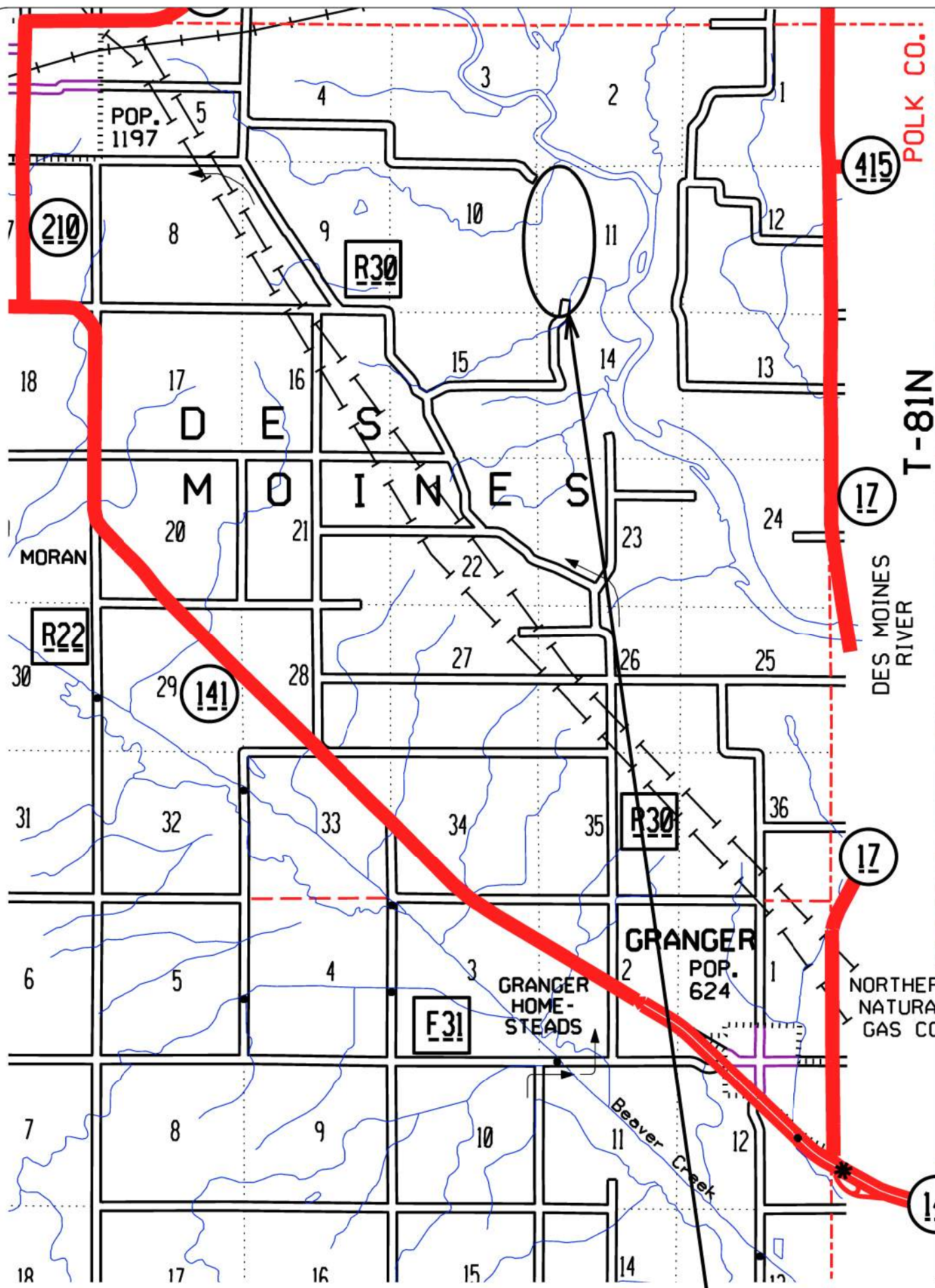
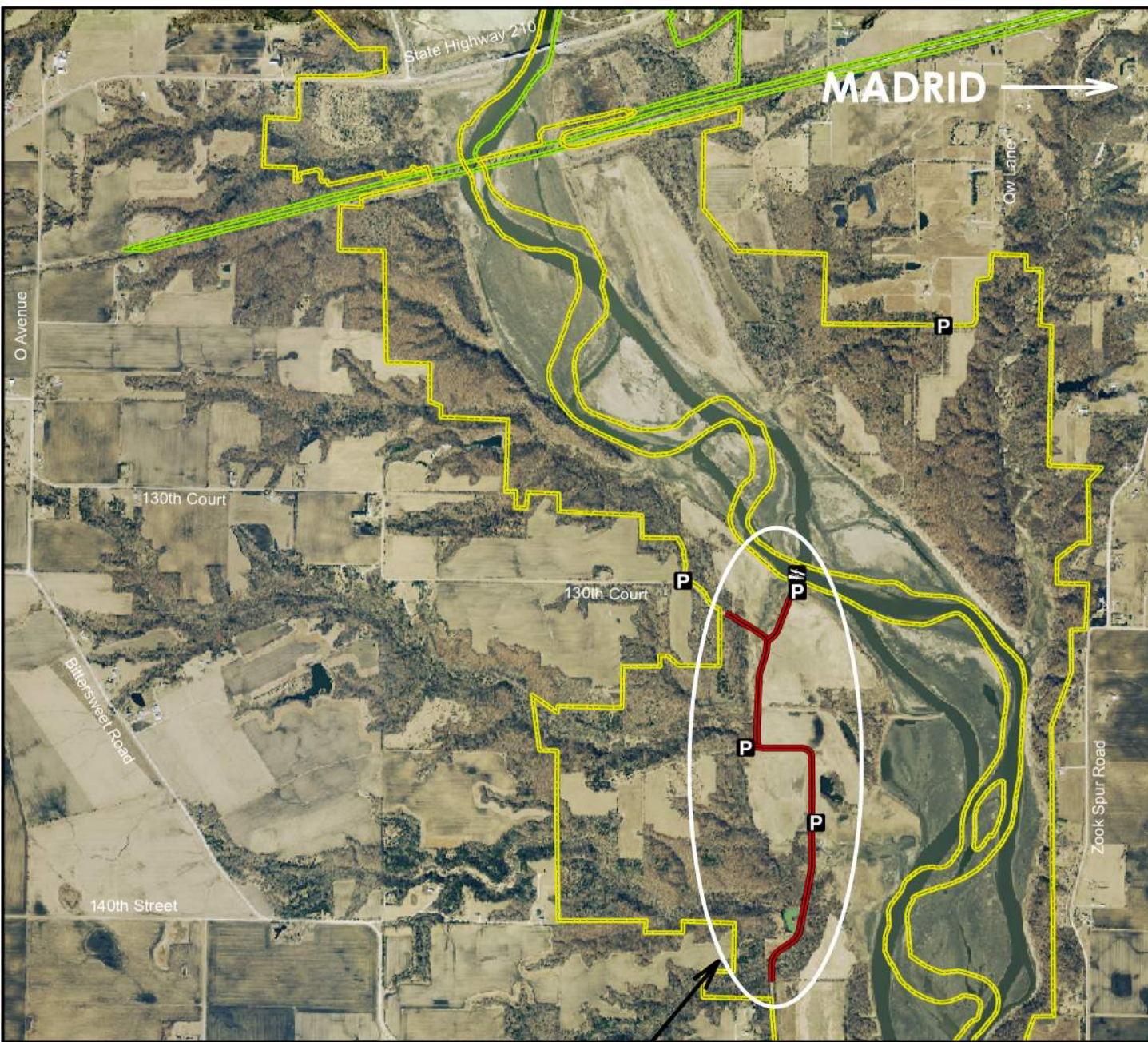


Saylorville Wildlife Management Area - 9



Legend

- State Areas open to hunting
- WMA Boundary
- Parking Lot
- Boat Ramp
- Access Road
- Other Public Land
- 2009 Aerial Photography

Map Creation Date: 8/2011

DNR

Acres: 10,608

Habitat: 1/2 Timber, 1/4 Upland, 1/4 Reservoir

Species: Deer, Turkey, Waterfowl, Dove

Contact: Josh Gansen
Saylorville Wildlife Unit
515-432-2823

Boone, Dallas & Polk Counties, Iowa

Directions: Des Moines River valley - Hwy 17 in Polk County N to Fraser in Boone County.

PROJECT LOCATION MAP

ROAD MAINTENANCE FOR:
SAYLORVILLE SUB 1

DALLAS COUNTY

NO.	BY	REVISION

DRAWN BY: BLF PROJECT NUMBER: 23-02-25-01

CHKD BY: DATE: OCT 2022

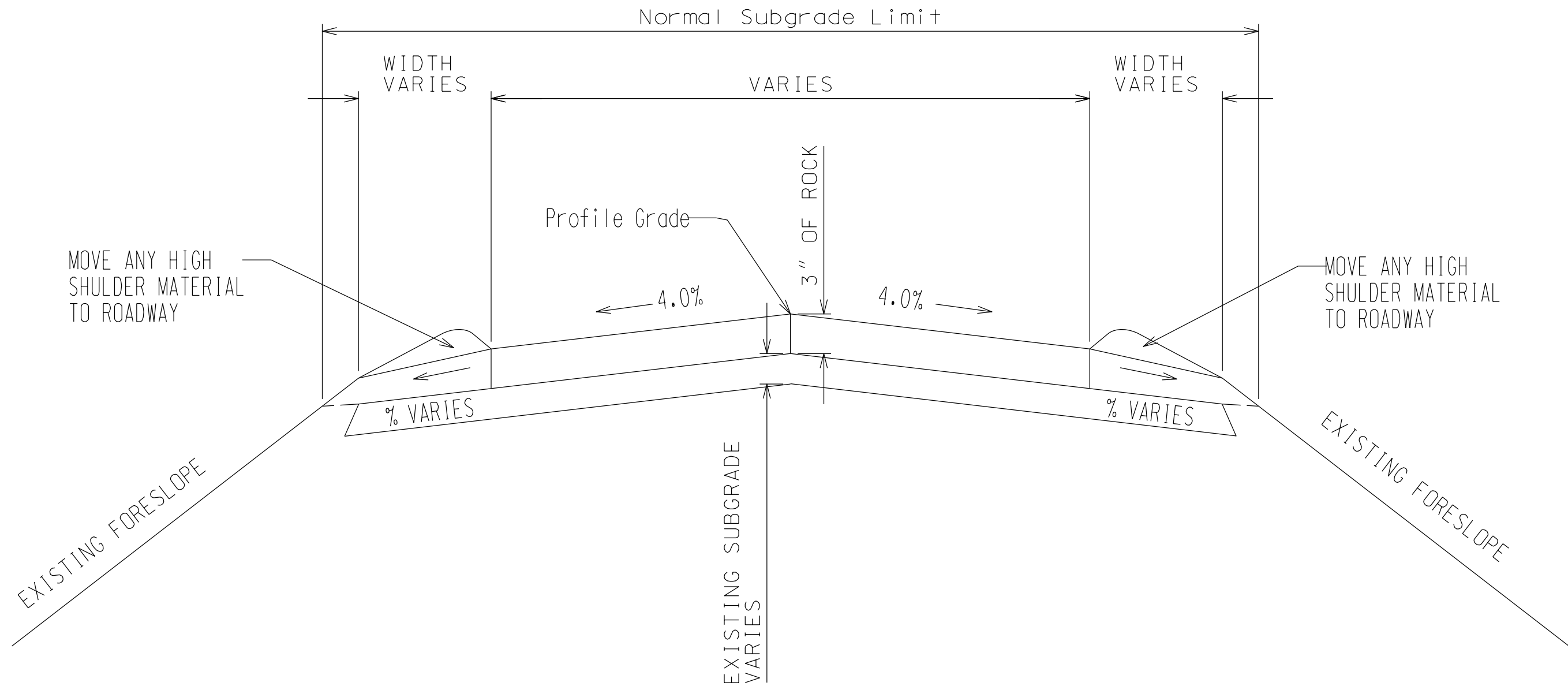
SHEET No: **A.02**

CONSULTANT:

IOWA DEPARTMENT OF NATURAL RESOURCES

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

PROJECT LOCATION



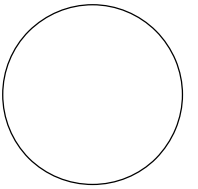
Typical Roadway Section - Center Crown

Note:

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

STATION	TO STATION	LOCATION	WIDTH
0+00	72+81	MAIN ROAD	18'
100+00	102+31	SPUR	18'
200+00	211+73	BOAT RAMP	18'

CONSULTANT:



IOWA DEPARTMENT OF
NATURAL RESOURCES

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



TYPICAL CROSS SECTIONS AND DETAILS

ROAD MAINTENANCE FOR:

SAYLORVILLE SUB 1

DALLAS COUNTY

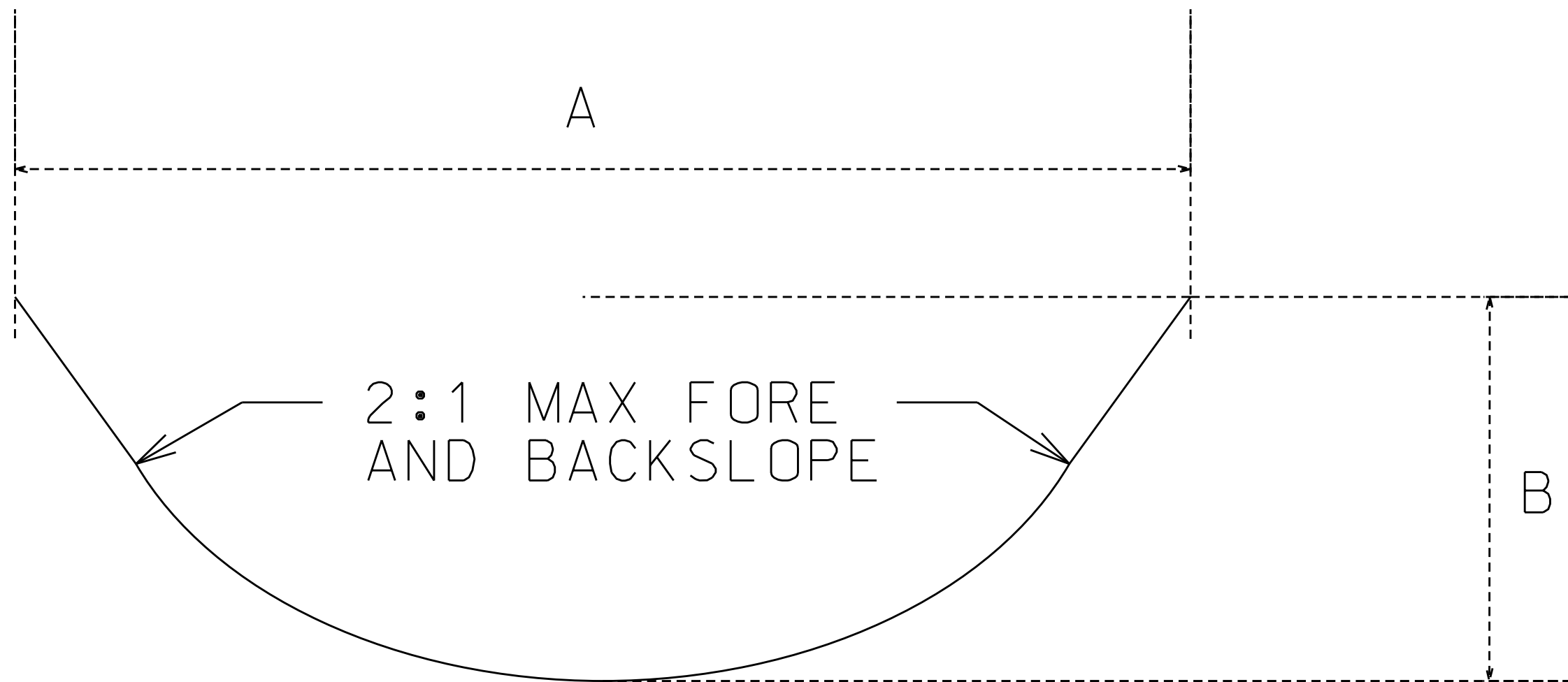
NO. BY DATE REVISION

DRAWN BY: PROJECT NUMBER:
BLF 23-02-25-01

CHK'D BY: DATE:
OCT 2022

SHEET No:

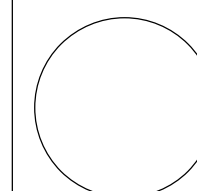
B.01



STATION	TO	STATION	LOCATION	A	B
30+00		38+00	MAIN ROAD	4	1
58+00		64+00	MAIN ROAD	4	1
66+00		72+81	MAIN ROAD	10	2

TYPICAL DITCH CROSS SECTION - Not to Scale

CONSULTANT:



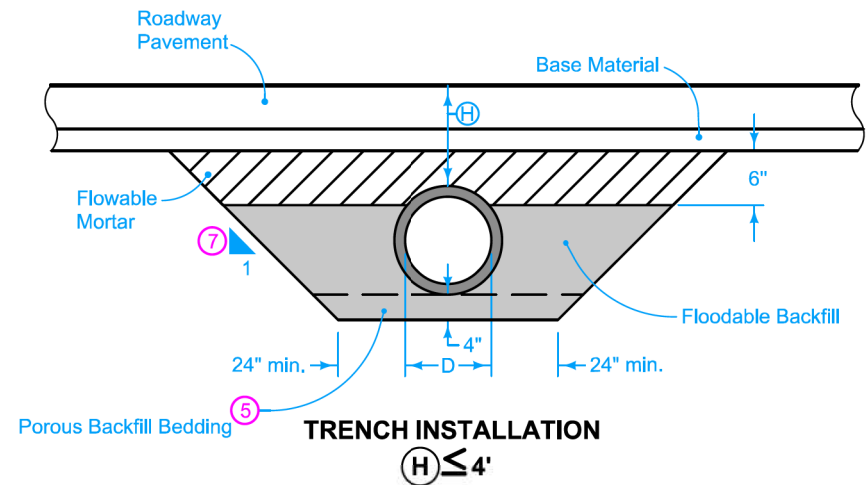
IOWA DEPARTMENT OF NATURAL RESOURCES
 ENGINEERING SERVICES - WALLACE BUILDING
 502 E. 9TH ST., DES MOINES, IA 50319-0034



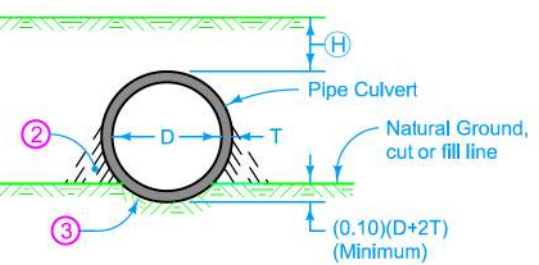
TYPICAL CROSS SECTIONS AND DETAILS

ROAD MAINTENANCE FOR:
 SAYLORVILLE SUB 1
 DALLAS COUNTY

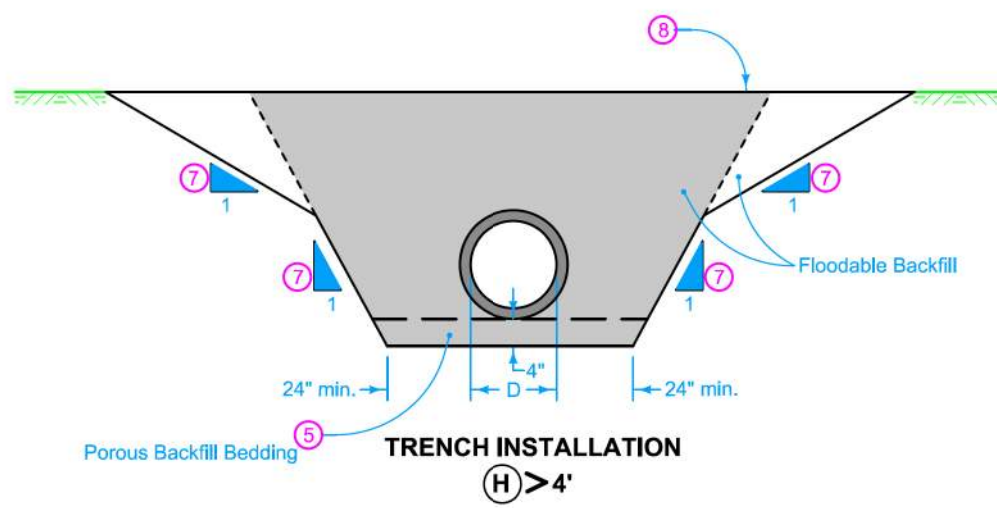
NO.	BY	REVISION
DRAWN BY: BLF	PROJECT NUMBER: 23-02-25-01	
CHK'D BY:	DATE: OCT 2022	
SHEET No:	B.02	



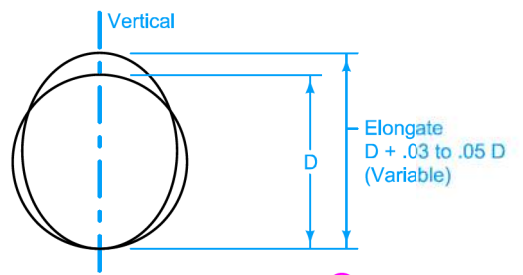
TRENCH INSTALLATION
H ≤ 4'



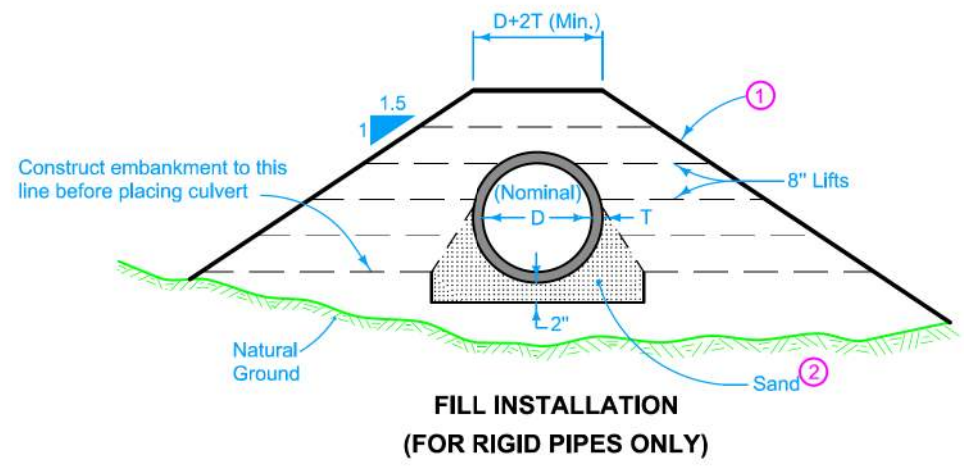
CLASS 'C' BEDDING & BACKFILL



TRENCH INSTALLATION
H > 4'

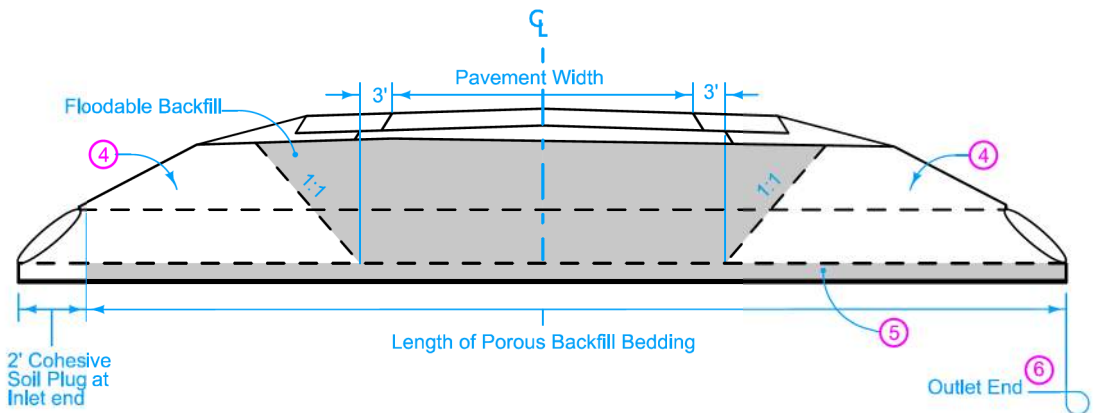


ELONGATED PIPE 9



FILL INSTALLATION
(FOR RIGID PIPES ONLY)

CLASS 'B' BEDDING & BACKFILL 4



TYPICAL SECTION - SOIL PLUG

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

- 1 The backfill adjacent to and above the pipe culvert may be placed in conjunction with normal embankment construction. Thoroughly tamp the embankment within the limits shown.
- 2 Take extra care to ensure complete and satisfactory tamping of backfill material in the area immediately adjacent to the lower portion of pipe.
- 3 Carefully shape excavation below groundline either using a template conforming to actual dimension and shape of the pipe or using other means. If using other means, check with a template conforming to the actual dimension and shape of the pipe.
- 4 For culverts backfilled by flooding, place a cohesive soil plug at the inlet, outlet, and, when necessary, sides, prior to flooding.
- 5 4-inch Porous Backfill bedding. 2-inch Floodable Backfill bedding may be used under unsealed rigid pipe.
- 6 Extend Porous Backfill through the outlet end soil plug when used for bedding.
- 7 Quantity calculations are based upon a 1:1 slope and minimum trench dimension. Actual slope of trench may vary based upon Contractor's operations.
- 8 Ground Line at time of pipe installation. When existing ground exceeds 5 feet depth over pipe, backfill and compaction by flooding is not required more than 5 feet above the pipe.
- 9 Where a corrugated metal pipe culvert requiring elongation is to be installed (to counteract deformation caused by backfill), complete elongation using a means approved by the Engineer. Elongation may be developed either as part of shop fabrication or field installation. Install with elongated axis vertical.

Possible Contract Items:
Flowable Mortar
Flooded Backfill
Excavation, Class 20

Possible Tabulations:
104-3
104-4

Denotes pay limits for flooded backfill

IOWA DOT
STANDARD ROAD PLAN

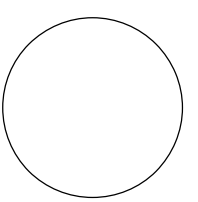
REVISION	
2	04-18-17
DR-101	
SHEET 1 of 1	

REVISIONS: Changed "Porous Backfill" to "Porous Backfill Bedding" for clarity. Modified trench installation detail for H>4' to clarify pay limits.

Brian Smith
APPROVED BY DESIGN METHODS ENGINEER

PIPE CULVERT
(BEDDING AND BACKFILL)

CONSULTANT:



IOWA DEPARTMENT OF
NATURAL RESOURCES

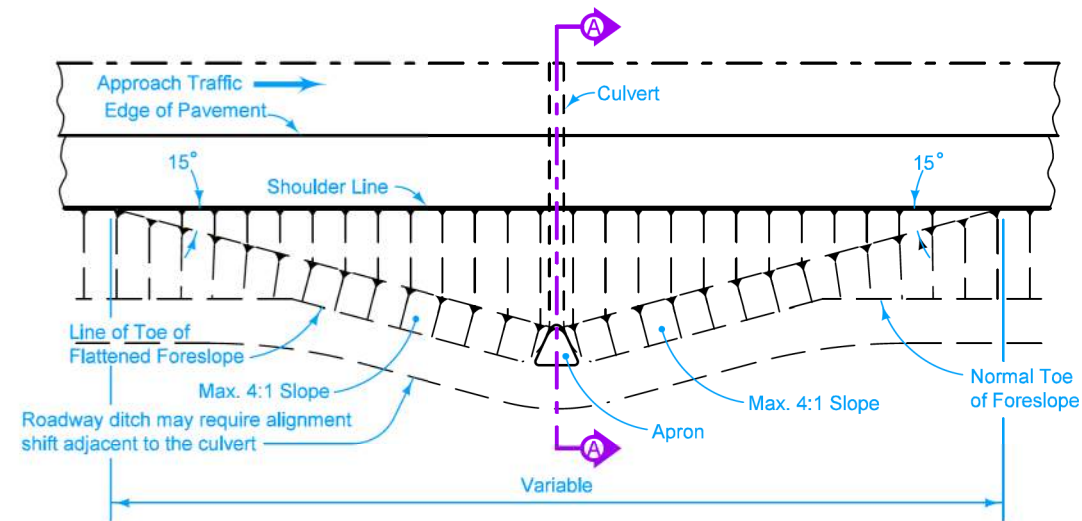
ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034



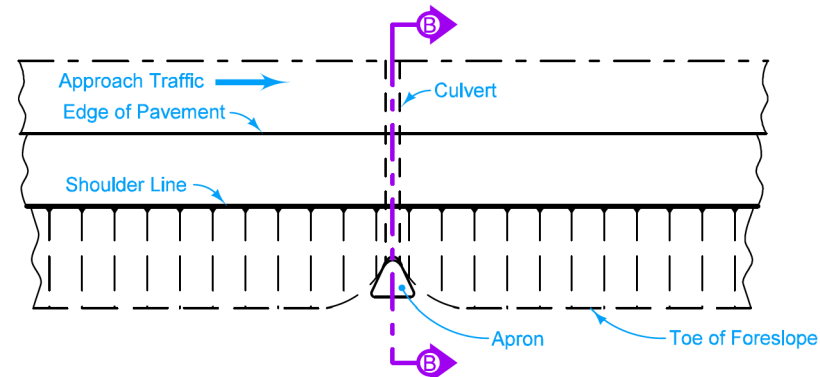
TYPICAL CROSS SECTIONS AND DETAILS

ROAD MAINTENANCE FOR:
SAYLORVILLE SUB 1
DALLAS COUNTY

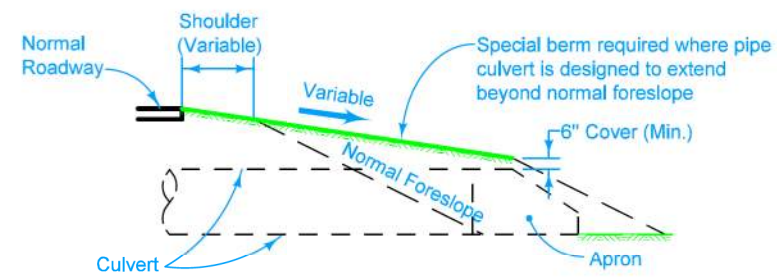
NO.	BY	DATE	REVISION



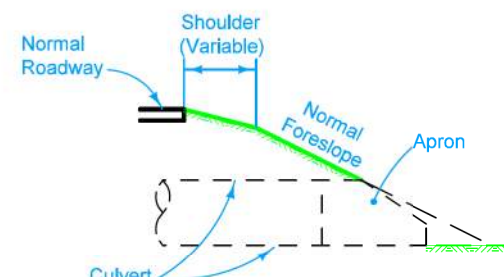
TYPICAL INSTALLATION PLAN
WHERE SPECIAL BERM IS REQUIRED



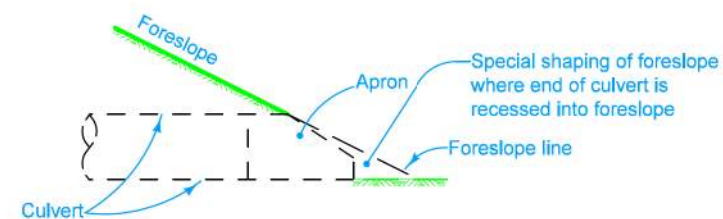
TYPICAL INSTALLATION PLAN
WHERE CULVERT MATCHES NORMAL FORESLOPE



SECTION A-A



SECTION B-B



DETAIL OF SHAPING EARTH FORESLOPE
AT CULVERT END

	REVISION
	New 04-21-15
STANDARD ROAD PLAN	DR-103
	SHEET 1 of 1

REVISIONS: New. Replaces RF-30C.

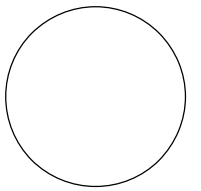
NO.	BY	DATE	REVISION

APPROVED BY DESIGN METHODS ENGINEER
Brian Smith
 APPROVED BY DESIGN METHODS ENGINEER

DRAWN BY: BLF PROJECT NUMBER: 23-02-25-01
 CHK'D BY: DATE: OCT 2022

PIPE CULVERT
(INSTALLATION DETAILS)

CONSULTANT:



IOWA DEPARTMENT OF
NATURAL RESOURCES

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



TYPICAL CROSS SECTIONS AND DETAILS

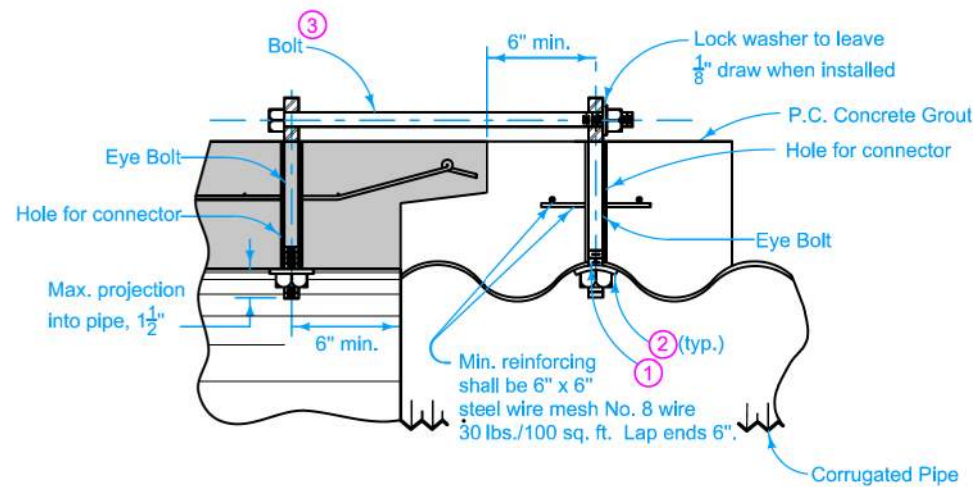
ROAD MAINTENANCE FOR:

SAYLORVILLE SUB 1

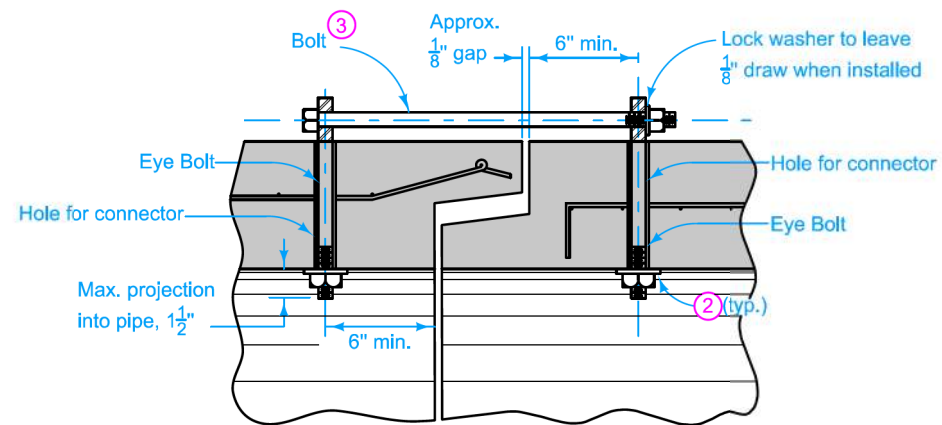
DALLAS COUNTY

NO.	BY	DATE	REVISION

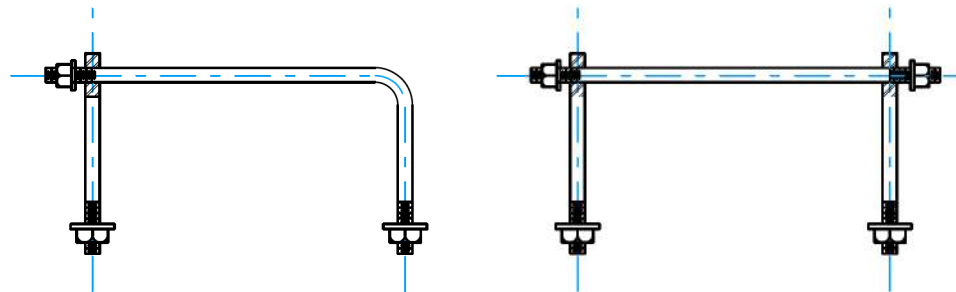
B.04



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



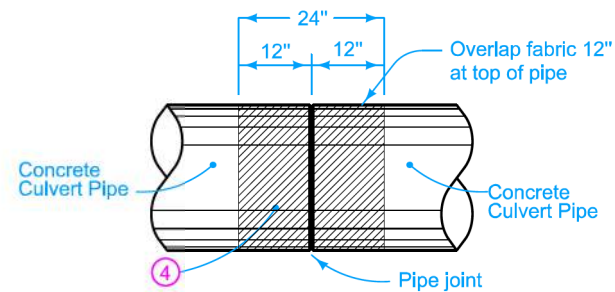
**SECTION OF PIPE CONNECTOR
(Concrete Pipe to Concrete Pipe)**



ONE BEND END

THREADED AT BOTH ENDS

OPTIONAL BOLTS/CONNECTORS

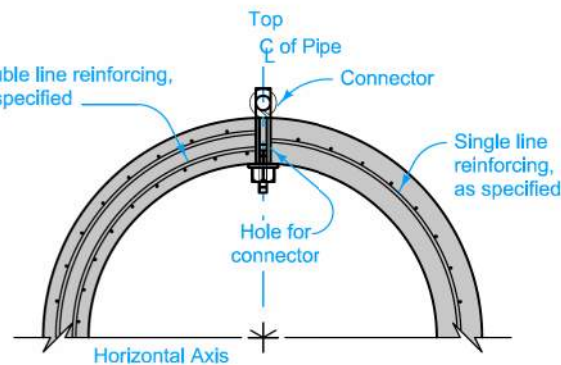


PIPE JOINT WRAPPING

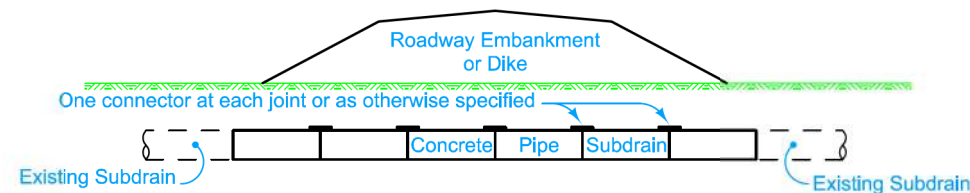
PIPE SIZE (in)	CONNECTOR AND BOLT SIZE (in.)	HOLE FOR CONNECTOR (in.)
12 to 27	5/8	7/8
30 to 60	3/4	1.0
66 to 132	1.0	1 1/4

- ① If holes are field drilled, place a ribbon of butyl sealant around bolts before placing 3 in. x 3 in. x 1/4 in. plate on bolts through corrugated metal pipe and tightening nuts.
- ② 1 3/4 inch round x 9/64 inch thick washer or 3 in. x 3 in. x 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 detail.
- ④ Engineering fabric for embankment erosion control.

Possible Tabulations:
104-3
104-5B



**TYPICAL SECTION
(Non-Sealed Joint)**



TYPICAL INSTALLATION

TYPE 1 CONNECTION

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.

IOWA DOT	REVISION
	3 10-17-17
STANDARD ROAD PLAN	DR-121
SHEET 1 of 2	

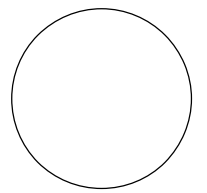
REVISIONS: Added 104-5B to Possible Tabulations. Added Type 3 connection to storm sewer outlet.

APPROVED BY DESIGN METHODS ENGINEER
Brian Smith

CONNECTED PIPE JOINTS

DRAWN BY: BLF PROJECT NUMBER: 23-02-25-01
CHK'D BY: DATE: OCT 2022

CONSULTANT:



**IOWA DEPARTMENT OF
NATURAL RESOURCES**

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



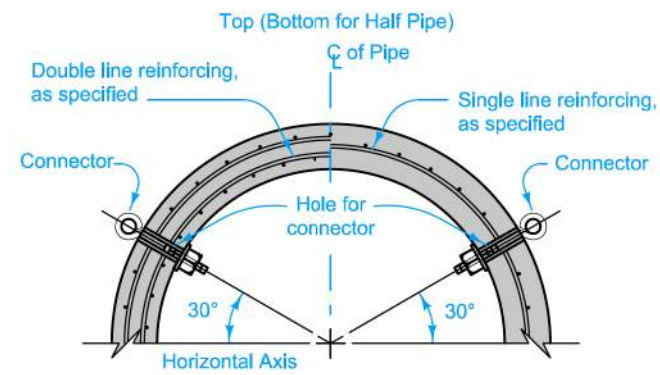
TYPICAL CROSS SECTIONS AND DETAILS

ROAD MAINTENANCE FOR:
SAYLORVILLE SUB 1

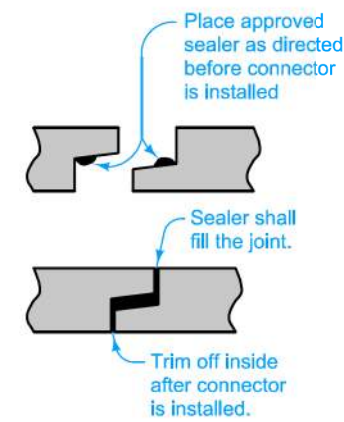
DALLAS COUNTY

NO.	DATE	REVISION

B.05

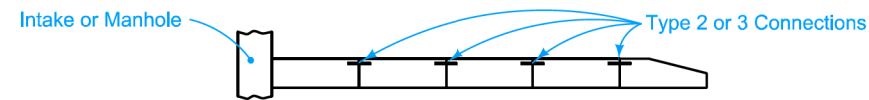


**TYPICAL SECTION
TYPE 2 CONNECTION
TYPE 3 CONNECTION**

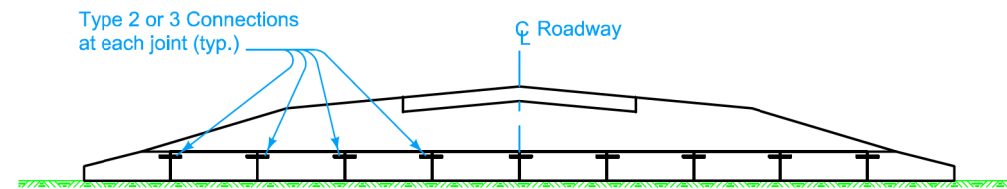


**SEALED JOINT
TYPE 2 CONNECTION**

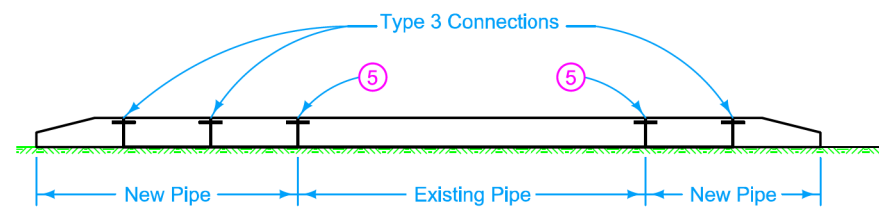
⑤ On culvert extensions, connect all new joints including the joint between the old and new culvert pipe. Holes may need to be drilled into existing pipes.



**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

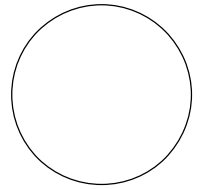
	REVISION	
	3	10-17-17
STANDARD ROAD PLAN		DR-121
		SHEET 2 of 2

REVISIONS: Added 104-5B to Possible Tabulations. Added Type 3 connection to storm sewer outlet.

APPROVED BY DESIGN METHODS ENGINEER
Brian Smith

CONNECTED PIPE JOINTS

CONSULTANT:



**IOWA DEPARTMENT OF
NATURAL RESOURCES**

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



TYPICAL CROSS SECTIONS AND DETAILS

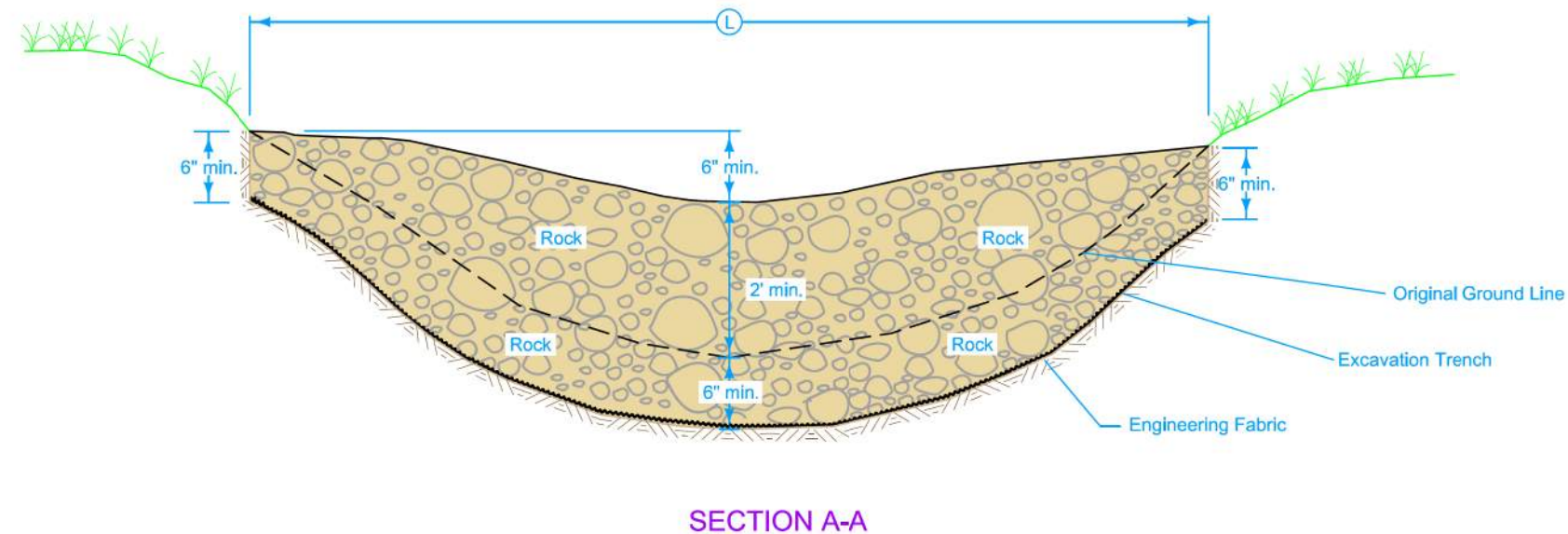
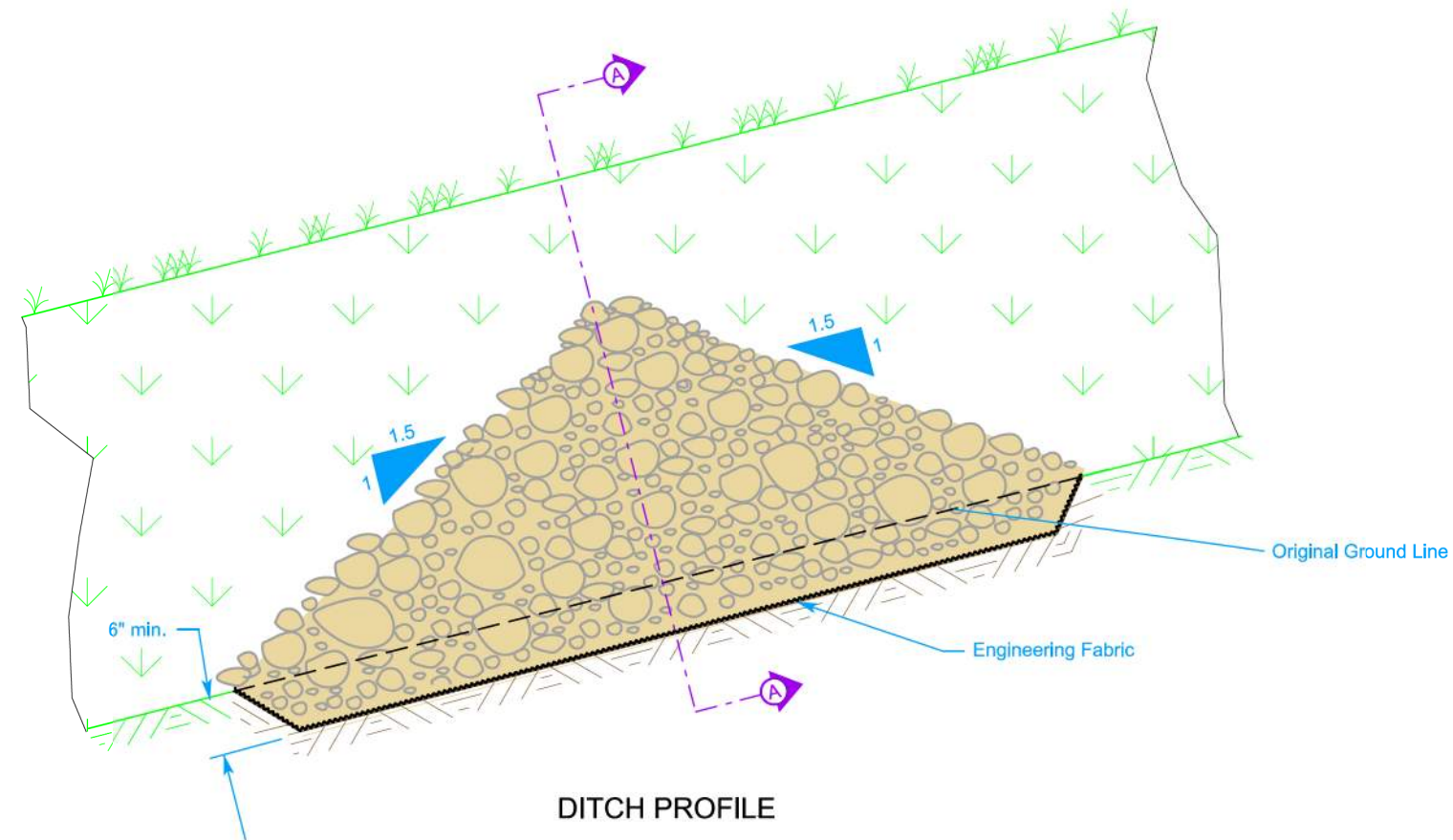
ROAD MAINTENANCE FOR:
SAYLORVILLE SUB 1
DALLAS COUNTY

NO.	DATE	REVISION

DRAWN BY: BLF
PROJECT NUMBER: 23-02-25-01
CHK'D BY: DATE: OCT 2022

SHEET NO:

B.06



Use Class D Revetment to construct Rock Check Dam.
 Use fabric for Embankment Erosion Control complying with Section 4196 of the Standard Specifications.

Possible Contract Items:
 Rock Check Dam
 Maintenance of Rock Check Dam
 Removal of Rock Check Dam

Possible Tabulation:
 100-32

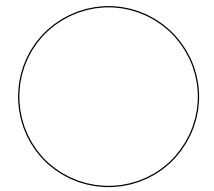
IOWA DOT	REVISION	
	1	10-18-22
STANDARD ROAD PLAN		EC-302
		SHEET 1 of 1

REVISIONS: Added note referring to 4196.

Handwritten Signature
 APPROVED BY DESIGN METHODS ENGINEER

ROCK CHECK DAM

CONSULTANT:



IOWA DEPARTMENT OF NATURAL RESOURCES

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



TYPICAL CROSS SECTIONS AND DETAILS

ROAD MAINTENANCE FOR:

SAYLORVILLE SUB 1

DALLAS COUNTY

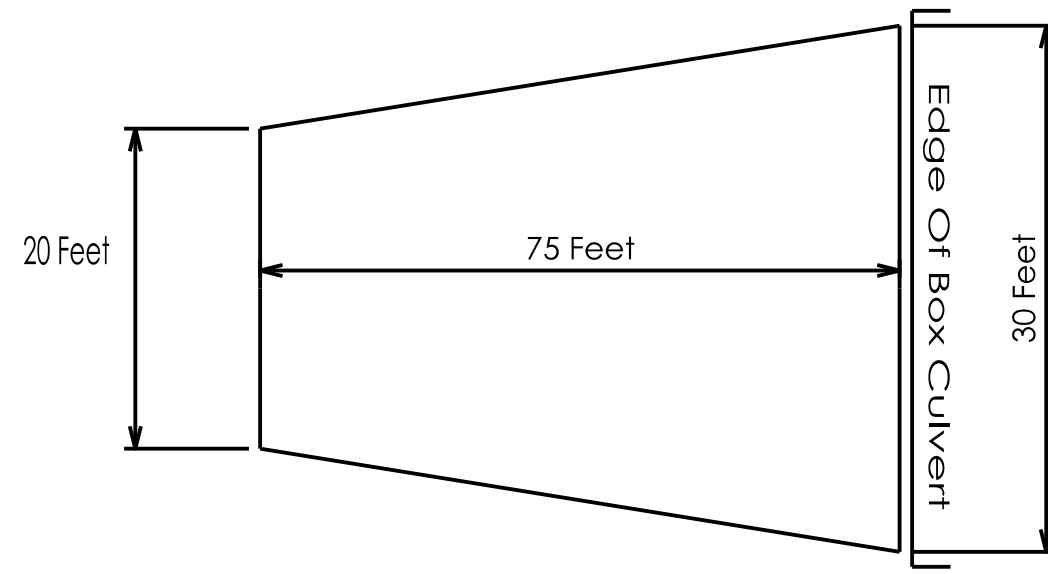
NO.	BY	REVISION

DRAWN BY: BLF
 PROJECT NUMBER: 23-02-25-01
 CHK'D BY: DATE: OCT 2022

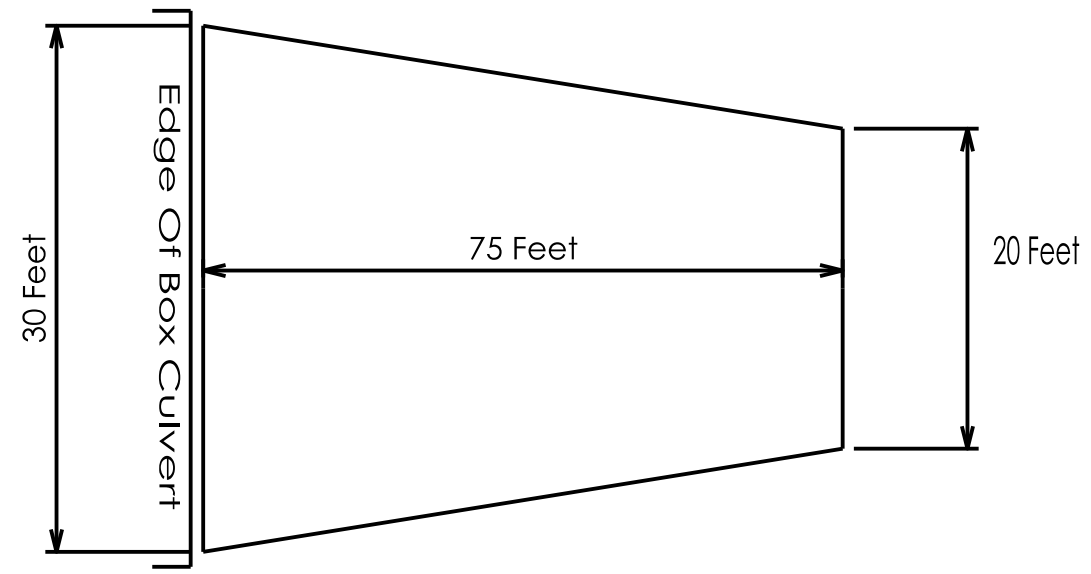
SHEET No:

B.07

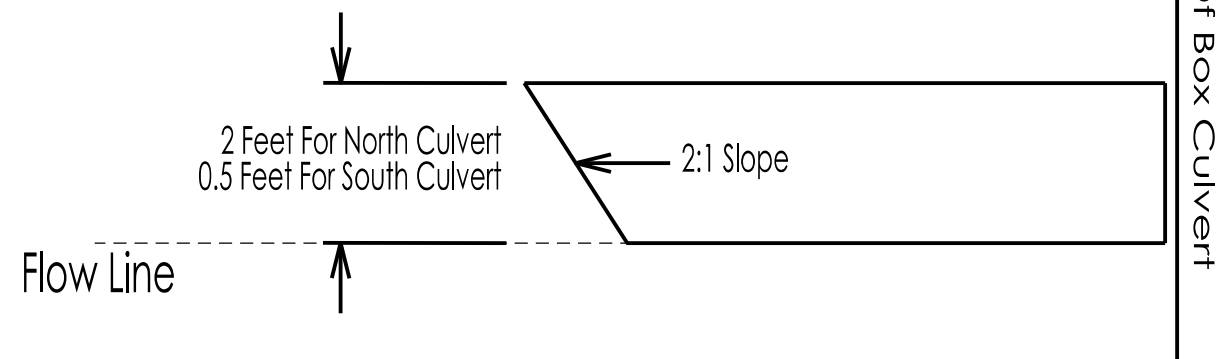
Top View



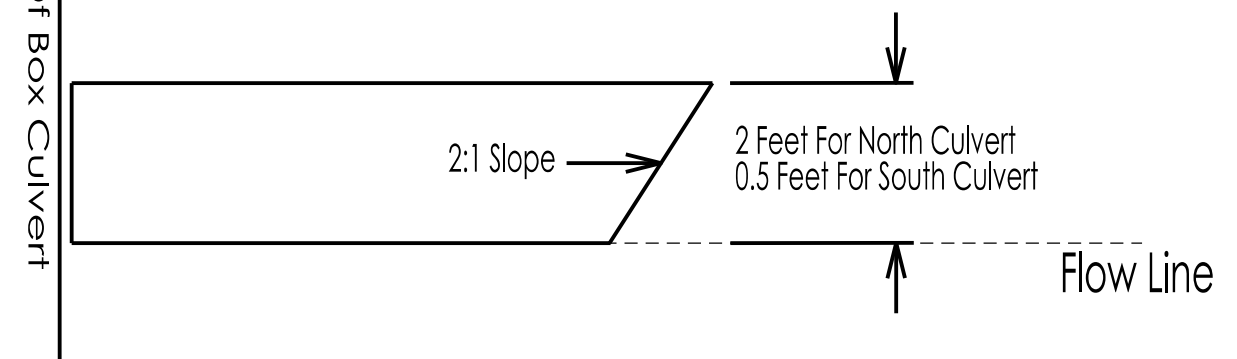
Top View



Profile View

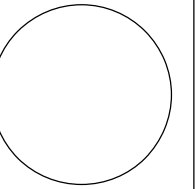


Profile View



Typical Channel Clean-out

CONSULTANT:



**IOWA DEPARTMENT OF
NATURAL RESOURCES**

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



TYPICAL CROSS SECTIONS AND DETAILS

ROAD MAINTENANCE FOR:

SAYLORVILLE SUB 1

DALLAS COUNTY

NO.	BY	REVISION

DRAWN BY:	PROJECT NUMBER:
BLF	23-02-25-01

CHK'D BY:	DATE:
	OCT 2022

SHEET No:

B.08

ESTIMATED PROJECT QUANTITIES

ITEM NO.	ITEM	UNIT	TOTAL
1	2101 - CLEARING	LS	1
2	2104 - EXCAVATION, CL 10, CHANNEL	CY	280
3	2125 - RESHAPING DITCHES	STA	22.8
4	2127 - RECONSTRUCTION OF ROADBED - BLADING/SHAPING	STA	88
5	2312 - GRANULAR SURFACING ON ROAD, CLASS A CRUSHED STONE	TON	2294
6	2312 - GRANULAR SURFACING ON ROAD, CRUSHED STONE, 1.5-INCH	TON	102
7	2312 - GRANULAR SURFACING ON ROAD, CRUSHED STONE, 3-INCH	TON	268
8	2416 - APRON, CONC, 24"	EACH	2
9	2416 - CULV, CONC RDWY PIPE, 24"	LF	24
10	2507 - ENGINEERING FABRIC	SY	40
11	2507 - REVETMENT, CLASS E	TON	126
12	2507 - EROSION STONE	TON	20
13	2518 - SAFETY CLOSURE	EACH	2
14	2528 - TRAFFIC CONTROL	LS	1
15	2533 - MOBILIZATION	LS	1
16	2601 - SEED+FERTILIZE (RURAL)	ACRE	1
17	2602 - ROCK CHECK DAM	LF	132

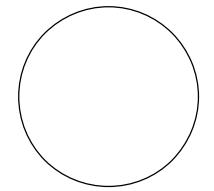
ESTIMATE REFERENCE INFORMATION

ITEM NO.	DESCRIPTION
1	A. This item for the removal of any brush for channel clean out item. B. Remove any/all brush from project site.
2	A. Quantities based upon a 20'X75'X4' channel. B. Limits of excavation to be marked by DNR Field Engineer. C. Remove spoil from project site. D. See sheet B.08 for typical plan/profile views.
3	A. Clean ditches as shown on sheet B.02 B. Limits of cleaning to be marked by DNR Field Engineer. C. Remove spoil from project site.
4	A. Repair all potholes by scarifying surrounding area 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 any high shoulder areas, before spreading new rock. D. See sheet B.01 for typical roadway cross section.
5.6	A. Blade and roll rock after spreading. B. DOT approved source.
7.8	A. DNR Field Engineer will mark inlet location and set flowline elevations. B. Use Type 3 pinned connections. C. Wrap all joints. D. DOT approved source.
9	A. Use at inlet/outlet of new culvert. B. DOT approved source.
10	A. Inlet/outlet of new culvert. B. DOT approved source.
11	A. Place at inlet of box culverts at the direction of the DNR Field Engineer. B. Use for rock/ditch check dams. C. DOT approved source.
12	A. For use at inlet/outlet of new culvert. B. DOT approved source.
13	A. Follow Iowa DOT specification 2528 for set up details.

ESTIMATE REFERENCE INFORMATION

ITEM NO.	DESCRIPTION
16	A. Use rural mix. B. DOT approved source.
17	A. Locations are approximate - top of downhill check shall be level with base of uphill check. B. Overexcavated 1-foot of ditch bottom for installation of ditch checks. C. This item pays for the construction of the rock/ditch check dams; rip rap is paid with item #11. D. See sheet B.07 for typical rock check dam cross section. E. Rock/ditch check dams will not be very tall -2 - 3 feet.

CONSULTANT:



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



QUANTITIES AND GENERAL INFORMATION
 ROAD MAINTENANCE FOR:
SAYLORVILLE SUB 1
 DALLAS COUNTY

NO.	BY	REVISION

DRAWN BY: **BLF** PROJECT NUMBER: **23-02-25-01**
 CHK'D BY: DATE: **OCT 2022**
 SHEET No: **C.01**

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.

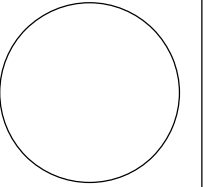
Where utilities and fixtures are shown as Existing on the plans or encountered within the construction area, it shall be the responsibility of the contractor to notify the DNR Engineer of those utilities prior to the beginning of any construction. The contractor shall be afforded access to these facilities 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.

NO WORK FROM 12 NOON FRIDAYS, UNTIL THE FOLLOWING MONDAY.

CONSULTANT:



**IOWA DEPARTMENT OF
NATURAL RESOURCES**

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



QUANTITIES AND GENERAL INFORMATION

ROAD MAINTENANCE FOR:
SAYLORVILLE SUB 1
DALLAS COUNTY

NO.	BY	REVISION
DATE		

DRAWN BY:	PROJECT NUMBER:
BLF	23-02-25-01
CHK'D BY:	DATE:
	OCT 2022
SHEET No:	

C.02

PROJECT OVERVIEW SAYLORVILLE SUB 1 ROAD MAINTENANCE

DITCH CLEAN OUT
AND DITCH CHECKS
(APPROX. 11 CHECKS)

130TH COURT

CHANNEL CLEAN OUT
BOTH SIDES

MADRID 2.5 MILES

NEW 24" CULVERT
DITCH CLEAN OUT

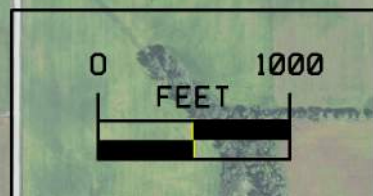
DITCH CLEAN OUT

CHANNEL CLEAN OUT
BOTH SIDES

PLACE RIP RAP
AT ALL 3 RCB'S

145TH LANE

HWY 30



CONSULTANT:



IOWA DEPARTMENT OF
NATURAL RESOURCES

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



SITE PLAN

ROAD MAINTENANCE FOR:

SAYLORVILLE SUB 1

DALLAS COUNTY

NO. BY DATE REVISION

DRAWN BY: PROJECT NUMBER:

BLF 23-02-25-01

CHK'D BY: DATE:

OCT 2022

SHEET NO.:

D.01



RESHAPING DITCHES	
30+00	38+00
8 STA	
56+00	64+00
8 STA	
BLADING/SHAPING	
30+00	65+00
35 STA	
100+00	102+31
2.3 STA	
CLASS A ROCK	
30+00	65+00
1103 TON	
100+00	102+31
73 TON	
APRON, CONC, 24"	
64+00	
2 EACH	
CULV, CONC RDWY PIPE, 24"	
64+00	
24 LF	



CONSULTANT:



IOWA DEPARTMENT OF NATURAL RESOURCES

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



SITE PLAN

ROAD MAINTENANCE FOR:

SAYLORVILLE SUB 1

DALLAS COUNTY

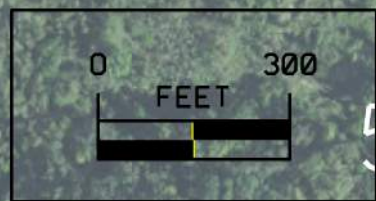
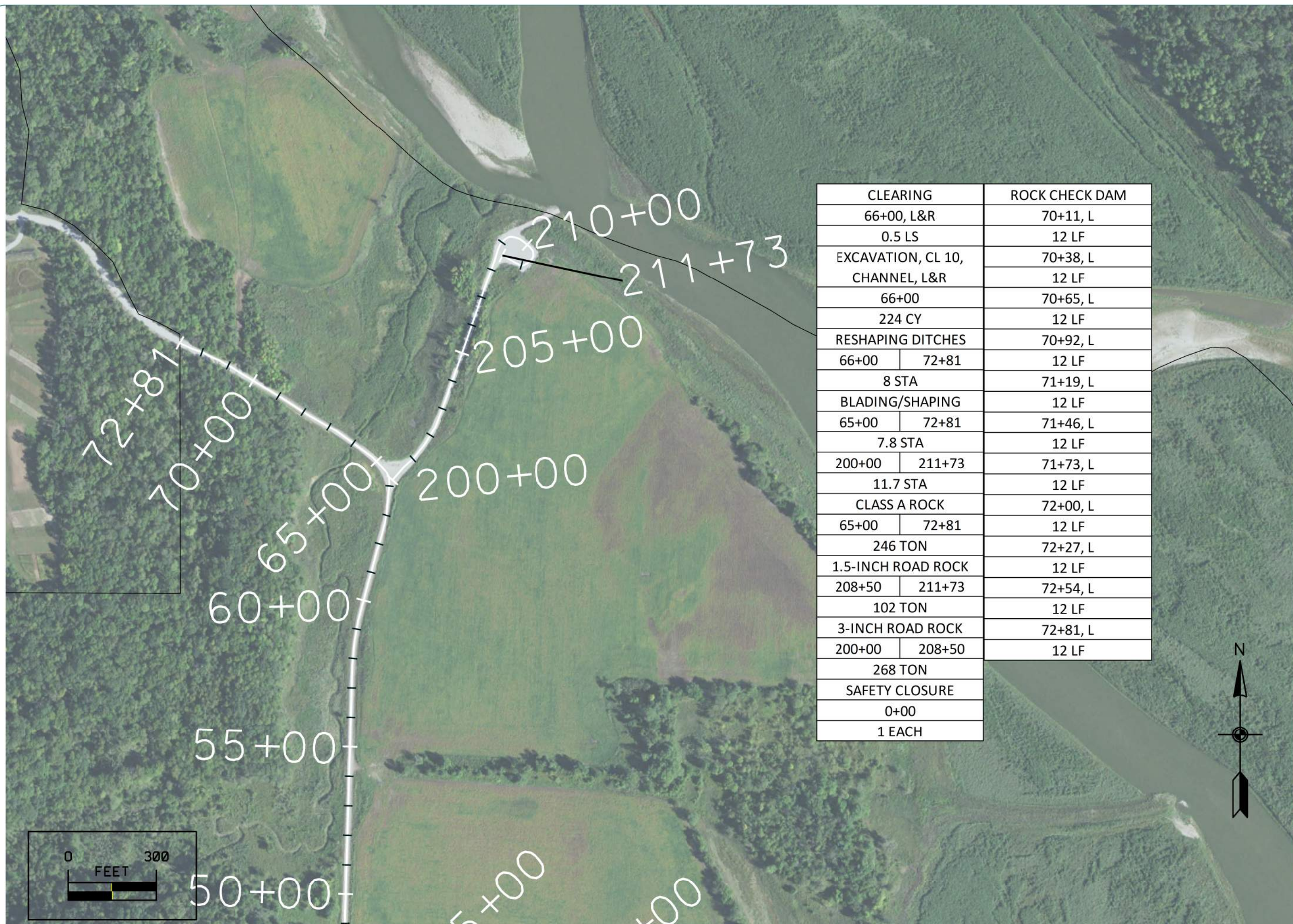
NO.	DATE	REVISION

DRAWN BY: BLF PROJECT NUMBER: 23-02-25-01

CHK'D BY: DATE: OCT 2022

SHEET NO:

D.03



CLEARING	ROCK CHECK DAM
66+00, L&R	70+11, L
0.5 LS	12 LF
EXCAVATION, CL 10, CHANNEL, L&R	70+38, L
66+00	12 LF
224 CY	70+65, L
RESHAPING DITCHES	12 LF
66+00 72+81	70+92, L
8 STA	12 LF
BLADING/SHAPING	71+19, L
65+00 72+81	12 LF
7.8 STA	71+46, L
200+00 211+73	12 LF
11.7 STA	71+73, L
CLASS A ROCK	12 LF
65+00 72+81	72+00, L
246 TON	12 LF
1.5-INCH ROAD ROCK	72+27, L
208+50 211+73	12 LF
102 TON	72+54, L
3-INCH ROAD ROCK	12 LF
200+00 208+50	72+81, L
268 TON	12 LF
SAFETY CLOSURE	
0+00	
1 EACH	

CONSULTANT:



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



SITE PLAN

ROAD MAINTENANCE FOR:

SAYLORVILLE SUB 1

DALLAS COUNTY

NO.	DATE	REVISION

DRAWN BY: **BLF** PROJECT NUMBER: **23-02-25-01**
CHK'D BY: DATE: **OCT 2022**

SHEET No: **D.04**