

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	2016-052B	LAKE	30	3
		ILLINOIS	CONTRACT NO. 62D38	

FOR INDEX OF SHEETS, SEE SHEET NO. 2

STATE OF ILLINOIS

03-08-2019 LETTING ITEM 011

DEPARTMENT OF TRANSPORTATION

PROPOSED HIGHWAY PLANS

PROJECT LOCATED IN VILLAGE OF VERNON HILLS

TRAFFIC DATA

2017 ADT = 27,400
POSTED SPEED = 45 MPH

DESIGN CLASSIFICATION

OTHER PRINCIPAL ARTERIAL

FAP ROUTE 330 IL 21 (MILWAUKEE AVE)
OVER DITCH (1.4 MILES N OF IL 22)
SN 049-0599
SECTION 2016-052B
PROJECT NHPP-IH91(219)
CULVERT REPLACEMENT
LAKE COUNTY

D-91-011-17



HBM ENGINEERING GROUP, LLC
ROBERT T. BORO, P.E.
#062-043749

Robert Boro



DATE: 11/29/2018

SIGNATURE AND SEAL
APPLY TO DRAWINGS:
1-7, AND 12-13

EXPIRATION DATE: 11-30-2019

HBM ENGINEERING GROUP, LLC
MOUSSA A. ISSA, PH.D., P.E., S.E.
#081-005738

Moussa A. Issa



DATE: 11/29/2018

SIGNATURE AND SEAL
APPLY TO DRAWINGS:
16-24

EXPIRATION DATE: 11-30-2020

ACCURATE GROUP, INC.
LISA REBECCA CHRZASC, P.E.
#062-067528

Lisa Chrzas



DATE: 11/29/2018

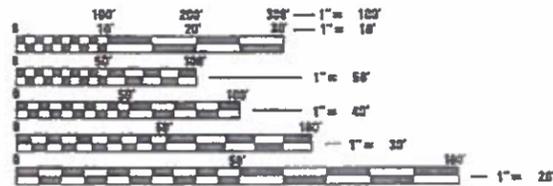
SIGNATURE AND SEAL
APPLY TO DRAWINGS:
8-11

EXPIRATION DATE: 11-30-2019

IMPROVEMENT ENDS
STA. 208+50

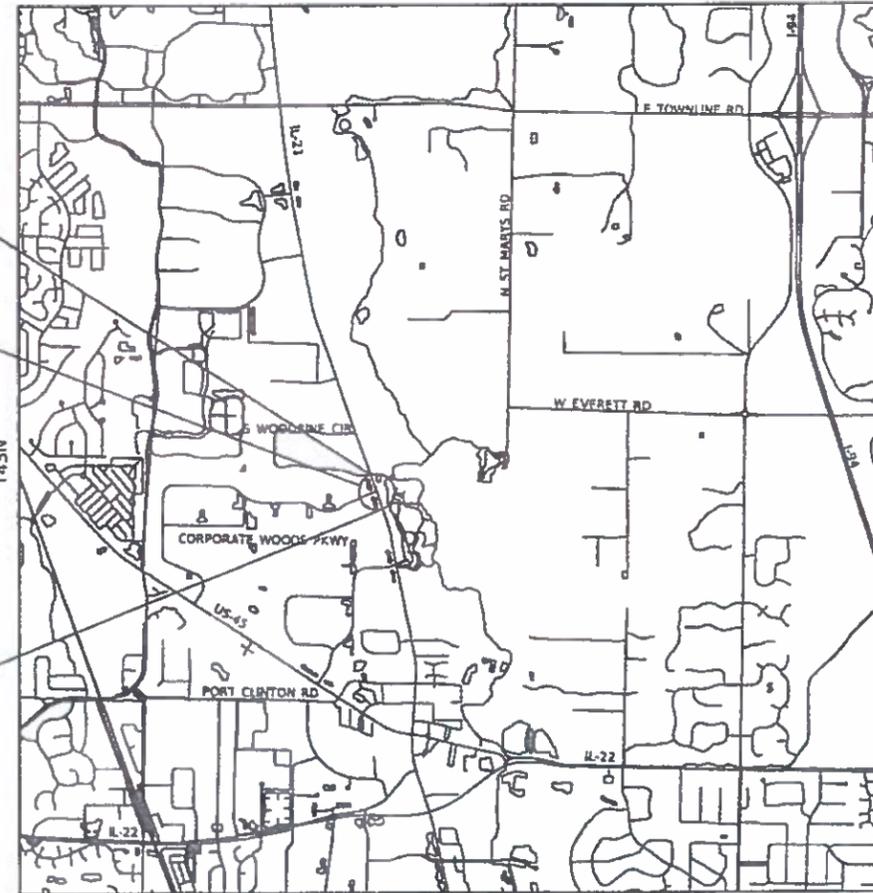
CULVERT REPLACEMENT
SN 049-0599

IMPROVEMENT BEGINS
STA. 204+00



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



LOCATION MAP NOT TO SCALE
GROSS LENGTH = NET LENGTH = 450 FT = 0.085 MILE

PROJECT MANAGER FAWAD AQUEEL, PE, PTOE (847) 705-4247

CONTRACT NO. 62D38



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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED December 4 2018
Anthony J. Quigley REGIONAL ENGINEER
Feb 1 2019
[Signature] ENGINEER OF DESIGN AND ENVIRONMENT
Feb 1 2019
[Signature] DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

INDEX OF SHEETS

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LIST OF HIGHWAY STANDARDS

STANDARD NO.	DESCRIPTION
000001-07	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
280001-07	TEMPORARY EROSION CONTROL SYSTEMS
442201-03	CLASS C AND D PATCHES
515001-03	NAME PLATE FOR BRIDGES
630106-02	LONG-SPAN GUARDRAIL OVER CULVERT
630301-09	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
631011-10	TRAFFIC BARRIER TERMINAL, TYPE 2
701006-05	OFF-ROAD OPERATIONS, 2L,2W, 15' (4.5M) TO 24" (600MM) FROM PAVEMENT EDGE
701011-04	OFF-ROAD MOVING OPERATIONS, 2L, 2W, DAY ONLY
701101-05	OFF-ROAD OPERATIONS, MULTILANE, 15' (4.5M) TO 24" (600MM) FROM PAVEMENT EDGE
701301-04	LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
701426-09	LANE CLOSURE, MULTILANE, INTERMITTENT OR MOVING OPER., FOR SPEEDS ≥ 45 MPH
701427-05	LANE CLOSURE, MULTILANE, INTERMITTENT OR MOVING OPER., FOR SPEEDS ≤ 40 MPH
701606-10	URBAN SINGLE LANE CLOSURE, MULTILANE, 2W WITH MOUNTABLE MEDIAN
701701-10	URBAN LANE CLOSURE, MULTILANE INTERSECTION
701901-08	TRAFFIC CONTROL DEVICES
704001-08	TEMPORARY CONCRETE BARRIER
725001-01	OBJECT AND TERMINAL MARKERS
780001-05	TYPICAL PAVEMENT MARKINGS
782006	GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS

COMMITMENTS

NO CLEARINGS APRIL 1 TO OCTOBER 14 OF ANY YEAR.

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.

BEFORE BEGINNING ANY WORK, THE CONTRACTOR SHALL RETAIN AND RECORD, FOR FUTURE REFERENCE, ALL EXISTING PAVEMENT MARKING LINES (AND RAISED REFLECTIVE PAVEMENT MARKERS) IN ORDER THAT THESE LOCATIONS CAN BE RE-ESTABLISHED FOR STRIPING, EXACT LOCATIONS OF ALL PAVEMENT MARKINGS SHALL BE AS DIRECTED BY THE ENGINEER.

IT IS 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 THE DISTRICT ONE TRAFFIC CONTROL SUPERVISOR MRS. KALPANA KANNAN-ITOSADURGA AT (847) 705-4470 A MINIMUM OF 72 HOURS IN ADVANCE OF BEGINNING WORK.

THE RESIDENT ENGINEER SHALL CONTACT MR. WALTER CZARNY, ARTERIAL TRAFFIC FIELD ENGINEER, AT WALTER.CZARNY@ILLINOIS.GOV A MINIMUM OF TWO (2) WEEKS PRIOR TO PLACEMENT OF PERMANENT PAVEMENT MARKINGS.

THE CONTRACTOR IS REQUIRED TO PROVIDE ACCESS TO ABUTTING PROPERTY AT ALL TIMES DURING THE CONSTRUCTION OF THIS PROJECT.

DO NOT SCALE PLANS FOR CONSTRUCTION DIMENSIONS.

ALL DAMAGE TO EXISTING PAVEMENT MARKINGS OR RAISED REFLECTIVE PAVEMENT MARKERS OUTSIDE THE REMOVAL LINE SHOWN ON THE PLANS SHALL BE REPLACED AT NO ADDITIONAL COST TO THE DEPARTMENT.

THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITY COMPANIES AND THE VILLAGE OF VERNON HILLS.

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

THE REMOVAL OF GUARDRAIL TERMINAL SECTIONS SHALL BE INCLUDED IN THE UNIT PRICE PER FOOT FOR "GUARDRAIL REMOVAL."

DOUBLE LANE MARKERS ARE TO BE USED AS SHOWN ON THE DISTRICT ONE DETAIL "TYPICAL APPLICATIONS - RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT)" SHOWN IN THE PLANS.

THIS PROJECT REQUIRES A US ARMY CORPS OF ENGINEERS (USACE) 404 PERMIT THAT WILL BE SECURED BY THE DEPARTMENT. AS A CONDITION OF THIS PERMIT, THE CONTRACTOR WILL NEED TO SUBMIT AN IN-STREAM WORK PLAN TO THE DEPARTMENT FOR APPROVAL. GUIDELINES ON ACCEPTABLE IN-STREAM WORK TECHNIQUES CAN BE FOUND ON THE USACE WEBSITE. THE USACE DEFINES AND DETERMINES IN-STREAM WORK. THE COST OF ALL MATERIALS AND LABOR NECESSARY TO COMPLY WITH THE ABOVE PROVISIONS TO PREPARE AND IMPLEMENT AN IN-STREAM WORK PLAN WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED AS INCLUDED IN THE UNIT BID PRICES OF THE CONTRACT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

THE CONTRACTOR SHALL VERIFY THE EXISTING TYPE/HEIGHT OF EXISTING GUARDRAIL BEFORE ORDERING THE NEW TERMINAL SECTION, COST INCLUDED IN THE COST OF "TRAFFIC BARRIER TERMINAL, TYPE I (SPECIAL) TANGENT".

THE CONSTRUCTION RESIDENT ENGINEER WILL CONTACT THE FOREST PRESERVE DISTRICT OF LAKE COUNTY PRIOR TO THE START OF CONSTRUCTION TO INFORM THEM OF THE INITIATION OF CONSTRUCTION ACTIVITIES NEAR THEIR PROPERTIES.

THE CONSTRUCTION RESIDENT ENGINEER WILL CONTACT PACE PRIOR TO THE START OF CONSTRUCTION TO TEMPORARILY RELOCATE A BUS STOP LOCATED JUST SOUTH OF CORPORATE WOODS.

ANY AGGREGATE SUBGRADE IMPROVEMENT CONTAMINATED AND/OR DAMAGED BY THE CONTRACTOR'S VEHICLES AND/OR EQUIPMENTS IS TO BE REMOVED AND REPLACED AS DIRECTED BY THE ENGINEER AT CONTRACTOR EXPENSE.

THE CONTRACTOR SHALL REMOVE THE "WEIGHT LIMIT" SIGNS (2) AFTER CONSTRUCTION IS COMPLETE AND APPROVAL IS RECEIVED BY THE RESIDENT ENGINEER. THE RESIDENT ENGINEER SHALL CONTACT BRIDGE MAINTENANCE ENGINEER, AT (847)-705-4180 A MINIMUM OF 2 WEEKS PRIOR TO THE REMOVAL OF THE SIGN.

REV. - MS

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PLOT DATE = 1/14/2019	DATE - 01/14/2018	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**INDEX OF SHEETS, HIGHWAY STANDARDS AND GENERAL NOTES
IL 21 (MILWAUKEE AVE) OVER DITCH**

SCALE: SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	2016-052B	LAKE	30	2
			CONTRACT NO. 62D38	
ILLINOIS FED. AID PROJECT				

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE	
				80% FED 20% STATE	
				ROADWAY	
				0004	
				URBAN	
20101400	NITROGEN FERTILIZER NUTRIENT	POUND	6	6	
20101600	POTASSIUM FERTILIZER NUTRIENT	POUND	6	6	
20200100	EARTH EXCAVATION	CU YD	263	263	
20201200	REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL	CU YD	34	34	
25000210	SEEDING, CLASS 2A	ACRE	0.06	0.06	
28000400	PERIMETER EROSION BARRIER	FOOT	483	483	
30300112	AGGREGATE SUBGRADE IMPROVEMENT 12"	SQ YD	109	109	
40603085	HOT-MIX ASPHALT BINDER COURSE, 1L-19.0, N70	TON	7.7	7.7	
42001300	PROTECTIVE COAT	SQ YD	39	39	
44000500	COMBINATION CURB AND GUTTER REMOVAL	FOOT	170	170	
48101620	AGGREGATE SHOULDERS, TYPE B 10"	SQ YD	120	120	
50100300	REMOVAL OF EXISTING STRUCTURES NO. 1	EACH	1	1	
50800105	REINFORCEMENT BARS	POUND	7870	7870	
51500100	NAME PLATES	EACH	1	1	

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE	
				80% FED 20% STATE	
				ROADWAY	
				0004	
				URBAN	
52200010	TEMPORARY SHEET PILING	SQ FT	1090	1090	
54003000	CONCRETE BOX CULVERTS	CU YD	34.5	34.5	
60603800	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12	FOOT	170	170	
* 63000001	STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS	FOOT	187.5	187.5	
* 63000030	STRONG POST GUARDRAIL ATTACHED TO CULVERT	FOOT	12.5	12.5	
* 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	2	2	
63200310	GUARDRAIL REMOVAL	FOOT	453	453	
66900200	NON-SPECIAL WASTE DISPOSAL	CU YD	241	241	
66900530	SOIL DISPOSAL ANALYSIS	EACH	1	1	
66901001	REGULATED SUBSTANCES PRE-CONSTRUCTION PLAN	LSUM	1	1	
66901002	ON-SITE MONITORING OF REGULATED SUBSTANCES	CAL DA	30	30	
66901003	REGULATED SUBSTANCES FINAL CONSTRUCTION REPORT	LSUM	1	1	
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	6	6	
67100100	MOBILIZATION	L SUM	1	1	

* SPECIALTY ITEM

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SUMMARY OF QUANTITIES	
IL 21 (MILWAUKEE AVE) OVER DITCH	
SCALE:	[SHEET 1 OF 2 SHEETS] STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	2016-052B	LAKE	30	3
			CONTRACT NO. 62D38	
[ILLINOIS] FED. AID PROJECT				

REV. - MS

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE	
				80% FED 20% STATE	
				ROADWAY	
				0004	
				URBAN	
70300900	PAVEMENT MARKING TAPE, TYPE IV - LETTERS AND SYMBOLS	SQ FT	146	146	
70300904	PAVEMENT MARKING TAPE, TYPE IV 4"	FOOT	8787	8787	
70300906	PAVEMENT MARKING TAPE, TYPE IV 6"	FOOT	200	200	
70400100	TEMPORARY CONCRETE BARRIER	FOOT	312.5	312.5	
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	162.5	162.5	
70600260	IMPACT ATTENUATORS, TEMPORARY (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	3	3	
70600332	IMPACT ATTENUATORS, RELOCATE (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	1	1	
* 72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	2	2	
* 78000100	THERMOPLASTIC PAVEMENT MARKING - LETTERS AND SYMBOLS	SQ FT	73	73	
* 78000200	THERMOPLASTIC PAVEMENT MARKING - LINE 4"	FOOT	710.0	710	
* 78000400	THERMOPLASTIC PAVEMENT MARKING - LINE 6"	FOOT	281	281	
* 78100100	RAISED REFLECTIVE PAVEMENT MARKER	EACH	4	4	
* 78100300	REPLACEMENT REFLECTOR	EACH	73	73	
* 78200006	GUARDRAIL REFLECTORS, TYPE B	EACH	5	5	
* 78200011	BARRIER WALL REFLECTORS, TYPE C	EACH	33	33	

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE	
				80% FED 20% STATE	
				ROADWAY	
				0004	
				URBAN	
* 85000200	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1	1	
X0327980	PAVEMENT MARKING REMOVAL - WATER BLASTING	SQ FT	450	450	
X0900064	MEMBRANE WATERPROOFING SYSTEM FOR BURIED STRUCTURES	SQ YD	58	58	
X2501820	SEEDING, CLASS 5 (MODIFIED)	ACRE	0.06	0.06	
X2511630	EROSION CONTROL BLANKET (SPECIAL)	SQ YD	278	278	
X4421791	CLASS D PATCHES, TYPE IV, 12 INCH (SPECIAL)	SQ YD	157	157	
X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1	1	
X7030005	TEMPORARY PAVEMENT MARKING REMOVAL	SQ FT	1586	1586	
X7040125	PINNING TEMPORARY CONCRETE BARRIER	EACH	69	69	
X7830050	RAISED REFLECTIVE PAVEMENT MARKER, REFLECTOR REMOVAL	EACH	73	73	
Z0013798	CONSTRUCTION LAYOUT	L SUM	1	1	
Z0030850	TEMPORARY INFORMATION SIGNING	SQ FT	52	52	
* Z0054400	ROCK FILL	CU YD	26	26	
* Z0073510	TEMPORARY TRAFFIC SIGNAL TIMING	EACH	1	1	

* SPECIALTY ITEM

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SUMMARY OF QUANTITIES
IL 21 (MILWAUKEE AVE) OVER DITCH**

SCALE: SHEET 2 OF 2 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	2016-052B	LAKE	30	4
CONTRACT NO. 62D38			ILLINOIS FED. AID PROJECT	

EARTHWORK SCHEDULE				
LOCATION	EARTH EXCAVATION (CU YD)	EARTH EXCAVATION ADJUSTED FOR SHRINKAGE (15%) (CU YD)	EMBANKMENT (CU YD)	EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-) (CU YD)
CULVERT	217	185	178	+7
GUARDRAIL SHOULDER	46	40	33	+7
			TOTAL	+14

STRONG POST GUARDRAIL ATTACHED TO CULVERT				
LOCATION	STATION	TO	STATION	LENGTH (FOOT)
EAST END OF CULVERT	207+09.04		207+21.54	12.5'

STEEL PLATE BEAM GUARDRAIL, TYPE A, 6 FOOT POSTS				
LOCATION	STATION	TO	STATION	LENGTH (FOOT)
SOUTH OF CULVERT BEHIND EAST CURB	205+46.54		207+09.04	162.5
NORTH OF CULVERT BEHIND EAST CURB	207+21.54		207+46.54	25
			TOTAL	187.5

COMBINATION CURB AND GUTTER REMOVAL				
LOCATION	STATION	TO	STATION	LENGTH (FOOT)
SOUTH OF CULVERT BEHIND EAST CURB	204+61.54		205+46.54	85
NORTH OF CULVERT BEHIND EAST CURB	207+46.54		208+31.54	85
			TOTAL	170

GUARDRAIL REMOVAL				
LOCATION	STATION	TO	STATION	LENGTH (FOOT)
BEHIND EAST CURB	203+98.02		208+50.88	453

COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12				
LOCATION	STATION	TO	STATION	LENGTH (FOOT)
SOUTH OF CULVERT BEHIND EAST CURB	204+61.54		205+46.54	85
NORTH OF CULVERT BEHIND EAST CURB	207+46.54		208+31.54	85
			TOTAL	170

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SCHEDULE OF QUANTITIES
IL 21 (MILWAUKEE AVE) OVER DITCH**

SCALE: SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	2016-052B	LAKE	30	6
CONTRACT NO. 62D38			ILLINOIS FED. AID PROJECT	

GENERAL NOTES:

1. THE PERMANENT TRAFFIC CONTROL DEPICTED HERE IN IS THE MINIMUM REQUIREMENT. ADDITIONAL TRAFFIC CONTROL DEVICES AS SPECIFIED IN THE HIGHWAY STANDARDS AS SHOWN IN THE INDEX OF SHEETS AND THE SPECIAL PROVISIONS SHALL BE PLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER. ALL TRAFFIC CONTROL DEVICES SHALL BE CONSIDERED INCLUDED IN THE COST OF TRAFFIC CONTROL AND PROTECTION, (SPECIAL) UNLESS OTHERWISE INDICATED WITHIN THESE GENERAL NOTES, PLANS OR SPECIAL PROVISIONS.
2. TRAFFIC CONDITIONS, ACCIDENTS, AND OTHER UNFORESEEN EMERGENCY CONDITIONS MAY REQUIRE THE ENGINEER TO RESTRICT, MODIFY OR REMOVE LANE CLOSURES OR CHANNELIZATION SHOWN IN THE PLANS. THE CONTRACTOR SHALL PROMPTLY RESPOND AT THE TIME OF NOTIFICATION BY THE ENGINEER FOR THE MAINTENANCE OF TRAFFIC CONTROL DEVICES.
3. DRUMS OR TYPE II BARRICADES SHALL BE PROVIDED AS SHOWN IN THE PLANS AND SPACED 50 FEET CENTER TO CENTER IN TANGENTS, 20 FEET CENTER TO CENTER IN TAPERS, AND 10 FEET CENTER TO CENTER IN RADII IN THE CONSTRUCTION WORK ZONE. ALL DRUMS AND TYPE II BARRICADES SHALL BE EQUIPPED WITH MONO-DIRECTIONAL STEADY BURN LIGHTS.
4. ALL EXISTING SIGNS THAT CONFLICT WITH THE TRAFFIC CONTROL PLAN SHALL BE COVERED OR REMOVED IN ACCORDANCE WITH ARTICLE 107.25 OF THE STANDARD SPECIFICATIONS.
5. THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE ALL SIGNS AND SIGN SUPPORTS REQUIRED FOR TRAFFIC CONTROL AND PROTECTION.
6. ALL TEMPORARY PAVEMENT MARKINGS SHOWING DETERIORATION AFTER 7 DAYS OF SERVICE SHALL BE REPLACED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER. SUFFICIENT QUANTITIES FOR THE INITIAL PLACEMENT AND A ONE-TIME REPLACEMENT HAVE BEEN PROVIDED FOR EACH STAGE. ALL MARKINGS THAT REQUIRE REPLACEMENT PRIOR TO 7 DAYS OF SERVICE OR REPLACEMENT AFTER THE INITIAL REPLACEMENT SHALL BE REPLACED BY THE CONTRACTOR AT HIS EXPENSE.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING LABOR, SIGNS AND TRAFFIC CONTROL DEVICES NECESSARY FOR THE MAINTENANCE OF TRAFFIC UNLESS NOTED OTHERWISE IN THE SPECIAL PROVISIONS.
8. ALL TRAFFIC CONTROL DEVICES SHALL BE REMOVED, COVERED OR TURNED AWAY FROM THE TRAFFIC IMMEDIATELY WHEN THEY ARE NO LONGER NECESSARY. WHEN A SIGN IS COVERED, ITS POST SHALL HAVE A REFLECTIVE 3" x 6" DELINEATOR INSTALLED. COST OF THE DELINEATOR IS INCLUDED IN TRAFFIC CONTROL AND PROTECTION, (SPECIAL).
9. WORK ZONE SPEED LIMIT SHALL BE 40 MPH ON IL ROUTE 21.
10. THE CONTRACTOR SHALL BE REQUIRED TO MAINTAIN TRAFFIC IN ACCORDANCE WITH THE TRAFFIC CONTROL PLANS, SPECIAL PROVISIONS, APPLICABLE STATE STANDARDS, AND AS DIRECTED BY THE ENGINEER. ANY CHANGES TO THE TRAFFIC CONTROL SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO IMPLEMENTING ANY CHANGES.
11. THE ENGINEER SHALL BE INFORMED 48 HOURS IN ADVANCE OF ANY PROPOSED CHANGE TO THE SUGGESTED STAGE OF CONSTRUCTION AND TRAFFIC CONTROL PLAN.
12. THE CONTRACTOR SHALL PROVIDE ADEQUATE TEMPORARY DRAINAGE AND EROSION CONTROL PROTECTION DURING ALL PHASES OF CONSTRUCTION.
13. THE CONTRACTOR SHALL MAINTAIN A MINIMUM OF ONE 11' THRU-LANE IN EACH DIRECTION FOR TWO-WAY TRAFFIC FLOW UNLESS OTHERWISE SPECIFIED.
14. THE CONTRACTOR SHALL CONTACT THE DISTRICT ONE TRAFFIC CONTROL SUPERVISOR AT (847) 705-4470 A MINIMUM OF 72 HOURS IN ADVANCE OF BEGINNING WORK.
15. THE CONTRACTOR SHALL BE REQUIRED TO REMOVE ALL EXISTING PAVEMENT MARKINGS WHICH CONFLICT WITH THE DESIGNATED TRAFFIC CONTROL PLAN.
16. TEMPORARY CONCRETE BARRIER AND TEMPORARY IMPACT ATTENUATORS SHALL BE PLACED AS INDICATED IN THE PLANS. FURNISHING, AND INSTALLING TEMPORARY CONCRETE BARRIER AND TEMPORARY IMPACT ATTENUATORS SHALL BE IN ACCORDANCE WITH IDOT SPECIAL PROVISIONS, IDOT HIGHWAY STANDARDS, STANDARD SPECIFICATIONS, AND AS DIRECTED BY THE ENGINEER.
17. IMMEDIATELY AFTER THE COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL RESTORE ALL PERMANENT PAVEMENT MARKINGS, SIGNS, AND OTHER TRAFFIC CONTROL DEVICES THAT WERE COVERED, REMOVED, DAMAGED, OR OTHERWISE AFFECTED BY CONSTRUCTION.
18. MAINTAIN EXISTING PEDESTRIAN ACCOMMODATIONS DURING CONSTRUCTION.

SEQUENCE OF CONSTRUCTION

PRE-STAGE

1. INSTALL EROSION CONTROL DEVICES PER THE EROSION CONTROL PLANS.

STAGE I

1. INSTALL STAGE I TRAFFIC CONTROL ACCORDING TO STAGE I MOT PLANS
2. ERECT TEMPORARY SHEET PILING AS SHOWN IN THE PLANS.
3. REMOVE THE EXISTING CULVERT AS PER THE LIMITS SHOWN ON PLANS.
4. CONSTRUCT THE PROPOSED CONCRETE BOX CULVERT.

STAGE II

1. INSTALL STAGE II TRAFFIC CONTROL ACCORDING TO STAGE II MOT PLANS
2. REMOVE AND INSTALL THE STEEL PLATE BEAM GUARDRAIL ON THE EASTSIDE OF THE ROAD.

STAGE III

1. REOPEN ROADWAY AND REMOVE TEMPORARY TRAFFIC CONTROL DEVICES.
2. INSTALL PERMANENT PAVEMENT MARKINGS.
3. COMPLETE ALL UNFINISHED LANDSCAPING.
4. REMOVE TEMPORARY EROSION CONTROL DEVICES.

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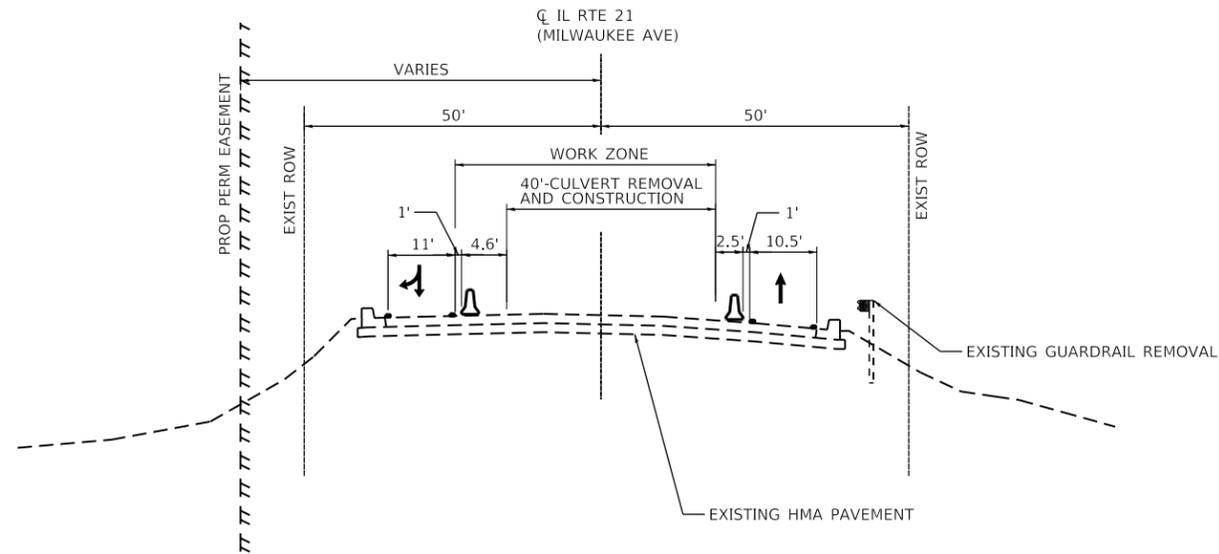
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**MAINTENANCE OF TRAFFIC – GENERAL NOTES AND
SUGGESTED SEQUENCE OF CONSTRUCTION
IL 21 (MILWAUKEE AVE) OVER DITCH**

SCALE: 1"=20' SHEET 1 OF 4 SHEETS STA. TO STA.

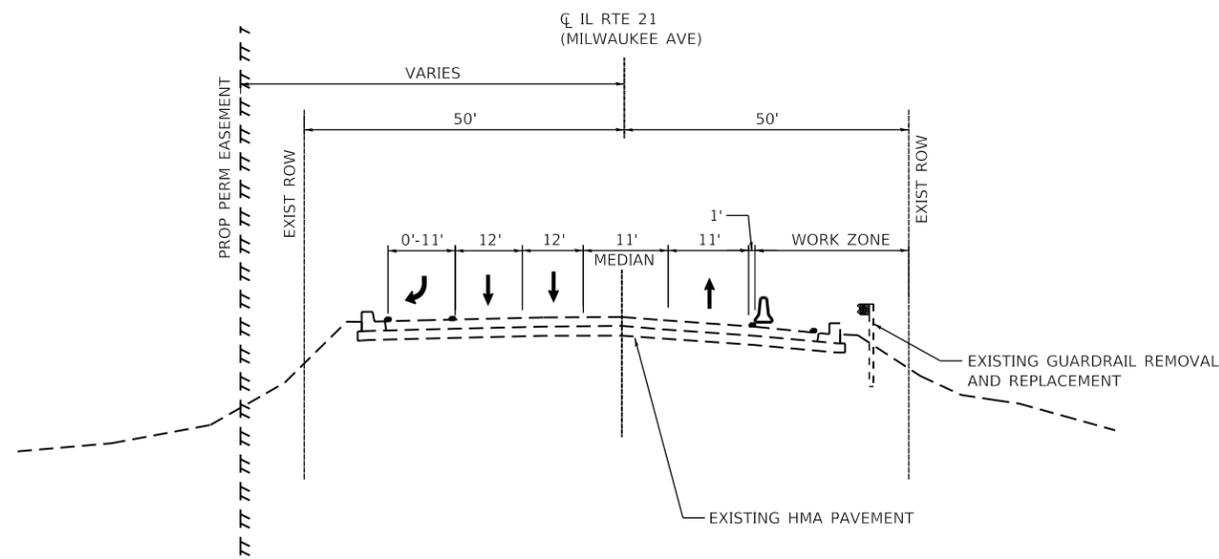
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330	2016-052B	LAKE	30	8
			CONTRACT NO. 62D38	
ILLINOIS FED. AID PROJECT				



IL RTE 21 (MILWAUKEE AVE)

STAGE I

STA. 206+50 TO STA. 210+00



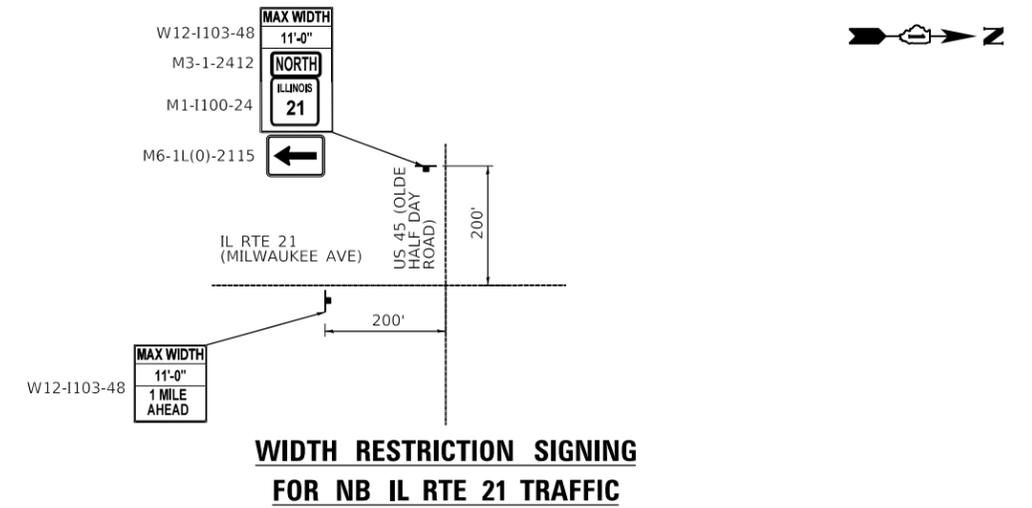
IL RTE 21 (MILWAUKEE AVE)

STAGE II

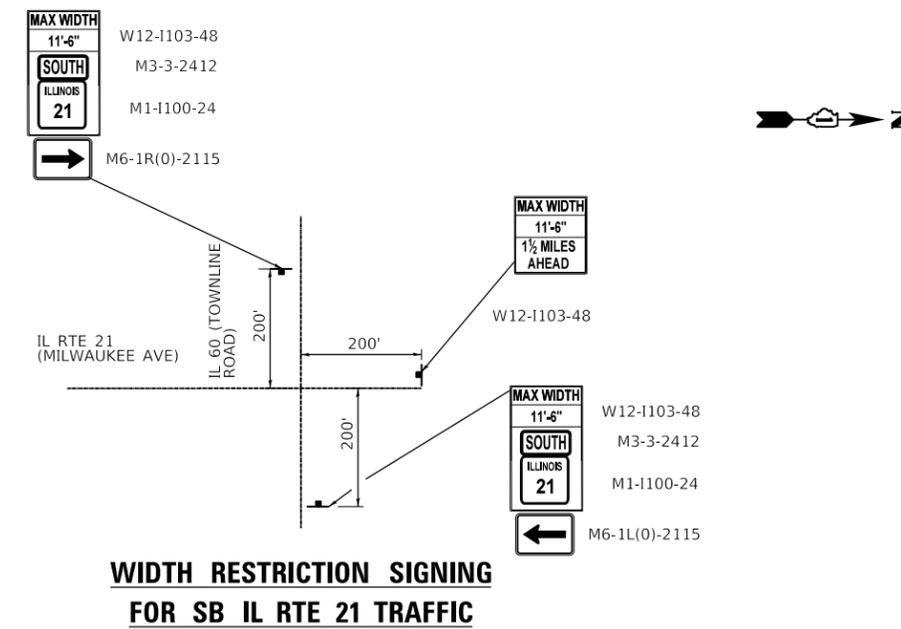
STA. 206+50 TO STA. 210+00

LEGEND

- ↑ DIRECTION OF TRAFFIC
- ▤ TEMPORARY CONCRETE BARRIER
- ◻ PAVEMENT MARKING TAPE TYPE IV, 4"



WIDTH RESTRICTION SIGNING FOR NB IL RTE 21 TRAFFIC



WIDTH RESTRICTION SIGNING FOR SB IL RTE 21 TRAFFIC

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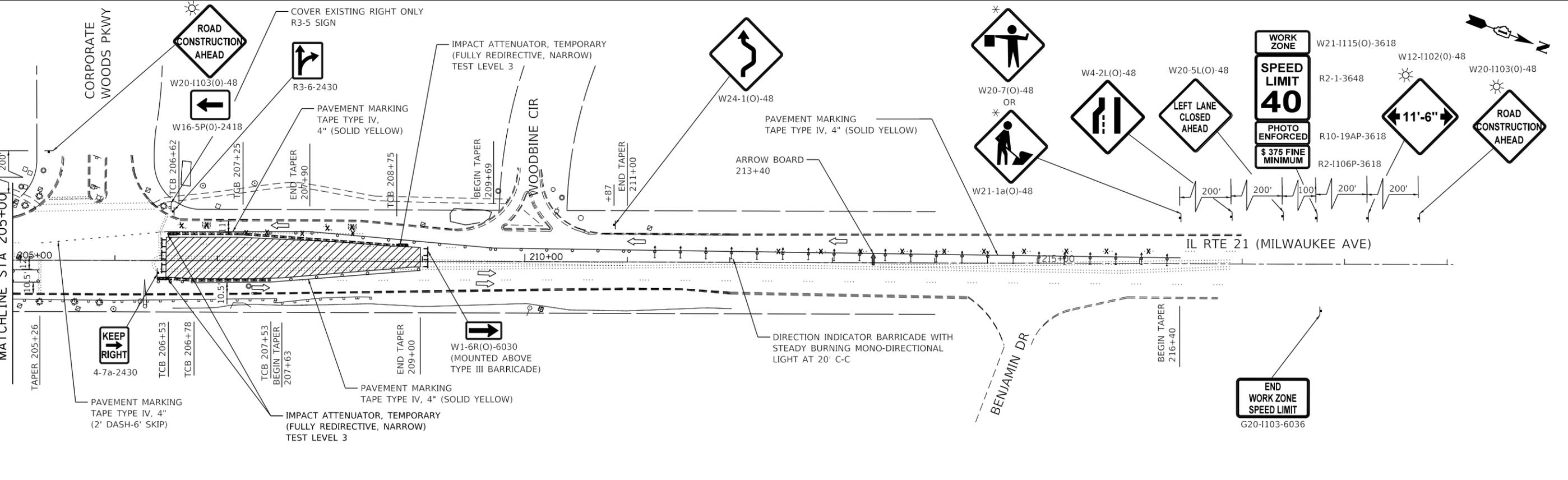
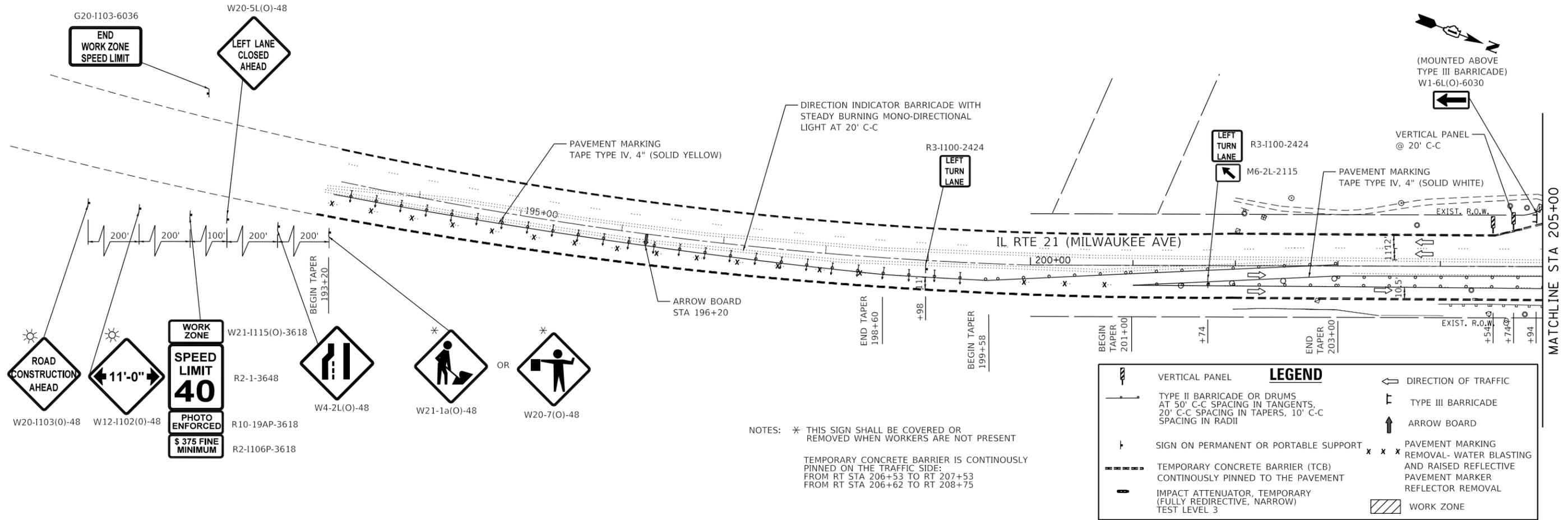
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**MAINTENANCE OF TRAFFIC - TYPICAL SECTION
IL 21 (MILWAUKEE AVE) OVER DITCH**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE. 330	SECTION 2016-052B	COUNTY LAKE	TOTAL SHEETS 30	SHEET NO. 9
				CONTRACT NO. 62D38
ILLINOIS FED. AID PROJECT				

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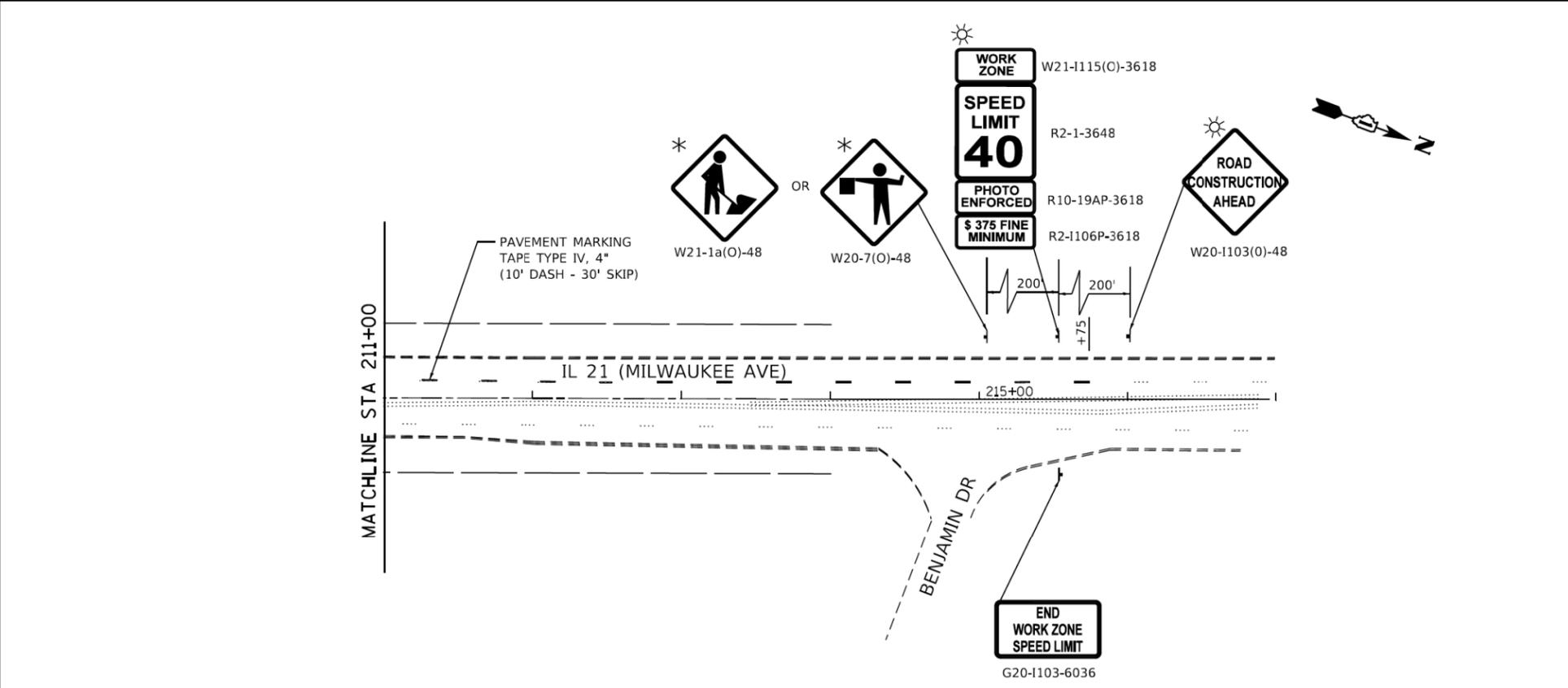
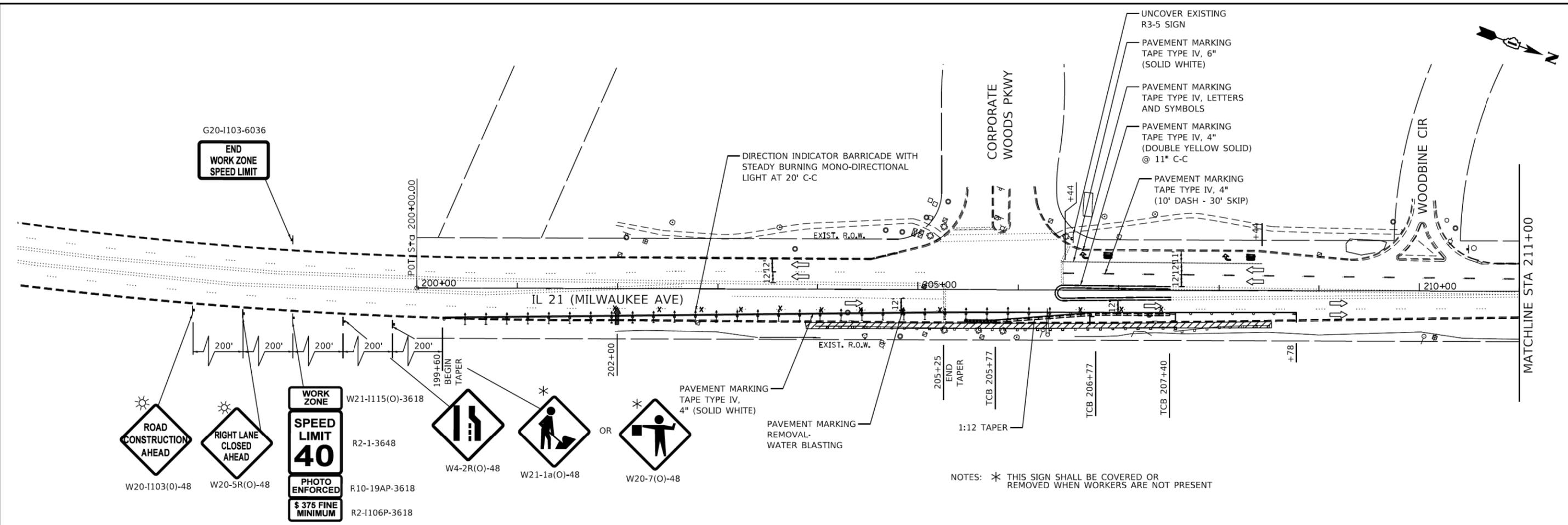
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**MAINTENANCE OF TRAFFIC - STAGE I
IL 21 (MILWAUKEE AVE) OVER DITCH**

SCALE: 1" = 50' SHEET OF SHEETS STA. TO STA.

F.A.P. RTE. 330	SECTION 2016-052B	COUNTY LAKE	TOTAL SHEETS 30	SHEET NO. 30
				CONTRACT NO. 62D38
ILLINOIS FED. AID PROJECT				

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LEGEND	
	TYPE II BARRICADE OR DRUMS AT 50' C-C SPACING IN TANGENTS, 20' C-C SPACING IN TAPERS, 10' C-C SPACING IN RADII
	SIGN ON PERMANENT OR PORTABLE SUPPORT
	TEMPORARY CONCRETE BARRIER (TCB)
	IMPACT ATTENUATOR, RELOCATE (FULLY REDIRECTIVE, NARROW) TEST LEVEL 3
	DIRECTION OF TRAFFIC
	TYPE III BARRICADE
	ARROW BOARD
	WORK ZONE
	PAVEMENT MARKING REMOVAL-WATER BLASTING



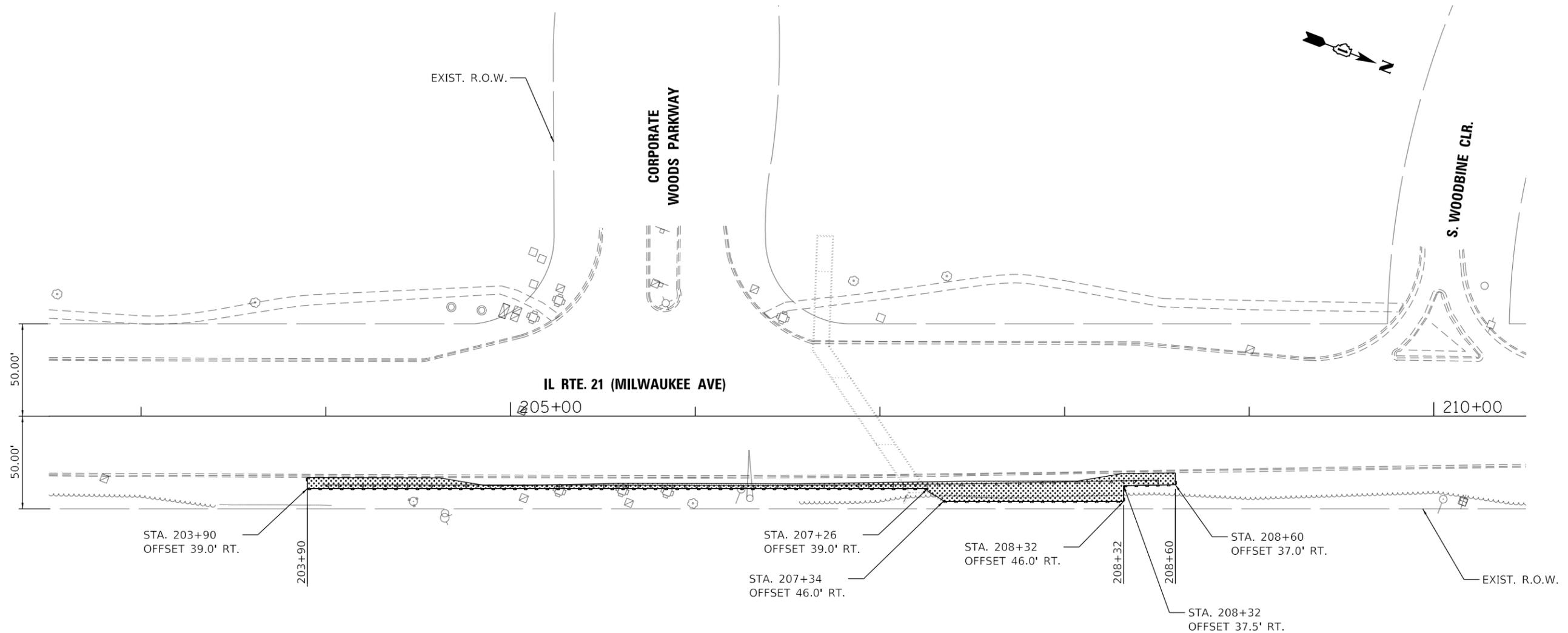
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PLOT DATE = 11/30/2018	DATE - 08-01-2018	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**MAINTENANCE OF TRAFFIC - STAGE II
IL 21 (MILWAUKEE AVE) OVER DITCH**

SCALE: 1" = 50' SHEET 4 OF 4 SHEETS STA. TO STA.

F.A.P. RTE. 330	SECTION 2016-052B	COUNTY LAKE	TOTAL SHEETS 30	SHEET NO. 11
CONTRACT NO. 62D38				
ILLINOIS FED. AID PROJECT				



EROSION CONTROL PLAN

LEGEND

- NITROGEN FERTILIZER NUTRIENT
- POTASSIUM FERTILIZER NUTRIENT
- SEEDING, CLASS 2A
- EROSION CONTROL BLANKET (SPECIAL)
- SEEDING, CLASS 5 (MODIFIED)
- PERIMETER EROSION BARRIER

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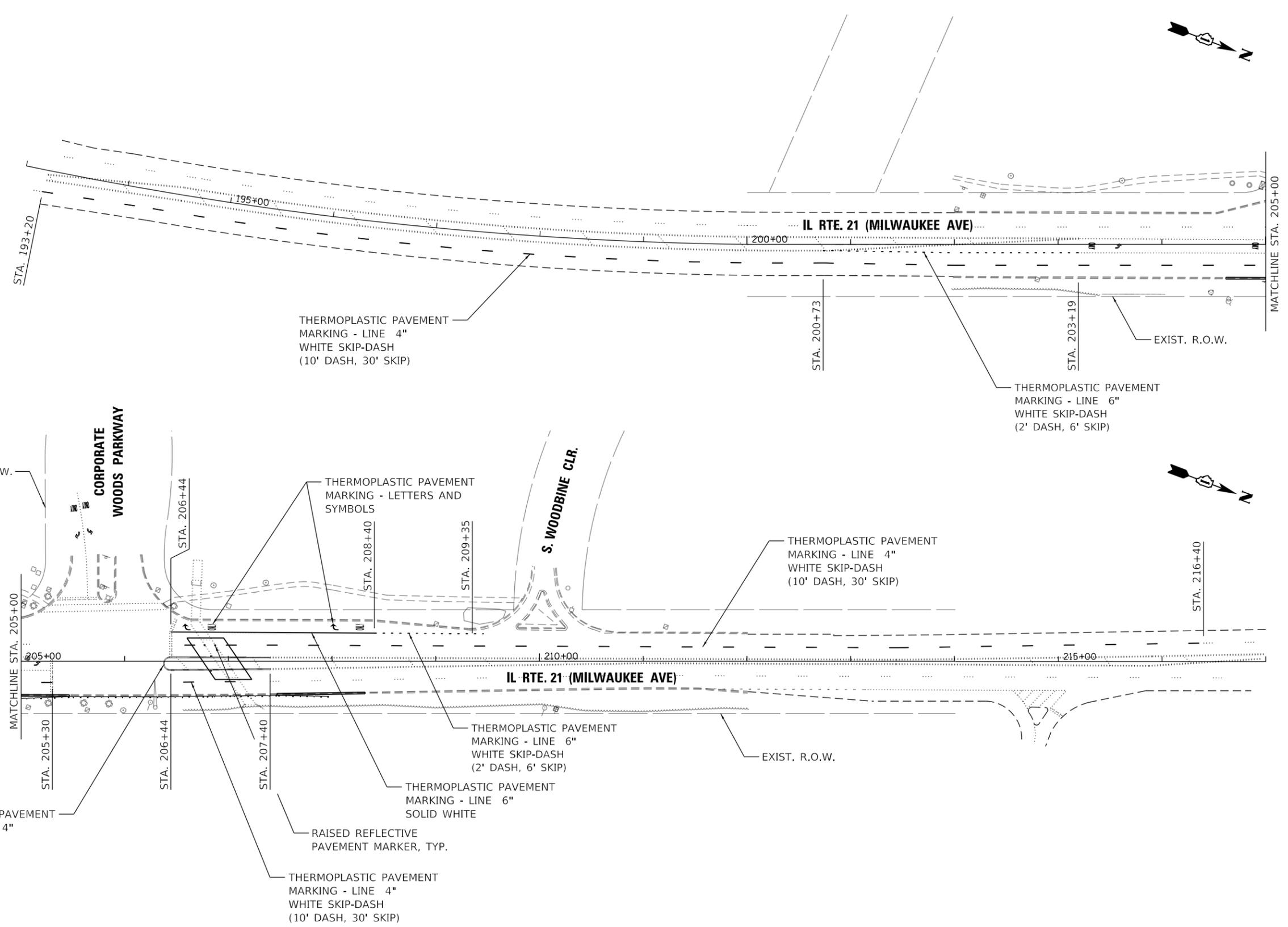


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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EROSION CONTROL PLAN			
IL 21 (MILWAUKEE AVE) OVER DITCH			
SCALE: 60,0000 ' / in.	SHEET 1	OF 1 SHEETS	STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	2016-052B	LAKE	30	12
CONTRACT NO. 62D38				
ILLINOIS FED. AID PROJECT				



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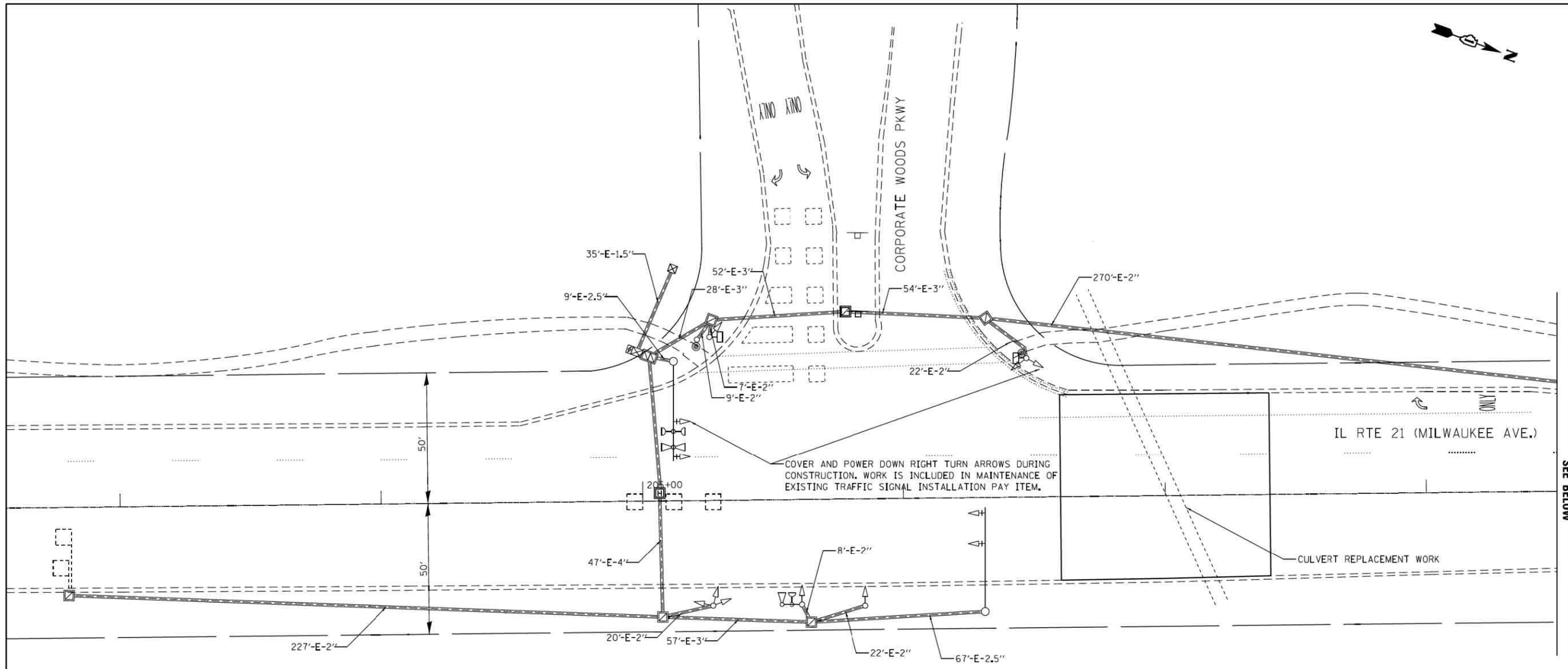
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING PLAN IL 21 (MILWAUKEE AVE) OVER DITCH		
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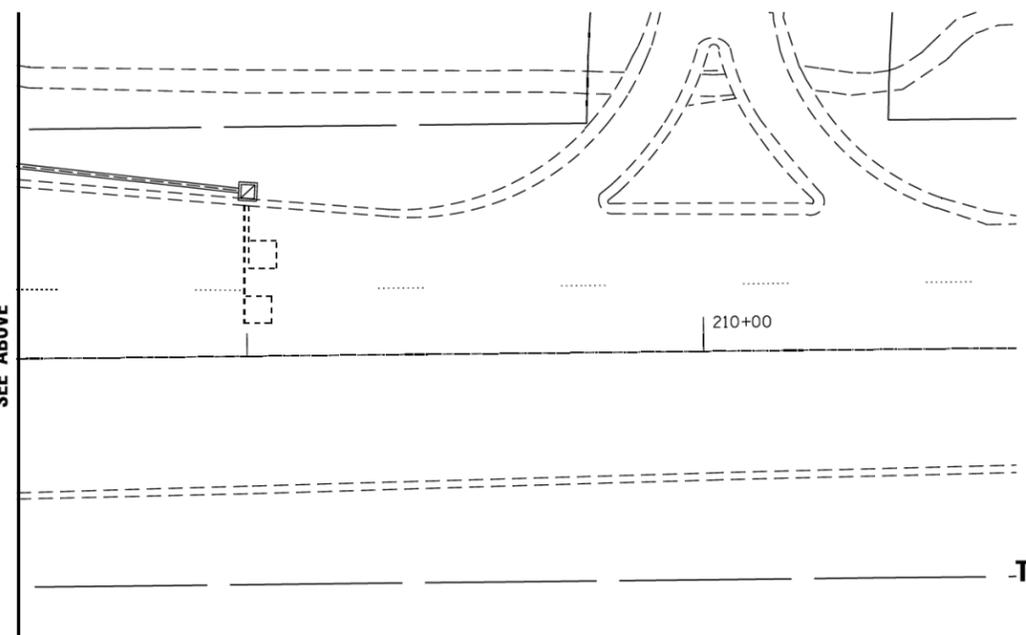
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CONTRACT NO. 62D38				
ILLINOIS FED. AID PROJECT				

TS SHT NO. 1

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MATCHLINE STA. 208 + 50
SEE BELOW



MATCHLINE STA. 208 + 50
SEE ABOVE

-TS 21410

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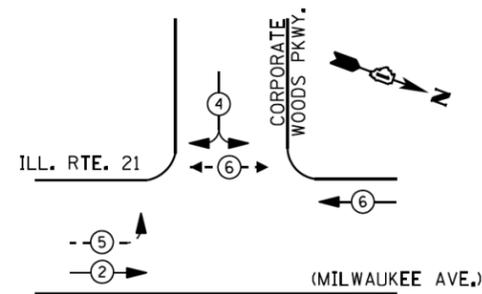
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**EXISTING TRAFFIC SIGNAL INSTALLATION
 IL RTE 21 AND CORPORATE WOODS PARKWAY**

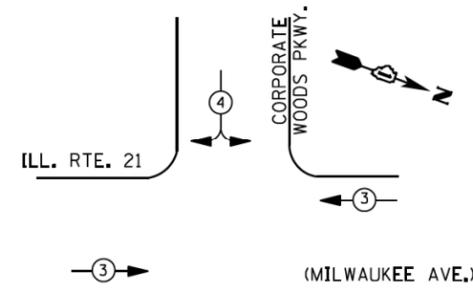
SCALE: 1"=20' SHEET 1 OF 1 SHEETS STA. 202+60 TO STA. 208+80

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	2016-052B	LAKE	30	14
CONTRACT NO. 62D38				
ILLINOIS FED. AID PROJECT				

TEMPORARY CONTROLLER SEQUENCE

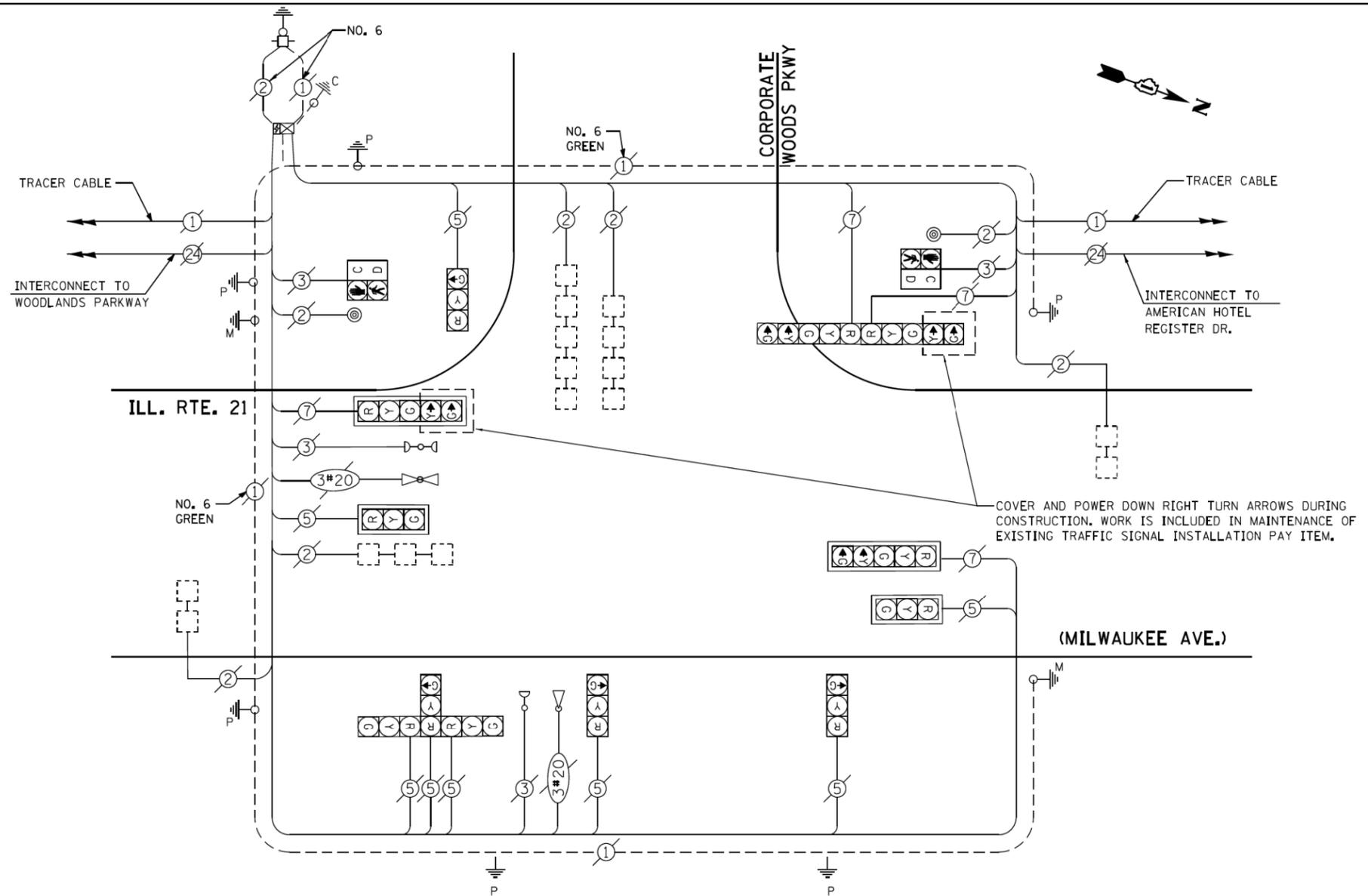


PHASE DESIGNATION DIAGRAM



LEGEND:

- ⊙ — PROTECTED PHASE
- ⊙ — PROTECTED/PERMITTED PHASE
- ⊙ — PEDESTRIAN PHASE
- OL — OVERLAP



CABLE PLAN

COVER AND POWER DOWN RIGHT TURN ARROWS DURING CONSTRUCTION. WORK IS INCLUDED IN MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION PAY ITEM.

TRAFFIC SIGNAL ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. OF LAMPS	LED WATTAGE	% OPERATION	TOTAL WATTAGE
SIGNAL (RED)	12	11	50	66,0
(YELLOW)	12	20	5	12,0
(GREEN)	12	12	45	64,8
PERMISSIVE ARROW	4	10	10	4,0
PED. SIGNAL	2	20	100	40,0
CONTROLLER	1	100	100	100,0
UPS	1	25	100	25,0
VIDEO SYSTEM	-	150	100	-
BLANK-OUT SIGN	-	25	5	-
FLASHER	-	-	50	-
STREET NAME SIGN	-	120	50	-
LUMINAIRE	-	-	-	-
TOTAL =				311,8

ENERGY COSTS TO:
 VILLAGE OF VERNON HILLS
 290 EVERGREEN DRIVE
 VERNON HILLS, IL 60061
 ENERGY SUPPLY: CONTACT: TERRI BLECK
 PHONE: 847-816-5239
 COMPANY: COMMONWEALTH EDISON
 ACCOUNT NUMBER: ---

SCHEDULE OF QUANTITIES

PAY ITEM	ITEM DESCRIPTION	UNIT	TOTAL QTY.
85000200	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
Z0073510	TEMPORARY TRAFFIC SIGNAL TIMING	EACH	1

TS SHT NO. 2

TS 21410

MODEL: D:\air\... FILE NAME: D:\air\... PROJECT: 130715\CADD\Traffic\Traffic\130715-shb-ts.dgn

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	DATE - 8/8/2018	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

EXISTING TRAFFIC SIGNAL INSTALLATION IL RTE 21 AND CORPORATE WOODS PARKWAY			
SCALE: NONE	SHEET 1	OF 1 SHEETS	STA. - TO STA. -

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	2016-052B	LAKE	30	15
CONTRACT NO. 62D38				
ILLINOIS FED. AID PROJECT				

Benchmark: Northwest corner of Traffic Control Box in southwest corner of entrance to Corporate Woods Pkwy. (Station 204+99.92, Offset 56.29' LT.)

Existing Structure: The existing structure is a single cell reinforced concrete box culvert. The culvert is approximately 120' long. The cell width is approximately 8 ft and height is approximately 5 ft. The structure spans east to west and carries five lanes of traffic - 12' wide outer lanes, 12' wide inner lanes, and an 11' to 12' wide painted median/NB to WB left turn lane. There are 5' wide existing sidewalks located on the west side of IL 21, and existing guardrail behind the existing curb and gutter on the east side. Remove and replace about 40' of barrel - 20' each side parallel to the PGL and replacing portion of the existing guardrail at the east end.

Precast Alternative is not allowed.

DESIGN SPECIFICATIONS

2017 AASHTO LRFD Bridge Design Specifications, 8th Edition.

LOADING HL-93

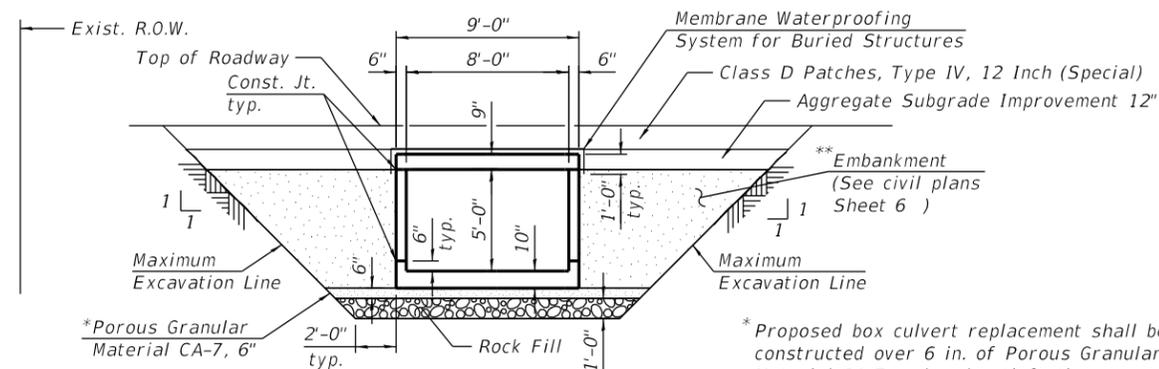
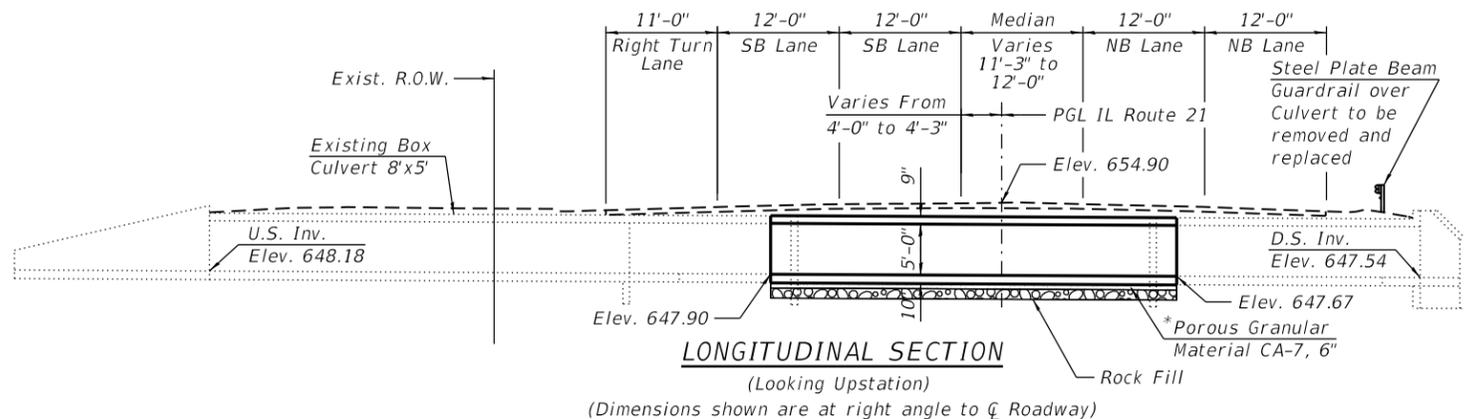
No Future Wearing Surface will be allowed

DESIGN STRESSES

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

EXISTING UNITS

f'c = 3,500 psi (Concrete)
 fy = 33,000 psi (Reinforcement)



* Proposed box culvert replacement shall be constructed over 6 in. of Porous Granular Material CA-7 pad and satisfy the Standard Specifications unless otherwise indicated in Special Provisions. The cost of the Porous Granular Material CA-7 shall be paid with Rock Fill.

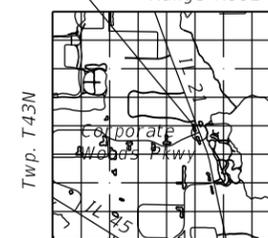
** The material excavated for Earth Excavation shall be used as Embankment.



Signed *Moussa A. Issa*
 Dr. Moussa A. Issa, S.E.
 Il. Lic. No. 081-005738
 Expires 11-30-2018

Date 01/14/2018
 For Sheets S-01 Thru S-09
 (Total of 9 Sheets)

Culvert Replacement Range R11E - 3rd P.M.

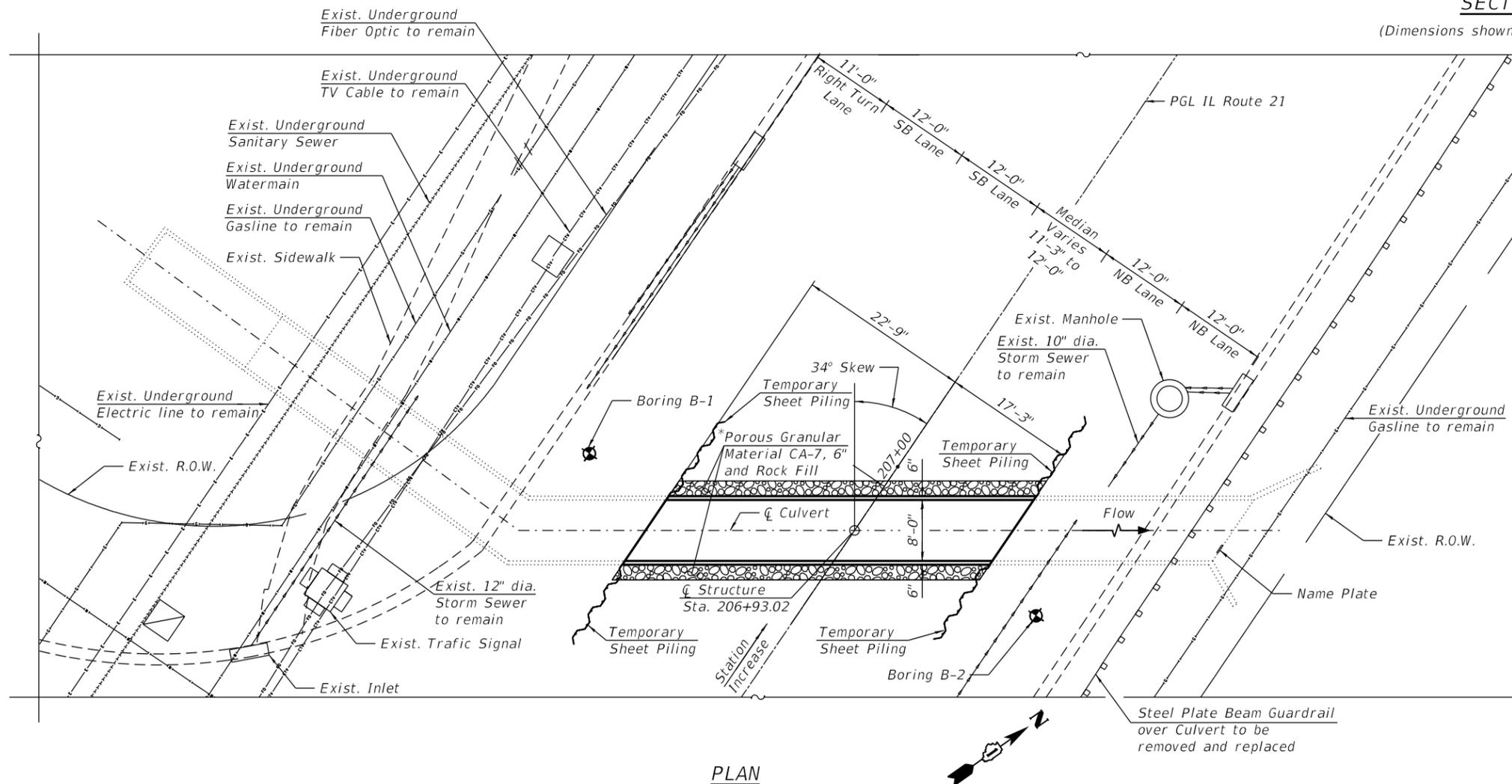


GENERAL PLAN

IL 21 OVER DRAINAGE DITCH
F.A.P. 330 SECTION 2016-052B
LAKE COUNTY
STATION 206+93.02
S.N. 049-0599

LEGEND

- Exist. Underground Gasline
- Exist. Storm Sewer
- Exist. Underground Electric line
- Exist. Underground Watermain
- Exist. Underground TV Cable
- Exist. Underground Fiber Optic
- Exist. Underground Sanitary Sewer
- Temporary Sheet Piling



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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

S.N. 049-0599 IL 21 (MILWAUKEE AVE) OVER DITCH

SHEET S-01 OF S-09 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	2016-052B	LAKE	30	16
CONTRACT NO. 62D38				
ILLINOIS FED. AID PROJECT				

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. 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 subjected to the approval of the Engineer and the cost shall be included with the cost of concrete box culverts.
3. Exposed edges shall be beveled $\frac{3}{4}$ ".

SCOPE OF WORK:

1. Remove and reconstruct the 40'-0" of the middle portion of culvert barrel.
2. Remove the steel plate beam guardrails and guardrail posts on the east side of the roadway.
3. Remove and reconstruct the portions of HMA pavement and median on the 40'-0" middle portion of the roadway.

INDEX OF SHEETS

- S-01 General Plan and Elevation
- S-02 General Notes, Index of Sheets, and Total Bill of Material
- S-03 Structure Removal
- S-04 Culvert Stage Construction
- S-05 Temporary Sheet Piling
- S-06 Temporary Concrete Barrier for Stage Construction
- S-07 Top and Bottom Slab Reinforcement
- S-08 Sections, Details, and Bill of Material
- S-09 Boring Logs

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Removal and Disposal of Unsuitable Material	Cu. Yd.	34
Removal of Existing Structures No. 1	Each	1
Reinforcement Bars	Pound	7,870
Name Plates	Each	1
Temporary Sheet Piling	Sq. Ft.	1,090
Concrete Box Culverts	Cu. Yd.	34.5
Membrane Waterproofing System for Buried Structures	Sq. Yd.	58
Rock Fill	Cu. Yd.	26

STATION 206+93.02
 RE-BUILT 201* BY
 STATE OF ILLINOIS
 F.A.P. 330 SEC. 2016-052B
 LOADING HL-93
 STRUCTURE NO. 049-0599

NAME PLATE
 See Std. 515001

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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

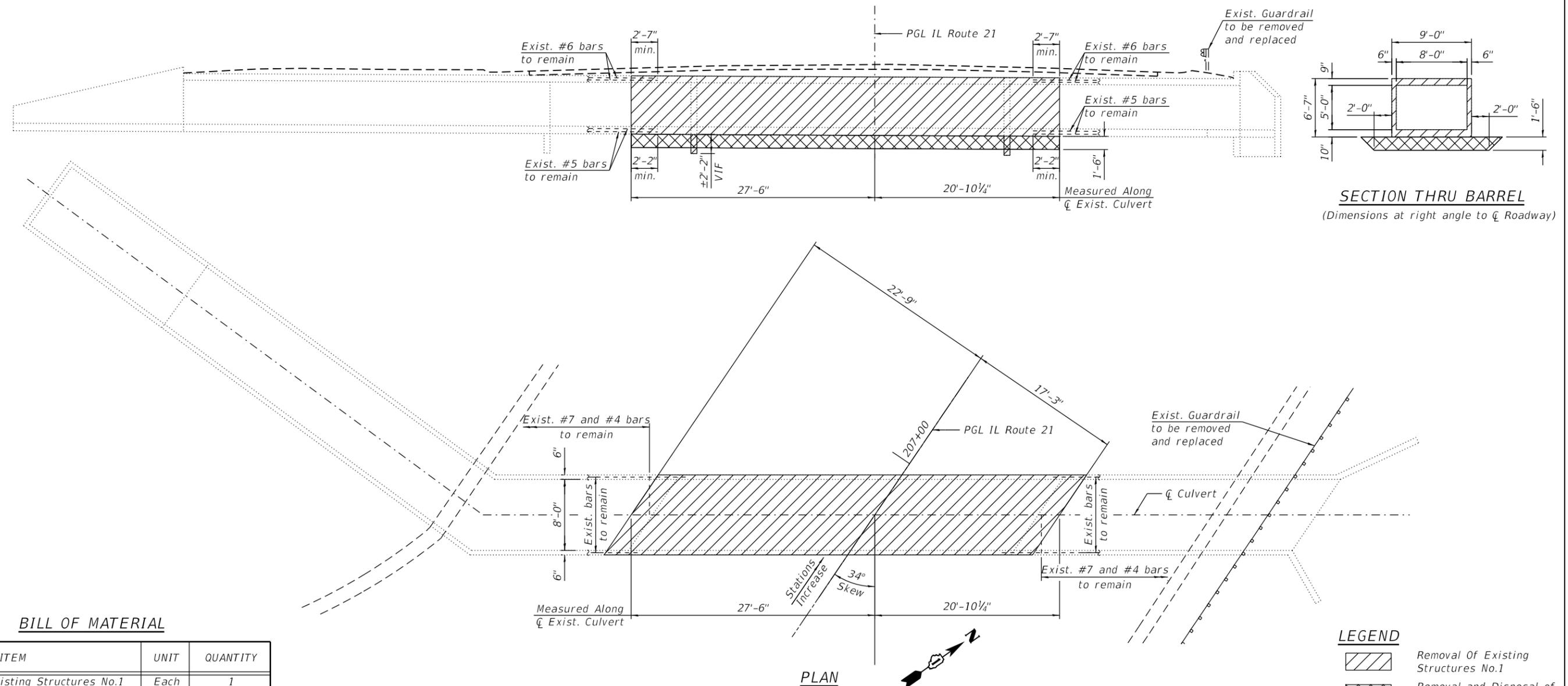
GENERAL NOTES, INDEX OF SHEETS, AND TOTAL BILL OF MATERIAL
 S.N. 049-0599 IL 21 (MILWAUKEE AVE) OVER DITCH

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	2016-052B	LAKE	30	17
CONTRACT NO. 62D38				
ILLINOIS		FED. AID PROJECT		

SHEET S-02 OF S-09 SHEETS

NOTES:

1. Dimensions shown have been taken from historical design drawings, field measurements, and survey data and may not represent "as built" conditions. The Contractor must verify all dimensions in the field. Variations in the field dimensions shall not be cause for additional compensation for 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. For Temporary Sheet Piling, see Sheet S-05.
3. The Contractor shall field verify exact location of all existing utilities prior to construction and take precautions not to damage existing utilities during excavations, construction or other underground work. Any such damage shall be repaired by the Contractor at no additional cost.
4. Existing reinforcement shall be cleaned and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost included with Removal Of Existing Structures No.1.



BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Removal of Existing Structures No.1	Each	1

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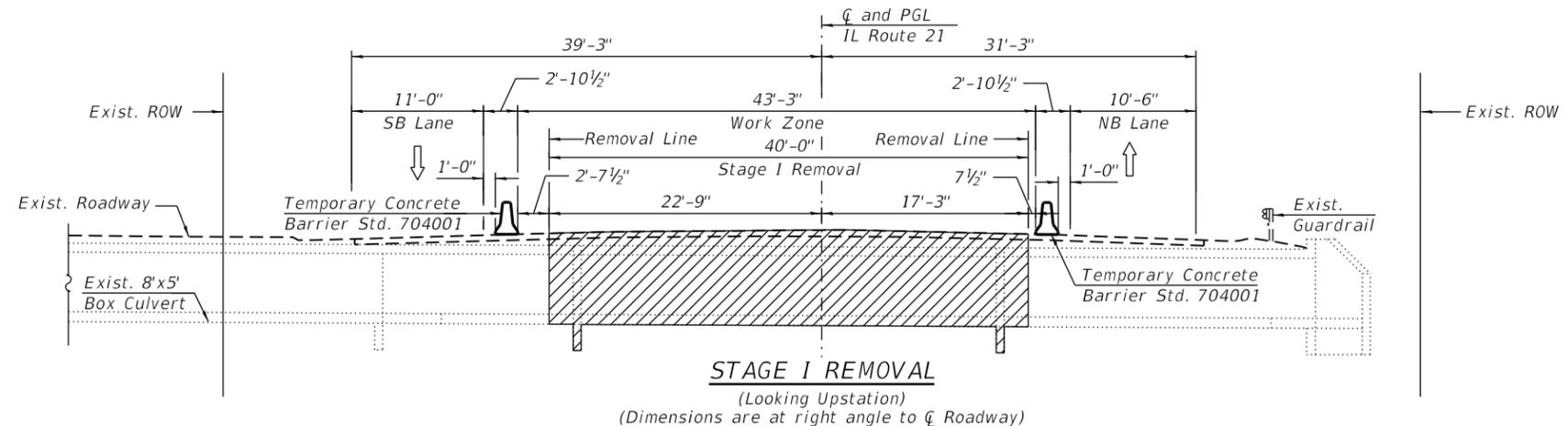
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**STRUCTURE REMOVAL
S.N. 049-0599 IL 21 (MILWAUKEE AVE) OVER DITCH**

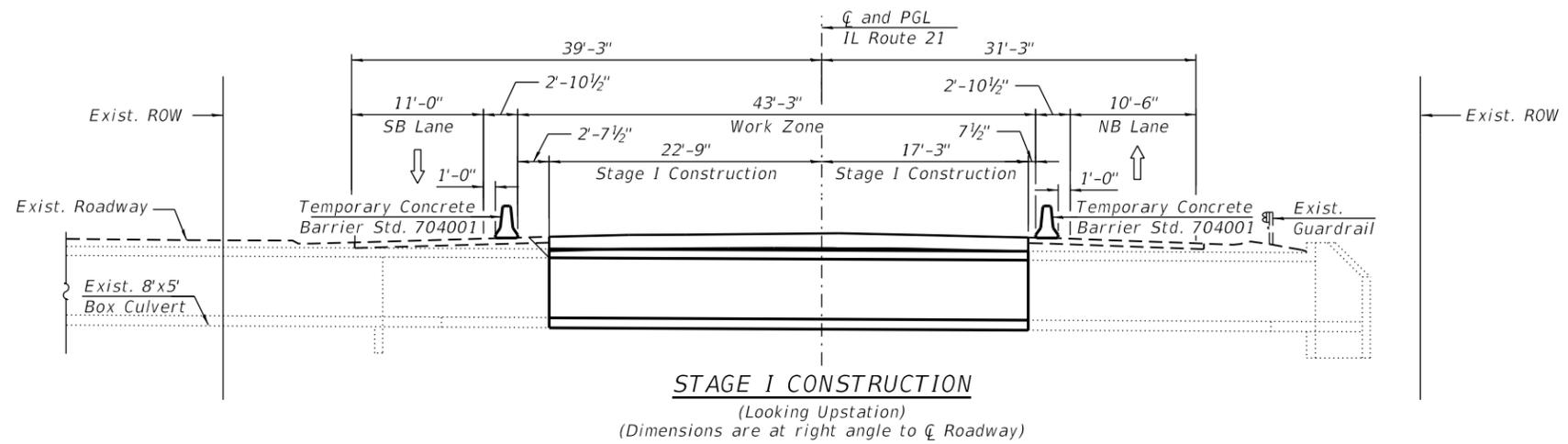
SHEET S-03 OF S-09 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	2016-052B	LAKE	30	18
CONTRACT NO. 62D38				
ILLINOIS FED. AID PROJECT				



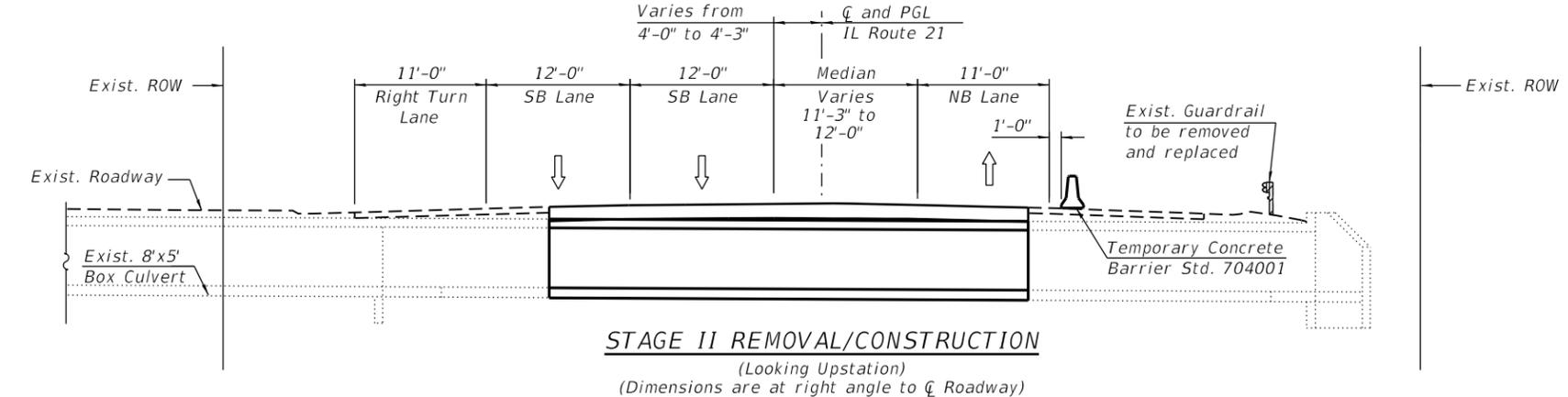
STAGE I REMOVAL

1. Install temporary concrete barrier as shown to locate construction work area on the east side of the existing structure.
2. Install Temporary Sheet Piling as shown in Sheet S-05.
3. Remove existing culvert barrel within limits of Stage I Removal.



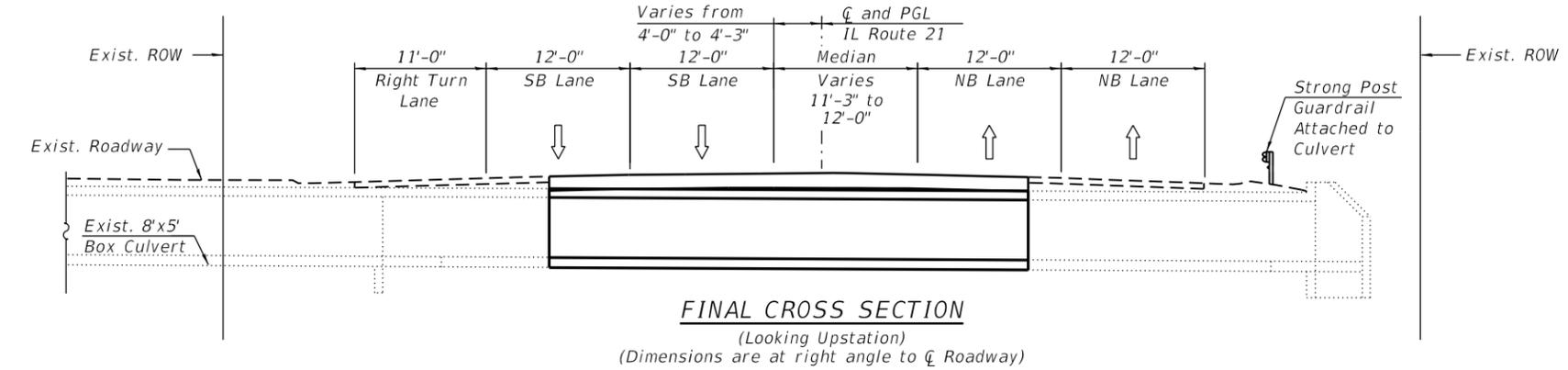
STAGE I CONSTRUCTION

- The following construction items will be performed within the limits of Stage I Construction:
1. Reconstruct the culvert barrel in the limits of Stage I Construction.
 2. Reconstruct the HMA pavement of the roadway.



STAGE II REMOVAL/CONSTRUCTION

1. Remove and install the steel plate beam guardrail and guardrail posts at the east side of the road.



LEGEND

Removal Of Existing Structures No.1

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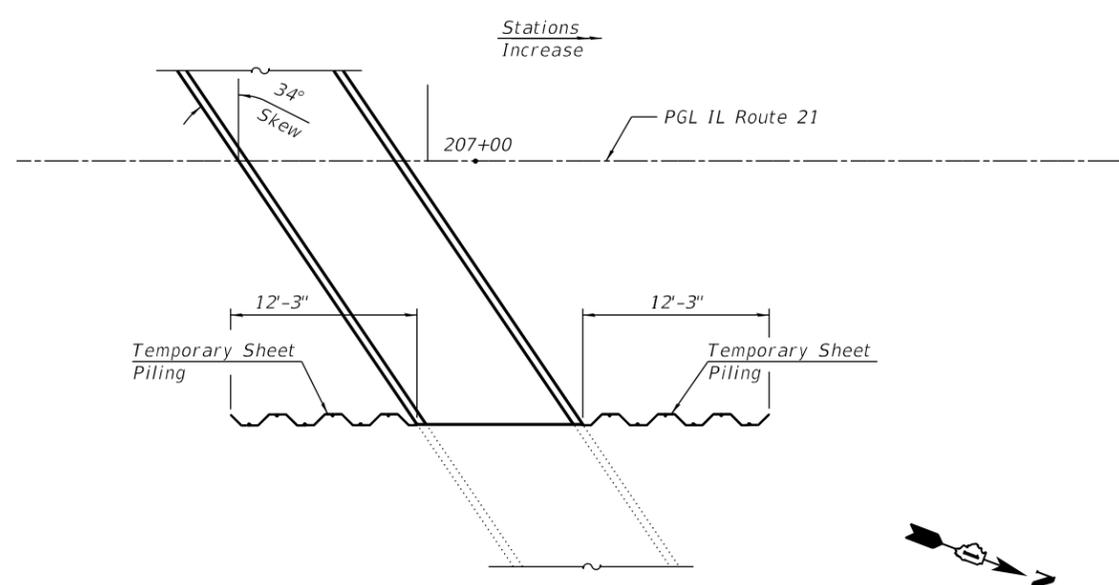
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

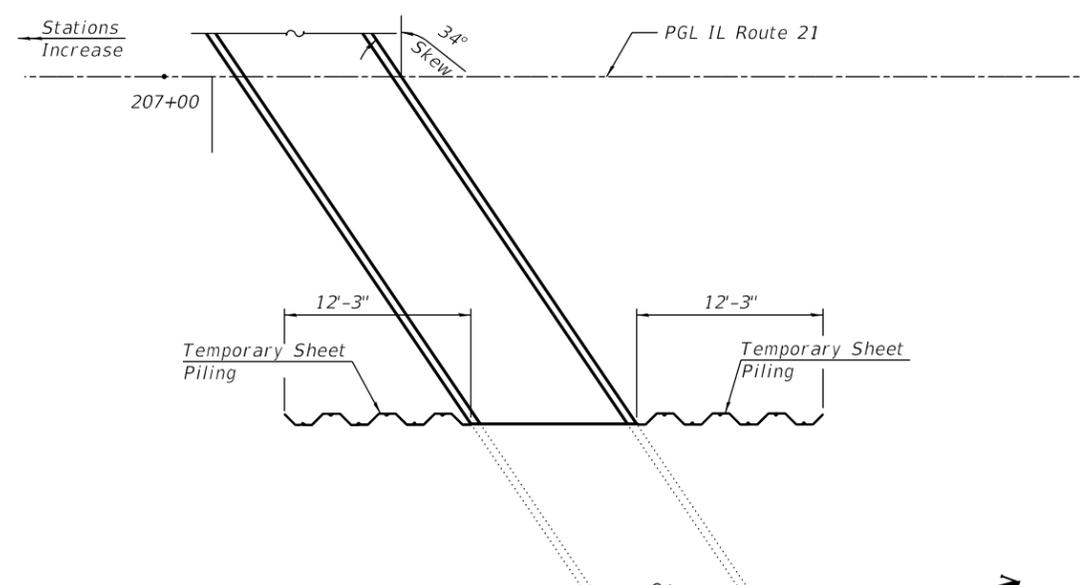
**CULVERT STAGE CONSTRUCTION
S.N. 049-0599 IL 21 (MILWAUKEE AVE) OVER DITCH**

SHEET S-04 OF S-09 SHEETS

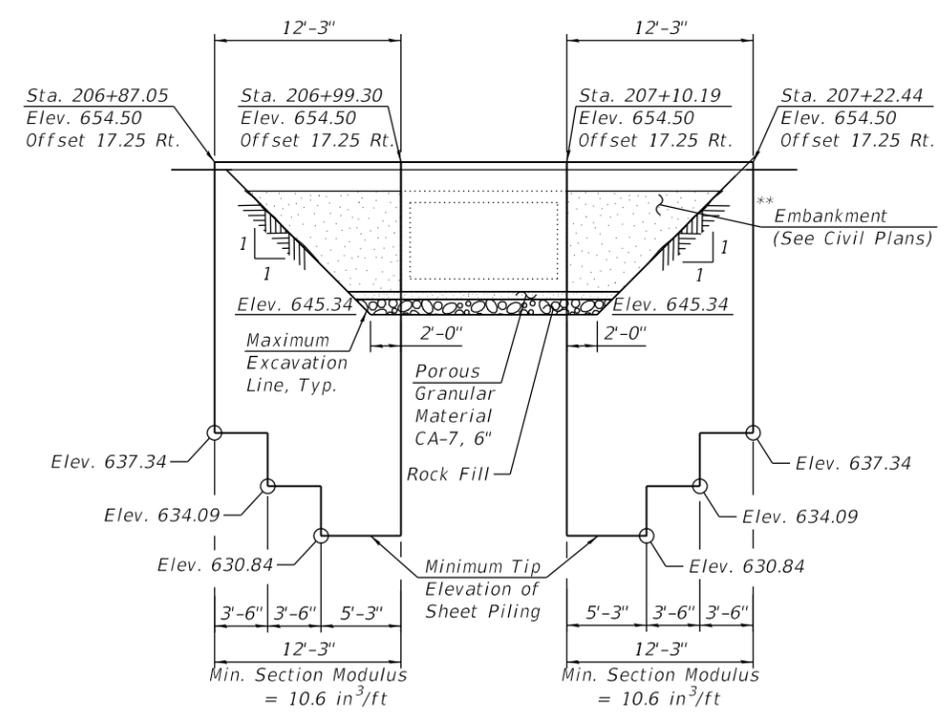
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	2016-052B	LAKE	30	19
CONTRACT NO. 62D38				
		ILLINOIS	FED. AID PROJECT	



PARTIAL PLAN AT EAST CULVERT END



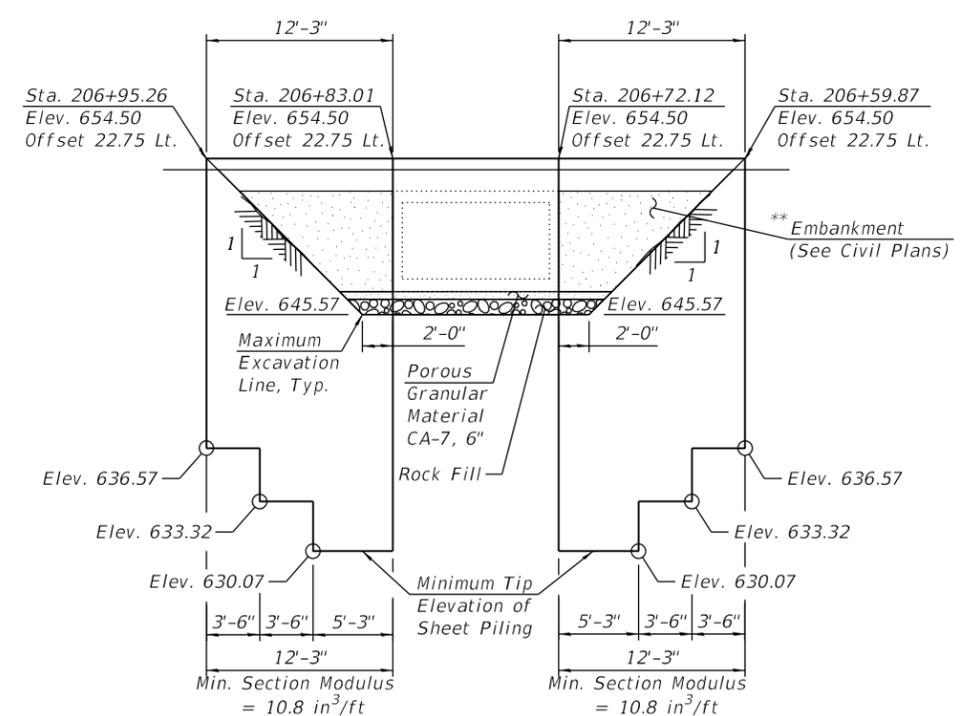
PARTIAL PLAN AT WEST CULVERT END



ELEVATION-TEMPORARY SHEET PILING AT EAST CULVERT END

(Looking West)

* Slope 1:1 shown is \perp to ϕ Culvert
 ** The material excavated for Earth Excavation shall be used as Embankment.



ELEVATION-TEMPORARY SHEET PILING AT WEST CULVERT END

(Looking East)

LEGEND

- Porous Granular Material CA-7, 6"
- Temporary Sheet Piling

NOTE:

1. If the Contractor chooses to alter the temporary cantilevered sheet piling design requirement shown on the plans, a design submittal including plan details and calculations will be required for review and acceptance by the Engineer.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Temporary Sheet Piling	Sq. Ft.	1,090

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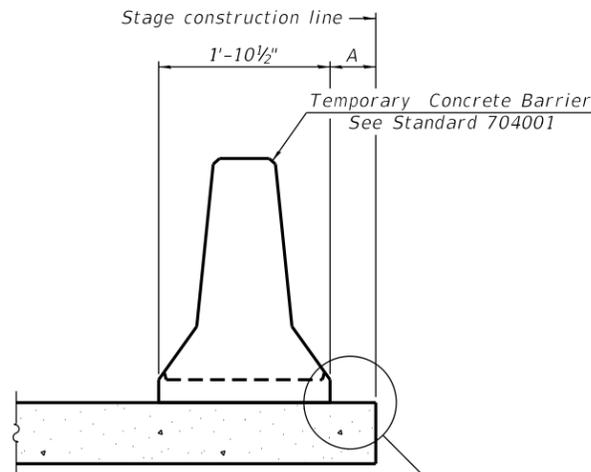
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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

TEMPORARY SHEET PILING
 S.N. 049-0599 IL 21 (MILWAUKEE AVE) OVER DITCH

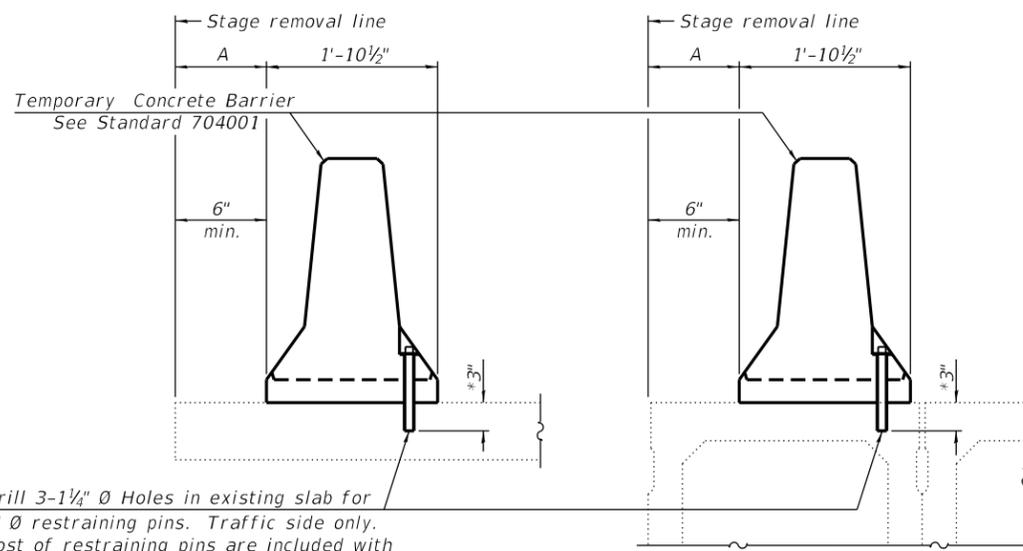
SHEET S-05 OF S-09 SHEETS

F.A.P. RTE. 330	SECTION 2016-052B	COUNTY LAKE	TOTAL SHEETS 30	SHEET NO. 20
CONTRACT NO. 62D38				
ILLINOIS FED. AID PROJECT				



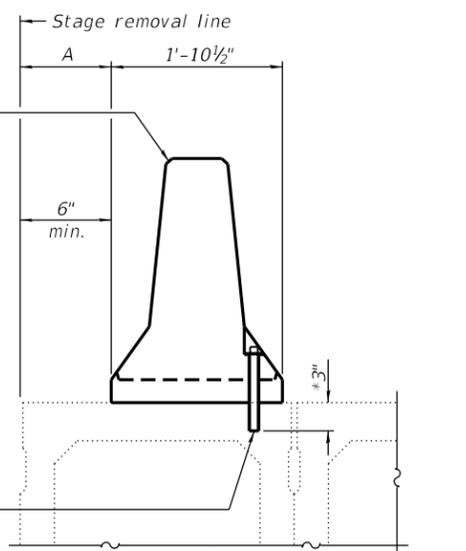
When "A" is 3'-1" or less, the temporary concrete barrier shall be restrained to the new slab according to Detail I, II or III. No restraint is required when "A" is greater than 3'-1". See Detail I, II or III

NEW SLAB OR NEW DECK BEAM



Drill 3-1 1/4" Ø Holes in existing slab for 1" Ø restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when "A" is greater than 3'-1".

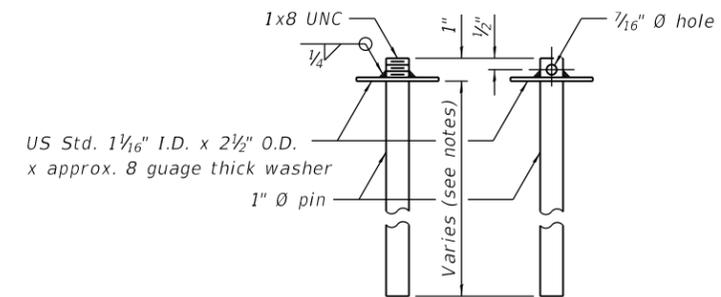
EXISTING SLAB



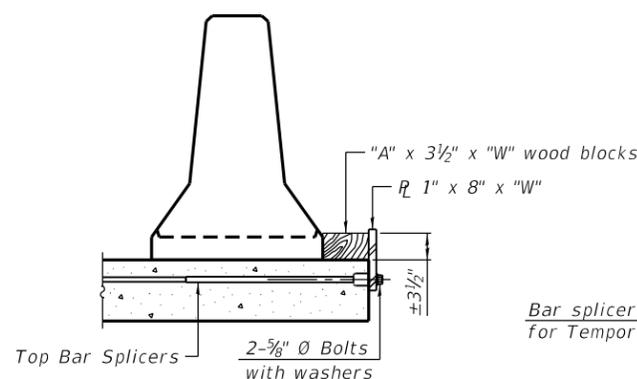
* When hot-mix asphalt wearing surface is present, embedment shall be 3" plus the wearing surface depth.

EXISTING DECK BEAM

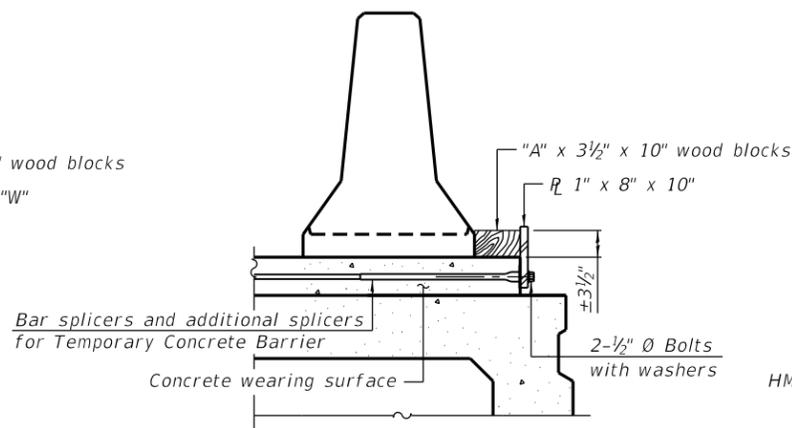
SECTIONS THRU SLAB OR DECK BEAM



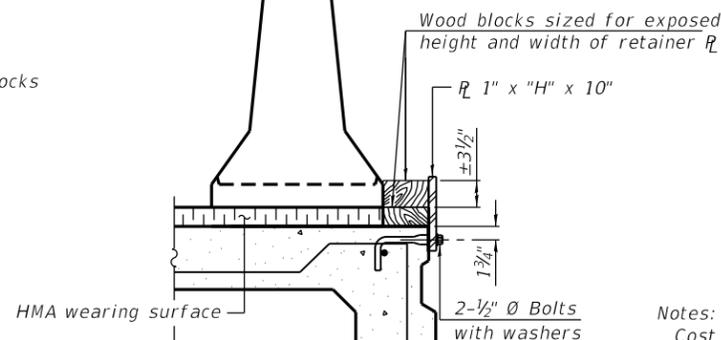
RESTRAINING PIN



DETAIL I



DETAIL II

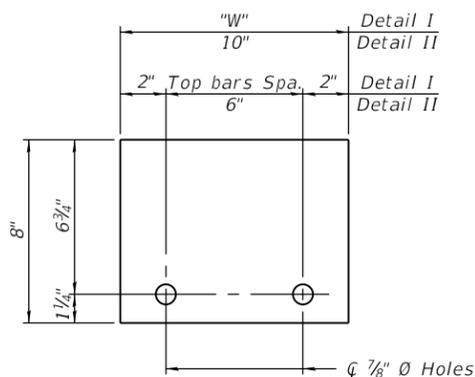


DETAIL III

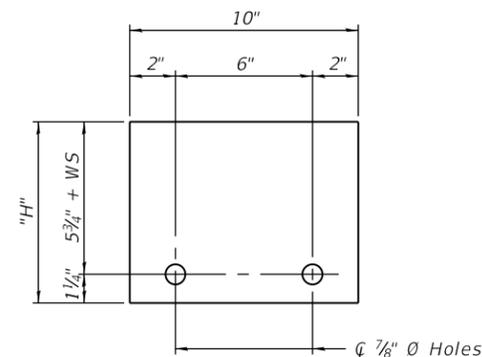
BAR SPLICER FOR #4 BAR - DETAIL III

Notes:
 Cost of retainer assembly is included with Temporary Concrete Barrier.
 A retainer assembly shall be located at the approximate center of each temporary concrete barrier.
 The retainer plate shall not be removed until the concrete on the adjacent stage is ready to be poured. For Detail III applications the retainer plate shall not be removed until just prior to placing the adjacent beam.
 When the 'A' dimension is less than 1 1/2', the wood block shall be omitted and the barrier shall be placed in direct contact with the steel retainer plate. For deck beam applications the minimum required 'A' distance is 6" to accommodate the shear key clamping device.

- Detail I - Installation for a new bridge deck or bridge slab.
- Detail II - Installation for a new deck beam with an initial concrete wearing surface. Additional bar splicers shall be provided at 6'-0" centers and paired with the bar splicers of the concrete wearing surface reinforcement to accommodate the installation of the retainer assemblies. The cost of the additional bar splicers is included with the concrete wearing surface.
- Detail III - Installation for a new deck beam with no initial wearing surface or with an initial hot-mix asphalt (HMA) wearing surface present. The deck beam directly beneath the temporary concrete barrier shall be fabricated with bar splicer inserts in the side of the beam, as detailed, to accommodate the installation of the retainer assemblies. A pair of bar splicers, 6" apart, shall be placed at 6'-0" centers along the length of the beam. The cost of the bar splicers is included with the deck beam.



STEEL RETAINER 1" x 8" x "W"
(Detail I and II)



STEEL RETAINER 1" x "H" x 10"
(Detail III)

R-27

8-11-2017

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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

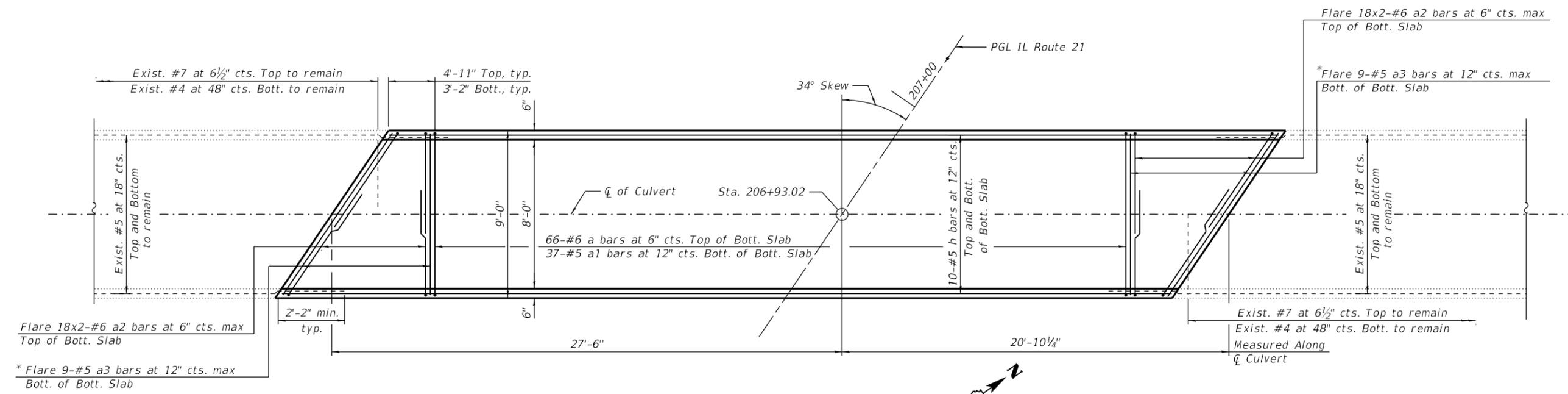
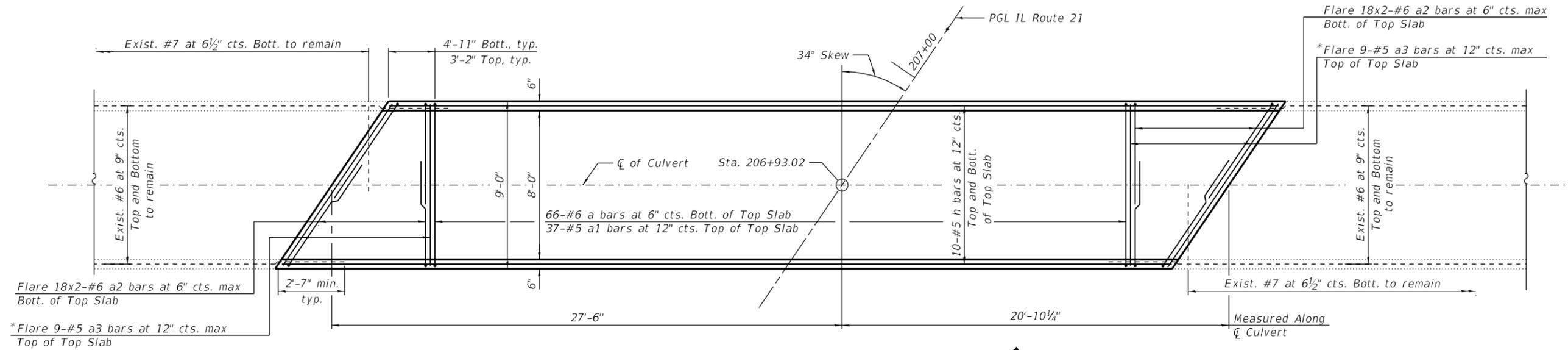
TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION
 S.N. 049-0599 IL 21 (MILWAUKEE AVE) OVER DITCH

SHEET S-06 OF S-09 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	2016-052B	LAKE	30	21
CONTRACT NO. 62D38				
ILLINOIS FED. AID PROJECT				

NOTES:

1. For Culvert Sections, details and Bill of Material, see Sheet S-08.
2. Existing reinforcement shall be cleaned and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost included with Removal Of Existing Structures No.1.



* See cutting diagram for a3 bars on Sheet S-08

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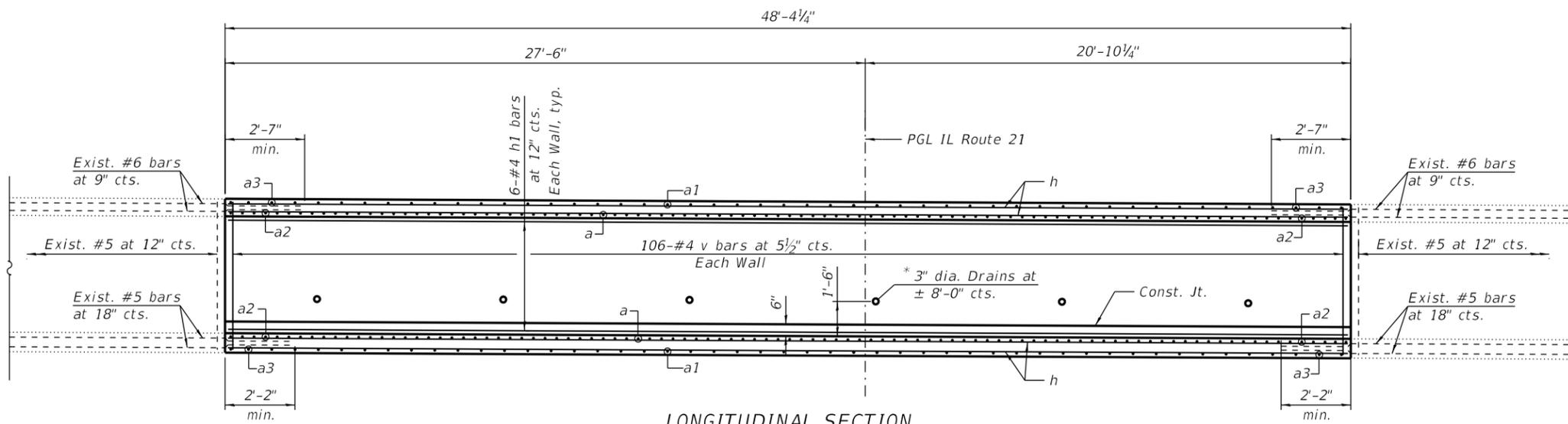
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP AND BOTTOM SLAB REINFORCEMENT
S.N. 049-0599 IL 21 (MILWAUKEE AVE) OVER DITCH

SHEET S-07 OF S-09 SHEETS

F.A.P. RTE. 330	SECTION 2016-052B	COUNTY LAKE	TOTAL SHEETS 30	SHEET NO. 22
CONTRACT NO. 62D38				
ILLINOIS FED. AID PROJECT				

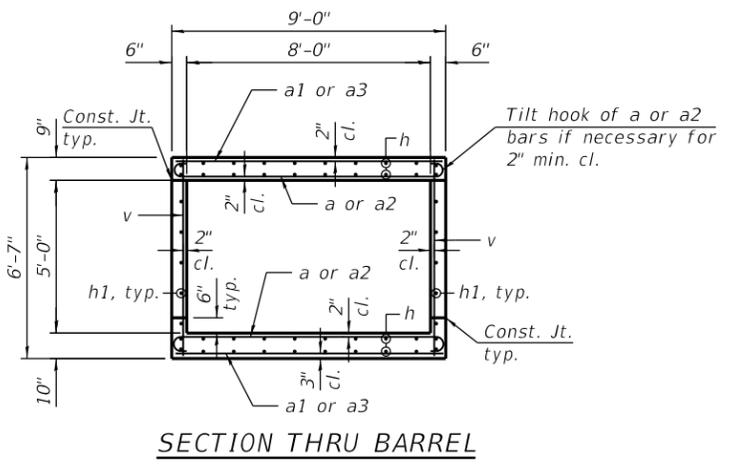


LONGITUDINAL SECTION
(Dimensions are along C Culvert)

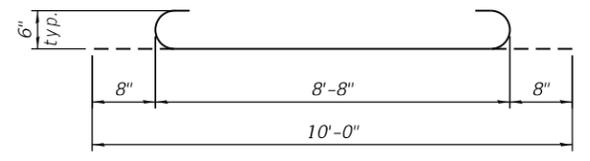
* See Special Provision "Weep Hole Drains for Abutments, Wingwalls, Retaining Walls and Culverts".

BILL OF MATERIAL

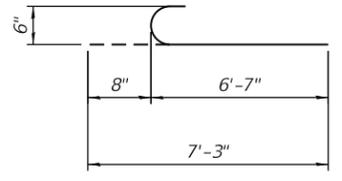
Bar	No.	Size	Length	Shape
a	132	#6	10'-0"	
a1	74	#5	8'-8"	
a2	144	#6	7'-3"	
a3	18	#5	19'-2"	
h	40	#5	48'-2"	
h1	12	#4	48'-2"	
v	212	#4	6'-3"	
Reinforcement Bars			Pound	7,870
Concrete Box Culverts			Cu. Yd.	34.5
Membrane Waterproofing System for Buried Structure			Sq. Yd.	58



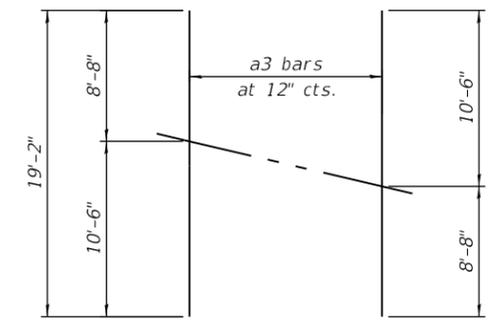
SECTION THRU BARREL



BAR a



BARS a2



BAR CUTTING DIAGRAM

(Order a3 bars full length. Cut as shown and use remainder of bars in opposite face)

Minimum Bar Laps	
Bar	Lap
#5	2'-2"
#6	2'-7"

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SECTIONS, DETAILS, AND BILL OF MATERIAL
S.N. 049-0599 IL 21 (MILWAUKEE AVE) OVER DITCH**

SHEET S-08 OF S-09 SHEETS

F.A.P. RTE. 330	SECTION 2016-052B	COUNTY LAKE	TOTAL SHEETS 30	SHEET NO. 23
CONTRACT NO. 62D38				
ILLINOIS FED. AID PROJECT				



Illinois Department of Transportation
Division of Highways
Millennia Professional Services of Illinois, Ltd.
IL 21 (Milwaukee)

SOIL BORING LOG

Date 8/10/18

ROUTE Avenue DESCRIPTION 22 LOGGED BY E. Mueller

SECTION LOCATION SEC. 10, TWP. 43N, RNG. 11E, Latitude, Longitude

COUNTY Lake DRILLING METHOD Hollow Stem Auger HAMMER TYPE Manual

STRUCT. NO. SN 049-0599
Station
BORING NO. B-1
Station
Offset
Ground Surface Elev. 654.39 ft

DEPTH (ft)	DEPTH (ft)	UCS (tsf)	MOIST (%)	DESCRIPTION	DEPTH (ft)	DEPTH (ft)	UCS (tsf)	MOIST (%)	DESCRIPTION
653.09	6		52	Black, Silty Clay, A-7-5 FILL					Gray, Silty Clay, A-4
									- 6.0-inch silt seam at 12.0 ft. (continued)
	6	1.7	16	Brownish gray, Silty Clay, A-6 FILL	3	5	0.9	15	
	7	B			8	B			
	3				3				
650.09	14	0.6	24	Black Cinders FILL	4	4	1.2	17	
	-5	B	8		5	B			
648.89				Gray, Silty Clay, A-6	-25				628.89
	2			- 2.0-inch diameter root at 9.0 ft.	22				Gray, Fine Sand, A-3
	1		29		30				
	2				61				
	11				29				
644.89	22		16	Gray, Gravelly Sand, A-1-a	32				
	-10				45				
643.89				Gray, Silty Clay, A-4	-30				623.89
	8			- 6.0-inch silt seam at 12.0 ft.	24				Gray, Gravelly Sand, A-1-a
	8	2.9	19		28				
	10	B			41				
	7				15				
	7	1.0	14		22				
	-15	B			27				619.39
	4								End of Boring
	7	1.5	11						
	7	B							
	3								
	4	1.6	14						
	-20	B							

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)



Illinois Department of Transportation
Division of Highways
Millennia Professional Services of Illinois, Ltd.
IL 21 (Milwaukee)

SOIL BORING LOG

Date 8/10/18

ROUTE Avenue DESCRIPTION 22 LOGGED BY E. Mueller

SECTION LOCATION SEC. 10, TWP. 43N, RNG. 11E, Latitude, Longitude

COUNTY Lake DRILLING METHOD Hollow Stem Auger HAMMER TYPE Manual

STRUCT. NO. SN 049-0599
Station
BORING NO. B-2
Station
Offset
Ground Surface Elev. 654.18 ft

DEPTH (ft)	DEPTH (ft)	UCS (tsf)	MOIST (%)	DESCRIPTION	DEPTH (ft)	DEPTH (ft)	UCS (tsf)	MOIST (%)	DESCRIPTION
653.18			7	Asphalt (12.0 inches)					633.68
	18			Brown, Crushed Limestone CA-06, FILL	6				Gray, Silty Clay Loam, A-4
652.18	8		14	Brown, Sand, FA-06, FILL	9	1.9	15		
	5				14	B			
	6				3				
	4		5		6	0.5	19		
	-5				6	B			
	2				-25				
	1		16		3				
	3			Gray, Sandy Clay Loam, A-4	5	1.2	21		626.98
646.18					10	B			Gray, Sand, A-1-a
	7				7				
	8				14				
	8				-30	15			
	7				14				
	6	1.2	10		22				
	6	B			23				
	3								621.18
	13	1.0	14		11				Gray, Silty Sand, A-3
	-15	B			19				
	12				24				619.18
	7								End of Boring
	8								
	10		15						
	6								
	16	1.9	12						
	-20	B							

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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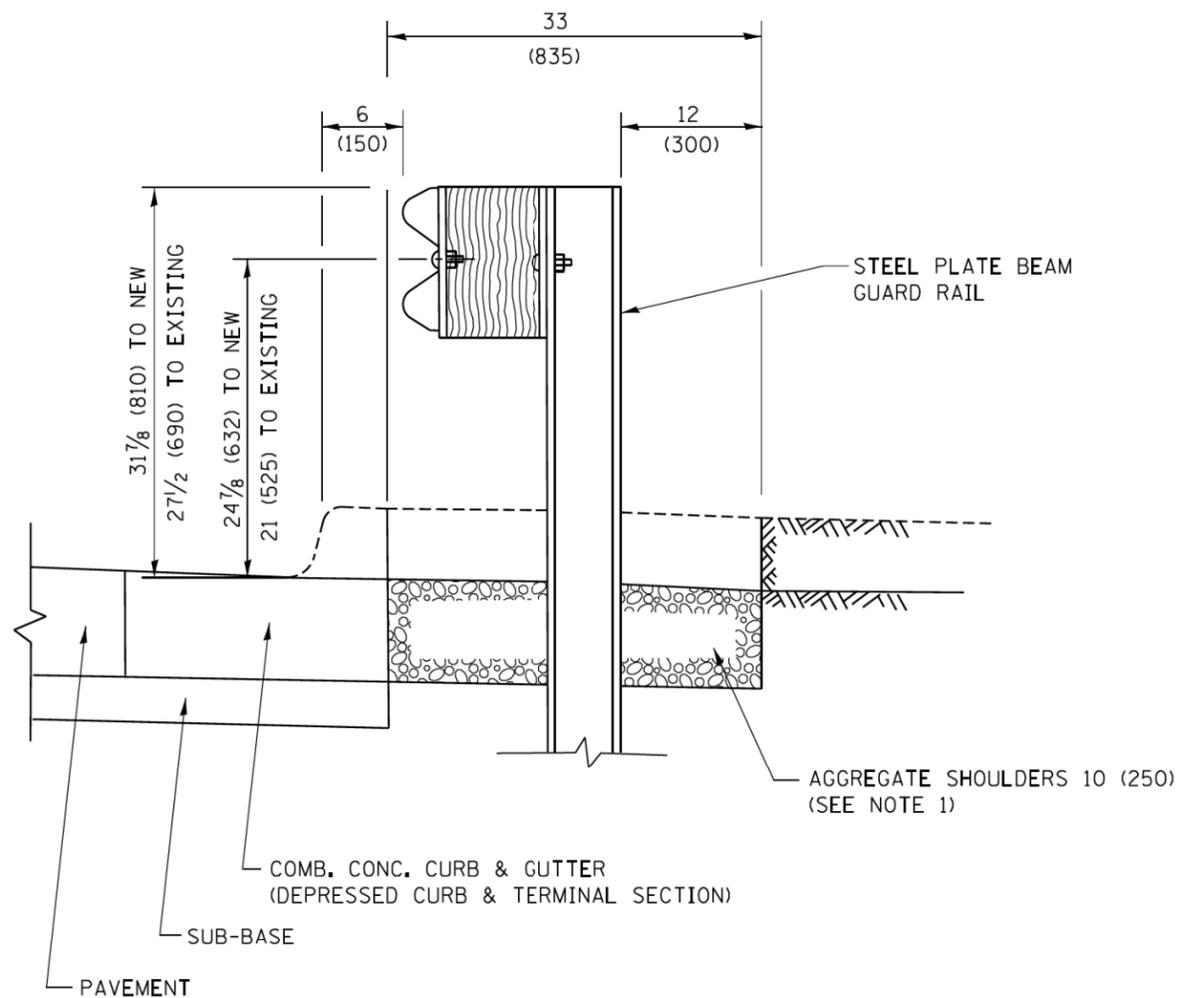


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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS
S.N. 049-0599 IL 21 (MILWAUKEE AVE) OVER DITCH
SHEET S-09 OF S-09 SHEETS

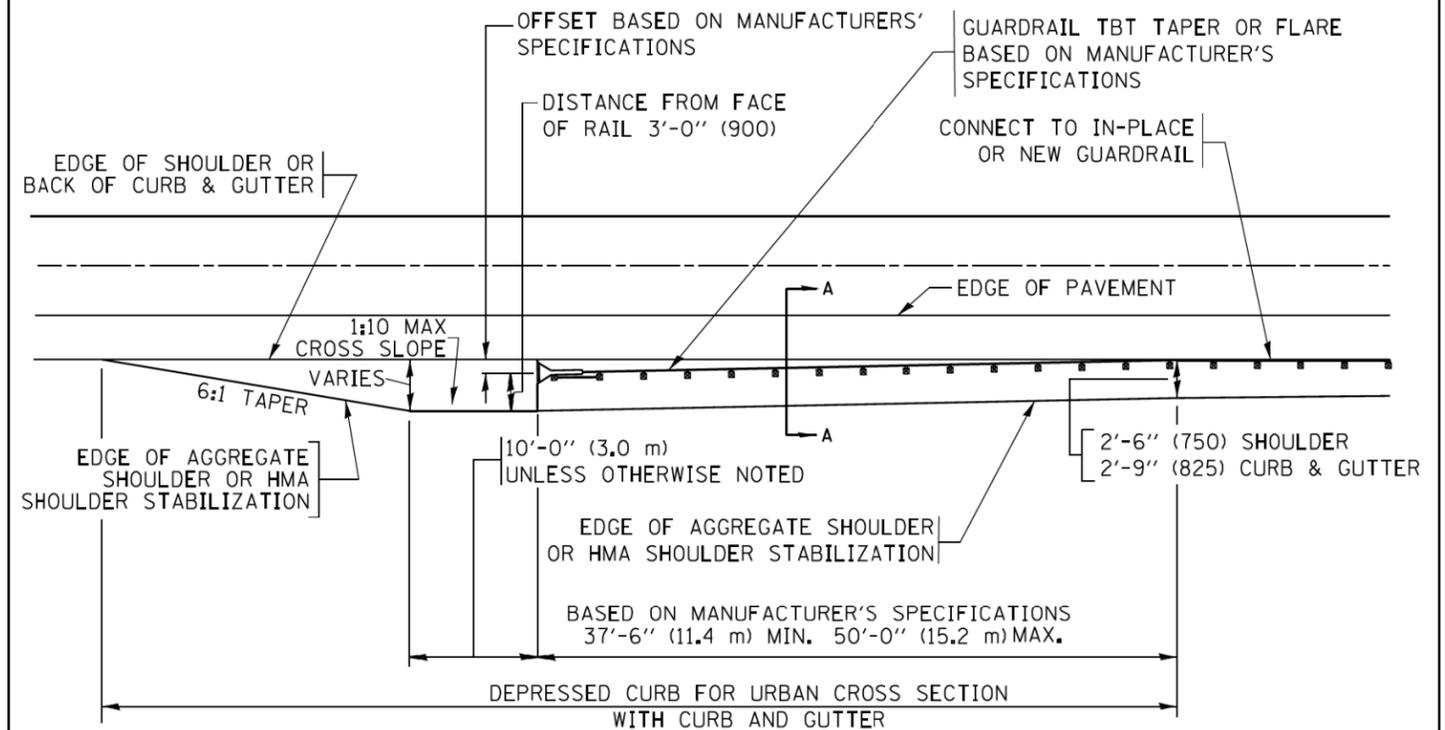
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	2016-052B	LAKE	30	24
CONTRACT NO. 62D38				
ILLINOIS FED. AID PROJECT				



SECTION A-A

- NOTES:
1. THE AGGREGATE SHOULDER, 10 (250) OR HMA SHOULDER, 6 (150) (IF REQUIRED) SHALL EXTEND UNDER THE TRAFFIC BARRIER TERMINAL.
 2. "EXISTING" GUARDRAIL REFERS TO CONNECTING TERMINAL SECTION TO GUARD RAILING PRIOR TO THE MIDWEST GUARDRAIL SYSTEM.
 3. THE CONTRACTOR SHALL VERIFY THE TYPE/HEIGHT OF GUARDRAIL IN-PLACE BEFORE ORDERING THE NEW TERMINAL SECTION. COST INCLUDED WITH THE COST OF THE TERMINAL. THE TERMINAL SECTION HEIGHT TO BE PLACED MUST MATCH THE HEIGHT OF THE IN-PLACE GUARDRAIL.

**DETAILS FOR STEEL PLATE BEAM
GUARD RAIL ADJACENT TO CURB AND GUTTER
[FOR ROADWAY SPEED 35 MPH (60 kmh) TO 45 MPH (70 kmh)]**



**DEPRESSED CURB AND GUTTER AND
SHOULDER TREATMENT AT TBT TY. 1 SPL.**

AGGREGATE SHOULDER, 10 (250) WILL BE PAID ACCORDING TO SECTION 481.

HMA SHOULDERS 6 (150) (IF REQUIRED) WILL BE PAID ACCORDING TO SECTION 482.

COMB. CONC. C&G, STEEL PLATE BEAM GUARD RAIL AND TRAFFIC BARRIER TERMINAL, OF THE TYPE SPECIFIED WILL BE PAID FOR SEPARATELY.

TBT = TRAFFIC BARRIER TERMINAL
ALL DIMENSIONS ARE IN INCHES (MILLIMETERS)
UNLESS OTHERWISE SHOWN.

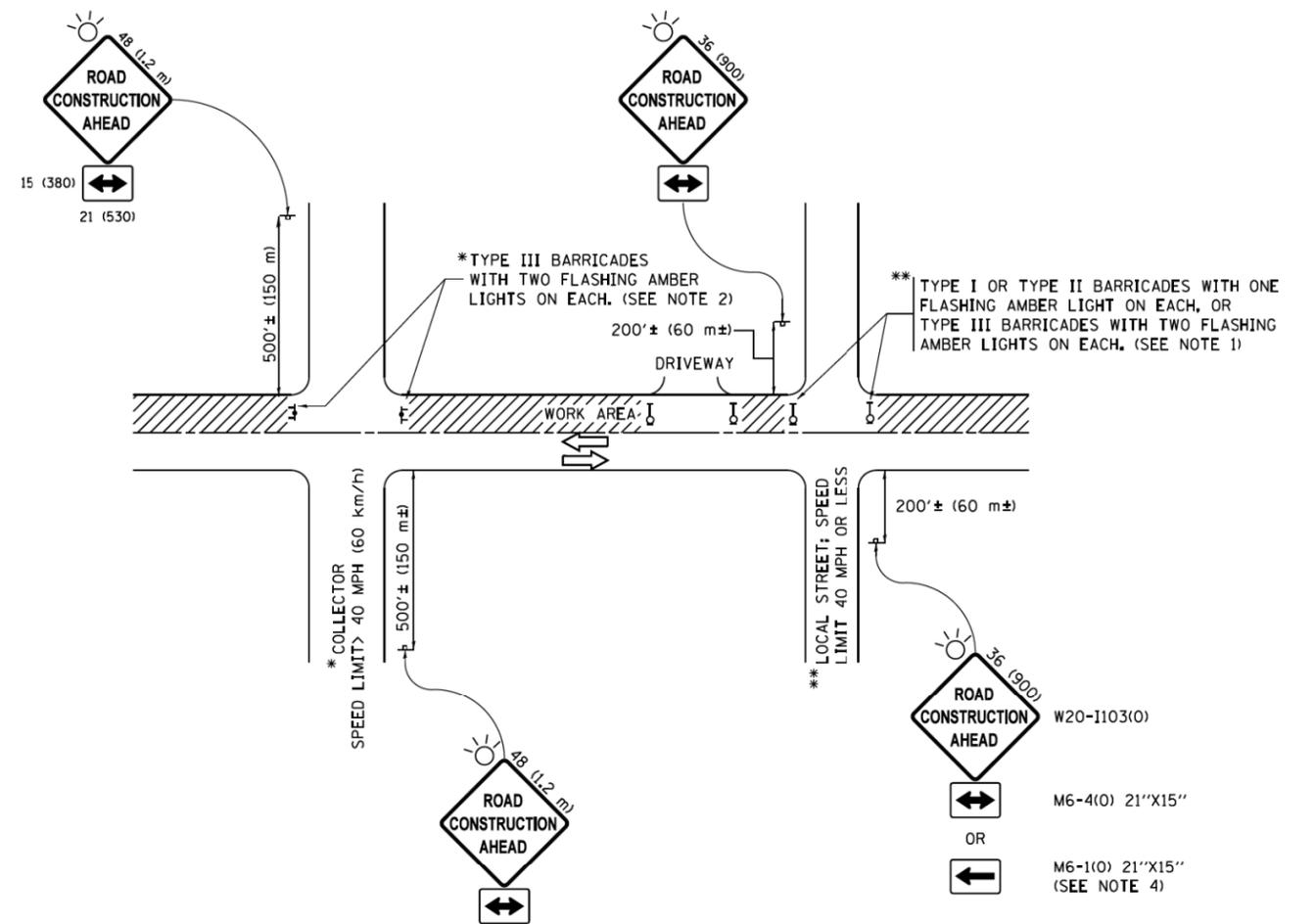
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DETAILS FOR DEPRESSED CURB & GUTTER AND
SHOULDER TREATMENT AT TBT TY. 1 SPL.

SCALE: NONE SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	2016-052B	LAKE	30	25
BD600-10 (BD 34)		CONTRACT NO. 62D38		
ILLINOIS FED. AID PROJECT				



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) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY 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. WHEN THE SIDE ROAD LIES BETWEEN THE BEGINNING OF THE MAINLINE 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.

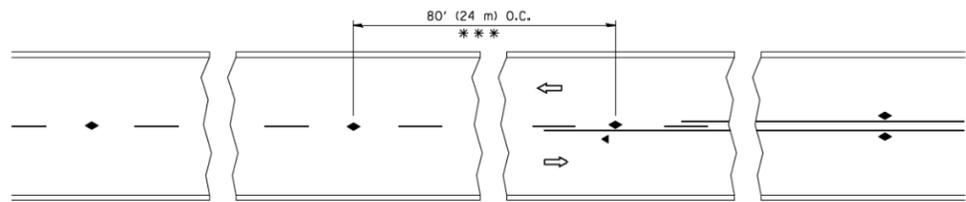
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TRAFFIC CONTROL AND PROTECTION FOR
SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS**

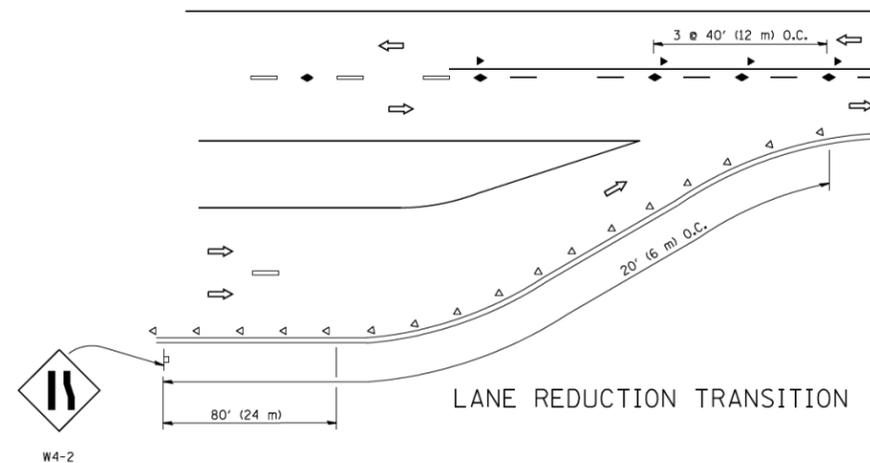
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	2016-052B	LAKE	30	26
TC-10			CONTRACT NO. 62D38	
ILLINOIS FED. AID PROJECT				

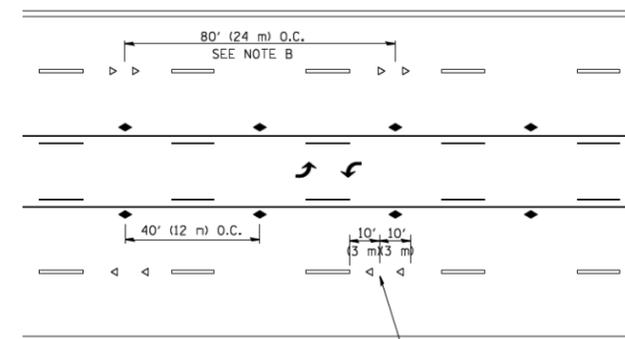


*** REDUCE TO 40' (12 m) O.C. ON CURVES WITH POSTED OR ADVISORY SPEED 45 M.P.H. (70 km/h) OR LESS.

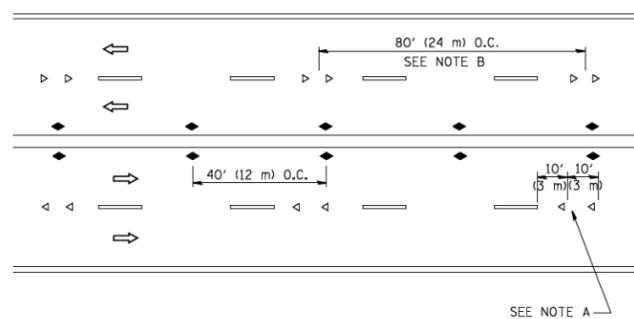
TWO-LANE/TWO-WAY



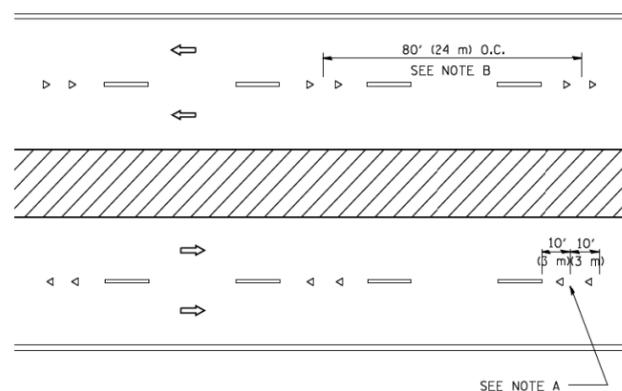
LANE REDUCTION TRANSITION



TWO-WAY LEFT TURN



MULTI-LANE/UNDIVIDED



MULTI-LANE/DIVIDED

GENERAL NOTES

1. MARKERS USED WITH DASHED LINES SHALL BE CENTERED IN THE GAP BETWEEN SEGMENTS.
2. MARKERS USED ADJACENT TO SOLID LINES SHALL BE OFFSET 2 TO 3 (50 TO 75) TOWARD TRAFFIC AS SHOWN.
3. MARKERS THROUGH TANGENTS LESS THAN 500' (150 m) IN LENGTH BETWEEN CURVES SHALL BE INSTALLED AT THE LESSER OF THE TWO CURVE SPACINGS.

SYMBOLS

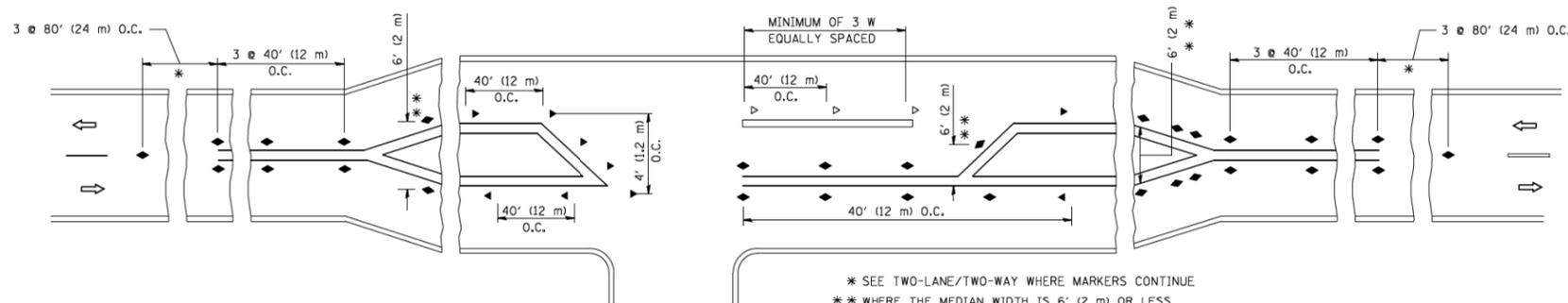
- YELLOW STRIPE
- WHITE STRIPE
- ◀ ONE-WAY AMBER MARKER
- ◁ ONE-WAY CRYSTAL MARKER (W/O)
- ◆ TWO-WAY AMBER MARKER

LANE MARKER NOTES

- A. USE DOUBLE LANE LINE MARKERS SPACED AS SHOWN.
- B. REDUCE TO 40' (12 m) O.C. ON CURVES WHERE ADVISORY SPEEDS ARE 10 M.P.H. (20 km/h) LOWER THAN POSTED SPEEDS.

DESIGN NOTES

1. DOUBLE LANE LINE MARKERS SHALL BE USED UNLESS SPECIFIED OTHERWISE.
2. EXCEPT AS SHOWN ON THE LANE REDUCTION TRANSITION AND FREEWAY EXIT RAMP DETAIL, MARKERS ARE NOT TO BE SPECIFIED ON RIGHT EDGE LINES.
3. THE EXACT MARKER LIMITS, SPACING, AND COLOR SHALL BE INCLUDED IN THE PLANS WHEN STANDARD SPECIFICATIONS ARE NOT BEING USED.
4. MARKERS SHOULD NOT BE USED ALONGSIDE CURBS EXCEPT FOR EXTREMELY SHORT SECTIONS OF CURBS WHERE NOT MORE THAN TWO MARKERS WOULD BE INVOLVED.



* SEE TWO-LANE/TWO-WAY WHERE MARKERS CONTINUE
 ** WHERE THE MEDIAN WIDTH IS 6' (2 m) OR LESS USE TWO-WAY MARKERS.

LEFT TURN

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

FILE NAME =	USER NAME = lryso	DESIGNED -	REVISED - T. RAMMACHER 09-19-94
cs:\pw\work\pwi\dot\lryso\d0108315\tcl1.dgn		DRAWN -	REVISED - T. RAMMACHER 03-12-99
	PLOT SCALE = 50,000' / IN.	CHECKED -	REVISED - T. RAMMACHER 01-06-00
	PLOT DATE = 3/2/2011	DATE -	REVISED - C. JUCIUS 09-09-09

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

TYPICAL APPLICATIONS			
RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT)			
SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	2016-052B	LAKE	30	27
TC-11			CONTRACT NO. 62D38	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

TURN BAY ENTRANCE AT START OF LANE CLOSURE TAPER

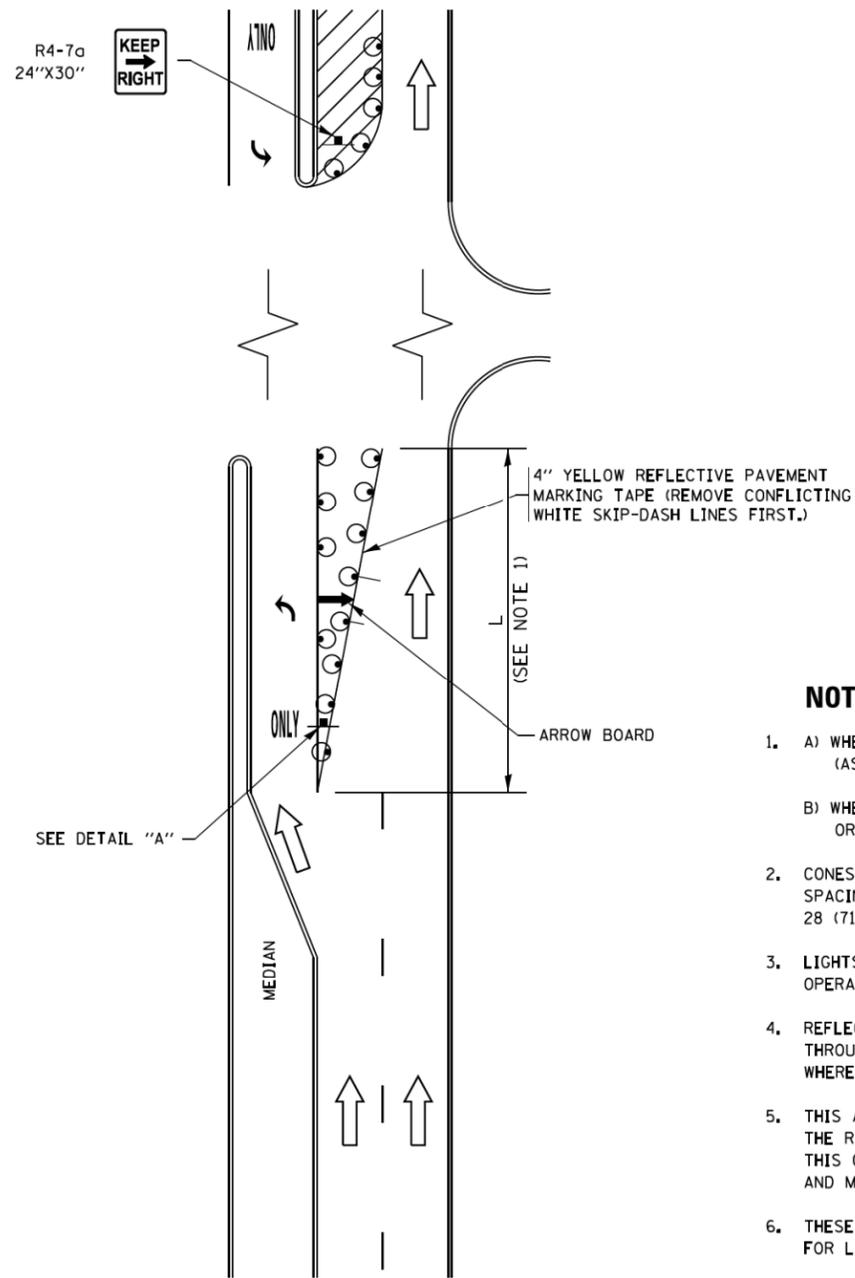


FIGURE 1

TURN BAY ENTRANCE WITHIN A LANE CLOSURE

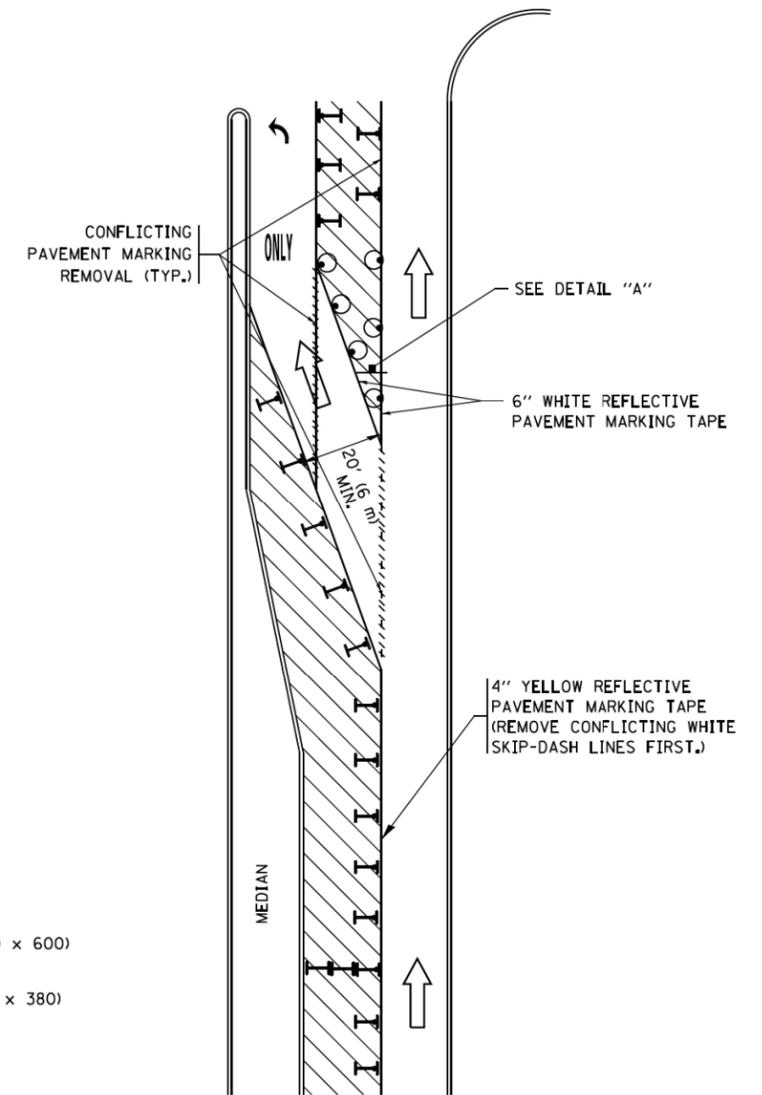


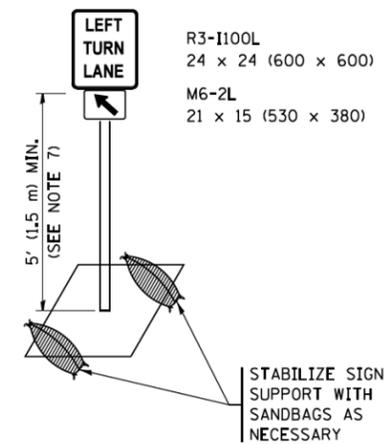
FIGURE 2

LEGEND

-  WORK AREA
-  LANE OPEN TO TRAFFIC
-  ARROW BOARD
-  TYPE I OR II BARRICADE OR DRUM WITH STEADY BURN LIGHT
-  DRUM WITH STEADY BURN LIGHT
-  SIGN ASSEMBLY
-  TYPE I OR II CHECK BARRICADE WITH FLASHING LIGHT

NOTES:

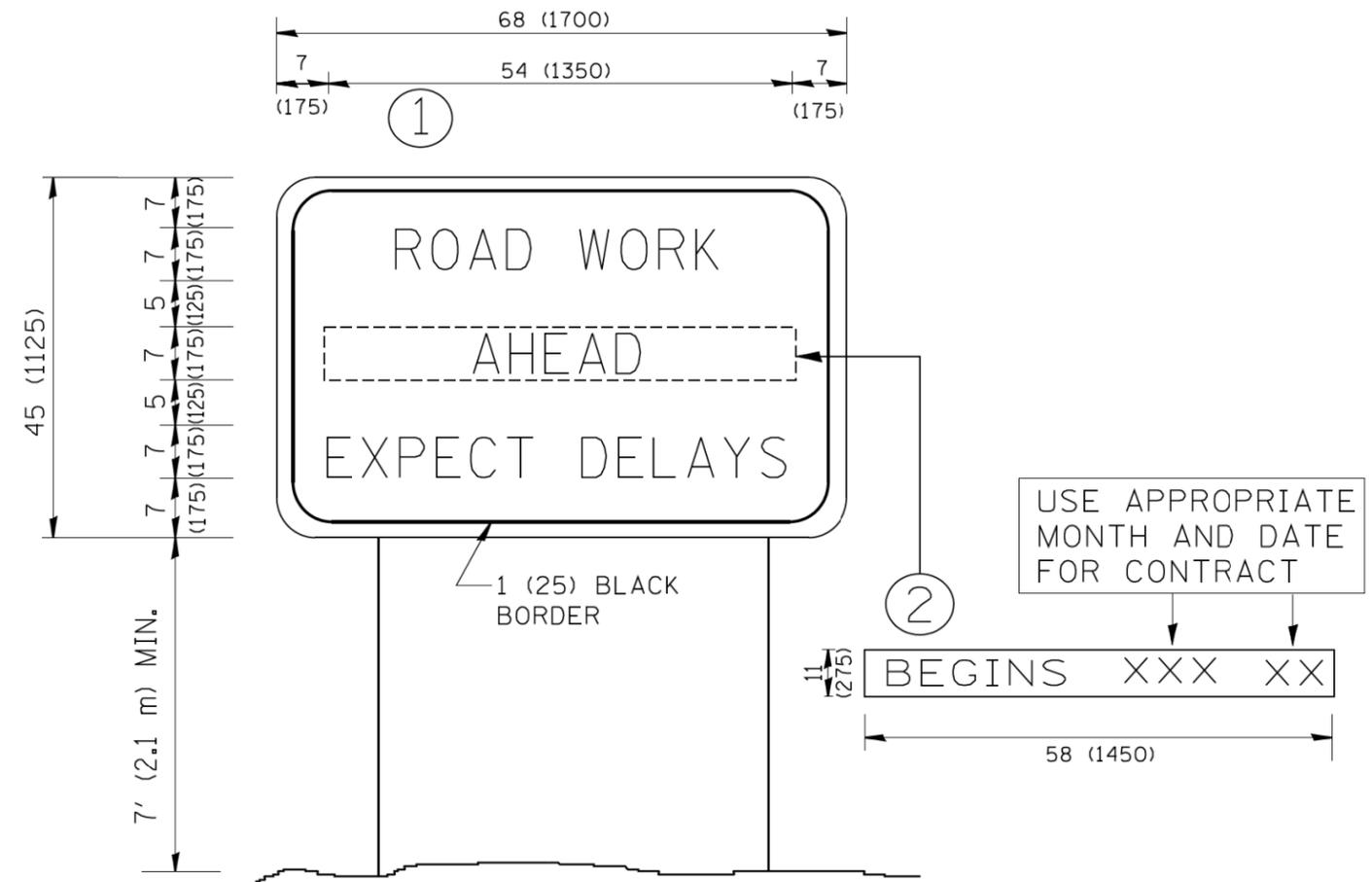
1. A) WHEN "L" IS \leq THE STORAGE LENGTH OF THE TURN LANE (AS SHOWN IN FIG. 1), USE FIGURE 1.
B) WHEN "L" IS $>$ THE STORAGE LENGTH OF THE TURN LANE OR THE TURN LANE IS WITHIN THE LANE CLOSURE, USE FIGURE 2.
2. CONES MAY BE SUBSTITUTED FOR BARRICADES OR DRUMS AT HALF THE SPACING DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 28 (710) IN HEIGHT.
3. LIGHTS WILL NOT BE REQUIRED ON BARRICADES OR DRUMS FOR DAY OPERATIONS. ALL LIGHTS SHALL BE MONODIRECTIONAL.
4. REFLECTIVE TEMPORARY PAVEMENT MARKINGS SHALL BE PLACED THROUGHOUT THE BARRICADED AREAS OF EACH TURN BAY AS SHOWN WHERE THE CLOSURE TIME IS GREATER THAN FOURTEEN (14) DAYS.
5. THIS APPLICATION ALSO APPLIES WHEN WORK IS BEING PERFORMED IN THE RIGHT LANE(S) AND THE RIGHT TURN BAY IS TO REMAIN OPEN. UNDER THIS CONDITION, "RIGHT TURN LANE" R3-I100R 24 x 24 (600 x 600) AND M6-2R 21 x 15 (530 x 380) SHALL BE USED.
6. THESE CONTROLS SHALL SUPPLEMENT MAINLINE TRAFFIC CONTROL FOR LANE CLOSURES.
7. THE SIGNS SHALL BE MOUNTED ABOVE THE BARRICADES/DRUMS ON SEPARATE SIGN SUPPORTS THAT MEET NCHRP 350 OR MASH PRE-REQUIREMENTS.
8. TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TO REMAIN OPEN TO TRAFFIC) SHALL BE INCLUDED IN THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.



DETAIL A

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

FILE NAME =	USER NAME = footemj	REVISED - T. RAMMACHER 09-08-94	REVISED - R. BORO 09-14-09	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TO REMAIN OPEN TO TRAFFIC)				F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
Default		REVISED - A. HOUSEH 10-07-95	REVISED - A. SCHUETZE 07-01-13						330	2016-052B	LAKE	30	29
	PLOT SCALE = 50,0000' / in.	REVISED - A. HOUSEH 10-12-96	REVISED - A. SCHUETZE 09-15-16						TC-14				CONTRACT NO. 62D38
	PLOT DATE = 9/15/2016	REVISED - T. RAMMACHER 01-06-00	REVISED -	SCALE: NONE SHEET 1 OF 1 SHEETS STA. TO STA.				ILLINOIS FED. AID PROJECT					



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.

FILE NAME = W:\ciststd\22x34\tc22.dgn	USER NAME = gaglienobt	DESIGNED - DRAWN -	REVISED - REVISED -
		DESIGNED - CHECKED -	REVISED - REVISED -
	PLOT SCALE = 50.000 ' / IN. PLOT DATE = 1/4/2008	DATE -	REVISED - REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**ARTERIAL ROAD
INFORMATION SIGN**

SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE. 330	SECTION 2016-052B	COUNTY LAKE	TOTAL SHEETS 30	SHEET NO. 30
TC-22		CONTRACT NO. 62D38		
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				