FED. NO. DIVISION	STATE	PROJECT	
2	OHIO	S-5(6)	

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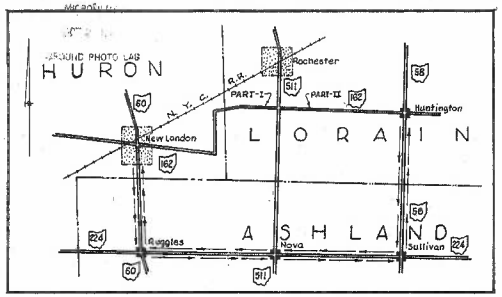
LORAIN COUNTY
LOR-162-(0.98) (2.78-3.10)

S-5(6)

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
LOR-162-(0.98) (2.78-3.10)
LORAIN COUNTY
ROCHESTER TOWNSHIP

No PID
C No. 650617

1965 Specifications

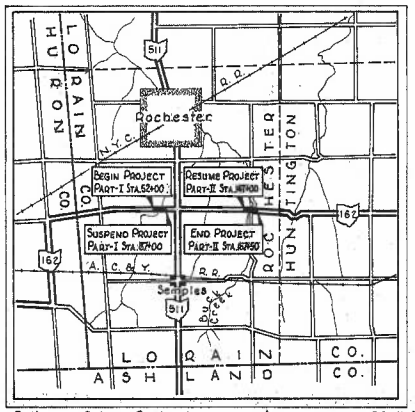


DETOUR MAP

CONVENTIONAL SIGNS

County Line
Township Line
Section Line
Corporation Line
Fence Line
Center Line
Pole Line (Telephone & Power)
Railroad
Guard Rail (Existing & Proposed)
Property Line
Right Of Way

INDEX OF SHEETS



Delivery Point: Rochester Average Haul: 2.0 Mi. (Part I) 2.9 Mi. (Part II)

LOCATION MAP

0 1 2 3 4
Scale Of Miles

Portion To Be Improved
State Highways
County Or Township Roads

SCALES

Plan	1" = 50'
Profile Horizontal	1" = 50'
Profile Vertical	1" = 5'
Cross Sections	1" = 5'
Other Sheets As Shown	

LINE DATA

PART-I	PROJECT	WORK
Begin	52+00	51+00
Suspend	87+00	88+00
No Additions or Deductions		
Net Length (Part-I)	3500.00 Lin. Ft.	3700.00 Lin. Ft.
or	0.662 Miles	0.700 Miles
PART-II		
Resume	147+00	146+00
End	167+50	168+50
Gross Length	2050.00 Lin. Ft.	2250.00 Lin. Ft.
Add for Twp. Road No. 30		780.00 Lin. Ft.
Net Length (Part-II)	2050.00 Lin. Ft.	2980.00 Lin. Ft.
or	0.388 Miles	0.564 Miles
Total Net Length For Parts I & II	5550.00 Lin. Ft.	6680.00 Lin. Ft.
or	1.051 Miles	1.265 Miles

Approved _____ Division Deputy Director
Date 3-20-63

Approved _____ Engineer Of Bridges
Date 9-21-65

Approved _____ Engineer Of Location and Design
Date 6-28-65

Approved _____ Deputy Director Of Design and Construction
Date 6-28-65

Approved _____ Deputy Director Of Right Of Way
Date 7-23-65

Approved _____ Deputy Director Of Planning and Programming
Date 7-23-65

Approved _____ First Assistant Director
Date

Approved _____ Director Of Highways
Date 7/23/65

The Standard Specifications of the State Of Ohio, Department Of Highways, including changes and Supplemental Specifications listed in the proposal shall govern this improvement.

The Right Of Way for this improvement will be provided by the State Of Ohio.

I hereby approve these plans and declare that the making of this improvement will require the closing to traffic of the highway, except as noted on Sheet 3, and that detours will be provided as indicated on the plans.

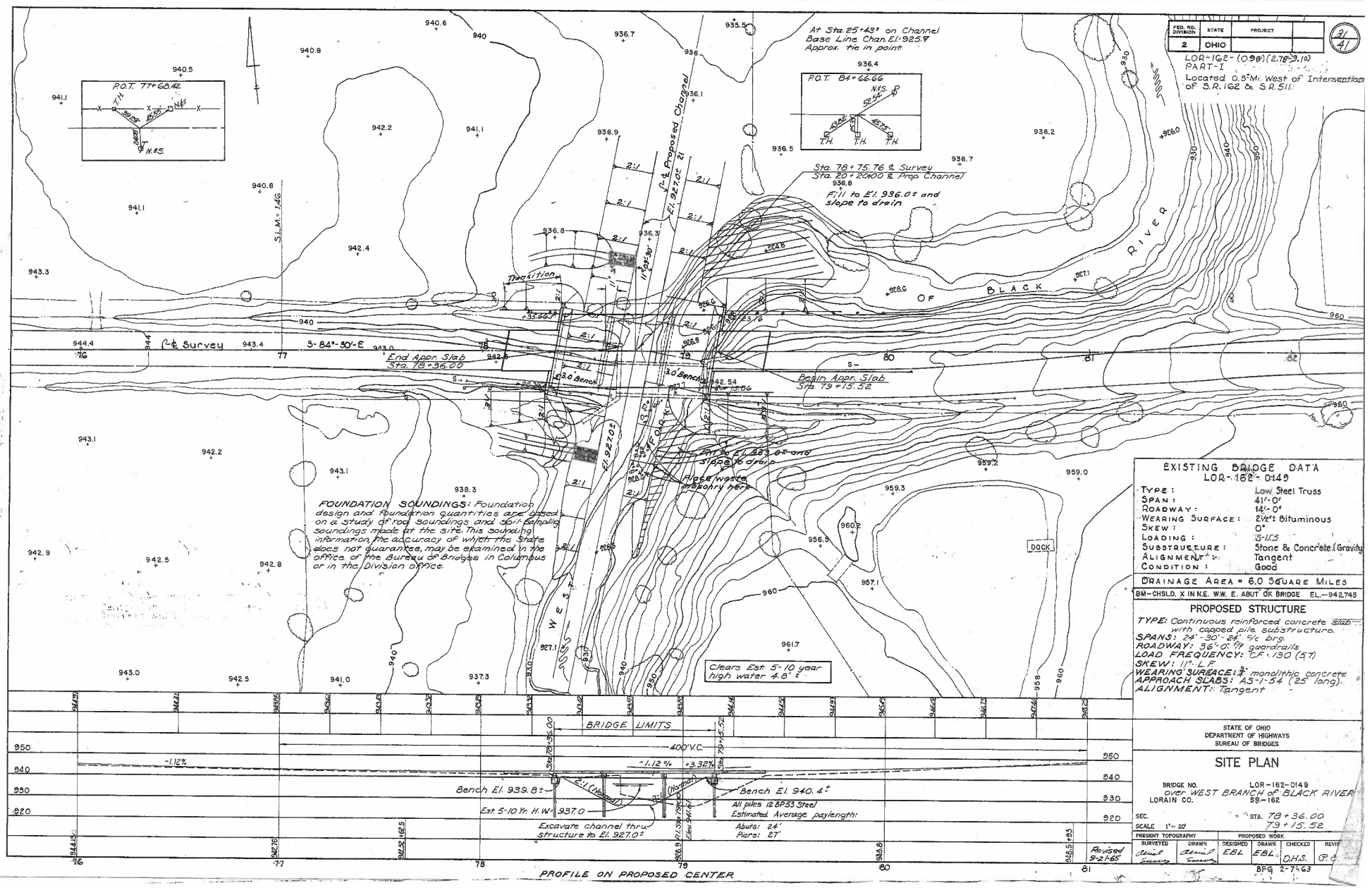
SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS					
BP-3	6-1-65	FAC1-2	6-1-65	AS-1-54	7-5-62
BP-5	6-1-65	HW-E	6-1-65	CS-1-54	7-16-56
MC-1	6-1-65	I-1	6-1-65	A-1-54	12-1-54
MC-3	6-1-65	GR-1	6-1-65	P-1-54	2-2-59
MC-4	6-1-65	GR-2A	9-1-65		
FAC1-1	6-1-65	L-1	6-1-65		

SUPPLEMENTAL SPECIFICATIONS			
808	7-14-65		

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS
Approved :
Division Engineer Date

SEP 21 1965

File No. 236-4
LORAIN COUNTY LOR-162-(0.98)(2.78-3.10)
Date of Letting
Contract No.



FOUNDATION SOUNDINGS: Foundation design and foundation quantities are based on a study of rock soundings and soil sampling soundings made at the site. This sounding information, the accuracy of which the State does not guarantee, may be examined in the office of the Bureau of Bridges in Columbus or in the District office.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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LOR-162-(0.98)(2.78-3.10)
PART-I
Located 0.5± Mi. West of Intersection of S.R. 162 & S.R. 511.

EXISTING BRIDGE DATA
LOR-162-0149

TYPE:	Low Steel Truss
SPAN:	41'-0"
ROADWAY:	14'-0"
WEARING SURFACE:	2½"± Bituminous
SKEW:	0°
LOADING:	S-11.5
SUBSTRUCTURE:	Stone & Concrete (Gravity)
ALIGNMENT:	Tangent
CONDITION:	Good

DRAINAGE AREA = 6.0 SQUARE MILES

BM-CHSLD. X IN N.E. W.W. E. ABUT. OF BRIDGE EL.-942.745

PROPOSED STRUCTURE

TYPE: Continuous reinforced concrete slab with capped pile substructure.
SPANS: 24'-30'-24' c/c brg.
ROADWAY: 36'-0" ft guardrails
LOAD FREQUENCY: CF-130 (ST)
SKEW: 11° L.F.
WEARING SURFACE: 3" monolithic concrete
APPROACH SLABS: AS-1-54 (25' long).
ALIGNMENT: Tangent

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

SITE PLAN

BRIDGE NO. LOR-162-0149
over WEST BRANCH of BLACK RIVER
LORAIN CO. SR-162
SEC. STA. 78+36.00 to 79+15.52
SCALE 1"=20'

PRESENT TOPOGRAPHY		PROPOSED WORK			
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	REVIS
Aerial Survey	Aerial Survey	EBL	EBL	DHS	P.C.

BFG 2-7-63

FED. RD. DIVISION	STATE	PROJECT		
2	OHIO			

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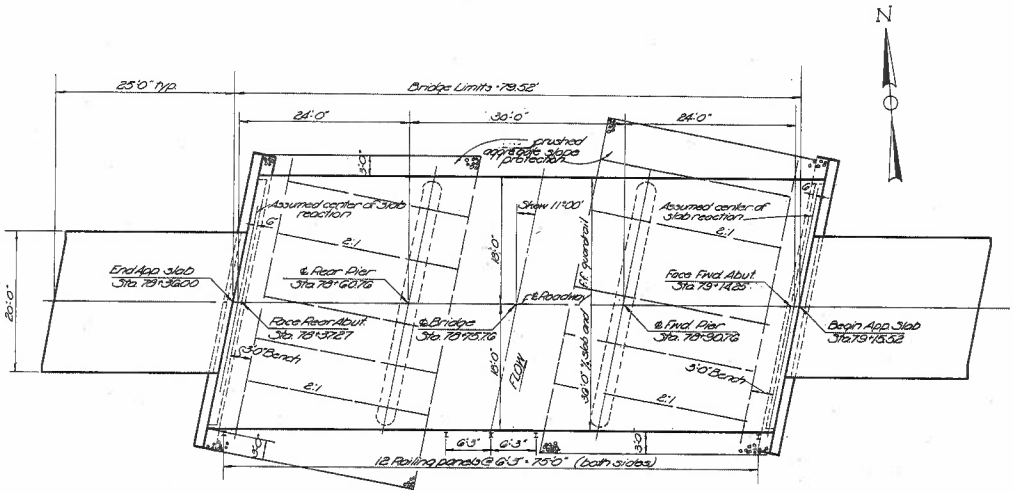
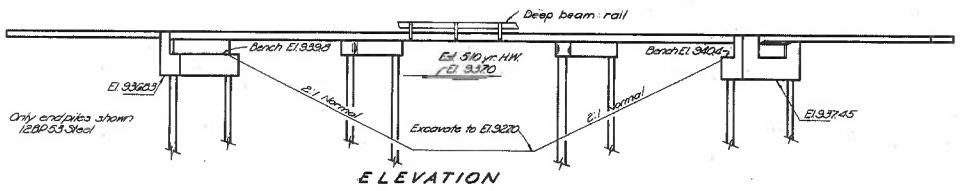
LOR-162-(0.98)(2.78-3.10)



GENERAL PLAN



ELEVATION

GENERAL NOTES

REFERENCE shall be made to Standard Drawings CS-1-54 rev. 7-18-56, A-1-54 Rev. 12-1-54 and P-1-54 rev. 2-3-59 and to Supplemental Specification No. 808 dated 7-14-65.

EXISTING STRUCTURE: When no longer needed to maintain traffic the existing structure shall be removed. Suitable waste masonry shall be placed as bank protection at the direction of the Engineer.

PILES shall be driven to firm contact with rock. If the length of penetration is approximately equal to the depth to rock according to the bridge foundation investigation report, the firm contact shall be considered as attained when the capacity according to the formula in Sec. 3-18.05 is not less than the following value for a pile hammer of the indicated energy rating:

For the abutment piles
- 40 tons per pile using a 7000 ft. lb. hammer
- 35 tons per pile using an 11000 ft. lb. hammer
- 30 tons per pile using a 15000 ft. lb. or greater hammer

For the pier piles
- 45 tons per pile using a 7000 ft. lb. hammer
- 40 tons per pile using an 11000 ft. lb. hammer
- 35 tons per pile using a 15000 ft. lb. or greater hammer

If the energy rating of the hammer is between the ratings as shown above, the required formula capacity shall be determined by interpolation. The design load is 22 tons per pile for the abutment piles and 25 tons per pile for the pier piles.

PIER PILE ENCASEMENT as shown on Std. Dwg. P-1-54 is not required. The paneling of the piles shall extend to low water elevation or, if the proposed surface of the ground is above low water, it shall extend to at least one foot below the proposed surface of the ground.

CONCRETE COVER shall be 2" from the top roadway surface to the top of the reinforcing steel; this includes 1½" monolithic wearing surface.

DESIGN DATA

Design Loading - CF 130 - (57).
Concrete Class C - basic unit stress 1,333 p.s.i.
Concrete Class E - basic unit stress 1,133 p.s.i.
Reinforcing Steel - ASTM A15, A16, A160, Deformed, Intermediate or Hard Grade. Basic unit stress 20,000 p.s.i. Except, spiral reinforcement may be plain, Structural Grade with basic unit stress of 18,000 p.s.i.

ESTIMATED QUANTITIES

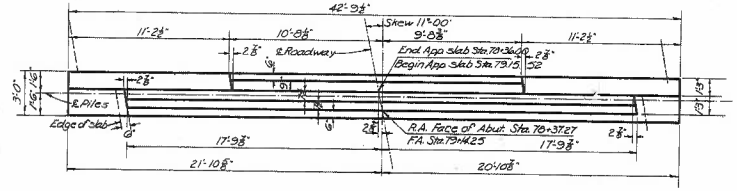
Item	Total	Unit	Description	Super.	Piers	Abut.	Gen'l
203	50	Cu. yds.	Unclassified excavation			50	
511	133	Cu. yds.	Class "C" concrete, superstructure and pier caps	120	13		
511	43	Cu. yds.	Class "E" concrete, abutments			43	
509	35,205	lbs.	Reinforcing steel	27,463	3034	4802	
517	1590.4	lin. ft.	Railing (deep beam rail) with steel posts & bolts	1590.4			
1005	Lump	Sum	First test pile				Lump
521	770	lin. ft.	Steel piles 12 BP 53		430	340	
202	Lump	Sum	Existing structure removed				Lump
518	15	Cu. yds.	Porous backfill			15	
601	325	Sq. yds.	Crushed aggregate slope protection				325
808	133	Each	Water-reduction, set-retarding admixture	120	13		

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

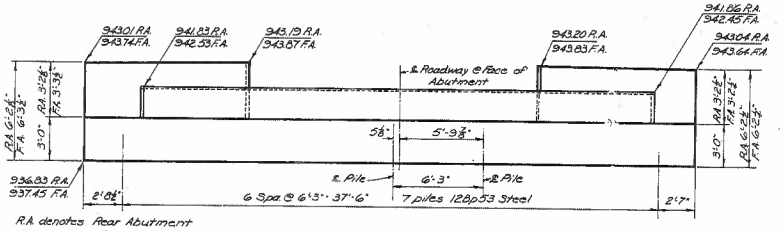
GENERAL PLAN & ELEVATION, NOTES, AND ESTIMATED QUANTITIES

BRIDGE NO. LOR-162-0149
OVER W. BRANCH OF BLACK RIVER
LORAIN COUNTY
Sta. 79+36.00 to Sta. 79+15.32

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.D.R.	J.D.R.	J.T.K.	N.J.B.	BFG	2-7-63	5-21-65

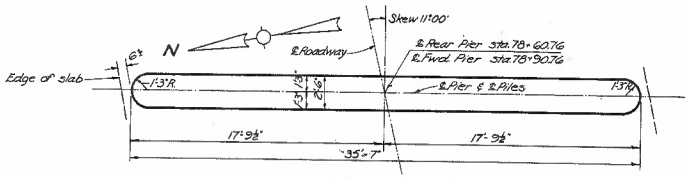


ABUTMENT PLAN

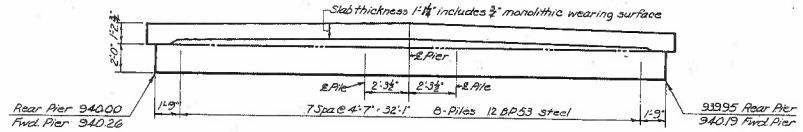


R.A. denotes Rear Abutment
F.A. denotes Forward Abutment

ABUTMENT ELEVATION



PIER PLAN

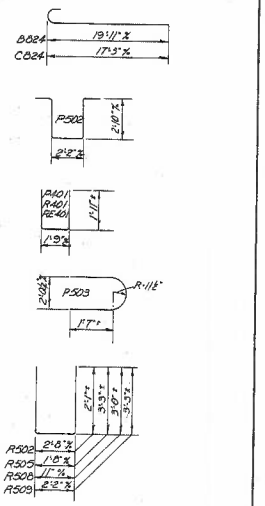


PIER ELEVATION

REINFORCING STEEL LIST

Mark	No.	Length	Weight	Sh/B
Superstructure				
A824	96	28'-1"	7198	S
B824	30	21'-0"	1682	S
C824	32	18'-4"	1566	B
D824	15	19'-6"	781	S
E824	16	15'-10"	676	S
F924	64	22'-8"	4932	S
G924	30	11'-11"	1216	S
H924	32	9'-7"	1043	S
J601	34	15'-3"	779	S
K601	17	12'-5"	317	S
M601	60	36'-2"	4346	S
N601	54	36'-2"	2933	S
Piers				
P1001	8	36'-2"	1245	S
P901	8	33'-0"	898	S
P501	4	33'-0"	138	S
P502	36	9'-0"	526	B
P503	8	6'-6"	53	B
P401	48	5'-5"	174	B
Abutments				
R1001	16	19'-2"	1320	S
R801	16	22'-5"	958	S
R501	16	21'-4"	366	S
R502	136	6'-7"	934	B
R503	8	18'-4"	753	S
R504	24	5'-4"	134	S
R505	30	7'-11"	248	B
R506	8	10'-8	89	S
R507	16	4'-11"	82	S
R508	20	6'-8"	139	B
R509	20	8'-5"	176	B
R401	56	5'-5"	203	B
Replacement Bars				
RE1001	1	7'-2"	—	S
RE901	1	6'-10"	—	S
RE801	1	6'-6"	—	S
RE601	1	5'-11"	—	S
RE501	1	5'-7"	—	S
RE401	1	5'-5"	—	B

BENDING DIAGRAMS



FED. RD. DIVISION	STATE	PROJECT		
2	OHIO			

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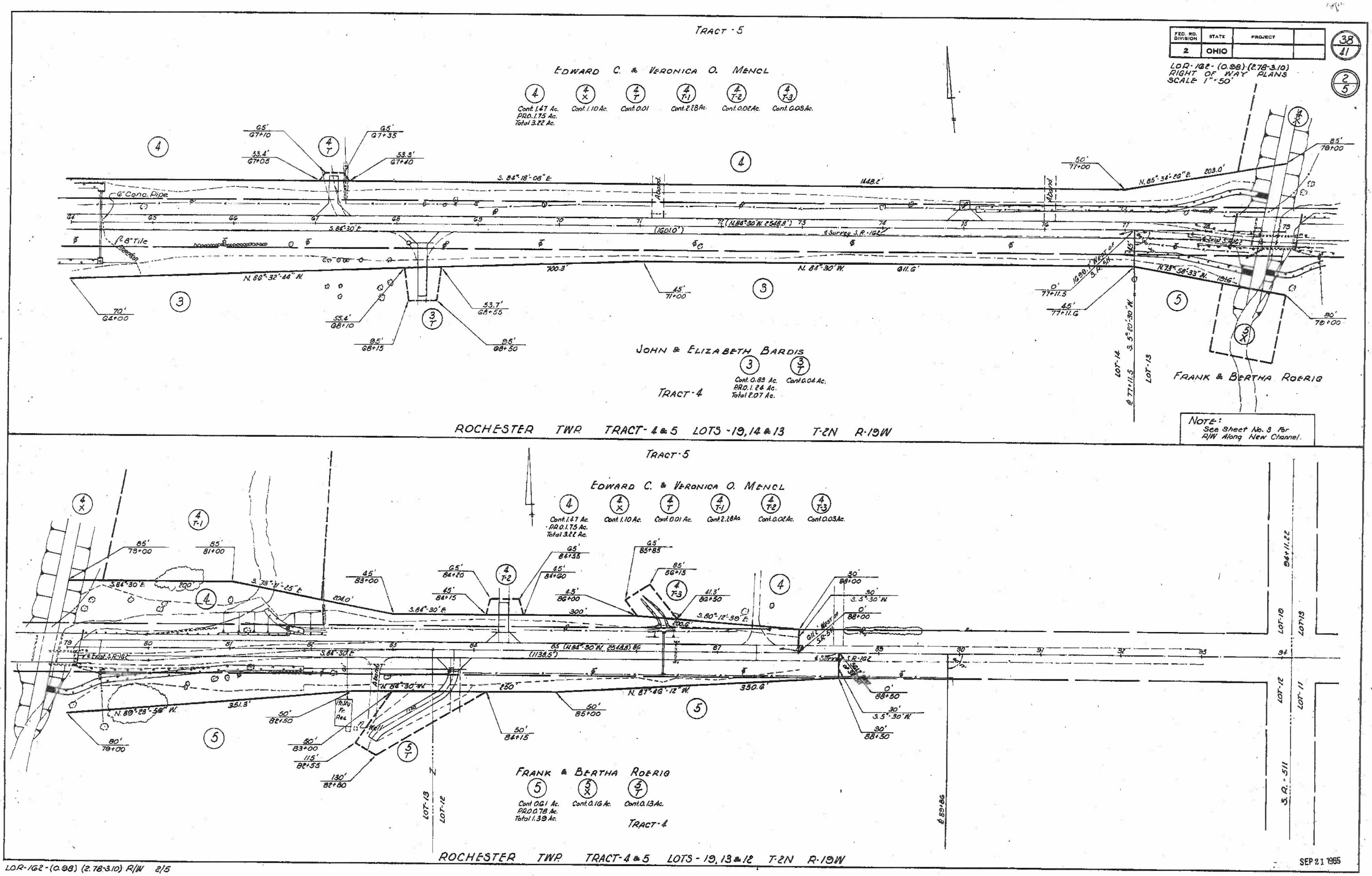
LOR-162-(0.98)(2.78-3.10)

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

ABUTMENT AND PIER DETAILS & REINFORCING STEEL LIST

BRIDGE No. LOR-162-0149
OVER W. BRANCH OF BLACK RIVER
LORAIN COUNTY
Sta. 78+36.00 to Sta. 79+15.52

DESIGNED	DRAWN	TRACED	CHECKED	APPROVED	DATE	REVISED
J.D.R.	J.R.R.	Jerry Kingham	N.J.B.	BFG	2-7-65	9-21-65


FED. RD. DIVISION | STATE | PROJECT
2 | OHIO
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LOR-162-(0.98) (2.78-3.10)
RIGHT OF WAY PLANS
SCALE 1"=50'
2
5
TRACT-5
EDWARD C. & VERONICA O. MENCL
Cont. 1.47 Ac.
PRO. 1.75 Ac.
Total 3.22 Ac.
Cont. 1.10 Ac.
Cont. 0.01
Cont. 2.28 Ac.
Cont. 0.02 Ac.
Cont. 0.03 Ac.
6" Conc. Pipe
8" Tile
S. 84°-18'-08" E.
1448.2'
N. 85°-34'-28" E. 203.0'
S. 84°-30' E.
N. 80°-32'-44" W.
700.3'
N. 84°-30' W.
611.6'
N. 73°-58'-33" W.
(1610.0')
(N. 84°-30' W. 2548.8')
Survey S.R. 162
Exist. S.R. 162
Abandon
Abdn'd
JOHN & ELIZABETH BARDIS
Cont. 0.83 Ac.
PRO. 1.24 Ac.
Total 2.07 Ac.
Cont. 0.04 Ac.
TRACT-4
FRANK & BERTHA ROERIG
LOT-14
LOT-13
S. 5°-20'-30" W.
77+11.5
NOTE: See Sheet No. 3 for R/W Along New Channel.
ROCHESTER TWP. TRACT-4 & 5 LOTS-13, 14 & 13 T-2N R-19W
TRACT-5
EDWARD C. & VERONICA O. MENCL
Cont. 1.47 Ac.
PRO. 1.75 Ac.
Total 3.22 Ac.
Cont. 1.10 Ac.
Cont. 0.01 Ac.
Cont. 2.28 Ac.
Cont. 0.02 Ac.
Cont. 0.03 Ac.
S. 84°-30' E.
S. 78°-11'-25" E.
204.0'
300'
S. 80°-12'-39" E.
200.6'
3.5°-30' W.
(N. 84°-30' W. 2548.8')
(1138.5')
N. 87°-46'-12" W.
350.6'
N. 89°-23'-58" W.
351.3'
250
Survey S.R. 162
Exist. S.R. 162
Well
FRANK & BERTHA ROERIG
Cont. 0.61 Ac.
PRO. 0.78 Ac.
Total 1.39 Ac.
Cont. 0.16 Ac.
Cont. 0.13 Ac.
TRACT-4
LOT-13
LOT-12
LOT-10
LOT-13
LOT-12
LOT-11
S.R. 511
ROCHESTER TWP. TRACT-4 & 5 LOTS-13, 13 & 12 T-2N R-19W
SEP 21 1965

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2	OHIO		

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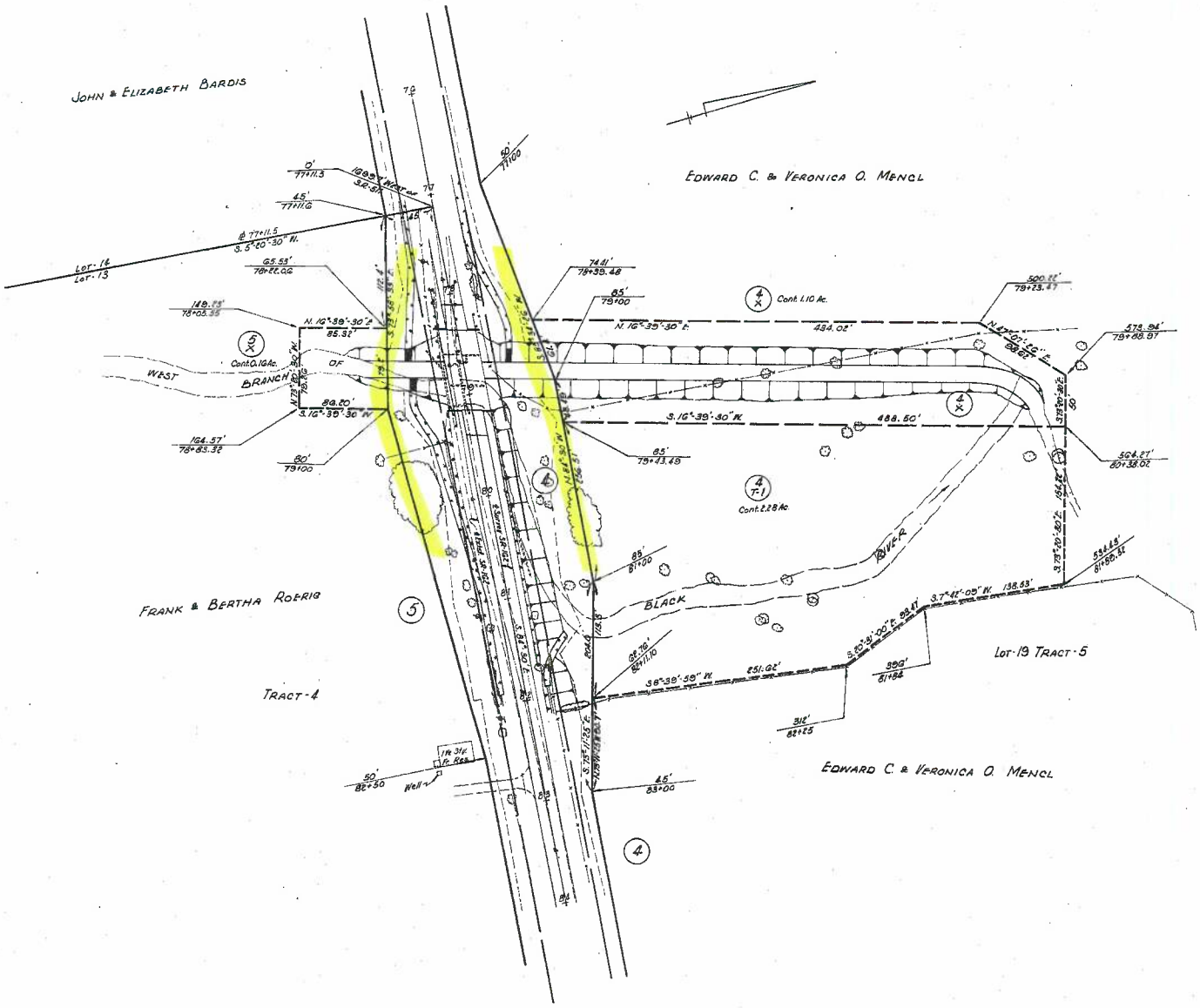
LOR-162-(0.98) (2.78-3.10)
RIGHT OF WAY PLANS
SCALE 1"=50'



ROCHESTER TWP. TRACT-4 & 5 LOTS-19 & 13 T-2N R-19W

SEP 21 1965

LOR-162-(0.98) (2.78-3.10) R/W 3/5

CHANNEL R/W STA. 78+75.76