

004

FOR INDEX OF SHEETS AND STANDARDS SEE SHEETS NO. 3 AND 4

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

1972 + 5 = 1977 TOTAL SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	1
ILLINOIS			CONTRACT NO. 60X93	

DESIGN DESIGNATIONS:

EB I-290	109,000(2040) INTERSTATE
WB I-290	31,000(2040) INTERSTATE
EB CONGRESS PARKWAY	33,000(2040) INTERSTATE
WB CONGRESS PARKWAY	31,000(2040) INTERSTATE
ES RAMP	43,000(2040) INTERSTATE
EN RAMP	31,000(2040) INTERSTATE
EB TAYLOR STREET EXIT RAMP	2,000(2040) INTERSTATE
SB TAYLOR STREET EXIT RAMP	8,000(2040) INTERSTATE
SB I-90/94	98,000(2040) INTERSTATE
NB I-90/94	81,000(2040) INTERSTATE
SE RAMP	5,000(2040) INTERSTATE
WS RAMP	8,000(2040) INTERSTATE
WN RAMP	9,000(2040) INTERSTATE

POSTED DESIGN SPEEDS:

45 /60 MPH
45 /45 MPH
45 /50 MPH
45 /45 MPH
40 /40 MPH
30 /30 MPH
35 /35 MPH
NA /25 MPH
45 /60 MPH
45 /60 MPH
25 /25 MPH
25 /25 MPH
20 /30 MPH

PROJECT LOCATED IN CITY OF CHICAGO

D-91-227-13

PROPOSED  
HIGHWAY PLANS

MISC. INTERCHANGE RAMPS AT VARIOUS LOCATIONS  
FAI ROUTE 90/94 AT I-290/CONGRESS PARKWAY  
(JANE BYRNE INTERCHANGE)  
WB CONGRESS TO SB I-90/94  
WB CONGRESS TO NB I-90/94  
SB I-90/94 TO EB CONGRESS  
SECTION 2014-013R&B-R  
PROJECT: NHPP-VQ14(255)  
BRIDGE REPLACEMENT,  
ROADWAY RECONSTRUCTION,  
LIGHTING AND ITS  
COOK COUNTY  
C-91-273-14

NPDES PERMIT INFORMATION

NPDES Disturbed  
Area = 12.79 Acres

Approximate Location of Roadway is :  
Longitude 87° 38' 43.53" W  
Latitude 41° 52' 28.62" N



STATION EQUATION  
SB TAYLOR EXIT RAMP  
STA 7404 + 00.00 BK =  
STA 6404 + 00.00 AH

STATION EQUATION  
RAMP SE  
STA 2401 + 40.00 BK =  
STA 1401 + 40.00 AH

RETAINING WALL 48  
SN 016-1835  
STA 1403 + 78.00 TO  
STA 1404 + 80.58

RAMP WS BRIDGE  
SN 016-1715  
STA 1210 + 40.15 TO  
STA 1229 + 66.00

RAMP SE BRIDGE  
SN 016-1714  
STA 1404 + 80.51 TO  
1412 + 21.28

SB TAYLOR STREET  
EXIT RAMP BRIDGE  
SN 016-1718  
STA 6407 + 67.96 TO  
STA 6409 + 18.85

BEGIN PROJECT LIMIT  
SB TAYLOR EXIT RAMP  
STA 7402 + 00.00  
RAMP SE  
STA 2399 + 53.53

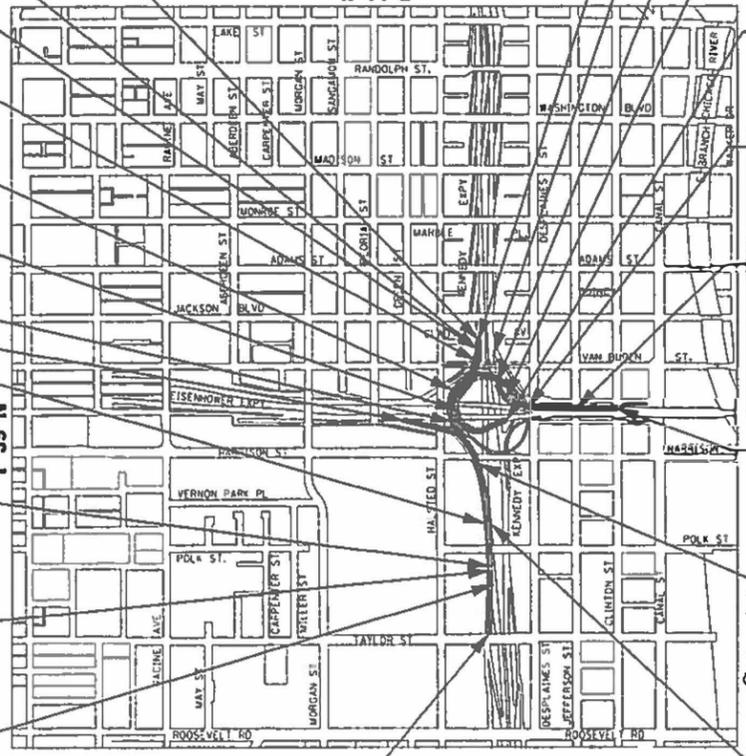
BEGIN PROJECT LIMIT  
RAMP ES  
STA 1507 + 75.00  
EB TAYLOR EXIT RAMP  
STA 7306 + 37.89

END PROJECT LIMIT  
RAMP ES  
STA 1518 + 55.15

END PROJECT LIMIT  
RAMP WS  
STA 1241 + 20.44

END PROJECT LIMIT  
SB TAYLOR EXIT RAMP  
STA 6424 + 10.70

EXISTING RETAINING  
WALL 12  
SN 016-2311  
STA 7316 + 31.15 TO  
STA 7322 + 25.12



GROSS LENGTH = 10,534.10 FT. = 1.995 MILES  
NET LENGTH = 10,534.10 FT. = 1.995 MILES

RETAINING WALL 47  
SN 016-1834  
STA 6405 + 49.34 TO  
STA 6407 + 69.43

RETAINING WALL 46  
SN 016-1833  
STA 1105 + 03.64 TO  
STA 1105 + 60.00

END PROJECT LIMIT  
RAMP WN  
STA 1105 + 76.20

RAMP WN BRIDGE  
SN 016-1706  
STA 1103 + 05.18  
TO STA 1105 + 26.72

END PROJECT LIMIT  
RAMP SE  
STA 1412 + 21.28

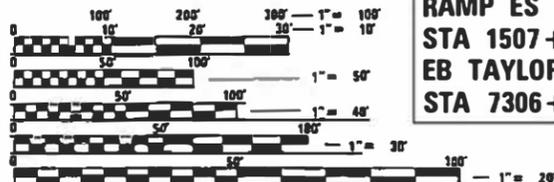
BEGIN PROJECT LIMIT  
RAMP WN STA  
1103 + 05.41

WB I-290 (CONGRESS)  
VIADUCT  
SN 016-0461  
STA 5206 + 58.47 TO  
5212 + 92.32

BEGIN PROJECT LIMIT  
RAMP WS STA  
1210 + 37.67

RETAINING WALL 14  
SN 016-1803  
STA 1229 + 61.00 TO  
STA 1231 + 81.19

RETAINING WALL 16  
SN 016-1805  
STA 7320 + 50.00 TO  
STA 7326 + 25.98



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.

FOR PROFESSIONAL SEALS  
SEE SHEET 2

C.U.A.N.  
CHICAGO UTILITY ALERT NETWORK  
1-312-744-7000

PROJECT MANAGER: BRIAN KUTTAB, PE  
CONTRACT NO. 60X93

DISTRICT 1 DESIGN /CONSULTANT SERVICES: BRIAN KUTTAB, P.E. (847)705-4431 SCHAUMBURG, ILLINOIS

TranSystems 1475 EAST WOODFIELD ROAD, SUITE 600  
SCHAUMBURG, IL 60113  
PHONE (847) 505-9500  
FAX (847) 463-0565

AECOM 303 EAST WACKER DRIVE, SUITE 1400  
CHICAGO, IL 60601-5276  
PHONE (312) 373-7100  
FAX (312) 373-6900

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SUBMITTED *June 6 2018*  
*Anthony J. D'Amico / CNB*  
REGIONAL ENGINEER

*Oct 5 2018*  
*Paul P. Ch...*  
ENGINEER OF DESIGN AND ENVIRONMENT

*Oct 9 2018*  
*Paul P. Ch...*  
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

PRINTED BY THE AUTHORITY  
OF THE STATE OF ILLINOIS

FILE PATH = c:\p1\61779-PWINT-asecomon\line\local\IACOM\_0502\_MW\Documents\01\_Americas\Transportation\60269938\_Circle\Phase\_1\2002\_CAD\006\_Roadway\Sheet\60X93\_Contract\01626993-shr-GenNote-01.dgn

1	COVER SHEET		279-288	SUGGESTED STAGES OF CONSTRUCTION AND TRAFFIC CONTROL PLAN - I-90/94 MAINLINE STAGE 5	1073-1083	PROPOSED WALL #46 PLANS (SN 016-1833)
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6	CITY OF CHICAGO GENERAL NOTES AND COMMITMENTS				1152-1162	IDOT TRAFFIC SYSTEMS CENTER STANDARD DRAWINGS
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70	ROADWAY KEY PLAN		317	SUGGESTED STAGES OF CONSTRUCTION AND TRAFFIC CONTROL PLAN - DES PLAINES ST STAGE 1	1210-1248	CROSS SECTIONS - EB TAYLOR EXIT RAMP - STAGE 3
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			605-606	WIRING DIAGRAM		
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			661-742	PROPOSED RAMP SE BRIDGE PLANS (SN 016-1714)		
			743-914	PROPOSED RAMP WS BRIDGE PLANS (SN 016-1715)		
			915-952	PROPOSED SB TAYLOR ST EXIT BRIDGE PLANS (SN 016-1718)		
			953-1024	PROPOSED CONGRESS PARKWAY BRIDGE PLANS (SN 016-0461)		
			1025-1046	PROPOSED WALL #14 PLANS (SN 016-1803)		
			1047-1072	PROPOSED WALL #16 PLANS (SN 016-1805)		

376-386A 2



0160X93-shr-GenNote-01.dgn	DESIGNED - DWH	REVISED -
USER NAME = bm_janus	DRAWN - BMJ	REVISED -
PLOT SCALE = 100.0000' / 1in.	CHECKED - MJL	REVISED -
PLOT DATE = 7/31/2018	DATE - 7/30/2018	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

<b>INDEX OF DRAWINGS</b>			
SCALE: NONE	SHEET 1	OF 4 SHEETS	STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	3
CONTRACT NO. 60X93			ILLINOIS FED. AID PROJECT	

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CODE NUMBER	PAY ITEM		TOTAL QUANTITY	ROADWAY	ROADWAY	BRIDGE	BRIDGE	BRIDGE	BRIDGE	BRIDGE	RETAINING WALL	LIGHTING/ITS							
				90% FED		90% FED	90% FED	90% FED	90% FED	90% FED	90% FED	90% FED	90% FED	90% FED					
				10% STATE	100% STATE	10% STATE	10% STATE	10% STATE	10% STATE	10% STATE	10% STATE	10% STATE	10% STATE	10% STATE					
				0004	0004	0013	0010	0010	0010	0010	0010	0044	0044	0044	0044	0044	0044	0044	0021
				URBAN	URBAN	016-0461	016-1706	016-1714	016-1715	016-1718	016-1803	016-1805	016-1833	016-1834	016-1835	016-2311	URBAN		
50800530	MECHANICAL SPLICERS	EACH	938			6			788	120						24			
51100100	SLOPE WALL 4 INCH	SQ YD	8										8						
51500100	NAME PLATES	EACH	10				1	1	1	1	1	1	1	1	1	1			
51602000	PERMANENT CASING	FOOT	2,272				275	557	701	739									
* 51603000	DRILLED SHAFT IN SOIL	CU YD	3,889.6			58.0	477.0	848.1	2,242.5	264.0									
* 51604000	DRILLED SHAFT IN ROCK	CU YD	115.3			1.0	16.0	12.9	73.4	12.0									
52000110	PREFORMED JOINT STRIP SEAL	FOOT	263			36	34	124	38	31									
52100010	ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	67			25			42										
52100020	ELASTOMERIC BEARING ASSEMBLY, TYPE II	EACH	20			20													
52100510	ANCHOR BOLTS, 3/4"	EACH	380					200	180										
52100520	ANCHOR BOLTS, 1"	EACH	358			90	80	20	128	40									
52100530	ANCHOR BOLTS, 1 1/4"	EACH	20			20													
52100540	ANCHOR BOLTS, 1 1/2"	EACH	74						44	30									
52200020	TEMPORARY SOIL RETENTION SYSTEM	SQ FT	8,463			539	2,426		4,894			502				102			

\* DENOTES SPECIALTY ITEM      \*\* DENOTES NON-PARTICIPATING ITEM      % 0042



0160X93-sht-500.dgn  
 USER NAME = bm\_janus  
 PLOT SCALE = 20.0000' / in.  
 PLOT DATE = 7/31/2018

DESIGNED - MJL  
 DRAWN - BMJ  
 CHECKED - JMG  
 DATE - 7/30/2018

REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES  
 SCALE: NONE      SHEET 7 OF 29 SHEETS      STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	13
ILLINOIS FED. AID PROJECT			CONTRACT NO. 60X93	

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CODE NUMBER	PAY ITEM		TOTAL QUANTITY	ROADWAY		BRIDGE		BRIDGE		BRIDGE		RETAINING WALL		RETAINING WALL		RETAINING WALL		LIGHTING/ITS		
				90% FED	100% STATE	90% FED	90% FED	90% FED	90% FED	90% FED	90% FED	90% FED	90% FED	90% FED						
				0004	0004	0013	0010	0010	0010	0010	0044	0044	0044	0044	0044	0044	0044	0044	0044	0021
				URBAN	URBAN	016-0461	016-1706	016-1714	016-1715	016-1718	016-1803	016-1805	016-1833	016-1834	016-1835	016-2311	URBAN			
58700300	CONCRETE SEALER	SQ FT	70,138			3,384	2,299	8,713	25,238	1,932	7,156					6,147	3,788	11,481		
59300100	CONTROLLED LOW-STRENGTH MATERIAL	CU YD	152	152																
59000200	EPOXY CRACK INJECTION	FOOT	191															191		
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	341					47	54		240									
60108200	PIPE UNDERDRAINS 6" (SPECIAL)	FOOT	261	261																
60108204	PIPE UNDERDRAINS, TYPE 2, 4"	FOOT	21	21																
60108206	PIPE UNDERDRAINS, TYPE 2, 6"	FOOT	6,540	6,540																
60200105	CATCH BASINS, TYPE A, 4'-DIAMETER, TYPE 1 FRAME, OPEN LID	EACH	9	9																
60200805	CATCH BASINS, TYPE A, 4'-DIAMETER, TYPE 8 GRATE	EACH	6	6																
60201310	CATCH BASINS, TYPE A, 4'-DIAMETER, TYPE 20 FRAME AND GRATE	EACH	38	38																
60201340	CATCH BASINS, TYPE A, 4'-DIAMETER, TYPE 24 FRAME AND GRATE	EACH	3	3																
60207605	CATCH BASINS, TYPE C, TYPE 8 GRATE	EACH	8	8																
60207805	CATCH BASINS, TYPE C, TYPE 10 FRAME AND GRATE	EACH	1	1																
60208240	CATCH BASINS, TYPE C, TYPE 24 FRAME AND GRATE	EACH	2	2																
60218400	MANHOLES, TYPE A, 4'-DIAMETER, TYPE 1 FRAME, CLOSED LID	EACH	18	18																

\* DENOTES SPECIALTY ITEM      \*\* DENOTES NON-PARTICIPATING ITEM      % 0042



0160X93-sht-500.dgn  
 USER NAME = bmjenus  
 PLOT SCALE = 20.0000' / in.  
 PLOT DATE = 7/31/2018

DESIGNED - MJL  
 DRAWN - BMJ  
 CHECKED - JMG  
 DATE - 7/30/2018

REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**SUMMARY OF QUANTITIES**

SCALE: NONE      SHEET 9 OF 29 SHEETS      STA.      TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	15
ILLINOIS FED. AID PROJECT			CONTRACT NO. 60X93	

FILE PATH = p:\6179-P\INT-DESIGN\Line\local\FECOM\_0502\_MN\Documents\01\_Americas\Transportation\60259538\_Circle\Phase\_11\2018\_CAD\006\_Roadway\Sheet\60X93\_Contract\0162703-ant-500.dgn

CODE NUMBER	PAY ITEM		TOTAL QUANTITY	ROADWAY	ROADWAY	BRIDGE	BRIDGE	BRIDGE	BRIDGE	BRIDGE	RETAINING WALL	LIGHTING/ITS							
				90% FED	100% STATE	90% FED	90% FED	90% FED	90% FED	90% FED	90% FED	90% FED	90% FED	90% FED					
				10% STATE	0004	10% STATE	10% STATE	10% STATE	10% STATE	10% STATE	10% STATE	10% STATE	10% STATE	10% STATE					
				URBAN	URBAN	016-0461	016-1706	016-1714	016-1715	016-1718	016-1803	016-1805	016-1833	016-1834	016-1835	016-2311	URBAN		
X0327650	TEMPORARY DRAINAGE SYSTEM NO. 1	L SUM	1			1													
X0327756	STAINLESS STEEL CABLE PLANT SUPPORT SYSTEM	L SUM	1													1			
X0327757	FOUNDATION CONSTRUCTION AT EXISTING OBSTRUCTIONS	EACH	11					4	7										
* X0327980	PAVEMENT MARKING REMOVAL - WATER BLASTING	SQ FT	78,090	78,090															
X0370077	LOCATE TUNNEL, CHICAGO	EACH	1	1															
X0370080	COMBINATION CURB AND GUTTER TYPE B V.12 (CDOT)	FOOT	323	323															
X0370078	BULKHEAD TUNNEL, CHICAGO	EACH	1	1															
* X1200007	TEMPORARY WOOD POLE, 80 FEET, CLASS 4	EACH	1														1		
* X1400149	LUMINAIRE, LED, HORIZONTAL MOUNT, TYPE C	EACH	3														3		
* X1400172	ELECTRIC CABLE IN CONDUIT, COMMUNICATION, NO. 19 6 PAIR	FOOT	219														219		
* X1400240	FIBER OPTIC CABLE IN CONDUIT, 96 FIBERS, SINGLE MODE	FOOT	7,575														7,575		
* X1400249	LUMINAIRE, UNDERPASS, LED, TYPE C	EACH	34														34		
* X1400256	JUNCTION, BOX TYPE J, 41" X 12" X 9"	EACH	13														13		
* X1400259	LUMINAIRE, HIGHMAST LED, TYPE D	EACH	12														12		
X1700036	CONCRETE BARRIER BASE (SPECIAL NO. 1)	FOOT	2,028	2,028															
X1700037	CONCRETE BARRIER BASE (SPECIAL NO. 2)	FOOT	2,045	2,045															

\* DENOTES SPECIALTY ITEM      \*\* DENOTES NON-PARTICIPATING ITEM      % 0042



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DESIGNED - MJL  
 DRAWN - BMJ  
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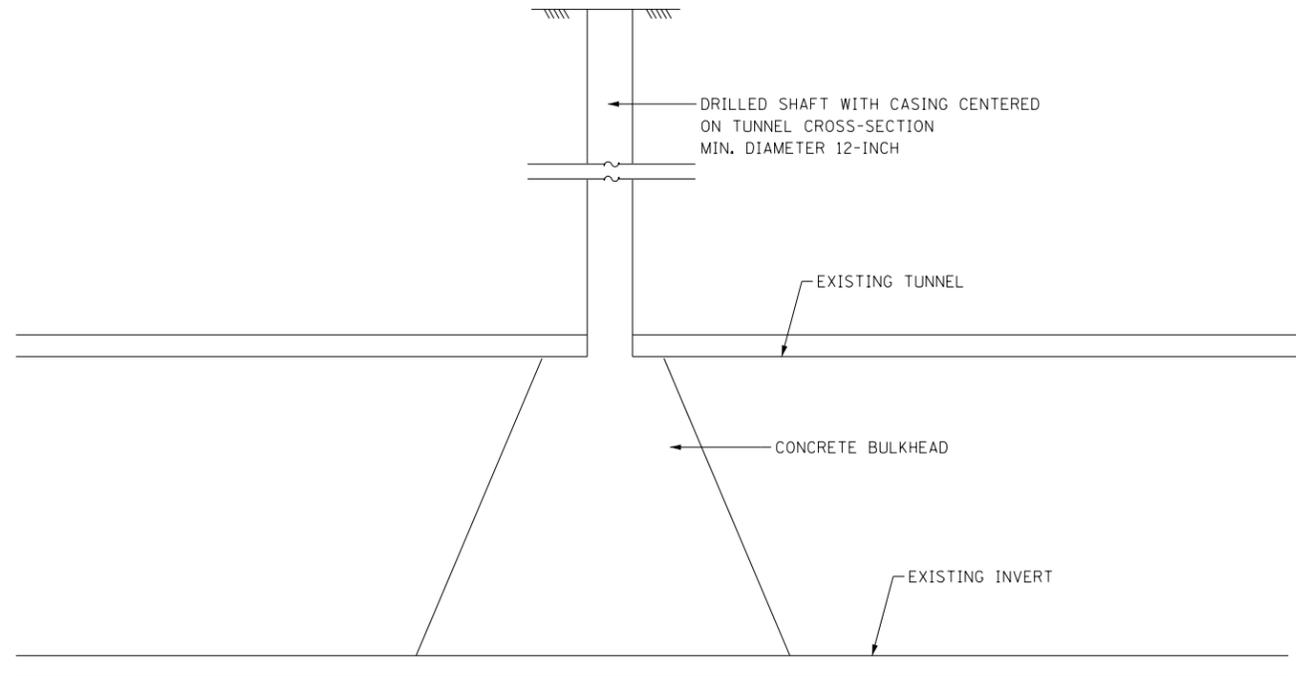
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STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

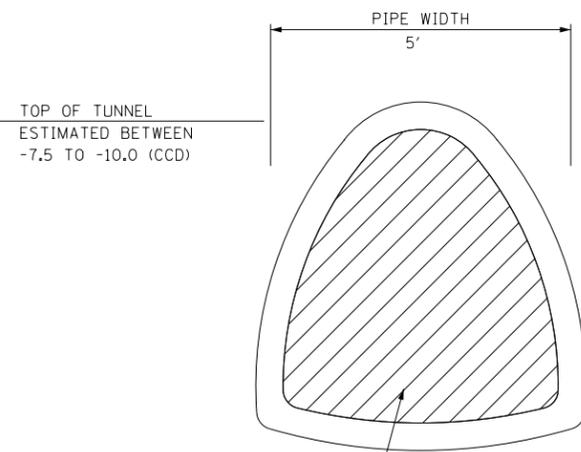
SUMMARY OF QUANTITIES  
 SCALE: NONE      SHEET 22 OF 29 SHEETS      STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	28
CONTRACT NO. 60X93				





TYPICAL SECTION  
PROPOSED BULKHEAD TUNNEL, CHICAGO



INSTALL BULKHEAD TUNNEL, CHICAGO  
AND FILL WITH CONTROLLED LOW  
STRENGTH MATERIAL

TYPICAL SECTION  
EXISTING CTA WATER TUNNEL (SHAPE ESTIMATED)

SCHEDULE OF QUANTITIES

ITEM	UNIT	QUANTITY
LOCATE TUNNEL, CHICAGO	EACH	1
BULKHEAD TUNNEL, CHICAGO	EACH	1
CONTROLLED LOW STRENGTH MATERIAL	CU YD	152

**TUNNEL NOTES:**

1. THE WATER TUNNEL SHOWN IS FROM IDOT RECORD DRAWINGS FOR ROADWAY AND BRIDGE CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ACCURATELY LOCATE THE CROWN OF THE WATER TUNNELS USING PROBE BORINGS AS DESCRIBED IN THE SPECIFICATIONS. THIS WORK IS INCLUDED IN THE ITEM LOCATE TUNNEL. THE METHOD OF LOCATING THE TUNNEL IS BASED UPON CDWM REQUIREMENTS FOR LOCATING TUNNELS.
2. THE EXISTING WATER TUNNEL IS ABANDONED WITH PREVIOUS BULKHEADS CONSTRUCTED. THE TUNNEL IS EXPECTED TO HAVE NOMINAL AMOUNTS OF WATER DUE TO INFILTRATION, WHICH MAY CONTRIBUTE TO SIGNIFICANT FLOWS DEPENDING ON GROUNDWATER CONDITIONS.
3. THE CONTRACTOR SHALL PROVIDE DEWATERING AS NEEDED IN THE EXISTING WATER TUNNEL. THIS WORK WILL NOT BE PAID FOR SEPARATELY, BUT INCLUDED IN THE COST OF TUNNEL BULKHEAD, CHICAGO OR CONTROLLED LOW STRENGTH MATERIAL.
4. OBTAIN TWO CORE SAMPLES PER BULKHEAD, ONE (1) AT THE 10 AND ONE (1) AT THE 4 O'CLOCK POSITIONS OR ONE (1) AT THE 2 AND ONE (1) AT THE 8 O'CLOCK POSITIONS FOR COMPRESSION STRENGTH TESTING.
5. AFTER THE INSPECTION OF ALL BULKHEADS, THE TUNNEL MUST BE FILLED. THE FILLED TUNNEL WILL ALLOW WALL CONSTRUCTION TO PROCEED IN THIS AND LATER CONSTRUCTION CONTRACTS. THE TUNNEL WILL BE FILLED WITH CONCRETE MEETING THE REQUIREMENTS OF CONTROLLED LOW STRENGTH MATERIAL WITH THE FOLLOWING ADDITIONAL INSTALLATION REQUIREMENTS:
  - A. INSTALLATION OF GROUT OR CLSM SHALL NOT TAKE PLACE UNTIL THE CONCRETE STRENGTH OF THE BULKHEAD ACHIEVES 2,000 PSI IN 2-3 DAYS AFTER PLACEMENT. CONCRETE CYLINDERS SHALL BE CAST AND BROKEN TO VERIFY THE BULKHEAD CONCRETE COMPRESSIVE STRENGTH. SUBMIT THE TEST RESULTS TO THE ENGINEER FOR APPROVAL.
  - B. CONTROLLED LOW STRENGTH MATERIAL SHALL BE PLACED BY PUMPING METHODS CONFORMING TO THE REQUIREMENTS OF SECTION 503.07 OF THE STANDARD SPECIFICATIONS EXCEPT THAT THE PLACEMENT TUBE SHALL BE NO LESS THAN SIX INCHES IN DIAMETER. THE PUMPING METHODS MUST BE APPROVED BY THE ENGINEER PRIOR TO THE START OF MATERIAL PLACEMENT.
  - C. THE GROUT/VENT HOLES REQUIRED TO FACILITATE THE PLACEMENT OF CONCRETE WITHIN THE TUNNELS SHALL BE DRILLED THROUGH THE TOP OF THE ABANDONED WATER TUNNEL AND SHALL BE NO MORE TWELVE INCHES IN DIAMETER. THE CONTRACTOR SHALL DRILL THE GROUT HOLES IN ADVANCE OF THE START OF THE GROUTING OPERATION. AT LOCATIONS WHERE GROUT/VENT HOLES ARE INSTALLED WITHIN PAVEMENT AREAS, THE CONTRACTOR SHALL PROVIDE TEMPORARY PLUGS CAPABLE OF SUPPORTING TRUCK LOADS OVER THE OPENINGS UNTIL THE GROUTING WORK COMMENCES. THE METHOD OF TEMPORARY PLUGGING THE GROUT HOLES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL, PRIOR TO DRILLING. DRILLING OF VENT/GROUT HOLES TO FACILITATE THE PLACEMENT OF CONCRETE WILL BE INCLUDED IN THE COST OF CONTROLLED LOW STRENGTH MATERIAL.
  - D. ANY WATER REMAINING IN THE TUNNEL AFTER ALL BULKHEADS ARE IN PLACE MUST BE REMOVED PRIOR TO THE PLACEMENT OF CLSM.
  - E. THE WATER TUNNEL FILLING SHALL BE PERFORMED IN FOUR (4) LIFTS. THE FOURTH LIFT INTO THE DRILLED ACCESS HOLE SHALL EXTEND A MINIMUM OF 10 FEET ABOVE THE TOP OF THE EXISTING CROWN OF THE WATER TUNNEL. THE CONTRACTOR SHALL LET THE CLSM SET A MINIMUM 24-HOUR PERIOD BETWEEN LIFTS. THE MINIMUM STRENGTH OF THE CLSM SHALL NOT BE LESS THAN 125 PSI.
  - F. THE CLSM SHALL HAVE A MINIMUM SPREAD DIAMETER OF 20-INCHES USING AN INVERTED SLUMP CONE, APPROVED BY THE ENGINEER.
  - G. THE CONTRACTOR MAY INSTALL AND UTILIZE FILL/VENT PIPE(S) TO FILL THE WATER TUNNEL. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING THE EXISTING TUNNEL INVERTS. THE CONTRACTOR SHALL ENSURE THE FILL/VENT PIPE(S) ARE SPACED SUCH THAT THE CLSM OR GROUT IS EQUALLY DISTRIBUTED BY GRAVITY FLOW WITHIN THE WATER TUNNEL.
  - H. BACKFILL THE BALANCE OF THE DRILLED SHAFTS WITH SAND, A MINIMUM OF 72-HOURS AFTER THE PLACEMENT OF THE GROUT OR CLSM.
6. AT THE COMPLETION OF THE TUNNEL FILLING, CORES ARE REQUIRED TO BE TAKEN AT THE 1/4 POINTS ALONG THE TUNNEL TO INSURE THE TUNNEL IS COMPLETELY FILLED WITH CONCRETE. THE CORES MUST EXTEND TO THE INVERT OF THE TUNNEL. THE AMOUNT OF CONCRETE PLACED BETWEEN THE BULKHEADS AND THE CALCULATED AMOUNT OF CONCRETE NEEDED TO FILL THE TUNNEL, AND THE CORING DATA, MUST BE SUBMITTED IN A LETTER TO THE ENGINEER WITHIN ONE WEEK OF COMPLETING FILLING THE TUNNEL.
6. AFTER COMPLETION OF THE GROUTING OPERATIONS, THE CONTRACTOR SHALL RESTORE ANY DAMAGED PARKWAY, PAVEMENT OR SIDEWALK TO ITS CONDITION PRIOR TO THE START OF OPERATIONS. ALL EXCESS GROUT SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

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PLOT DATE = 10/30/2018	DATE - 9/10/2018	REVISED -

STATE OF ILLINOIS  
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ABANDONED CTA WATER TUNNEL  
BULKHEADING AND FILLING DETAILS

SCALE: SHEET 11A OF 11 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-013R&B-R	COOK	1972	386A
CONTRACT NO. 60X93				
ILLINOIS FED. AID PROJECT				

**GROUND IMPROVEMENT PERFORMANCE REQUIREMENTS**

Equivalent Uniform Service Bearing Pressure varies according to the Estimated Equivalent Uniform Service Pressure for Aggregate Column Design Table.

The Shop Drawings and construction procedures submittal shall indicate the sequence of construction within the limits of Aggregate Column Ground Improvement.

The aggregate column installation shall be coordinated with existing utilities, existing structural removals, and proposed utility installation.

Settlement during construction shall not exceed 3 inches, and settlement after completion of the wall and anchorage slab shall not exceed 1 inch.

Minimum factor of safety for Equivalent Uniform Service Bearing Pressure shall be 2.5.

A minimum factor of safety of 1.5 against global stability failure is required for the design of the Aggregate Column Ground Improvements. See Special Provision for more information.

**Notes:**

Aggregate column ground improvement shall be designed and installed by the Contractor in accordance with special provision for Aggregate Column Ground Improvement.

Within the Limits of Structure Excavation, depth of the aggregate column for Aggregate Column Ground Improvement will be measured from Top of Leveling Pad to Bottom of the Aggregate Column.

The Contractor shall field verify location of existing underground utilities. The Contractor shall take all precautions to protect existing utilities during construction of the wall. Any damages to the existing utilities shall be the responsibility of the Contractor.

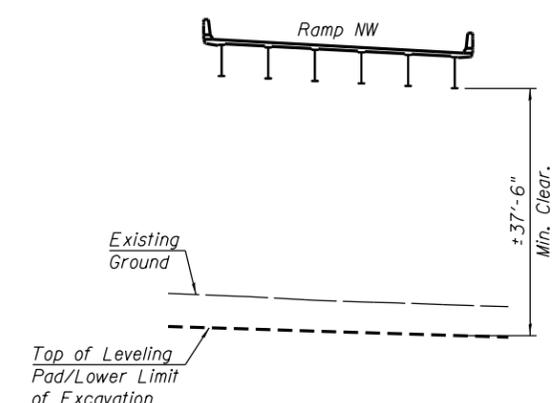
Aggregate Ground Improvement for Retaining Wall 47 covers approximately 5,970 Sq. Ft.

See Sheets S9-03 and S9-04 of S9-15 for section views of ground improvement.

The bulkheading and filling of the abandoned 5' diameter water tunnel shall be completed before starting the construction of the aggregate column ground improvement.

**ESTIMATED EQUIVALENT UNIFORM SERVICE PRESSURE FOR AGGREGATE COLUMN DESIGN**

Limits	Equivalent Uniform Service Pressure for Design
Sta. 6405+80 to Sta. 6407+00	1,000 psf
Sta. 6407+00 to Sta. 6407+70	1,400 psf



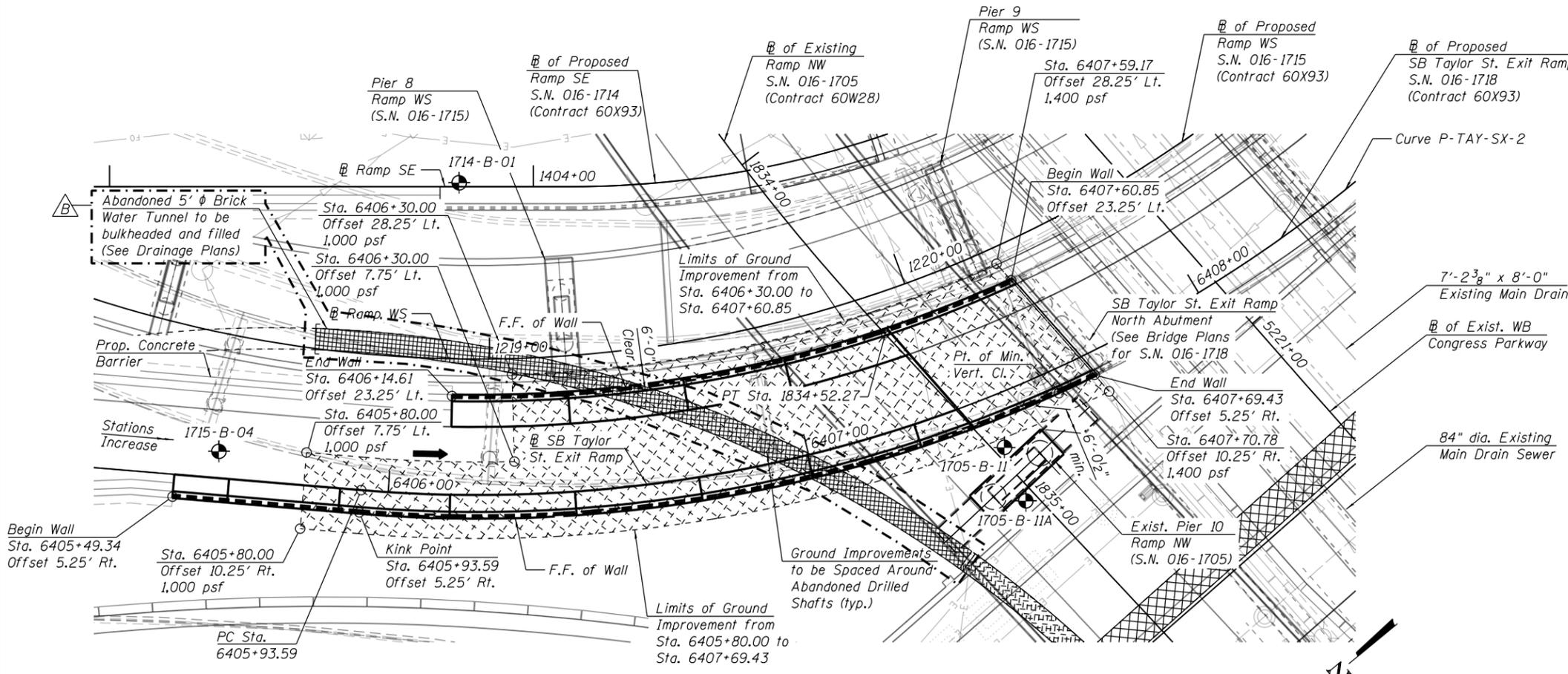
**OVERHEAD CLEARANCE DETAIL**  
(Looking East)

**LEGEND**

- Soil Boring
- Aggregate Column Ground Improvements

**BILL OF MATERIAL**

Item	Unit	Total
Aggregate Column Ground Improvement	L. Sum	0.8



**PLAN**

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USER NAME = wjoiletta	DESIGNED - DJG	REVISED - 10/30/2018 WJC
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PLOT DATE = 10/30/2018	DRAWN - MJR	REVISED -
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**AGGREGATE COLUMN GROUND IMPROVEMENT DETAILS  
RETAINING WALL 47 (STRUCTURE NO. 016-1834)**

SHEET NO. S9-09 OF S9-15 SHEETS

F.A.I. RTE. 90/94/290	SECTION 2014-013 R&B-R	COUNTY COOK	TOTAL SHEETS 1972	SHEET NO. 1092
CONTRACT NO. 60X93			ILLINOIS FED. AID PROJECT	