

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NUMBER
FAU 3513	0404.2-2B-1	COOK	8	1

FOR INDEX OF SHEETS SEE SHEET 2

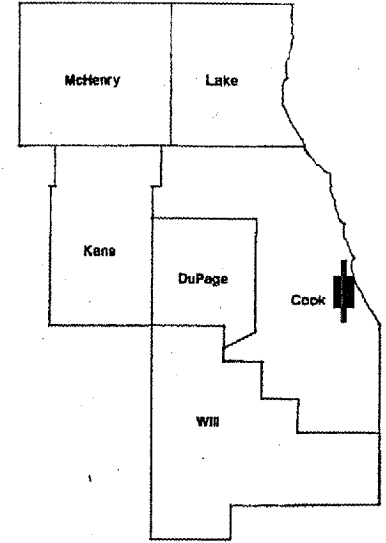
CONTRACT NO. 62879

D-91-066-05

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
DISTRICT ONE
PROPOSED HIGHWAY PLANS

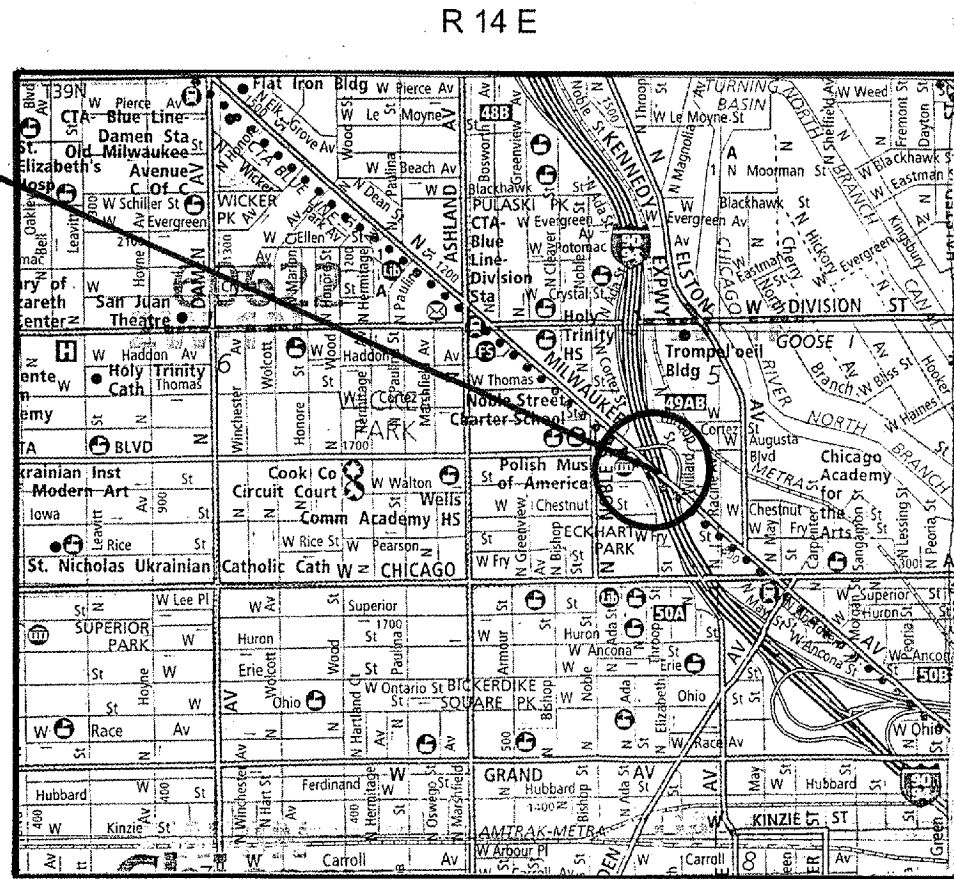
FAU 3513: MILWAUKEE AVE.
OVER I-90/94 (KENNEDY EXPWY.)
SECTION: 0404.2-2B-1
STRUCTURAL STEEL REPAIR
COOK COUNTY
C-91-066-05

IMPROVEMENT IS
LOCATED IN THE CITY OF
CHICAGO



LOCATION OF IMPROVEMENT INDICATED THUS:

LOCATION OF
IMPROVEMENT AT
S.N.: 016-2045



TRAFFIC DATA:
I-90/94 (KENNEDY EXPRESSWAY)
SPEED LIMIT = 55 MPH
2002 ADT = 287,100

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
SUBMITTED: February 18, 2005
Dina O'Keefe
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER
March 25, 2005
Mike Hine
ENGINEER OF DESIGN AND ENVIRONMENT
March 25, 2005
Victor Madler
DIRECTOR, DIVISION OF HIGHWAYS

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS
C.U.A.N.: CHICAGO UTILITY ALERT
NETWORK (312) 744-7000

DISTRICT ONE - DESIGN - PLAN PREPARATION ENGINEER:
KEN ENG / ROBERT BORO (847) 705-4178

CONTRACT NO. 62879

WEST CHICAGO TOWNSHIP

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NUMBER
FAU 3513	0404.2-2B-I	COOK	8	2

INDEX OF SHEETS

CONTRACT 62879

GENERAL NOTES

<u>SHEET NO.</u>	<u>DESCRIPTION</u>
1	TITLE SHEET
2	INDEX OF SHEETS, STATE STANDARDS AND GENERAL NOTES
3	SUMMARY OF QUANTITIES
4-5	STRUCTURAL STEEL REPAIR PLANS
6	ENTRANCE AND EXIT RAMP CLOSURE DETAIL
7	SINGLE LANE WEAVE AND MULTI-LANE WEAVE
8	PARTIAL RAMP AND SHOULDER CLOSURE DETAILS

BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL CALL C.U.A.N. CHICAGO UTILITY ALERT NETWORK AT (312)-744-7000 FOR FIELD LOCATIONS OF BURIED ELECTRIC, TELEPHONE AND GAS UTILITIES (48 HOURS NOTIFICATION IS REQUIRED).

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

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

THE CONTRACTOR SHALL CONTACT THE DISTRICT ONE TRAFFIC CONTROL SUPERVISOR AT (847) 705-4151/4155 A MINIMUM OF 72 HOURS IN ADVANCE OF BEGINNING WORK.

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

DO NOT SCALE PLANS FOR CONSTRUCTION DIMENSIONS.

THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITY COMPANIES.

WHEN ARTIFICIAL LIGHTING IS USED IN NIGHT OPERATIONS, THE CONTRACTOR SHALL EXERCISE THE UP MOST PRECAUTIONS IN PREVENTING ADVERSE VISIBILITY TO THE MOTORING PUBLIC AND ADJOINING RESIDENTIAL AREAS.

STATE STANDARDS

<u>STANDARDS</u>	<u>DESCRIPTION</u>
701101 - 01	MULTI-LANE OFF-ROAD OPERATIONS
701400 - 02	APPROACH TO LANE CLOSURE, FREEWAY/EXPRESSWAY
701401 - 03	LANE CLOSURE, FREEWAY/EXPRESSWAY
701411 - 03	MULTI-LANE, TRAFFIC CONTROL AT ENTRANCE OR EXIT RAMPS
701446	TWO LANE CLOSURE, FREEWAY/EXPRESSWAY
702001 - 05	TRAFFIC CONTROL DEVICES

ILLINOIS DEPARTMENT OF TRANSPORTATION
INDEX OF SHEETS
STATE STANDARDS
GENERAL NOTES

	ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NUMBER
	FAU 3513	0404.2-2B-I	COOK	8	3

SUMMARY OF QUANTITIES			URBAN TOTAL QUANTITIES	CONTRACT 62879					
CODE NO	ITEM	UNIT		CONSTRUCTION TYPE CODE: SFTY - 2A					
			COOK COUNTY						
			SN 016-2045						
50501130	STRUCTURAL STEEL REPAIR	POUND	20930.0	20930.0					
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	3.0	3.0					
67100100	MOBILIZATION	L SUM	1.0	1.0					
X7011015	TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS)	L SUM	1.0	1.0					

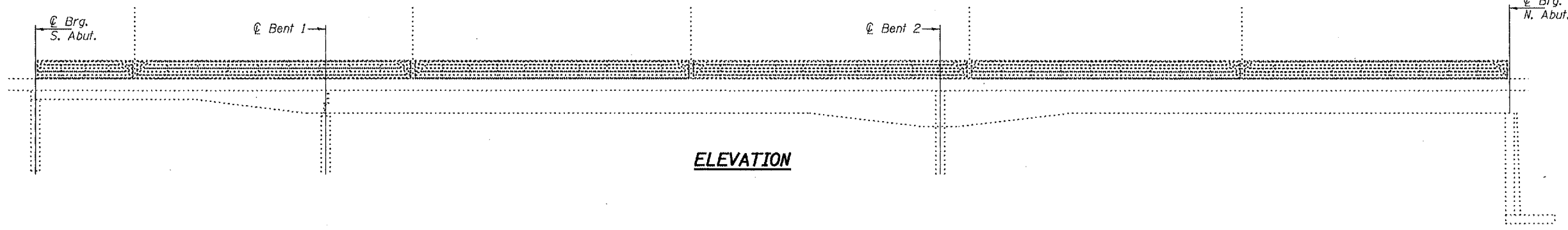
ILLINOIS DEPARTMENT OF TRANSPORTATION SUMMARY OF QUANTITIES

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		COOK	6	4
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 1
2 SHEETS

Contract No. 62879

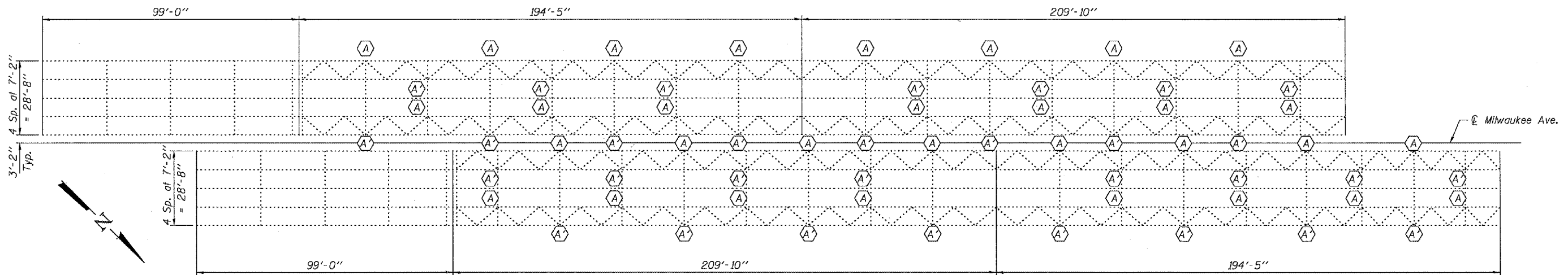


GENERAL NOTES

Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

The existing structural steel coating contains lead. The Contractor should take appropriate precautions to deal with the presence of lead on this project.

Cost of removal and re-installation of all members necessary to complete the work as detailed on the plans and as specified in the Special Provisions shall be included in the cost of Structural Steel Repair.



FRAMING PLAN

- Retrofit of lateral bracing at existing stiffeners only. See sheet 2 of 2.



EXPIRES 11-30-2006

DESIGNED: *Victor H. Veliz*
CHECKED: *Ramin H. Patel*
DRAWN: *balliva*
CHECKED: *DAD* *VHV*

MARCH 15, 2005
EXAMINED: *John A. Morris*
ENGINEER OF STRUCTURAL SERVICES
PASSED: *Ralph E. Anderson*
ENGINEER OF BRIDGES AND STRUCTURES

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Steel Repair	Pound	20930

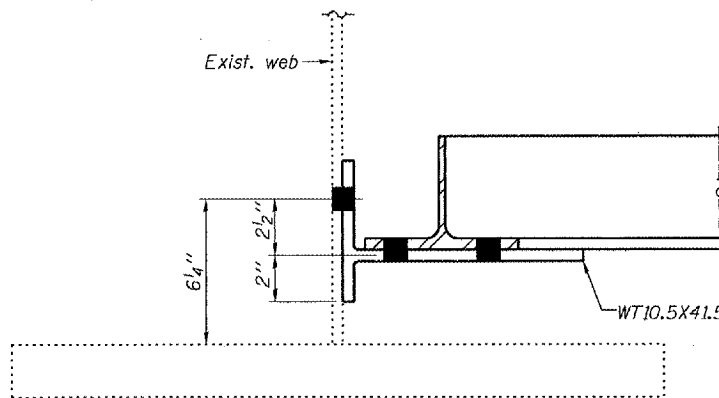
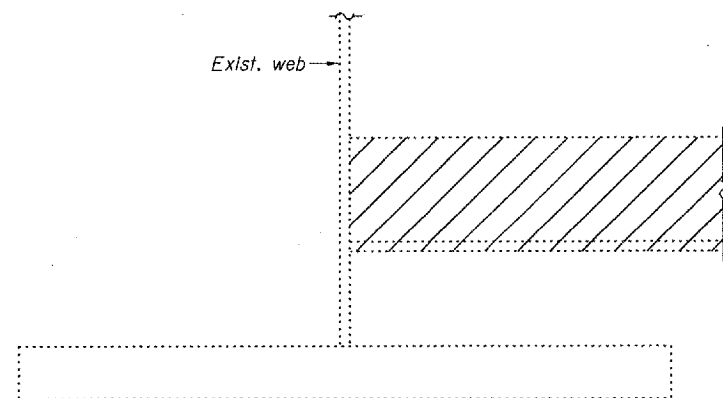
REPAIR DETAILS
MILWAUKEE AVE. OVER KENNEDY EXP.
COOK COUNTY
SN 016-2045

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

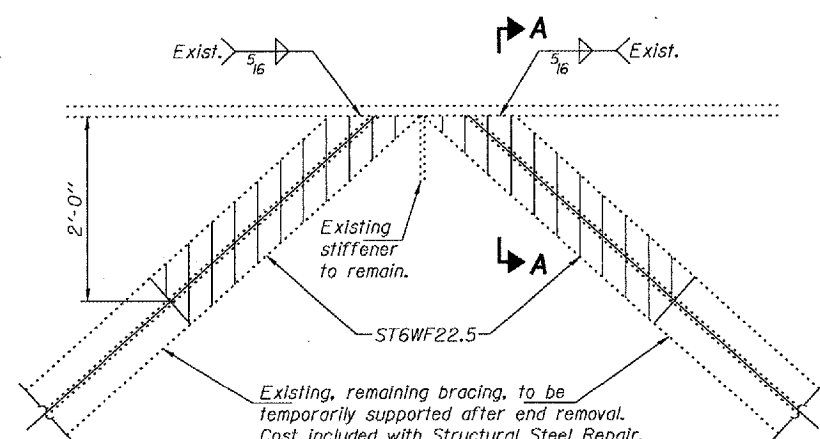
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		COOK	8	5
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 2
2 SHEETS

Contract No. 62879



SECTION A-A

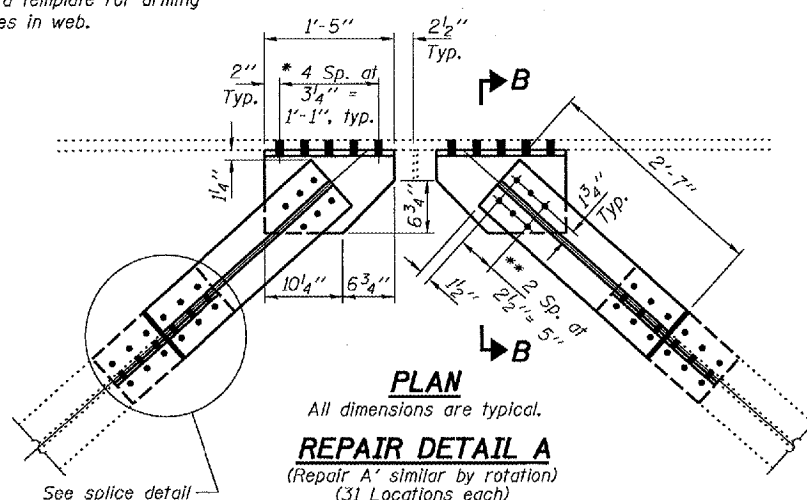


PLAN

Hatched areas indicate removal.

* Use holes in WT section as a template for drilling holes in web.

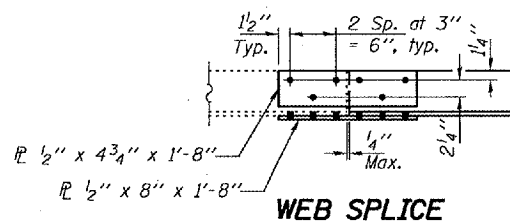
SECTION B-B



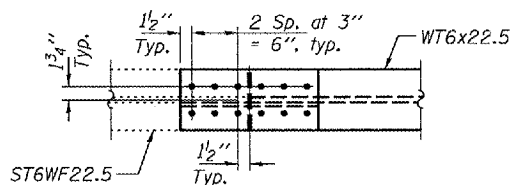
PLAN

All dimensions are typical.
REPAIR DETAIL A
(Repair A' similar by rotation)
(31 Locations each)

** Use holes in WT6X22.5 section as a template for drilling holes in web of WT10.5X41.5 section.



WEB SPLICE



FLANGE SPLICE

SPLICE DETAIL

Use holes in splice R's as a template for drilling holes in ST6WF22.5.

Procedure for Repair Detail

1. Remove existing sections of ST6WF22.5 as shown. The minimum distance from cut to face of web shall be the larger of 4" or web to ST section weld size, with removal of remaining material by grinding as described below. The cut shall be made parallel to the web without angling the cut towards the web. Equipment and method of cutting shall be approved by the Engineer. Any method of removal to be used shall ensure that no damage is done to the existing web, vertical stiffener or welds connecting these elements. Cutting shall be done in a manner such that the paint on the opposite face of the web is not damaged. If damage occurs, the damaged area shall be repainted at the contractor's expense and procedures shall be modified to prevent damage at subsequent removal locations.
2. Remove material between cut and web by grinding and grind smooth at web surface. Web plate surfaces shall have a roughness average (Ra) of 250µ in. or less. Grinding equipment shall be approved by the Engineer. The grinding operation should not gouge the girder web fl.
3. The web surface at the modification shall be inspected using dye penetrant or magnetic particle methods. Any cracks found shall be identified and reported to the Bureau of Bridges and Structures for further disposition.
4. Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the Special Provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".

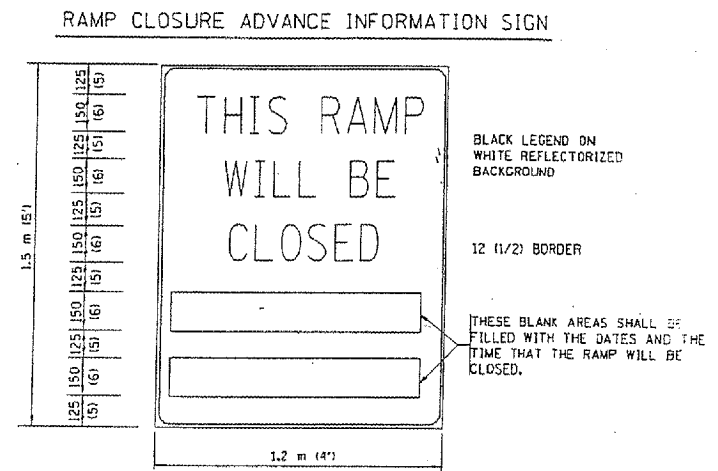
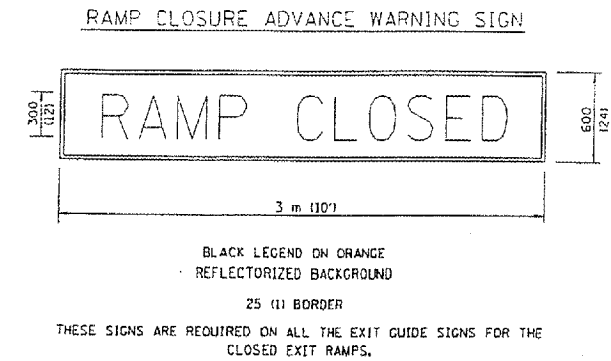
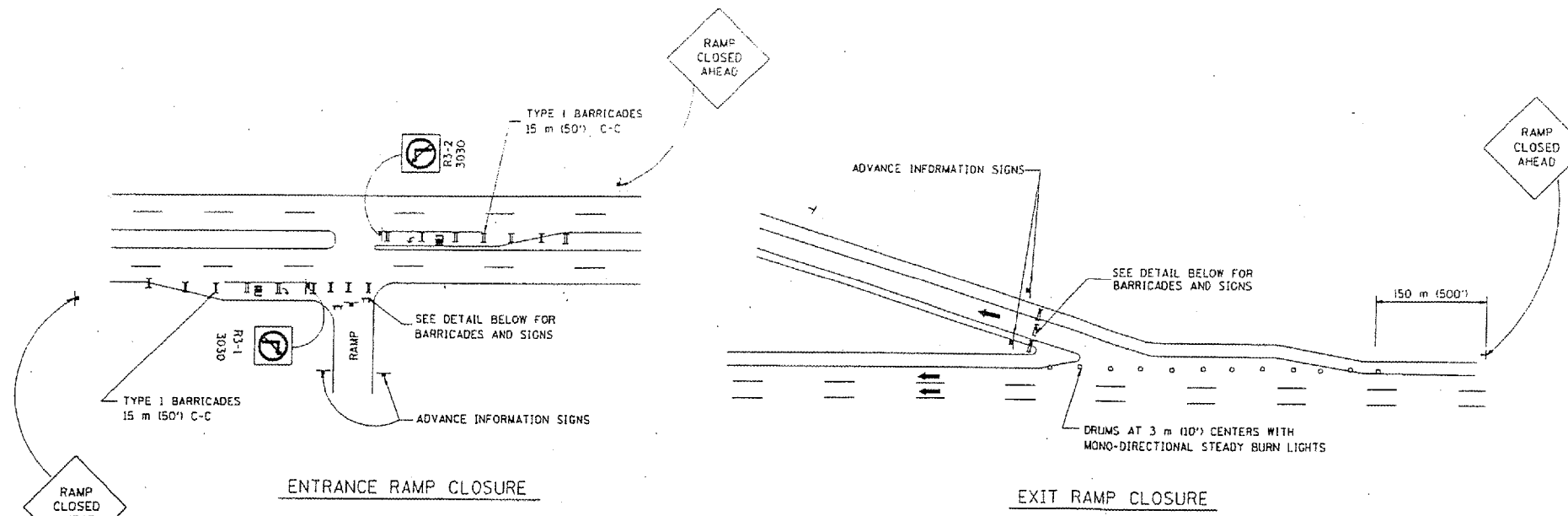
Notes:

All structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.
Fasteners shall be high strength bolts. Bolts 3/4"φ, open holes 13/16"φ, unless otherwise noted.

DESIGNED	VHV
CHECKED	DAB
DRAWN	baliva
CHECKED	VHV DAB

MARCH 15, 2005
EXAMINED *John A. Morris*
ENGINEER OF STRUCTURAL SERVICES
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGES AND STRUCTURES

REPAIR DETAILS
MILWAUKEE AVE. OVER KENNEDY EXP.
COOK COUNTY
SN 016-2045

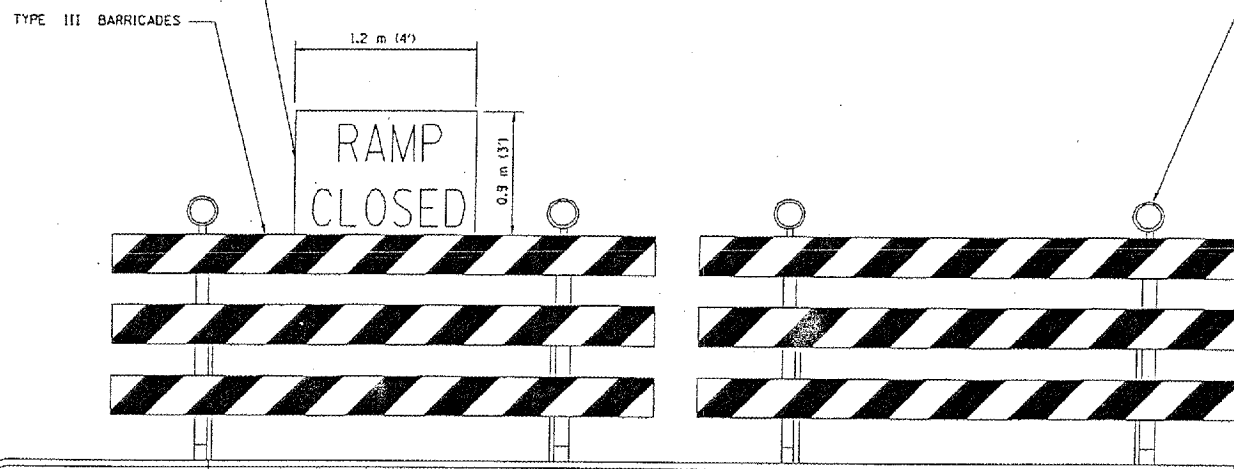
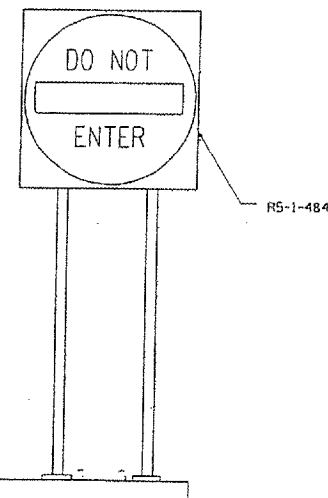


THESE SIGNS ARE REQUIRED ON BOTH SIDES OF THE RAMP, 4 MINIMUM OF 1 WEEK IN ADVANCE OF THE CLOSURE.

- GENERAL NOTES:
1. CONES MAY BE SUBSTITUTED FOR DRUMS OR TYPE II BARRICADES DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 700 (28) HIGH.
 2. STEADY BURN LIGHTS WILL NOT BE REQUIRED FOR DAY OPERATIONS.
 3. A FLAGGER SHALL BE POSITIONED AT EACH CLOSED RAMP THAT IS OPEN TO CONSTRUCTION VEHICLES.
 4. FOR DAYTIME RAMP CLOSURES, LASTING 6 HOURS OR LESS, THE CONTRACTOR MAY ELIMINATE THE ADVANCE WARNING SIGNS ON THE EXIT GUIDE SIGNS.
 5. ALL ROUTE MARKERS AND TRAILBLAZER ASSEMBLIES WHICH DIRECT MOTORISTS TO A CLOSED ENTRANCE RAMP SHALL BE COVERED.
 6. THE SIGNING AND BARRICADING WHICH IS REQUIRED BY THIS DETAIL SHALL BE CONSIDERED INCIDENTAL TO TRAFFIC CONTROL AND PROTECTION.
 7. AUTHORIZATION FROM THE DISTRICT'S BUREAU OF TRAFFIC IS REQUIRED FOR ALL RAMP CLOSURES.

THE "RAMP CLOSED" SIGN SHALL BE B/W WITH 200 (8) CAPS. 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.

FLASHER UNIT (AMBER) (BOTH SIDES OF EACH TYPE III BARRICADE)



DETAIL FOR REQUIRED BARRICADES & SIGNS

- NOTES:
1. CONES MAY BE SUBSTITUTED FOR TYPE I AND TYPE II BARRICADES DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 28" IN HEIGHT.
 2. STEADY BURN LIGHTS WILL NOT BE REQUIRED FOR DAY OPERATIONS.
 3. THE RAMP CLOSURE ADVANCE INFORMATION SIGNS SHALL BE ERECTED IF THE CLOSURE TIME EXCEEDS TWENTY-FOUR (24) HOURS.
 4. ADDITIONAL ADVANCE WARNING SIGNS ON EXIT GUIDE SIGNING WILL BE REQUIRED FOR EXIT RAMP CLOSURES THAT EXCEED TWENTY FOUR (24) HOURS IN LENGTH.

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

ILLINOIS DEPARTMENT OF TRANSPORTATION

FREWAY ENTRANCE AND EXIT RAMP CLOSURE DETAILS

REVISIONS	NAME	DATE
1	DWS	2/83
2	DWS	1/90
3	DWS	9/84
4	DWS/JAF	12/94
5	DWS/JAF	12/02
6	Revise devices to meet NCHRP 350	4/03

SCALE: NONE
 DATE 05/06/2003

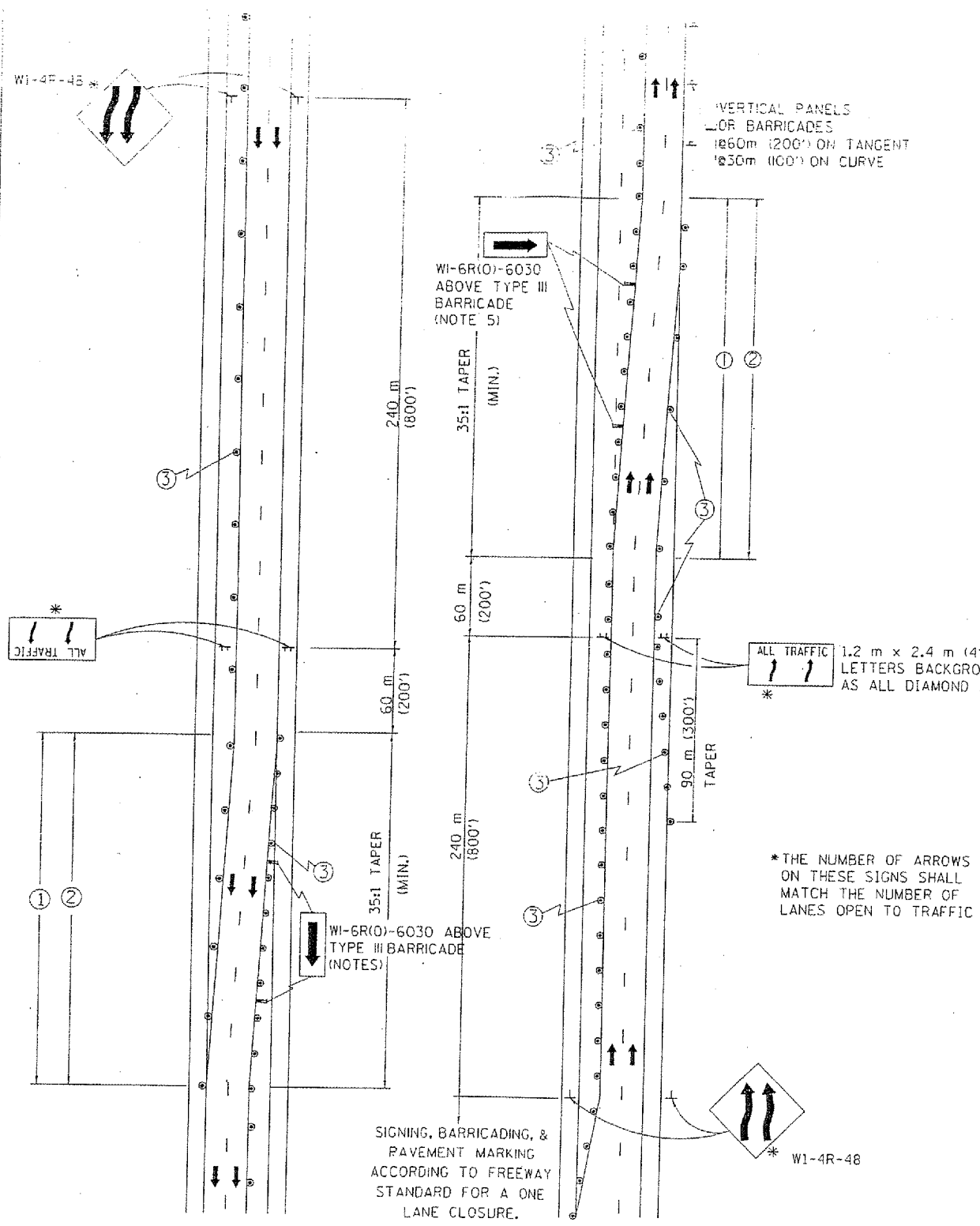
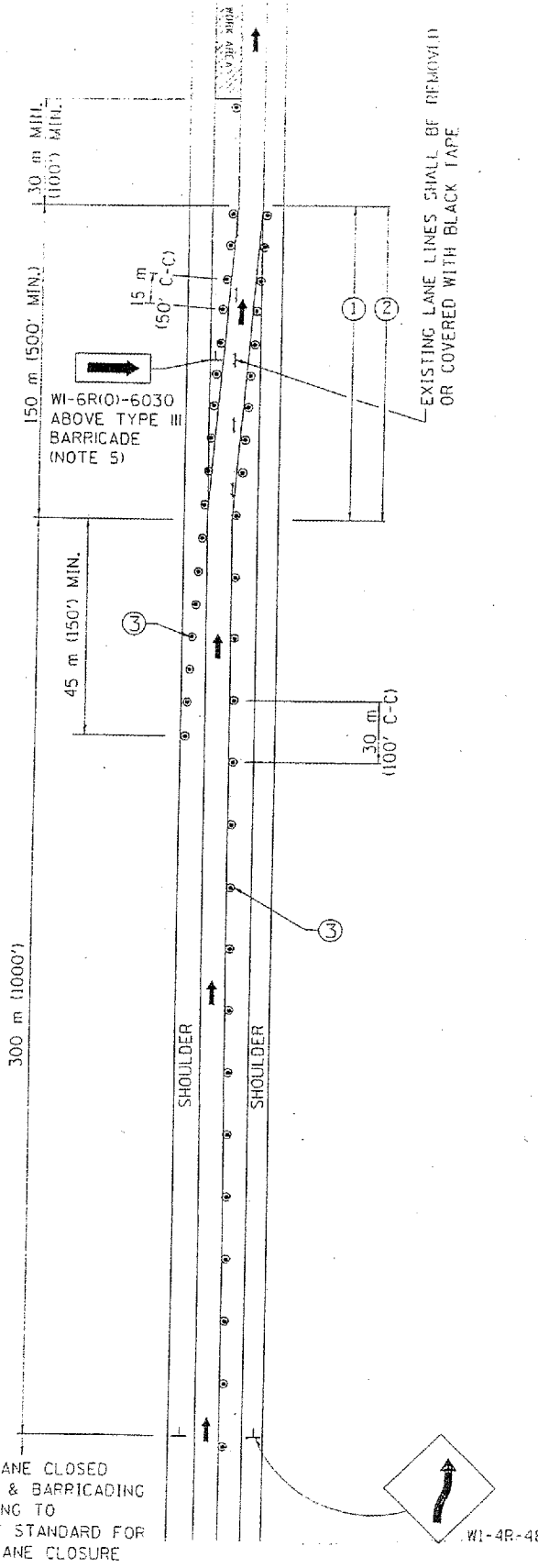
DRAWN BY
 CHECKED BY
 TC-B

REVISION DATE 04/03/03

SINGLE LANE WEAVE

MULTI-LANE WEAVE

SECTION: 8-7
 CONTRACT 62879



- GENERAL NOTES**
- EXISTING CONFLICTING PAVEMENT MARKING LINES SHALL BE REMOVED OR COVERED WITH BLACK TAPE. PAVEMENT MARKING REMOVAL OR BLACK TAPE SHALL NOT BE REQUIRED FOR LANE CLOSURES UNDER 24 HOURS IN DURATION.
 - CONTINUOUS REFLECTIVE TEMPORARY PAVEMENT MARKING TAPE SHALL BE PLACED THROUGHOUT THE TAPER AND FOR 90 m (300') ALONG SIDE THE WORK AREA WHERE THE CLOSURE TIME IS GREATER THAN FOURTEEN DAYS. THE LEFT EDGE LINE SHALL BE YELLOW AND THE RIGHT EDGE LINE SHALL BE WHITE. FOR MULTI-LANE WEAVE LANE LINES SHALL BE 3 M-9 M (10'-30') SKIP DASH, WHITE.
 - PLASTIC DRUMS WITH STEADY BURN LIGHTS AT 15 m (50') C-C SPACING IN TAPERS AND 30 m (100') C-C SPACING IN TANGENTS.
 - ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
 - 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.

ALL TRAFFIC 1.2 m x 2.4 m (4'x8'); 25 (1) BORDER; 250 (10) CAPITAL LETTERS BACKGROUND SHEETING SHALL BE THE SAME AS ALL DIAMOND SHAPED CONSTRUCTION SIGNS.

*THE NUMBER OF ARROWS ON THESE SIGNS SHALL MATCH THE NUMBER OF LANES OPEN TO TRAFFIC

- SYMBOLS**
- ↑ DIRECTION OF TRAFFIC
 - ▨ WORK AREA
 - ┆ SIGN ON PORTABLE OR PERMANENT SUPPORT
 - ⊙ DRUM WITH MONO-DIRECTIONAL STEADY BURNING LIGHT

RIGHT LANE CLOSED SIGNING & BARRICADING ACCORDING TO FREEWAY STANDARD FOR A ONE LANE CLOSURE

SIGNING, BARRICADING, & PAVEMENT MARKING ACCORDING TO FREEWAY STANDARD FOR A ONE LANE CLOSURE.

ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE SHOWN

ILLINOIS DEPARTMENT OF TRANSPORTATION
 TRAFFIC CONTROL DETAILS
 FOR FREEWAY
 SINGLE & MULTI-LANE WEAVE

REVISIONS	
NAME	DATE
DWS	2/87
DWS	1/90
DWS	12/27/94
DWS	11/96
JAF	4/03

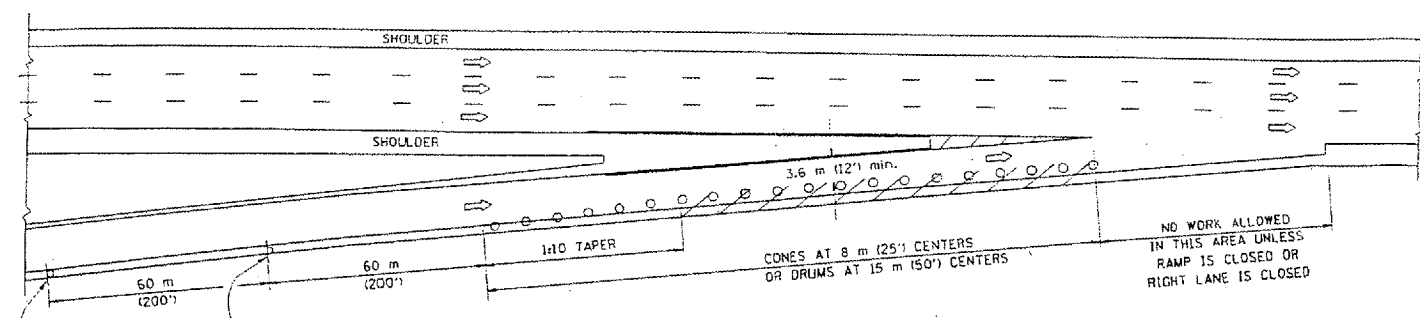
SCALE: NONE
 DATE: 05/12/2003
 DRAWN BY: R.H.
 CHECKED BY: TC-9

SECTION	COUNT
8	8

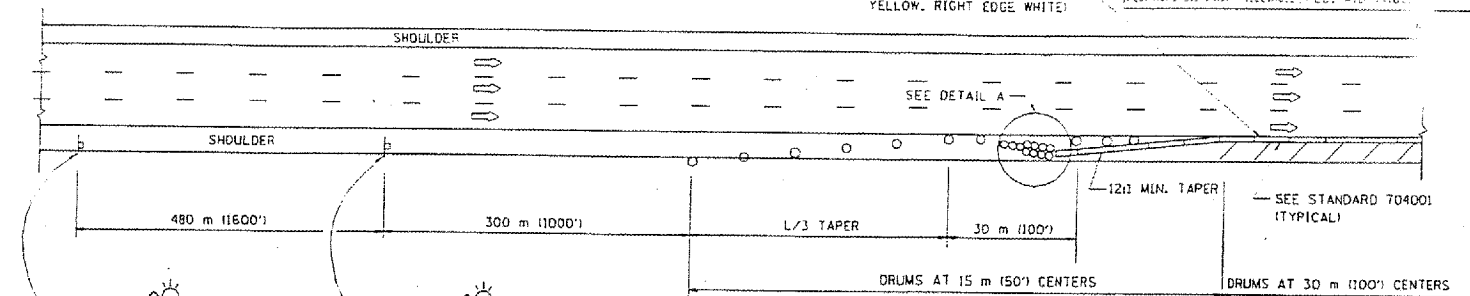
PARTIAL RAMP CLOSURE DETAILS

SHOULDER CLOSURE DETAILS

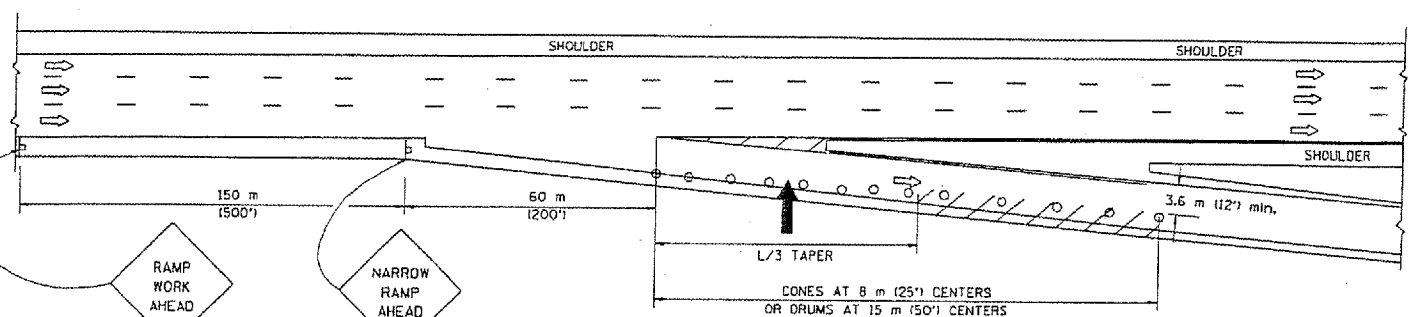
REFLECTIVE 150 (6) EDGE LINE ON LOWER SLOPE OF WALL (LEFT EDGE YELLOW, RIGHT EDGE WHITE)



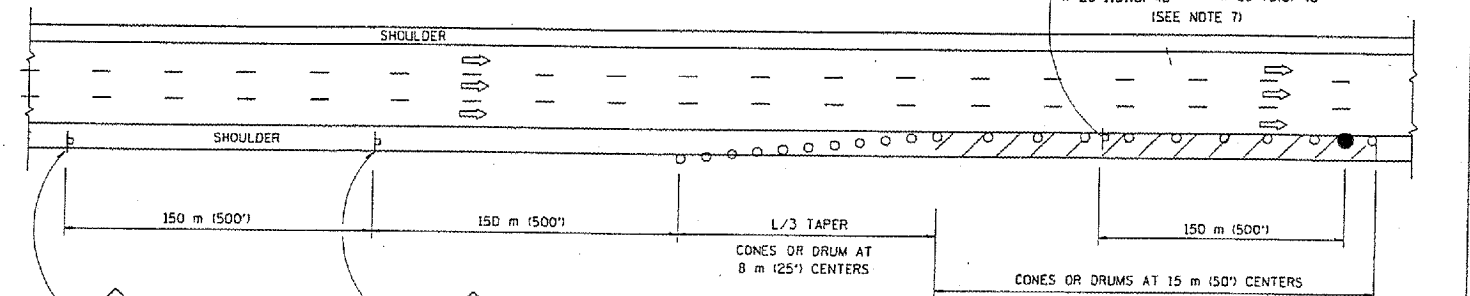
TYPICAL ENTRANCE RAMP



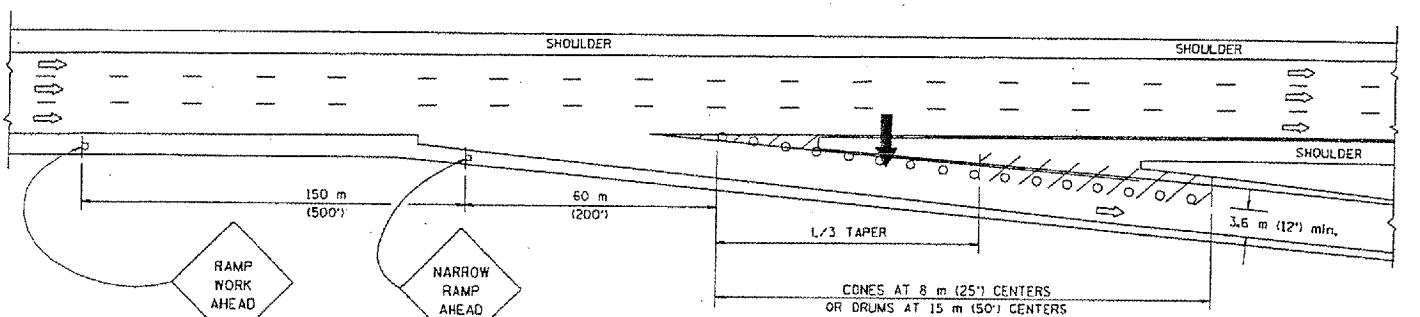
PERMANENT SHOULDER CLOSURE



TYPICAL EXIT RAMP



DAYTIME SHOULDER CLOSURE



TYPICAL EXIT RAMP

SYMBOLS

- ARROWBOARD
- WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- FLAGGER WITH CONTROL SIGN
- DRUM WITH MONO-DIRECTIONAL STEADY BURNING LIGHT
- CONES - 700 (28) IN HEIGHT

GENERAL NOTES

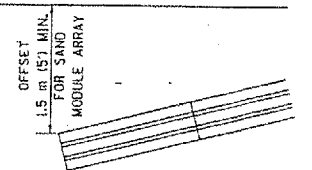
1. THE "L" DISTANCE EQUALS:

SPEED LIMIT	FORMULAS
80 km/h (45 mph) OR GREATER:	METRIC ENGLISH
	$L=0.65(WHS)$ $L=(WXS)$

W = WIDTH OF OFFSET IN METERS (FEET)
 S = NORMAL POSTED SPEED KM/H (MPH)
2. PLASTIC DRUMS WITH HIGH PERFORMANCE REFLECTIVE SHEETING AND STEADY BURNING LIGHTS ARE REQUIRED FOR ALL NIGHTTIME CLOSURES.
3. ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
4. FLASHING LIGHTS SHALL BE USED DURING THE HOURS OF DARKNESS AND SHALL BE INSTALLED ABOVE THE FIRST TWO SETS OF SIGNS.

5. THE IMPACT ATTENUATOR, TEMPORARY IS NOT REQUIRED WHEN THE TEMPORARY CONCRETE BARRIER WALL IS OUTSIDE THE CLEAR ZONE OR IS TIED INTO THE EXISTING GUARDRAIL. IF OFFSET IS LESS THAN 5 FEET USE "TRAFFIC BARRIER TERMINAL, TYPE III, TEMPORARY" DEVICE TO MEET NCHRP350 FOR POSTED SPEED.
6. AUTHORIZATION FROM THE DISTRICT'S BUREAU OF TRAFFIC IS REQUIRED FOR ALL FREEWAY CLOSURES.
7. THE FLAGGER AND FLAGGER SIGN ARE REQUIRED AT THE ABOVE WORK SITES WHEN:
 - a. FOUR OR MORE WORK VEHICLES ENTER THE TRAFFIC LANES IN A ONE HOUR PERIOD.
 - b. THE WORK ACTIVITY REQUIRES FREQUENT ENCROACHMENT INTO THE LANE OPEN TO TRAFFIC.
 THE FLAGGER SHALL BE STATIONED APPROXIMATELY 30 m (100') TO 60 m (200') IN ADVANCE OF THE WORKERS.

ARRAY DESIGN PER MANUFACTURER TO BE NCHRP 350 COMPLIANT FOR POSTED SPEED.



DETAIL "A" IMPACT ATTENUATOR, TEMPORARY (SEE NOTE 5)

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

ILLINOIS DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL DETAILS FOR FREEWAY SHOULDER CLOSURES PARTIAL RAMP CLOSURES

REVISIONS	
NAME	DATE
DWS	11/96
JAF	12/02
NCHRP 350	04/03

SCALE: NONE
 DATE: 05/06/2003
 DRAWN BY: DWS
 DESIGNED BY: DWS
 CHECKED BY: TC-17