SUMMARY OF QUANTITIES

CODE NO	ITEM	UNIT	TOTAL QUANTITIES URBAN	CONSTRUCTION TYPE CODE 100% STATE 0005	80% FED 20% STATE COOK 0005	80% FED 20% STATE WILL 0005	80% FED 20% STATE COOK PEDESTRIAN SIGNAL 0021	80% FED 20% STATE COOK CULVERT 0004
42001300	PROTECTIVE COAT	SQ YD	500		500			
42400200	PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH	SQ FT	4,050		4,050			
42400800	DETECTABLE WARNINGS	SQ FT	680		680			
44000158	HOT-MIX ASPHALT SURFACE REMOVAL, 2 1/4	SQ YD	34,850		31,713	3,137		
44000600	SIDEWALK REMOVAL	SQ FT	4,050		4,050			
44201777	CLASS D PATCHES, TYPE II, 11 INCH	SQ YD	265		250	15		
44201781	CLASS D PATCHES, TYPE III, 11 INCH	SQ YD	315		300	15		
44201783	CLASS D PATCHES, TYPE IV, 11 INCH	SQ YD	370		350	20		
48102100	AGGREGATE WEDGE SHOULDER, TYPE B	TON	151		138	13		
50102400	CONCRETE REMOVAL	CU YD	33					33
50200100	STRUCTURE EXCAVATION	CU YD	111					111
50300300	PROTECTIVE COAT	SQ YD	14					14
50800105	REINFOREMENT BARS	POUND	3210					3210
52200015	PERMANENT SHEET PILING	SQ FT	3925					3925
52200020	TEMPORARY SOIL RETENTION SYSTEM	SQ FT	490					490

SUMMARY OF QUANTITIES

CODE NO	ITEM	UNIT	TOTAL QUANTITIES URBAN	CONSTRUCTION TYPE CODE 100% STATE 0005	80% FED 20% STATE COOK 0005	80% FED 20% STATE WILL 0005	80% FED 20% STATE COOK PEDESTRIAN SIGNAL 0021	80% FED 20% STATE COOK CULVERT 0004
54003000	CONCRETE BOX CULVERTS	CU YD	33					33
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	34					34
60146304	PIPE UNDERDRAINS FOR STRUCTURES 4"	FOOT	75					75
63000001	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	FOOT	2,250		2,250			
63000030	STRONG POST GUARDRAIL ATTACHED TO CULVERT	FOOT	100					100
63200310	GUARDRAIL REMOVAL	FOOT	2,250		2,250			
* 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	2					2 △1
* 66900200	NON-SPECIAL WASTE DISPOSAL	CU YD	280		35	15		230
* 66900530	SOIL DISPOSAL ANALYSIS	EACH	1		0.7	0.3		
* 66901001	REGULATED SUBSTANCES PRE-CONSTRUCTION PLAN	L SUM	1		0.7	0.3		
* 66901003	REGULATED SUBSTANCES FINAL CONSTRUCTION REPORT	L SUM	1		0.7	0.3		
* 66901006	REGULATED SUBSTANCES MONITORING	CAL DA	8		6	2		
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	12		8	4		
67100100	MOBILIZATION	L SUM	1		0.9	0.1		
70102620	TRAFFIC CONTROL AND PROTECTION, STANDARD 701501	L SUM	1		0.9	0.1		
70102635	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701	L SUM	1		0.9	0.1		

* = SPECIALTY ITEMS
△ = NON-PARTICIPATING WORK (100% STATE)

△1 REVISED SHEET 7/14/2022

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WOLF RD (US 6, SOUTHWEST HWY TO 183RD PL)
SUMMARY OF QUANTITIES

SCALE: | SHEET NO. OF SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2688	2017-040-RS	COOK | WILL	96	5
		CONTRACT NO. 62F75		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

REV-SEP

SUMMARY OF QUANTITIES

	CODE NO	ITEM	UNIT	TOTAL QUANTITIES URBAN	CONSTRUCTION TYPE CODE: 100% STATE 0005	80% FED 20% STATE COOK 0005	80% FED 20% STATE WILL 0005	80% FED 20% STATE COOK PEDESTRIAN SIGNAL 0021	80% FED 20% STATE COOK CULVERT 0004	
*	87301215	ELECTRIC CABLE IN CONDUIT, SIGNAL NO, 14 2C	FOOT	880				880		
*	87301225	ELECTRIC CABLE IN CONDUIT, SIGNAL NO, 14 3C	FOOT	895				895		
*	87301900	ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C	FOOT	135				135		
*	87900200	DRILL EXISITING HANDHOLE	EACH	3				3		
*	88102717	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	4				4		
*	88600600	DETECTOR LOOP REPLACEMENT	FOOT	2,209		1,445		764		
	89000100	TEMPORARY TRAFFIC SIGNAL INSTALLATION	EACH	1					1	
	89502200	MODIFY EXISTING CONTROLLER	EACH	1				1		
	89502375	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1				1		
	K0029624	WEED CONTROL, TEASEL	GALLON	2		1	1			
	K1004595	PRUNING FOR SAFETY AND EQUIPMENT CLEARANCE	L SUM	1		0.9	0.1			
	X0320050	CONSTRUCTION LAYOUT (SPECIAL)	L SUM	1		0.9	0.1			
	X0325222	WEED CONTROL, BASAL TREATMENT	GALLON	12		11	1			
	X0327036	BIKE PATH REMOVAL	SO YD	150		150				

SUMMARY OF QUANTITIES

	CODE NO	ITEM	UNIT	TOTAL QUANTITIES URBAN	CONSTRUCTION TYPE CODE: 100% STATE 0005	80% FED 20% STATE COOK 0005	80% FED 20% STATE WILL 0005	80% FED 20% STATE COOK PEDESTRIAN SIGNAL 0021	80% FED 20% STATE COOK CULVERT 0004	
	X0900064	MEMBRANE WATERPROOFING SYSTEM FOR BURIED STRUCTURES	SO YD	43					43	
	X0900075	COFFEERDAM (TYPE 1) (IN-STREAM/WETLAND WORK)	EACH	8					8	
*	X1400367	PEDESTRIAN SIGNAL POST, 10 FT.	EACH	3				3		
	X2020110	GRADING AND SHAPING SHOULDERS	UNIT	96		88	8			
	X4400501	COMBINATION CURB AND GUTTER REMOVAL AND REPLACEMENT LESS THAN OR TO 10 FEET	FOOT	350		350				
	X6330725	STEEL PLATE BEAM GUARDRAIL (SHORT RADIUS)	FOOT	25					25	△1
	X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1					1	
	X8760200	ACCESSIBLE PEDESTRIAN SIGNALS	EACH	12				12		
	X8780012	CONCRETE FOUNDATION, TYPE A 12-INCH DIAMETER	FOOT	12				12		
	X8950212	MODIFY EXISTING CONTROLLER CABINET, SPECIAL	EACH	1					1	
	Z0012754	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SO FT	20					20	
	Z0018100	DRAINAGE STRUCTURES ADJUSTMENT (SPECIAL)	EACH	2		2				
	Z0018500	DRAINAGE STRUCTURES TO BE CLEANED	EACH	20	20					
	Z0004562	COMBINATION CONCRETE CURB AND GUTTER REMOVAL AND REPLACEMENT	FOOT	300		300				

△1 REVISED SHEET 7/14/2022

* = SPECIALTY ITEMS
△ = NON-PARTICIPATING WORK (100% STATE)

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WOLF RD (US 6, SOUTHWEST HWY TO 183RD PL)
SUMMARY OF QUANTITIES

SCALE: | SHEET NO. OF SHEETS | STA. | TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2688	2017-040-RS	COOK | WILL	96	7
		CONTRACT NO. 62F75		
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

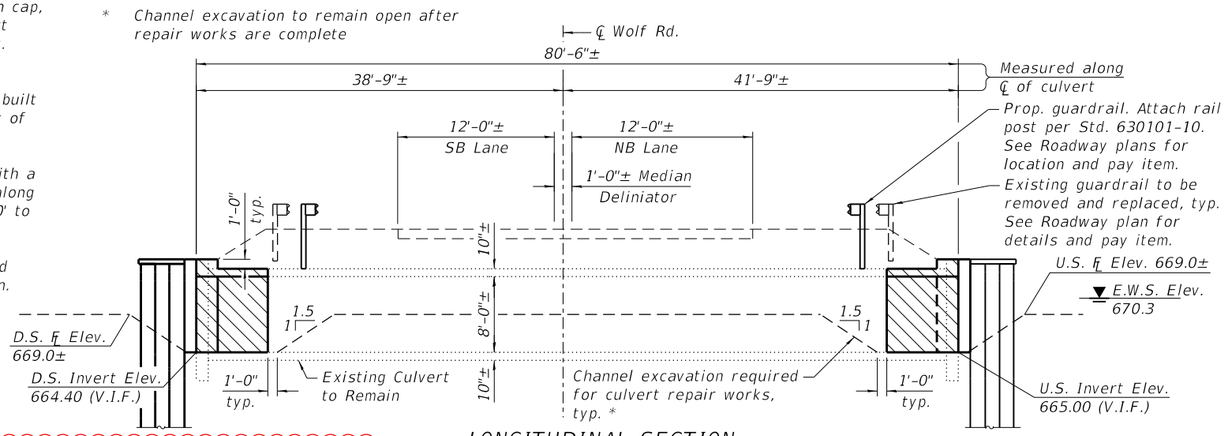
REV-SEP

Bench Mark: C.P. #2, Iron rod with cap, north of creek, ±30' west of culvert west end. Sta. 94+94, 56' Lt. Elev. 671.87.

Existing Structure: S.N. 016-1419 built in 1927 by Cook County Department of Highways under section 3349-15D. Double-box 10'x8' R.C. box culvert, 78'-0"± face to face of headwall with a culvert length of 80'-6" measured along ℄ of culvert, which is skewed 48°40' to the roadway.

One lane of traffic to be maintained using detour and stage construction. Stream flow to be maintained by diverting flow to one barrel. See Erosion Control plans.

* Channel excavation to remain open after repair works are complete



LONGITUDINAL SECTION

(Horizontal dimensions shown are at right angles to ℄ Roadway unless noted otherwise)

WATERWAY INFORMATION

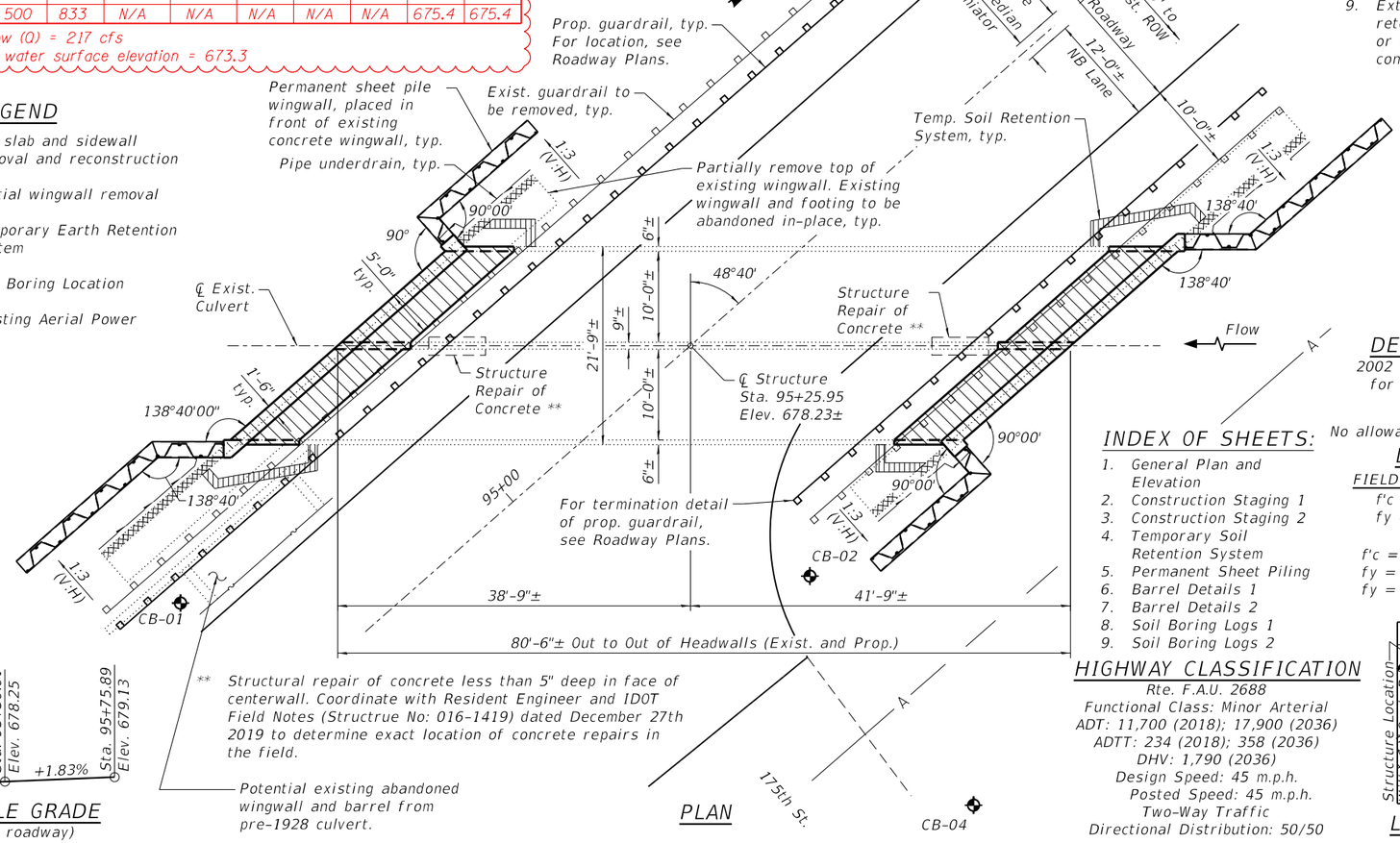
Drainage Area = 6.32 SQ MI. Low Grade Elev. 675.78 @ Sta. 95+12

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	387	N/A	N/A	N/A	N/A	N/A	673.8	673.8
Design	50	563	N/A	N/A	N/A	N/A	N/A	674.7	674.7
Base	100	641	N/A	N/A	N/A	N/A	N/A	675.0	675.0
Overtopping									
Max. Calc.	500	833	N/A	N/A	N/A	N/A	N/A	675.4	675.4

2 Year peak flow (Q) = 217 cfs
2 Year existing water surface elevation = 673.3

LEGEND

- Top slab and sidewall removal and reconstruction
- Partial wingwall removal
- Temporary Earth Retention System
- Soil Boring Location
- A — Existing Aerial Power Line



** Structural repair of concrete less than 5" deep in face of centerwall. Coordinate with Resident Engineer and IDOT Field Notes (Structrue No: 016-1419) dated December 27th 2019 to determine exact location of concrete repairs in the field.

Potential existing abandoned wingwall and barrel from pre-1928 culvert.

PROFILE GRADE
(along ℄ roadway)

INDEX OF SHEETS:

HIGHWAY CLASSIFICATION

Rte. F.A.U. 2688
Functional Class: Minor Arterial
ADT: 11,700 (2018); 17,900 (2036)
ADTT: 234 (2018); 358 (2036)
DHV: 1,790 (2036)
Design Speed: 45 m.p.h.
Posted Speed: 45 m.p.h.
Two-Way Traffic
Directional Distribution: 50/50

GENERAL NOTES:

1. 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 of 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 at the unit price bid for the work.
2. Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
3. Protective coat shall not be applied to surfaces to which Waterproofing Membrane System is applied.
4. A cantilevered sheet piling design does not appear feasible and additional members or other retention systems may be necessary. The Contractor shall submit a temporary soil retention system design including plan details and calculations for review and acceptance by the Engineer.
5. Existing reinforcement shall be cleaned and incorporated into the new construction. Cost included with Concrete Removal.
6. It shall be the responsibility of the contractor to divert the stream flow during construction in order to keep the construction area free of water. The method of the water diversion shall be subject to the approval of the Engineer and the cost shall be included with the cost of Concrete Box Culverts. See Erosion Control Plans for more information.
7. Protective coat shall be applied to the top of headwall.
8. All exposed concrete edges shall be chamfered 3#4" except as noted.
9. Extra caution shall be taken when installing permanent sheet piling and temporary soil retention system in the vicinity of aerial wires. It is the Contractor's responsibility to repair or replace the damaged utilities caused by the construction operations to the original condition at Contractor's own expense.

SCOPE OF WORK:

1. Remove and replace 5'-0" (as measured perpendicular to headwall) of barrel top slab and walls in-kind at each end.
2. Construct permanent steel sheetpile wingwalls in front of existing wingwalls. Excavate behind existing wingwalls. Abandon existing cast-in-place wingwalls in-place.
3. Perform structural repair of concrete on faces of centerwall paid for under Structural Repair of Concrete (Depth equal to of less than 5 inches).
4. Place backfill behind permanent sheet pile wingwalls after the ends of the culvert are constructed and sheet pile installation is completed. See Article 502.10 for Standard Specifications.

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Bridges, 17th Edition

LOADING HS20-44

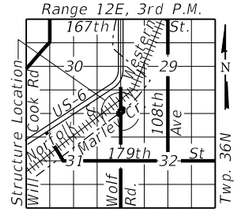
No allowance for future wearing surface.

DESIGN STRESSES

FIELD UNITS - EXISTING CONDITIONS
f'c = 3,000 psi
fy = 33,000 psi (Reinforcement)

FIELD UNITS - REPAIRS
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (Steel sheet piling)

Range 12E, 3rd P.M.



LOCATION SKETCH

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Channel Excavation	Cu Yd	194
Channel Excavation	Cu Yd	139
Porous Granular Backfill	Cu Yd	40
Concrete Removal	Cu Yd	29
Structure Excavation	Cu Yd	100
Protective Coat	Sq Yd	12
Reinforcement Bars	Pound	2950
Permanent Sheet Piling	Sq Ft	3255
Temporary Soil Retention System	Sq Ft	454
Concrete Box Culverts	Cu Yd	30
Geocomposite Wall Drain	Sq Yd	28
Pipe Underdrains For Structures 4"	Foot	56
Membrane Waterproofing System For Buried Structure	Sq Yd	40
Structural Repair of Concrete (Depth Equal to or Less than 5 Inches)	Sq Ft	20

GENERAL PLAN AND ELEVATION
WOLF ROAD OVER MARLEY CREEK
F.A.U. ROUTE 2688 - SECTION 2017-040-RS
STATION 95+25.92
COOK COUNTY
STRUCTURE NUMBER 016-1419

1 REVISED SHEET 7/14/2022

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LOCHNER H. W. LOCHNER, INC. 225 WEST WASHINGTON STREET 12 TH FLOOR CHICAGO, ILLINOIS 60606	USER NAME = ALAU	DESIGNED - ACL	REVISED - 1 6/22/2022	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN S.N. 016-1419 (LOCATION 1)
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	PLOT DATE = 7/8/2022	CHECKED - RH	REVISED -		

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2688	2017-040-RS	COOK	96	36
		CONTRACT NO. 62F75		
		ILLINOIS	FED. AID PROJECT	

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Bench Mark: Bench Mark: C.P. #4, Iron rod with cap, 14' west of west EOP, 10' north of wingwall end north of creek, ±30' west of culvert west end. Sta. 91+17, 25' Lt. Elev. 672.210.

Existing Structure: S.N. 016-1420 built in 1927 by Cook County Department of Highways under section 3349-15D. Single-box, 8'x4' R.C. box culvert, 44'-0" face to face of headwall with a culvert length of 46'-0".

One lane of traffic to be maintained using detour.

WATERWAY INFORMATION

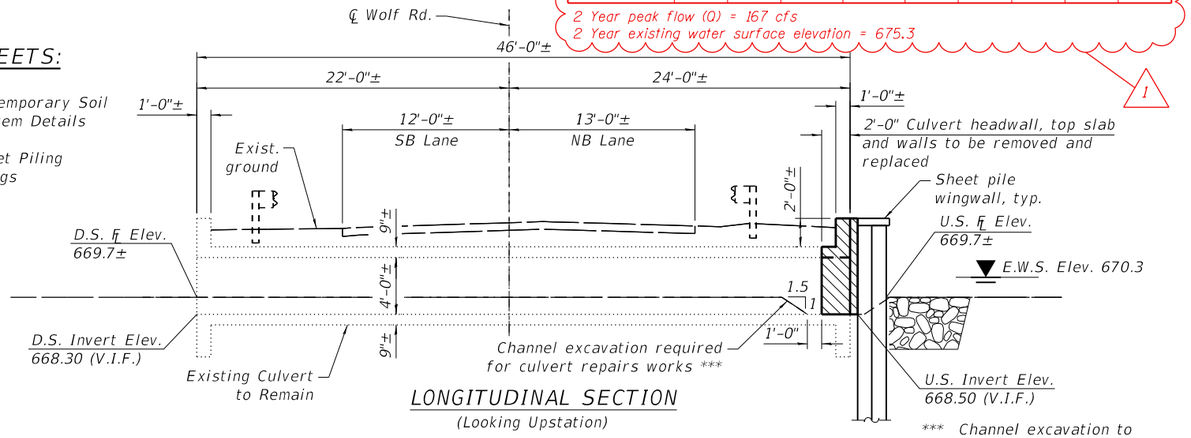
Drainage Area = 1.4 SQ MI. Low Grade Elev. 674.68 @ Sta. 90+92

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	550	N/A	N/A	N/A	N/A	N/A	676.3	676.3
Design	50	870	N/A	N/A	N/A	N/A	N/A	677.2	677.2
Base	100	1028	N/A	N/A	N/A	N/A	N/A	677.7	677.7
Overtopping									
Max. Calc.	500	1430	N/A	N/A	N/A	N/A	N/A	678.7	678.7

2 Year peak flow (Q) = 167 cfs
2 Year existing water surface elevation = 675.3

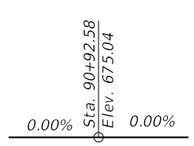
1

INDEX OF SHEETS:

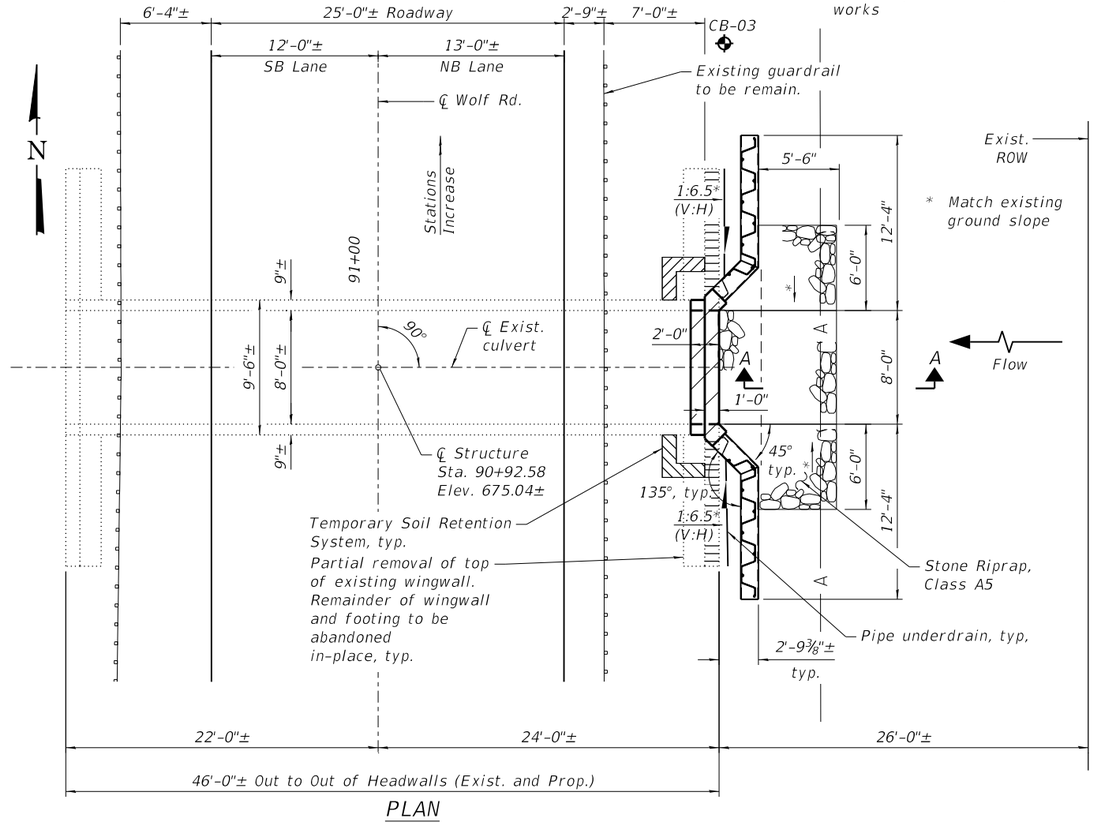


LONGITUDINAL SECTION
(Looking Upstation)

*** Channel excavation to remain open after repair works



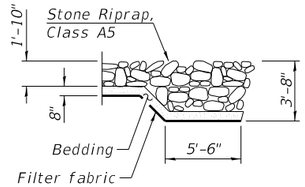
PROFILE GRADE
(along ℄ roadway)



PLAN

LEGEND

- Top slab and wall removal and reconstruction
- Partial removal of existing wingwall
- Temporary soil retention system
- Soil Boring Location
- A — Existing Aerial Power Line



SECTION A-A

GENERAL NOTES:

1. 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 of 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 at the unit price bid for the work.
2. Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
3. Protective coat shall not be applied to surfaces to which Waterproofing Membrane System is applied.
4. A cantilevered sheet piling design does not appear feasible and additional members or other retention systems may be necessary. The Contractor shall submit a temporary soil retention system design including plan details and calculations for review and acceptance by the Engineer.
5. Existing reinforcement shall be cleaned and incorporated into the new construction. Cost included with Concrete Removal.
6. It shall be the responsibility of the contractor to divert the stream flow during construction in order to keep the construction area free of water. The method of the water diversion shall be subject to the approval of the Engineer and the cost shall be included with the cost of Concrete Box Culverts. See Erosion Control Plans for more information.
7. Protective coat shall be applied to the top of headwall.
8. All exposed concrete edges shall be chamfered ¾" except as noted.
9. Extra caution shall be taken when installing permanent sheet piling and temporary soil retention system in the vicinity of aerial wires. It is the Contractor's responsibility to repair or replace the damaged utilities caused by the construction operations to the original condition at Contractor's own expense.

SCOPE OF WORK:

1. Remove and replace 2'-0" of barrel top slab and walls in-kind at east end.
2. Construct permanent steel sheetpile wingwalls in front of existing wingwalls. Excavate behind existing wingwalls. Partically remove top of existing wingwall. Abandon existing cast-in-place wingwalls in-place.
3. Place backfill behind permanent sheet pile wingwalls after the ends of the culvert are constructed and sheet pile installation is completed. See Article 502.10 for Standard Specifications.

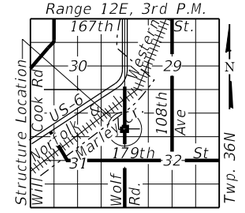
LOADING HS20-44

No allowance for future wearing surface.

DESIGN STRESSES

FIELD UNITS - EXISTING CONDITIONS
f'c = 3,000 psi
fy = 33,000 psi (Reinforcement)

FIELD UNITS - REPAIRS
f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (Steel sheet piling)



LOCATION SKETCH

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Channel Excavation	Cu. Yd.	36
Furnished Excavation	Cu. Yd.	14
Porous Granular Backfill	Cu. Yd.	3.3
Stone Riprap, Class A5	Sq. Yd.	16
Filter Fabric	Sq. Yd.	16
Protective Coat	Sq. Yd.	1.2
Concrete Removal	Cu. Yd.	3.4
Structure Excavation	Cu. Yd.	11
Reinforcement Bars	Pound	260
Permanent Sheet Piling	Sq. Ft.	670
Temporary Soil Retention System	Sq. Ft.	36
Concrete Box Culverts	Cu. Yd.	2.2
Geocomposite Wall Drain	Sq. Yd.	5.2
Pipe Underdrain for Structures 4"	Foot	19
Membrane Waterproofing System for Buried Structures	Sq. Yd.	3

HIGHWAY CLASSIFICATION

Rte. F.A.U. 2688
Functional Class: Minor Arterial
ADT: 11,200 (2018); 18,300 (2038)
ADTT: 234 (2018); 549 (2036)
DHV: 1,830 (2038)
Design Speed: 45 m.p.h.
Posted Speed: 45 m.p.h.
Two-Way Traffic
Directional Distribution: 50/50

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Bridges, 17th Edition

GENERAL PLAN AND ELEVATION
WOLF ROAD OVER MARLEY CREEK TRIB.
F.A.U. ROUTE 2688 - SECTION 2017-040-RS
STATION 90+92.58
COOK COUNTY
STRUCTURE NUMBER 016-1420

1 REVISED SHEET 7/14/2022

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LOCHNER
H. W. LOCHNER, INC.
225 WEST WASHINGTON STREET
12 TH FLOOR
CHICAGO, ILLINOIS 60606

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN
S.N. 016-1420 (LOCATION 2)
SHEET 1 OF 5 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2688	2017-040-RS	COOK	96	37
		CONTRACT NO. 62F75		
	ILLINOIS FED. AID PROJECT			

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