

IOWA DEPARTMENT OF TRANSPORTATION

TO OFFICE: District 5 DATE: November 9th, 2018
ATTENTION: James V. Armstrong PROJECT: Marion County
FROM: Anthony J. Klein NHSN-014-3(54)--2R-63
OFFICE: District 5 Design PIN: 19-63-014-010
SUBJECT: FY 2021 – Culvert Replacement Project Concept

PROJECT LOCATION MAP: Page 3 or Click Here

BACKGROUND: Marion County, IA 14, MM 53.7

At this location a 30” existing concrete culvert crosses under the pavement. The pavement over this culvert has been settling. Pavement cores were taken near the existing culvert. These cores didn’t indicate there was any major void at the culvert under the pavement. DOT Maintenance recently put a concrete patch over the culvert to improve the ride until a new culvert could be installed at this location. There are two options below, Option 1 is to install a new pipe by a trenchless method under the roadway. Option 2 is to install a new pipe by open cut method.

ESTIMATED COST:

Option #1

Table with 5 columns: Description, Unit, Quantity, Unit Price, Total Price. Rows include APRONS, CONCRETE, 36 IN. DIA. (EA 2, \$1,700, \$3,400), CULVERT, CONCRETE ROADWAY PIPE, 36 IN. DIA. (LF 30, \$150, \$4,500), CULVERT, CONCRETE PIPE, 2000D, TRENCHLESS, 36 IN. DIA. (LF 66, \$600, \$39,600), FLOWABLE MORTAR (CY 26, \$300, \$7,800), REVETMENT, CLASS E (TONS 36, \$60, \$2,160). Summary: ESTIMATED COST \$57,460, 15% CONTINGENCY w/ TC \$8,600, TOTAL ESTIMATED COST \$66,000.

Option #2

Table with 5 columns: Description, Unit, Quantity, Unit Price, Total Price. Rows include EXCAVATION, CLASS 10 ROADWAY AND BORROW (CY 180, \$20, \$3,600), APRONS, CONCRETE, 36 IN. DIA. (EA 2, \$1,700, \$3,400), CULVERT, CONCRETE ROADWAY PIPE, 36 IN. DIA. (LF 96, \$150, \$14,400), REVETMENT, CLASS E (TONS 36, \$60, \$2,160), PATCHES, FULL-DEPTH FINISH, BY AREA (50 FEET OR GREATER IN LENGTH) (SY 205.6, \$125, \$25,694). Summary: ESTIMATED COST \$49,254, 20% CONTINGENCY w/ TC \$9,851, TOTAL ESTIMATED COST \$59,105.

**RECOMMENDATIONS:**

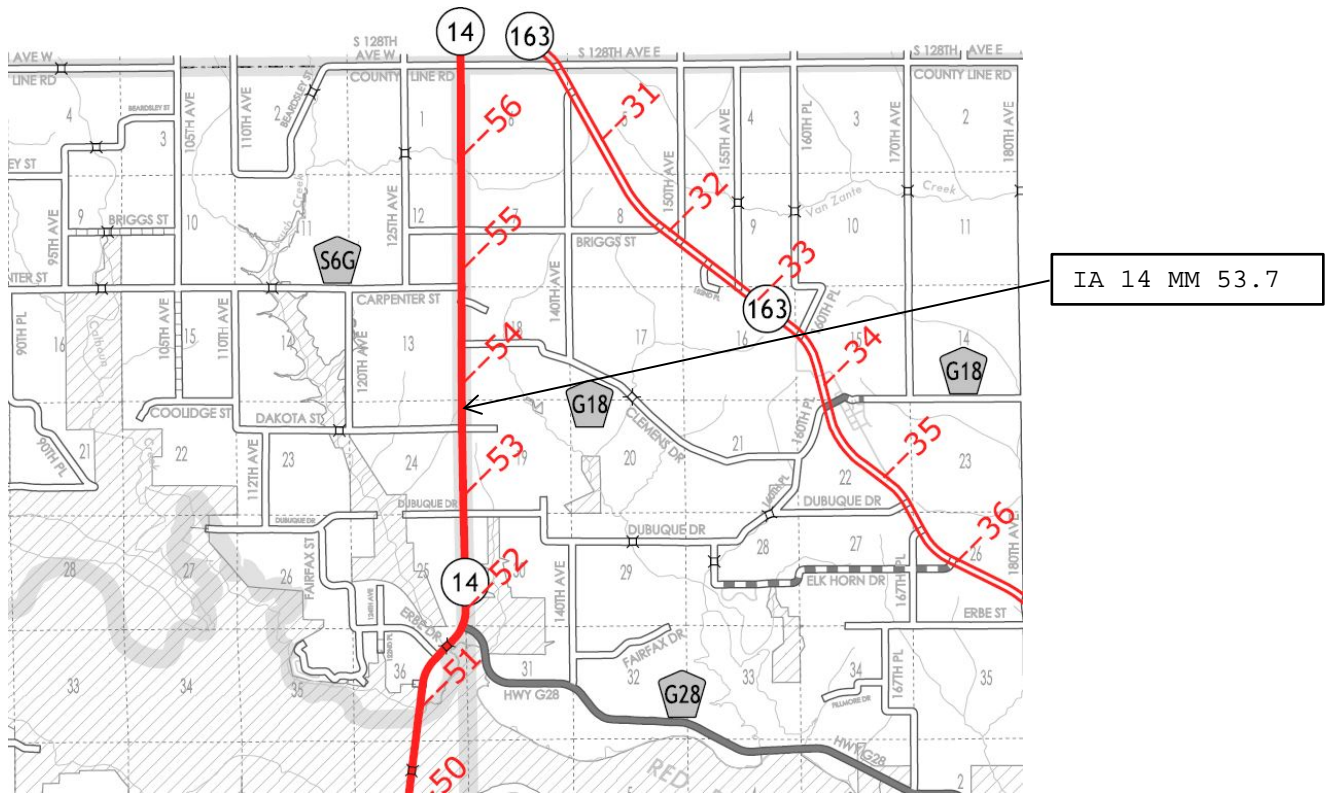
Install a new 30" RCP by a trenchless method - Option #1. By using this method traffic can be maintained on IA 14 and the recently installed patch should not have to be torn out.

**FUNDS PROGRAMMED:**

\$ 70,000 was budgeted for this project as a FY '21 project.

It has been identified by the District 5 office for construction in FY 2021. A schedule of events for plan development will be determined following approval of the Project Concept.

**LOCATION MAP:**



cc:

- |                  |                  |                 |
|------------------|------------------|-----------------|
| C. Purcell       | M. J. Kennerly   | K. D. Nicholson |
| D. L. Maifield   | C. B. Brakke     | S. J. Megivern  |
| F. W. Todey      | A. A. Welch      | N. M. Miller    |
| C. C. Poole      | S. Anderson      | G. A. Novey     |
| M. A. Swenson    | M. J. Sankey     | R. A. Younie    |
| D. R. Tebben     | B. D. Hofer      | K. Brink        |
| D. L. Newell     | B. E. Azeltine   | D.R. Claman     |
| T. D. Hanson     | S. J. Gent       | W.A. Sorenson   |
| T. D. Crouch     | J.W. Laaser-Webb | M. Van Dyke     |
| D. E. Sprengeler | E. C. Wright     | H. Torres-Cacho |
| J. R. Webb       | A.J. Klein       | J. R. Phillips  |
| B. M. Clancy     | T. Quam          | FHWA            |
| M. E. Ross       | J. Selmer        | P.C. Keen       |
| J. Garton        | J. Woodcock      |                 |