

IOWA DEPARTMENT OF TRANSPORTATION

To Office: District 3

Date: December 19, 2017

Attention: Shane Tymkowicz

Ref No.: Crawford County

From: Mark Wright

NHSN-059-5(54)--2R-24

NHSN-059-5(55)--2R-24 (ROW)

Office: District 3 Design

PIN: 18-24-059-010

NHSN-059-5(56)--2R-24

NHSN-059-5(57)--2R-24 (ROW)

Subject: FINAL Concept (D00) Culverts

PIN: 18-24-059-020

STPN-141-3(71)--2J-24

STPN-141-3(72)--2J-24 (ROW)

PIN: 18-24-141-010

These projects involve the repair of roadway culverts in Crawford County under US 59 south of Denison between Mile Posts 96.50 and 99.30 and under IA 141 east of the S. Jct.US 59 near Mile Post 67.62.

Reacting to a box culvert failure on IA 141 in Crawford County, roadway culverts of similar age were inspected. The following culverts had distress similar to the failed culvert (interior wall spalling, exposed and rusted reinforcing steel and leaking construction joints) and repair was deemed warranted. The Office of Bridges and Structures furnished culvert replacement size, repair method and cost. Trenchless construction cost includes pipe installation and two aprons. Permanent right of way and temporary easement for construction will be required.

Route	Milepost	Station	Existing RCB	Construction Type Cost x 1000	Grading & Misc. Cost x 1000	Total Site Cost (excl. ROW)
IA 141	67.62	260+55	5' x 5'	Trenchless / \$190	\$5	\$195,000
US 59	96.50	257+79	4' x 3'	Trenchless / \$54	\$20	\$74,000
US 59	97.76	328+54	8' x 8'	New RCB / \$190	\$100	\$290,000
US 59	98.30	356+89	6' x 6'	Trenchless / \$145	\$30	\$175,000
US 59	98.51	368+00	3' x 3'	Trenchless / \$74	\$40	\$114,000
US 59	98.70	378+32	6' x 6'	Trenchless / \$71	\$20	\$91,000
US 59	99.33	409+26	5' x 6'	Trenchless / \$65	\$20	\$85,000

These sites are grouped by route and construction type for project programming purposes:

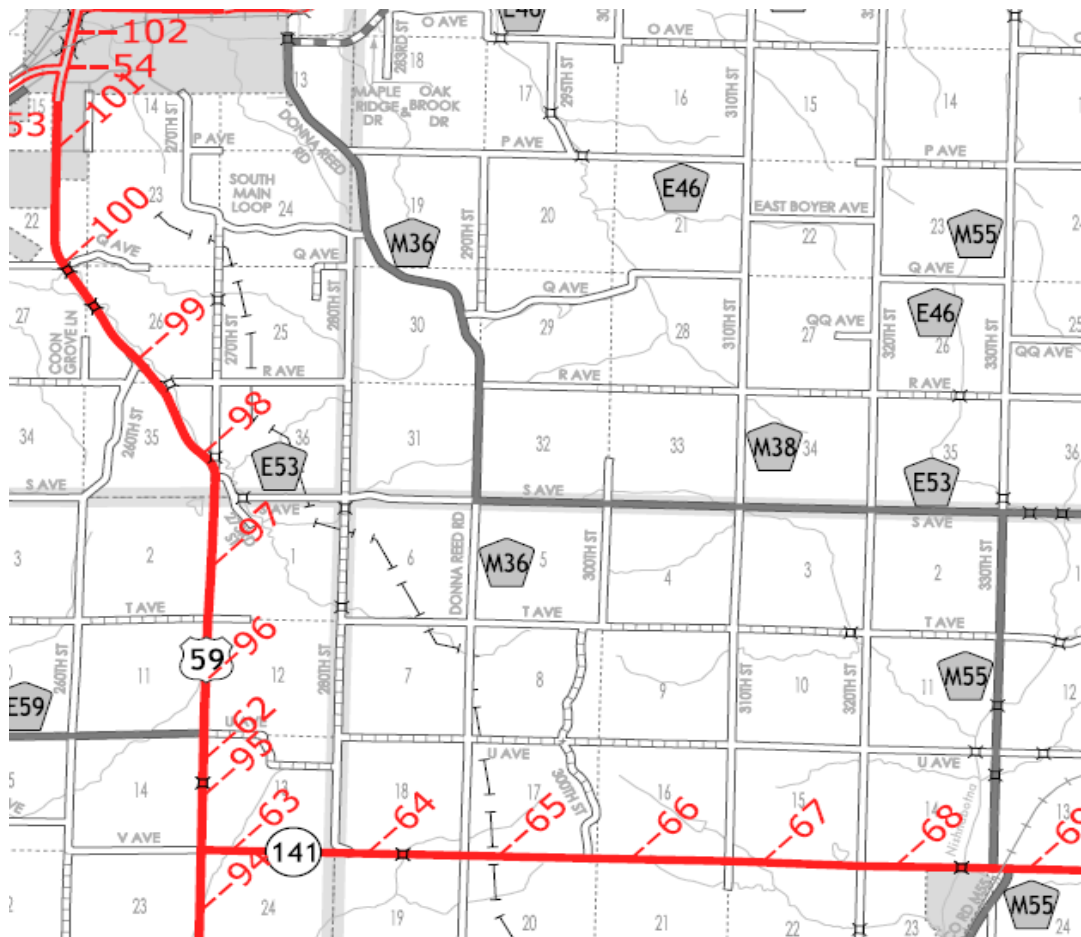
<u>PROJECT No.</u>		<u>Project Cost</u>	<u>ROW cost</u>
STPN-141-3(71)--2J-24	Trenchless	\$195,000	\$1,000
NHSN-059-5(54)--2R-24	Trenchless	\$539,000	\$7,000
NHSN-059-5(56)--2R-24	New RCB	\$290,000	\$3,000

Traffic will be maintained on US 59 and IA 141 during construction for the sites with trenchless construction. Shoulder closures will be required and single lane closures may be required during the project at these sites. The culvert at Station 328+54 will require replacement and an off-site detour for US 59 will be required.

No plan sheets are included with this submittal; however, some site pictures and as-builts are available on the network at:

<W:\Highway\District3\Design\Engineering\StaffEngineerA\MiscellaneousWork\2016\Culverts US 59 Ia 141 south of Denison\Concept images>

Project area:



All three projects have been placed in the November 16, 2021 letting.

Preliminary survey has not been completed on these projects.

District 3 will request plan preparation by the Office of Design with help from the Office of Bridges and Structures on these projects.

cc:

M. J. Kennerly
S. J. Gent
E. C. Wright
J. Larson
R. Cornelius
V. A. Brewer
B. Smith
D. L. Newell
S. Megivern
K. K. Patel
M. K. Solberg
J. McCollough
T. Lazarowicz
T. Huju
J. Jepsen
R. Gleiser

K. D. Nicholson
T. D. Crouch
B. S. Bradley
G. A. Novey
D. E. Sprengeler
S. P. Anderson
P.C. Keen
B. D. Hofer
B. Dolan
M. Carlson
W. A. Sorenson
N. L. Cuva
D. Bishop
J. Klemme
D. Manley

D. L. Maifield
B. Azeltine
M. J. Sankey
M. A. Swenson
J. N. Garton
K. M. Brink
D. R. Tebben
D. A. Popp
D. R. Claman
S. K. Godbold
J. Laaser-Webb
C. C. Poole
D. Schultz
R. Wortman
R. Seward

CRAWFORD CO.
RCB CULVERT REPLACEMENT
NHSN-059-5(56)--2R-24
 LETTING DATE
 02-18-2020

INDEX OF SHEETS	
No.	DESCRIPTION
A Sheets	Title Sheets
A.1	Title Sheet
B Sheets	Typical Cross Sections and Details
B.1 - 4	Typical Cross Sections and Details
D Sheets	Mainline Plan and Profile Sheets
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2 - 3	US 59
E Sheets	Side Road Plan and Profile Sheets
* E.1	E53
G Sheets	Survey Sheets
G.1	Reference Ties and Bench Marks
G.2	Horizontal Control Tab. & Super for all Alignments
J Sheets	Traffic Control and Staging Sheets
* J.1 - 2	Traffic Control Plan
V Sheets	Bridge and Culvert Situation Plans
V.1	Bridge and Culvert Situation Plans
W Sheets	Mainline Cross Sections
W.1 - 9	US 59 Cross Sections
X Sheets	Side Road Cross Sections
X.1 - 3	E53 Cross Sections
	* Color Plan Sheets



Highway Division

PLANS OF PROPOSED IMPROVEMENT ON THE

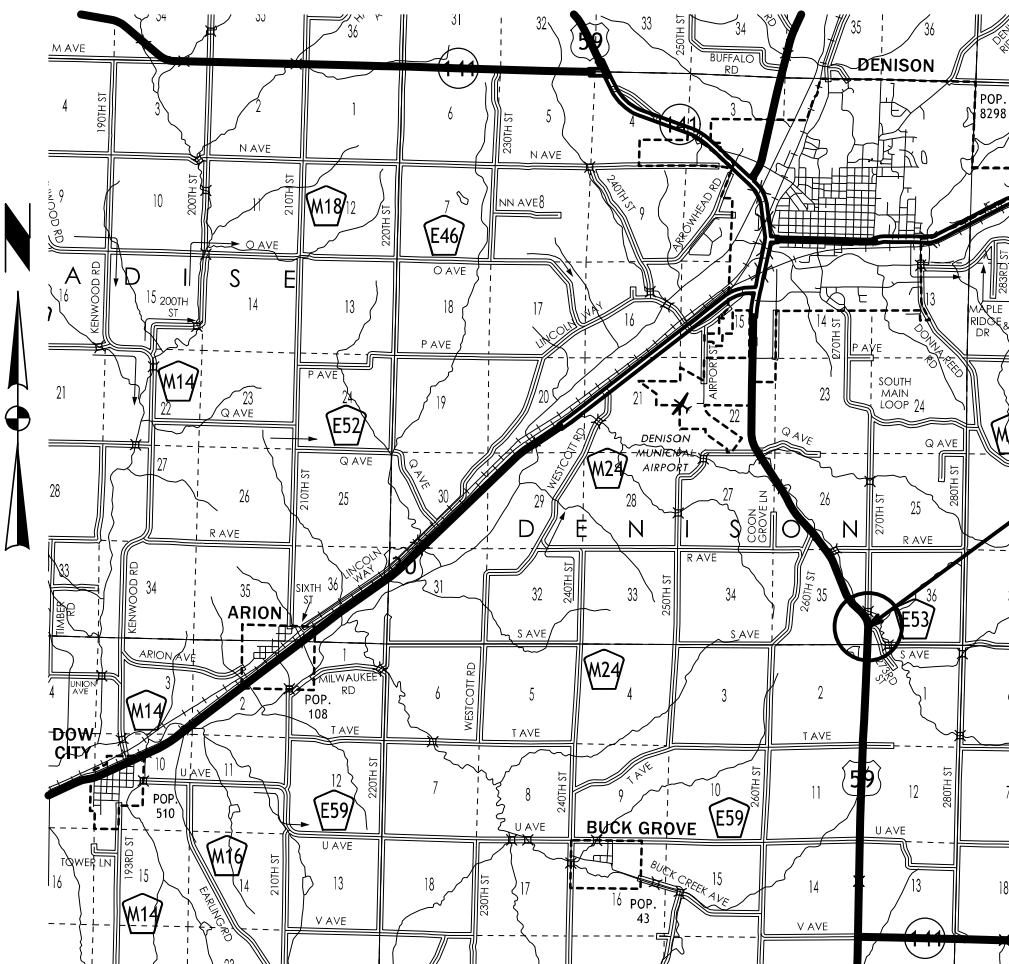
PRIMARY ROAD SYSTEM CRAWFORD COUNTY RCB CULVERT REPLACEMENT

N of Co Rd E53 (MP 97.76)

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

Value Engineering Saves. Refer to Article 1105.14 of the Specifications.



STA 328+54
PROJECT LOCATION
Ref. Loc. 97.76

DESIGN DATA RURAL

2015 AADT	3,820	V.P.D.
20-- AADT	--	V.P.D.
20-- DHV	--	V.P.H.
TRUCKS	20	%
Total Design ESALs	--	

LOCATION MAP SCALE



REVISIONS

TOTAL

26

PROJECT IDENTIFICATION NUMBER

18-24-059-020

PROJECT NUMBER

NHSN-059-5(56)--2R-24

R.O.W. PROJECT NUMBER

NHSN-059-5(57)--2R-24

PRELIMINARY PLANS

Subject to change by final design.

D5 PLAN - Date: 5-01-2019

FILE NO.

ENGLISH

DESIGN TEAM **Holst \ Bahr \ Schrock**

CRAWFORD COUNTY

PROJECT NUMBER

NHSN-059-5(56)--2R-24

SHEET NUMBER

A.1

10:13:43 AM 5/1/2019

KSCHROCK

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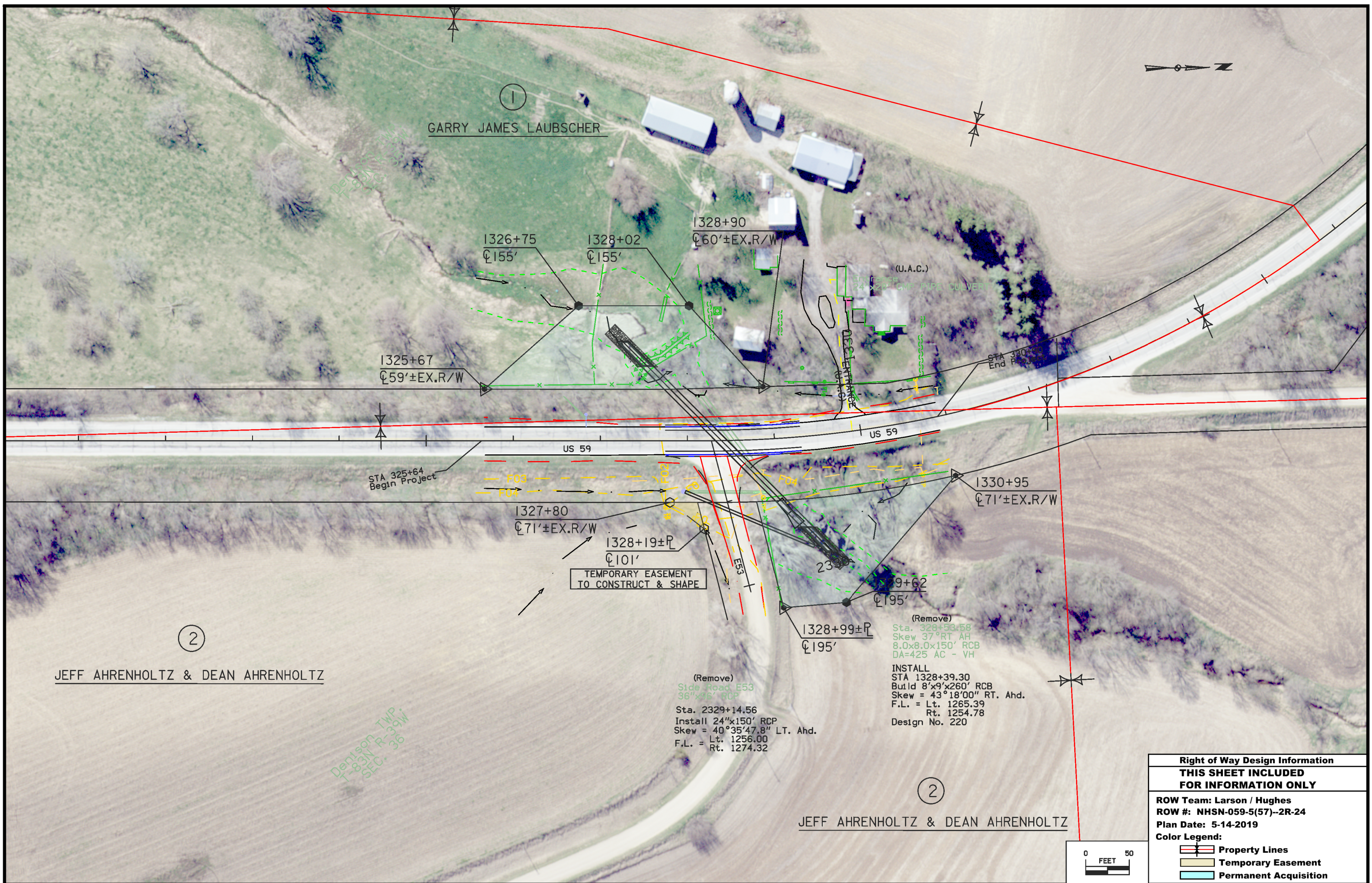
Crawford	ROW: NHSN-059-5(57)--2R-24																			
	N of Co Rd E53 (MP 97.76)																			
			STATE		COUNTY		CITY			TEMP EASE		BORROW								
PARCEL NO.	OWNER NAME	FEE	EASE	FEE	EASE	FEE	EASE	EXCESS				FEE	T.E.	MITIGATION	OTHER	HOUSE	BUILDING(S)	A/C ONLY	TOTAL ACQ.	
1	Garry James Laubscher - Fee		0.49 AC																	
2	Jeff Ahrenholtz - Fee		0.42 AC							0.01 AC										
2 Parcels	"TOTALS	0 AC	0.91 AC	0 AC	0 AC	0 AC	0 AC	0 AC	0 AC	0.01 AC		0 AC	0 AC	0 AC						
		0 SF	0 SF	0 SF	0 SF	0 SF	0 SF	0 SF	0 SF	0 SF		0 SF								

NO ACCESS RIGHTS ARE TO BE ACQUIRED ON THIS PROJECT.

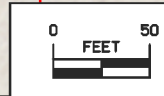
GARRY JAMES LAUBSCHER

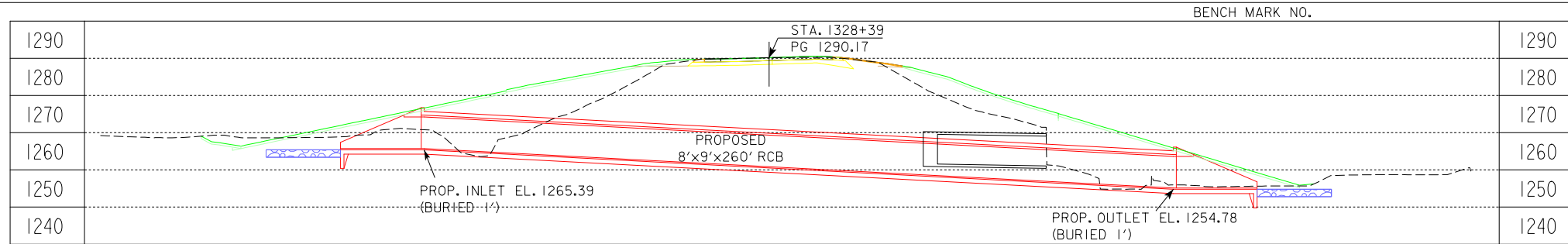
JEFF AHRENHOLTZ & DEAN AHRENHOLTZ

JEFF AHRENHOLTZ & DEAN AHRENHOLTZ

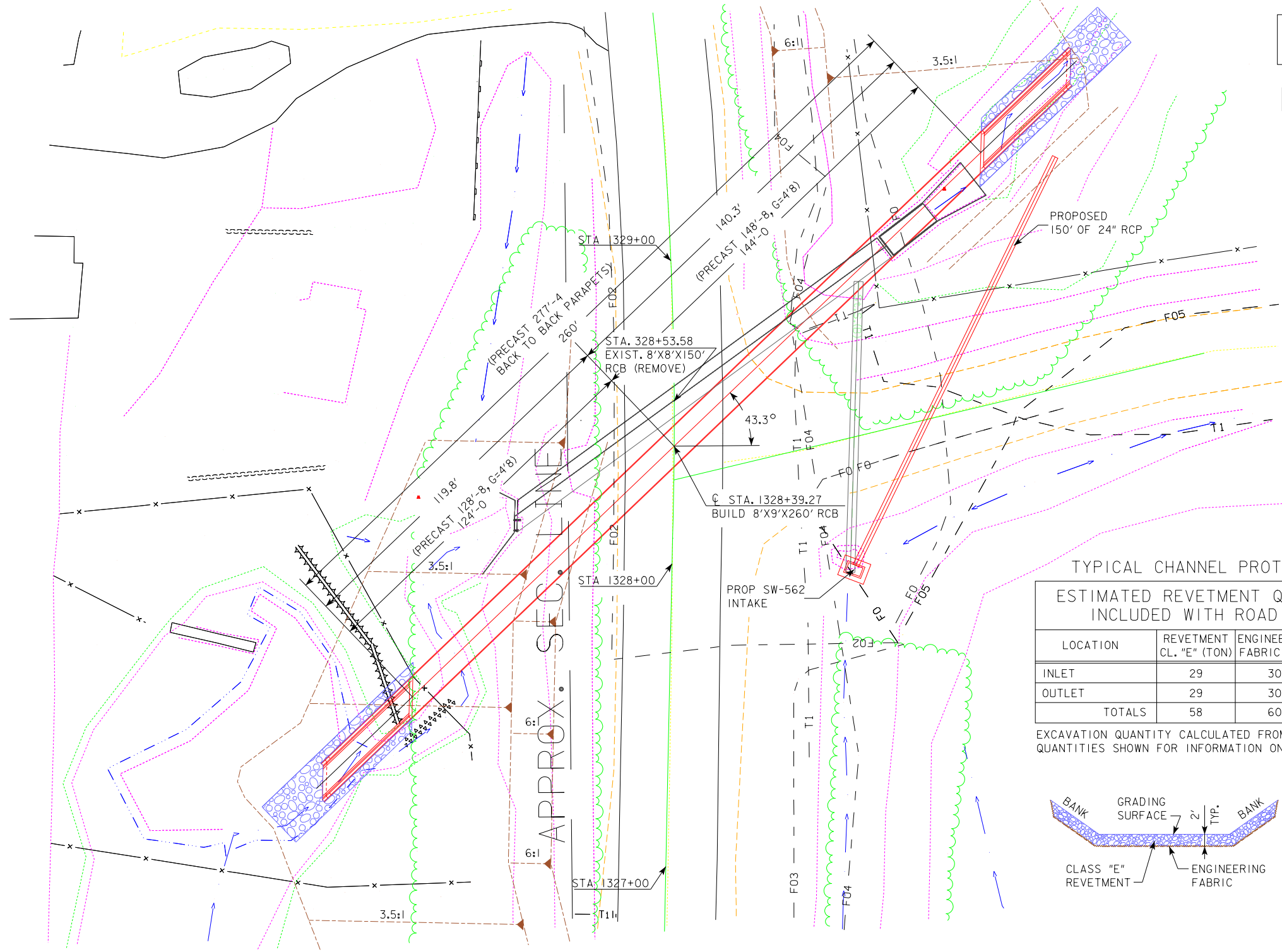


Right of Way Design Information	
THIS SHEET INCLUDED FOR INFORMATION ONLY	
ROW Team: Larson / Hughes	
ROW #: NHSN-059-5(57)--2R-24	
Plan Date: 5-14-2019	
Color Legend:	
	Property Lines
	Temporary Easement
	Permanent Acquisition



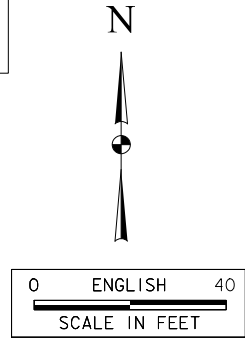


LONGITUDINAL SECTION ALONG CL CULVERT



NOTE:
DESIGN USING 2-45° HEADWALLS

OLD DES # 2930



HYDRAULIC DATA
DRAINAGE AREA = 425 ACRES V.H.
Q₅₀ = 696 CFS

UTILITY LEGEND

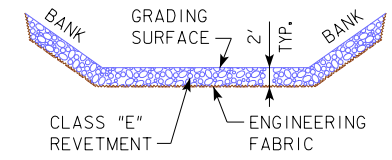
— F0 —	—
— F02 —	—
— F03 —	—
— F04 —	—
— F05 —	—
— T1 —	—

TYPICAL CHANNEL PROTECTION

ESTIMATED REVETMENT QUANTITIES INCLUDED WITH ROAD PLANS

LOCATION	REVETMENT CL. "E" (TON)	ENGINEERING FABRIC (SY)	EXCAVATION (CY)
INLET	29	30	18
OUTLET	29	30	18
TOTALS	58	60	36

EXCAVATION QUANTITY CALCULATED FROM GRADING SURFACE. QUANTITIES SHOWN FOR INFORMATION ONLY. SEE ROAD SHEETS.



LOCATION
T-83N R-39W
SECTION 35/36
DENISON TOWNSHIP
CRAWFORD COUNTY
LATITUDE 41.9541075°
LONGITUDE -95.3434434°

DESIGN FOR 43.3° SKEW
8' X 9' X 260' REINFORCED CONCRETE BOX CULVERT
SITUATION PLAN
1328+39.27
CRAWFORD COUNTY
IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN SHEET NO. ___ OF ___ FILE NO. 31679 DESIGN NO. 220