associated with any improvement project shall be limited to levels commensurable with adjoining land and their associated usage as determined by the City Engineer. In order to minimize any adverse construction noise impacts, any power-operated construction-type devices shall not be operated between the hours of 7:00pm and 6:00am unless authorized by the City Engineer.

c. Trench Closing and Temporary Topping: The Contractor shall be responsible to determine the necessary levels of protection and safeguarding of all open trenches when work is either completed at the end of the day or suspended for any other reason. Cost of temporary topping to be incidental to the project. No separate pay item provided. For trench surface requirements, refer to note 4 on City of Canton Standard Drawing No. 19 Utility Trench Requirements.

d. Plug Existing Conduit: This item shall consist of the construction of bulkheads in an existing conduit to be abandoned.

Bulkheads shall consist of brick and/or concrete masonry with a minimum thickness of 12 inches.

Payment for plugging of existing conduit for abandonment shall be included in the unit bid of the various items if the project.

- e. Construction Layout: The contractor shall be responsible for all construction layout utilizing pertinent plan data. The City Engineer will not be responsible for staking horizontal or vertical control. Construction layout shall be in accordance with ODOT 623 Construction Layout Stakes.

At the City Engineer's request, the contractor shall make available all survey field notes for review.

- f. Existing Monumentation: The Contractor shall preserve all cornerstones, iron pins, concrete monuments and/or any type of land monument. The Contractor shall have all monuments in the proximity of the work referenced. The Contractor shall replace/reset any disturbed or damaged monuments and shall furnish a certification by a registered surveyor that the monuments have been restored.
- g. Elevation Datum and Benchmark: All elevations are based on the NAVD 1988 datum. Benchmark Elevation 1097.01ft; "E" on the word "OPEN" cast in the top bonnet flange of the fire hydrant at the southeast corner of Fawcett Ct NW and Glen Pl NW.
- h. Dewatering Operations: When deemed necessary, the Contractor may install dewatering equipment prior to the commencement of construction.

The proposed location of well points, header pipe, electrical distribution, generators, discharge pipes, etc. shall be the responsibility of the Contractor.

The Contractor shall be responsible for all permits for the installation and subsequent removal of dewatering equipment as well as proper water discharge procedures as may be required per state and local governing agencies.

Installation of all electrical equipment, including grounding and protection shall be the responsibility of the Contractor.

The Contractor shall provide all combustible engine driven generators with "Hospital Grade" mufflers. Mufflers shall be rated at a minimum of 67db at 23 feet away running full load.

- i. Inspection: Following the pre-construction meeting(s) and establishment of an approved schedule, the contractor shall give a minimum 48-hour notice before starting any work on this project and shall keep the City informed of his/her construction schedule. All work required for this improvement shall be subject to inspection by the City of Canton or their designated representative. No work shall be performed without an authorized inspector present, unless otherwise approved.

8) Earthwork/Site Work:

- a. Pavement Standards: Pavements are to be constructed in accordance with applicable City Standard Drawings (listed herein).
- b. Restricted Work Schedule: In general, work proposed shall be limited to the least amount of duration impact practical.

- c. Asphalt/Concrete: It shall be the responsibility of the contractor to notify the City Engineer 48 hours in advance of beginning work which requires compaction testing and/or pre-pour inspection prior to placement of asphalt or concrete. Work shall not proceed until testing and/or inspection has been completed and approved by the City Engineer.

9) Sanitary Sewers/Storm Sewers:

- a. Sewer Standards: All sanitary/storm sewer conduits and appurtenances shall be constructed according to applicable City of Canton Standard Drawings and Specifications (listed herein) and ODOT Specifications effective at the time of construction, unless specified otherwise in the plans.
- b. Review of Storm Drainage Facilities: Before any work is started on the project and again before final acceptance by the City, representatives of the City and the Contractor, along with local representatives, shall make an inspection of all existing sewers which are to remain in service and which may be affected by the work. The condition of the existing conduits and their appurtenances shall be determined from field observations. Records of the inspection shall be kept in writing by the City.

All new conduits, inlets, catch basins, and manholes constructed as part of the project shall be free of all foreign matter and in a clean condition before the project will be accepted by the City.

All existing sewers inspected initially by the above-mention parties shall be maintained and left in a condition reasonable comparable to that determined by the original inspection. Any change in the condition resulting from the Contractor's operations shall be corrected by the Contractor to the satisfaction of the City Engineer.

Payment for all operations described above shall be included in the contract price for the pertinent ODOT 611 conduit items.

- c. Unrecorded Storm Water Drainage: Furnish a continuance for any unrecorded storm water drainage encountered as directed by the City Engineer.

10) Reference No. 2 (ODOT Item No. 201): Clearing and Grubbing, As Per Plan: Clear and grub entire site, including all trees and stump removals, within the work limits as shown on plans.

11) Reference No. 3 (ODOT Item No. 202): Structures Removed, As Per Plan:

- a. All structures (houses, basements, garages, sheds, sidewalks, etc.) and obstructions shall be demolished/removed on the following properties:
 - 115 Fawcett Ct NW
 - 121 Fawcett Ct NW
 - 123 Fawcett Ct NW
 - 129 Fawcett Ct NW
 - 130 Fawcett Ct NW
 - 133 Fawcett Ct NW

Note: 126 Fawcett Ct. NW was demolished in 2019.

- b. Removal and disposal of existing sidewalks along the west side of the right-of-way of Fawcett Ct and along the frontage of 115, 121, 123, 129, and 133 Fawcett Ct NW shall be included in this item. Do not remove the existing sidewalk along the east side of the right-of-way of Fawcett Ct along the frontage of 126 and 130 Fawcett Ct NW.
- c. Demolitions must be performed by a Contractor licensed to perform demolitions in the City of Canton.
- d. Demolition Permits must be obtained through the City of Canton Building Dept. (424 Market Ave N; 3rd Floor, Canton OH 44702; Phone: 330-430-7800). All conditions of demo permits apply unless otherwise waived by the City Building Dept.
- e. Asbestos must be abated in accordance with applicable requirements and permits. See Asbestos Survey Reports for each property. Contractor shall coordinate with the City of Canton Health Department (Jaclyn Hupp; 330-438-4663) to ensure proper EPA notifications. Costs of asbestos abatement shall be included in this item.
- f. Existing sidewalks within and in front of referenced properties shall be removed and included in this item except for the sidewalk along the east side of Fawcett Ct in front of 126 and 130 Fawcett Ct. Costs for removal of sidewalks shall be included in this item.
- g. Costs of hauling and disposal of all materials associated with this item shall be included in this item.
- h. Costs of all asbestos abatement, demolition, and associated removal, hauling, and disposal shall be included in this item.

12) Reference No. 5 (ODOT Item No. 203): Excavation, As Per Plan: This item includes all work and costs associated with excavation, grading, removal, and hauling of excavated dirt required for construction of the detention basins.

- a. "NE Detention Basin": This is the detention basin to be located in the vicinity of the NE corner of Fawcett Ct NW and Glen Pl NW and within the two lots identified as 126 and 130 Fawcett Ct NW. Construction of this detention basin will be an expansion of the existing basin at 126 Fawcett Ct NW.
- b. "NW Detention Basin": This is the detention basin to be constructed in the vicinity of the NW corner of Fawcett Ct NW and Glen Pl NW and within the two lots identified as 129 and 133 Fawcett Ct NW.
- c. "SW Detention Basin": This is the detention basin to be constructed in the vicinity of the SW corner of Fawcett Ct NW and Glen Pl NW and within the three lots identified as 115, 121, and 123 Fawcett Ct NW.
- d. Side slopes within detention basin are general designed to be 4:1 (Horizontal:Vertical). No slopes shall be steeper than 4:1.
- e. Excavate to allow for 4-inches of topsoil to be placed in all areas within the work limits.

13) Reference No. 6 (ODOT Item No. 611): 12" Conduit, Type C, As Per Plan:

- a. Conduit shall be ODOT 707.33 Corrugated Polyethylene Smooth Lined Pipe.
- b. Conduits are needed for outlets of the NW Detention Basin and the SW Detention Basin only. (The NE Detention Basin has an existing 6-inch storm sewer outlet). Connect to the back of the existing catch basins as shown on the plans.
- c. A 12-inch round culvert galvanized steel safety grate (or approved equal) shall be installed on the upper end (inlet end) of each of the two (2) HDPE storm sewer outlets (from the NW Detention Basin and the SW Detention Basin). The cost of the safety grates shall be included in this item.
- d. Install full-height concrete headwalls at the upper/inlet ends of the 12-inch conduits. The cost of the headwalls shall be included in this item.
- e. Install silt fence at the inlets of the three (3) detention basin outlet pipes to protect from sediment entering the storm sewer systems. The cost of the silt fence shall be included in this item.

14) Reference No. 7 (ODOT Item No. 608): Concrete Walk, As Per Plan:

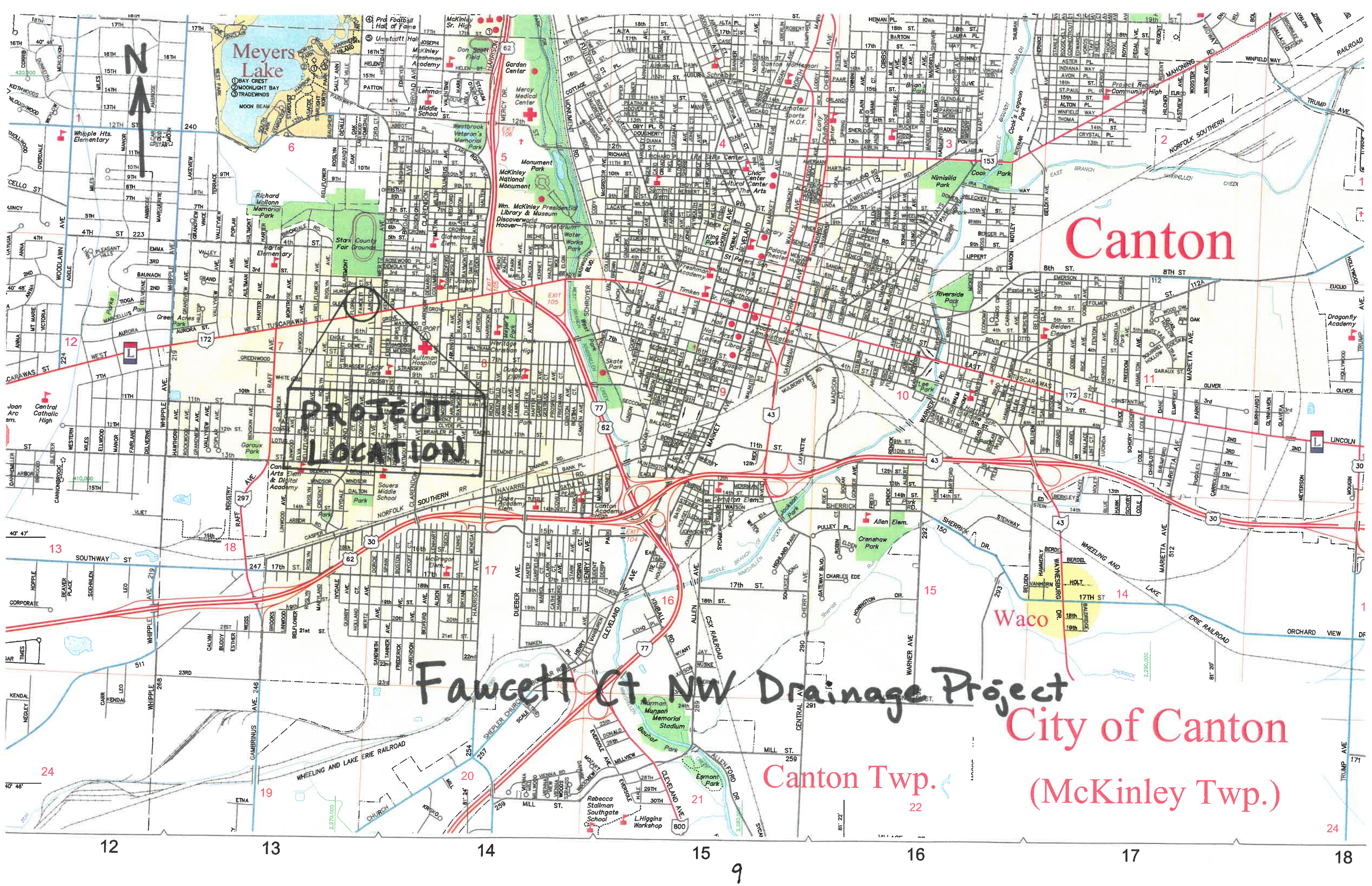
- a. Existing sidewalks along frontage of 115, 121, 123, 129, and 133 Fawcett Ct NW shall be removed and replaced at same line and general grade of existing sidewalks. Sidewalks shall be 5ft-wide, 4in-thick residential sidewalks in accordance with ODOT 608.
- b. In 2019, approximately 130-ft of new 4-in-thick sidewalk was installed along the frontage of 126 and 130 Fawcett Ct. NW. Contractor shall take precautions to protect this sidewalk from damage during the project. Any damage done by the contractor to this sidewalk shall be repaired to the satisfaction of the City Engineer and at the contractor's expense.

15) Reference No. 8 (ODOT Item No. 608): Curb Ramp, As Per Plan: Install Type B3 ramp per City of Canton Standard Drawing No. 33. Asphalt pavement restoration shall be incidental to the cost of this work.

16) Reference No. 9 (ODOT Item No. 653): Topsoil, Furnished and Placed, As Per Plan: Topsoil shall be placed in 4-inch thickness across entire work limits (except where sidewalks are located) and any other areas disturbed by the Contractor.

17) Reference No. 10 (ODOT Item 659): Seeding and Mulching, As Per Plan: Seed and mulch all areas in which topsoil is placed (per Note 16).

18) Existing Drive Easements: Contractor shall avoid existing driveway easement areas as shown on the plans as well as portions of existing driveways outside of drive easements that are marked "Do not disturb" on the plan sheets.



Canton

PROJECT LOCATION

Fawcett Ct NW Drainage Project

City of Canton

Canton Twp.

(McKinley Twp.)

12

13

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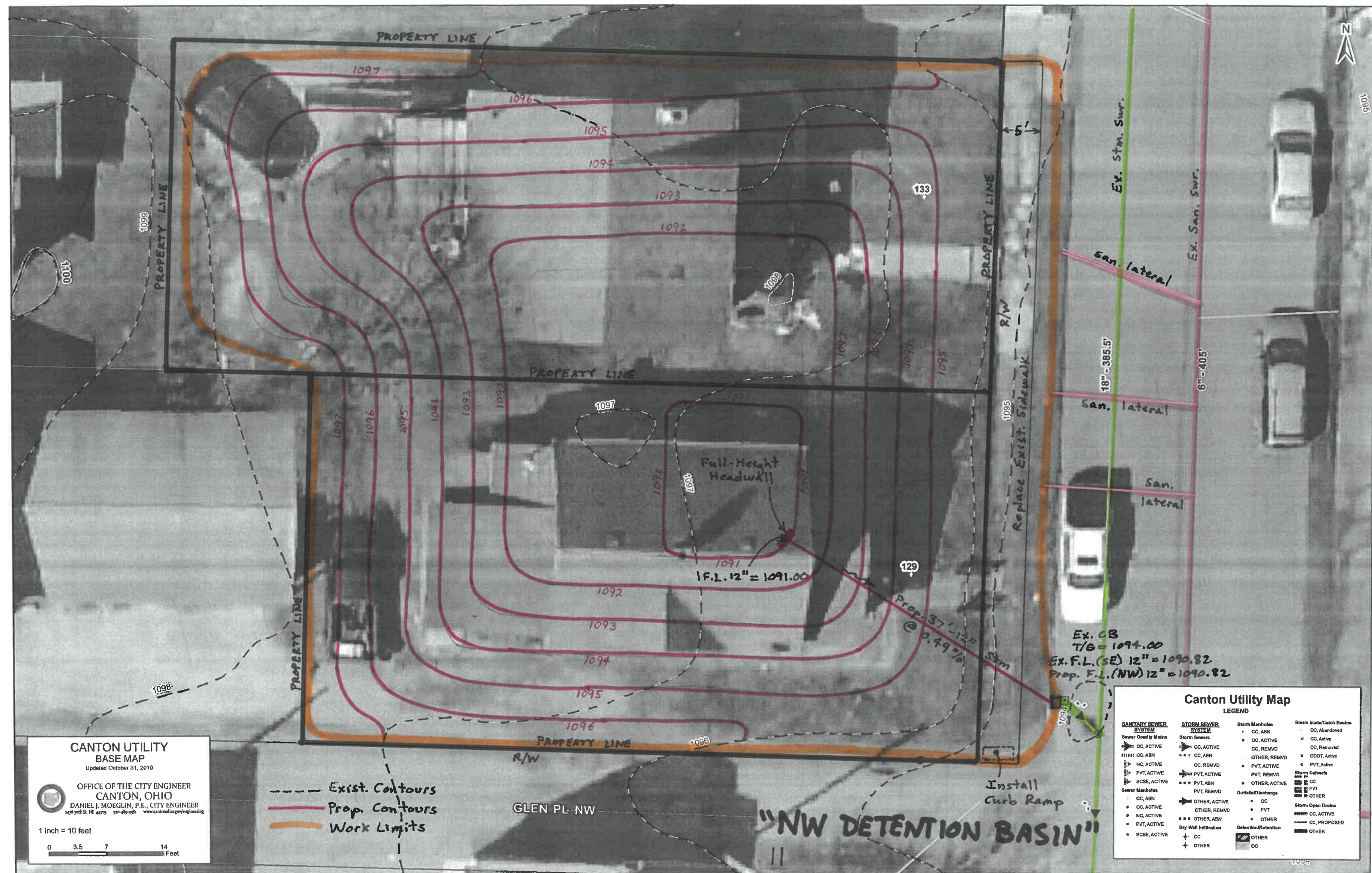
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NOTES:

1. BEDDING:

MATERIALS SHALL BE AASHTO M 43 NO. 56, 57, OR 67 CRUSHED STONE. NO ALTERNATES UNLESS APPROVED BY THE CITY ENGINEER. PRIVATE UTILITIES MAY TYPICALLY PROVIDE ALTERNATIVE BEDDING MATERIAL AS APPROVED BY THE CITY ENGINEER.

BEDDING WIDTH TABLE

PIPE TYPE	MIN. WIDTH, TYP.	MAX. WIDTH, TYP.
NON-RIGID PIPE (PVC, HDPE, CMP, ALUMINUM)	PIPE I.D. x 1.25 + 1'-0"	PIPE O.D. + 2'-0"
RIGID PIPE (CONC., VIT. CLAY, DUCTILE IRON)	PIPE I.D. x 1.33	PIPE O.D. + 2'-0"

CENTER PIPE HORIZONTALLY WITHIN BEDDING AREA. ANY DEVIATION TO TYPICAL BEDDING REQUIREMENTS ARE SUBJECT TO THE DISCRETION OF THE CITY ENGINEER.

THE BEDDING LIMITS SHOWN APPLY IN ALL CASES EXCEPT FOR WHEN PIPE MANUFACTURER SPECIFIES A BEDDING WIDTH DIFFERENT FROM THAT SHOWN AND THE CITY ENGINEER PERMITS SAME.

2. BACKFILL:

BACKFILL WITHIN THE PUBLIC STREET R/W:

MATERIALS SHALL BE ODOT 703.11, TYPE '1' GRANULAR MATERIAL (304, 411, or 617 AGGREGATE GRADATION) OR TYPE '2' GRANULAR MATERIAL, OR ODOT 613, LOW STRENGTH MORTAR; DEVIATIONS FROM THIS ARE AS FOLLOWS:

A) NO FOUNDRY SAND OR SLAG IS PERMITTED.

B) ALTERNATE GRANULAR MATERIAL SHALL BE PERMITTED ONLY WITH THE SUPPLEMENTAL APPROVAL OF THE CITY ENGINEER. TO PETITION FOR SUCH SUPPLEMENTAL APPROVAL, THE DEVELOPER/CONTRACTOR SHALL SUBMIT IN WRITING THE FOLLOWING:

- * SOURCE OF THE ALTERNATE BACKFILL MATERIAL.
- * GRADATION REPORT IN ACCORDANCE WITH AASHTO T II AND T 27.
- * PROCTOR CURVE ANALYSIS IN ACCORDANCE WITH ASTM D 698.
- * PROPOSED COMPACTION METHOD.

THE CITY ENGINEER RESERVES THE RIGHT TO REFUSE ANY ALTERNATE BACKFILL MATERIAL, REGARDLESS OF APPROVAL OF SIMILAR MATERIAL ON A PREVIOUS PROJECT.

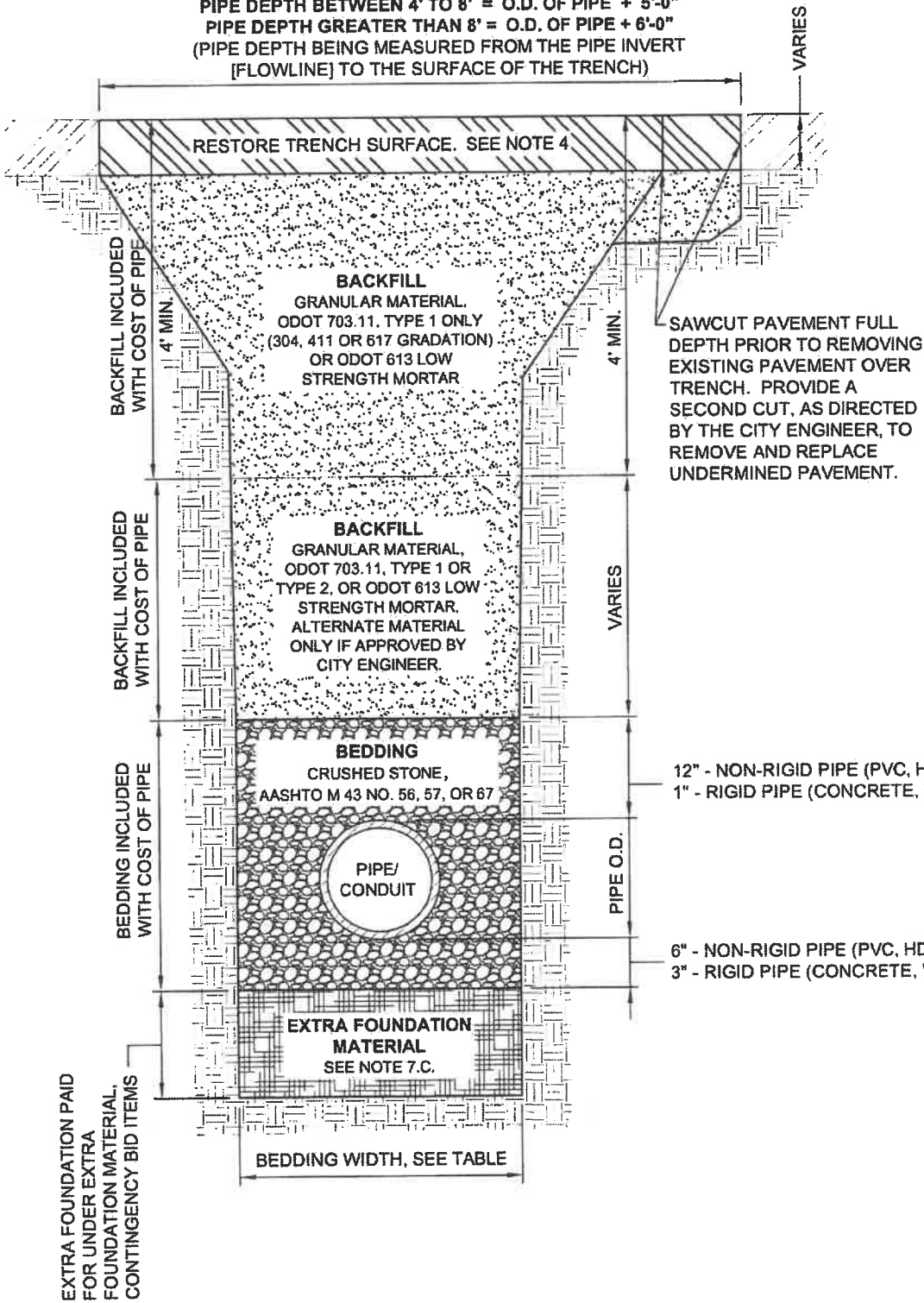
THE CITY ENGINEER FURTHER RESERVES THE RIGHT TO REFUSE ANY ALTERNATE BACKFILL MATERIAL THE CITY FINDS NOT CONSISTENT WITH THE APPROVED SOURCE, GRADATION REPORT, PROCTOR REPORT, OR COMPACTION METHOD.

C) ODOT 703.11, TYPE 2, OR ALTERNATE MATERIALS ARE NOT PERMITTED WITHIN 4 FEET OF THE TRENCH SURFACE, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.

BACKFILL OUTSIDE OF THE PUBLIC STREET R/W:

FOLLOW MATERIAL AND METHODS FOR BACKFILL IN ACCORDANCE WITH ODOT 603.

PAVEMENT OR SURFACE REPLACEMENT MAXIMUM PAY LIMITS
PIPE DEPTH OF 4' OR LESS = O.D. OF PIPE + 4'-0"
PIPE DEPTH BETWEEN 4' TO 8' = O.D. OF PIPE + 5'-0"
PIPE DEPTH GREATER THAN 8' = O.D. OF PIPE + 6'-0"
(PIPE DEPTH BEING MEASURED FROM THE PIPE INVERT [FLOWLINE] TO THE SURFACE OF THE TRENCH)



NOTES: (CONTINUED)

3. COMPACTION:

ALL BACKFILL SHALL BE PLACED IN LAYERS NOT TO EXCEED 12-INCHES LOOSE DEPTH AND COMPACTED BY APPROVED MECHANICAL MEANS. JETTING IS NOT APPROVED WITHOUT THE CITY ENGINEER'S APPROVAL. BUCKET COMPACTION MUST BE SUPPLEMENTED WITH VIBRATION OR TAMPING EQUIPMENT AS DIRECTED. ANY MODIFICATIONS TO THESE REQUIREMENTS MUST BE APPROVED BY THE CITY ENGINEER.

4. SURFACE:

TRENCHES SHALL BE TOPPED WITH 4" OF ODOT 304 LIMESTONE OR ASPHALT GRINDINGS WITHIN EXISTING STREET PAVEMENTS WHEN THE STREET WILL BE OPENED TO VEHICULAR TRAFFIC PRIOR TO PAVEMENT REPLACEMENT. THE TRENCH TOPPING MATERIAL SHALL BE ROLLED OR OTHERWISE COMPLETED FLUSH WITH THE ADJOINING PAVEMENT.

STREET RESTORATION:
CONCRETE OR ASPHALT STREET PAVEMENT SHALL BE REPLACED IN ACCORDANCE WITH CITY STD. DWG. NO. 32. BRICK OR ASPHALT-BRICK COMPOSITE STREET PAVEMENT SHALL BE REPLACED IN ACCORDANCE WITH CITY STD. DWG. NO. 31.

SIDEWALK, CURB, AND DRIVEWAY RESTORATION:
DRIVEWAY SURFACES SHALL BE REPLACED IN ACCORDANCE WITH THE CURRENT EDITION OF THE CITY OF CANTON SPECIFICATIONS FOR THE CONSTRUCTION, REPAIR, AND REPLACEMENT OF SIDEWALKS, CURBS, AND DRIVEWAYS; AND CITY STD. DWG. NOS. 28 THRU 33.

LAWN RESTORATION:
LAWN SURFACES SHALL BE REPLACED WITH A MINIMUM OF 4" TOPSOIL, SEEDED, AND MULCHED. SEED MIX SHALL CONFORM TO ADJOINING LAWN GRASS.

5. CONSTRUCTION METHODS FOR BEDDING AND BACKFILL SHALL CONFORM WITH ODOT 603, UNLESS STATED OTHERWISE HEREIN.

6. ODOT REFERENCES ARE FROM THE CURRENT ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS. ANY DISCREPANCIES SHALL BE SUBJECT TO THE CITY ENGINEER'S DISCRETION.



OFFICE OF THE CITY ENGINEER
CANTON, OHIO

DANIEL J. MOEGLIN, P.E., CITY ENGINEER
2436 30th St. NE 44705 330-489-3381 www.cantonohio.gov/engineering

APPROVED DATE: JAN 2012

APPROVED BY: CDB, RMB, SLH

DRAWING FILE NAME: ce_19.dwg

REVISIONS

DESCRIPTION	DATE	BY
REVISIONS TO NOTES 7 & 8	6/4/2012	CDB
REVISIONS TO NOTES 7	6/10/2013	CDB

STANDARD DRAWING NO. 19

UTILITY TRENCH
REQUIREMENTS

SHEET 1 OF 2

NOTES: (CONTINUED)

7. PAY LIMITS FOR CITY PROJECTS

- A) **BEDDING AND BACKFILL** IS INCLUDED WITH THE COST OF PIPE UNLESS DIRECTED TO BID OTHERWISE.
- B) **PAVEMENT RESTORATION** IS INCLUDED WITH THE COST OF PIPE UNLESS A SEPARATE PAY ITEM IS PROVIDED, WHEREBY THE WIDTH MEASUREMENT OVER THE TRENCH FOR PAVEMENT RESTORATION SHALL NOT EXCEED THE OUTSIDE DIAMETER (O.D.) OF PIPE PLUS A SET MEASUREMENT DEPENDENT ON DEPTH OF PIPE. AREA MEASUREMENTS AT MANHOLE AND CATCH BASIN STRUCTURES SHALL NOT EXCEED THE AREA OF THE BASE OF THE STRUCTURE + 3'-0" OFFSET AREA AROUND THE STRUCTURE'S BASE.
- C) **EXTRA FOUNDATION MATERIAL:** THE CONTRACTOR SHALL BE PAID FOR OVER-EXCAVATION AND BEDDING FOUNDATION MATERIAL UNDER THE CONTINGENCY BID ITEMS FOR EXTRA FOUNDATION MATERIAL.

WHEN IN THE OPINION OF THE CITY ENGINEER, SOFT/UNSTABLE MATERIALS ARE ENCOUNTERED WHICH ARE UNSUITABLE FOR BEDDING FOUNDATION, SAID MATERIAL SHALL BE REMOVED BY THE CONTRACTOR TO THE DEPTH DIRECTED BY THE ENGINEER AND REPLACED WITH SUITABLE MATERIAL.

FOR CITY PROJECTS, THE PAYABLE WIDTH OF THE EXTRA FOUNDATION MATERIAL SHALL NOT EXCEED THE LESSER OF THE APPLICABLE MINIMUM OR MAXIMUM TYPICAL BEDDING WIDTH, AS NOTED ON SHEET 1 OF STD. DWG. NO. 19.

FOR PRIVATE WORK, ALL COSTS ARE AT THE OWNER'S EXPENSE.

EXTRA FOUNDATION MATERIAL, OPTION A, B, C, & D, MAY BE USED IN ANY COMBINATION AS DIRECTED BY THE CITY ENGINEER:

OPTION A: CRUSHED STONE, AASHTO M 43 NO. 1 AND/OR 2

OPTION B: CRUSHED STONE, AASHTO M 43 NO. 56, 57, OR 67

OPTION C: ODOT 703.11, TYPE 1 (304, 411 OR 617 GRADATION)

OPTION D: TENSAR GEOGRID T1100, OR APPROVED EQUAL

EXTRA FOUNDATION MATERIAL, CONTINGENCY BID ITEMS

ITEM	QTY.	UNIT	DESCRIPTION
603		C.Y.	EXTRA FOUNDATION, OPTION A (#1,#2 STONE)
603		C.Y.	EXTRA FOUNDATION, OPTION B (#56,57,67 STONE)
603		C.Y.	EXTRA FOUNDATION, OPTION C (304,411,617)
603		S.F.	EXTRA FOUNDATION, OPTION D (GEOGRID)

NOTES: (CONTINUED)

8. EXCAVATION OF ROCK OR BURIED/ABANDONED CONCRETE STRUCTURE REMOVAL

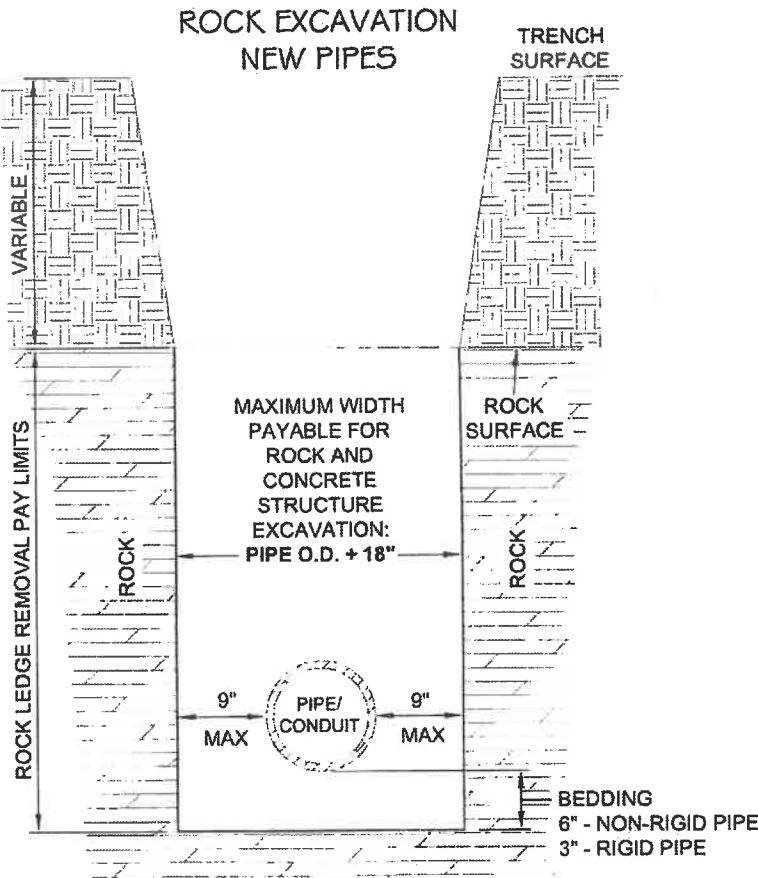
EXCAVATION FOR NEW MANHOLES AND CATCH BASINS, UNLESS OTHERWISE SPECIFIED OR SHOWN ON CONSTRUCTION PLANS, SHALL BE MEASURED BETWEEN VERTICAL PLANES ONE (1) FOOT BEYOND THE OUTSIDE EDGE OF THE FOUNDATION OF THE STRUCTURES ON ALL SIDES, AND PARALLEL THERETO, AND FROM THE SURFACE OF THE ROCK TO THE BOTTOM OF THE ROCK OR THE NEAT LINES OF THE BOTTOM OF THE STRUCTURES PLUS THE DEPTH OF THE BASE MATERIAL, USE THE MEASUREMENT WHICH IS LESSER.

EXCAVATION FOR NEW PIPES, UNLESS OTHERWISE SPECIFIED OR SHOWN ON CONSTRUCTION PLANS, SHALL BE MEASURED BETWEEN TRENCH WALLS (NOT TO EXCEED PIPE O.D. + 18", AND FROM THE SURFACE OF THE ROCK TO THE BOTTOM OF THE ROCK OR THE BOTTOM OF THE PIPE BEDDING, USE THE MEASUREMENT WHICH IS LESSER.

EXCAVATION OF BURIED AND ABANDONED CONCRETE STRUCTURES SHALL BE MEASURED IN THE SAME MANNER AS ROCK REMOVAL.

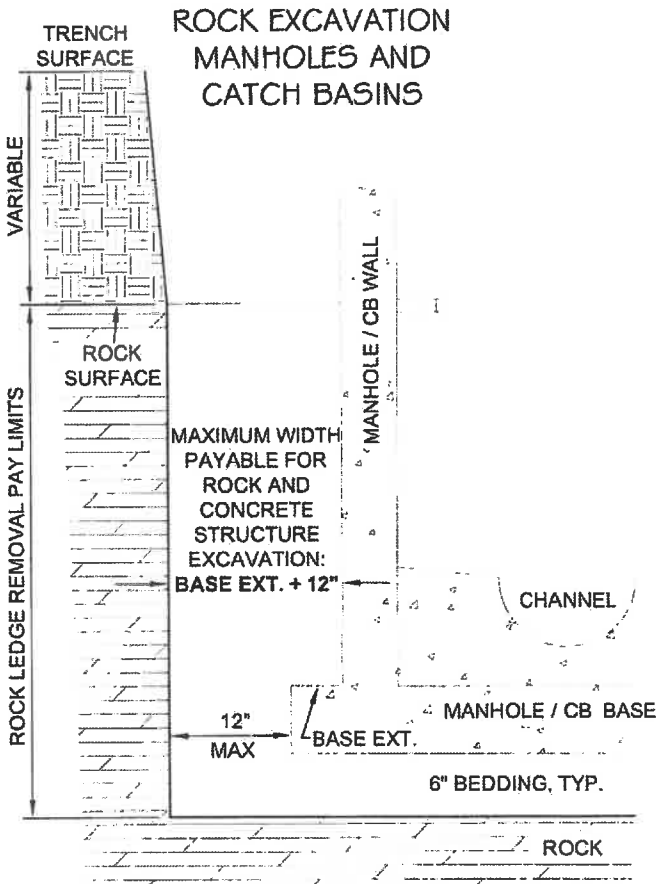
FOR CITY PROJECTS, THE CONTRACTOR SHALL BE PAID FOR ROCK REMOVAL AND CONCRETE STRUCTURE REMOVAL UNDER THE CONTINGENCY BID ITEMS FOR ROCK OR CONCRETE STRUCTURE REMOVAL. IF A CONTINGENCY BID ITEM IS NOT INCLUDED IN THE BID PROPOSAL, THE CONTRACTOR MAY SUBMIT A PROPOSAL (PRIOR TO WORK BEING STARTED) TO THE CITY ENGINEER FOR REVIEW AND APPROVAL.

FOR PRIVATE WORK, ALL COSTS ARE AT THE OWNER'S EXPENSE.



ROCK AND BURIED & ABANDONED CONCRETE STRUCTURE REMOVAL, CONTINGENCY BID ITEMS

ITEM	QTY.	UNIT	DESCRIPTION
603		C.Y.	ROCK REMOVAL
603		C.Y.	CONCRETE STRUCTURE REMOVAL



OFFICE OF THE CITY ENGINEER
CANTON, OHIO
DANIEL J. MOEGLIN, P.E., CITY ENGINEER
2436 30th St. NE 44705 330-489-3381 www.cantonohio.gov/engineering

APPROVED DATE: JAN 2012

APPROVED BY: CDB, RMB, SLH

DRAWING FILE NAME: ce_19.dwg

REVISIONS

DESCRIPTION	DATE	BY
REVISIONS TO NOTES 7 & 8	6/4/2012	CDB
REVISIONS TO NOTES 7	6/10/2013	CDB

STANDARD DRAWING NO. 19
UTILITY TRENCH
REQUIREMENTS

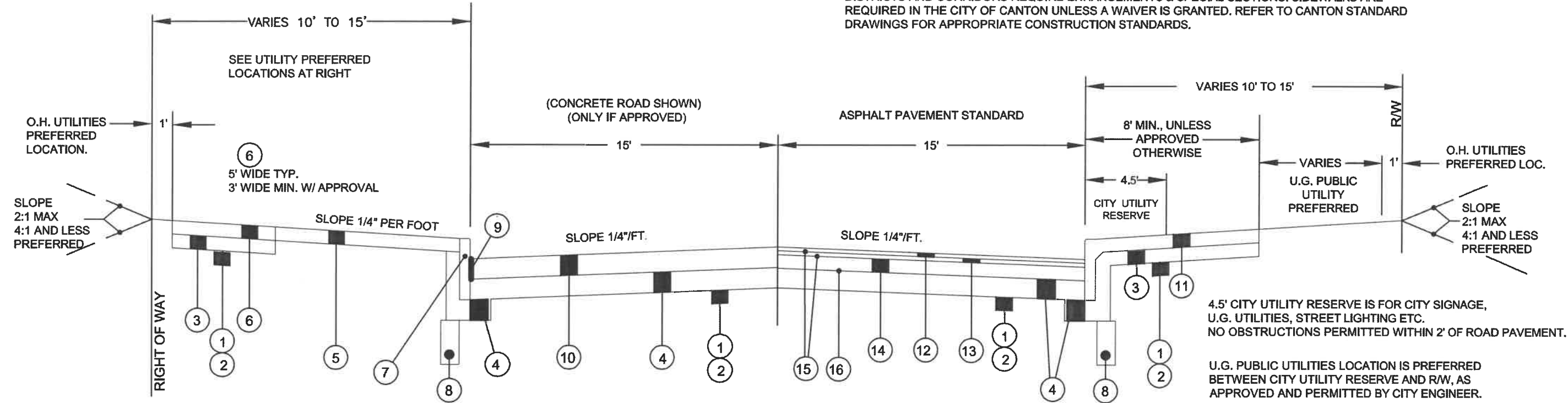
SHEET 2 OF 2

ODOT REFERENCES ARE 2019 CMS -
CROSS REFERENCE TO CURRENT CMS
AT TIME OF CONSTRUCTION.

ALL CURB AND WALK CONSTRUCTION TO
CONFORM TO CURRENT CITY OF CANTON
SPECIFICATIONS FOR THE CONSTRUCTION,
REPAIR AND REPLACEMENT OF SIDEWALKS,
CURBS AND DRIVEWAYS.

GENERAL CRITERIA

PAVEMENT WIDTHS ARE TRADITIONALLY AND TYPICALLY 3/5THS THE RIGHT OF WAY WIDTH. LANE
WIDTHS ARE 12 FT. TYP., AND PARKING WIDTHS ARE 8 FT. TYPICAL (2' - 3' APRON EA. SIDE). BY ORD. -
MIN. 28 FT. PAVEMENT REQUIRED FOR PARKING I-SIDE - 32 FT. PREFERRED. BUSINESS/COMMERCIAL
DISTRICTS AND MAJOR STREET CORRIDORS REQUIRE SPECIAL SECTIONS. SPECIAL IMPROVEMENT
DISTRICTS AND CORRIDORS REQUIRE ENHANCEMENTS & SPECIAL SECTIONS. SIDEWALKS ARE
REQUIRED IN THE CITY OF CANTON UNLESS A WAIVER IS GRANTED. REFER TO CANTON STANDARD
DRAWINGS FOR APPROPRIATE CONSTRUCTION STANDARDS.



- 1 203 - EXCAVATION & EMBANKMENT
- 2 204 - SUBGRADE COMPACTION
- 3 304 - 4" AGGREGATE BASE
- 4 304 - 6" AGGREGATE BASE
NO FOUNDRY SAND, ACBFS,
GRANULATED SLAG OR OTHER SLAG
PERMITTED IN ODOT 304 BASE
- 5 659 - LAWNSTRIP; 4" TOPSOIL / SEED / MULCH
CLASS 1 LAWN MIX
SEE NOTE 5a.
- 6 608 - CONCRETE WALK
4" THICK - RESIDENTIAL
5" THICK - COMMERCIAL
ODOT 499 CLASS "QC" CONCRETE; SEE CURRENT
CITY SPECS FOR CURB / WALK CONSTRUCTION.

- 7 609 - CONC. CURB - CITY STD. 30 OR ODOT TYPE 6.
ODOT 499 CLASS "QC" CONCRETE; SEE CURRENT
CITY SPECS FOR CURB / WALK CONSTRUCTION.
- 8 605 - 4" PIPE UNDERDRAIN - (M) TYP. - NO. 8 STONE
BEDDING (NO ACBFS) - FILTER SLEEVE.
- 9 705.03 - 1/2" PREFORMED JOINT W/ SEALER
- 10 452 - 6" PLAIN PORTLAND CEMENT CONC. PAVEMENT,
ODOT 499 CLASS "QC" CONCRETE
- 11 608 - CONCRETE WALK - CITY STD. 29, TYPE III.
ODOT 499 CLASS "QC" CONCRETE; SEE CURRENT
CITY SPECS FOR CURB / WALK CONSTRUCTION.

- 12 441 - 1-1/2" ASPHALT CONC. SURFACE COURSE, TYPE I
- 13 441 - 1-1/2" ASPHALT CONC. INTERMEDIATE COURSE, TYPE I
- 14 301 - 4" ASPHALT CONC. BASE
- 15 407 - TACK COAT (USE RUBBERIZED TACK FOR APSHALT OVERLAY ON
PORTLAND CEMENT CONCRETE OR BRICK PAVEMENT)
- 16 408 - PRIME COAT

5a LAWN STRIPS LESS THAN 3.5' WIDE ARE
NOT PERMITTED UNLESS APPROVED BY THE
ENGINEER. COMBINED CURB/WALK IS STANDARD
IN THIS INSTANCE, USE CITY STD DWG NO. 29.

READ FOR ALL NEW STREET CONSTRUCTION AND IMPROVEMENT THE
OWNER/DEVELOPER SHALL PROVIDE A TYPICAL SECTION
PREPARED BY A PROFESSIONAL ENGINEER TO BE
REVIEWED AND APPROVED BY THE CITY ENGINEER.



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APPROVED DATE: OCT 2014

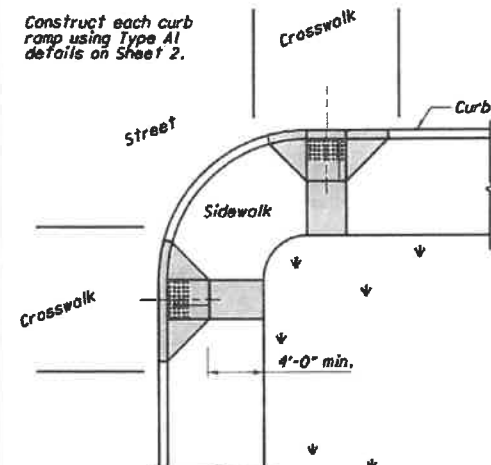
APPROVED BY: RMB

DRAWING FILE NAME: ce_32.dwg

REVISIONS

DESCRIPTION	DATE	BY
ASPHALT SPEC. UPDATE	2/26/2019	RMB
CONCRETE SPEC. UPDATE	11/20/2019	RMB

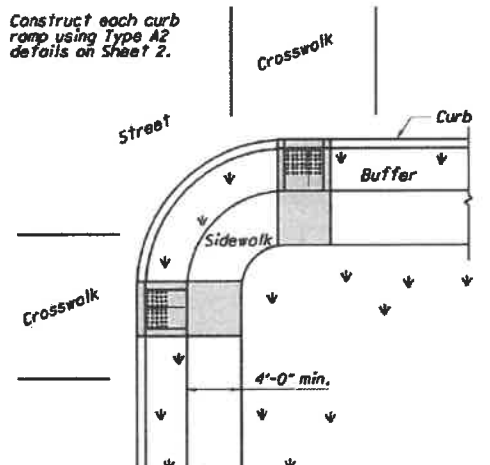
STANDARD DRAWING NO. 32
MINIMUM PAVEMENT STANDARDS
FOR LOCAL STREETS



Construct each curb ramp using Type A1 details on Sheet 2.

Use curb ramps with flared sides at locations with wide sidewalks.

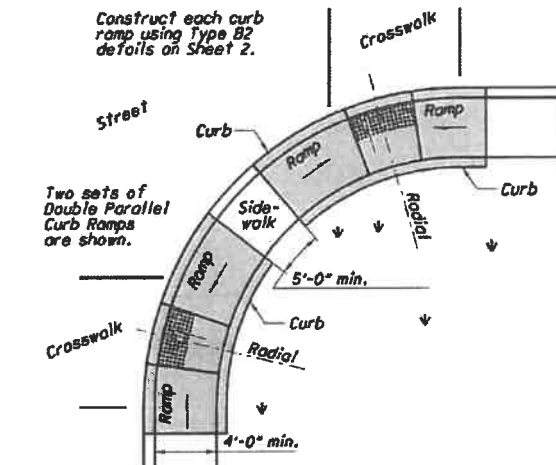
PERPENDICULAR CURB RAMPS



Construct each curb ramp using Type A2 details on Sheet 2.

Use curb ramps with returned curbs where buffer is wide enough to accommodate ramp slope.

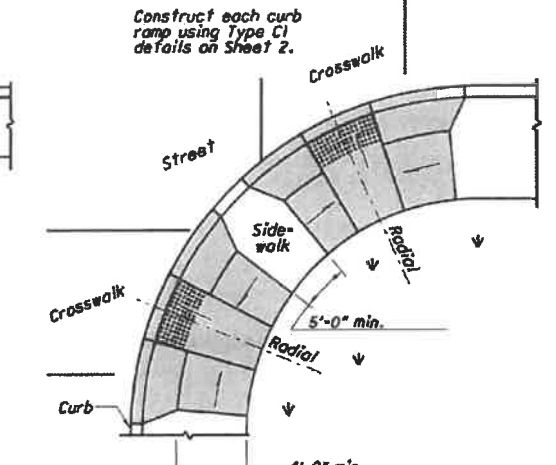
PARALLEL CURB RAMPS



Construct each curb ramp using Type B2 details on Sheet 2.

Place on streets having wide turning radius and where sidewalks are narrow.

PREFERRED CONSTRUCTION PLACEMENT



Construct each curb ramp using Type C1 details on Sheet 2.

Curb ramp placement where streets have wide turning radius, and sufficient sidewalks width.

COMBINATION CURB RAMPS

NOTES

GENERAL: This drawing shows curb ramp types details and placement examples for curb ramp construction, including the installation of detectable warnings.

Curb ramp types are shown on Sheet 2 and include Perpendicular, Parallel, and Combined types as specified to be constructed in the locations shown on the project plans.

Curb ramps added to an existing intersection or walk should be individually detailed on the project plans to assure that the design is appropriate for site constraints and all items can be constructed to ADA standards. The contractor may adjust the placement of curb ramps if existing field conditions warrant with the approval of the Engineer.

DETECTABLE WARNINGS: Install Detectable Warnings on each curb ramp with approved materials, as shown on Sheet 3. Install these proprietary products as per manufacturer's written instructions.

DRAINAGE: Contractor is to ensure the base of each constructed curb ramp allows for proper drainage, without exceeding allowable cross slope or ramp slopes. Vertical change in level exceeding 1/8" between the 1) pavement and gutter, and 2) gutter and ramp, are not allowed.

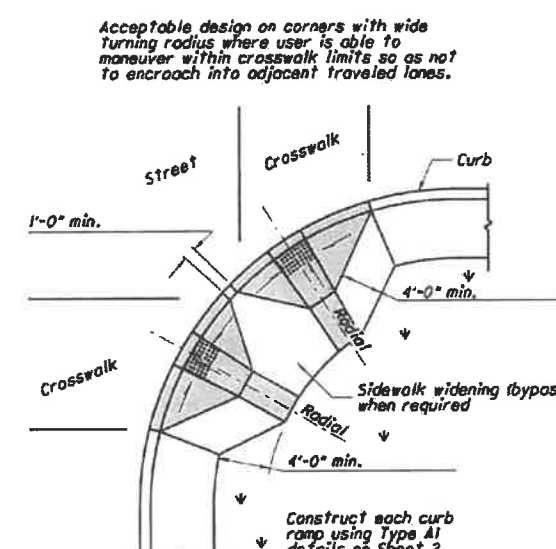
SURFACE TEXTURE: Texture concrete surfaces by coarse brooming transverse to the ramp slopes to be rougher than the adjacent walk.

JOINTS: Provide expansion joints in the curb ramp as extensions of walk joints and consistent with Item 608.03 requirements for a new concrete walk. Provide a 1/2" Item 105.03 expansion joint filler around the edge of ramps built in existing concrete walks. Lines shown on this drawing indicate the ramp edges and slope changes, and do not necessarily indicate joint lines.

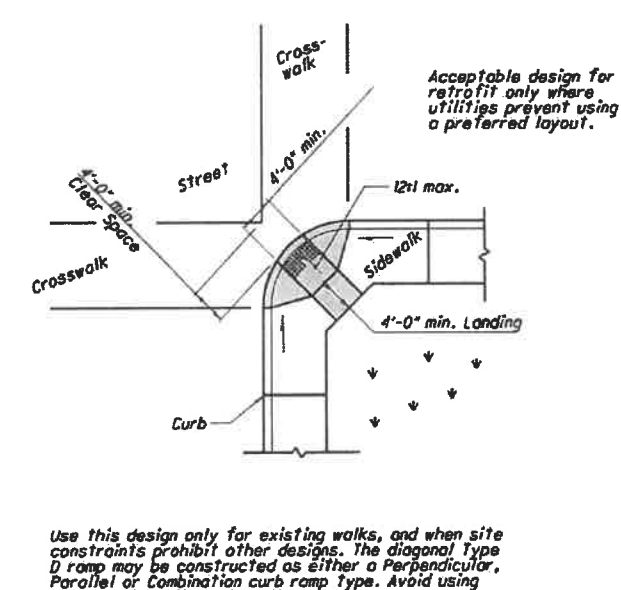
PAYMENTS: Measure and pay for the ramp area within the shaded limits of this drawing as Item 608 Curb Ramp, Square Foot. This includes the cost of the ramp curbing, detectable warnings, landing areas and any additional materials, installation, grading, forming, and finishing required within the shaded area.

Work beyond the shaded ramp/landing area is paid for as curb (609) and walk (608). Removal of existing curb, walk for existing curb ramps are paid under Item 202.

For at-grade crossing locations where only detectable warnings are required in order to achieve ADA compliance, measure and pay for the strip of detectable warnings as Item 808 Detectable Warning, Square Foot. The work to cast the tiles in place will also require removal of existing pavement (Item 202) to the nearest joint, or if no joint exists, a minimum of 4 feet.



PERPENDICULAR RAMPS



DIAGONAL RAMP (Type D)

ACCEPTABLE CONSTRUCTION PLACEMENT

THIS DRAWING REPLACES BP-7.1 DATED 1-19-07.

STATE OF OHIO DEPARTMENT OF TRANSPORTATION	DATE
10-15-10	
STATE ENGINEER	ADMINISTRATOR
M. Blinn	
OFFICE OF ROADWAY ENGINEERING	
STANDARD ROADWAY CONSTRUCTION DRAWING	
NEW CURB RAMPS	
(with Detectable Warnings)	
SD NUMBER	
BP-7.1	
1/3	

THE CITY'S STANDARD WHEEL CHAIR RAMP IS THE ODOT BP-7.1 WITH THE MODIFICATIONS NOTED. SEE SHEET 4 OF 4 FOR CITY'S APPROVED TRUNCATED DOME PRODUCTS.

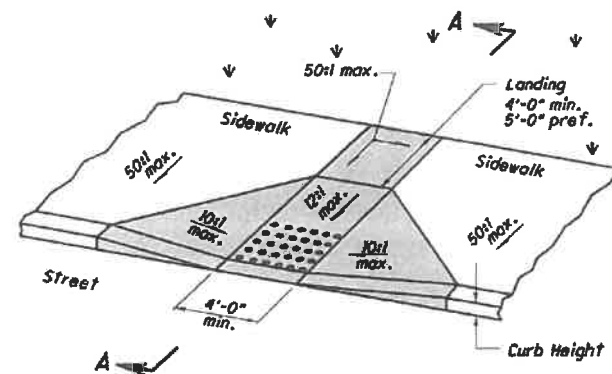


OFFICE OF THE CITY ENGINEER
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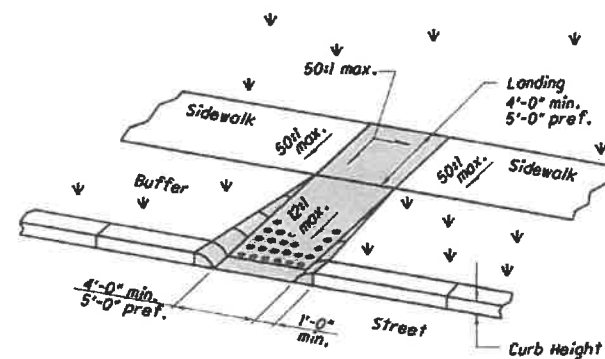
APPROVED DATE: MAY 2012
APPROVED BY: RMB
DRAWING FILE NAME: ce_33.dwg

REVISIONS		
DESCRIPTION	DATE	BY
REVISIONS	6/29/12	RMB
WET PANELS PRIMARY DOME MAT	JAN 2015	RMB

STANDARD DRAWING NO. 33
WHEEL CHAIR RAMP
SHEET 1 OF 4

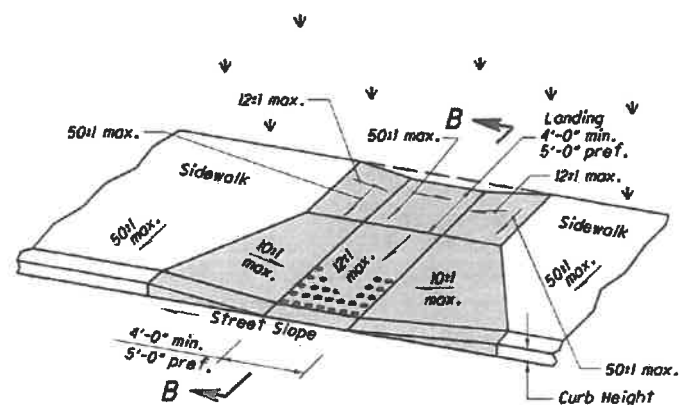


Type A1 (Perpendicular with flared sides)

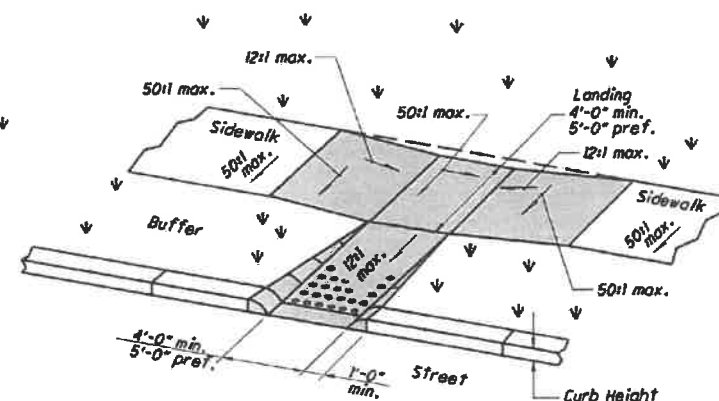


Type A2 (Perpendicular with returned curb)

PERPENDICULAR CURB RAMP DETAILS

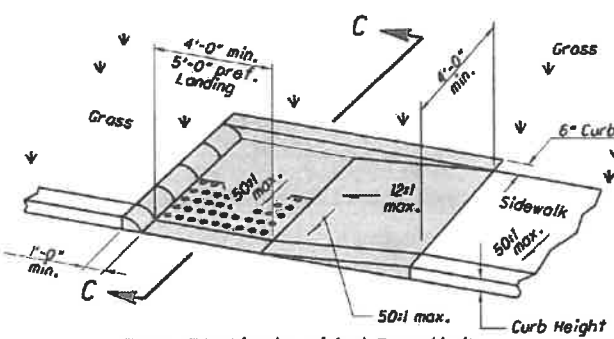


Type C1 (Combined with flared sides)

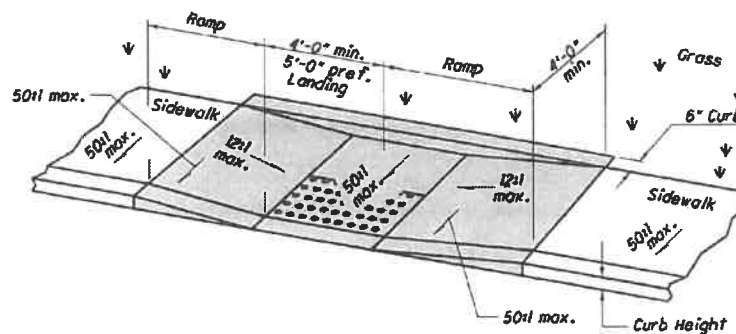


Type C2 (Combined with returned curb)

COMBINED CURB RAMP DETAILS

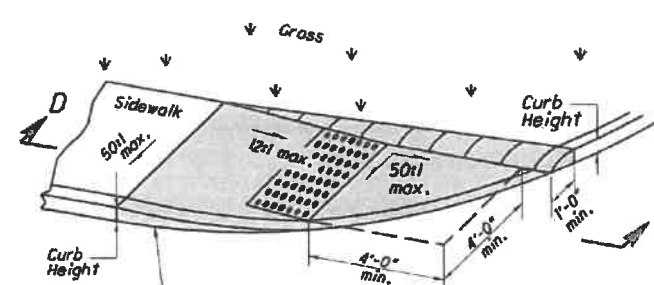


Type B1 (Single sided Parallel)



Type B2 (Double sided Parallel)

PARALLEL CURB RAMP DETAILS



Type B3 (Single sided Parallel)

NOTES

The running slope of the ramp is preferred to be 12:1 or flatter. In existing sidewalks, where the maximum ramp slope is not feasible due to site constraints (e.g. utility poles or vaults, right-of-way limits) it may be reduced as follows:

- A) 10:1 for a max. rise of 6".
- B) 8:1 for a max. rise of 3".
- C) 6:1 over a max. run of 2'-0" for historic areas where a flatter slope is not feasible.

To prevent chasing the grade indefinitely, the transition from existing sidewalk to the shaded curb ramp area is not required to exceed 15 feet in length.

While ramps may be skewed to the crosswalk, the entire lower landing area must fall within the cross walk that the ramp serves and cannot be located in the traveled lane of opposing traffic.

The counter slope of the gutter or street at the foot of a curb ramp, landing, or blended transitions shall be 20:1 or flatter.

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 and surface slopes that meet grade breaks shall also be flush.

Ramp landings shall be 4' min. x 4' min. with a 50:1 or flatter cross slope and running slope.

See Sheet 3 for Sections.

THIS DRAWING REPLACES BP-7.1 DATED 1-19-07.

STANDARD ROADWAY CONSTRUCTION DRAWING
NEW CURB RAMP
(with Detectable Warnings)

SCD NUMBER
BP-7.1

2/3

STATE OF OHIO DEPARTMENT OF TRANSPORTATION
10-15-10
DATE

CITY ENGINEER
M. Blane

OFFICE OF
ROADWAY
ENGINEERING

THE CITY'S STANDARD WHEEL CHAIR RAMP IS THE ODOT BP-7.1 WITH THE MODIFICATIONS NOTED.
SEE SHEET 4 OF 4 FOR CITY'S APPROVED TRUNCATED DOME PRODUCTS.



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APPROVED DATE: MAY 2012

APPROVED BY: RMB

DRAWING FILE NAME: ce_33.dwg

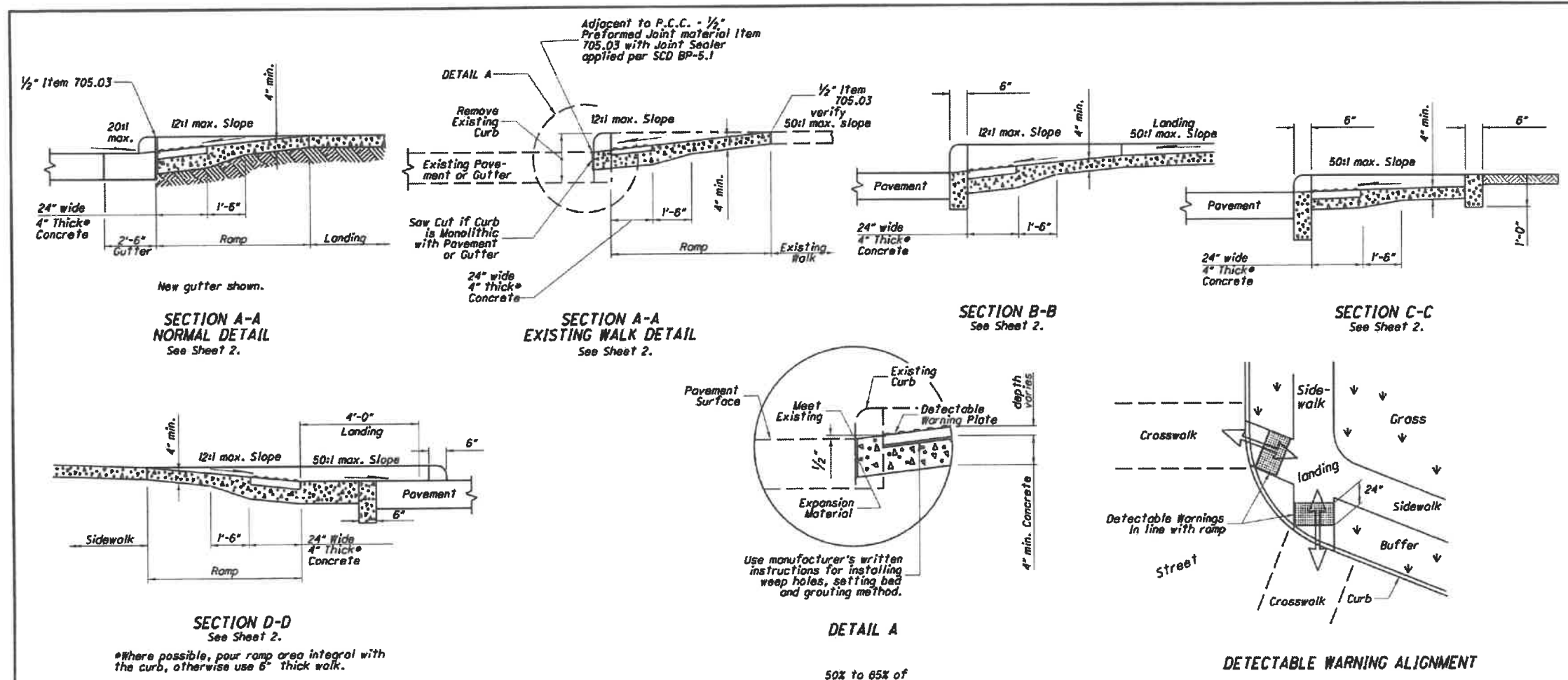
REVISIONS

DESCRIPTION	DATE	BY
REVISIONS	6/29/12	RMB

STANDARD DRAWING NO. 33

WHEEL CHAIR RAMP

SHEET 2 OF 4



DETECTABLE WARNINGS NOTES

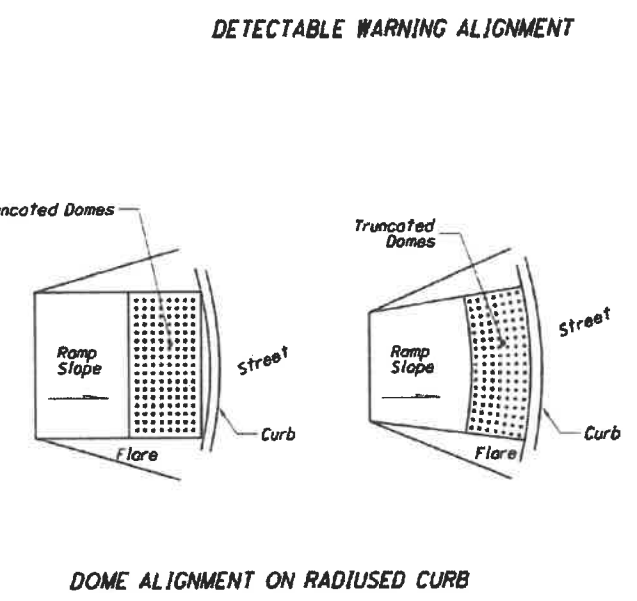
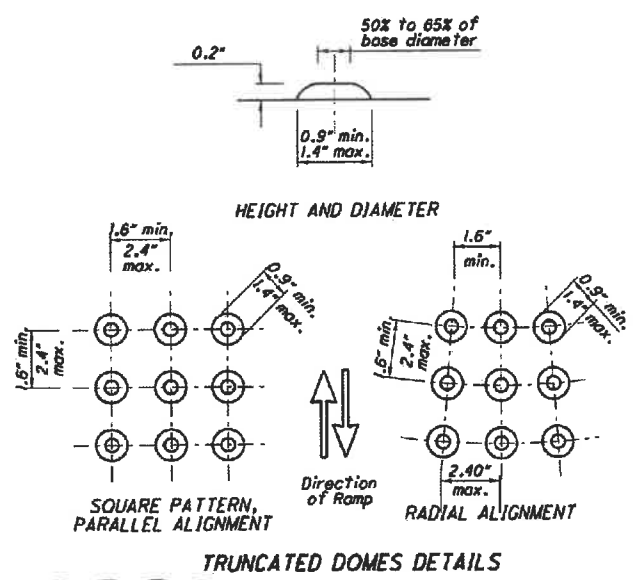
GENERAL: Detectable Warnings are a distinctive surface pattern of truncated domes which are detectable by cane or underfoot to alert people with vision impairments of their approach to streets and hazardous drop-offs.

PLACEMENT: Detectable warnings are to be installed at any location where pedestrians might cross paths with vehicular traffic lanes, such as the base of curb ramps or at blended curbs. A 24" strip of domes is to be installed for the full width of the ramp or walk. Typical street corner placement locations are shown on Sheet 1.

The depth of concrete underneath detectable warning products shall be a minimum of 4". See DETAIL A.

ALIGNMENT: Truncated domes should be aligned with the primary direction of the ramp as shown on the DETECTABLE WARNING ALIGNMENT Detail. Normally the detectable warnings should be flush with the back of the curb, but in skewed conditions at least one corner of the 24" strip should be adjacent to the back of curb. For non-standard layouts, detectable warning materials may have to be mitered and placed segmentally.

PRODUCTS & COLORS: Color of the detectable warnings should contrast with surrounding concrete walk and ramp. Black is not an acceptable color. Approved products and guidance on color may be found on the Office of Roadway Engineering Service's Detectable Warnings Approved List. Install products as per manufacturer's printed instructions.



SEE SHEET 4 OF 4 FOR CITY'S APPROVED TRUNCATED DOME PRODUCTS.

STATE OF OHIO DEPARTMENT OF TRANSPORTATION
 10-15-10
 DATE
 Diel B. Seana
 ADMINISTRATOR
 STD. ENGINEER
 M. Blime
 OFFICE OF ROADWAY ENGINEERING
 STANDARD ROADWAY CONSTRUCTION DRAWING
 NEW CURB RAMPS
 (with Detectable Warnings)
 THIS DRAWING REPLACES BP-7.1, DATED 1-19-07.
 SCD NUMBER
 BP-7.1
 3 / 3

THE CITY'S STANDARD WHEEL CHAIR RAMP IS THE ODOT BP-7.1 WITH THE MODIFICATIONS NOTED.
 SEE SHEET 4 OF 4 FOR CITY'S APPROVED TRUNCATED DOME PRODUCTS.



**OFFICE OF THE CITY ENGINEER
 CANTON, OHIO**
 DANIEL J. MOEGLIN, P.E., CITY ENGINEER
 2436 30th St. NE 44705 : 330-489-3381 : www.cantonohio.gov/engineering

APPROVED DATE: MAY 2012
 APPROVED BY: RMB
 DRAWING FILE NAME: ce_33.dwg

REVISIONS		
DESCRIPTION	DATE	BY
REVISIONS	6/29/12	RMB

STANDARD DRAWING NO. 33
WHEEL CHAIR RAMP
 SHEET 3 OF 4

DETECTABLE WARNING DOMES

PANELS, WET SET

REPLACEABLE TRUNCATED DOME PANELS SET IN WET CONCRETE MUST BE USED IN RAMPS WITHININ THE CITY OF CANTON, UNLESS APPROVED OTHERWISE BY THE CITY ENGINEER.

Acceptable manufacturers and prducts are:

- 1) Armorcast Products Company
North Hollywood, CA 818-982-3800
Armorcast Detectable Warning Panels (Wet Set Panels)
24"x24", 24"x36", 24"x48"; also 6'-15' Radius
Polymer Concrete, Red Brick color
- 2) ADA Solutions, Inc.
N. Billerica, MA 01862
Cast-in-Place Replaceable Tactile (Wet Set)
2'x3', 2'x4', 2'x5', and 2' w/radius
Glass and Carbon Composite, Brick Red color

OR APPROVED EQUAL

BRICK PAVERS

TRUNCATED DOME BRICK PAVERS ARE ONLY TO BE USED/INSTALLED AT THE DISCRETION OR APPROVAL OF THE CITY ENGINEER.

Brick Pavers will meet ASTM C 902 Class SX, Type 1, or C 936, or C 1272 Type R.

Acceptable manufacturers and products are:

- 1) Whitacre-Greer Fireproofing Company,
1400 S. Mahoning Ave, Alliance, OH, 44601, (800) WG PAVER
ADA Paver, 4"x8"x2-1/4", Clear Red (Rustic) #30.
- 2) The Belden Brick Company
PO Box 20910, Canton, OH 44701 330-456-0031
City Line ADA Paver, Regimental Red 2-1/4"x4"x8" or 2-1/4"x8"x8"

OR APPROVED EQUAL.

Pavers will be laid on top of a 4" unreinforced concrete base. Setting bed to be mortared in accordance with manufacturer's instruction, or with a maximum 1/2" thick bed of latex modified cement mortar. SWEEP POLYMERIC SAND (TECHNI SEAL OR APPROVED EQUAL) INTO JOINTS. Joint width must not exceed 1/8" or be less than 1/16" wide.

Pavers shall be laid such that joints are level with adjoining joints so as to provide a smooth transition from brick to brick and brick to concrete surface.

The surface of any two adjacent units should not differ by more than 1/8" [3] in height. Bricks shall be placed in a running bond pattern. Face of all brick shall be clean of cement and protected so as to avoid chipping during constructionn.

ADHESIVE MATS

REPLACEABLE TRUNCATED DOME MATS THAT SET ON CONCRETE RAMPS BY ADHESIVE WILL ONLY BE CONSIDERED IN THE EVENT AN EXISTING WHEEL CHAIR RAMP NEEDS DETECTABLE WARNING DOMES INSTALLED AND THE RAMP REQUIRES NO OTHER MODIFICATIONS. USE OR INSTALLATION OF ADHESIVE MATS IS SUBJECT TO THE CITY ENGINEER'S DISCRETION OR APPROVAL.

Acceptable manufacturers and prducts are:

- 1) Submit product specification, color and sample for review/approval by the City Engineer



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CANTON, OHIO

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APPROVED DATE: MAY 2012

APPROVED BY: RMB

DRAWING FILE NAME: ce_33.dwg

REVISIONS

DESCRIPTION	DATE	BY
REVISIONS	6/29/12	RMB
WET PANELS PRIMARY DOME MAT	JAN 2015	RMB

STANDARD DRAWING NO. 33

WHEEL CHAIR RAMP

SHEET 4 OF 4