IOWA DEPARTMENT OF NATURAL RESOURCES

CONSTRUCTION DOCUMENTS FOR SHIMEK STATE FOREST ROAD MAINTENANCE

LEE COUNTY, IOWA

DOT PROJECT #SP-00SP(3)--7C-00

DNR PROJECT #20-06-56-01

LICENSED PROFESSIONAL ENGINEER
BRUCE L. FLIPPIN
19513
IOWA

I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED UNDER MY SUPERVISION AND THAT ENGINEERING DECISIONS WITH REGARD TO THE DESIGN WERE MADE BY ME UNDER THE LAWS OF THE STATE OF IOWA.

Bruce L. Flippin

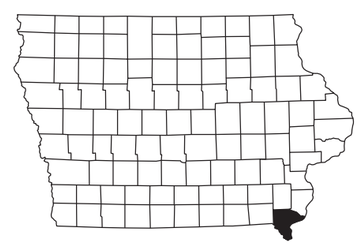
Digitally signed by Bruce L. Flippin
DN: C=US, E=Bruce.Flippin@dnr.iowa.gov, O=Iowa DNR, OU=Land Masters - Engineering Bureau, CN=Bruce L. Flippin
Date: 2022.05.16 14:58:00-05'00'

SIGNATURE: DATE

BRUCE L. FLIPPIN
PRINTED OR TYPED NAME

MY LICENCE RENEWAL DATE IS DECEMBER 31, 2022

PAGES COVERED BY THIS SEAL:



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www.iowaonecall.com
811 Know what's below. Call before you dig.

DIRECTORY

PROJECT MANAGER		CONSTRUCTION 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	MIKE DUFOE
TELEPHONE	515-689-8009	TELEPHONE	515-985-9196
FAX	515-281-8685	FAX	
EMAIL	bruce.flippin@dnr.iowa.gov	EMAIL	michael.dufoe@dnr.iowa.gov

PROJECT DESCRIPTION

This project consists of the removal of an existing, sectional concrete beam, low water crossing, the installation of articulated concrete block matting, removal and installation of an RCP culvert, placement of macadam/erosion stone/rip rap and ditch cleaning.

AUTHORIZATION TO BID

Nick Dellaca — Digitally signed by Nick Dellaca Date: 2022.05.17 07:51:36 -05'00'

AUTHORIZATION - PARKS | WILDLIFE | FISHERIES | LAW ENFORCEMENT | FORESTRY DATE

Travis Baker — Digitally signed by Travis Baker Date: 2022.05.16 16:09:49 -05'00'

ENGINEERING BUREAU CHIEF DATE

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CONSULTANT:

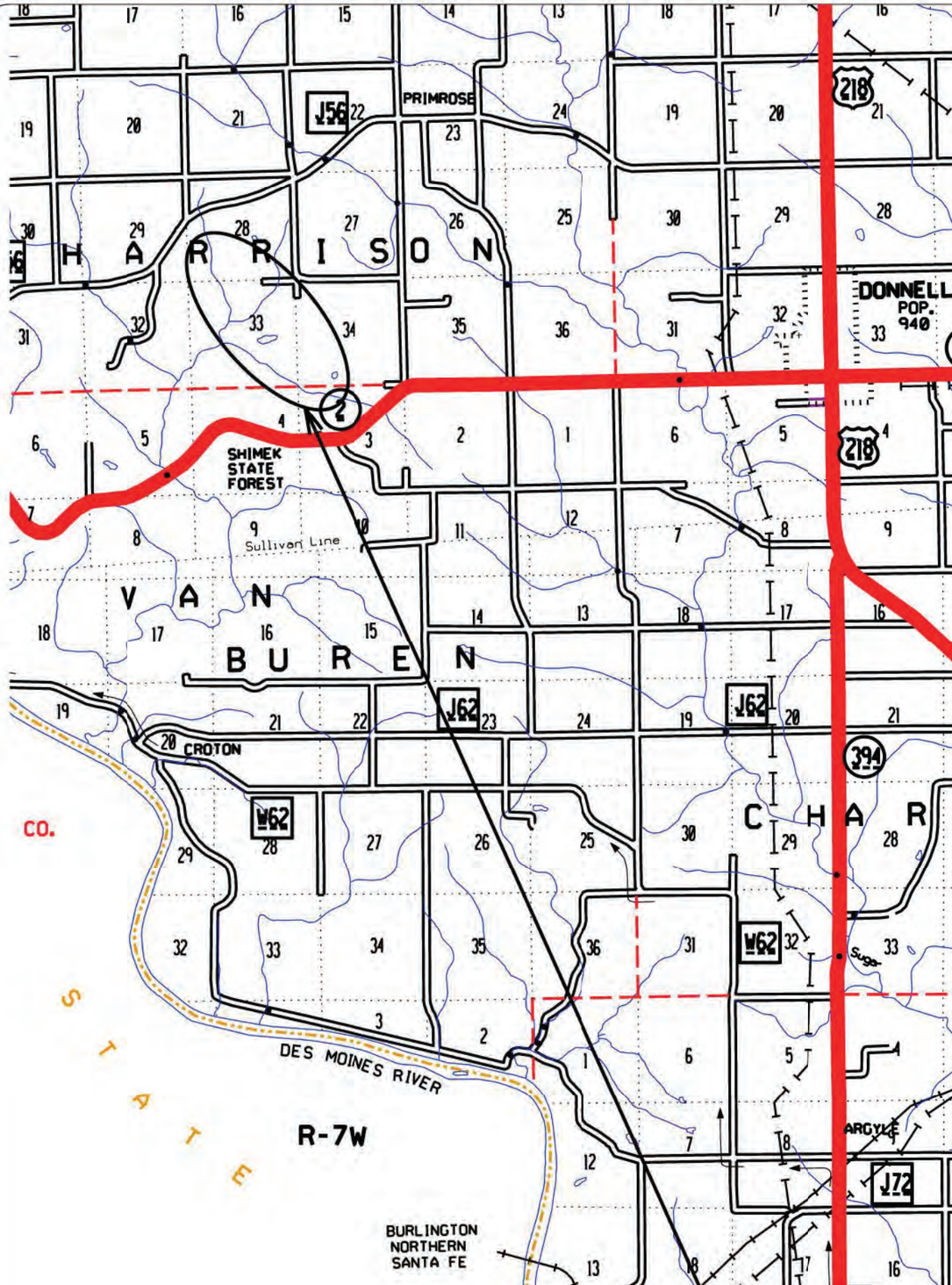
IOWA DEPARTMENT OF NATURAL RESOURCES
ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034

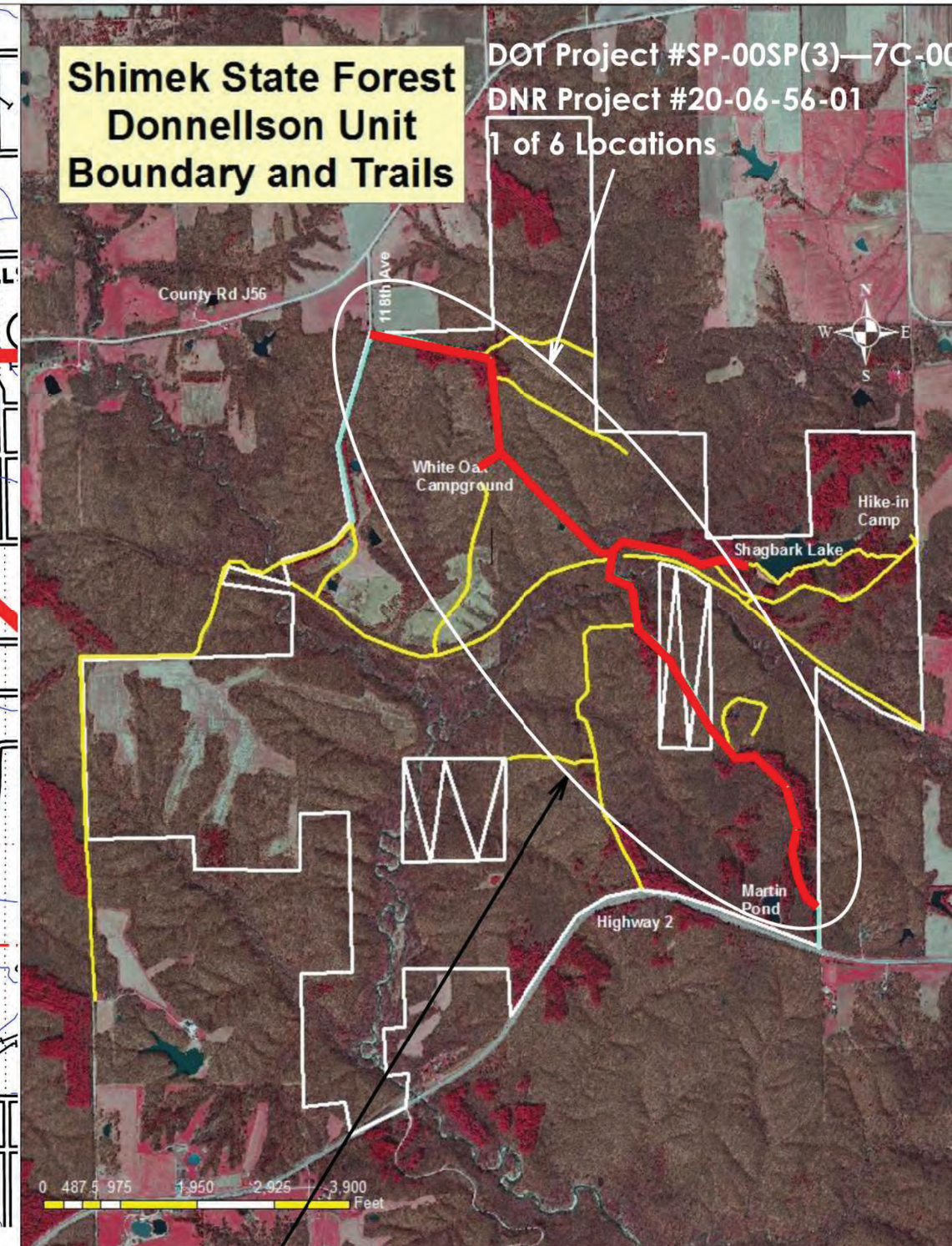
COVER SHEET

ROAD MAINTENANCE FOR:
SHIMEK STATE FOREST
LEE COUNTY

NO.	BY / DATE	REVISION

DRAWN BY: BLF
PROJECT NUMBER: 20-06-56-01
CHK'D BY:
DATE: APRIL 2022
SHEET No: A.01





PROJECT LOCATION

CONSULTANT:

IOWA DEPARTMENT OF NATURAL RESOURCES

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

DNR

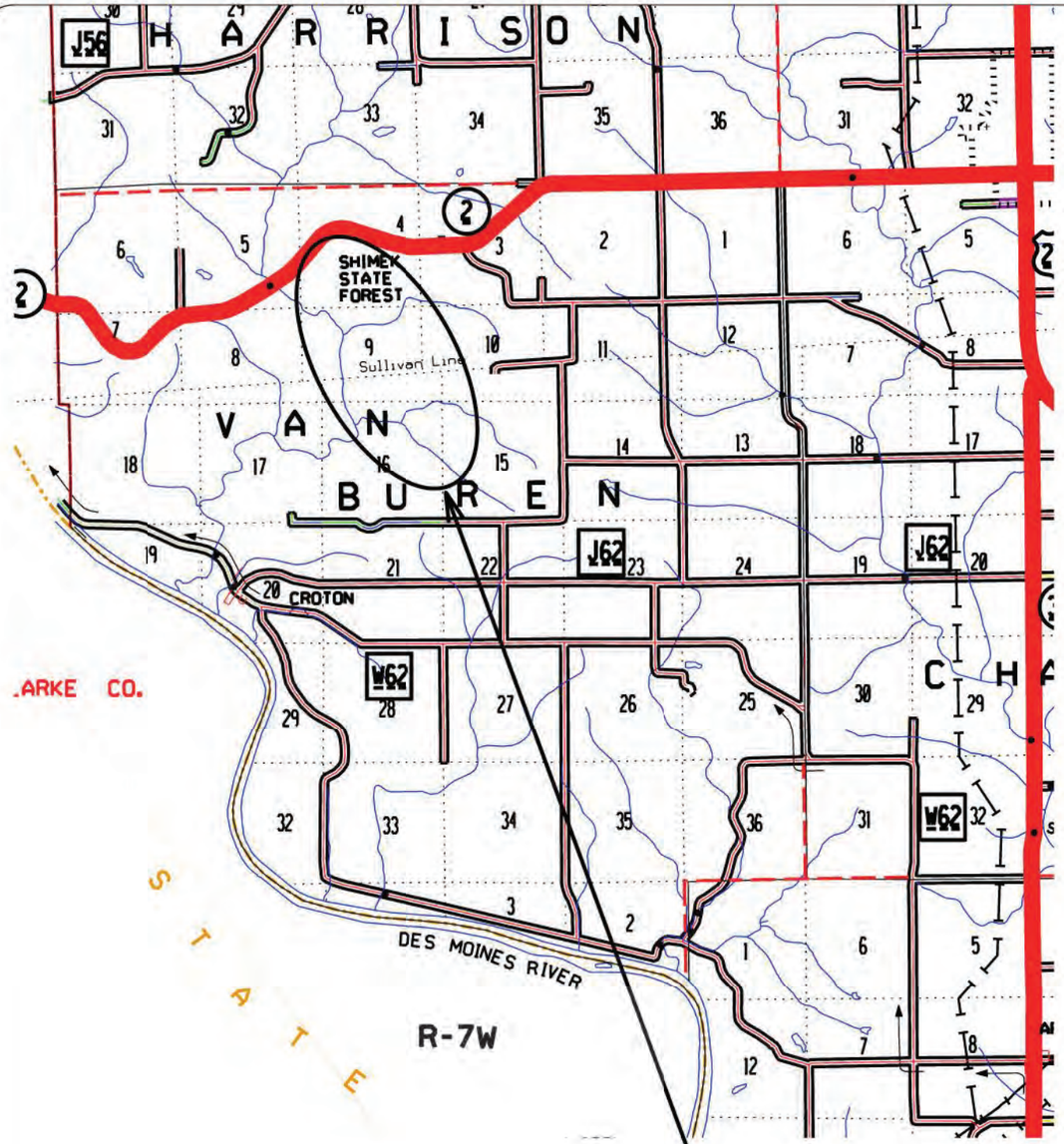
PROJECT LOCATION MAP

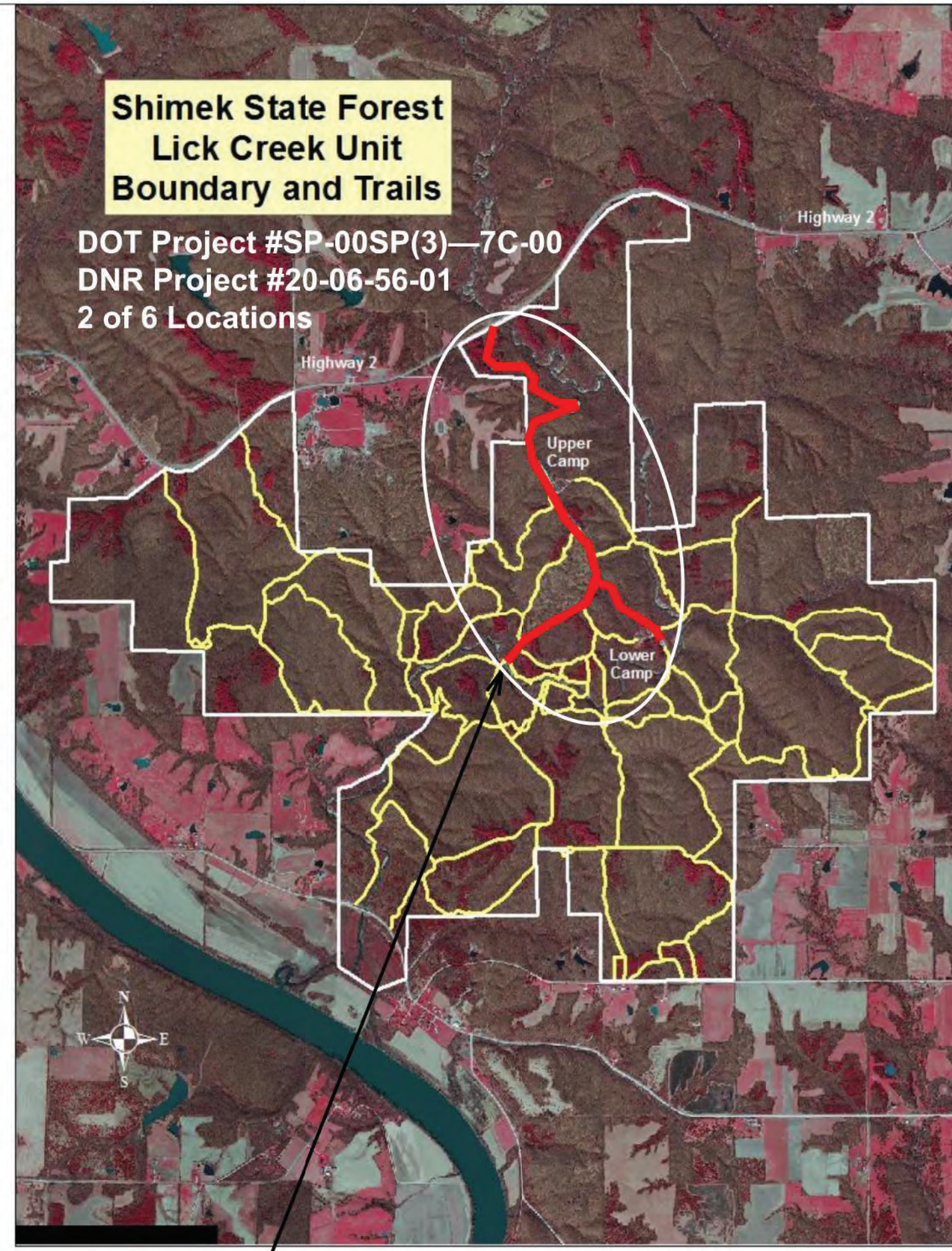
ROAD MAINTENANCE FOR:
SHIMEK STATE FOREST

LEE COUNTY

NO.	BY DATE	REVISION

DRAWN BY: BLF
PROJECT NUMBER: 20-06-56-01
CHKD BY:
DATE: APRIL 2022
SHEET NO.: A.02





PROJECT LOCATIONS

CONSULTANT:

IOWA DEPARTMENT OF NATURAL RESOURCES

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

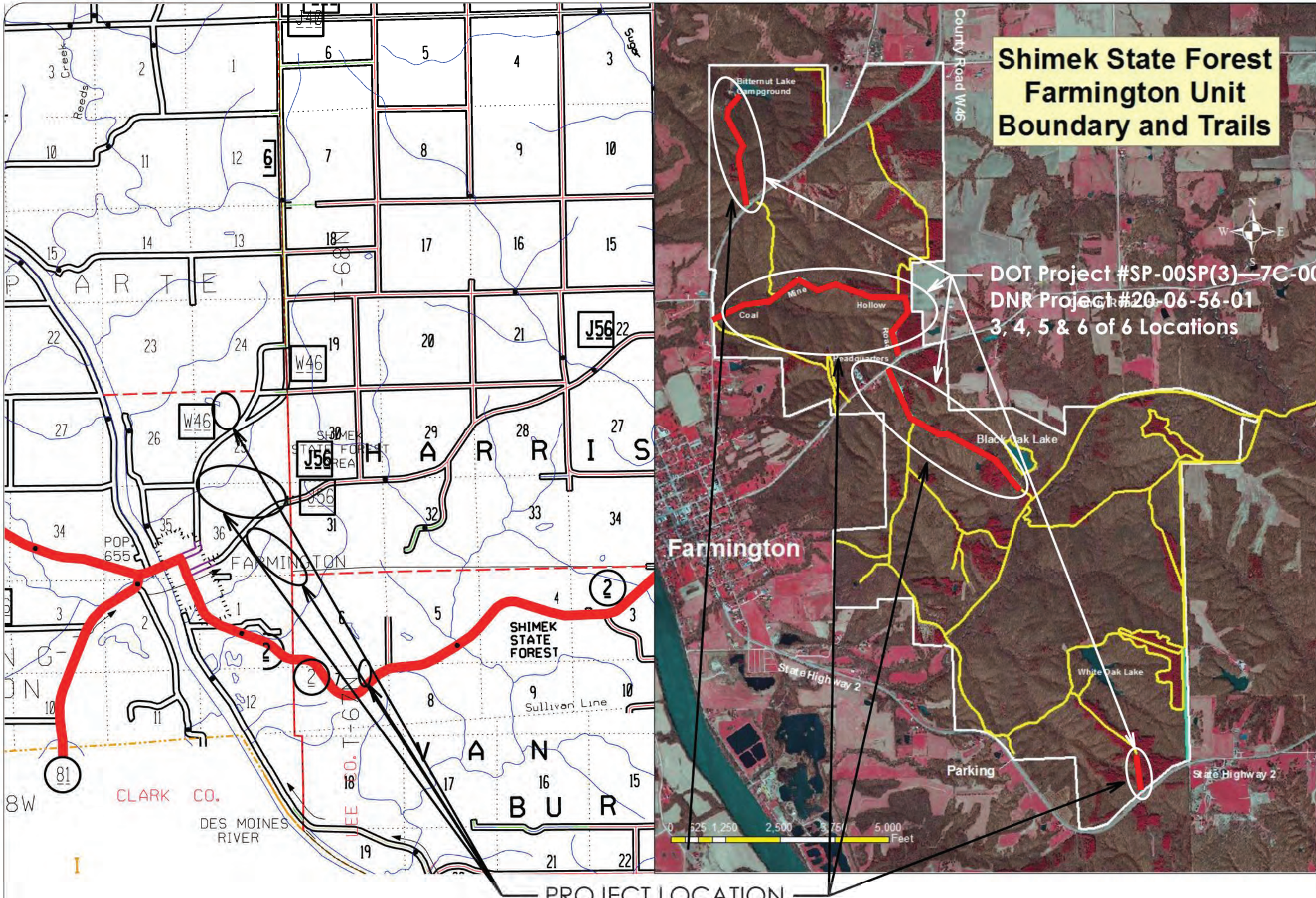
PROJECT LOCATION MAP

ROAD MAINTENANCE FOR:
SHIMEK STATE FOREST

LEE COUNTY

NO.	BY DATE	REVISION

DRAWN BY: BLF
PROJECT NUMBER: 20-06-56-01
CHKD BY:
DATE: APRIL 2022
SHEET NO.: A.03



CONSULTANT:

IOWA DEPARTMENT OF NATURAL RESOURCES

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

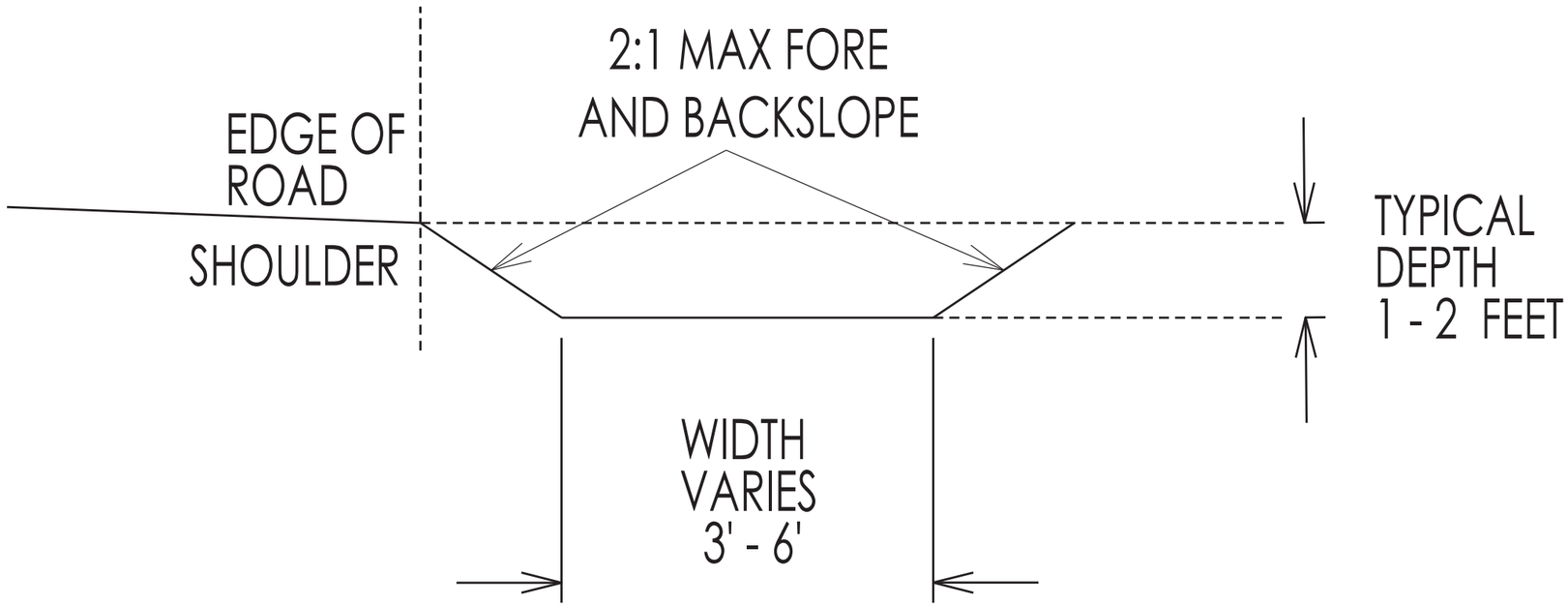
PROJECT LOCATION MAP

ROAD MAINTENANCE FOR:
SHIMEK STATE FOREST

LEE COUNTY

NO.	BY DATE	REVISION

DRAWN BY: BLF
PROJECT NUMBER: 20-06-56-01
CHKD BY:
DATE: APRIL 2022
SHEET NO.: A.04



TYPICAL DITCHING DETAIL

THE INTENT OF THE DITCH CLEANING TO GET RID OF STANDING WATER, AND MAKE IT FLOW.
USE ANY VIABLE SPOIL FOR COVER ON NEW RCP NEAR STATION 601+50.
WASTE/EXCESS SPOIL MAY BE DUMPED AT LOCATION SHOWN ON PLANS - SHEET D.01.

CONSULTANT:

IOWA DEPARTMENT OF NATURAL RESOURCES

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

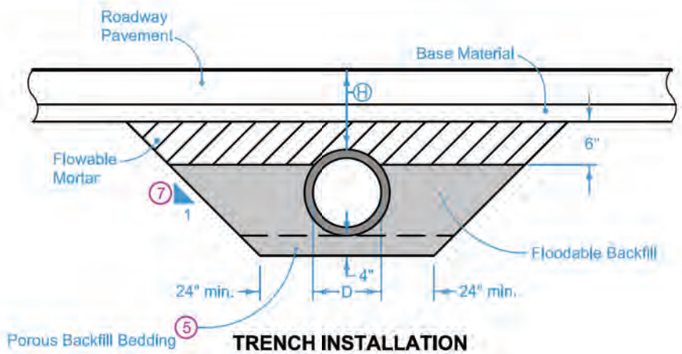
TYPICAL CROSS SECTIONS AND DETAILS

ROAD MAINTENANCE FOR:
SHIMEK STATE FOREST

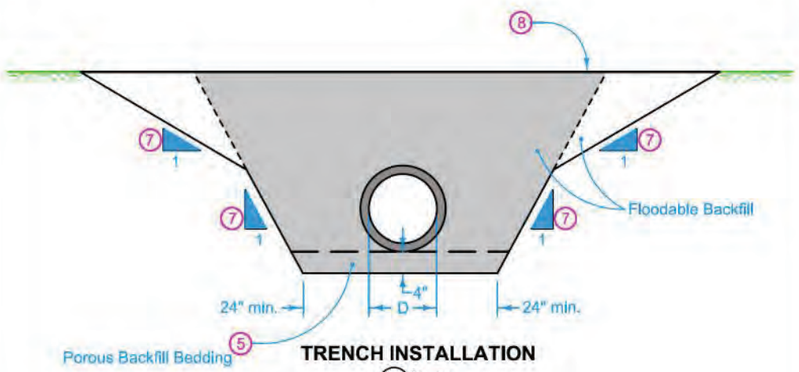
LEE COUNTY

NO.	BY / DATE	REVISION

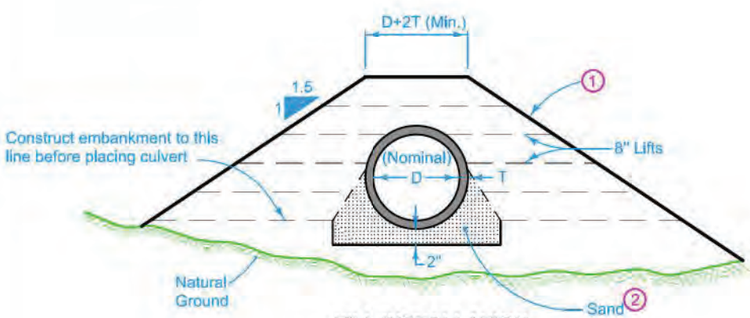
DRAWN BY: BLF
PROJECT NUMBER: 20-06-56-01
CHK'D BY:
DATE: APRIL 2022
SHEET No: B.01



TRENCH INSTALLATION
H ≤ 4'



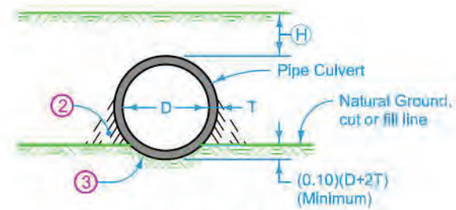
TRENCH INSTALLATION
H > 4'



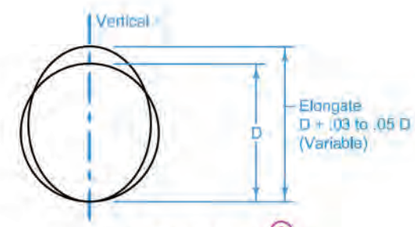
FILL INSTALLATION
(FOR RIGID PIPES ONLY)

CLASS 'B' BEDDING & BACKFILL 4

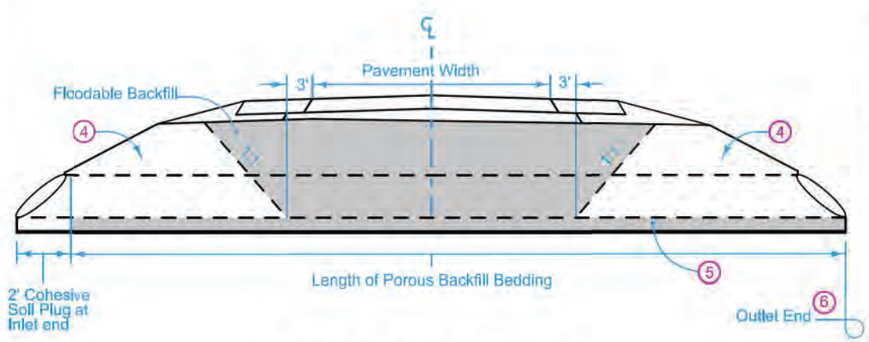
Denotes pay limits for flooded backfill



CLASS 'C' BEDDING & BACKFILL



ELONGATED PIPE 9



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

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

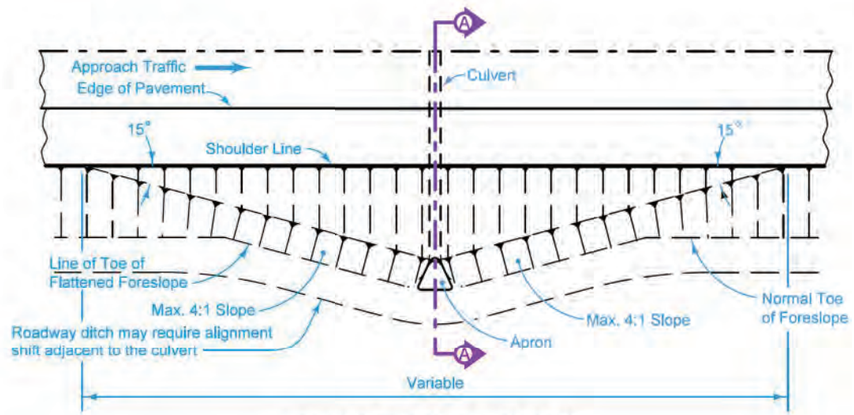
TYPICAL CROSS SECTIONS AND DETAILS

ROAD MAINTENANCE FOR:
SHIMEK STATE FOREST
LEE COUNTY

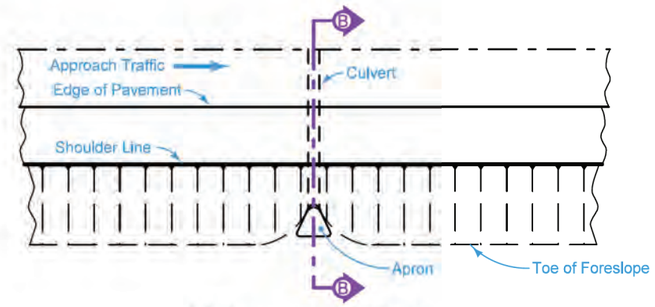
NO.	BY / DATE	REVISION

DRAWN BY:	PROJECT NUMBER:
BLF	20-06-56-01
CHK'D BY:	DATE:
	APRIL 2022

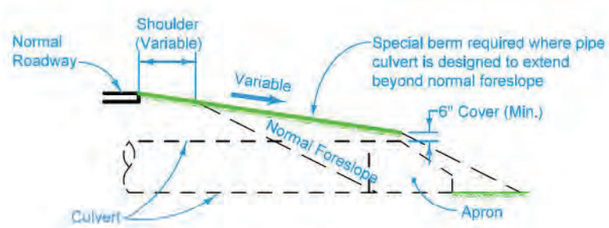
SHEET No:
B.02



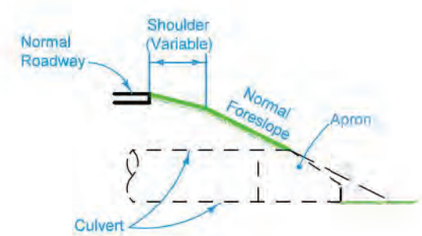
TYPICAL INSTALLATION PLAN
WHERE SPECIAL BERM IS REQUIRED



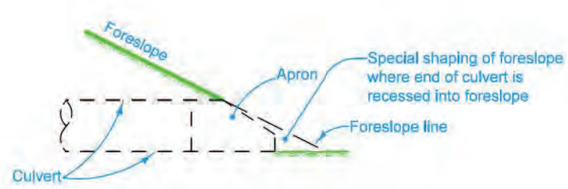
TYPICAL INSTALLATION PLAN
WHERE CULVERT MATCHES NORMAL FORESLOPE



SECTION A-A



SECTION B-B



DETAIL OF SHAPING EARTH FORESLOPE
AT CULVERT END

IOWA DOT

STANDARD ROAD PLAN

REVISION	
New	04-21-15

DR-103

SHEET 1 of 1

REVISIONS: New. Replaces RF-30C.

Brian Smith
APPROVED BY DESIGN METHODS ENGINEER

PIPE CULVERT
(INSTALLATION DETAILS)

CONSULTANT:

IOWA DEPARTMENT OF NATURAL RESOURCES

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

TYPICAL CROSS SECTIONS AND DETAILS

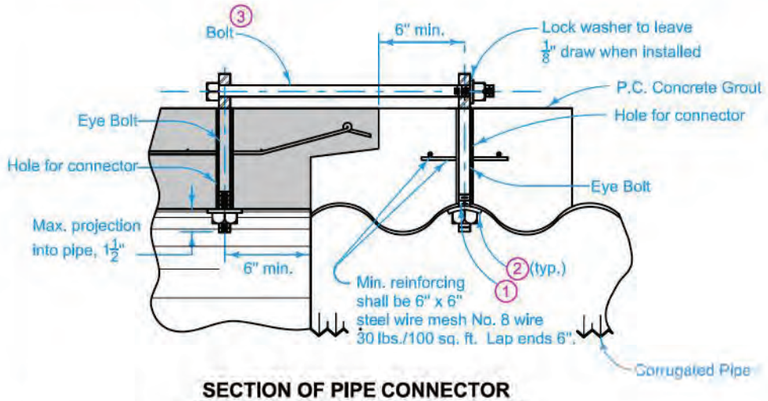
ROAD MAINTENANCE FOR:
SHIMEK STATE FOREST

LEE COUNTY

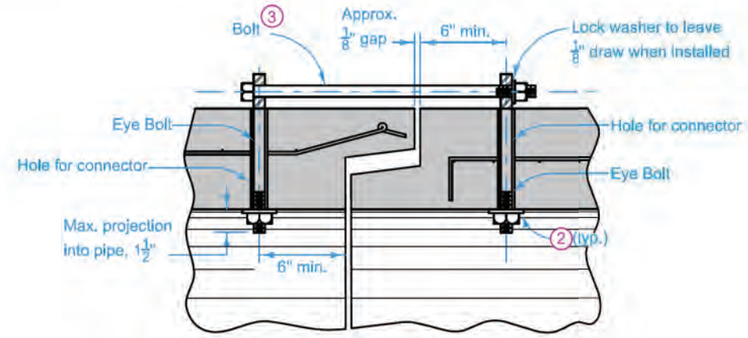
NO	BY / DATE	REVISION

DRAWN BY: BLF
PROJECT NUMBER: 20-06-56-01
CHK'D BY:
DATE: APRIL 2022

SHEET No: B.03



SECTION OF PIPE CONNECTOR
(Concrete Pipe to Corrugated Pipe)



SECTION OF PIPE CONNECTOR
(Concrete Pipe to Concrete Pipe)

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

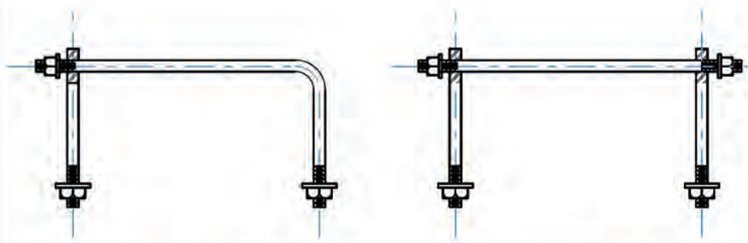
One connector at the top of the pipe section.

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.

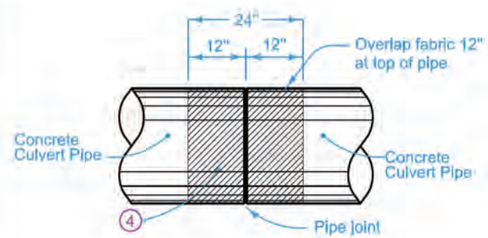
TYPE 3 (Non - Sealed Joint)

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



ONE BEND END **THREADED AT BOTH ENDS**

OPTIONAL BOLTS/CONNECTORS

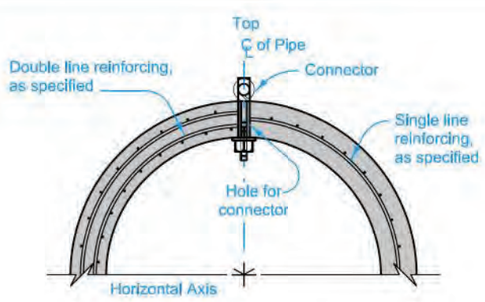


PIPE JOINT WRAPPING

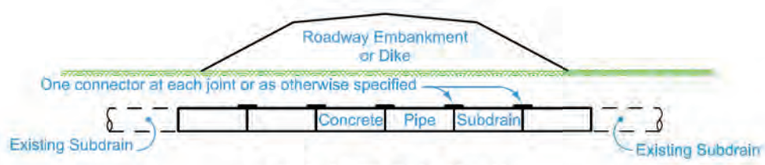
PIPE SIZE (in)	CONNECTOR AND BOLT SIZE (in.)	HOLE FOR CONNECTOR (in.)
12 to 27	5/8	7/8
30 to 60	3/4	1.0
66 to 132	1.0	1 1/4

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

IOWA DOT

STANDARD ROAD PLAN

REVISION 3 10-17-17

DR-121

SHEET 1 of 2

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

Brian Smith
APPROVED BY DESIGN METHODS ENGINEER

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:
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LEE COUNTY

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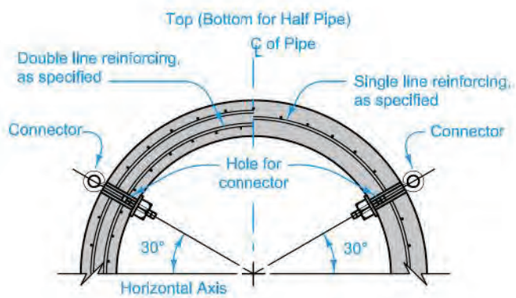
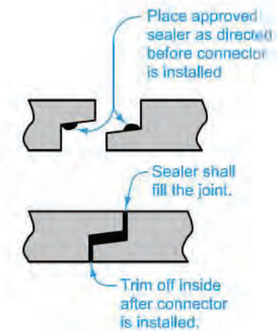
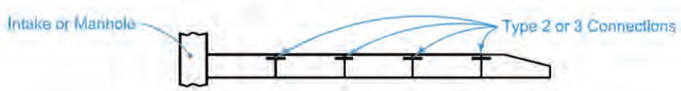


TYPICAL SECTION
TYPE 2 CONNECTION
TYPE 3 CONNECTION

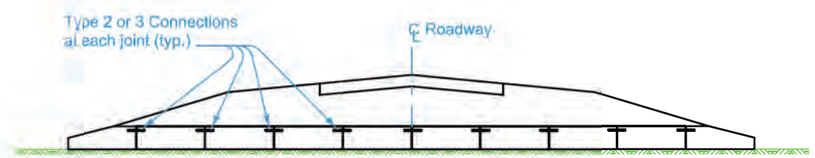


SEALED JOINT
TYPE 2 CONNECTION

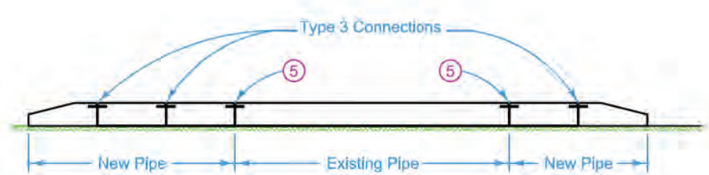
5 On culvert extensions, connect all new joints including the joint between the old and new culvert pipe. Holes may need to be drilled into existing pipes.



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

IOWA DOT
STANDARD ROAD PLAN

REVISION	
3	10-17-17

DR-121
SHEET 2 of 2

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

Brian Smith
APPROVED BY DESIGN METHODS ENGINEER

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

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DATE: APRIL 2022
SHEET No: B.05

ESTIMATED PROJECT QUANTITIES

ITEM NO.	ITEM	UNIT	TOTAL
1	"ARMORFLEX 55-S", OR APPROVED EQUAL,	800	SF
	CLOSED CELL ARTICULATED MATTING 16' x 50'		
2	SITE PREP FOR ARMORFLEX	1	LS
3	2102 - SPECIAL BACKFILL	2	TON
4	2125 - DITCH CLEANING	13.5	STA
5	2127 - RECONSTRUCTION OF ROADBED - BLADING/SHAPING	4	STA
6	2312 - GRANULAR SURFACING ON ROAD, CLASS A CRUSHED STONE	40	TON
7	2416 - APRON, CONC, 18"	2	EACH
8	2416 - CULV, CONC RDWY PIPE, 18"	50	LF
9	2507 - ENGINEERING FABRIC	135	SY
10	2507 - MACADAM STONE	35	TON
11	2507 - REVETMENT, CLASS E	50	TON
12	2507 - EROSION STONE	10	TON
13	2518 - SAFETY CLOSURE	3	EACH
14	2528 - TRAFFIC CONTROL	1	LS
15	2533 - MOBILIZATION	1	LS
16	2601 - SEED+FERTILIZE (RURAL)	0.5	ACRE

ESTIMATE REFERENCE INFORMATION

ITEM NO.	DESCRIPTION
1	A. "Armorflex" 55-S, or approved equal articulated concrete block matting. B. Remove existing concrete beam low water crossing - dispose of offsite. C. Turn down 2-foot of upstream matting edge; 4:1 minimum.
2	A. Grade/prep area site for macadam stone/block matting - DNR Field Engineer approval needed before installing block matting.
3	A. Use for RCP bedding - DOT approved source.
4	A. The intent of this item is to get water to flow. B. Use spoil for embankment at culvert replacement. C. Place any excess spoil/waste at location shown on plans. D. Anticipated quantity is approximately 30 CY/STA. E. Locations will be marked. F. 25% added for irregularities.
5	A. At culvert replacement and low water crossing. B. Blade to maintain positive flow off of roadway; 2% - 4% crown or cross slope.
6	A. At culvert replacement and low water crossing. B. Blade/spread and roll after placement.
7,8	A. Pin and wrap each connection; use Type 3 connections. B. DNR Field Engineer will mark inlet/outlet locations. C. Use existing inlet flowline elevation unless otherwise directed by DNR Field Engineer. D. DOT approved source. E. New culvert is longer; use spoil from ditch cleaning for additional embankment. F. Remove old culverts from project site.
10	A. Use under concrete block matting in stream channel - (0.75' x 18' x 40').
11-12	A. Revetment - low water crossing and RCP outlet. Erosion Stone - RCP inlet. B. Place at the direction of the DNR Field Engineer. C. DOT approved source.
13	A. Follow Iowa DOT Spec 2528 for set-up details.
16	A. Use Rural mix, apply at twice the normal rate. B. DOT approve 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.

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

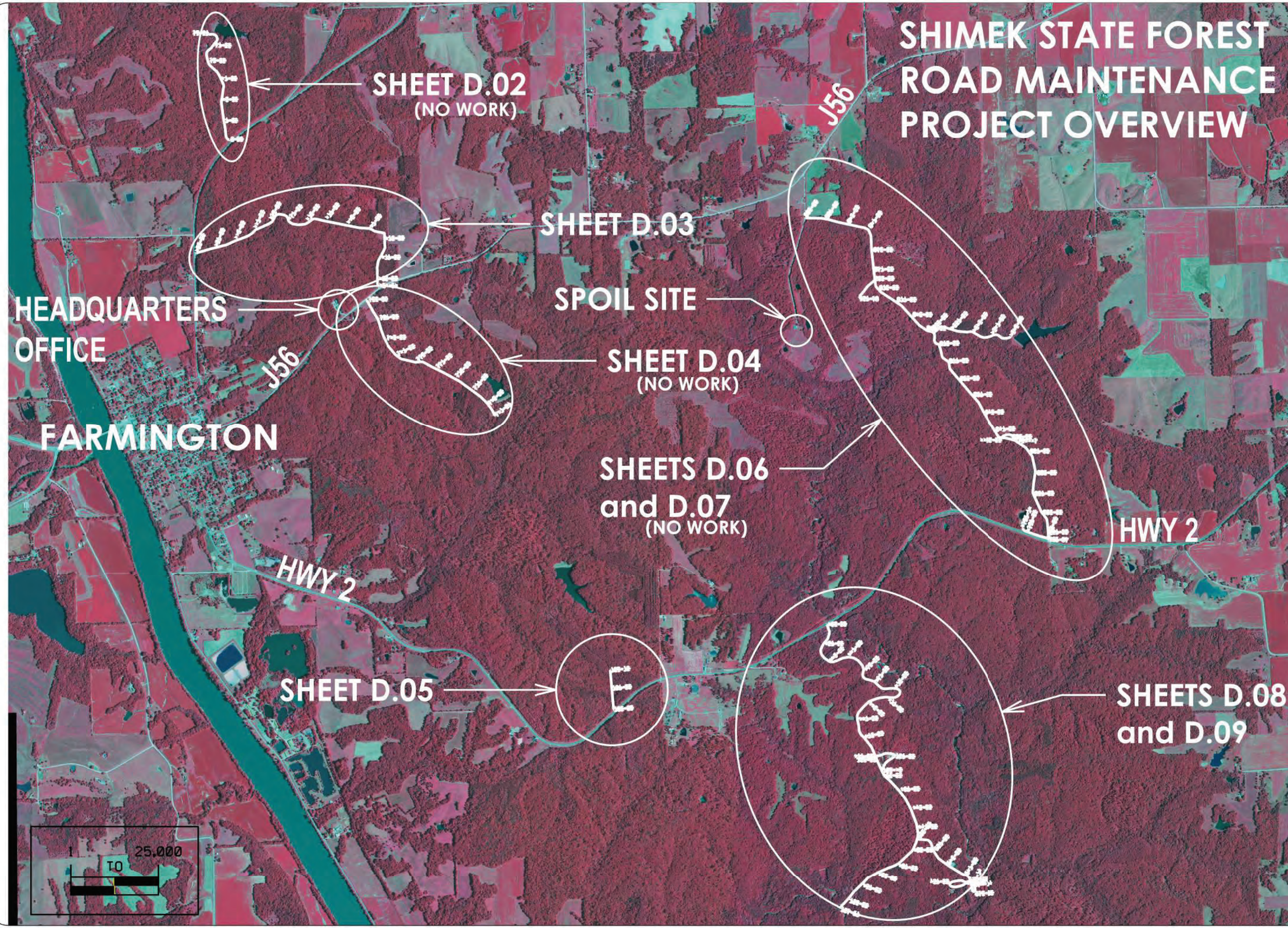
QUANTITIES AND GENERAL INFORMATION

ROAD MAINTENANCE FOR:
SHIMEK STATE FOREST
LEE COUNTY

NO.	BY / DATE	REVISION

DRAWN BY: BLF
PROJECT NUMBER: 20-06-56-01
CHK'D BY:
DATE: APRIL 2022
SHEET No: C.01

SHIMEK STATE FOREST ROAD MAINTENANCE PROJECT OVERVIEW



CONSULTANT:

IOWA DEPARTMENT OF NATURAL RESOURCES

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

SITE PLAN

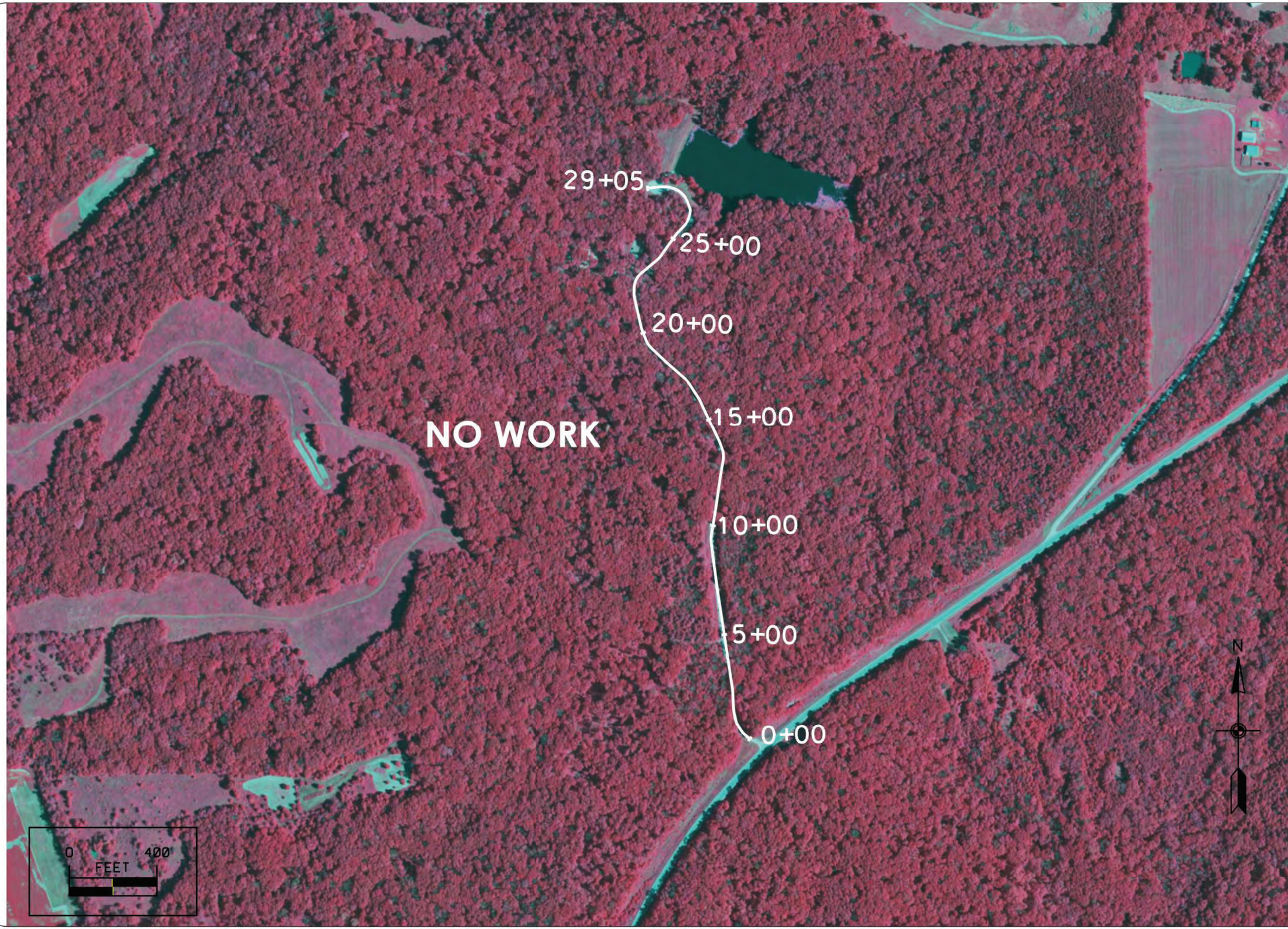
ROAD MAINTENANCE FOR:
SHIMEK STATE FOREST

LEE COUNTY

NO.	BY DATE	REVISION

DRAWN BY: BLF	PROJECT NUMBER: 20-06-56-01
CHKD BY:	DATE: APRIL 2022

SHEET NO.: D.01



CONSULTANT:

IOWA DEPARTMENT OF NATURAL RESOURCES

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

SITE PLAN

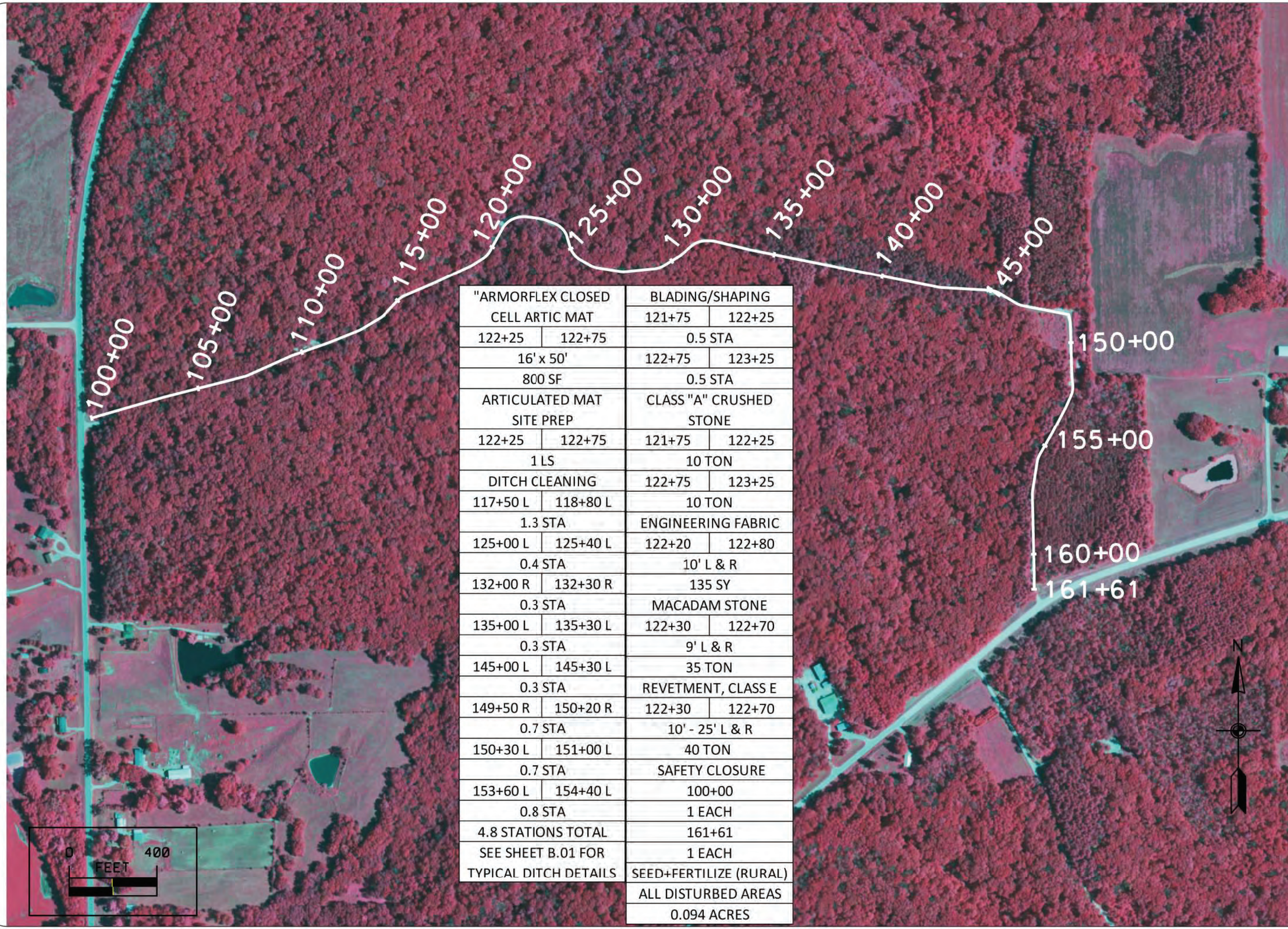
ROAD MAINTENANCE FOR:
SHIMEK STATE FOREST

LEE COUNTY

NO.	BY / DATE	REVISION

DRAWN BY: BLF	PROJECT NUMBER: 20-06-56-01
CHK'D BY:	DATE: APRIL 2022

SHEET NO.: D.02



"ARMORFLEX CLOSED CELL ARTIC MAT		BLADING/SHAPING	
122+25	122+75	121+75	122+25
16' x 50'		0.5 STA	
800 SF		122+75	123+25
ARTICULATED MAT SITE PREP		0.5 STA	
122+25	122+75	CLASS "A" CRUSHED STONE	
1 LS		121+75	122+25
DITCH CLEANING		10 TON	
117+50 L	118+80 L	122+75	123+25
1.3 STA		10 TON	
125+00 L	125+40 L	ENGINEERING FABRIC	
0.4 STA		122+20	122+80
132+00 R	132+30 R	10' L & R	
0.3 STA		135 SY	
135+00 L	135+30 L	MACADAM STONE	
0.3 STA		122+30	122+70
145+00 L	145+30 L	9' L & R	
0.3 STA		35 TON	
149+50 R	150+20 R	REVETMENT, CLASS E	
0.7 STA		122+30	122+70
150+30 L	151+00 L	10' - 25' L & R	
0.7 STA		40 TON	
153+60 L	154+40 L	SAFETY CLOSURE	
0.8 STA		100+00	
4.8 STATIONS TOTAL		1 EACH	
SEE SHEET B.01 FOR TYPICAL DITCH DETAILS		161+61	
		1 EACH	
		SEED+FERTILIZE (RURAL)	
		ALL DISTURBED AREAS	
		0.094 ACRES	

CONSULTANT:

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

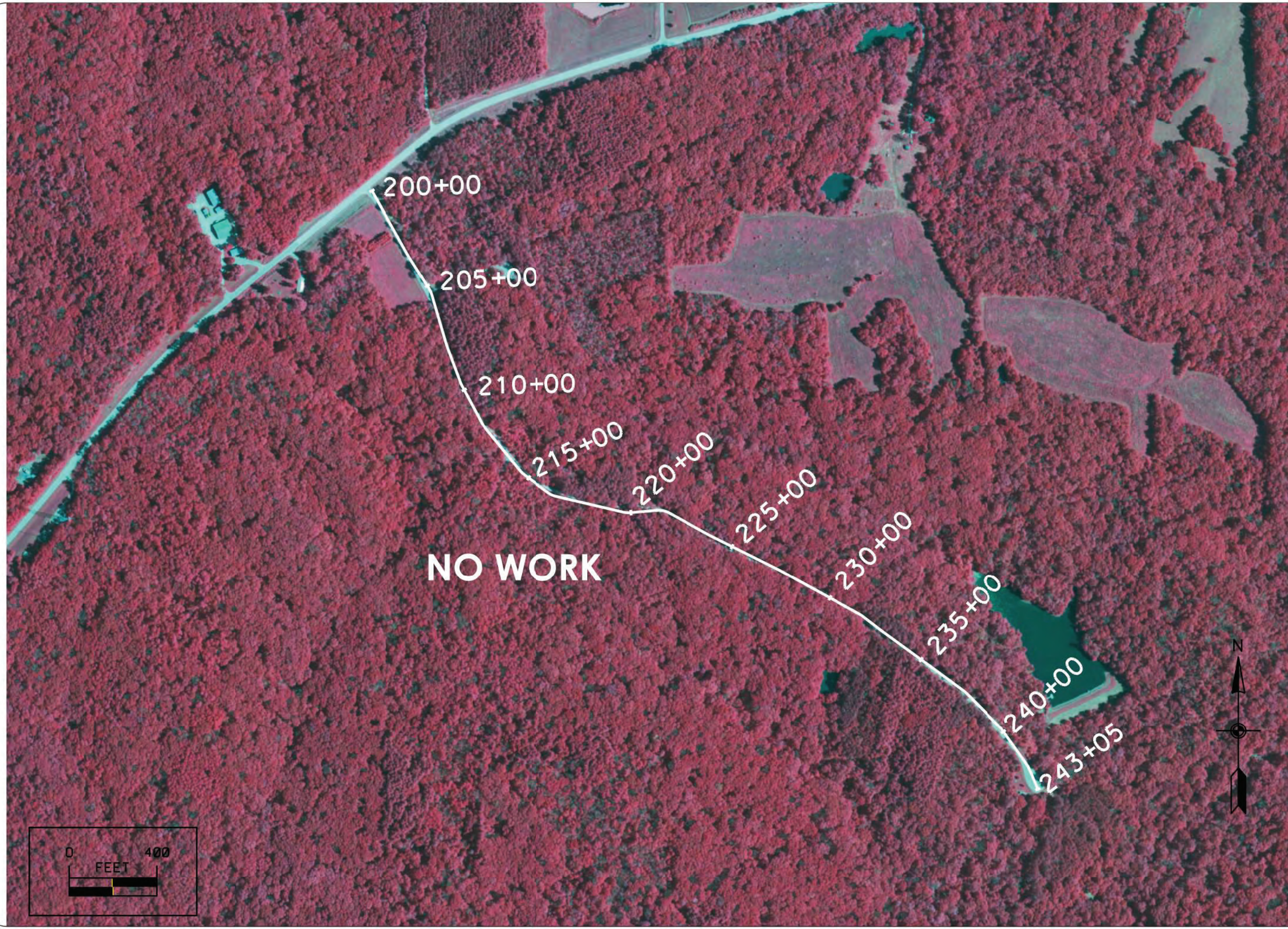
SITE PLAN

ROAD MAINTENANCE FOR:
SHIMEK STATE FOREST

LEE COUNTY

NO.	BY DATE	REVISION

DRAWN BY: BLF
PROJECT NUMBER: 20-06-56-01
CHK'D BY:
DATE: APRIL 2022
SHEET NO.: D.03



CONSULTANT:

IOWA DEPARTMENT OF NATURAL RESOURCES

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

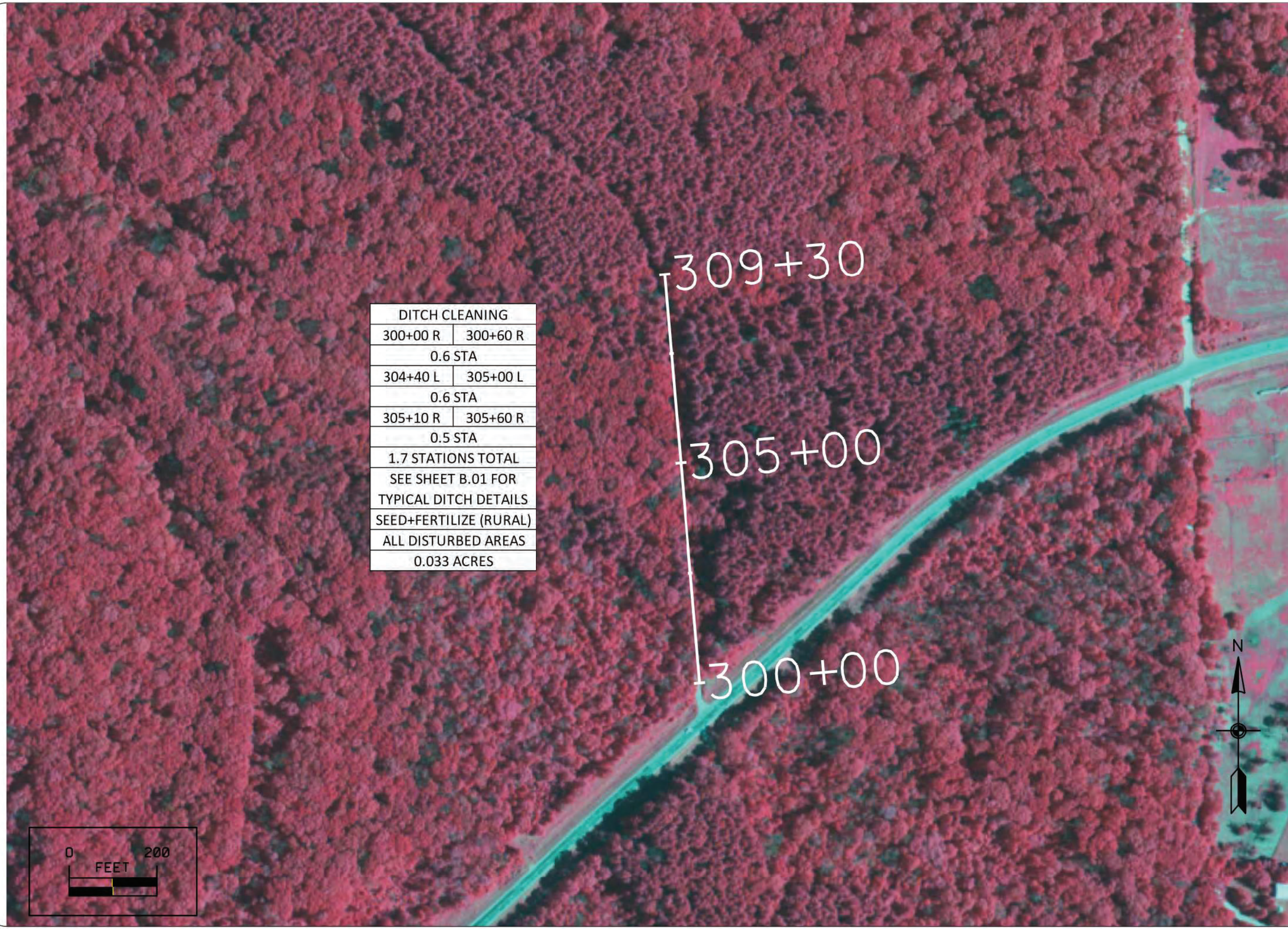
SITE PLAN

ROAD MAINTENANCE FOR:
SHIMEK STATE FOREST

LEE COUNTY

NO.	BY	DATE	REVISION

DRAWN BY: BLF
PROJECT NUMBER: 20-06-56-01
CHKD BY:
DATE: APRIL 2022
SHEET NO: D.04



DITCH CLEANING	
300+00 R	300+60 R
0.6 STA	
304+40 L	305+00 L
0.6 STA	
305+10 R	305+60 R
0.5 STA	
1.7 STATIONS TOTAL	
SEE SHEET B.01 FOR TYPICAL DITCH DETAILS	
SEED+FERTILIZE (RURAL)	
ALL DISTURBED AREAS	
0.033 ACRES	

CONSULTANT:

IOWA DEPARTMENT OF NATURAL RESOURCES

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LEE COUNTY

SITE PLAN

ROAD MAINTENANCE FOR:
SHIMEK STATE FOREST

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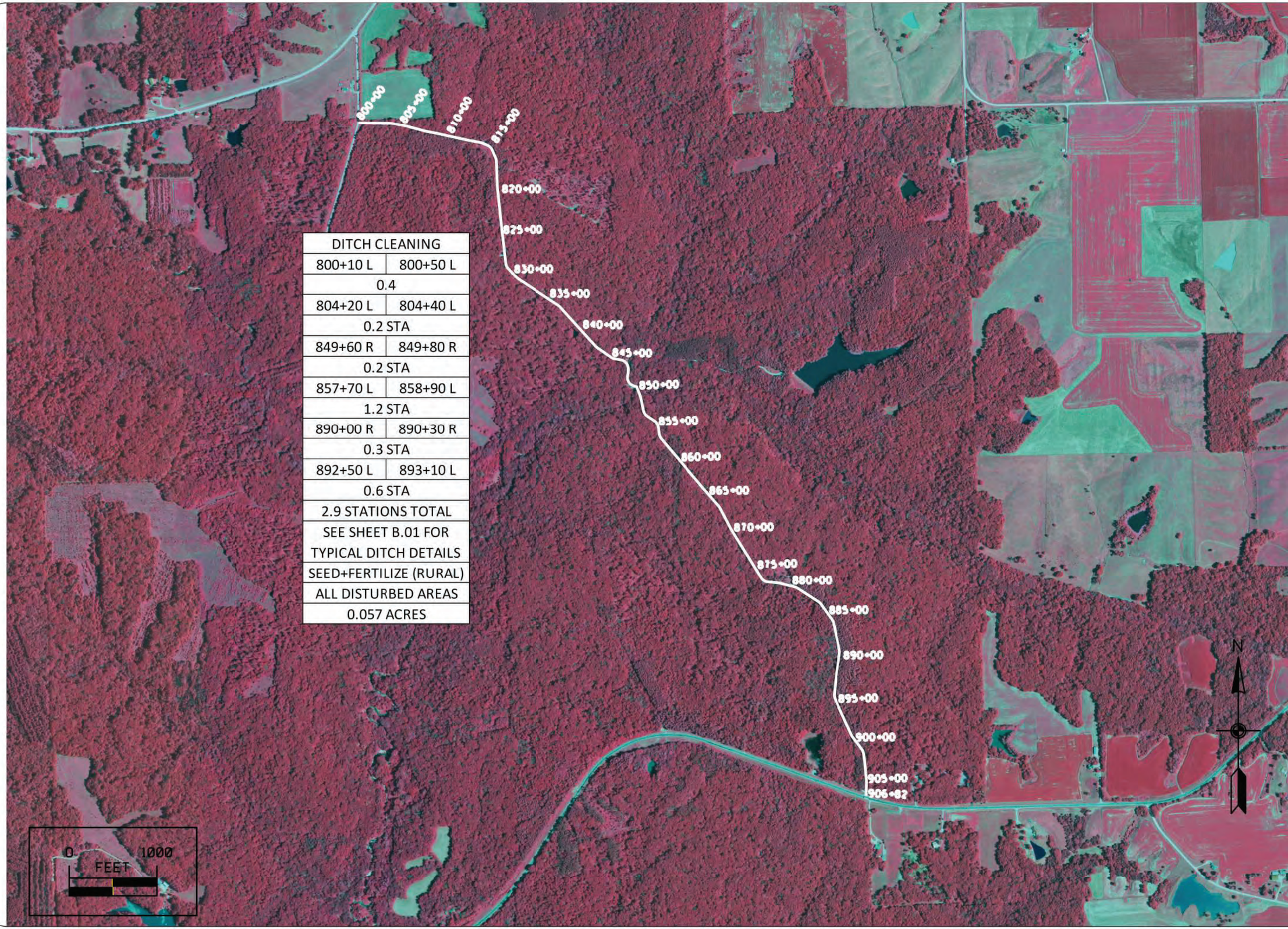
DRAWN BY: BLF
PROJECT NUMBER: 20-06-56-01
CHKD BY:
DATE: APRIL 2022
SHEET NO: D.05



DITCH CLEANING	
800+10 L	800+50 L
0.4	
804+20 L	804+40 L
0.2 STA	
849+60 R	849+80 R
0.2 STA	
857+70 L	858+90 L
1.2 STA	
890+00 R	890+30 R
0.3 STA	
892+50 L	893+10 L
0.6 STA	
2.9 STATIONS TOTAL	
SEE SHEET B.01 FOR TYPICAL DITCH DETAILS	
SEED+FERTILIZE (RURAL)	
ALL DISTURBED AREAS	
0.057 ACRES	

CONSULTANT:

IOWA DEPARTMENT OF NATURAL RESOURCES

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

SITE PLAN

ROAD MAINTENANCE FOR:
SHIMEK STATE FOREST

LEE COUNTY

NO.	BY DATE	REVISION

DRAWN BY: BLF
PROJECT NUMBER: 20-06-56-01
CHKD BY:
DATE: APRIL 2022
SHEET NO.: D.06

CONSULTANT:

IOWA DEPARTMENT OF NATURAL RESOURCES

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

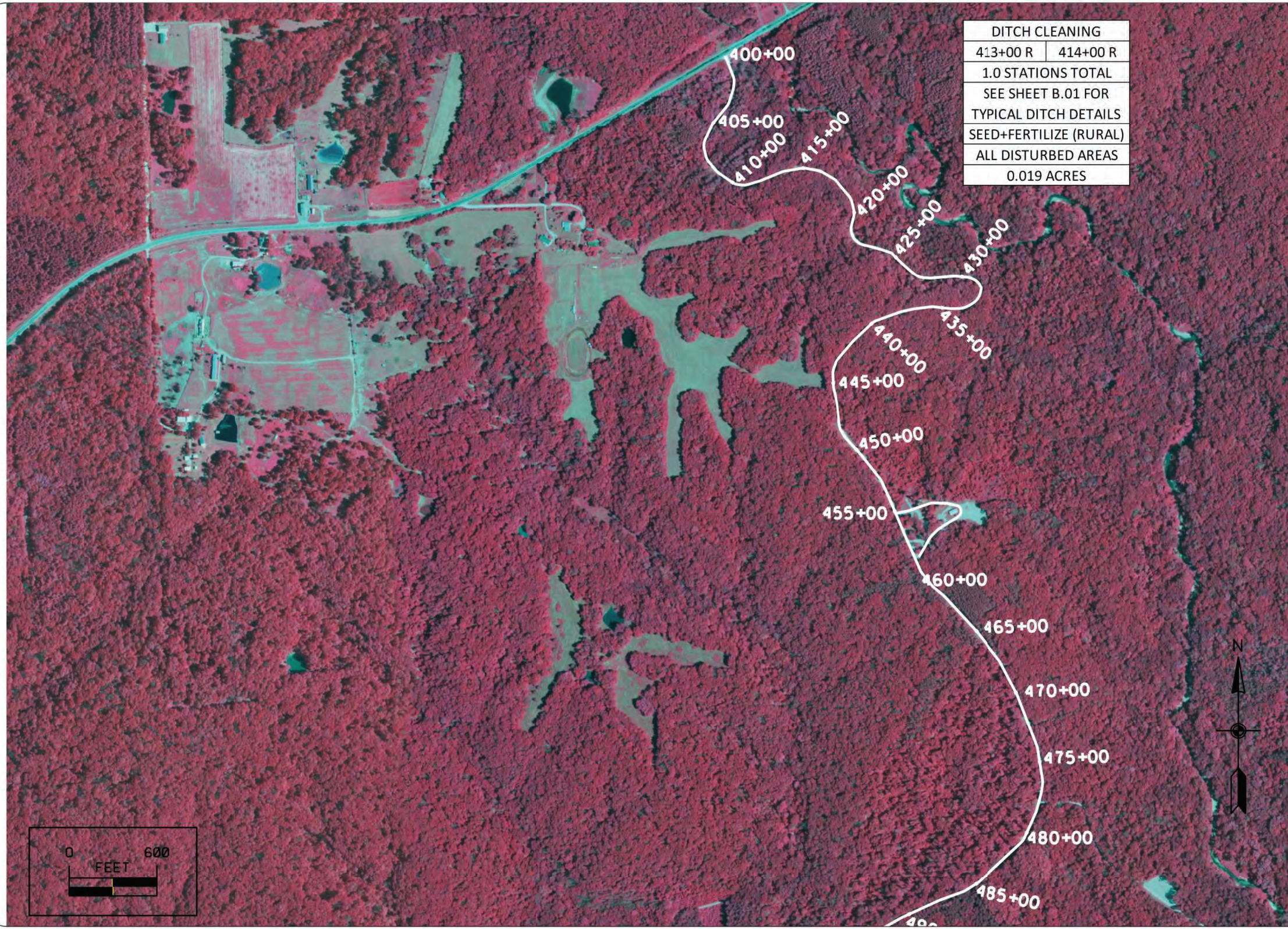
SITE PLAN

ROAD MAINTENANCE FOR:
SHIMEK STATE FOREST

LEE COUNTY

NO.	BY / DATE	REVISION

DRAWN BY: BLF	PROJECT NUMBER: 20-06-56-01
CHKD BY:	DATE: APRIL 2022
SHEET NO.: D.07	



DITCH CLEANING	
413+00 R	414+00 R
1.0 STATIONS TOTAL	
SEE SHEET B.01 FOR TYPICAL DITCH DETAILS	
SEED+FERTILIZE (RURAL)	
ALL DISTURBED AREAS	
0.019 ACRES	

CONSULTANT:

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

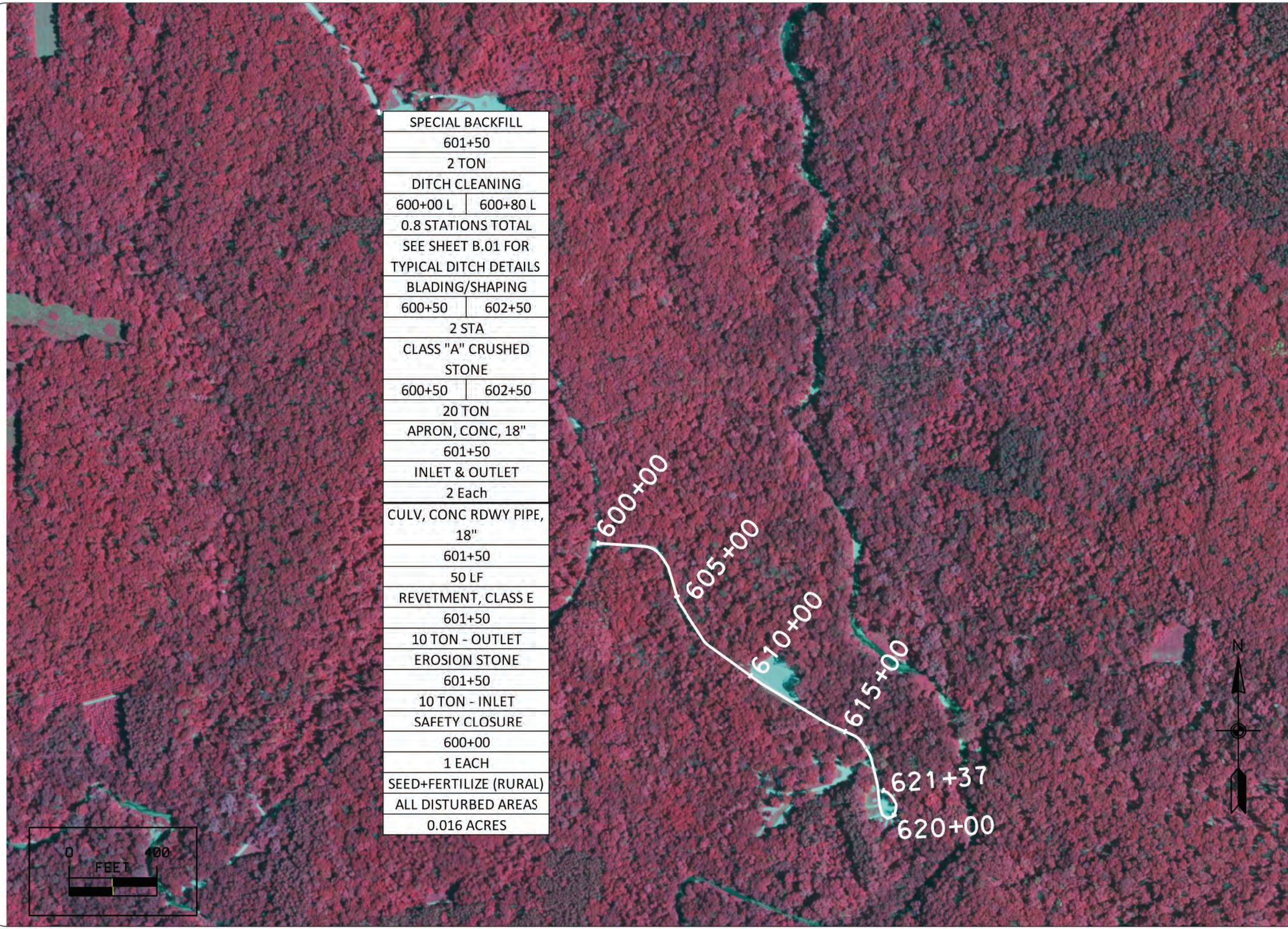
SITE PLAN

ROAD MAINTENANCE FOR:
SHIMEK STATE FOREST

LEE COUNTY

NO.	BY / DATE	REVISION

DRAWN BY: BLF
PROJECT NUMBER: 20-06-56-01
CHKD BY:
DATE: APRIL 2022
SHEET NO.: D.08



SPECIAL BACKFILL	
601+50	
2 TON	
DITCH CLEANING	
600+00 L	600+80 L
0.8 STATIONS TOTAL	
SEE SHEET B.01 FOR TYPICAL DITCH DETAILS	
BLADING/SHAPING	
600+50	602+50
2 STA	
CLASS "A" CRUSHED STONE	
600+50	602+50
20 TON	
APRON, CONC, 18"	
601+50	
INLET & OUTLET	
2 Each	
CULV, CONC RDWY PIPE, 18"	
601+50	
50 LF	
REVETMENT, CLASS E	
601+50	
10 TON - OUTLET	
EROSION STONE	
601+50	
10 TON - INLET	
SAFETY CLOSURE	
600+00	
1 EACH	
SEED+FERTILIZE (RURAL)	
ALL DISTURBED AREAS	
0.016 ACRES	

CONSULTANT:

IOWA DEPARTMENT OF NATURAL RESOURCES

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

SITE PLAN

ROAD MAINTENANCE FOR:
SHIMEK STATE FOREST

LEE COUNTY

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PROJECT NUMBER: 20-06-56-01
CHK'D BY:
DATE: APRIL 2022
SHEET NO: D.09