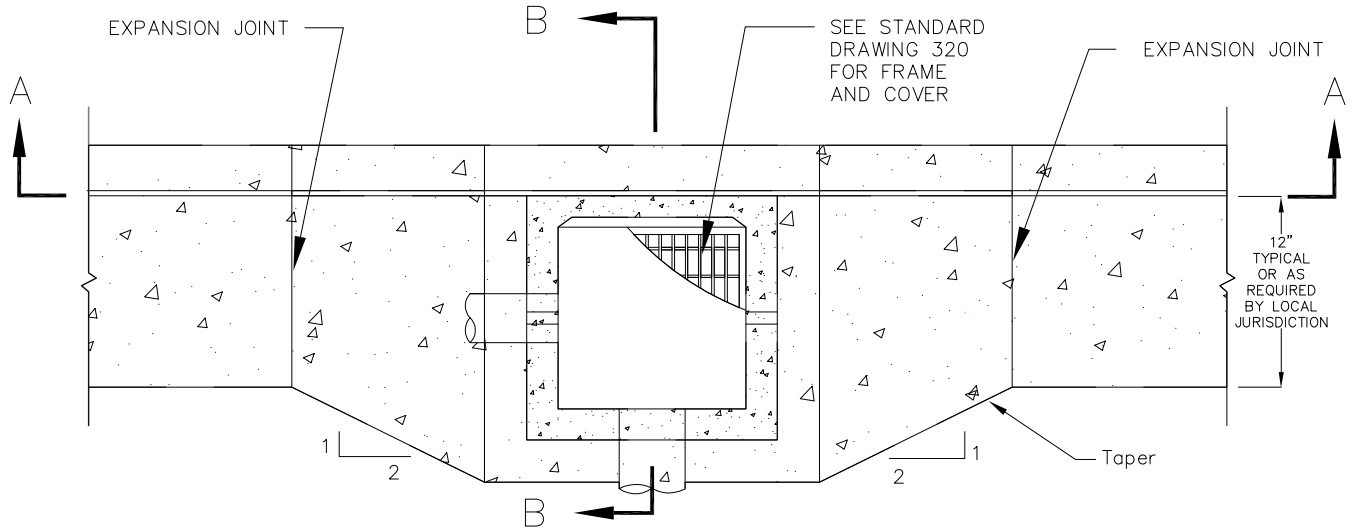
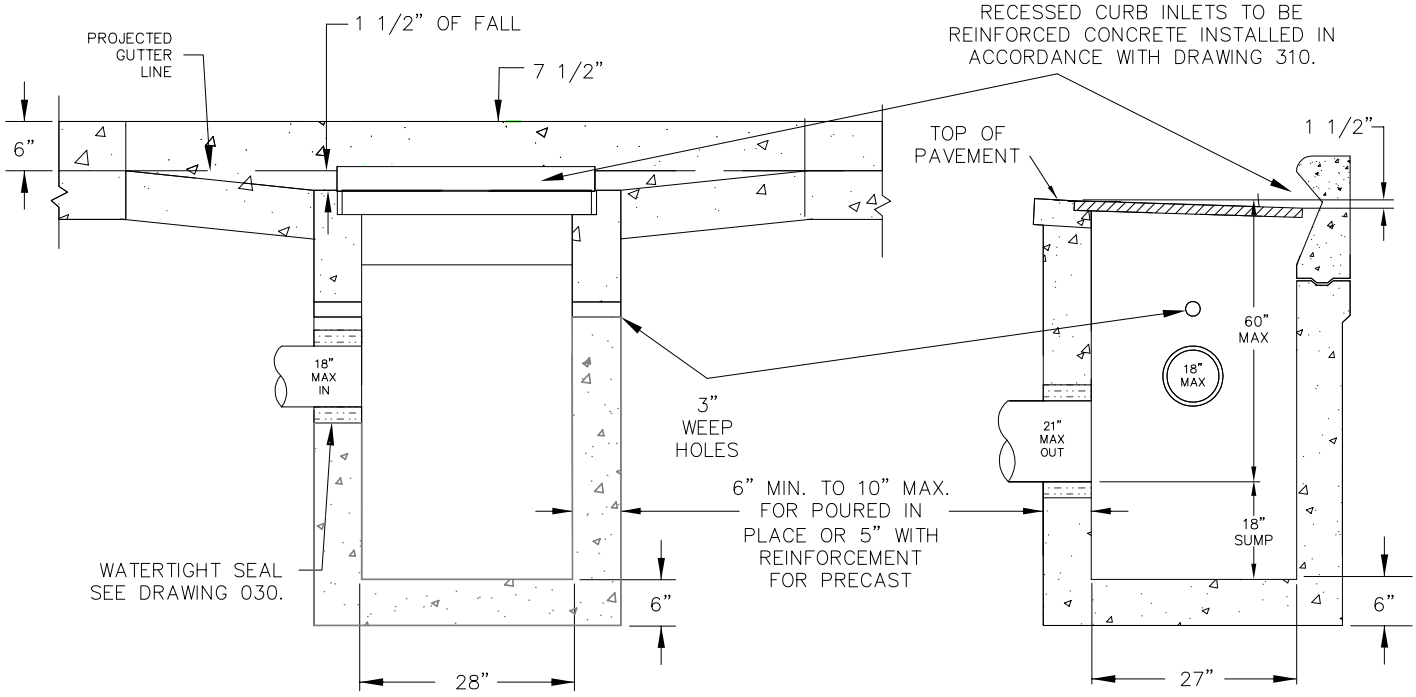


PLAN VIEW – STANDARD CURB AND GUTTER



SECTION A–A

SECTION B–B

NOTES:

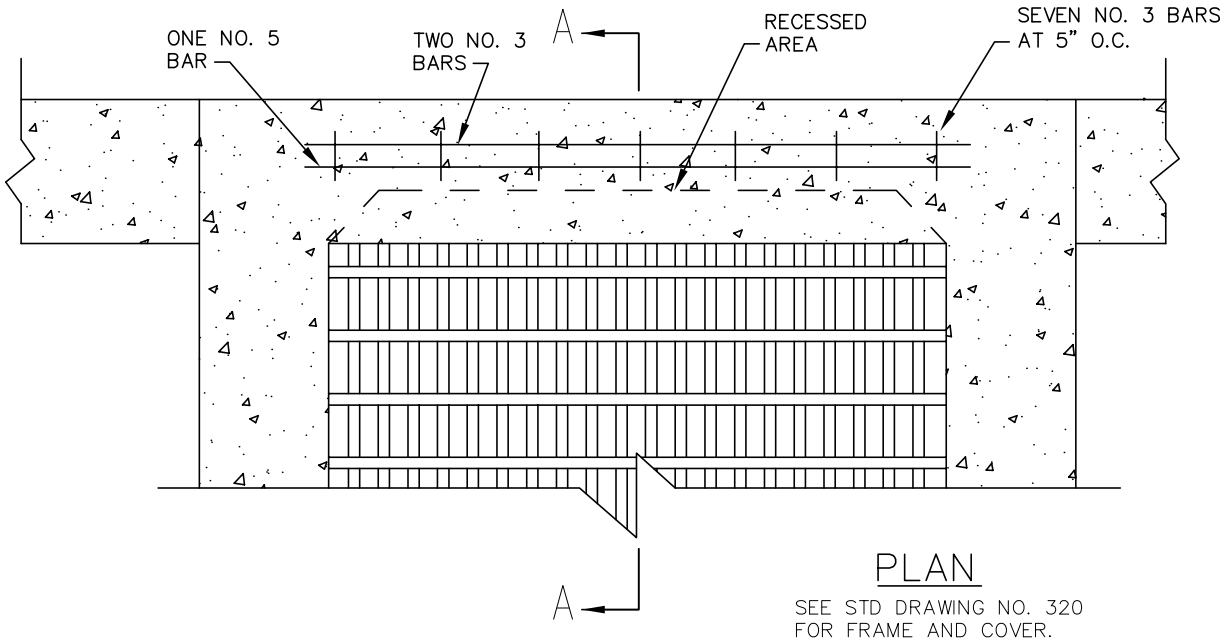
1. CATCH BASIN SHALL BE CONSTRUCTED IN ACCORDANCE WITH ASTM C–478.
2. INSTALL STRUCTURE ON MINIMUM OF 8" OF 3/4"–0" COMPACTED BASE MATERIAL.
3. PRECAST STRUCTURE TO BE APPROVED BY DISTRICT OR CITY. REINFORCEMENT FOR PRECAST CATCH BASIN SHALL BE REBAR MEETING ASTM A–615 GRADE 60 OR WELDED WIRE MEETING ASTM A–497.
4. ALL POURED IN–PLACE CONCRETE SHALL HAVE A 28 DAY STRENGTH OF 3000 PSI AND A SLUMP OF 2" TO 4".
5. CHANNEL REQUIRED IN FLOW THROUGH APPLICATIONS, AS APPROVED. ALL OTHER APPLICATIONS REQUIRE AN 18" SUMP BELOW LOWEST PIPE INVERT.
6. FULL CURB EXPOSURE REQUIRED CANNOT BE LOCATED IN SIDEWALK RAMPS OR RAMP WINGS.

GUTTER & CURB INLET CATCH BASIN (CG–2)

DRAWING NO. 300

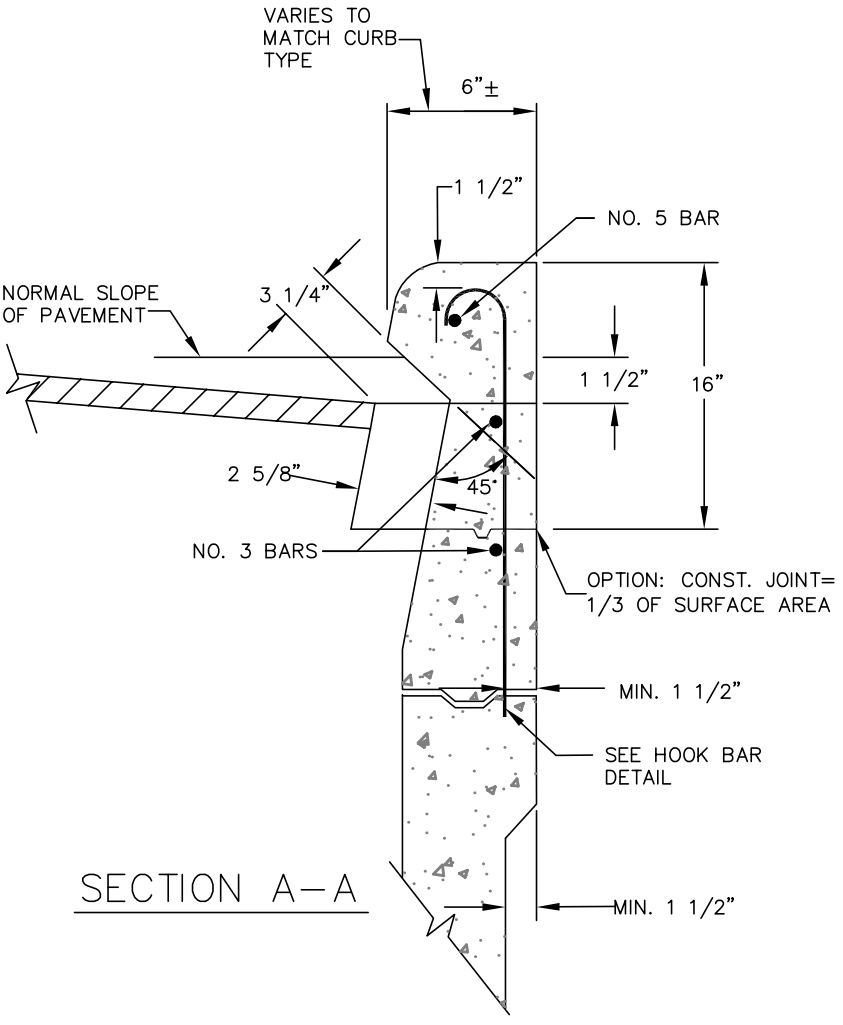
REVISED 10–31–19

Clean Water Services

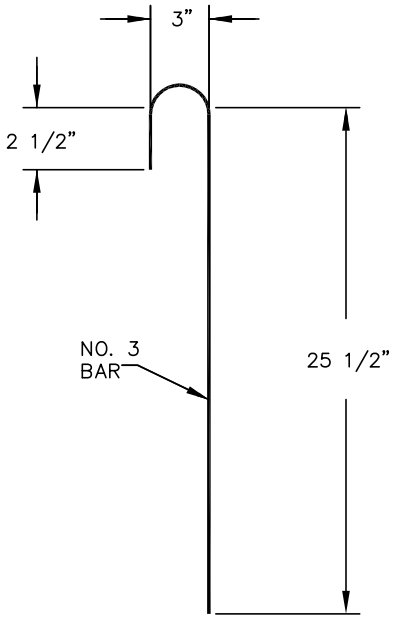


PLAN

SEE STD DRAWING NO. 320 FOR FRAME AND COVER.



SECTION A–A



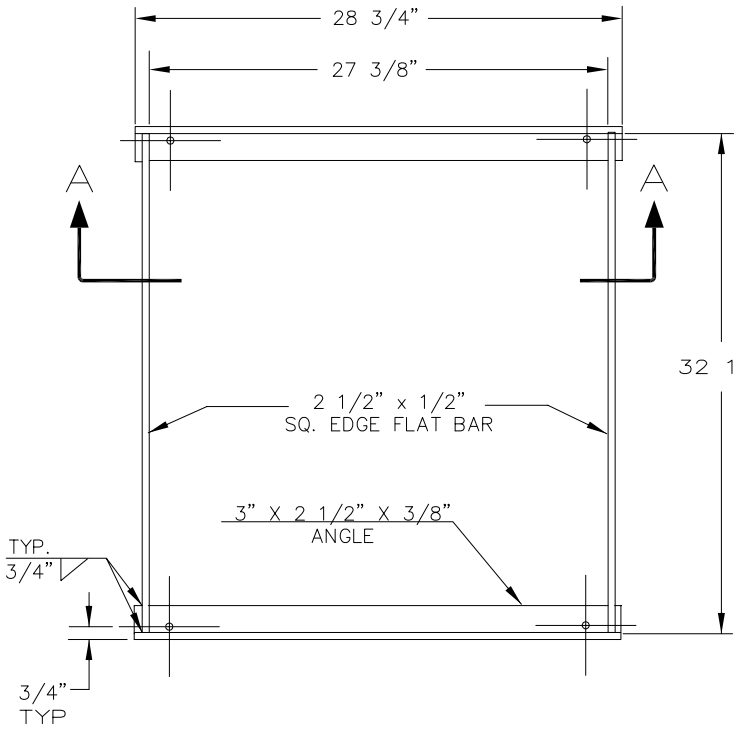
HOOK BAR DETAIL

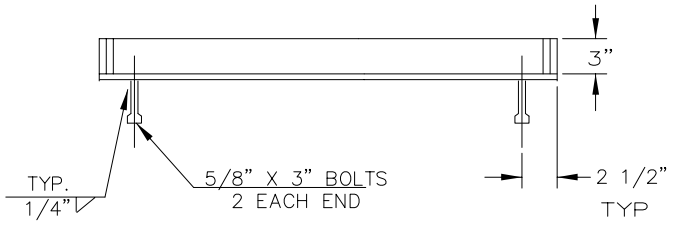
GUTTER & CURB INLET CATCH BASIN (CG–2) REINFORCEMENT

DRAWING NO. 310

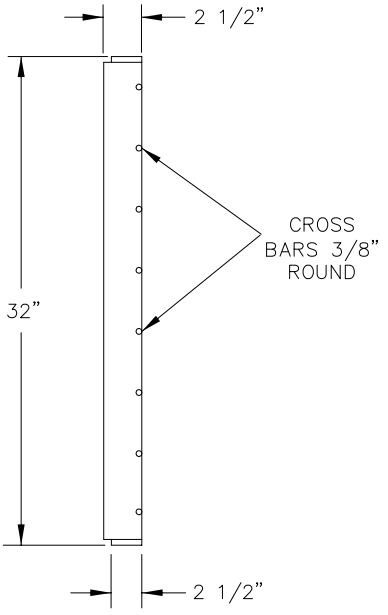
REVISED 10–31–19

Clean Water Services

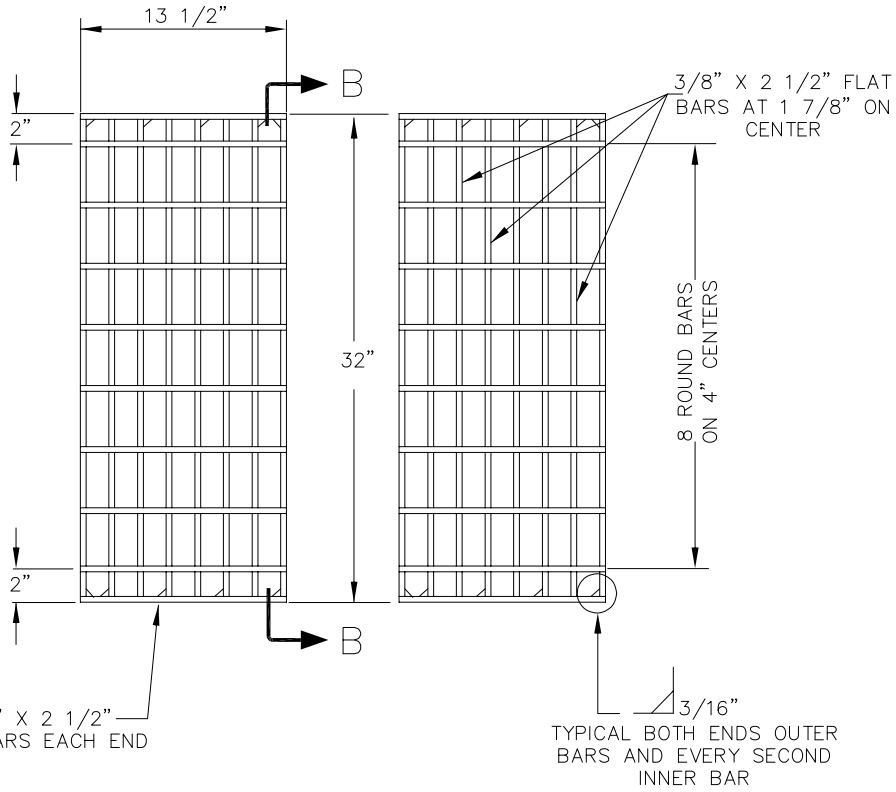




SECTION A–A



SECTION B–B



NOTE:

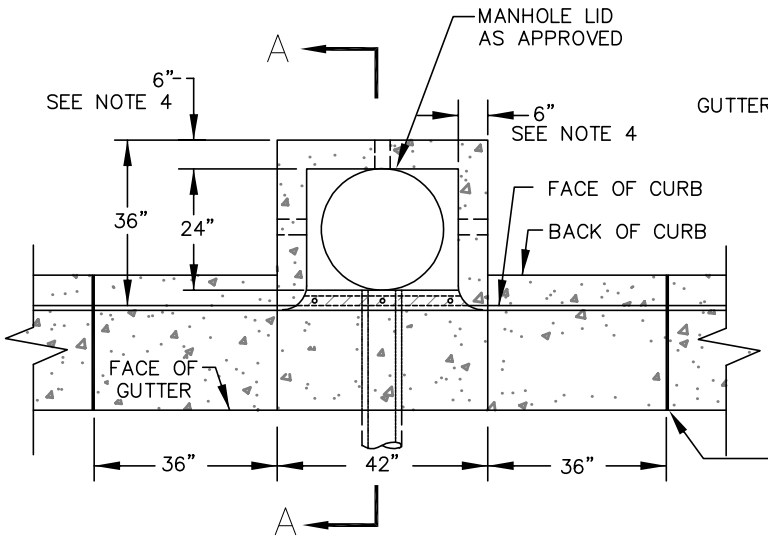
FRAME AND GRATE TO BE NEW STRUCTURAL ASTM A–36 FLAT BAR STEEL OR APPROVED EQUAL.

CATCH BASIN FRAME AND GRATE (CG–2)

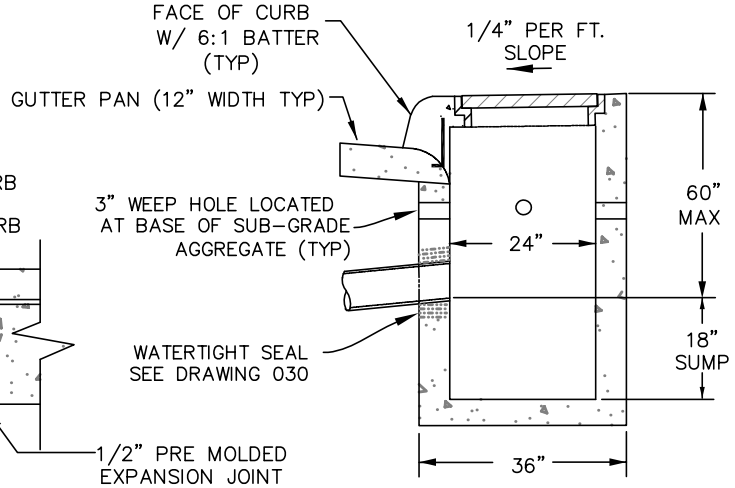
DRAWING NO. 320

REVISED 10–31–19

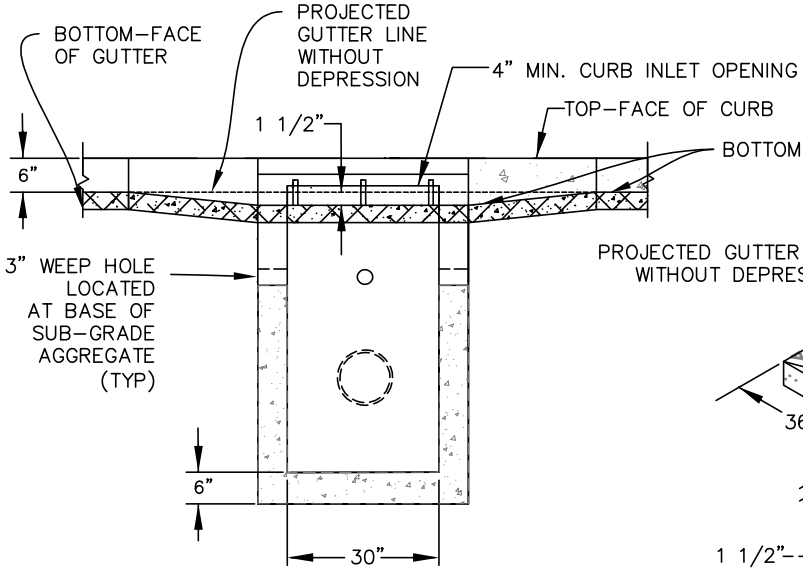
Clean Water Services



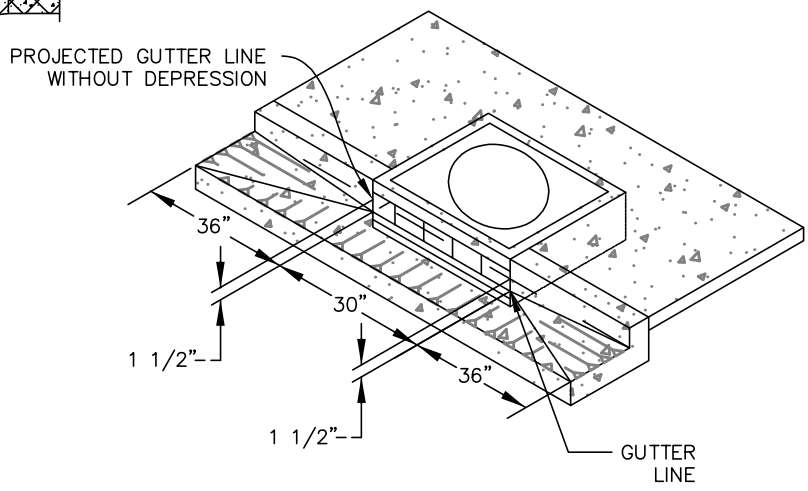
PLAN VIEW



SECTION A-A



FRONT VIEW



PERSPECTIVE VIEW SHOWING
DEPRESSED GUTTER AT CURB INLET

NOTES:

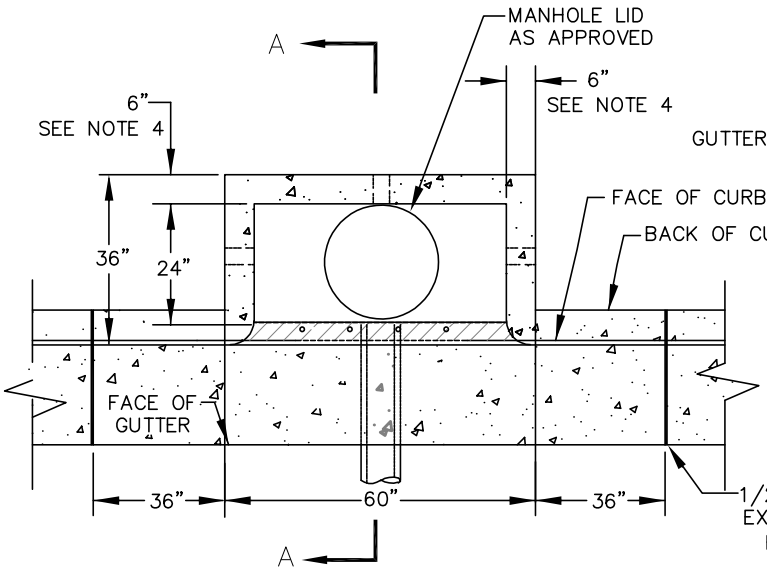
1. ALL POURED IN PLACE CONCRETE SHALL HAVE A 28 DAY STRENGTH OF 3000 P.S.I. AND A SLUMP OF 2" TO 4".
2. INSTALL STRUCTURE ON MINIMUM OF 8" OF 3/4"-0" COMPACTED BASE MATERIAL.
3. NON-SUMP INLET CATCH BASINS SHALL BE CHANNELED (E.G. FLOW THROUGH CBs).
4. WALL THICKNESS SHALL BE 6" MIN. TO 10" MAX. FOR POURED IN PLACE STRUCTURES.
5. PRECAST STRUCTURE TO BE APPROVED BY DISTRICT OR CITY, REINFORCEMENT FOR PRECAST CATCH BASIN SHALL BE REBAR MEETING ASTM A-615, GRADE 60 OR WELDED WIRE MEETING ASTM A-497.

INLET CATCH BASIN (CG-30)

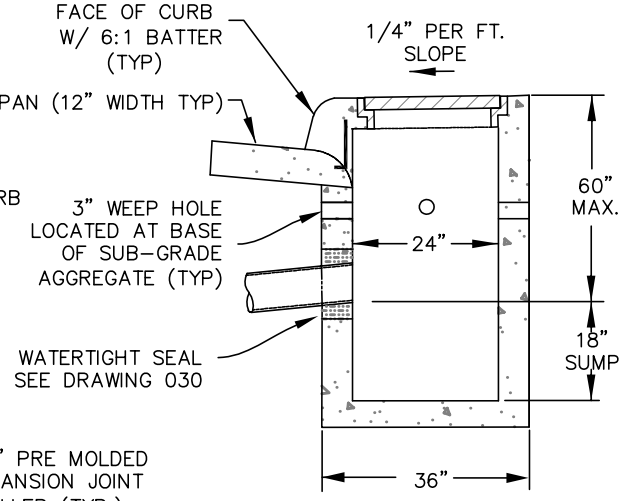
Clean Water Services

DRAWING NO. 330

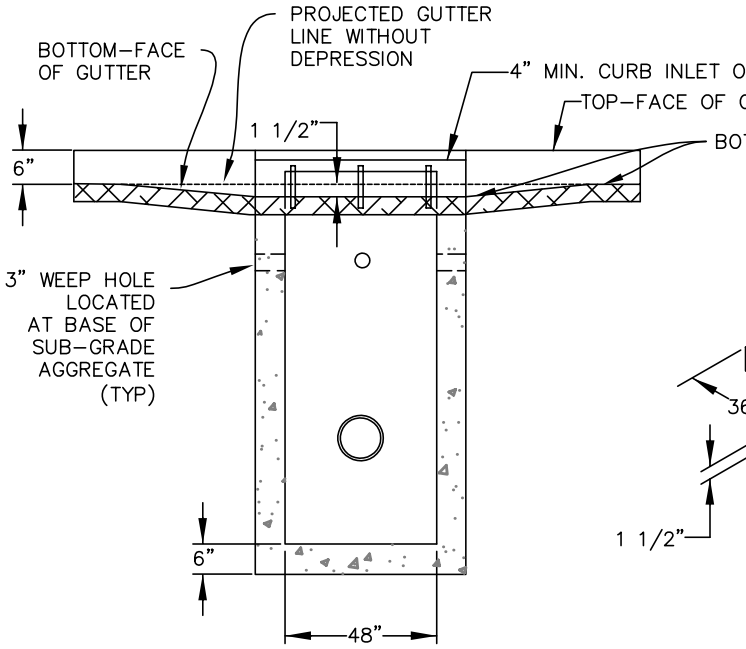
REVISED 10-31-19



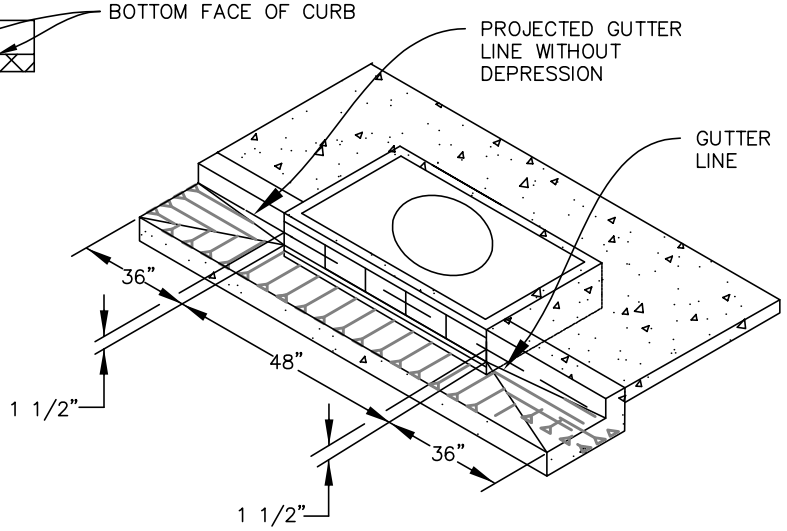
PLAN VIEW



SECTION A-A



FRONT VIEW



PERSPECTIVE VIEW SHOWING
DEPRESSED GUTTER AT CURB INLET

NOTES:

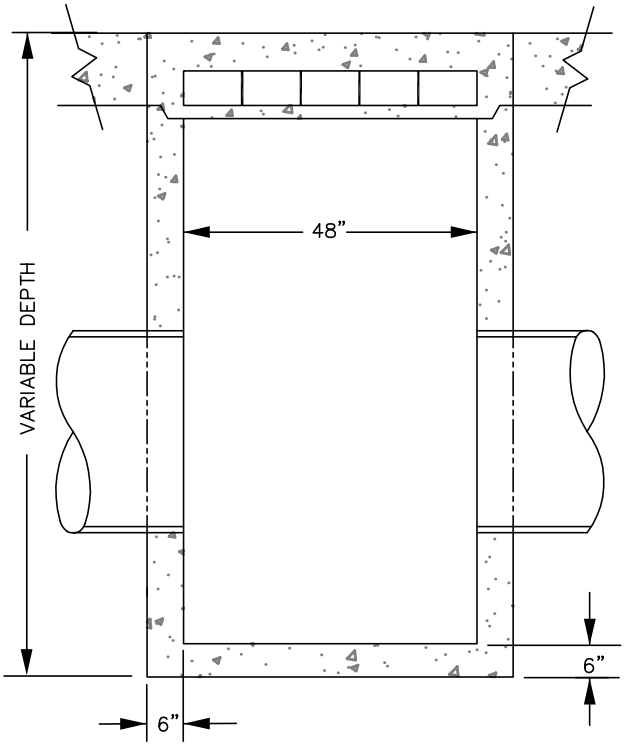
1. ALL POURED IN PLACE CONCRETE SHALL HAVE A 28 DAY STRENGTH OF 3000 P.S.I. AND A SLUMP OF 2" TO 4".
2. INSTALL STRUCTURE ON MINIMUM OF 8" OF ¾" TO 0" COMPACTED BASE MATERIAL.
3. NON-SUMP INLET CATCH BASINS SHALL BE CHANNELED (E.G. FLOW THROUGH CBs).
4. WALL THICKNESS SHALL BE 6" MIN. TO 10" MAX. FOR POURED IN PLACE STRUCTURES.
5. PRECAST STRUCTURE TO BE APPROVED BY DISTRICT OR CITY, REINFORCEMENT FOR PRECAST CATCH BASIN SHALL BE REBAR MEETING ASTM A-615, GRADE 60 OR WELDED WIRE MEETING ASTM A-497.

INLET CATCH BASIN (CG-48)

DRAWING NO. 340

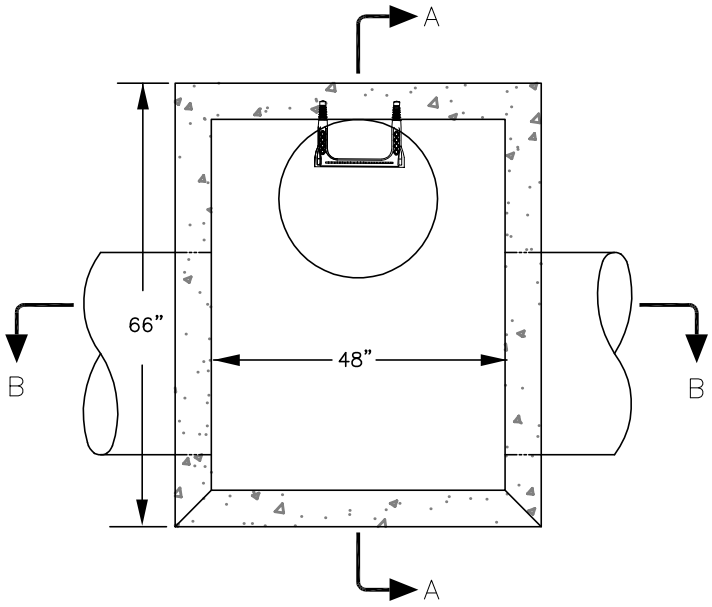
REVISED 10-31-19

Clean Water Services

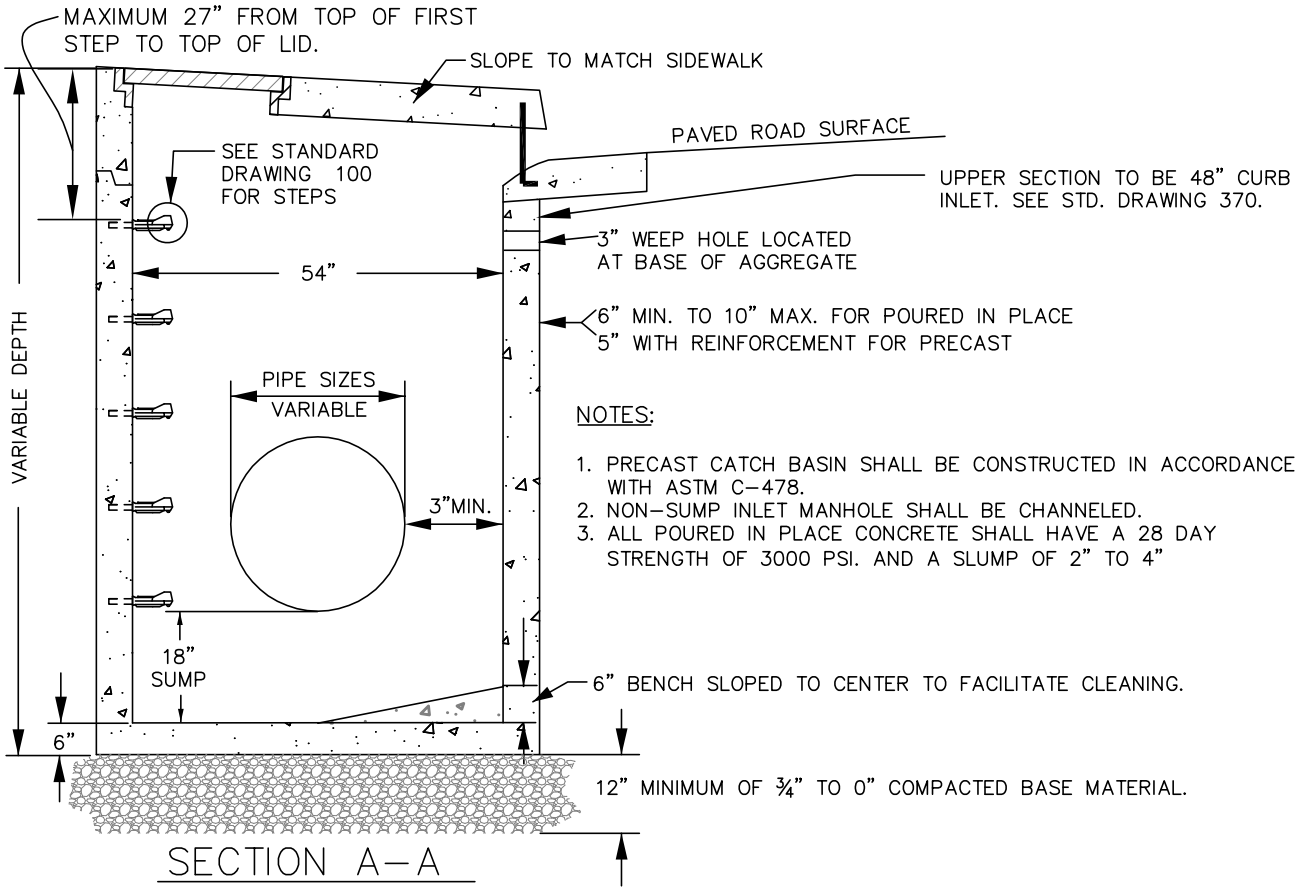


SECTION B–B

SEE STD. DRAWING NO. 370 FOR TOP SECTION DETAILS



PLAN VIEW



SECTION A–A

NOTES:

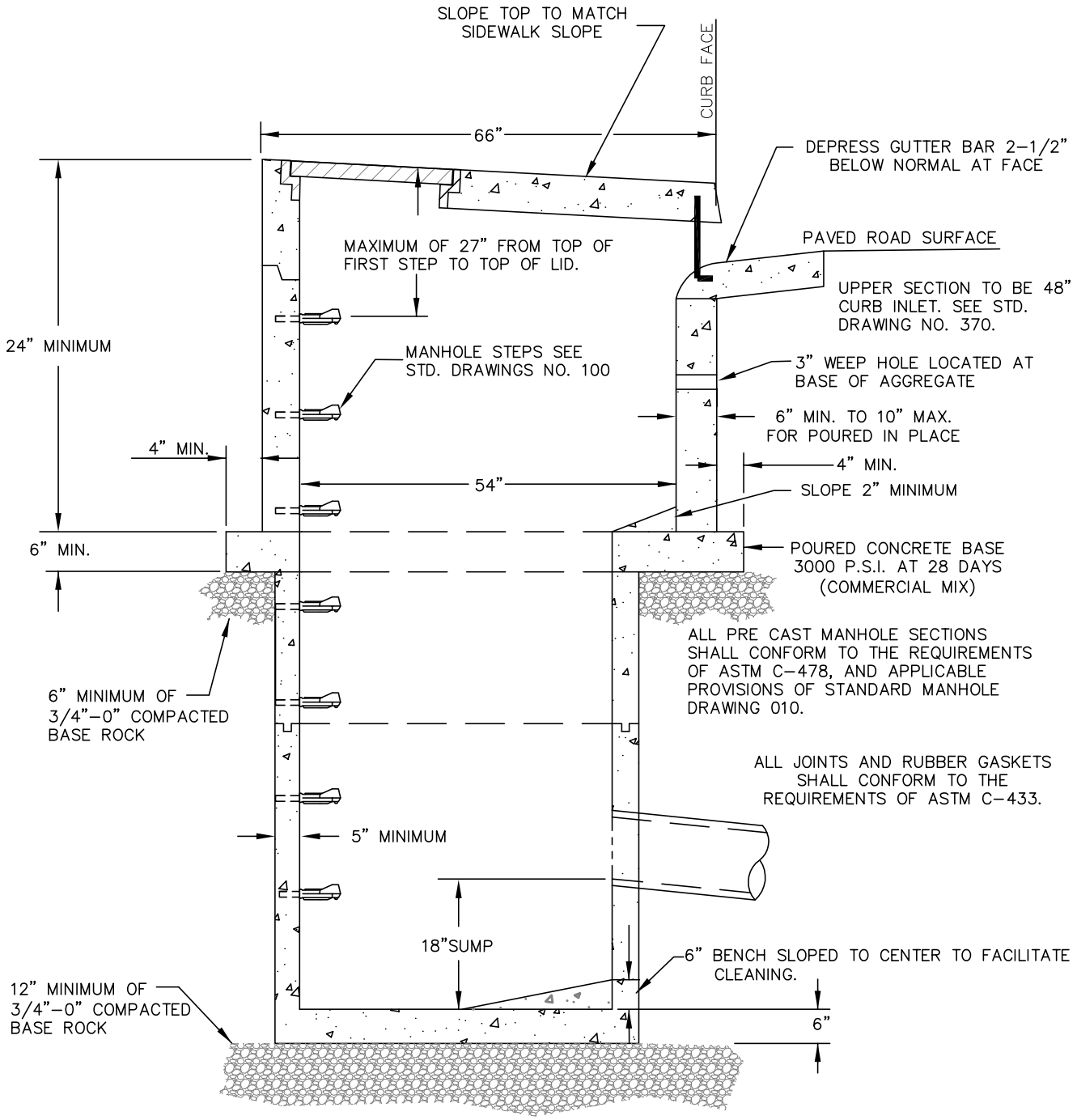
1. PRECAST CATCH BASIN SHALL BE CONSTRUCTED IN ACCORDANCE WITH ASTM C–478.
2. NON–SUMP INLET MANHOLE SHALL BE CHANNELED.
3. ALL POURED IN PLACE CONCRETE SHALL HAVE A 28 DAY STRENGTH OF 3000 PSI. AND A SLUMP OF 2" TO 4"

CURB INLET MANHOLE (CG–48 M.H.)

DRAWING NO. 350

REVISED 10–31–19

Clean Water Services



NOTES:

1. NON–SUMP INLET MANHOLE SHALL BE CHANNELED.
2. SEE STD. DRAWING 370 FOR TOP SECTION DETAILS

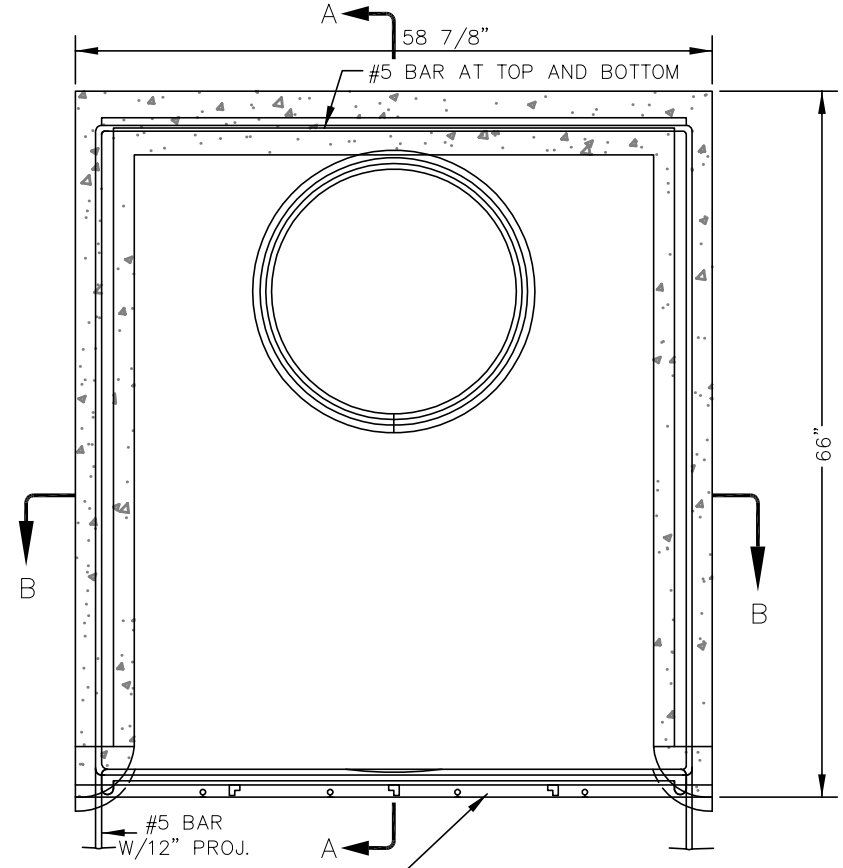
APPROVED FOR USE BY WASHINGTON COUNTY ONLY.

MODIFIED CURB INLET MANHOLE (MOD.CG–48MH)

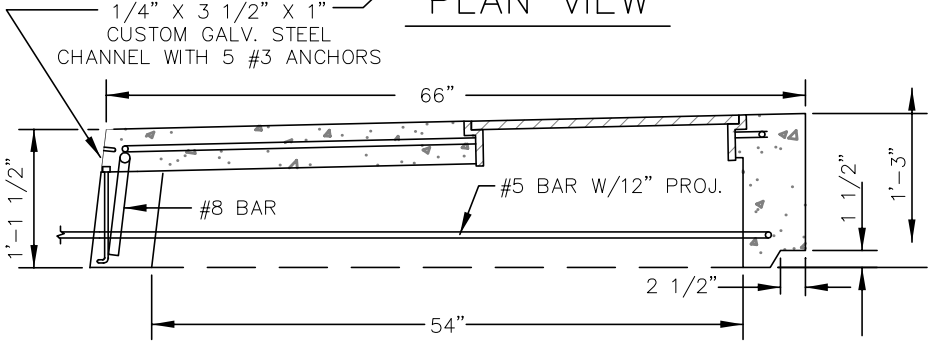
DRAWING NO. 360

REVISED 10–31–19

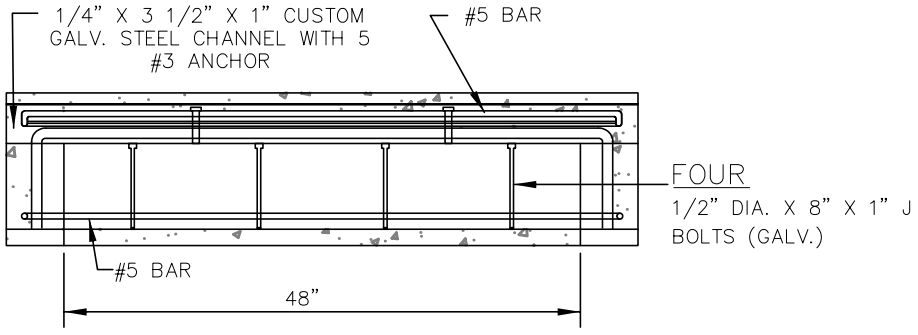
Clean Water Services



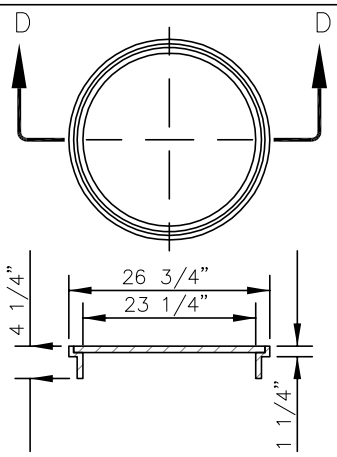
PLAN VIEW



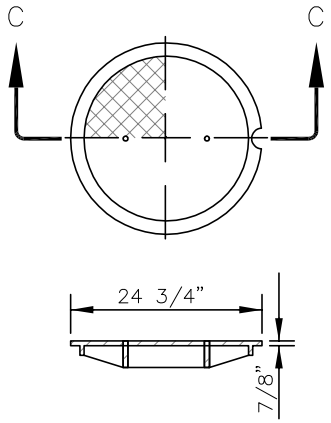
SECTION A–A



SECTION B–B

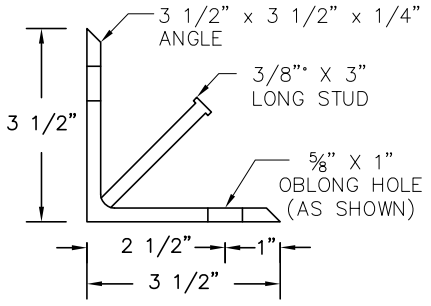


SECTION D–D



SECTION C–C

MANHOLE FRAME AND COVER (LIGHT DUTY)



STEEL CHANNEL DETAIL

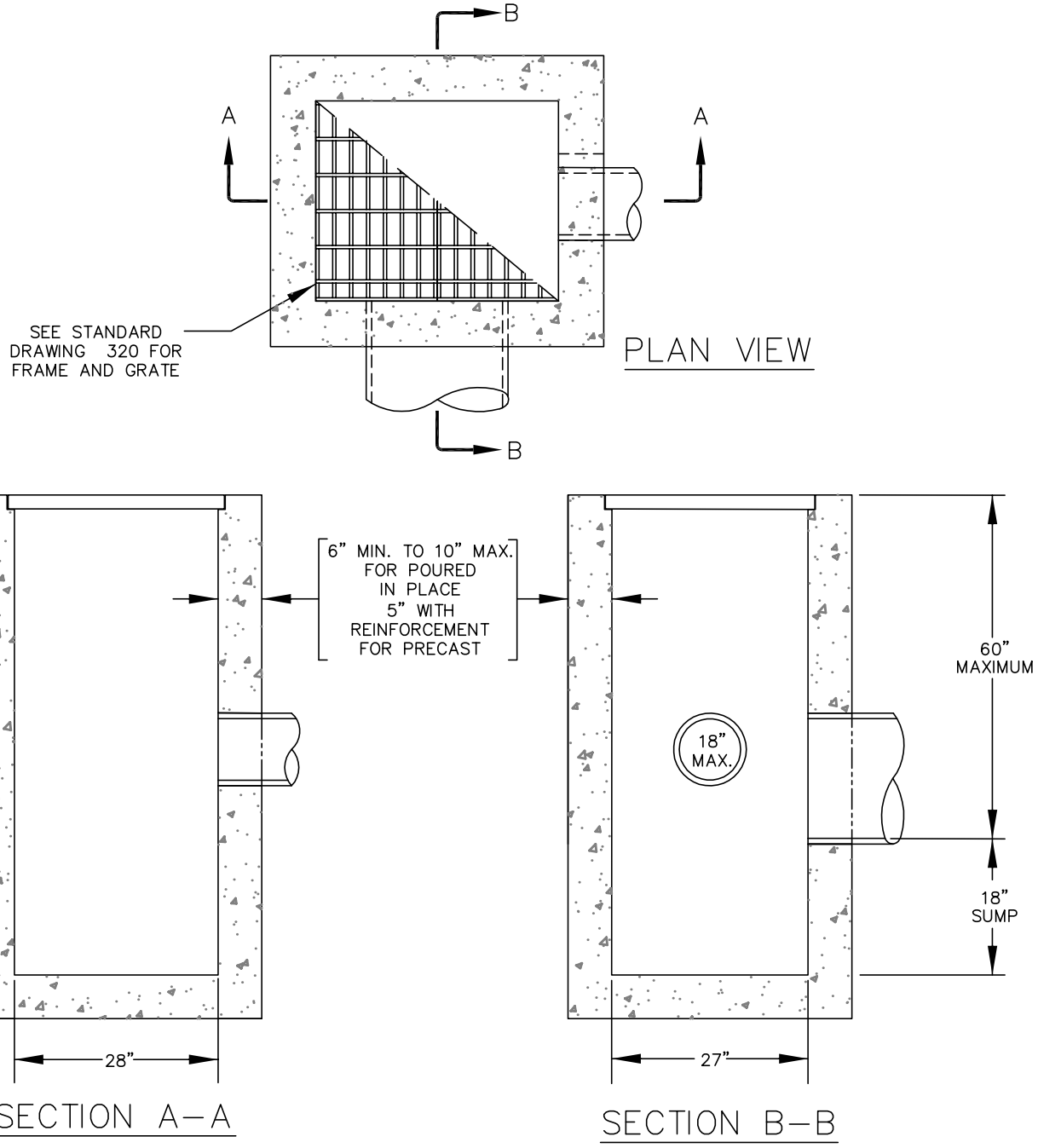
NOTE:
MATERIAL SHALL BE NEW STRUCTURAL ASTM A–36 STEEL

TOP–CURB INLET MANHOLE AND MODIFIED CURB INLET MANHOLE
(CG–48 M.H. AND MOD. CG–48 M.H.)

DRAWING NO. 370

REVISED 10–31–19

Clean Water Services



NOTES:

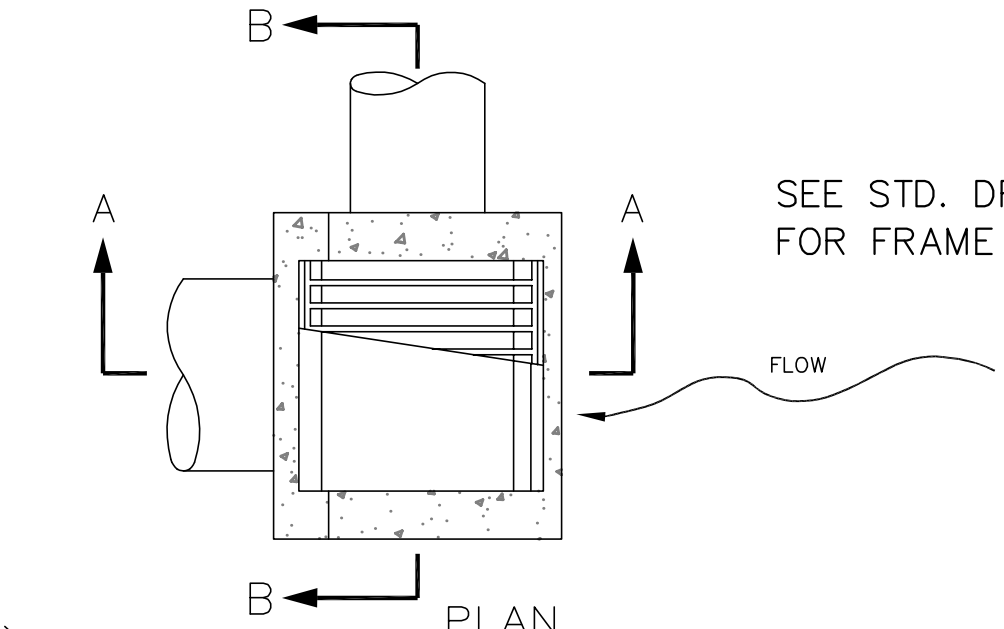
1. ALL PRECAST SECTIONS SHALL CONFORM TO REQUIREMENTS OF ASTM C–478.
2. INSTALL STRUCTURE ON MIN. OF 8" OF 3/4"–0" COMPACTED BASE MATERIAL.
3. PRE CAST REINFORCEMENT SHALL BE REBAR MEETING ASTM A615 GRADE OR WELDED WIRE MEETING ASTM A497.
4. ALL POURED INPLACE CONCRETE SHALL HAVE A 28 DAY STRENGTH OF 3000 P.S.I. AND A SLUMP OF 2" TO 4".
5. AREA DRAINS IN REAR OR SIDE YARDS SHALL NOT BE SUMPED AND SHALL BE PROPERLY CHANNELIZED.
6. PRECAST STRUCTURES CONFORMING TO ODOT TYPE CG–2 CATCH BASIN INLETS ARE AN ACCEPTABLE ALTERNATE. (ALL GRATE MATERIALS AND DIMENSIONS SHALL MEET CWS STANDARDS AS SHOWN ON DRAWING 320).

AREA DRAIN TYPE II

DRAWING NO. 380

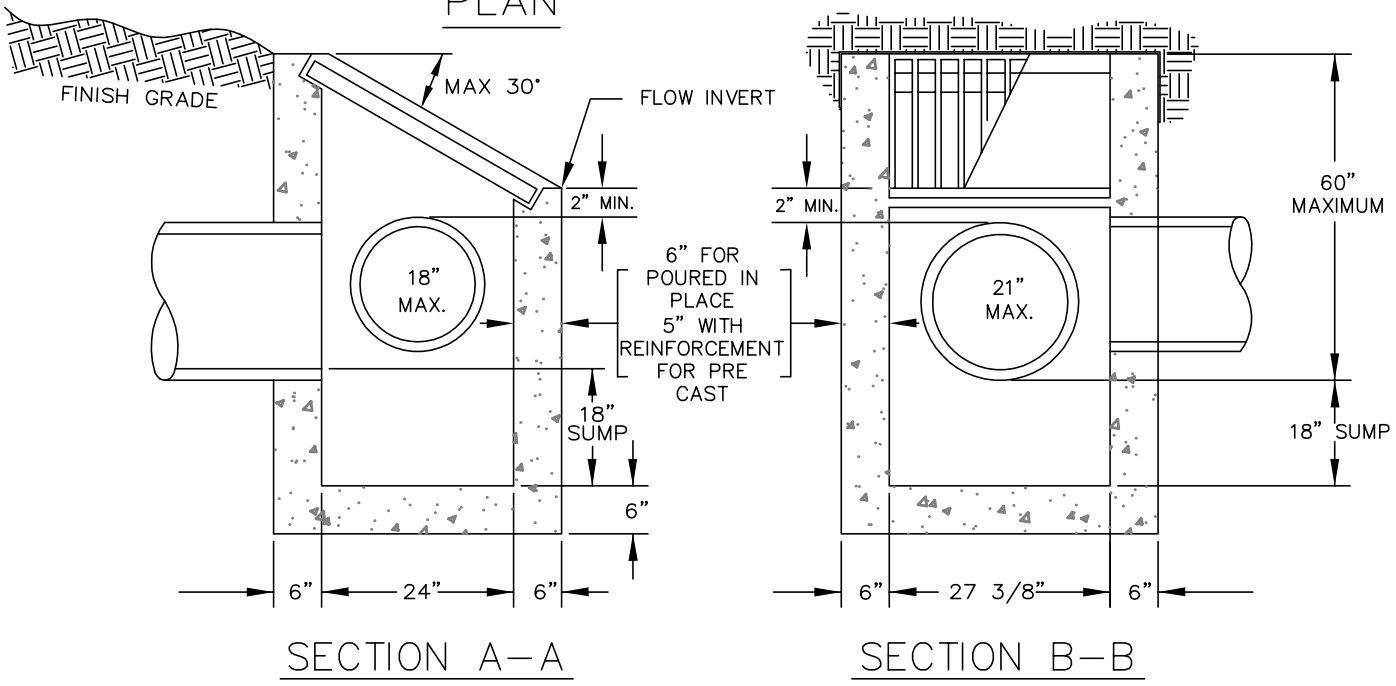
REVISED 10–31–19

Clean Water Services



SEE STD. DRAWING NO. 400
FOR FRAME AND GRATE

PLAN



NOTES:

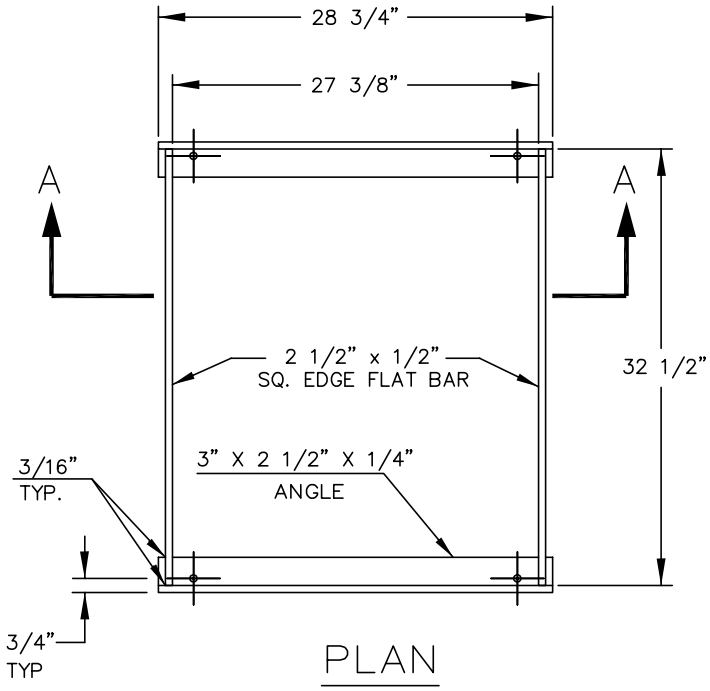
1. ALL PRE CAST SECTIONS SHALL CONFORM TO REQUIREMENTS OF ASTM C–478.
2. INSTALL STRUCTURE ON MINIMUM OF 8" OF 3/4" – 0" COMPACTED BASE MATERIAL.
3. PRE CAST REINFORCEMENT SHALL BE REBAR MEETING ASTM A615 GRADE 60 OR WELDED WIRE MEETING ASTM A497
4. ALL POURED IN PLACE CONCRETE SHALL HAVE A 28 DAY STRENGTH OF 3000 PSI AND SLUMP OF 2" TO 4".
5. PRE–CAST STRUCTURE'S CONFORMING TO O.D.O.T. TYPE G–2 CATCH BASIN DESIGN/WITH DITCH INLET TOP ARE AN ACCEPTABLE ALTERNATE. ALL GRATE MATERIALS SHALL MEET C.W.S. STANDARDS AS SHOWN ON DETAIL #400

DITCH INLET

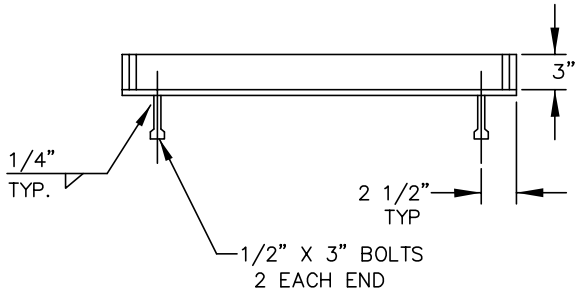
DRAWING NO. 390

REVISED 10–31–19

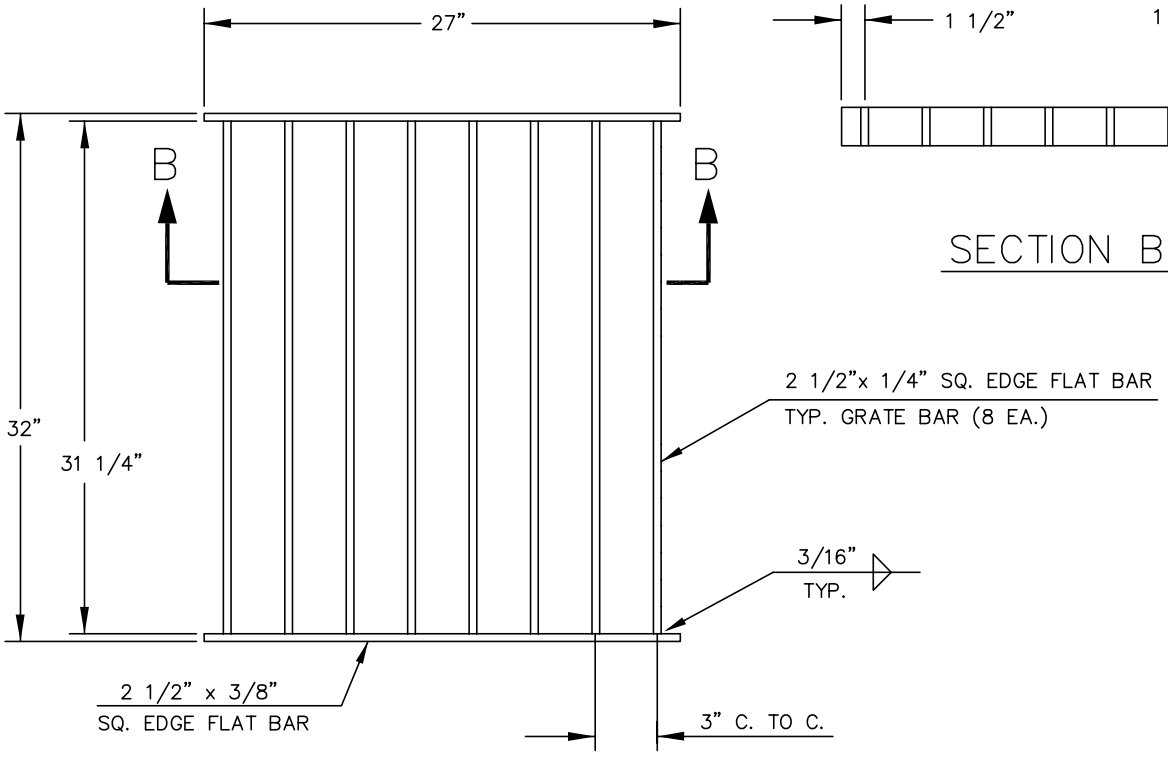
Clean Water Services



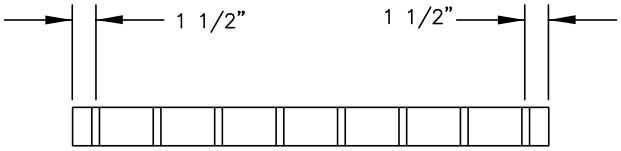
PLAN



SECTION A–A



PLAN



SECTION B–B

NOTE:

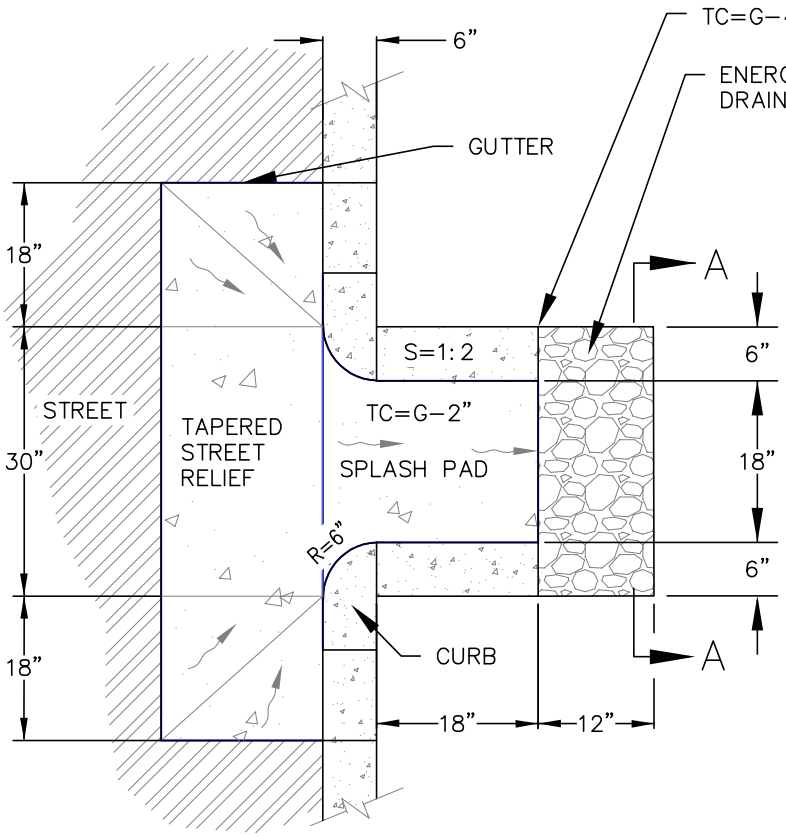
FRAME AND GRATE SHALL BE NEW STRUCTURAL ASTM A–36 FLAT BAR STEEL OR APPROVED EQUAL.

DITCH INLET
FRAME AND GRATE

DRAWING NO. 400

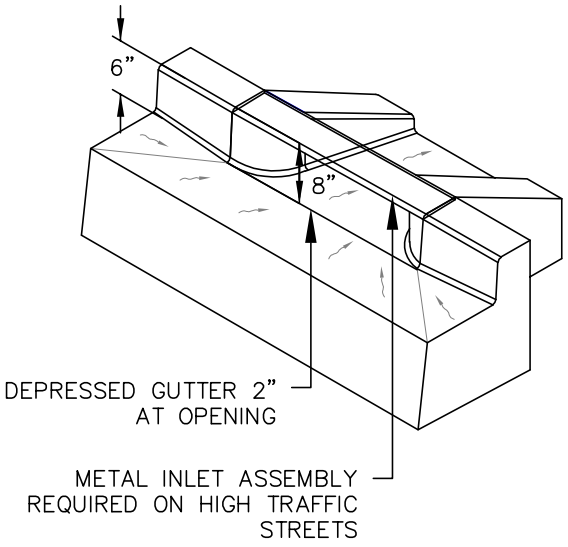
REVISED 10–31–19

Clean Water Services



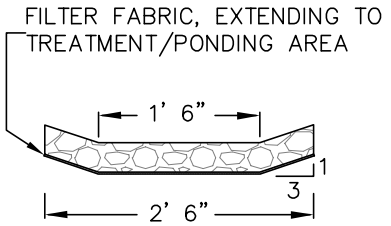
PLAN CURB CUT OUT

N.T.S.

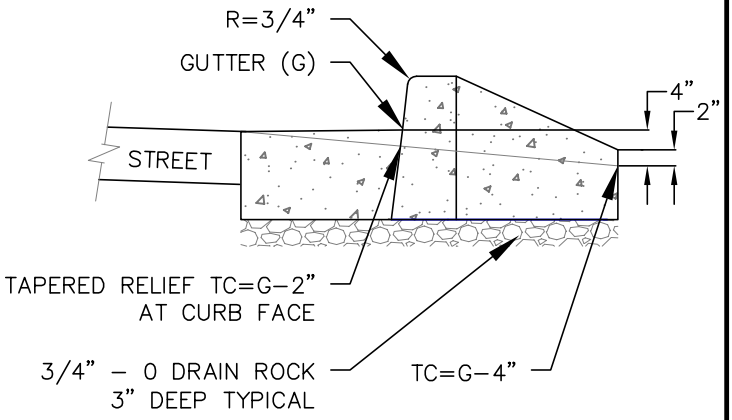


ISOMETRIC CURB CUT OUT

N.T.S.



SECTION A-A



NOTES:

1. INFLOW STRUCTURE PER LOCAL JURISDICTION. CURB CUT OUTS NOT ALLOWED ON WASHINGTON COUNTY ROADS - USE MODIFIED CG-30 SEE DETAIL 403, FOR INLET STRUCTURE.
2. INFLOW STRUCTURE - CURB CUT OUT SHALL HAVE MINIMUM 2" DROP AT THE FLOW LINE LEADING TO THE SPLASH PAD, SEE DETAIL.
3. ENERGY DISSIPATER DRAIN ROCK: ROCK SIZE 4-1/2" - 2-1/2" OR SIZED BY DESIGN INFLOW. PLACE ROCK 6" DEEP BEHIND SPLASH PAD.
4. CURB PROFILE PER LOCAL JURISDICTION.
5. ENSURE THAT DOWNSTREAM CATCH BASINS ARE IN PLACE FOR HIGH FLOW CONVEYANCE.

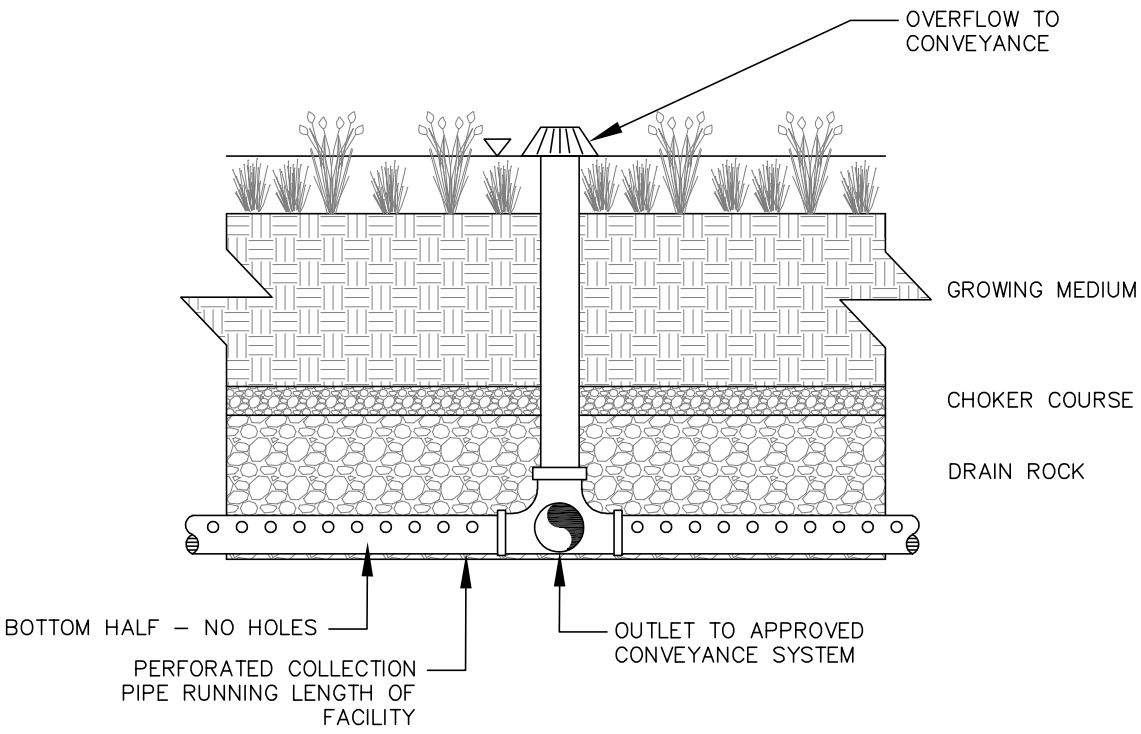
CURB CUT OUT

DRAWING NO. 401

REVISED 10-31-19

Clean Water Services

PERFORATED PIPE MANIFOLD PROFILE



PIPING NOTES:

FOR PRIVATE PROPERTY, PIPING MUST BE CAST IRON, ABS SCH40, OR PVC SCH40. THREE–INCH PIPE IS REQUIRED FOR FACILITIES DRAINING UP TO 1,500 SQUARE FEET OF IMPERVIOUS AREA; OTHERWISE 4–INCH PIPE MINIMUM IS REQUIRED. PIPING INSTALLATION AND SIZING MUST FOLLOW CURRENT UNIFORM PLUMBING CODE.

FOR PUBLIC FACILITIES, 6–INCH OR 8–INCH ASTM 3034 SDR 35 PVC PIPE AND PERFORATED PIPE ARE REQUIRED.

NOTES:

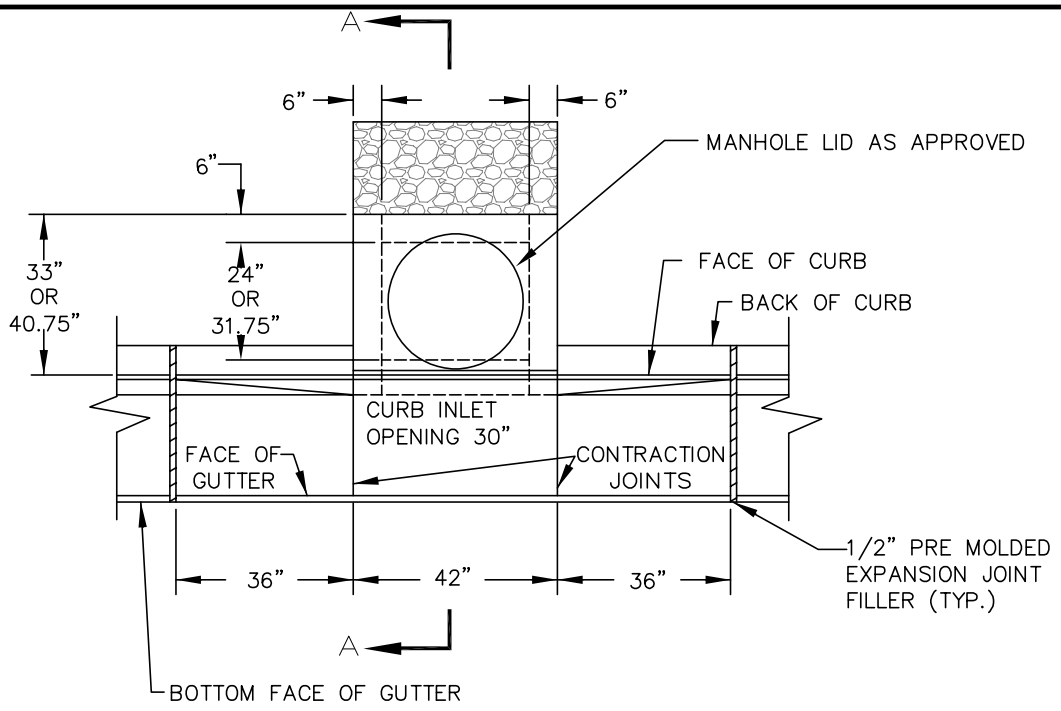
1. BRANCH SPACING AND NUMBER OF BRANCHES TO BE CALCULATED BASED ON STORM FLOWS FROM IMPERVIOUS AREA BEING TREATED.
2. NO TREES OR DEEP ROOTED VEGETATION OVER PIPING.
3. GRADE SUBGRADE TO PROVIDE MANIFOLD WITH POSITIVE DRAINAGE.
4. CONVEYANCE SIZED AT MINIMUM FOR 25 YEAR EVENT STORM FLOWS.
5. DETENTION (IF REQUIRED) VOLUME BASED ON DEPTH OF DRAIN ROCK RESERVOIR LAYER AND POSITION OF MANIFOLD WITHIN THE DRAIN ROCK LAYER.
6. FITTINGS TO BE SAME MATERIAL AS PERFORATED PIPE.
7. PIPE SECTIONS EXPOSED TO SUNLIGHT SHALL BE OF MATERIAL NOT SUBJECT TO DEGRADATION FROM THE EFFECTS OF SUNLIGHT.

PERFORATED PIPE DETAILS

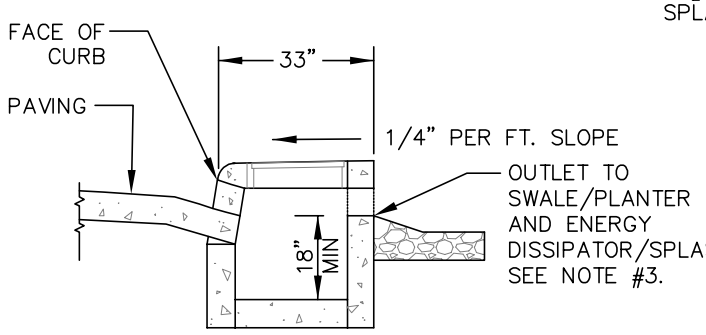
DRAWING NO. 402

REVISED 10–31–19

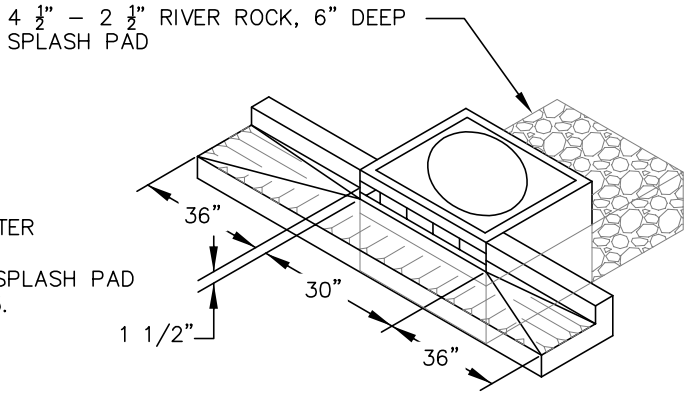
Clean Water Services



PLAN VIEW



SECTION A–A
NON–SNOUT



PERSPECTIVE VIEW
SHOWING DEPRESSED
GUTTER AT CURB INLET

NOTES:

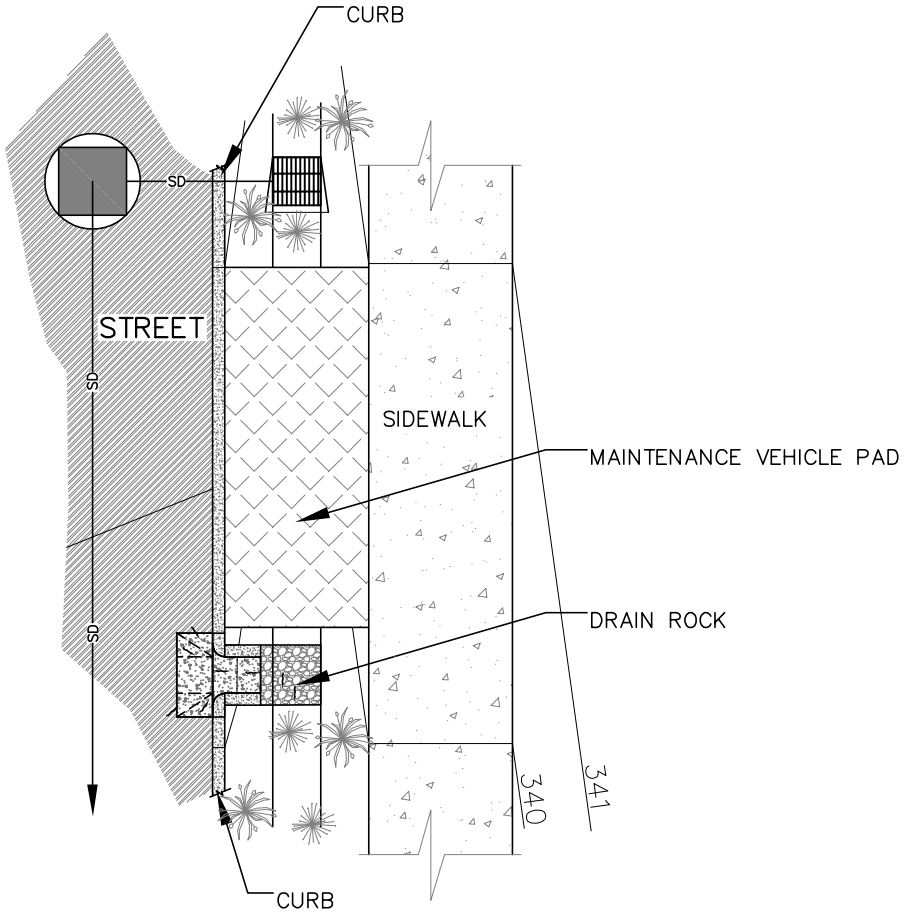
1. INSTALL STRUCTURE ON MINIMUM OF 8" OF 3/4" TO 0" COMPACTED BASE MATERIAL.
2. INSTALL ENERGY DISSIPATER/SPLASH PAD AT OUTFALL OF STRUCTURE.
3. FOUR INCH DIAMETER CUT OUTS, MINIMUM 3 CUT OUTS EVENLY SPACED PER INLET STRUCTURE, TYPICAL.

MODIFIED CG–30 INLET WITH SUMP

DRAWING NO. 403

REVISED 10–31–19

Clean Water Services



NOTES:

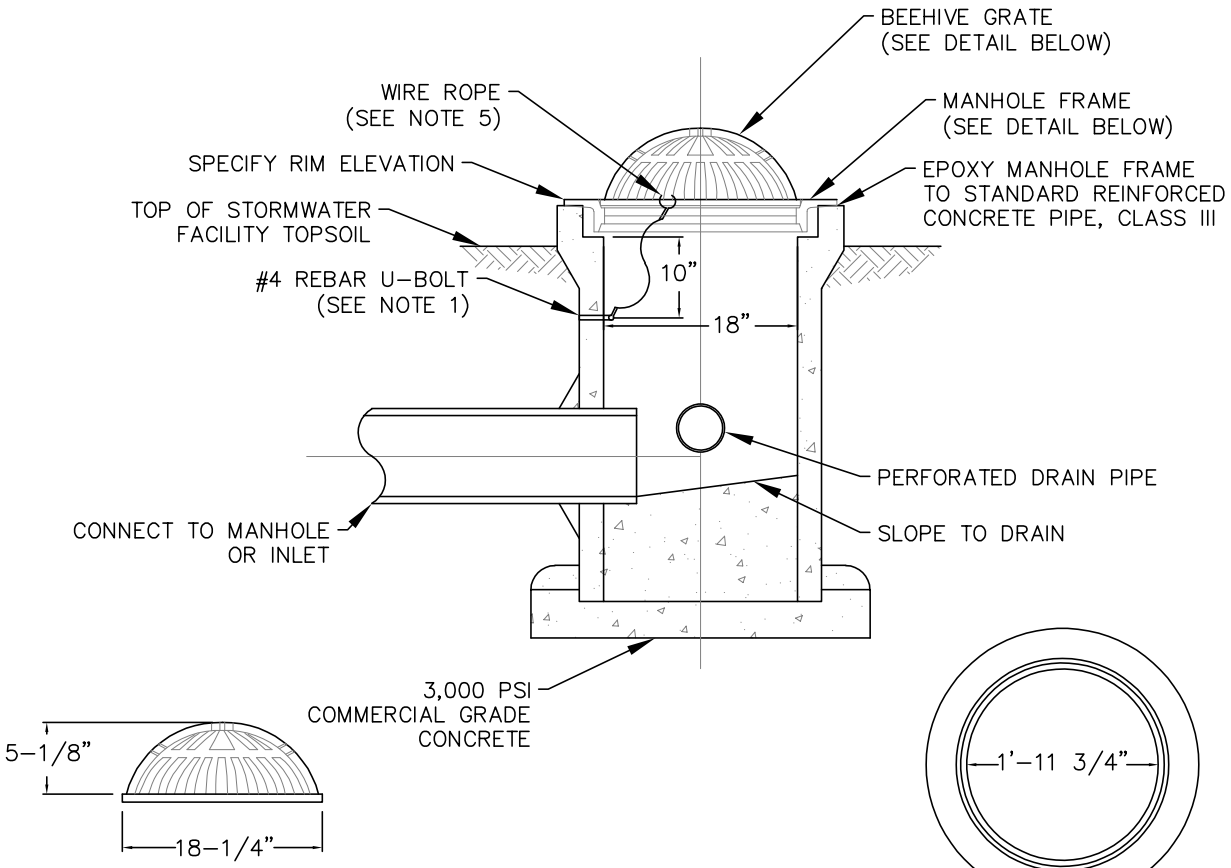
1. PUBLICLY MAINTAINED WATER QUALITY FACILITIES SHALL BE PROVIDED WITH MAINTENANCE ACCESS PER R&O CHAPTER 4.07.6.
2. PROVIDE ACCESS FOR ROADSIDE WATER QUALITY FACILITY AS ILLUSTRATED, OR PER LOCAL JURISDICTION. DESIGN FOR TRAFFIC VOLUME AND/OR SIGHT DISTANCE MAY BE REQUIRED. MINIMUM 20' LONG, 7' WIDE PERVIOUS OR IMPERVIOUS PAVEMENT CAPABLE OF SUPPORTING A TYPICAL MAINTENANCE VEHICLE SHALL BE LOCATED WITHIN 10' OF ANY SUMPED STRUCTURES.
3. IF PERVIOUS PAVERS ARE USED, A STRUCTURAL BORDER SHALL BE DESIGNED TO PREVENT SHIFTING OF THE PAVERS.

PUBLIC WATER QUALITY FACILITY ACCESS

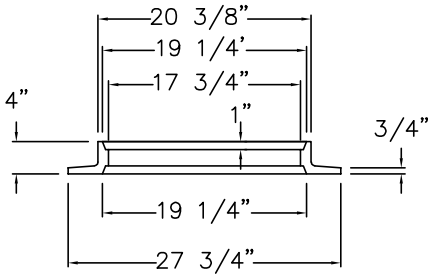
DRAWING NO. 404

REVISED 10-31-19

Clean Water Services



BEEHIVE GRATE



18"x4" REVERSIBLE MANHOLE FRAME

NOTES

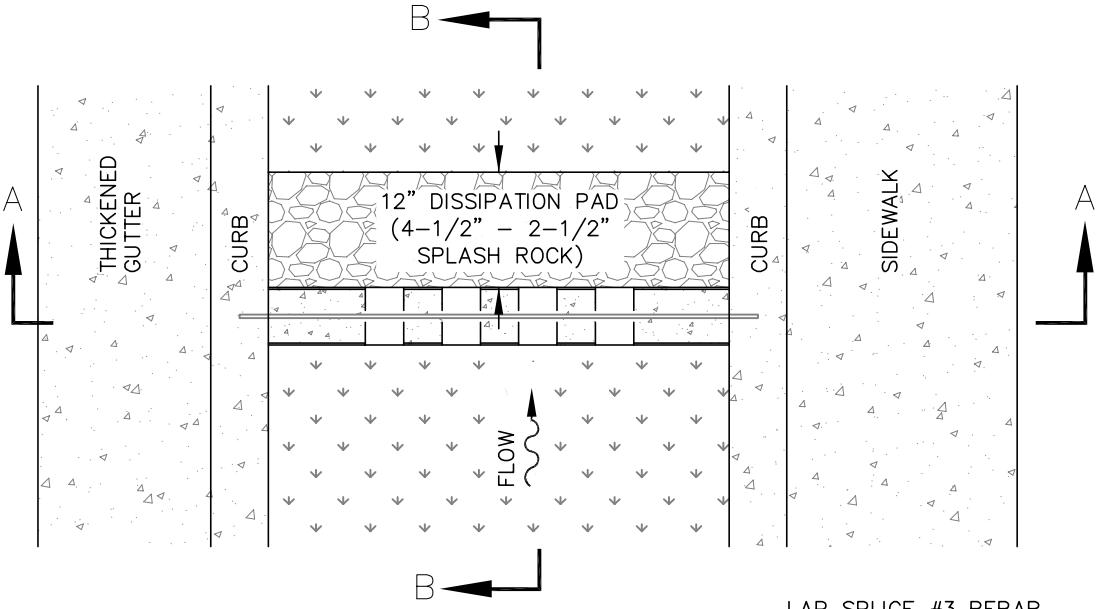
1. SECURE GRATE IN PLACE WITH 54" OF WIRE ROPE. LOOP ENDS OF WIRE ROPE AROUND U-BOLT AND GRATE. CRIMP EACH END OF WIRE ROPE WITH 3" OVERLAP.
2. DRILL 2" DEEP HOLES INTO PIPE AND EPOXY #4 REBAR U-BOLT (2"X 4") IN HOLES.
3. GRATE TO BE CAST IRON, ASTM A48 CL30.
4. SIZE INLET BASED ON CALCULATED FLOWS AND MANUFACTURERS RECOMMENDATIONS.
5. WIRE ROPE BETWEEN 1/8"-3/16" DIAMETER, STAINLESS STEEL, 7 STRANDS OF 19 WIRES.

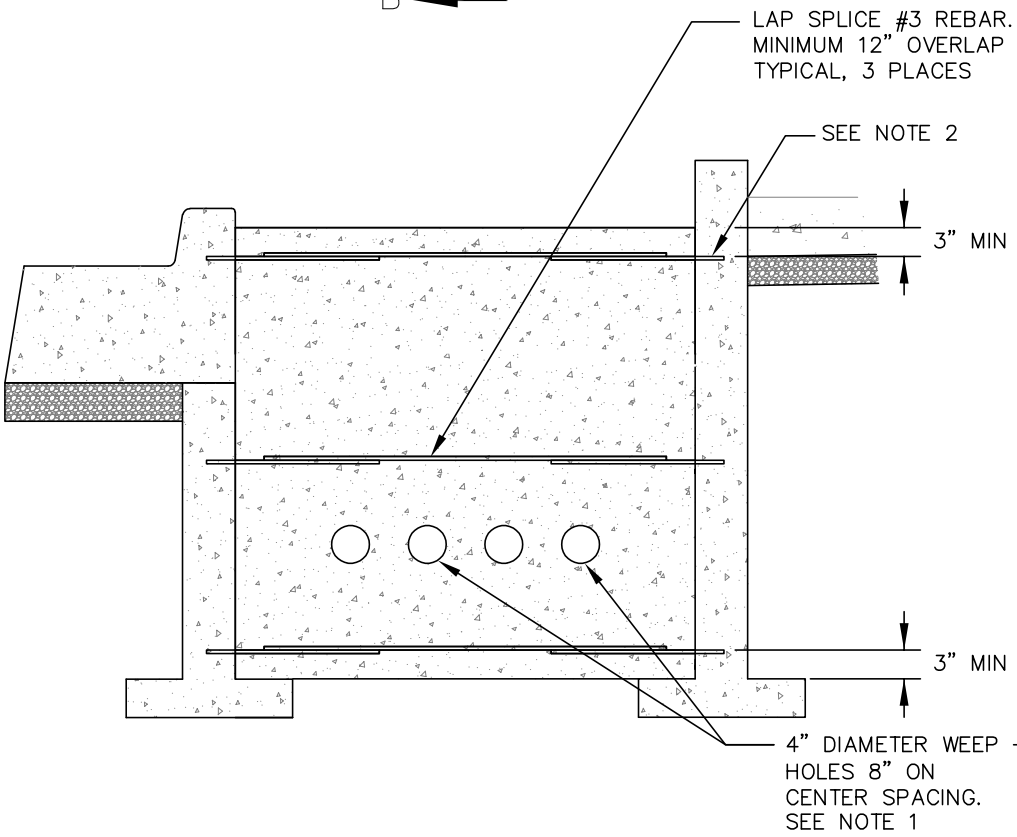
BEEHIVE INLET

DRAWING NO. 405

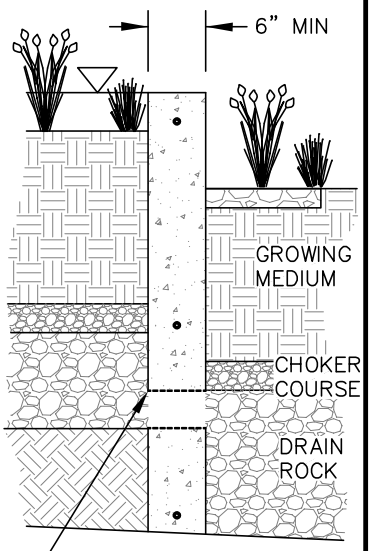
REVISED 10-31-19

Clean Water Services





SECTION A–A



SECTION B–B

NOTES

1. WEEP HOLES TO BE PLACED WITHIN DRAIN ROCK LAYER. TOP OF WEEP HOLE TO BE SAME ELEVATION AS THE TOP OF DRAIN ROCK LAYER, ON LOWEST SIDE OF CHECK DAM.
2. MINIMUM 3" REBAR EMBEDMENT FOR CURB AND PLANTER WALL.
3. CHECK DAM SPACING SHALL PROVIDE A MINIMUM OF 2" FREEBOARD, AND AN 18" MAXIMUM DROP FROM ANY ADJACENT CURB TO TOP OF FACILITY GROWING MEDIUM.

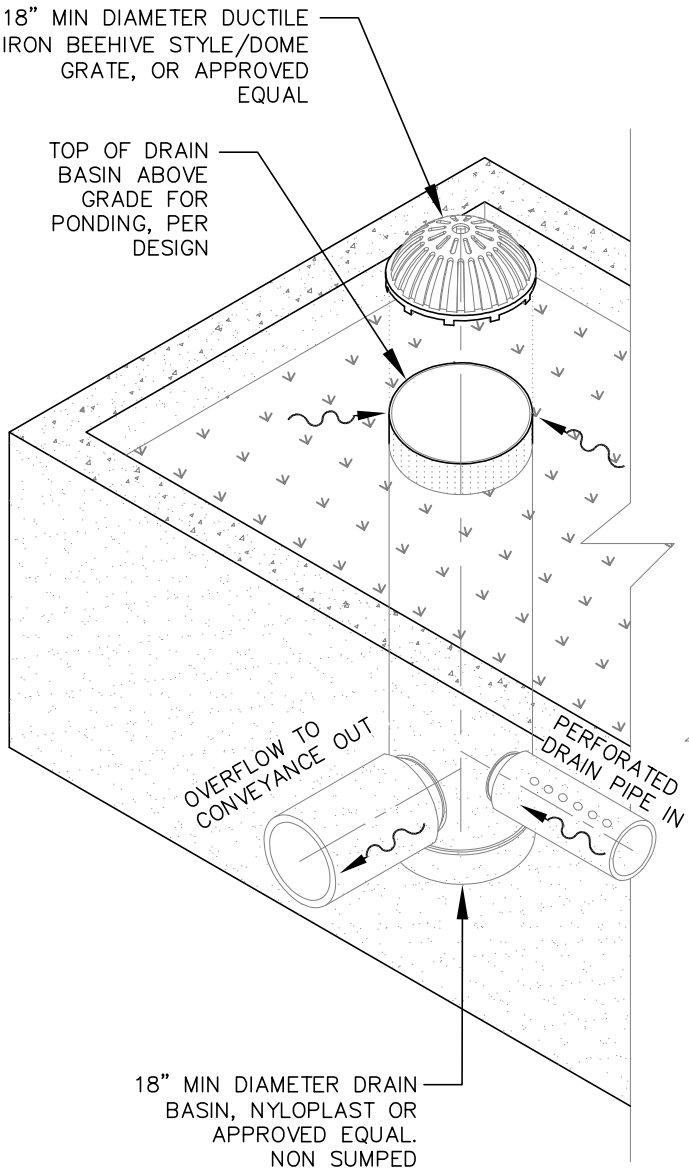
CONCRETE CHECK DAM

DRAWING NO. 406

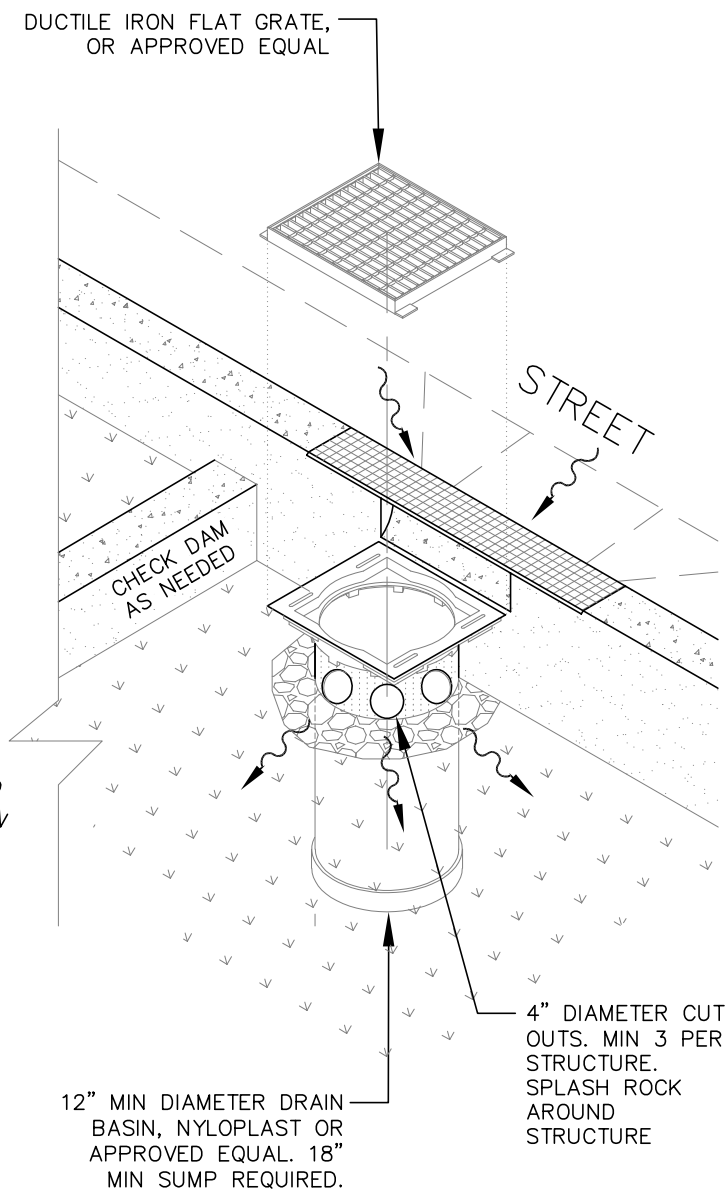
REVISED 10–31–19

Clean Water Services

OVERFLOW STRUCTURE



INLET STRUCTURE



NOTE:

1. PLACE STRUCTURE ON 3/4" TO 0" BASE ROCK PLACED OVER NATIVE SUBGRADE.

OVERFLOW/INLET STRUCTURE

DRAWING NO. 407

REVISED 10-31-19

Clean Water Services