

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

F.A.P. ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
371	2021-066-CR	LAKE	15	1
		ILLINOIS	CONTRACT NO. 62P04	

FOR INDEX OF SHEETS, SEE SHEET NO. 2
FOR LIST OF HIGHWAY STANDARDS, SEE SHEET NO. 2

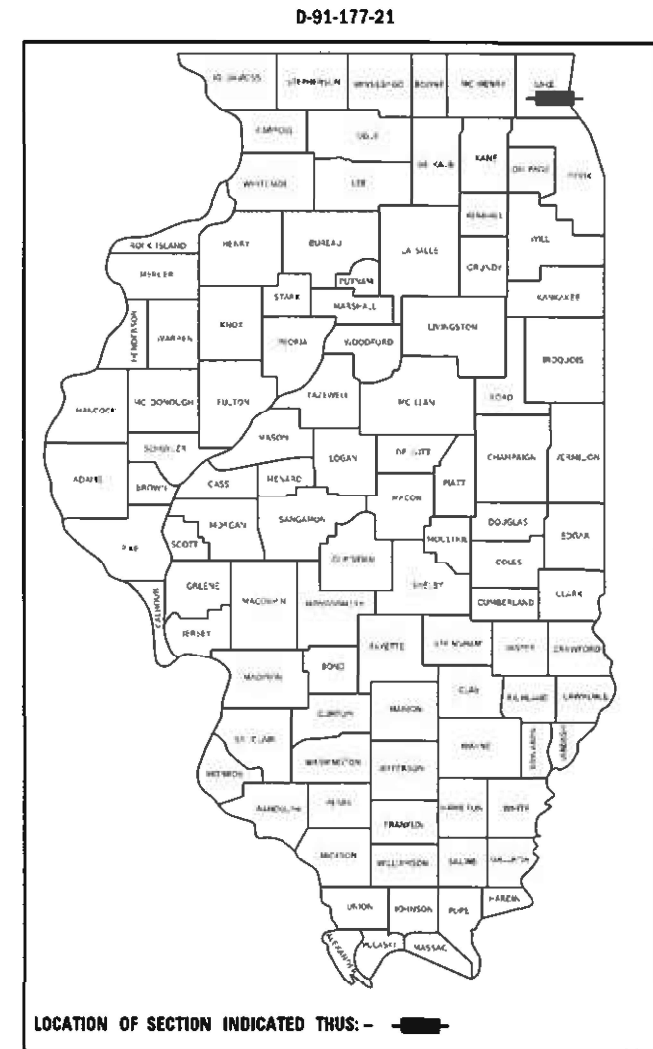
IMPROVEMENT IS LOCATED IN THE VILLAGE OF LIBERTYVILLE

TRAFFIC DATA
2019 ADT = 13,500 (8% TRUCKS)
DESIGN CLASSIFICATION = OTHER PRINCIPAL ARTERIAL
POSTED SPEED LIMIT = 50 MPH

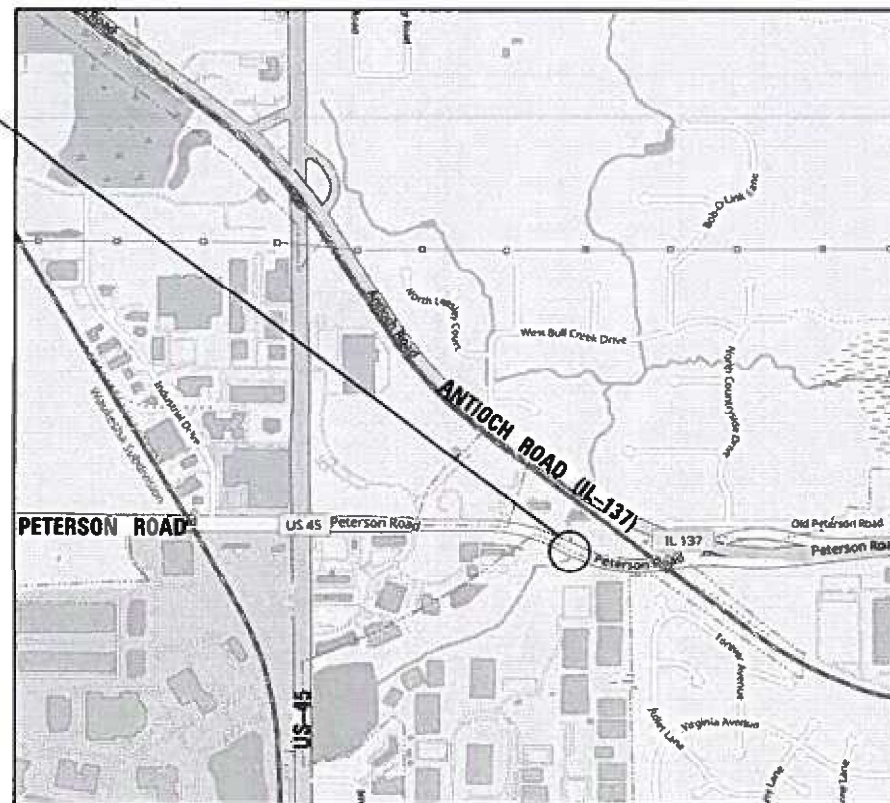
**PROPOSED
HIGHWAY PLANS**

**F.A.P. ROUTE 371 (PETERSON ROAD) OVER DITCH
0.4 MILES EAST OF US-45 (LAKE STREET)
SECTION 2021-066-CR
CULVERT REPAIR (STRUCTURE NO. 049-0532)
LAKE COUNTY**

C-91-213-21

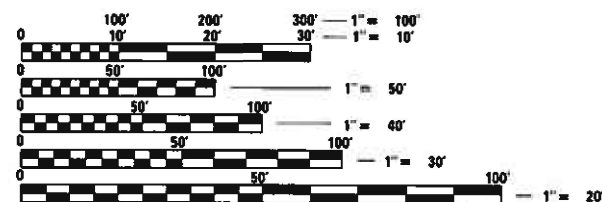


**PROJECT LOCATION
STRUCTURE NO. 049-0532**



**LOCATION MAP
NOT TO SCALE**

GROSS LENGTH = 410 FT. = 0.078 MILE
NET LENGTH = 410 FT. = 0.078 MILE

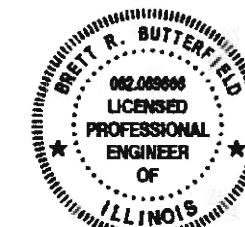


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123
OR 811

PROJECT ENGINEER: PRAVEEN KAINI, P.E. (847-705-4237)
PROJECT MANAGER: J. ALAIN MIDY, P.E. (847-221-3056)

CONTRACT NO. 62P04

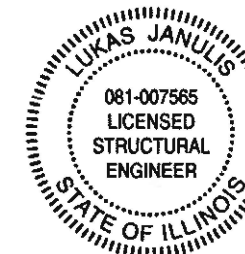


EXPIRES NOV. 30, 2023



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JUN. 02, 2022
DATE



EXPIRES NOV. 30, 2022

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SIGNATURE

JUN. 02, 2022
DATE



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED JUNE 3, 2022
[Signature] REGIONAL ENGINEER
July 1, 2022
[Signature] ENGINEER OF DESIGN AND ENVIRONMENT
July 1, 2022
[Signature] DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

**PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS**

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INDEX OF SHEETS

SHEET NO.	SHEET TITLE
1	COVER SHEET
2	INDEX OF SHEETS, HIGHWAY STANDARDS, GENERAL NOTES, AND COMMITMENTS
3	SUMMARY OF QUANTITIES
4	ROADWAY TYPICAL SECTIONS
5	ROADWAY PLAN
6	TRAFFIC CONTROL TYPICAL SECTIONS
7	TRAFFIC CONTROL STAGING PLAN
8	EROSION CONTROL PLAN
9	GENERAL PLAN AND ELEVATION
10-11	CULVERT REPAIR DETAILS
12	CULVERT RECORD DRAWING
13	SOIL BORING LOGS
14	TRAFFIC CONTROL & PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS (TC-10)
15	TEMPORARY INFORMATION SIGNING (TC-22)

HIGHWAY STANDARDS

000001-08	STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
001001-02	AREAS OF REINFORCEMENT BARS
280001-07	TEMPORARY EROSION CONTROL SYSTEMS
630001-12	STEEL PLATE BEAM GUARDRAIL
701006-05	OFF-RD OPERATIONS, 2L, 2W, 15' TO 24" FROM PAVEMENT EDGE
701011-04	OFF-RD MOVING OPERATIONS, 2L, 2W, DAY ONLY
701201-05	LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS 45 MPH
701301-04	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
701901-08	TRAFFIC CONTROL DEVICES
704001-08	TEMPORARY CONCRETE BARRIER
782006-01	GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS

IDOT DISTRICT 1 STANDARD DRAWINGS

STANDARD NO.	DESCRIPTION
TC - 10	TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS AND DRIVEWAYS
TC - 22	ARTERIAL ROAD INFORMATION SIGN

GENERAL NOTES

BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL CALL "J.U.L.I.E." AT (800) 892-0123 OR 811 FOR FIELD LOCATIONS OF BURIED ELECTRIC, TELEPHONE, AND GAS UTILITIES. 48 HOUR NOTIFICATION IS REQUIRED.

THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITY COMPANIES AND THE VILLAGE OF LIBERTYVILLE. THE CONTRACTOR SHALL NOTIFY THE VILLAGE PRIOR TO START OF CONSTRUCTION.

THE CONTRACTOR WILL NOT BE ALLOWED TO SET UP A YARD OR FIELD OFFICE ON STATE PROPERTY WITHOUT WRITTEN PERMISSION FROM THE DEPARTMENT.

REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND CONDITIONS EXISTING IN THE FIELD PRIOR TO CONSTRUCTION AND ORDERING OF MATERIALS.

THE CONTRACTOR SHALL CONTACT KALPANA KANNAN-HOSADURGA, THE DISTRICT ONE TRAFFIC CONTROL SUPERVISOR, AT KALPANA.KANNAN-HOSADURGA@ILLINOIS.GOV A MINIMUM OF 72 HOURS IN ADVANCE OF BEGINNING WORK.

THESE PLANS HAVE BEEN PREPARED FROM NOTES RECEIVED FROM THE BUREAU OF MAINTENANCE, BRIDGE SECTION.

DO NOT SCALE PLANS FOR CONSTRUCTION DIMENSIONS.

DURING CONSTRUCTION OPERATIONS, LOOSE MATERIAL DEPOSITS THAT OBSTRUCT THE FLOW OF WATER IN DRAINING THE AREA SHALL BE REMOVED BEFORE THE END OF EACH WORK DAY. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.

THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE ACCESS TO ADJACENT PROPERTY AT ALL TIMES DURING THE CONSTRUCTION PROJECT.

THE CONTRACTOR SHALL USE CARE IN REMOVING OR EXCAVATING NEAR ALL EXISTING ITEMS WHICH WILL REMAIN. ANY DAMAGE DONE TO EXISTING ITEMS BY THE CONTRACTOR SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

ALL DAMAGE TO EXISTING PAVEMENT MARKINGS OUTSIDE THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

CONTRACTOR TO MAINTAIN ALL EXISTING GRADES ALONG EXISTING WATERMAIN TO ENSURE PROPER PIPE COVERAGE.

COMMITMENTS

NONE



USER NAME =	BBUTTERFIELD	DESIGNED -	BB	REVISED -	
		DRAWN -	NP	REVISED -	
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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

INDEX OF SHEETS, HIGHWAY STANDARDS,
 GENERAL NOTES, AND COMMITMENTS

SHEET OF SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
371	2021-066-CR	LAKE	15	2
				CONTRACT NO. 62P04
		ILLINOIS	FED. AID PROJECT	

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SP	CODE NO.	ITEM	UNIT	TOTAL QUANTITY	URBAN	
					CONSTRUCTION CODE	
					CONTRACT MAINTENANCE 100% STATE	
					BOX	CULVERT
	21101615	TOPSOIL FURNISH AND PLACE, 4"	SQ YD	40		40
	25000210	SEEDING, CLASS 2A	ACRE	0.08		0.08
	25000312	SEEDING, CLASS 4A	ACRE	0.27		0.27
	25000400	NITROGEN FERTILIZER NUTRIENT	POUND	7.2		7.2
	25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	7.2		7.2
	25100635	HEAVY DUTY EROSION CONTROL BLANKET	SQ YD	1540		1540
	28000305	TEMPORARY DITCH CHECKS	FOOT	40		40
	28000400	PERIMETER EROSION BARRIER	FOOT	637		637
	50102400	CONCRETE REMOVAL	CU YD	4.1		4.1
	50200100	STRUCTURE EXCAVATION	CU YD	12.2		12.2
	50300225	CONCRETE STRUCTURES	CU YD	4.7		4.7
	50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	720		720
	52200020	TEMPORARY SOIL RETENTION SYSTEM	SQ FT	293		293
	58600101	GRANULAR BACKFILL FOR STRUCTURES	CU YD	11.4		11.4
	58700300	CONCRETE SEALER	SQ FT	188		188

SP	CODE NO.	ITEM	UNIT	TOTAL QUANTITY	URBAN	
					CONSTRUCTION CODE	
					CONTRACT MAINTENANCE 100% STATE	
					BOX	CULVERT
	63301210	REMOVE AND REERECT STEEL PLATE BEAM GUARDRAIL, TYPE A	FOOT	455.5		455.5
	67100100	MOBILIZATION	L SUM	1		1
	70400100	TEMPORARY CONCRETE BARRIER	FOOT	412.5		412.5
	70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	350		350
	70600250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2		2
	70600350	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	2		2
	78200011	BARRIER WALL REFLECTOR, TYP C	EACH	61		61
	* X0322906	WEEP HOLES CORED	EACH	12		12
	* X6700407	ENGINEER'S FIELD OFFICE, TYPE A (D1)	CAL MO	12		12
	* X7010216	TRAFFIC CONTROL AND PROTECTION (SPECIAL)	L SUM	1		1
	* Z0012755	STRUCTURAL REPAIR OF CONCRETE (DEPTH ≤ 5 INCHES)	SQ FT	16		16
	* Z0030850	TEMPORARY INFORMATION SIGNING	SQ FT	51.4		51.4
	* Z0064600	SELECTIVE CLEARING	ACRE	0.022		0.022
	66901001	REGULATED SUBSTANCES PRE-CONSTRUCTION PLAN	L SUM	1		1
	66901003	REGULATED SUBSTANCES FINAL CONSTRUCTION REPORT	L SUM	1		1
	66901006	REGULATED SUBSTANCES MONITORING	CAL DA	2		2



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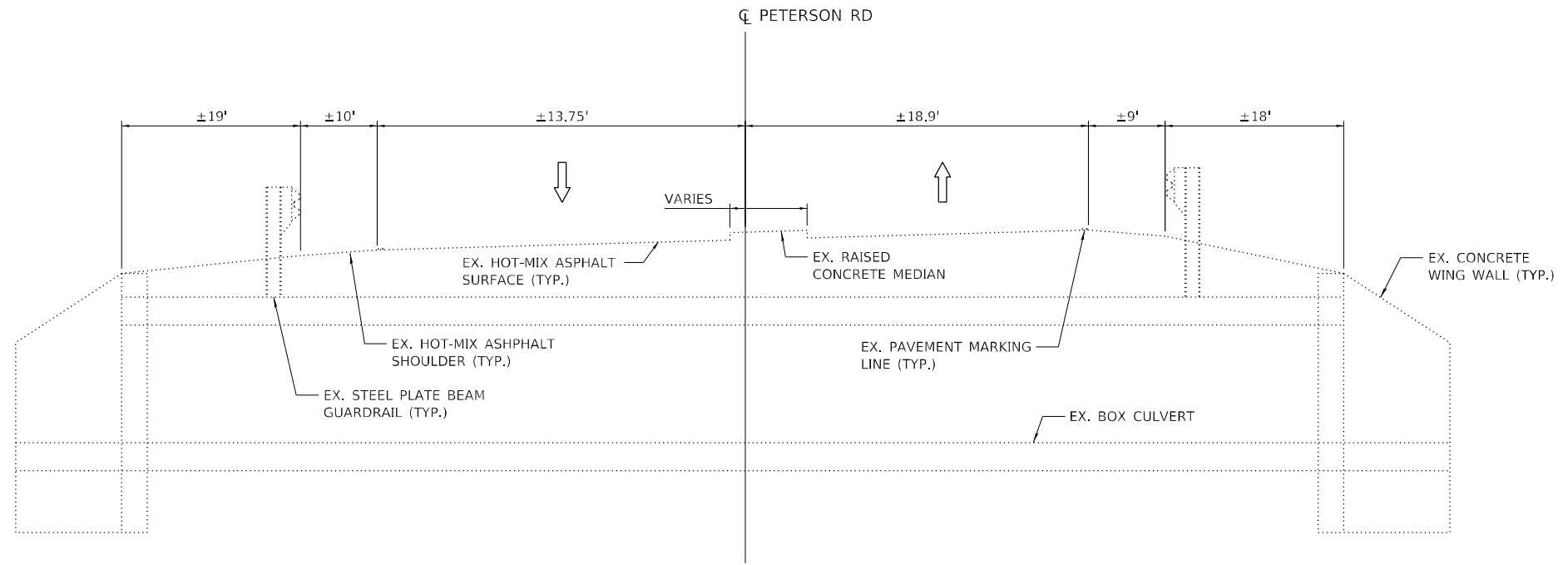
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

SUMMARY OF QUANTITIES

SHEET OF SHEETS

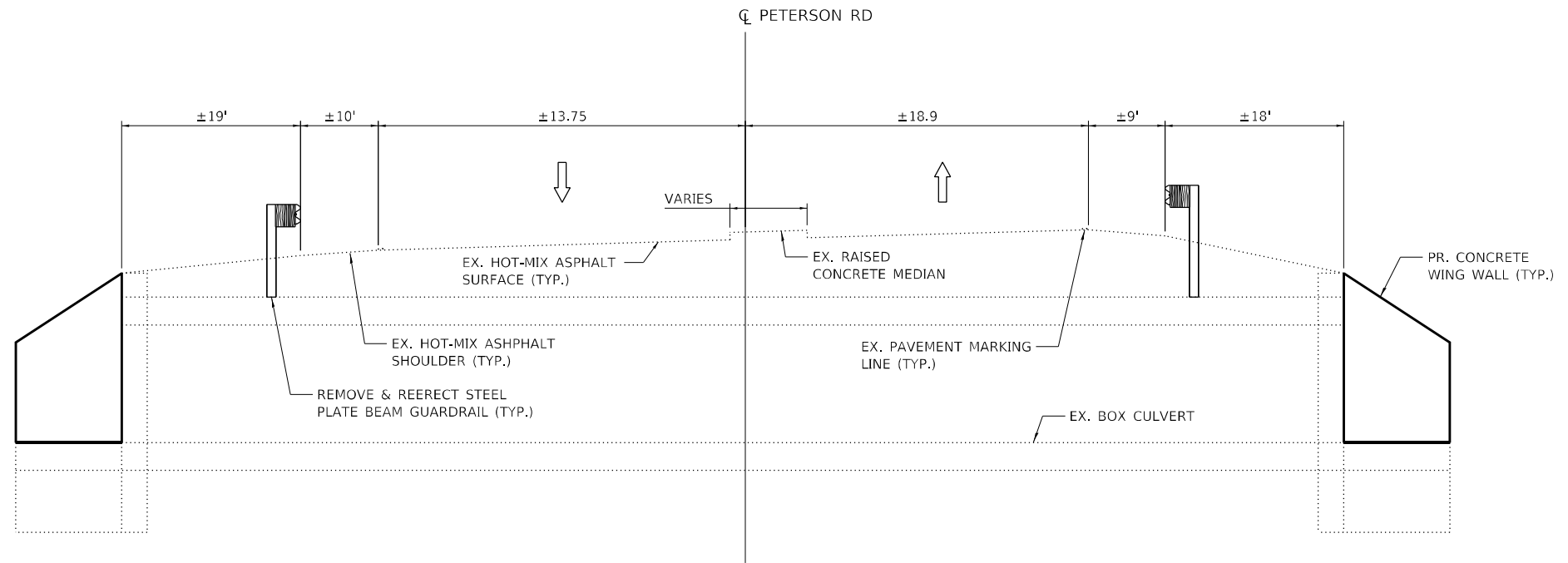
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371	2021-066-CR	LAKE	15	3
			CONTRACT NO. 62P04	
[ILLINOIS] FED. AID PROJECT				

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EXISTING TYPICAL SECTION
 AT STRUCTURE NO. 049-0532
 LOOKING EAST

ALL DIMENSIONS ARE PERPENDICULAR TO THE CL OF PETERSON ROAD.



PROPOSED TYPICAL SECTION
 AT STRUCTURE NO. 049-0532
 LOOKING EAST



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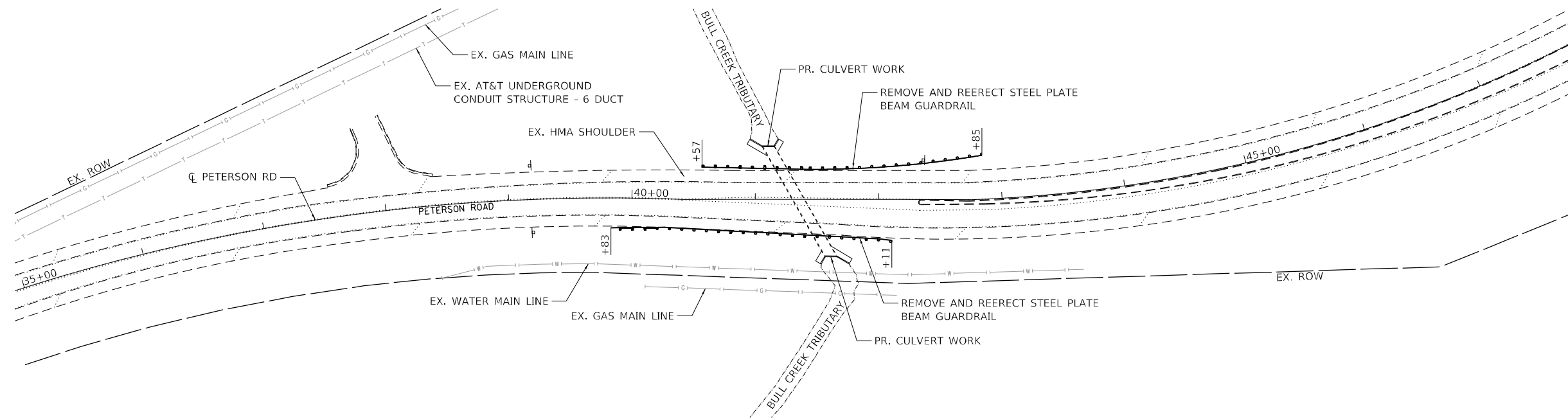
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

TYPICAL SECTIONS

SHEET OF SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
371	2021-066-CR	LAKE	15	4
			CONTRACT NO. 62P04	
		ILLINOIS FED. AID PROJECT		

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ROADWAY PLAN



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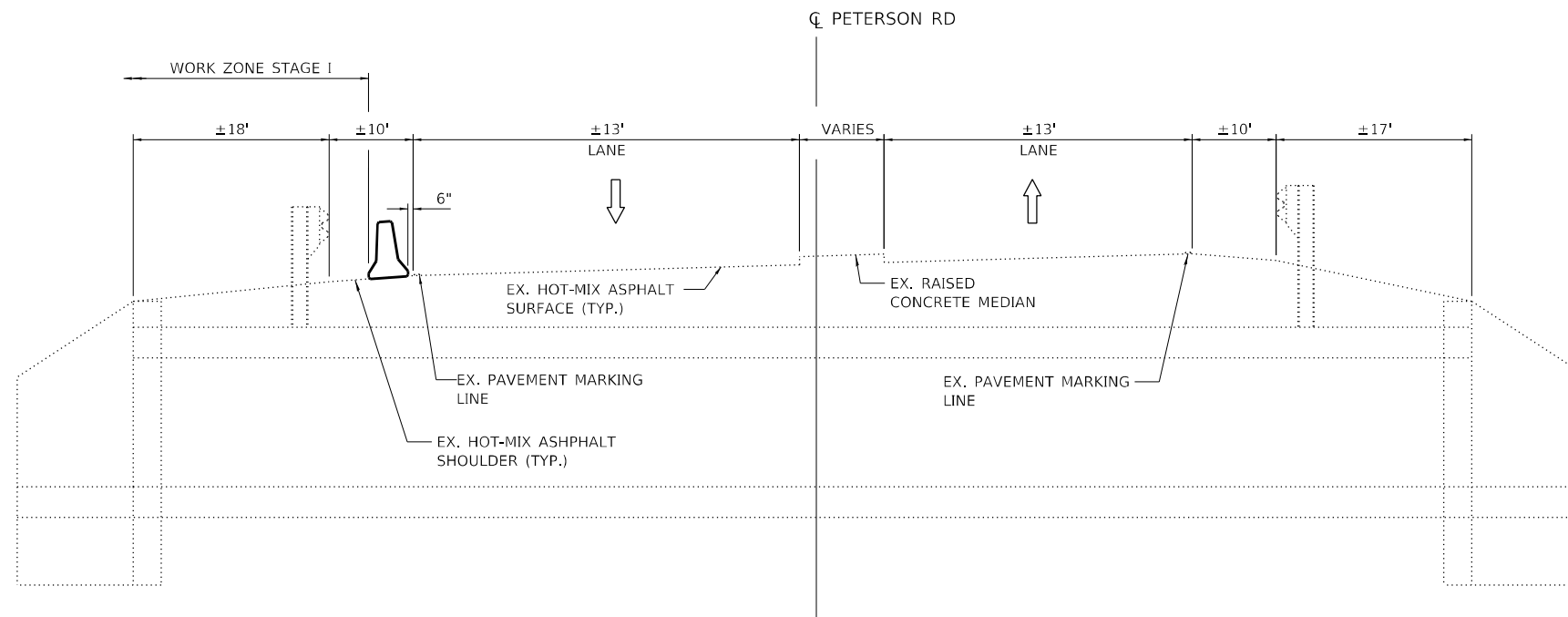
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

ROADWAY PLAN

SHEET OF SHEETS

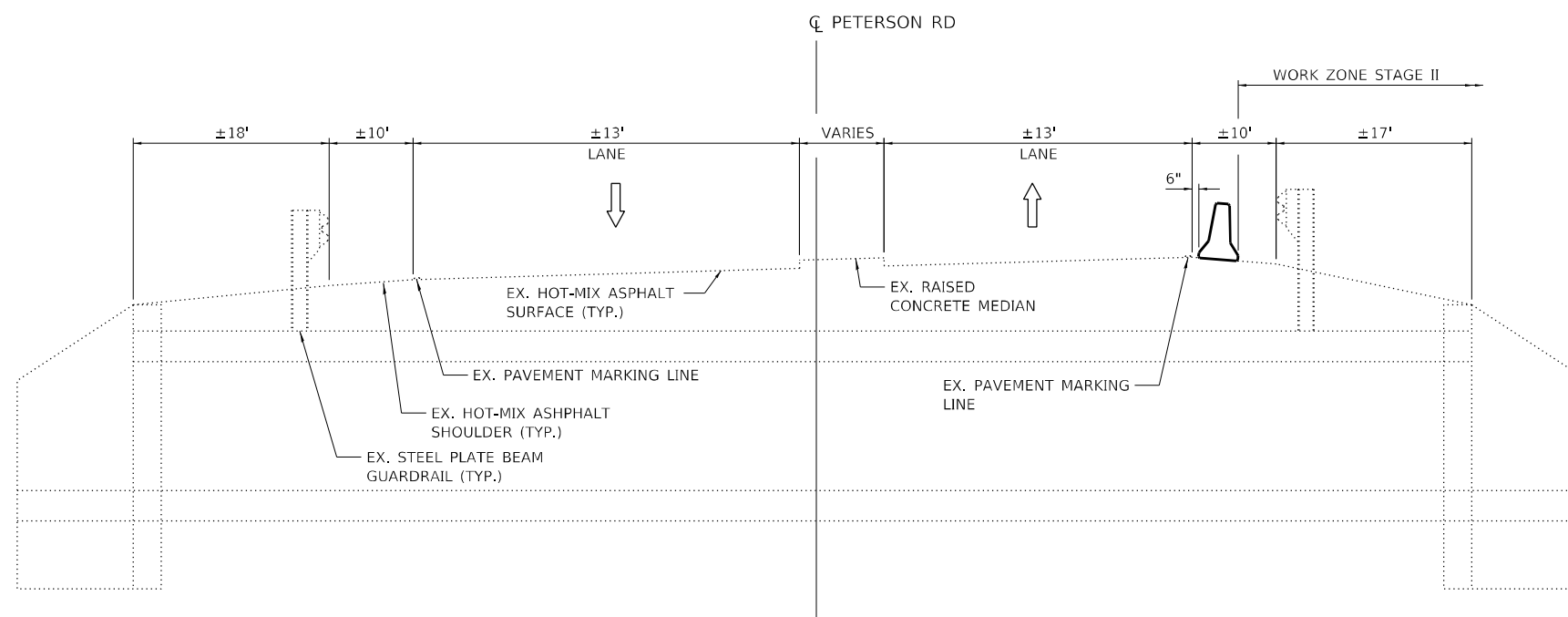
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		ILLINOIS	FED. AID PROJECT	

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TRAFFIC CONTROL TYPICAL SECTION – STAGE I

AT STRUCTURE NO. 049-0532
 LOOKING EAST





TRAFFIC CONTROL TYPICAL SECTION – STAGE II

AT STRUCTURE NO. 049-0532
 LOOKING EAST

ALL DIMENSIONS ARE PERPENDICULAR TO THE CL OF PETERSON ROAD.

LEGEND

-  DIRECTION OF TRAFFIC
-  TEMPORARY CONCRETE BARRIER



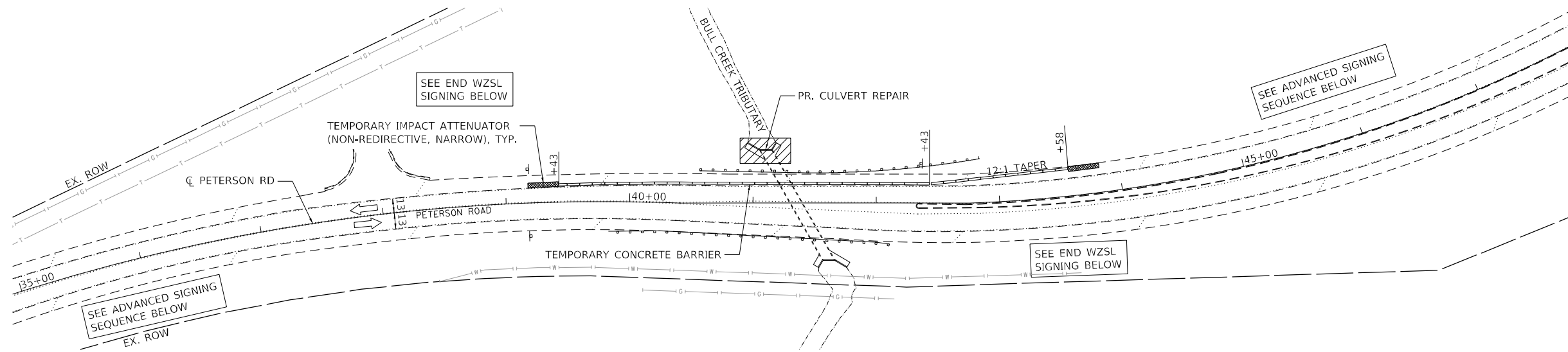
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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

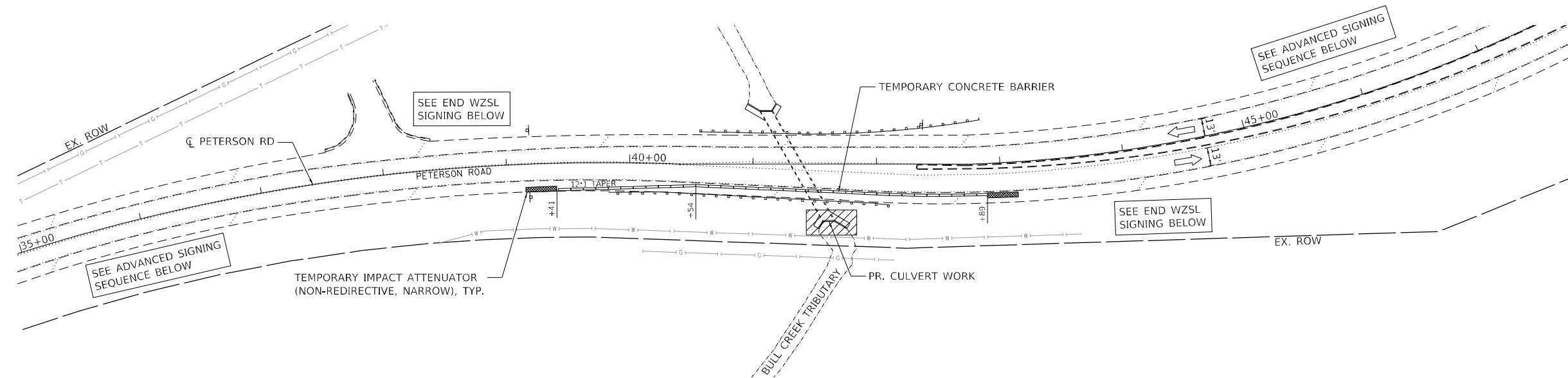
TRAFFIC CONTROL TYPICAL SECTIONS

SHEET OF SHEETS

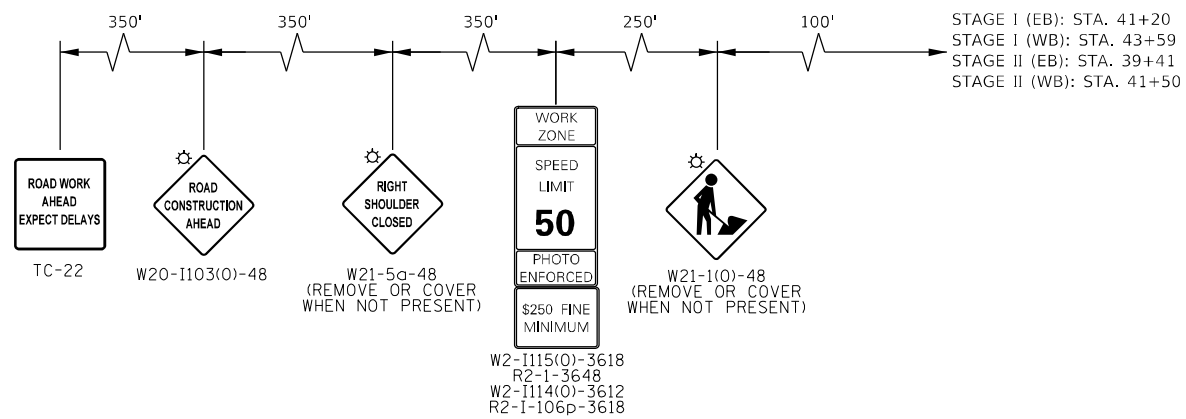
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371	2021-066-CR	LAKE	15	6
			CONTRACT NO. 62P04	
		ILLINOIS FED. AID PROJECT		



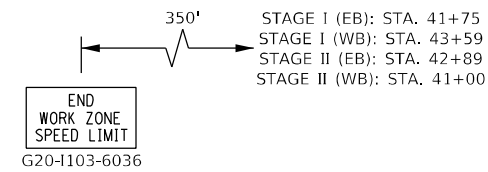
STAGE I CONSTRUCTION



STAGE II CONSTRUCTION



ADVANCED SIGNING SEQUENCE



END WZSL SIGNING

LEGEND

- WORK AREA
- DIRECTION OF TRAFFIC
- TEMPORARY CONCRETE BARRIER
- TEMPORARY IMPACT ATTENUATOR (NON-REDIRECTIVE, NARROW)

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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

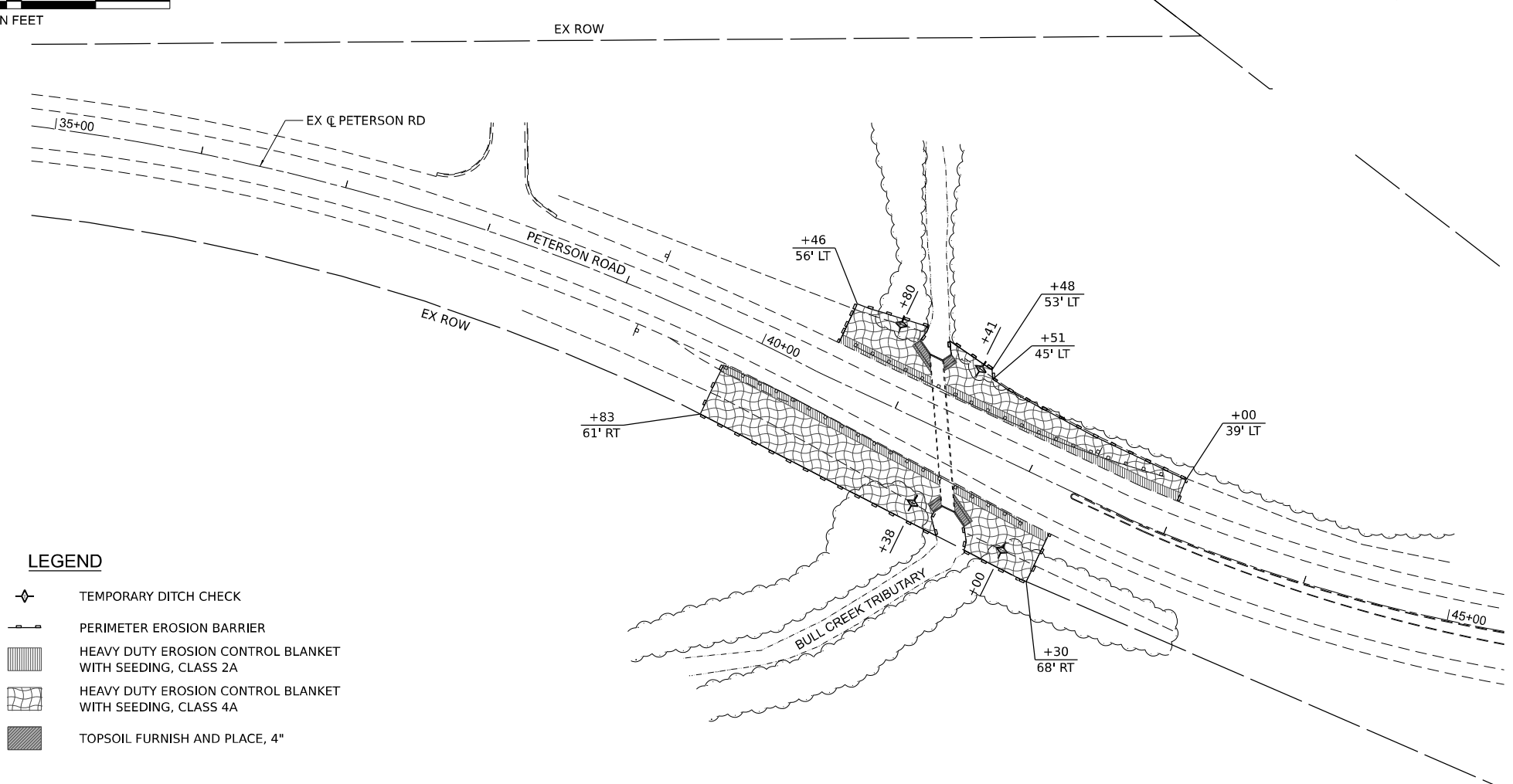
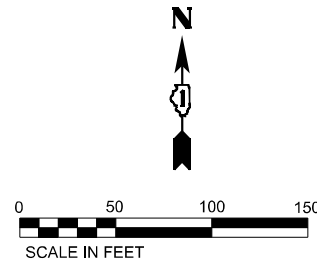
TRAFFIC CONTROL STAGING PLAN

SHEET OF SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
371	2021-066-CR	LAKE	15	7
CONTRACT NO. 62P04				

ILLINOIS FED. AID PROJECT

LOCATION	21101615	25000210	25000312	25000400	25000600	25100635	28000305	28000400
	TOPSOIL FURNISH AND PLACE, 4"	SEEDING, CLASS 2A	SEEDING, CLASS 4A	NITROGEN FERTILIZER NUTRIENT	POTASSIUM FERTILIZER NUTRIENT	HEAVY DUTY EROSION CONTROL BLANKET	TEMPORARY DITCH CHECKS	PERIMETER EROSION BARRIER
	SQ YD	ACRE	ACRE	POUND	POUND	SQ YD	FOOT	FOOT
NORTHWEST QUADRANT	13	0.01	0.04	0.9	0.9	202	10	91
NORTHEAST QUADRANT	7	0.03	0.06	2.7	2.7	391	10	212
SOUTHWEST QUADRANT	13	0.03	0.13	2.7	2.7	716	10	234
SOUTHEAST QUADRANT	7	0.01	0.04	0.9	0.9	231	10	100
TOTAL	40	0.08	0.27	7.2	7.2	1,540	40	637



LEGEND

- TEMPORARY DITCH CHECK
- PERIMETER EROSION BARRIER
- HEAVY DUTY EROSION CONTROL BLANKET WITH SEEDING, CLASS 2A
- HEAVY DUTY EROSION CONTROL BLANKET WITH SEEDING, CLASS 4A
- TOPSOIL FURNISH AND PLACE, 4"

NOTES

1. SEEDING, CLASS 2A SHALL BE PLACED FOR A WIDTH OF SIX (6) FEET FROM THE EDGE OF PAVEMENT AND SEEDING, CLASS 4A SHALL BE PLACED BEYOND SEEDING, CLASS 2A TO THE LIMITS OF THE R.O.W OR AS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER.
2. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED AND REPAIRED AS NEEDED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSPECTION AND REPAIR DURING CONSTRUCTION.
3. THE EROSION CONTROL MEASURES INDICATED ON THE PLANS ARE THE MINIMUM REQUIREMENTS. ADDITIONAL MEASURES MAY BE REQUIRED, AS DIRECTED BY THE ENGINEER.
4. THE CONTRACTOR SHALL INSTALL ALL EROSION CONTROL PRIOR TO THE START OF ANY EARTHWORK.
5. THE LIMITS OF SELECTIVE CLEARING ARE NOT SHOWN ON THIS SHEET; HOWEVER, THE CONTRACTOR SHALL CLEAR EXISTING VEGETATION AND SHRUBBERY WITHIN DIRECT VICINITY OF THE PROPOSED WORK AND AS NECESSARY TO FACILITATE CONSTRUCTION EQUIPMENT ACCESS. THE FINAL QUANTITY FOR SELECTIVE CLEARING SHALL BE MEASURED IN THE FIELD AND APPROVED BY THE ENGINEER.

MODEL: D:\p\1\1\DOT 199 Item 13 Phase II Various (Other)\01_Peterson Road Culvert\50_Design\CAD\Sheet\01\62P04-4-1-2022.dwg
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PLOT DATE = 1/13/2022	DATE - 01/14/2022	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**EROSION CONTROL PLAN
PETERSON ROAD CULVERT**

SCALE: 1"=50' SHEET 1 OF 1 SHEETS STA. 35+00 TO STA. 45+00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
371	2021-066-CR	LAKE	15	8
CONTRACT NO. 62P04				
ILLINOIS FED. AID PROJECT				

Existing Structure: SN 049-0532 is an 8' x 5' single-cell reinforced concrete culvert constructed in 1967. The culvert length is approximately 103'. The existing reinforced concrete wingwalls at each quadrant of the structure have either failed/fallen into the channel or exhibit significant lateral movement.

General Notes

1. Reinforcement bars designated (E) shall be epoxy coated.
2. Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished based at the unit price bid for the work.

DESIGN SPECIFICATIONS

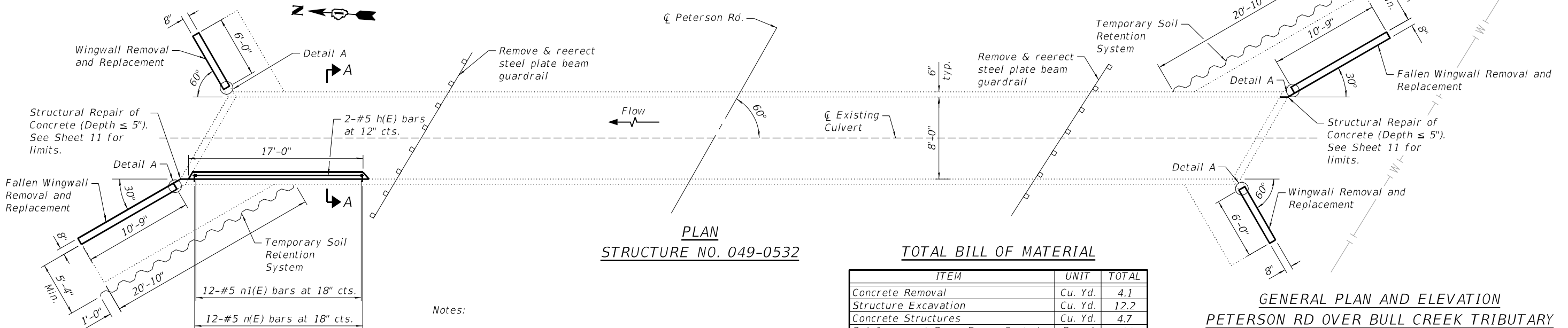
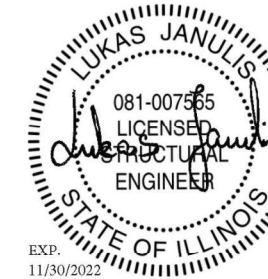
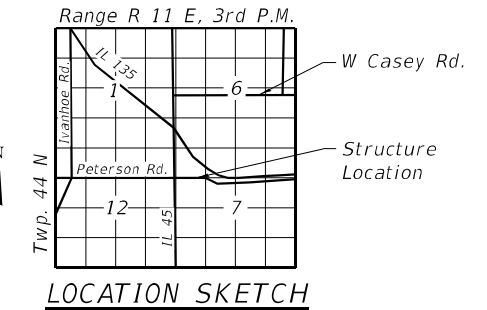
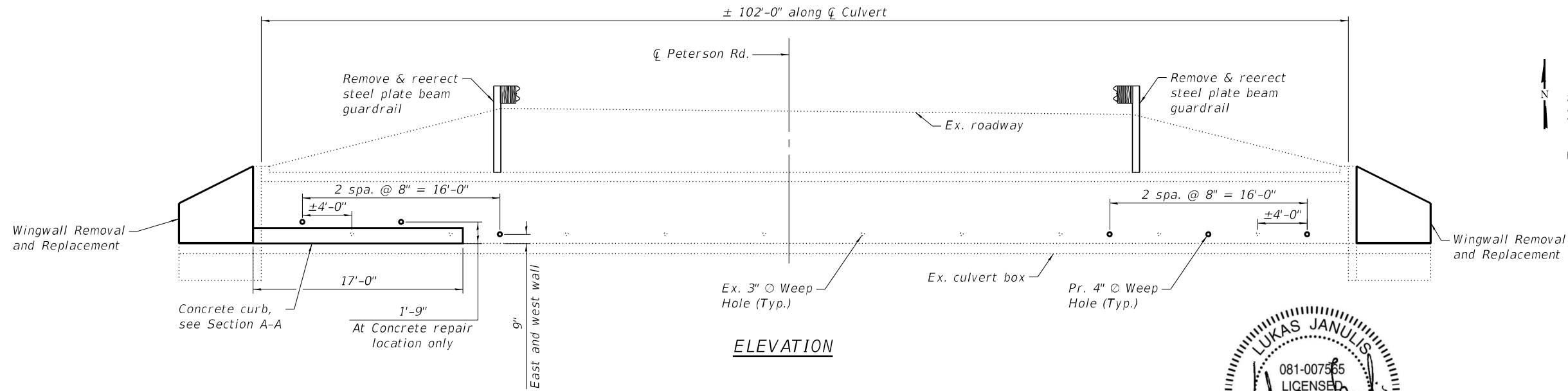
2002 AASHTO Standard Specifications for Highway Bridges 17th Edition

DESIGN STRESSES

f'c = 3,500 psi (Concrete)
fy = 60,000 psi (Reinforcement)

SCOPE OF WORK

1. Remove existing damaged and/or fallen wingwalls.
2. Install TSRS & perform excavation.
3. Construct new wingwalls & perform culvert concrete repairs.
4. Add concrete sealer to the new concrete surfaces.
5. Backfill w/Granular Backfill for Structures.



TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concrete Removal	Cu. Yd.	4.1
Structure Excavation	Cu. Yd.	12.2
Concrete Structures	Cu. Yd.	4.7
Reinforcement Bars, Epoxy Coated	Pound	720
Temporary Soil Retention System	Sq. Ft.	293
Granular Backfill for Structures	Cu. Yd.	11.4
Concrete Sealer	Sq. Ft.	188
Structural Repair of Concrete (Depth Equal To Or Less Than 5 Inches)	Sq. Ft.	16
Weep Holes Cored	Each	12

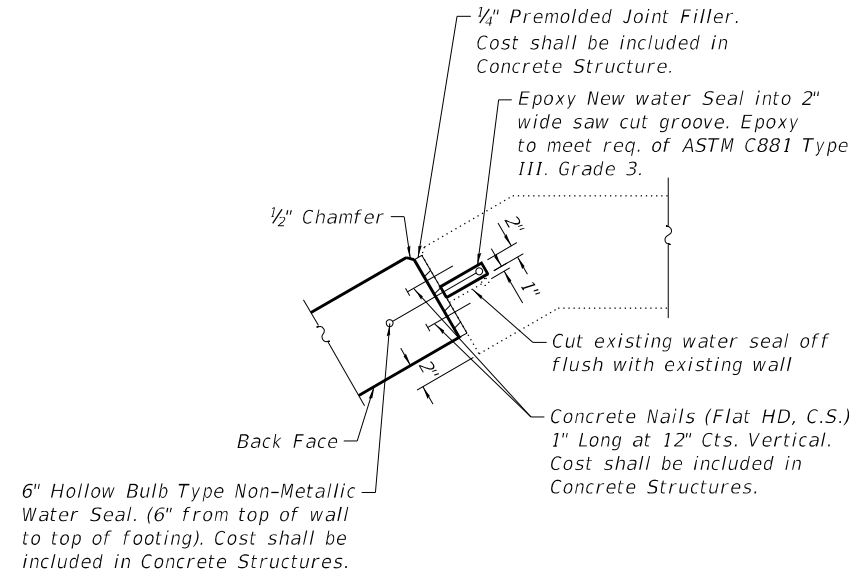
Notes:
1. See Sheet 10 for Section A-A

GENERAL PLAN AND ELEVATION
PETERSON RD OVER BULL CREEK TRIBUTARY
F.A.P. 371 - SEC. 2021-066-CR
LAKE COUNTY
STRUCTURE NO. 049-0532

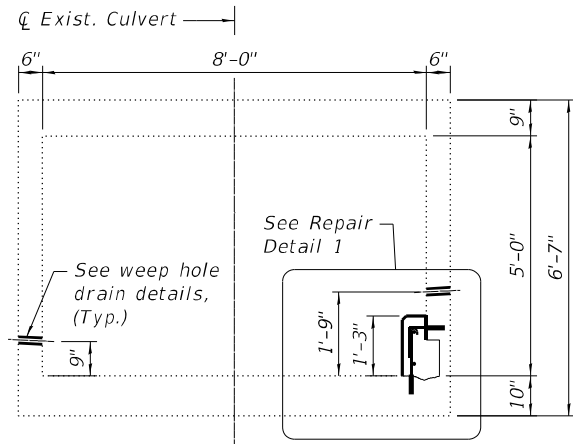
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	USER NAME = BRUTTERFIELD	DESIGNED - BB	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	S.N. 049-0532 GENERAL PLAN AND ELEVATION	F.A.P. RTE. = 371	SECTION = 2021-066-CR	COUNTY = LAKE	TOTAL SHEETS = 15	SHEET NO. = 9
	PLOT SCALE = 100,0000' / in.	CHECKED - LJ	REVISED -			SHEET S1 OF 55 SHEETS	CONTRACT NO. 62P04		ILLINOIS FED. AID PROJECT	
6/20/2022 10:46:18 AM	PLOT DATE = 6/20/2022 10:46:18 AM	DATE = 11/12/2021	REVISED -							

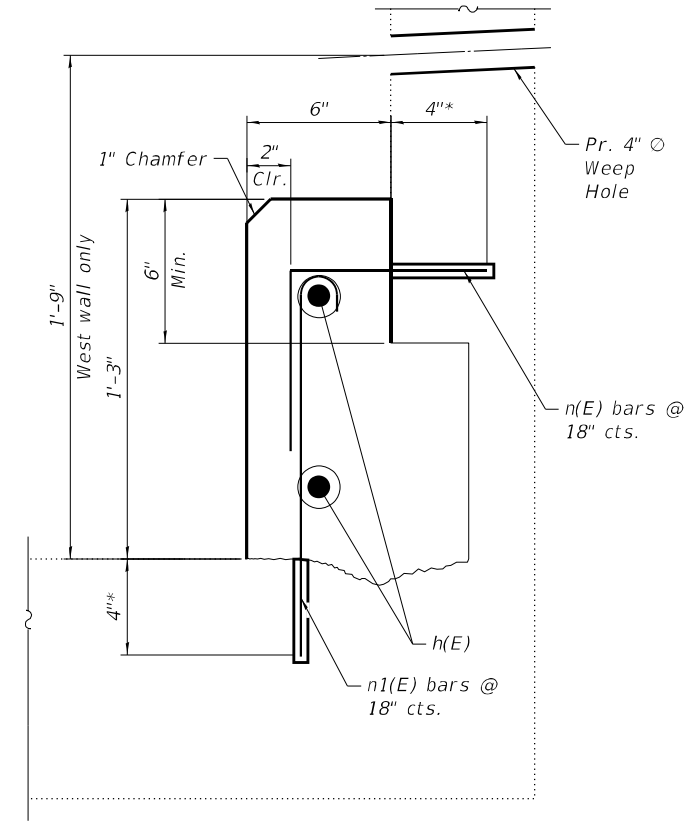
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DETAIL A

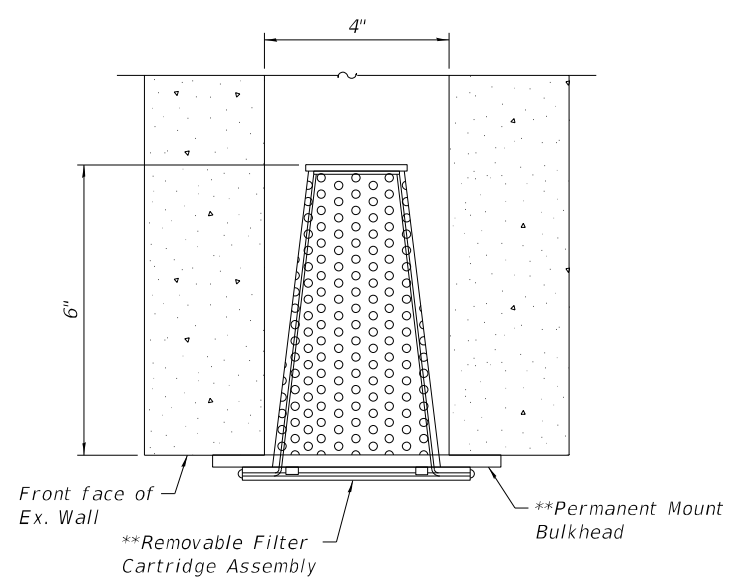


SECTION A-A

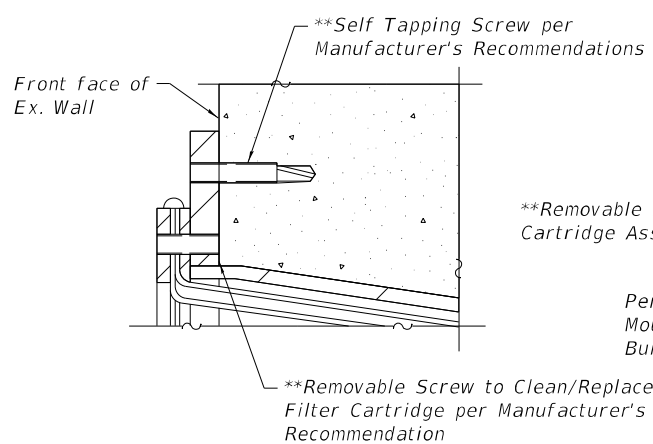


REPAIR DETAIL 1

*Epoxy Grout #5 n(E) and n1(E) bars in 7/8" Ø drilled holes. See Art. 584 Std. Specs. Cost shall be included with Reinforcement Bars, Epoxy Coated

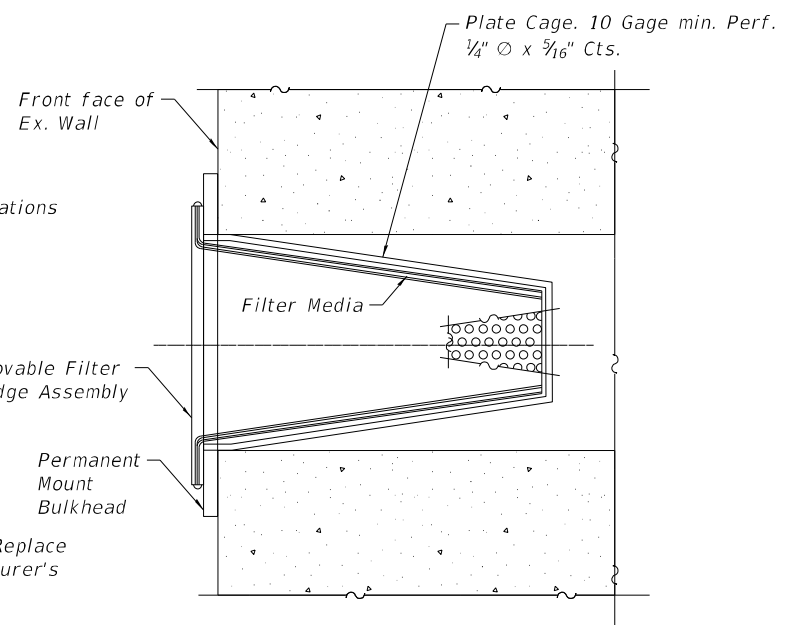


CORED WEEP HOLE ASSEMBLY PLAN VIEW



CORED WEEP HOLE ASSEMBLY MOUNTING DETAIL

**Cost included with "Weep Holes Cored"



SECTION THRU CORED WEEP HOLE ASSEMBLY



USER NAME =	BRUTTERFIELD	DESIGNED -	BB	REVISED -	
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		DATE -	11/12/2021	REVISED -	

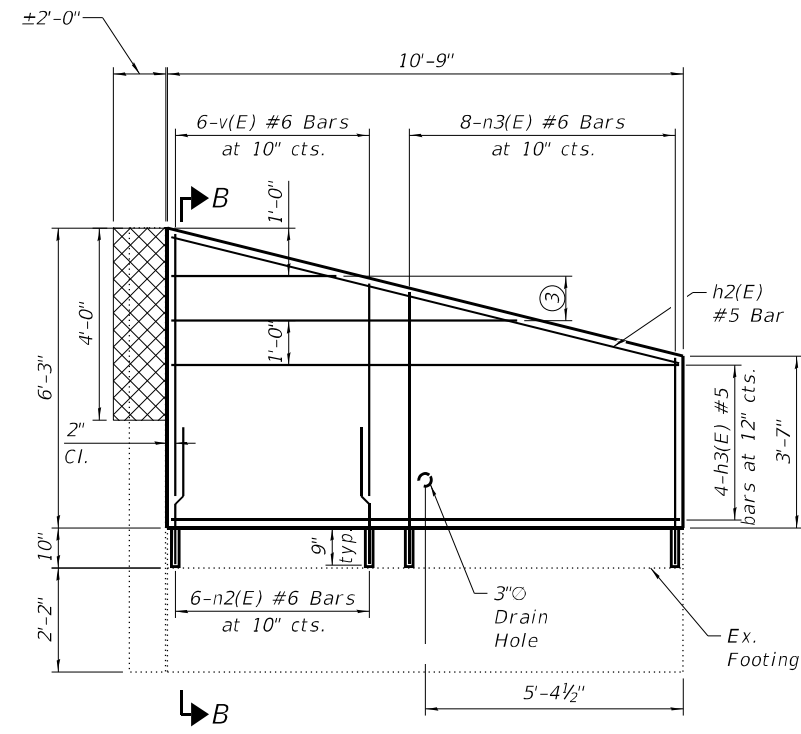
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**S.N. 049-0532
 CULVERT REPAIR DETAILS I**

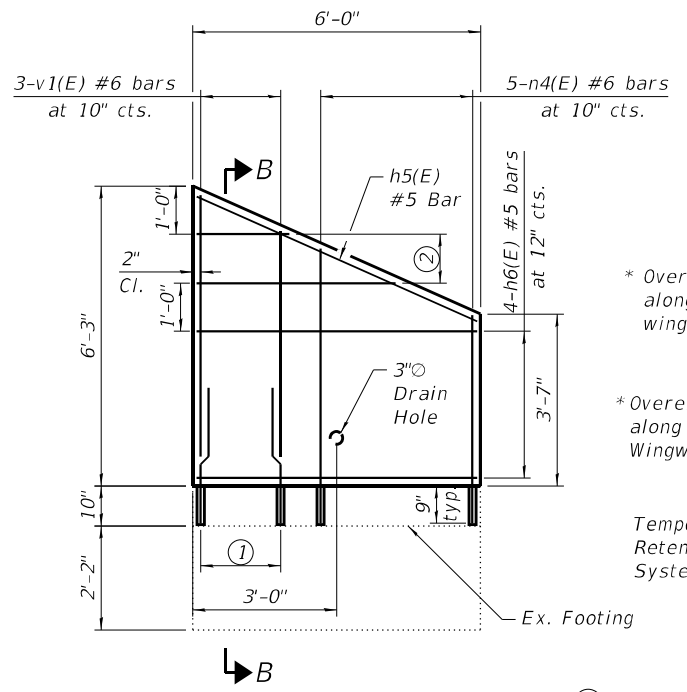
SHEET 52 OF 55 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
371	2021-066-CR	LAKE	15	10
			CONTRACT NO. 62P04	
			ILLINOIS FED. AID PROJECT	

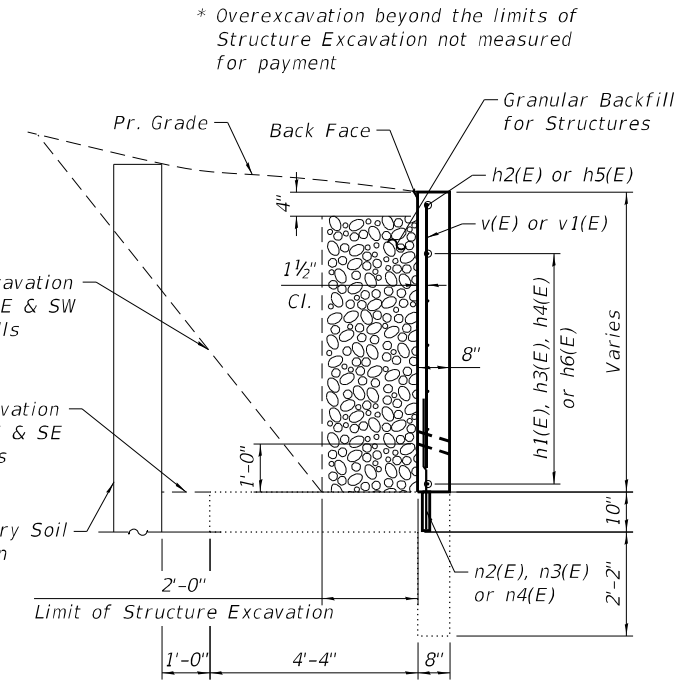
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NORTHWEST WINGWALL
 Southeast Wingwall Similar



NORTHEAST WINGWALL
 Southwest Wingwall Similar

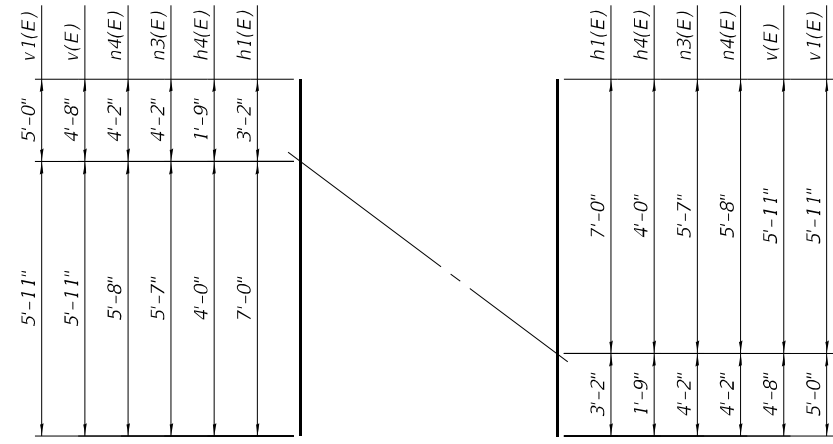


SECTION B-B

- ① 3-n2(E) #6 bars at 10" cts.
- ② 2-h4(E) #5 bars at 12" cts.
- ③ 2-h1(E) #5 bars at 12" cts.

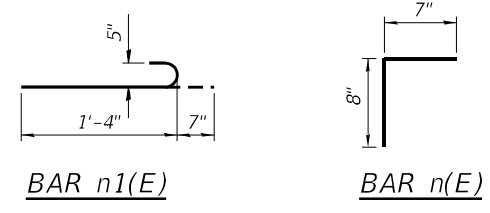
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	2	#5	16'-8"	—
h1(E)	2	#5	10'-2"	—
h2(E)	2	#5	10'-9"	—
h3(E)	8	#5	10'-5"	—
h4(E)	2	#5	5'-9"	—
h5(E)	2	#5	6'-3"	—
h6(E)	8	#5	5'-8"	—
n(E)	12	#5	1'-3"	┌
n1(E)	12	#5	1'-11"	┌
n2(E)	18	#6	3'-9"	—
n3(E)	8	#6	9'-9"	—
n4(E)	5	#6	9'-10"	—
v(E)	6	#6	10'-7"	—
v1(E)	3	#6	10'-11"	—
Concrete Removal			Cu. Yd.	4.1
Structure Excavation			Cu. Yd.	12.2
Concrete Structures			Cu. Yd.	4.7
Reinforcement Bars, Epoxy Coated			Pound	720
Granular Backfill For Structure			Cu. Yd.	11.4
Concrete Sealer			Sq. Ft.	188
Structural Repair of Concrete (Depth Equal To Or Less Than 5 Inches)			Sq. Ft.	16
Temporary Soil Retention System			Sq. Ft.	293



BAR CUTTING DIAGRAM

Order bars full length, use remainder of bars in the opposite wingwall



MINIMUM BAR LAP

#6 Bar = 2'-9"

LEGEND

Structural Repair of Concrete (Depth Equal to or less than 5 Inches)

- Notes:
- Drill and Epoxy Grout 9" minimum into existing concrete base according to article 584 of the standard specification.
 - Concrete Sealer shall be applied to exposed face of Wingwalls.



USER NAME =	BBUTTERFIELD	DESIGNED -	BB	REVISED -	
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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

S.N. 049-0532
 CULVERT REPAIR DETAILS II

SHEET 53 OF 55 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
371	2021-066-CR	LAKE	15	11
CONTRACT NO. 62P04			ILLINOIS FED. AID PROJECT	



SOIL BORING LOG

Date 9/13/21

ROUTE Peterson Road DESCRIPTION Peterson Road Culvert LOGGED BY JEB

SECTION LOCATION SEC. 7, TWP. 44 North, RNG. 11 East

Latitude 42.3053306, Longitude -87.9954472

COUNTY Lake DRILLING RIG CME-75 HSA HAMMER TYPE Auto

DRILLING METHOD HSA HAMMER EFF (%) 91.1

STRUCT. NO. Station

BORING NO. B-1

Offset

Ground Surface Elev. 747.10 ft (ft) (ft) (tsf) (%)

8 inches of Asphalt 746.43

Gray, Moist

FILL: SILTY CLAY, trace gravel

7 4.5 13

9 P

743.60

Very Stiff

Brown and Gray, Moist

SILTY CLAY, trace gravel

(CL/ML)

5 3.3 21

6 B

740.60

Stiff

Black, Very Moist

SILTY CLAY, some sand (CL/ML)

4 1.3 26

6 B

738.60

Very Stiff

Brown and Gray, Moist

SILTY CLAY, trace gravel

(CL/ML)

3 2.1 23

4 B

736.10

Stiff to Very Stiff

Gray, Moist

SILTY CLAY, trace sand (CL/ML)

2 3.3 19

4 B

7

3 2.7 15

4 B

15

3 2.3 15

26 B

50/1"

8 2.0 15

9 P

707.10

End of Boring

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)

The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)



SOIL BORING LOG

Date 9/13/21

ROUTE Peterson Road DESCRIPTION Peterson Road Culvert LOGGED BY JEB

SECTION LOCATION SEC. 7, TWP. 44 North, RNG. 11 East

Latitude 42.3055056, Longitude -87.9955194

COUNTY Lake DRILLING RIG CME-75 HSA HAMMER TYPE Auto

DRILLING METHOD HSA HAMMER EFF (%) 91.1

STRUCT. NO. Station

BORING NO. D-2

Offset

Ground Surface Elev. 746.80 ft (ft) (ft) (tsf) (%)

2 inches of Asphalt 746.63

Gray, Moist

FILL: SILTY CLAY, trace gravel

8 4.5 12

5 P

743.30

Very Stiff

Brown and Gray, Moist

SILTY CLAY, trace gravel

(CL/ML)

5 3.3 18

6 B

4 4.5 18

5 P

5 2.9 19

7 B

735.80

Stiff to Hard

Gray, Moist

SILTY CLAY, trace gravel

(CL/ML)

3 2.7 16

5 B

1 2.9 15

5 B

15

3 4.2 15

6 B

10

5 1.7 16

9 B

707.30

Gravel seam from 18.5 to 21 feet

50/4"

706.80

Stiff

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)

The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)



SOIL BORING LOG

Date 9/13/21

ROUTE Peterson Road DESCRIPTION Peterson Road Culvert LOGGED BY JEB

SECTION LOCATION SEC. 7, TWP. 44 North, RNG. 11 East

Latitude 42.3055056, Longitude -87.9955194

COUNTY Lake DRILLING RIG CME-75 HSA HAMMER TYPE Auto

DRILLING METHOD HSA HAMMER EFF (%) 91.1

STRUCT. NO. Station

BORING NO. D-2

Offset

Ground Surface Elev. 746.80 ft (ft) (ft) (tsf) (%)

Gray, Moist

SILTY CLAY LOAM, trace gravel

(ML/CL)

End of Boring

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)

The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

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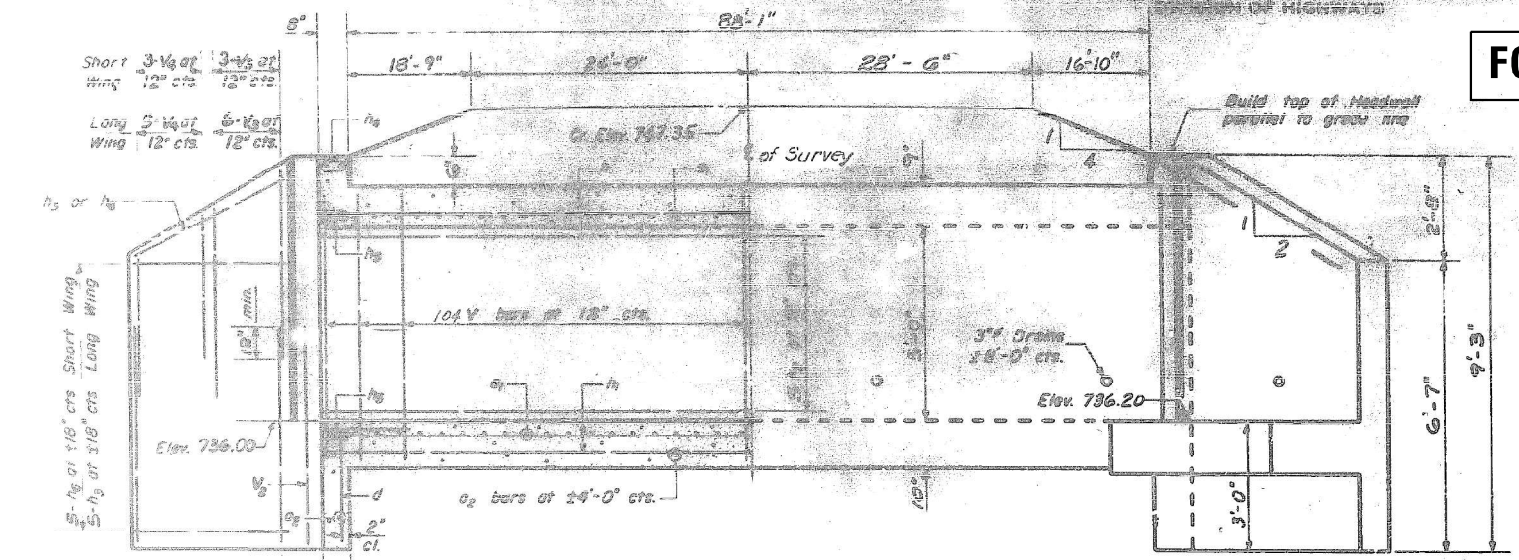
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

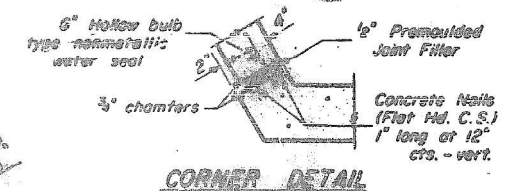
SOIL BORING LOGS
SHEET 54 OF 55 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
371	2021-066-CR	LAKE	15	12
CONTRACT NO. 62P04			ILLINOIS FED. AID PROJECT	

FOR INFORMATION ONLY

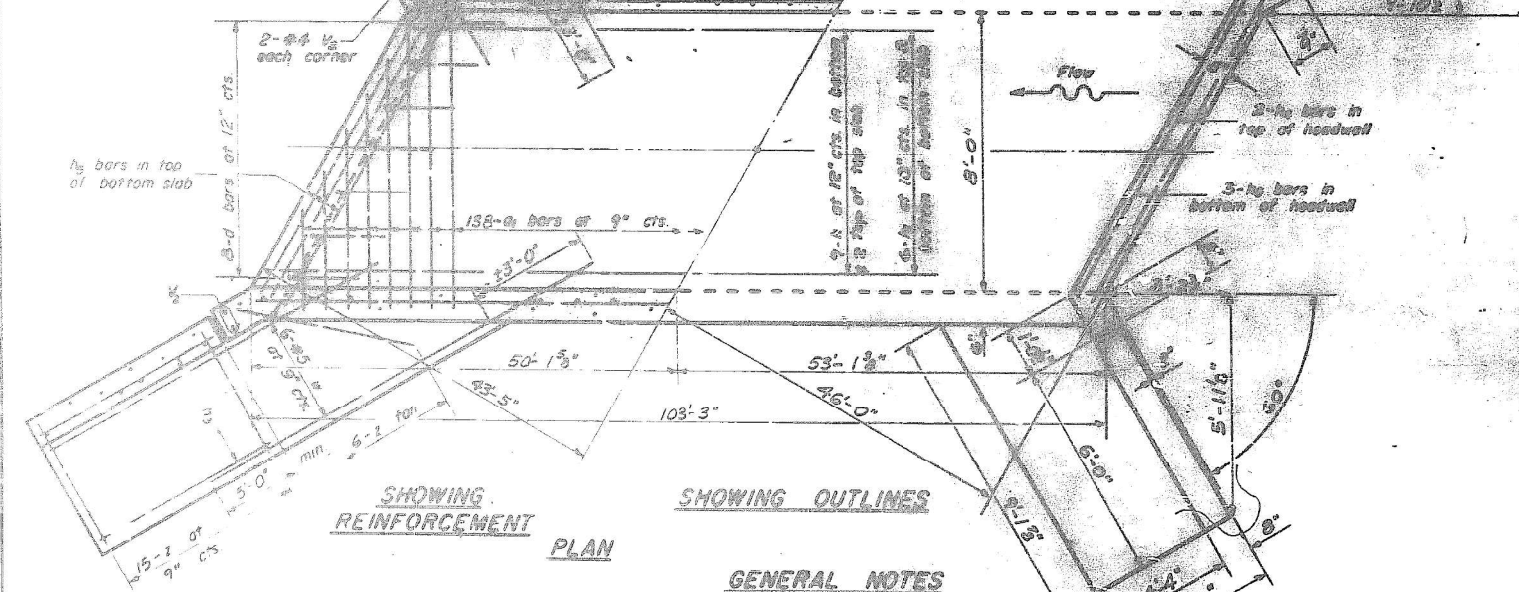


HALF LONG SECTION **HALF ELEVATION**
Dimensions at Rt. 28 to E of Survey



CORNER DETAIL

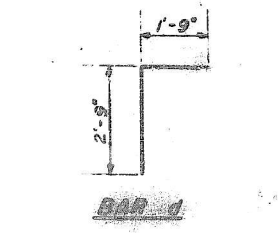
Note
a) bars in slaw portion of slab shall be ordered full length & cut to fit. Balance of bar to be used in opposite end of culvert.



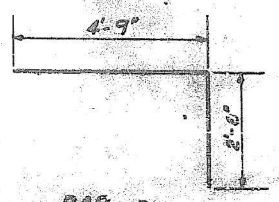
SHOWING REINFORCEMENT PLAN **SHOWING OUTLINES**

GENERAL NOTES

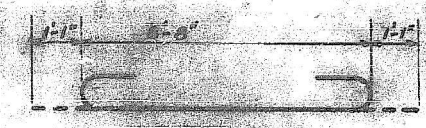
Class X Concrete shall be used throughout. Exposed edges shall be beveled 1/4". For backfilling and embankment see S'td. Spec's. All bars shall be lapped 20 diameters unless otherwise specified. The top of the culvert, the backs of the chamfered corners of the lower construction joint and backs of the wings above the tops of the footings shall be waterproofed in accordance with Art. 54.21 of the S'td. Spec's. Nonmetallic water seal used in the wingwall joints shall extend from the top of the footing to within 6" of the top of the headwall. Tie back of #4 bars, if necessary, to obtain 16" minimum clearance at top of hook.



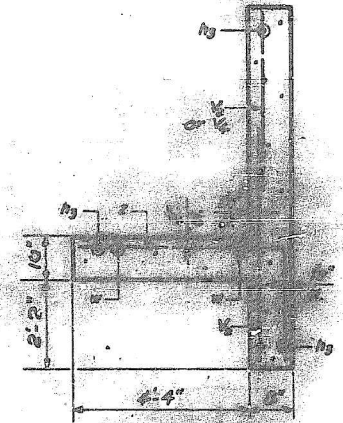
BAR 1



BAR 2



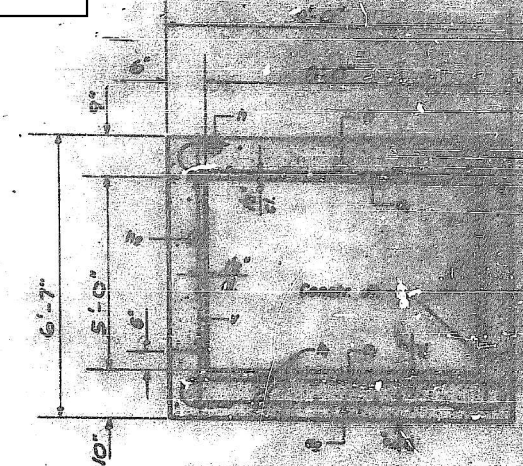
BAR 3



SECTION A-A

$f_s = 20,000$ psi
 $f_c = 1400$ psi
 $f_c = 1000$ psi
 $v = 80$ psi
 $v = 75$ psi
 $n = 9$

LOADING AS 30



SECTION TYPICAL

REINFORCEMENT SCHEDULE

Bar	Quantity	Notes
#1	200	
#2	10	
#3	10	
#4	10	
#5	10	
#6	10	
#7	10	
#8	10	
#9	10	
#10	10	
#11	10	
#12	10	
#13	10	
#14	10	
#15	10	
#16	10	
#17	10	
#18	10	
#19	10	
#20	10	

DESIGNED	H.P.W. 6-19-64
CHECKED	H.W.W. 9-30-64
DRAWN	H.W.W. 10-1-64
CHECKED	

EXAMINED	
PASSED	
APPROVED	



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		DATE -	11/12/2021	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CULVERT RECORD DRAWING

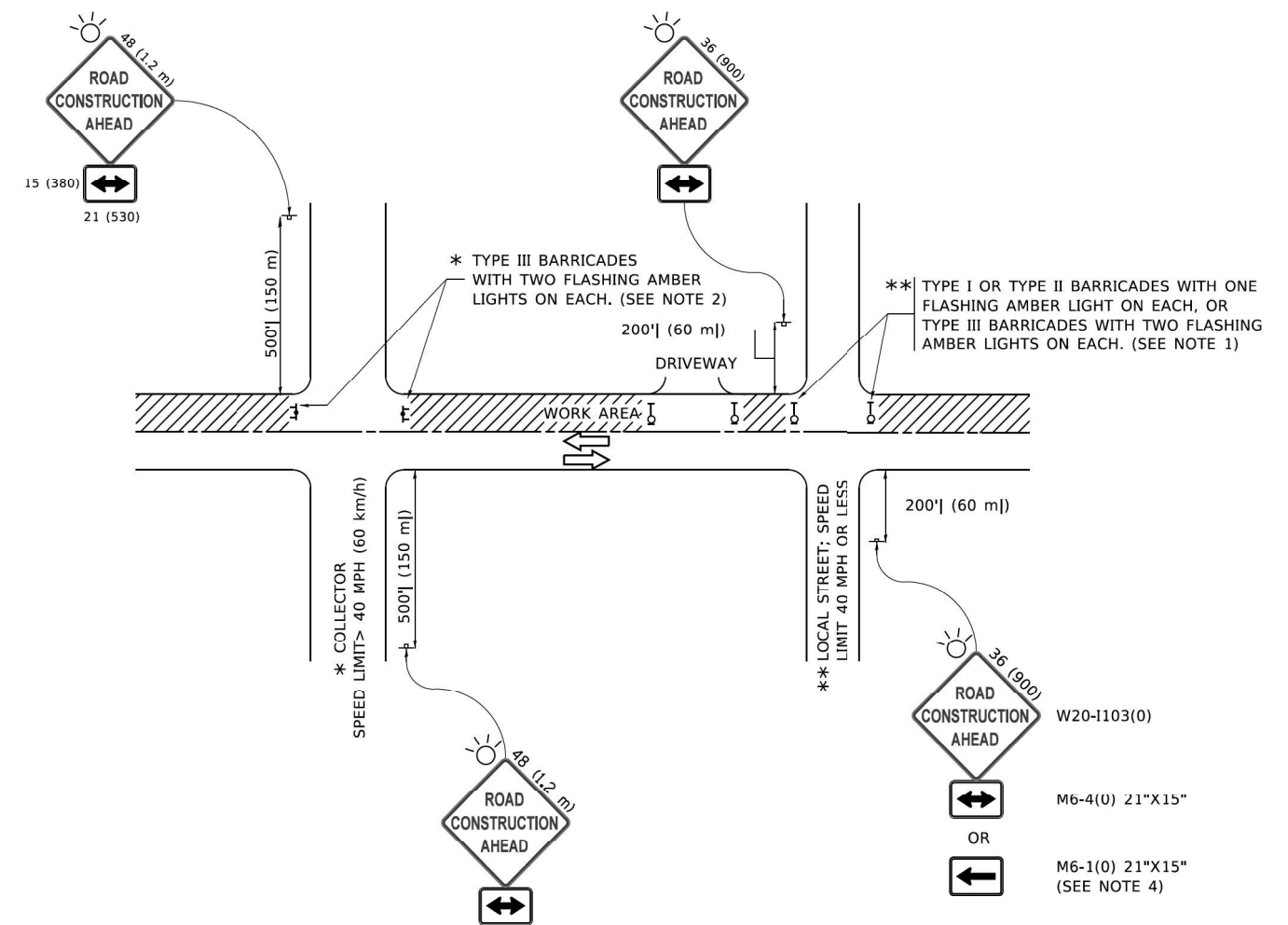
SHEET 55 OF 55 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
371	2021-066-CR	LAKE	15	13
CONTRACT NO. 62P04				

ILLINOIS FED. AID PROJECT

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NOTES:

1. SIDE ROAD WITH A SPEED LIMIT OF 40 MPH (60 km/h) OR LESS AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
 - a) ONE "ROAD CONSTRUCTION AHEAD" SIGN 36 x 36 (900x900) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 200' (60 m) IN ADVANCE OF THE MAIN ROUTE.
 - b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE I, TYPE II OR TYPE III BARRICADES, 1/3 OF THE CROSS SECTION OF THE CLOSED PORTION.
2. SIDE ROAD WITH A SPEED LIMIT GREATER THAN 40 MPH (60 km/h) AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
 - a) ONE "ROAD CONSTRUCTION AHEAD" SIGN 48 x 48 (1.2 m x 1.2 m) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 500' (150 m) IN ADVANCE OF THE MAIN ROUTE.
 - b) BLOCKING WITH TYPE III BARRICADES, 1/2 OF THE CROSS SECTION OF THE CLOSED PORTION.
3. CONES MAY BE SUBSTITUTED FOR BARRICADES OR DRUMS AT HALF THE SPACING DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 28 (710) IN HEIGHT.
4. SIGNING AND THE WORK ZONE, A SINGLE HEADED ARROW (M6-1) SHALL BE USED IN LIEU OF THE DOUBLE HEADED ARROW (M6-4).
5. WHEN WORK IS BEING PERFORMED ON A SIDE ROAD OR DRIVEWAY, FOLLOW THE APPLICABLE STANDARD(S). THE DIRECTIONAL ARROW (M6-1 OR M6-4) SHALL BE COVERED OR REMOVED WHEN NO LONGER CONSISTENT WITH THE TRAFFIC CONTROL SET-UP.
6. ADVANCE WARNING SIGNS ARE TO BE OMITTED ON DRIVEWAYS UNLESS OTHERWISE SPECIFIED IN THE PLANS OR BY THE ENGINEER.
7. THE TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS SHALL BE INCLUDED IN THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

All dimensions are in inches (millimeters) unless otherwise shown.



USER NAME =	BBUTTERFIELD	DESIGNED -	BB	REVISED -	
		DRAWN -	NP	REVISED -	
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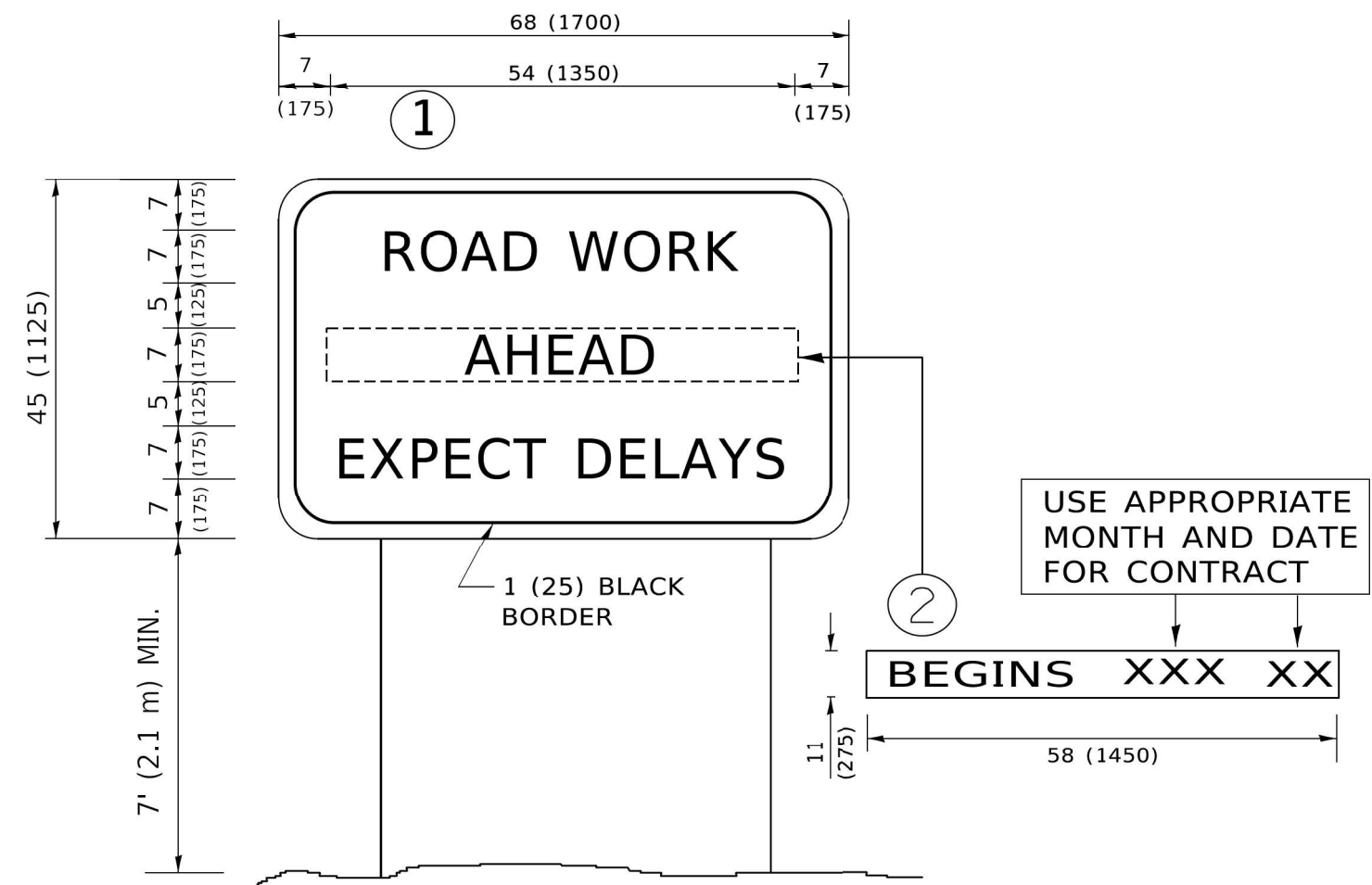
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**TRAFFIC CONTROL AND PROTECTION FOR
 SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS (TC-10)**

SHEET OF SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
371	2021-066-CR	LAKE	15	14
TC-10			CONTRACT NO. 62P04	
ILLINOIS FED. AID PROJECT				

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NOTES:

1. USE BLACK LETTERING ON ORANGE BACKGROUND.
2. ERECT SIGNS IN ADVANCE OF THE LOCATION FOR THE "ROAD CONSTRUCTION AHEAD" SIGN AT LOCATIONS AS DIRECTED BY THE ENGINEER.
3. ERECT SIGN ① WITH INSTALLED PANEL ② ONE WEEK PRIOR TO THE START OF CONSTRUCTION.
4. REMOVE PANEL ② SOON AFTER THE START OF CONSTRUCTION.
5. SEE SPECIAL PROVISION FOR "TEMPORARY INFORMATION SIGNING" FOR ADDITIONAL INFORMATION.
6. ONE SIGN ASSEMBLY EQUALS 25.70 SQ. FT. (2.3 SQ. M.)
7. SHALL BE PAID FOR AS TEMPORARY INFORMATION SIGNING.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS)
 UNLESS OTHERWISE SHOWN.



USER NAME =	BBUTTERFIELD	DESIGNED -	BB	REVISED -	
		DRAWN -	NP	REVISED -	
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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

TEMPORARY INFORMATION SIGNING (TC-22)

SHEET OF SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
371	2021-066-CR	LAKE	15	15
TC-22			CONTRACT NO. 62P04	
ILLINOIS FED. AID PROJECT				