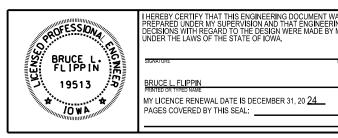
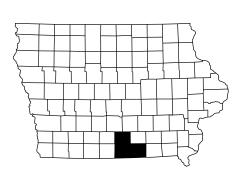
## IOWA DEPARTMENT OF NATURAL RESOURCES

# CONSTRUCTION DOCUMENTS FOR RATHBUN WMU ROAD MAINTENANCE APPANOOSE/LUCAS/WAYNE COUNTIES, IOWA

DOT PROJECT #'S SP-00SP(9)--7C-00/SP-00SP-0(10)—7C-00
DOT AGREEMENT #'S 2023-SP-075/2024-SP-067
DNR PROJECT #23-05-59-01



| DIRECTORY                |                                      |                |                                      |  |  |  |
|--------------------------|--------------------------------------|----------------|--------------------------------------|--|--|--|
| PROJECT MANAGER CONSTRUC |                                      |                | CTION INSPECTOR                      |  |  |  |
| COMPANY                  | IOWA DEPARTMENT OF NATURAL RESOURCES | COMPANY        | IOWA DEPARTMENT OF NATURAL RESOURCES |  |  |  |
| ADDRESS                  | 502 EAST 9TH STREET                  | ADDRESS        |                                      |  |  |  |
| CITY,STATE,ZIP           | DES MOINES, IA, 50319                | CITY,STATE,ZIP |                                      |  |  |  |
| CONTACT                  | BRUCE L. FLIPPIN                     | CONTACT        | JASON KRUSE                          |  |  |  |
| TELEPHONE                | 515-689-8009                         | TELEPHONE      | 515-250-3707                         |  |  |  |
| FAX                      | 515-281-8685                         | FAX            |                                      |  |  |  |
| EMAIL                    | bruce.flippin@dnr.iowa.gov           | EMAIL          | jason.kruse@dnr.iowa.gov             |  |  |  |



### his project consists of granular roadway maintence - blading/shaping, ditch cleaning, brush clearing and the splacement of several culverts.

PROJECT DESCRIPTION

| P                    | UTHO           | RIZATIO       | OT NC      | 3ID          |         |
|----------------------|----------------|---------------|------------|--------------|---------|
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ENGINEERING BUREAU CHIE

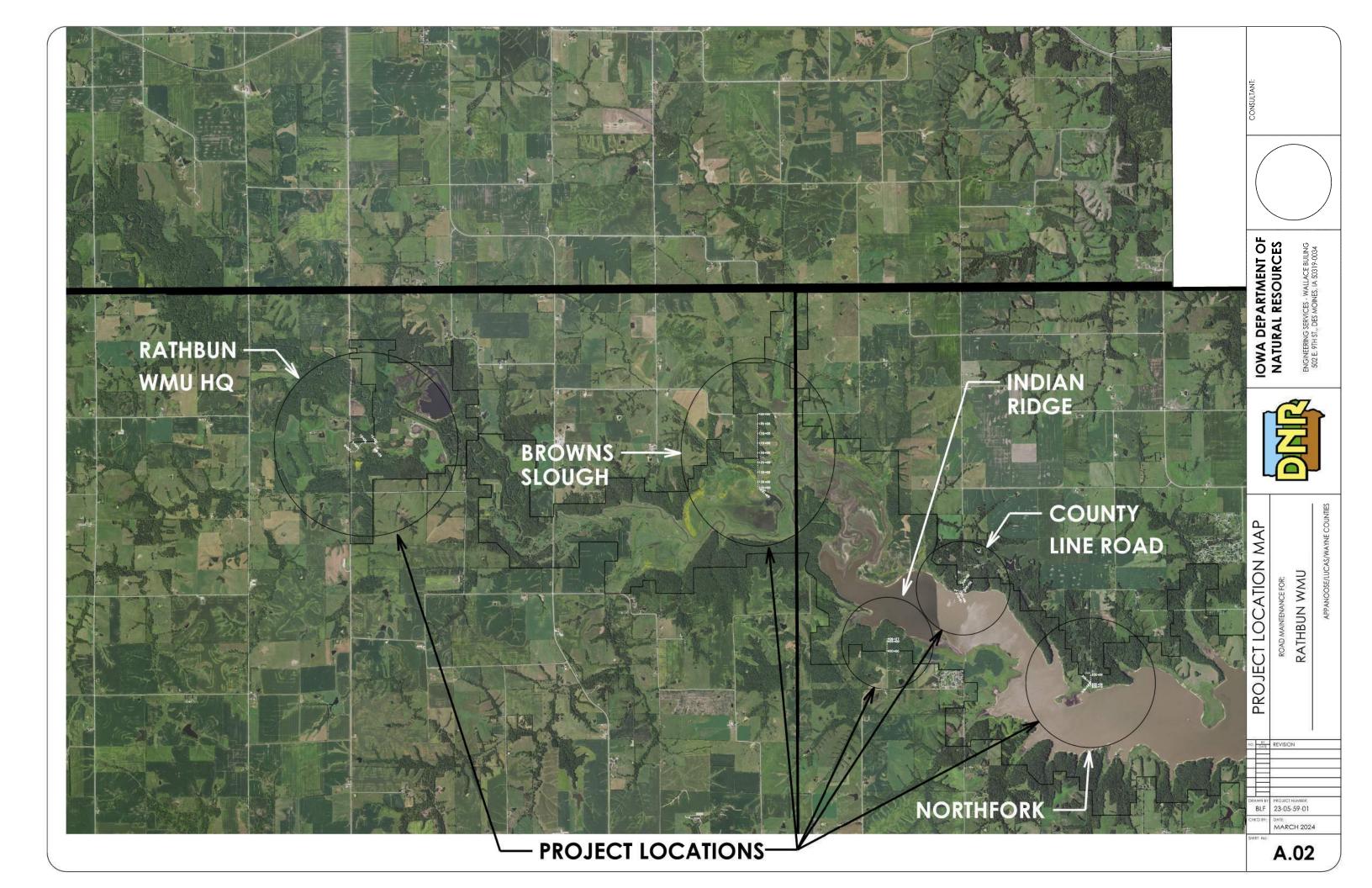
| A.01 COVER SHEET  A.02 LOCATION MAP  B.01 CROSS SECTIONS AND TYPICAL DETAILS  B.02 CROSS SECTIONS AND TYPICAL DETAILS  B.03 CROSS SECTIONS AND TYPICAL DETAILS  B.04 CROSS SECTIONS AND TYPICAL DETAILS  B.05 CROSS SECTIONS AND TYPICAL DETAILS  B.06 CROSS SECTIONS AND TYPICAL DETAILS  B.07 CROSS SECTIONS AND TYPICAL DETAILS  B.08 CROSS SECTIONS AND TYPICAL DETAILS  B.09 CROSS SECTIONS AND TYPICAL DETAILS  B.00 CROSS SECTIONS AND TYPICAL DETAILS  B.01 CROSS SECTIONS AND TYPICAL DETAILS  CROSS SECTIONS AND TYPICAL DETAILS  B.10 CROSS SECTIONS AND TYPICAL DETAILS |   |
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| A.02 LOCATION MAP  B.01 CROSS SECTIONS AND TYPICAL DETAILS  B.02 CROSS SECTIONS AND TYPICAL DETAILS  B.03 CROSS SECTIONS AND TYPICAL DETAILS  B.04 CROSS SECTIONS AND TYPICAL DETAILS  B.05 CROSS SECTIONS AND TYPICAL DETAILS  B.06 CROSS SECTIONS AND TYPICAL DETAILS  B.07 CROSS SECTIONS AND TYPICAL DETAILS  B.08 CROSS SECTIONS AND TYPICAL DETAILS  B.09 CROSS SECTIONS AND TYPICAL DETAILS  B.09 CROSS SECTIONS AND TYPICAL DETAILS  B.10 CROSS SECTIONS AND TYPICAL DETAILS                                                                                                |   |
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| B.10 CROSS SECTIONS AND TYPICAL DETAILS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |   |
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| GOUT   QUANTITIES AND GENERAL INFURMATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |   |
| D.01 SITE PLAN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |   |
| D.02 SITE PLAN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |   |
| D.03 SITE PLAN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |   |
| D.04 SITE PLAN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |   |
| D.05 SITE PLAN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |   |
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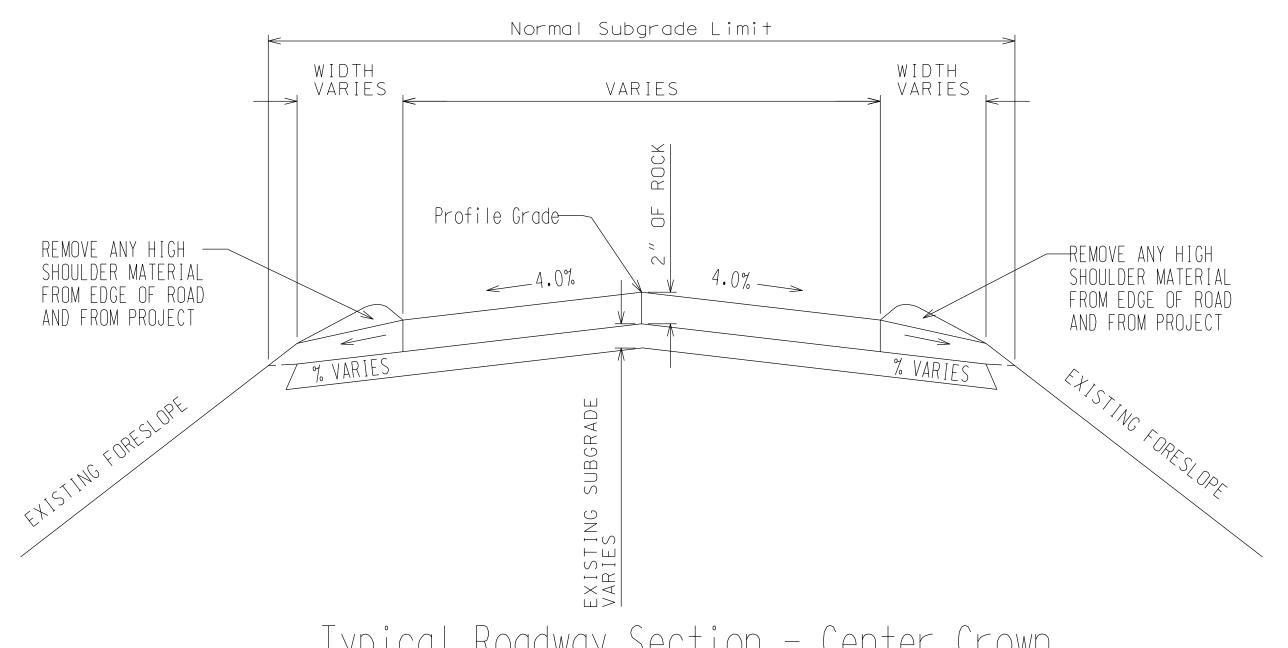
**CHEET INIDEX** 

IOWA DEPARTMENT OF NATURAL RESOURCES **COVER SHEET** RATHBUN WMU

MARCH 2024

**A.01** 





Typical Roadway Section - Center Crown

Note:

Normal sections shown may be appropriately modified for areas specifically designated by the Engineer.

| STATION T | O STATION | LOCATION       | WIDTH |
|-----------|-----------|----------------|-------|
| 0+00      | 18+39     | RATHBUN HQ     | 20'   |
| 100+00    | 141+69    | BROWN'S SLOUGH | 16′   |
| 200+00    | 210+91    | COUNTY LINE    | 18′   |
| 300+00    | 308+78    | RATHBUN LAKE   | 12′   |
| 400+00    | 406+27    | INDIAN RIDGE   | 12′   |

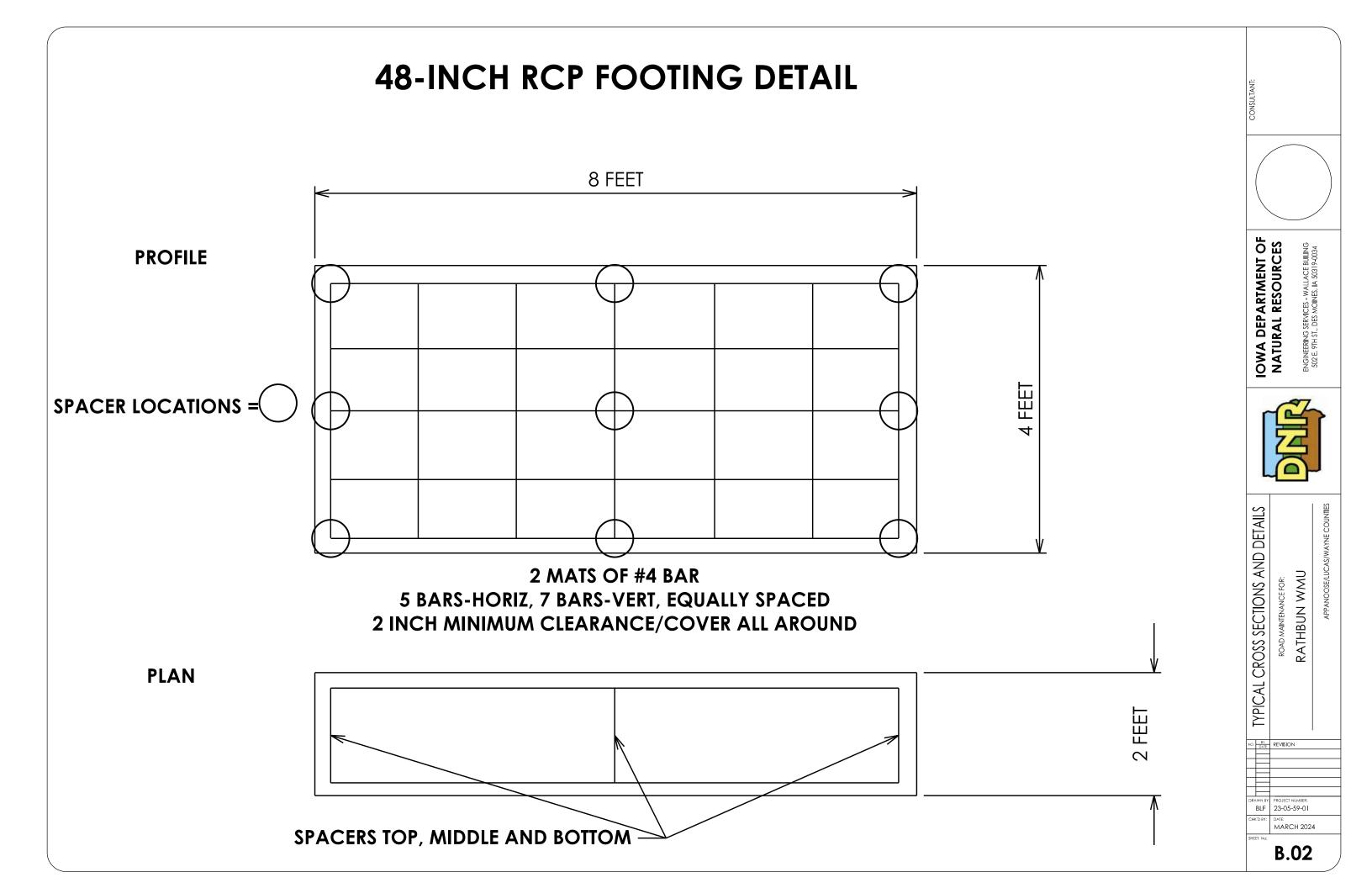
IOWA DEPARTMENT OF NATURAL RESOURCES ENGINEERING SERVICES - WALLACE BUILING 502 E. 9TH ST., DES MOINES, IA 50319-0034



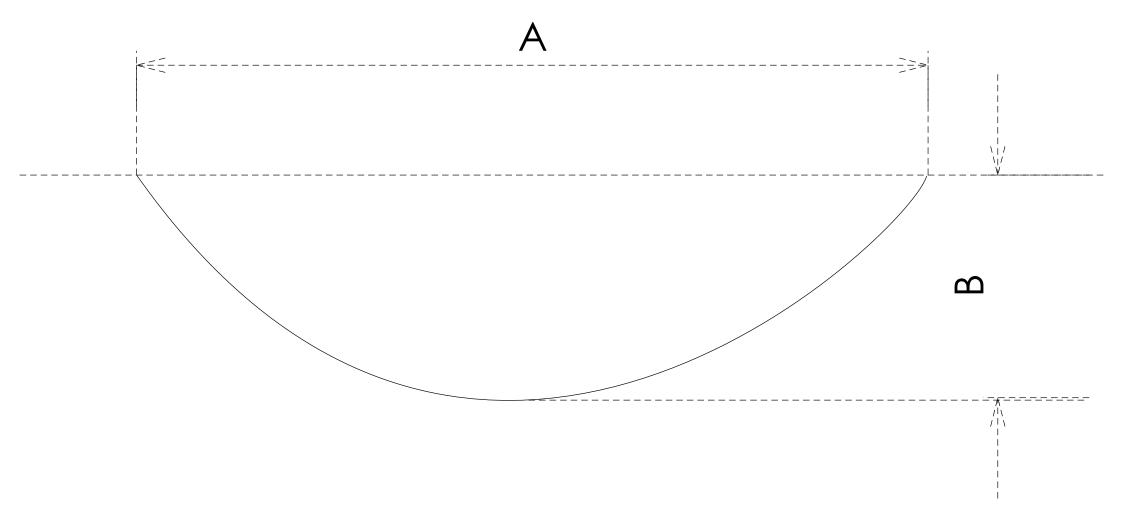
ROAD MAINTENANCE FOR:

RATHBUN WMU

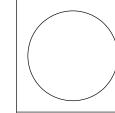
TYPICAL CROSS SECTIONS AND DETAILS DRAWN BY: PROJECT NUMBER: BLF 23-05-59-01 MARCH 2024



# TYPICAL DITCH CLEANING DETAIL



| STATION | ТО | STATION | Α  | В  |
|---------|----|---------|----|----|
| 402+00  | TO | 403+75  | 8' | 2' |
| 305+00  | TO | 305+25  | 3' | 1' |



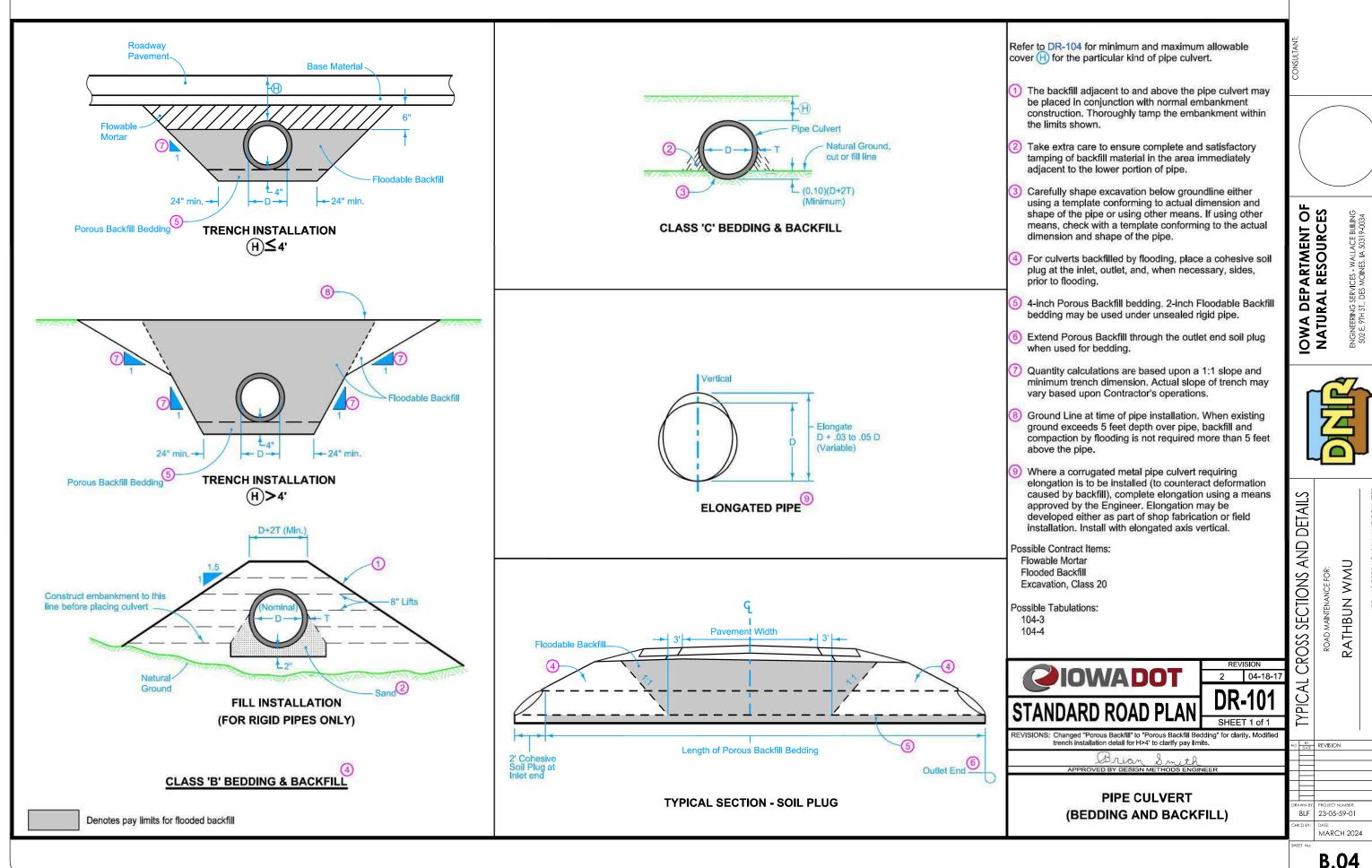
IOWA DEPARTMENT OF NATURAL RESOURCES



YPICAL CROSS SECTIONS AND DETAILS ROAD MAINTENANCE FOR:
RATHBUN WMU

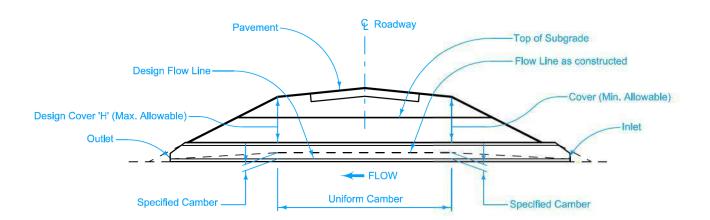
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| DR/ | WN BY:     | PROJECT NUMBER: |
|     | BLF        | 23-05-59-01     |

MARCH 2024

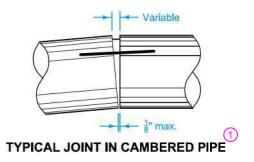




### TYPICAL INSTALLATION DUAL ROADWAY



TYPICAL INSTALLATION SINGLE ROADWAY



| Design Cover | Normal |
|--------------|--------|
| 'H'          | Camber |
| (feet)       | (feet) |
| 5            | 0.08   |
| 10           | 0.17   |
| 15           | 0.25   |
| 20           | 0.33   |
| 25           | 0.42   |
| 30           | 0.50   |
| 35           | 0.58   |

**ALLOWABLE CAMBER TABLES** 

Maximum

Camber

(feet)

1.1

1.2

1.3

1.4

1.5

1.6

1.7

Size

'D'

24"

30"

36"

42"

48"

60"

84"

Refer to DR-121 for pipe joint connection and wrapping.

Refer to DR-101 for culvert bedding and backfill.

### COVER

Refer to DR-104 for minimum and maximum allowable cover for the particular kind of culvert.

### CAMBER

Camber is the dimension line between inlet and outlet elevation. Some settlement of the structure is usually anticipated, resulting in the design flow line between inlet and outlet. Camber is developed uniformly from inlet and outlet to a point beneath the outside shoulder lines of the roadway and is uniform between those points, as indicated. The Normal Camber indicated in the "Allowable Camber Tables" should be used unless specific camber values are indicated elsewhere in the plans.

1 Camber for concrete pipe is created by placing pipe sections tight at the bottom of the joint with variable opening at top of joint. Camber for corrugated metal pipe to be done as directed by the Engineer.

IOWA DEPARTMENT OF NATURAL RESOURCES

ENGINEERING SERVICES - WALLACE BUILING 502 E. 9TH ST., DES MOINES, IA 50319-0034



RATHBUN WMU

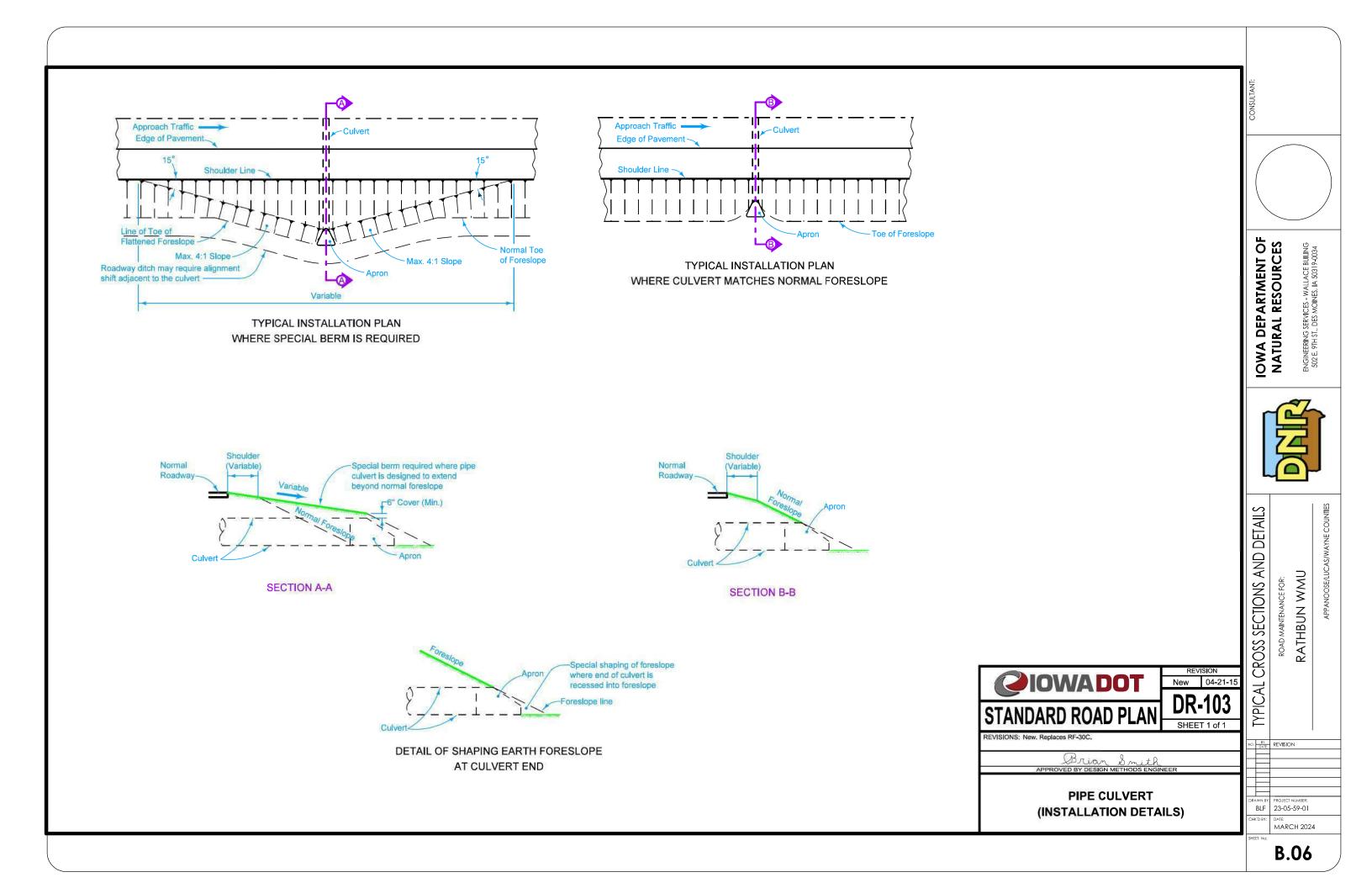
**CROSS SECTIONS AND DETAILS** 

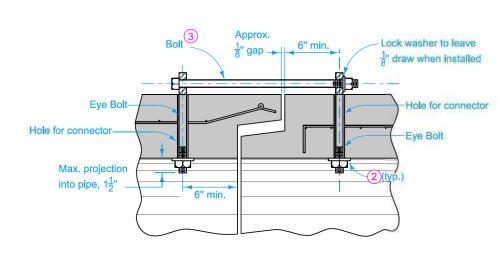
**PIOWADOT** New 04-21-1 SHEET 1 of 1

REVISIONS: New. Replaces RF-30B.

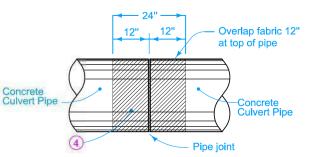
Brian Smith

PIPE CULVERT (COVER AND CAMBER) IYPIC/ BY REVISION 23-05-59-01 MARCH 2024





**SECTION OF PIPE CONNECTOR** (Concrete Pipe to Concrete Pipe)



| Concrete     | PIPE<br>SIZE<br>(in) | CONNECTOR<br>AND BOLT SIZE<br>(in.) | HOLE FOR<br>CONNECTOR<br>(in.) |
|--------------|----------------------|-------------------------------------|--------------------------------|
| Culvert Pipe | 12 to 27             | <u>5</u><br>8                       | 7 8                            |
| — Pipe joint | 30 to 60             | 3 4                                 | 1.0                            |
| po jo        | 66 to 132            | 1.0                                 | 1 1/4                          |

- Existing Subdrain

**PIPE JOINT WRAPPING** 

or Dike One connector at each joint or as otherwise specified

TYPICAL INSTALLATION

Wrap all joints on concrete roadway pipe culverts.

Use Type 3 Connections on all culvert pipes, unless specified otherwise. Refer to Materials I.M. 445.01 for Connector requirements.

Minimum 2 threads showing at all threaded ends.

Connections not required on pipe sections installed by trenchless methods.

For belled concrete pipe joints, connectors may be installed on the inside of the pipe.

TYPE 1

One connector at the top of the pipe section.

TYPE 2 (Sealed Joint)

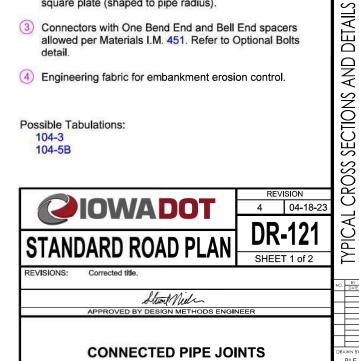
Two connectors near the top of the pipe section. For details of reinforcement, refer to AASHTO M 170 for the class of pipe required. Refer to Materials I.M. 491.09 for seal requirements.

TYPE 3 (Non - Sealed Joint)

Two connectors near the top of the pipe section. For details of reinforcement, refer to AASHTO M 170 for the class of pipe required.

- 1 If holes are field drilled, place a ribbon of butyl sealant around bolts before placing 3 in. x 3 in. x  $\frac{1}{4}$  in. plate on bolts through corrugated metal pipe and tightening nuts.
- 2)  $1\frac{3}{4}$  inch round x  $\frac{9}{64}$  inch thick washer or 3 in. x 3 in. x  $\frac{1}{4}$  in. square plate (shaped to pipe radius).
- (3) Connectors with One Bend End and Bell End spacers allowed per Materials I.M. 451. Refer to Optional Bolts
- 4 Engineering fabric for embankment erosion control.

Possible Tabulations: 104-3 104-5B



IOWA DEPARTMENT OF NATURAL RESOURCES ENGINEERING SERVICES - WALLACE BUILING 502 E. 9TH ST., DES MOINES, IA 50319-0034

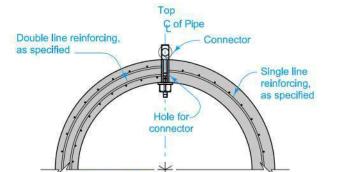


RATHBUN WMU

BY REVISION 23-05-59-01 MARCH 2024

**B.07** 

THREADED AT BOTH ENDS



**OPTIONAL BOLTS/CONNECTORS** 

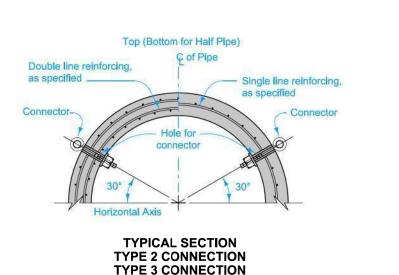
**ONE BEND END** 

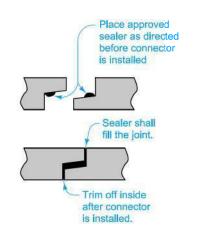
TYPICAL SECTION (Non-Sealed Joint)

Horizontal Axis

TYPE 1 CONNECTION

Existing Subdrain >

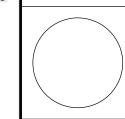




SEALED JOINT

**TYPE 2 CONNECTION** 

On culvert extensions, connect all new joints including the joint between the old and new culvert pipe. Holes may need to be drilled into existing pipes.



IOWA DEPARTMENT OF NATURAL RESOURCES

ENGINEERING SERVICES - WALLACE BUILING 502 E. 9TH ST., DES MOINES, JA 50319-0034



CROSS SECTIONS AND DETAILS ROAD MAINTENANCE FOR:
RATHBUN WMU

REVISION
4 04-18-23

DR-121
SHEET 2 of 2

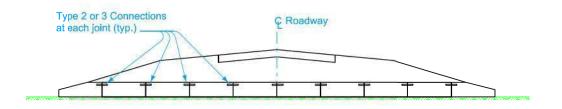
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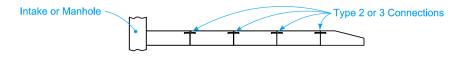
CONNECTED PIPE JOINTS

Stront Nick
APPROVED BY DESIGN METHODS ENGINEER

**PIOWADOT** 

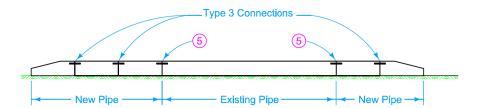
REVISIONS: Corrected title.





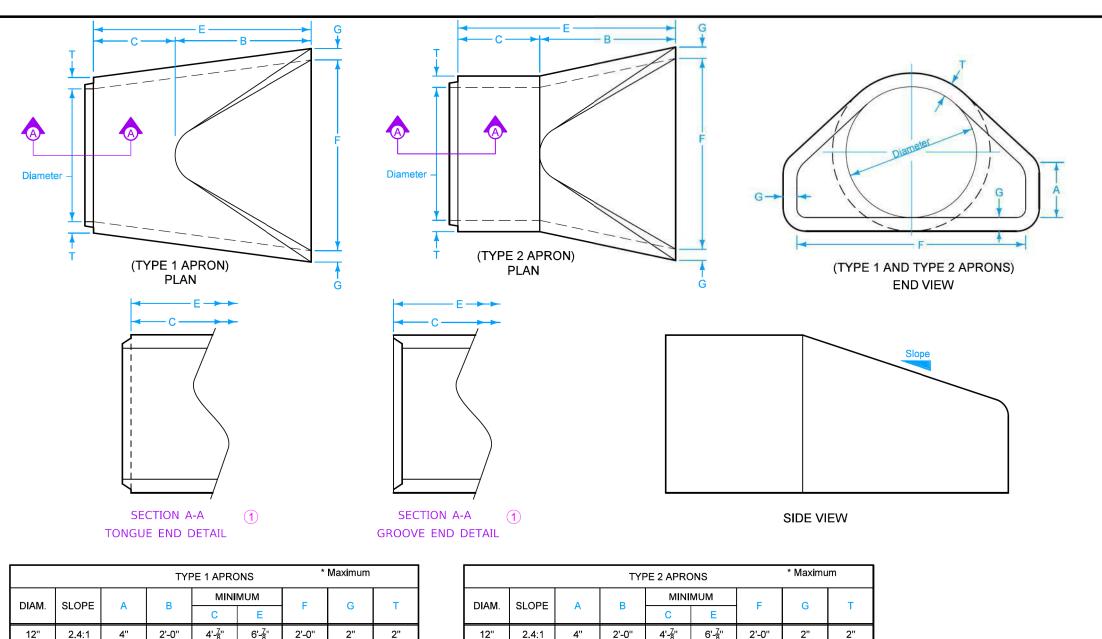
TYPICAL INSTALLATION
STORM SEWER OUTLET - TYPE 2 OR TYPE 3 CONNECTION

TYPICAL INSTALLATION
NEW CONSTRUCTION - TYPE 2 or 3 CONNECTION



TYPICAL INSTALLATION
PIPE EXTENSION - TYPE 3 CONNECTION

TYPE 2 AND TYPE 3 CONNECTIONS



Dimension 'E' shown is the minimum and is considered the design length. Adjust for any difference between the actual length of concrete apron installed and the length indicated hereon within the length of concrete culvert pipe furnished.

Install connected pipe joints as shown on DR-121.

When specified in the contract documents, install pipe apron guards as shown on DR-213. Pipe apron guards are incidental to "Concrete Aprons".

Slight variations in both shape and dimensions from those shown may be accepted if approved by the engineer.

1) Tongue end used on inlet end section. Groove end used on outlet end section.

Contract Item: Apron, Concrete

Tabulations:

104-3

104-5C

IOWA DEPARTMENT OF NATURAL RESOURCES ENGINEERING SERVICES - WALLACE BUILING 502 E. 9TH ST., DES MOINES, IA 50319-0034

ROAD MAINTENANCE FOR:

RATHBUN WMU

**CROSS SECTIONS AND DETAILS** 

DATE REVISION BLF 23-05-59-01

| TYPE 2 APRONS |       |                                  |                      |                                    |                                     |         | " iviaxin                       |
|---------------|-------|----------------------------------|----------------------|------------------------------------|-------------------------------------|---------|---------------------------------|
| DIAM.         | SLOPE | Α                                | В                    | MINI                               | MUM                                 | F       | -                               |
| DIAW.         | SLOPE | A                                | В                    | С                                  | E                                   | F       | G                               |
| 12"           | 2.4:1 | 4"                               | 2'-0"                | 4'- <del>7</del> ''                | 6'- <del>7</del> ''                 | 2'-0"   | 2"                              |
| 15"           | 2.4:1 | 6"                               | 2'-3"                | 3'-10"                             | 6'-1"                               | 2'-6"   | 2 <u>1</u> "                    |
| 18"           | 2.3:1 | 9"                               | 2'-3"                | 3'-10"                             | 6'-1"                               | 3'-0" * | 2 <del>1</del> "                |
| 21"           | 2.4:1 | 9"                               | 3'-0"                | 3'-1 <sup>1</sup> / <sub>2</sub> " | 6'-1 <sup>1</sup> / <sub>2</sub> '' | 3'-5"   | 3"                              |
| 24"           | 2.5:1 | 9 <u>1</u> "                     | 3'-7 <del>1</del> '' | 2'-6"                              | 6'-1 <del>1</del> ''                | 4'-0"   | 3"                              |
| 27"           | 2.5:1 | 10 <sup>1</sup> / <sub>2</sub> " | 4'-1 "               | 2'-0"                              | 6'-1 <sup>1</sup> / <sub>2</sub> '' | 4'-4"   | 3 <u>1</u> "                    |
| 30"           | 2.5:1 | 12"                              | 4'-6"                | 1'-7 <del>3</del> "                | 6'-1 <sup>3</sup> ''                | 5'-0"   | 3 <u>1</u> "                    |
| 36"           | 2.5:1 | 15"                              | 5'-3"                | 2'-9"                              | 8'-0"                               | 6'-0"   | 4"                              |
| 42"           | 2.5:1 | 21"                              | 5'-3"                | 2'-9"                              | 8'-0"                               | 6'-6"   | 4 <sup>1</sup> / <sub>2</sub> " |
| 48"           | 2.5:1 | 24"                              | 6'-0''               | 2'-0"                              | 8'-0"                               | 7'-0"   | 5"                              |
| 54"           | 1.9:1 | 24 <u>1</u> "                    | 5'-5"                | 2'-7"                              | 8'-0"                               | 7'-6"   | 5 <u>1</u> "                    |
| 60"           | 1.4:1 | 24 <u>1</u> "                    | 5'-0"                | 3'-0"                              | 8'-0"                               | 8'-0"   | 5 <u>1</u> "                    |
| 66"           | 1.7:1 | 30"                              | 6'-0"                | 2'-3"                              | 8'-3"                               | 8'-0"   | 5 <u>1</u> "                    |
| 72"           | 1.4:1 | 24"                              | 6'-6"                | 1'-9"                              | 8'-3"                               | 9'-0"   | 6"                              |
| 78"           | 1.8:1 | 36"                              | 7'-6"                | 1'-9"                              | 9'-3"                               | 9'-6"   | 6 <u>1</u> "                    |
| 84"           | 1.5:1 | 23 <u>1</u> "                    | 7'-6 <u>1</u> "      | 1'-9"                              | 9'-3 <sup>1</sup> ''                | 10'-0'' | 6 <u>1</u> ''                   |

2<del>1</del>''

 $2\frac{1}{2}$ "

3"

3"

 $3\frac{1}{2}$ "

3<u>1</u>''

4"

4<sup>1</sup>/<sub>2</sub>"

5"

5½"

6"

6"

 $7\frac{1}{2}$ "

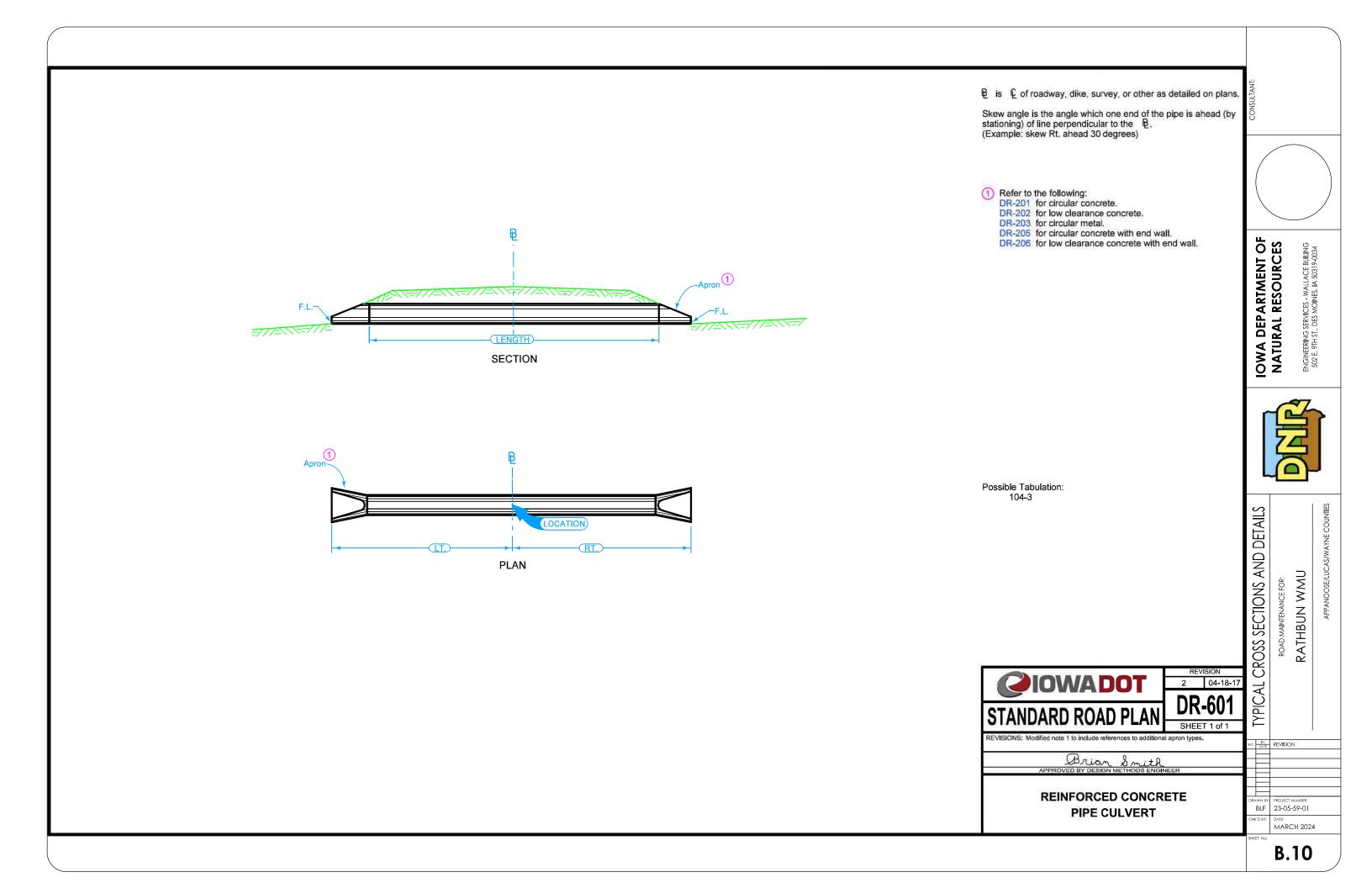
8"

|       |       |                                  | TYF                                | PE 1 APRO                          | ONS                                 | *       | Maximum          |                  |
|-------|-------|----------------------------------|------------------------------------|------------------------------------|-------------------------------------|---------|------------------|------------------|
| DIAM. | SLOPE | Α                                | В                                  | MINI                               | MINIMUM                             |         | 0                | т                |
| DIAW. | SLOPE | A                                | В                                  | С                                  | Е                                   | F       | G                | -                |
| 12"   | 2.4:1 | 4"                               | 2'-0"                              | 4'- <del>7</del> ''                | 6'- <del>7</del> ''                 | 2'-0"   | 2"               | 2"               |
| 15"   | 2.4:1 | 6"                               | 2'-3"                              | 3'-10"                             | 6'-1"                               | 2'-6"   | 2 <u>1</u> "     | 2 <u>1</u> "     |
| 18"   | 2.3:1 | 9"                               | 2'-3"                              | 3'-10"                             | 6'-1"                               | 3'-0" * | 2 <u>1</u> "     | 2 <del>1</del> " |
| 21"   | 2.4:1 | 9"                               | 3'-0 "                             | 3'-1 <sup>1</sup> / <sub>2</sub> " | 6'-1 <sup>1</sup> / <sub>2</sub> "  | 3'-5"   | 3"               | 3"               |
| 24"   | 2.5:1 | 9 <u>1</u> "                     | 3'-7 <sup>1</sup> / <sub>2</sub> " | 2'-6"                              | 6'-1 <sup>1</sup> / <sub>2</sub> '' | 4'-0"   | 3"               | 3"               |
| 27"   | 2.5:1 | 10 <sup>1</sup> / <sub>2</sub> " | 4'-1 "                             | 2'-0"                              | 6'-1 <sup>1</sup> / <sub>2</sub> '' | 4'-4"   | 3 <u>1</u> "     | 3 <u>1</u> "     |
| 30"   | 2.5:1 | 12"                              | 4'-6"                              | 1'-7 <del>3</del> "                | 6'-1 <sup>3</sup> ''                | 5'-0"   | 3 <u>1</u> "     | 3 <del>1</del> " |
| 36"   | 2.5:1 | 15"                              | 5'-3"                              | 2'-9"                              | 8'-0"                               | 6'-0"   | 4"               | 4"               |
| 42"   | 2.5:1 | 21"                              | 5'-3"                              | 2'-9"                              | 8'-0"                               | 6'-6"   | 4 <u>1</u> "     | 4 <u>1</u> "     |
| 48"   | 2.5:1 | 24"                              | 6'-0"                              | 2'-0"                              | 8'-0"                               | 7'-0"   | 5"               | 5"               |
| 54"   | 1.8:1 | 27"                              | 5'-0"                              | 3'-0"                              | 8'-0"                               | 7'-6"   | 5 <u>1</u> ''    | 5 <del>1</del> " |
| 60"   | 1.6:1 | 29 <del>1</del> "                | 5'-0"                              | 3'-0"                              | 8'-0"                               | 8'-0"   | 5 <u>1</u> ''    | 6"               |
| 66"   | 1.7:1 | 30"                              | 6'-0"                              | 2'-3"                              | 8'-3"                               | 8'-0"   | 5 <u>1</u> ''    | 6"               |
| 72"   | 1.6:1 | 30"                              | 6'-6"                              | 1'-9"                              | 8'-3"                               | 9'-0"   | 6"               | 7"               |
| 78"   | 1.8:1 | 36"                              | 7'-6"                              | 1'-9"                              | 9'-3"                               | 9'-6"   | 6 <u>1</u> ''    | 7 <del>1</del> " |
| 84"   | 1.3:1 | 29 <del>1</del> "                | 6'-9"                              | 2'-6 <sup>1</sup> ''               | 9'-3 <sup>1</sup> ''                | 10'-0'' | 6 <del>1</del> " | 8"               |

**PIOWADOT** 3 10-17-23 TYPICAL ( REVISIONS: Added note about shape and dimensions. Stunt Niele APPROVED BY DESIGN METHODS ENGINEER **CONCRETE APRONS** 

**B.09** 

MARCH 2024



### **ESTIMATED PROJECT QUANTITIES**

| ITEM NO. | ITEM                                                          | UNIT | TOTAL |
|----------|---------------------------------------------------------------|------|-------|
| 1        | 2101 - CLEARING                                               | ACRE | 0.5   |
| 2        | 2125 - DITCH CLEANING/RESHAPING                               | STA  | 2     |
| 3        | 2127 - RECONSTRUCTION OF ROADBED - BLADING/SHAPING            | STA  | 86.1  |
| 4        | 2312 - GRANULAR SURFACING ON ROAD, 1-1/4 - INCH CRUSHED STONE | TON  | 1559  |
| 5        | 2312 - GRANULAR SURFACING ON ROAD, 3-INCH MINUS CRUSHED STONE | TON  | 176   |
| 6        | 2416 - RMV+REINSTALL CONC PIPE APRON LE 36" (24-INCH RCP)     | EACH | 2     |
| 7        | 2416 - RMV+REINSTALL RIGID PIPE CULV LE 36" (24-INCH RCP)     | LF   | 54    |
| 8        | 2402 - GRANULAR BACKFILL (PIPE BEDDING)                       | TON  | 39    |
| 9        | 2403 - STRUCT CONC (MISCELLANEOUS)                            | CY   | 5     |
| 10       | 2404 - REINFORC STEEL, EPOXY COATED                           | LB   | 210   |
| 11       | 2415 - STM SWR ABANDONMENT, FILL+PLUG, LE 36" (18-INCH CMP)   | LF   | 50    |
| 12       | 2416 - APRON, CONC, 24"                                       | EACH | 4     |
| 13       | 2416 - CULV, CONC RDWY PIPE, 24"                              | LF   | 96    |
| 14       | 2416 - APRON, CONC, 48"                                       | EACH | 2     |
| 15       | 2416 - CULV, CONC RDWY PIPE, 48"                              | LF   | 32    |
| 16       | 2507 - ENGINEERING FABRIC                                     | SY   | 300   |
| 17       | 2507 - REVETMENT, CLASS E                                     | TON  | 63    |
| 18       | 2507 - EROSION STONE                                          | TON  | 50    |
| 19       | 2518 - SAFETY CLOSURE                                         | EACH | 5     |
| 20       | 2528 - TRAFFIC CONTROL                                        | LS   | 1     |
| 21       | 2533 - MOBILIZATION                                           | LS   | 1     |
| 22       | 2601 - SEED+FERTILIZE (RURAL)                                 | ACRE | 1     |
|          |                                                               |      |       |
|          |                                                               |      |       |

### **ESTIMATE REFERENCE INFORMATION**

| ITEM<br>NO. | DESCRIPTION                                                                                                            |
|-------------|------------------------------------------------------------------------------------------------------------------------|
| 1           | A. Remove all trees/brush within 12-feet of edge of roadway on both sides. Grub/cut or chip.                           |
|             | B. Chip/grind as much as possible.                                                                                     |
|             | C. Move larger items to location indicated on plans. Sheet D.04.                                                       |
| 2           | A. See sheet B.03 for details.                                                                                         |
|             | B. Remove spoil from project.                                                                                          |
| 3           | A. Repair potholes by scorifying surrounding orea to depth of pothole and recompacting.                                |
|             | B. Re-establish roadway crown - 4% positive drainage each way from centerline; 4% across the width in banked sections. |
|             | C. Remove ony high shoulder areas, before spreading new rock.                                                          |
| 4/5         | A. A final leveling of the aggregate after being dumped, is required.                                                  |
|             | B. Roll after spreading.                                                                                               |
|             | C. DOT approved source.                                                                                                |
| 6/7         | A. Pin and wrap ALL connections - Use type 3 connections.                                                              |
|             | B. A minimum of 2 weeks notice before this work may begin.                                                             |
| 8           | A. Bed pipe to haunch with rock.                                                                                       |
|             | B. DOT approved source.                                                                                                |
| 9/10        | A. See sheet B.02 for details.                                                                                         |
|             | B. Set elevation to coincide with cluvert flowline.                                                                    |
|             | C. 48-HR minimum notice before pouring.                                                                                |
|             | D. DOT approved sources.                                                                                               |
| 12-15       | A. Match existing flowlines.                                                                                           |
|             | B. Pin and wrap ALL connections - Use type 3 connections.                                                              |
|             | C. There are TWO 36-inch CMP culverts at \$TA 115+40.                                                                  |
|             | D. Dispose of existing culverts offsite.                                                                               |
|             | E. DOT approved sources.                                                                                               |
| 16-18       | A. Place at the direction of the DNR Field Engineer.                                                                   |
|             | B. DOT approved sources.                                                                                               |
| 19          | A. Follow current lowa DOT Standard Specifications section 2518 for safety closure requirements.                       |
| 22          | A. Seed and fertilize all disturbed areas.                                                                             |
|             | B. DOT approved source.                                                                                                |

### **GENERAL NOTES**

Verify actual locations and elevations with DNR Engineer.

All work shall conform to and be performed in accordance with all applicable codes and ordinances.

The contractor shall visit the site and inspect the project area and thoroughly familiarize themselves with the actual job conditions prior to bidding and the start of work. Failure to visit the project site shall not relieve the contractor from performing the work in accordance to the plans, specification, special provisions and contract.

The contractor shall verify, at the site, all dimensions and conditions shown on the plans and shall notify the DNR Engineer of any discrepancies, omissions, and/or conflicts prior to proceeding with the work.

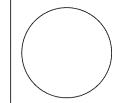
It shall be the contractor's responsibility to provide waste areas or disposal sites for excess material (excavated material or broken concrete) which is not desirable to be incorporated into the work involved on this project. No payment for overhaul will be allowed for material hauled to these sites. No material shall be placed within the right-of-way, unless specifically stated in the plans or approved by the DNR Engineer.

The contractor shall not disturb desirable grass areas and desirable trees outside the construction limits. The contractor will not be permitted to park or service vehicles and equipment or use these areas for storage of materials. Storage, parking and service areas will be subject to the approval of the DNR Engineer.

Where utilities and fixtures are shown as Existing on the plans or encountered within the construction area, it shall be the responsibility of the contractor to notify the DNR Engineer of those utilities prior to the beginning of any construction. The contractor shall be afforded access to these facilities for necessary modification of services. Underground facilities, structures and utilities have been plotted from available surveys and records and therefore their locations must be considered approximate only. It is possible there may be others, the existence of which is presently not known or shown. It is the contractor's responsibility to determine their existence and exact location and to avoid damage thereto. No claims for additional compensation will be allowed to the contractor for any interference or delay caused by such work.

The contractor shall shape graded area to maintain surface drainage. All elevations are to finish grade.

The contractor is expected to have materials, equipment, and labor available on a daily basis to install and maintain erosion control features on the project. This may involve seeding, silt fence, rock ditch checks, silt basins or silt dikes.



OWA DEPARTMENT OF NATURAL RESOURCES

Quantities and general information RATHBUN WMU

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MARCH 2024

