

# CITY OF CIRCLEVILLE PICKAWAY COUNTY OHIO WOODLAND DRIVE STORM, SANITARY, AND WATER LINE IMPROVEMENTS



**SITE LOCATION MAP**  
SCALE: NOT TO SCALE

**BENCHMARKS:**

BENCHMARK 1 – IRON PIN FOUND AT THE SOUTHWESTERLY CORNER OF LOT NUMBER 1.

ELEV. 683.73 (NAVD 88)

BENCHMARK 2 – TOP OF IRON ROD FOUND ALONG THE NORTHERLY RIGHT-OF-WAY LINE OF WOODLAND DRIVE AT LOT 11.

ELEV. 694.00 (NAVD 88)

**SURVEY CONTROL**

HORIZONTAL: OHIO SOUTH ZONE NAD 83 (2011)  
VERTICAL: NAVD 1988



**CITY OFFICIALS**

DONALD R. McILROY	MAYOR
TERRY FRAZIER	DIRECTOR OF PUBLIC SERVICE
TIMOTHY I. MITCHEL, PE & PS	CITY ENGINEER

**CITY COUNCIL MEMBERS**

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E. TODD BRADY	AT LARGE
TOM SPRING	AT LARGE
JULIE STRAWSER	1st WARD
BARRY D. KELLER	2nd WARD
KATIE LOGAN-HEDGES	3rd WARD
SHERI THEIS	4th WARD
LINDA M. CHANCEY	CLERK

**APPROVED BY:**

BY: \_\_\_\_\_ DATE \_\_\_\_\_  
DIRECTOR OF PUBLIC SERVICE, CITY OF CIRCLEVILLE

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**ESTIMATE OF QUANTITIES**

THE PLAN QUANTITIES AS SHOWN BELOW ARE THE ENGINEER'S ESTIMATE ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALCULATING QUANTITIES BASED ON THE PLAN FOR BIDDING AND CONSTRUCTION PURPOSES

ITEM	QUANT.	UNIT	DESCRIPTION
201	1	LS	CLEARING AND GRUBBING
202	120	SY	PAVEMENT REMOVED
202	3	EA	MANHOLE REMOVED
202	1,231	LF	PIPE FILLED IN PLACE
301	20	CY	ASPHALT CONCRETE BASE
304	400	CY	AGGREGATE BASE
604	12	EA	MANHOLE
604	5	EA	CATCH BASIN
604	1	EA	PRECAST REINFORCED CONCRETE OUTLET
614	1	LS	MAINTAINING TRAFFIC
616	0.5	MGAL	WATER
623	1	LS	CONSTRUCTION LAYOUT STAKES
624	1	LS	MOBILIZATION
655	1	LS	TREE PROTECTION DURING CONSTRUCTION
659	670	SY	SEEDING AND MULCHING, TYPE 3C
660	153	SY	SODDING, STAKED
670	160	SY	DITCH EROSION PROTECTION
801	307	LF	8-INCH WATER PIPE AND FITTINGS
801	5	LF	6-INCH WATER PIPE AND FITTINGS
801*	120	LB	DUCTILE IRON FITTINGS, INCREASE OR DECREASE
802	1	EA	6-INCH VALVE AND APPURTENANCES
805	5	EA	3/4-INCH WATER TAP
805	5	EA	3/4-INCH CURB STOP
809	1	EA	FIRE HYDRANT, TYPE A
811*	1	CY	INCREASE OF DECREASE IN EXCAVATION AND BACKFILL
815	1	CY	CRUSHED STONE OR GRAVEL
901	495	LF	8-INCH SANITARY PIPE, W/ TYPE I BEDDING, W/ ITEM 911 BACKFILL
901	390	LF	8-INCH SANITARY PIPE, W/ TYPE I BEDDING, W/ ITEM 912 BACKFILL
901	210	LF	8-INCH STORM PIPE, W/ TYPE I BEDDING, W/ ITEM 911 BACKFILL
901	172	LF	8-INCH STORM PIPE, W/ TYPE I BEDDING, W/ ITEM 912 BACKFILL
914*	40	LF	6-INCH DIAMETER PIPE RISERS
915	11	EA	8-INCH X 6-INCH DIAMETER WYE FITTING
918	554	LF	6-INCH DIAMETER PIPE, SANITARY HOUSE SERVICE CONNECTION

\* CONTINGENCY ITEM AS DIRECTED BY THE ENGINEER

PREPARED BY:



WILLIAM D. BOGGS, P.E. DATE 7/29/19

THE CITY OF COLUMBUS CONSTRUCTION AND MATERIAL SPECIFICATIONS, DATED 2018, INCLUDING SPECIAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS LISTED SHALL GOVERN THIS IMPROVEMENT.



CITY OF CIRCLEVILLE, OHIO  
DEPT. OF PUBLIC UTILITIES  
104 E. FRANKLIN ST.  
CIRCLEVILLE, OH



WOODLAND DRIVE  
STORM, SANITARY, AND  
WATER LINE IMPROVEMENTS  
CIRCLEVILLE, OH

Revisions	

Date	29 JULY, 2019
Scale	NTS
Dep. Title	TITLE SHEET
Sheet	G-0



**CONSTRUCTION AND MATERIAL SPECIFICATIONS**

WATER MAINS

WATER MAIN PIPE: ALL WATER MAIN AND SERVICE CONNECTIONS LARGER THAN 4 INCHES IN DIAMETER SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE, AWWA C150, PRESSURE CLASS 350, AND AS FURTHER REFERENCED IN THE DRAWINGS. DUCTILE IRON PIPE SHALL BE PROTECTED FROM CORROSION WITH AN 8-MIL POLYETHYLENE ENCASEMENT MEETING THE REQUIREMENTS OF CMS ITEM 801.03, INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.

WATER SERVICE CONNECTIONS: ALL EXISTING WATER SERVICES TO BE LEAD OR GALVANIZED SHALL BE REPLACED WITH COPPER TYPE K OR 3408 HIGH DENSITY POLYETHYLENE (HDPE) DR-11, PRESSURE CLASS 160. EXISTING WATER SERVICES SHALL BE MAINTAINED UNTIL TRANSFER TO THE NEW WATER MAIN IS COMPLETE.

TRENCHING AND BEDDING: DUCTILE IRON PIPE SHALL BE INSTALLED AND TESTED AS SPECIFIED IN THE CITY OF COLUMBUS CONSTRUCTION AND MATERIAL SPECIFICATIONS, LATEST EDITION, UNLESS OTHERWISE NOTED IN THE PLANS.

BACKFILL: BACKFILL SHALL BE AS REQUIRED IN SECTION 801 OF THE COLUMBUS CMS, WITH THE FOLLOWING EXCEPTION: FOR ALL WATER MAIN CONSTRUCTION DIRECTLY UNDER THE PAVEMENT, PLACE BEDDING WITH COMPACTED GRANULAR MATERIAL COMPLYING WITH THE REQUIREMENTS OF CMS ITEM 703.17. BACKFILL UP TO PAVEMENT RESTORATION LIMITS WITH GRANULAR MATERIAL MEETING THE REQUIREMENTS OF CMS ITEM 703.11. FOR ALL WATER MAINS NOT UNDER THE DIRECT INFLUENCE OF PAVEMENT REFER TO SHEET G-8 FOR BEDDING BACKFILL DETAILS.

HYDROSTATIC TEST PRESSURE: TAPPING SLEEVE AND VALVE AND WATER MAIN PIPE PRESSURE SHALL BE TESTED AT 150 PSI FOR TWO (2) HOURS FOLLOWING THE CITY OF COLUMBUS CONSTRUCTION AND MATERIAL SPECIFICATIONS AND STANDARD DRAWING L-6640.

BURIED VALVES: GATE VALVES SHALL CONFORM TO AWWA C509 AND SHALL BE IRON BODY, SINGLE DISC, RESILIENT SEATED WITH A SMOOTH WATERWAY BODY AND A HIGH-STRENGTH IRON WEDGE FULLY ENCAPSULATED WITH A URETHANE RUBBER PERMANENTLY BONDED TO METAL DESIGNED TO HAVE A WORKING PRESSURE OF 200 PSI. ALL VALVES SHALL HAVE A NON-RISING STEM WITH RUBBER "O" RING PACKING SEALS. THE VALVE SHALL OPEN BY TURNING COUNTERCLOCKWISE.

BURIED FASTENERS: ALL BURIED FASTENERS ASSOCIATED WITH FITTINGS, VALVES, HYDRANTS, PIPE THRUST RESTRAINTS, AND WATER MAINS SHALL BE MADE OF 304 STAINLESS STEEL.

THRUST RESTRAINT: ALL TEES, BENDS, VALVES, AND CAPS SHALL HAVE MECHANICAL RESTRAINTS AND SHALL BE MADE USING MANUFACTURED JOINT RESTRAINT SYSTEMS AS APPROVED BY THE CITY AND CAPABLE OF WITHSTANDING 1.5 TIMES THE HYDROSTATIC TEST PRESSURE. REFER TO SHEET G-3 FOR PIPE RESTRAINT JOINT TABLE. COST INCLUDE IN THE PRICE BID FOR CMS ITEM 801.

FIRE HYDRANTS: FIRE HYDRANTS SHALL BE AMERICAN DARLING MODEL B-84-B PAINTED FACTORY HYDRANT "SAFETY ORANGE" AND SHALL OPEN BY TURNING COUNTERCLOCKWISE. THE HYDRANT SHALL HAVE ONE (1) 4-1/2-INCH PUMPER NOZZLE AND TWO (2), 2-1/2-INCH NOZZLES.

1. FIRE HYDRANTS SHALL BE POST TYPE, MADE OF CAST IRON, AND SHALL CONFORM IN ALL RESPECTS TO THE AMERICAN WATER WORKS ASSOCIATION STANDARD FOR DRY-BARREL FIRE HYDRANTS, ANSI/AWWA C502-85, EXCEPT WHERE MODIFIED HEREIN.
2. MAIN VALVE SHALL BE COMPRESSION TYPE OPENING AGAINST THE PRESSURE AND CLOSING WITH THE PRESSURE. MAIN VALVE SEAT SHALL BE MADE OF BRONZE AND SHALL BE DESIGNED TO ALLOW FOR REPLACEMENT IN THE FIELD. THE DESIGN SHALL ELIMINATE THE CONTACT OF DISSIMILAR METALS IN AREAS OF THE HYDRANT THAT ARE SUBJECT TO THE CONTINUOUS PRESENCE OF MOISTURE.
3. ALL INTERNAL WORKING PARTS SHALL BE REMOVABLE FROM THE TOP OF THE HYDRANT, WITH SIMPLE TOOLS, AND WITHOUT DISTURBING THE GROUND LINE JOINT OR THE UPPER SECTION OF THE HYDRANT BARREL.
4. BREAKABLE TRAFFIC FEATURES SHALL BE PROVIDED, SHALL INCLUDE A BREAKABLE SAFETY DEVICE ON THE GROUND LINE JOINT, AND A BREAKABLE COUPLING ON THE MAIN VALVE STEM AT THE GROUND LINE JOINT. THE DESIGN SHALL ENSURE THAT ON HEAVY IMPACT, THE UPPER AND LOWER SECTIONS OF THE HYDRANT WILL BREAK APART CLEANLY WITHOUT DAMAGE TO ANY OTHER HYDRANT PARTS. THE GROUND LINE JOINT SHALL BE DESIGNED TO ALLOW THE NOZZLE SECTION OF THE HYDRANT TO BE ROTATED 360°.
5. NOZZLES SHALL BE BRONZE AND REPLACEABLE, DESIGNED FOR EASY REMOVAL FROM THE HYDRANT BARREL, IN THE FIELD, WITH SIMPLE TOOLS.
6. OPERATING NUT SHALL BE PENTAGONAL, MEASURING 1-1/2 INCHES FROM POINT TO OPPOSITE FLAT.
7. BURY SHALL BE FIVE (5) FEET UNLESS OTHERWISE SPECIFIED.
8. NO DRAIN HOLES OR DRAIN VALVES ARE TO BE PROVIDED WITH THE HYDRANT.
9. THE SHOE SHALL HAVE A 6-INCH DIAMETER INLET AND A MECHANICAL JOINT CONNECTION WITH ACCESSORIES.
10. THE CONTRACTOR SHALL FURNISH TO THE CITY OF CIRCLEVILLE ONE (1) EACH OF THE FOLLOWING FOR THIS PROJECT:
  - A. ONE SAFETY FLANGE REPAIR KIT.
  - B. OPERATING WRENCH (1-1/2 INCH PENTAGON).
  - C. SEAT REMOVAL TOOL (DISASSEMBLY WRENCH)

SANITARY SEWERS

ALL SANITARY SEWERS PIPE SHALL BE POLYVINYL CHLORIDE (PVC) PIPE SDR-35. SEWER PIPE SHALL ALSO MEET THE REQUIREMENTS FOR PLASTIC PIPE IN ACCORDANCE WITH CMS TEM 720.16. JOINTS SHALL BE BELL AND SPIGOT TYPE MEETING THE REQUIREMENTS OF CMS ITEM 901.15.

MANHOLES AND APPURTENANCES: SANITARY MANHOLES SHALL BE TYPE "C", PRECAST MANHOLE STRUCTURES PER CITY OF COLUMBUS STANDARD DRAWING AA-S102, AND MEET THE REQUIREMENTS OF CMS ITEM 604. MANHOLE TO PIPE JOINTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C443 FOR USE OF CONFINED GASKETS AND SHALL BE WATERTIGHT IN ACCORDANCE WITH CMS ITEM 706.10. ALL CONCRETE AND SANITARY SEWER STRUCTURES SHALL EITHER BE STAMPED OR HAVE OTHER IDENTIFICATION NOTING THAT SAID PIPE AND STRUCTURES HAVE BEEN INSPECTED BY THE CITY OF CIRCLEVILLE OR THEY SHALL BE EQUAL IN QUALITY TO THOSE THAT WOULD BE ACCEPTABLE TO THE CITY OF COLUMBUS OR OHIO DEPARTMENT OF TRANSPORTATION.

SANITARY SEWER PIPES SHALL BE LAID TO GRADE AND SLOPE AS SHOWN IN THE PLANS. SLOPES SHALL MEET THE MINIMUM REQUIREMENTS AS SET FORTH IN THE CITY OF COLUMBUS SANITARY SEWER DESIGN MANUAL, LATEST EDITION.

STORM SEWERS

ALL STORM SEWER PIPE 12 INCHES AND LARGER SHALL BE REINFORCED CONCRETE PIPE PER CMS ITEM 706.02. STORM SEWER PIPE LESS THAN 12 INCHES SHALL BE POLYVINYL CHLORIDE (PVC) SDR-35 UNLESS OTHER WISE NOTED.

INLETS, CATCH BASINS, MANHOLES AND ENDWALLS SHALL BE AS SHOWN IN CITY OF COLUMBUS STANDARD DRAWINGS AA-S102, AA-S133A, AND AA-S169, OR APPROVED EQUALS, AND SHALL INCLUDE PLASTER COAT LIME-CEMENT MORTAR 0.5 INCH THICK INSIDE IF NOT PRECAST. MANHOLES AND STRUCTURES SHALL MEET THE REQUIREMENTS OF CMS ITEM 604.

ALL CONCRETE AND STORM SEWER STRUCTURES SHALL EITHER BE STAMPED OR HAVE OTHER IDENTIFICATION NOTING THAT SAID PIPE AND STRUCTURES HAVE BEEN INSPECTED BY THE CITY OF CIRCLEVILLE OR THEY SHALL BE EQUAL IN QUALITY TO THOSE THAT WOULD BE ACCEPTABLE TO THE CITY OF COLUMBUS OR OHIO DEPARTMENT OF TRANSPORTATION.

MAINTENANCE OF TRAFFIC


TRAFFIC SHALL BE MAINTAINED AT ALL TIMES. ADEQUATE LIGHTS, SIGNS, AND BARRICADES SHALL BE USED TO SAFEGUARD THE TRAVELING PUBLIC AS REQUIRED IN CMS ITEM 614. CONTRACTOR SHALL COORDINATE CONSTRUCTION WITH ADJACENT BUSINESS OWNERS PRIOR TO ANY WORK STARTING. CONTRACTOR SHALL SUBMIT TRAFFIC CONTROL PLAN TWO (2) WEEKS PRIOR TO START OF CONSTRUCTION.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING TEMPORARY TRAFFIC CONTROL WITH THE CITY OF CIRCLEVILLE, EMERGENCY SERVICES AND PUBLIC SCHOOLS. THE CONTRACTOR SHALL PROVIDE A PROJECT SCHEDULE AND TWO (2) WEEKS NOTICE PRIOR TO COMMENCEMENT OF WORK TO THE ABOVE ENTITIES AND ALL RESIDENTS WITHIN THE PROJECT AREA.

A MINIMUM OF TWO-WAY, ONE-LANE TRAFFIC SHALL BE MAINTAINED AT ALL TIMES DURING THE COURSE OF THE PROJECT ON FOLSOM AVENUE. FOLSOM AVENUE SHALL BE OPENED FULLY DURING NON-WORKING HOURS. THE CONTRACTOR SHALL PROVIDE ACCESS TO ALL RESIDENTS ON WOODLAND DRIVE AT ALL TIMES DURING THE COURSE OF THE PROJECT.

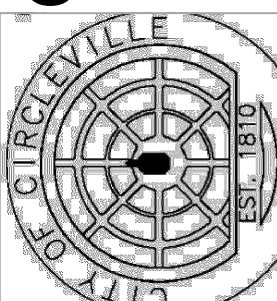
THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE AND MAINTAIN THE REQUIRED TRAFFIC CONTROL DEVICES IN COORDINATION WITH THE CITY OF CIRCLEVILLE AND IN ACCORDANCE WITH THE STATE OF OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION, AND/OR ANY OTHER MEANS EMPLOYED FOR MAINTENANCE OF TRAFFIC THROUGH THE PROPOSED WORK ZONES.

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WOODLAND DRIVE  
STORM, SANITARY, AND  
WATER LINE IMPROVEMENTS  
CIRCLEVILLE, OH

Revisions	

29 JULY, 2019

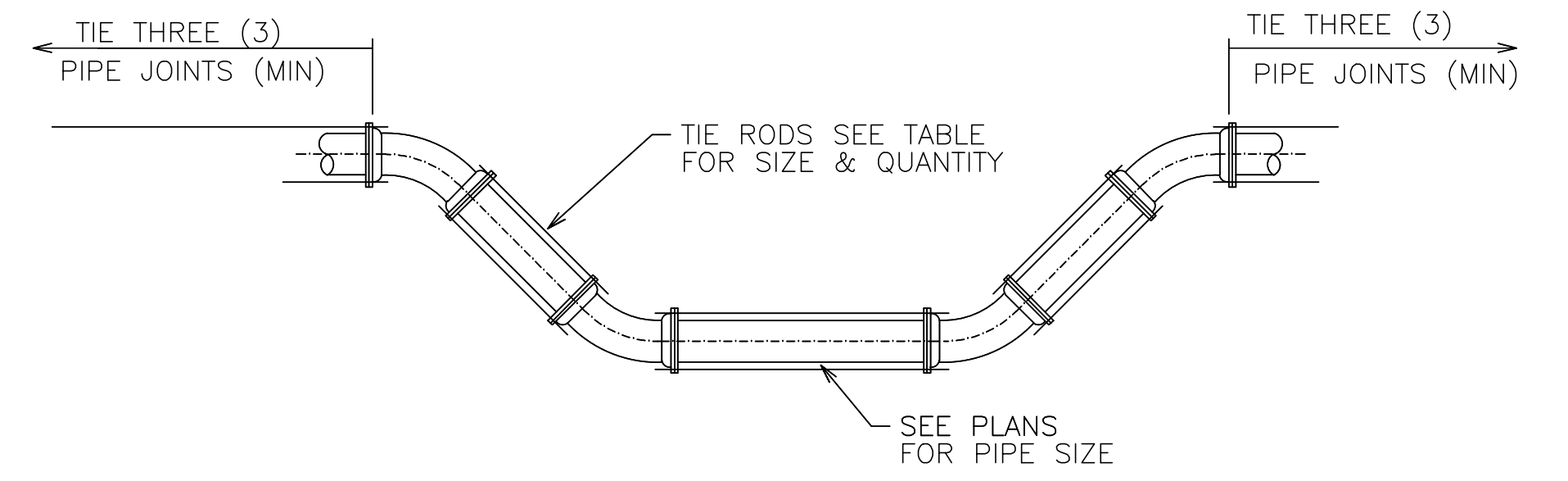
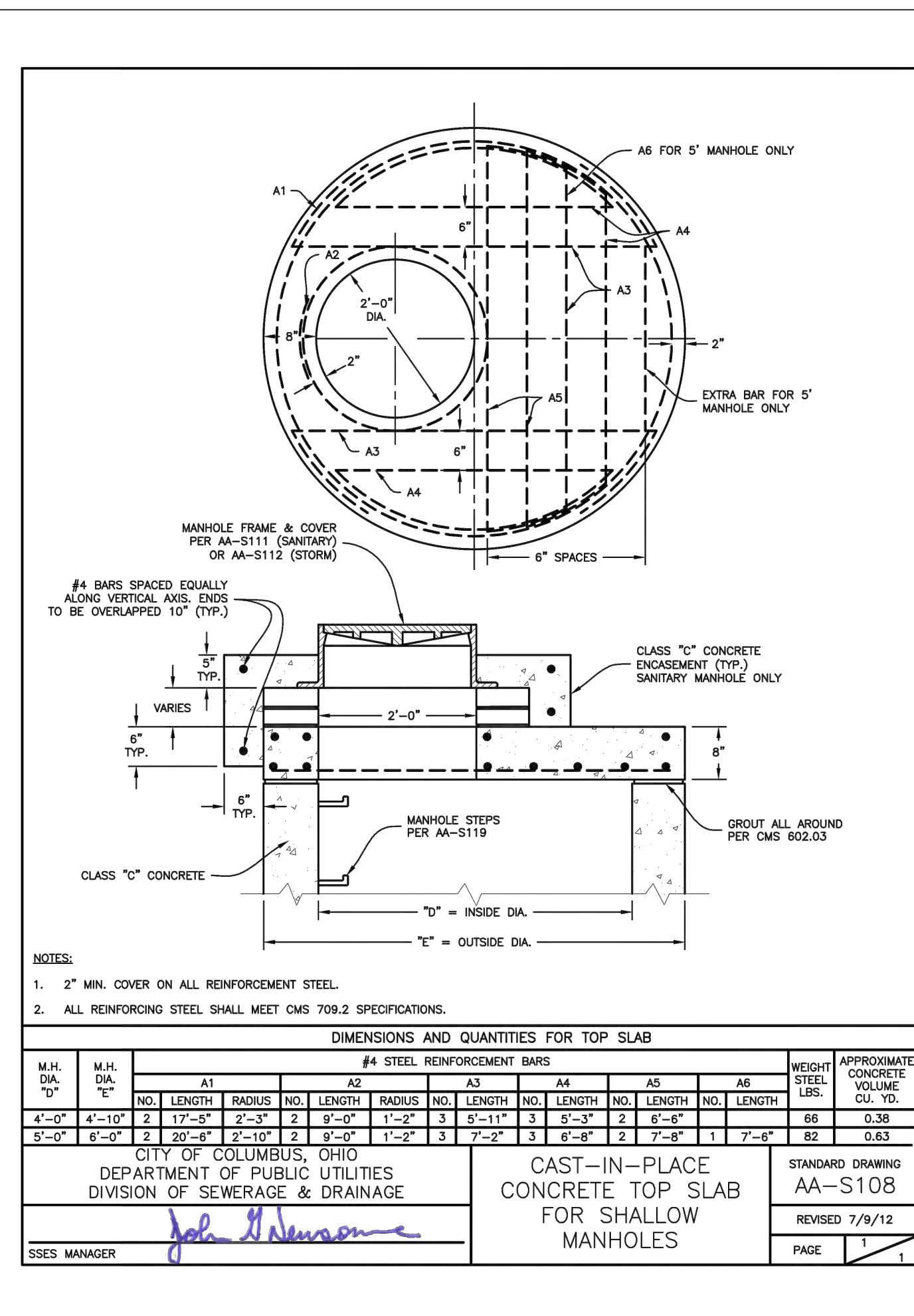
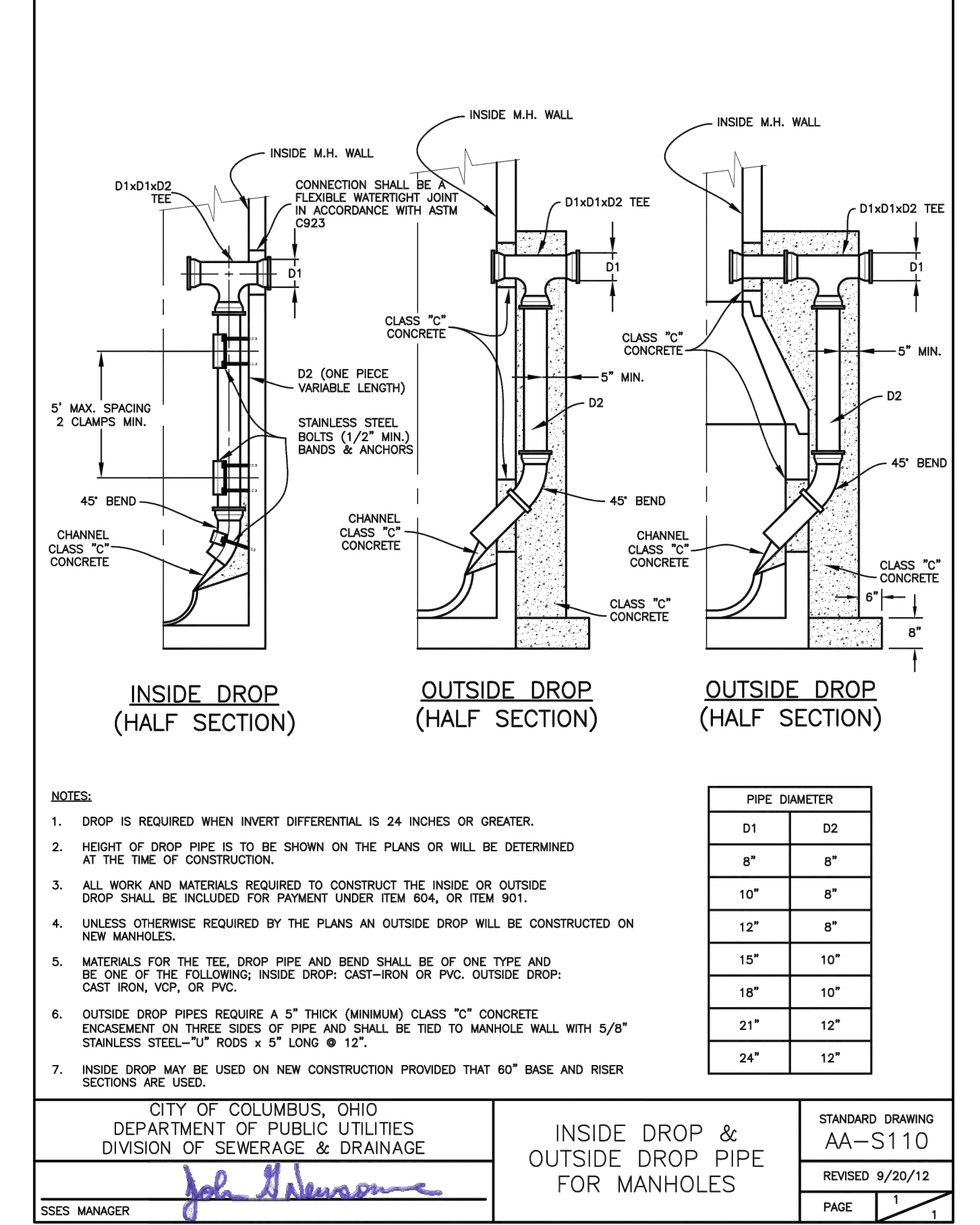
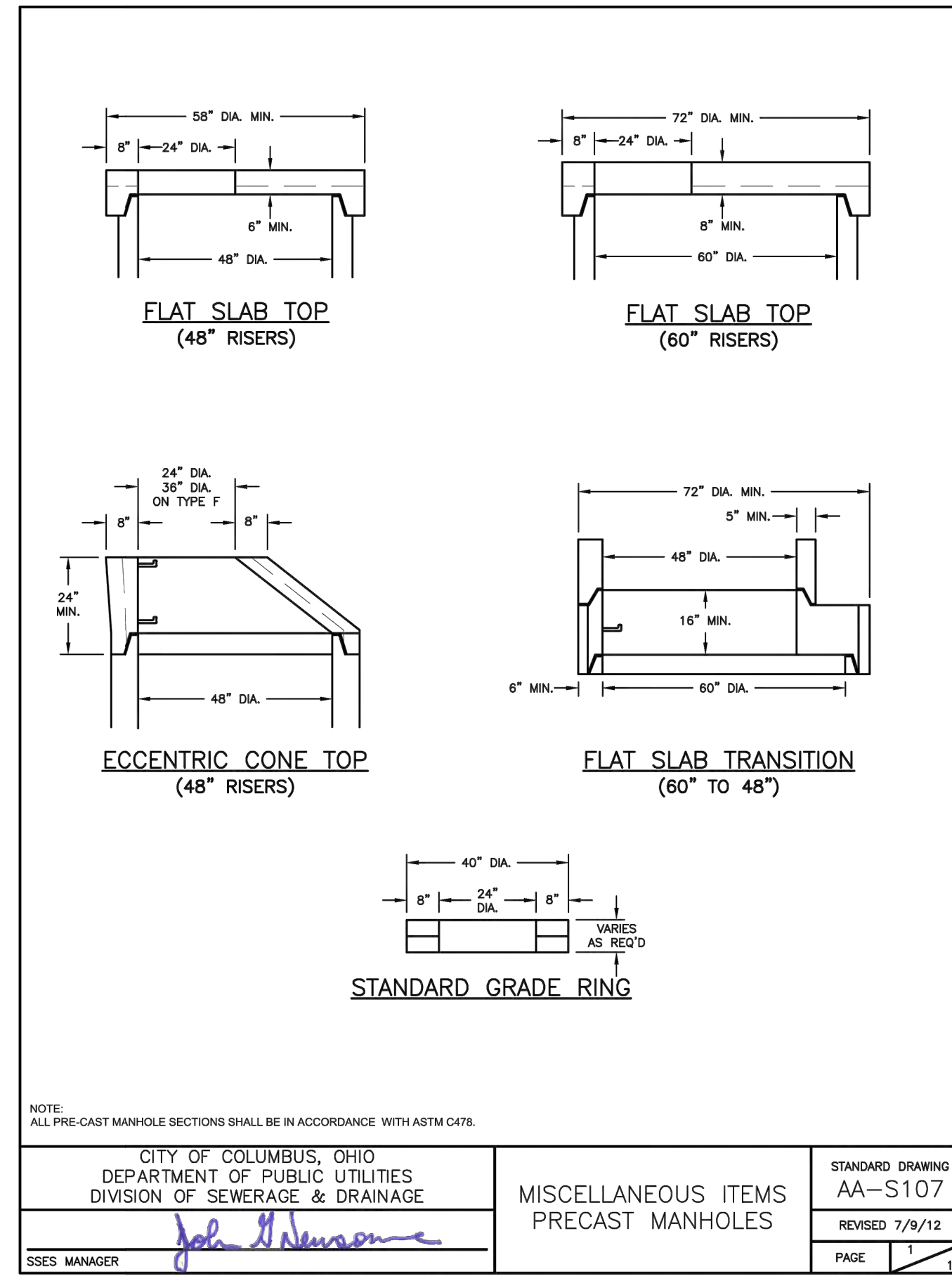
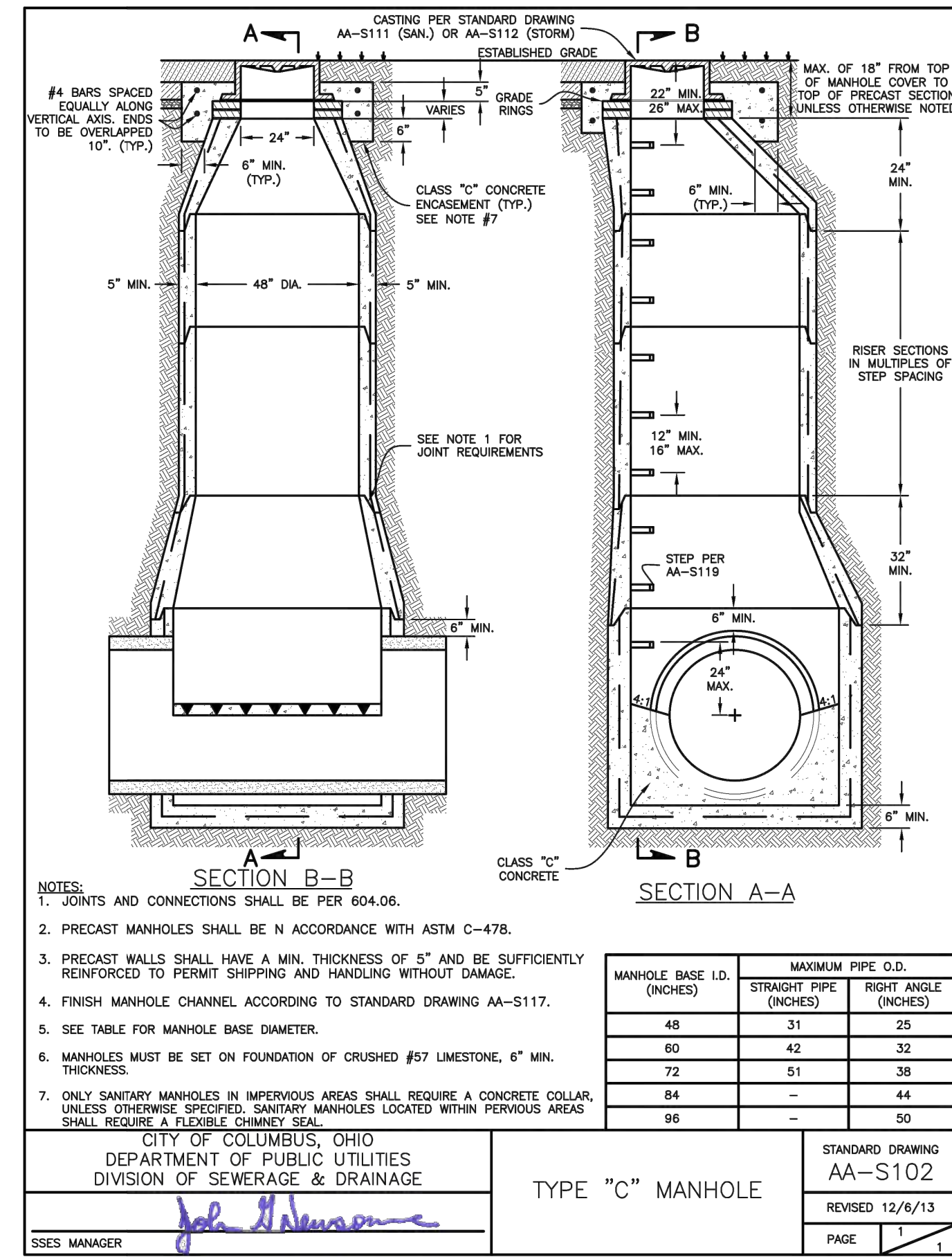
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GENERAL NOTES

G-2

**LEGEND**

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- CENTERLINE OF ROAD
- PROPOSED WATER LINE
- PROPOSED SANITARY SEWER
- PROPOSED STORM SEWER
- GAS LINE
- SANITARY SEWER LINE
- STORM SEWER LINE
- WATER LINE
- OVERHEAD ELECTRIC LINE
- UNDERGROUND ELECTRIC LINE
- OVERHEAD TELEPHONE LINE
- ELEVATION CONTOUR
- FENCE
- EDGE OF PAVEMENT
- POWER POLE
- LIGHT POLE
- TELEPHONE POLE
- UTILITY POLE
- GUY WIRE
- PROPOSED WATER VALVE
- PROPOSED FIRE HYDRANT
- WATER VALVE
- FIRE HYDRANT
- PROPOSED STORM MANHOLE
- PROPOSED STORM MANHOLE
- STORM CURB INLET
- STORM CURB INLET
- STORM CATCH BASIN
- STORM MANHOLE
- STORM MANHOLE
- PROPOSED SANITARY MANHOLE
- SANITARY MANHOLE
- SIGN
- TREE
- SHRUB
- TO BE ABANDONED
- TO BE REMOVED



PIPE SIZE	NUMBER OF RODS REQUIRED FOR ROD AND CLAMP ANCHORAGE FOR MECHANICAL JOINT PIPE		
	1/4 BENDS (90°)	1/8 BENDS (45°)	TEES, HYDRANTS CAPS, PLUGS
8"	2	2	2

- NOTES:
- ALL FITTINGS TO BE MECHANICAL JOINTS (MJ).
  - ALL RODS SHALL BE SYMMETRICALLY SPACED.
  - AFTER INSTALLATION, RODS, NUTS, METAL BOLTS, WASHERS CLAMPS, AND OTHER RESTRAINING DEVICES SHALL BE CLEANED AND THOROUGHLY COATED WITH ASPHALTIC BASE MASTIC 16 MILS DRY FILM THICKNESS (MIN.)

RESTRAINED JOINTS FOR HORIZONTAL AND VERTICAL BENDS (NOT TO SCALE)

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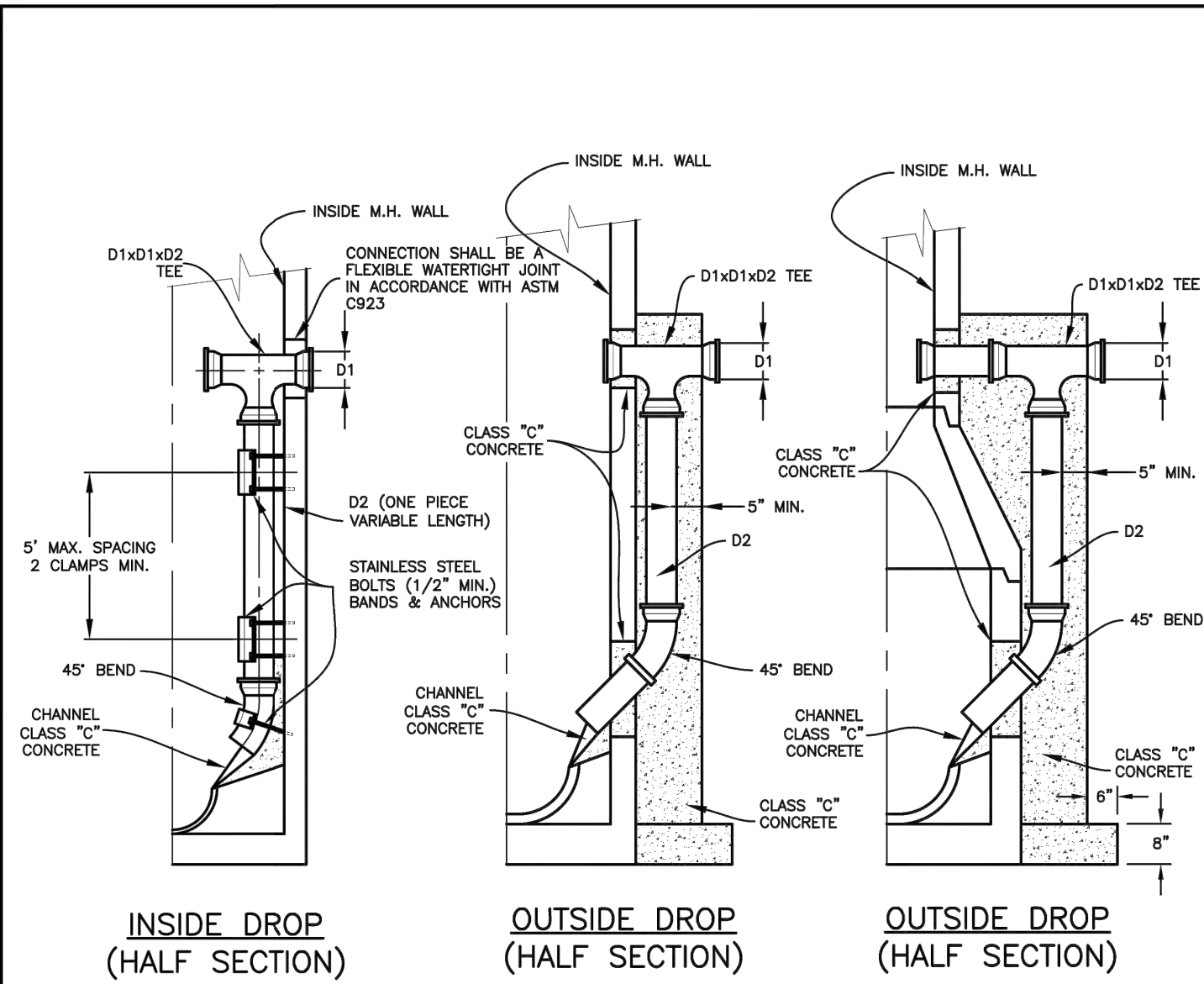
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WOODLAND DRIVE  
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CIRCLEVILLE, OH

Revisions


29 JULY, 2019  
NTS  
LEGEND-DETAILS  
G-3

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

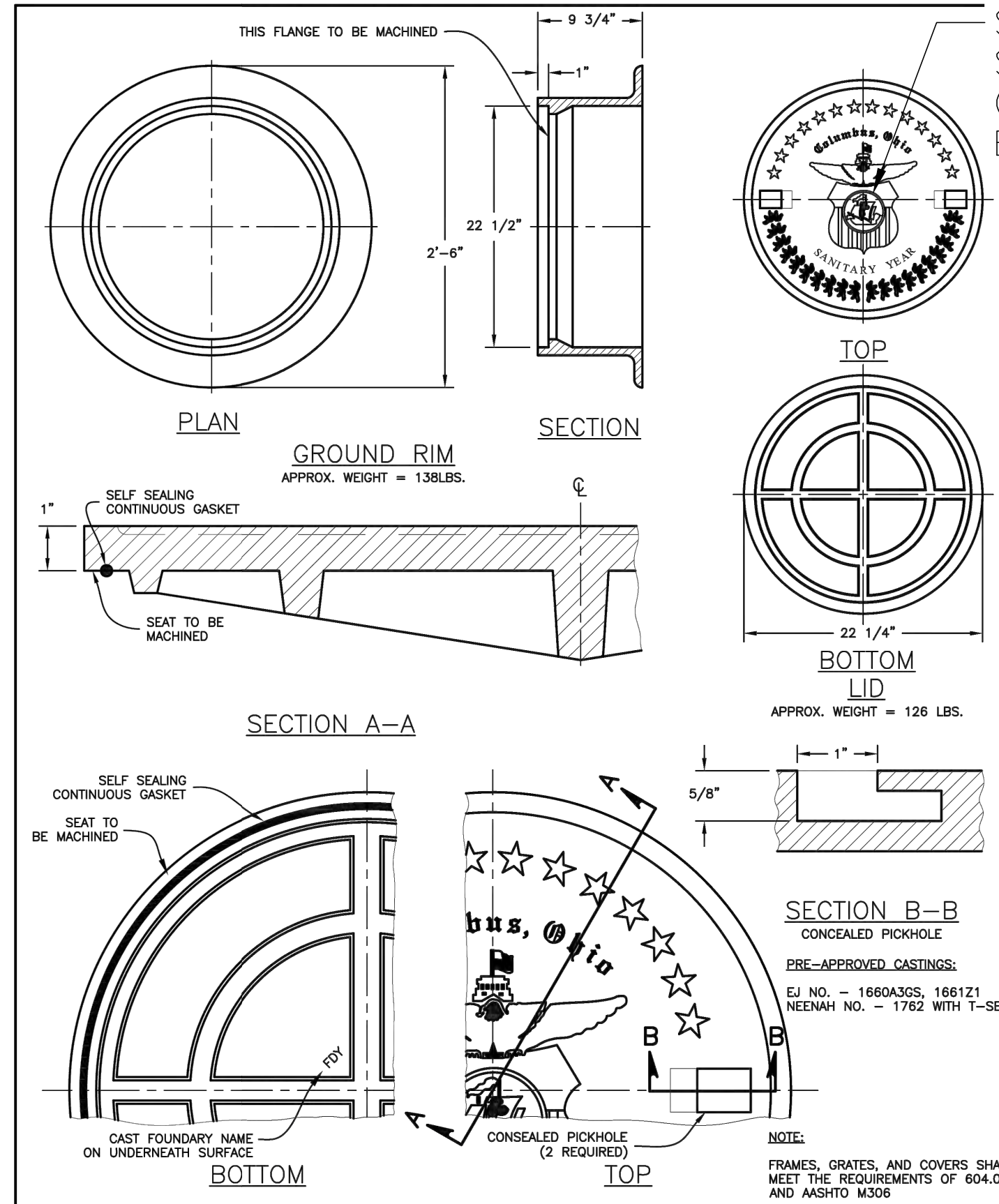
PIPE DIAMETER	
D1	D2
8"	8"
10"	8"
12"	8"
15"	10"
18"	10"
21"	12"
24"	12"

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INSIDE DROP & OUTSIDE DROP PIPE FOR MANHOLES

STANDARD DRAWING AA-S110  
REVISED 9/20/12  
PAGE 1

SSES MANAGER *John Johnson*

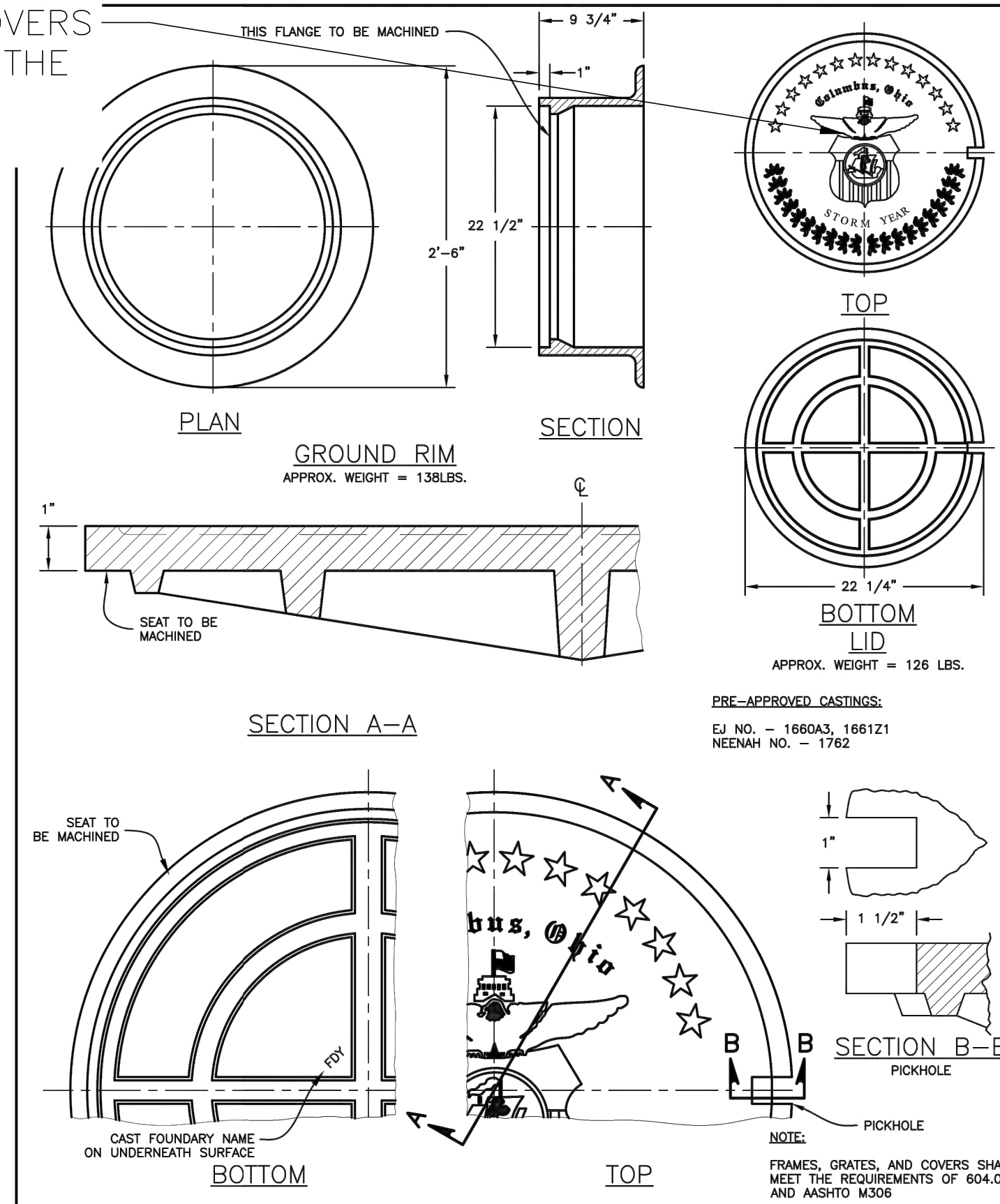


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STANDARD DIMENSIONS FOR MANHOLE FRAME & COVER CASTING (SANITARY SEWERS)

STANDARD DRAWING AA-S111  
REVISED 12/6/13  
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SSES MANAGER *John Johnson*

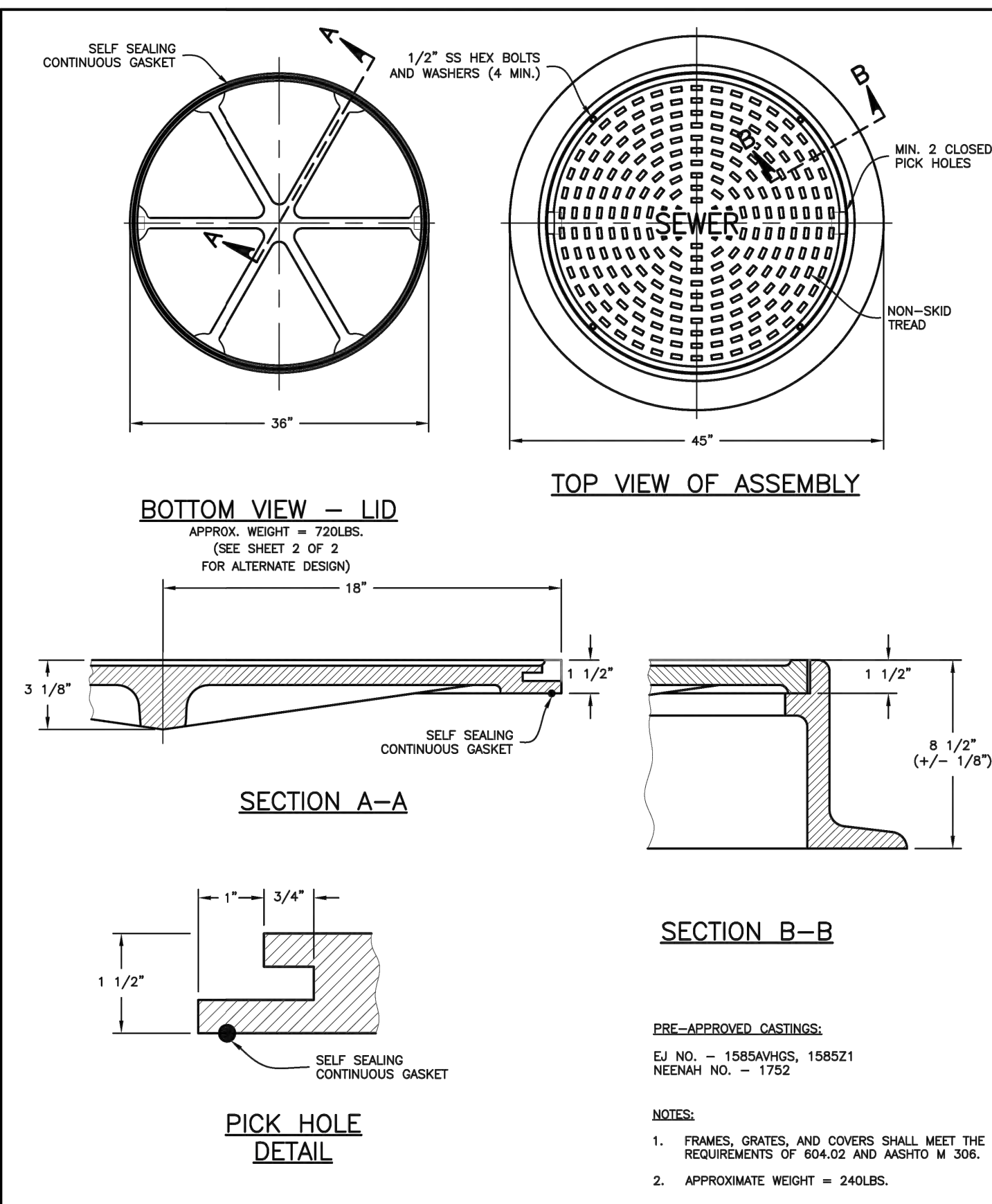


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STANDARD DIMENSIONS FOR MANHOLE FRAME & COVER CASTING (STORM SEWERS)

STANDARD DRAWING AA-S112  
REVISED 12/6/13  
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SSES MANAGER *John Johnson*

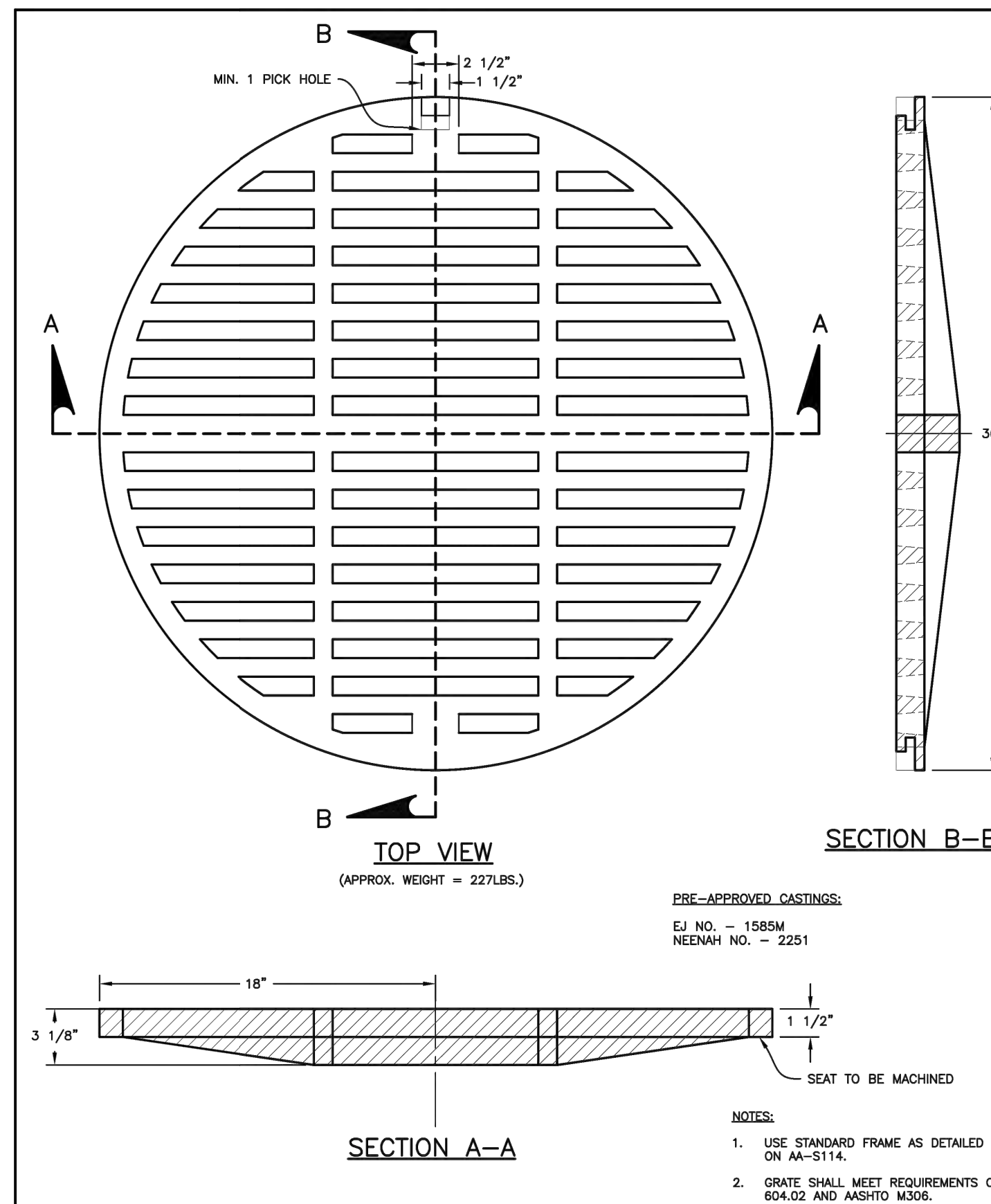


CITY OF COLUMBUS, OHIO  
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STANDARD DIMENSIONS FOR 36" MANHOLE FRAME & COVER CASTINGS (SANITARY)

STANDARD DRAWING AA-S114  
REVISED 12/6/13  
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SSES MANAGER *John Johnson*

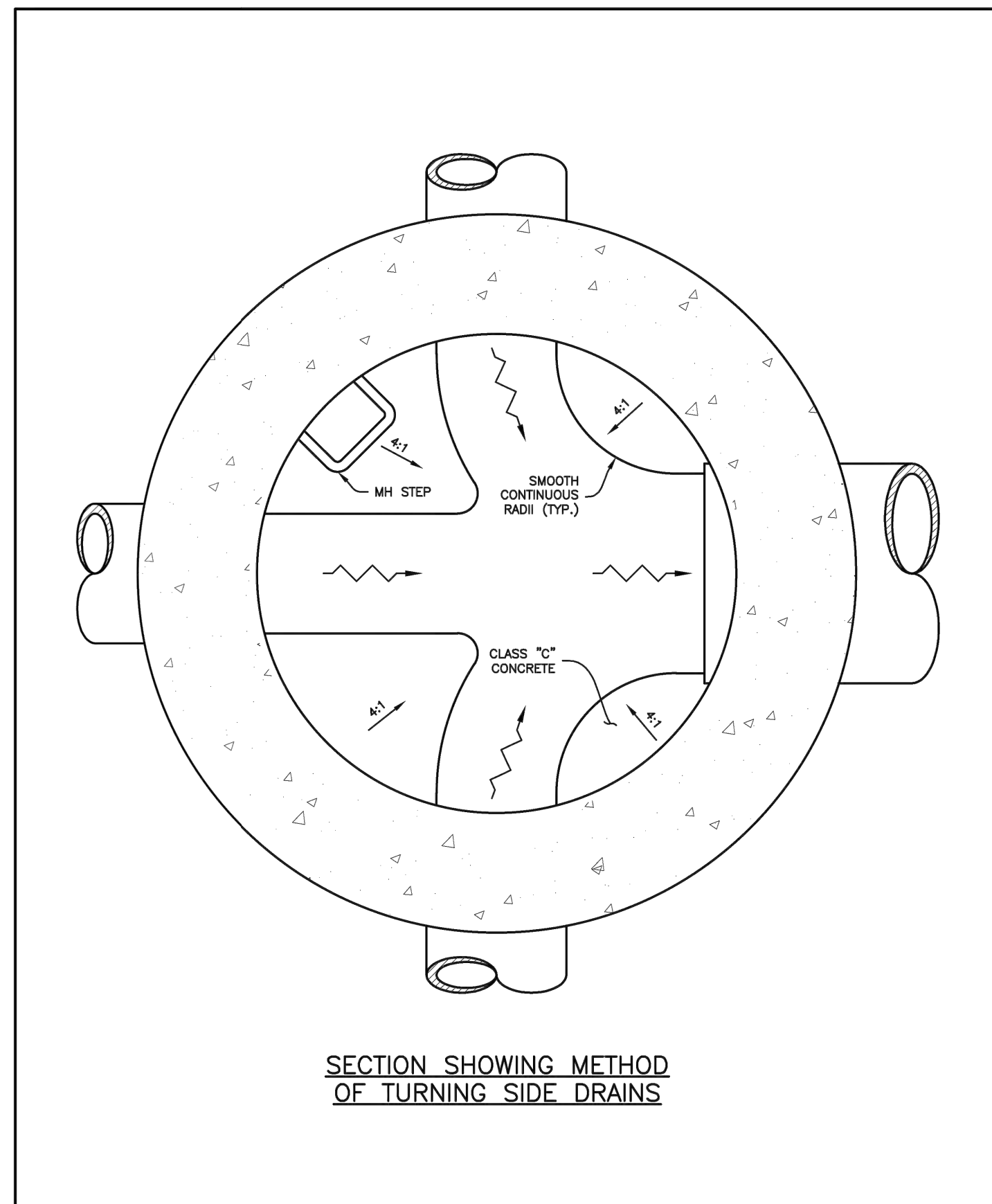


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GRADED 36" STORM MANHOLE LID (HEAVY DUTY)

STANDARD DRAWING AA-S116  
REVISED 12/6/13  
PAGE 1

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PRECAST MANHOLE BASE CHANNEL DETAIL

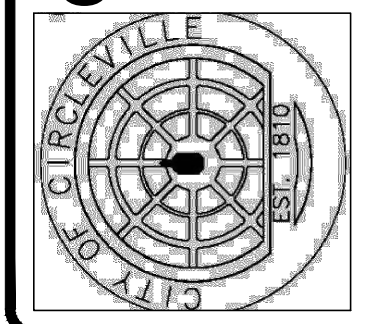
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SSES MANAGER *John Johnson*

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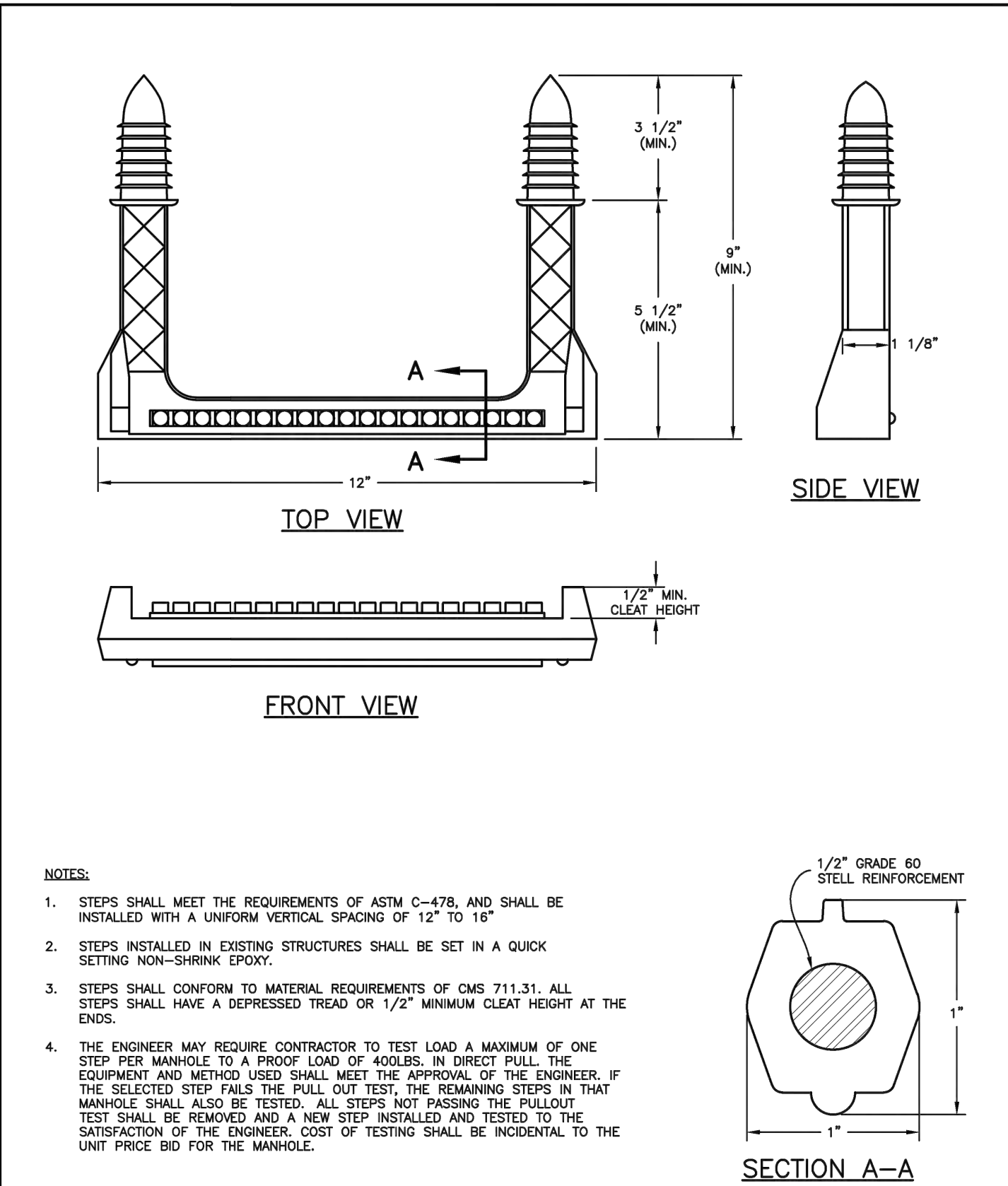
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WOODLAND DRIVE  
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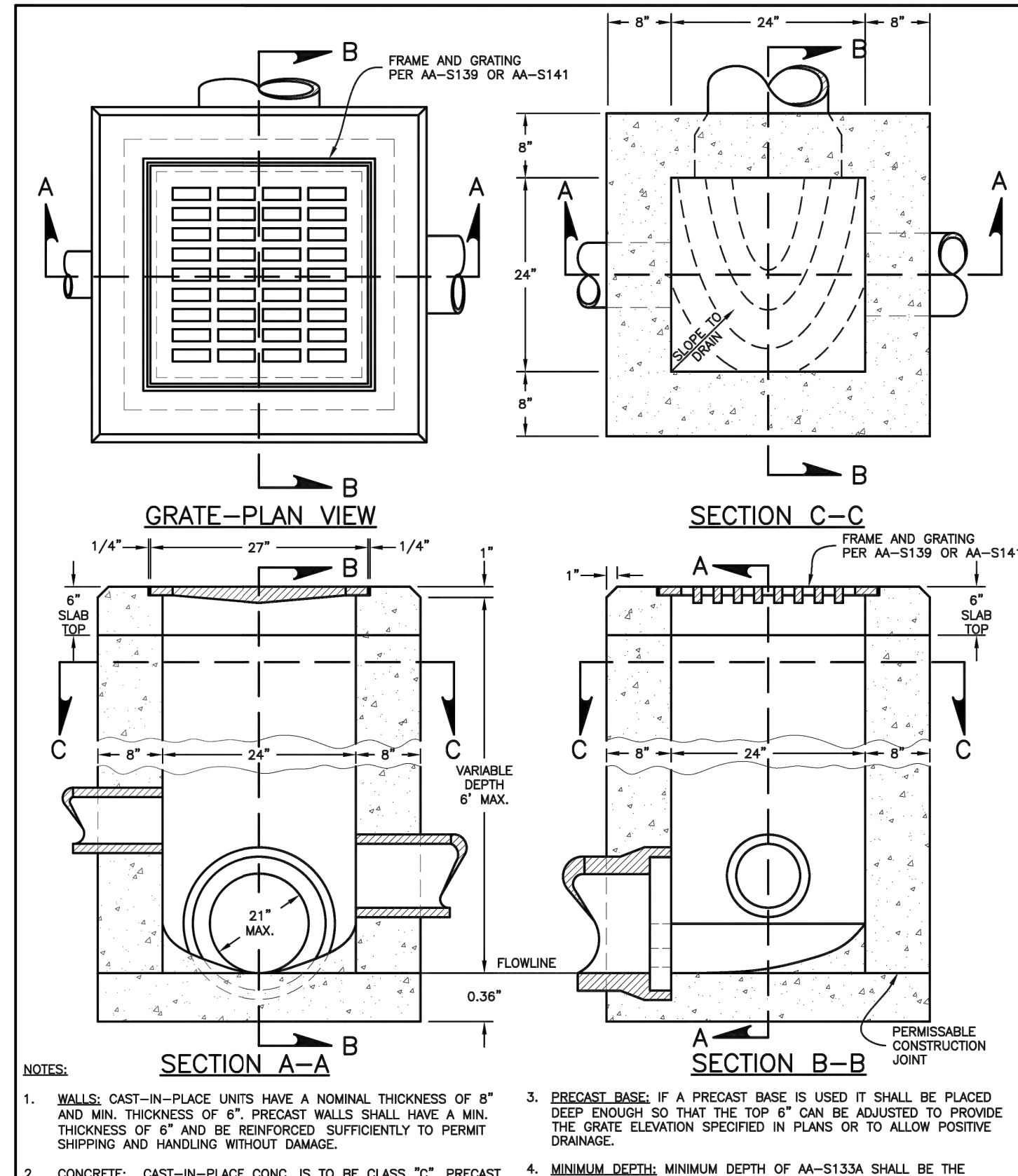
Revisions	

29 JULY, 2019  
NTS  
DETAILS  
G-4



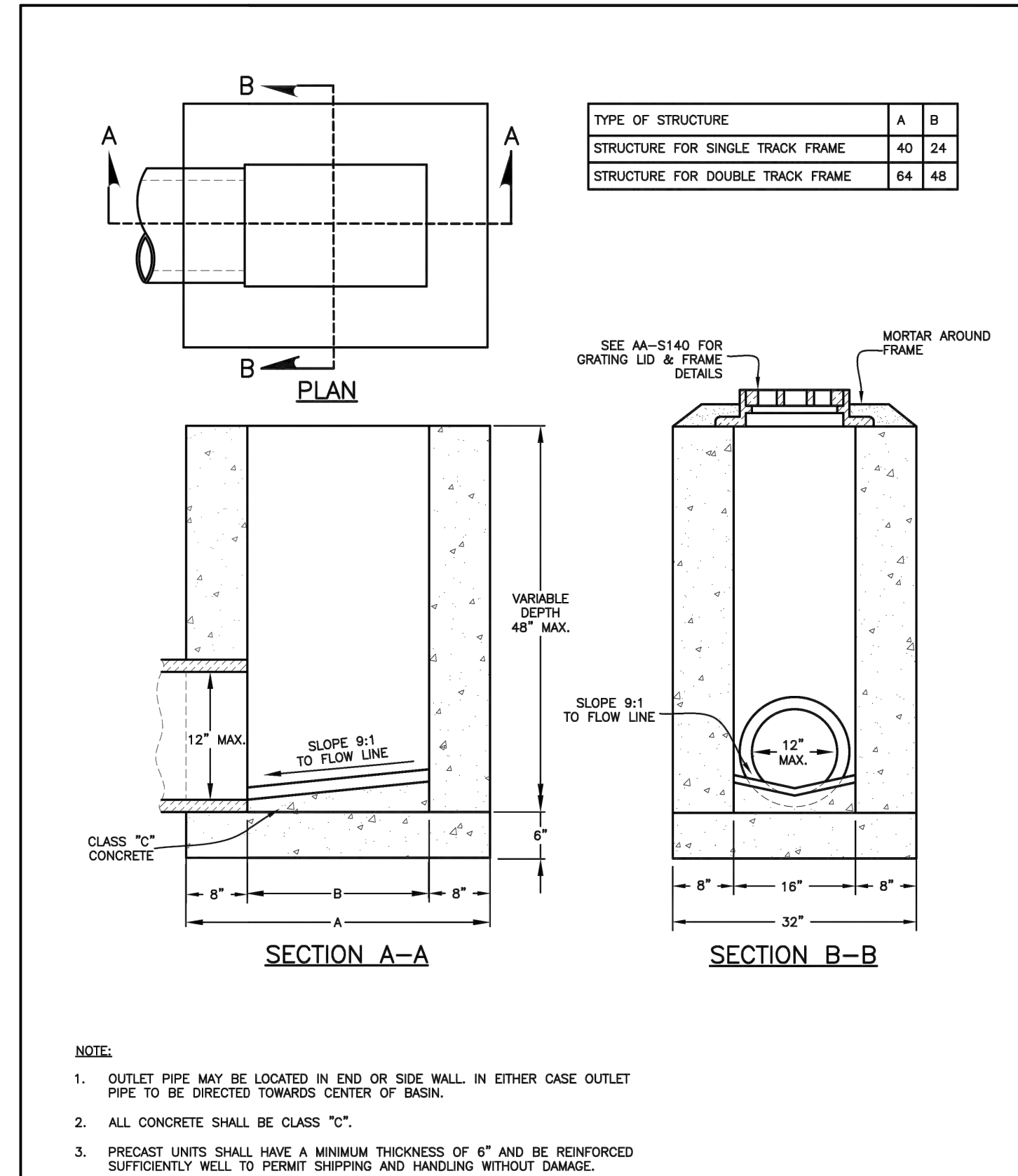
- NOTES:
- STEPS SHALL MEET THE REQUIREMENTS OF ASTM C-478, AND SHALL BE INSTALLED WITH A UNIFORM VERTICAL SPACING OF 12" TO 18"
  - STEPS INSTALLED IN EXISTING STRUCTURES SHALL BE SET IN A QUICK SETTING NON-SHRINK EPOXY.
  - STEPS SHALL CONFORM TO MATERIAL REQUIREMENTS OF CMS 711.31. ALL STEPS SHALL HAVE A DEPRESSED TREAD OR 1/2" MINIMUM CLEAT HEIGHT AT THE ENDS.
  - THE ENGINEER MAY REQUIRE CONTRACTOR TO TEST LOAD A MAXIMUM OF ONE STEP PER MANHOLE TO A PROOF LOAD OF 400LBS. IN DIRECT PULL. THE EQUIPMENT AND METHOD USED SHALL MEET THE APPROVAL OF THE ENGINEER. IF THE SELECTED STEP FAILS THE PULL OUT TEST, THE REMAINING STEPS IN THAT MANHOLE SHALL ALSO BE TESTED. ALL STEPS NOT PASSING THE PULLOUT TEST SHALL BE REMOVED AND A NEW STEP INSTALLED AND TESTED TO THE SATISFACTION OF THE ENGINEER. COST OF TESTING SHALL BE INCIDENTAL TO THE UNIT PRICE BID FOR THE MANHOLE.

CITY OF COLUMBUS, OHIO DEPARTMENT OF PUBLIC UTILITIES DIVISION OF SEWERAGE & DRAINAGE	MANHOLE STEP	STANDARD DRAWING AA-S119
<i>John Johnson</i>		REVISED 7/9/12
SSES MANAGER		PAGE 1



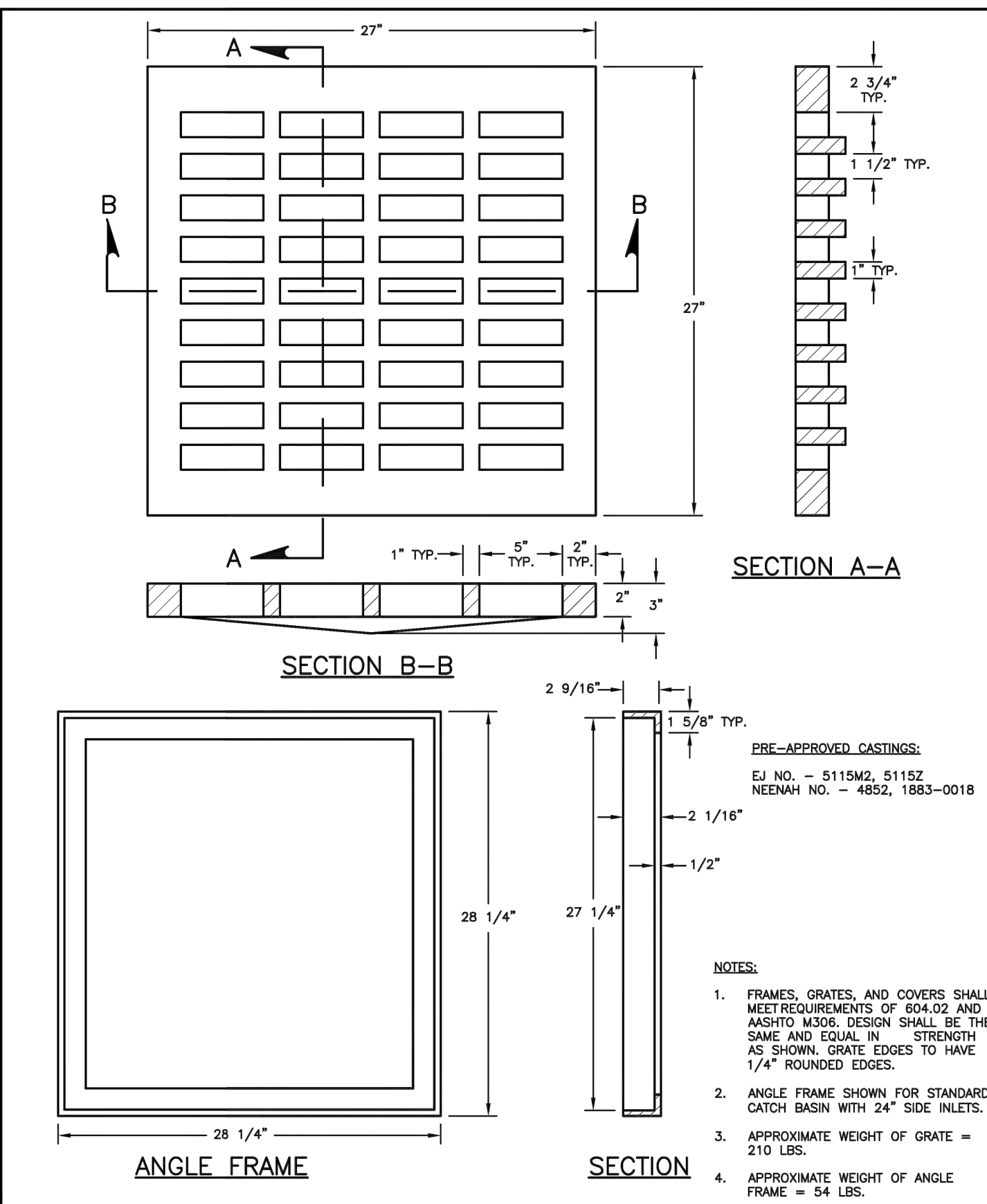
- NOTES:
- WALLS: CAST-IN-PLACE UNITS HAVE A NOMINAL THICKNESS OF 8" AND MIN. THICKNESS OF 6". PRECAST WALLS SHALL HAVE A MIN. THICKNESS OF 6" AND BE REINFORCED SUFFICIENTLY TO PERMIT SHIPPING AND HANDLING WITHOUT DAMAGE.
  - CONCRETE: CAST-IN-PLACE CONC. IS TO BE CLASS "C". PRECAST CONC. SHALL MEET REQUIREMENTS OF CMS 706.13 AND BE MARKED WITH CATCH BASIN NUMBER.
  - PRECAST BASE: IF A PRECAST BASE IS USED IT SHALL BE PLACED DEEP ENOUGH SO THAT THE TOP OF IT CAN BE ADJUSTED TO PROVIDE THE GRATE ELEVATION SPECIFIED IN PLANS OR TO ALLOW POSITIVE DRAINAGE.
  - MINIMUM DEPTH: MINIMUM DEPTH OF AA-S133A SHALL BE THE OUTSIDE DIA. (O.D.) OF THE OUTLET PIPE PLUS 4".

CITY OF COLUMBUS, OHIO DEPARTMENT OF PUBLIC UTILITIES DIVISION OF SEWERAGE & DRAINAGE	STANDARD CATCH BASIN (21" DIAMETER AND SMALLER PIPE)	STANDARD DRAWING AA-S133A
<i>John Johnson</i>		REVISED 12/6/13
SSES MANAGER		PAGE 1



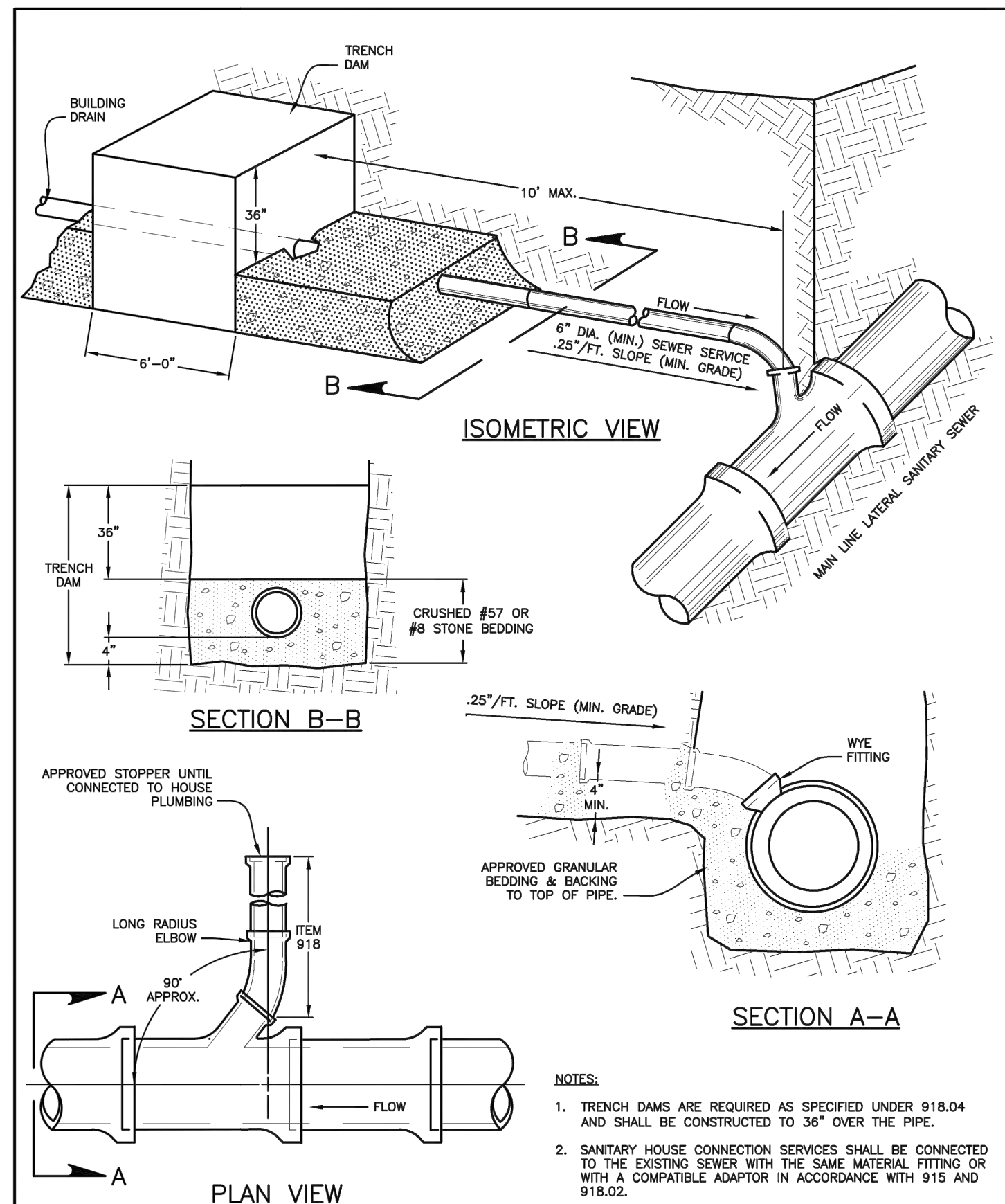
- NOTE:
- OUTLET PIPE MAY BE LOCATED IN END OR SIDE WALL. IN EITHER CASE OUTLET PIPE TO BE DIRECTED TOWARDS CENTER OF BASIN.
  - ALL CONCRETE SHALL BE CLASS "C".
  - PRECAST UNITS SHALL HAVE A MINIMUM THICKNESS OF 6" AND BE REINFORCED SUFFICIENTLY WELL TO PERMIT SHIPPING AND HANDLING WITHOUT DAMAGE.

CITY OF COLUMBUS, OHIO DEPARTMENT OF PUBLIC UTILITIES DIVISION OF SEWERAGE & DRAINAGE	PRECAST RECTANGULAR CATCH BASIN	STD. DWG. AA-S135
<i>John Johnson</i>		REVISED 10/30/12
SSES MANAGER		PAGE 1



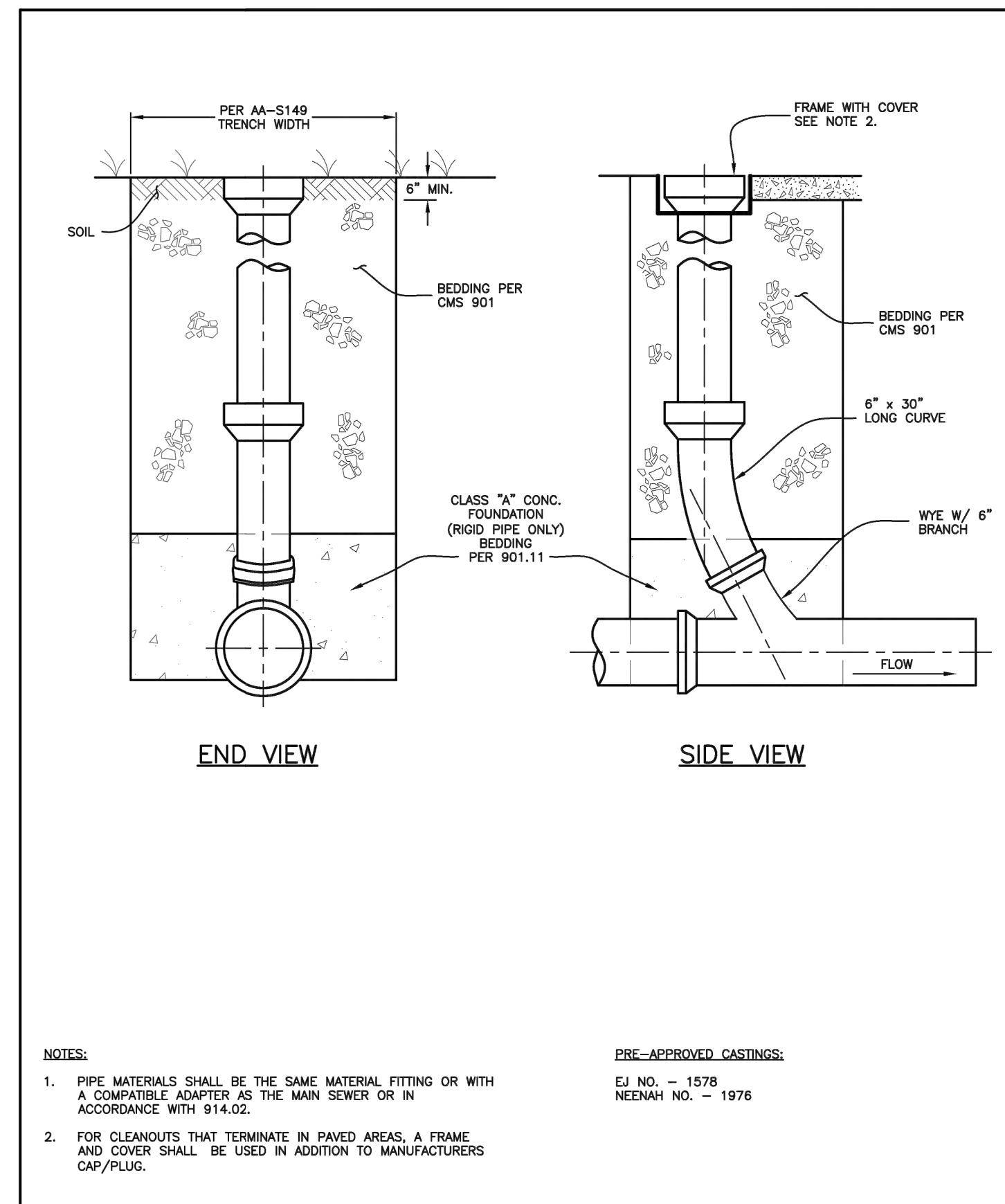
- NOTES:
- FRAMES, GRATES, AND COVERS SHALL MEET REQUIREMENTS OF 604.02 AND ASHTO M306. DESIGN SHALL BE THE SAME AND EQUAL IN STRENGTH AS SHOWN. GRATE EDGES TO HAVE 1/4" ROUNDED EDGES.
  - ANGLE FRAME SHOWN FOR STANDARD CATCH BASIN WITH 24" SIDE INLETS.
  - APPROXIMATE WEIGHT OF GRATE = 210 LBS.
  - APPROXIMATE WEIGHT OF ANGLE FRAME = 54 LBS.

CITY OF COLUMBUS, OHIO DEPARTMENT OF PUBLIC UTILITIES DIVISION OF SEWERAGE & DRAINAGE	HEAVY DUTY GRATE AND ANGLE FRAME FOR STANDARD CATCH BASIN	STANDARD DRAWING AA-S141
<i>John Johnson</i>		REVISED 12/6/13
SSES MANAGER		PAGE 1



- NOTES:
- TRENCH DAMS ARE REQUIRED AS SPECIFIED UNDER 918.04 AND SHALL BE CONSTRUCTED TO 36" OVER THE PIPE.
  - SANITARY HOUSE CONNECTION SERVICES SHALL BE CONNECTED TO THE EXISTING SEWER WITH THE SAME MATERIAL FITTING OR WITH A COMPATIBLE ADAPTOR IN ACCORDANCE WITH 915 AND 918.02.

CITY OF COLUMBUS, OHIO DEPARTMENT OF PUBLIC UTILITIES DIVISION OF SEWERAGE & DRAINAGE	TYPICAL SANITARY HOUSE SERVICE CONNECTION	STANDARD DRAWING AA-S160
<i>John Johnson</i>		REVISED 7/9/12
SSES MANAGER		PAGE 1

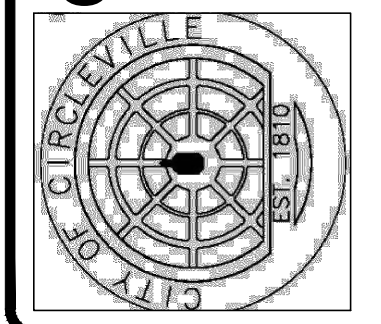


- NOTES:
- PIPE MATERIALS SHALL BE THE SAME MATERIAL FITTING OR WITH A COMPATIBLE ADAPTOR AS THE MAIN SEWER OR IN ACCORDANCE WITH 914.02.
  - FOR CLEANOUTS THAT TERMINATE IN PAVED AREAS, A FRAME AND COVER SHALL BE USED IN ADDITION TO MANUFACTURERS CMP/PLUG.

CITY OF COLUMBUS, OHIO DEPARTMENT OF PUBLIC UTILITIES DIVISION OF SEWERAGE & DRAINAGE	TYPICAL CLEANOUT	STANDARD DRAWING AA-S161
<i>John Johnson</i>		REVISED 12/6/13
SSES MANAGER		PAGE 1



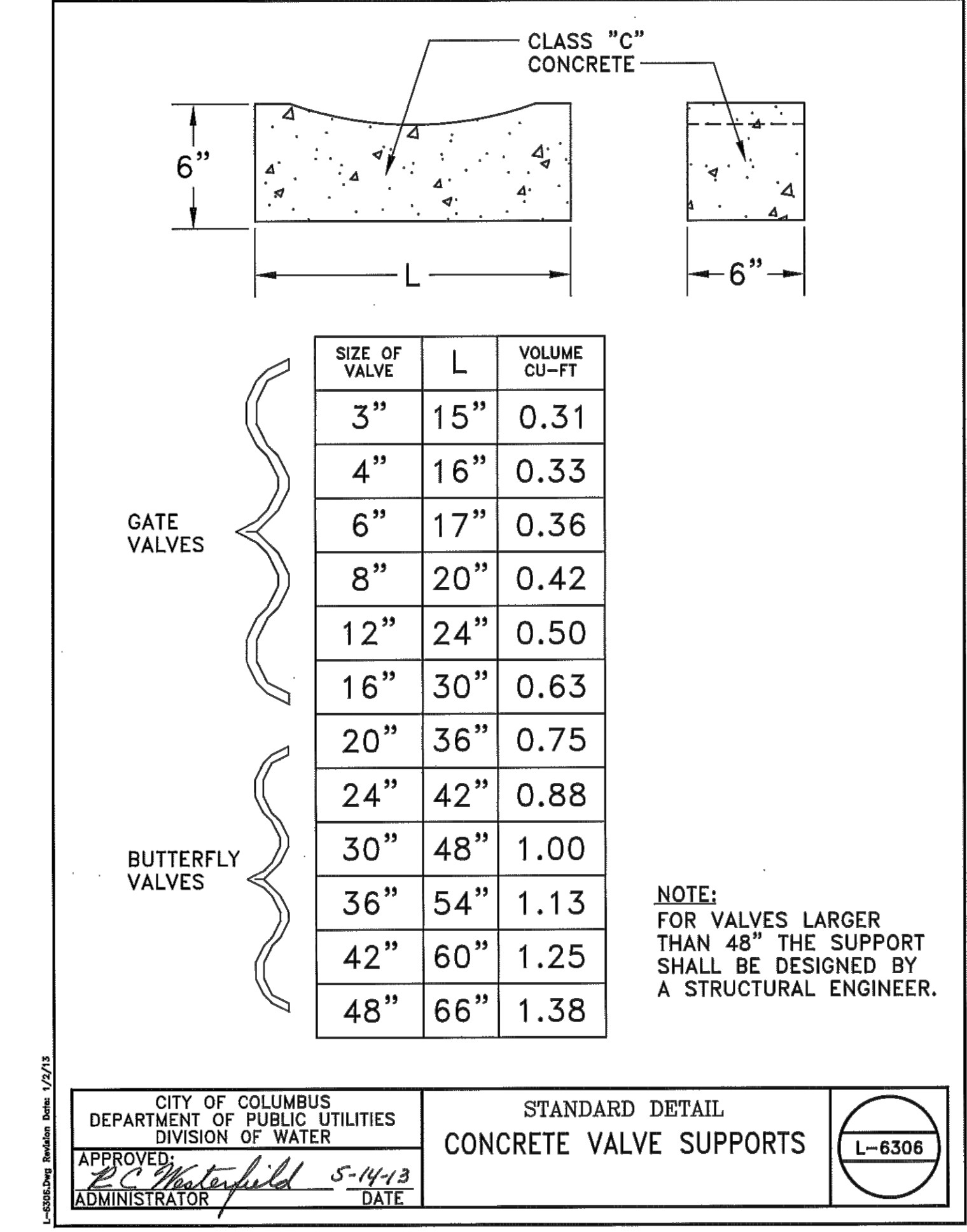
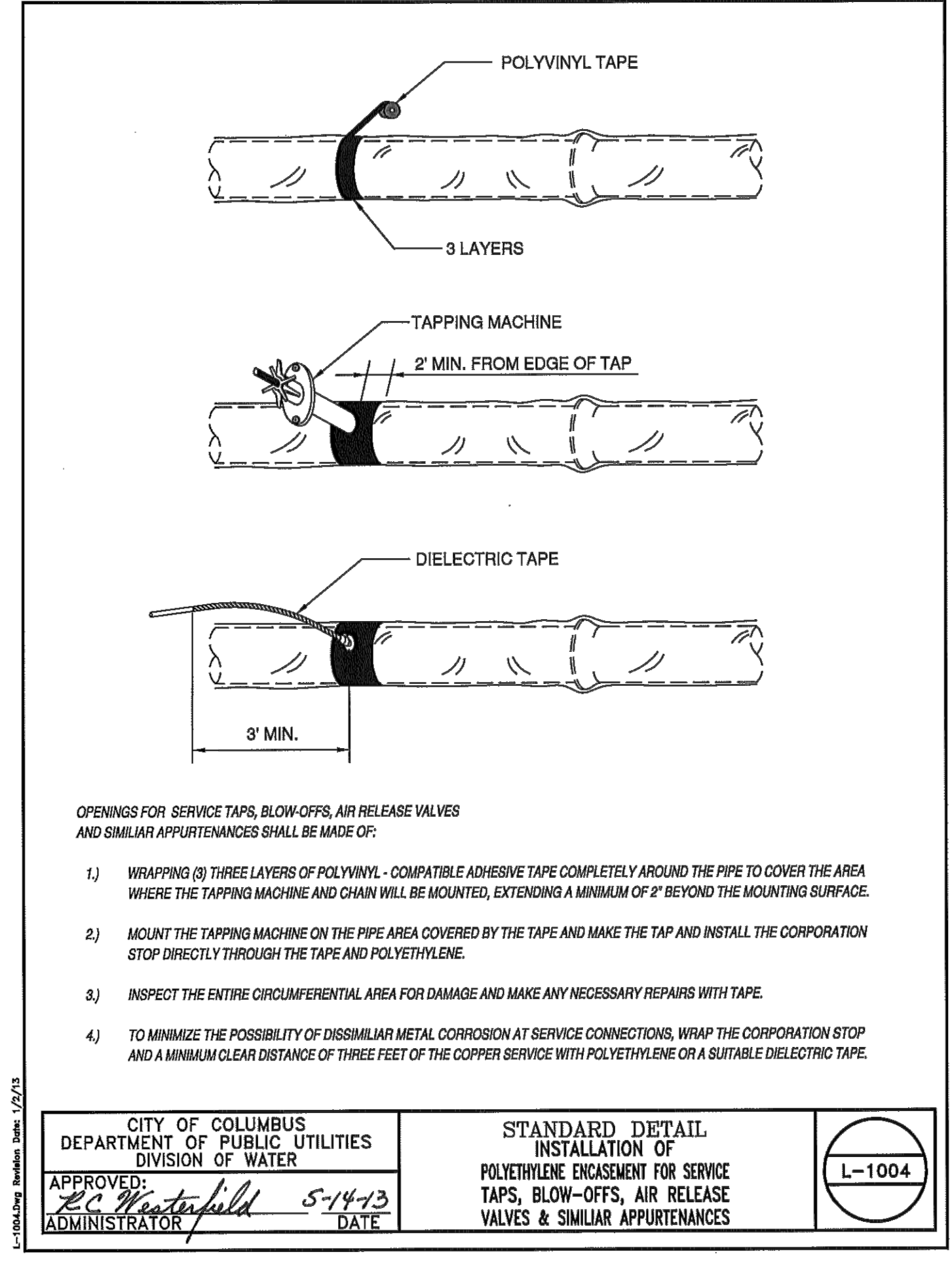
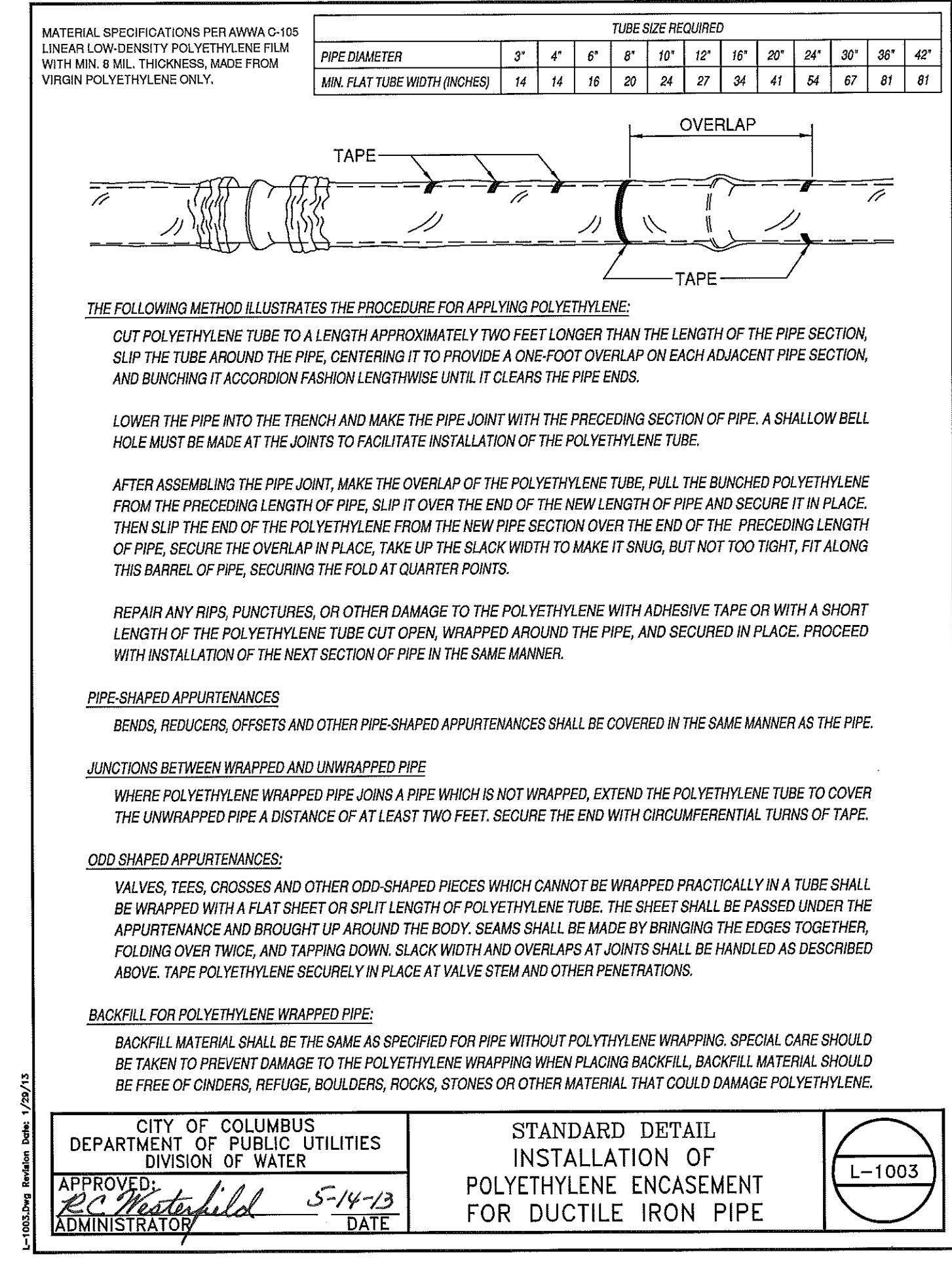
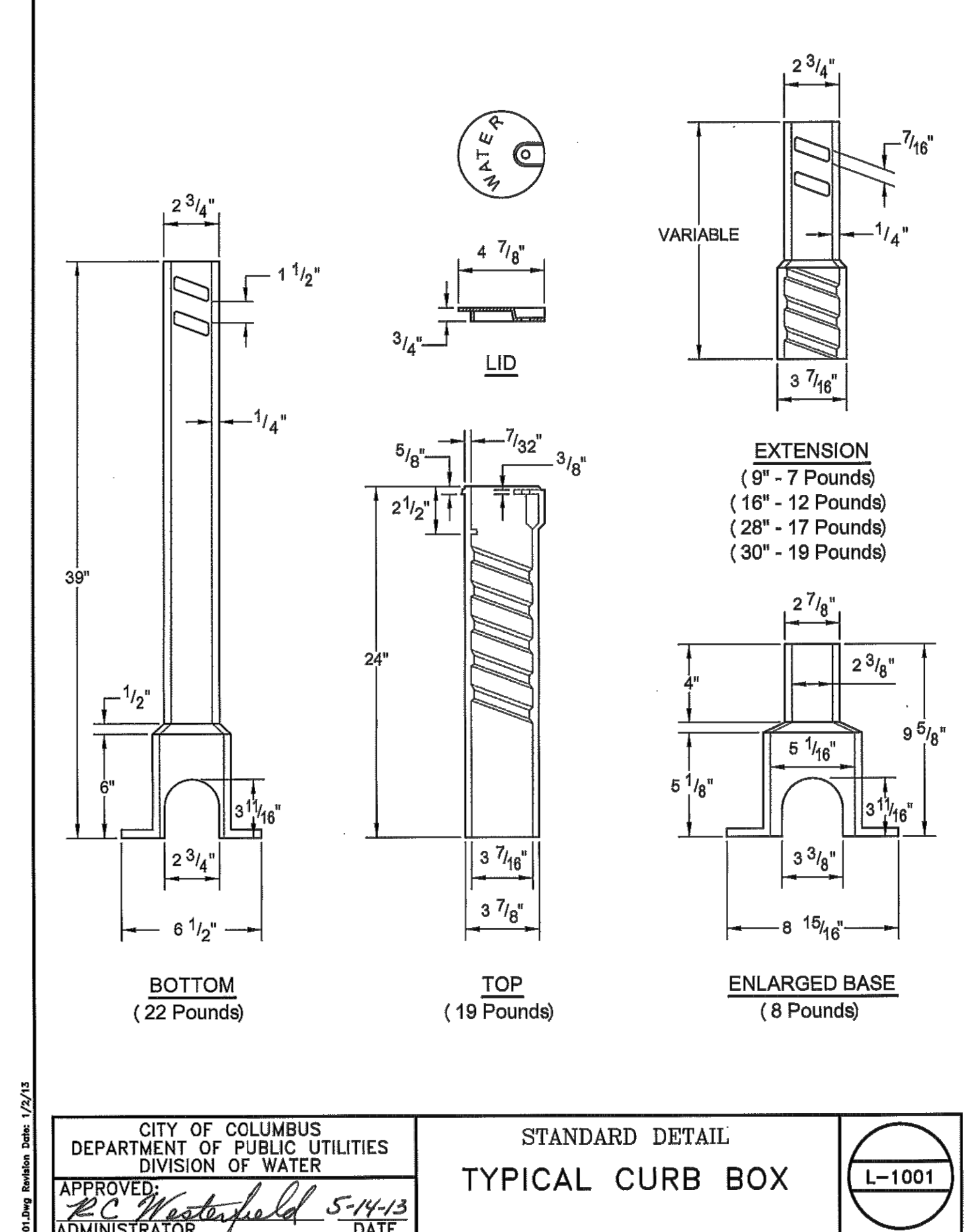
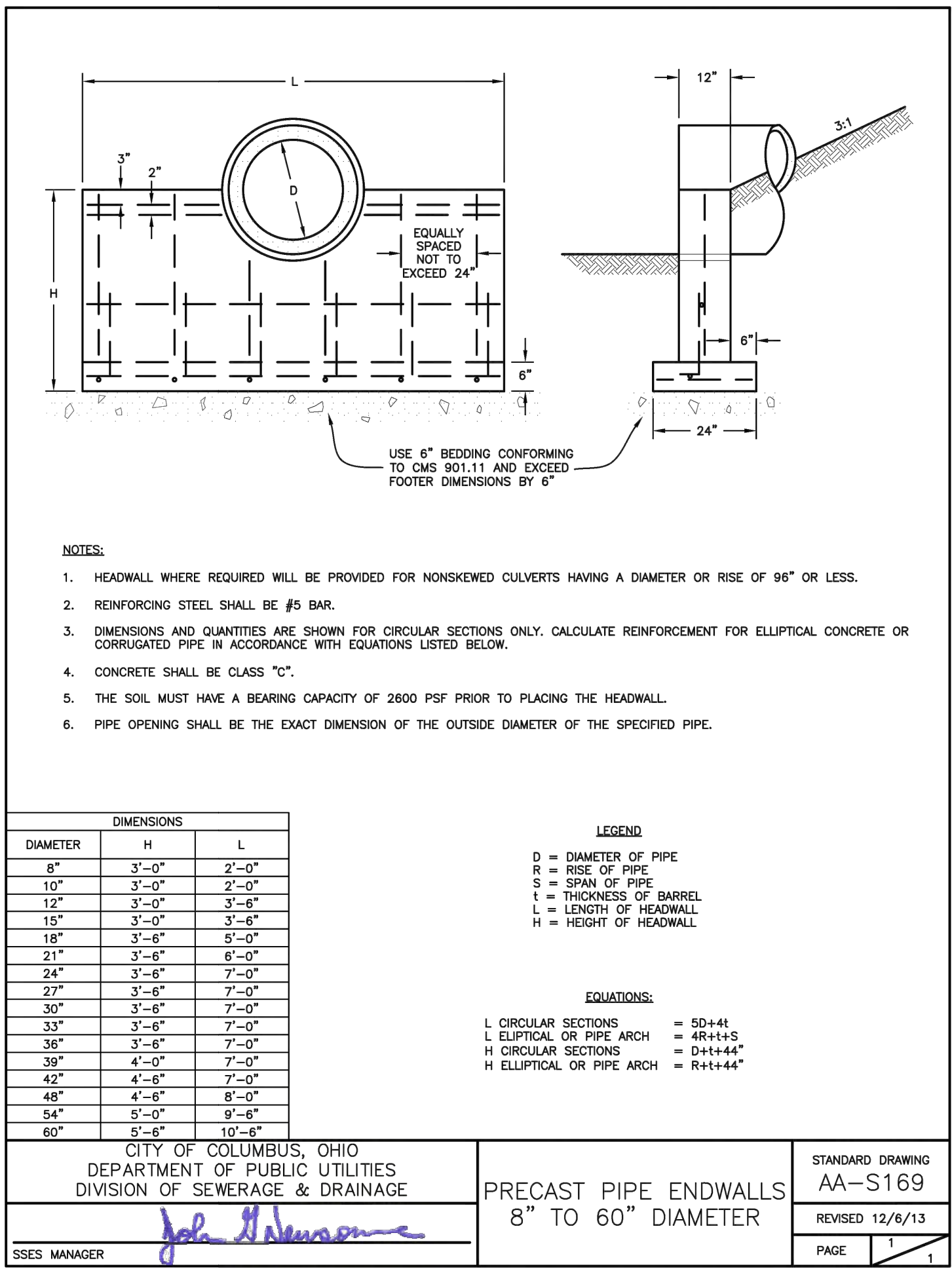
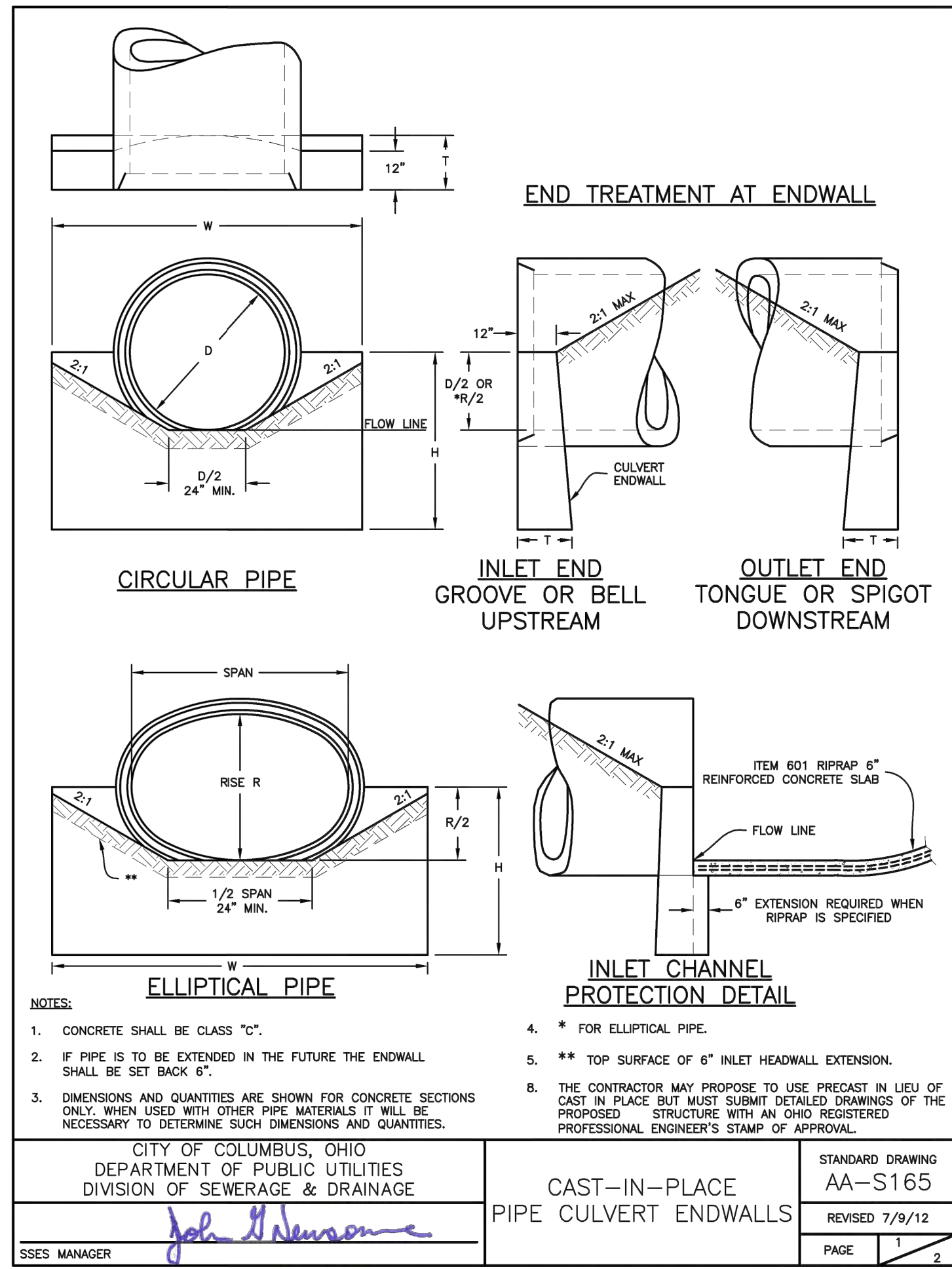
CITY OF CIRCLEVILLE, OHIO  
DEPT. OF PUBLIC UTILITIES  
104 E. FRANKLIN ST.  
CIRCLEVILLE, OH



WOODLAND DRIVE  
STORM, SANITARY, AND  
WATER LINE IMPROVEMENTS  
CIRCLEVILLE, OH

Revisions	

Date	29 JULY, 2019
Scale	NTS
Fig. Title	DETAILS
Sheet	G-5



**PRIMEVA**  
PRIME AE Group, Inc.  
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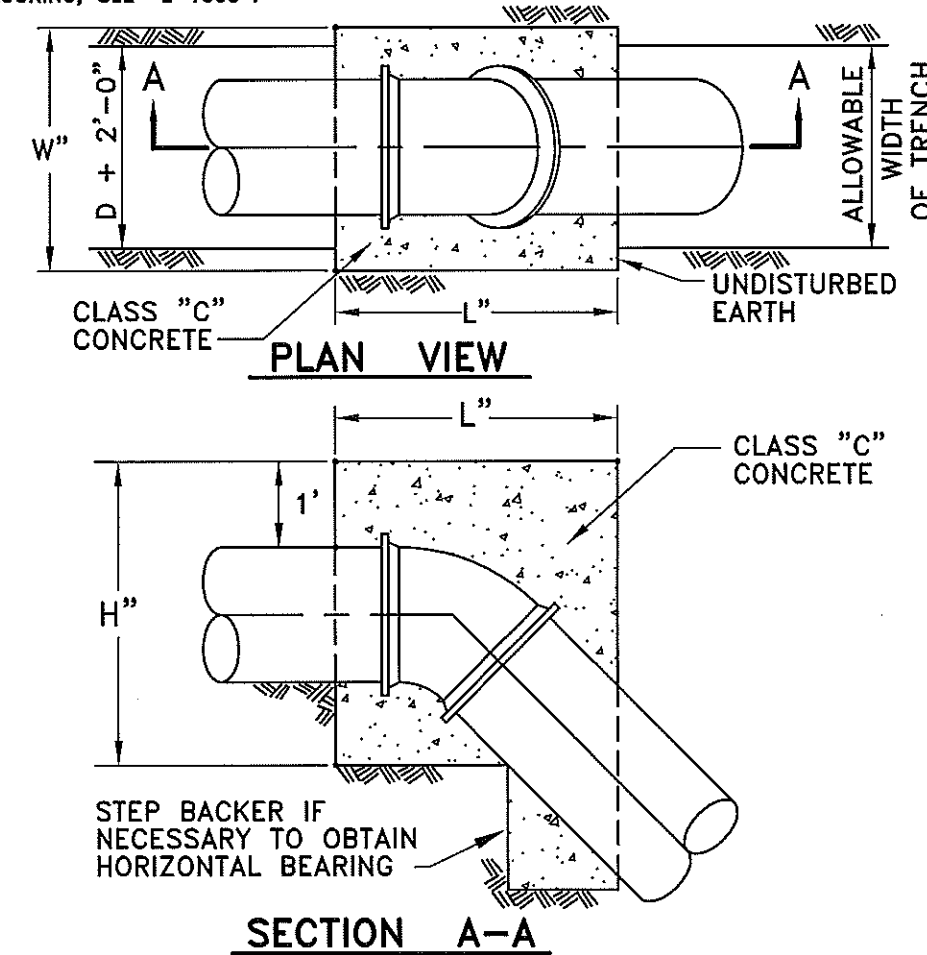
WOODLAND DRIVE  
STORM, SANITARY, AND  
WATER LINE IMPROVEMENTS  
CIRCLEVILLE, OH


29 JULY, 2019  
NTS  
DETAILS  
G-6

P:\Projects\2018\20180710-15602\_Circleville\_Woodland\_Drive\_Sanitary\_Water\_Line\_Improvements\Drawings\Detailing\1-1003.dwg 07/29/2019 1:52 PM - Mr. P.M. Systems, Inc.

PIPE SIZE	11.25°				22.5°				45°			
	L"	W"	H"	Vol.	L"	W"	H"	Vol.	L"	W"	H"	Vol.
3"	12	18	12	1.5	13	25	16	3.0	18	30	19	5.9
4"	12	24	16	2.6	16	30	18	5.0	22	36	24	11.0
6"	12	48	18	6.0	15	43	36	13.4	30	55	24	22.9
8"	12	63	24	10.5	18	57	34	20.2	36	57	33	39.2
12"	20	54	36	22.6	37	62	37	49.0	48	62	51	87.9
16"	31	65	38	44.3	60	65	39	88.1	65	65	65	159.2

- NOTES:
- VOLUMES GIVEN IN CUBIC FEET.
  - BACKER TO BE CENTERED HORIZONTALLY ON BEND.
  - STEEL WILL BE USED AS REQUIRED BY THE ENGINEER.
  - ALL NEW PIPE 20" & LARGER SHALL BE RESTRAINED JOINT PER CCMS ITEM 801 UNLESS OTHERWISE PER PLAN OR AS DIRECTED BY THE ENGINEER.
  - EXISTING WATER LINES 20" AND GREATER MUST HAVE PRIOR APPROVAL FROM DOW TO LOWER UNDER A PROPOSED UTILITY. APPROVAL WILL ONLY BE GIVEN UNDER SPECIAL CIRCUMSTANCES AND CONTINGENT UPON THE CONTRACTOR SUBMITTING A DESIGNED DRAWING, STAMPED BY A PROFESSIONAL ENGINEER, DETAILING HOW THE LOWERED WATER MAIN WILL BE RESTRAINED TO THE EXISTING WATER MAIN.
  - WHERE POLYETHYLENE ENCASEMENT IS REQUIRED, ALL GLANDS & BOLTS SHALL BE WRAPPED PRIOR TO PLACEMENT OF CONCRETE BACKING, SEE "L-1003".



CITY OF COLUMBUS  
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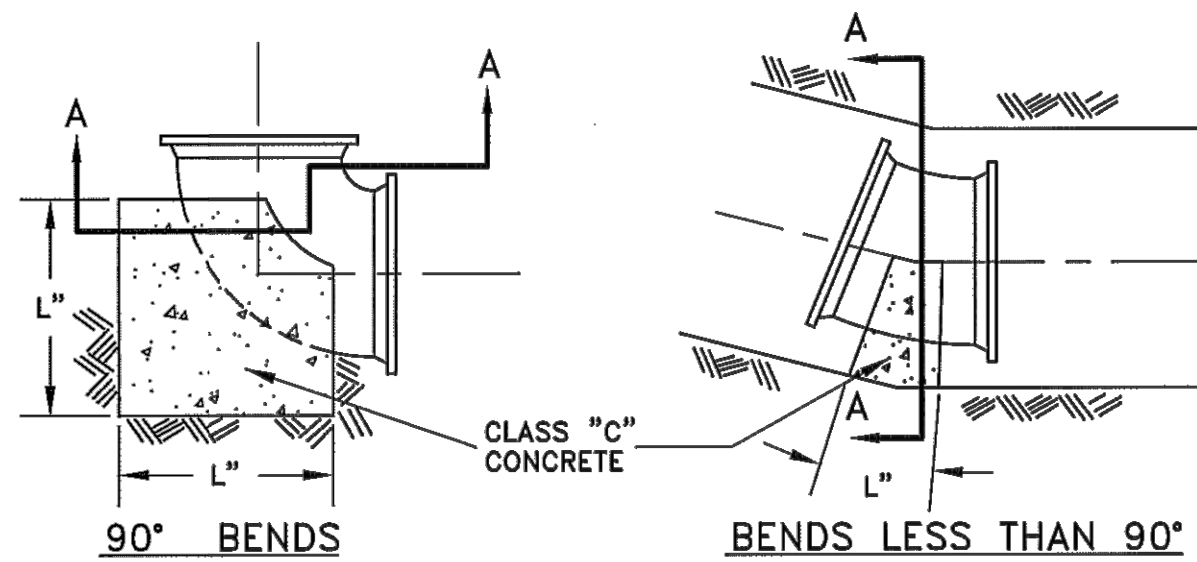
APPROVED: *R.C. Westerfield* 5-14-13  
ADMINISTRATOR DATE

STANDARD DETAIL  
**BACKING FOR VERTICAL BENDS**  
(OVER BENDS ONLY)

L-6310

SIZE OF PIPE	DEGREE OF BEND											
	11.25°			22.50°			45°			90° (HORZ. ONLY)		
	L"	D"	Vol. f.	L"	D"	Vol. f.	L"	D"	Vol. f.	L"	D"	Vol. f.
3"	4	3	0.1	6	4	0.2	10	4	0.3	10	4	0.3
4"	5	4	0.2	9	5	0.4	14	5	0.6	14	5	0.6
6"	8	6	0.5	12	7	0.7	20	8	1.4	18	9	1.7
8"	9	8	0.7	16	9	1.4	24	12	2.7	25	11	4.0
12"	14	12	1.8	24	14	3.6	36	18	6.8	32	18	10.7
16"	18	16	3.4	32	18	6.7	36	32	13.4	41	26	25.6

STEEL WILL BE USED AS REQUIRED BY ENGINEER



- NOTES:
- BACKER DESIGNED FOR 3000 PSF SOIL BEARING.
  - CONCRETE TO BE PLACED AGAINST UNDISTURBED EARTH.
  - ALL NEW PIPE 20" & LARGER SHALL BE RESTRAINED JOINT PER CCMS ITEM 801 UNLESS OTHERWISE INDICATED PER PLAN OR AS DIRECTED BY THE ENGINEER.
  - EXISTING WATER LINES 20" AND GREATER MUST HAVE PRIOR APPROVAL FROM DOW TO LOWER UNDER A PROPOSED UTILITY. APPROVAL WILL ONLY BE GIVEN UNDER SPECIAL CIRCUMSTANCES AND CONTINGENT UPON THE CONTRACTOR SUBMITTING A DESIGNED DRAWING, STAMPED BY A PROFESSIONAL ENGINEER, DETAILING HOW THE LOWERED WATER MAIN WILL BE RESTRAINED TO THE EXISTING WATER MAIN.
  - PROVIDE CLEARANCE FOR REMOVAL OF BOLTS.

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DIVISION OF WATER

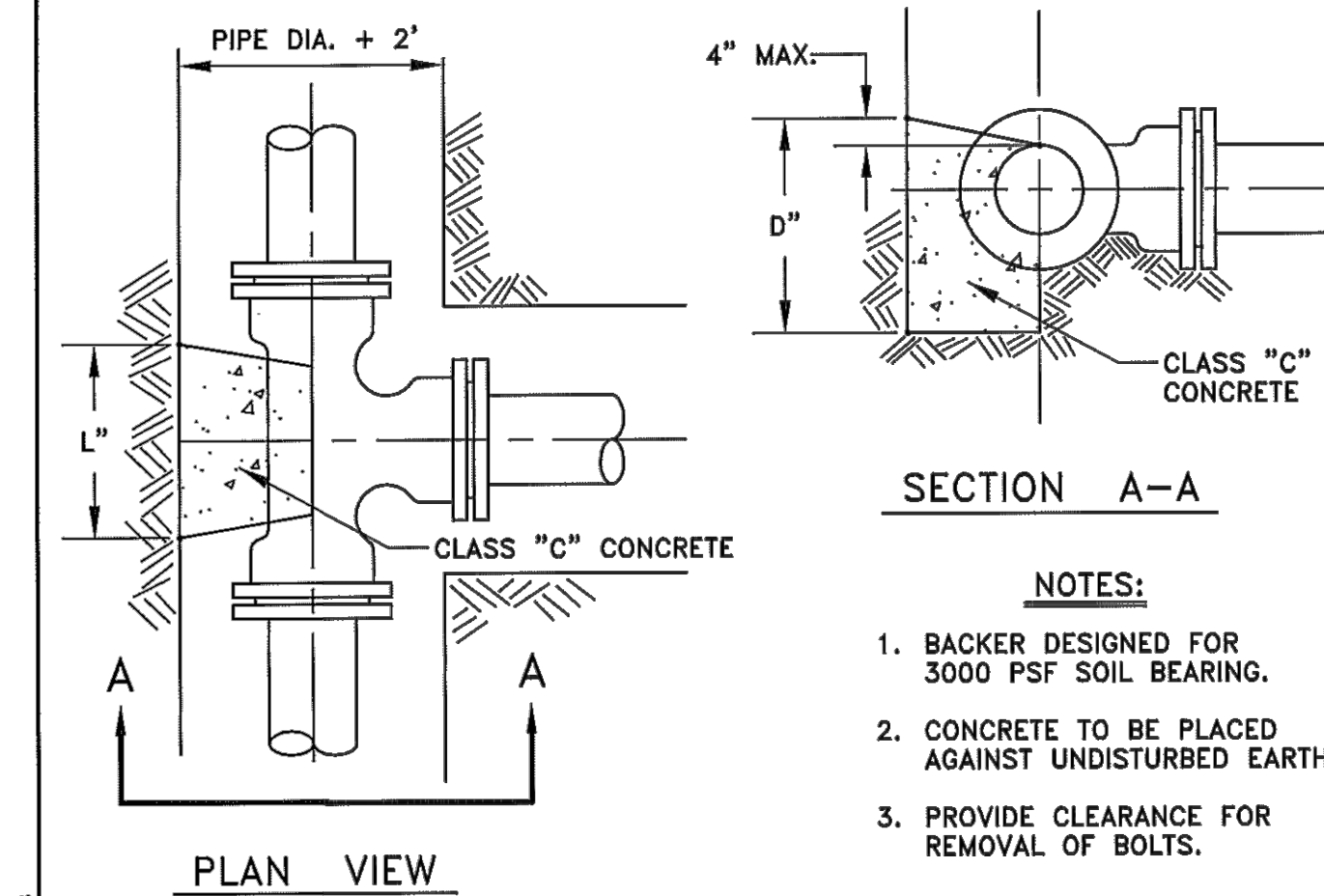
APPROVED: *R.C. Westerfield* 5-14-13  
ADMINISTRATOR DATE

STANDARD DETAIL  
**BACKING FOR BENDS**  
HORIZONTAL AND VERTICAL SAG

L-6311

R U N	BRANCH																										
	3"		4"		6"		8"		12"		16"		20"		24"												
	L"	Vol. f.	L"	Vol. f.	L"	Vol. f.	L"	Vol. f.	L"	Vol. f.	L"	Vol. f.	L"	Vol. f.	L"	Vol. f.											
3"	12	5	0.5																								
4"	10	6	0.5	11	8	0.8																					
6"	9	7	0.5	11	8	0.8	18	12	1.9																		
8"	8	8	0.5	10	9	0.7	18	12	1.9	23	16	3.5															
12"	6	12	0.6	8	12	0.8	18	12	1.9	23	16	3.5	38	22	8.7												
16"							14	16	2.0	20	18	3.3	36	23	8.7	49	30	13.6									
20"										11	20	1.9	18	20	3.3	35	24	8.7	46	32	13.6	60	38	26.5			
24"										9	24	1.9	15	24	3.3	30	28	8.7	42	36	14.0	54	42	26.3	68	48	45.4

STEEL WILL BE USED AS REQUIRED BY THE ENGINEER



CITY OF COLUMBUS  
DEPARTMENT OF PUBLIC UTILITIES  
DIVISION OF WATER

APPROVED: *R.C. Westerfield* 5-14-13  
ADMINISTRATOR DATE

STANDARD DETAIL  
**BACKING FOR TEES**

L-6312

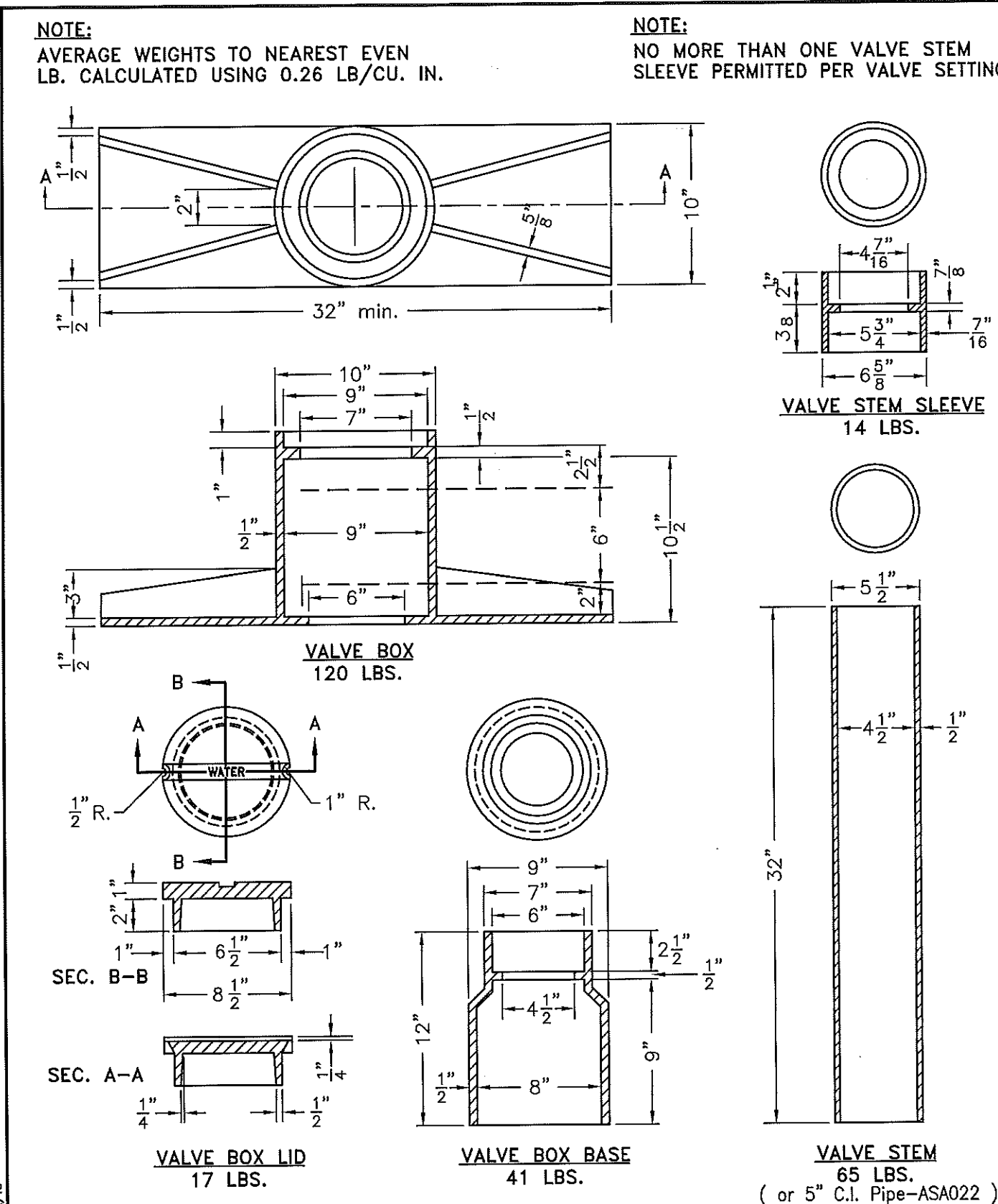
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WOODLAND DRIVE  
STORM, SANITARY, AND  
WATER LINE IMPROVEMENTS  
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29 JULY, 2019  
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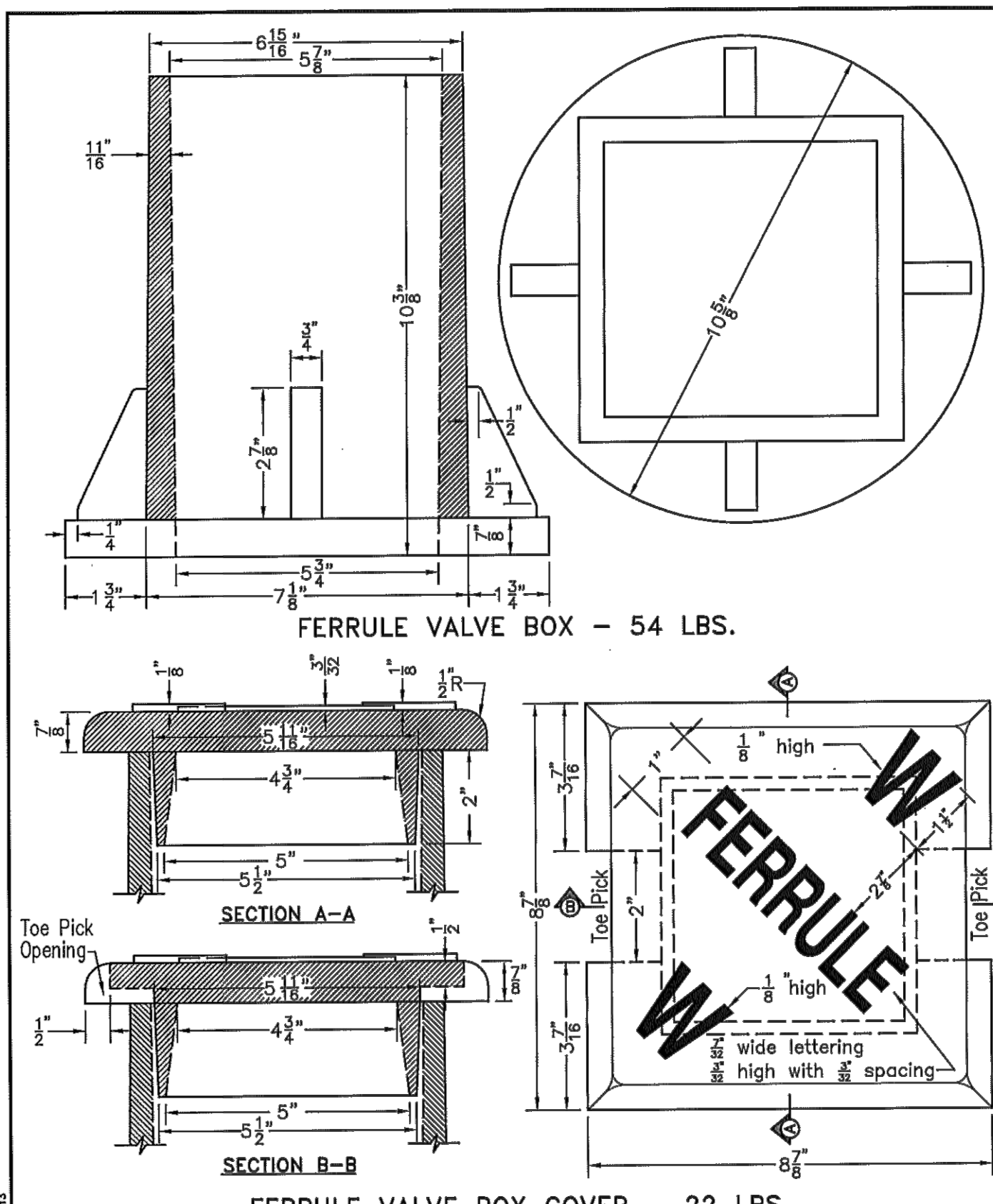


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APPROVED: *R.C. Westerfield* 5-14-13  
ADMINISTRATOR DATE

STANDARD DETAIL  
**COLUMBUS STANDARD HEAVY DUTY VALVE BOX**

L-6316A

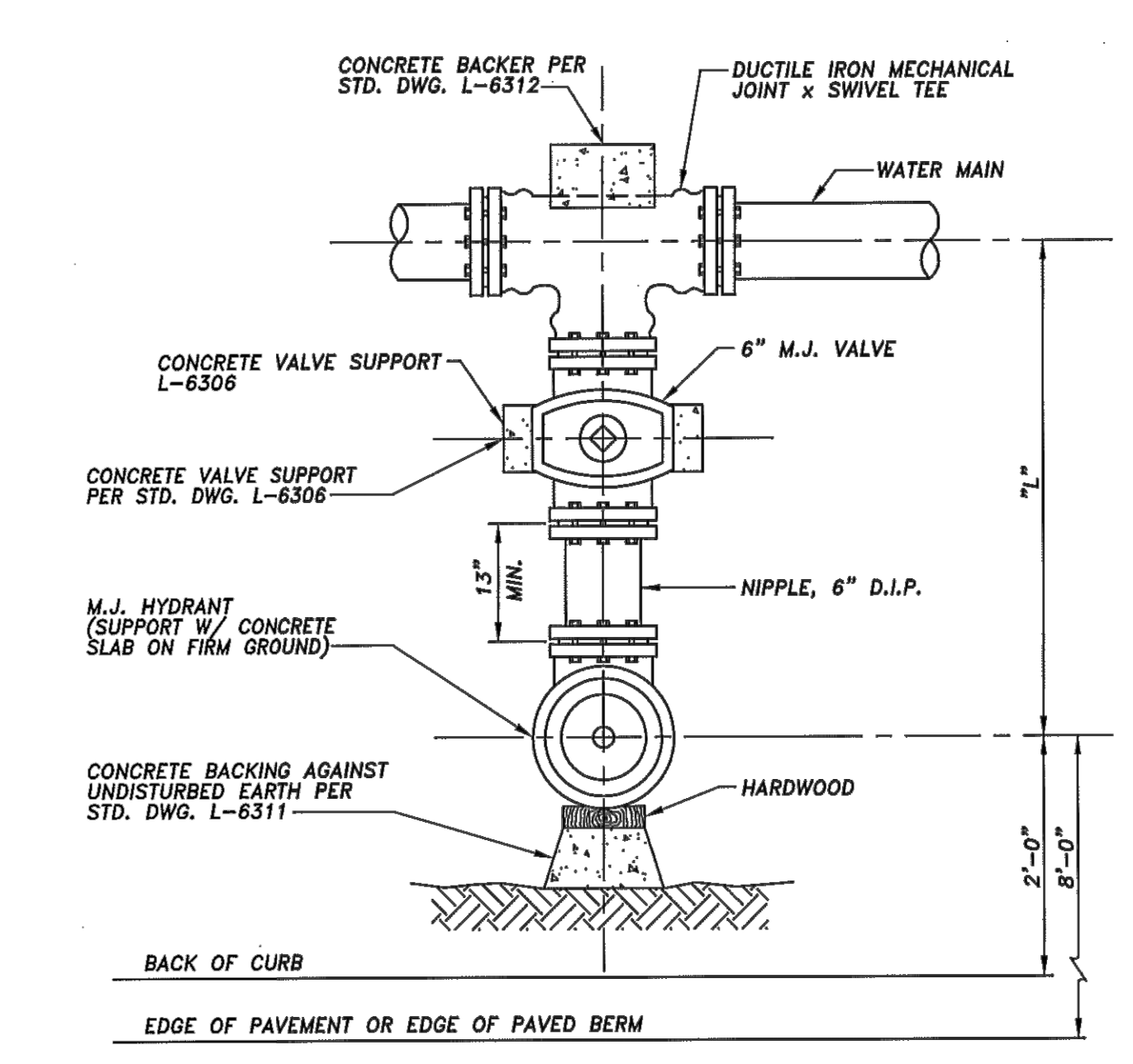


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APPROVED: *R.C. Westerfield* 5-15-13  
ADMINISTRATOR DATE

STANDARD DETAIL  
**C.I. FERRULE BOX AND COVER**

L-6320



MAIN LINE	DIMENSION "L"	TYPE "A"
6"	39"	
8"	40"	
12"	43"	
16"	46"	
20"	58"	
24"	61"	
30"	64"	

CITY OF COLUMBUS  
DEPARTMENT OF PUBLIC UTILITIES  
DIVISION OF WATER

APPROVED: *R.C. Westerfield* 5-16-13  
ADMINISTRATOR DATE

STANDARD DETAIL  
**TYPICAL TYPE "A" HYDRANT SETTING**  
FOR DUCTILE IRON MECHANICAL JOINT x SWIVEL TEES

L-6637A



LENGTH OF PIPE	GALLONS PER HOUR												
	6" Pipe	8" Pipe	12" Pipe	16" Pipe	20" Pipe	24" Pipe	30" Pipe	36" Pipe	42" Pipe	48" Pipe	54" Pipe	60" Pipe	66" Pipe
50	0.02	0.03	0.05	0.07	0.08	0.10	0.12	0.15	0.17	0.20	0.22	0.25	0.27
100	0.05	0.07	0.10	0.13	0.17	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.55
200	0.10	0.13	0.20	0.26	0.33	0.40	0.50	0.60	0.70	0.79	0.89	0.99	1.09
300	0.15	0.20	0.30	0.40	0.50	0.60	0.74	0.89	1.04	1.19	1.34	1.49	1.64
400	0.20	0.26	0.40	0.53	0.66	0.79	0.99	1.19	1.39	1.59	1.79	1.99	2.18
500	0.25	0.33	0.50	0.66	0.83	0.99	1.24	1.49	1.74	1.99	2.23	2.48	2.73
600	0.30	0.40	0.60	0.79	0.99	1.19	1.49	1.79	2.09	2.38	2.68	2.98	3.28
700	0.35	0.46	0.70	0.93	1.16	1.39	1.74	2.09	2.43	2.78	3.13	3.48	3.82
800	0.40	0.53	0.79	1.06	1.32	1.59	1.99	2.38	2.78	3.18	3.57	3.97	4.37
900	0.45	0.60	0.89	1.19	1.49	1.79	2.23	2.68	3.13	3.57	4.02	4.47	4.92
1000	0.50	0.66	0.99	1.32	1.66	1.99	2.48	2.98	3.48	3.97	4.47	4.97	5.46
2500	1.24	1.66	2.48	3.31	4.14	4.97	6.21	7.45	8.69	9.93	11.17	12.41	13.65
5000	2.48	3.31	4.97	6.62	8.28	9.93	12.41	14.90	17.38	19.86	22.34	24.83	27.31
7500	3.72	4.97	7.45	9.93	12.41	14.90	18.62	22.34	26.07	29.79	33.51	37.24	40.96
10000	4.97	6.62	9.93	13.24	16.55	19.86	24.83	29.79	34.76	39.72	44.69	49.65	54.62

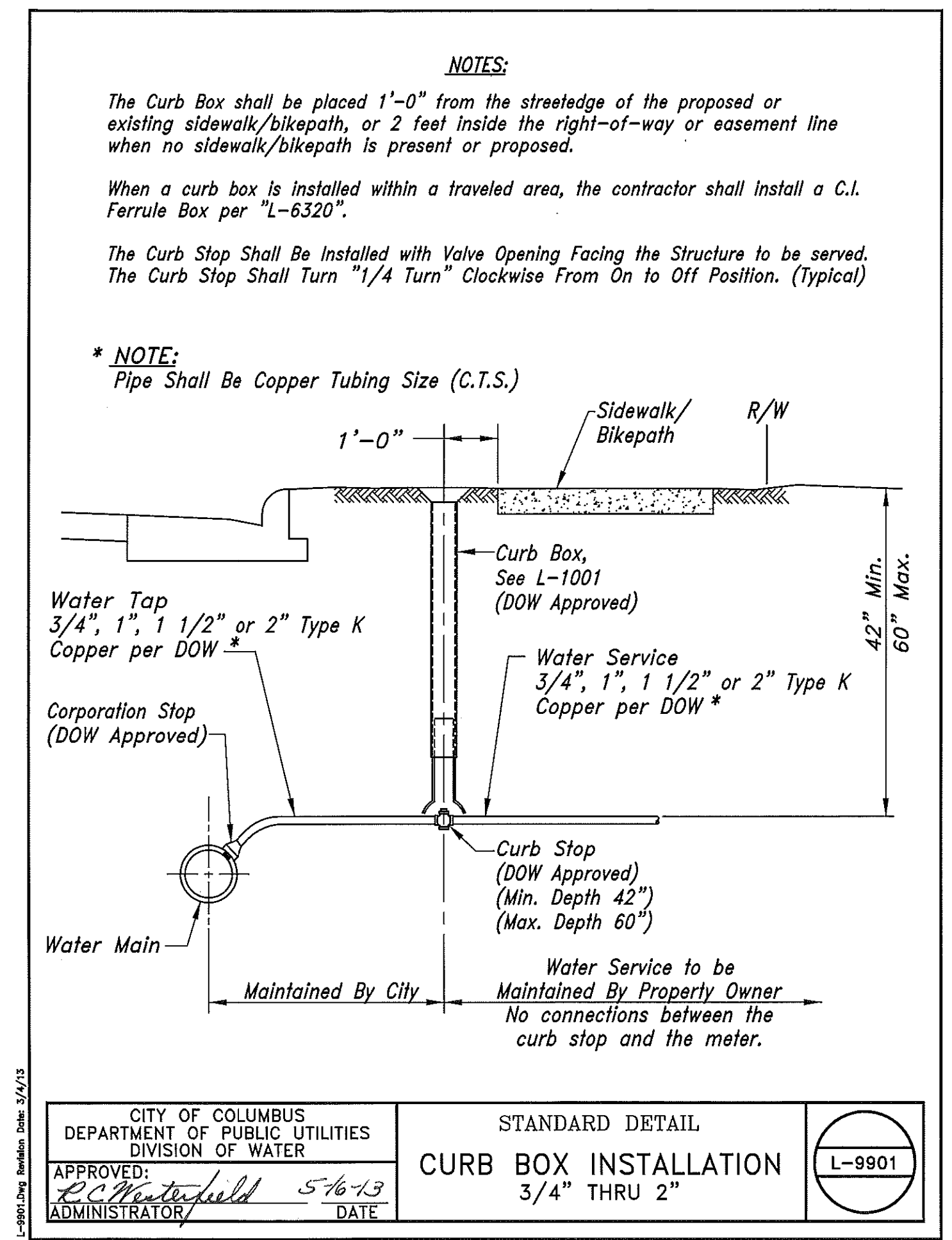
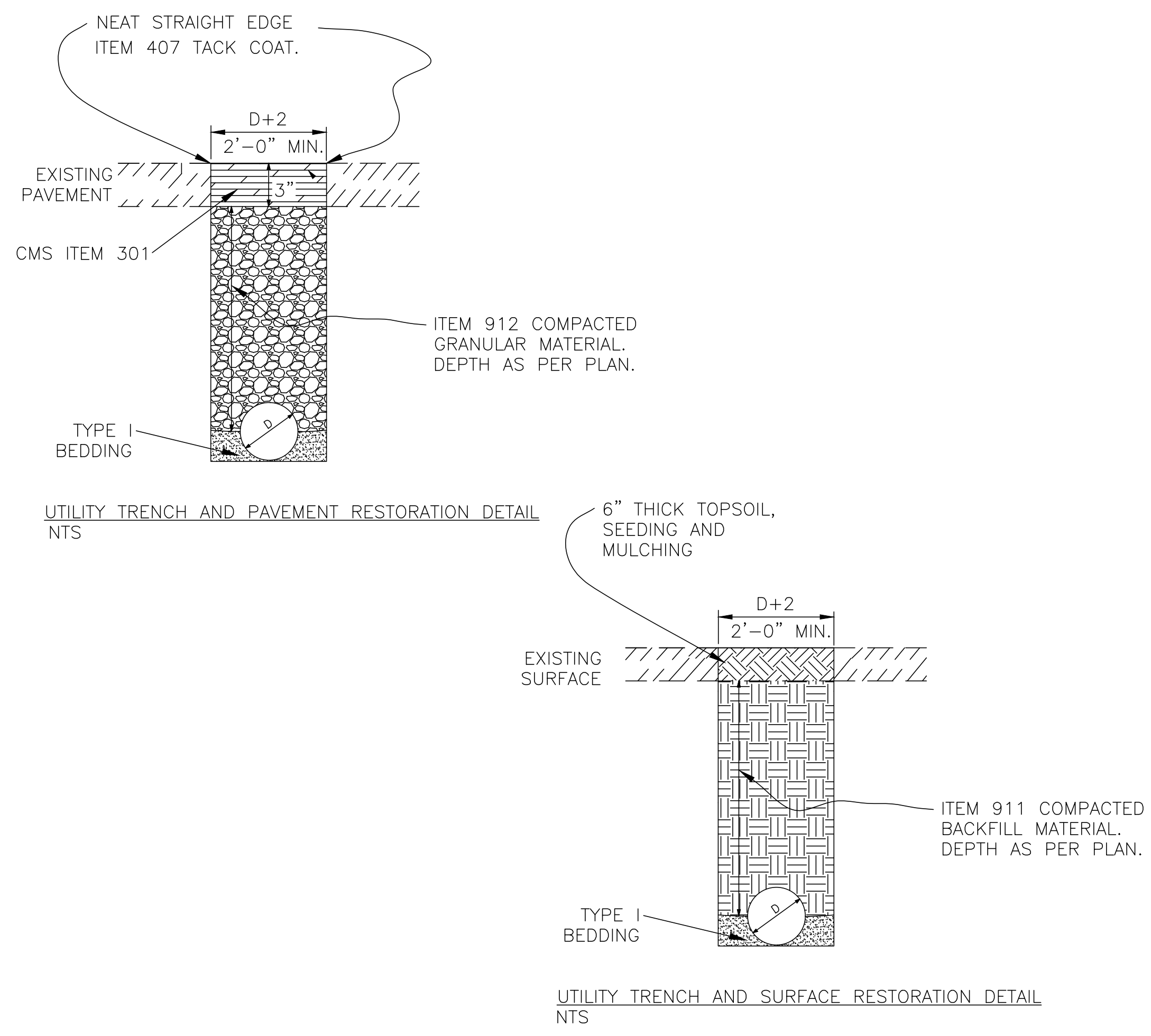
FORMULA:  $L = \frac{SD\sqrt{P}}{148,000}$

Where: L = Allowable Leakage (gal./hr.)  
 S = Length of pipe tested in feet.  
 D = Nominal pipe diameter in inches.  
 P = Test pressure (150 psi)

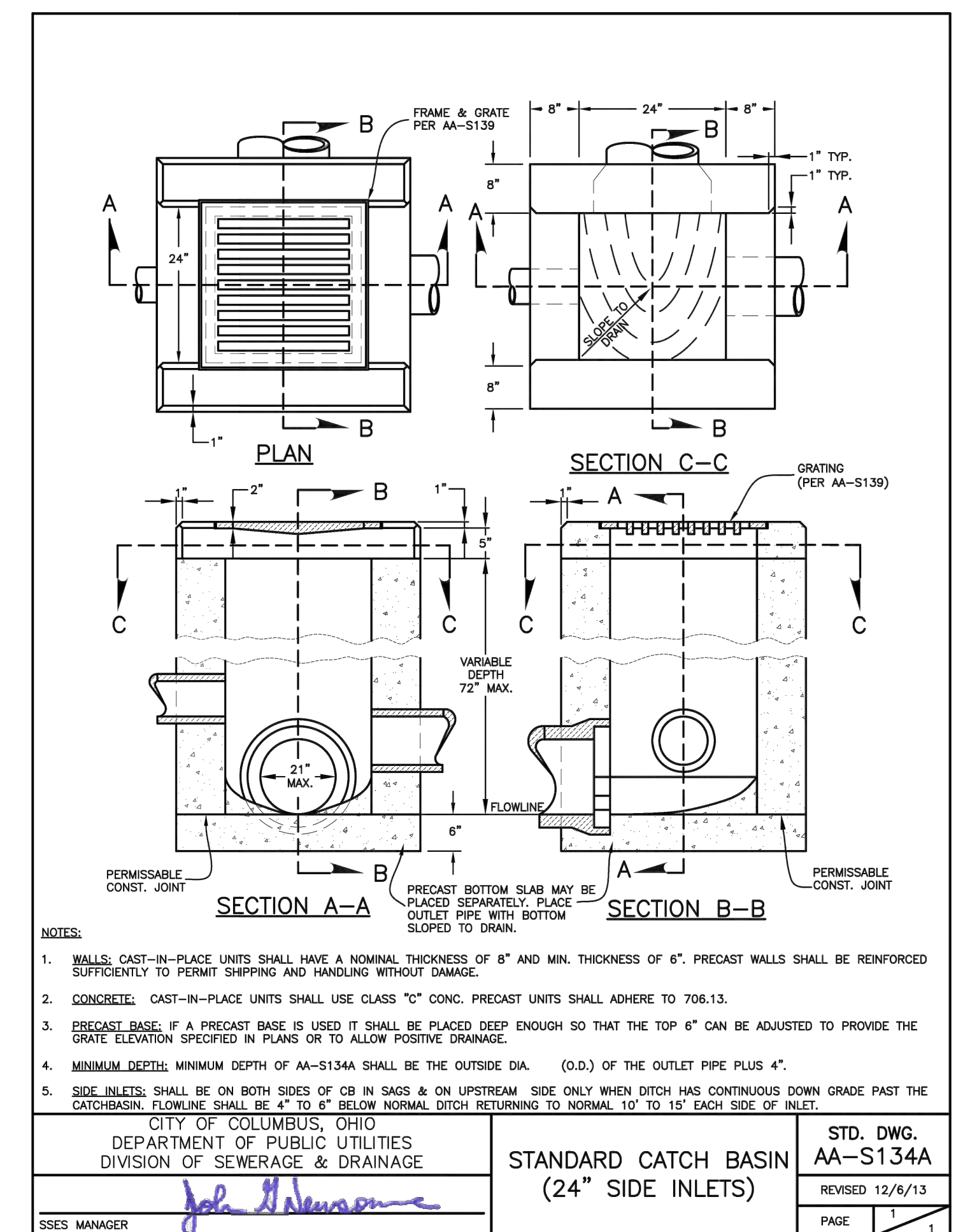
When testing against closed metal-seated valves, an additional leakage per closed valve of 0.0078 gal./hr./in. of nominal valve size will be allowed.

These calculations are based on "AWWA C-600-10" Specifications, Section 4, Hydrostatic Testing, Dated December 1, 2005.

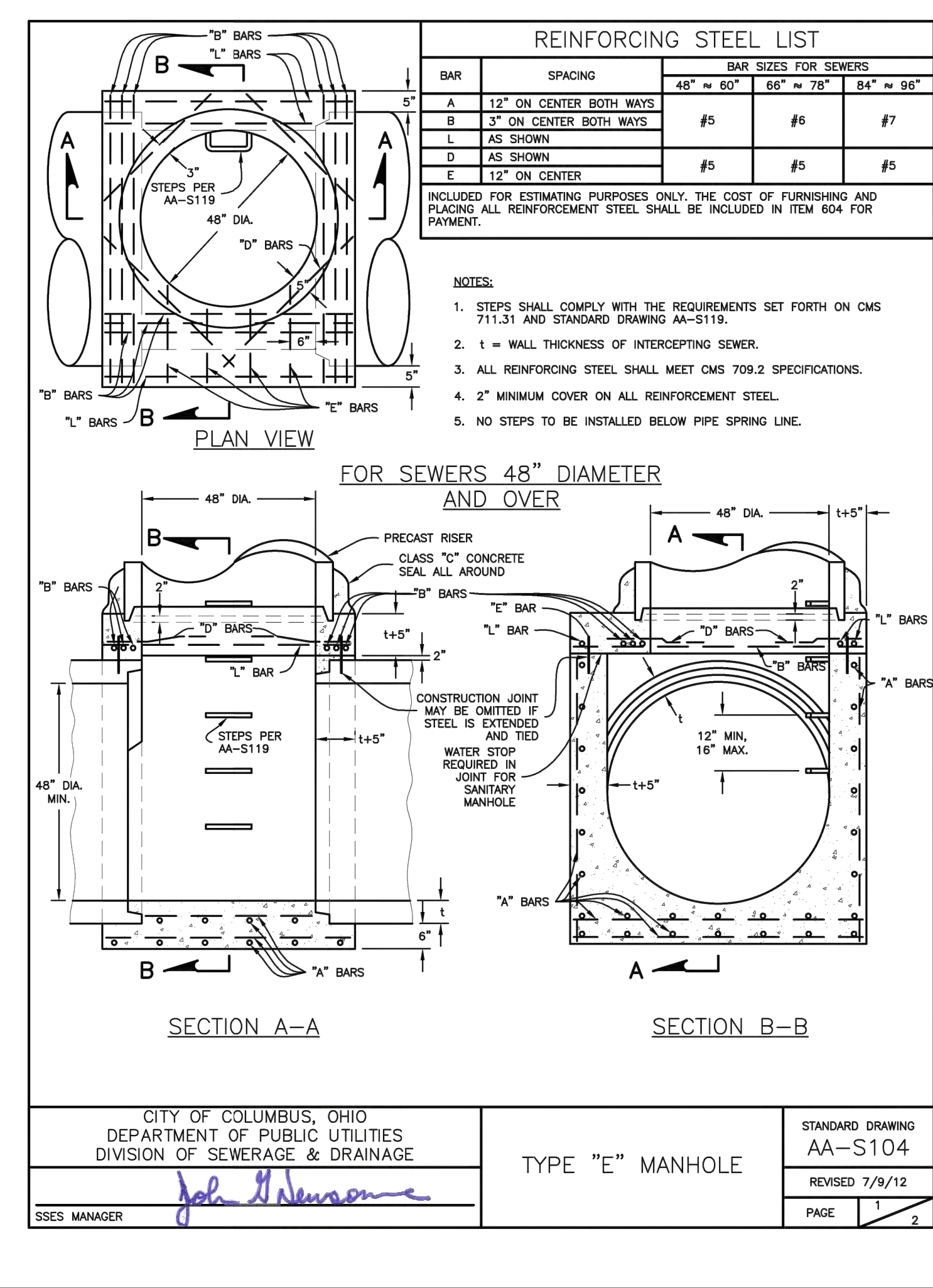
CITY OF COLUMBUS DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER  
 STANDARD DETAIL ALLOWABLE LEAKAGE TABLE  
 L-6640  
 APPROVED: *R.C. Westfield* 5-16-13 DATE  
 ADMINISTRATOR



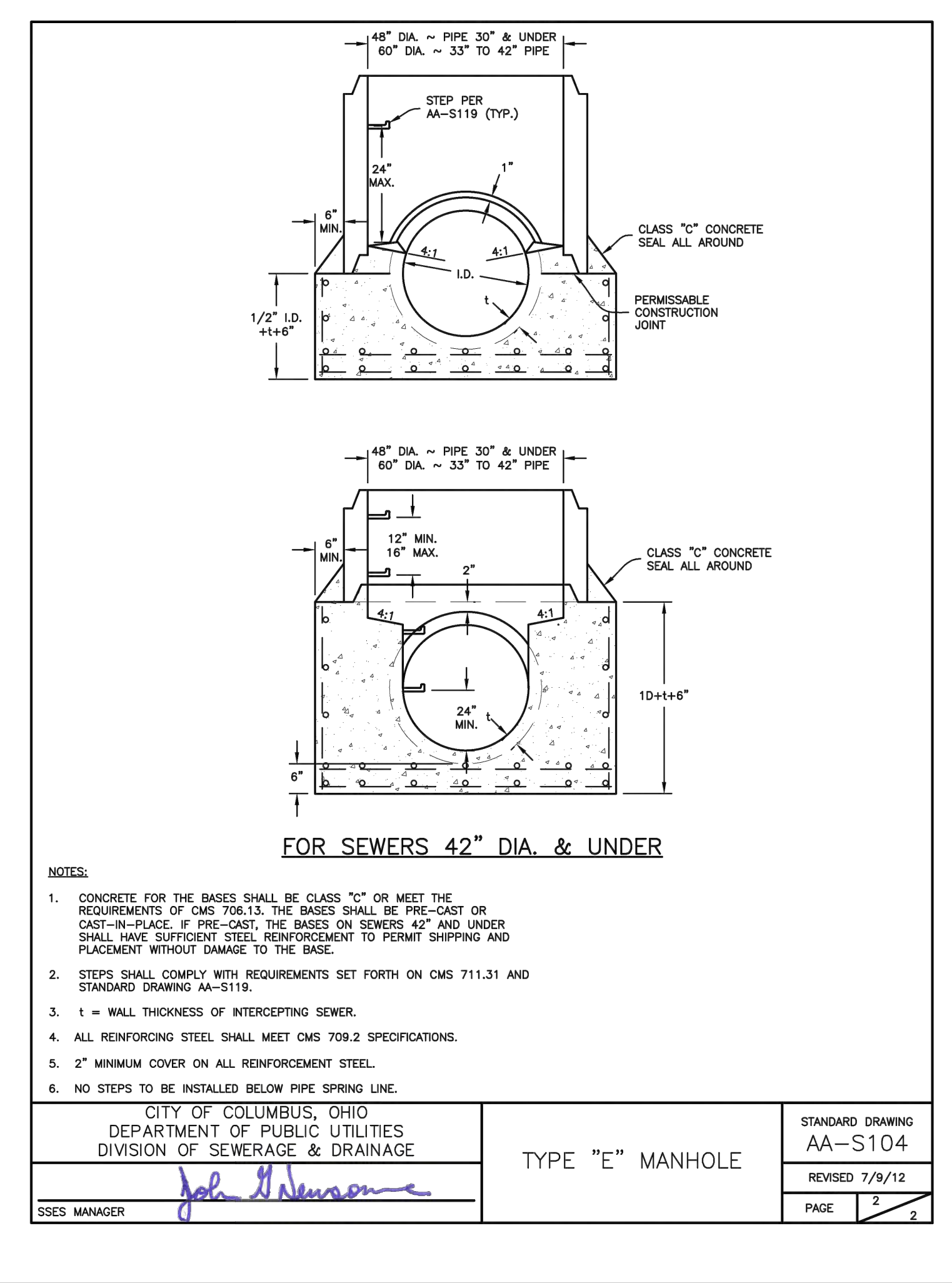
CITY OF COLUMBUS DEPARTMENT OF PUBLIC UTILITIES DIVISION OF WATER  
 STANDARD DETAIL CURB BOX INSTALLATION  
 3/4" THRU 2"  
 L-9901  
 APPROVED: *R.C. Westfield* 5-16-13 DATE  
 ADMINISTRATOR



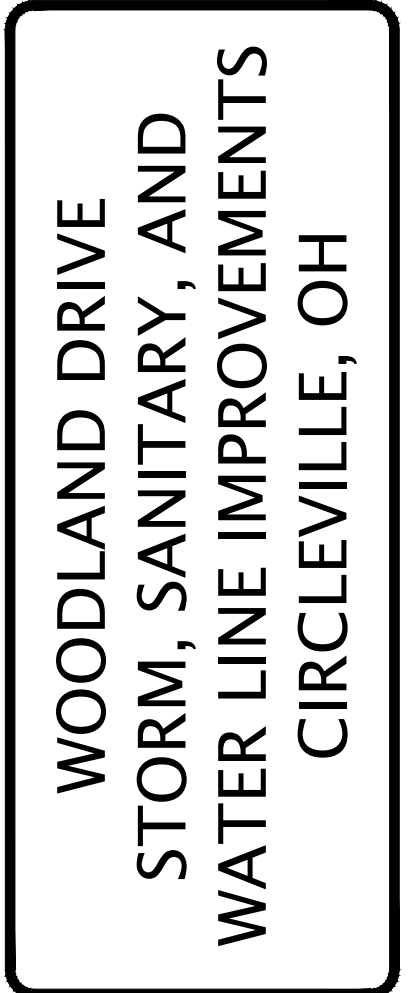
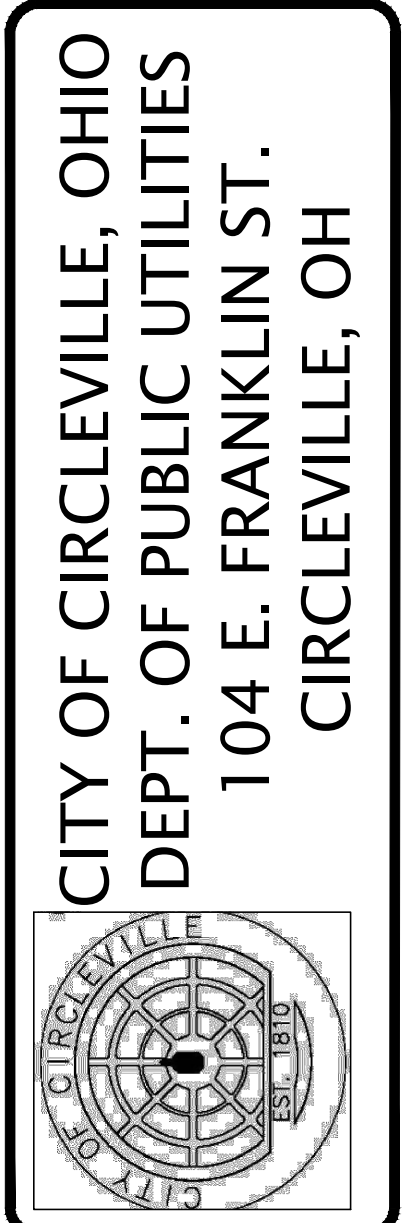
CITY OF COLUMBUS DEPARTMENT OF PUBLIC UTILITIES DIVISION OF SEWERAGE & DRAINAGE  
 STANDARD CATCH BASIN (24\"/>
 STD. DWG. AA-S134A  
 REVISED 12/6/13  
 SSES MANAGER *John H. Newson*



CITY OF COLUMBUS, OHIO DEPARTMENT OF PUBLIC UTILITIES DIVISION OF SEWERAGE & DRAINAGE  
 TYPE "E" MANHOLE  
 STANDARD DRAWING AA-S104  
 REVISED 7/9/12  
 SSES MANAGER *John H. Newson*



CITY OF COLUMBUS, OHIO DEPARTMENT OF PUBLIC UTILITIES DIVISION OF SEWERAGE & DRAINAGE  
 TYPE "E" MANHOLE  
 STANDARD DRAWING AA-S104  
 REVISED 7/9/12  
 SSES MANAGER *John H. Newson*



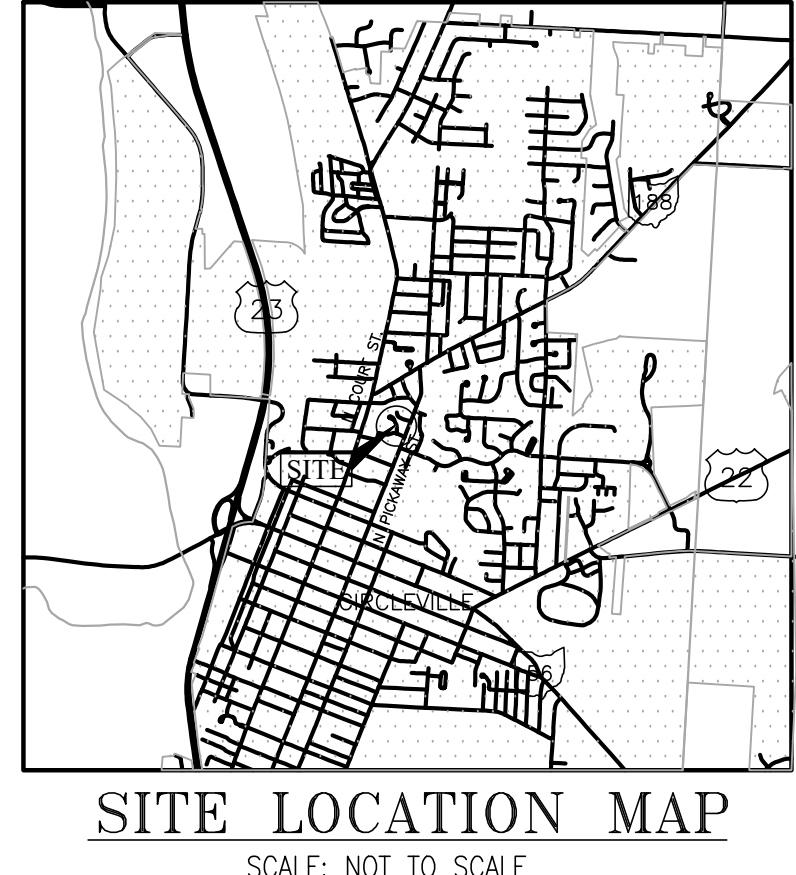
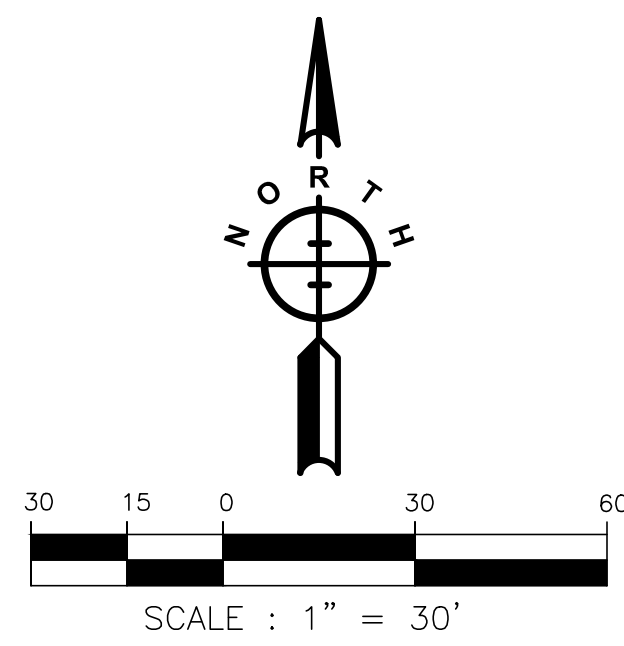

29 JULY, 2019  
 NTS  
 DETAILS  
 G-8

**NOTES:**

- THIS TOPOGRAPHIC SURVEY IS BASED UPON RECORDED DATA AND AN ACTUAL FIELD SURVEY OF THE SITE PERFORMED IN DECEMBER 2018 AND MARCH 2019. STREET, ALLEY AND LOT LINES ARE PLOTTED FROM COUNTY DEED RECORDS, AND THE RECORD PLAT CITED HEREON, AND ALIGNED TO LIMITED, FOUND PROPERTY MONUMENTATION, AND SAID LINES DO NOT CONSTITUTE A BOUNDARY SURVEY.
- THIS TOPOGRAPHIC SURVEY WAS PREPARED FOR THE EXCLUSIVE USE OF THE PERSONS OR ENTITY NAMED IN THE TITLE BLOCK OR CERTIFICATION HEREON. SAID CERTIFICATION DOES NOT EXTEND TO ANY UNNAMED PERSONS OR ENTITY WITHOUT AN EXPRESS RECERTIFICATION BY THE SURVEYOR NAMING SAID ENTITY.
- PROPERTY IS WITHIN FLOOD ZONE "X" (AREAS OF MINIMAL FLOODING), PER FEMA FLOOD INSURANCE RATE MAP NO. 39129C 0302 J, EFFECTIVE DATE JULY 22, 2010.
- THE LOCATIONS OF EXISTING UTILITIES HAVE BEEN SHOWN ON THIS PLAN IN ACCORDANCE WITH AVAILABLE RECORDS. IT IS BELIEVED THAT THESE LOCATIONS ARE ESSENTIALLY CORRECT. HOWEVER THE CONTRACTOR SHALL INVESTIGATE AND LOCATE ALL UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE OHIO UTILITIES PROTECTION SERVICE AT 1-800-362-2764 AT LEAST TWO WORKING DAYS PRIOR TO BEGINNING WORK. NON-MEMBERS MUST BE CALLED DIRECTLY.
- OLPS REFERENCE NUMBERS: A833-702-350 (FOLSOM AVE.) AND A833-702-364 (WOODLAND DRIVE) PHYSICAL MARKINGS  
A833-702-353 (FOLSOM AVE.) AND A833-702-360 (WOODLAND DRIVE) RECORD PLANS

- UTILITY CONTACTS:  
ELECTRIC:  
AMERICAN ELECTRIC POWER  
850 TECH CENTER DRIVE  
GAHANNA, OH 43230-6605  
1-800-277-2177  
GAS:  
COLUMBIA GAS OF OHIO - COLUMBUS  
920 W. GOODALE BLVD.  
COLUMBUS, OH 432112  
DOUG WILLAMANI  
614-460-2085  
TELEPHONE:  
AMERITECH  
150 E. GAY STREET, ROOM 7B  
COLUMBUS, OH 43215  
MIKE LOSEKAMP  
614-223-4564  
FRONTIER COMMUNICATION  
401 MERRITT 7  
NORWALK, CONNECTICUT 06851  
855-697-5609  
CITY OF CIRCLEVILLE  
104 E. FRANKLIN STREET  
CIRCLEVILLE, OH 43113  
740-477-8255  
FRONTIER COMMUNICATION  
401 MERRITT 7  
NORWALK, CONNECTICUT 06851  
855-697-5609  
CHARTER SPECTRUM COMMUNICATION  
3770 E. LIVINGSTON AVENUE  
COLUMBUS, OH 43227  
614-236-1200, 585-947-7656

- BENCHMARKS:  
BENCHMARK 1 - IRON PIN FOUND AT THE SOUTHWESTERLY CORNER OF LOT NUMBER 1.  
ELEV. 683.73 (NAVD 88)  
BENCHMARK 2 - TOP OF IRON ROD FOUND ALONG THE NORTHERLY RIGHT-OF-WAY LINE OF WOODLAND DRIVE AT LOT 11.  
ELEV. 694.00 (NAVD 88)



**LEGEND**

	PROPERTY LINE
	RIGHT-OF-WAY LINE
	CENTERLINE OF ROAD
	SETBACK LINE
	EASEMENT LINE
	GAS LINE
	SANITARY SEWER LINE
	STORM SEWER LINE
	WATER LINE
	OVERHEAD ELECTRIC LINE
	UNDERGROUND ELECTRIC LINE
	OVERHEAD TELEPHONE LINE
	ELEVATION CONTOUR
	FENCE
	EDGE OF PAVEMENT
	RAILROAD SPIKE (FOUND)
	RAILROAD SPIKE (SET)
	IRON PIN (FOUND)
	IRON PIN (SET)
	MAG NAIL (FOUND)
	MAG NAIL (SET)
	BENCHMARK
	SPOT ELEVATION
	POWER POLE
	LIGHT POLE
	TELEPHONE POLE
	UTILITY POLE
	GUY WIRE
	ELECTRIC TRANSFORMER
	ELECTRIC METER
	TELEPHONE PEDESTAL
	GAS VALVE
	GAS METER
	GAS MARKER
	WATER VALVE
	FIRE HYDRANT
	STORM CURB INLET
	STORM CATCH BASIN
	STORM MANHOLE
	SANITARY MANHOLE
	CLEAN OUT
	SIGN
	CONCRETE
	BRUSH/TREE LINE
	BUILDING
	TREE
	SHRUB

**PRIMEVA**  
PRIME AE Group, Inc.  
8415 PULSAR PLACE | SUITE 300  
COLUMBUS, OH 43240  
P. 614-839-0250 | F. 614-839-0251

CITY OF CIRCLEVILLE, OHIO  
DEPT. OF PUBLIC UTILITIES  
104 E. FRANKLIN ST.  
CIRCLEVILLE, OH

WOODLAND DRIVE  
STORM, SANITARY, AND  
WATER LINE IMPROVEMENTS  
CIRCLEVILLE, OH

Revisions


29 JULY, 2019  
Scale: 1" = 30'  
SURVEY  
V-1

OHIO  
Utilities Protection  
SERVICE  
811 or  
1-800-362-2764  
Call Before You Dig

P:\Projects\2018\20180719-1802\_Circleville\_Woodland Drive\_StormSanitaryWater\_V-1\_Top\_Surveying\_Site\_Images on 07/29/2019 1:07 PM - for PLS Systems, Inc.

SANITARY SERVICE TABLE

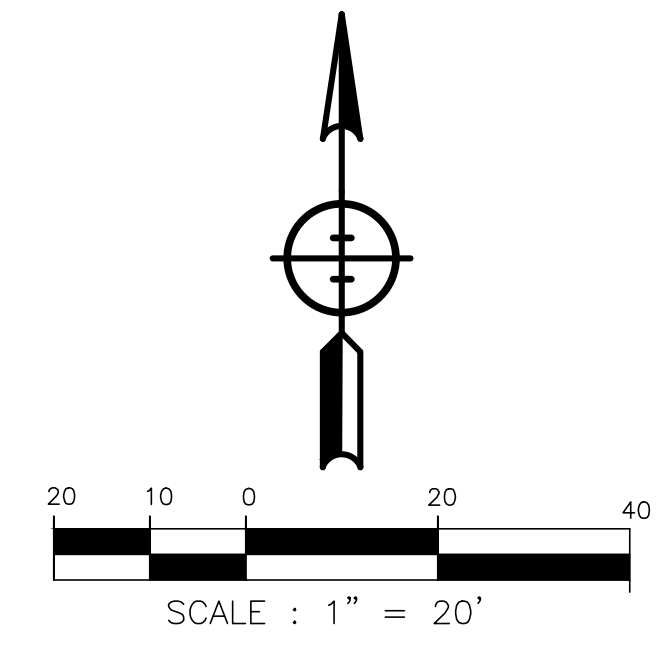
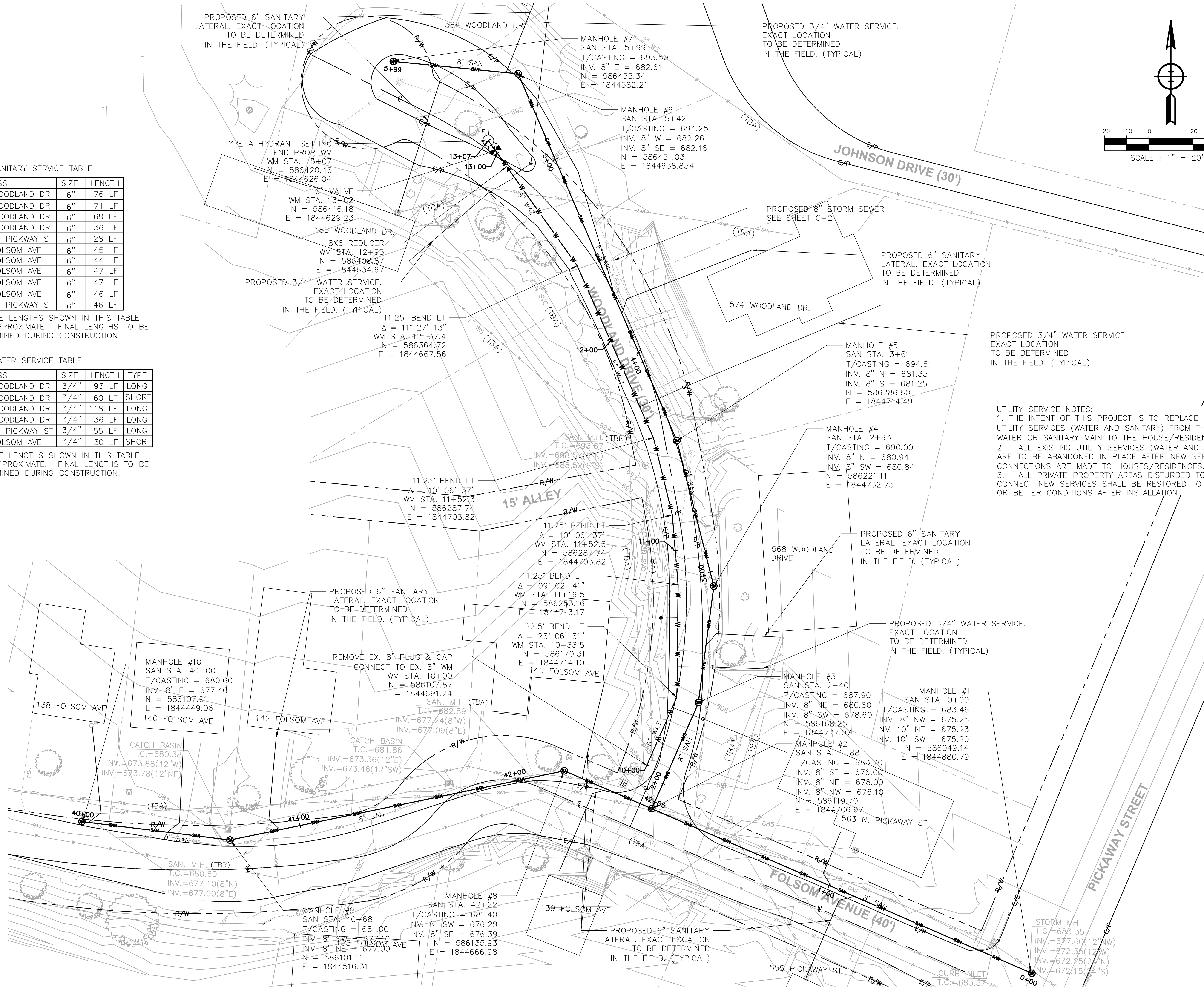
ADDRESS	SIZE	LENGTH
584 WOODLAND DR	6"	76 LF
585 WOODLAND DR	6"	71 LF
574 WOODLAND DR	6"	68 LF
568 WOODLAND DR	6"	36 LF
563 N. PICKWAY ST	6"	28 LF
146 FOLSOM AVE	6"	45 LF
142 FOLSOM AVE	6"	44 LF
140 FOLSOM AVE	6"	47 LF
138 FOLSOM AVE	6"	47 LF
139 FOLSOM AVE	6"	46 LF
555 N. PICKWAY ST	6"	46 LF

SERVICE LENGTHS SHOWN IN THIS TABLE ARE APPROXIMATE. FINAL LENGTHS TO BE DETERMINED DURING CONSTRUCTION.

WATER SERVICE TABLE

ADDRESS	SIZE	LENGTH	TYPE
584 WOODLAND DR	3/4"	93 LF	LONG
585 WOODLAND DR	3/4"	60 LF	SHORT
574 WOODLAND DR	3/4"	118 LF	LONG
568 WOODLAND DR	3/4"	36 LF	LONG
563 N. PICKWAY ST	3/4"	55 LF	LONG
146 FOLSOM AVE	3/4"	30 LF	SHORT

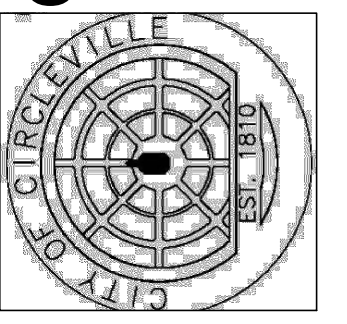
SERVICE LENGTHS SHOWN IN THIS TABLE ARE APPROXIMATE. FINAL LENGTHS TO BE DETERMINED DURING CONSTRUCTION.



- UTILITY SERVICE NOTES:**
1. THE INTENT OF THIS PROJECT IS TO REPLACE ALL UTILITY SERVICES (WATER AND SANITARY) FROM THE NEW WATER OR SANITARY MAIN TO THE HOUSE/RESIDENCE.
  2. ALL EXISTING UTILITY SERVICES (WATER AND SANITARY) ARE TO BE ABANDONED IN PLACE AFTER NEW SERVICE CONNECTIONS ARE MADE TO HOUSES/RESIDENCES.
  3. ALL PRIVATE PROPERTY AREAS DISTURBED TO CONNECT NEW SERVICES SHALL BE RESTORED TO EQUAL OR BETTER CONDITIONS AFTER INSTALLATION.



CITY OF CIRCLEVILLE, OHIO  
 DEPT. OF PUBLIC UTILITIES  
 104 E. FRANKLIN ST.  
 CIRCLEVILLE, OH

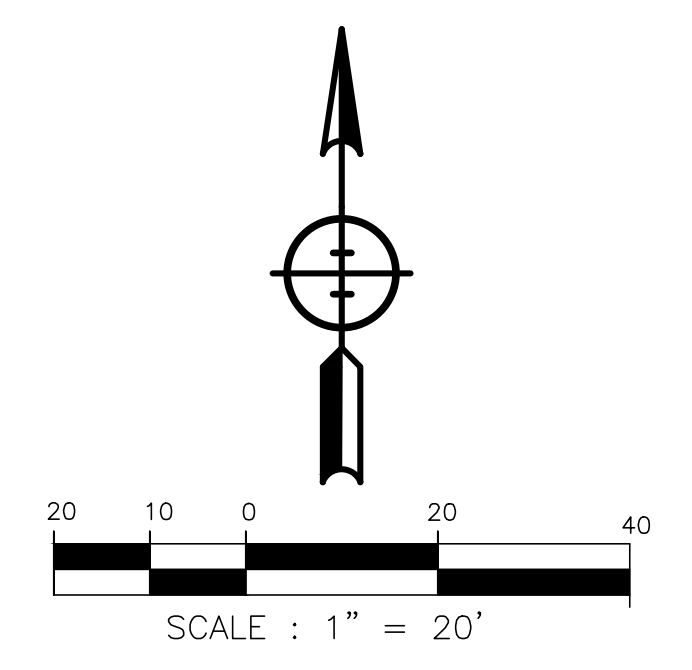
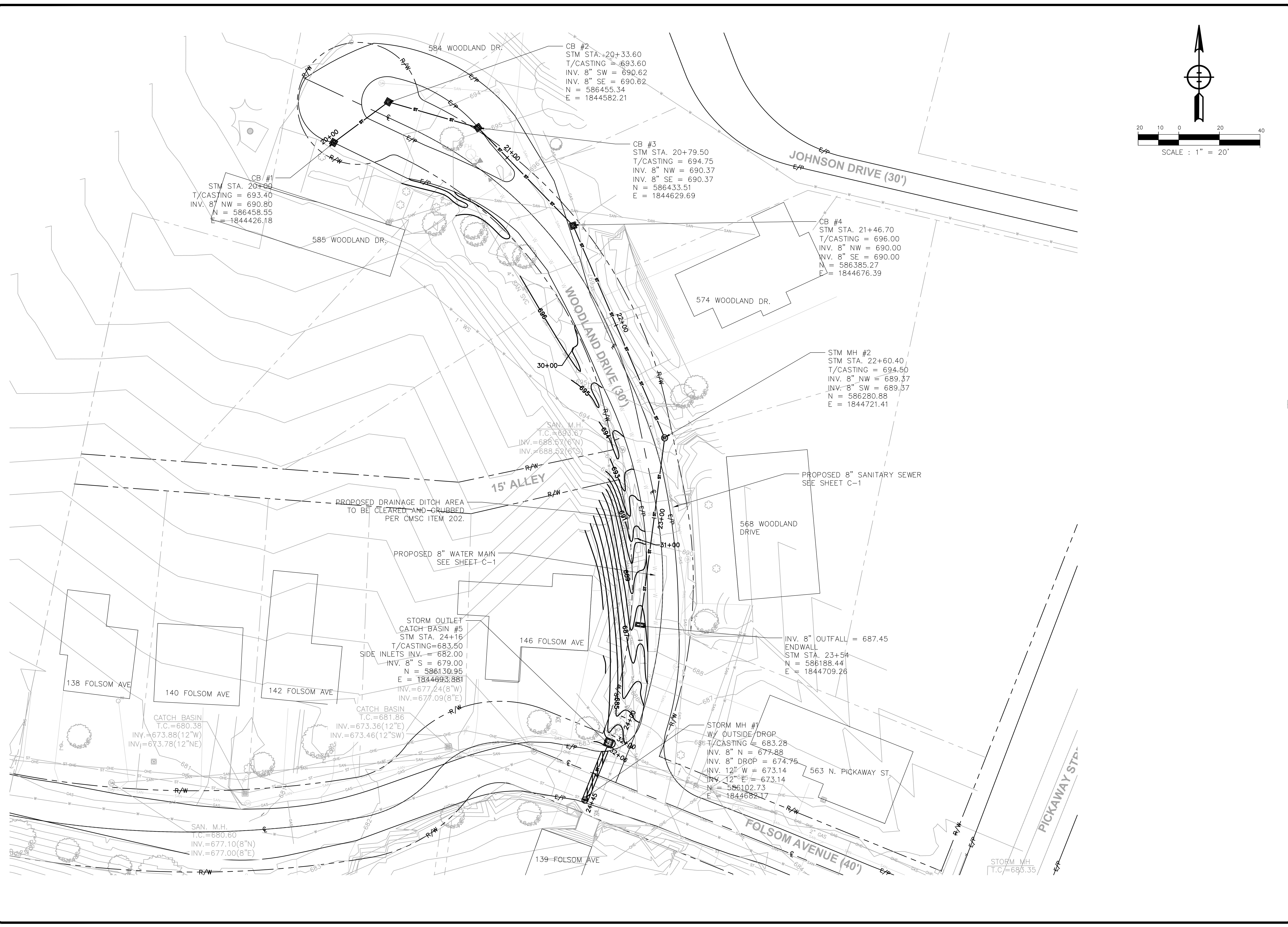


WOODLAND DRIVE  
 STORM, SANITARY, AND  
 WATER LINE IMPROVEMENTS  
 CIRCLEVILLE, OH

Revisions

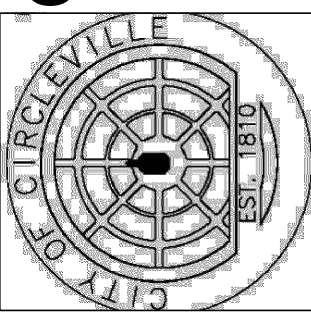
29 JULY, 2019  
 1" = 20'  
 UTILITY PLAN  
 C-1

P:\Projects\2018\20180710-1802\_Circleville\_Woodland Drive\_Improvements\Utility\Utility Plan.dwg for P&L Systems, Inc. on 07/29/2019 10:58 AM



**PRIMEVA**  
 PRIME AE Group, Inc.  
 8415 PULSAR PLACE | SUITE 300  
 COLUMBUS, OH 43240  
 P. 614-839-0250 | F. 614-839-0251

CITY OF CIRCLEVILLE, OHIO  
 DEPT. OF PUBLIC UTILITIES  
 104 E. FRANKLIN ST.  
 CIRCLEVILLE, OH

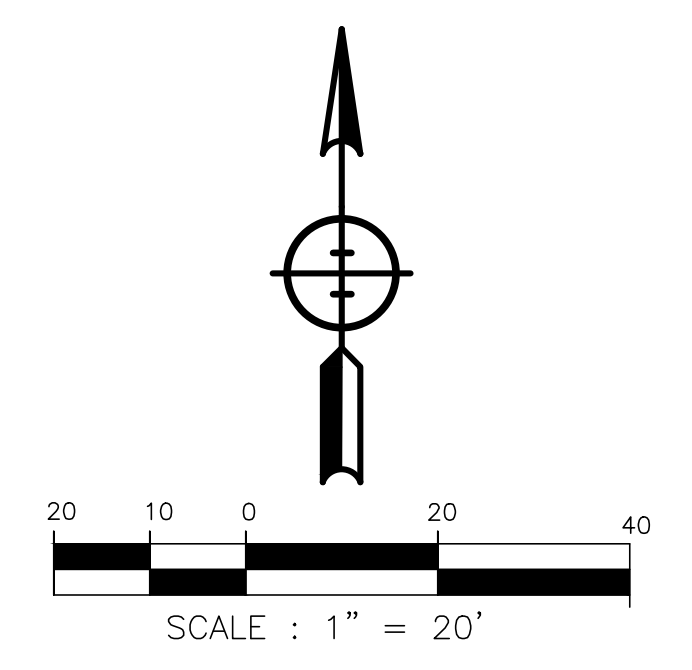


WOODLAND DRIVE  
 STORM, SANITARY, AND  
 WATER LINE IMPROVEMENTS  
 CIRCLEVILLE, OH




Revisions


29 JULY, 2019  
 Scale: 1" = 20'  
 Title: GRADING & DRAINAGE PLAN  
 Sheet: C-2

P:\Projects\2018\20180710-18602 Circleville Woodland Drive\Drawings\Sheet\C-1.dwg Plot Date: 07/29/2019 10:58 AM - for P&L Systems, Inc.

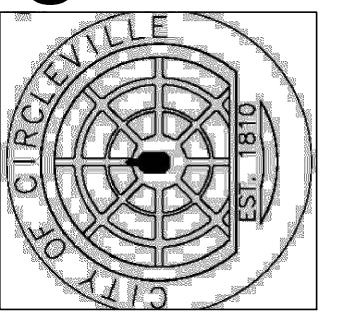


**RESTORATION LEGEND**

-  PAVEMENT RESTORATION LIMITS. SEE DETAIL SHEET G-8.
-  SEEDING AND MULCHING LIMITS
-  DITCH SODDING LIMITS.

**PRIMEA**  
 PRIME AE Group, Inc.  
 8415 PULSAR PLACE | SUITE 300  
 COLUMBUS, OH 43240  
 P. 614-839-0250 | F. 614-839-0251

**CITY OF CIRCLEVILLE, OHIO  
 DEPT. OF PUBLIC UTILITIES  
 104 E. FRANKLIN ST.  
 CIRCLEVILLE, OH**

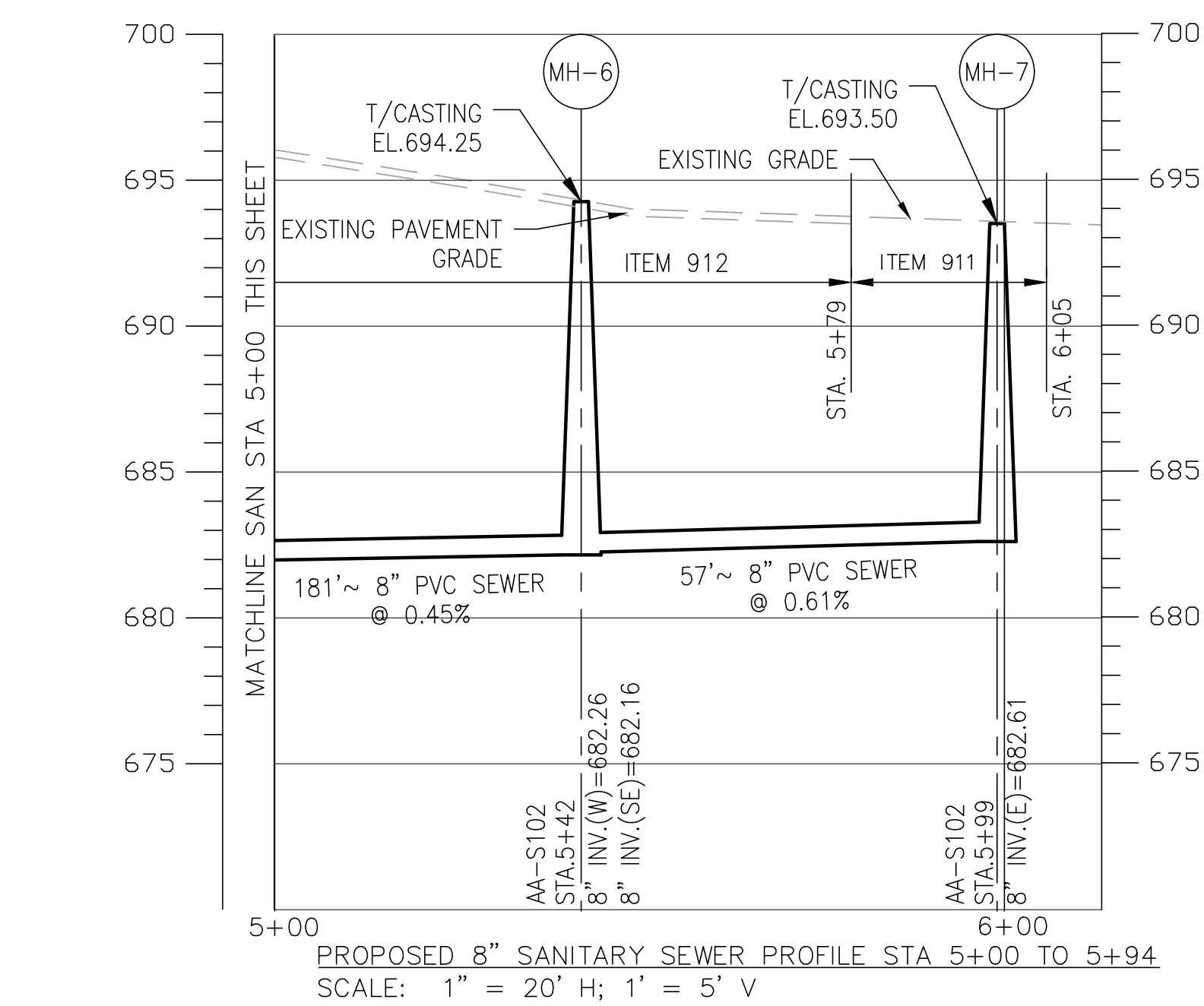
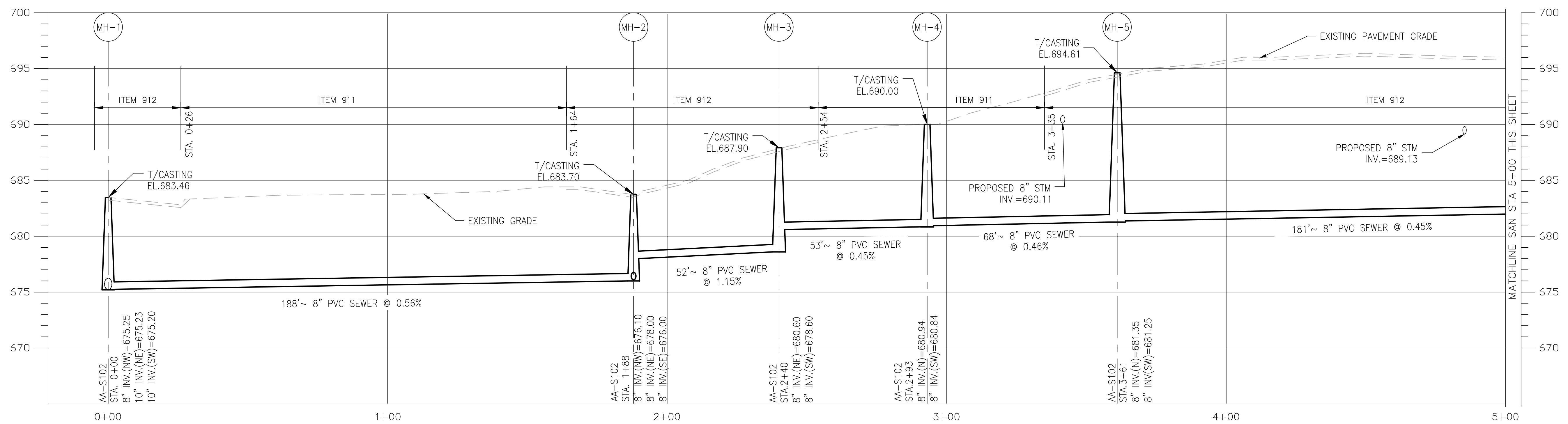
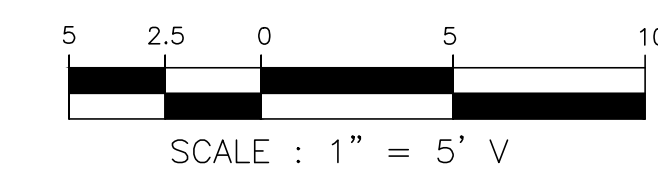
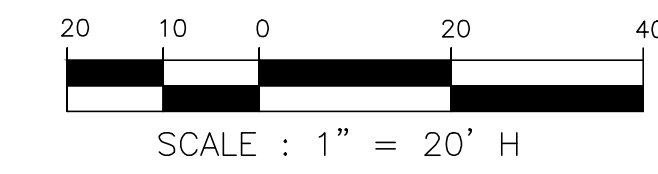
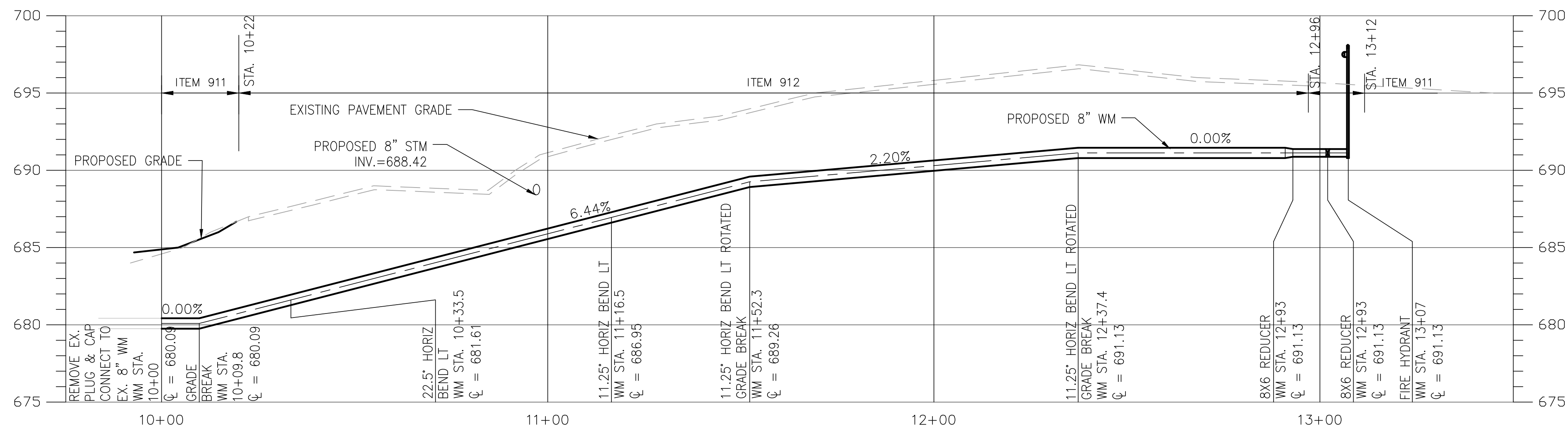


**WOODLAND DRIVE  
 STORM, SANITARY, AND  
 WATER LINE IMPROVEMENTS  
 CIRCLEVILLE, OH**

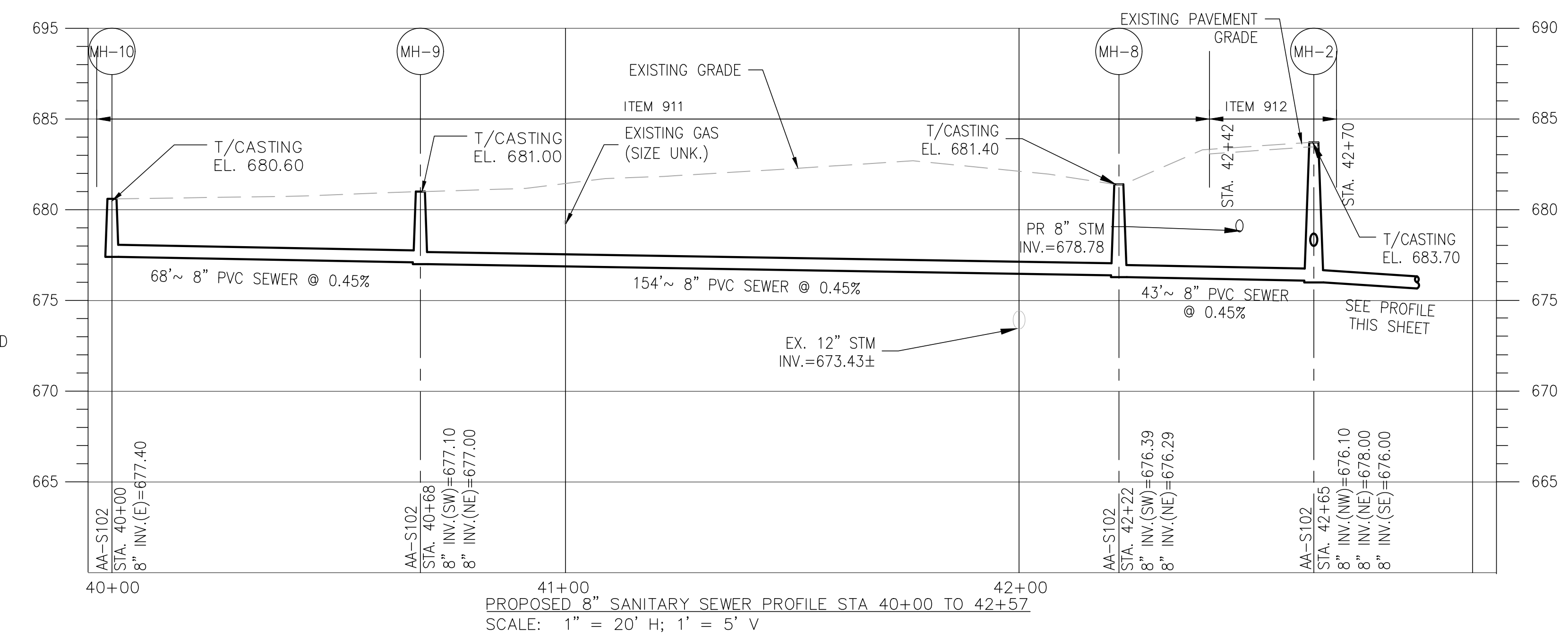
Revisions	

29 JULY, 2019  
 1" = 20'  
 PAVEMENT &  
 RESTORATION PLAN  
**C-3**

P:\Projects\2018\20180719-1802\_Circleville\_Woodland\_Drive\_StormSanitaryWaterLines\_C-3\_Pavement\_Restoration.dwg 07/29/2019 1:48 PM - for P&E Systems, Inc.



ALL SANITARY PIPE SHALL MEET ASTM D3034 SDR35 FOR PIPE MATERIAL AND ASTM D3212 FOR PIPE JOINTS.



P:\Projects\2018\05\01\18-0002\_Circleville\_Woodland\_Drive\_Sanitary\_Sewer\Drawings\Sheet\C-4.dwg 10/27/2018 2:01 PM - Mr. P. M. Spivey, Inc.

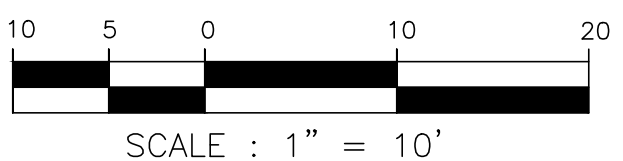
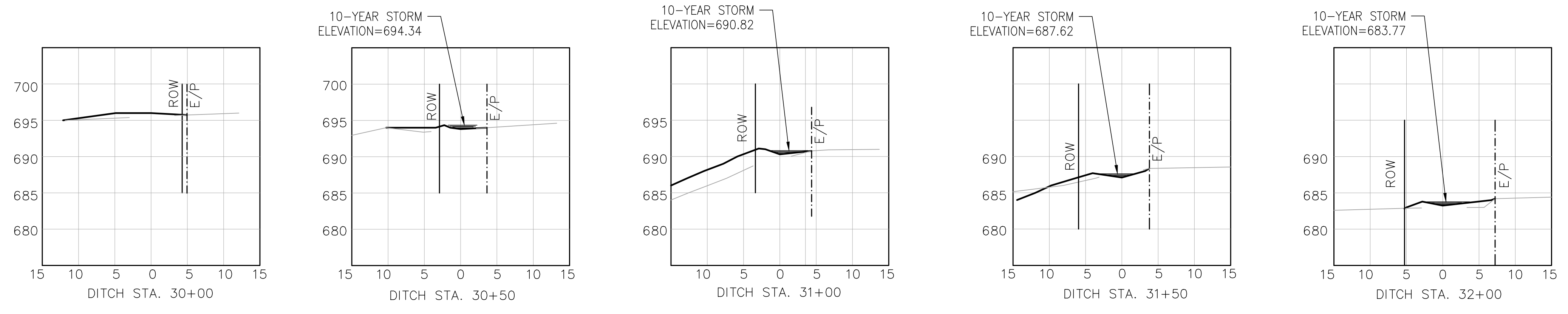
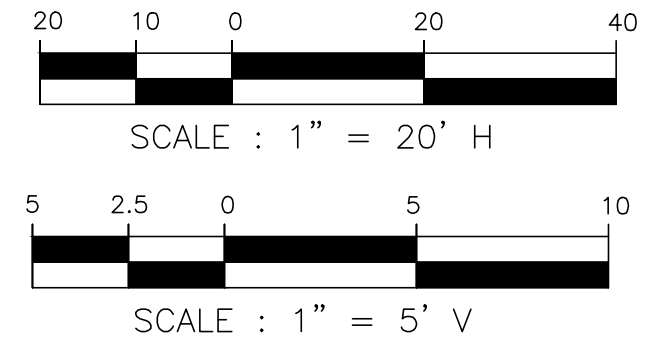
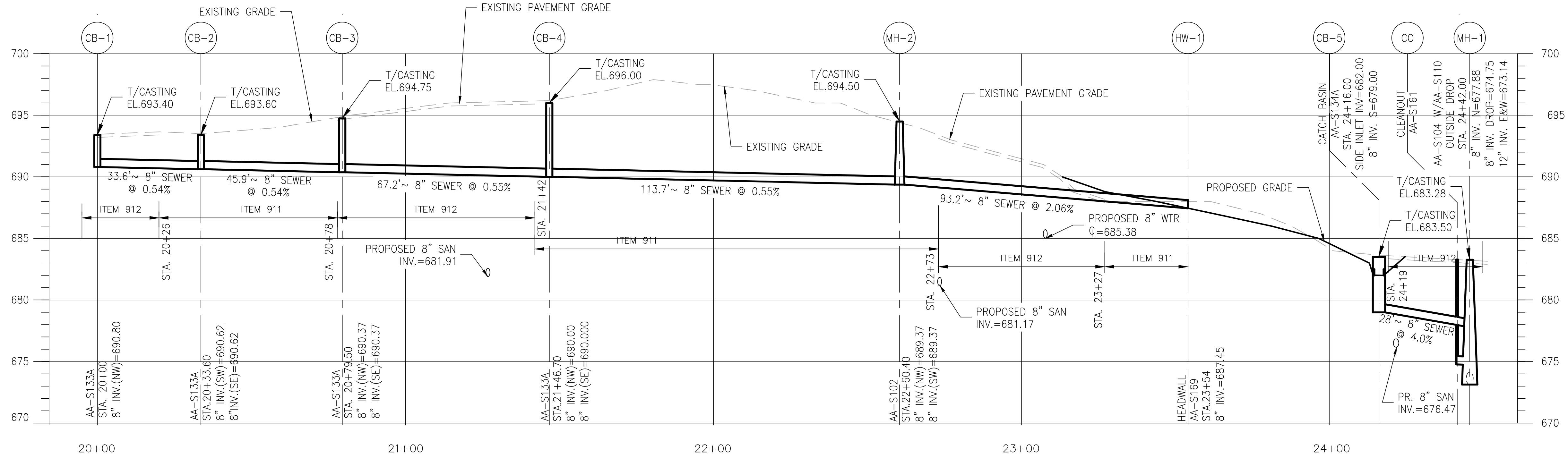
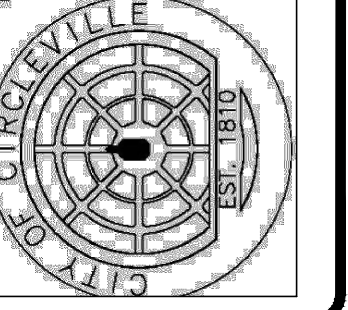


CITY OF CIRCLEVILLE, OHIO  
DEPT. OF PUBLIC UTILITIES  
104 E. FRANKLIN ST.  
CIRCLEVILLE, OH

WOODLAND DRIVE  
STORM, SANITARY, AND  
WATER LINE IMPROVEMENTS  
CIRCLEVILLE, OH

Revisions

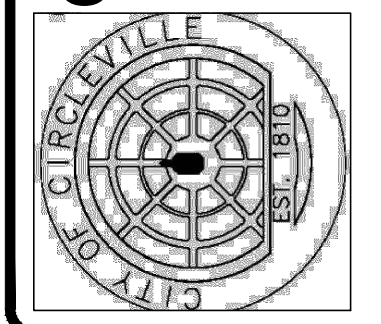

02 MAY, 2019  
AS SHOWN  
SANITARY SEWER/  
WATER MAIN PROFILES  
C-4



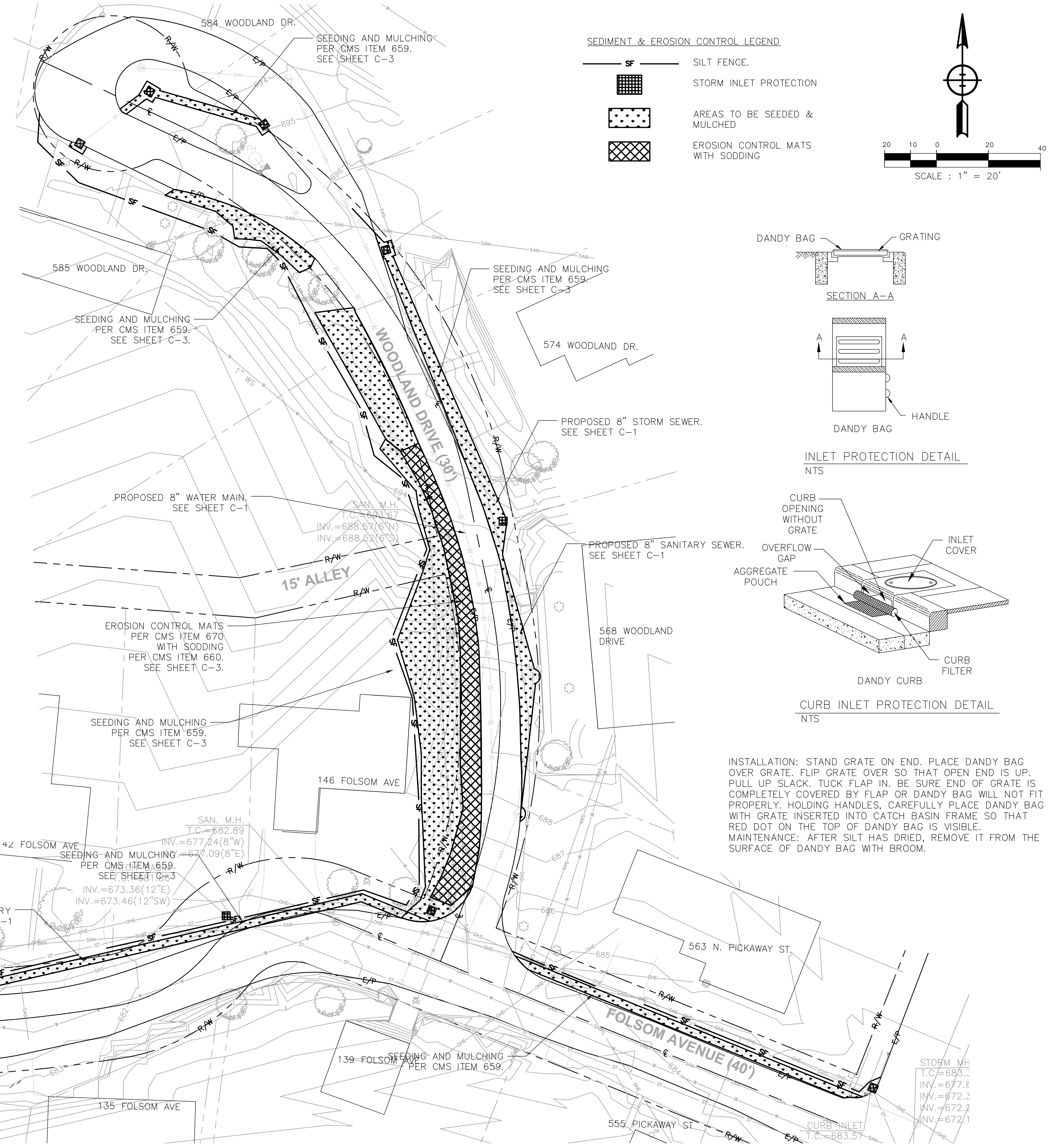
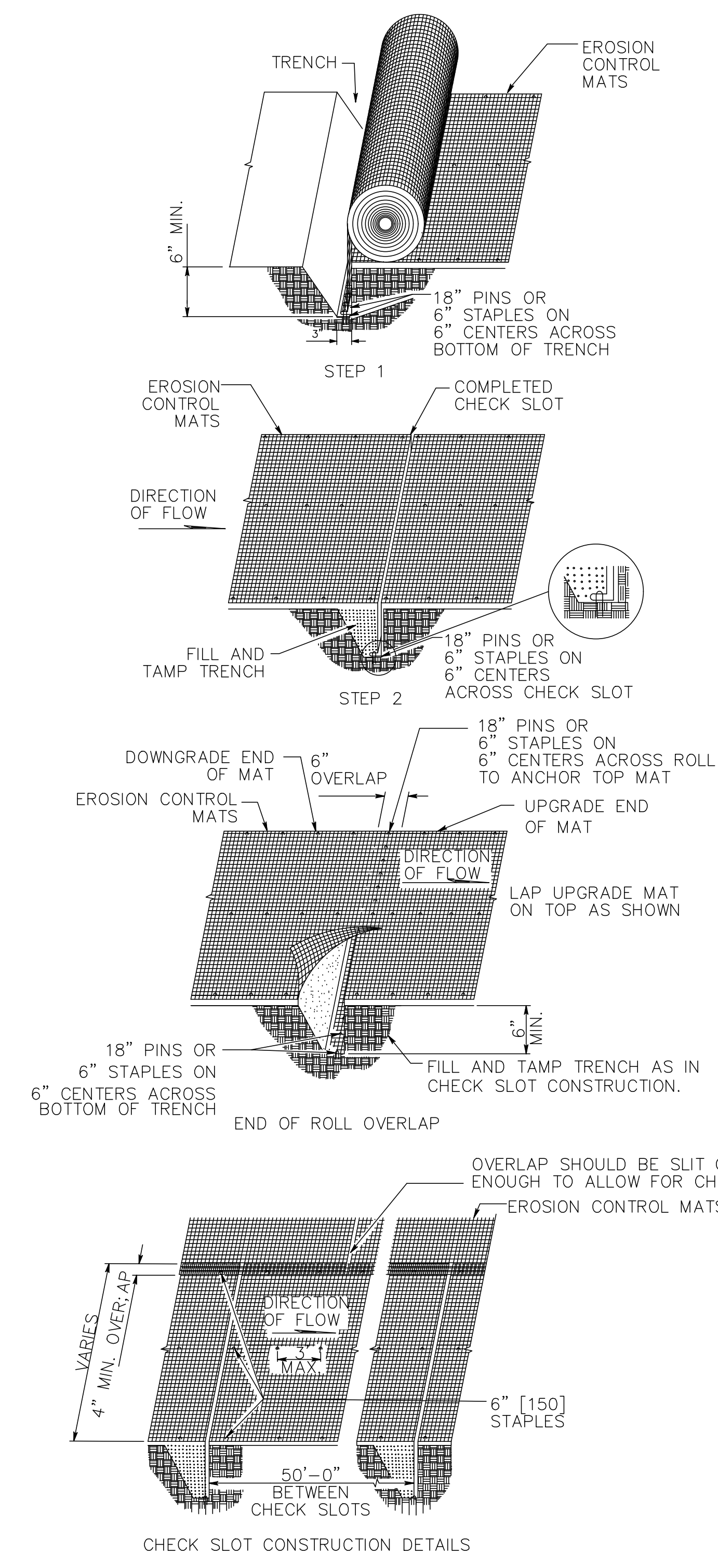
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Revisions
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02 MAY, 2019  
 AS SHOWN  
 STORM PROFILES



NO.	DATE	DESCRIPTION



P:\Projects\2018\20180719\1802\_Circleville\_Woodland\_Drive\_Storm\_Sanitary\_Water\_Line\_Improvements\C-6.dwg Plotting by: bhoppe on 07/29/2019 2:54 PM - for P&L Systems, Inc.