



TO: City Council and City Manager

FROM: J. Pat Rich, Development Coordinator

DATE: December 14, 2023

SUBJECT: Recommendation from Planning Commission re: Landscape Culvert Moratorium

As requested by the Council, staff directed Covington Engineering to determine if the moratorium on landscape culverts was still needed, and if not, to develop a policy for permitting and inspecting the installation. The finished product is a document which will be attached to every landscape culvert permit. It provides design, material, and construction requirements, as well as the responsibilities of the permit holder.

The significant improvements to the policy are:

- The design shall be prepared and sealed by a licensed Mississippi engineer.
- Design must be approved by the City Engineer.
- Inspection performed by the City Engineer.

To cover the additional cost to the city, we recommend adding a permit fee of \$300 for landscape culverts. This does not change the permitting for driveway culverts. The changes were advertised, posted on the website and a public hearing was held. There was one comment from the public hearing.

At its meeting on December 12, 2023, the Planning Commission voted 5-0 to recommend rescinding the moratorium, approving the policy and permit fee.

LANDSCAPE CULVERT PERMIT APPLICATION

Agreement

The following regulations shall be applicable to all persons wishing to construct and/or install landscape culverts within or upon any public drainage ditch located within the City of Diamondhead:

Prior to performing any work related to the public drainage, the property owner or designee shall file the appropriate application.

The installation of culverts shall be the responsibility of the property owner. All installations must be made in accordance with these regulations and upon completion, the property owner shall notify the City for a final inspection. Should the installation not meet the specifications, the City may:

Require the owner to remove and reset culverts/inlets to specifications approved by the City; or

Remove the culverts/inlets from the ditch and restore to uniform side slopes with permanent erosion protection.

When it has been determined by the City Manager or his representative that the installation of any culverts would be detrimental to the public drainage, it shall be unlawful for the City to issue a permit to the applicant. Notice of rejection and reasons for that rejection will be provided to the applicant.

If granted a permit to install a culvert, the property owner has the option to either self-install or have a private contractor install the culvert. However, procedures for completion and inspections shall be followed.

In the event an installed landscape culvert impedes the public drainage or requires repetitive maintenance by the City, the City reserves the right to remove the landscape culvert and restore the public drainage to an open ditch.

The permit fee includes the cost to complete the final inspection. Re-inspection fees will be required for each additional inspection.

Design Requirements

Stormwater calculations shall be prepared based on the 25-year design event to determine the drainage area, resulting stormwater flow at the outlet of the landscape culvert, and size of the landscape culvert. A grading plan showing existing elevations, proposed pipe invert elevations, top elevations and spacing of proposed inlets. This shall be prepared and sealed by a licensed Mississippi engineer.

The property owner will be responsible for maintaining the functionality of the culvert. If the City must perform any work on the culvert to maintain functionality, the property owner will be responsible for all costs incurred.

If at any time the culvert(s) become damaged and prevent positive flow of stormwater, the City may remove and dispose of the culverts at the expense of the property owner, or the property owner may correct the problem at his own expense. Should the City remove the culverts due to damage or deterioration, the City will regrade the ditch within the public right-of-way to conform to a trapezoidal channel shape to promote positive drainage. It shall be the responsibility of the property owner to install and/or replace sod in the open ditch.

LANDSCAPE CULVERT PERMIT APPLICATION

Material Requirements

Landscape culverts shall be one of the following materials:

- Reinforced Concrete Pipe ASTM C-76 Class III;
- ¹High Density Polyethylene (HDPE) conforming to the requirements of AASHTO M 294, Type S;
- ¹Poly Vinyl Chloride (PVC) conforming to the requirements of AASHTO Designation M 304.

¹Pipes shall be installed with a minimum cover of 1'.

All joints shall be wrapped in accordance with the "Storm Drain Pipe Wrap" detail.

See detail sheets for concrete requirements.

The following items shall be furnished prior to scheduling the final inspection:

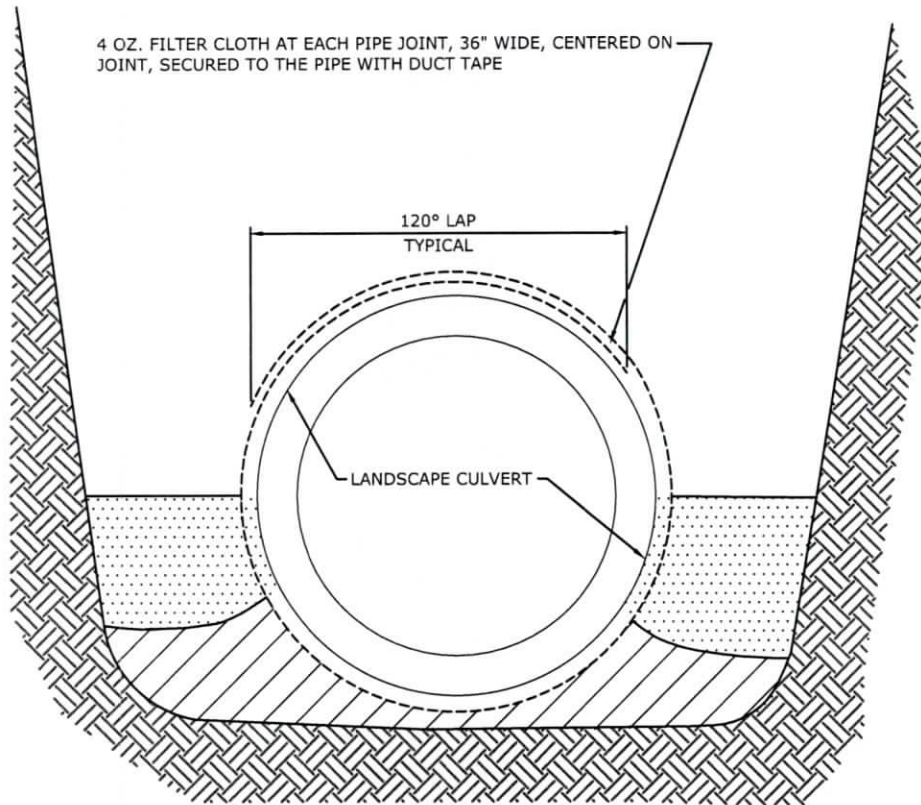
- Delivery tickets for batched concrete;
- Invoice/receipt showing the type of culvert material purchased;
- If used, Invoice/receipt showing the prepackaged concrete mix purchased.

Construction Requirements

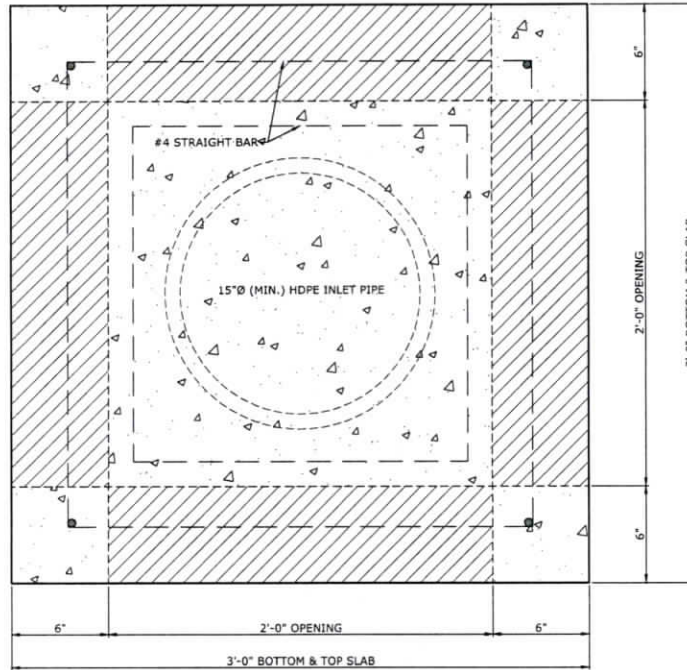
Within ninety (90) days after beginning work, all construction shall be completed.

Culvert joints may not be covered until inspected by the City.

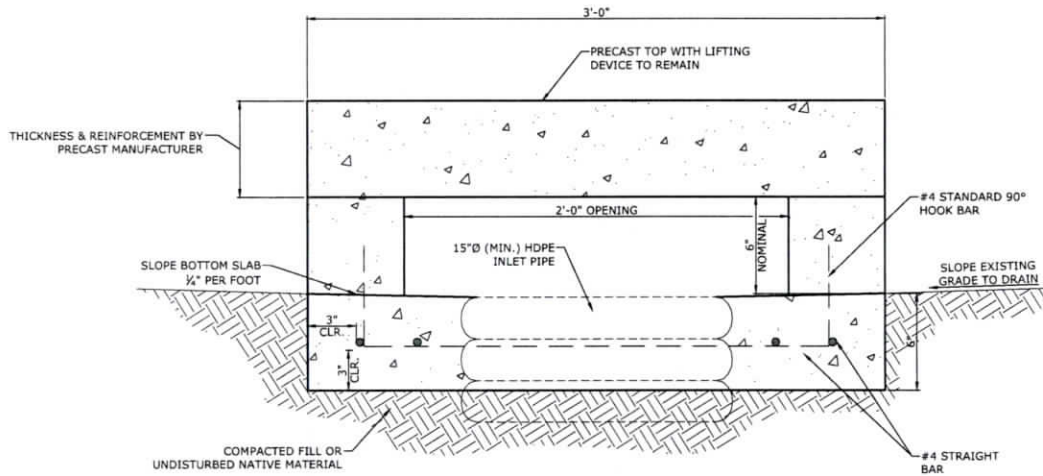
Construction shall be performed in a manner to ensure positive surface drainage, effectiveness of backfill compaction, functionality of the culvert and quality of workmanship performed. If these items are deemed inadequate by the City, the work will be subject to rejection.



<p>PREPARED BY:</p>  <p>2300 14TH STREET GULFPORT, MISSISSIPPI 39501 Office: (228)396-0486</p>	<p>PREPARED FOR: CITY OF DIAMONDHEAD</p> <p>FIGURE TITLE: STORM DRAIN PIPE WRAP</p> <p>NORTH ARROW</p> 	<p>DRAWN BY: TP</p> <p>DATE DRAWN:</p> <p>JOB NUMBER: 16175</p> <p>SCALE: NTS</p>
<p>CITY OF DIAMONDHEAD STANDARD CONSTRUCTION DETAILS</p>		<p>FIGURE NUMBER: CCE-229</p>



PLAN



SECTION

REINFORCED CONCRETE NOTES:
 CONCRETE MIXTURE SELECTED SHALL BE SUITABLE FOR A COMPRESSIVE STRENGTH OF 3,500 PSI.
 COARSE AGGREGATE SHALL BE SIZE 57 OR 67.
 THE MAXIMUM WATER/CEMENTITIOUS RATIO SHALL BE 0.50.
 THE MAXIMUM PERMITTED SLUMP SHALL BE 4 - 8 INCHES.
 THE NOMINAL AIR CONTENT SHALL BE 4.5% ± 1.5%.
 STEEL REINFORCEMENT SHALL BE ASTM A615 GRADE 40 (MIN).
 A PREPACKAGED PRODUCT SATISFYING THE REQUIREMENTS OF ASTM C928 IS ACCEPTABLE.

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FIGURE TITLE:

CONCRETE OPEN TOP INLET
 TYPE A

NORTH ARROW



DRAWN BY:

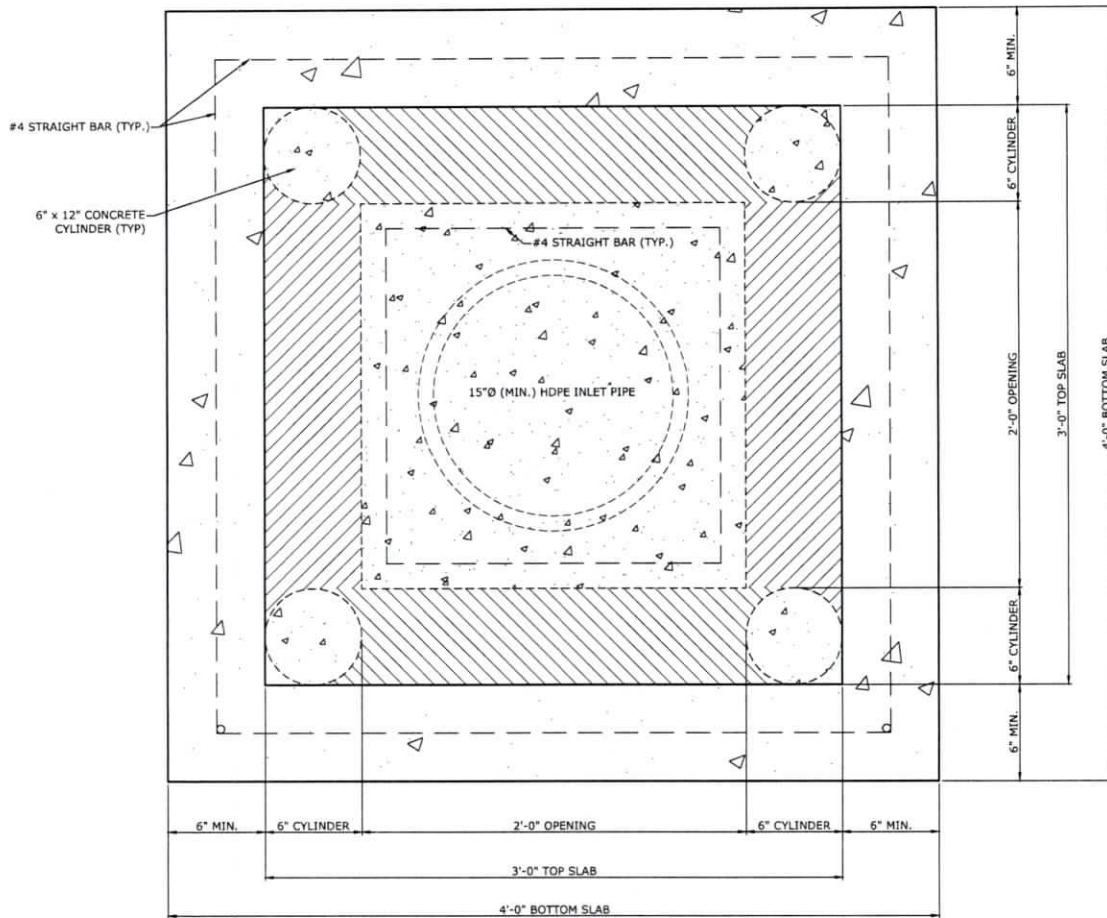
TP

DATE DRAWN:

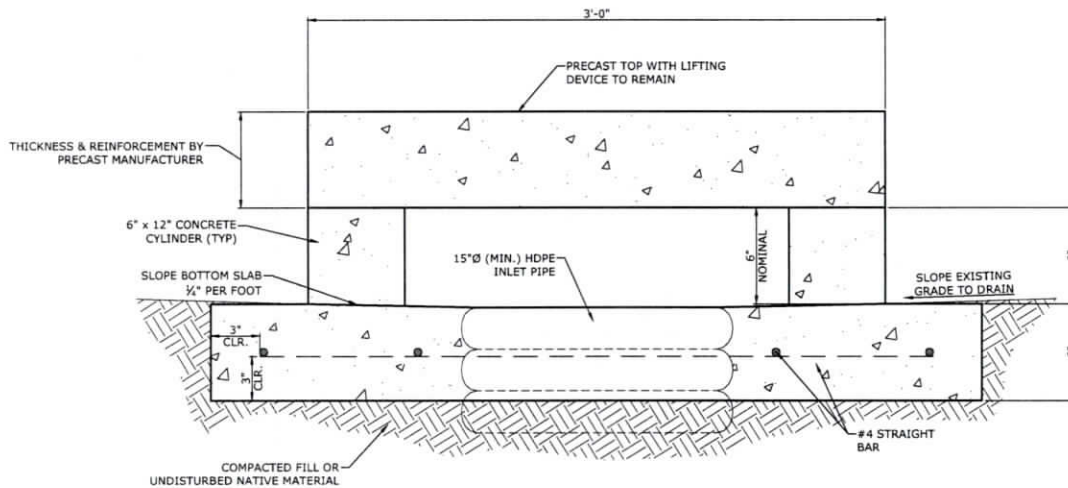
JOB NUMBER:
 16175

SCALE:
 NTS

FIGURE NUMBER:
 CCE-238 A



PLAN



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FIGURE TITLE:

CONCRETE OPEN TOP INLET
 TYPE B

NORTH ARROW



DRAWN BY:

TP

DATE DRAWN:

JOB NUMBER:

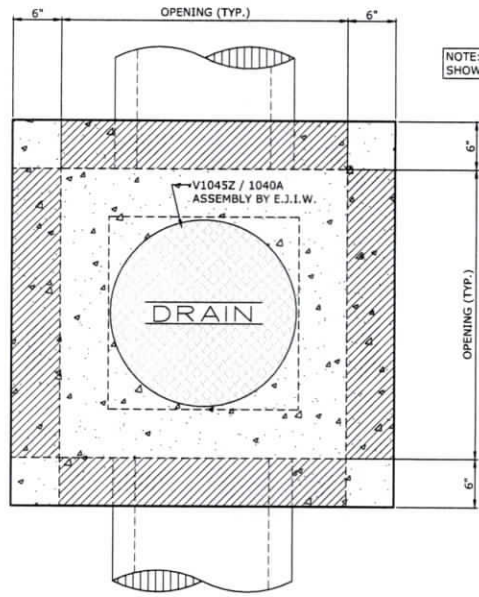
16175

SCALE:

NTS

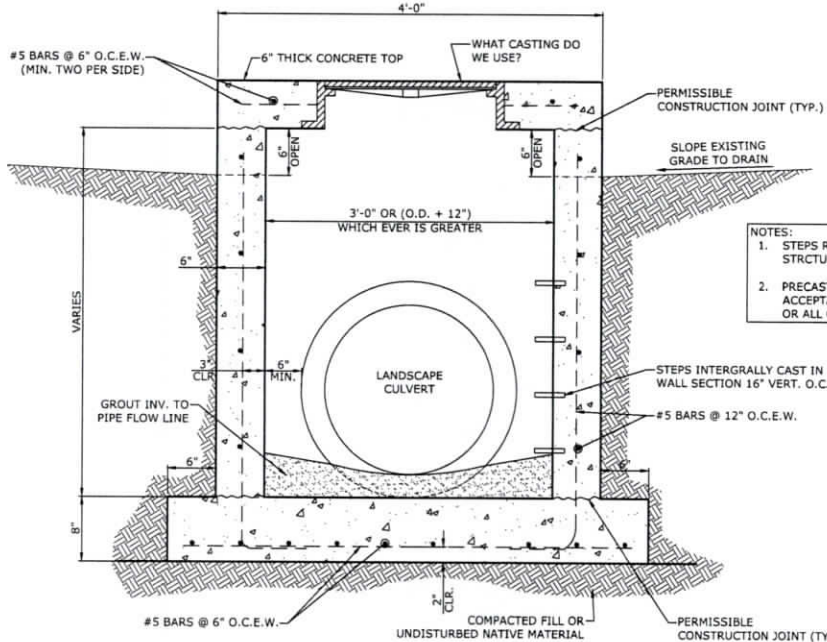
FIGURE NUMBER:

CCE-238 B



NOTE: BOTTOM SLAB NOT SHOWN FOR CLARITY.

PLAN



NOTES:
 1. STEPS REQ'D IN ALL DRAINAGE STRUCTURES OVER 4'-0" IN DEPTH.
 2. PRECAST CONCRETE IS AN ACCEPTABLE SUBSTITUTION TO ANY OR ALL CAST-IN-PLACE SHOWN.

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FIGURE TITLE:

CONCRETE JUNCTION BOX W/
 OPEN TOP INLET

NORTH ARROW



DRAWN BY:

TP

DATE DRAWN:

JOB NUMBER:

16175

SCALE:

NTS

FIGURE NUMBER:

CCE-239