

STATE OF ILLINOIS COUNTY OF LAKE PLANS FOR PROPOSED 2016 TRAFFIC SIGNAL PROJECT SECTION 16-00999-23-TL

INDEX OF SHEETS

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IDOT HIGHWAY STANDARDS

000001-06 (8 SHTS)	701001-02	701006-05
701106-02	701201-04	701301-04
701421-07	701501-06	701601-09 (2 SHTS)
701606-10	701701-10	701801-06 (2 SHTS)
701901-05 (3 SHTS)		

LCDOT STANDARD DETAILS

LC7000	LC7003	LC7004
LC7005	LC7200	

**SEE SHEET 3
FOR
PROJECT LOCATIONS**

**FOR UNDERGROUND UTILITY
LOCATIONS, CALL
J. U. L. I. E.**

**TOLL FREE
800-892-0123**



Plans Prepared By: Lake County
Division of Transportation

Signature: William C. Eidson
Date: 6/1/2016

Illinois License No: 062-057944

Expiration Date: 11/30/2017

Field: CIVIL

Approved By: Paula Trigg
County Engineer

Date: June 1, 2016



**BUILDING LAKE COUNTY'S
EFFECTIVE TRANSPORTATION
SYSTEM TODAY**

REVISIONS / REMARKS		DATE	BY	SURVEYOR:
NO.	DESCRIPTION			
				DSG NR/LIAISON:
				PLOTTED BY: khdl869l 5/23/2016



**2016 TRAFFIC SIGNAL PROJECT
COVER SHEET**

ROUTE	SECTION	SECTION NUMBER	SHEET	SHEETS
VAR	VAR	16-00999-23-TL	1	50

LCDOT GENERAL NOTES
(Revised 5/1/16)

1. GENERAL

- a. All construction shall be done according to the State of Illinois "Standard Specifications for Road and Bridge Construction" adopted Jan. 1, 2016; the "Supplemental Specifications and Recurring Special Provisions, adopted Jan. 1, 2016; the latest edition of the "Illinois Manual on Uniform Traffic Control devices for Streets and Highways"; the details in these plans, and the Special Provisions included in the contract documents.
- b. The Contractor shall notify the Engineer at least 72 hours prior to beginning work and shall coordinate all construction operations with the Engineer.
- c. The Contractor shall coordinate his/her work with any adjacent projects that are or may be under construction.
- d. The Contractor shall verify all dimensions and existing conditions in the field prior to ordering materials and beginning construction. Where new work is proposed to meet existing features, it shall be the Contractor's responsibility to field check all dimensions and elevations and notify the Engineer of discrepancies before proceeding with construction.
- e. The Contractor shall provide access to abutting properties at all times during construction, except for brief periods of interruption. The Contractor shall notify the property owner no less than 24 hours in advance of the interruption of access and/or services. The notification will include the time and duration of the interruption. The cost to provide access shall be paid for and included in the cost of TRAFFIC CONTROL AND PROTECTION (SPECIAL)

2. REMOVAL

- a. The Contractor shall saw cut the existing pavement, concrete curb & gutter, median, hot-mix asphalt shoulder, sidewalk; and/or other appurtenances as shown on the plans, to separate the existing material to be removed, by means of an approved concrete saw to a depth shown on the plans or as directed by the Engineer. This work shall be included in the cost of the item being removed.

The Contractor shall be required to saw vertical cuts so as to form clean vertical joints. Should the Contractor deface any edge, a new sawed joint shall be provided and any additional work, including removal and replacement, shall be done at the Contractor's expense.

- b. All excess material shall be disposed of offsite on the day it is excavated or removed.
- c. The Contractor is prohibited from burning any material within or adjacent to the project limits. All excess or waste material shall be hauled away from the project site by the contractor and legally disposed of outside the right-of-way. No extra compensation will be allowed the contractor for any expense incurred by complying with the requirements of this note.

3. DRAINAGE

- a. Unless otherwise noted on the plans, the existing drainage facilities shall remain in use during the period of construction. During construction operations the Contractor shall ensure positive site drainage at the conclusion of each day. Site drainage may be achieved by ditching, pumping, or any other method acceptable to the Engineer.

- b. During the construction operation when any loose material is deposited in the flow line of ditches, gutters or drainage structures so the natural flow of water is obstructed, the material shall be removed at the close of each working day.

At the conclusion of the construction operations all drainage structures shall be free from all dirt and debris. This work will not be paid for separately but shall be considered included in the unit costs of the various Temporary Erosion Control Systems e.g. INLET FILTERS, INLET PROTECTION SPECIAL, TEMPORARY DITCH CHECKS, etc...

- 4. LANDSCAPING: Phosphorus Fertilizer Nutrient **shall not** be used on Lake County Highways.

5. SIGNS

- a. The Contractor will be required to relocate or remove and replace signs which interfere with his/her construction operations, and to temporarily reset all such signs during construction operations according to **Article 107.25 of the "Standard Specifications"**.
 - All unused signs shall be returned to the County.
 - Longer posts may be required at some temporary or permanent sign locations to maintain proper sign elevations.

6. UTILITIES

- a. Location information for underground utility facilities shown on the plans and/or included in the Contract Specifications represents the best information provided to LCDOT, and is only included for the convenience of the Contractor. LCDOT assumes no responsibility for the sufficiency or the accuracy of the location information provided.
- b. Before starting any excavation, the Contractor shall contact "JULIE" at 1-800-892-0123 for field locations of buried electric, telephone, gas, water, sewer, cable, etc., utility lines (minimum 48 hours notification is required).
- c. The Contractor shall be responsible for any damage or destruction of public or private property according to the special provisions and Article 107.20 of the "Standard Specifications". The Contractor shall restore such property at his/her own expense. The Contractor shall use all necessary precautions and protective measures required to maintain existing utilities, sewers, and appurtenances that must be kept in operation. In particular, the Contractor will take adequate measures to prevent the undermining of utilities and sewers which are still in service.

7. MISCELLANEOUS

- a. The Contractor shall provide temporary toilet facilities for the use of all the Contractors' personnel employed on the work site, and shall maintain same in proper sanitary condition. The temporary facilities shall include hand sanitizing stations. At the completion of the project, the facilities shall be removed and the premises left clean. The Engineer shall approve the location of the temporary toilets. The cost of this work shall be included in the unit bid prices and no additional compensation will be allowed.

- b. Generally 10 foot transitions shall be used to match proposed items of work to existing items in the field, unless otherwise shown on the plans. The transitions shall be paid for at the contract unit price for the proposed item of work specified.

- c. The Contractor shall not cross completed surface course, or existing pavement not scheduled to be removed, with construction equipment which may damage the pavement.

- d. The Contractor's attention is called to the fact that some quantities are given in both summary form and on the plan sheets. Care should be taken to avoid duplication of quantities.

8. PROJECT SPECIFIC NOTES

- a. All confirmation beacons are to be new, L.E.D. types. The materials and installation shall be according to the special provisions.

- b. Contractor shall modify the controller and cabinet as required to place EVP equipment into proper operations. The cost of this work shall be included in the applicable pay item for "LIGHT DETECTOR AMPLIFIER" or "LIGHT DETECTOR AMPLIFIER, (INSTALLATION ONLY)".

REVISIONS / REMARKS				
NO.	DESCRIPTION	DATE	BY	SURVEYOR:

FILE NAME: U:\DOT\Traffic\2016 InstallEVP\EVP.dgn



2016 TRAFFIC SIGNAL PROJECT
GENERAL NOTES

ROUTE	SECTION	SECTION NUMBER	SHEET	SHEETS
VAR	VAR	16-00999-23-TL	2	50

SUMMARY OF QUANTITIES				
NO.	CODE NO.	ITEM	UNIT	TOTAL
1	85000200	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	13
2	87301225	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	2099
3	88700200	LIGHT DETECTOR	EACH	14
4	88700300	LIGHT DETECTOR AMPLIFIER	EACH	5
5	89502375	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	8
6	X0324085	EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C	FOOT	2099
7	X0325801	LIGHT DETECTOR, (INSTALLATION ONLY)	EACH	12
8	X0325802	LIGHT DETECTOR AMPLIFIER, (INSTALLATION ONLY)	EACH	8
9	X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1

LEWIS AVENUE & 9TH STREET	LEWIS AVENUE & BEACH ROAD	LEWIS AVENUE & ARGONNE DRIVE	SAUNDERS ROAD & PARKWAY NORTH	SAUNDERS ROAD & BAXTER PARKWAY	BUFFALO GROVE ROAD & OLD CHECKER ROAD	APTAKISIC ROAD & WEILAND ROAD	ALMOND ROAD & GRASS LAKE ROAD	WINCHESTER ROAD & TECHNOLOGY WAY	ST. MARY'S ROAD & OAK SPRING ROAD	ST. MARY'S ROAD & ATKINSON ROAD	OLD MCHENRY ROAD & QUENTIN ROAD	DEERFIELD PARKWAY & BUSCH PARKWAY
1	1	1	1	1	1	1	1	1	1	1	1	1
563	272	486	280	498								
2	2	3	3	3								1
1	1	1	1	1								
					1	1	1	1	1	1	1	1
563	272	486	280	498								
							2	2	2	2	3	1
					1	1	1	1	1	1	1	1

REVISIONS / REMARKS				
NO.	DESCRIPTION	DATE	BY	SURVEYOR:

FILE NAME: U:\DOT\Traffic\2016 InstallEVP\EVP.dgn



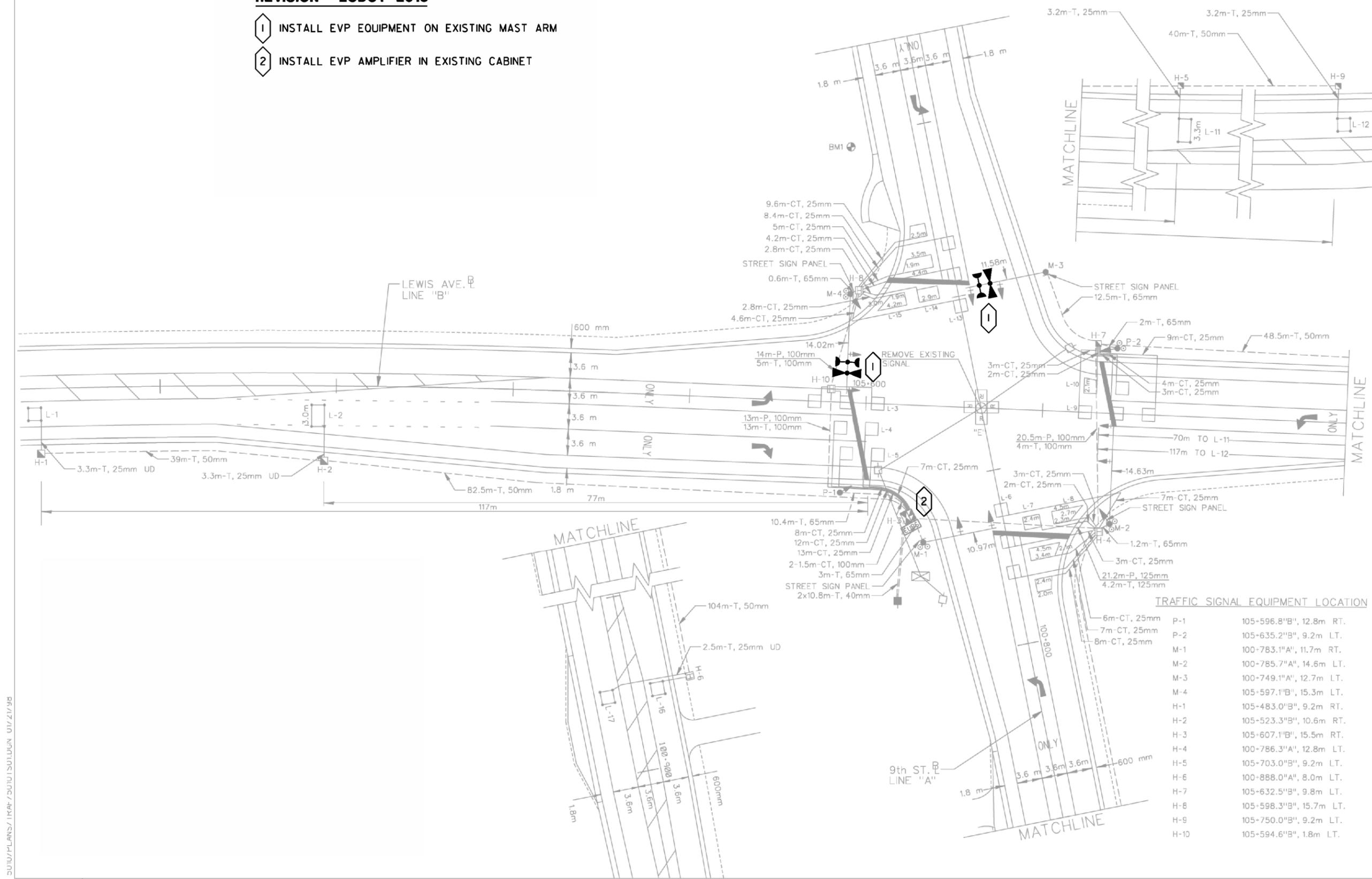
2016 TRAFFIC SIGNAL PROJECT
SUMMARY OF QUANTITIES

ROUTE	SECTION	SECTION NUMBER	SHEET	SHEETS
VAR	VAR	16-00999-23-TL	4	50

ROUTE	SECTION	COUNTY	SHEET	SHEETS
47/27	111	LAKE	19	46
TRAFFIC SIGNAL PLAN				
96-00111-06-D HILLINOS 9TH ST/LEWIS AVE				

REVISION - LCDOT 2016

- 1 INSTALL EVP EQUIPMENT ON EXISTING MAST ARM
- 2 INSTALL EVP AMPLIFIER IN EXISTING CABINET



TRAFFIC SIGNAL EQUIPMENT LOCATION

Equipment ID	Location Description
P-1	105+596.8"B", 12.8m RT.
P-2	105+635.2"B", 9.2m LT.
M-1	100+783.1"A", 11.7m RT.
M-2	100+785.7"A", 14.6m LT.
M-3	100+749.1"A", 12.7m LT.
M-4	105+597.1"B", 15.3m LT.
H-1	105+483.0"B", 9.2m RT.
H-2	105+523.3"B", 10.6m RT.
H-3	105+607.1"B", 15.5m RT.
H-4	100+786.3"A", 12.8m LT.
H-5	105+703.0"B", 9.2m LT.
H-6	100+888.0"A", 8.0m LT.
H-7	105+632.5"B", 9.8m LT.
H-8	105+598.3"B", 15.7m LT.
H-9	105+750.0"B", 9.2m LT.
H-10	105+594.6"B", 1.8m LT.

REVISIONS / REMARKS				
NO.	DESCRIPTION	DATE	BY	SURVEYOR:

2016 TRAFFIC SIGNAL PROJECT

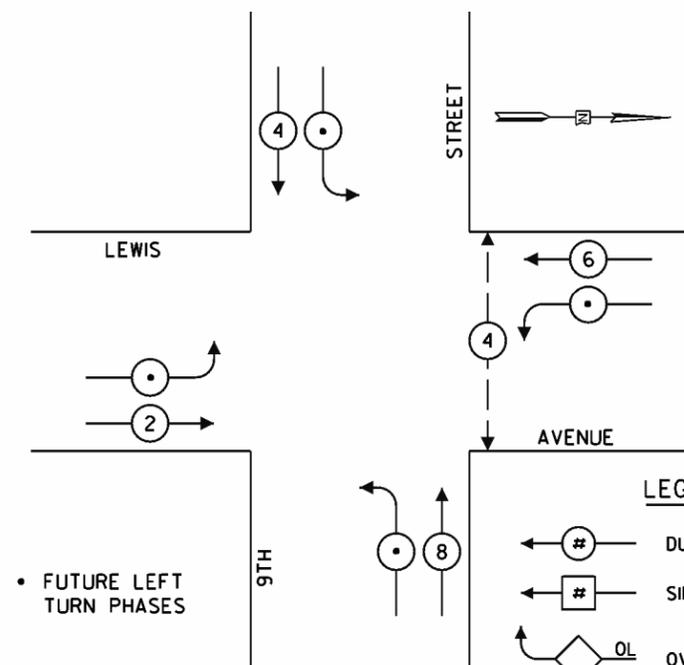


**LEWIS AVENUE & 9TH STREET
SIGNAL PLAN**

ROUTE	SECTION	SECTION NUMBER	SHEET	SHEETS
VAR	VAR	16-00999-23-TL	5	50

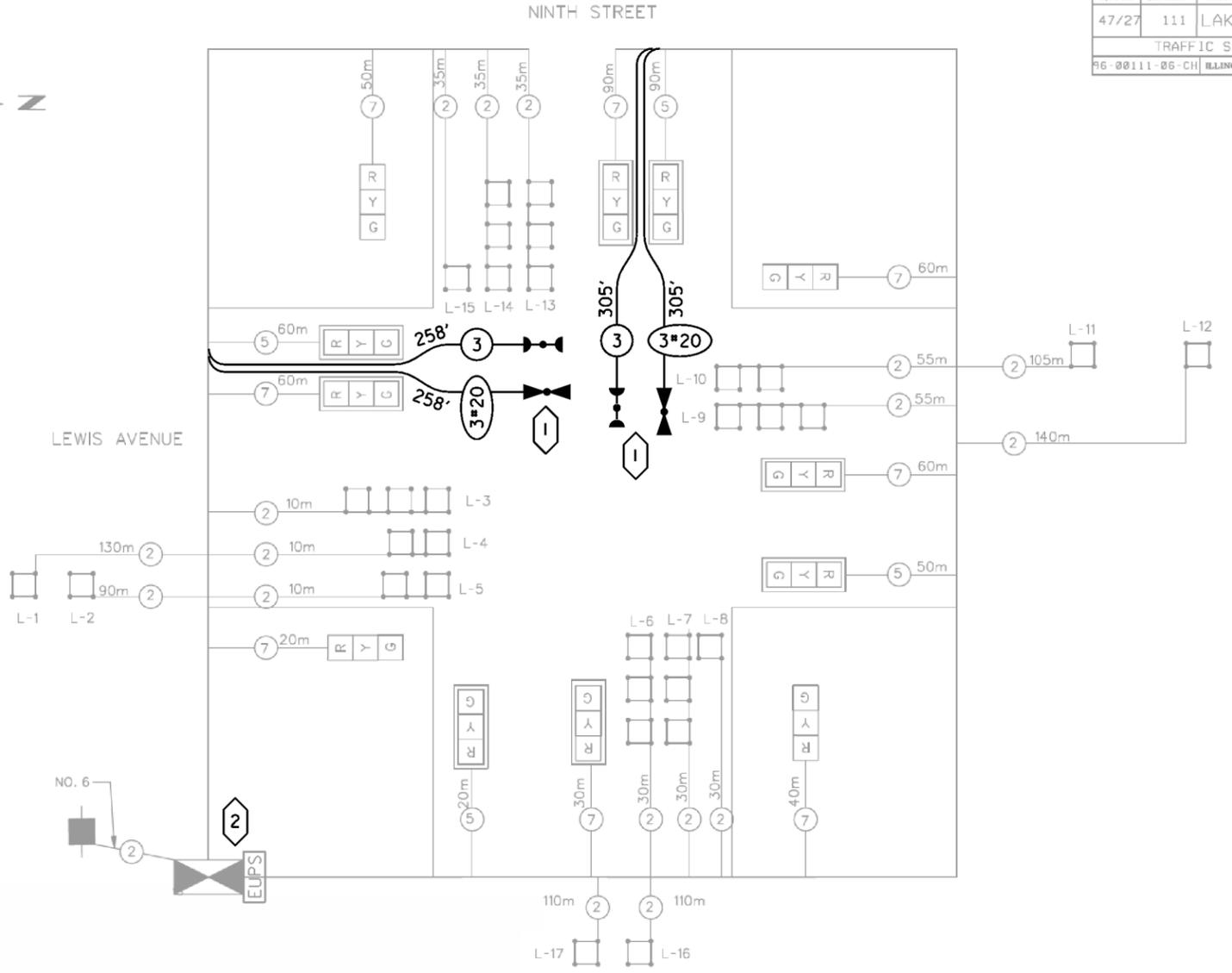
FILE NAME: U:\DOT\Traffic\2016 Install EVP\EVP.dgn

PROPOSED CONTROLLER SEQUENCE

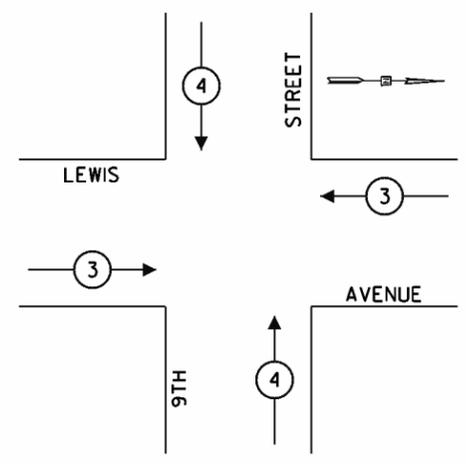


LEGEND

- ← # → DUAL ENTRY PHASE
- ← # SINGLE ENTRY PHASE
- OL OVERLAP
- ← # → PEDESTRIAN PHASE
- # NUMBER REFERS TO ASSOCIATED PHASE



PROPOSED EMERGENCY VEHICLE PREEMPTION SEQUENCE



PROPOSED EMERGENCY VEHICLE PREEMPTORS

EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	← →	↓ ↑

REVISION - LCDOT 2016

- ① INSTALL EVP EQUIPMENT ON EXISTING MAST ARM
- ② INSTALL EVP AMPLIFIER IN EXISTING CABINET

SCHEDULE OF QUANTITIES

ITEM	UNIT	QUANTITY
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	563
LIGHT DETECTOR	EACH	2
LIGHT DETECTOR AMPLIFIER	EACH	1
EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C	FOOT	563

L.C.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE		% OPERATION	
		INCAND.	L.E.D.		
SIGNAL (RED)	12	10	0.50		60
(YELLOW)	12	19	0.10		22.8
(GREEN)	12	11	0.40		52.8
ARROW		9	0.10		
PED. SIGNAL		9	1.00		
CONTROLLER	1	100	1.00		100
LUMINAIRE		250	0.50		
L.E.D. ST. NAME SIGN		64	0.50		
VIDEO SYSTEM		150	1.00		
BATTERY BACKUP	1	25	1.00		25
FLASHER			0.50		
ENERGY COSTS TO:					TOTAL = 260.6
LAKE COUNTY DIVISION OF TRANSPORTATION 600 WEST WINCHESTER ROAD LIBERTYVILLE, ILLINOIS 60048-1381 ENERGY SUPPLY: PHONE: (866) 639-3532 COMPANY: COMED					

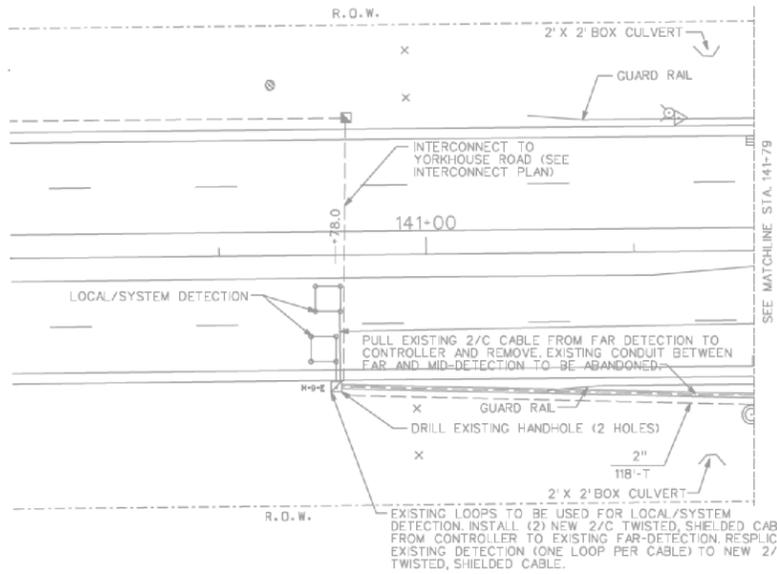
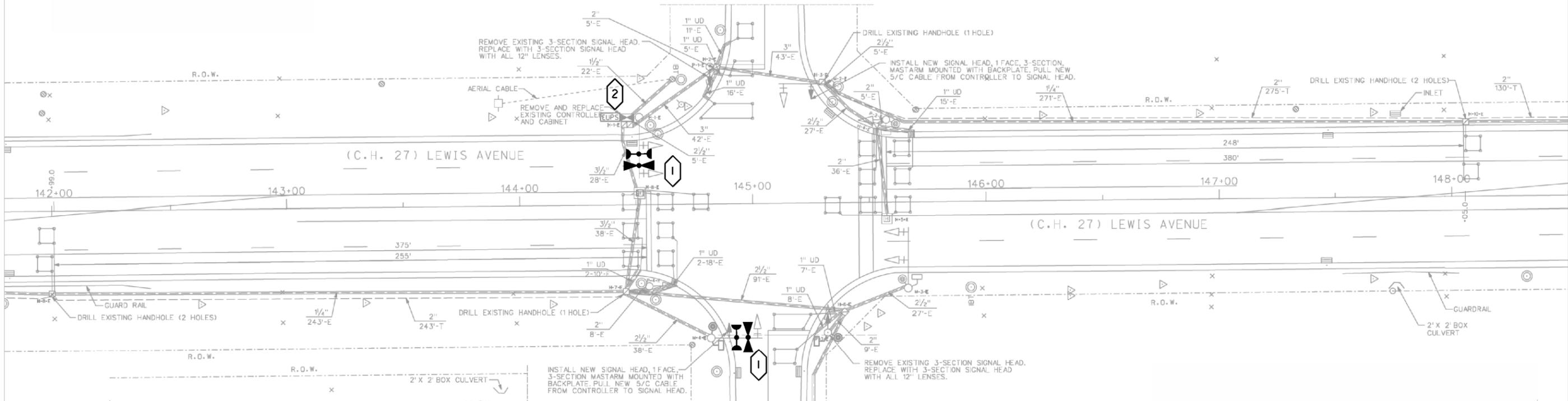
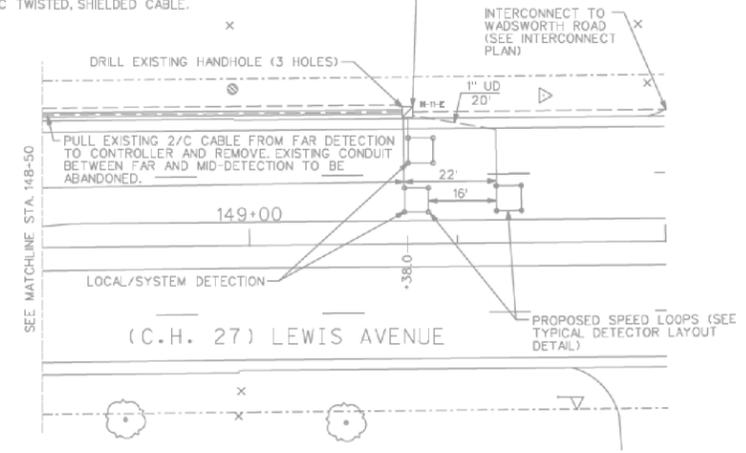
REVISIONS / REMARKS				
NO.	DESCRIPTION	DATE	BY	SURVEYOR/DSGNER/LIAISON/PLOTTED BY:

FILE NAME: U:\DOT\Traffic\2016 Install EVP\EVP.dgn

SEC.	SEC.	COUNTY	SHEET	SHEETS
CH27	60	LAKE	7	25
SIGNAL INTERCONNECT PLAN LEWIS AVE. AT BEACH RD.				
93-00060-02-TL		ILLINOIS		



EXISTING LOOPS TO BE USED FOR LOCAL/SYSTEM DETECTION
 INSTALL (2) NEW 2/C TWISTED, SHIELDED CABLE FROM CONTROLLER TO EXISTING FAR-DETECTION. RESPLICE EXISTING DETECTION (ONE LOOP PER CABLE) TO NEW 2/C TWISTED, SHIELDED CABLE.



TRAFFIC SIGNAL EQUIPMENT LOCATION

H-9-E	140-78, 31' RIGHT
H-8-E	141-09, 35' RIGHT
H-7-E	144+45, 36' RIGHT
H-6-E	144+47, 33' LEFT
H-5-E	144+51, 4' LEFT
H-4-E	144+51, 32' LEFT
P-4-E	144+55, 35' RIGHT
M-4-E	144+81, 56' RIGHT
M-3-E	144+82, 58' LEFT
M-2-E	144+85, 58' LEFT
M-1-E	145+30, 51' LEFT
P-3-E	145+32, 55' RIGHT
M-2-E	145+32, 50' LEFT
H-6-E	145+40, 46' RIGHT
H-4-E	145+52, 33' LEFT
P-2-E	145+52, 35' LEFT
H-5-E	145+57, 7' RIGHT
M-3-E	145+66, 36' RIGHT
H-10-E	148+05, 32' LEFT
H-9-E	149+38, 32' LEFT

REVISION - LCDOT 2016

- 1 INSTALL EVP EQUIPMENT ON EXISTING MAST ARM
- 2 INSTALL EVP AMPLIFIER IN EXISTING CABINET

f	e	d	c	b	a	by	date	revisions	SIGNAL MODIFICATION PLAN		job no. :	654293	
									LEWIS AVENUE AT BEACH ROAD		scale :	1"=20'	
									© 1995		design :	JWB	
									BARTON-ASCHMAN ASSOCIATES, INC.		drawn :	SJS	
									total sheets		25	sheet no.	7
									date :		5-3-95		

REVISIONS / REMARKS				
NO.	DESCRIPTION	DATE	BY	SURVEYOR:

DESIGNER/LIAISON:
 PLOTTED BY: khdi8691 5/23/2016

2016 TRAFFIC SIGNAL PROJECT



LEWIS AVENUE & BEACH ROAD
SIGNAL PLAN

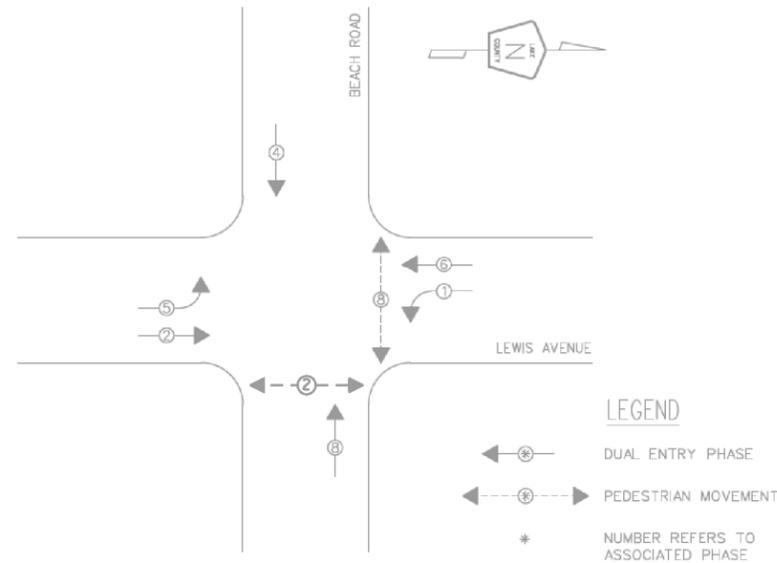
ROUTE	SECTION	SECTION NUMBER	SHEET	SHEETS
VAR	VAR	16-00999-23-TL	7	50

PHASE DESIGNATION DIAGRAM

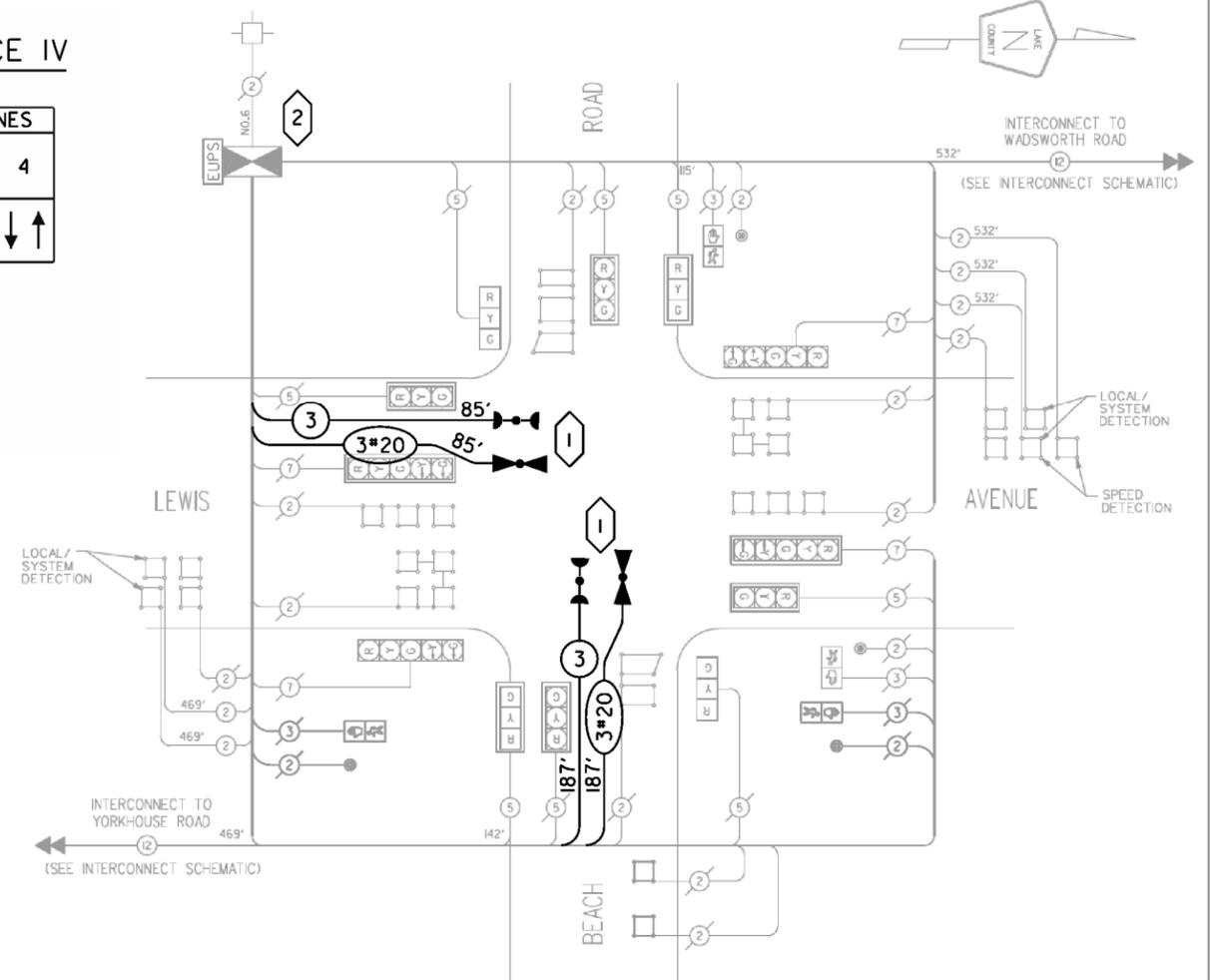
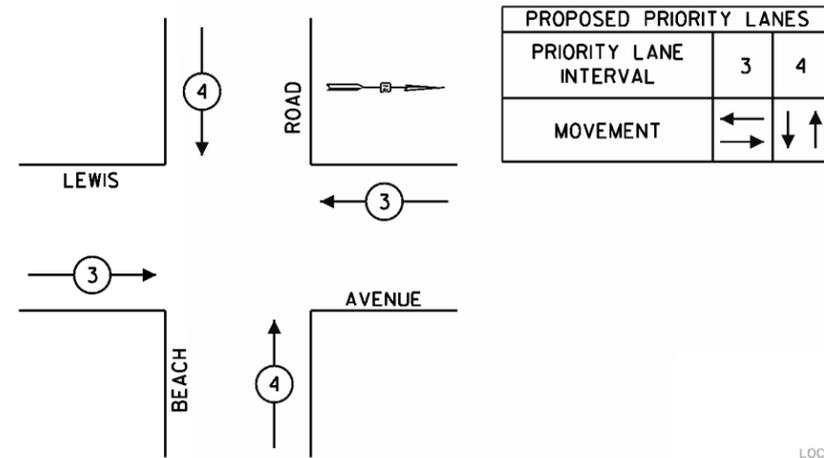
NAME OF INTERSECTION: LEWIS AVENUE AT BEACH ROAD

DUAL ENTRY - ALL LEGS
PROTECTED/ PERMITTED LEFT TURN PHASING

REFERRING TO STANDARD 2393, THE VEHICULAR AND PEDESTRIAN PHASES USED ARE DESIGNATED BELOW:



PROPOSED SEQUENCE FOR CONTROLLER SEQUENCE IV



L.C.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE		% OPERATION	
SIGNAL (RED)	12	10	0.50	60	
(YELLOW)	12	19	0.10	22.8	
(GREEN)	12	11	0.40	52.8	
ARROW	8	9	0.10	7.2	
PED. SIGNAL	4	9	1.00	36	
CONTROLLER	1	100	1.00	100	
LUMINAIRE		250	0.50		
L.E.D. ST. NAME SIGN		64	0.50		
VIDEO SYSTEM		150	1.00		
BATTERY BACKUP	1	25	1.00	25	
FLASHER			0.50		
ENERGY COSTS TO:				TOTAL =	309.8
LAKE COUNTY DIVISION OF TRANSPORTATION 600 WEST WINCHESTER ROAD LIBERTYVILLE, ILLINOIS 60048-1381 ENERGY SUPPLY: PHONE: (866) 639-3532 COMPANY: COMED					

SCHEDULE OF QUANTITIES

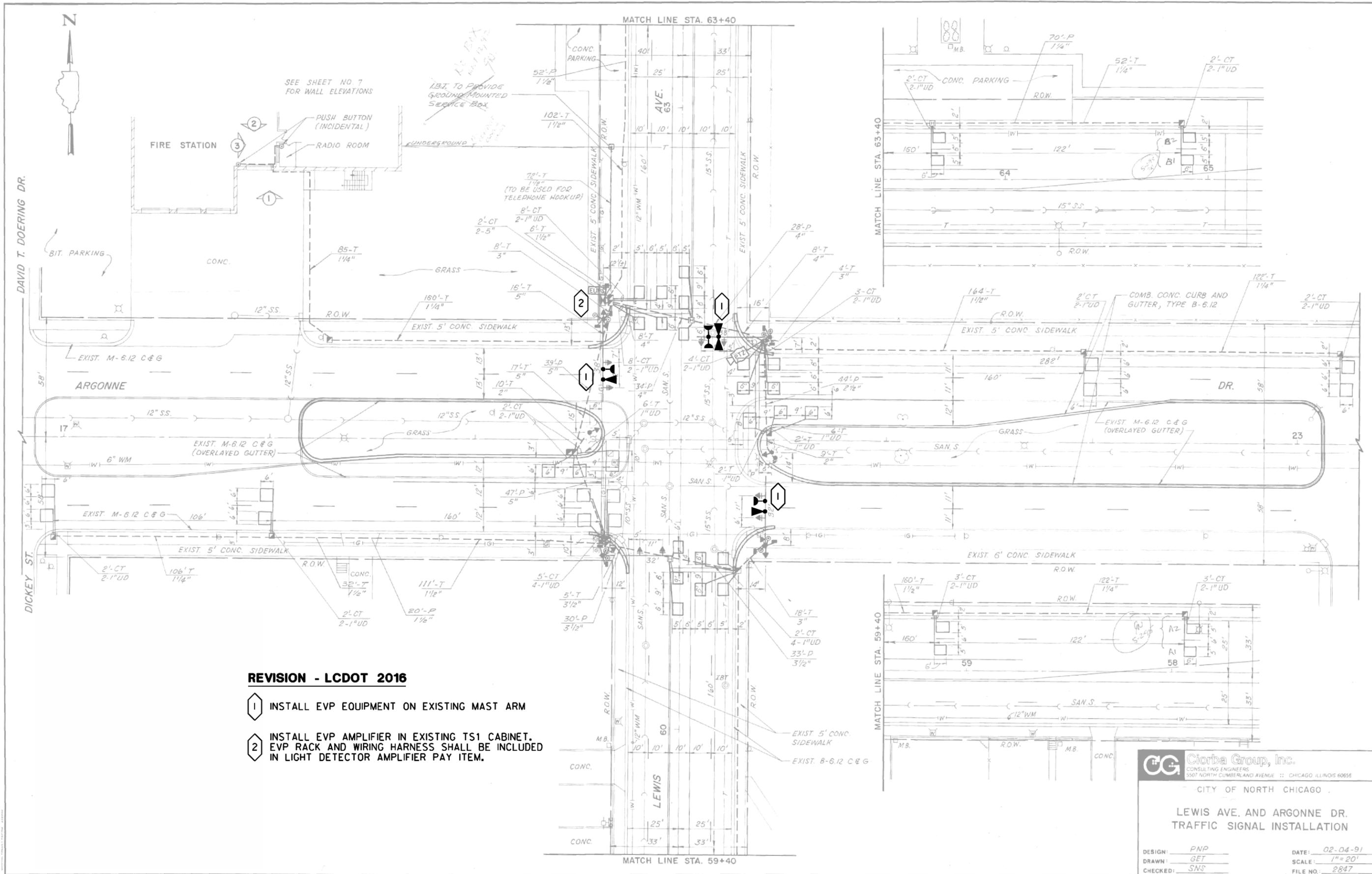
ITEM	UNIT	QUANTITY
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	272
LIGHT DETECTOR	EACH	2
LIGHT DETECTOR AMPLIFIER	EACH	1
EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C	FOOT	272

REVISION - LCDOT 2016

- 1 INSTALL EVP EQUIPMENT ON EXISTING MAST ARM
- 2 INSTALL EVP AMPLIFIER IN EXISTING CABINET

f		PHASE DESIGNATION DIAGRAM, CABLE PLAN AND SCHEDULE OF QUANTITIES LEWIS AVENUE and BEACH ROAD © 1996 BARTON-ASCHMAN ASSOCIATES, INC. 823 Davis Street...Evanston, Illinois...62091...708.491.1000	job no. :	654293	
e			scale :	1"=20'	
d			design :	JWB	
c			drawn :	BS	
b			approved :	JWB	
a		by	date	5-3-95	
revisions				total sheets	25
				sheet no.	8

REVISIONS / REMARKS				
NO.	DESCRIPTION	DATE	BY	SURVEYOR/DSGNER/LIAISON/PLOTTED BY:
				xhdi8691 5/23/2016



REVISION - LCDOT 2016

- 1 INSTALL EVP EQUIPMENT ON EXISTING MAST ARM
- 2 INSTALL EVP AMPLIFIER IN EXISTING TS1 CABINET. EVP RACK AND WIRING HARNESS SHALL BE INCLUDED IN LIGHT DETECTOR AMPLIFIER PAY ITEM.

CG Ciorba Group, Inc.
 CONSULTING ENGINEERS
 5507 NORTH CUMBERLAND AVENUE :: CHICAGO, ILLINOIS 60656

CITY OF NORTH CHICAGO

**LEWIS AVE. AND ARGONNE DR.
 TRAFFIC SIGNAL INSTALLATION**

DESIGN: PNP DATE: 02-04-91
 DRAWN: GET SCALE: 1" = 20'
 CHECKED: SNS FILE NO.: 2847

REVISIONS / REMARKS				
NO.	DESCRIPTION	DATE	BY	SURVEYOR:

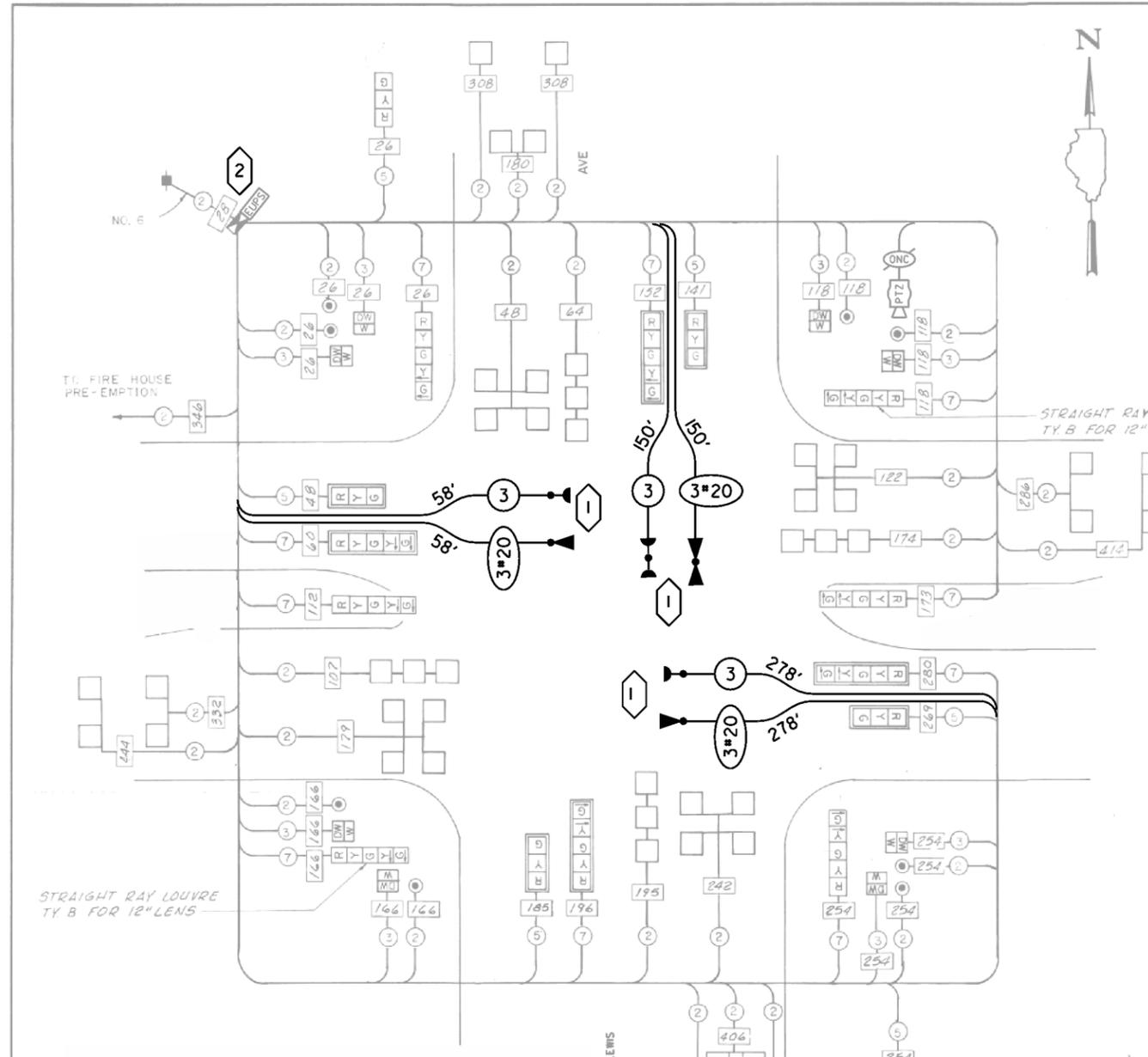
2016 TRAFFIC SIGNAL PROJECT



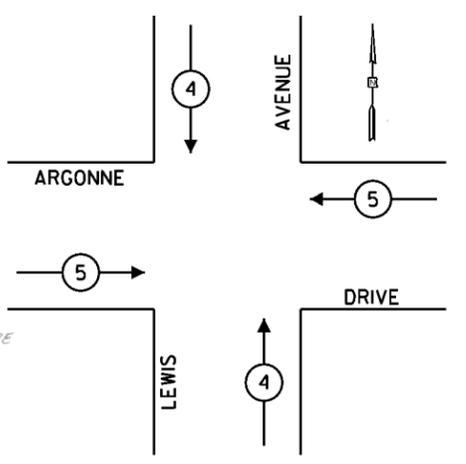
**LEWIS AVENUE & ARGONNE DRIVE
 SIGNAL PLAN**

ROUTE	SECTION	SECTION NUMBER	SHEET	SHEETS
VAR	VAR	16-00999-23-TL	9	50

FILE NAME: U:\DOT\Traffic\2016 Install EVP\EVP.dgn



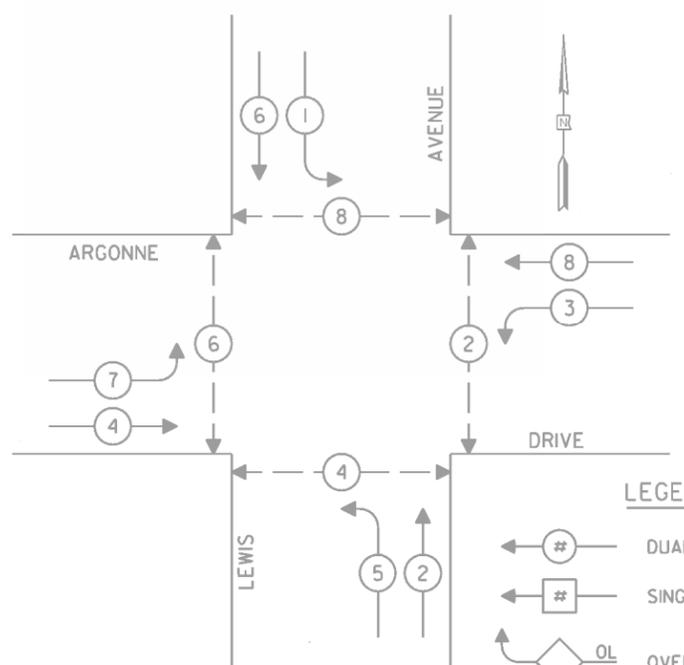
PROPOSED EMERGENCY VEHICLE PREEMPTION SEQUENCE



PROPOSED EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	4	5
MOVEMENT	← →	↑ ↓

EXISTING PUSH BUTTON PREEMPTOR	
FIRE STATION PUSH BUTTON PREEMPTOR	3
MOVEMENT	→

PROPOSED CONTROLLER SEQUENCE



LEGEND

- ← # → DUAL ENTRY PHASE
- ← # SINGLE ENTRY PHASE
- OL OVERLAP
- ← # → PEDESTRIAN PHASE
- # NUMBER REFERS TO ASSOCIATED PHASE

L.C.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE		% OPERATION	
SIGNAL (RED)	14	INCAND.	L.E.D.	0.50	70
(YELLOW)	14			0.10	26.6
(GREEN)	14			0.40	61.6
ARROW	20			0.10	18
PED. SIGNAL	8			1.00	72
CONTROLLER	1			1.00	100
LUMINAIRE				0.50	
L.E.D. ST. NAME SIGN				0.50	
VIDEO SYSTEM				1.00	
BATTERY BACKUP	1			1.00	25
FLASHER				0.50	
ENERGY COSTS TO:					TOTAL = 373.2

LAKE COUNTY DIVISION OF TRANSPORTATION
600 WEST WINCHESTER ROAD
LIBERTYVILLE, ILLINOIS 60048-1381
ENERGY SUPPLY: PHONE: (866) 639-3532
COMPANY: COMED

CABLE PLAN

REVISION - LCDOT 2016

- 1 INSTALL EVP EQUIPMENT ON EXISTING MAST ARM
- 2 INSTALL EVP AMPLIFIER IN EXISTING TS1 CABINET. EVP RACK AND WIRING HARNESS SHALL BE INCLUDED IN LIGHT DETECTOR AMPLIFIER PAY ITEM.

SCHEDULE OF QUANTITIES

ITEM	UNIT	QUANTITY
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	486
LIGHT DETECTOR	EACH	3
LIGHT DETECTOR AMPLIFIER	EACH	1
EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C	FOOT	486

Ciorba Group, Inc.
CONSULTING ENGINEERS
5507 NORTH CUMBERLAND AVENUE CHICAGO, ILLINOIS 60656

CITY OF NORTH CHICAGO

CABLE PLAN AND EMERGENCY PREEMPTION SEQUENCE

DESIGN: DWV DATE: 09-17-90
DRAWN: AP SCALE: NOT TO SCALE
CHECKED: SNS FILE NO.: 2847

REVISIONS / REMARKS				
NO.	DESCRIPTION	DATE	BY	SURVEYOR/DSGNER/LIAISON/PLOTTED BY:

2016 TRAFFIC SIGNAL PROJECT



LEWIS AVENUE & ARGONNE DRIVE
CABLE PLAN

ROUTE	SECTION	SECTION NUMBER	SHEET	SHEETS
VAR	VAR	16-00999-23-TL	10	50

FILE NAME: U:\DOT\Traffic\2016 Install EVP\EVP.dgn

NAME OF INTERSECTION: SAUNDERS ROAD/PARKWAY NORTH BOULEVARD
 CONTROLLER SPECIFIED: FULL ACTUATED CONTROLLER, 8 PHASE
 SPECIAL SEQUENCE, IN TYPE IV CABINET

ROUTE	SECTION	COUNTY	SHEET	SHEETS
CH58	141	LAKE	31	56
CABLE PLAN				
99-00141-05-RS		ILLINOIS	SAUNDERS ROAD	
DATE 1/1/2000				

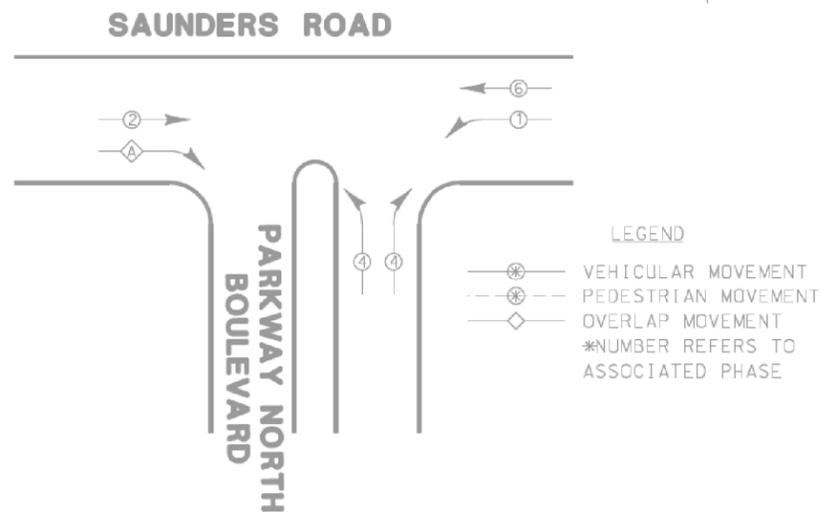
REFERING TO STANDARD 2393, THE VEHICULAR AND PEDESTRIAN PHASES USED ARE DESIGNATED BELOW:
 (SHOW MOVEMENTS AND PHASE NUMBERS)

REVISION - LCDOT 2016

- 1 INSTALL EVP EQUIPMENT ON EXISTING MAST ARM
- 2 INSTALL EVP EQUIPMENT ON EXISTING MAST ARM SHAFT
- 3 INSTALL EVP AMPLIFIER IN EXISTING CABINET

SCHEDULE OF QUANTITIES

ITEM	UNIT	QUANTITY
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	280
LIGHT DETECTOR	EACH	3
LIGHT DETECTOR AMPLIFIER	EACH	1
EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C	FOOT	280



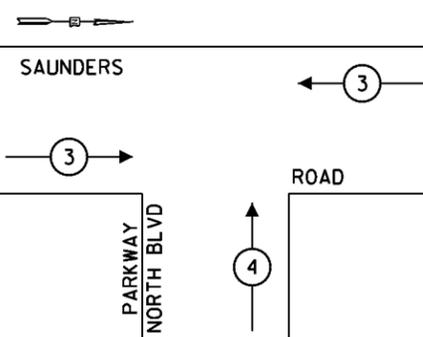
RIGHT TURN OVERLAP PHASE DESIGNATION

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE	DISPLAY
A	= 2	+ 4	- 2

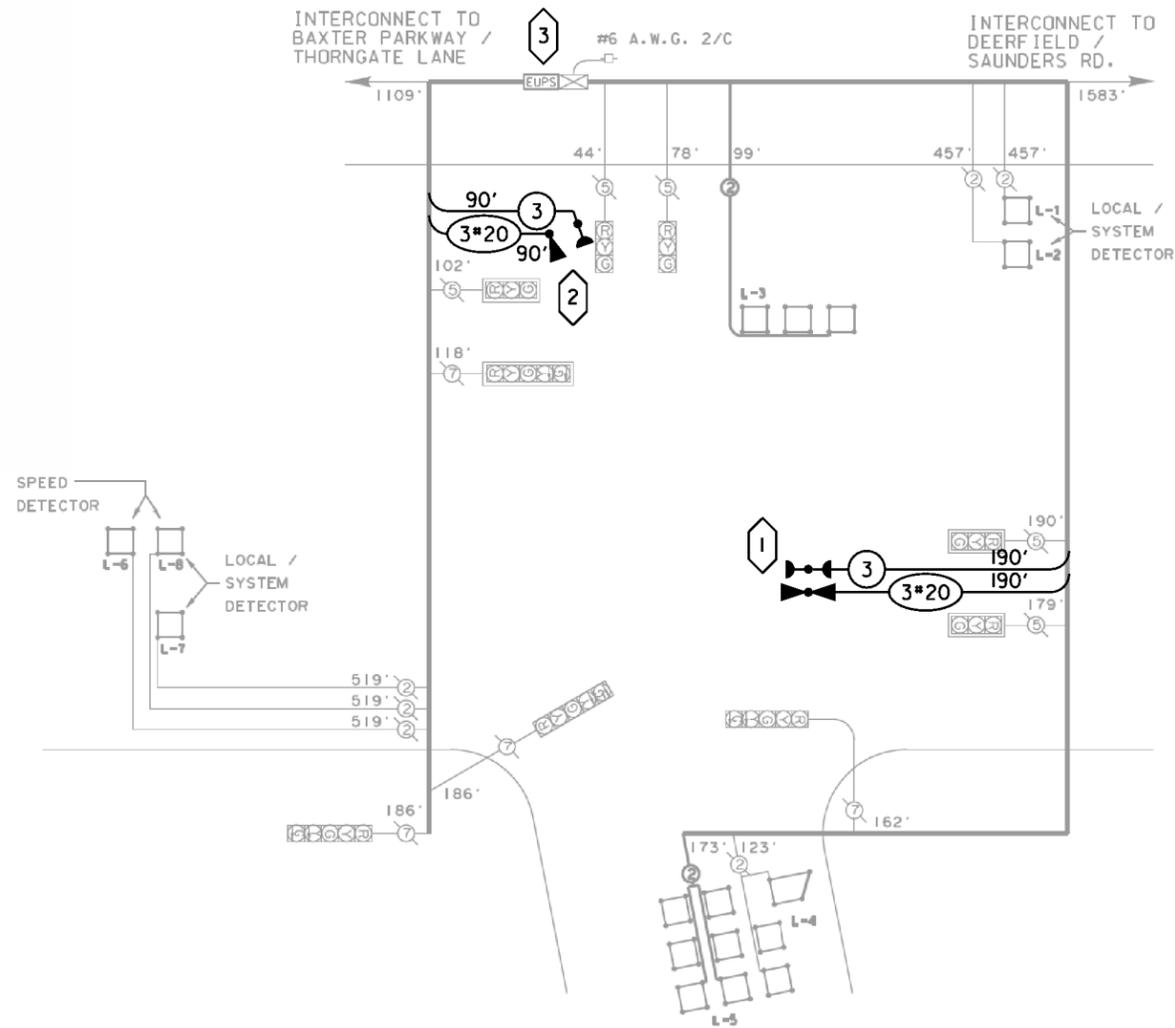
DISPLAY - THE YELLOW RIGHT ARROW OF THE OVERLAP SHALL BE INHIBITED DURING THE PERMISSIVE PHASE'S YELLOW INTERVAL. THE GREEN RIGHT ARROW OF THE OVERLAP SHALL BE INHIBITED DURING THE PERMISSIVE PHASE'S GREEN INTERVAL.

L.C.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS				TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE		
		INCAND.	L.E.D.	
SIGNAL (RED)	9	10	0.50	45
(YELLOW)	9	19	0.10	17.1
(GREEN)	9	11	0.40	39.6
ARROW	8	9	0.10	7.2
PED. SIGNAL		9	1.00	
CONTROLLER	1	100	1.00	100
LUMINAIRE		250	0.50	
L.E.D. ST. NAME SIGN		64	0.50	
VIDEO SYSTEM		150	1.00	
BATTERY BACKUP	1	25	1.00	25
FLASHER			0.50	
ENERGY COSTS TO:				TOTAL = 233.9
LAKE COUNTY DIVISION OF TRANSPORTATION 600 WEST WINCHESTER ROAD LIBERTYVILLE, ILLINOIS 60048-1381 ENERGY SUPPLY: PHONE: (866) 639-3532 COMPANY: COMED				

PROPOSED EMERGENCY VEHICLE PREEMPTION SEQUENCE



PROPOSED EMERGENCY VEHICLE PREEMPTORS		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	← →	↑

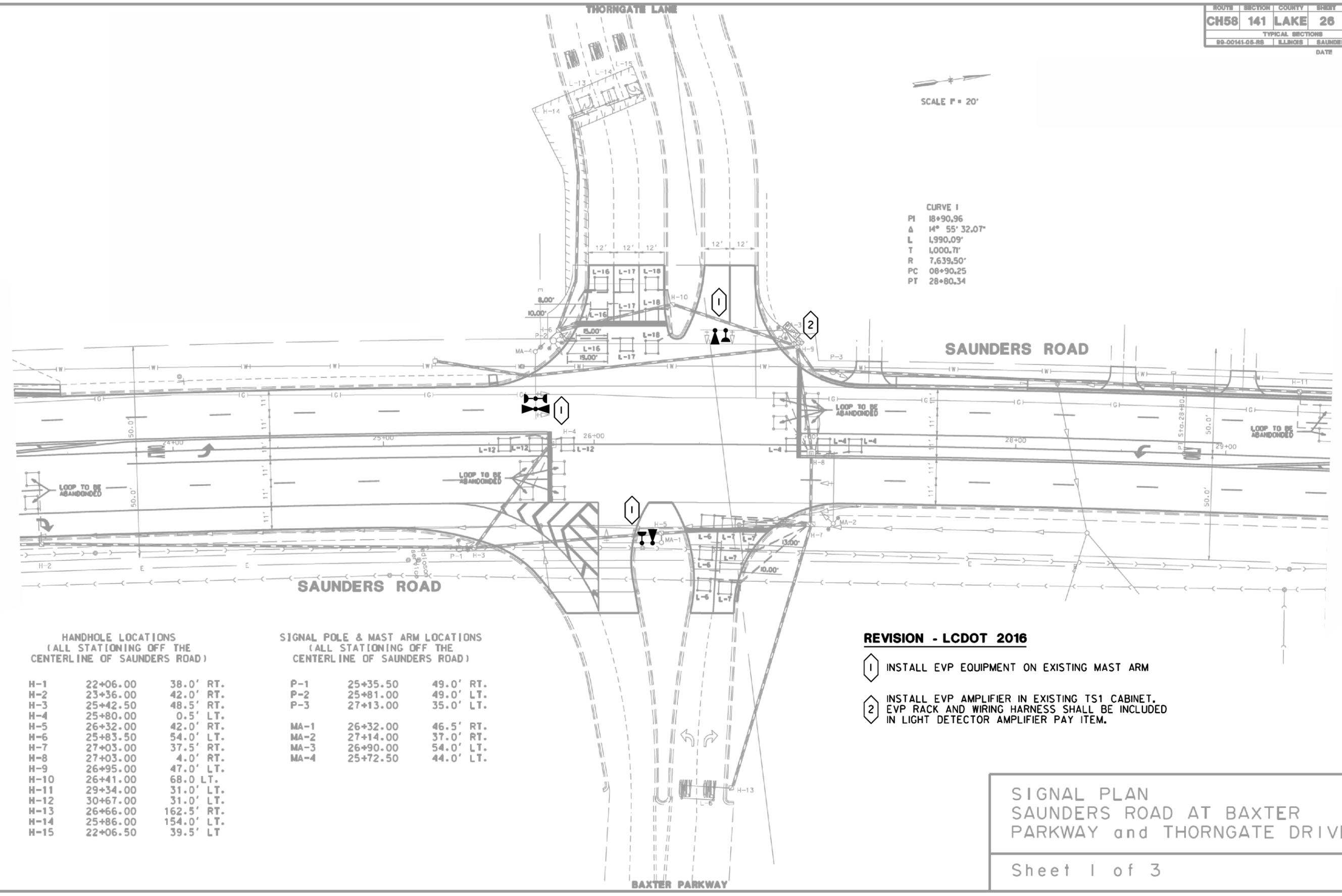


CABLE PLAN
 SAUNDERS ROAD AT
 PARKWAY NORTH BOULEVARD
 Sheet 3 of 3

REVISIONS / REMARKS				
NO.	DESCRIPTION	DATE	BY	SURVEYOR/DSGNER/LIAISON/PLOTTED BY:

SCALE 1" = 20'

CURVE 1
 PI 18+90.96
 Δ 14° 55' 32.07"
 L 1,990.09'
 T 1,000.71'
 R 7,639.50'
 PC 08+90.25
 PT 28+80.34



HANDHOLE LOCATIONS
 (ALL STATIONING OFF THE CENTERLINE OF SAUNDERS ROAD)

H-1	22+06.00	38.0'	RT.
H-2	23+36.00	42.0'	RT.
H-3	25+42.50	48.5'	RT.
H-4	25+80.00	0.5'	LT.
H-5	26+32.00	42.0'	RT.
H-6	25+83.50	54.0'	LT.
H-7	27+03.00	37.5'	RT.
H-8	27+03.00	4.0'	RT.
H-9	26+95.00	47.0'	LT.
H-10	26+41.00	68.0'	LT.
H-11	29+34.00	31.0'	LT.
H-12	30+67.00	31.0'	LT.
H-13	26+66.00	162.5'	RT.
H-14	25+86.00	154.0'	LT.
H-15	22+06.50	39.5'	LT.

SIGNAL POLE & MAST ARM LOCATIONS
 (ALL STATIONING OFF THE CENTERLINE OF SAUNDERS ROAD)

P-1	25+35.50	49.0'	RT.
P-2	25+81.00	49.0'	LT.
P-3	27+13.00	35.0'	LT.
MA-1	26+32.00	46.5'	RT.
MA-2	27+14.00	37.0'	RT.
MA-3	26+90.00	54.0'	LT.
MA-4	25+72.50	44.0'	LT.

REVISION - LCDOT 2016

- 1 INSTALL EVP EQUIPMENT ON EXISTING MAST ARM
- 2 INSTALL EVP AMPLIFIER IN EXISTING TS1 CABINET. EVP RACK AND WIRING HARNESS SHALL BE INCLUDED IN LIGHT DETECTOR AMPLIFIER PAY ITEM.

SIGNAL PLAN
 SAUNDERS ROAD AT BAXTER PARKWAY and THORNGATE DRIVE
 Sheet 1 of 3

REVISIONS / REMARKS				
NO.	DESCRIPTION	DATE	BY	SURVEYOR/DSG NR/LIAISON

PLOTTED BY: khdi8691 5/23/2016

2016 TRAFFIC SIGNAL PROJECT

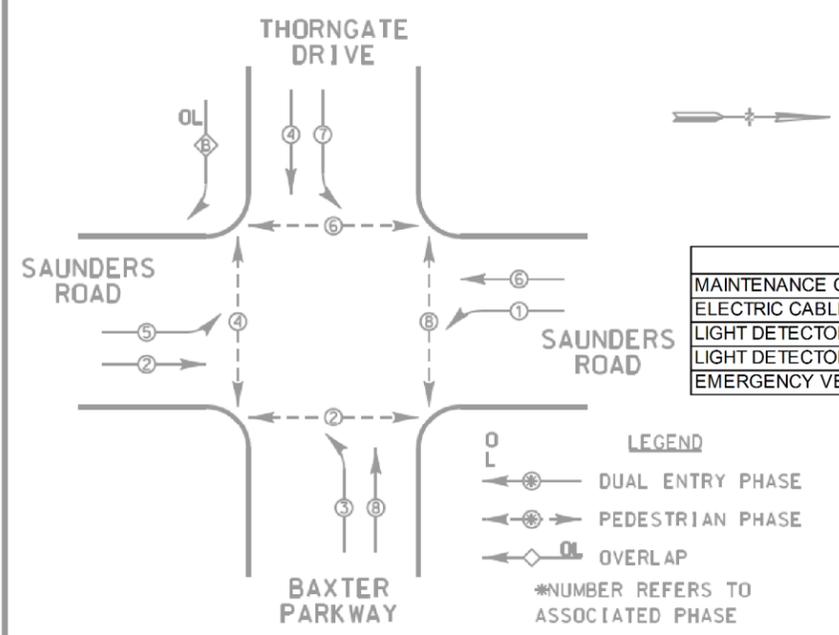


SAUNDERS ROAD & BAXTER ENTRANCE
 SIGNAL PLAN

ROUTE	SECTION	SECTION NUMBER	SHEET	SHEETS
VAR	VAR	16-00999-23-TL	13	50

FILE NAME: U:\DOT\Traffic\2016 Install EVP\EVP.dgn

CONTROLLER SEQUENCE IV
 REFERRING TO STANDARD 2393, THE VEHICULAR AND PEDESTRIAN PHASES USED ARE DESIGNATED BELOW.



PHASE DESIGNATION DIAGRAM

DUAL ENTRY - ALL LEGS
 PROTECTED/PERMITTED LEFT TURN PHASING
 WITH RIGHT TURN OVERLAPS

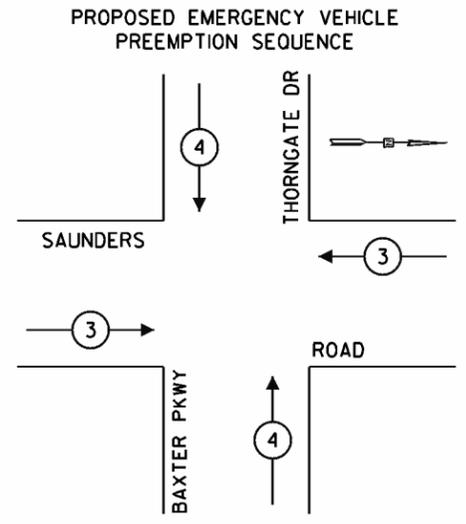
RIGHT TURN OVERLAP PHASE DESIGNATION

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE	DISPLAY
B	= 4	+ 5	- 4

DISPLAY - THE YELLOW RIGHT ARROW OF THE OVERLAP SHALL BE INHIBITED DURING THE PERMISSIVE PHASE'S YELLOW INTERVAL. THE GREEN RIGHT ARROW OF THE OVERLAP SHALL BE INHIBITED DURING THE PERMISSIVE PHASE'S GREEN INTERVAL.

SCHEDULE OF QUANTITIES

ITEM	UNIT	QUANTITY
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	498
LIGHT DETECTOR	EACH	3
LIGHT DETECTOR AMPLIFIER	EACH	1
EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C	FOOT	498



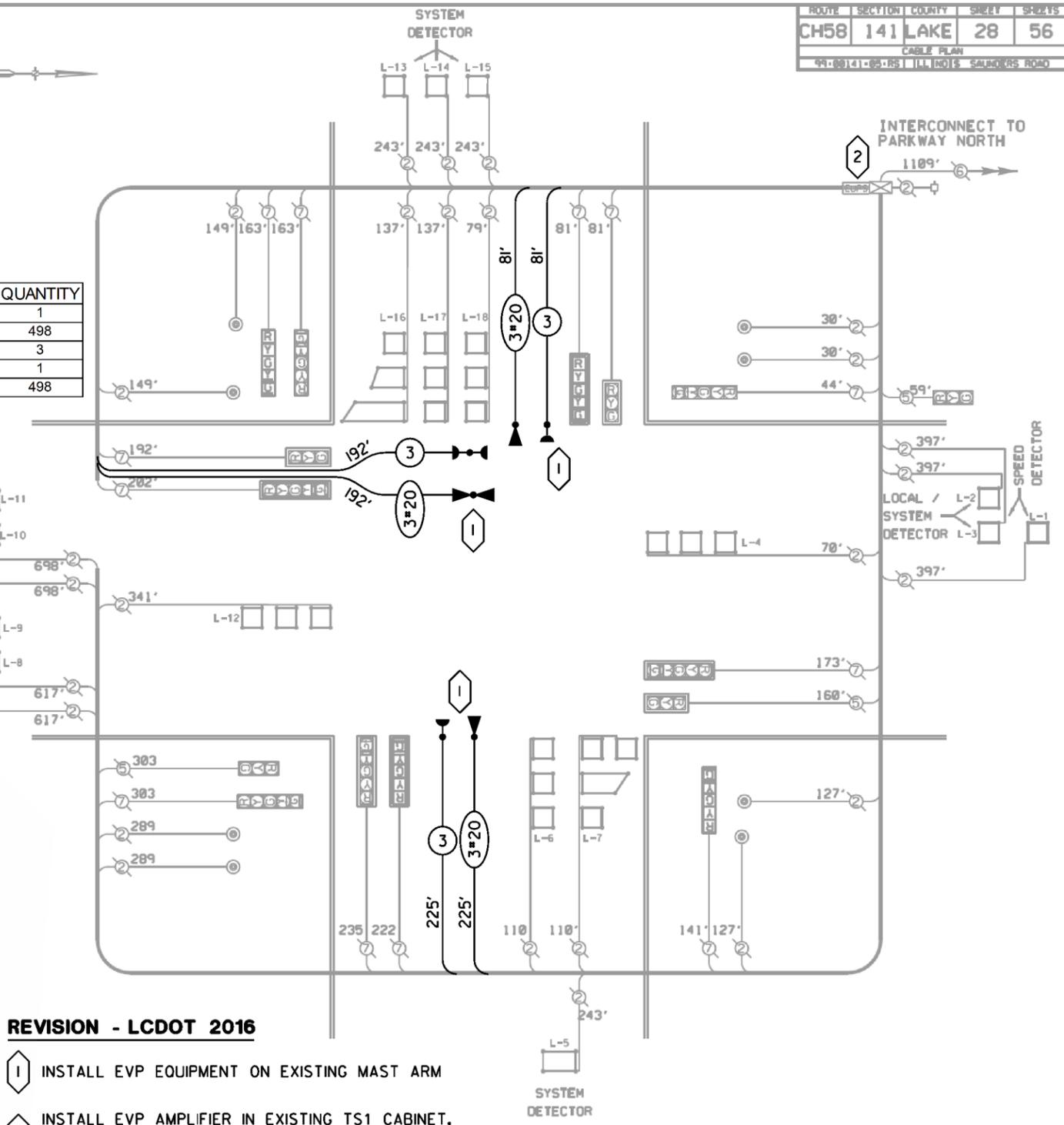
PROPOSED EMERGENCY VEHICLE PREEMPTORS

EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	← →	↑ ↓

L.C.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. LAMPS	WATTAGE		% OPERATION	TOTAL WATTAGE
		INCAND.	L.E.D.		
SIGNAL (RED)	15		10	0.50	75
(YELLOW)	15		19	0.10	28.5
(GREEN)	15		11	0.40	66
ARROW	20		9	0.10	18
PED. SIGNAL			9	1.00	
CONTROLLER	1		100	1.00	100
LUMINAIRE			250	0.50	
L.E.D. ST. NAME SIGN			64	0.50	
VIDEO SYSTEM			150	1.00	
BATTERY BACKUP	1		25	1.00	25
FLASHER				0.50	
ENERGY COSTS TO:				TOTAL =	312.5

LAKE COUNTY DIVISION OF TRANSPORTATION
 600 WEST WINCHESTER ROAD
 LIBERTYVILLE, ILLINOIS 60048-1381
 ENERGY SUPPLY: PHONE: (866) 639-3532
 COMPANY: COMED



- REVISION - LCDOT 2016**
- 1 INSTALL EVP EQUIPMENT ON EXISTING MAST ARM
 - 2 INSTALL EVP AMPLIFIER IN EXISTING TS1 CABINET. EVP RACK AND WIRING HARNESS SHALL BE INCLUDED IN LIGHT DETECTOR AMPLIFIER PAY ITEM.

REVISIONS

DATE	TYPE OF REVISION
11/11/08	ADDED LEFT TURN PHASING-BAXTER/THORNGATE-JPS

CABLE PLAN
 SAUNDERS ROAD AT BAXTER PARKWAY AND THORNGATE DRIVE
 SHEET 3 OF 3

REVISIONS / REMARKS

NO.	DESCRIPTION	DATE	BY	SURVEYOR

DESIGNER/LIAISON: khdi8691 5/23/2016
 PLOTTED BY: khdi8691 5/23/2016

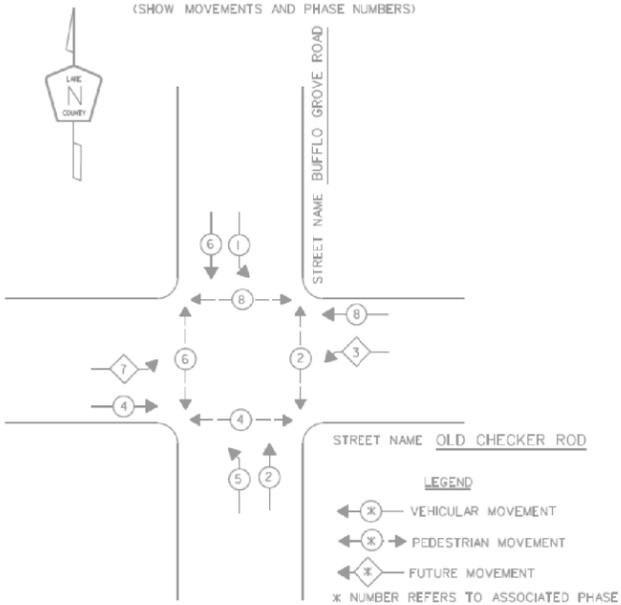
FILE NAME: U:\DOT\Traffic\2016 Install EVP\EVP.dgn

PHASE DESIGNATION DIAGRAM

NAME OF INTERSECTION **BUFFALO GROVE ROAD AT OLD CHECKER ROAD**

CONTROLLER SPECIFIED **FULL-ACTUATED CONTROLLER, STANDARD SEQUENCE IV, 8 PHASES IN TYPE IV CABINET**

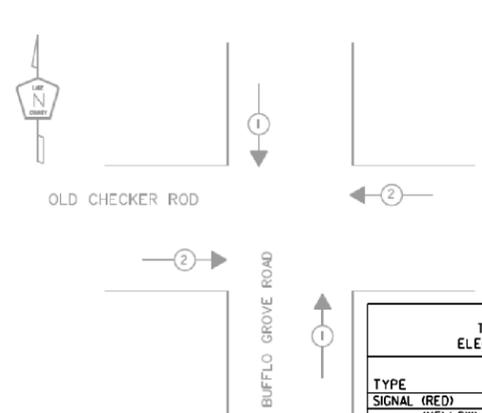
REFERRING TO STANDARD 2393 THE VEHICULAR AND PEDESTRIAN PHASES USED ARE DESIGNATED BELOW: (SHOW MOVEMENTS AND PHASE NUMBERS)



PHASE DESIGNATION DIAGRAM

DUAL ENTRY - ALL LEGS
PROTECTED/PERMITTED LEFT TURN PHASING

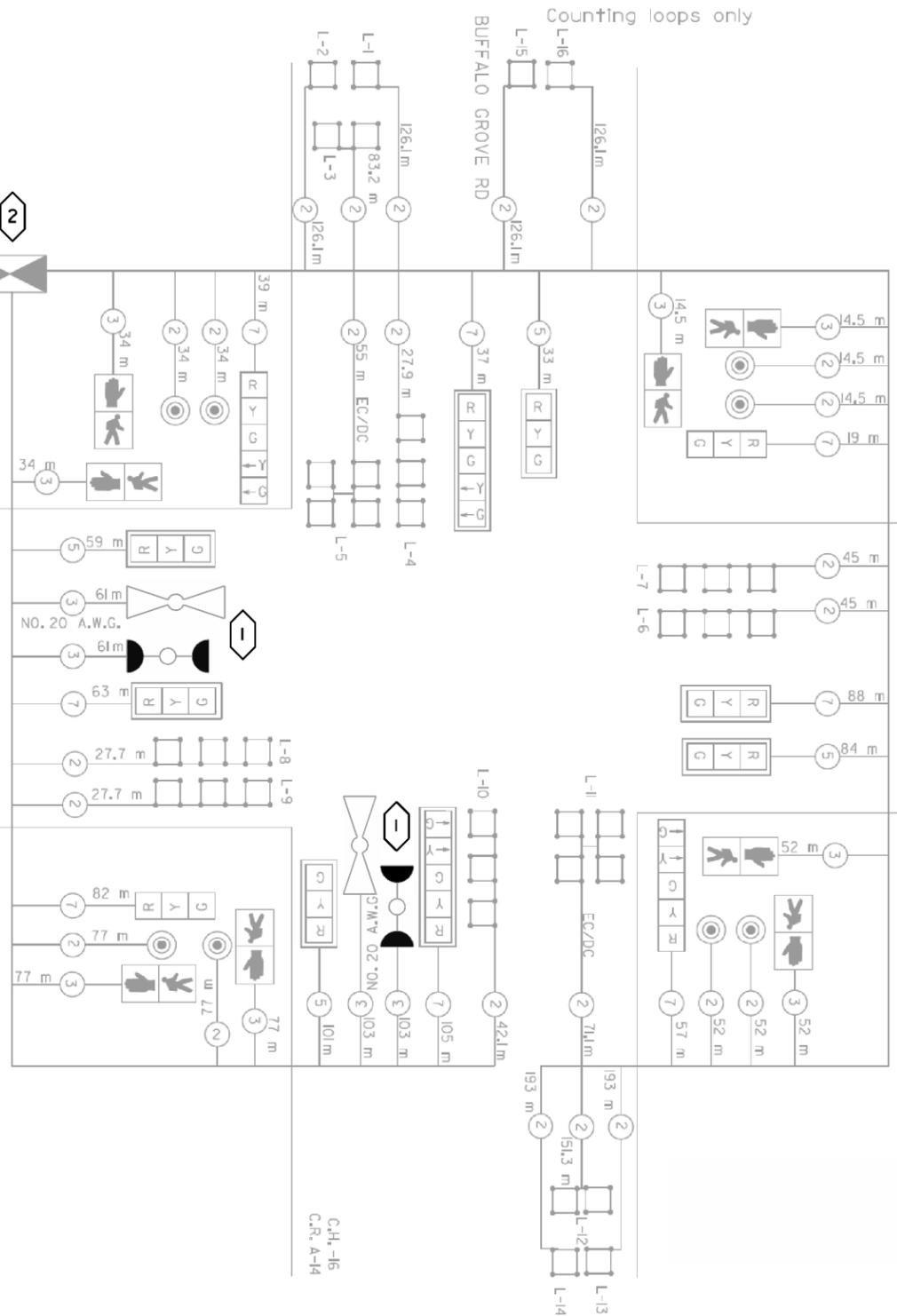
EMERGENCY VEHICLE PREEMPTION SEQUENCE NOTES FOR DUAL ENTRY OPERATION - ALL LEGS



PROPOSED PRIORITY LANES		
PRIORITY LANE INTERVAL	1	2
MOVEMENT	↕	↔

L.C.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE	INCAND.	L.E.D.	
SIGNAL (RED)	12	10		0.50	60
(YELLOW)	12	19		0.10	22.8
(GREEN)	12	11		0.40	52.8
ARROW		9		0.10	
PED. SIGNAL	8	9		L00	72
CONTROLLER	1	100		L00	100
LUMINAIRE		250		0.50	
L.E.D. ST. NAME SIGN		64		0.50	
VIDEO SYSTEM		150		L00	
BATTERY BACKUP	1	25		L00	25
FLASHER				0.50	
ENERGY COSTS TO:				TOTAL =	332.6

LAKE COUNTY DIVISION OF TRANSPORTATION
600 WEST WINCHESTER ROAD
LIBERTYVILLE, ILLINOIS 60048-1381
ENERGY SUPPLY: PHONE: (866) 639-3532
COMPANY: COMED



SCHEDULE OF QUANTITIES		
ITEM	UNIT	QUANTITY
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
LIGHT DETECTOR AMPLIFIER, (INSTALLATION ONLY)	EACH	1

REVISION - LCDOT 2016

- 1 REUSE EXISTING LIGHT DETECTORS. INSTALL NEW L.E.D. CONFIRMATION BEACONS IN EXISTING HOUSING AT SAME LOCATION.
- 2 INSTALL EVP AMPLIFIER IN EXISTING CABINET. LCDOT TO FURNISH EVP AMPLIFIER.

LAKE COUNTY DIVISION OF TRANSPORTATION

CABLE PLAN
SEQUENCE OF OPERATION
EMERGENCY VEHICLE SEQUENCE
BUFFALO GROVE RD. AT OLD CHECKER RD

SCALE: NONE
DATE: 03/16/95

DRAWN BY: JBN
DESIGNED BY: JBN
CHECKED BY: ANK

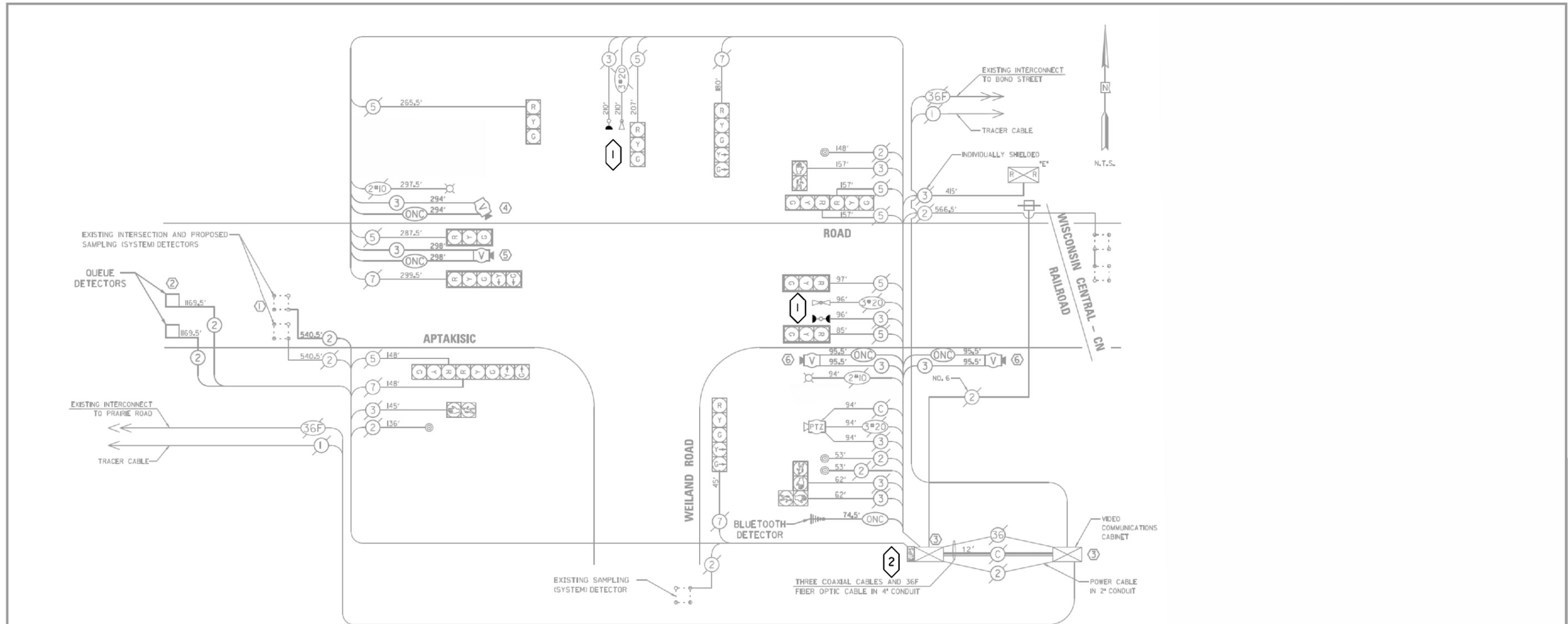
REVISIONS / REMARKS				
NO.	DESCRIPTION	DATE	BY	SURVEYOR

2016 TRAFFIC SIGNAL PROJECT



BUFFALO GROVE RD & OLD CHECKER RD CABLE PLAN

ROUTE	SECTION	SECTION NUMBER	SHEET	SHEETS
VAR	VAR	16-00999-23-TL	15	50



L.C.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. OF LAMPS	WATTAGE INCAND.	LED	% OPERATION	
SIGNAL (RED)	12	-	10	0.50	60.0
(YELLOW)	12	-	19	0.10	22.8
(GREEN)	12	-	11	0.40	52.8
ARROW	8	-	9	0.10	7.2
PED. SIGNAL	4	-	9	1.00	36.0
CONTROLLER	2	-	100	1.00	200.0
LUMINAIRES	2	-	250	0.50	250.0
VIDEO DET.	1	-	150	1.00	150.0
BATT BACK-UP	1	-	25	1.00	25.0
PTZ CAMERA	1	-	80	1.00	80.0
ENERGY COSTS TO:					TOTAL = 883.8

LAKE COUNTY DIVISION OF TRANSPORTATION
600 WEST WINCHESTER ROAD
LIBERTYVILLE, ILLINOIS 60048-1381
ENERGY SUPPLY CONTACT: ---
PHONE: 1866) 639-3532
COMPANY: COMED

SCHEDULE OF QUANTITIES

ITEM	UNIT	QUANTITY
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
LIGHT DETECTOR AMPLIFIER, (INSTALLATION ONLY)	EACH	1

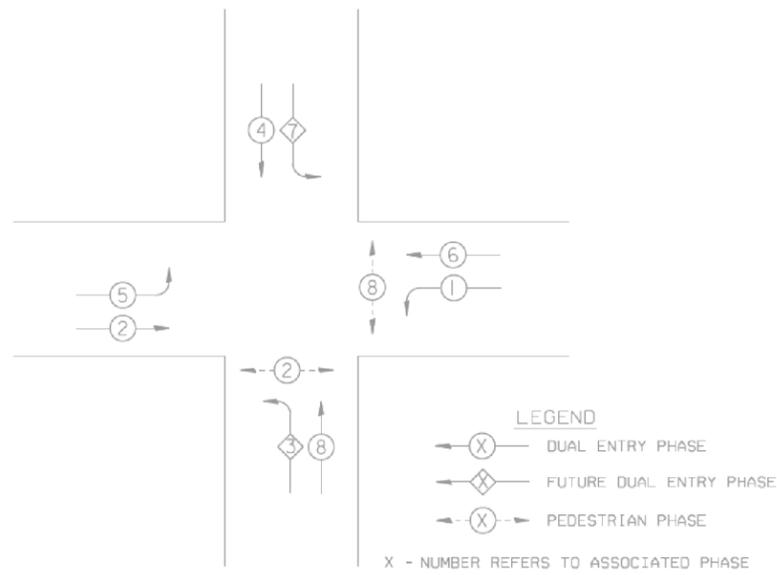
- REVISION - LCDOT 2016**
- ① REUSE EXISTING LIGHT DETECTORS. INSTALL NEW L.E.D. CONFIRMATION BEACONS IN EXISTING HOUSING AT SAME LOCATION.
 - ② INSTALL EVP AMPLIFIER IN EXISTING CABINET. LCDOT TO FURNISH EVP AMPLIFIER.

CABLE PLAN
APTAKISIC ROAD AND WEILAND ROAD

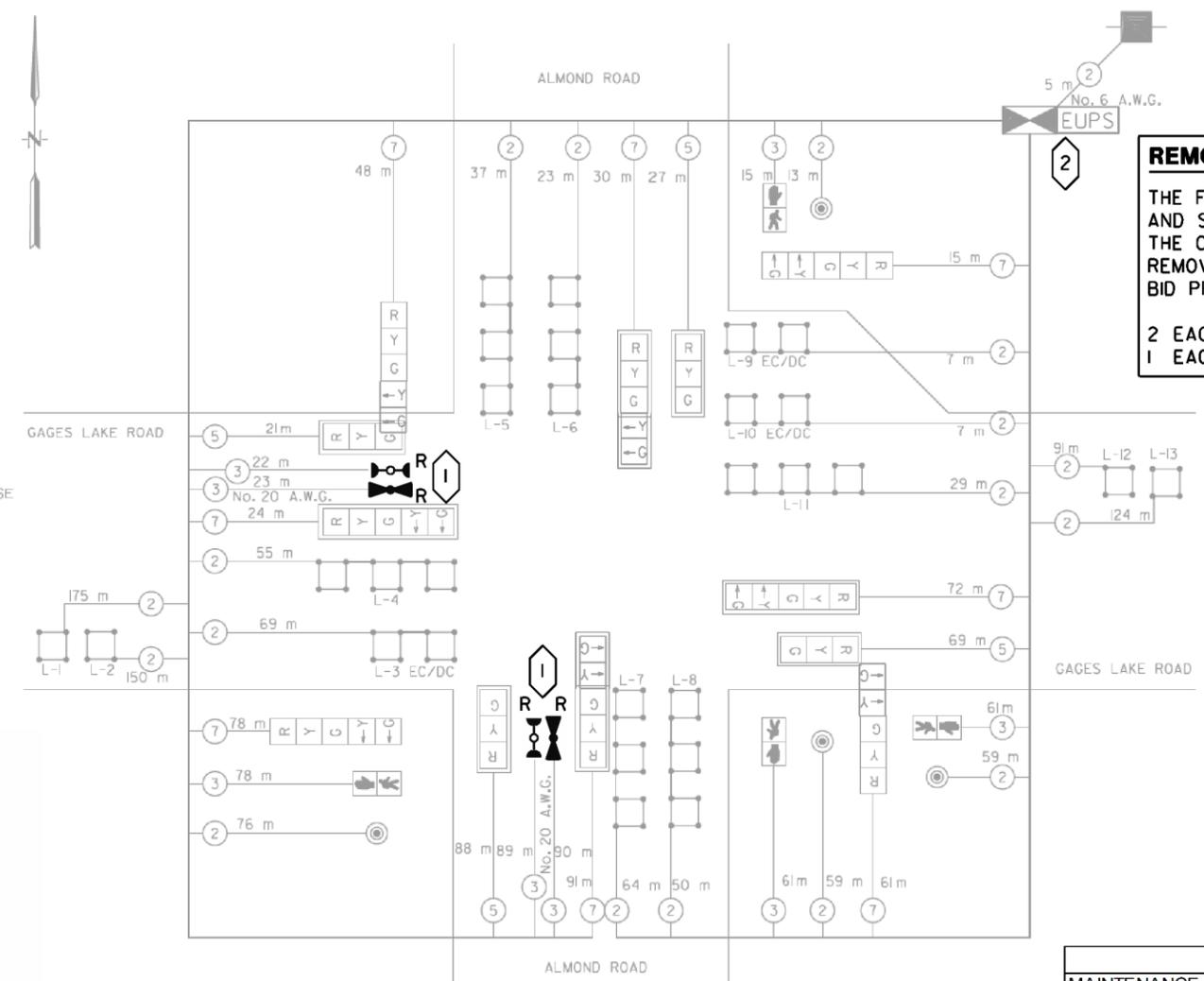
SCALE: N/A DRAWING: DESIGNED BY: EAJ
DATE: 12/18/13 CHECKED BY: GMZ

REVISIONS / REMARKS				APAKISIC ROAD		ROUTE	SECTION	SECTION NUMBER	SHEET	SHEETS
NO.	DESCRIPTION	DATE	BY	DESIGNER/LIAISON	PLOTTED BY	CH 33		11-00088-19-TL	13	65

CONTROLLER SEQUENCE
 REFERRING TO STANDARD 857001, THE VEHICULAR AND PEDESTRIAN
 PHASES USED ARE DESIGNATED BELOW.



PHASE DESIGNATION DIAGRAM
 DUAL ENTRY - ALL LEGS
 PROTECTED/PERMITTED LEFT TURN PHASING



REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF OUTSIDE THE RIGHT-OF-WAY AT THE CONTRACTOR'S EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

2 EACH LIGHT DETECTOR
 1 EACH LIGHT DETECTOR AMPLIFIER

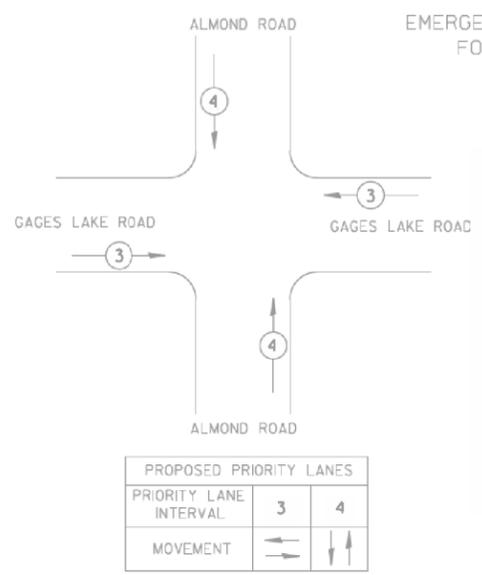
EMERGENCY VEHICLE PREEMPTION SEQUENCE NOTES
 FOR DUAL ENTRY OPERATION - ALL LEGS

SCHEDULE OF QUANTITIES

ITEM	UNIT	QUANTITY
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
LIGHT DETECTOR, (INSTALLATION ONLY)	EACH	2
LIGHT DETECTOR AMPLIFIER, (INSTALLATION ONLY)	EACH	1

L.C.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS				TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE		
		INCAND.	L.E.D.	
SIGNAL (RED)	12	10	0.50	60
(YELLOW)	12	19	0.10	22.8
(GREEN)	12	11	0.40	52.8
ARROW	16	9	0.10	14.4
PED. SIGNAL	4	9	1.00	36
CONTROLLER	1	100	1.00	100
LUMINAIRE		250	0.50	
L.E.D. ST. NAME SIGN		64	0.50	
VIDEO SYSTEM		150	1.00	
BATTERY BACKUP	1	25	1.00	25
FLASHER			0.50	
ENERGY COSTS TO:				TOTAL = 311

LAKE COUNTY DIVISION OF TRANSPORTATION
 600 WEST WINCHESTER ROAD
 LIBERTYVILLE, ILLINOIS 60048-1381
 ENERGY SUPPLY: PHONE: (866) 639-3532
 COMPANY: COMED



REVISION - LCDOT 2016

- 1 REMOVE EXISTING LIGHT DETECTOR AND CONFIRMATION BEACON AND INSTALL LIGHT DETECTOR FURNISHED BY LCDOT AND NEW LED CONFIRMATION BEACON IN EXISTING HOUSING AT SAME LOCATION. REUSE EXISTING CABLES.
- 2 REMOVE EXISTING LIGHT DETECTOR AMPLIFIER FROM CABINET. INSTALL LIGHT DETECTOR AMPLIFIER FURNISHED BY LCDOT IN EXISTING CABINET.

REVISIONS	
NAME	DATE

LAKE COUNTY
 DIVISION OF TRANSPORTATION

PROPOSED CABLE PLAN
 AND
 SEQUENCE OF OPERATION
 ALMOND ROAD
 AT
 GAGES LAKE ROAD

SCALE NONE
 DATE 3/18/97

DRAWN BY J.P.S.
 CHECKED BY A.N.K.

REVISIONS / REMARKS				
NO.	DESCRIPTION	DATE	BY	SURVEYOR/DSGNER/LIAISON/PLOTTED BY:

2016 TRAFFIC SIGNAL PROJECT



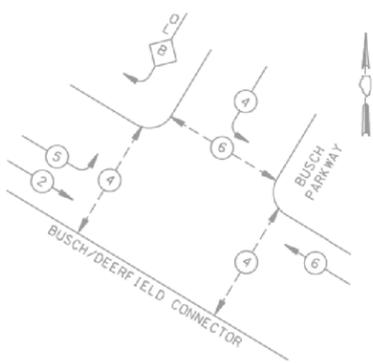
**ALMOND ROAD & GAGES LAKE ROAD
 CABLE PLAN**

ROUTE	SECTION	SECTION NUMBER	SHEET	SHEETS
VAR	VAR	16-00999-23-TL	17	50

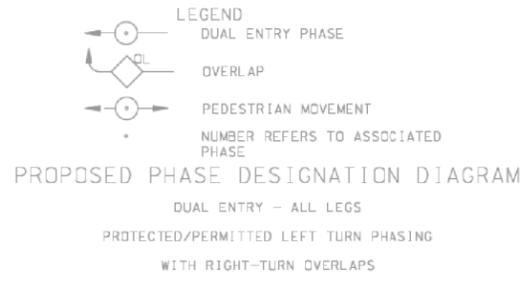
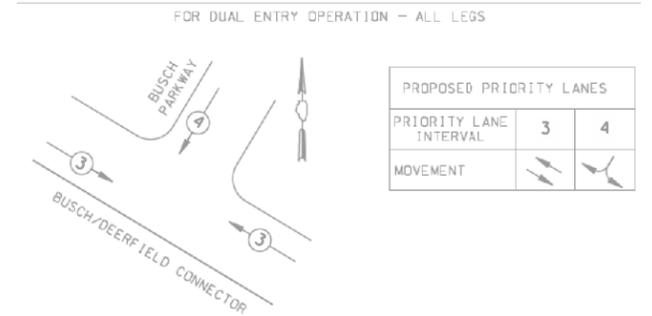
F. & U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1257	8	LAKE	38	28
STA.	TO STA.			
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT/CMM-7003 (431)		
* M.F.T. 97-00049-03-CH				

CONTROLLER SEQUENCE

REFERRING TO STANDARD 857001, THE VEHICULAR AND PEDESTRIAN PHASES USED ARE DESIGNATED BELOW.



EMERGENCY VEHICLE PREEMPTION SEQUENCE NOTES



RIGHT TURN OVERLAP PHASE DESIGNATION

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE	DISPLAY
B	4 +	5 -	4

DISPLAY - THE YELLOW RIGHT ARROW OF THE OVERLAP SHALL BE INHIBITED DURING THE PERMISSIVE PHASE'S YELLOW INTERVAL. THE GREEN RIGHT ARROW OF THE OVERLAP SHALL BE INHIBITED DURING THE PERMISSIVE PHASE'S GREEN INTERVAL.

L.C.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE		% OPERATION	
SIGNAL (RED)	13	INCAND.	10	0.50	65
(YELLOW)	13	L.E.D.	19	0.10	24.7
(GREEN)	13	L.E.D.	11	0.40	57.2
ARROW	8		9	0.10	7.2
PED. SIGNAL	6		9	1.00	54
CONTROLLER	1		100	1.00	100
LUMINAIRE			250	0.50	
L.E.D. ST. NAME SIGN			64	0.50	
VIDEO SYSTEM			150	1.00	
BATTERY BACKUP	1		25	1.00	25
FLASHER				0.50	
ENERGY COSTS TO:				TOTAL =	333.1

LAKE COUNTY DIVISION OF TRANSPORTATION
600 WEST WINCHESTER ROAD
LIBERTYVILLE, ILLINOIS 60048-1381

ENERGY SUPPLY: PHONE: (866) 639-3532
COMPANY: COMED

CIVILTECH ENGINEERING, INC.
500 PARK BOULEVARD * ITASCA, ILLINOIS 60143
(630) 773-3900 * FAX (630) 773-3975

REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF OUTSIDE THE RIGHT-OF-WAY AT THE CONTRACTOR'S EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

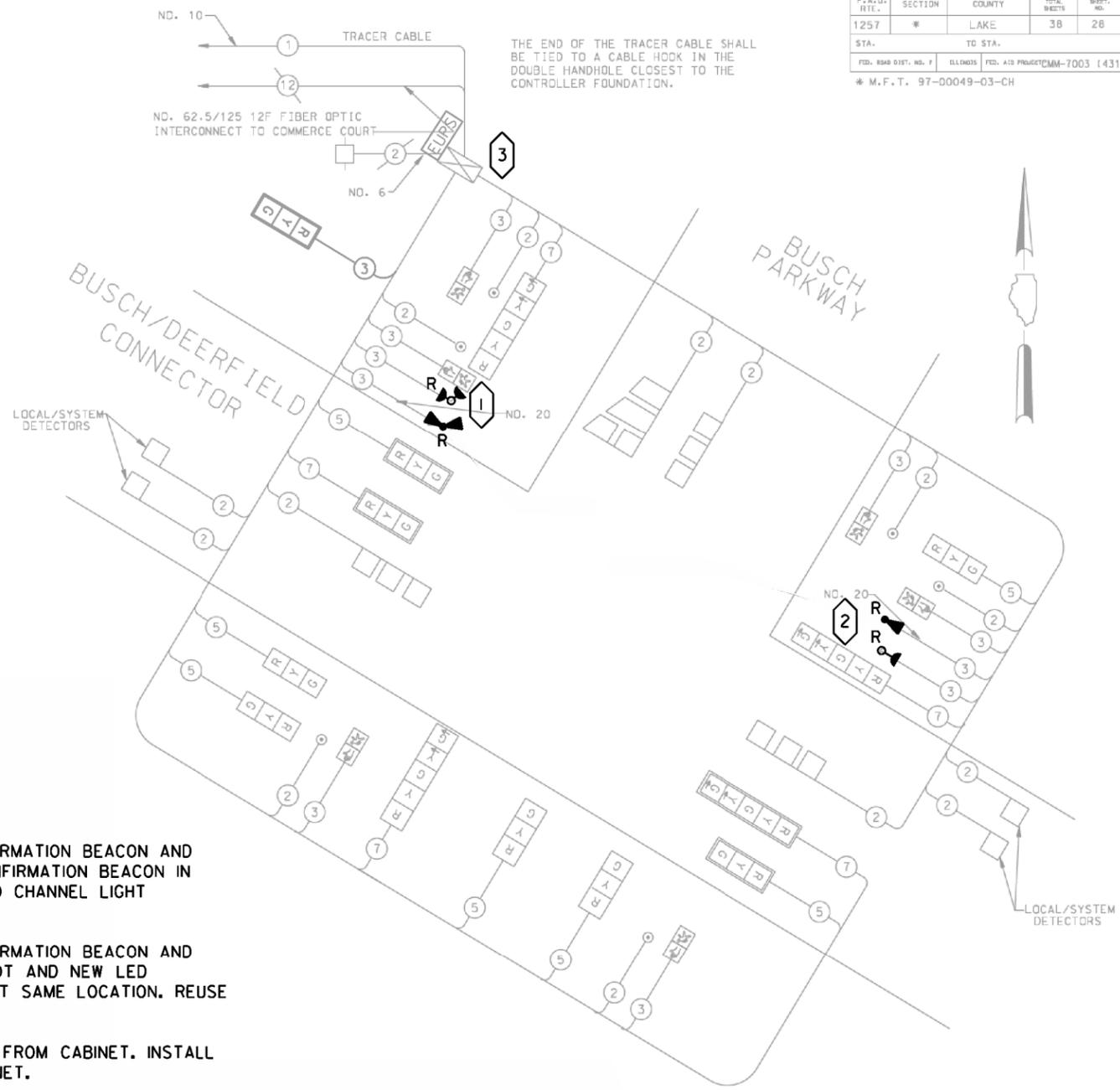
2 EACH LIGHT DETECTOR
1 EACH LIGHT DETECTOR AMPLIFIER

REVISION - LCDOT 2016

- 1 REMOVE EXISTING LIGHT DETECTOR AND CONFIRMATION BEACON AND INSTALL PROPOSED LIGHT DETECTOR AND CONFIRMATION BEACON IN SAME LOCATION. REUSE EXISTING CABLES. TWO CHANNEL LIGHT DETECTOR REQUIRED.
- 2 REMOVE EXISTING LIGHT DETECTOR AND CONFIRMATION BEACON AND INSTALL LIGHT DETECTOR FURNISHED BY LCDOT AND NEW LED CONFIRMATION BEACON IN EXISTING HOUSING AT SAME LOCATION. REUSE EXISTING CABLES.
- 3 REMOVE EXISTING LIGHT DETECTOR AMPLIFIER FROM CABINET. INSTALL PROPOSED LIGHT DETECTOR IN EXISTING CABINET.

SCHEDULE OF QUANTITIES

ITEM	UNIT	QUANTITY
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
LIGHT DETECTOR	EACH	1
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
LIGHT DETECTOR, (INSTALLATION ONLY)	EACH	1
LIGHT DETECTOR AMPLIFIER, (INSTALLATION ONLY)	EACH	1



NOTE: THE PROPOSED EVP LIGHT DETECTOR SHALL BE THE LATEST GTT MODEL AND COMPATIBLE WITH THE EVP AMPLIFIER FURNISHED BY LCDOT.

CABLE PLAN
NOT TO SCALE

REVISIONS	
NAME	DATE

DEPARTMENT OF TRANSPORTATION
CABLE PLAN,
SEQUENCE OF OPERATIONS AND
SCHEDULE OF QUANTITIES

BUSCH/DEERFIELD CONNECTOR,
RELOCATED BUSCH PARKWAY
& CORPORATE GROVE DRIVE

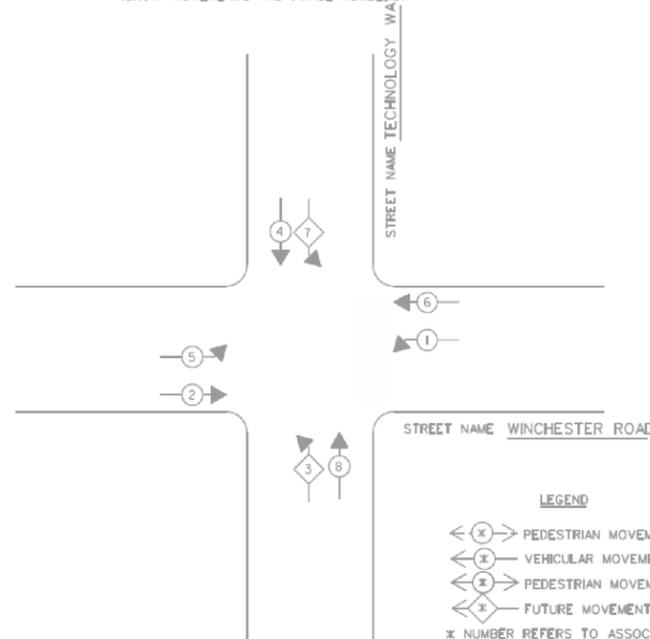
DATE: 5-27-97
CHECKED BY: W.S.A.

PHASE DESIGNATION DIAGRAM

NAME OF INTERSECTION WINCHESTER ROAD AT TECHNOLOGY WAY

CONTROLLER SPECIFIED FULL-ACTUATED CONTROLLER, STANDARD
SEQUENCE IV, 8 PHASES IN TYPE IV CABINET

REFERRING TO STANDARD 2393-1, THE VEHICULAR AND PEDESTRIAN PHASES USED ARE DESIGNATED BELOW: (SHOW MOVEMENTS AND PHASE NUMBERS)

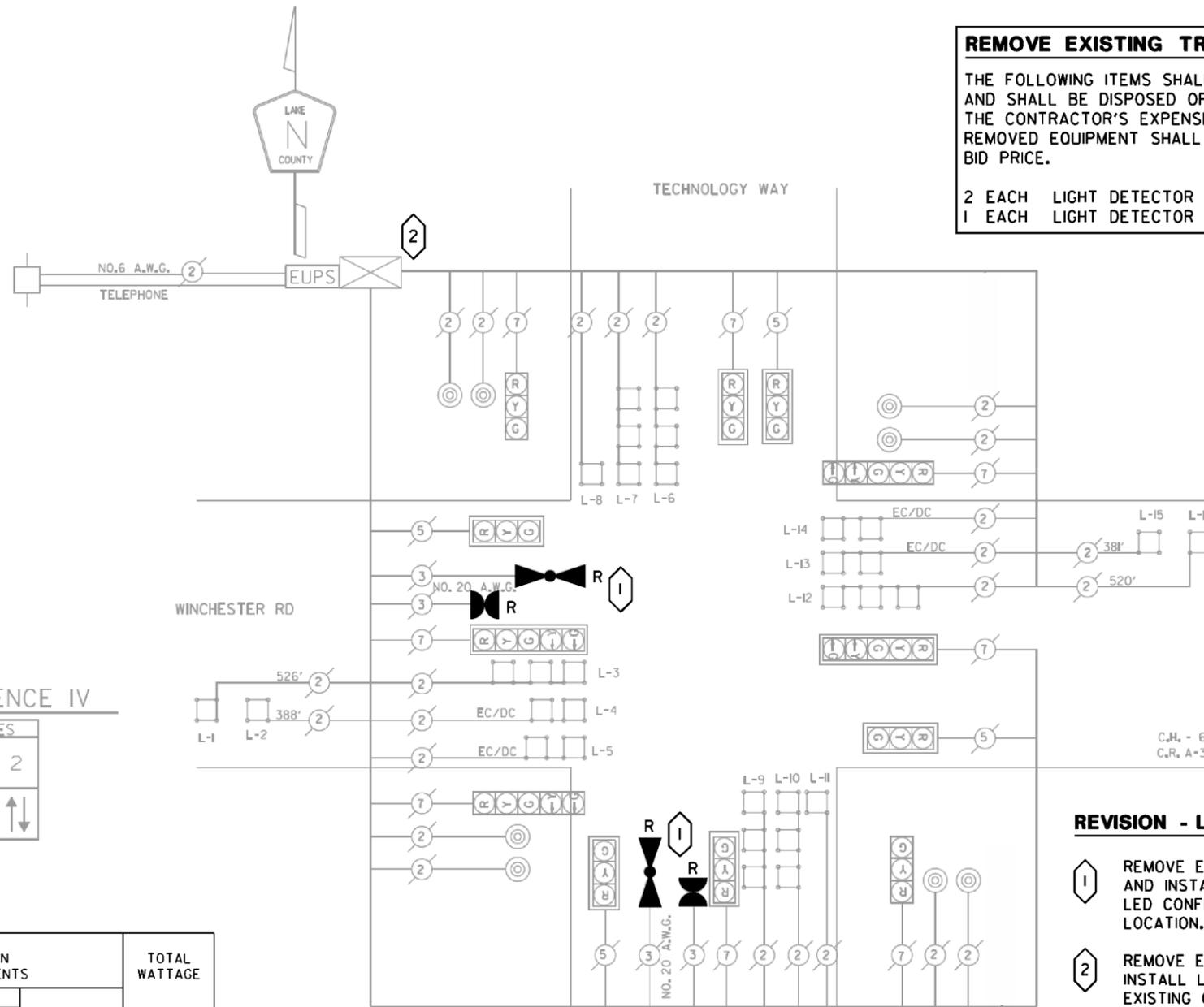


PRIORITY SEQUENCE FOR CONTROLLER SEQUENCE IV



L.C.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					
TYPE	NO. LAMPS	WATTAGE		% OPERATION	TOTAL WATTAGE
		INCAND.	L.E.D.		
SIGNAL (RED)	12		10	0.50	60
(YELLOW)	12		19	0.10	22.8
(GREEN)	12		11	0.40	52.8
ARROW	4		9	0.10	3.6
PED. SIGNAL			9	1.00	
CONTROLLER	1		100	1.00	100
LUMINAIRE			250	0.50	
L.E.D. ST. NAME SIGN			64	0.50	
VIDEO SYSTEM			150	1.00	
BATTERY BACKUP	1		25	1.00	25
FLASHER				0.50	
ENERGY COSTS TO: TOTAL =					239.2

LAKE COUNTY DIVISION OF TRANSPORTATION
600 WEST WINCHESTER ROAD
LIBERTYVILLE, ILLINOIS 60048-1381
ENERGY SUPPLY: PHONE: (866) 639-3532
COMPANY: COMED



REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF OUTSIDE THE RIGHT-OF-WAY AT THE CONTRACTOR'S EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

2 EACH LIGHT DETECTOR
1 EACH LIGHT DETECTOR AMPLIFIER

REVISION - LCDOT 2016

1 REMOVE EXISTING LIGHT DETECTOR AND CONFIRMATION BEACON AND INSTALL LIGHT DETECTOR FURNISHED BY LCDOT AND NEW LED CONFIRMATION BEACON IN EXISTING HOUSING AT SAME LOCATION. REUSE EXISTING CABLES.

2 REMOVE EXISTING LIGHT DETECTOR AMPLIFIER FROM CABINET. INSTALL LIGHT DETECTOR AMPLIFIER FURNISHED BY LCDOT IN EXISTING CABINET.

SCHEDULE OF QUANTITIES

ITEM	UNIT	QUANTITY
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
LIGHT DETECTOR, (INSTALLATION ONLY)	EACH	2
LIGHT DETECTOR AMPLIFIER, (INSTALLATION ONLY)	EACH	1

BARTON-ASCHMAN ASSOCIATES, INC.
300 W. WASHINGTON STREET, CHICAGO, ILL. 60601-3111

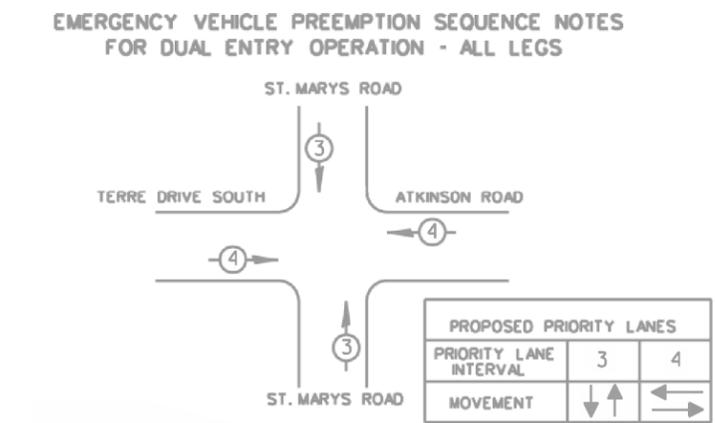
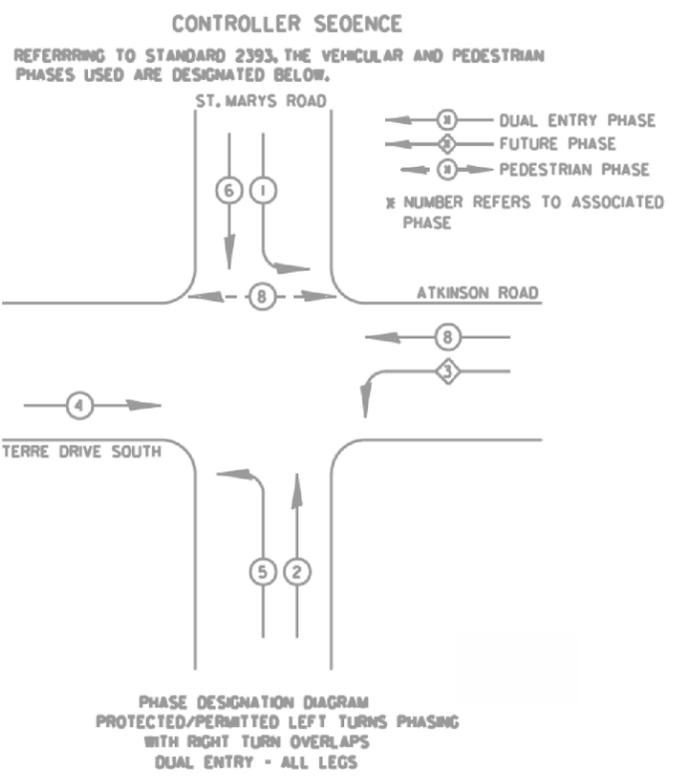
CABLE PLAN
SEQUENCE OF OPERATION
EMERGENCY VEHICLE SEQUENCE
WINCHESTER RD. AT TECHNOLOGY WAY

SCALE: NONE
DATE: 7/16/99
REVISION DATE: 02/06/00

DRAWN BY: AGC
DESIGNED BY: MRS
CHECKED BY: MRS

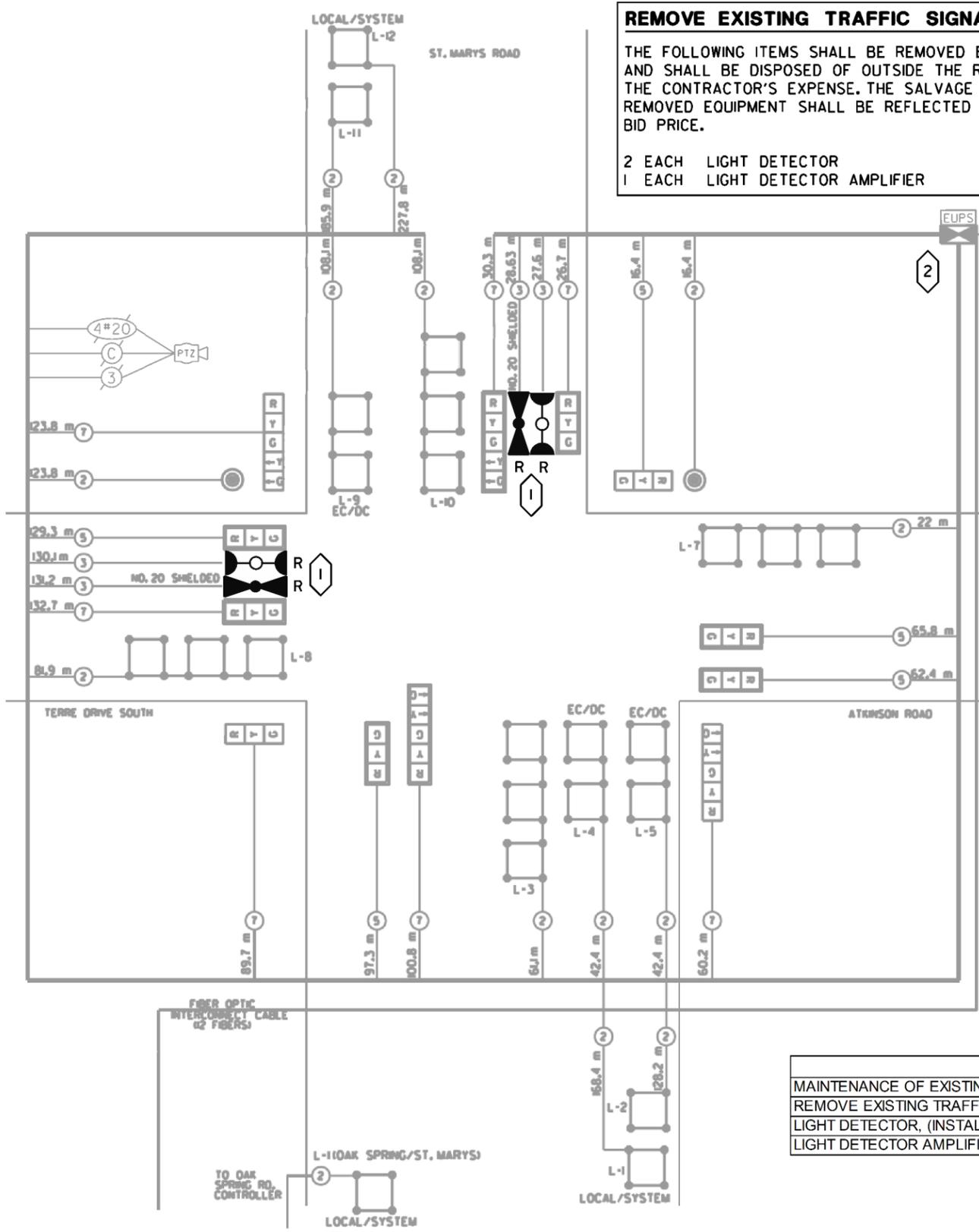
REVISIONS / REMARKS				
NO.	DESCRIPTION	DATE	BY	SURVEYOR

DESIGNER/LIAISON:
PLOTTED BY: khdi8691 5/23/2016



L.C.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE	
TYPE	NO. LAMPS	WATTAGE	INCAND.	L.E.D.	% OPERATION	
SIGNAL (RED)	12	10			0.50	60
(YELLOW)	12	19			0.10	22.8
(GREEN)	12	11			0.40	52.8
ARROW	8	9			0.10	7.2
PED. SIGNAL		9			1.00	
CONTROLLER	1	100			1.00	100
LUMINAIRE		250			0.50	
L.E.D. ST. NAME SIGN		64			0.50	
VIDEO SYSTEM		150			1.00	
BATTERY BACKUP	1	25			1.00	25
FLASHER					0.50	
ENERGY COSTS TO:					TOTAL =	267.8

LAKE COUNTY DIVISION OF TRANSPORTATION
600 WEST WINCHESTER ROAD
LIBERTYVILLE, ILLINOIS 60048-1381



SCHEDULE OF QUANTITIES

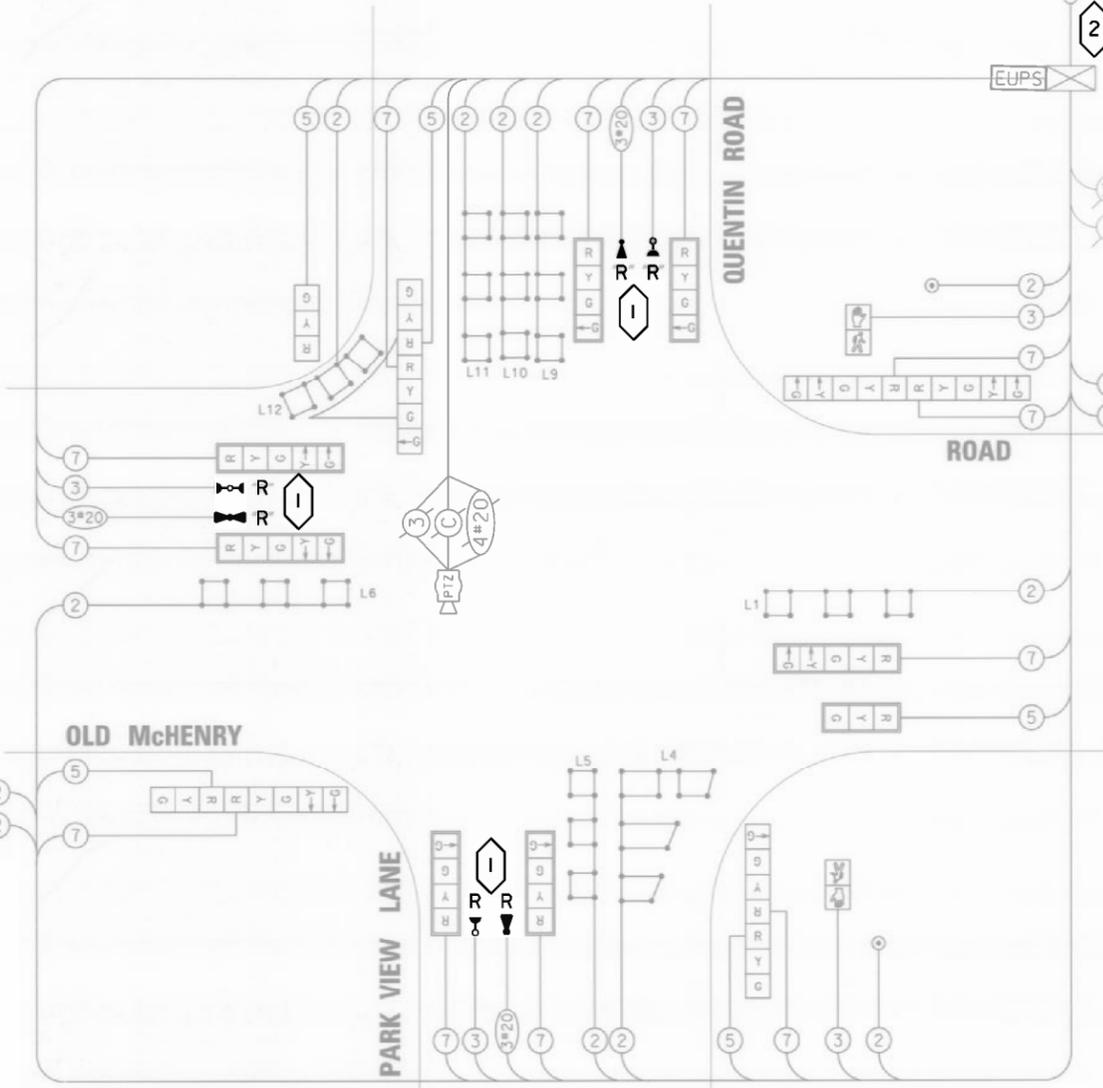
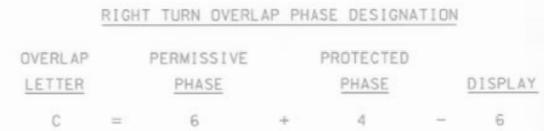
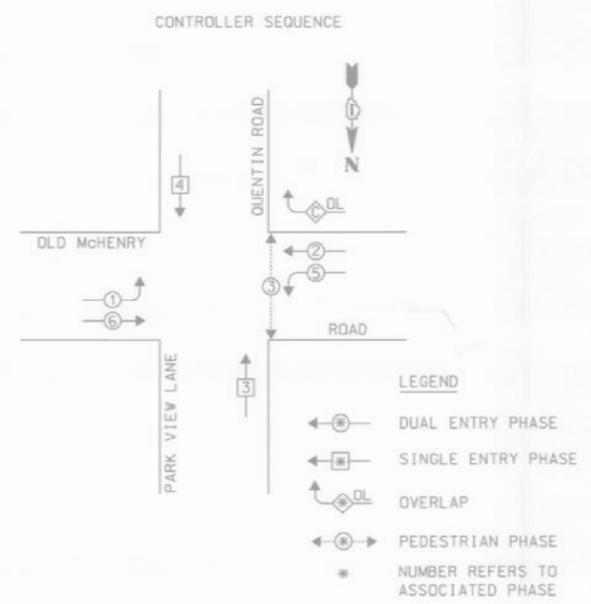
ITEM	UNIT	QUANTITY
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
LIGHT DETECTOR, (INSTALLATION ONLY)	EACH	2
LIGHT DETECTOR AMPLIFIER, (INSTALLATION ONLY)	EACH	1

REVISIONS	
NAME	DATE

LAKE COUNTY DIVISION OF TRANSPORTATION
PROPOSED CABLE PLAN
ST. MARYS ROAD AT
ATKINSON ROAD

DRAWN BY J.P.S.
CHECKED BY A.N.K.
DATE MAY 5, 1995

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CH 32	97-00084-07-WR	LAKE	71	42
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
CADD	PLOT DATE: 04 SEPTEMBER 98			
FILE NAME: n:\oldmchenry\94-238a\dm\cabplan1n.tad				



REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF OUTSIDE THE RIGHT-OF-WAY AT THE CONTRACTOR'S EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

3 EACH LIGHT DETECTOR
1 EACH LIGHT DETECTOR AMPLIFIER

REVISION - LCDOT 2016

- 1 REMOVE EXISTING LIGHT DETECTOR AND CONFIRMATION BEACON AND INSTALL LIGHT DETECTOR FURNISHED BY LCDOT AND NEW LED CONFIRMATION BEACON IN EXISTING HOUSING AT SAME LOCATION. REUSE EXISTING CABLES.
- 2 REMOVE EXISTING LIGHT DETECTOR AMPLIFIER FROM CABINET. INSTALL LIGHT DETECTOR AMPLIFIER FURNISHED BY LCDOT IN EXISTING CABINET.

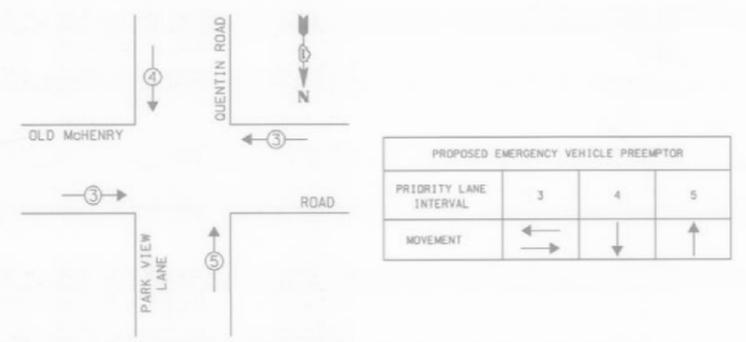
SCHEDULE OF QUANTITIES

ITEM	UNIT	QUANTITY
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
LIGHT DETECTOR, (INSTALLATION ONLY)	EACH	3
LIGHT DETECTOR AMPLIFIER, (INSTALLATION ONLY)	EACH	1

L.C.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE		% OPERATION	
SIGNAL (RED)	17	INCAND.	L.E.D.	0.50	85
(YELLOW)	17			0.10	32.3
(GREEN)	23			0.40	101.2
ARROW	12			0.10	10.8
PED. SIGNAL	2			1.00	18
CONTROLLER	1			100	100
LUMINAIRE				250	0.50
L.E.D. ST. NAME SIGN				64	0.50
VIDEO SYSTEM				150	1.00
BATTERY BACKUP	1			25	1.00
FLASHER				0.50	
ENERGY COSTS TO:				TOTAL =	372.3

LAKE COUNTY DIVISION OF TRANSPORTATION
600 WEST WINCHESTER ROAD
LIBERTYVILLE, ILLINOIS 60048-1381
ENERGY SUPPLY: PHONE: (866) 639-3532
COMPANY: COMED

EMERGENCY VEHICLE PREEMPTION SEQUENCE



REVISIONS	
NAME	DATE

LAKE COUNTY
DIVISION OF TRANSPORTATION
SCHEDULE OF QUANTITIES,
CABLE PLAN AND PHASE
DESIGNATION DIAGRAM
OLD McHENRY ROAD @ QUENTIN ROAD/
PARK VIEW LANE
DRAWN BY FCP/TCM
DATE 04 SEPTEMBER 98 CHECKED BY TCM/GMZ

CHRISTOPHER B. BURKE ENGINEERING LTD.
9575 West Higgins Road, Suite 600
Rosemont, Illinois 60018
(847) 823-0500

REVISIONS / REMARKS				
NO.	DESCRIPTION	DATE	BY	SURVEYOR/DSGNER/LIAISON/PLOTTED BY:

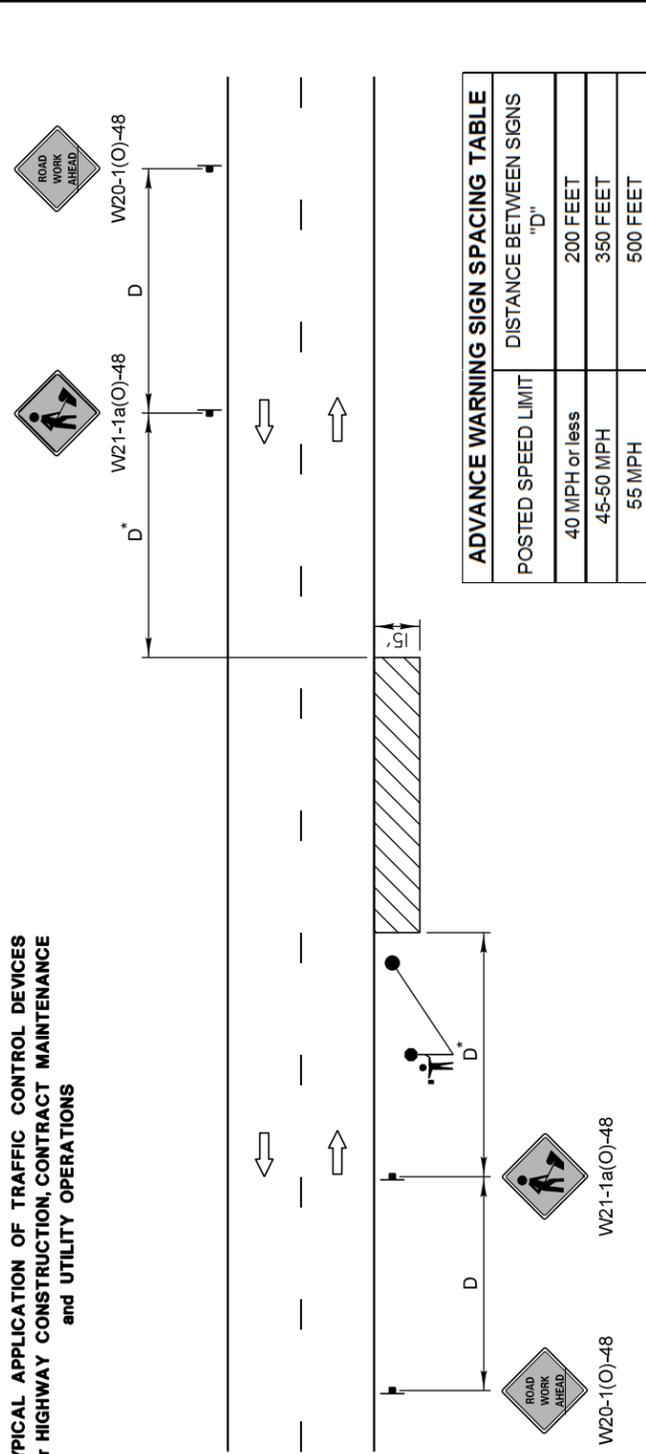
2016 TRAFFIC SIGNAL PROJECT



**OLD McHENRY ROAD & QUENTIN ROAD
CABLE PLAN**

ROUTE	SECTION	SECTION NUMBER	SHEET	SHEETS
VAR	VAR	16-00999-23-TL	22	50

**TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES
for HIGHWAY CONSTRUCTION, CONTRACT MAINTENANCE
and UTILITY OPERATIONS**



GENERAL NOTES:

- This special detail is used at any time, any vehicle, equipment, workers or their activities require a stationary, intermittent or continuous moving operation within 15 feet of the traffic lane, where the average speed is 1 mph or less.
- * Minimum distance "D" is shown in the Advance Warning Sign Spacing Table. If the work is a moving operation, the maximum distance "D" may be extended to 1/2 the length required for one normal working day's operation or 4 miles, whichever is less.
- If the work operation does not exceed 60 minutes, traffic control may be according to I.D.O.T. Highway Standard 701301.

SYMBOLS

- WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- FLAGGER WITH TRAFFIC CONTROL SIGN WHEN REQUIRED

REVISIONS	DATE	MODIFIED IDOT STANDARD 701011-04
Title Block Revision	8/1/09	APPROVED BY: A. KHAWAJA
Reformat LCDOT Standard	7/15/10	DATE: APRIL 1, 2007
Updated IDOT Standard Version #	3/29/16	

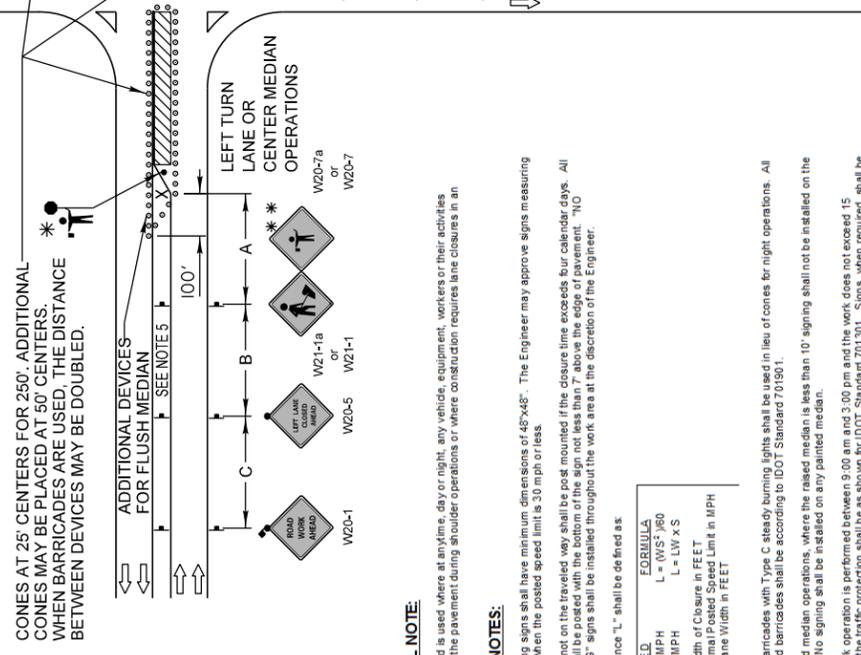
LC7000

LakeCounty
Division of Transportation

**TWO LANE, TWO WAY,
OFF-ROAD OPERATIONS
DAY OPERATIONS ONLY**

NOT TO SCALE

**TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES
for HIGHWAY CONSTRUCTION, CONTRACT MAINTENANCE
and UTILITY OPERATIONS**



ADVANCE WARNING SIGN SPACING TABLE

POSTED SPEED LIMIT	"A"	"B"	"C"
40 MPH or less	400 FEET	200 FEET	200 FEET
45-50 MPH	400 FEET	350 FEET	350 FEET
55 MPH	500 FEET	500 FEET	500 FEET

SYMBOLS

- WORK AREA
- CONE, BARRICADE, OR DRUM
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- ARROW BOARD
- TYPE II BARRICADE WITH TYPE A FLASHING LIGHT
- HIGH LEVEL WARNING DEVICE **
- FLAGGER WITH TRAFFIC CONTROL SIGN

REVISIONS	DATE	MODIFIED IDOT STANDARD 701011-10
Revised IDOT Reference	2/1/08	APPROVED BY: ANTHONY KHAWAJA
The Block Revision	8/1/09	DATE: APRIL 1, 2007
Reformat LCDOT Standard	7/15/10	
Removed "Worker" & "Flagger" signs	6/26/12	
Updated IDOT Standard Version #	3/29/16	

LC7003

LakeCounty
Division of Transportation

**URBAN LANE CLOSURE
MULTILANE INTERSECTION**

GENERAL NOTE:
This Standard is used where at any time, day or night, any vehicle, equipment, workers or their activities encroach on the pavement during shoulder operations or where construction requires lane closures in an urban area.

DESIGN NOTES:

- All warning signs shall have minimum dimensions of 48"x48". The Engineer may approve signs measuring 36"x36" when the posted speed limit is 30 mph or less.
- All signs set on the traveled way shall be post mounted if the closure time exceeds four calendar days. All signs shall be used with the warning sign of the same type as the "PARKING" signs shall be installed throughout the work area at the discretion of the Engineer.
- The distance "L" shall be defined as:
 SPEED:
 ≤ 40 MPH L = (WS)²/80
 ≥ 45 MPH L = LW x S
 W = Width of Closure in FEET
 S = Normal Posted Speed Limit in MPH
 LW = Lane Width in FEET
- Type II barricades with Type C steady burning lights shall be used in lieu of cones for night operations. All cones and barricades shall be according to IDOT Standard 701901.
- For raised median operations, where the raised median is less than 10' signing shall not be installed on the median. No signing shall be installed on any painted median.
- If the work operation is performed between 9:00 am and 3:00 pm and the work does not exceed 15 minutes, the traffic protection shall be as shown for IDOT Standard 701301. Signs, when required, shall be at the spacing specified in the advance warning sign spacing table.
- If the work area is in the parking lane and the parking aisle during work hours, a "ROAD WORK AHEAD" sign shall be installed in advance of work area at the spacing specified in the Advance Warning Sign Spacing Table and the area protected with cones or barricades.
- Type A flashing lights shall be used on each approach in advance of the work area during hours of darkness and installed above the first two signs in each series and the high level warning devices.
- Longitudinal dimensions may be adjusted to field conditions.
- Form BT 725 is required.

NO.	DESCRIPTION	DATE	BY	SURVEYOR:

DSG NR/LIAISON:
PLOTTED BY: khdi8691 5/23/2016

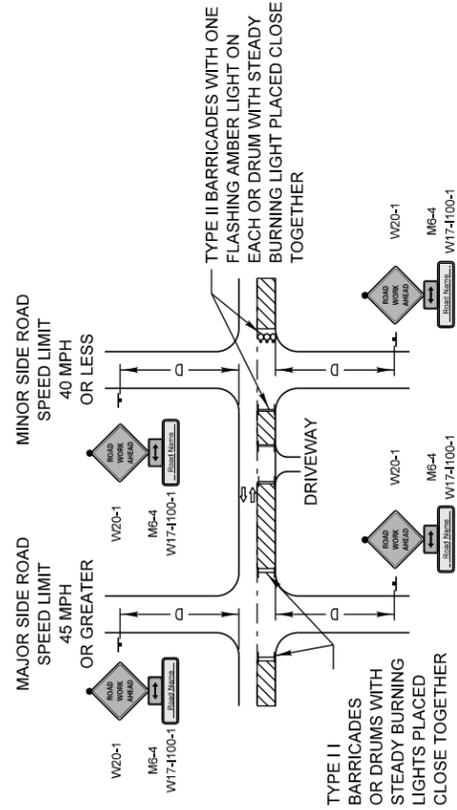
FILE NAME: U:\DOT\Traffic\2016_Install\EPV\EPV.dgn



2016 TRAFFIC SIGNAL PROJECT
LAKE COUNTY STANDARD DETAILS

ROUTE	SECTION	SECTION NUMBER	SHEET	SHEETS
VAR	VAR	16-00999-23-TL	23	50

**TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES
for HIGHWAY CONSTRUCTION, CONTRACT MAINTENANCE
and UTILITY OPERATIONS**



SYMBOLS

- WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- TYPE II BARRICADE W/TYPE A FLASHING LIGHT
- DRUM WITH STEADY BURNING LIGHT

ADVANCE WARNING SIGN SPACING TABLE

POSTED SPEED LIMIT	DISTANCE BETWEEN SIGNS "D"
40 MPH or less	200 FEET
45-50 MPH	350 FEET
55 MPH	500 FEET

GENERAL NOTE:

This Standard is used where at any time, day or night, any vehicle, equipment, workers or their activities encroach on the pavement or where construction requires lane closures.

DESIGN NOTES:

- For a side road with a speed limit of 40 mph or less, the closed portion of the main route shall be protected by blocking with Type II barricades or drums, 1/3 of the cross section of the closed portion of the roadway.
- For a side road with a speed limit of 45 mph or greater, the closed portion of the main route shall be protected by blocking with Type II barricades or drums, 1/2 of the cross section of the closed portion of the roadway.
- All W20-1 "ROAD WORK AHEAD" signs shall be 48" x 48" with fluorescent orange reflective sheeting with an amber Type A flashing light mounted on the sign.
- When the side road lies between the beginning of the mainline signing and the work zone, a M6-1 Single Headed Arrow shall be used in lieu of the M6-4 Double Headed Arrow.
- For a lane closure on a side road, use the applicable portions of the appropriate Highway Standard or Traffic Control Detail. The spacing of the signs and barricades or drums shall be adjusted for field conditions as directed by the engineer. The directional arrow shall be covered or removed when no longer consistent with the side road closure.
- Advance warning signs shall be omitted on driveways unless otherwise noted.
- The traffic control and protection for side roads and intersections shall be included in the contract lump sum price for "TRAFFIC CONTROL AND PROTECTION, SPECIAL."

**MODIFIED IDOT DISTRICT ONE
SIDE ROAD DETAIL**

REVISIONS	DATE	APPROVED BY: ANTHONY KHAWAJA LakeCounty Division of Transportation	DATE: APRIL 1, 2007
Title Block Revision	8/1/09		
Reformat LC DOT Standard	7/15/10		
Use of Drums in lieu Type III Barricade	4/22/14		

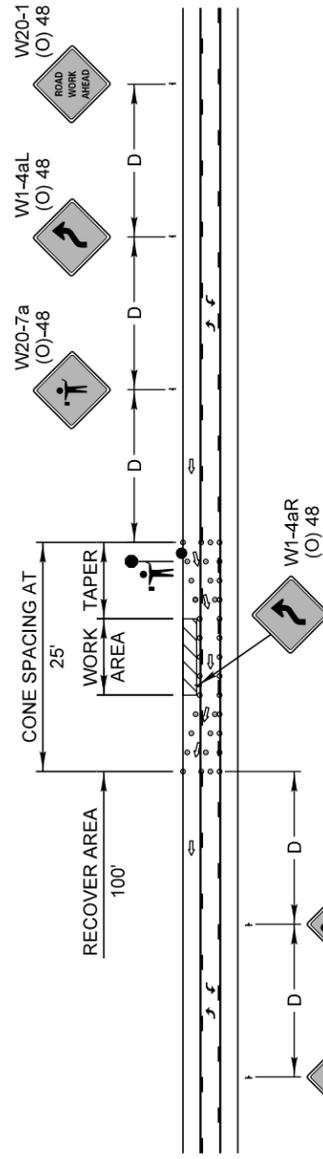
LC7004

**TRAFFIC CONTROL AND PROTECTION
for SIDEROADS, INTERSECTIONS
and DRIVEWAYS**

NOT TO SCALE

**TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES
for HIGHWAY CONSTRUCTION, CONTRACT MAINTENANCE
and UTILITY OPERATIONS**

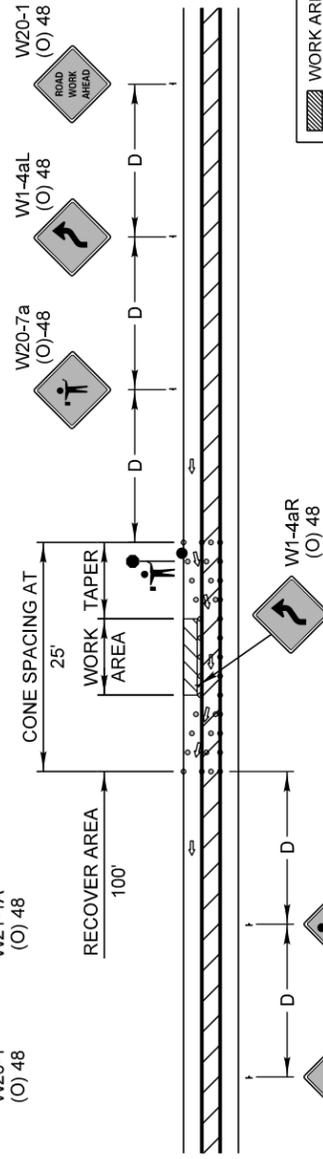
**3 LANE ROAD SECTION WITH
2-WAY LEFT TURN LANE**



GENERAL NOTE:

This Standard is used where during the day only, any vehicle, equipment, workers or their activities encroach on a 3 lane, two way pavement requiring the closure of one traffic lane.

**3 LANE ROAD SECTION WITH
FLUSH MEDIAN**



SYMBOLS

- WORK AREA
- CONE
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- FLAGGER STATION
- FLAGGER WITH SLOW PADDLE

LENGTH OF SHIFTING TAPER

POSTED SPEED LIMIT	TAPER LENGTH
30 MPH	100'
35 MPH	125'
40 MPH	150'
45 MPH	275'
50 MPH	300'
55 MPH	325'

ADVANCE WARNING SIGN SPACING TABLE

POSTED SPEED LIMIT	DISTANCE BETWEEN SIGNS "D"
40 MPH or less	200 FEET
45-50 MPH	350 FEET
55 MPH	500 FEET

REVISIONS	DATE	APPROVED BY: A. KHAWAJA LakeCounty Division of Transportation	DATE: APRIL 1, 2007
Title Block Revision	8/1/09		
Reformat LC DOT Standard	7/15/10		

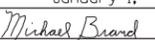
LC7005

**TYPICAL LANE CLOSURE
3 LANE ROAD SECTION**

NO.	DESCRIPTION	DATE	BY	SURVEYOR:	DSG NR/LIAISON:	PLOTTED BY:
						khdi8691 5/23/2016

FILE NAME: U:\DOT\Traffic\2016 Install\VP\EVP.dgn

ABV	ABOVE	CU YD	CUBIC YARD	HD	HEAD	PED	PEDESTAL	STD	STANDARD
A/C	ACCESS CONTROL	CULV	CULVERT	HDW	HEADWALL	PNT	POINT	SBI	STATE BOND ISSUE
AC	ACRE	C&G	CURB & GUTTER	HDUTY	HEAVY DUTY	PC	POINT OF CURVATURE	SR	STATE ROUTE
ADJ	ADJUST	D	DEGREE OF CURVE	ha	HECTARE	PI	POINT OF INTERSECTION OF HORIZONTAL CURVE	STA	STATION
AS	AERIAL SURVEYS	DC	DEPRESSED CURVE	HMA	HOT MIX ASPHALT			SPBGR	STEEL PLATE BEAM GUARDRAIL
AGG	AGGREGATE	DET	DETECTOR	HWY	HIGHWAY	PRC	POINT OF REVERSE CURVE	SS	STORM SEWER
AH	AHEAD	DIA	DIAMETER	HORIZ	HORIZONTAL	PT	POINT OF TANGENCY	STY	STORY
APT	APARTMENT	DIST	DISTRICT	HSE	HOUSE	POT	POINT ON TANGENT	ST	STREET
ASPH	ASPHALT	DOM	DOMESTIC	IL	ILLINOIS	POLYETH	POLYETHYLENE	STR	STRUCTURE
AUX	AUXILIARY	DBL	DOUBLE	IMP	IMPROVEMENT	PCC	PORTLAND CEMENT CONCRETE	e	SUPERELEVATION RATE
AGS	AUXILIARY GAS VALVE (SERVICE)	DSEL	DOWNSTREAM ELEVATION	IN DIA	INCH DIAMETER	PP	POWER POLE OR PRINCIPAL POINT	S.E. RUN.	SUPERELEVATION RUNOFF LENGTH
AVE	AVENUE	DSFL	DOWNSTREAM FLOWLINE	INL	INLET	PRM	PRIME	SURF	SURFACE
AX	AXIS OF ROTATION	DR	DRAINAGE OR DRIVE	INST	INSTALLATION	PE	PRIVATE ENTRANCE	SMK	SURVEY MARKER
BK	BACK	DI	DRAINAGE INLET OR DROP INLET	IDS	INTERSECTION DESIGN STUDY	PROF	PROFILE	T	TANGENT DISTANCE
B-B	BACK TO BACK	DRV	DRIVEWAY	INV	INVERT	PGL	PROFILE GRADELINE	T.R.	TANGENT RUNOUT DISTANCE
BKPL	BACKPLATE	DCT	DUCT	IP	IRON PIPE	PROJ	PROJECT	TEL	TELEPHONE
B	BARN	EA	EACH	IR	IRON ROD	P.C.	PROPERTY CORNER	TB	TELEPHONE BOX
BARR	BARRICADE	EB	EASTBOUND	JT	JOINT	PL	PROPERTY LINE	TP	TELEPHONE POLE
BGN	BEGIN	EOP	EDGE OF PAVEMENT	kg	KILOGRAM	PR	PROPOSED	TEMP	TEMPORARY
BM	BENCHMARK	E-CL	EDGE TO CENTERLINE	km	KILOMETER	R	RADIUS	TBM	TEMPORARY BENCH MARK
BIND	BINDER	E-E	EDGE TO EDGE	LS	LANDSCAPING	RR	RAILROAD	TD	TILE DRAIN
BIT	BITUMINOUS	EL	ELEVATION	LN	LANE	RRS	RAILROAD SPIKE	TBE	TO BE EXTENDED
BTM	BOTTOM	ENTR	ENTRANCE	LT	LEFT	RPS	REFERENCE POINT STAKE	TBR	TO BE REMOVED
BLVD	BOULEVARD	EXC	EXCAVATION	LP	LIGHT POLE	REF	REFLECTIVE	TBS	TO BE SAVED
BRK	BRICK	EX	EXISTING	LGT	LIGHTING	RCCP	REINFORCED CONCRETE CULVERT PIPE	TWP	TOWNSHIP
BBOX	BUFFALO BOX	EXPWAY	EXPRESSWAY	LF	LINEAL FEET OR LINEAR FEET	REINF	REINFORCEMENT	TR	TOWNSHIP ROAD
BLDG	BUILDING	E	EXTERNAL DISTANCE OF HORIZONTAL CURVE	L	LITER OR CURVE LENGTH	REM	REMOVAL	TS	TRAFFIC SIGNAL
CIP	CAST IRON PIPE	E	OFFSET DISTANCE TO VERTICAL CURVE	LC	LONG CHORD	RC	REMOVE CROWN	TSCB	TRAFFIC SIGNAL CONTROL BOX
CB	CATCH BASIN	F-F	FACE TO FACE	LNG	LONGITUDINAL	REP	REPLACEMENT	TSC	TRAFFIC SYSTEMS CENTER
C-C	CENTER TO CENTER	FA	FEDERAL AID	L SUM	LUMP SUM	REST	RESTAURANT	TRVS	TRANSVERSE
CL	CENTERLINE OR CLEARANCE	FAI	FEDERAL AID INTERSTATE	MACH	MACHINE	RESURF	RESURFACING	TRVL	TRAVEL
CL-E	CENTERLINE TO EDGE	FAP	FEDERAL AID PRIMARY	MB	MAIL BOX	RET	RETAINING	TRN	TURN
CL-F	CENTERLINE TO FACE	FAS	FEDERAL AID SECONDARY	MH	MANHOLE	RT	RIGHT	TY	TYPE
CTS	CENTERS	FAUS	FEDERAL AID URBAN SECONDARY	MATL	MATERIAL	ROW	RIGHT-OF-WAY	T-A	TYPE A
CERT	CERTIFIED	FP	FENCE POST	MED	MEDIA	RD	ROAD	TYP	TYPICAL
CHSLD	CHISELED	FE	FIELD ENTRANCE	m	METER	RDWY	ROADWAY	UNDGND	UNDERGROUND
CS	CITY STREET	FH	FIRE HYDRANT	METH	METHOD	RTE	ROUTE	USGS	U.S. GEOLOGICAL SURVEY
CP	CLAY PIPE	FL	FLOW LINE	M	MID-ORDINATE	SAN	SANITARY	USEL	UPSTREAM ELEVATION
CLSD	CLOSED	FB	FOOT BRIDGE	mm	MILLIMETER	SANS	SANITARY SEWER	USFL	UPSTREAM FLOWLINE
CLID	CLOSED LID	FDN	FOUNDATION	mm DIA	MILLIMETER DIAMETER	SEC	SECTION	UTIL	UTILITY
CT	COAT OR COURT	FR	FRAME	MIX	MIXTURE	SEED	SEEDING	VBOX	VALVE BOX
COMB	COMBINATION	F&G	FRAME & GRATE	MBH	MOBILE HOME	SHAP	SHAPING	VV	VALVE VAULT
C	COMMERCIAL BUILDING	FRWAY	FREEWAY	MOD	MODIFIED	S	SHED	VLV	VAULT
CE	COMMERCIAL ENTRANCE	GAL	GALLON	MFT	MOTOR FUEL TAX	SH	SHEET	VEH	VEHICLE
CONC	CONCRETE	GALV	GALVANIZED	N & BC	NAIL & BOTTLE CAP	SHLD	SHOULDER	VP	VENT PIPE
CONST	CONSTRUCT	G	GARAGE	N & C	NAIL & CAP	SW	SIDEWALK OR SOUTHWEST	VERT	VERTICAL
CONTD	CONTINUED	GM	GAS METER	N & W	NAIL & WASHER	SIG	SIGNAL	VC	VERTICAL CURVE
CONT	CONTINUOUS	GV	GAS VALVE	NOAA	NATIONAL OCEANIC ATMOSPHERIC ADMINISTRATION	SOD	SODDING	VPC	VERTICAL POINT OF CURVATURE
COR	CORNER	GRAN	GRANULAR	NC	NORMAL CROWN	SM	SOLID MEDIUM	VPI	VERTICAL POINT OF INTERSECTION
CORR	CORRUGATED	GR	GRATE	NB	NORTHBOUND	SB	SOUTHBOUND	VPT	VERTICAL POINT OF TANGENCY
CMP	CORRUGATED METAL PIPE	GRVL	GRAVEL	NE	NORTHEAST	SE	SOUTHEAST	WM	WATER METER
CNTY	COUNTY	GND	GROUND	NW	NORTHWEST	SPL	SPECIAL	WV	WATER VALVE
CH	COUNTY HIGHWAY	GUT	GUTTER	OLID	OPEN LID	SD	SPECIAL DITCH	WMAIN	WATER MAIN
CSE	COURSE	GP	GUY POLE	PAT	PATTERN	SQ FT	SQUARE FEET	WB	WESTBOUND
XSECT	CROSS SECTION	GW	GUY WIRE	PVD	PAVED	m ²	SQUARE METER	WILDFL	WILDFLOWERS
m ³	CUBIC METER	HH	HANDHOLE	PVMT	PAVEMENT	mm ²	SQUARE MILLIMETER	W	WITH
mm ³	CUBIC MILLIMETER	HATCH	HATCHING	PM	PAVEMENT MARKING	SQ YD	SQUARE YARD	WO	WITHOUT

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APPROVED	January 1, 2011
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ISSUED 1-1-97

DATE	REVISIONS
1-1-11	Updated abbreviations and symbols.
1-1-08	Updated abbreviations and symbols.

STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS

(Sheet 1 of 8)

STANDARD 000001-06

SHEET
26 OF 50

<u>ADJUSTMENT ITEMS</u>			<u>ALIGNMENT ITEMS</u>			<u>CONTOUR ITEMS</u>		
	<u>EX</u>	<u>PR</u>		<u>EX</u>	<u>PR</u>		<u>EX</u>	<u>PR</u>
Structure To Be Adjusted		ADJ	Baseline			Approx. Index Line		
Structure To Be Cleaned		C	Centerline			Approx. Intermediate Line		
Main Structure To Be Filled		FM	Centerline Break Circle			Index Contour		
Structure To Be Filled		F	Baseline Symbol			Intermediate Contour		
Structure To Be Filled Special		FSP	Centerline Symbol			<u>DRAINAGE ITEMS</u>		
Structure To Be Removed		R	PI Indicator			Channel or Stream Line		
Structure To Be Reconstructed		REC	Point Indicator			Culvert Line		
Structure To Be Reconstructed Special		RSP	Horizontal Curve Data (Half Size)	CURVE P.I. STA= Δ= D= R= T= L= E= e= T.R.= S.E. RUN= P.C. STA= P.T. STA=	CURVE P.I. STA= Δ= D= R= T= L= E= e= T.R.= S.E. RUN= P.C. STA= P.T. STA=	Grading & Shaping Ditches		
Frame and Grate To Be Adjusted		A	<u>BOUNDARIES ITEMS</u>					
Frame and Lid To Be Adjusted		A	Dashed Property Line			Drainage Boundary Line		
Domestic Service Box To Be Adjusted		A	Solid Property/Lot Line			Paved Ditch		
Valve Vault To Be Adjusted		A	Section/Grant Line			Aggregate Ditch		
Special Adjustment		SP	Quarter Section Line			Pipe Underdrain		
Item To Be Abandoned		AB	Quarter/Quarter Section Line			Storm Sewer		
Item To Be Moved		M	County/Township Line			Flowline		
Item To Be Relocated		REL	State Line			Ditch Check		
Pavement Removal and Replacement			Iron Pipe Found			Headwall		
			Iron Pipe Set			Inlet		
			Survey Marker			Manhole		
			Property Line Symbol			Summit		
			Same Ownership Symbol (Half Size)			Roadway Ditch Flow		
			Northwest Quarter Corner (Half Size)			Swale		
			Section Corner (Half Size)			Catch Basin		
			Southeast Quarter Corner (Half Size)			Culvert End Section		
						Water Surface Indicator		
						Riprap		

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 APPROVED January 1, 2011
Scott Schick
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 ISSUED 1-1-97

**STANDARD SYMBOLS,
 ABBREVIATIONS
 AND PATTERNS**
 (Sheet 2 of 8)
**STANDARD 000001-06 SHEET
 27 OF 50**

EROSION & SEDIMENT CONTROL ITEMS

EX

PR

Cleaning & Grading Limits



Dike



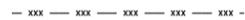
Erosion Control Fence



Perimeter Erosion Barrier



Temporary Fence



Ditch Check Temporary



Ditch Check Permanent



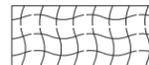
Inlet & Pipe Protection



Sediment Basin



Erosion Control Blanket



Fabric Formed Concrete Revetment Mat



Turf Reinforcement Mat



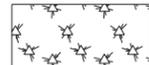
Mulch Temporary



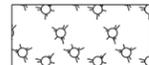
Mulch Method 1



Mulch Method 2 Stabilized



Mulch Method 3 Hydraulic

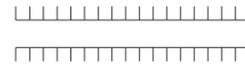


NON-HIGHWAY IMPROVEMENT ITEMS

EX

PR

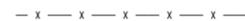
Noise Attn./Levee



Field Line



Fence



Base of Levee



Mailbox



Multiple Mailboxes



Pay Telephone



Advertising Sign



LANDSCAPING ITEMS

EX

PR

Contour Mounding Line



Fence



Fence Post



Shrubs



Mowline



Perennial Plants



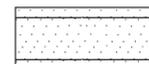
Seeding Class 2



Seeding Class 2A



Seeding Class 4



Seeding Class 4 & 5 Combined



EXISTING LANDSCAPING ITEMS (contd.)

EX

PR

Seeding Class 5



Seeding Class 7



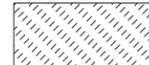
Seedlings Type 1



Seedlings Type 2



Sodding



Mowstake w/Sign



Tree Trunk Protection



Evergreen Tree



Shade Tree



LIGHTING

EX

PR

Duct



Conduit



Electrical Aerial Cable



Electrical Buried Cable



Controller



Underpass Luminaire



Power Pole



STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS

(Sheet 3 of 8)

STANDARD 000001-06

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**LIGHTING
(contd.)**

Pull Point

EX



PR



Handhole



Heavy Duty Handhole



Junction Box



Light Unit Comb.



Electrical Ground



Traffic Flow Arrow



High Mast Pole
(Half Size)



Light Unit-1



PAVEMENT (MISC.)

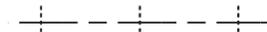
EX

PR

Keyed Long. Joint



Keyed Long. Joint w/Tie Bars



Sawed Long. Joint w/Tie Bars



Bituminous Shoulder



Bituminous Taper



Stabilized Driveway



Widening

PAVEMENT MARKINGS

EX

PR

Bike Lane Symbol



Bike Lane Text



Handicap Symbol



RR Crossing



Raised Marker Amber 1 Way



Raised Marker Amber 2 Way



Raised Marker Crystal 1 Way



Two Way Turn Left



Shoulder Diag. Pattern



Skip-Dash White



Skip-Dash Yellow



Stop Line



Solid Line



Double Centerline



Dotted Lines



CL 2Ln 2Way
RRPM 12.2 m (40') o.c.



CL 2Ln 2Way
RRPM 80' (24.4 m) o.c.



CL Multilane Div.
RRPM 40' (12.2 m) o.c.



CL Multilane Div.
RRPM 80' (24.4 m) o.c.



CL Multilane Div. Dbl.
RRPM 80' (24.4 m) o.c.



CL Multilane Undiv.



Two Way Turn Left Line



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**STANDARD SYMBOLS,
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AND PATTERNS**

(Sheet 4 of 8)

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PAVEMENT MARKINGS

(contd.)

Urban Combination Left

EX



PR



Urban Combination Right



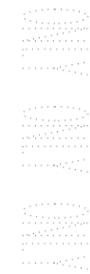
Urban Left Turn Arrow



Urban Right Turn Arrow



Urban Left Turn Only



ONLY ONLY ONLY



Urban Right Turn Only



Urban Thru Only



Urban U-Turn



Urban Combined U-Turn



Rural Combination Left



Rural Combination Right



Rural Left Turn Arrow



Rural Right Turn Arrow



Rural Left Turn Only



ONLY ONLY ONLY



Rural Right Turn Only



ONLY ONLY ONLY



Rural Thru Only



ONLY ONLY ONLY

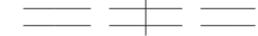


RAILROAD ITEMS

EX

PR

Abandoned Railroad



Railroad



Railroad Point



Control Box



Crossing Gate



Flashing Signal



Railroad Cant. Mast Arm



Crossbuck



REMOVAL ITEMS

EX

PR

Removal Tic



Bituminous Removal



Hatch Pattern



Tree Removal Single



RIGHT OF WAY ITEMS

EX

PR

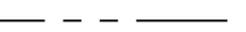
Future ROW Corner Monument



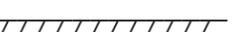
ROW Marker



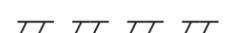
ROW Line



Easement



Temporary Easement



STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS

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RIGHT OF WAY ITEMS
(contd.)

	EX	PR
Access Control Line	— AC —————	— AC —————
Access Control Line & ROW	— AC —————	— AC —————
Access Control Line & ROW with Fence	— x ————— AR —	— x — AC — x —
Excess ROW Line		— XS —————

ROADWAY PLAN
ITEMS

	EX	PR
Cable Barrier		
Concrete Barrier		
Edge of Pavement	-----	-----
Bit Shoulders, Medians and C&G Line	-----	-----
Aggregate Shoulder	-----	-----
Sidewalks, Driveways	-----	-----
Guardrail		
Guardrail Post	□	
Traffic Sign		
Corrugated Median		
Impact Attenuator		
North Arrow with District Office (Half Size)		
Match Line		STA. 45+00
Slope Limit Line	-----	
Typical Cross-Section Line	-----	-----

ROADWAY PROFILES

	EX	PR
P.I. Indicator	△	△
Point Indicator	○	○
Earthworks Balance Point		
Begin Point		
Vert. Curve Data	VPI = ELEV = L = E =	VPI = ELEV = L = E =
Ditch Profile Left Side	-----	-----
Ditch Profile Right Side	-----	-----
Roadway Profile Line	-----	-----
Storm Sewer Profile Left Side	-----	-----
Storm Sewer Profile Right Side	-----	-----

SIGNING ITEMS

	EX	PR
Cone, Drum or Barricade		○
Barricade Type II		
Barricade Type III		TT
Barricade With Edge Line		
Flashing Light Sign		○
Panels I		
Panels II		
Direction of Traffic		
Sign Flag (Half Size)		

SIGNING ITEMS
(contd.)

	EX	PR
Reverse Left W1-4L (Half Size)		
Reverse Right W1-4R (Half Size)		
Two Way Traffic Sign W6-3 (Half Size)		
Detour Ahead W20-2(0) (Half Size)		
Left Lane Closed Ahead W20-5L(0) (Half Size)		
Right Lane Closed Ahead W20-5R(0) (Half Size)		
Road Closed Ahead W20-3(0) (Half Size)		
Road Construction Ahead W20-1(0) (Half Size)		
Single Lane Ahead (Half Size)		
Transition Left W4-2L (Half Size)		
Transition Right W4-2R (Half Size)		

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**STANDARD SYMBOLS,
ABBREVIATIONS
AND PATTERNS**

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SIGNING ITEMS
(contd.)

EX

PR

One Way Arrow Lrg. W1-6-(0)
(Half Size)



Two Way Arrow Large W1-7-(0)
(Half Size)



Detour M4-10L-(0)
(Half Size)



Detour M4-10R-(0)
(Half Size)



One Way Left R6-1L
(Half Size)



One Way Right R6-1R
(Half Size)



Left Turn Lane R3-I100L
(Half Size)



Keep Left R4-7AL
(Half Size)



Keep Left R4-7BL
(Half Size)



Keep Right R4-7AR
(Half Size)



Keep Right R4-7BR
(Half Size)



Stop Here On Red R10-6-AL
(Half Size)



Stop Here On Red R10-6-AR
(Half Size)



No Left Turn R3-2
(Half Size)



No Right Turn R3-1
(Half Size)



Road Closed R11-2
(Half Size)



Road Closed Thru Traffic R11-2
(Half Size)



STRUCTURES ITEMS

EX

PR

Box Culvert Barrel



Box Culvert Headwall



Bridge Pier



Bridge



Retaining Wall



Temporary Sheet Piling



TRAFFIC SHEET
ITEMS

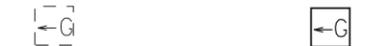
EX

PR

Cable Number



Left Turn Green



Left Turn Yellow



Signal Backplate



Signal Section 8" (200 mm)



Signal Section 12" (300 mm)



Walk/Don't Walk Letters



Walk/Don't Walk Symbols



TRAFFIC SIGNAL
ITEMS

EX

PR

Galv. Steel Conduit



Underground Cable



Detector Loop Line



Detector Loop Large



Detector Loop Small



Detector Loop Quadrapole



**STANDARD SYMBOLS,
ABBREVIATIONS
AND PATTERNS**

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STANDARD 000001-06

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**TRAFFIC SIGNAL
ITEMS (contd.)**

EX

PR

Detector Raceway



Aluminum Mast Arm



Steel Mast Arm



Veh. Detector Magnetic



Conduit Splice



Controller



Gulfbox Junction



Wood Pole



Temp. Signal Head



Handhole



Double Handhole



Heavy Duty Handhole



Junction Box



Ped. Pushbutton Detector



Ped. Signal Head



Power Pole Service



Priority Veh. Detector



Signal Head



Signal Head w/Backplate



Signal Post



Closed Circuit TV



Video Detector System



**UNDERGROUND
UTILITY ITEMS**

EX

PR

ABANDONED

Cable TV



Electric Cable



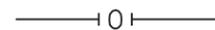
Fiber Optic



Gas Pipe



Oil Pipe



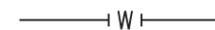
Sanitary Sewer



Telephone Cable



Water Pipe



UTILITIES ITEMS

EX

PR

Controller



Double Handhole



Fire Hydrant



GuyWire or Deadman Anchor



Handhole



Heavy Duty Handhole



Junction Box



Light Pole



Manhole



Pipeline Warning Sign



Power Pole



Power Pole with Light



Sanitary Sewer Cleanout



Splice Box Above Ground



Telephone Splice Box
Above Ground



Telephone Pole



**UTILITY ITEMS
(contd.)**

EX

PR

Traffic Signal



Traffic Signal Control Box



Water Meter



Water Meter Valve Box



Profile Line



Aerial Power Line



VEGETATION ITEMS

EX

PR

Deciduous Tree



Bush or Shrub



Evergreen Tree



Stump



Orchard/Nursery Line



Vegetation Line



Woods & Bush Line



**WATER FEATURE
ITEMS**

EX

PR

Stream or Drainage Ditch



Waters Edge



Water Surface Indicator



Water Point



Disappearing Ditch



Marsh



Marsh/Swamp Boundary



**STANDARD SYMBOLS,
ABBREVIATIONS
AND PATTERNS**

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TYPICAL APPLICATIONS

- Landscaping work
- Utility work
- Fencing contracts and maintenance
- Cleaning culverts

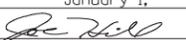
GENERAL NOTES

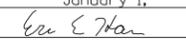
This Standard is used where at all times all vehicles, equipment, workers or their activities are more than 15' (4.5 m) from the edge of pavement.

When the work operation requires that two or more work vehicles cross the 15' (4.5 m) clear zone in any one hour, traffic control shall be according to Standard 701006.

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

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 ENGINEER OF OPERATIONS

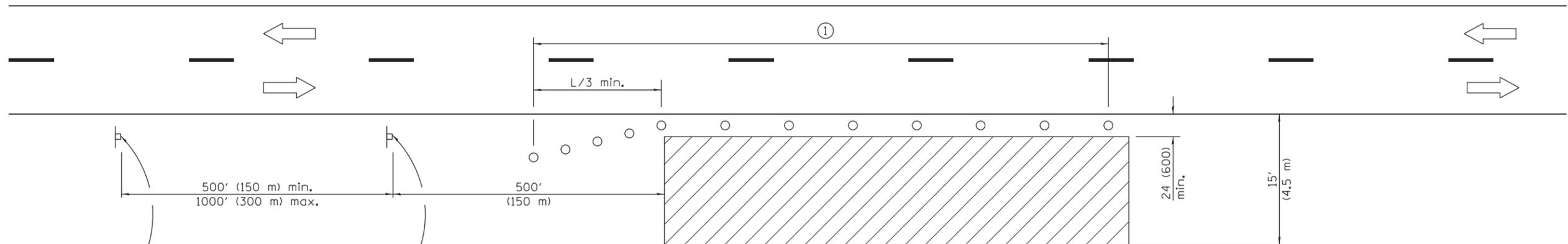
APPROVED January 1, 2009

 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

DATE	REVISIONS
1-1-09	Switched units to English (metric).
1-1-05	Revised title and notes.

**OFF-RD OPERATIONS,
 2L, 2W, MORE THAN
 15' (4.5 m) AWAY**

STANDARD 701001-02 SHEET 34 OF 50



For contract construction projects



W20-I103(O)-48



W21-1(O)-48

For maintenance and utility projects



W20-1(O)-48

TYPICAL APPLICATIONS

- Utility operations
- Culvert extensions
- Side slope changes
- Guardrail installation and maintenance
- Delineator installation
- Landscaping operations
- Shoulder repair
- Sign installation and maintenance

SYMBOLS

- Work area
- Sign
- Cone, drum or barricade

① When the work operation exceeds one hour, cones, drums or barricades shall be placed at 25' (8 m) centers for L/3 distance, and at 50' (15 m) centers through the remainder of the work area.

GENERAL NOTES

This Standard is used where any vehicles, equipment, workers or their activities will encroach in the area 15' (4.5 m) to 24' (600) from the edge of pavement.

Calculate L as follows:

SPEED LIMIT	FORMULAS	
	English	(Metric)
40 mph (70 km/h) or less:	$L = \frac{WS^2}{60}$	$L = \frac{WS^2}{150}$
45 mph (80 km/h) or greater:	$L=(W)(S)$	$L=0.65(W)(S)$

W = Width of offset in feet (meters).

S = Normal posted speed mph (km/h).

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

DATE	REVISIONS
1-1-14	Revised workers sign number to agree with current MUTCD.
1-1-13	Omitted text 'WORKERS' sign.

OFF-RD OPERATIONS, 2L, 2W, 15' (4.5 m) TO 24" (600 mm) FROM PAVEMENT EDGE

Illinois Department of Transportation

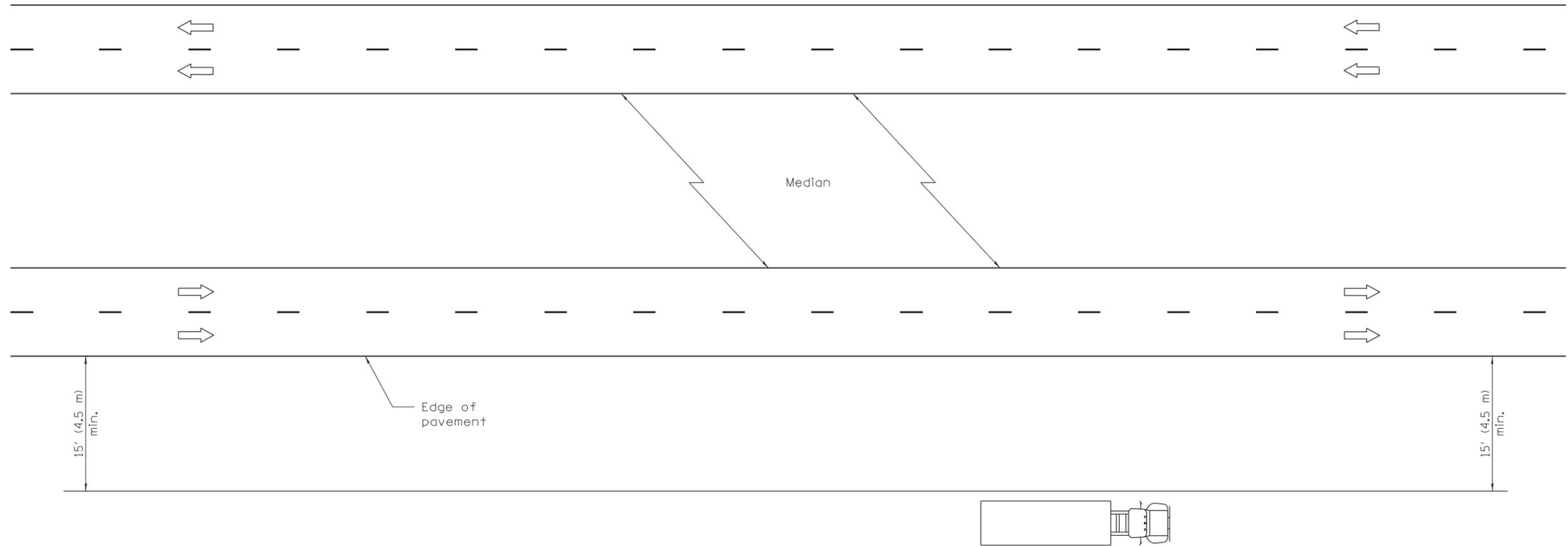
APPROVED January 1, 2014

 ENGINEER OF SAFETY ENGINEERING

APPROVED January 1, 2014

 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97



TYPICAL APPLICATIONS

- Landscaping work
- Utility work
- Fencing contracts

GENERAL NOTES

This Standard is used where at all times all vehicles, equipment, workers or their activities are more than 15' (4.5 m) from the edge of pavement.

When the work operation requires that two or more work vehicles cross the 15' (4.5 m) clear zone in any one hour, traffic control shall be according to Standard 701101.

This Standard also applies to work performed in the median more than 15' (4.5 m) from either pavement.

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

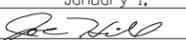
DATE	REVISIONS
1-1-05	Switched units to English (metric).
1-1-05	Revised title.

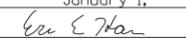
**OFF-RD OPERATIONS, MULTILANE,
MORE THAN 15' (4.5 m) AWAY**

STANDARD 701106-02

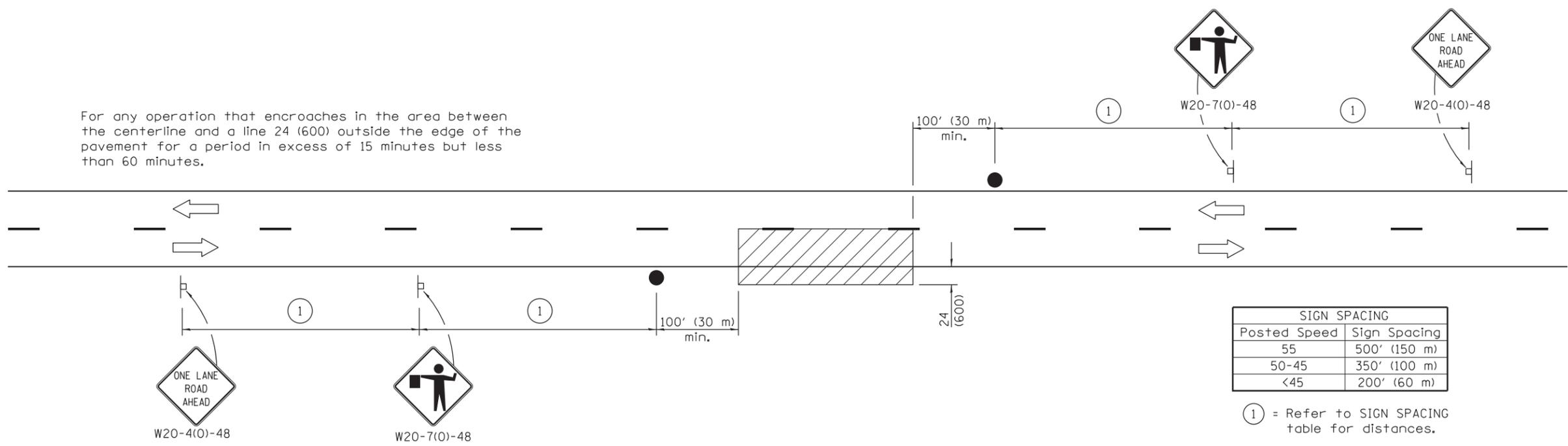
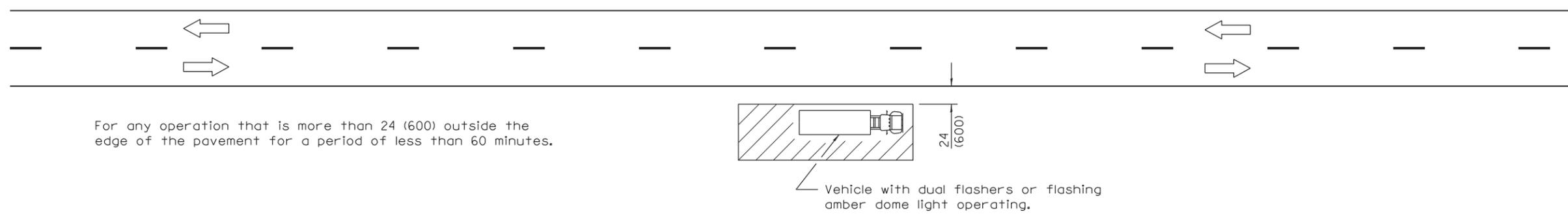
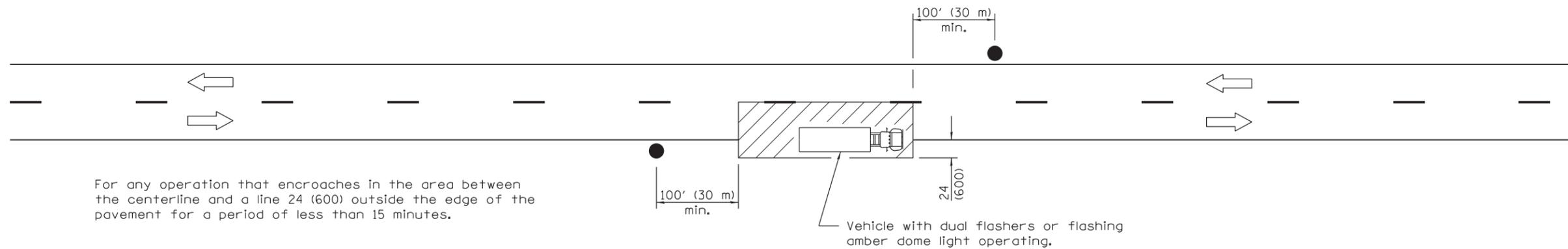
**SHEET
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APPROVED January 1, 2009

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ISSUED 1-1-97



SIGN SPACING	
Posted Speed	Sign Spacing
55	500' (150 m)
50-45	350' (100 m)
<45	200' (60 m)

TYPICAL APPLICATIONS

- Marking patches
- Field survey
- String line
- Utility operations
- Cleaning up debris on pavement

SYMBOLS

- Work area
- Sign on portable or permanent support
- Flagger with traffic control sign

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

Illinois Department of Transportation

APPROVED January 1, 2011
Amelia A. Davis
 ENGINEER OF SAFETY ENGINEERING

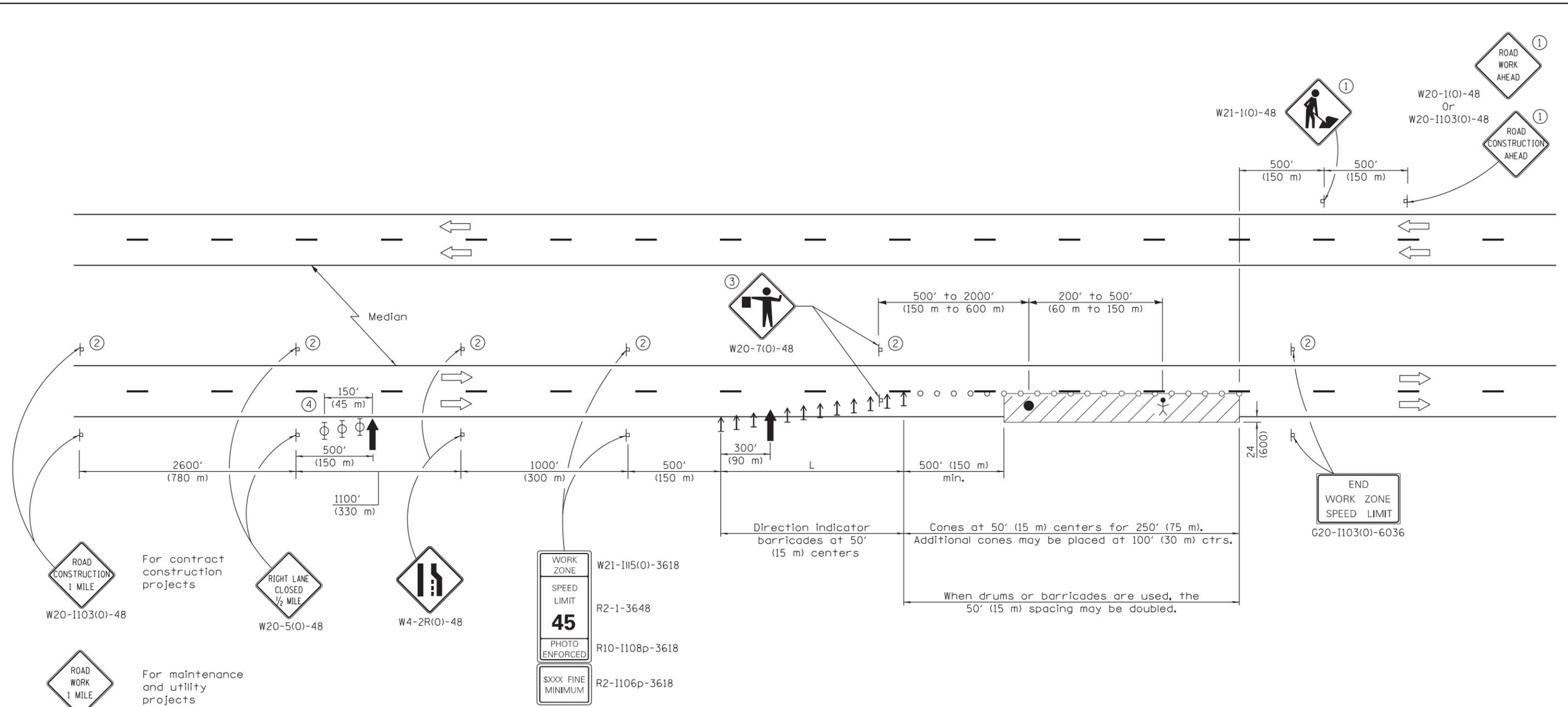
APPROVED January 1, 2011
Scott Schick
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

DATE	REVISIONS
1-1-11	Revised flagger sign.
1-1-09	Switched units to English (metric).

LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS

STANDARD 701301-04 SHEET 38 OF 50



ROAD CONSTRUCTION 1 MILE
W20-1103(O)-48

For contract construction projects

RIGHT LANE CLOSED 1/2 MILE
W20-5(O)-48

W4-2R(O)-48

WORK ZONE W21-1115(O)-3618
SPEED LIMIT 45 R2-1-3648
PHOTO ENFORCED R10-1108p-3618
\$XXX FINE MINIMUM R2-1106p-3618

ROAD WORK 1 MILE
W20-1(O)-48

For maintenance and utility projects

TYPICAL APPLICATIONS

- Pavement patch
- Utility operations
- Bituminous resurfacing

L = lane width X taper ratio	
Normal Posted Speed	Taper Ratio
mph	
55	55/1
45	45/1

SYMBOLS

- ↑ Arrow board
- ▨ Work area
- ⊥ Sign
- ↑ Direction indicator barricade
- Cone, drum or barricade
- Flagger with traffic control sign
- ⚠ Worker
- ⊕ Type II barricade, drum, or vertical barricade with monodirectional flashing light

- ① Undivided roadway only with left lane closure in opposite direction.
- ② Omitted when median is less than 10' (3 m).
- ③ FLAGGER signs shall be moved as necessary to maintain the required spacing between the sign and each separate work activity.
- ④ Three Type II barricades, drums, or vertical barricades at 50' (15 m) centers.

GENERAL NOTES

This Standard is used where at any time, any vehicle, equipment, workers or their activities will encroach on the lane adjacent to the shoulder, or on the shoulder within 24 (600) of the edge of pavement.

This Standard also applies when work is being performed in the left lane. Under these conditions, LEFT LANE CLOSED signs shall be substituted for RIGHT LANE CLOSED signs. On undivided highways, signs shall be added in the opposite direction as shown.

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

DATE	REVISIONS
1-1-15	Revised END WORK ZONE SPEED LIMIT sign dimensions.
1-1-14	Revised workers sign number to agree with current MUTCD.
	Rev. PHOTO ENFORCED sign no.

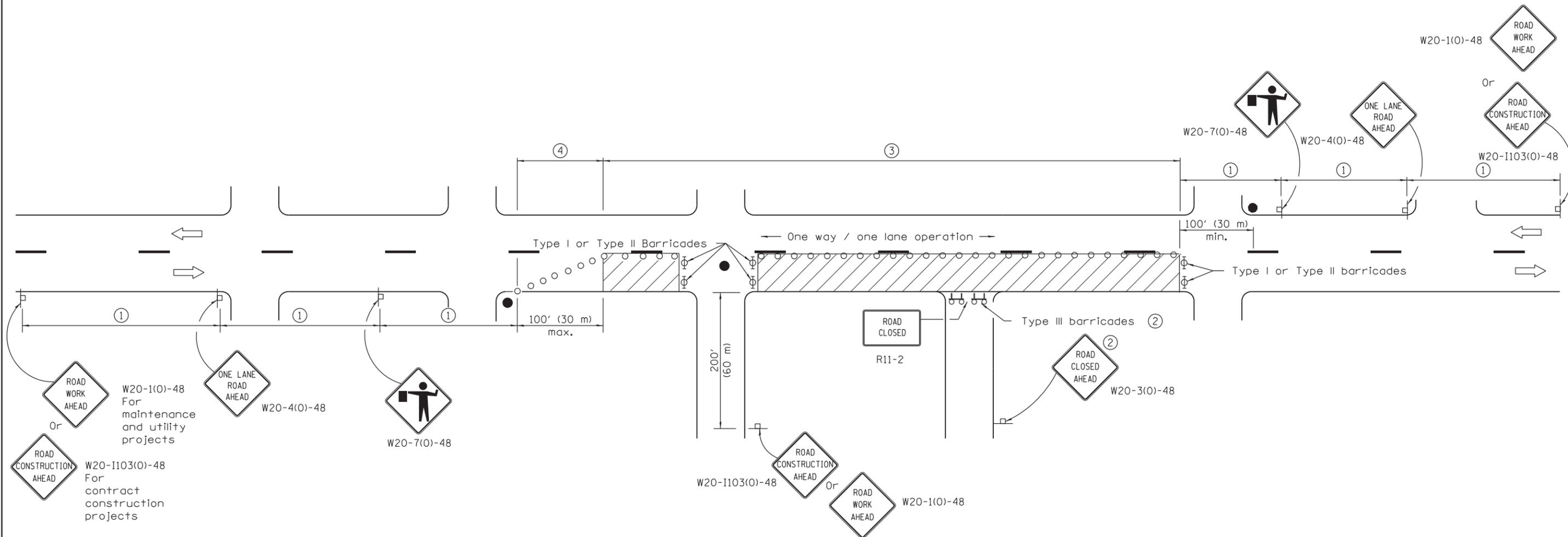
LANE CLOSURE, MULTILANE, DAY OPERATIONS ONLY, FOR SPEEDS ≥ 45 MPH TO 55 MPH

Illinois Department of Transportation

APPROVED January 1, 2015
ENGINEER OF SAFETY ENGINEERING

APPROVED January 1, 2015
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 4-1-04



ROAD WORK AHEAD W20-1(0)-48
 Or ROAD CONSTRUCTION AHEAD W20-1103(0)-48
 For maintenance and utility projects
 For contract construction projects

ONE LANE ROAD AHEAD W20-4(0)-48

W20-7(0)-48

ROAD CLOSED R11-2
 ROAD CONSTRUCTION AHEAD W20-1103(0)-48
 Or ROAD WORK AHEAD W20-1(0)-48

ROAD CLOSED AHEAD W20-3(0)-48

W20-1(0)-48 ROAD WORK AHEAD
 Or ROAD CONSTRUCTION AHEAD W20-1103(0)-48

SIGN SPACING	
Posted Speed	Sign Spacing
55	500' (150 m)
50-45	350' (100 m)
<45	200' (60 m)

SYMBOLS

- Work area
- Cone, drum or barricade (not required for moving operations)
- Sign on portable or permanent support
- Flagger with traffic control sign
- Barricade or drum with flashing light
- Type III barricade with flashing lights

- ① Refer to SIGN SPACING TABLE for distances.
- ② For approved sideroad closures.
- ③ Cones at 25' (8 m) centers for 250' (75 m). Additional cones may be placed at 50' (15 m) centers. When drums or Type I or Type II barricades are used, the interval between devices may be doubled.
- ④ Cones, drums or barricades at 20' (6 m) centers.

GENERAL NOTES

This Standard is used where at any time, day or night, any vehicle, equipment, workers or their activities encroach on the pavement requiring the closure of one traffic lane in an urban area.

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

Illinois Department of Transportation

APPROVED January 1, 2011
 ENGINEER OF SAFETY ENGINEERING

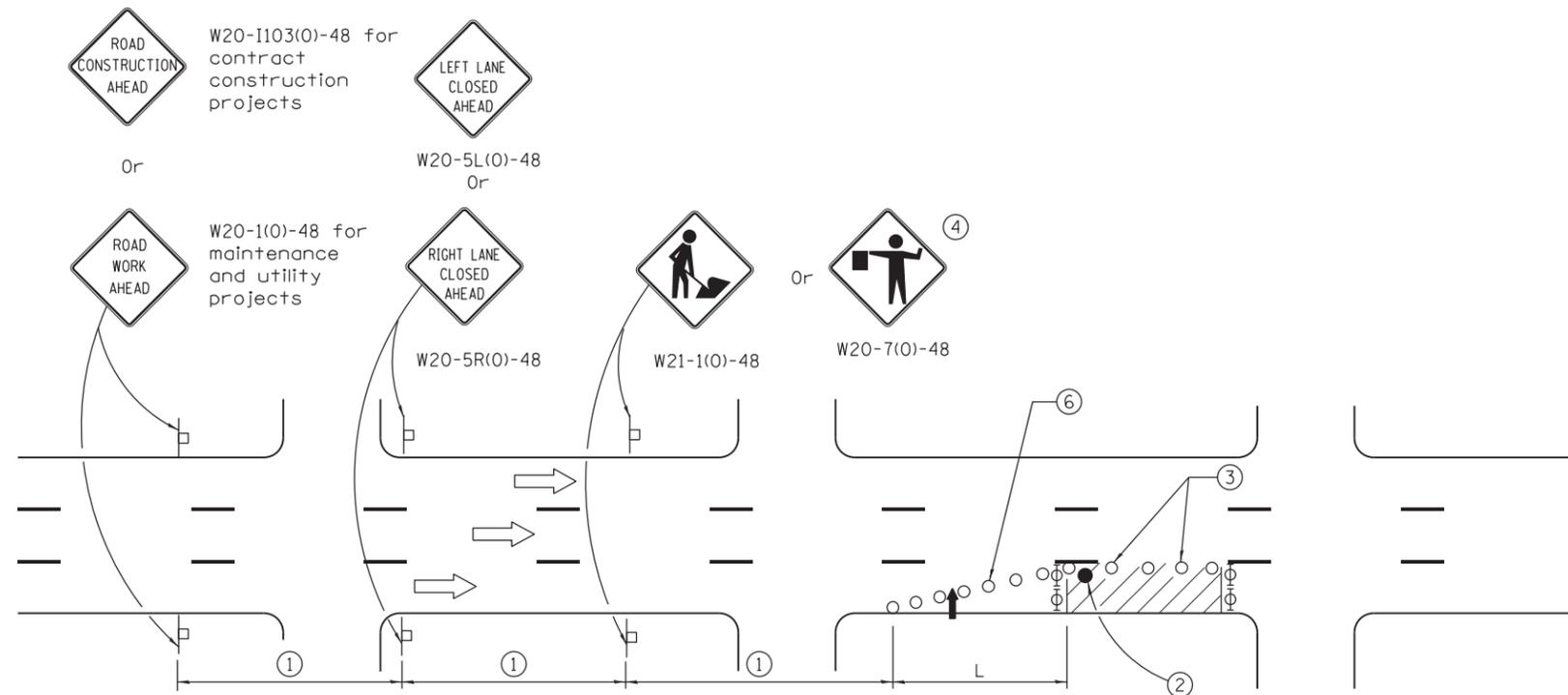
APPROVED January 1, 2011
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

DATE	REVISIONS
1-1-11	Revised flagger sign.
1-1-09	Switched units to English (metric).
	Corrected sign No.'s.

**URBAN LANE CLOSURE,
 2L, 2W, UNDIVIDED**

STANDARD 701501-06 SHEET 40 OF 50



SIGN SPACING	
Posted Speed	Sign Spacing
55	500' (150 m)
50-45	350' (100 m)
<45	200' (60 m)

SYMBOLS

- Arrow board
- Cone, drum or barricade
- Sign on portable or permanent support
- Work area
- Barricade or drum with flashing light
- Type III barricade with flashing lights
- Flagger with traffic control sign.

- ① Refer to SIGN SPACING TABLE for distances.
- ② Required for speeds > 40 MPH
- ③ Cones at 25' (8 m) centers for 250' (75 m). Additional cones may be placed at 50' (15 m) centers. When drums or Type I or Type II barricades are used, the interval between devices may be doubled.
- ④ Use flagger sign only when flagger is present.
- ⑤ For approved sidersoad closures.
- ⑥ Cones, drums or barricades at 20' (6 m) in taper.

GENERAL NOTES

This Standard is used where at any time, day or night, any vehicle, equipment, workers or their activities encroach on the pavement during shoulder operations or where construction requires lane closures in urban areas.

Calculate L as follows:

SPEED LIMIT	FORMULAS	
	English	(Metric)
40 mph (70 km/h) or less:	$L = \frac{WS^2}{60}$	$L = \frac{WS^2}{150}$
45 mph (80 km/h) or greater:	$L = (W)(S)$	$L = 0.65(W)(S)$

W = Width of offset in feet (meters).
S = Normal posted speed mph (km/h).

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

Illinois Department of Transportation

APPROVED January 1, 2014

 ENGINEER OF SAFETY ENGINEERING

APPROVED January 1, 2014

 ENGINEER OF DESIGN AND ENVIRONMENT

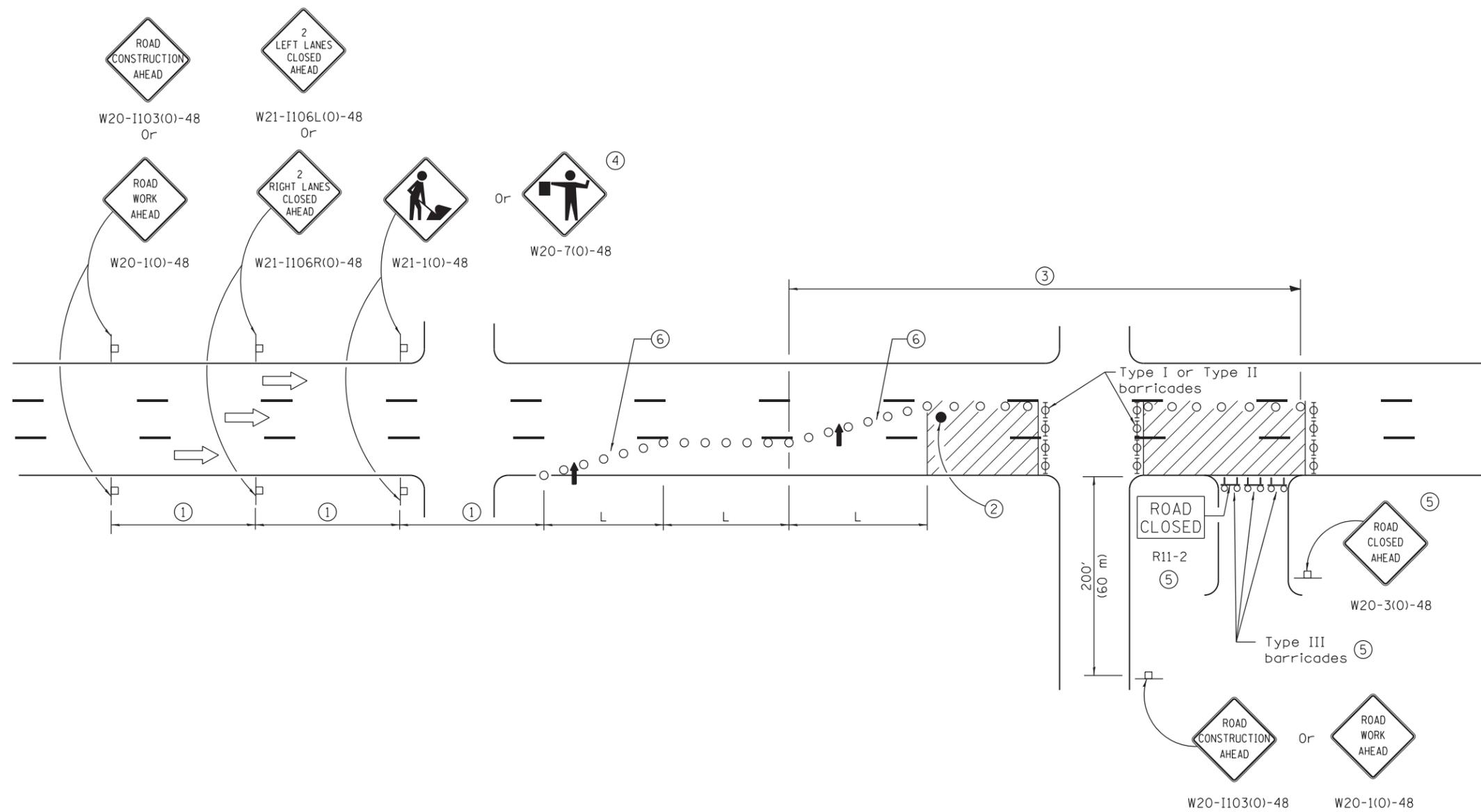
ISSUED 1-1-97

DATE	REVISIONS
1-1-14	Revised workers sign number to agree with current MUTCD.
1-1-13	Omitted text 'WORKERS' sign.

**URBAN LANE CLOSURE,
MULTILANE, 1W OR 2W WITH
NONTRAVERSABLE MEDIAN**

(Sheet 1 of 2)

**STANDARD 701601-09 SHEET
41 OF 50**



Illinois Department of Transportation

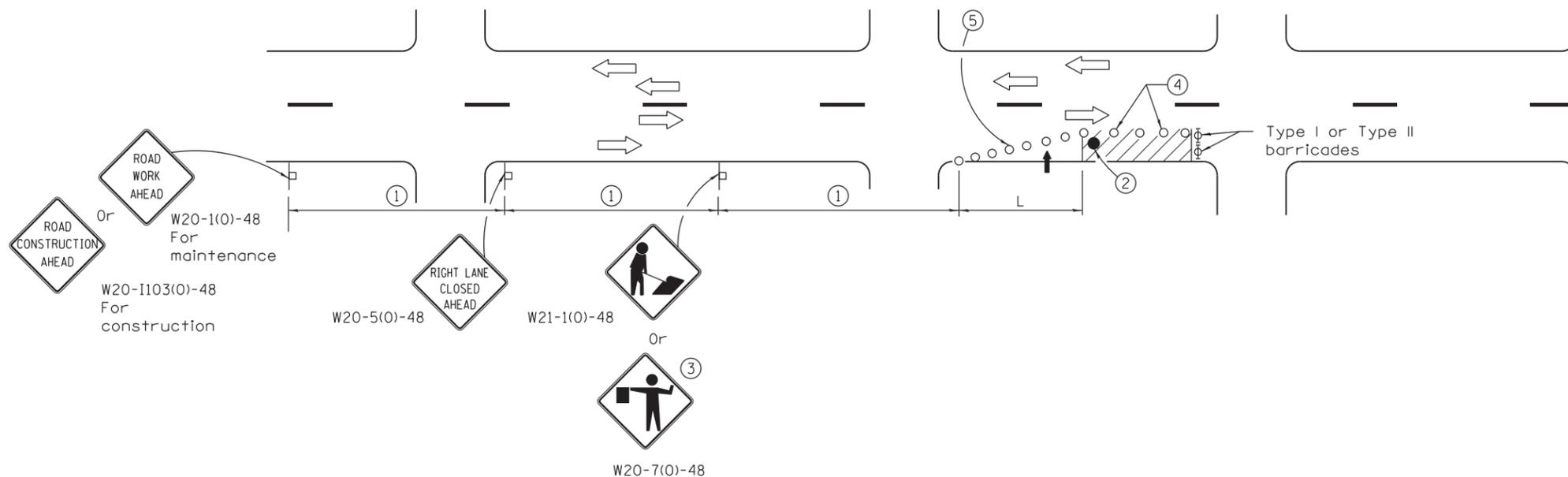
APPROVED January 1, 2014
[Signature]
 ENGINEER OF SAFETY ENGINEERING

APPROVED January 1, 2014
[Signature]
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

**URBAN LANE CLOSURE,
 MULTILANE, 1W OR 2W WITH
 NONTRAVERSABLE MEDIAN**
 (Sheet 2 of 2)

**STANDARD 701601-09 SHEET
 42 OF 50**



SIGN SPACING	
Posted Speed	Sign Spacing
55	500' (150 m)
50-45	350' (100 m)
<45	200' (60 m)

SYMBOLS

- Arrow board
- Cone, drum or barricade
- Sign on portable or permanent support
- Work area
- Barricade or drum with flashing light
- Flagger with traffic control sign.

- ① Refer to SIGN SPACING TABLE for distances.
- ② Required for speeds > 40 mph.
- ③ Use flagger sign only when flagger is present.
- ④ Cones at 25' (8 m) centers for 250' (75 m). Additional cones may be placed at 50' (15 m) centers. When drums or Type I or Type II barricades are used, the interval between devices may be doubled.
- ⑤ Cones, drums or barricades at 20' (6 m) centers in taper.

GENERAL NOTES

This Standard is used where at any time, day or night, any vehicle, equipment, workers or their activities encroach on the pavement requiring the closure of one traffic lane in an Urban area.

Calculate L as follows:

SPEED LIMIT	FORMULAS	
	English	(Metric)
40 mph (70 km/h) or less:	$L = \frac{WS^2}{60}$	$L = \frac{WS^2}{150}$
45 mph (80 km/h) or greater:	$L=(W)(S)$	$L=0.65(W)(S)$

W = Width of offset in feet (meters).

S = Normal posted speed mph (km/h).

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

Illinois Department of Transportation

APPROVED January 1, 2015

 ENGINEER OF SAFETY ENGINEERING

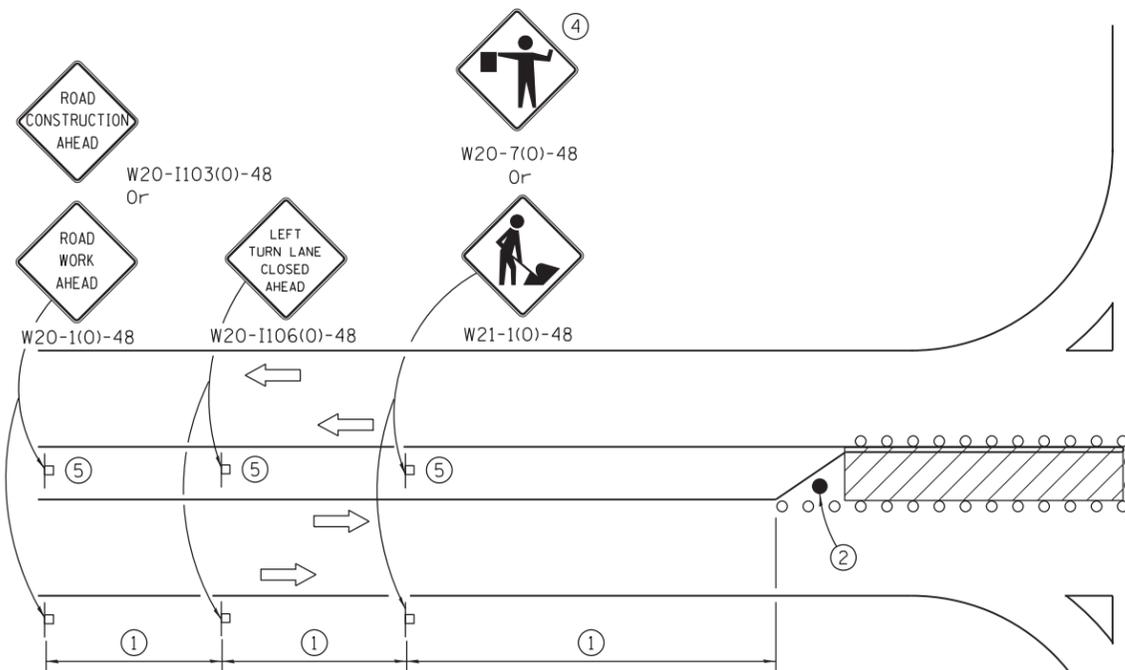
APPROVED January 1, 2015

 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

DATE	REVISIONS
1-1-15	Renamed standard. Moved case on Sheet 2 to new Highway Standard.
1-1-14	Revised workers sign number to agree with current MUTCD.

URBAN SINGLE LANE CLOSURE, MULTILANE, 2W WITH MOUNTABLE MEDIAN



LEFT TURN LANE OR CENTER MEDIAN OPERATIONS

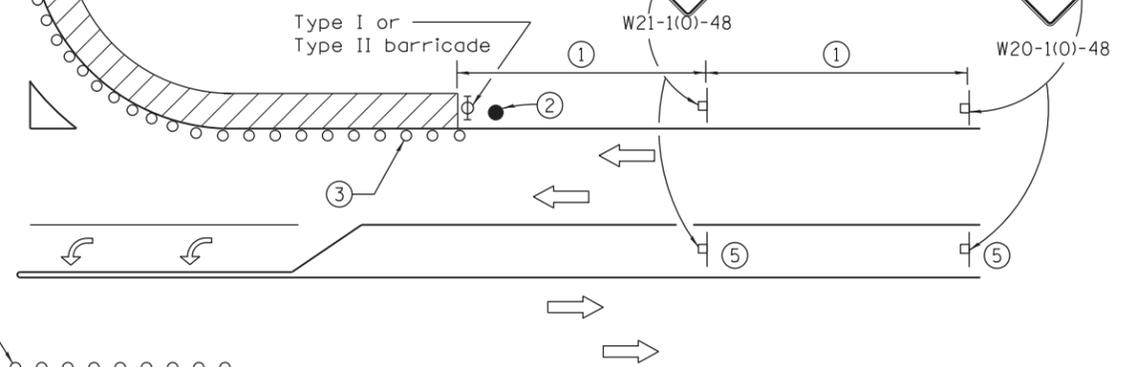
- ① Refer to SIGN SPACING TABLE for distance.
- ② Required for speed > 40 mph.
- ③ Cones at 25' (8 m) centers for 250' (75 m). Additional cones may be placed at 50' (15 m) centers. When drums or Type I or Type II barricades are used, the interval between devices may be doubled.
- ④ Use flagger sign only when flagger is present.
- ⑤ Omit this sign when median is less than 10' (3 m) or for bi-directional turn lanes.
- ⑥ Cones, drums or barricades at 20' (6 m) centers in taper.
- ⑦ Advanced arrow board required for speeds > 45 mph.
- ⑧ Three Type II barricades, drums or vertical barricades at 50' (15 m) centers.

SYMBOLS

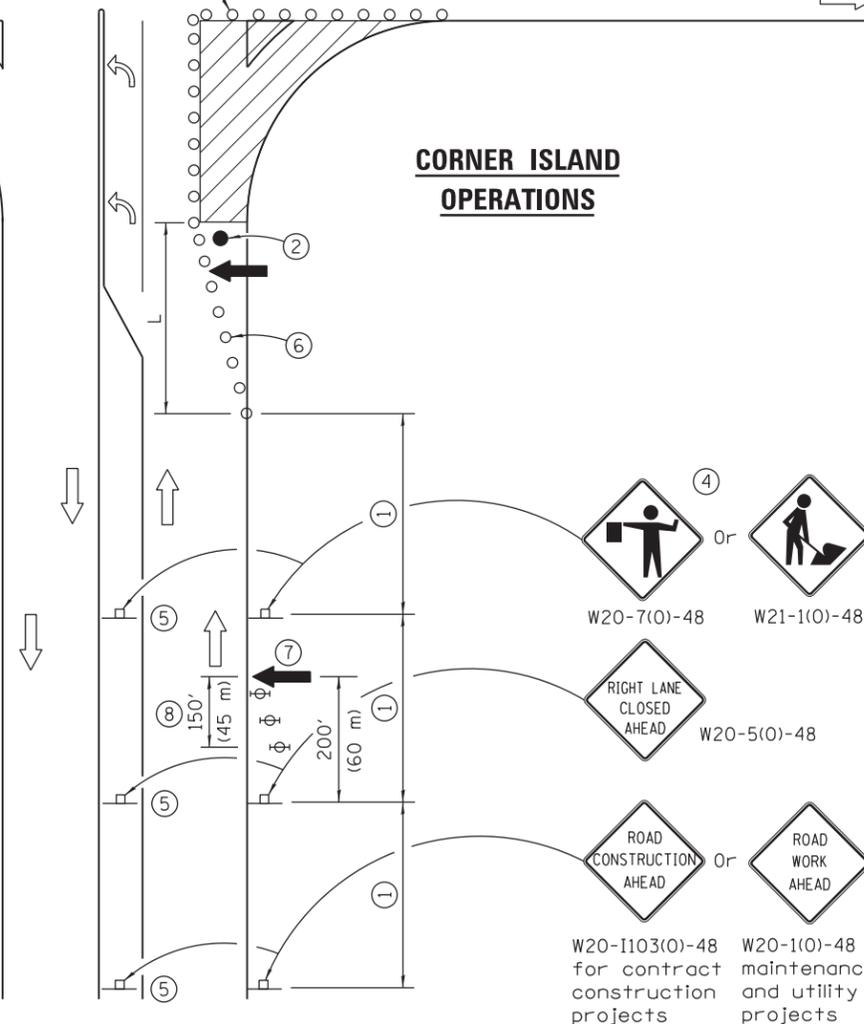
- Work area
- Cone, drum or barricade
- Sign on portable or permanent support
- Arrow board
- Barricade or drum with flashing light
- Flagger with traffic control sign

SIGN SPACING	
Posted Speed	Sign Spacing
55	500' (150 m)
50-45	350' (100 m)
<45	200' (60 m)

SHOULDER OPERATIONS



CORNER ISLAND OPERATIONS



GENERAL NOTES

This Standard is used where at any time, day or night, any vehicle, equipment, workers or their activities encroach on the pavement during shoulder operations or where construction requires lane closures in an urban area.

Calculate L as follows:

SPEED LIMIT	FORMULAS	
	English	(Metric)
40 mph (70 km/h) or less:	$L = \frac{WS^2}{60}$	$L = \frac{WS^2}{150}$
45 mph (80 km/h) or greater:	$L = (W)(S)$	$L = 0.65(W)(S)$

W = Width of offset in feet (meters).

S = Normal posted speed mph (km/h).

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

DATE	REVISIONS
4-1-16	Corrected sign number for LEFT TURN LANE CLOSED AHEAD.
1-1-14	Added devices at arrow board upstream from taper.
	Rev. workers sign number.

URBAN LANE CLOSURE, MULTILANE INTERSECTION

Illinois Department of Transportation

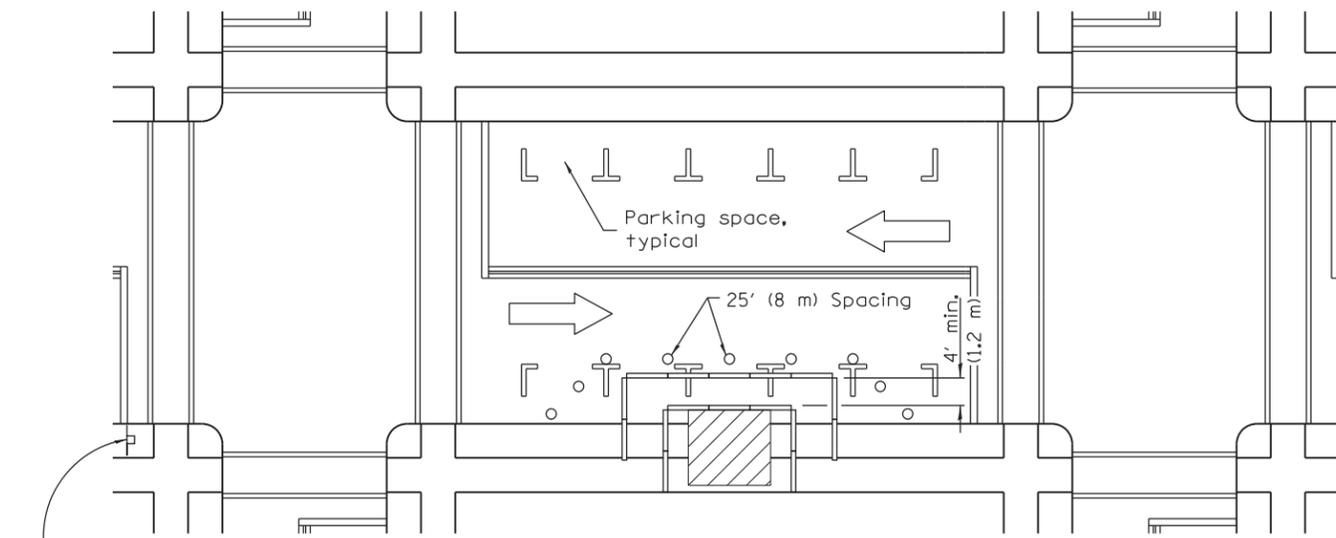
APPROVED April 1, 2016

 ENGINEER OF SAFETY ENGINEERING

APPROVED April 1, 2016

 ENGINEER OF DESIGN AND ENVIRONMENT

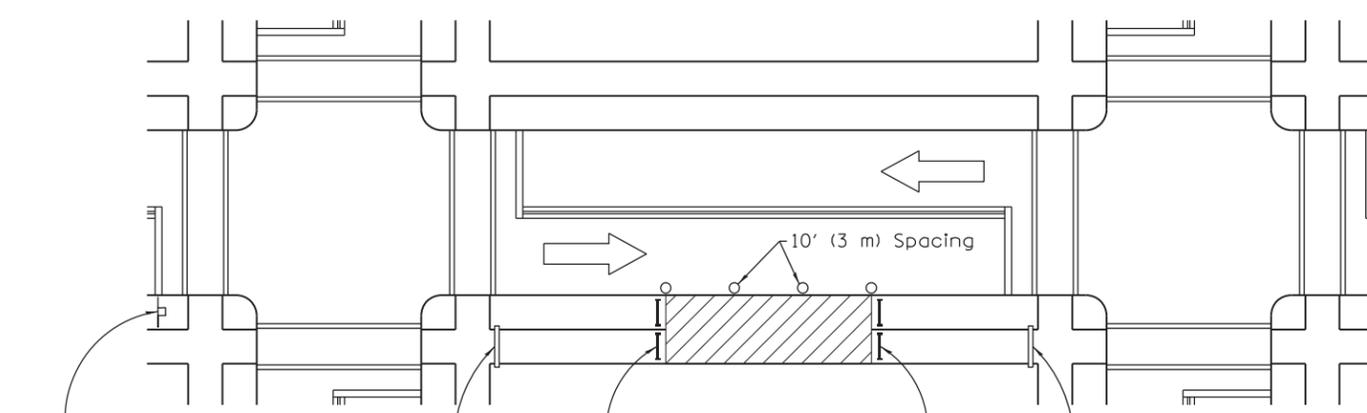
ISSUED 1-1-97



① ROAD CONSTRUCTION AHEAD
W20-I103(O)-48 for contract construction projects

Or
① ROAD WORK AHEAD
W20-1(O)-48 for maintenance and utility projects

SIDEWALK DIVERSION



① ROAD CONSTRUCTION AHEAD
W20-I103(O)-48 for contract construction projects

Or
① ROAD WORK AHEAD
W20-1(O)-48 for maintenance and utility projects

SIDEWALK CLOSED
←
USE OTHER SIDE
R11-I102-2430

SIDEWALK CLOSED
R11-I101-2418

SIDEWALK CLOSED
→
USE OTHER SIDE
R11-I102-2430

SIDEWALK CLOSURE

① Omit whenever duplicated by road work traffic control.

GENERAL NOTES

This Standard is used where, at any time, pedestrian traffic must be rerouted due to work being performed.

This Standard must be used in conjunction with other Traffic Control & Protection Standards when roadway traffic is affected.

Temporary facilities shall be detectable and accessible.

The temporary pedestrian facilities shall be provided on the same side of the closed facilities whenever possible.

The SIDEWALK CLOSED / USE OTHER SIDE sign shall be placed at the nearest crosswalk or intersection to each end of the closure. Where the closure occurs at a corner, the signs shall be erected on the corners across the street from the closure. The SIDEWALK CLOSED signs shall be used at the ends of the actual closures.

Type III barricades and R11-2-4830 signs shall be positioned as shown in "ROAD CLOSED TO ALL TRAFFIC" detail on Standard 701901.

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

SYMBOLS

-  Work area
-  Sign on portable or permanent support
-  Barricade or drum
-  Cone, drum or barricade
-  Type III barricade
-  Detectable pedestrian channelizing barricade

Illinois Department of Transportation

APPROVED April 1, 2016
[Signature]
ENGINEER OF SAFETY ENGINEERING

APPROVED April 1, 2016
[Signature]
ENGINEER OF DESIGN AND ENVIRONMENT

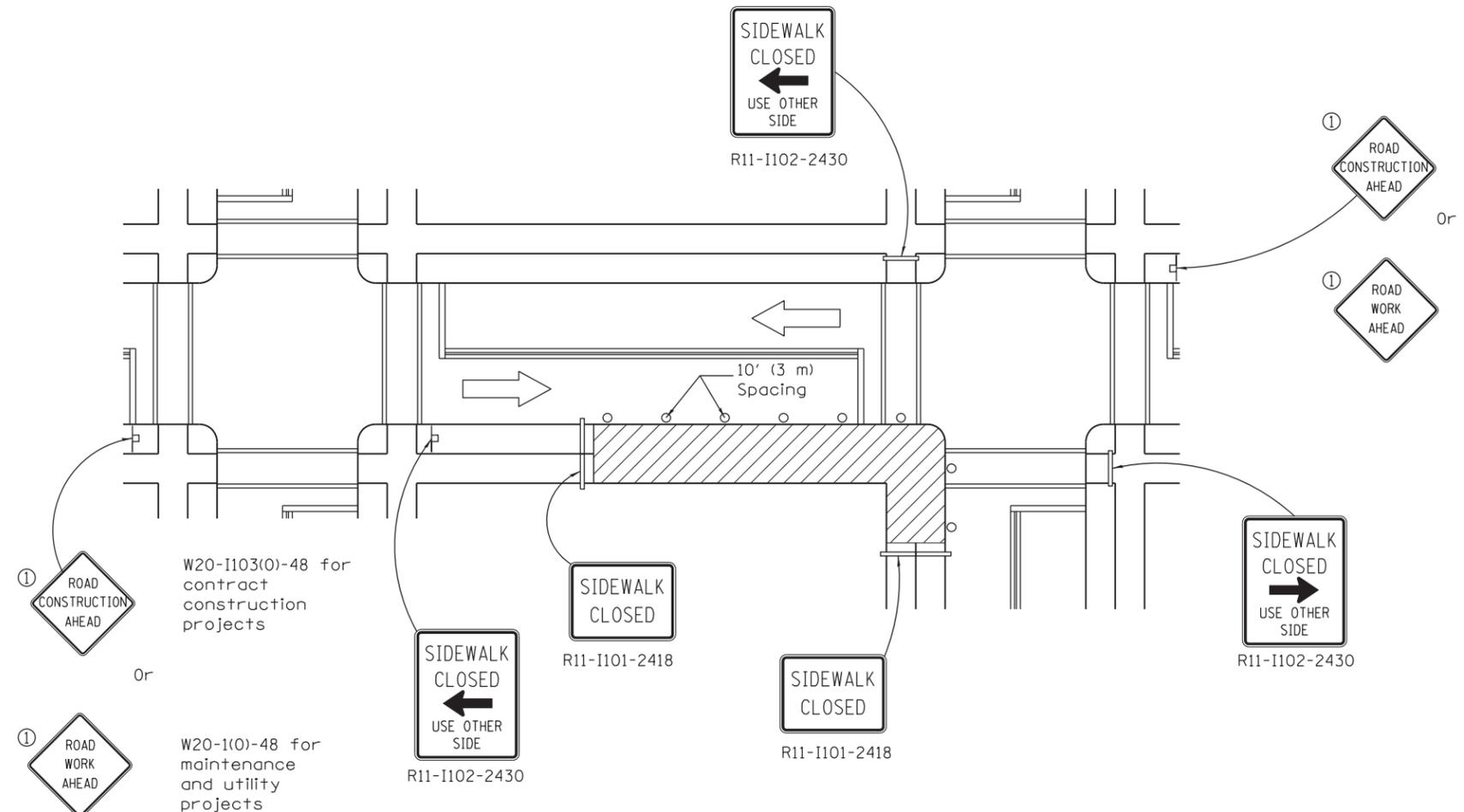
ISSUED 1-1-97

DATE	REVISIONS
4-1-16	Omitted orange safety fence from standard as this is covered in the std. spec.
1-1-12	Added SIDEWALK DIVERSION. Modified appearance of plan views. Renamed Std.

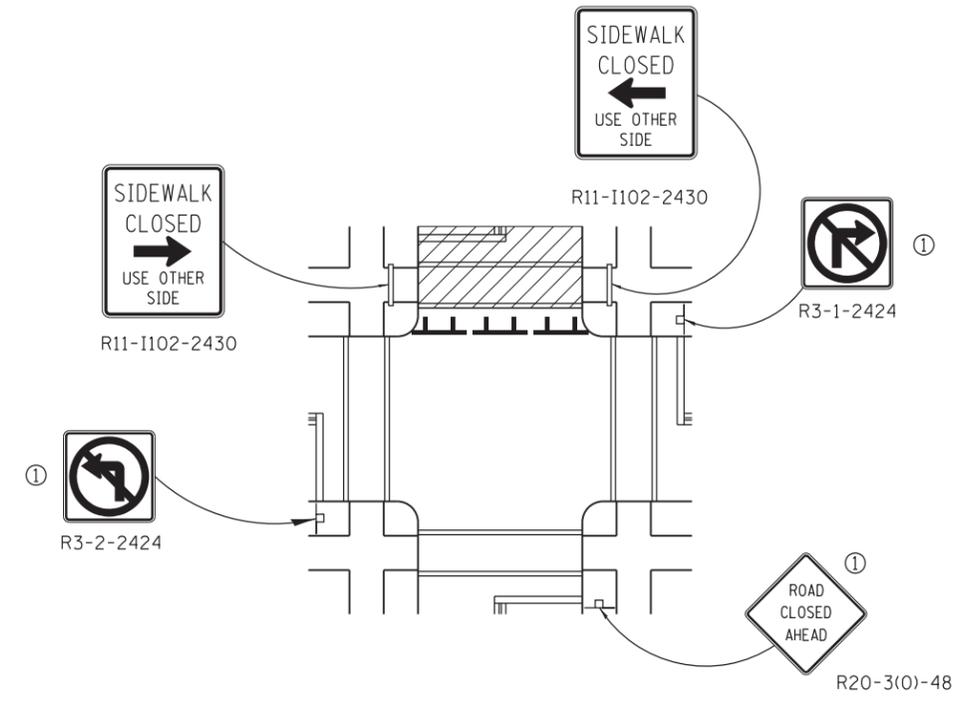
SIDEWALK, CORNER OR CROSSWALK CLOSURE

(Sheet 1 of 2)

STANDARD 701801-06 SHEET 45 OF 50



CORNER CLOSURE



CROSSWALK CLOSURE

W20-I103(0)-48 for contract construction projects

W20-1(0)-48 for maintenance and utility projects

SIDEWALK, CORNER OR CROSSWALK CLOSURE

(Sheet 2 of 2)

STANDARD 701801-06

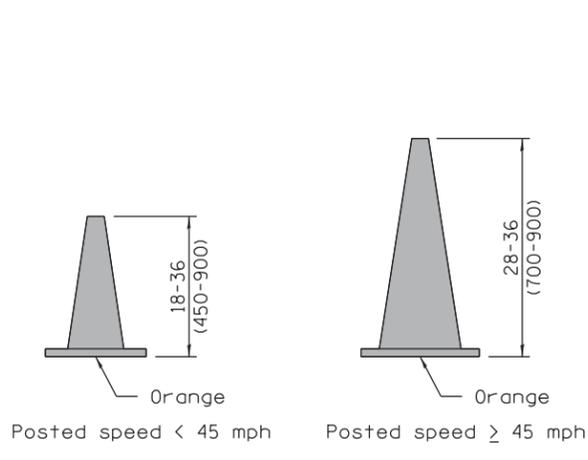
SHEET 46 OF 50

Illinois Department of Transportation

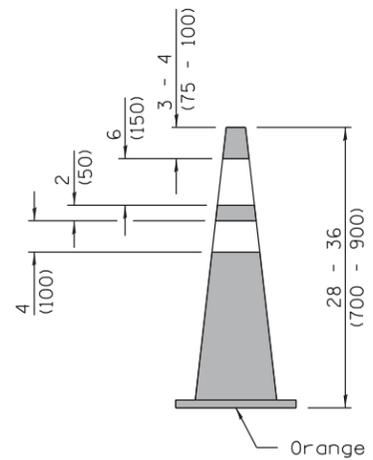
APPROVED April 1, 2016
[Signature]
 ENGINEER OF SAFETY ENGINEERING

APPROVED April 1, 2016
[Signature]
 ENGINEER OF DESIGN AND ENVIRONMENT

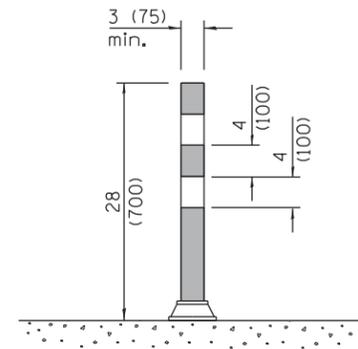
ISSUED 1-1-97



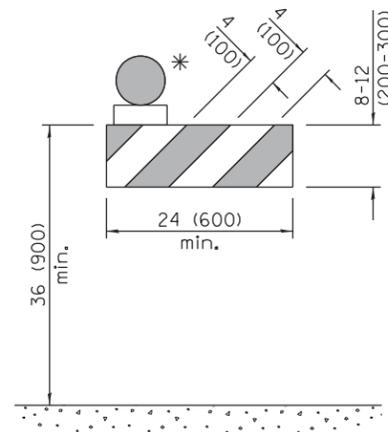
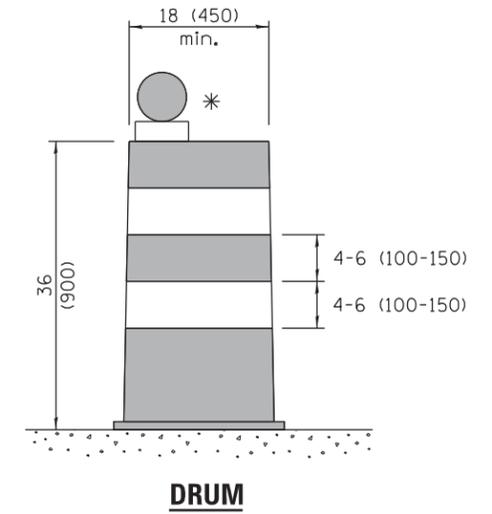
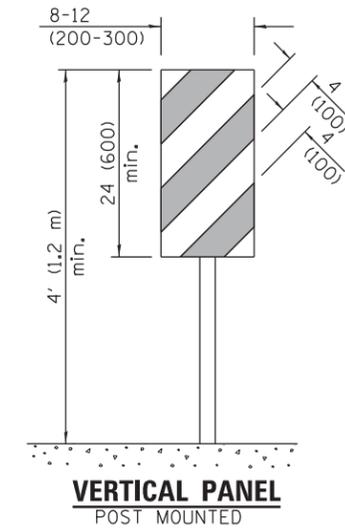
CONE FOR DAYTIME



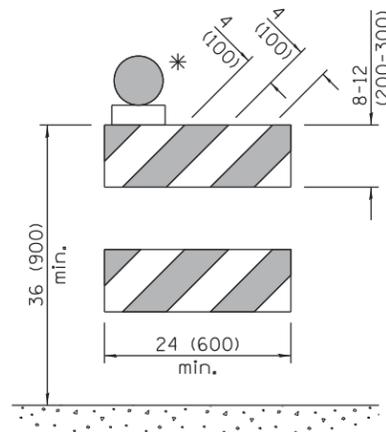
REFLECTORIZED CONE FOR NIGHTTIME



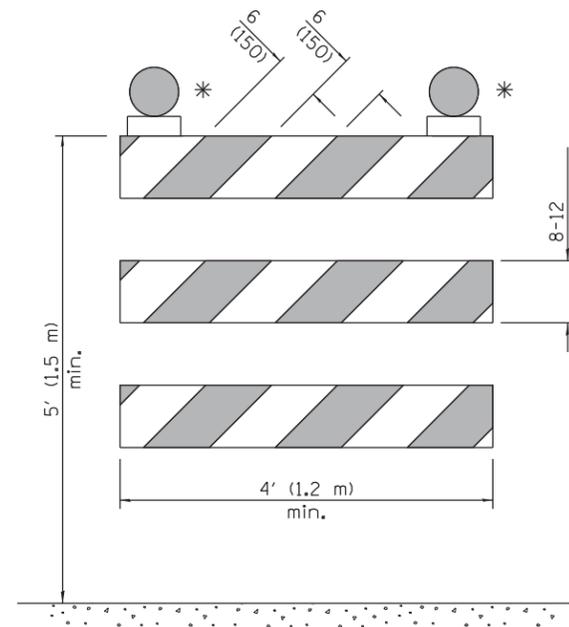
FLEXIBLE DELINEATOR



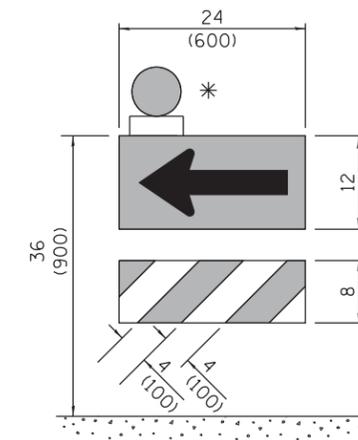
TYPE I BARRICADE



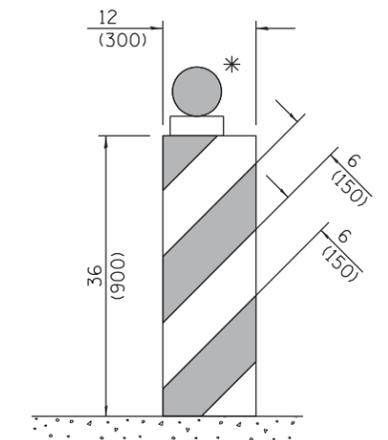
TYPE II BARRICADE



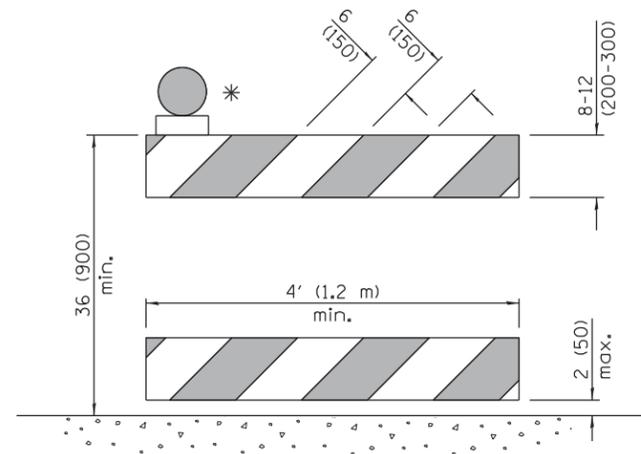
TYPE III BARRICADE



DIRECTION INDICATOR BARRICADE



VERTICAL BARRICADE



DETECTABLE PEDESTRIAN CHANNELIZING BARRICADE

* Warning lights (if required)

GENERAL NOTES

All heights shown shall be measured above the pavement surface.

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

DATE	REVISIONS
4-1-16	Add dim's to barricades. Rev. note for post mnt. signs.
	Rev. cone dtls. Add W12-I103.
1-1-15	Revised two sign numbers on sheet 2. Added note reg. PHOTO ENFORCED plaque.

TRAFFIC CONTROL DEVICES

(Sheet 1 of 3)

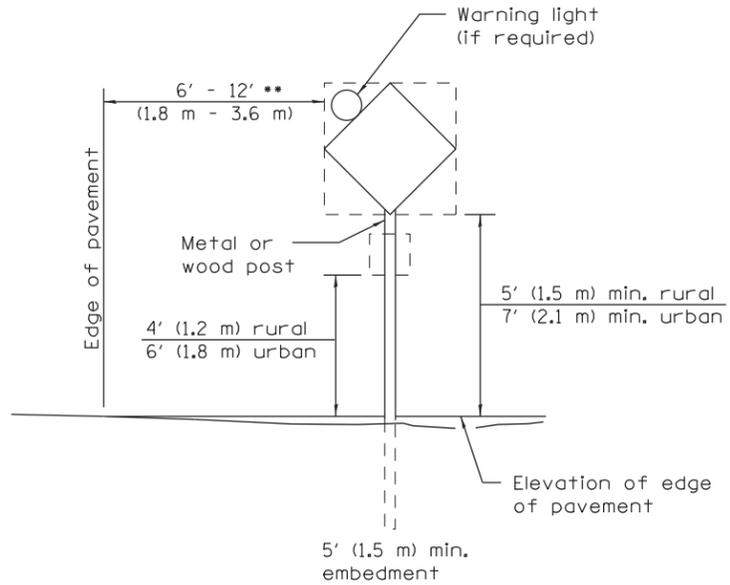
STANDARD 701901-05 SHEET 47 OF 50

Illinois Department of Transportation

APPROVED April 1, 2016
ENGINEER OF OPERATIONS

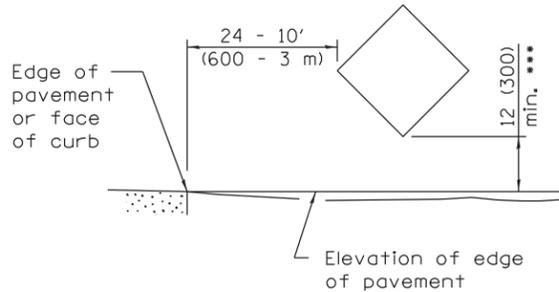
APPROVED April 1, 2016
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 46-1-1 03/ISS1



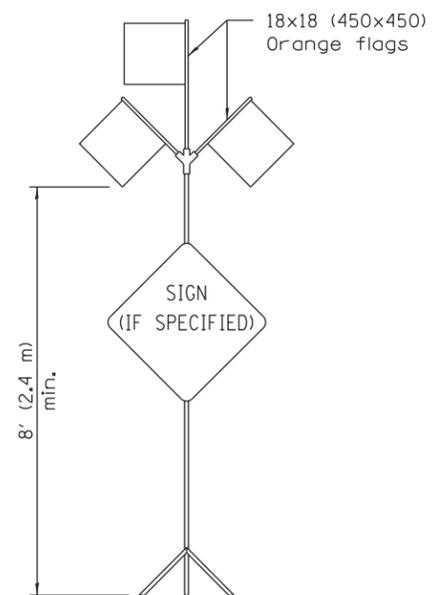
POST MOUNTED SIGNS

** When curb or paved shoulder are present this dimension shall be 24 (600) to the face of curb or 6' (1.8 m) to the outside edge of the paved shoulder.

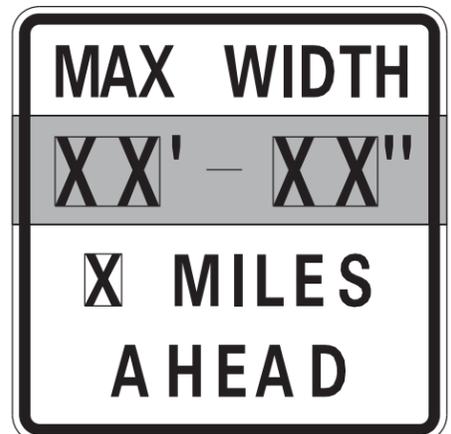


SIGNS ON TEMPORARY SUPPORTS

*** When work operations exceed four days, this dimension shall be 5' (1.5 m) min. If located behind other devices, the height shall be sufficient to be seen completely above the devices.



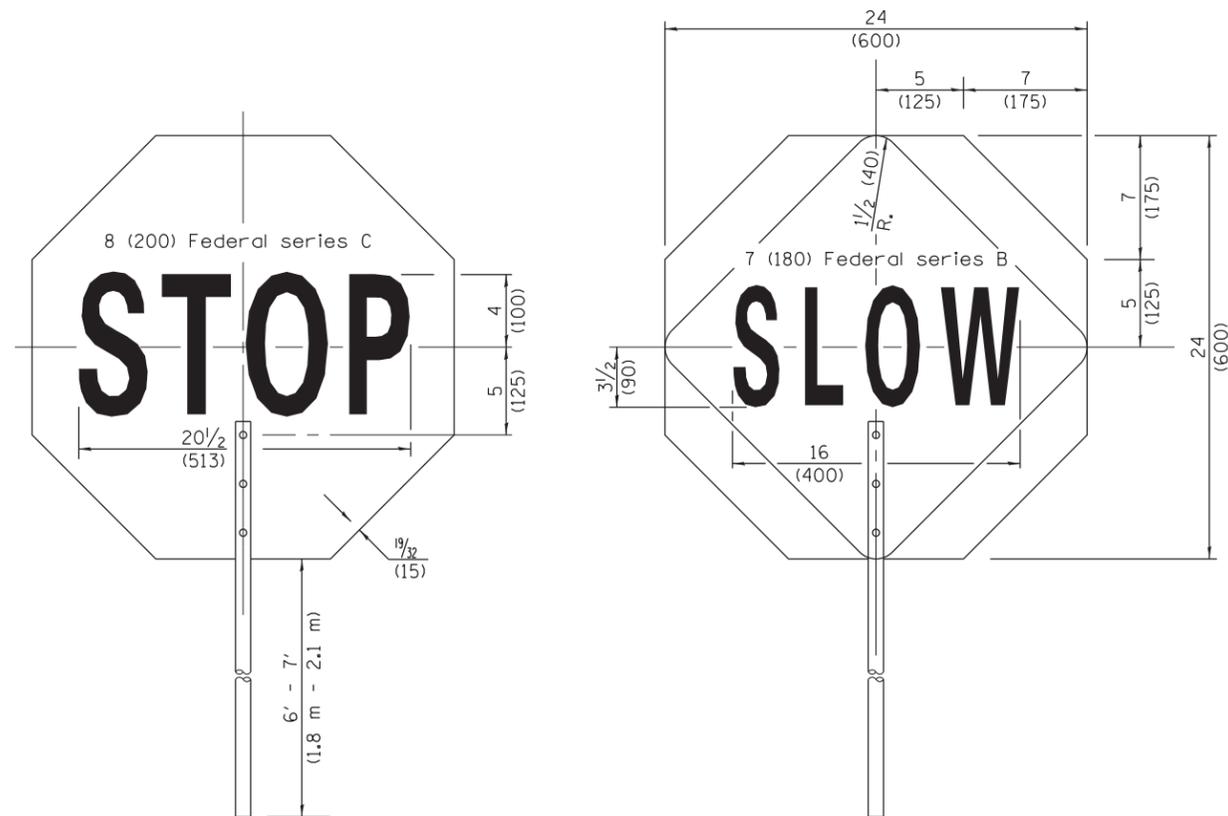
HIGH LEVEL WARNING DEVICE



W12-I103-4848

WIDTH RESTRICTION SIGN

XX'-XX" width and X miles are variable.



FRONT SIDE

REVERSE SIDE

FLAGGER TRAFFIC CONTROL SIGN

ROAD CONSTRUCTION NEXT X MILES	END CONSTRUCTION
G20-I104(0)-6036	G20-I105(0)-6024

This signing is required for all projects 2 miles (3200 m) or more in length.

ROAD CONSTRUCTION NEXT X MILES sign shall be placed 500' (150 m) in advance of project limits.

END CONSTRUCTION sign shall be erected at the end of the job unless another job is within 2 miles (3200 m).

Dual sign displays shall be utilized on multi-lane highways.

WORK LIMIT SIGNING

WORK ZONE	W21-I115(0)-3618
SPEED LIMIT XX	R2-1-3648
PHOTO ENFORCED	R10-I108p-3618 ****
\$XXX FINE MINIMUM	R2-I106p-3618

Sign assembly as shown on Standards or as allowed by District Operations.

END WORK ZONE SPEED LIMIT	G20-I103(0)-6036
---------------------------	------------------

This sign shall be used when the above sign assembly is used.

HIGHWAY CONSTRUCTION SPEED ZONE SIGNS

**** R10-I108p shall only be used along roadways under the jurisdiction of the State.

TRAFFIC CONTROL DEVICES

(Sheet 2 of 3)

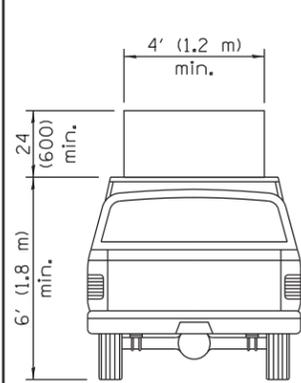
STANDARD 701901-05 SHEET 48 OF 50

Illinois Department of Transportation

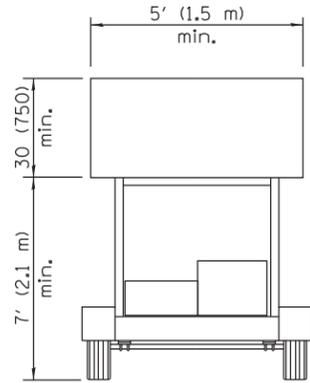
APPROVED April 1, 2016
Amy Ellis
 ENGINEER OF OPERATIONS

APPROVED April 1, 2016
[Signature]
 ENGINEER OF DESIGN AND ENVIRONMENT

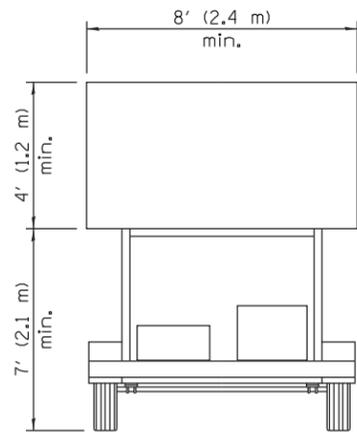
ISSUED 1-1-97
 46-1



**TYPE A
ROOF
MOUNTED**

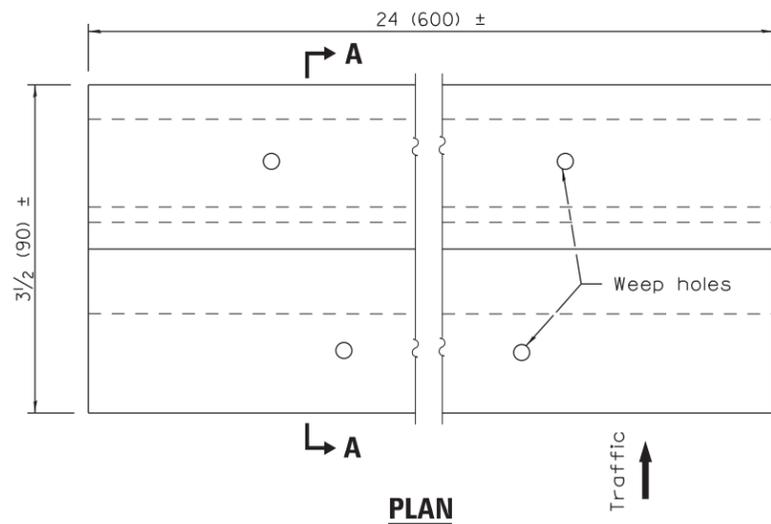


**TYPE B
ROOF OR TRAILER
MOUNTED**

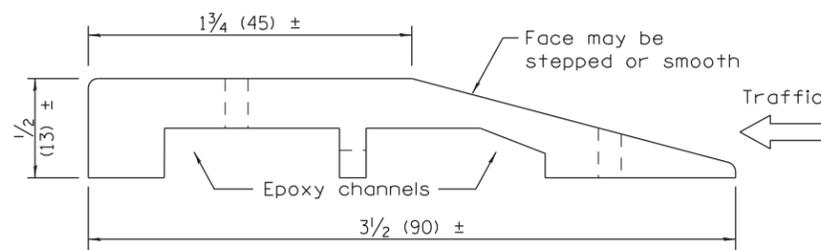


**TYPE C
TRAILER
MOUNTED**

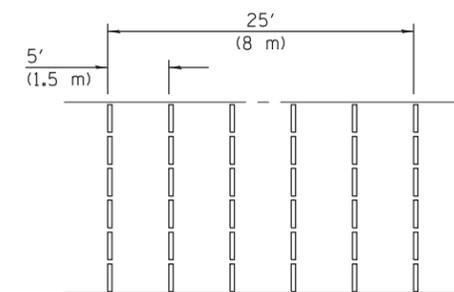
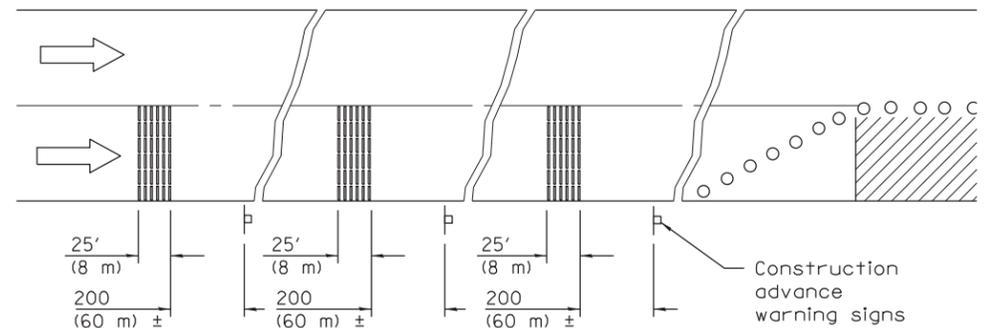
ARROW BOARDS



PLAN

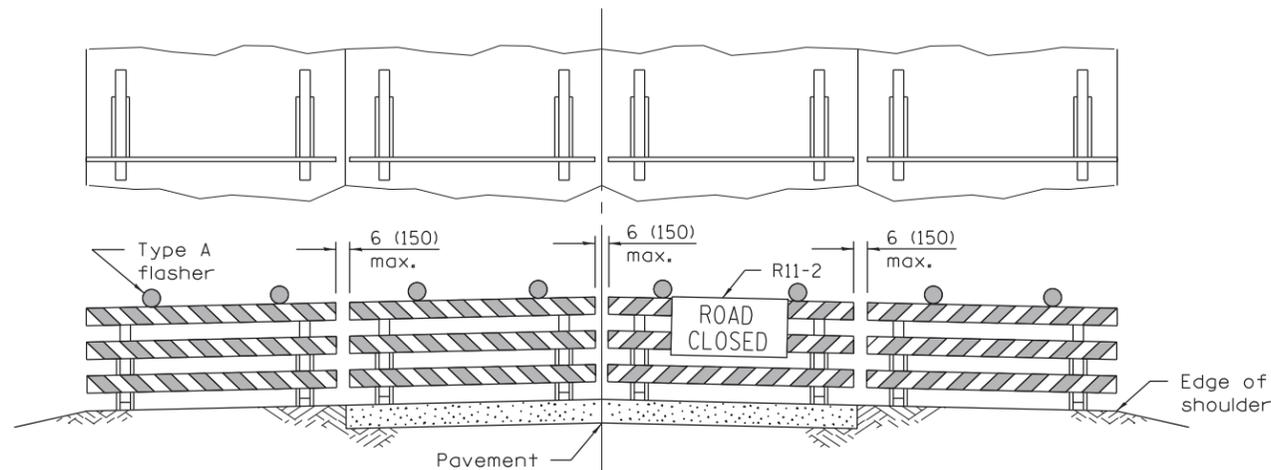


SECTION A-A



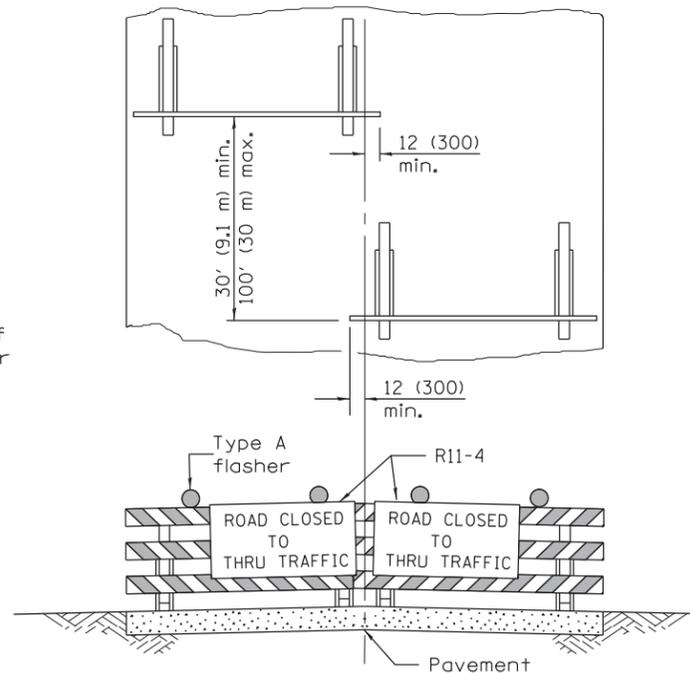
TYPICAL INSTALLATION

TEMPORARY RUMBLE STRIPS



ROAD CLOSED TO ALL TRAFFIC

Reflectorized striping may be omitted on the back side of the barricades. If a Type III barricade with an attached sign panel which meets NCHRP 350 is not available, the sign may be mounted on an NCHRP 350 temporary sign support directly in front of the barricade.



ROAD CLOSED TO THRU TRAFFIC

Reflectorized striping shall appear on both sides of the barricades. If a Type III barricade with an attached sign panel which meets NCHRP 350 is not available, the signs may be mounted on NCHRP 350 temporary sign supports directly in front of the barricade.

**TYPICAL APPLICATIONS OF
TYPE III BARRICADES CLOSING A ROAD**

**TRAFFIC CONTROL
DEVICES**

(Sheet 3 of 3)

**STANDARD 701901-05 SHEET
49 OF 50**

Illinois Department of Transportation

APPROVED April 1, 2016
ENGINEER OF OPERATIONS

APPROVED April 1, 2016
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

TRAFFIC SIGNAL LEGEND

ITEM	REMOVAL	EXISTING	PROPOSED	ITEM	REMOVAL	EXISTING	PROPOSED	ITEM	REMOVAL	EXISTING	PROPOSED
CONTROLLER CABINET				EMERGENCY VEHICLE LIGHT DETECTOR				ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1/C, UNLESS NOTED OTHERWISE			
RAILROAD CONTROL CABINET				CONFIRMATION BEACON				COAXIAL CABLE			
COMMUNICATIONS CABINET				HANDHOLE				VENDOR CABLE FOR CAMERA			
MASTER CONTROLLER				HEAVY DUTY HANDHOLE				COPPER INTERCONNECT CABLE, NO. 18 3 PAIR TWISTED, SHIELDED			
MASTER MASTER CONTROLLER				DOUBLE HANDHOLE				FIBER OPTIC CABLE NO. 62.5/125, MM12F			
UNINTERRUPTABLE POWER SUPPLY				JUNCTION BOX				FIBER OPTIC CABLE NO. 62.5/125, MM12F SM12F			
SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT				UNDERGROUND CONDUIT, GALVANIZED STEEL (UC)				FIBER OPTIC CABLE NO. 62.5/125, MM12F SM24F			
TELEPHONE CONNECTION (P) POLE OR (G) GROUND MOUNT				TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE				FIBER OPTIC CABLE NO. 62.5/125, MM12F SM24F			
STEEL MAST ARM ASSEMBLY AND POLE				COMMON TRENCH				GROUND ROD AT (C) CONTROLLER, (H) HANDHOLE, (P) POST, (M) MAST ARM, OR (S) SERVICE			
ALUMINUM MAST ARM ASSEMBLY AND POLE				COILABLE NONMETALLIC CONDUIT (EMPTY)				CONTROLLER CABINET AND FOUNDATION TO BE REMOVED			
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE				SYSTEM ITEM		S	S	STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED			
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH PTZ CAMERA				INTERSECTION ITEM		I	IP	ALUMINUM MAST ARM POLE AND FOUNDATION TO BE REMOVED			
SIGNAL POST				REMOVE ITEM	R			STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE AND FOUNDATION TO BE REMOVED			
TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 45 FOOT (13.7m) MINIMUM				RELOCATE ITEM	RL			SIGNAL POST AND FOUNDATION TO BE REMOVED			
GUY WIRE				ABANDON ITEM	A			12" (300mm) TRAFFIC SIGNAL SECTION			
SIGNAL HEAD				12" (300mm) RED WITH 8" (200mm) YELLOW AND GREEN TRAFFIC SIGNAL FACE				12" (300mm) PEDESTRIAN SIGNAL HEAD WALK/DON'T WALK SYMBOL			
SIGNAL HEAD CONSTRUCTION STAGES (NUMBERS INDICATE THE CONSTRUCTION STAGE)				SIGNAL FACE				12" (300mm) PEDESTRIAN SIGNAL HEAD INTERNATIONAL SYMBOL, OUTLINED			
SIGNAL HEAD WITH BACKPLATE				SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD				12" (300mm) PEDESTRIAN SIGNAL HEAD INTERNATIONAL SYMBOL, SOLID			
SIGNAL HEAD OPTICALLY PROGRAMMED				"RB" INDICATES REFLECTIVE BACKPLATE				PEDESTRIAN SIGNAL HEAD, INTERNATIONAL SYMBOL, WITH COUNTDOWN TIMER			
FLASHER INSTALLATION (S DENOTES SOLAR POWER)				12" (300mm) PEDESTRIAN SIGNAL HEAD WALK/DON'T WALK SYMBOL				RADIO INTERCONNECT			
PEDESTRIAN SIGNAL HEAD				12" (300mm) PEDESTRIAN SIGNAL HEAD INTERNATIONAL SYMBOL, SOLID				RADIO REPEATER			
PEDESTRIAN PUSHBUTTON DETECTOR				PEDESTRIAN SIGNAL HEAD, INTERNATIONAL SYMBOL, WITH COUNTDOWN TIMER				DENOTES NUMBER OF CONDUCTORS, ELECTRIC CABLE NO. 14, UNLESS NOTED OTHERWISE, ALL DETECTOR LOOP CABLE TO BE SHIELDED			
ACCESSIBLE PEDESTRIAN PUSHBUTTON DETECTOR				RADIO INTERCONNECT				GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)			
ILLUMINATED SIGN "NO LEFT TURN"				12" (300mm) TRAFFIC SIGNAL SECTION							
ILLUMINATED SIGN "NO RIGHT TURN"				12" (300mm) RED WITH 8" (200mm) YELLOW AND GREEN TRAFFIC SIGNAL FACE							
DETECTOR LOOP, TYPE I				SIGNAL FACE							
PERFORMED DETECTOR LOOP				SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD							
MICROWAVE VEHICLE SENSOR				"RB" INDICATES REFLECTIVE BACKPLATE							
VIDEO DETECTION CAMERA				12" (300mm) PEDESTRIAN SIGNAL HEAD WALK/DON'T WALK SYMBOL							
VIDEO DETECTION ZONE				12" (300mm) PEDESTRIAN SIGNAL HEAD INTERNATIONAL SYMBOL, OUTLINED							
PAN, TILT, ZOOM CAMERA				12" (300mm) PEDESTRIAN SIGNAL HEAD INTERNATIONAL SYMBOL, SOLID							
WIRELESS DETECTOR SENSOR				PEDESTRIAN SIGNAL HEAD, INTERNATIONAL SYMBOL, WITH COUNTDOWN TIMER							
WIRELESS ACCESS POINT				RADIO INTERCONNECT							

RAILROAD SYMBOLS

	EXISTING	PROPOSED
RAILROAD CONTROL CABINET		
RAILROAD CANTILEVER MAST ARM		
FLASHING SIGNAL		
CROSSING GATE		
CROSSBUCK		

REVISIONS / REMARKS				
NO.	DESCRIPTION	DATE	BY	SURVEYOR:

FILE NAME: U:\DOT\Traffic\2016_Install\EVP\EVP.dgn

