



Local Public Agency
Formal Contract
Proposal

PROPOSAL SUBMITTED BY		
Contractor's Name		
Street	P.O. Box	
City	State	Zip Code

STATE OF ILLINOIS

COUNTY OF DuPage
DuPage County Division of Transportation
(Name of City, Village, Town or Road District)

FOR THE IMPROVEMENT OF

STREET NAME OR ROUTE NO. 2020-2021 Traffic Signal and Street Light Maintenance
SECTION NO. 20-TSMTC-02-GM
TYPES OF FUNDS Local Gas Tax

SPECIFICATIONS (required)

PLANS (required)

For Municipal Projects
Submitted/Approved/Passed

Mayor President of Board of Trustees Municipal Official

Date

Department of Transportation

Released for bid based on limited review

Regional Engineer

Date

For County and Road District Projects
Submitted/Approved

Highway Commissioner

Date

Submitted/Approved

County Engineer/Superintendent of Highways

Date

Note: All proposal documents, including Proposal Guaranty Checks or Proposal Bid Bonds, should be stapled together to prevent loss when bids are processed.

RETURN WITH BID

NOTICE TO BIDDERS

County DuPage
Local Public Agency DuPage County D.O.T.
Section Number 20-TSMTC-02-GM
Route Various

Sealed proposals for the improvement described below will be received at the office of DuPage County Div of Transportation, 421 N. County Farm Road, 2nd Floor, Wheaton, IL 60187-2553 until 2:00 PM on August 27, 2019

Sealed proposals will be opened and read publicly at the office of the DuPage County Division of Transportation, 421 N. County Farm Road, 2nd Floor, Wheaton, IL 60187-2553 at 2:00 PM on August 27, 2019

DESCRIPTION OF WORK

Name 2020-2021 Traffic Signal and Street Light Maintenance Length: _____ feet (_____ miles)
Location Traffic signals, street lighting under the jurisdiction of DuPage County, City of Aurora, Village of Lombard, and City of Naperville.
Proposed Improvement Continuous maintenance and repair services of traffic signals, street lights, pump stations for DuPage County.

1. Plans and proposal forms will be available in the office of online at http://www.dupageco.org/dot/doingbusiness or by contacting the DuPage County Division of Transportation at (630) 407-6900.

2. [X] Prequalification
If checked, the 2 low bidders must file within 24 hours after the letting an "Affidavit of Availability" (Form BC 57), in duplicate, showing all uncompleted contracts awarded to them and all low bids pending award for Federal, State, County, Municipal and private work. One original shall be filed with the Awarding Authority and one original with the IDOT District Office.

3. The Awarding Authority reserves the right to waive technicalities and to reject any or all proposals as provided in BLRS Special Provision for Bidding Requirements and Conditions for Contract Proposals.

- 4. The following BLR Forms shall be returned by the bidder to the Awarding Authority:
a. BLR 12200: Local Public Agency Formal Contract Proposal
b. BLR 12200a Schedule of Prices
c. BLR 12230: Proposal Bid Bond (if applicable)
d. BLR 12325: Apprenticeship or Training Program Certification (do not use for federally funded projects)
e. BLR 12326: Affidavit of Illinois Business Office
f. DuPage County - Required Vendor Ethics Disclosure Statement

5. The quantities appearing in the bid schedule are approximate and are prepared for the comparison of bids. Payment to the Contractor will be made only for the actual quantities of work performed and accepted or materials furnished according to the contract. The scheduled quantities of work to be done and materials to be furnished may be increased, decreased or omitted as hereinafter provided.

6. Submission of a bid shall be conclusive assurance and warranty the bidder has examined the plans and understands all requirements for the performance of work. The bidder will be responsible for all errors in the proposal resulting from failure or neglect to conduct an in depth examination. The Awarding Authority will, in no case be responsible for any costs, expenses, losses or changes in anticipated profits resulting from such failure or neglect of the bidder.

7. The bidder shall take no advantage of any error or omission in the proposal and advertised contract.

8. If a special envelope is supplied by the Awarding Authority, each proposal should be submitted in that envelope furnished by the Awarding Agency and the blank spaces on the envelope shall be filled in correctly to clearly indicate its contents. When an envelope other than the special one furnished by the Awarding Authority is used, it shall be marked to clearly indicate its contents. When sent by mail, the sealed proposal shall be addressed to the Awarding Authority at the address and in care of the official in whose office the bids are to be received. All proposals shall be filed prior to the time and at the place specified in the Notice to Bidders. Proposals received after the time specified will be returned to the bidder unopened.

9. Permission will be given to a bidder to withdraw a proposal if the bidder makes the request in writing or in person before the time for opening proposals.

RETURN WITH BID

PROPOSAL

County DuPage
Local Public Agency DuPage County D.O.T.
Section Number 20-TSMTC-02-GM
Route Various

1. Proposal of
for the improvement of the above section by the construction of Maintenance of traffic signals, street lighting, and pump stations

a total distance of feet, of which a distance of feet, (miles) are to be improved.

2. The plans for the proposed work are those prepared by DuPage County Division of Transportation and approved by the Department of Transportation on

3. The specifications referred to herein are those prepared by the Department of Transportation and designated as "Standard Specifications for Road and Bridge Construction" and the "Supplemental Specifications and Recurring Special Provisions" thereto, adopted and in effect on the date of invitation for bids.

4. The undersigned agrees to accept, as part of the contract, the applicable Special Provisions indicated on the "Check Sheet for Recurring Special Provisions" contained in this proposal.

5. The undersigned agrees to complete the work within working days or by 12/01/2021 unless additional time is granted in accordance with the specifications.

6. A proposal guaranty in the proper amount, as specified in BLRS Special Provision for Bidding Requirements and Conditions for Contract Proposals, will be required. Bid Bonds will be allowed as a proposal guaranty. Accompanying this proposal is either a bid bond if allowed, on Department form BLR 12230 or a proposal guaranty check, complying with the specifications, made payable to:

County Treasurer of DuPage

The amount of the check is ().

7. In the event that one proposal guaranty check is intended to cover two or more proposals, the amount must be equal to the sum of the proposal guaranties, which would be required for each individual proposal. If the proposal guaranty check is placed in another proposal, it will be found in the proposal for: Section Number

8. The successful bidder at the time of execution of the contract will be required to deposit a contract bond for the full amount of the award. When a contract bond is not required, the proposal guaranty check will be held in lieu thereof. If this proposal is accepted and the undersigned fails to execute a contract and contract bond as required, it is hereby agreed that the Bid Bond or check shall be forfeited to the Awarding Authority.

9. Each pay item should have a unit price and a total price. If no total price is shown or if there is a discrepancy between the product of the unit price multiplied by the quantity, the unit price shall govern. If a unit price is omitted, the total price will be divided by the quantity in order to establish a unit price.

10. A bid will be declared unacceptable if neither a unit price nor a total price is shown.

11. The undersigned submits herewith the schedule of prices on BLR 12200a covering the work to be performed under this contract.

12. The undersigned further agrees that if awarded the contract for the sections contained in the combinations on BLR 12200a, the work shall be in accordance with the requirements of each individual proposal for the multiple bid specified in the Schedule for Multiple Bids below.

RETURN WITH BID



SCHEDULE OF PRICES

County: DuPage
 Local Public Agency: DuPage County DOT
 Section: 20-TSMTC-02-GM
 Route: Various

Schedule for Multiple Bids

Combination Letter	Sections included in Combinations	Total

Schedule for Single Bid

(For complete information covering these items, see plans and specifications)

Bidder's proposal for making entire improvements

Item No.	Items	Unit	Quantity	Unit Price	Total
T-1	TRAFFIC SIGNAL LOCATION	EACH	13536		
T-2	SPAN WIRE TRAFFIC SIGNAL LOCATION	EACH	120		
T-3	FLASHING BEACON, OVERHEAD MOUNT	EACH	144		
T-4	FLASHING BEACON, LOW MOUNT	EACH	1296		
T-5	LAYER II (DATALINK) SWITCH	EACH	960		
T-6	LAYER III (NETWORK) SWITCH	EACH	120		
T-7	REMOTE CONTROLLED VIDEO SYSTEM	EACH	1		
T-8	PEDESTRIAN CROSSING SIGNAL LOCATION	EACH	96		
T-9	FIRE STATION SIGNAL LOCATION	EACH	96		
L-1	LUMINAIRE	EACH	32852		
L-2	UNDERPASS LIGHTING	EACH	3408		
L-3	SIGN LIGHTING	EACH	24		
L-4	WASHINGTON STREET NO PARKING SIGNS SYSTEM COMPLETE	EACH	24		
PS-1	PUMP STATION	EACH	48		
EW-1	BUDGETARY ALLOWANCE FOR EXTRA WORK	L SUM	1	250,000.00	250,000.00

RETURN WITH BID

Bidder's proposal for making entire improvements					
Item No.	Items	Unit	Quantity	Unit Price	Total
KD-1	BUDGETARY ALLOWANCE FOR KNOCKDOWNS	L SUM	1	705,000.00	705,000.00
EQ-1	SIGNAL HEAD, LED, 1-FACE, 1-SECTION	EACH	1		
EQ-2	SIGNAL HEAD, LED, 1-FACE, 3-SECTION	EACH	28		
EQ-3	SIGNAL HEAD, LED, 1-FACE, 4-SECTION	EACH	5		
EQ-4	SIGNAL HEAD, LED, 1-FACE, 5-SECTION	EACH	28		
EQ-5	RELOCATE EXISTING TRAFFIC SIGNAL HEAD	EACH	20		
EQ-6	TRAFFIC SIGNAL BACKPLATE	EACH	24		
EQ-7	TRAFFIC SIGNAL BACKPLATE, RETROREFLECTIVE	EACH	30		
EQ-8	RELAMP COMBINATION STREET LIGHTING - LED	EACH	12		
EQ-9	RELAMP COMBINATION SREET LIGHTING - HPS	EACH	10		
EQ-10	PED HEAD, LED	EACH	6		
EQ-11	PED HEAD, LED, COUNTDOWN	EACH	36		
EQ-12	PEDESTRIAN PUSH BUTTON	EACH	30		
EQ-13	AUDIBLE/ACCESSIBLE PEDESTRIAN SIGNALS (APS) (COMPLETE INTERSECTION)	EACH	3		
EQ-14	RELOCATE EXISTING PEDESTRIAN PUSH BUTTON	EACH	10		
EQ-15	EMERGENCY VEHICLE PREEMPTION SYSTEM	EACH	4		
EQ-16	INSTALL SPAN WIRE TRAFFIC SIGNAL, FOUR APPROACHES OR LESS	EACH	2		
EQ-17	REMOVE EXISTING SPAN WIRE TRAFFIC SIGNAL, FOUR APPROACHES OR LESS	EACH	1		
EQ-18	FULL ACTUATED CONTROLLER	EACH	8		
EQ-19	INSTALL EXISTING TRAFFIC SIGNAL CONTROLLER	EACH	23		
EQ-20	INSTALL UPDATED PROM SET AT LOCAL OR MASTER CONTROLLER	EACH	2		
EQ-21	UPGRADE EXISTING LOCAL CONTROLLER SOFTWARE TO NTCIP	EACH	6		
EQ-22	FULL-ACTUATED CONTROLLER IN TYPE IV CABINET, NEMA TS-2	EACH	2		
EQ-23	FULL-ACTUATED CONTROLLER IN TYPE IV CABINET, NEMA TS-2, SPECIAL	EACH	2		
EQ-24	FULL-ACTUATED CONTROLLER IN TYPE IV CABINET, NEMA TS-2, RAILROAD	EACH	2		

RETURN WITH BID

Bidder's proposal for making entire improvements					
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Item No.	Items	Unit	Quantity	Unit Price	Total
EQ-25	INSTALL EXISTING TRAFFIC SIGNAL CABINET	EACH	5		
EQ-26	MODIFY EXISTING CONTROLLER AND CABINET	EACH	6		
EQ-27	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	2		
EQ-28	ROTATE SIGNAL PHASING AT EXISTING TS	EACH	4		
EQ-29	UNINTERRUPTIBLE POWER SUPPLY, SPECIAL	EACH	6		
EQ-30	BATTERY (SET), UPS	EACH	50		
EQ-31	DETECTOR LOOP	FOOT	4500		
EQ-32	GALVANIZED STEEL UNDERGROUND CONDUIT, 2-INCH	FOOT	600		
EQ-33	GALVANIZED STEEL UNDERGROUND CONDUIT, 2-1/2 INCH	FOOT	200		
EQ-34	GALVANIZED STEEL UNDERGROUND CONDUIT, 3-INCH	FOOT	200		
EQ-35	GALVANIZED STEEL UNDERGROUND CONDUIT, 3-1/2 INCH	FOOT	100		
EQ-36	GALVANIZED STEEL UNDERGROUND CONDUIT, 4-INCH	FOOT	300		
EQ-37	COILABLE NON-METALLIC UNDERGROUND CONDUIT, 2-INCH	FOOT	3800		
EQ-38	ELECTRIC CABLE IN CONDUIT, NO. 14 1/C	FOOT	100		
EQ-39	ELECTRIC CABLE IN CONDUIT, NO. 14 2/C	FOOT	2500		
EQ-40	ELECTRIC CABLE IN CONDUIT, NO.14 3/C	FOOT	2500		
EQ-41	ELECTRIC CABLE IN CONDUIT, NO.14 5/C	FOOT	3500		
EQ-42	ELECTRIC CABLE IN CONDUIT, NO.14 7/C	FOOT	2500		
EQ-43	ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1/C	FOOT	8000		
EQ-44	ELECTRIC CABLE IN CONDUIT, NO.14 2/C, TWISTED, SHIELDED	FOOT	2250		
EQ-45	ELECTRIC CABLE IN CONDUIT, NO. 6, 2/C	FOOT	1500		
EQ-46	ELECTRIC CABLE IN CONDUIT, NO. 10, 2/C	FOOT	1250		
EQ-47	EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20, 3/C	FOOT	1750		
EQ-48	ELECTRIC CABLE IN CONDUIT, COAXIAL	FOOT	1100		
EQ-49	ELECTRIC CABLE IN CONDUIT, NO.18, 3/C, VIDEO	FOOT	1100		

RETURN WITH BID

Bidder's proposal for making entire improvements					
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Item No.	Items	Unit	Quantity	Unit Price	Total
EQ-50	ELECTRIC CABLE IN CONDUIT, COMM, NO. 16 5-1/2 PAIR	FOOT	600		
EQ-51	OUTDOOR RATED NETWORK CABLE	FOOT	2600		
EQ-52	FIBER OPTIC IN CONDUIT, 12 MM, 24 SM	FOOT	5500		
EQ-53	FIBER OPTIC IN CONDUIT, 24 SM	FOOT	6800		
EQ-54	FIBER OPTIC IN CONDUIT, 48 SM	FOOT	6000		
EQ-55	TRANSCEIVER, FIBER OPTIC	EACH	5		
EQ-56	SPLICE FIBER OPTIC CABLE IN CABINET	EACH	65		
EQ-57	TERMINATE FIBER IN CABINET	EACH	108		
EQ-58	SUBMERSIBLE FIBER SPLICE ENCLOSURE	EACH	23		
EQ-59	LAYER II (DATALINK) SWITCH, DUPAGE	EACH	1		
EQ-60	LAYER II (DATALINK) SWITCH, NAPERVILLE	EACH	2		
EQ-61	LAYER II (DATALINK) SWITCH, AURORA	EACH	2		
EQ-62	LAYER III (NETWORK) SWITCH, DUPAGE	EACH	1		
EQ-63	LAYER III (NETWORK) SWITCH, NAPERVILLE	EACH	1		
EQ-64	LAYER III (NETWORK) SWITCH, AURORA	EACH	1		
EQ-65	PROGRAM ITS EQUIPMENT	EACH	4		
EQ-66	REMOTE CONTROLLED VIDEO SYSTEM	EACH	4		
EQ-67	SERVICE INSTALLATION, POLE MOUNT	EACH	3		
EQ-68	SERVICE INSTALLATION, GROUND MOUNT	EACH	2		
EQ-69	CONCRETE FOUNDATION, TYPE A	FOOT	32		
EQ-70	CONCRETE FOUNDATION, TYPE C	FOOT	16		
EQ-71	CONCRETE FOUNDATION, TYPE E, 30-INCH DIAMETER	FOOT	75		
EQ-72	CONCRETE FOUNDATION, TYPE E, 36-INCH DIAMETER	FOOT	75		
EQ-73	CONCRETE FOUNDATION, TYPE E, 42-INCH DIAMETER	FOOT	81		
EQ-74	CONCRETE HANDHOLE	EACH	8		

RETURN WITH BID

Bidder's proposal for making entire improvements					
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Item No.	Items	Unit	Quantity	Unit Price	Total
EQ-75	CONCRETE HEAVY DUTY HANDHOLE	EACH	6		
EQ-76	REBUILD EXISTING HANDHOLE	EACH	10		
EQ-77	REBUILD EXISTING HEAVY DUTY HANDHOLE	EACH	6		
EQ-78	DRILL EXISTING HANDHOLE	EACH	20		
EQ-79	TS GROUNDING AND ELECTRICAL SERVICE UPGRADE	EACH	2		
EQ-80	VIDEO DETECTION SYSTEM (COMPLETE INTERSECTION)	EACH	7		
EQ-81	RADAR VEHICLE DETECTION SYSTEM (COMPLETE INTERSECTION)	EACH	3		
EQ-82	HEMISPHERICAL VIDEO DETECTION SYSTEM (COMPLETE INTERSECTION)	EACH	3		
EQ-83	REMOVE AND REINSTALL EXISTING WIRELESS DETECTION UNIT	EACH	22		
EQ-84	REMOVE EXISTING AND INSTALL NEW WIRELESS DETECTION UNIT	EACH	12		
EQ-85	LED INTERNALLY ILLUMINATED STREET NAME SIGN	EACH	6		
EQ-86	PEDESTRIAN PUSH BUTTON POST	EACH	12		
EQ-87	TRAFFIC SIGNAL POST, 10 FT	EACH	9		
EQ-88	TRAFFIC SIGNAL POST, 14 FT	EACH	4		
EQ-89	TRAFFIC SIGNAL POST, 16 FT	EACH	12		
EQ-90	TRAFFIC SIGNAL POST, 18 FT	EACH	9		
EQ-91	PAINT TRAFFIC SIGNAL POST AND BASE	EACH	20		
EQ-92	PAINT MAST ARM AND POST	EACH	20		
EQ-93	PAINT COMBINATION MAST ARM AND POLE	EACH	20		
EQ-94	ULTRASOUND TESTING	EACH	30		
EQ-95	SPECIAL MAINTENANCE SERVICE CALL	EACH	5		
EQ-96	INSTALL BROADBAND RADIO INTERCONNECT SYSTEM	EACH	2		
CH-1	CENTURY HILL STREET LIGHT REPAIR, POST TOP MOUNTED	EACH	12		
CH-2	CENTURY HILL STREET LIGHT REPAIR, LUMINAIRE ARM MOUNTED	EACH	12		
CH-EW	CENTURY HILL BUDGETARY ALLOWANCE FOR EXTRA WORK	L SUM	1	15,000.00	15,000.00

RETURN WITH BID

Bidder's proposal for making entire improvements
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Item No.	Items	Unit	Quantity	Unit Price	Total
CH-KD	CENTURY HILL BUDGETARY ALLOWANCE FOR KNOCKDOWNS	L SUM	1	5,000.00	5,000.00
DU-EW	DUPAGE COUNTY IT/FACILITIES EXTRA WORK	L SUM	1	30,000.00	30,000.00

RETURN WITH BID

CONTRACTOR CERTIFICATIONS

County	<u>DuPage</u>
Local Public Agency	<u>DuPage County D.O.T.</u>
Section Number	<u>20-TSMTC-02-GM</u>
Route	<u>Various</u>

The certifications hereinafter made by the bidder are each a material representation of fact upon which reliance is placed should the Department enter into the contract with the bidder.

1. **Debt Delinquency.** The bidder or contractor or subcontractor, respectively, certifies that it is not delinquent in the payment of any tax administered by the Department of Revenue unless the individual or other entity is contesting, in accordance with the procedures established by the appropriate revenue Act, its liability for the tax or the amount of tax. Making a false statement voids the contract and allows the Department to recover all amounts paid to the individual or entity under the contract in a civil action.

2. **Bid-Rigging or Bid Rotating.** The bidder or contractor or subcontractor, respectively, certifies that it is not barred from contracting with the Department by reason of a violation of either 720 ILCS 5/33E-3 or 720 ILCS 5/33E-4.

A violation of Section 33E-3 would be represented by a conviction of the crime of bid-rigging which, in addition to Class 3 felony sentencing, provides that any person convicted of this offense or any similar offense of any state or the United States which contains the same elements as this offense shall be barred for 5 years from the date of conviction from contracting with any unit of State or local government. No corporation shall be barred from contracting with any unit of State or local government as a result of a conviction under this Section of any employee or agent of such corporation if the employee so convicted is no longer employed by the corporation and: (1) it has been finally adjudicated not guilty or (2) if it demonstrates to the governmental entity with which it seeks to contract and that entity finds that the commission of the offense was neither authorized, requested, commanded, nor performed by a director, officer or a high managerial agent in behalf of the corporation.

A violation of Section 33E-4 would be represented by a conviction of the crime of bid-rotating which, in addition to Class 2 felony sentencing, provides that any person convicted of this offense or any similar offense of any state or the United States which contains the same elements as this offense shall be permanently barred from contracting with any unit of State or local government. No corporation shall be barred from contracting with any unit of State or local government as a result of a conviction under this Section of any employee or agent of such corporation if the employee so convicted is no longer employed by the corporation and: (1) it has been finally adjudicated not guilty or (2) if it demonstrates to the governmental entity with which it seeks to contract and that entity finds that the commission of the offense was neither authorized, requested, commanded, nor performed by a director, officer or a high managerial agent in behalf of the corporation.

3. **Bribery.** The bidder or contractor or subcontractor, respectively, certifies that it has not been convicted of bribery or attempting to bribe an officer or employee of the State of Illinois or any unit of local government, nor has the firm made an admission of guilt of such conduct which is a matter of record, nor has an official, agent, or employee of the firm committed bribery or attempted bribery on behalf of the firm and pursuant to the direction or authorization of a responsible official of the firm.

4. **Interim Suspension or Suspension.** The bidder or contractor or subcontractor, respectively, certifies that it is not currently under a suspension as defined in Subpart I of Title 44 Subtitle A Chapter III Part 6 of the Illinois Administrative Code. Furthermore, if suspended prior to completion of this work, the contract or contracts executed for the completion of this work may be cancelled.

RETURN WITH BID

SIGNATURES

County DuPage
Local Public Agency DuPage County D.O.T.
Section Number 20-TSMTC-02-GM
Route Various

(If an individual)

Signature of Bidder _____

Business Address _____

(If a partnership)

Firm Name _____

Signed By _____

Business Address _____

Inset Names and Addressed of All Partners

} _____

(If a corporation)

Corporate Name _____

Signed By _____

President

Business Address _____

Inset Names of Officers

} President _____
Secretary _____
Treasurer _____

Attest: _____
Secretary



Route Various
County DuPage
Local Agency DuPage County D.O.T.
Section 20-TSMTC-02-GM

RETURN WITH BID

PAPER BID BOND

WE _____ as PRINCIPAL,
and _____ as SURETY,
are held jointly, severally and firmly bound unto the above Local Agency (hereafter referred to as "LA") in the penal sum of 5% of the total bid price, or for the amount specified in the proposal documents in effect on the date of invitation for bids whichever is the lesser sum. We bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly pay to the LA this sum under the conditions of this instrument.

WHEREAS THE CONDITION OF THE FOREGOING OBLIGATION IS SUCH that, the said PRINCIPAL is submitting a written proposal to the LA acting through its awarding authority for the construction of the work designated as the above section.

THEREFORE if the proposal is accepted and a contract awarded to the PRINCIPAL by the LA for the above designated section and the PRINCIPAL shall within fifteen (15) days after award enter into a formal contract, furnish surety guaranteeing the faithful performance of the work, and furnish evidence of the required insurance coverage, all as provided in the "Standard Specifications for Road and Bridge Construction" and applicable Supplemental Specifications, then this obligation shall become void; otherwise it shall remain in full force and effect.

IN THE EVENT the LA determines the PRINCIPAL has failed to enter into a formal contract in compliance with any requirements set forth in the preceding paragraph, then the LA acting through its awarding authority shall immediately be entitled to recover the full penal sum set out above, together with all court costs, all attorney fees, and any other expense of recovery.

IN TESTIMONY WHEREOF, the said PRINCIPAL and the said SURETY have caused this instrument to be signed by their respective officers this _____ day of _____

Principal

(Company Name)
By: _____ (Signature and Title)
By: _____ (Signature and Title)

(If PRINCIPLE is a joint venture of two or more contractors, the company names, and authorized signatures of each contractor must be affixed.)

Surety

(Name of Surety)
By: _____ (Signature of Attorney-in-Fact)

STATE OF ILLINOIS,
COUNTY OF _____
I, _____, a Notary Public in and for said county,
do hereby certify that _____

(Insert names of individuals signing on behalf of PRINCIPAL & SURETY)

who are each personally known to me to be the same persons whose names are subscribed to the foregoing instrument on behalf of PRINCIPAL and SURETY, appeared before me this day in person and acknowledged respectively, that they signed and delivered said instruments as their free and voluntary act for the uses and purposes therein set forth.

Given under my hand and notarial seal this _____ day of _____

My commission expires _____ (Notary Public)

ELECTRONIC BID BOND

[] Electronic bid bond is allowed (box must be checked by LA if electronic bid bond is allowed)

The Principal may submit an electronic bid bond, in lieu of completing the above section of the Proposal Bid Bond Form. By providing an electronic bid bond ID code and signing below, the Principal is ensuring the identified electronic bid bond has been executed and the Principal and Surety are firmly bound unto the LA under the conditions of the bid bond as shown above. (If PRINCIPAL is a joint venture of two or more contractors, an electronic bid bond ID code, company/Bidder name title and date must be affixed for each contractor in the venture.)

Electronic Bid Bond ID Code

(Company/Bidder Name)
(Signature and Title)
Date



Apprenticeship or Training Program Certification

Return with Bid

Route	<u>Various</u>
County	<u>DuPage</u>
Local Agency	<u>DuPage County D.O.T.</u>
Section	<u>20-TSMTC-02-GM</u>

All contractors are required to complete the following certification:

- For this contract proposal or for all groups in this deliver and install proposal.
- For the following deliver and install groups in this material proposal:

Illinois Department of Transportation policy, adopted in accordance with the provisions of the Illinois Highway Code, requires this contract to be awarded to the lowest responsive and responsible bidder. The award decision is subject to approval by the Department. In addition to all other responsibility factors, this contract or deliver and install proposal requires all bidders and all bidders' subcontractors to disclose participation in apprenticeship or training programs that are (1) approved by and registered with the United States Department of Labor's Bureau of Apprenticeship and Training, and (2) applicable to the work of the above indicated proposals or groups. Therefore, all bidders are required to complete the following certification:

- I. Except as provided in paragraph IV below, the undersigned bidder certifies that it is a participant, either as an individual or as part of a group program, in an approved apprenticeship or training program applicable to each type of work or craft that the bidder will perform with its own employees.
- II. The undersigned bidder further certifies for work to be performed by subcontract that each of its subcontractors submitted for approval either (A) is, at the time of such bid, participating in an approved, applicable apprenticeship or training program; or (B) will, prior to commencement of performance of work pursuant to this contract, establish participation in an approved apprenticeship or training program applicable to the work of the subcontract.
- III. The undersigned bidder, by inclusion in the list in the space below, certifies the official name of each program sponsor holding the Certificate of Registration for all of the types of work or crafts in which the bidder is a participant and that will be performed with the bidder's employees. Types of work or craft that will be subcontracted shall be included and listed as subcontract work. The list shall also indicate any type of work or craft job category for which there is no applicable apprenticeship or training program available.

IV. Except for any work identified above, any bidder or subcontractor that shall perform all or part of the work of the contract or deliver and install proposal solely by individual owners, partners or members and not by employees to whom the payment of prevailing rates of wages would be required, check the following box, and identify the owner/operator workforce and positions of ownership.

The requirements of this certification and disclosure are a material part of the contract, and the contractor shall require this certification provision to be included in all approved subcontracts. The bidder is responsible for making a complete report and shall make certain that each type of work or craft job category that will be utilized on the project is accounted for and listed. The Department at any time before or after award may require the production of a copy of each applicable Certificate of Registration issued by the United States Department of Labor evidencing such participation by the contractor and any or all of its subcontractors. In order to fulfill the participation requirement, it shall not be necessary that any applicable program sponsor be currently taking or that it will take applications for apprenticeship, training or employment during the performance of the work of this contract or deliver and install proposal.

Bidder: _____

By: _____

(Signature)

Address: _____

Title: _____



**Illinois Department
of Transportation**

Affidavit of Illinois Business Office

County DuPage
 Local Public Agency DuPage County D.O.T.
 Section Number 20-TSMTC-02-GM
 Route Various

State of _____)
) ss.
 County of _____)

I, _____ of _____, _____,
 (Name of Affiant) (City of Affiant) (State of Affiant)

being first duly sworn upon oath, states as follows:

1. That I am the _____ of _____
 officer or position bidder
2. That I have personal knowledge of the facts herein stated.
3. That, if selected under this proposal, _____, will maintain a
 (bidder)
 business office in the State of Illinois which will be located in _____ County, Illinois.
4. That this business office will serve as the primary place of employment for any persons employed in the construction contemplated by this proposal.
5. That this Affidavit is given as a requirement of state law as provided in Section 30-22(8) of the Illinois Procurement Code.

(Signature)

(Print Name of Affiant)

This instrument was acknowledged before me on _____ day of _____, _____.

(SEAL)

(Signature of Notary Public)



Illinois Department of Transportation

Bureau of Construction
2300 South Dirksen Parkway/Room 322
Springfield, Illinois 62764

Affidavit of Availability
For the Letting of 08/27/19

Instructions: Complete this form by either typing or using black ink. "Authorization to Bid" will not be issued unless both sides of this form are completed in detail. Use additional forms as needed to list all work.

Part I. Work Under Contract

List below all work you have under contract as either a prime contractor or a subcontractor. It is required to include all pending low bids not yet awarded or rejected. In a joint venture, list only that portion of the work which is the responsibility of your company. The uncompleted dollar value is to be based upon the most recent engineer's or owners estimate, and must include work subcontracted to others. If no work is contracted, show **NONE**.

	1	2	3	4	Awards Pending	
Contract Number						
Contract With						
Estimated Completion Date						
Total Contract Price						Accumulated Totals
Uncompleted Dollar Value if Firm is the Prime Contractor						
Uncompleted Dollar Value if Firm is the Subcontractor						
					Total Value of All Work	

Part II. Awards Pending and Uncompleted Work to be done with your own forces.

List below the uncompleted dollar value of work for each contract and awards pending to be completed with your own forces. All work subcontracted to others will be listed on the reverse of this form. In a joint venture, list only that portion of the work to be done by your company. If no work is contracted, show **NONE**.

						Accumulated Totals
Earthwork						
Portland Cement Concrete Paving						
HMA Plant Mix						
HMA Paving						
Clean & Seal Cracks/Joints						
Aggregate Bases & Surfaces						
Highway, R.R. and Waterway Structures						
Drainage						
Electrical						
Cover and Seal Coats						
Concrete Construction						
Landscaping						
Fencing						
Guardrail						
Painting						
Signing						
Cold Milling, Planning & Rotomilling						
Demolition						
Pavement Markings (Paint)						
Other Construction (List)						
						\$ 0.00
Totals						

Disclosure of this information is **REQUIRED** to accomplish the statutory purpose as outlined in the "Illinois Procurement Code." Failure to comply will result in non-issuance of an "Authorization To Bid." This form has been approved by the State Forms Management Center.

Part III. Work Subcontracted to Others.

For each contract described in Part I, list all the work you have subcontracted to others.

	1	2	3	4	Awards Pending
Subcontractor					
Type of Work					
Subcontract Price					
Amount Uncompleted					
Subcontractor					
Type of Work					
Subcontract Price					
Amount Uncompleted					
Subcontractor					
Type of Work					
Subcontract Price					
Amount Uncompleted					
Subcontractor					
Type of Work					
Subcontract Price					
Amount Uncompleted					
Subcontractor					
Type of Work					
Subcontract Price					
Amount Uncompleted					
Subcontractor					
Type of Work					
Subcontract Price					
Amount Uncompleted					
Total Uncompleted					

I, being duly sworn, do hereby declare that this affidavit is a true and correct statement relating to ALL uncompleted contracts of the undersigned for Federal, State, County, City and private work, including ALL subcontract work, ALL pending low bids not yet awarded or rejected and ALL estimated completion dates.

Subscribed and sworn to before me
 this _____ day of _____, _____ Type or Print Name _____
 Officer or Director Title

 Notary Public Signed _____

My commission expires _____

(Notary Seal)

Company _____

Address _____



Required Vendor Ethics Disclosure Statement

Failure to complete and return this form may result in delay or cancellation of the County's Contractual Obligation.

Date: _____

Bid/Contract/PO #: 20-TSMTC-02-GM

Company Name:	Company Contact:
Contact Phone:	Contact Email:

The DuPage County Procurement Ordinance requires the following written disclosures prior to award:

1. Every contractor, union, or vendor that is seeking or has previously obtained a contract, change orders to one (1) or more contracts, or two (2) or more individual contracts with the county resulting in an aggregate amount at or in excess of \$25,000, shall provide to Procurement Services Division a written disclosure of all political campaign contributions made by such contractor, union, or vendor within the current and previous calendar year to any incumbent county board member, county board chairman, or countywide elected official whose office the contract to be awarded will benefit. The contractor, union or vendor shall update such disclosure annually during the term of a multi-year contract and prior to any change order or renewal requiring approval by the county board. For purposes of this disclosure requirement, "contractor or vendor" includes owners, officers, managers, lobbyists, agents, consultants, bond counsel and underwriters counsel, subcontractors and corporate entities under the control of the contracting person, and political action committees to which the contracting person has made contributions.

NONE (check here) - If no contributions have been made

Recipient	Donor	Description (e.g. cash, type of item, in-kind services, etc.)	Amount/Value	Date Made

2. All contractors and vendors who have obtained or are seeking contracts with the county shall disclose the names and contact information of their lobbyists, agents and representatives and all individuals who are or will be having contact with county officers or employees in relation to the contractor bid and shall update such disclosure with any changes that may occur.

NONE (check here) - If no contacts have been made

Lobbyists, Agents and Representatives and all individuals who are or will be having contact with county officers or employees in relation to the contract or bid	Telephone	Email

A contractor or vendor that knowingly violates these disclosure requirements is subject to penalties which may include, but are not limited to, the immediate cancellation of the contract and possible disbarment from future county contracts.

Continuing disclosure is required, and I agree to update this disclosure form as follows:

- If information changes, within five (5) days of change, or prior to county action, whichever is sooner
- 30 days prior to the optional renewal of any contract
- Annual disclosure for multi-year contracts on the anniversary of said contract
- With any request for change order except those issued by the county for administrative adjustments

The full text for the county's ethics and procurement policies and ordinances are available at:

<http://www.dupageco.org/CountyBoard/Policies/>

I hereby acknowledge that I have received, have read, and understand these requirements.

Authorized Signature

Printed Name

Title

Date

Attach additional sheets if necessary. Sign each sheet and number each page. Page _____ of _____ (total number of pages)

Request for Taxpayer Identification Number and Certification

**Give Form to the
 requester. Do not
 send to the IRS.**

▶ Go to www.irs.gov/FormW9 for instructions and the latest information.

Print or type. See Specific Instructions on page 3.	<p>1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.</p> <hr/> <p>2 Business name/disregarded entity name, if different from above</p> <hr/> <p>3 Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only one of the following seven boxes.</p> <p> <input type="checkbox"/> Individual/sole proprietor or single-member LLC <input type="checkbox"/> C Corporation <input type="checkbox"/> S Corporation <input type="checkbox"/> Partnership <input type="checkbox"/> Trust/estate </p> <p> <input type="checkbox"/> Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) ▶ _____ </p> <p>Note: Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LLC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is not disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner should check the appropriate box for the tax classification of its owner.</p> <p> <input type="checkbox"/> Other (see instructions) ▶ _____ </p>	<p>4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):</p> <p>Exempt payee code (if any) _____</p> <p>Exemption from FATCA reporting code (if any) _____</p> <p style="font-size: small;">(Applies to accounts maintained outside the U.S.)</p>
	<p>5 Address (number, street, and apt. or suite no.) See instructions.</p> <hr/> <p>6 City, state, and ZIP code</p> <hr/> <p>7 List account number(s) here (optional)</p>	<p>Requester's name and address (optional)</p> <hr/>

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN*, later.

Note: If the account is in more than one name, see the instructions for line 1. Also see *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number											
				-			-				
or											
Employer identification number											
				-							

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here	Signature of U.S. person ▶	Date ▶
------------------	----------------------------	--------

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to www.irs.gov/FormW9.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.

- Form 1099-DIV (dividends, including those from stocks or mutual funds)

- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding, later.

By signing the filled-out form, you:

1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
2. Certify that you are not subject to backup withholding, or
3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income, and
4. Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct. See *What is FATCA reporting*, later, for further information.

Note: If you are a U.S. person and a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

Definition of a U.S. person. For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien;
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States;
- An estate (other than a foreign estate); or
- A domestic trust (as defined in Regulations section 301.7701-7).

Special rules for partnerships. Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax under section 1446 on any foreign partners' share of effectively connected taxable income from such business. Further, in certain cases where a Form W-9 has not been received, the rules under section 1446 require a partnership to presume that a partner is a foreign person, and pay the section 1446 withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid section 1446 withholding on your share of partnership income.

In the cases below, the following person must give Form W-9 to the partnership for purposes of establishing its U.S. status and avoiding withholding on its allocable share of net income from the partnership conducting a trade or business in the United States.

- In the case of a disregarded entity with a U.S. owner, the U.S. owner of the disregarded entity and not the entity;
- In the case of a grantor trust with a U.S. grantor or other U.S. owner, generally, the U.S. grantor or other U.S. owner of the grantor trust and not the trust; and
- In the case of a U.S. trust (other than a grantor trust), the U.S. trust (other than a grantor trust) and not the beneficiaries of the trust.

Foreign person. If you are a foreign person or the U.S. branch of a foreign bank that has elected to be treated as a U.S. person, do not use Form W-9. Instead, use the appropriate Form W-8 or Form 8233 (see Pub. 515, *Withholding of Tax on Nonresident Aliens and Foreign Entities*).

Nonresident alien who becomes a resident alien. Generally, only a nonresident alien individual may use the terms of a tax treaty to reduce or eliminate U.S. tax on certain types of income. However, most tax treaties contain a provision known as a "saving clause." Exceptions specified in the saving clause may permit an exemption from tax to continue for certain types of income even after the payee has otherwise become a U.S. resident alien for tax purposes.

If you are a U.S. resident alien who is relying on an exception contained in the saving clause of a tax treaty to claim an exemption from U.S. tax on certain types of income, you must attach a statement to Form W-9 that specifies the following five items.

1. The treaty country. Generally, this must be the same treaty under which you claimed exemption from tax as a nonresident alien.
2. The treaty article addressing the income.
3. The article number (or location) in the tax treaty that contains the saving clause and its exceptions.
4. The type and amount of income that qualifies for the exemption from tax.
5. Sufficient facts to justify the exemption from tax under the terms of the treaty article.

Example. Article 20 of the U.S.-China income tax treaty allows an exemption from tax for scholarship income received by a Chinese student temporarily present in the United States. Under U.S. law, this student will become a resident alien for tax purposes if his or her stay in the United States exceeds 5 calendar years. However, paragraph 2 of the first Protocol to the U.S.-China treaty (dated April 30, 1984) allows the provisions of Article 20 to continue to apply even after the Chinese student becomes a resident alien of the United States. A Chinese student who qualifies for this exception (under paragraph 2 of the first protocol) and is relying on this exception to claim an exemption from tax on his or her scholarship or fellowship income would attach to Form W-9 a statement that includes the information described above to support that exemption.

If you are a nonresident alien or a foreign entity, give the requester the appropriate completed Form W-8 or Form 8233.

Backup Withholding

What is backup withholding? Persons making certain payments to you must under certain conditions withhold and pay to the IRS 28% of such payments. This is called "backup withholding." Payments that may be subject to backup withholding include interest, tax-exempt interest, dividends, broker and barter exchange transactions, rents, royalties, nonemployee pay, payments made in settlement of payment card and third party network transactions, and certain payments from fishing boat operators. Real estate transactions are not subject to backup withholding.

You will not be subject to backup withholding on payments you receive if you give the requester your correct TIN, make the proper certifications, and report all your taxable interest and dividends on your tax return.

Payments you receive will be subject to backup withholding if:

1. You do not furnish your TIN to the requester,
2. You do not certify your TIN when required (see the instructions for Part II for details),
3. The IRS tells the requester that you furnished an incorrect TIN,
4. The IRS tells you that you are subject to backup withholding because you did not report all your interest and dividends on your tax return (for reportable interest and dividends only), or
5. You do not certify to the requester that you are not subject to backup withholding under 4 above (for reportable interest and dividend accounts opened after 1983 only).

Certain payees and payments are exempt from backup withholding. See *Exempt payee code*, later, and the separate Instructions for the Requester of Form W-9 for more information.

Also see *Special rules for partnerships*, earlier.

What is FATCA Reporting?

The Foreign Account Tax Compliance Act (FATCA) requires a participating foreign financial institution to report all United States account holders that are specified United States persons. Certain payees are exempt from FATCA reporting. See *Exemption from FATCA reporting code*, later, and the Instructions for the Requester of Form W-9 for more information.

Updating Your Information

You must provide updated information to any person to whom you claimed to be an exempt payee if you are no longer an exempt payee and anticipate receiving reportable payments in the future from this person. For example, you may need to provide updated information if you are a C corporation that elects to be an S corporation, or if you no longer are tax exempt. In addition, you must furnish a new Form W-9 if the name or TIN changes for the account; for example, if the grantor of a grantor trust dies.

Penalties

Failure to furnish TIN. If you fail to furnish your correct TIN to a requester, you are subject to a penalty of \$50 for each such failure unless your failure is due to reasonable cause and not to willful neglect.

Civil penalty for false information with respect to withholding. If you make a false statement with no reasonable basis that results in no backup withholding, you are subject to a \$500 penalty.

Criminal penalty for falsifying information. Willfully falsifying certifications or affirmations may subject you to criminal penalties including fines and/or imprisonment.

Misuse of TINs. If the requester discloses or uses TINs in violation of federal law, the requester may be subject to civil and criminal penalties.

Specific Instructions

Line 1

You must enter one of the following on this line; **do not** leave this line blank. The name should match the name on your tax return.

If this Form W-9 is for a joint account (other than an account maintained by a foreign financial institution (FFI)), list first, and then circle, the name of the person or entity whose number you entered in Part I of Form W-9. If you are providing Form W-9 to an FFI to document a joint account, each holder of the account that is a U.S. person must provide a Form W-9.

a. **Individual.** Generally, enter the name shown on your tax return. If you have changed your last name without informing the Social Security Administration (SSA) of the name change, enter your first name, the last name as shown on your social security card, and your new last name.

Note: ITIN applicant: Enter your individual name as it was entered on your Form W-7 application, line 1a. This should also be the same as the name you entered on the Form 1040/1040A/1040EZ you filed with your application.

b. **Sole proprietor or single-member LLC.** Enter your individual name as shown on your 1040/1040A/1040EZ on line 1. You may enter your business, trade, or “doing business as” (DBA) name on line 2.

c. **Partnership, LLC that is not a single-member LLC, C corporation, or S corporation.** Enter the entity’s name as shown on the entity’s tax return on line 1 and any business, trade, or DBA name on line 2.

d. **Other entities.** Enter your name as shown on required U.S. federal tax documents on line 1. This name should match the name shown on the charter or other legal document creating the entity. You may enter any business, trade, or DBA name on line 2.

e. **Disregarded entity.** For U.S. federal tax purposes, an entity that is disregarded as an entity separate from its owner is treated as a “disregarded entity.” See Regulations section 301.7701-2(c)(2)(iii). Enter the owner’s name on line 1. The name of the entity entered on line 1 should never be a disregarded entity. The name on line 1 should be the name shown on the income tax return on which the income should be reported. For example, if a foreign LLC that is treated as a disregarded entity for U.S. federal tax purposes has a single owner that is a U.S. person, the U.S. owner’s name is required to be provided on line 1. If the direct owner of the entity is also a disregarded entity, enter the first owner that is not disregarded for federal tax purposes. Enter the disregarded entity’s name on line 2, “Business name/disregarded entity name.” If the owner of the disregarded entity is a foreign person, the owner must complete an appropriate Form W-8 instead of a Form W-9. This is the case even if the foreign person has a U.S. TIN.

Line 2

If you have a business name, trade name, DBA name, or disregarded entity name, you may enter it on line 2.

Line 3

Check the appropriate box on line 3 for the U.S. federal tax classification of the person whose name is entered on line 1. Check only one box on line 3.

IF the entity/person on line 1 is a(n) . . .	THEN check the box for . . .
• Corporation	Corporation
• Individual • Sole proprietorship, or • Single-member limited liability company (LLC) owned by an individual and disregarded for U.S. federal tax purposes.	Individual/sole proprietor or single-member LLC
• LLC treated as a partnership for U.S. federal tax purposes, • LLC that has filed Form 8832 or 2553 to be taxed as a corporation, or • LLC that is disregarded as an entity separate from its owner but the owner is another LLC that is not disregarded for U.S. federal tax purposes.	Limited liability company and enter the appropriate tax classification. (P= Partnership; C= C corporation; or S= S corporation)
• Partnership	Partnership
• Trust/estate	Trust/estate

Line 4, Exemptions

If you are exempt from backup withholding and/or FATCA reporting, enter in the appropriate space on line 4 any code(s) that may apply to you.

Exempt payee code.

- Generally, individuals (including sole proprietors) are not exempt from backup withholding.
- Except as provided below, corporations are exempt from backup withholding for certain payments, including interest and dividends.
- Corporations are not exempt from backup withholding for payments made in settlement of payment card or third party network transactions.
- Corporations are not exempt from backup withholding with respect to attorneys’ fees or gross proceeds paid to attorneys, and corporations that provide medical or health care services are not exempt with respect to payments reportable on Form 1099-MISC.

The following codes identify payees that are exempt from backup withholding. Enter the appropriate code in the space in line 4.

- 1—An organization exempt from tax under section 501(a), any IRA, or a custodial account under section 403(b)(7) if the account satisfies the requirements of section 401(f)(2)
- 2—The United States or any of its agencies or instrumentalities
- 3—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities
- 4—A foreign government or any of its political subdivisions, agencies, or instrumentalities
- 5—A corporation
- 6—A dealer in securities or commodities required to register in the United States, the District of Columbia, or a U.S. commonwealth or possession
- 7—A futures commission merchant registered with the Commodity Futures Trading Commission
- 8—A real estate investment trust
- 9—An entity registered at all times during the tax year under the Investment Company Act of 1940
- 10—A common trust fund operated by a bank under section 584(a)
- 11—A financial institution
- 12—A middleman known in the investment community as a nominee or custodian
- 13—A trust exempt from tax under section 664 or described in section 4947

The following chart shows types of payments that may be exempt from backup withholding. The chart applies to the exempt payees listed above, 1 through 13.

IF the payment is for . . .	THEN the payment is exempt for . . .
Interest and dividend payments	All exempt payees except for 7
Broker transactions	Exempt payees 1 through 4 and 6 through 11 and all C corporations. S corporations must not enter an exempt payee code because they are exempt only for sales of noncovered securities acquired prior to 2012.
Barter exchange transactions and patronage dividends	Exempt payees 1 through 4
Payments over \$600 required to be reported and direct sales over \$5,000 ¹	Generally, exempt payees 1 through 5 ²
Payments made in settlement of payment card or third party network transactions	Exempt payees 1 through 4

¹ See Form 1099-MISC, Miscellaneous Income, and its instructions.

² However, the following payments made to a corporation and reportable on Form 1099-MISC are not exempt from backup withholding: medical and health care payments, attorneys' fees, gross proceeds paid to an attorney reportable under section 6045(f), and payments for services paid by a federal executive agency.

Exemption from FATCA reporting code. The following codes identify payees that are exempt from reporting under FATCA. These codes apply to persons submitting this form for accounts maintained outside of the United States by certain foreign financial institutions. Therefore, if you are only submitting this form for an account you hold in the United States, you may leave this field blank. Consult with the person requesting this form if you are uncertain if the financial institution is subject to these requirements. A requester may indicate that a code is not required by providing you with a Form W-9 with "Not Applicable" (or any similar indication) written or printed on the line for a FATCA exemption code.

A—An organization exempt from tax under section 501(a) or any individual retirement plan as defined in section 7701(a)(37)

B—The United States or any of its agencies or instrumentalities

C—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities

D—A corporation the stock of which is regularly traded on one or more established securities markets, as described in Regulations section 1.1472-1(c)(1)(i)

E—A corporation that is a member of the same expanded affiliated group as a corporation described in Regulations section 1.1472-1(c)(1)(i)

F—A dealer in securities, commodities, or derivative financial instruments (including notional principal contracts, futures, forwards, and options) that is registered as such under the laws of the United States or any state

G—A real estate investment trust

H—A regulated investment company as defined in section 851 or an entity registered at all times during the tax year under the Investment Company Act of 1940

I—A common trust fund as defined in section 584(a)

J—A bank as defined in section 581

K—A broker

L—A trust exempt from tax under section 664 or described in section 4947(a)(1)

M—A tax exempt trust under a section 403(b) plan or section 457(g) plan

Note: You may wish to consult with the financial institution requesting this form to determine whether the FATCA code and/or exempt payee code should be completed.

Line 5

Enter your address (number, street, and apartment or suite number). This is where the requester of this Form W-9 will mail your information returns. If this address differs from the one the requester already has on file, write NEW at the top. If a new address is provided, there is still a chance the old address will be used until the payor changes your address in their records.

Line 6

Enter your city, state, and ZIP code.

Part I. Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. If you are a resident alien and you do not have and are not eligible to get an SSN, your TIN is your IRS individual taxpayer identification number (ITIN). Enter it in the social security number box. If you do not have an ITIN, see *How to get a TIN* below.

If you are a sole proprietor and you have an EIN, you may enter either your SSN or EIN.

If you are a single-member LLC that is disregarded as an entity separate from its owner, enter the owner's SSN (or EIN, if the owner has one). Do not enter the disregarded entity's EIN. If the LLC is classified as a corporation or partnership, enter the entity's EIN.

Note: See *What Name and Number To Give the Requester*, later, for further clarification of name and TIN combinations.

How to get a TIN. If you do not have a TIN, apply for one immediately. To apply for an SSN, get Form SS-5, Application for a Social Security Card, from your local SSA office or get this form online at www.SSA.gov. You may also get this form by calling 1-800-772-1213. Use Form W-7, Application for IRS Individual Taxpayer Identification Number, to apply for an ITIN, or Form SS-4, Application for Employer Identification Number, to apply for an EIN. You can apply for an EIN online by accessing the IRS website at www.irs.gov/Businesses and clicking on Employer Identification Number (EIN) under Starting a Business. Go to www.irs.gov/Forms to view, download, or print Form W-7 and/or Form SS-4. Or, you can go to www.irs.gov/OrderForms to place an order and have Form W-7 and/or SS-4 mailed to you within 10 business days.

If you are asked to complete Form W-9 but do not have a TIN, apply for a TIN and write "Applied For" in the space for the TIN, sign and date the form, and give it to the requester. For interest and dividend payments, and certain payments made with respect to readily tradable instruments, generally you will have 60 days to get a TIN and give it to the requester before you are subject to backup withholding on payments. The 60-day rule does not apply to other types of payments. You will be subject to backup withholding on all such payments until you provide your TIN to the requester.

Note: Entering "Applied For" means that you have already applied for a TIN or that you intend to apply for one soon.

Caution: A disregarded U.S. entity that has a foreign owner must use the appropriate Form W-8.

Part II. Certification

To establish to the withholding agent that you are a U.S. person, or resident alien, sign Form W-9. You may be requested to sign by the withholding agent even if item 1, 4, or 5 below indicates otherwise.

For a joint account, only the person whose TIN is shown in Part I should sign (when required). In the case of a disregarded entity, the person identified on line 1 must sign. Exempt payees, see *Exempt payee code*, earlier.

Signature requirements. Complete the certification as indicated in items 1 through 5 below.

1. Interest, dividend, and barter exchange accounts opened before 1984 and broker accounts considered active during 1983.

You must give your correct TIN, but you do not have to sign the certification.

2. Interest, dividend, broker, and barter exchange accounts opened after 1983 and broker accounts considered inactive during 1983.

You must sign the certification or backup withholding will apply. If you are subject to backup withholding and you are merely providing your correct TIN to the requester, you must cross out item 2 in the certification before signing the form.

3. Real estate transactions.

You must sign the certification. You may cross out item 2 of the certification.

4. Other payments. You must give your correct TIN, but you do not have to sign the certification unless you have been notified that you have previously given an incorrect TIN. "Other payments" include payments made in the course of the requester's trade or business for rents, royalties, goods (other than bills for merchandise), medical and health care services (including payments to corporations), payments to a nonemployee for services, payments made in settlement of payment card and third party network transactions, payments to certain fishing boat crew members and fishermen, and gross proceeds paid to attorneys (including payments to corporations).

5. Mortgage interest paid by you, acquisition or abandonment of secured property, cancellation of debt, qualified tuition program payments (under section 529), ABLE accounts (under section 529A), IRA, Coverdell ESA, Archer MSA or HSA contributions or distributions, and pension distributions. You must give your correct TIN, but you do not have to sign the certification.

What Name and Number To Give the Requester

For this type of account:	Give name and SSN of:
1. Individual	The individual
2. Two or more individuals (joint account) other than an account maintained by an FFI	The actual owner of the account or, if combined funds, the first individual on the account ¹
3. Two or more U.S. persons (joint account maintained by an FFI)	Each holder of the account
4. Custodial account of a minor (Uniform Gift to Minors Act)	The minor ²
5. a. The usual revocable savings trust (grantor is also trustee) b. So-called trust account that is not a legal or valid trust under state law	The grantor-trustee ¹ The actual owner ¹
6. Sole proprietorship or disregarded entity owned by an individual	The owner ³
7. Grantor trust filing under Optional Form 1099 Filing Method 1 (see Regulations section 1.671-4(b)(2)(i)(A))	The grantor*
For this type of account:	Give name and EIN of:
8. Disregarded entity not owned by an individual	The owner
9. A valid trust, estate, or pension trust	Legal entity ⁴
10. Corporation or LLC electing corporate status on Form 8832 or Form 2553	The corporation
11. Association, club, religious, charitable, educational, or other tax-exempt organization	The organization
12. Partnership or multi-member LLC	The partnership
13. A broker or registered nominee	The broker or nominee

For this type of account:	Give name and EIN of:
14. Account with the Department of Agriculture in the name of a public entity (such as a state or local government, school district, or prison) that receives agricultural program payments	The public entity
15. Grantor trust filing under the Form 1041 Filing Method or the Optional Form 1099 Filing Method 2 (see Regulations section 1.671-4(b)(2)(i)(B))	The trust

¹ List first and circle the name of the person whose number you furnish. If only one person on a joint account has an SSN, that person's number must be furnished.

² Circle the minor's name and furnish the minor's SSN.

³ You must show your individual name and you may also enter your business or DBA name on the "Business name/disregarded entity" name line. You may use either your SSN or EIN (if you have one), but the IRS encourages you to use your SSN.

⁴ List first and circle the name of the trust, estate, or pension trust. (Do not furnish the TIN of the personal representative or trustee unless the legal entity itself is not designated in the account title.) Also see *Special rules for partnerships*, earlier.

***Note:** The grantor also must provide a Form W-9 to trustee of trust.

Note: If no name is circled when more than one name is listed, the number will be considered to be that of the first name listed.

Secure Your Tax Records From Identity Theft

Identity theft occurs when someone uses your personal information such as your name, SSN, or other identifying information, without your permission, to commit fraud or other crimes. An identity thief may use your SSN to get a job or may file a tax return using your SSN to receive a refund.

To reduce your risk:

- Protect your SSN,
- Ensure your employer is protecting your SSN, and
- Be careful when choosing a tax preparer.

If your tax records are affected by identity theft and you receive a notice from the IRS, respond right away to the name and phone number printed on the IRS notice or letter.

If your tax records are not currently affected by identity theft but you think you are at risk due to a lost or stolen purse or wallet, questionable credit card activity or credit report, contact the IRS Identity Theft Hotline at 1-800-908-4490 or submit Form 14039.

For more information, see Pub. 5027, Identity Theft Information for Taxpayers.

Victims of identity theft who are experiencing economic harm or a systemic problem, or are seeking help in resolving tax problems that have not been resolved through normal channels, may be eligible for Taxpayer Advocate Service (TAS) assistance. You can reach TAS by calling the TAS toll-free case intake line at 1-877-777-4778 or TTY/TDD 1-800-829-4059.

Protect yourself from suspicious emails or phishing schemes.

Phishing is the creation and use of email and websites designed to mimic legitimate business emails and websites. The most common act is sending an email to a user falsely claiming to be an established legitimate enterprise in an attempt to scam the user into surrendering private information that will be used for identity theft.

The IRS does not initiate contacts with taxpayers via emails. Also, the IRS does not request personal detailed information through email or ask taxpayers for the PIN numbers, passwords, or similar secret access information for their credit card, bank, or other financial accounts.

If you receive an unsolicited email claiming to be from the IRS, forward this message to phishing@irs.gov. You may also report misuse of the IRS name, logo, or other IRS property to the Treasury Inspector General for Tax Administration (TIGTA) at 1-800-366-4484. You can forward suspicious emails to the Federal Trade Commission at spam@uce.gov or report them at www.ftc.gov/complaint. You can contact the FTC at www.ftc.gov/idtheft or 877-IDTHEFT (877-438-4338). If you have been the victim of identity theft, see www.IdentityTheft.gov and Pub. 5027.

Visit www.irs.gov/IdentityTheft to learn more about identity theft and how to reduce your risk.

Privacy Act Notice

Section 6109 of the Internal Revenue Code requires you to provide your correct TIN to persons (including federal agencies) who are required to file information returns with the IRS to report interest, dividends, or certain other income paid to you; mortgage interest you paid; the acquisition or abandonment of secured property; the cancellation of debt; or contributions you made to an IRA, Archer MSA, or HSA. The person collecting this form uses the information on the form to file information returns with the IRS, reporting the above information. Routine uses of this information include giving it to the Department of Justice for civil and criminal litigation and to cities, states, the District of Columbia, and U.S. commonwealths and possessions for use in administering their laws. The information also may be disclosed to other countries under a treaty, to federal and state agencies to enforce civil and criminal laws, or to federal law enforcement and intelligence agencies to combat terrorism. You must provide your TIN whether or not you are required to file a tax return. Under section 3406, payers must generally withhold a percentage of taxable interest, dividend, and certain other payments to a payee who does not give a TIN to the payer. Certain penalties may also apply for providing false or fraudulent information.

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STATE OF ILLINOIS SPECIAL PROVISIONS

The following Special Provisions supplement the Illinois Department of Transportation (IDOT) "Standard Specifications for Road and Bridge Construction", adopted April 1, 2016, the latest edition of the "Manual on Uniform Traffic Control Devices for Streets and Highways", the "Manual of Test Procedures for Materials" in effect on the date of invitation for bids, and the "Supplemental Specifications and Recurring Special Provisions" indicated on the Index Sheet included herein which apply to and govern the proposed improvement designated as Section **20-TSMTC-02-GM**. In case of conflict with any part or parts of said Specifications, the said Special Provisions shall take precedence and shall govern.

BIDDING REQUIREMENTS AND CONDITIONS FOR CONTRACT PROPOSALS

(Illinois Department of Transportation Bureau of Local Roads and Streets Special Provision for BIDDING REQUIREMENTS AND CONDITIONS FOR CONTRACT PROPOSALS LRS Check Sheet #6)

Add the following to the section **Prequalification of Bidders**: "Prequalification is required. The Certificate of Eligibility shall be accompanied by a Request for Authorization to Bid form completed by the prospective bidder. The Certificate of Eligibility and Request for Authorization to Bid shall be submitted at least one business day prior to the public opening of proposals. The Contractor shall also be prequalified by the Illinois Department of Transportation in all of the following categories:

- (i) 14 - Electrical
- (ii) 17 - Concrete Construction
- (iii) 26 - Signing"

Authorization to bid will be issued by the DuPage County Division of Transportation to prospective bidders who are qualified to perform the work, as evidenced by the Certificate of Eligibility, and who attend the mandatory pre-bid meeting."

Revise the first sentence of the section **Preparation of the Proposal** to read: "In addition to submitting a Certificate of Eligibility and Request for Authorization to Bid, all potential bidders shall attend a mandatory pre-bid meeting held by the DuPage County Division of Transportation in the DOT Conference Room 2-400 on Monday, August 12, 2019, at 10:00 A.M. There will be an opportunity to see representative DuPage County Division of Transportation traffic signal control cabinets and a pump station immediately following the pre-bid meeting. All questions regarding this Contract must be submitted by Monday, August 12, 2019 at 4:00 P.M. Any questions asked after 4:00 P.M. Monday, August 12, 2019 will not be answered. Any proposals that are submitted by Contractors that did not attend the mandatory pre-bid meeting will not be considered. Bidders shall submit their proposals on the form furnished by the Awarding Authority or on a form approved by the Awarding Authority prior to submittal of the Proposal."

Add the following to the section **Preparation of the Proposal**: "Unit prices shall only be accepted rounded to the nearest one-hundredth (0.01) of a dollar."

Add the following to the section **Public Opening of Proposals**: "Proposals will only be accepted by bidders who have been issued an authorization to bid by the DuPage County Division of Transportation. Proposals submitted without authorization to bid will be returned unopened."

SECTION 107 LEGAL REGULATIONS AND RESPONSIBILITY TO PUBLIC

Article 107.26 Indemnification. In addition to the requirements of this Article, for any activity occurring on an easement or any other property not owned by the Agency, the indemnification shall also be extended to the property owners and any tenants thereon.

Article 107.27 Insurance. In addition to the requirements of this Article, the policies of insurance for Commercial (Comprehensive) General Liability and Commercial (comprehensive) Automobile Liability shall include an additional insured endorsement naming the County of DuPage, its officers as additional insureds. The endorsements shall be on forms acceptable to the County of DuPage. This additional insured is to be on a primary and non-contributory basis.

Employer's Liability insurance shall be in an amount not less than one million (\$1,000,000.00) dollars each accident/injury and one million (\$1,000,000.00) dollars each employee/disease.

Limits of Umbrella Excess Liability (over primary) shall not be less than an amount that in combination with Commercial General Liability totals \$6,000,000.00 of liability insurance per occurrence. The Umbrella Excess Liability Policy shall include in the "Who is Insured" pages of the policy wording such as "Any other person or organization you have agreed in a written contract to provide additional insurance" or wording to that effect. The contractor shall provide a copy of said section of the excess/umbrella liability policy upon request by the County of DuPage.

The Contractor shall require all subcontractors to maintain the same insurance coverage required of the contractor. The County of DuPage retains the right to obtain evidence of subcontractor insurance coverage at any time.

Replace the second sentence of the second paragraph (third to last paragraph) of this article with the following: "It is the duty of the Contractor to immediately notify the County of DuPage if any insurance required under this contract has been cancelled, materially changed, or renewal has been refused, and the Contractor shall immediately suspend all work in progress and take the necessary steps to purchase, maintain and provide the required insurance coverage. If a suspension of work should occur due to insurance requirements, upon verification by the County of DuPage of the required insurance coverage, the County of DuPage shall notify the Contractor that the Contractor can proceed with the work that is a part of this contract. Failure to provide and maintain the required insurance coverage could result in the immediate cancellation of this contract, and the Contractor shall accept and bear all costs that may result from cancellation of this contract due to Contractor's failure to provide and maintain the required insurance."

Separate policies and endorsements meeting the above requirements will be required for the City of Aurora, Village of Lombard, and the City of Naperville as part of their contract award process.

SECTION 108 PROSECUTION AND PROGRESS

Article 108.03 Prosecution of the Work. Revise the first sentence of this Article to read, "The Contractor shall begin the work to be performed under the Contract on December 1, 2019. Work shall continue for a two-year period through November 30, 2021. If the Agency extends the Contract under the terms included herein, the work shall continue for an additional 2-year period through November 30, 2023."

SECTION 109 MEASUREMENT AND PAYMENT

Article 109.08 Acceptance and Final Payment. Prior to final payment, an affidavit from the Contractor will be required (BC 141).

SECTION 671 MOBILIZATION

Article 671.02 Basis of Payment. Revise this Article to read: “Basis of Payment. This work will not be paid for separately, but shall be included in the various items of work.”

TRAFFIC CONTROL AND PROTECTION

Description. The traffic control and protection for this project shall be performed in accordance with the project Traffic Control Plan and Section 701 of the Standard Specifications as amended by the Special Provision for Work Zone Traffic Control Surveillance (Illinois Department of Transportation Check Sheet #LRS 3).

Traffic Control Plan. No work shall commence until traffic control requirements are met. Arrow Boards will be required when implementing lane closures on multi-lane roads. The following traffic control standards are the minimum requirements for traffic control for this project:

- 701006 Off Road Operations, 2L, 2W, 15’ to 24” from Pavement Edge
- 701101 Off Road Operations, Multilane, 15’ to 24” from Pavement Edge
- 701201 Lane Closure, 2L, 2W Day Only, for Speeds \geq 45 MPH
- 701301 Lane Closure, 2L, 2W, Short Time Operations
- 701406 Lane Closure, Freeway/Expressway, Day Operations Only
- 701501 Urban Lane Closure, 2L, 2W, Undivided
- 701502 Urban Lane Closure, 2L, 2W with Bidirectional Left Turn Lane
- 701601 Urban Lane Closure, Multilane, 1W or 2W with Non-Traversable Median
- 701602 Urban Lane Closure, Multilane, 2W with Bidirectional Left Turn Lane
- 701606 Urban Lane Closure, Multilane, 2W with Mountable Median
- 701701 Urban Lane Closure, Multilane Intersection
- 701901 Traffic Control Devices

Keeping Roads Open to Traffic:

All roads shall remain open to traffic. The Contractor may close one (through traffic) lane because of construction only between the hours of 9:00 AM and 3:00 PM. The Contractor shall maintain one-way traffic during these restricted hours on two-lane highways with the use of signs and flaggers as shown on the Traffic Control Standard. On multi-lane highways, the Contractor shall maintain at least one (through traffic) lane in each direction with the use of signs, barricades, and arrow boards as shown on the Traffic Control Standards. All lanes of traffic will be maintained between 3:00 PM and 9:00 AM and when no construction activities are being carried out.

The restricted lane closure time may be adjusted by the Agency. The Contractor shall provide a start and end time and a procedure plan 48 hours prior to the lane(s) to be closed.

If the Contractor fails to provide notification or disregards the decision by the Agency, the Traffic Control Deficiency deduction will be applied as stated in the Standard Specifications.

Basis of Payment. The cost of Traffic Control and Protection provided under the Traffic Control Plan and Section 701 - WORK ZONE TRAFFIC CONTROL will not be paid for separately, but shall be included in the cost of the items in the Contract.

REMOVAL AND DISPOSAL OF REGULATED SUBSTANCES

This work shall be according to Article 669 of the Standard Specifications and the following:

Qualifications: The term “environmental firm” shall mean an environmental firm with at least five (5) documented leaking underground storage tank (LUST) cleanups or that is pre-qualified in hazardous waste by the Agency. Documentation includes but is not limited to verifying remediation and special waste operations for sites contaminated with gasoline, diesel, or waste oil in accordance with all Federal, State, or local regulatory requirements and shall be provided to the Agency for approval. The environmental firm selected shall not be a former or current consultant or have any ties with any of the properties contained within and/or adjacent to this construction project.

General: This Special Provision will likely require the Contractor to subcontract for the execution of certain activities. The environmental firm shall continuously monitor for worker protection and the Contractor shall manage any excavated soils within the construction limits of this project as fill. All excavated soils can be placed back into the excavated trench or used within the construction limits as fill. If the contaminated materials cannot be utilized within the construction limits as fill then they must be managed off-site as non-special waste. The contractor shall submit a plan for testing excavation removed from the job site. The Agency’s approval of the plan must be provided prior to removal of excavated materials from the job site.

All contaminated materials shall be managed as non-special waste. This work shall include monitoring and potential sampling, analytical testing, and management of a material contaminated by regulated substances.

ARTICLE I – DESCRIPTION OF WORK

It is the intent of the DuPage County Division of Transportation (“Agency”), the City of Aurora (“Agency”), the Village of Lombard (“Agency”), and the City of Naperville (“Agency”) to jointly bid for electrical maintenance services and award these services to a single contractor (“Contractor”).

Through this joint bid process, the Agencies are presenting an economy of scale, providing potential bidders with opportunities for increased revenues as well as reduced costs, which the bidders will in turn extend to the agencies via lower pricing. The DuPage County Division of Transportation is conducting the bidding process on behalf of all four Agencies. Each Agency’s Board and Council will have the right to review and independently approve or reject the bid award and execute the contract for that Agency.

This Contract is for the maintenance of all traffic signals, flashing beacons, streetlights, pump stations and their appurtenances under the jurisdiction or maintenance responsibility of the DuPage County Division of Transportation.

The same unit prices and contract terms shall apply to the Agencies for the items under their jurisdiction and maintenance as indicated in each summary of quantities.

All contract administration, invoicing, and coordination will be the responsibility of the individual Agency. The only combined activity associated with this proposal is the bidding process being conducted by the DuPage County Division of Transportation.

The Contractor shall, for specified unit prices listed under the Schedule of Prices (1) furnish labor and provide materials to maintain the respective installations and systems; (2) make permanent repairs to damaged equipment; (3) clean, repair, test, perform preventive maintenance, and overhaul specified equipment at stated intervals of time; (4) provide the necessary transportation for workers; (5) provide continuous maintenance and repair service on a 24-hour basis, 7 days a week, including holidays, to correct any malfunction of equipment or perform any temporary/emergency repairs to missing, defective, damaged, or displaced equipment resulting from any cause whatsoever in the shortest possible time; (6) locate and mark underground facilities when requested; and (7) perform all activities required and described herein.

ARTICLE II – INSTRUCTION TO BIDDERS

II-1. COMPETENCY OF BIDDERS

Each bidder shall be pre-qualified to comply with all of the requirements of Article 102.01 of the Illinois Department of Transportation Standard Specifications for Road & Bridge Construction and shall hold prequalifications in the categories listed herein.

II-2. EXAMINATION OF SITE OF WORK

The prospective bidder shall, before submitting a bid, carefully examine the Contract proposal, plans, specifications, special provisions, Contract and Contract bond. The bidder may inspect from the right-of-way any of the locations to be maintained under this Contract and Contractor should become familiar with all the local conditions affecting the Contract and the detailed requirements of maintenance. The Contractor shall be responsible for any pre-existing maintenance deficiencies that may exist at the time this Contract is awarded and the bid shall reflect these deficiencies. If this bid is accepted, the Contractor will be responsible for all errors in the proposal resulting from Contractor's failure or neglect to comply with these instructions. The Agencies will, in no case, be responsible for any change in anticipated profits resulting from such failure or neglect.

II-3. AWARD AND EXECUTION OF CONTRACT

This bid will be awarded to the lowest responsive, responsible bidder meeting specifications based upon the lowest bid. However, the Agencies reserve the right to independently award by total bid, by single item, or by any combination of items, in the best interest of each Agency.

Where unit prices are requested, the quantities stated are approximate only, but will be used to determine bid award (see PREPARATION OF BIDS section).

Award and execution of Contract shall be in accordance with Section 102 of the Standard Specifications and the following:

Insurance certificates shall be received by the Agency within five (5) calendar days after the Contract has been received by the bidder. Contract performance and payment bond shall be received by the Agency within ten (10) calendar days after the Contract has been received by the bidder.

II-4. COOPERATION WITH UTILITIES

The Contractor shall coordinate with applicable utilities according to Article 105.07 of the "Standard Specifications" and the following:

The Contractor shall be aware of the location of all utilities and structures in the project area. The Contractor shall conduct construction operations to avoid damage to the above-mentioned utilities or structures.

Should any damage to utilities occur, due to the Contractor's negligence, the Contractor shall be responsible for making all repairs, in a manner acceptable to the Agency and utility owner. All costs associated with making the repairs shall be the responsibility of the Contractor.

The Contractor shall be aware of the locations of vehicle detector loops cut into the pavement. Any vehicle detector loop damaged by the Contractor's negligence shall be repaired by the Contractor in a manner acceptable to the Agency. All costs associated with making the repairs shall be the responsibility of the Contractor.

The Contractor shall notify all utility owners of the proposed construction schedule, and shall coordinate construction operations with the utility owners so that relocation of utility lines and structures may proceed in an orderly manner. Notification shall be in writing with copies transmitted to the Agency.

II-5. PROTECTION AND RESTORATION OF PROPERTY

The Contractor shall protect and restore property according to Article 107.20 of the "Standard Specifications" and the following:

Trees and Shrubs: Extra care shall be exercised when operating equipment around trees or shrubs. Injured branches or roots shall be pruned in a manner satisfactory to the Agency and shall be painted where the cut was made. Roots exposed during excavating operations shall be neatly pruned and covered with topsoil. This work shall be done as soon as possible and shall be considered as included in the contract, and no additional compensation will be allowed.

II-6. PROTECTION OF STREAMS, LAKES, RESERVOIRS, NATURAL AREAS, WETLANDS, PRAIRIE AREAS, SAVANNAHS, AND ENDANGERED AND THREATENED SPECIES

CONCRETE WASHOUT FACILITY

To prevent pollution by residual concrete and/or the byproduct of washing out the concrete trucks, concrete washout facilities shall be constructed and maintained on any project which includes cast-in-place concrete items. The concrete washout shall be constructed, maintained, and removed according to this special provision. Concrete washout facilities shall be required on all projects regardless of the need for National Pollutant Discharge Elimination System (NPDES) permitting. On projects requiring NPDES permitting, concrete washout facilities shall also be addressed in the Storm Water Pollution Prevention Plan.

The Contractor may elect to use a pre-fabricated portable concrete washout structure. The Contractor shall submit a plan for the concrete washout facility, to the Agency for approval, a minimum of 10 calendar days before the first concrete pour. The working concrete washout facility shall be in place before any delivery of concrete to the site. The Contractor shall ensure that all concrete washout activities are limited to the designated area.

The concrete washout facility shall be located no closer than 50 feet from any environmentally sensitive areas, such as water bodies, wetlands, and/or other areas indicated on the plans or designated by the Agency. Adequate signage shall be placed at the washout facility and elsewhere as necessary to clearly indicate the location of the concrete washout facility to the operators of concrete trucks.

The concrete washout facility shall be adequately sized to fully contain the concrete washout needs of the project. The contents of the concrete washout facility shall not exceed 75% of the facility capacity. Once the 75% capacity is reached, concrete placement shall be discontinued

until the facility is cleaned out. Hardened concrete shall be removed and properly disposed of outside the right-of-way. Slurry shall be allowed to evaporate, or shall be removed and properly disposed of outside the right-of-way. The Contractor shall immediately replace damaged basin liners or other washout facility components to prevent leakage of concrete waste from the washout facility. Concrete washout facilities shall be inspected by the Contractor after each use. Any and all spills shall be reported to the Agency and cleaned up immediately. The Contractor shall remove the concrete washout facility when it is no longer needed.

This work will not be paid for separately, but shall be included in the cost of the concrete work items included in the contract.

II-7. PROTECTION AND RESTORATION OF TRAFFIC SIGNS

The Contractor shall protect and restore traffic signs within the limits of the project according to Article 107.25 of the "Standard Specifications" and the following:

1. All signs removed shall be reinstalled in a comparable location to the original installation and in conformance to the MUTCD, or as directed by the Agency.
2. All single sign installations shall be installed with the bottom of the sign 5 feet above edge of pavement in rural districts, and 7 feet above the edge of pavement in business, commercial or residential districts. On installations having two or more signs, the bottom of the lowest sign shall be 4 feet above edge of pavement.
3. All signs replaced will be erected using new "Telespar" system metal bases cut 42" long from 2¼" square material. They are to be driven into solid ground using a pneumatic driver. This work will not be paid for separately but shall be considered included in the cost of the contract.

ARTICLE III – GENERAL PROVISIONS AND SPECIFICATIONS

III-1. APPLICABLE SPECIFICATIONS AND STANDARDS

The latest issue of the following shall apply to the work covered by this Contract. In case of conflict with any or parts of the standards listed below the Special Provisions contained herein shall take precedence and shall govern:

National Standards and Specifications

- An Informal Guide for Roadway Lighting, published by American Association of State Highway and Transportation Officials (AASHTO), 444 N. Capitol St., N.W., Washington, D.C. 20001
- Insulated Cable Engineers Assn. and Underwriters Laboratories publications when applicable for cable and other materials
- National Electrical Manufacturers Associations (NEMA) Standards
- American National Standards Institute, where applicable, for lamps, ballasts, and other accessories
- American Society for Testing and Materials (ASTM) Standards for materials
- All applicable manuals and policies of the Federal Highway Administration (FHWA)
- American National Standard Practice for Roadway Lighting, Published by Illuminating Society of North America, 120 Wall St., 17th Floor, New York, NY, Phone: (212) 248-5000
- National Electrical Safety Code, National Fire Protection Association, approved by the American National Standards Institute, Publication #ANSI/C2, published by IEEE, 345 E. 47th Street, New York, NY 10017
- National Electrical Code, NFPA - SF70-96, as published by National Fire Protection Association, Batterymarch Park, Quincy, MA 02269
- Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals AASHTO Publication
- Institute of Traffic Engineers Technical Report No. 1 (A Standard for Adjustable Face Vehicular Traffic Control Heads)
- Emergency Response Guidebook by U.S. Dept. of Transportation, latest version, for further assistance call National Response Center (NRC) 1-800-424-8802
- Hazardous Materials Regulations, Hazardous Materials Transportation Uniform Safety Act of 1990, Hazardous Materials Regulations and Motor Carrier Safety Regulating by U.S. Department of Transportation
- OSHA, all applicable regulations
- RUS, all applicable regulations
- IMSA Standards & Manuals
- Manual on Uniform Traffic Control Devices (MUTCD)

III-2. DURATION OF CONTRACT

This Contract shall be in full force from December 1, 2019 to November 30, 2021 following the date of execution and acceptance of the Contract, subject, however, to the right of the Agency to cancel and terminate the same at any time with or without cause, or for reasons which it believes to be in the public interest by giving thirty (30) days' notice in writing to the Contractor.

In the event of such cancellation, the Contractor shall be entitled to receive payment for services and work performed and materials or equipment furnished under the terms of the Contract prior to the effective date of such cancellation, but shall not be entitled to receive any damages on account of such cancellation or any further payment whatsoever. The Agency may take possession of the work and all materials, tools, and appliances thereon and thereat, for any reason that the Agency deems to be in the public interest, and his decision shall be final.

III-3. CONTRACT EXTENSION TERMS AND CONDITIONS

The Agencies also reserve the right to independently or as a group, extend this Contract for a period of 24 months from December 1, 2021 to November 30, 2023. Each Agency shall notify the Contractor in writing of its intentions to exercise this option to extend the Contract prior to October 1, 2021.

If and when the Agency exercises its option to extend the Contract, each unit price will be adjusted by a one-time increase of four percent (4%), rounded up to the nearest whole cent, for the two-year extension. The increased prices will be in effect throughout the entire two-year extension.

No retroactive contract price adjustments will be allowed.

III-4. DEFINITION OF TERMS

- a. Engineer
The Agency's Traffic Engineer or designee.
- b. IDOT
Illinois Department of Transportation
- c. DuDOT
DuPage County Division of Transportation
- d. Agency
Any one, or a combination thereof: City of Aurora, Village of Lombard, City of Naperville, and the DuPage County Division of Transportation
- e. Qualified Electrician/Personnel
A patrolman or field technician who is either a certified International Municipal Signal Association (IMSA) Traffic Signal Level II Technician or a certified IMSA Senior Field Technician Level III.
- f. Emergency
A condition which is a hazard to the public, or is designated by the Agency to be a hazard or potential hazard of such severity that life and property are endangered. ALL emergency conditions require IMMEDIATE CORRECTIVE ACTION.
- g. Equipment Damage
Any piece of equipment owned or maintained by the Agency that is no longer capable of functioning as originally designed, or as since modified, or any piece of equipment that has deteriorated sufficiently in the opinion of the Agency so that failure is imminent.

- h. Extra Work
Any work upon an existing system or existing installation not specified in this Contract as Routine Maintenance or as a Specialty Item. Provisions for Extra Work are covered in Article III, Section 9, of this Contract.
- i. Immediate Corrective Action
When Immediate Corrective Action is required, the Contractor shall proceed to the site of the emergency by the fastest means available and, with no delay, perform all such work as may be necessary and appropriate to: 1) Ensure the safety of the public at the site of the emergency, and 2) restore to operation all of the equipment as specified under Article IV - Special Provisions.
- j. Maintenance Schedule
A schedule prepared by the Agency, or prepared by the Contractor at the direction and approval of the Agency, showing starting and completion dates of work items to be performed on the various installations or systems.
- k. Manual on Uniform Traffic Control Devices
The Manual on Uniform Traffic Control Devices, latest edition, and the State of Illinois Supplement to "Manual on Uniform Traffic Control Devices" in effect at the time work is performed. Also referred to as the MUTCD.
- l. Routine Maintenance
Servicing the various installations, systems and equipment and performing all work necessary to keep them in proper working order, appropriate appearance, and in serviceable condition at all times. Any required equipment repair of an unforeseen nature coming to the attention of the Contractor shall also be included under the Routine Maintenance definition. The Routine Maintenance work is more fully described under Article IV - Special Provisions.
- m. Standard Specifications
The Illinois Department of Transportation's "Standard Specifications for Road and Bridge Construction."
- n. Week
A period of seven (7) calendar days. Any multiple of this term shall mean a corresponding multiple of seven (7) calendar days.
- o. Equipment Repair
Servicing and/or restoring of any equipment to normal operating condition and appearance.
- p. End of Life
The point at which equipment is no longer serviceable, repairs are not possible and the equipment must be replaced. The Agency shall have sole discretion to make this determination.

III-5. TRANSITION AND INSPECTIONS

In the event that the incumbent Contractor will not be continuing maintenance with the Agency, EMC hardware stock owned by the Agency, will be transferred to the incoming Contractor. Transfer logistics and date will be defined by the Agency. Any work, inspection, and stock transfer done during the transition will be considered routine and will not be billable as extra

work by the incumbent Contractor or incoming Contractor.

The incoming Contractor will accept all routine pay items, as-is, from beginning of contract term without the performance of maintenance transfer inspections by the Agency and/or existing Contractor.

INITIAL TRANSFER OF FACILITIES

The equipment maintained under this contract will be transferred from the previous Agency maintainer to the Contractor *en masse* at 12:00 AM December 1, 2019. The Contractor will not conduct maintenance transfer inspections for individual intersections that are under Agency maintenance on the effective date of this Contract.

Beginning October 1, 2019, the Contractor may conduct inspections of the facilities included in the Contract. All inspections will be allowed only from the right-of-way at street level and without obstructing traffic flow. In no case shall the Contractor be granted access to Agency cabinets, handholes, or other maintained facilities.

No later than November 1, 2019, the Contractor may provide the Engineer with a list of deficient items requested to be addressed. The Engineer has the sole discretion of which items, if any, identified by the Contractor as “deficient” are to be repaired or replaced.

III-6. CONTROL OF WORK

- a. The Contractor shall respond promptly in restoring, replacing, repairing, and realigning equipment covered in this Contract when notified by any source.
- b. The Agency may prepare MAINTENANCE SCHEDULES for the prosecution of work on the various items of Routine Maintenance, Specialty Items, and/or Extra Work which are to be completed at regularly stated intervals. Refer to Article III, Section 6 of this Contract for specific requirements.
- c. The Agency may require that the Contractor prepare and submit written progress reports for Routine Maintenance and/or Extra Work. When required, these reports shall include (but not be limited to) one or more of the following: 1) completed or uncompleted status of work items, 2) specific troubleshooting procedures and when they were performed, 3) temporary repair actions taken, 4) explanation of any delays experienced by the Contractor, and/or 5) expected completion dates for each work item, based on the Agency’s approval. Written reports may be required on a regular and/or periodic basis throughout the Contract duration.
- d. The Agency may schedule status meetings with the Contractor. These meetings could be pre-determined or scheduled on an as-necessary basis. The Contractor must attend any requested meetings included in the overall contract cost, at no additional expense to the Agency.

III-7. PROSECUTION OF WORK BY THE CONTRACTOR

The purpose of this Contract is (1) to assure that all components of the traffic signal, street lighting, and pump station systems and installations operate essentially as originally installed, or as subsequently modified and (2) for preventive maintenance, to guard against and prevent equipment failures due to mechanical or electrical defects. The proper functioning of the traffic

signal, street lighting and pump station systems and installations is essential to maintain the smooth, expeditious, and safe movement of people and goods. It is imperative that all of the traffic signal, street lighting and pump station equipment be serviceable and in good operating condition so as to ensure maximum working efficiency and prevent unnecessary failures. When equipment failures do occur, due to unforeseen events, knockdowns, inclement weather, or from any cause whatsoever, TIME IS OF THE ESSENCE in arriving at the scene and taking corrective measures. To ensure this continuous and uninterrupted operation of equipment, service calls and emergency calls shall be answered promptly, and extraordinary effort shall be exerted by the Contractor to provide a timely and effective service in accordance with the terms of this Contract. Following is an Index to the issues covered under this section.

The items listed below shall be considered included in the cost of the Routine Maintenance portion of the Contract, and will not be paid for separately unless explicitly stated otherwise in the Contract.

- a. Work Force
- b. Emergency Travel Time
- c. Work Priority
- d. Communication Equipment
- e. Contractor's Representatives
- f. Pavement Closures
- g. Traffic Control
- h. Contractor's Facilities
- i. Equipment and Materials
- j. Testing Instruments
- k. Contractor's Equipment
- l. Work by Others
- m. Emergency Temporary Repairs
- n. Equipment Location and Access Responsibility
- o. Repair Records
- p. Utility Service Coordination
- q. Cable Maintenance
- r. Equipment Labels
- s. Malfunction Investigation
- t. Adequate Parts Inventory
- u. Locks
- v. Restoration of Work Area
- w. Construction Safety and Health Standards

a. **Work Force**

The Contractor shall at all times provide a force of qualified personnel sufficient, in the opinion of the Agency, to perform the Routine work and specialized operations required and described herein. The force of qualified personnel shall be sufficient to simultaneously perform both Routine Maintenance and Emergency repairs, including Specialty Items and any assigned Extra Work.

All patrolman and field personnel working independently on traffic signal equipment, performing Routine work, emergency repairs, and specialized operations required and described herein, shall be certified International Municipal Signal Association (IMSA)

Traffic Signal Level II Technicians. At least one IMSA Traffic Signal Level II certified technician shall be present on site at all times when work is being performed. The Contractor shall have on staff at least one employee holding IMSA Senior Field Technician Level III certification and at least one employee holding IMSA Senior Bench Technician Level III certification. The same employee can be counted toward both Level III certification requirements, if he/she holds the necessary certifications.

It is the intent of this Contract that Agency service shall take precedence over other work for third parties. The Agency may grant the Contractor authorization to postpone their work to address emergency situations, but the shortage of work force shall otherwise be insufficient grounds to excuse the Contractor's failure to perform routine or other non-routine work within the prescribed time constraints.

The Contractor's workforce shall possess the skills and knowledge necessary to perform all work in the proper manner. The workforce shall include personnel having certain special expertise, including, but not limited to the following:

- Materials Management
- General Electrical Power
- Building Wiring (Indoor Electrician)
- Various Types of Mechanical Work
- Roadway Electrical (Outdoor Lineman)
- Telemetry/Telecommunications
- Traffic Signal Closed Loop Monitoring System
- Fiber Optic Cable Installation and Repairs
- Hardware/Software Troubleshooting
- Vehicle Detection Operations and Troubleshooting
- PTZ Camera Operations
- Office Administration

b. **Emergency Travel Time**

The patrolman or field personnel designated to respond to emergency calls shall be stationed so that their travel time to arrive at any designated point of trouble shall not exceed one hour during normal weather and under normal traffic conditions.

c. **Work Priority**

Priority in the performance of Routine Maintenance and Extra Work shall be at the discretion of the Contractor unless specifically directed otherwise by the Agency.

d. **Communication Equipment**

The Contractor shall furnish the transportation for his employees and equipment used in the performance of this Contract. All personnel shall be equipped with cellular phones for expediting and maintaining 24-hour communications with the Contractor's headquarters. A listing of cellular telephone numbers shall be prepared and furnished to the Agency one (1) week prior to the beginning of the Contract.

The Contractor shall maintain a high-speed Internet connection and a dial-up phone connection on a personal computer(s), with email capability, accessible to dispatching personnel 24-hours per day, 7-days per week, including holidays. The requirements for alarm monitoring, dispatching, and system monitoring are described elsewhere in the Contract.

Refer to Article III-13, Reports and Forms, Paragraph g, for more information on this requirement.

e. **Contractor's Representatives**

The Contractor and subcontractors, if any, shall each designate in writing at least one responsible representative of the organization to whom instructions may be given by the Agency. Replacements on a temporary basis that might be needed shall be provided to the Agency as necessary. The representative(s) designated is/are to be available at all times under all circumstances. The representative(s) is/are to be present at all meetings (monthly, status, etc.) as scheduled and required by the Agency.

f. **Pavement Closures**

The Contractor shall keep at least one lane of two-lane roadways, and one through lane in each direction on multi-lane highways, open to traffic unless otherwise directed by the Agency. These restrictions shall not apply when and for the time necessary to clear from the roadway damaged equipment, debris, or other objects that constitute a hazard.

Lane closures shall follow the applicable IDOT Highway Standards and flaggers provided when conditions warrant. Closures for Routine and/or Extra Work shall be limited to 9:00 A.M. to 3:00 P.M. on weekdays, exclusive of holidays, unless approved in advance by the Agency.

g. **Traffic Control**

The Contractor shall utilize traffic control to accomplish contract work per IDOT/Agency specifications and standards.

h. **Contractor's Facilities**

The Contractor shall have and maintain adequate facilities for the timely completion of the work under this Contract. The Contractor shall have a single 24/7 phone number that will be utilized to contact the 24-hour dispatch service.

The Contractor shall maintain storage facilities and/or shops within a twenty-mile radius of the DuPage County Administration building located at 421 N. County Farm Road, Wheaton, IL 60187, in order to minimize time involved in repairing items covered under this Contract. The Contractor shall maintain, equip, and staff a facility for the testing, repairing, and overhauling of all traffic signal control equipment to be maintained under this Contract.

The repair facility staff shall include at a minimum one full time employee dedicated to the repair and testing of traffic signal equipment. This employee shall be capable of conducting the required conflict monitor/MMU testing and performing cabinet and controller troubleshooting onsite at the repair facility.

The Agency shall have the authority to visit and inspect the Contractor's facilities at any time. All storage and repair facilities shall be operational and available for inspection by November 20, 2019.

i. **Equipment and Materials**

All equipment, materials, miscellaneous items and component parts are to be furnished by the Contractor at his expense, unless otherwise specified by the Agency, and shall be the best grade of their respective kinds for the purpose. When required by these Specifications, or

when called for by the Agency, full information concerning the materials or articles which the Contractor intends to incorporate into the work shall be provided for approval (this may include such submittals as the manufacturer's catalog information). The Contractor shall prepare the equipment and materials in his shop so that the Agency can easily inspect them for approval for use in the system.

Extra Work directed by the Agency shall be completed with all new materials and parts, unless otherwise specified by the Agency.

j. **Testing Instruments**

The Contractor shall provide all necessary testing instruments and related troubleshooting equipment. That portion of instrumentation for use in the performance of this Contract shall be calibrated by an approved testing laboratory once each year. The Contractor shall maintain all current certificates of calibration, and shall provide this information when requested by the Agency. This equipment shall include but not be limited to the following: Inductive Loop Analyzer, amp probe, ohm meter, volt meter, watt meter, preemption system emitter/tester, conflict monitor testers, malfunction monitoring unit tester, fiber optic testers, including OTDR, etc.

The Agency reserves the right to require critical equipment, including but not limited to the traffic signal controller and MMU, be tested at the Contractor's repair facility. The Contractor shall have adequate spare equipment to ensure full system operation while meeting the testing schedule. Testing reports will be provided to the Agency according to the requirements of this Contract.

k. **Contractor's Equipment**

The Contractor shall provide at all times sufficient equipment in the opinion of the Agency to perform the routine work and specialized operations required and described herein. This equipment shall be dedicated to the work under this Contract and is in addition to the equipment required for any other work being performed by the Contractor.

The Contractor shall furnish the transportation for its employees and equipment used in the performance of this Contract. All vehicles used by the Contractor shall comply with all applicable laws and shall carry such lights and safety appurtenances as may be prescribed by the Agencies.

l. **Work by Others**

The Contractor shall report to the Agency, by the fastest means of communication, (1) any unauthorized work being performed by others affecting the system, (2) any other work in progress which may come to the Contractor's attention and which may endanger any installation of the system, and (3) any emergency and/or temporary repairs undertaken by the Contractor.

m. **Emergency Temporary Repairs**

The Contractor shall make emergency temporary repairs and permanent repairs to the installations. Unless otherwise specifically authorized by the Agency, permanent repairs shall be started not later than the second working day following emergency temporary repairs, and shall be continued insofar as possible without interruption, until completion. The contractor shall assemble all equipment and parts necessary for making permanent repairs within one (1)

working day following notification of damage. The Contractor shall notify the Agency by email with the status of the emergency temporary repair, and the time it was completed.

n. **Equipment Location and Access Responsibility**

The Contractor shall be responsible for responding to all calls requesting location of Agency-maintained electrical facilities included under this Contract. Agencies may be a member of JULIE. The Contractor shall locate and mark underground cables or any other components of the system to prevent damage and facilitate work by others. For routine equipment locate requests, the Contractor shall locate and mark the appropriate equipment within forty-eight (48) hours of the request. Emergency equipment locates, when directed by the Agency, shall be performed immediately upon the Contractor's notification. If the Contractor suspects or determines that the requester does not have permission to work within the Agency's Right-of-Way, the Contractor shall notify the Agency. Contractor shall provide locate documentation and/or use locate software as defined by the Agency. The cost for all equipment location services, documentation, software and associated license(s) required of the Contractor shall be included in the cost of the pay items for Routine Maintenance.

The Contractor is also required to provide access to equipment for other contractors and consultants who have approved contracts to work on the systems. When directed by the Agency, the Contractor shall provide personnel to open cabinets and facilities for inspection and review of equipment. All of the work items and services included herein shall be considered included in the cost of the pay items for Routine Maintenance.

o. **Repair Records**

The Contractor shall maintain Records for each Agency's equipment as described and/or directed by the Agency, under the terms and conditions of the Contract. This work shall include keeping records of repairs and services to all serial-numbered pieces of equipment, and making them available for review by the Agency at any time upon request.

p. **Utility Service Coordination**

The Contractor shall keep incoming power service in proper condition at all times, and shall cooperate with the appropriate utility company in this matter. The Contractor shall maintain service lines owned by the Agency, and shall cooperate with any utility company leasing service lines to the Agency. In addition, the Contractor shall perform such work at line terminals as may be required. This may include electrical, telephone, or other utility connections.

q. **Cable Maintenance**

All electrical or fiber optic interconnect cable, conduit and handholes between various parts of the traffic signal system shall be maintained by the Contractor. All parts of an existing cable system and appurtenances which become inoperative and/or designated for abandonment by the Agency, shall be removed by the Contractor, as directed, to the satisfaction of the Agency.

r. **Equipment Labels**

The Contractor shall affix cabinet stickers for traffic signals, service disconnects, and street lighting controllers as directed by the Agency. The stickers shall always be maintained in a readable condition. Any stickers determined by the Agency as needing replacement, shall be removed and replaced promptly as directed by the Agency. Replacement stickers will be provided by the Agency.

s. **Malfunction Investigation**

When directed by the Agency, the Contractor shall provide additional special patrols, inspections, and tests to confirm proper system equipment operation and/or collect information to isolate the cause of repetitious or intermittent system malfunctions. The times and locations shall be specified by the Agency.

t. **Adequate Parts Inventory (Spare Components)**

The Contractor shall be responsible for providing an adequate number of spare components and equipment (including, but not limited to, PTZ cameras, switches, radar equipment, etc.), and shall have them available for emergency, routine service and for overhauling replacement. At any time during the duration of this Contract, the current spare components inventory list shall be provided to the Agency upon request.

In the event the Contractor fails to have or obtain the appropriate spare equipment, the Agency may deduct from the monthly billing, as liquidated damages, the amount of \$500.00 per day, or part of a day, exceeding the associated repair time limit.

u. **Locks**

The Contractor shall be responsible for keeping all equipment locks in proper working order at all times. Whenever the Agency deems it necessary to change, replace, remove or add locks, the Contractor shall assume the full cost for such changes. Whenever any locks are changed or added, two (2) keys shall be furnished to the Agency.

v. **Restoration of Work Area**

Restoration of the traffic signal work area shall be included in the cost of the related pay item such as foundation, conduit, handhole, etc. and no extra compensation shall be allowed. All roadway surfaces such as shoulders, medians, sidewalks, pavement, etc. shall be restored to match the previously existing conditions. All damage to mowed lawns shall be replaced with an approved sod, and all damage to un-mowed fields shall be seeded, in accordance with Standard Specifications Sections 252 and 250, respectively.

w. **Construction Safety and Health Standards**

It is a condition of this Contract and shall be made a condition of each subcontract entered into pursuant to this contract that the Contractor and any Subcontractor shall not require any laborer or mechanic employed in performance of the contract to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous to their health or safety, as determined under Federal Construction Safety and Health Standards.

III-8. NEW INSTALLATIONS, INCREASED OR DECREASED QUANTITIES

- a. Whenever the quantity of any item of work, as listed in the Schedule of Prices, is increased or decreased due to additions or deletions of items in the installations or systems, payment will be made on the basis of the actual work performed.
- b. The Agency may notify the Contractor in writing when changes are made in any installations or systems that will increase or decrease the quantities of Routine Maintenance pay items including Items T-1 through T-9, L-1 through L-4, PS-1, CH-1, and CH-2 in the Schedule of Prices. This notification shall give the following information:

(1) a description of the equipment, unit or item to be added or removed, (2) the location of the equipment, unit, or item, (3) the revised totals of the respective item as shown in the Schedule of Prices, (4) effective date of the change.

In case of installation of new equipment to be added to this Contract, the Agency shall inform the Contractor of the scheduled date and time of equipment activation. The Contractor shall make such inspection as necessary at the time of activation to ascertain that the equipment is in proper working order. In addition, at no extra cost to the Agency, the Contractor shall notify the Agency in writing any information regarding failure of parts, guarantee periods, failure due to faulty construction, and knockdowns.

Alterations or changes in quantity for these pay items will be according to Article 104.02 of the Standard Specifications.

- c. Alterations or changes in quantity for Extra Work pay items, including but not limited to EQ-1 through EQ-93, will be paid for according to Article 104.02 of the Standard Specifications and the following:

“Alterations or changes in quantities for the Extra Work pay items will be paid for at the contract unit price for an increase in quantity up to 125 percent of the original contract quantity, rounded to the nearest whole number. For excess quantity above this value, a price for additional work shall be determined according to the requirements of Article 104.02 of the Standard Specifications. This applies to each individual EQ pay item and regardless of the percentage of the original contract value represented by the pay item.”

III-9. MAINTENANCE SCHEDULES

- a. The Agency may present MAINTENANCE SCHEDULES to the Contractor or may require the Contractor to present proposed schedules to the Agency. Where schedules are required, the Contractor shall submit schedules a minimum of two weeks before work is to begin.
- b. The Contractor shall complete all work items contained in MAINTENANCE SCHEDULES within the time period specified. Failure to complete the work items as specified, and within the designated time period, is sufficient cause for the Agency to collect liquidated damages as defined herein.
- c. The Contractor may request changes in a MAINTENANCE SCHEDULE by submitting proposed changes in writing to the Agency at least five (5) working days prior to the scheduled starting date of any item(s). Any such changes will become effective only upon the written approval of the Agency.
- d. The Contractor shall forward a MAINTENANCE SCHEDULE Completion Report to the Agency at the completion of a work item, or prior to the end of the Contract, whichever occurs first.

III-10. DISRUPTION OF SERVICE - LIQUIDATED DAMAGES

The Contractor is obligated to ensure that the various items of equipment in the installations and systems perform properly; whereas, maintenance operations for the respective installations and systems prescribed by this Contract must not be interrupted; whereas, MAINTENANCE

SCHEDULES and completion dates are specified for various items of work and are deemed of paramount importance in the maintenance functions; whereas, failure to perform all functions in the manner specified and within any time limit specified may seriously jeopardize the welfare of the general public, the Contractor agrees that should the Contractor refuse or fail to prosecute the work, or any separable part thereof, promptly and in the manner specified in this Contract with such diligence as will ensure its satisfactory completion, the Agency in his discretion may take one or more of the following actions:

(1) Withhold payment of any monthly or final remittance for any installation, or system, until all work has been performed to the satisfaction of the Agency; (2) Deduct a proportionate amount of money for work not performed on any installation or system, from any monthly or final remittance due the Contractor, with the amount of money deducted to be determined by the Agency; (3) By written notice to the Contractor, terminate the Contractor's right to proceed with the work or such part of the work that has been delayed, in which event the Agency may take over the work, prosecute the same to completion, by Contract or otherwise, and the Contractor and his sureties shall be liable to the Agency for any excess expenditures occasioned by the Agency; (4) Assess liquidated damages if any work covered by MAINTENANCE SCHEDULES, or any ROUTINE MAINTENANCE or other work which has a time limit specified, shall remain uncompleted after the expiration of such time limit, or after any authorized extension of such stipulated time. The Contractor expressly agrees to pay the Agency the sum of Five Hundred Dollars (\$500.00) for each and every Calendar Day, or part of a day, for each and every item of such work remaining uncompleted. Such monies shall be paid by the Contractor as liquidated damages to partially cover losses and expenses to the Agency, and not as a penalty. The Agency shall recover said liquidated damages by deducting the amount thereof from any monies due or that may become due the Contractor. If said monies are insufficient to cover said damages, then the Contractor or the Surety shall pay such amount due, provided, in any of the above instances, the right of the Contractor to proceed with the work was not deterred by the Agency, other Contractors employed by the Agency, or unforeseen causes beyond the control and without the fault or negligence of the Contractor. The Contractor shall, as soon as practicable, notify the Agency in writing of the cause of such delay, if any, and request of the Agency in writing such additional time or relief as the Contractor may deem necessary.

The Agency reserves all rights of contribution and indemnity.

III-11. EXTRA WORK

The Agency may authorize the Contractor to perform Extra Work and furnish the necessary materials and parts, provided that changes are not of such magnitude as to constitute a substantial or material variation in the original Contract. However, the Agency reserves the right to advertise for competitive bids to effect changes on any system or installation. Authorization for Extra Work shall be given by the Agency in writing.

The completion time for Extra Work shall be 30 calendar days, unless specifically agreed to otherwise by the Agency. If the Contractor is certain that the above requirement cannot be met when submitting the quotation for Extra Work, the quotation should contain a proposed schedule for start and finish of the work at issue. Failure to complete the work within the proposed schedule may constitute disruption of service and appropriate liquidated damages will be assessed in accordance with Article III, Section 7 of this Contract.

- a. Extra work shall not include replacing or making temporary and/or permanent repairs to equipment which is damaged by traffic. Repairs of motorist caused damage or knockdowns of traffic signal heads and posts, mast arm assemblies, cabinets or any other piece of equipment shall be paid to the Contractor on a Force Account Basis in accordance with Article 109.04 (b) of the Standard Specifications.
- b. The repair of equipment damaged from any cause whatsoever, other than that due to traffic, construction forces working under other agency contracts, permits, or agency personnel, shall not be paid for as Extra Work. Such work will be considered Routine Maintenance.
- c. Extra work does not include the repair or replacement of equipment damaged by the fault or negligence of the Contractor.
- d. Extra Work includes the replacement of failed inductive detector loops, providing the failure was not caused by negligence on the part of the Contractor. Failed inductive detector loops shall be replaced as directed by the Agency.

Under routine conditions, the Contractor shall have thirty (30) calendar days, after notification by the Agency, to complete the installation of a specified inductive detector loop. This time frame shall apply to both new and replacement detector loop installations.

Certain inductive detector loop installations may be designated by the Agency as priority items if, in the opinion of the Agency, they diminish public safety or level of service. For all such specially designated detector loop installations, the Contractor shall have ten (10) calendar days, after notification by the Agency, to complete the installation of the specified inductive detector loop. Failure to complete routine or priority detector loop installations within the required time will constitute disruption of service and appropriate liquidated damages will be assessed in accordance with Article III, Section 7 of this Contract.

- e. The Agency reserves the right to furnish any or all of the materials or parts for Extra Work, in which case no charges for items so furnished shall be made to the Agency.
- f. The Agency reserves the right to reject any claims for extra work which were not approved by the Agency before the work was started, for other than knockdowns or emergency repairs.
- g. Extra work for items not listed on the Schedule of Prices will be paid for: (1) either at a lump sum price or at a unit price agreed upon by the Contractor and the Agency, or (2) upon a force account basis as calculated in accordance with Article 109.04 of the Standard Specifications, with the exception that no additional payments will be made for fabrication, engineering, transportation, materials ordering, or any other labor or equipment costs.

III-12. SPECIAL MAINTENANCE (LOCATIONS NOT UNDER ROUTINE MAINTENANCE)

The Agency may have established agreements with various other governmental entities, including but not limited to municipalities, counties, townships, IDOT, Tollway, which require the Agency to maintain individual components at a traffic signal installation or other location that is not under Agency maintenance. The Agency may require the Contractor to perform maintenance and/or make repairs to these components, according to the following:

Special maintenance requests shall be sent to the Contractor in writing (E-mail, fax, etc.) directly from the Agency.

The requirements for transfers of maintenance are detailed in the intergovernmental agreement or other applicable agreements. In most cases, transfers of maintenance are not required. If a transfer is required for a specific location, it will be paid for according to the Extra Work sections of this Contract.

The initial call-out shall be performed on an on-call basis and paid for using the SPECIAL MAINTENANCE SERVICE CALL pay item. This call-out shall include the cost of accessing the site, troubleshooting, diagnosing, including using a bucket truck to reach the equipment, and making repairs that can be completed with basic tools or with no tools and without replacing hardware.

If the Contractor determines that additional repairs are required, including but not limited to replacing or refurbishing the equipment or sending it for factory repair, the Contractor shall notify the Agency and provide a written estimate of the cost to complete the work. Upon written authorization of the Agency, the Contractor shall make the repairs as directed. This additional repair or replacement work will be paid for as Extra Work according to the Contract.

After performing the necessary maintenance and/or repairs, the Contractor shall bill the Agency in accordance with applicable Contract pay items.

The Contractor shall not be responsible for routine patrol or testing of the equipment under this section. It is not the intent of Agency that this item be used for the maintenance and repair of minor signal items such as lamp outages, twisted heads, pedestrian buttons, etc. The purpose of this item is to provide a mechanism to expedite repairs related to the DuPage County or Naperville's signal communication network, emergency vehicle preemption equipment, lighted street name signs, and other specialty or ITS components. These types of equipment and repairs may be outside the scope of work normally performed by the owner/maintainer of the signal equipment. The Agency retains the right to reclassify the location as a Routine Maintenance location at any time, which would make the location subject to the requirements and basis of payment described in the applicable sections of this Contract.

III-13. REIMBURSEMENT FROM THIRD PARTY FOR REPAIRS OR DAMAGES

a. Damages by Traffic, Vandalism and Other Miscellaneous Causes

The Agency reserves the right to make recovery from third party or parties for damage to any part of the installations or systems caused by vehicular traffic, vandalism, or construction forces working within the Right-of-Way, including all incidents of equipment damage for which the Agency pays the Contractor to replace the damaged equipment. No part of such recovery or recoveries shall inure to the benefit of the Contractor. For each incident resulting in damage to electrical facilities, the Contractor shall furnish to the Agency an individual statement itemizing the location and nature of damages, costs of labor, equipment and materials, the date of damage, and the date repairs were completed.

- b. Damages by Construction Forces Working under Other Contracts
The Specifications for each project describe in detail the responsibility for equipment damaged by construction forces working under contract with the Agency. For cases when the Electrical Maintenance Contractor is directed to perform repairs on damaged equipment, the Contractor will be paid either directly by the party who caused the damage (upon approval by the Agency) or by the use of Specialty Work Pay Items and/or Extra Work provided for under Article III, Section 11 of this Contract. The method of payment is at the sole discretion of the Agency.
- c. Equipment Damages by Agency Personnel Working Within the Agency Right-of-Way
Damage to equipment caused by Agency personnel in the performance of their assigned duties shall be paid for by the Agency as Extra Work, as provided for under Article III, Section 11 of this Contract. The Contractor shall request an inspection by the Agency of the damaged equipment at the site of the damage prior to making permanent repairs.
- d. Record Keeping Requirements for Third Party Damages
The Contractor shall prepare Dispatch Room Reports for all equipment damages, whether the Contractor discovered the damage or was notified by others. The Contractor shall prepare Work Order Reports for each incident of damage to be repaired or replaced, for all Emergency, Temporary or Permanent Repairs made to the installations or systems. Dispatch Room Reports, Work Order Reports, and pictures of the damage shall be completed and forwarded to the Agency within 48 hours of occurrence or discovery.

III-14. METHOD OF BILLING

Billing for the cost of Routine Maintenance operations shown on invoices shall be for full monthly periods only, and shall not be prorated for shorter periods. Work performed on installations completed and activated on or before the fifteenth of the month shall be billed to cover the entire month; however, work performed on installations completed and activated after the fifteenth of the month shall not be billed on the current invoice, and payment shall begin the following month. Equipment that has been inactivated, eliminated or which the Agency has relinquished maintenance responsibility after the fifteenth of the month, shall be billed for the full month. Equipment that has been inactivated eliminated or which the Agency has relinquished maintenance responsibility on or before the fifteenth of the month, shall not be billed for that month. The Agency shall notify the Contractor, in writing, whenever changes are made to the Schedule of Routine Maintenance Pay Items.

Between the fifteenth (15th) day and the last day of each month, the Contractor will furnish a list of the Routine Maintenance pay items and quantities for the current month to the Agency. The Agency will then verify this list to ensure that recent signal activations, maintenance transfers, equipment additions, etc. are properly indicated. Once the quantities have been verified and agreed upon, the Contractor shall then submit to the Agency an invoice for the dollar value shown on the list.

At the end of the Contract, the Agency may withhold the final month routine maintenance billing until all work, determined by the Agency to be the responsibility of the Contractor, is completed to the Agency's satisfaction.

Invoices for Extra Work and Specialty Work shall be submitted by the Contractor no later than thirty (30) calendar days after the completion of the work. Each assigned project or Work Order

shall be invoiced separately. The invoice shall show the date of authorization and location of the work. Partial project billing will not be accepted unless previously authorized by the Agency. Invoices shall be submitted monthly with the Routine Maintenance Invoice. The Agency reserves the right to hold the invoice payment until the following month, if it is submitted separately. Payment will not be made until the work has been completed to the satisfaction of the Agency.

Upon request by the Agency, the Contractor shall provide a written estimate for work related to third party damage in advance of the work being completed to facilitate recovery. The estimate shall be provided within two (2) business days of the Agency's request.

III-15. DAMAGED PARTS, MATERIALS, AND EQUIPMENT

Surplus or damaged parts, materials, or other equipment deemed salvageable by the Agency shall be stored by the Contractor and designated as property of the Agency until disposed of or repaired under the direction of the Agency. The Agency may require inside, protected storage of specified equipment.

Used parts may not be installed to repair the various systems and installations unless specifically permitted by the Routine Maintenance Special Provisions or when otherwise directed by the Agency.

III-16. REPORTS AND FORMS

The following reports, in addition to the other reports or forms listed under ARTICLE IV - SPECIAL PROVISIONS, or elsewhere in the Contract, shall be submitted when required:

- a. Unsatisfactory Service Report
When, in the opinion of the Agency, any maintenance operation is not being properly performed to the satisfaction of the Agency, the Agency may submit an Unsatisfactory Service Report. The Contractor shall take necessary action in the most practical manner possible to correct the items listed in the report. A copy of the report showing the action taken and the date of such action shall be submitted to the Agency.
- b. Condition Report
The Contractor shall submit to the Agency, when requested, a Condition Report showing the history of any item in the system. This report shall contain the following information or such other information as required by the Agency: (1) The general condition of the item, including the results of tests, (2) The record of any breakdown of the item, and of remedial action taken, and (3) The Contractor's recommendations for corrective measures necessary to ensure the proper performance of the item.
- c. Inspection Report
When the Contractor finds any item of equipment not functioning properly, an Inspection Report shall be submitted to the Agency. This report shall contain a detailed description of the particular malfunction and the Contractor's detailed recommendations for corrective measures necessary to eliminate the condition.
- d. Dispatch Room Report
Every Monday morning, the Contractor shall send a Dispatch Room Report to the Agency. The report format shall include a sequentially number entry for each maintenance response

undertaken by the Contractor. This report shall include the location, item description, date and time notified, caller, reference number (dispatch room ticket number), date completed, and status/remarks. The report shall include a separate entry for each service call at a given intersection for any type of maintenance work, except regular patrol activities, including any defective, non-operative, or damaged equipment a sequentially numbered Dispatch Room Report shall be initiated. Copies of said reports shall be provided to the Agency every Monday morning. The Dispatch Room Report shall show, in addition to the description of the defect, the Work Order Number which is initiated to correct the reported defect. This provision does not require a Work Order to be generated for every Dispatch Room Report. However, the Agency reserves the right to require Work Orders for specific maintenance activities.

e. Work Order

Copies of all Work Order(s) issued to correct the defect(s) indicated on a Dispatch Room Report shall be maintained with the associated Dispatch Room Report. The copy of the Work Order(s) shall indicate the exact location of the component at fault and whether it is being bypassed, removed, replaced, or repaired temporarily or permanently. The Agency reserves the right to require copies of all Work Orders related to a specific Dispatch Room Report. When requested by the Agency, copies of Work Orders shall be provided within seven (7) days from the date of the request.

f. High-Speed Internet Connection with E-Mail Capability

Maintenance communication and documentation between the Agency and the Contractor requires an electronic / E-Mail format. For this reason, the Contractor shall maintain a high-speed Internet connection on a networked device with E-Mail capability, such as Microsoft Outlook, in the dispatch center. The E-Mail shall be actively monitored by Contractor personnel 24 hours per day, seven days per week, including holidays.

III-17. SPECIAL BILLING PROCEDURES (TOLLWAY WORK)

Some of the equipment and facilities for the Agency Networks may be on property belonging to the Illinois State Toll Highway Authority. Due to special access requirements, etc., the Tollway prefers to have its own contractors perform work in or around its facilities. As part of maintaining the Agency Networks, the Agency may request the Tollway and/or their contractor to install equipment perform maintenance and/or make repairs. The purpose of this item is to provide a mechanism to expedite such work and provide payment to the Tollway and/or its contractors.

When such work has been authorized by the Agency, the billing procedure shall be according to the following:

The Tollway's contractor shall submit a detailed invoice to the Contractor. The Contractor shall coordinate with the Agency to confirm that the work has been completed and accepted, and that the invoice is in accordance with the work that was authorized. The Contractor shall then approve the invoice and pay the Tollway's contractor for the work. The Contractor shall then provide a detailed bill to the Agency for reimbursement of the same amount that was paid to the Tollway contractor.

ARTICLE IV – SPECIAL PROVISIONS

TRAFFIC SIGNAL SYSTEM

The Traffic Signal System consists of electronically operated traffic control devices owned, operated, and/or maintained by the Agency including flashing beacon installations, vehicle counting stations, traffic signal installations, closed-loop traffic signal systems and an Ethernet-based centralized signal or traffic management system.

The traffic signal installations include, but are not limited to master and local controllers, intersection monitors/modules, modems, transceivers, detectors (induction loop, microwave, radar, magnetometers, video, infrared, pedestrian-activated, or optical), controller cabinets, signal heads (vehicle and pedestrian), internally illuminated and fiber optic signs, pan/tilt/zoom cameras, video monitors, communication cabinets, battery back-up systems, traffic signal posts, mast arm assemblies and poles, electric cable (standard multi conductor, shielded multi conductor, co-axial, and fiber optic), conduit, communication lines, concrete foundations, handholes, junction boxes, utility service installations, ground rods, and other appurtenances owned and/or maintained by the Agency.

In all cases where the signal head is bracket mounted to a combination mast arm assembly and pole with a lighting unit, the foundation and mast arm assembly and pole shall be maintained under Routine Maintenance Pay Item T-1, TRAFFIC SIGNAL LOCATION, and the luminaire shall be maintained under Routine Maintenance Pay Item L-1, STREET LIGHTING LOCATION, where both the traffic signal installation and street lighting are maintained by the Agency. At locations where the Agency maintains the traffic signal installation and a municipality (others) maintains the street lighting system, the foundation, mast arm assembly and pole shall be maintained under Routine Maintenance Pay Item T-1, TRAFFIC SIGNAL LOCATION, and the lighting arm, luminaire and related wiring shall be maintained by the municipality (Others). In this case, Contractor shall coordinate all repair work with the municipality (Others).

ITEM T - TRAFFIC SIGNAL ROUTINE MAINTENANCE

The following requirements shall apply to Pay Items T-1 through T-9. The costs associated with these requirements are included in the applicable pay items and no additional payment shall be made except as stated explicitly herein.

1. The Contractor shall maintain and repair the various installations and perform all work necessary to keep them in proper working order, to the satisfaction of the Agency, at all times. No compensation will be allowed over and above the bid prices for meeting the requirements of Routine Maintenance.
2. The Contractor shall, after proper notification, maintain of any new or existing installations which may be accepted by the Agency.
3. The Contractor shall report the following to the Agency as quickly as possible:
 - a) any work authorized by the Contractor being performed on the installations by anyone other than the Contractor, such as Subcontractors or Vendors.

- b) any work that comes to the attention of the Contractor which may endanger any installation.
 - c) any emergency temporary repairs.
 - d) any work of an unusual nature and/or for which the Agency has requested notification.
4. The Contractor shall respond to locate requests by the Agency or those received through J.U.L.I.E. as required, to locate and mark any or all underground components of an installation.
 5. The Contractor shall keep incoming power service and/or telephone service in proper working condition at all times. The Contractor shall coordinate and cooperate with the appropriate utility companies in this matter.
 6. The Contractor shall patrol and inspect each installation, as directed by the Agency, and after repairs have been made, to ensure said repairs were satisfactorily completed.
 7. Replacement of burned out traffic signal lamps and damaged sockets shall be scheduled and accomplished in the following manner, or as directed by the Agency:
 - a. If two or more traffic signal indications remain in operation for any given vehicle phase (movement) on any approach to an intersection, the replacement of the burned-out lamp or damaged socket shall be accomplished within twenty-four (24) hours for red indications and forty-eight (48) hours for all other indications. The twenty-four (24) hour and forty-eight (48) hour time periods begin immediately following discovery and/or notification of the outage.
 - b. If only one traffic signal indication for any given vehicle phase (movement) remains in operation for any approach to an intersection, IMMEDIATE CORRECTIVE ACTION must be taken. This requirement includes, but is not limited to, arrow indications where only one such indication is operational as well as any red flashing beacons. This requirement shall not have any exceptions.

When replacing burned out incandescent traffic signal lamps, the Contractor shall clean the reflector and lens, when present. All replacement lamps shall meet the requirements and approval of the Agency. Group relamping is not a requirement in this Contract. Replacement of incandescent lamps will be on an as-needed basis. These provisions shall not apply to knockdowns.

8. The Contractor shall repair or replace all defective or damaged equipment (e.g. burned out indicator lamps, LEDs, and LCD displays) as discovered or when directed by the Agency, except as noted below. Routine Maintenance includes all visibility issues, repairs, replacement of equipment caused by adverse weather conditions (e.g. removal of snow from signal lenses).
9. All damaged or defective equipment from any cause other than traffic, including by construction forces working under other agency contracts, permit projects, or by Agency

personnel; shall be repaired as directed by the Engineer; these items would be paid for as Extra Work as defined in Section III-11.

10. The Contractor shall maintain in stock at all times sufficient materials and equipment to perform temporary and permanent repairs within time limits specified in this contract.
11. Where traffic signals are not fully operational, for any reason, the Contractor shall promptly ensure that the following requirements are met:
 - a. The following shall be considered the minimum acceptable signal operation pending permanent repairs: Two (2) far side signal heads directed towards the through traffic movements of each approach, two (2) signal faces directed towards any separate turning movements (where they are provided) on each approach, and two (2) pedestrian signal faces for each pedestrian crossing. The signal heads must be fully visible and not obscured by snow, dirt, or other external obstructions. In addition, where the distance from any stop bar to the far side signal exceeds 150 feet, then a near right signal must also be maintained.
 - b. The Contractor's response time for all traffic signal knockdowns shall be in accordance with the Repair Timetable contained in this Contract. When clearing a traffic signal knockdown, the Contractor shall determine if the minimum acceptable signal operations described above are present. If the minimum conditions are not present, the Contractor shall take IMMEDIATE CORRECTIVE ACTION to restore the minimum acceptable signal operations. All temporary signal faces shall contain the same type, number and size of lenses as the signal faces being replaced. The Contractor shall notify the Agency of knockdowns reported or serviced on the first business day following the knockdown. This repair work shall be considered Routine Maintenance according to Item 8 above.
 - c. When maintenance at a signalized intersection requires that the controller be disconnected, when power is available, the Contractor shall place the intersection on flashing operation, which may require the Contractor to install a flasher unit in the controller cabinet if none is provided. The signals shall flash RED for all directions unless a different indication has been directed by the Agency.
 - d. Where traffic signals are in flashing operation for thirty (30) minutes or more for any reason, the Contractor shall first place at least one STOP sign, (Illinois Standard Sign R1-1-36 x 36 or larger), on EACH approach to the intersection as a temporary means of regulating traffic, except for those approaches to which a flashing YELLOW indication has been directed by the Agency. All Contractor vehicles involved with the maintenance of traffic signals shall be equipped with a sufficient number of serviceable, reflective STOP signs, furnished by the Contractor, to be erected as specified herein. At all times, the Contractor must maintain a sufficient number of spare STOP signs for the replacement of existing STOP signs which are damaged or stolen. Municipally owned folding stop signs, authorized by the Agency, when properly placed in the open position, shall fulfill the temporary traffic control responsibilities of the Contractor in this paragraph, unless indicated otherwise by the Agency. When a signalized intersection is returned to normal operation, the Contractor shall immediately re-fold and properly secure all folding STOP signs that were in use. The Contractor's use of, or dependence upon, municipal folding STOP

signs shall in no way diminish the Contractor's obligations for properly equipped vehicles and adequate spare signs, as specified herein. The Contractor shall send an E-mail notification to the Agency once the traffic signals are back in normal operation.

12. The Contractor shall replace defective or damaged equipment that is part of a specific traffic control installation. If proper signal sequencing with full vehicle detection cannot be achieved immediately, a controller which will provide the proper signal sequencing and full vehicle detection shall be installed within twenty-four (24) hours of removal of the original controller. The Contractor shall notify the Agency no later than the first business day following removal and/or replacement of any controller.
13. Controllers shall be cleaned and overhauled when the controller malfunctions, at which time it shall be thoroughly bench checked at the Contractor's repair facility.
14. When utility power is temporarily not available at an intersection that has a UPS with a generator plug, and the Agency provides a portable generator, the Contractor shall provide personnel to make the necessary connections to operate the traffic signal under generator power. The contractor shall furnish the required wiring harness or peripheral cables to operate the intersection. The Contractor shall provide personnel to disengage the generator and restore the signal to utility power operations when power is restored. The above work shall be considered Routine Maintenance. If the Agency requests the Contractor to transport the generator and/or fuel the generator during their response, the associated labor and materials costs will be paid for on a Force Account basis.
15. All permanent repairs or replacements shall be made with new equipment only, unless otherwise specifically approved by the Agency.
16. The Contractor shall check and maintain the following items as directed by the Agency:
 - a. Controllers, conflict monitors, flashers, relays, detectors, time clocks, coordination equipment, telemetry equipment, cameras, and preemption equipment to ensure its proper function.
 - b. Align all signal posts, controller pedestals, foundations, mast arm poles, astro brackets and signal heads.
 - c. Tighten all bolts.
 - d. Remove the dust and debris from the interiors of controller cabinets with a brush and vacuum cleaner, and replace cabinet air filters.
 - e. Replace damaged, discolored, cracked or peeling signal lenses.
 - f. Replace damaged or missing nut covers, mast arm shrouds, handhole covers and handles, handhole hooks, pole handhole covers, cabinet locks, and related hardware.

- g. Clean the exterior housings of all image sensing and PTZ (pan/tilt/zoom) cameras in strict accordance with the manufacturer's recommendations, and as directed by the Agency.
- h. The Contractor shall NOT clear any logs on any devices (controller, MMU, etc.) unless directed by the Agency. Clearing of logs will constitute disruption of service and appropriate liquidated damages will be assessed in accordance with Article III, Section 7 of this Contract.

17. **System Monitoring** – The Contractor shall maintain communication with all intersection monitor locations, closed loop signal systems, and the centralized traffic signal system software in order to monitor and receive alarm notifications regarding the operations of the count stations and traffic signal locations.

For Dial-up, Closed Loop Signal Systems, the Contractor shall maintain a separate phone line and modem, and shall program all intersection monitor and master controller equipment to report all alarms to this number.

The Contractor shall maintain a high speed internet connection for remote access to the centralized traffic signal software and shall provide an email account which shall receive all alarm notifications from the centralized traffic signal software for the purposes of emergency response, repair notification, and system trouble shooting.

The Contractor shall have valid software license(s) for all monitoring software in use by the Agencies, including Econolite's Aries software. No additional payment shall be made under this Contract for software licenses.

The Contractor shall respond to all alarms from an intersection monitor, a closed loop signal system, or the centralized traffic signal software in accordance with the Repair Timetable as listed in the Special Provisions contained in this Contract.

System monitoring shall be conducted by an IMSA Senior Bench Technician Level III certified staff member.

18. **Patrol Inspection** – The Contractor shall inspect all Traffic Signal Routine Maintenance Pay Items (T-1 through T-9) currently under Routine Maintenance at least once every month.

This patrol inspection shall include checking for the proper operation of the following items: Signal heads (twisted/misaligned), Lamps/LEDs (for outages), luminaires, vehicle detection, pedestrian push-buttons, signal controller (including correct date/time), MMU (including correct date/time), battery back-up system, Emergency Vehicle Preemption System (EVPS), proper telemetry/communications, door switches, cabinet vents and fans, heat exchangers and all other specialty equipment that exists and is associated with the corresponding pay item.

When the Contractor inspects a signalized intersection or remote controlled video system as part of a maintenance transfer inspection, it shall fulfill the requirement for that month's patrol inspection.

Agency may request nighttime inspection(s) be performed by the Contractor as Extra Work.

The Contractor will utilize a GPS system to keep a record of patrol activity and provide a monthly report to the Agency.

The Contractor shall prepare and maintain a list for each month's patrol inspections. For each calendar month, the list shall include all items inspected, the date inspected, the name of the patrolman, and any significant deficiencies identified and corrected. The Contractor shall provide the patrol inspection list to the Agency by the 15th day of the following month.

19. **Mast Arm Inspections** - The Contractor shall inspect all mast arm assemblies, mast arm poles and astro brackets (or other types of hardware) supporting traffic signal heads or pedestrian signal heads. This inspection shall be completed between April 1 and October 1 of the first year of the contract and may be performed concurrent with the group relamping, or separately. Prior to March 15th of each year, the Contractor must furnish in writing to the Agency, a progress schedule indicating the dates on which these inspections will be completed. The inspection shall focus on the structural elements of the mast arm assembly, and must include a close-up, arms-length investigation of the following elements:

Mast Arm Pole	Mast-to-Pole Connection Base Plate	Anchor Bolts Nuts
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- a. The arm of the assembly should be visually inspected at all signal head connections for any visible defects, such as cracks or buckles. The mast arm-to-pole connection should be inspected for significant loss of section, cracks in welds or base metal, and deterioration of the connection plates. The bolts of the mast arm-to-pole connection should be inspected for tightness and condition.
- b. The pole should be checked for external corrosion, impact damage, perforation by rust-through, and any discernible deflection, distortion or cracking. The pole should be closely checked for corrosion near the base plate, especially if mounted on a grout bed. The welds of the pole-to-base plate connection should be checked for cracks. The base plate should be checked for any severe section loss or deformation.
- c. The anchor bolts of the mast arm should be inspected to verify that the existing nuts are not loose or missing. The anchor bolts should also be checked for any corrosion or bending.
- d. Upon discovery of any buckles and/or significant structural defects (loose nuts, dents, severe corrosion, cracks in welds or structure, etc.), the Contractor shall immediately notify the Agency and take corrective action as directed by the Agency to ensure the assemblies do not pose an immediate hazard.
- e. Upon discovery of any broken elements or significant defects of the supporting hardware for the traffic signal heads, the Contractor shall immediately notify the

Agency and take corrective action to ensure that the assemblies do not pose an immediate hazard.

The Contractor's personnel shall inspect the entire intersection on the same working day. The Contractor shall provide the Agency a completed form MA-1 or MA-2 (single or double mast arm assembly), "Annual Arm Inspection Report Form" for each Agency maintained mast arm assembly and pole inspected.

20. **Conflict Monitor Testing** - The Contractor shall conduct conflict monitor and/or malfunction monitor unit (MMU) testing at locations designated by the Agency at one half of all traffic signal maintained locations per year. Records of the test results indicating the date, time, name of the person conducting the test, and the serial number of the unit shall be furnished to the Agency. If any part of the test fails, the unit shall be taken in for repair and a spare unit installed and tested. The testing shall be completed between April 1 and October 1 of the year. The Contractor may utilize their own Report Form, if approved in advance by the Agency, provided all the same information is reported to the Agency.
21. **Camera Inspection and Cleaning** - The Contractor shall inspect and clean all cameras at agency-maintained traffic signals. All video detection and PTZ cameras shall be inspected for proper operation, security of connections and mounting hardware, and general condition. The Contractor shall clean all camera lenses and domes in accordance with the manufacturer's recommendations. Upon completion of this work, the Contractor shall furnish to the Agency a completion report. The completion report shall indicate the location, the date inspected and cleaned, by whom, and remarks regarding items noted during inspection. The camera inspection and cleaning shall be completed between April 1 and October 1 of each year. The Agency may direct the Contractor to prioritize certain locations of operational or other reasons. The Contractor shall sequence the work to complete these priority locations first, without regard to proximity or other labor efficiencies.
22. **Annual Cabinet Cleaning** - The Contractor shall clean the interior of all traffic signal controller or remote control video cabinets at least once during each year of this Contract. Dust and debris inside the cabinets shall be removed with a brush and vacuum cleaner, and all cabinet air filters shall be replaced. Cabinet filters shall be clearly labeled with the date replaced. Upon completion of this work, the Contractor shall furnish to the Agency a completion report. The completion report shall indicate the location, the date cleaned, and by whom. The annual cabinet cleaning shall be completed by October 1 of each year.
23. **Annual UPS Inspection / Battery Testing** - The Contractor shall inspect all uninterruptible power supply cabinets and test the batteries at least once during each year of this Contract. For each location, the Contractor shall complete an inspection report form (provided by the Agency). Batteries shall be tested and voltages documented. Weak batteries and unserviceable equipment shall be replaced by the Contractor. The Contractor may utilize their own Report Form, if approved in advance by the Agency, provided all the same information is reported to the Agency.
24. The Contractor shall keep records of repairs and services to all serial numbered pieces of equipment as directed by the Agency and furnish them to the Agency upon request.

These records must indicate the location, the malfunction, and removal and reinstallation dates of each item. The records should also indicate the serial number of the spare piece of equipment if such item is installed.

25. The Contractor shall maintain all components of the emergency vehicle preemption system (EVPS) at applicable intersections to the satisfaction of the Agency. This work includes repairing or replacing defective components so as to restore the preemption system to complete working order within 72 hours of problem notification. The Contractor shall notify the local fire district and the Agency whenever the EVPS is inoperative or any component of the EVPS is removed for service. As part of maintaining the emergency vehicle preemption system the Contractor will be required to clean the optical detector lenses and/or adjust the sensitivity of the phase selector as directed by the Agency.

At locations where the Agency does not maintain the traffic signal installation, but does maintain the EVPS, equipment repair shall be paid for using Contract pay items or, if no applicable pay items are available, on a Force Account basis.

26. The Contractor is responsible for removing posters and graffiti from all components of the traffic signal installations and to repaint as directed by the Agency.
27. The Contractor shall not make any timing or programming changes on any closed-loop system or its components except through qualified electricians or timing consultants and with the approval of the Agency.
28. At locations where the traffic signal installation is seasonal, the Contractor is responsible for the removal and installation of the existing traffic signal controller and to cover and uncover the traffic signal heads, as directed by the Agency.
29. The Contractor shall furnish a qualified electrician to perform inspections during all agency traffic signal maintenance transfers. All costs associated with these inspections shall be included in the cost of routine traffic signal maintenance. This item may include high mount and/or low mount flashing beacon installations.

The following two types of maintenance transfers may occur:

Type 1: An existing traffic signal installation will have its maintenance transferred from the Contract to another agency or contractor;

Type 2: A new or existing traffic signal installation will be added to the Contract;

- a. When a Type 1 transfer occurs, the Contractor shall attend the transfer when directed by the Agency and provide assistance and support as necessary to facilitate the transfer of maintenance. At the Agency's sole discretion, the Contractor may be directed to repair or replace any defective equipment at the time of the maintenance transfer under Routine Maintenance at no additional cost.
- b. When a Type 2 transfer occurs, the Contractor shall provide the following services on behalf of the Agency at the field transfer inspection:

- i. Analyze all detector loops at the controller cabinet insuring that each detector loop, or a set of detector loops, complies with Section 886 of the Standard Specifications.
 - ii. Analyze the controller program provided by the controller manufacturer to ensure that the phase and overlap designations are provided correctly in the controller program, as indicated on the traffic signal sequence drawing and cabinet wiring drawings.
 - iii. Ensure that the phase timings in the traffic signal controller are those provided by the Agency.
 - iv. Assist in placing the traffic signal in operation by observing the signal display and the conflict monitor or MMU operations. The Contractor shall report any operational discrepancies or signal outages to the Agency immediately.
 - v. Assist the Agency in walking all approaches of the signal installation, and inspecting all traffic signal items for conformance with the specifications and special provisions for the project. The Contractor shall also assist the Agency in inspecting all of the traffic signal heads for proper aiming.
 - vi. Assist in the testing and/or adjusting of emergency vehicle pre-emption equipment. The Contractor shall ensure that whenever railroad pre-emption and emergency vehicle pre-emption are in operation simultaneously, that the railroad pre-emption has priority over emergency vehicle pre-emption. *The Contractor shall ensure that locations containing railroad preemption are programmed in accordance with the approved railroad preemption program, and that all special lock-out devices are operating properly.
30. The Contractor is required to attend and assist at any inspection or testing of the railroad-interconnected traffic signals as scheduled by the Agency, the Illinois Commerce Commission, and/or the Illinois Department of Transportation.
31. Special Tasks Required by the Agency - The Contractor shall be responsible for completing special tasks as directed by the Agency. These special tasks will be associated with the maintenance and operation of the traffic signal system. The determination of whether work is considered a Special Task under this provision is solely at the discretion of the Agency. The special tasks may include, but will not be limited to, the following:
 - a. Inspect the operation of a signalized intersection at a specific time period and provide a recommendation for improving traffic flow.
 - b. Program timing parameter changes that have been approved by the Agency.
 - c. Determine the phasing or operation of a signalized intersection.
 - d. Check the condition or verify the presence of equipment at a signalized location.
 - e. Provide a copy of timing parameters in use at a signalized location.
 - f. Provide recommendations to improve the safety or operation of a signalized location.
 - g. Provide a compiled list of all locations meeting a specified criteria.

All costs relating to completing special tasks such as these shall be considered included in cost of routine traffic signal maintenance and no additional compensation shall be allowed.

32. Unless specifically stated to the contrary, all items shall be repaired within a time frame more specifically described in the Repair Timetable contained in this Contract. This table is not to be used in place of routine maintenance schedules. The times listed are noncumulative. Any repairs not specifically covered in the Repair Timetable, or described elsewhere, shall be completed within a time frame matching the most similar line item in the Repair Timetable. The Repair Timetable shall be subject to revision at any time, at the discretion of the Agency.

In addition to fulfilling the daily routine and non-routine requirements of the Traffic Signal System, the Contractor shall provide sufficient IMSA Traffic Signal Level II Technicians to respond to all notifications of malfunctions on a round-the-clock basis (24 hours a day, 7 days a week). The Contractor is required to keep a time and date log of each response, from the time of the initial report to the time of final permanent repair.

In the event the Contractor fails to meet the required times for response, service restoration, and/or permanent repairs as listed in the Repair Timetable, the Agency may deduct liquidated damages from the monthly billing in the following amounts:

- a. Response Time – Fifty dollars (\$50.00)/hour for each hour or part of an hour past the response time limit.
- b. Service Restoration – One hundred dollars (\$100.00)/hour for each hour or part of an hour past the service restoration time limit.
- c. Permanent Repairs – Five hundred dollars (\$500.00)/day for each day or part of a day past the permanent repair time limit.

The above liquidated damages shall not limit the Agency from withholding additional monies from the monthly billing if, in the opinion of the Agency, proper service to the traffic signal system has not been performed.

33. The Contractor shall be responsible for clearing snow and ice from LED signal indications in compliance with the Repair Timetable for a signal outage. Two clearly visible signal indications of all colors and arrows are required to be maintained at all times.
34. The Contractor shall clean all lenses and reflectors at incandescent locations and all LED signal indications at least once each year between April and October. If the indication is cleaned as part of the Group Relamping (Paragraph 19) or under Extra Work pay item for relamping LED indications, this shall satisfy the annual cleaning requirement of the signal indication.

ITEMS T-1 through T-9 - TRAFFIC SIGNAL ROUTINE MAINTENANCE PAY ITEMS

T-1 TRAFFIC SIGNAL LOCATION

This item shall consist of maintaining a standard mast arm/post traffic signal location, either as part of a coordinated signal system, including signals operated under adaptive signal control and/or traffic responsive programs, or an isolated signalized intersection. This item may include, but shall not be limited to, any number or type of the following:

- Traffic signal heads, (incandescent and LED), programmable signal heads, traffic signal posts, mast arms, combination mast arms, brackets, and foundations. The traffic signal heads shall consist of signal sections, back plates, louvers, and/or visors.
- Pedestrian signal heads, (incandescent and LED), audible/accessible and countdown pedestrian signals, pedestrian-actuated detectors (e.g. push buttons), accessible push button control hardware, and associated signs.
- A full-actuated controller, solid-state type, with volume-density features, railroad and/or emergency vehicle preemption, transit signal priority, and time-base coordination. A controller cabinet with its associated equipment, relays, load switches, terminal boards, system communications equipment, modems, switching units, intersection coordinators, time switches and, where applicable, control pedestal and foundation. Cabinets may be NEMA or ATC, operating under 120VAC, 48VDC, or other industry standard power configurations. Intersection monitoring devices, where applicable, shall be maintained.
- BIUs, load switches, switch packs, power supplies, conflict monitor (CMU), malfunction monitor unit (MMU), and other peripherals, cables, and hardware.
- All vehicle detection technologies, including inductive detector loops, magnetic detectors, image sensing (video) detectors, micro loops, preformed detector loops, radar detectors, magnetometers, and microwave detectors, including detector amplifiers, cards, process, and other related components. Communication for video detection systems, including transmitters, receivers, modems, and other miscellaneous communication equipment, regardless of its location in the system, shall be included under this pay item.
- A remote-controlled video system for monitoring traffic flow and road/pavement conditions when connected to the traffic signal cabinet. The video system shall include remote pan/tilt/zoom (PTZ) cameras mounted on poles and/or mast arms, camera housings, all necessary mounting hardware, conduits, cables, connectors and related equipment. In addition, communication for the remote video system, including image digitizer (processor), video/data transmitters and receivers, modems, and other miscellaneous communication equipment, regardless of its location in the system. Cameras installed in isolated locations not operated through a traffic signal cabinet will be paid for under the T-9 pay item.
- Emergency Vehicle Preemption System (EVPS) including optical heads, discriminator card / amplifier, confirmation beacons, pushbutton, and associated wiring.
- Terminal Servers, which are used to connect multiple traffic signal controllers to the Central Signal System Network. The terminal servers currently in use by the County are the Digi PortServer TS with up to 4 ports.

- Battery Back-Up systems. The system is comprised of the UPS or Inverter unit, bypass switch, batteries, cabinet, and related wiring harnesses. Replacement units can be a lead-acid type, unless prohibited by state or local regulations, regardless of the existing type.
- Illuminated signs. The signs may be street name signs and/or regulatory signs. The illumination may be accomplished by incandescent lamps, fluorescent lamps, neon tubes, LEDs or fiber optics.
- Traffic signal conduit and interconnect conduit. The conduit may be in the ground or attached to structure. Conduit type may be coilable non-metallic, rigid non-metallic, and/or galvanized steel.
- Traffic signal communications equipment including cell modems, radio links, modems, and fiber optic transceivers.
- Traffic signal handholes and interconnect handholes, including replacing broken and/or missing handhole lids. If a new frame is required, it shall be installed at no additional cost to the contract.
- Traffic signal cable and interconnect cable including copper wire and fiber optic.
- Electrical and telephone service installations.
- Railroad interconnected security systems, including passwords, locks, and other security measures implemented by the Agency.
- Master controllers, local controllers, and intersection monitor modules with solid-state features with associated equipment and where applicable, cabinet and foundation. The associated equipment may consist of modems, telephone jacks, switching units, interface boards for copper and fiber optic type interconnect cables, and all associated components for a coordinated traffic control system.
- When directed by the Agency, this item shall also include operational items such as: controller database changes, timing changes, activation / deactivation of phases, relocation of signal heads, relocation / reconfiguration of detectors (microwave, radar, magnetometer, and/or video), and bagging / unbagging signal heads.

T-2 SPAN WIRE TRAFFIC SIGNAL LOCATION

This item shall consist of maintaining a span wire traffic signal location, either as part of a coordinated signal system or an isolated signalized intersection. This item may include, but shall not be limited to, any equipment listed in T-1. In addition, this item may include any number or type of the following: platform, wood poles, wood posts, down guys, span wire cable, span wire accessories, tether wires, electric service installation and cables, microwave detectors, and/or auxiliary components.

When directed by the Agency, this item shall also include operational items such as: controller database changes, timing changes, activation / deactivation of phases, relocation of signal heads, relocation / reconfiguration of detectors (microwave, radar, magnetometer, and/or video), and bagging / unbagging signal heads.

T-3 FLASHING BEACON, OVERHEAD MOUNT, ONE OR MORE FACES

This item shall consist of maintaining a flashing beacon, either LED or incandescent, mounted overhead, which shall be based on the installation having at least one flasher indication mounted over a traffic lane. This item may include, but shall not be limited to, a flasher controller in a housing, mast arm assemblies, combination mast arm assemblies, span-wire installation, electric cable, electric service installation, solar panels and batteries, signs, and signal heads with one or more faces and one or more sections. A span wire installation typically consists of two (2) or more wood poles with down guys, span wire cable, and related hardware. This item shall be measured for payment on the basis of the one (1) EACH per controller operating the flashers regardless of the number of signal faces or supporting structures.

T-4 FLASHING BEACON, LOW MOUNT, ONE OR MORE FACES

This item shall consist of maintaining a low mount flashing beacon, either LED or incandescent which shall be based on the installation having no flasher indications mounted over a traffic lane regardless of the mounting height. This item may include, but shall not be limited to, a flasher controller in a housing, electric service installation, solar panels, batteries, traffic signal post and foundation, pedestrian push button, and signal head with one or more faces and one or more sections. This item shall be measured for payment on the basis of the one (1) EACH per controller operating the flashers regardless of the number of signal faces or supporting structures. The low mount flashing beacon is paid separately, even when it is controlled by a traffic signal cabinet.

T-5 LAYER II (DATA LINK) SWITCH

This item shall consist of maintaining a Layer II (Data Link) switch, all associated video encoders, associated communications hardware, and related adaptive signal control equipment as part of the Agency's Ethernet-based signal system communications network. The models of Layer II (Data Link) switches in use by the Agencies vary, but existing inventory of switches generally include Cisco 2950, 2955, IE 2000, or IE 4000 models (DuDOT and City of Naperville) and Ruggedcom RS900G models (City of Aurora). **Initially, the County's Cisco switches will be maintained and configured by the County's Network Integration Consultant. When maintenance of the Layer II (Data Link) switch is transferred to this Contract, they shall be maintained under this pay item.**

T-6 LAYER III (NETWORK) SWITCH

This item shall consist of maintaining a layer III (network) switch, all associated video encoders, associated communications hardware, and related adaptive signal control equipment as part of the Agency's Ethernet-based signal system communications network. The models of Layer III (Network) switches in use by the Agencies vary, but existing inventory of switches generally include Cisco CGR 2010 and IE 4000 models (DuDOT and City of Naperville) and Ruggedcom RX1400 models (City of Aurora). **Initially, the County's Cisco switches will be maintained and configured by the County's Transportation Management Center Consultant. When maintenance of the Layer III (Network) switch is transferred to this Contract, they shall be maintained under this pay item.**

T-7 REMOTE-CONTROLLED VIDEO SYSTEM

This item shall consist of maintaining a remote-controlled video system. This item may include, but shall not be limited to, any number or type of the following: CCTV/Dome camera, equipment cabinet, pole, mounting assembly, and related cabinet wiring, terminals, circuit breakers, surge arresters, Ethernet cable, camera power and control cables, Ethernet switch, video encoder, cell modem, other field network communication equipment, and peripheral equipment. Occasionally the

associated video encoder is located inside a nearby traffic signal cabinet. At these locations, this item shall include maintenance of the conduit and wiring from the traffic signal cabinet to the remote-controlled video system equipment cabinet. **This item only applies at isolated locations that are not part of a traffic signal maintained by the Agency (e.g., at an IDOT intersection, or along Tollway). The Contractor shall not receive payment under this item for remote-controlled video systems that are connected to an Agency-maintained traffic signal cabinet that is included in item T-1, TRAFFIC SIGNAL LOCATION.**

T-8 PEDESTRIAN CROSSING SIGNAL LOCATION

This item shall consist of maintaining a traffic signal or hybrid beacon (HAWK) in which its primary function is to stop traffic to allow pedestrians to use the pedestrian crosswalk. This item may include, but shall not be limited to, any items listed in ITEM T-1, TRAFFIC SIGNAL LOCATION.

T-9 FIRE STATION SIGNAL LOCATION

This item shall consist of maintaining a traffic signal or hybrid beacon (HAWK) in which its primary function is to stop traffic to allow emergency vehicles to enter the roadway, regardless of whether the signal is interconnected to an adjacent traffic signal system. These signals typically include a preemption device serving the fire station, which may include optical, hardwired pushbutton, or other remote technology. This item may include, but shall not be limited to, any items listed in ITEM T-1, TRAFFIC SIGNAL LOCATION.

ITEM L – STREET LIGHTING ROUTINE MAINTENANCE

The following shall be part of Pay Item L-1 through L-4.

This item may include, but is not limited to, maintaining any of the following street light installations: a street light mounted on a combination mast arm, a street light mounted under a bridge/overpass, and/or a street light mounted on its own pole, or sign lighting. This item shall also include the power distribution cabinet, if applicable. All repairs of malfunctions/damage to a street light installation shall be considered Routine Maintenance, except for damage caused by traffic, construction forces working under agency contracts, permits, or agency personnel, which will be paid for as Extra Work. In addition, the Contractor shall provide the following as part of Routine Maintenance of street lighting installations:

- Report to the Agency any unusual operating conditions within two working days of discovery.
- Inspect all street lighting locations under Routine Maintenance at least once every four (4) months. This patrol inspection shall include checking for the proper operation of the following items: Lamps/LEDs (for outages), controller (including correct date/time), and cabinet.
- When the Contractor inspects a street lighting location as part of a maintenance transfer inspection, it shall fulfill the requirement for that month's patrol inspection.
- Prepare and maintain a list for each month's patrol inspections. For each calendar month, the list shall include all street lighting locations inspected, the date inspected, the name of the patrolman, and any significant deficiencies identified and corrected. The Contractor shall provide the patrol inspection list to the Agency by the 15th day of the following month.

- Replace all burned out lamps, faulty ballasts, faulty fuses and broken glassware not later than two (2) calendar days following discovery or notification.
- Replace broken or missing light deflectors/shields, as necessary.
- Provide Immediate Corrective Action to restore proper working condition to any outage(s) meeting any of the following conditions:
 - Two (2) or more outages on a single circuit.
 - Two (2) or more adjacent or consecutive fixtures.
- If ground conditions restrict the construction of permanent repairs, repairs shall be performed in accordance with a maintenance schedule submitted by the Contractor and approved by the Agency.

ITEMS L-1 through L-4 – STREET LIGHTING ROUTINE MAINTENANCE PAY ITEMS

L-1 LUMINAIRE

This work shall consist of all labor, equipment and material necessary to maintain operation of mast arm mounted high pressure sodium, mercury vapor, or LED luminaires. Mounting may be on combination mast arm assemblies, individual light poles, or other types of Agency-owned free-standing structures. The cost to repair wiring, photo cells, fuse kits, lenses, time clocks, or other street light components damaged for any reason other than traffic or construction activities by others shall be included in the cost of this item.

L-2 UNDERPASS LIGHTING

This work shall consist of furnishing all labor, materials and equipment necessary to maintain operation of low pressure sodium or LED underpass lighting. The cost to repair wiring, photo cells, lenses, fuse kits, conduit or other underpass lighting equipment components damaged due to any reason other than traffic accidents or construction activities by others shall be included in the cost of this item.

L-3 SIGN LIGHTING

This work shall consist of furnishing all labor, materials and equipment necessary to maintain operation of fluorescent, LED, or fiber optic sign lighting. The cost to repair wiring, photo cells, lenses, conduit, fuse kits, or other sign lighting equipment components damaged due to any reason other than traffic accidents or construction activities by others shall be included in the cost of this item.

L-4 WASHINGTON STREET NO PARKING SIGNS SYSTEM COMPLETE

This item shall consist of maintaining all equipment associated with the “No Parking/Tow Zone” signs located on Washington Street between Benton Avenue and Chicago Avenue, including but not limited to the ten LED blank-out signs, two time clocks/controllers, wiring, cables, and service installation. Maintenance of all other associated equipment within the cabinets shall be included in the cost of this item.

ITEM PS – PUMP STATION ROUTINE MAINTENANCE

System Description

The pump stations at County Farm Road and Belmont Road are owned by DuDOT. The pump stations are used for pumping storm water collected from a viaduct into nearby detention ponds. It is essential that these pump stations shall be available and ready to operate at their designed capacity at all times to keep traffic moving and to ensure motorist safety. The equipment at these pump stations include: electric motor driven submersible pumps; two sources of power; automatic transfer switch; disconnect switches; transformer; lighting systems; control cabinet that includes motor starters, circuit breakers, standby battery, standby gas generator, control transformer, control system with PLC, SCADA system, gas detection system, and power wiring; transducer water level indicating system with secondary float system; bar screens, hatches, doors, locks, and all associated equipment and appurtenances owned by DuDOT.

General Maintenance Responsibilities

All items as listed in the System Description herein shall be maintained under routine maintenance, unless otherwise stated herein.

At the beginning of the Contract, the Contractor shall:

- Organize logbooks in the pump station as described herein.

OSHA safety regulations must be followed at the pump station. Any Contractor personnel entering the pump station shall be properly trained and equipped for confined space operations, and shall be equipped with essential equipment such as digital multi-meters with clamp-on probes for current measurement, tape and block, and marking paint or marker to note water levels.

All pump stations shall remain in continuous operation while maintenance activities are in progress. Continuous operation may require the Contractor to provide and install temporary portable standby pumps to maintain adequate station outflow capacity. All costs for labor, equipment and materials required by the Contractor to provide continuous pumping operations during maintenance activities described herein shall be included in the cost of Item PS-1 Pump Station Routine Maintenance.

Contractor Pump Station Response Plan

The Pump Station (PS) shall remain in continuous operation during normal and emergency maintenance activities. The Contractor shall develop an appropriate Pump Station Response plan to provide qualified personnel (hereafter referred to as patrolman) on-call both during and outside of normal workday hours for pump station emergencies and alarm responses. The Call-Out plan shall include a listing of the Contractor's, Subcontractor's, and Agency personnel who will be notified in the event of an emergency or hazardous materials situation. A copy of the plan shall be provided to the Engineer at the pre-construction meeting.

The Contractor shall provide and maintain software and electronic communications capabilities to monitor pump house SCADA systems for alarms on a 24-hour per day/7-day per week basis. It is imperative that the Contractor immediately dispatches qualified personnel to address alarms,

reports of water on pavement, reports of clogged inlets, hazmat spills, or other serious malfunctions or damage.

In the event that the Contractor receives a report of, or the patrolman suspects, hazardous materials in the pump station wet pit, the Contractor shall be responsible to immediately notify an approved hazardous materials waste contractor in addition to following the steps in the PS Response plan.

PS Procedures and Response Documentation

When performing wet pit work requiring abnormally low water levels, the Contractor personnel shall not manually operate the pumps with insufficient wet pit water elevation. This includes, but is not limited to, general maintenance operations, pump inspection, and wet pit cleaning.

Two logbooks shall be maintained in the pump station control cabinet to document entry/inspection. The Contractor shall maintain the logbooks so that one book contains the current year information and the second logbook contains information recorded in the previous years. In January of each year, the Contractor shall transfer the sheets from the current year logbook to the previous year logbook and place blank sheets in the current year log book. The logbooks shall not be altered or removed from the station.

There are specific procedures, which are required of all personnel when entering or leaving any pump station. It is necessary to:

1. Notify the Contractor's Dispatch Center of arrival.
2. Document site visit in log book, with the date, time, person's name and reason for entry.
3. Upon completion of inspection, record the observations in the required charts in the logbook.
4. Notify the Contractor's Dispatch Center to issue a Ticket for any deficiencies observed during the inspection. Record the ticket number and the deficiency in the logbook.
5. Acknowledge any alarms before departure.
6. Check all pumps that are not tagged "Out of Service" and set in the auto position (H-O-A switch) immediately before departing the pump station.
7. Secure all control cabinet doors and station hatches.
8. Notify the Contractor's Dispatch Center of departure.

PS Alarm Response

Upon receipt of a Pump Station alarm, the Contractor's Dispatch Center shall:

1. Create a ticket.
2. Dispatch a patrolman to the station to check the alarm conditions. Arrival shall be within one hour of the receipt of the alarm by the Dispatch Center.

Upon arrival at the station, the patrolman shall:

1. Notify the Contractor's Dispatch Center of the arrival information, including a notation of all alarms flashing on the annunciator and PLC panel.
2. Record all information on the incident in the logbook

3. Perform all necessary repairs required to restore the pump station to its normal operating condition, if possible. (If follow-up repairs are needed in an emergency situation, immediately notify the appropriate Contractor personnel according to the PS Response plan).
4. Notify the Contractor's Dispatch Center as to status of problem before departing the pump station. Inform the Dispatch Center whether it was cleared or if follow-up work is necessary. (All response information shall be recorded on the ticket.)
5. In the event of a power failure alarm, monitor the power outage status at regular intervals and, if a high water level is imminent, notify the Foreman, Contractor's Representative, and/or the Engineer according to the PS Response plan.

Station Pre-Storm Condition Check

Upon receiving a storm warning notification from DuDOT or other sources, the Contractor shall dispatch sufficient qualified personnel to initiate these actions within one hour:

1. Check the operating status of the pump station.
2. Check the condition of the trash on bar screen, clean if necessary.
3. Check the status of the low point inlet and catch basins for the pump station; if found clogged immediately notify the Contractor's Representative and the Engineer according to the PS Response plan.
4. Upon completion, prepare a log in electronic format indicating the time each pump station was checked. The response log shall be submitted by the next business day to the Contractor's Representative and the Engineer according to the PS Response plan.

Water on Pavement Situations

The dispatched patrolman shall be equipped with the necessary measuring devices to trouble shoot and mark the water level with a reference point.

Upon observing Water on the Pavement (WOP) or extremely high water levels at the station, the Patrolman shall immediately notify the Dispatch Center, Foreman, Contractor's Representative, and the Engineer according to the PS Response plan.

Immediately after entering the station, the dispatched patrolman shall report the following information:

1. Pumps Running -- Yes or No
2. Water Depth in Wet Well
3. Depth of Water on Pavement
4. Street Inlet Clogged -- Yes or No

The patrolman shall obtain a ticket number from the Dispatch Center and complete the station logbook. All ticket information and WOP report information shall be relayed to the Dispatch Center within one (1) hour of receipt of information from the field. All WOP report tickets shall be marked for follow-up until the pump station system is back to normal operation and there is no water on the pavement. All incidents shall be reported to the Engineer via a WOP report and ticket summary report by 8 a.m. the next day (within 24 hours on Holidays).

During high water level or WOP conditions, the patrolman shall not leave the station until approved to do so by the Foreman or Contractor's Representative.

Station Post Storm Condition Check

After each major rainstorm event, defined as having a rainfall intensity of 3 inches or greater in any 24 hours, the pump station crew shall:

- Clean bar screen.
- Check the Pump Pit float switches and level transducer sensor for proper operation, and remove debris.
- Check the inlet/catch basins. If clogged, immediately notify the Contractor's Representative and the Engineer according to the PS Response plan

Submittals of Service Company Names

The Contractor shall submit the following, for Engineer approval, at the Pre-Construction meeting:

- Names, addresses qualifications of at least six potential submersible pump services repair companies within the tri-state area of Illinois/Indiana/Wisconsin.
- Name(s) of lab facilities that are certified and equipped to test oil and other lubricant fluids.

Service Company Work

When the Contractor is unable to complete repairs to pump station equipment, the Contractor shall hire a subcontractor approved by DuDOT to do the work in order to meet Contract requirements.

The Contractor shall provide all labor, equipment, and general services necessary to schedule and assist a specialty service company in conducting various comprehensive testing and inspections, including routine and non-routine work.

The Contractor shall coordinate the work with the service companies and provide qualified personnel to:

- Allow free and clear access to and from the pump station and all equipment.
- Open and close all enclosures to provide access to the electrical equipment being inspected, replaced and/or repaired.
- Notify the power utility company to schedule all power outages required for the project.
- Perform all switching, de-energizing and re-energizing of electrical equipment.
- Perform lock out tag out procedures.
- Provide for safe working conditions in accordance with OSHA requirements.
- Assist in data collection when requested by the Engineer.

Monthly Inspection and Maintenance Requirements

The Contractor shall perform the following inspection and preventative maintenance tasks on a monthly basis. The Contractor may choose to complete all of these tasks during one visit at each location or spread them out through the month.

Every two months, the Contractor shall submit an electronic copy of the Routine Maintenance Work Documentation Book. The book shall include all required documentation for each task listed in the following maintenance and testing descriptions. After completion of semi-annual and annual testing, the required documentation shall be included in the Contractor's next bi-monthly Routine Maintenance Work Documentation Book submittal. The Routine Maintenance Work Documentation Book shall be submitted within 30 days of the end of the month when the applicable testing was completed, but shall only be required on a bi-monthly basis.

The Contractor shall allow a minimum of 20 calendar days and a maximum of 40 calendar days between each of the monthly inspections for the following tasks, unless a different schedule is approved in advance by the Engineer:

Preventive Maintenance Program (Monthly)

During the inspection, check the following:

1. Are inlets clear of debris? (If debris removal required, notify DuDOT)
2. Is grass cutting required? (If cutting required, notify DuDOT)
3. Are equipment doors and hatches secure and free of graffiti?
4. Alarm panel OK? (No alarms holding)
5. Lighting fixtures outages?
6. Are Indicator lamps in operational?
7. Is trash bin free of debris?
8. Does bar screen need cleaning?
9. Is wet pit free of hazardous materials?
10. Pump On/Off operation OK? (Simulate a call)
11. Abnormal noise from pumps?
12. Is piping free of leaks?
13. Is pump free of abnormal noise or vibration?
14. Verify gas detector calibration.

Pump Operation Inspection (Monthly)

The Contractor shall perform the following and record on the appropriate chart (see pump data and sample forms):

- Operate each pump and check alternator or selector switch for proper sequence in accordance with recommended manufacturer procedures. Caution: Do not draw down the wet well level past the designated stop elevation under any circumstances.
- Set the selector switch on the pump with the least number of hours as the lead pump.
- Operate each unit noting the current draw and compare with the motor plate and note any deviation, and/or any abnormal operating sounds.
- Record hours run of each pump.
- Verify that flap valves have been greased.
- Verify condition of bar screens.

The Contractor shall submit an electronic copy of the chart in the Routine Maintenance Work Documentation Book.

Bar Screen Maintenance (Monthly)

The Contractor shall inspect the bar screen at the pump station. When debris are excessive and clogging the bar screen, the Contractor shall rake and manually clean the bar screen.

Transfer Switch Operation and Gas Generator Inspection (Monthly)

The Contractor shall exercise the transfer switch on a monthly basis to inspect for proper transfer and time delay to secondary power source and time delay from secondary to primary and shall be recorded in the appropriate chart.

The Contractor shall submit an electronic copy of the chart in the Routine Maintenance Work Documentation Book.

At locations where a backup generator is provided, the Contractor shall start and run the generator for 15 minutes each month, observe the operation, and make all maintenance checks required by the manufacturer.

Programmable Logic Control (PLC) Maintenance (Monthly)

The Contractor shall be responsible for proper operation and maintenance of the PLC System equipment described herein. The Contractor shall record and submit an electronic copy of the appropriate chart (Log P-7), as approved by the Engineer, in the Routine Maintenance Work Documentation Book.

The PLC System shall have its periodic maintenance activities/programs completed by a qualified Patrolman. On a monthly basis, the Patrolman shall review the operations and do a simulated test of the PLC System. This work would include system back-ups, programming, selector switches, standby battery, control transformer, elapsed time meters, alarm points, alarm lights, level transducer, backup floats, and wiring.

The Patrolman shall inspect all the wires and test control transformer, selector switches, standby battery, elapsed time meter, and alarm lights to make sure they are operational.

The Patrolman shall test all the alarm points under simulated service conditions to ensure the accuracy of the wiring and the functioning of all the equipment without disrupting the operation of the pumps. The alarm points are as follows:

A. Remote Alarm Contacts to Monitoring Equipment at Power Plant:

- Standby power not available
- Loss of normal power
- Pump malfunction
- High Level Alarm

In addition, the Patrolman shall verify that these alarm points are properly displayed at the Monitoring System at the DuPage County Power Plant Building.

B. Transfer Switch Contacts:

- Normal
- Backup

- C. Combustible Gas Monitor Contacts:
 - Trouble
 - Warning
 - Alarm

- D. Thermal and Seal Failure Pump Sensors:
 - Patrolman shall simulate the signals to confirm the PLC is operational.

- E. Level Transducer:
 - Patrolman shall simulate water level signals to confirm the PLC is operational.

- F. Backup Floats:
 - Patrolman shall simulate water level signals to make sure the PLC is in operational.
 - Patrolman shall test each float switch manually in the wet pit to make sure it is operational. Patrolman should be careful when perform this test due to water in the wet pit.

- G. Pilot Light Indicators
 - Patrolman shall verify all local indicating lights are operational when the alarm condition is simulated.

Semi-Annual Inspection and Maintenance Requirements

The Contractor shall perform the following inspection and preventative maintenance tasks on a semi-annual basis. The inspection schedule shall be as follows: one inspection between the months of December and May and one inspection between the months of June and November during each year of the Contract. The inspections for each PS Location shall be spaced a minimum of 5 months and maximum of 7 months apart. Documentation is required and shall be provided according to the monthly requirements herein.

Wet-Pit Submersible PS Inspections and Maintenance (Semi-Annual)

The Contractor shall visually inspect pump impeller for clogging, shall inspect oil reservoir for contaminants. The wet pit submersible pumps shall be washed down with a pressure hose.

The Contractor shall operate the flap valves. All flap valves shall be lubricated with environmentally safe grease.

The Contractor shall submit an electronic copy of the appropriate chart, as approved by the Engineer. The documentation shall be included in the next Routine Maintenance Work Documentation Book following the completion of the inspection. If repairs are necessary to address any deficiencies, the Contractor shall create a ticket, enter the ticket numbers on the appropriate chart. Upon completion of the repairs, an updated chart shall be submitted in the next Routine Maintenance Work Documentation Book.

Annual Preventive Maintenance Programs

The Contractor shall perform the following inspection and preventative maintenance tasks on an annual basis. The required schedule for each task is listed in the following descriptions. Each task

must be completed at least once during each year of the Contract. Documentation is required as indicated and shall be provided according to the monthly requirements herein.

Pump Station Inspection and Maintenance (Annual)

The Contractor shall conduct an annual comprehensive inspection of the electrical and mechanical equipment at each pump station once between the months of January and November of each year. The station shall be inspected in the same month in the subsequent years of the Contract.

The Annual Inspection shall be documented using log P-2. During this inspection, the Contractor shall:

- Dispose of any debris found on the grounds
- Remove or paint over graffiti with comparable paint
- Patch or repair cracks found in concrete
- Clean all cabinets and exposed equipment by wiping with a damp cloth

Create tickets for any deficiencies found on this inspection and enter the numbers on the inspection report, log P-2. A re-inspection will be scheduled by the Engineer following completion of any necessary repair work. When repairs are complete the P-2 reports shall be included in the next Routine Maintenance Work Documentation Book following the completion of the inspection.

Wet Pit Inspection (Annual)

The pump station shall be inspected once between the months of April and October of each year. The station shall be inspected in the same month in the subsequent years of the Contract.

The Contractor shall complete the wet pit inspection of the pump station. The Contractor shall use his own portable pump to draw down the wet pit to a low level and maintain the existing inflow water in the wet pit. The Contractor shall:

- Inspect the integrity of all equipment attached to the structure such as level transducers and the floats.
- Inspect the level transducers and floats for operational efficiency, and clear them of any debris.
- Take a photograph of any bowl assemblies which show any wear on the impeller and/or if the suction is clogged with debris. The photos shall be appropriately labeled and placed in a sheet album with the station report, log P-6.
- Inspect the silt accumulation.
- Visually inspect the inlet sewer from inside of the pump station.

Create tickets for any deficiencies found and enter the numbers on the report log P-6. Each report, including photo album, shall be included in the next Routine Maintenance Work Documentation Book following the completion of the inspection.

Pump Control System Inspection (Annual)

The pump station shall be inspected once between the months of January and March of each year. The station shall be inspected in the same month in the subsequent years of the Contract.

The Contractor shall inspect all pump control systems within the pump station. The Engineer shall be present for each inspection. This work shall include inspection of the transducer and float systems. The inspection shall consist of all starts, stops and alarm control elevations. Any control elevations which are different than the required elevations shall be noted and corrected.

Create tickets for any deficiencies found on this inspection and enter the numbers on the inspection report, log P-4. Each report shall be included in the next Routine Maintenance Work Documentation Book following the completion of the inspection.

Electrical Inspection and Testing (Annual)

The Contractor shall conduct the following inspections and tests. The first testing sequence may be scheduled during any month of the year; future testing shall be in the same month in the subsequent years of the Contract.

- A. The Contractor shall conduct pump capacity, motor running current, voltage measurement, megger, and Flygt submersible pump moisture tests. The Contractor shall also utilize the services of the specialty services subcontractor for this test. The Contractor shall be responsible for providing or storing water for testing, not to exceed high level elevations.

The Contractor shall provide as needed all necessary equipment, tools, material and labor to set up the pumping station for capacity testing using either the wet pit draw down method or the direct measurement strap on flow meters, as approved by the Engineer.

Prior to testing, record all necessary nameplate information for pump and motor. Pump testing will require the presence of at least two personnel equipped with radio communications and measuring tape and block.

A draw down test shall be done in the pump station. The pumps shall be tested for at least 1-minute duration. Record all readings, including full load current, flow reading, and water level change.

The following data shall be recorded and submitted to the Engineer on log P-3:

- Water depth
- TDH
- Capacity
- Vibration
- Current
- Voltage
- Insulation resistance to ground
- Pressure

In addition, the Contractor shall megger all motor windings and feeder cables. Any reading below 1 Mega ohm (Mohm) will require the Contractor to determine the source or cause of the low reading and make prompt repairs as required. A copy of the log P-3 shall be kept in the logbook. Create tickets for any deficiencies found on this inspection and enter the numbers on the inspection report, log P-3. An electronic copy of the results of the capacity and megger test on log P-3 shall be included in the next Routine Maintenance Work Documentation Book following the completion of the inspection. The station shall be re-inspected in the same month in each subsequent year of the Contract.

- B. The Contractor shall inspect and test the main circuit breakers, branch circuit breakers, automatic transfer switch and motor starters in the pump station each year. The DuDOT Engineer shall be notified at least seven calendar days in advance to witness the tests. The Contractor shall coordinate with the electrical utility to turn power off and on where required. The Contractor shall furnish all necessary test equipment along with fittings, cables and connectors as required to complete the tests.

An electronic copy of the appropriate chart, as approved by the Engineer, shall be included in the next Routine Maintenance Work Documentation Book following the completion of the inspection.

Inspection and testing shall consist of the following:

1. Clean enclosure and control equipment by blowing out with low air pressure or vacuuming.
2. Check and clean contacts, relays and timers and visually inspect for damage or out of adjustment parts.
3. Check control panel indicating lamps and all switches and push buttons.
4. Circuit breaker maintenance:
 - Check connections
 - Exercise breaker
 - Check trip setting
5. Motor Starter Contact Maintenance:
 - Check contacts and burnish, if necessary
 - Check coil and clean
 - Inspect arc chute for cracks or burns
 - Check contact pressure and measure contact resistance on all 3 phases
6. Inspect wiring/conductors for overheating and discoloration.
7. Check sizing of motor overload heaters.
8. Check tightness of wire terminations and connections.
9. Check for proper labeling, provide and install missing labels.
10. Check wire tags/labels, provide and install missing tags or labels.
11. Check fuse disconnects for proper operations, keep fuse clips clean and tight.
12. Check fuses for proper size, and overheating.
13. Test equipment ground system of the station.

Submersible Pump Inspection (Annual)

The Contractor shall remove, inspect and service all submersible pumps, each contract year. Service work shall include the changing of oil, check and adjust clearance between impeller and wear ring. This work shall be done in accordance to manufacturer specifications and instructions. Create tickets for any deficiencies found on this inspection and enter the numbers on the inspection report, log P-5, which shall be included in the next Routine Maintenance Work Documentation Book following the completion of the inspection.

Oil Analysis (Annual)

The Contractor shall test the oil for each PS once each year according to the requirements herein.

The Contractor shall obtain suitable test containers from an approved lab facility. Collect oil samples from the motor upper and lower bearing compartments, and wet pit submersible pumps. The oil shall be drawn from the equipment reservoir. The oil should drain for a few seconds

before collecting the sample. A minimum of two (2) ounces of oil shall be used for analysis. Do not use the same container for different equipment or for different compartments of the same equipment.

Samples shall be taken after running the pump within fifteen minutes after the equipment is turned off. This work shall be done along with the capacity and vibration test.

The Contractor shall provide the laboratory with the brand and type of oil, type of equipment from which the sample was taken, number of days since the last oil change, and any suspected abnormalities in the equipment. Each sample of oil shall be identified with the equipment and compartment from which the sample was taken. The Contractor shall ship the oil samples to the lab facility within one month of collection.

The lab facility shall conduct a wear particle analysis to determine:

- Wear metals
- Contaminants
- Additives elements
- Viscosity
- Solid percent volume
- Water percent volume
- Fuel where required
- Particle counting and direct reading ferrography

Create tickets for any deficiencies found from the lab testing and submit an electronic copy of the lab reports to the Engineer in Excel format or other software available to DuDOT that can utilize existing data for trending. Based upon the lab report, the Engineer may request additional analytical ferrography testing. The oil shall be changed if the lab results indicate that the oil is contaminated. All charges for lab work, shipping, and changing of oil etc., shall be included in the PS-1 pay item. A copy of the report shall be included in the next Routine Maintenance Work Documentation Book following receipt of the testing results.

ITEM PS-1 – PUMP STATION ROUTINE MAINTENANCE PAY ITEM

This work shall consist of all labor, equipment and material necessary to maintain operation of the pump station as described above. The Contractor shall patrol and inspect the pumping station and check each unit for proper operation once every month according to the requirements of Pump Station Routine Maintenance section of this Contract.

The Contractor shall provide the maintenance on an as needed basis for the following items such as, but not limited to, the gas detector inspection, automatic transfer system service, adjustment of existing controls, removal and replacement of gas sensors, motor inspection, cylinder for padlocks, padlock replacement, pump repair and pump replacement, vibration testing and analysis, water for testing and power wash, cleaning of wet pit, and wet pit power wash.

ITEM EW-1 – BUDGETARY ALLOWANCE FOR EXTRA WORK

This item is to establish a budget account to allocate funds for various traffic signal and/or street lighting extra work items. This account may be used to pay for projects such as signal equipment installations, modifications, relocations, upgrades, etc. It may also be used for procurement, installation, testing, and evaluation of special equipment, including support and/or training from hardware and software vendors. This item is not for materials and services included under Routine Maintenance.

Basis of Payment: The Agency will evaluate the quotations and authorize work accordingly. The total estimated amount of annual expenses to be incurred for goods and services performed under this item is shown on the schedule of prices and shall be used for bidding purposes for pay item EW-1.

ITEM KD-1 – BUDGETARY ALLOWANCE FOR EQUIPMENT KNOCKDOWNS

This item is to establish a budget account to allocate funds for temporary and/or permanent repairs to equipment which is damaged by traffic. This account may be used to pay for repair or replacement of any equipment hit/knocked down/damaged due to traffic, including mast arm assemblies, signal heads and posts, cabinets, cameras, radios, street lighting, or any other equipment owned or maintained by the Agency. Equipment damage may occur from typical roadway traffic, utility vehicles, construction vehicles, mowers, etc. This item is not for materials and services included under Routine Maintenance.

Basis of Payment: Repairs shall be paid to the Contractor on a Force Account Basis in accordance with Article 109.04 (b) of the Standard Specifications. The total estimated amount of annual expenses to be incurred for goods and services performed under this item is shown on the schedule of prices and shall be used for bidding purposes for pay item KD-1.

ITEM EQ – EQUIPMENT

Under this item, for unit prices as shown in the Schedule of Prices, and when directed by the Agency in writing, the Contractor shall furnish all materials, equipment, and labor necessary to perform the work as specified herein. All materials or work not expressly specified but necessary for the proper completion in a neat, professional manner shall be considered included in the cost of the associated pay item and shall be included under the unit bid prices.

The following standards, latest revisions, shall be used, as applicable, for each authorization issued to the Contractor or as directed by the Agency:

Illinois Department of Transportation Standards:
720016, 805001, 814001, 814006, 857001, 857006, 862001, 873001, 876001, 877001, 877006, 877011, 878001, 880001, 880006, 886001, 886006

EQ-1 SIGNAL HEAD, LED, 1-FACE, 1-SECTION, MOUNTING AS SPECIFIED

EQ-2 SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MOUNTING AS SPECIFIED

EQ-3 SIGNAL HEAD, LED, 1-FACE, 4-SECTION, MOUNTING AS SPECIFIED

EQ-4 SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MOUNTING AS SPECIFIED

The items listed above shall comply with the SIGNAL HEAD, LIGHT EMITTING DIODE section of the Special Provisions contained in this Contract.

These items shall be paid for at the Contract unit price each for SIGNAL HEAD, LED, of the type specified, which price shall be payment in full for furnishing the equipment described above including signal head, LED(s) modules, all mounting hardware, and installing them in satisfactory operating condition. The type specified will indicate the number of signal sections, and the method of mounting. Indications and colors will be as specified in the Work Order.

EQ-5 RELOCATE EXISTING TRAFFIC SIGNAL HEAD

This item shall consist of all labor, materials, and equipment to relocate an existing traffic signal head to an existing traffic signal post or mast arm, or to a new traffic signal post or mast arm, including all mounting hardware. This item shall be paid at the contract unit price, RELOCATE EXISTING TRAFFIC SIGNAL HEAD, each. Cable shall be paid for separately.

EQ-6 TRAFFIC SIGNAL BACKPLATE

This item shall comply with Section 882 and Article 1078.03 of the Standard Specifications for Road and Bridge Construction. The backplate shall be louvered and aluminum. The louver openings shall cover a minimum of twenty percent (20%) of the surface of the backplate.

EQ-7 TRAFFIC SIGNAL BACKPLATE (RETROREFLECTIVE)

This item shall comply with Section 882 and Article 1078.03 of the Standard Specifications for Road and Bridge Construction. The retroreflective backplate shall not contain louvers. Retroreflective sheeting shall be Type ZZ sheeting according to Article 1091.03 and applied in preferred orientation for the maximum angularity according to the vendor's recommendations. The retroreflective sheeting shall be installed under a controlled environment at the vendor/equipment supplier before shipment to the contractor. The formed plastic backplate shall be prepared and cleaned, following recommendations of the retroreflective sheeting manufacturer.

EQ-8 RELAMP COMBINATION STREET LIGHTING - LED

This item shall consist of all labor, materials, and equipment to relamp a mast arm mounted combination luminaire which includes washing all glassware and reflectors and replacing the lamp. The lighting shall be replaced in-kind with an equivalent level of lumens. The Agency shall specify the locations for combination street lamp relamping. This item shall be paid at the contract unit price, RELAMP COMBINATION STREET LIGHTING - LED, each.

EQ-9 RELAMP COMBINATION STREET LIGHTING - HPS

This item shall consist of all labor, materials, and equipment to relamp a mast arm mounted combination luminaire which includes washing all glassware and reflectors and replacing the lamp. The lighting shall be replaced in-kind with an equivalent level of wattage. The Agency shall specify the locations for combination street lamp relamping. This item shall be paid at the contract unit price, RELAMP COMBINATION STREET LIGHTING - HPS, each.

EQ-10 PEDESTRIAN SIGNAL HEAD, LED, MOUNTING AS SPECIFIED

This item shall comply with Section 881 and Article 1078.02 and with the SIGNAL HEAD, LIGHT EMITTING DIODE section of the Special Provisions contained in this Contract.

This item shall be paid for at the Contract unit price each for PEDESTRIAN SIGNAL HEAD, LED, MOUNTING AS SPECIFIED, which price shall be payment in full for furnishing the necessary equipment including signal head, LED module(s), and hardware, and installing it, by the required method of mounting, in satisfactory operating condition.

EQ-11 PEDESTRIAN SIGNAL HEAD, LED, COUNTDOWN, MOUNTING AS SPECIFIED

This item shall consist of two (2) 12-inch by 12-inch modules aligned vertically. The top module of the unit shall be an LED message-bearing surface supplied with overlapping outline "HAND" and "MAN" symbols that comply with the PTCSI standard for these symbols. The bottom module of the unit shall house a LED countdown traffic signal consisting of a two digit numerical display ("00" to "99") a minimum of seven (7) inches in height. The counter shall begin countdown at the beginning of the pedestrian clearance interval as the pictogram of the hand starts flashing. The counter shall execute a countdown of the time, in seconds, of the pedestrian clearance interval synchronized with the controller and ending at (0) at the expiration of the clearance interval. The counter shall be blank at all other times.

The use of a 16'X18" overlapping pedestrian signal indication may be allowed by approval of the Agency.

The unit price shall be payment in full for furnishing and installing the pedestrian signal head, LED, Countdown, with the required method of mounting. The unit price shall also include furnishing and installing any cabinet modules and/or interface cards necessary for proper operation.

EQ-12 PEDESTRIAN PUSH BUTTON

Replace Article 1074.02 of the Standard Specifications with the following:

This item shall comply with the PEDESTRIAN PUSH BUTTON section of the Special Provisions contained in this Contract.

This work shall be paid for at the contract unit price each for PEDESTRIAN PUSH BUTTON. The unit price shall include furnishing and installing the pedestrian station, push button, sign, and

all necessary equipment and connections for proper operations. Electric cable in conduit from the traffic signal cabinet to the pedestrian push-button shall be paid for separately.

EQ-13 AUDIBLE/ACCESSIBLE PEDESTRIAN SIGNALS (APS) (COMPLETE INTERSECTION), MOUNTING AS SPECIFIED

This item shall consist of furnishing and installing pedestrian push button audible/accessible pedestrian signals (APS). Each APS shall consist of an interactive vibrotactile pedestrian pushbutton with speaker, an informational sign, a light emitting diode (LED) indicator light, a solid state electronic control board, a power supply, wiring, and mounting hardware. The APS shall meet the requirements of the MUTCD and Sections 801 and 888 of the Standard Specifications, except as modified herein.

This item shall be paid for at the Contract unit price each for AUDIBLE/ACCESSIBLE PEDESTRIAN SIGNALS (APS) (COMPLETE INTERSECTION), MOUNTING AS SPECIFIED, which price shall be payment in full for furnishing the necessary equipment including interactive vibrotactile pedestrian pushbutton with speaker, an informational sign, a light emitting diode (LED) indicator light, a solid state electronic control board, a power supply, wiring, mounting hardware, and installing it, by the required method of mounting, in satisfactory operating condition.

EQ-14 RELOCATE EXISTING PEDESTRIAN PUSHBUTTON

This item shall consist of all labor, materials, and equipment to relocate an existing pedestrian pushbutton to an existing traffic signal post or mast arm, or to a new traffic signal post or mast arm, including all mounting hardware. This item shall be paid at the contract unit price, RELOCATE EXISTING PEDESTRIAN PUSHBUTTON, each. Cable shall be paid for separately.

EQ-15 EMERGENCY VEHICLE PREEMPTION SYSTEM

This item shall consist of furnishing and installing an Emergency Vehicle Preemption System in accordance with Section 887 and Article 1072 of the Standard Specifications for Road and Bridge Construction, and shall include light detector(s), light detector amplifier(s), and LED confirmation beacon(s). The Emergency Vehicle Pre-emption shall be the latest type manufactured and must be completely compatible with all components of the equipment currently in use by the fire district at the location specified by the Agency. All necessary cable from cabinet to detectors, mounting hardware, and labor to complete the installation shall be included in cost of this item.

EQ-16 INSTALL SPAN WIRE TRAFFIC SIGNAL, FOUR APPROACHES OR LESS

Under this item, for a unit price per installation, as shown in the Schedule of Prices and directed by the Agency in writing, the Contractor shall install a span wire traffic signal. This item shall comply with the SPAN WIRE TRAFFIC SIGNAL INSTALLATION section of the Special Provisions contained in this Contract, with the following exceptions: All equipment for the span wire traffic signal shall be new, including signal heads, LED modules, signal cabinet, controller, and related equipment. If required, the vehicular detection system and uninterruptible power supply (UPS) will be paid for separately.

a. Plans for the span wire traffic signal shall be supplied by the Agency.

- b. The span wire traffic signal shall be installed in compliance with Illinois Department of Transportation Standard No. 880001 "Details of Span Wire Mounted Signals and Flashing Beacon Installation."
- c. All parts of the span wire traffic signal shall become property of the Agency upon acceptance of the installation.

This work shall be paid for at the contract unit price each for INSTALL SPAN WIRE TRAFFIC SIGNAL, FOUR APPROACHES OR LESS which shall include all costs for providing and installing the necessary equipment, in accordance with the plans, as directed by the Agency.

EQ-17 REMOVE EXISTING SPAN WIRE TRAFFIC SIGNAL, FOUR APPROACHES OR LESS

This work will consist of removing all equipment, poles, down guys, mounting hardware, signal heads, controller cabinets and any other equipment associated with the specified span wire signal installation, and delivering the equipment to a location specified by the Agency. All holes caused by the removal of wood poles shall be backfilled with sand as directed by the Agency. This work will be paid for at the Contract unit price each for REMOVE EXISTING SPAN WIRE TRAFFIC SIGNAL, FOUR APPROACHES OR LESS which will be payment in full for all work.

EQ-18 FULL ACTUATED CONTROLLER

This item shall consist of furnishing and installing a traffic signal controller and associated components in a traffic signal cabinet, as directed by the Agency.

The controller shall be according to the requirements of EQ-22, below.

EQ-19 INSTALL EXISTING TRAFFIC SIGNAL CONTROLLER

This item shall consist of installing an existing traffic signal controller and associated components at an existing signal controller location, and shall be used when the signal controller is being provided by the Agency. This item shall include installing and programming the furnished controller and connecting all necessary existing wiring, connectors, harnesses, and related equipment necessary to complete the installation in accordance with the manufacturer's specifications. The existing controller which is being replaced shall be returned to the Agency.

EQ-20 INSTALL UPDATED PROM SET AT EXISTING LOCAL OR MASTER CONTROLLER

This item shall consist of installing a new PROM or set of PROMS of the latest version of software in an existing traffic signal local or master controller. At locations that contain coordination modules, all PROMS in the controller, telemetry module, and coordination module must be of the same version and revision. New system interface board shall be included in cost of this item.

EQ-21 UPGRADE EXISTING LOCAL CONTROLLER SOFTWARE TO NTCIP

This item shall consist of furnishing and installing the latest version of National Transportation Communications for ITS Protocol (NTCIP) software in an existing traffic signal controller. The unit price shall include payment in full for furnishing and installing the software, and placing the controller back in operation.

EQ-22 FULL ACTUATED CONTROLLER, IN TYPE IV CABINET, NEMA-TS2

This item shall comply with Sections 857 and 863 of the Standard Specifications for Road and Bridge Construction, and shall also comply with the following requirements:

The controller shall be the latest model available that is compatible with the central signal system software (NTCIP) or “Aries” software, currently in use by the Agencies. Controller software compatibility requirements are based upon the controller’s location in the communication system, and shall be as shown on the plans.

The unit price shall include payment in full for furnishing and installing the cabinet and controller, complete with necessary connections and equipment for proper operation, at a location designated by the Agency. If required, the transceiver shall be included in cost of this item. Removal of an existing controller, and its return to the Agency, shall also be included in cost of this item.

EQ-23 FULL ACTUATED CONTROLLER, IN TYPE IV CABINET, NEMA-TS2, SPECIAL

This item shall comply with Sections 857 and 863 of the Standard Specifications for Road and Bridge Construction, and shall also comply with the following requirements:

The controller shall be the latest model available that is compatible with the central signal system software (NTCIP) or “Aries” software, currently in use by the Agencies. Controller software compatibility requirements are based upon the controller’s location in the communication system, and shall be as shown on the plans.

The traffic signal cabinet shall have front and rear doors as specified in the Special Provisions.

The unit price shall include payment in full for furnishing and installing the cabinet and controller, complete with necessary connections and equipment for proper operation, at a location designated by the Agency. If required, the transceiver shall be included in cost of this item. Removal of an existing controller, and its return to the Agency, shall also be included in cost of this item.

EQ-24 FULL ACTUATED CONTROLLER, IN TYPE IV CABINET, NEMA-TS2, RAILROAD

This item shall comply with Sections 857 and 863 of the Standard Specifications for Road and Bridge Construction, and shall also comply with the following requirements:

The controller shall be the latest model available that is compatible with the central signal system software (NTCIP) or “Aries” software, currently in use by the Agencies. Controller software compatibility requirements are based upon the controller’s location in the communication system, and shall be as shown on the plans.

When a railroad cabinet is to be installed, the controller and cabinet shall comply with the applicable section of the Special Provisions contained in this Contract. The cabinet must be inspected and tested in the presence of representatives from the Agency and the Illinois Commerce Commission (ICC) at the Vendor’s facility. The railroad cabinet must pass all tests conducted by the ICC prior to installation. Testing, any modifications as a result of the testing, and scheduling of Contractor’s personnel and Railroad Agency personnel shall be included in the cost of this item.

The unit price shall include payment in full for furnishing and installing the cabinet and controller, complete with necessary connections and equipment for proper operation, at a location designated by the Agency. If required, the transceiver shall be included in cost of this item. Removal of an existing controller, and its return to the Agency, shall also be included in cost of this item.

EQ-25 INSTALL EXISTING TRAFFIC SIGNAL CABINET

This item shall consist of installing an existing traffic signal cabinet at a specified location, and shall be used when the pre-wired signal cabinet is being provided by the Agency. This item shall include the installation, connection, and or modification of all necessary equipment including panels, program card, wiring, connectors, harnesses, mounting hardware, and related equipment necessary for proper operation. If an existing cabinet is being replaced, it shall be returned to the Agency. The controller and MMU shall be paid for separately.

EQ-26 MODIFY EXISTING CONTROLLER AND CABINET

This item shall consist of modifying an existing controller cabinet to accommodate new and/or relocated traffic signal equipment.

General: The work shall be performed according to Section 895 of the "Standard Specifications", the details shown on the plans, and the Special Provisions contained in this Contract.

The work shall include all modifications and peripheral work necessary to accommodate the new or relocated traffic signal equipment, which may include but is not limited to the addition of signal phases, relocation of the EVP phasing unit, or installation and configuration of Agency-furnished equipment such as an existing UPS unit, installation of an existing Layer II Switch, or remote controlled video system items to be installed in the existing cabinets.

Additionally all necessary materials, parts, equipment and labor required to modify the controller cabinet to accommodate the new or relocated equipment or phasing, shall be included in the unit cost of this pay item.

This work will be paid for at the contract unit price per each for MODIFY EXISTING CONTROLLER CABINET. The unit price shall include furnishing and installing all necessary parts and materials required to modify the existing controller cabinet to accommodate the new and/or relocated traffic signal equipment.

EQ-27 REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT

This work will consist of removing a number of traffic signal equipment (e.g. controller, video camera, video detection, traffic signal poles, service installation) and related mounting hardware from a signalized intersection, and delivering the equipment to a location specified by the Agency.

This work will be paid for at the Contract unit price each intersection for REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT which will be payment in full for all work.

EQ-28 ROTATE SIGNAL PHASING AT AN EXISTING TRAFFIC SIGNAL INTERSECTION

This item shall consist of revising the traffic signal phasing at an existing traffic signal intersection. The proposed sequence of operation shall conform with the current "Standard Phase Designation Diagrams and Phase Sequences" Highway Standard, the Agency's phase diagrams and notes, the Agency's chart sequence of operations or as directed by the Agency. The phase rotation shall consist of the following items:

1. Modify all incoming field wiring to provide the new sequence of operations which includes all signal heads, pedestrian heads, internally illuminated signs, emergency vehicle preemption, confirmation beacons, vehicle detectors, pedestrian detectors and system detectors.

2. Modify the controller programming and phase overlaps to provide the proposed sequence of operations.
3. All back panel modifications as required to provide the proposed sequence of operations and system detection.
4. The Contractor shall provide five (5) copies (11" x 17") of revised cabinet wiring diagrams.
5. The Contractor shall provide revised cable logs indicating the number of each cable, the field location the cable is terminated at, and all cables must be tagged with an I.D. number that corresponds with the revised cable log.

EQ-29 UNINTERRUPTIBLE POWER SUPPLY (UPS), SPECIAL

This item shall comply with the UNINTERRUPTIBLE POWER SUPPLY (UPS), SPECIAL section of the Special Provisions contained in this Contract.

This work shall be paid for at the Contract unit price each for furnishing and installing UNINTERRUPTIBLE POWER SUPPLY (UPS), SPECIAL. The price shall include the UPS/Inverter unit, Bypass Switch, Batteries, Cabinet, wiring harnesses, and all associated equipment and materials necessary for proper operation.

EQ-30 BATTERY (SET), UPS

This work will consist of providing and installing a set of new batteries to operate with the UPS/BBS system, per manufacturer's recommendations and meet included specifications and special provisions. Old and new batteries shall not be mixed together. Item includes all disposal costs for old/removed batteries. This item is paid per location.

EQ-31 DETECTOR LOOP

This item shall comply with Section 886 and Article 1079.02 of the Standard Specifications. Loop detectors shall be installed according to the "District 1 Standard Traffic Signal Design Details."

Each loop detector lead-in wire shall be labeled in the handhole using a Panduit 250W175C waterproof tag or approved equal secured to each wire with nylon ties. The location of each dive hole shall be marked on the face of the curb or handhole with a saw cut.

Detector loops to be installed in the proposed asphalt pavement must be placed in the binder course, as directed by the Agency. Detector loops to be installed in existing asphalt pavement shall be located to miss existing pavement cracks, if possible. Detector loops to be installed in concrete pavement shall be located to miss pavement joints and cracks, if possible.

All detector loop saw cuts are to be filled with approved sealant to no higher than 1/8 inch below the surface of the pavement, and all excess sealant deposited on the pavement shall be removed immediately. Loop sealant shall be a two-component thixotropic chemically curing polyurethane such as Chemque Q-Seal 295, Perol Elastic Cement A/C Grade, or an approved equal.

Where approved by the Agency, 6-foot diameter round loops may be substituted for 6-foot by 6-foot square loops.

- EQ-32 GALVANIZED STEEL UNDERGROUND CONDUIT, 2-INCH
- EQ-33 GALVANIZED STEEL UNDERGROUND CONDUIT, 2-1/2 INCH
- EQ-34 GALVANIZED STEEL UNDERGROUND CONDUIT, 3-INCH
- EQ-35 GALVANIZED STEEL UNDERGROUND CONDUIT, 3-1/2 INCH
- EQ-36 GALVANIZED STEEL UNDERGROUND CONDUIT, 4-INCH

The above items shall comply with the UNDERGROUND CONDUIT section of the Special Provisions contained in this Contract. All conduit installed underground shall be fully buried a minimum depth of thirty (30) inches.

This work will be paid for at the contract unit price per foot for UNDERGROUND CONDUIT of the type and size specified, which price shall be payment in full for furnishing and installing the conduit either pushed, trenched, plowed, or directionally bored with fittings, complete. Trenching, backfilling and area restoration are included in cost of this item.

- EQ-37 COILABLE NON-METALLIC UNDERGROUND CONDUIT (CNC), 2-INCH

This item shall consist of furnishing and installing empty coilable non-metallic conduit (CNC) and comply with the UNDERGROUND CONDUIT section of the Special Provisions contained in this Contract. All conduit installed underground shall be fully buried a minimum depth of thirty (30) inches.

This work will be paid for at the contract unit price per foot for COILABLE NON-METALLIC UNDERGROUND CONDUIT (CNC) of the type and size specified, which price shall be payment in full for furnishing and installing the conduit either pushed, trenched, plowed, or directionally bored with fittings, complete. Trenching, backfilling and area restoration are included in cost of this item.

- EQ-38 ELECTRIC CABLE IN CONDUIT, NO. 14 1/C
- EQ-39 ELECTRIC CABLE IN CONDUIT, NO. 14 2/C
- EQ-40 ELECTRIC CABLE IN CONDUIT, NO. 14 3/C
- EQ-41 ELECTRIC CABLE IN CONDUIT, NO. 14 5/C
- EQ-42 ELECTRIC CABLE IN CONDUIT, NO. 14 7/C
- EQ-43 ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1/C
- EQ-44 ELECTRIC CABLE IN CONDUIT, NO. 14 2/C, TWISTED, SHIELDED
- EQ-45 ELECTRIC CABLE IN CONDUIT, NO. 6 2/C
- EQ-46 ELECTRIC CABLE IN CONDUIT, NO. 10 2/C

The items listed above shall comply with Section 873, Article 1088.01, and Article 1076.04 of the Standard Specifications for Road and Bridge Construction as revised in the Special Provisions included in this contract.

- EQ-47 EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C

This item shall consist of furnishing and installing lead-in cable for light detectors installed at existing and/or proposed traffic signal installations as part of an emergency vehicle priority system. The work includes installation of the lead-in cables in existing and/or new conduit. The electric cable shall be shielded and have three (3) stranded conductors, colored blue, orange, and yellow with a stranded tinned copper drain wire. The cable shall meet the requirements of the vendor of the Emergency Vehicle Priority System Equipment.

This work will be paid for at the contract unit price per foot for EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C, which price shall be payment in full for furnishing, installing, and making all electrical connections necessary for proper operations.

EQ-48 ELECTRIC CABLE IN CONDUIT, COAXIAL

This item shall consist of furnishing and installing a Belden 1694A RG-6/U Type Digital Coaxial Cable or approved equal. The cable shall be a 75 ohm coaxial cable with 18 gauge solid bare copper conductor, gas-injected foam high density polyethylene (FHDPE) insulation, 95% (min) tinned copper braided shield, and black polyvinyl chloride outer covering. The nominal outside diameter shall be 0.274 inches. Amphenol 31-71032 (or equivalent) BNC plug connectors shall be used at both the video junction box and traffic control cabinet ends of the cable.

EQ-49 ELECTRIC CABLE IN CONDUIT, NO. 18, 3/C for VIDEO

This item shall consist of furnishing and installing a Belden YR52311 cable, or approved equal, in existing and/or new conduit, between an Autoscope Solo Terra camera and the traffic signal cabinet.

A Harting HAN 3 A connector, or approved equivalent, is required to connect this cable to an Autoscope Solo Terra camera. The cost of furnishing and installing this connector is included in this pay item.

Basis of Payment: This work will be paid for at the contract unit price per foot for ELECTRIC CABLE IN CONDUIT, NO. 18, 3/C, which price shall be payment in full for furnishing, installing and making all electrical connections necessary for proper operation.

EQ-50 ELECTRIC CABLE IN CONDUIT, COMMUNICATION, NO. 16, 5½ PAIR

This work shall consist of furnishing and installing a Belden YC46223 communications cable, or approved equal, in existing and/or new conduit. The cable shall consist of 16 AWG stranded bare copper twisted-pair conductors, with PVC insulation, and PVC jacket with nylon ripcord. The nominal outside diameter shall be 0.502-inch.

The communications cable, No. 16, 5½ pair shall be spliced to the machine vision processor (MVP) Cable in the base of the signal mast arm pole on which the MVP is mounted. The MVP cable shall be provided by the MVP manufacturer. The communications cable shall be provided by the Contractor. The conductors from the two cables shall be spliced using the 3M Scotchlok gel-filled splice tabs (part number 314). The individual splices shall be bundled together and protected with 3M vinyl mastic pads. The cost of all work associated with splicing the cables shall be considered included in the cost of the communications cable, No. 16, 5½ pair.

Basis of Payment: This work will be paid for at the contract unit price per foot for ELECTRIC CABLE IN CONDUIT, COMMUNICATION NO. 16, 5½ PAIR, which price shall be payment in full for furnishing, installing and making all electrical connections necessary for proper operation.

EQ-51 OUTDOOR RATED NETWORK CABLE

This item shall comply with the OUTDOOR RATED NETWORK CABLE section of the Special Provisions contained in this Contract.

This work will be paid for at the contract unit price per foot for OUTDOOR RATED NETWORK CABLE. The unit price shall include furnishing and installing the cable and RJ-45 connectors, and making all connections necessary for proper operation to the satisfaction of the Agency.

EQ-52 FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, 36 FIBER (12 MULTIMODE AND 24 SINGLEMODE)

EQ-53 FIBER OPTIC CABLE IN CONDUIT, 24 SINGLEMODE

EQ-54 FIBER OPTIC CABLE IN CONDUIT, 48 SINGLEMODE

These items shall consist of furnishing and installing Fiber Optic Cable in conduit, No. 62.5/125, of the number of fibers specified (24 fibers, 36 fibers, or 48 fibers) at a location indicated by the Agency. This work shall be in accordance with the FIBER OPTIC CABLE section of the Special Provisions contained in this Contract. This item shall include all necessary cable slack, cable termination and testing, distribution enclosures, break-out kits, connectors, splices, pigtail assemblies and all other materials, hardware, and labor necessary to complete the installation as directed by the Agency.

The basis of payment for this work will be according to the type of fiber required for the interconnect system. The Agency may allow contractor to install an alternate fiber type at the Contractor's convenience if the fiber count meets the minimum requirements for the network at no additional cost to the Agency.

EQ-55 TRANSCEIVER - FIBER OPTIC

This item shall consist of furnishing and installing a fiber optic transceiver for an existing controller. This item shall comply with Section 864 of the Standard Specifications for Road and Bridge Construction, and shall include 2 each fiber optic modems and all necessary associated components to provide database upload/download capabilities, as well as the other features of the ECONOLITE "ARIES" software or central signal system software as directed by the Agency.

EQ-56 SPLICE FIBER OPTIC CABLE IN CABINET

This item shall comply with the SPLICE FIBER OPTIC CABLE IN CABINET section of the Special Provisions contained in this Contract.

Basis of Payment: This work shall be paid for at the contract unit price each for SPLICE FIBER OPTIC CABLE IN CABINET, which will be payment in full for all fusion splicing, fiber optic splice trays, testing and documentation, at a cabinet or building location shown on the plans and as directed by the Agency.

EQ-57 TERMINATE FIBER IN CABINET

This item shall comply with the TERMINATE FIBER IN CABINET section of the Special Provisions contained in this Contract.

Basis of Payment: This work shall be paid for at the contract unit price each for each fiber terminated in a field cabinet or inside a building as TERMINATE FIBER IN CABINET, which will be payment in full for terminating each required multimode or singlemode fiber, including all connectors, pigtails, splice trays, bulkheads, testing and documentation.

EQ-58 SUBMERSIBLE FIBER SPLICE ENCLOSURE

This item shall comply with the SUBMERSIBLE FIBER SPLICE ENCLOSURE section of the Special Provisions contained in this Contract.

Basis of Payment: This work shall be paid for at the contract unit price each for each SUBMERSIBLE FIBER SPLICE ENCLOSURE, which will be payment in full for terminating each required multimode or singlemode fiber, including all fusion splicing, heat shrinks, splice trays, testing and documentation.

EQ-59 LAYER II (DATA LINK) SWITCH, DuPAGE

This item shall consist of all labor, materials, and equipment to provide and install a Layer II (Data Link) switch in an existing traffic signal cabinet. The Layer II (Data Link) switch shall be a Cisco IE-2000-8TC-G-B, or approved equal. DuPage County shall be responsible for coordinating the programming of the Layer II (Data Link) switch through a third party.

EQ-60 LAYER II (DATA LINK) SWITCH, Naperville

This item shall consist of all labor, materials, and equipment to provide and install a Layer II (Data Link) switch in an existing traffic signal cabinet. The Layer II (Data Link) switch shall be a Cisco IE-4000, or approved equal. The City of Naperville will be responsible for coordinating the programming of the Layer II (Data Link) switch through a third party.

EQ-61 LAYER II (DATA LINK) SWITCH, AURORA

This item shall consist of all labor, materials, and equipment to provide and install a Layer II (Data Link) switch in an existing traffic signal cabinet. The Layer II (Data Link) switch shall be a Ruggedcom RS900G, or approved equal. The City of Aurora will be responsible for coordinating the programming of the Layer II (Data Link) switch through a third party.

EQ-62 LAYER III (NETWORK) SWITCH, DuPAGE

This item shall consist of all labor, materials, and equipment to provide and install a Layer III (Network) switch in an existing traffic signal cabinet. The Layer III (Network) switch shall be a Cisco IE-4010-16S-12P with L-IE4000-RTU+ (IP Services IOS upgrade), or approved equal. DuPage County shall be responsible for coordinating the programming of the Layer III switch through a third party.

EQ-63 LAYER III (NETWORK) SWITCH, Naperville

This item shall consist of all labor, materials, and equipment to provide and install a Layer III (Network) switch in an existing traffic signal cabinet. The Layer III (Data Link) switch shall be a Cisco IE-4000, or approved equal. The City of Naperville will be responsible for coordinating the programming of the Layer III (Network) switch through a third party.

EQ-64 LAYER III (NETWORK) SWITCH, AURORA

This item shall consist of all labor, materials, and equipment to provide and install a Layer III (Network) switch in an existing traffic signal cabinet. The Layer III (Network) switch shall be a Ruggedcom RX1400, or approved equal. The City of Aurora will be responsible for coordinating the programming of the Layer III switch through a third party.

EQ-65 PROGRAM ITS EQUIPMENT

The Contractor shall provide the specified ITS equipment to the Agency's consultant/vendor for programming to allow the device to operate within the Agency's Ethernet network. Items that require IP configuration and network settings programming to be included in this pay item include switches, cellular modems, wireless radio equipment and other similar ITS equipment. When this pay item is used by an Agency, programming shall be as follows: DuDOT equipment shall be programmed by Parsons; City of Naperville, City of Aurora, and Village of Lombard equipment shall be programmed by Traffic Control Corporation. The Agency may, at its

discretion, choose to program the equipment in-house or using a third party independent from this contract. In these cases, the Contractor shall deliver the equipment to the Agency for programming and pick it up from the Agency, the cost of which shall be included in the pay item for the specific ITS equipment.

EQ-66 REMOTE CONTROLLED VIDEO SYSTEM

This item shall include providing and installing a remote-controlled video system at a location designated by the Agency. The item shall comply with the REMOTE CONTROLLED VIDEO SYSTEM section of the Special Provisions included in this contract.

This item will be paid for at the Contract unit price each for REMOTE CONTROLLED VIDEO SYSTEM, which price shall be payment in full for furnishing all equipment required, installing the system complete and in place, and placing the system in operation to the satisfaction of the Agency.

EQ-67 SERVICE INSTALLATION, POLE MOUNT

EQ-68 SERVICE INSTALLATION, GROUND MOUNT

This item shall comply with the ELECTRICAL SERVICE INSTALLATION section of the Special Provisions contained in this Contract.

This work shall be paid for at the contract unit price each for SERVICE INSTALLATION, of the type specified which shall be payment in full for furnishing and installing the service installation complete. The Type A foundation for a ground mount service installation and all service and ground cables shall be paid for separately.

EQ-69 CONCRETE FOUNDATION, TYPE A

EQ-70 CONCRETE FOUNDATION, TYPE C

EQ-71 CONCRETE FOUNDATION, TYPE E, 30-INCH DIAMETER

EQ-72 CONCRETE FOUNDATION, TYPE E, 36-INCH DIAMETER

EQ-73 CONCRETE FOUNDATION, TYPE E, 42-INCH DIAMETER

The items listed above shall comply with Section 734, Article 1020, Article 1094.02, and Article 1087.01 of the Standard Specifications for Road and Bridge Construction. These items shall include anchor bolts, nuts, washers, and ground rods as specified for the type of post, pole, or cabinet being installed at the location.

EQ-74 CONCRETE HANDHOLE

EQ-75 CONCRETE HEAVY DUTY HANDHOLE

The items listed above shall comply with Section 814 and Article 1088.06 of the Standard Specifications for Road and Bridge Construction.

EQ-76 REBUILD EXISTING HANDHOLE

EQ-77 REBUILD EXISTING HEAVY DUTY HANDHOLE

This item shall comply with Section 814 and Article 1088.06 of the Standard Specifications for Road and Bridge Construction. This pay item shall include any of the following: rebuilding, raising, and/or re-aligning any type of handhole at a location designated by the Agency. This item shall include steel hooks, frame, cover, concrete, and all labor and equipment necessary to complete construction to the satisfaction of the Agency.

EQ-78 DRILL EXISTING HANDHOLE

This item shall comply with Section 879 of The Standard Specifications for Road and Bridge Construction.

EQ-79 TRAFFIC SIGNAL GROUNDING AND ELECTRICAL SERVICE UPGRADE

This item shall comply with the ELECTRICAL SERVICE INSTALLATION, GROUNDING OF TRAFFIC SIGNAL SYSTEMS, and GROUNDING EXISTING HANDHOLE FRAME AND COVER sections of the Special Provisions contained in this Contract.

This work includes:

- Replacement of the electrical service entrance equipment and cable
- New grounding of the service
- New feeder conductors from the service disconnect to the controller cabinet
- Cabinet grounding modifications
- Supplementary ground electrodes at handholes
- Extension of the equipment ground wires to all poles, posts, handholes, etc.
- Bonding of equipment ground to all exposed metal parts
- Testing and documentation

The Contractor shall be responsible for all coordination with the electrical utility and shall keep the disruption of the operation of the traffic signal to a momentary outage while the final connections are made.

This work shall be paid for at the contract unit price each for TRAFFIC SIGNAL GROUNDING AND ELECTRICAL SERVICE UPGRADE, which shall be payment in full for furnishing and installing all necessary cable and equipment to complete the system grounding of an intersection and provide a new electrical service installation.

EQ-80 VIDEO DETECTION SYSTEM (COMPLETE INTERSECTION)

This item shall comply with the VIDEO DETECTION SYSTEM (COMPLETE INTERSECTION) section of the Special Provisions contained in this Contract, with the exception noted below.

This specification sets forth the minimum requirements for a system that monitors vehicles on a roadway via processing of video images and provides detector outputs to a traffic controller or similar device. This work shall consist of furnishing and installing an Autoscope Vision or approved equal video vehicle detection system at one signalized intersection, including all necessary hardware, cable and accessories necessary to complete the installation in accordance with the manufacturer's specifications.

This item shall consist of up to four (4) integrated detection cameras, an electrical interface panel, and a detector interface card. The system shall also include a ten-inch color VGA monitor with a compatible connector for video input. A simple multi-camera video switching unit shall be provided to select video input to the monitor.

This item will be paid for at the contract unit price each for VIDEO DETECTION SYSTEM, (COMPLETE INTERSECTION) which price shall be payment in full for furnishing all associated equipment required, installing the system at one signalized intersection, and placing

the system in operation to the satisfaction of the Agency. This item shall include a cabinet-mounted video interface panel with a Gigabit Ethernet port.

EQ-81 RADAR VEHICLE DETECTION SYSTEM (COMPLETE INTERSECTION)

This item shall comply with the RADAR VEHICLE DETECTION SYSTEM (COMPLETE INTERSECTION) section of the Special Provisions contained in this Contract.

This item will be paid for at the contract unit price each for RADAR VEHICLE DETECTION SYSTEM (COMPLETE INTERSECTION) which price shall be payment in full for furnishing all associated equipment required, installing the system at one signalized intersection, and placing the system in operation to the satisfaction of the Agency.

EQ-82 HEMISPHERICAL VIDEO DETECTION SYSTEM (COMPLETE INTERSECTION)

This item shall comply with the HEMISPHERICAL VIDEO DETECTION SYSTEM (COMPLETE INTERSECTION) section of the Special Provisions contained in this Contract.

This item will be paid for at the contract unit price each for HEMISPHERICAL VEHICLE DETECTION SYSTEM (COMPLETE INTERSECTION) which price shall be payment in full for furnishing all associated equipment required, installing the system at one signalized intersection, and placing the system in operation to the satisfaction of the Agency.

EQ-83 REMOVE AND REINSTALL EXISTING WIRELESS DETECTION UNIT

This item shall include the removal, storage, and reinstallation of an existing Trafficware PODS wireless detection unit in the location shown on the plans or as directed by the Agency. The item shall comply with the REMOVE AND REINSTALL EXISTING WIRELESS DETECTION UNIT section of the Special Provisions contained in this Contract.

Basis of Payment: This work shall be paid for at the unit price each for REMOVE AND REINSTALL EXISTING WIRELESS DETECTION UNIT, which shall include all material, equipment, and labor for recovering the existing wireless detector unit, drilling the resurfaced pavement, finishing the hole, furnishing the detector sealant and clamshell housing, installing the wireless detector unit and clamshell housing, and applying the detector sealant. No additional compensation will be made for a drill, compressor, generator, supplemental drilling equipment, removal tools including air hammer or 5-inch drill bit, or repairing damaged drilling equipment.

EQ-84 REMOVE EXISTING AND INSTALL NEW WIRELESS DETECTION UNIT

This item shall include the removing of an existing Trafficware PODS wireless detection unit from the pavement, disposing of the detector unit, furnishing a replacement unit, and installing the replacement unit in the location shown on the plans or as directed by the Agency. This item shall comply with the REMOVE EXISTING AND INSTALL NEW WIRELESS DETECTION UNIT section of the Special Provisions contained in this Contract.

Basis of Payment: This work shall be paid for at the unit price each for REMOVE EXISTING AND INSTALL NEW WIRELESS DETECTION UNIT, which shall include all material, equipment, and labor for removing the existing wireless detector unit, drilling the resurfaced pavement, finishing the hole, furnishing the wireless detector, detector sealant and clamshell housing, installing the wireless detector unit and clamshell housing, and applying the detector sealant. No additional compensation will be made for a drill, compressor, generator, supplemental drilling equipment, removal tools including air hammer or 5-inch drill bit, or repairing damaged drilling equipment.

EQ-85 LED INTERNALLY ILLUMINATED STREET NAME SIGN

This item shall comply with the LED INTERNALLY ILLUMINATED STREET NAME SIGN section of the Special Provisions contained in this Contract.

This work shall be paid for at the Contract unit price each for furnishing and installing LED INTERNALLY ILLUMINATED STREET NAME SIGN, complete in place, to the satisfaction of the Agency.

EQ-86 PEDESTRIAN PUSH BUTTON POST

EQ-87 TRAFFIC SIGNAL POST, 10 FT

EQ-88 TRAFFIC SIGNAL POST, 14 FT

EQ-89 TRAFFIC SIGNAL POST, 16 FT

EQ-90 TRAFFIC SIGNAL POST, 18 FT

This item shall comply with the TRAFFIC SIGNAL POST section of the Special Provisions contained in this Contract.

This work shall be paid for at the Contract unit price each for furnishing and installing TRAFFIC SIGNAL POST of the size indicated, complete in place, to the satisfaction of the Agency.

EQ-91 PAINT TRAFFIC SIGNAL POST AND BASE

- a. Description - This work shall consist of cleaning and painting an existing traffic signal post and base.
- b. Materials - Paint shall be a two-coat system consisting of Rust Destroyer paint primer, and Benjamin Moore Super Spec HP Urethane Alkyd Gloss Enamel P22 finish, or an approved equivalent by the Agency. Paint color will be specified by the Agency.
- c. Cleaning - Prior to painting, the signal post shall be cleaned by removing all rust, foreign material, dirt, oil, and all loose or peeling paint. Cleaning shall be accomplished by the use of metal brushes and scrapers or other effective means meeting the approval of the Agency. A sand blast may be used provided results are equal to the best results obtainable by hand methods. Oil or grease shall be removed by the use of a suitable solvent or equally effective method. Bristle or wood fiber brushes shall be used for removing loose dust.
- d. Painting - After cleaning, one coat of an approved primer shall be placed to all areas where the old paint has been removed or damaged. On surfaces where small areas of metal or closely spaced intervals are exposed, the primer shall consist of a complete coating. The signal post shall be painted with two coats of enamel. Rollers or brushes must be used to apply the primer and paint. The Contractor shall paint the entire appurtenance unless directed otherwise by the Engineer. Spray painting will not be allowed.
- e. Basis of Payment - This work will be paid for at the contract price each for PAINT TRAFFIC SIGNAL POST AND BASE, which price shall be payment in full for all labor, equipment and materials necessary to paint the existing traffic.

EQ-92 PAINT MAST ARM AND POST

EQ-93 PAINT COMBINATION MAST ARM AND POLE

- a. Description - This work shall consist of cleaning and painting a mast arm post or combination mast arm and post.

- b. Materials – Paint shall be TNEMEC with a compatible primer, or an approved equivalent. Color shall be specified by the Agency.
- c. Cleaning - The mast arms or combination mast arms shall be cleaned by removing all rust, foreign material, dirt, oil, and all loose or peeling paint. Cleaning shall be accomplished by the use of metal brushes and scrapers or other effective means meeting the approval of the Agency. The sand blast may be used provided results are equal to the best results obtainable by hand methods. Oil or grease shall be removed by the use of a suitable solvent or equally effective method. Bristle or wood fiber brushes shall be used for removing loose dirt.
- d. Painting - After cleaning, one coat of an approved primer shall be applied to all areas where the old paint has been removed or damaged. On surfaces where small areas of metal at closely spaced intervals are exposed, the primer shall consist of a complete coating. Mast arms and poles shall be painted with two coats of paint. Rollers or brushes must be used to apply the primer and paint. Spray painting will not be allowed.
- e. Basis of Payment - This work will be paid for at the contract unit price each for PAINT MAST ARM AND POLE or COMBINATION MAST ARM AND POLE, which price shall be payment in full for all labor, equipment and materials necessary to paint the mast arm and post or combination mast arm and post.

EQ-94 ULTRASOUND TESTING

This item shall consist of all labor, materials, and equipment to perform ultrasound testing of any traffic signal posts, mast arms, combination mast arms (with luminaire), and street light poles. The ultrasounding shall be conducted using a commercially available multi-function ultrasonic thickness gauge. The gauge shall provide National Institute of Standards and Technology (NIST) Traceable results and be capable of measuring the thickness of materials between 0.118” and 1.96” when measured through coatings, and have an accuracy value of +/-0.002” for thicknesses below 20mm. The test report, showing the relative thickness and a general condition categorization for each pole, shall be provided to the Agency within 30 days of completion of the testing.

The basis of payment shall be EACH at the agreed unit price which shall include all necessary field work, traffic control, testing, report preparation, and report delivery, for each traffic signal post, mast arm (vertical element), combination mast arm (with luminaire) (vertical element), and street light pole (vertical element) measured, regardless of the number of measurements collected.

EQ-95 SPECIAL MAINTENANCE SERVICE CALL

This item shall consist of an investigation and troubleshooting of inoperable Agency-owned equipment at an intersection maintained by others according to Section III-12. This item only applies at locations that are not maintained by the requesting Agency. The Contractor shall not receive payment under this item, SPECIAL MAINTENANCE SERVICE CALL, for equipment installed at locations maintained by the requesting Agency under pay items T-1 through T-9, L-1 through L-4, PS-1, CH-1, and CH-2.

EQ-96 INSTALL BROADBAND RADIO INTERCONNECT SYSTEM

This item shall comply with the INSTALL BROADBAND RADIO INTERCONNECT SYSTEM section of the Special Provisions contained in this Contract.

This work shall be paid for at the Contract unit price each for INSTALL BROADBAND RADIO INTERCONNECT SYSTEM, which shall include furnishing and installing components between two signalized intersections. The price shall include the testing of the hardware and connections, to the satisfaction of the Agency.

ITEM CH – CENTURY HILL STREET LIGHTING DISTRICT

The Century Hill Street Lighting District provides street light service within the Century Hill subdivision in unincorporated Naperville Township. The service area is located in the area between Chicago Avenue, Burlington Railroad, Naper Boulevard and the Naperville Country Club.

The maintenance responsibility will be accomplished on an on-call basis. No routine patrol of the subdivision is required. When an outage is reported, the Contractor shall have seven (7) days to respond to perform and investigation and perform repairs to the above ground equipment in accordance with the following pay items.

Should the initial investigation, result in a determination that the cause of the failure is a lack of power or other underground situation or a pole needs to be replaced, that work shall be paid to the Contractor on a Force Account Basis in accordance with Article 109.04 (b) of the Standard Specifications.

CH-1 RESIDENTIAL STREET LIGHT REPAIR, POST TOP MOUNTED

CH-2 RESIDENTIAL STREET LIGHT REPAIR, LUMINARIE ARM MOUNTED

This item shall consist of responding to a reported street light outage within seven (7) days to investigate to determine the nature of the problem and repair any above ground faults including but not limited to issues related to bulb outages, ballasts, fuses, or wiring in the pole. This item shall include all labor, parts, and equipment necessary to restore the street light to operation.

Should the initial investigation, result in a determination that the cause of the failure is a lack of power or other underground situation or a pole needs to be replaced, all work shall be paid to the Contractor on a Force Account Basis in accordance with Article 109.04 (b) of the Standard Specifications.

All lighting is LED. Any new lamps installed under these pay items shall meet the Special Provisions included in this contract.

These items shall be paid for at the Contract unit price each for RESIDENTIAL STREET LIGHT REPAIR, of the type specified, which price shall be payment in full for investigating, repairing, and restoring the residential street light, of the type specified, to operation including all labor, equipment and materials necessary.

CH-EW RESIDENTIAL BUDGETARY ALLOWANCE FOR EXTRA WORK

This item is to establish a budget account to allocate funds for various street lighting extra work items in the Century Hill Street Lighting District. This account may be used to pay for projects such as signal equipment installations, modifications, relocations, upgrades, etc. It may also be used for procurement, installation, testing, and evaluation of special equipment, including support and/or training from hardware and software vendors. This item is not for materials and services included under Routine Maintenance.

Basis of Payment: The Agency will evaluate the quotations and authorize work accordingly at its discretion. The total estimated amount of annual expenses to be incurred for goods and services performed under this item is shown on the schedule of prices and shall be used for bidding purposes for pay item CH-EW.

CH-KD RESIDENTIAL BUDGETARY ALLOWANCE FOR KNOCKDOWNS

This item is to establish a budget account to allocate funds for temporary and/or permanent repairs to equipment which is damaged by traffic in the Century Hill Street Lighting District. This account may be used to pay for repair or replacement of any equipment hit/knocked down/damaged due to traffic, or third party damage, including luminaires, street light poles, luminaire arms, street light pole foundations, lighting controllers, lighting cabinets, fuse kits, or any other equipment owned or maintained by the Agency. Equipment damage may occur from typical roadway traffic, utility vehicles, construction vehicles, mowers, etc. This item is not for materials and services included under Routine Maintenance.

Basis of Payment: Repairs shall be paid to the Contractor on a Force Account Basis in accordance with Article 109.04 (b) of the Standard Specifications. The total estimated amount of annual expenses to be incurred for goods and services performed under this item is shown on the schedule of prices and shall be used for bidding purposes for pay item CH-KD.

ITEM DU-EW – BUDGETARY ALLOWANCE FOR DUPAGE COUNTY EXTRA WORK

This item is to establish a budget account to allocate funds for various projects at the DuPage County Campus. This account may be used to pay for projects such as equipment installations, modifications, relocations, upgrades, etc. It may also be used for procurement, installation, testing, and evaluation of special equipment, including support and/or training from hardware and software vendors. This item is not for materials and services included under Routine Maintenance.

Basis of Payment: The DuPage County Division of Transportation will evaluate the quotations and authorize work accordingly at its discretion. The total estimated amount of annual expenses to be incurred for goods and services performed under this item is shown on the schedule of prices and shall be used for bidding purposes for pay item DU-EW.

Pump Data and Sample Forms:

**County Farm Road Pump Station
 Summary Data Sheet**

Location/Description

County Farm Road Pump Station construction was completed in 2002. The pump station was constructed to service the storm water flow associated with the grade separation of CH 43 County Farm Road under the Union Pacific Railroad in Wheaton, IL. The pump station is fitted with three submersible pumps (2 duty and 1 standby). The pump controls are based on level measurements taken in the wet well using a level transducer with backup float level measurement. All alarms are hard wired back to the DuPage County Com Center. The pump station has two sources of power with an automatic transfer switch. The primary feed is from Commonwealth Edison and the secondary feed is from the emergency panel located in the Power Plant Building that is owned and operated by DuPage County.

<u>Pumps</u>	
Number	3
Type	Submersible
Capacity in gpm	2695
Design Head (TDH) in feet	35
Shutoff Head in feet	82
Manufacturer	Flygt
Model No.	CP3201
Impeller No.	636
Discharge Diameter in Inches	8
Motor HP	35
Explosion Proof?	Yes
Voltage	460
Phase	3
<u>Pump Control System</u>	
Primary	Transducer
Secondary	Float
<u>Remote Alarm Conditions</u>	
Standby Power Not Available	
Loss of Normal Power	
Pump Malfunction	
High Water Level	

Table P-1 (10/02)

**Belmont Road Pump Station
 Summary Data Sheet**

Location/Description

Belmont Road Pump Station construction was completed in 2012. The pump station was constructed to service the storm water flow associated with the grade separation of CH 2 Belmont Road under the Burlington Northern and Santa Fe Railroad in Downers Grove, IL. The pump station is fitted with four submersible pumps (3 duty and 1 standby). The pump controls are based on level measurements taken in the wet well using a level transducer with backup float level measurement. All alarms are hard wired back to the Meade Electric Radio Room. The pump station has two sources of power with an automatic transfer switch. The primary feed is from Commonwealth Edison and the secondary feed is from Nicor Gas Company.

<u>Pumps</u>	
Number	4
Type	Submersible
Capacity in gpm	2468
Design Head (TDH) in feet	30
Shutoff Head in feet	82
Manufacturer	Xylem
Model No.	NP3202.090-5217
Impeller No.	643
Discharge Diameter in Inches (High Flow)	12
Discharge Diameter in Inches (Low Flow)	6
Motor HP	35
Explosion Proof?	Yes
Voltage	460
Phase	3
<u>Pump Control System</u>	
Primary	Transducer
Secondary	Float
<u>Remote Alarm Conditions</u>	
Standby Power Not Available	
Loss of Normal Power	
Pump Malfunction	
High Water Level	

Table P-2 (10/12)

DUDOT PS ALARM STATUS - PREVENTATIVE MAINTENANCE LOG P-1

Pump Station No. Inspection Date: Call #

Alarm Code	Function	Wired? Yes/No	Alarm Received		Test Comments:
			By DuDOT? Yes/No	By Contractor? Yes/No	
1	Standby Power Not Available				
2	Loss of Normal Power				
3	Pump Malfunction				
4	High Water Level				

Problem Yes/No	Physical Condition Checklist	
	Item	Comment
	Wiring	
	Alarm Lights	
	Battery Condition	Volts

List General Alarms for this Pump Station:
 List General Alarm (Code 2) Comments:

Log P-1 (10/02)

PUMP STATION INSPECTION CHECKLIST (ANNUAL)

Date: _____ Patrol #/Name: _____
 P.S. #: _____ Location: _____
 Last MC Patrolman in the Station: _____ Patrol #: _____

<u>NA</u>	<u>Items</u>	<u>O.K.</u>	<u>Abnormalities/Remarks</u>
	1. Log Book Charts		
	A. Patrol Frequency	<input type="checkbox"/>	_____
<input type="checkbox"/>	B. Sluice Gate Operation	<input type="checkbox"/>	_____
	C. _____		_____
	2. Alarms Holding	<input type="checkbox"/>	_____
	3. Breakers or Fuse Disconnect		
	A. Mains	<input type="checkbox"/>	_____
	B. Branch	<input type="checkbox"/>	_____
	C. Others	<input type="checkbox"/>	_____
<input type="checkbox"/>	4. Main Motor Oil Levels	<input type="checkbox"/>	_____
	A. Top Reservoir	<input type="checkbox"/>	_____
	B. Bottom Reservoir	<input type="checkbox"/>	_____
<input type="checkbox"/>	5. Motor Operation (visual & feel test)	<input type="checkbox"/>	_____
	A. Vibration	<input type="checkbox"/>	_____
	B. Hum	<input type="checkbox"/>	_____

PUMP STATION INSPECTION CHECKLIST (ANNUAL)

- Alternator – Manual
 Check Chart A for indication Patrolman changing lead pump _____

- 6. Meters/Counters
 - A. Hours Pump 1 _____
 - B. Hours Pump 2 _____
 - C. Hours Pump 3 _____

- 7. Pumps
 - A. Noise _____
 - B. Vibration _____
 - C. Capacity _____

- 8. Bar Screen Condition _____

- 9. Terminal, Wire & Insulation Integrity _____

- 10. Ground System _____

- 11. Power
 - A. Line #1 (ComEd Voltage) _____
 - B. Line #2 (Power Plant Voltage) _____
 - C. Transfer Switch _____

- 12. Debris
 - A. Wet Pit “pump down to low level to determine silt level for cleaning (use draw down pump)” _____
 - B. Screens _____
 - C. Outflow _____
 - D. Grounds _____

PUMP STATION INSPECTION CHECKLIST (ANNUAL)

- 13. Leaks
 - A. Discharge Piping _____
 - B. Structure _____
 - C. Service Conduits _____

- 14. Ladders/Safety Cages _____

- 15. Grate/Hatch Covers (clips missing, etc.) _____

- 16. Lights
 - A. Inside _____

- 17. Fencing
 - A. Gates _____
 - B. Posts _____
 - C. Fabric _____

- 18. Painting
 - A. Discharge Pipe _____
 - B. Grates/Hatches/Ladders _____
 - C. Motors/Bases _____
 - D. Pumps _____
 - E. Cabinets _____

- 19. Control Processor
 - A. Water Level Indicator _____
 - B. Current _____
 - C. 3 Ø Voltage _____

ACTIONS

- Put "□" in Chart Book
- Called Dispatcher for _____
 List Ticket #'s _____

Pump Station :	PUMP OPERATION TEST RESULTS	Test Date :
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Make adjustments to impeller setting when pump capacity has dropped significantly.
 Instructions: Check each pump per contract specifications and record results below.
 Any readings below or above normal operating parameters must be recorded on a Ticket and DuDOT shall be notified immediately.

Pump #	Impeller Setting		Wet Pit	Capacity	PUMP	PUMP	Current (Amps)				Voltage (Volts)			Megger (Meg-OHMS)			Pressure Gauge	Peak Vibration
	As Found	Adjustment (As Left)	Water Level	(GPM)	Starts	Hours Run	A	B	C		A	B	C	A	B	C	Reading	IPS

PUMP CONTROL SYSTEM INSPECTION							
PUMP STATION NUMBER:						DATE:	
Examples of Applicable Control Points	SCADA CONTROL POINTS		TRANSDUCER VALUES		FLOAT VALUES		
	SP #	VALUE	IDEAL	ACTUAL	IDEAL	ACTUAL	
LOW LEVEL							
ALL / LOW FLOW PUMP OFF PUMP							
LOW FLOW PUMP ON							
MAIN PUMPS STOP							
LAG 1 OFF							
LAG 2 OFF							
LAG 3 OFF							
MAIN PUMP START							
LAG 1 ON							
LAG 2 ON							
LAG 3 ON							
ALL ON							
HIGH LEVEL							

Log P-4 (Rev. 10/02)

PUMP STATION:		SUBMERSIBLE PUMP INSPECTION				DATE:
PUMP POS.	TYPE	MODEL #	CLEAN PER 8.6.1	PUMP IMPELLER SIZE	PUMP IMPELLER INSPECTION	OIL CHANGE NO. OF PINTS AND GRADE
COMMENTS:						

WET PIT INSPECTION			
1: Inspect grease lines on all pumps and note their condition			
	Pump 1	Pump 2	Pump 3
Good			
Satisfactory			
Need Repair			
2: Inspect integrity of all equipment attached to the perimeter of wet pit			
Check Condition Of	Floats	Probes	
Good			
Satisfactory			
Need Repair			
3. Inspect condition bar screens. Also, check the integrity of the inlet sewer noting any excess debris accumulation in the sewer.			
Comments:			
4. Inspect and take pictures of any bowl assemblies, which show any wear on the impeller and / or if the suction, is clogged with debris. The photos shall be appropriately labeled and placed in a sheet album.			
5: Note the amount of silt accumulation in inches or feet.			

Log P-6 (Rev. 10/02)

PLC SYSTEM MAINTENANCE PLC EQUIPMENT CHECK LIST				
PUMP STATION #:	DATE:		COMPLETED BY:	
DIGITAL INPUTS				
	OK			COMMENTS
PUMP 1 AUTO				
PUMP 2 AUTO				
PUMP 3 AUTO				
ENTRY KEY IN NON-ALARM POS.				
TRANSFER SW IN NORMAL				
TRANSFER SW IN EMERGENCY				

DIGITAL INPUTS (Cont.)				
	OK		OK	COMMENTS
PUMP 1 BREAKER				
PUMP 2 BREAKER				
PUMP 3 BREAKER				
PUMP 1 St. CONTACTOR				
PUMP 2 St. CONTACTOR				
PUMP 3 St. CONTACTOR				
SERVICE #1 DISCONNECT OPEN				
SERVICE #2 DISCONNECT OPEN				
PUMP 1 OVERLOAD TRIP				
PUMP 2 OVERLOAD TRIP				
PUMP 3 OVERLOAD TRIP				
MANUAL SEQUENCE SWITCH (ALL SELECTIONS)				
PUMP 1 OVERTEMP TRIP				
PUMP 2 OVERTEMP TRIP				
PUMP 3 OVERTEMP TRIP				
MISC. DIGITAL INPUTS				

**PLC SYSTEM MAINTENANCE
PLC EQUIPMENT CHECK LIST**

PUMP STATION #:	DATE:	COMPLETED BY:
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ANALOG INPUTS

	PLC	ACTUAL	COMMENTS
PRI. XDUCER LEVEL			

LOG P-7 3 OF 3 (Rev. 10/02)

TRAFFIC SIGNAL MAINTENANCE CONTRACT

EQUIPMENT LIST

DuPage County

The following is a listing of the equipment that the Contractor shall be responsible to maintain under the Contract with DuPage County. The approximate number and type of equipment is listed to provide the Contractor with a breakdown of the inventory for bidding purposes. This list is comprised of existing equipment owned and/or maintained by the DuPage County Division of Transportation, and new equipment planned for construction and/or installation during the term of this Contract. The list includes traffic signal locations, street lighting locations, vehicle counting stations, as well as a listing of the type and number of signal appurtenances. The number of traffic signal locations varies due to construction, maintenance transfers, new installations, maintenance agreement revisions, and removals. The equipment list shall not be considered all-inclusive or comprehensive in any way, and the DuPage County Division of Transportation shall not be held accountable for any errors on the list.

It should be noted that the DuPage County Division of Transportation does have maintenance of traffic signal and street lighting facilities on roads that are not under the jurisdiction of the County. These locations are maintained for the municipalities and state through intergovernmental agreements. All work orders, payments and invoicing for these locations, which the County has maintenance responsibility, will be administered through this Contract by the County and not the agency with jurisdiction of the road.

TRAFFIC SIGNAL MAINTENANCE CONTRACT

EQUIPMENT LIST

City of Aurora

The following is a listing of the equipment that the Contractor shall be responsible to maintain under this Contract with the City of Aurora. The approximate number and type of equipment is listed to provide the Contractor with a breakdown of the inventory for bidding purposes. This list is comprised of existing equipment owned and/or maintained by the City of Aurora, and new equipment planned for construction and/or installation during the term of this Contract. The list includes traffic signal locations and number of signal appurtenances. The number of traffic signal locations varies due to construction, maintenance transfers, new installations, maintenance agreement revisions, and removals. The equipment list shall not be considered all-inclusive or comprehensive in any way, and the City of Aurora shall not be held accountable for any errors on the list.

TRAFFIC SIGNAL MAINTENANCE CONTRACT

EQUIPMENT LIST

Village of Lombard

The following is a listing of the equipment that the Contractor shall be responsible to maintain under this Contract with the Village of Lombard. The approximate number and type of equipment is listed to provide the Contractor with a breakdown of the inventory for bidding purposes. This list is comprised of existing equipment owned and/or maintained by the Village of Lombard, and new equipment planned for construction and/or installation during the term of this Contract. The list includes traffic signal locations and number of signal appurtenances. The number of traffic signal locations varies due to construction, maintenance transfers, new installations, maintenance agreement revisions, and removals. The equipment list shall not be considered all-inclusive or comprehensive in any way, and the Village of Lombard shall not be held accountable for any errors on the list.

TRAFFIC SIGNAL MAINTENANCE CONTRACT

EQUIPMENT LIST

City of Naperville

The following is a listing of the equipment that the Contractor shall be responsible to maintain under this Contract with the City of Naperville. The approximate number and type of equipment is listed to provide the Contractor with a breakdown of the inventory for bidding purposes. This list is comprised of existing equipment owned and/or maintained by the City of Naperville, and new equipment planned for construction and/or installation during the term of this Contract. The list includes traffic signal locations and number of signal appurtenances. The number of traffic signal locations varies due to construction, maintenance transfers, new installations, maintenance agreement revisions, and removals. The equipment list shall not be considered all-inclusive or comprehensive in any way, and the City of Naperville shall not be held accountable for any errors on the list.

TRAFFIC SIGNAL MAINTENANCE CONTRACT

SCHEDULE OF ROUTINE MAINTENANCE PAY ITEMS

DuPage County

The following is a listing of the Routine Maintenance Pay Items that the Contractor shall be responsible to maintain under this Contract with DuPage County. The quantity of each pay item is provided to enable the Contractor to readily determine the Routine Maintenance Pay Items at a given location. This list is comprised of existing equipment owned and/or maintained by the DuPage County Division of Transportation, and new equipment planned for construction and/or installation during the term of this Contract. The list includes locations of traffic signals, emergency vehicle preemption systems, flashing beacons, street lighting, pump stations, and vehicle counting stations. The Routine Maintenance Pay Items at a given location vary due to construction, maintenance transfers, new installations, maintenance agreement revisions, and removals. The Schedule of Routine Maintenance Pay Items shall not be considered all-inclusive or comprehensive in any way, and the DuPage County Division of Transportation shall not be held accountable for any errors on the list.

THE ROUTINE MAINTENANCE PORTION OF THE SCHEDULE OF PRICES FOR THIS CONTRACT (PAY ITEMS T-1 TO T-9, L-1 to L-4, and PS-1) CONTAINS BID QUANTITIES THAT REFLECT AN ESTIMATED TYPICAL MONTH'S MAINTENANCE.

TRAFFIC SIGNAL MAINTENANCE CONTRACT

SCHEDULE OF ROUTINE MAINTENANCE PAY ITEMS

City of Aurora

The following is a listing of the Routine Maintenance Pay Items that the Contractor shall be responsible to maintain under this Contract with the City of Aurora. The quantity of each pay item is provided to enable the Contractor to readily determine the Routine Maintenance Pay Items at a given location. This list is comprised of existing equipment owned and/or maintained by the City of Aurora, and new equipment planned for construction and/or installation during the term of this Contract. The list includes locations of traffic signals, emergency vehicle preemption systems, flashing beacons, street lighting, pump stations, and vehicle counting stations. The Routine Maintenance Pay Items at a given location vary due to construction, maintenance transfers, new installations, maintenance agreement revisions, and removals. The Schedule of Routine Maintenance Pay Items shall not be considered all-inclusive or comprehensive in any way, and the City of Aurora shall not be held accountable for any errors on the list.

THE ROUTINE MAINTENANCE PORTION OF THE SCHEDULE OF PRICES FOR THIS CONTRACT (PAY ITEMS T-1 TO T-9, L-1 to L-4, and PS-1) CONTAINS BID QUANTITIES THAT REFLECT AN ESTIMATED TYPICAL MONTH'S MAINTENANCE.

TRAFFIC SIGNAL MAINTENANCE CONTRACT

SCHEDULE OF ROUTINE MAINTENANCE PAY ITEMS

Village of Lombard

The following is a listing of the Routine Maintenance Pay Items that the Contractor shall be responsible to maintain under this Contract with the Village of Lombard. The quantity of each pay item is provided to enable the Contractor to readily determine the Routine Maintenance Pay Items at a given location. This list is comprised of existing equipment owned and/or maintained by the Village of Lombard, and new equipment planned for construction and/or installation during the term of this Contract. The list includes locations of traffic signals, emergency vehicle preemption systems, flashing beacons, street lighting, pump stations, and vehicle counting stations. The Routine Maintenance Pay Items at a given location vary due to construction, maintenance transfers, new installations, maintenance agreement revisions, and removals. The Schedule of Routine Maintenance Pay Items shall not be considered all-inclusive or comprehensive in any way, and the Village of Lombard shall not be held accountable for any errors on the list.

THE ROUTINE MAINTENANCE PORTION OF THE SCHEDULE OF PRICES FOR THIS CONTRACT (PAY ITEMS T-1 TO T-9, L-1 to L-4, and PS-1) CONTAINS BID QUANTITIES THAT REFLECT AN ESTIMATED TYPICAL MONTH'S MAINTENANCE.

TRAFFIC SIGNAL MAINTENANCE CONTRACT

SCHEDULE OF ROUTINE MAINTENANCE PAY ITEMS

City of Naperville

The following is a listing of the Routine Maintenance Pay Items that the Contractor shall be responsible to maintain under this Contract with the City of Naperville. The quantity of each pay item is provided to enable the Contractor to readily determine the Routine Maintenance Pay Items at a given location. This list is comprised of existing equipment owned and/or maintained by the City of Naperville, and new equipment planned for construction and/or installation during the term of this Contract. The list includes locations of traffic signals, emergency vehicle preemption systems, flashing beacons, street lighting, pump stations, and vehicle counting stations. The Routine Maintenance Pay Items at a given location vary due to construction, maintenance transfers, new installations, maintenance agreement revisions, and removals. The Schedule of Routine Maintenance Pay Items shall not be considered all-inclusive or comprehensive in any way, and the City of Naperville shall not be held accountable for any errors on the list.

THE ROUTINE MAINTENANCE PORTION OF THE SCHEDULE OF PRICES FOR THIS CONTRACT (PAY ITEMS T-1 TO T-9, L-1 to L-4, and PS-1) CONTAINS BID QUANTITIES THAT REFLECT AN ESTIMATED TYPICAL MONTH'S MAINTENANCE.



SUMMARY OF QUANTITIES

County: **DuPage**
 Local Public Agency: **DuPage, Aurora, Lombard, and Naperville**
 Section: **20-TSMTC-02-GM**
 Route: **Various**

Item No.	Items	Unit	DuPage Quantity	Aurora Quantity	Lombard Quantity	Naperville Quantity	Total Quantity
T-1	TRAFFIC SIGNAL LOCATION	EACH	7560	2952	744	2280	13536
T-2	SPAN WIRE TRAFFIC SIGNAL LOCATION	EACH	72			48	120
T-3	FLASHING BEACON, OVERHEAD MOUNT	EACH	96			48	144
T-4	FLASHING BEACON, LOW MOUNT	EACH	696		120	480	1296
T-5	LAYER II (DATALINK) SWITCH	EACH				960	960
T-6	LAYER III (NETWORK) SWITCH	EACH				120	120
T-7	REMOTE CONTROLLED VIDEO SYSTEM	EACH	1				1
T-8	PEDESTRIAN CROSSING SIGNAL LOCATION	EACH	24		72		96
T-9	FIRE STATION SIGNAL LOCATION	EACH	24	24	48		96
L-1	LUMINAIRE	EACH	22868	5184		4800	32852
L-2	UNDERPASS LIGHTING	EACH	3408				3408
L-3	SIGN LIGHTING	EACH	24				24
L-4	WASHINGTON STREET NO PARKING SIGNS SYSTEM COMPLETE	EACH				24	24
PS-1	PUMP STATION	EACH	48				48
EW-1	BUDGETARY ALLOWANCE FOR EXTRA WORK	\$	100,000.00	100,000.00	10,000.00	40,000.00	250,000.00
KD-1	BUDGETARY ALLOWANCE FOR KNOCKDOWNS	\$	600,000.00		30,000.00	75,000.00	705,000.00
EQ-1	SIGNAL HEAD, LED, 1-FACE, 1-SECTION	EACH	1				1
EQ-2	SIGNAL HEAD, LED, 1-FACE, 3-SECTION	EACH	8	16		4	28
EQ-3	SIGNAL HEAD, LED, 1-FACE, 4-SECTION	EACH	1	4			5
EQ-4	SIGNAL HEAD, LED, 1-FACE, 5-SECTION	EACH	8	16		4	28
EQ-5	RELOCATE EXISTING TRAFFIC SIGNAL HEAD	EACH	8	12			20
EQ-6	TRAFFIC SIGNAL BACKPLATE	EACH	8	16			24
EQ-7	TRAFFIC SIGNAL BACKPLATE, RETROREFLECTIVE	EACH	8	16		6	30
EQ-8	RELAMP COMBINATION STREET LIGHTING - LED	EACH	4	4		4	12
EQ-9	RELAMP COMBINATION SREET LIGHTING - HPS	EACH		4		6	10
EQ-10	PED HEAD, LED	EACH	2			4	6
EQ-11	PED HEAD, LED, COUNTDOWN	EACH	16	16		4	36
EQ-12	PEDESTRIAN PUSH BUTTON	EACH	4	16	2	8	30
EQ-13	AUDIBLE/ACCESSIBLE PEDESTRIAN SIGNALS (APS) (COMPLETE INTERSECTION)	EACH	2	1			3

SUMMARY OF QUANTITIES

Item No.	Items	Unit	DuPage Quantity	Aurora Quantity	Lombard Quantity	Naperville Quantity	Total Quantity
EQ-14	RELOCATE EXISTING PEDESTRIAN PUSH BUTTON	EACH	4	4		2	10
EQ-15	EMERGENCY VEHICLE PREEMPTION SYSTEM	EACH	1	1	2		4
EQ-16	INSTALL SPAN WIRE TRAFFIC SIGNAL, FOUR APPROACHES OR LESS	EACH	1	1			2
EQ-17	REMOVE EXISTING SPAN WIRE TRAFFIC SIGNAL, FOUR APPROACHES OR LESS	EACH	1				1
EQ-18	FULL ACTUATED CONTROLLER	EACH	4	2	2		8
EQ-19	INSTALL EXISTING TRAFFIC SIGNAL CONTROLLER	EACH	20	3			23
EQ-20	INSTALL UPDATED PROM SET AT LOCAL OR MASTER CONTROLLER	EACH		2			2
EQ-21	UPGRADE EXISTING LOCAL CONTROLLER SOFTWARE TO NTCIP	EACH	5	1			6
EQ-22	FULL-ACTUATED CONTROLLER IN TYPE IV CABINET, NEMA TS-2	EACH	1	1			2
EQ-23	FULL-ACTUATED CONTROLLER IN TYPE IV CABINET, NEMA TS-2, SPECIAL	EACH	1	1			2
EQ-24	FULL-ACTUATED CONTROLLER IN TYPE IV CABINET, NEMA TS-2, RAILROAD	EACH		1	1		2
EQ-25	INSTALL EXISTING TRAFFIC SIGNAL CABINET	EACH	3	2			5
EQ-26	MODIFY EXISTING CONTROLLER AND CABINET	EACH	4	2			6
EQ-27	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1	1			2
EQ-28	ROTATE SIGNAL PHASING AT EXISTING TS	EACH	3	1			4
EQ-29	UNINTERRUPTIBLE POWER SUPPLY, SPECIAL	EACH	4	2			6
EQ-30	BATTERY (SET), UPS	EACH	8	40	2		50
EQ-31	DETECTOR LOOP	FOOT	2250	750	300	1200	4500
EQ-32	GALVANIZED STEEL UNDERGROUND CONDUIT, 2-INCH	FOOT	300	100		200	600
EQ-33	GALVANIZED STEEL UNDERGROUND CONDUIT, 2-1/2 INCH	FOOT	100	100			200
EQ-34	GALVANIZED STEEL UNDERGROUND CONDUIT, 3-INCH	FOOT	100	100			200
EQ-35	GALVANIZED STEEL UNDERGROUND CONDUIT, 3-1/2 INCH	FOOT	100				100
EQ-36	GALVANIZED STEEL UNDERGROUND CONDUIT, 4-INCH	FOOT	200	100			300
EQ-37	COILABLE NON-METALLIC UNDERGROUND CONDUIT, 2-INCH	FOOT	300	3500			3800
EQ-38	ELECTRIC CABLE IN CONDUIT, NO. 14 1/C	FOOT	100				100
EQ-39	ELECTRIC CABLE IN CONDUIT, NO. 14 2/C	FOOT	1000	1000		500	2500
EQ-40	ELECTRIC CABLE IN CONDUIT, NO.14 3/C	FOOT	1000	1000		500	2500
EQ-41	ELECTRIC CABLE IN CONDUIT, NO.14 5/C	FOOT	2000	1000		500	3500
EQ-42	ELECTRIC CABLE IN CONDUIT, NO.14 7/C	FOOT	1000	1000		500	2500
EQ-43	ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1/C	FOOT	5000	3000			8000
EQ-44	ELECTRIC CABLE IN CONDUIT, NO.14 2/C, TWISTED, SHIELDED	FOOT	750	1000		500	2250

SUMMARY OF QUANTITIES

Item No.	Items	Unit	DuPage Quantity	Aurora Quantity	Lombard Quantity	Naperville Quantity	Total Quantity
EQ-45	ELECTRIC CABLE IN CONDUIT, NO. 6, 2/C	FOOT	500	1000			1500
EQ-46	ELECTRIC CABLE IN CONDUIT, NO. 10, 2/C	FOOT	250	1000			1250
EQ-47	EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20, 3/C	FOOT	750	1000			1750
EQ-48	ELECTRIC CABLE IN CONDUIT, COAXIAL	FOOT	600	500			1100
EQ-49	ELECTRIC CABLE IN CONDUIT, NO.18, 3/C, VIDEO	FOOT	600	500			1100
EQ-50	ELECTRIC CABLE IN CONDUIT, COMM, NO. 16 5-1/2 PAIR	FOOT	100	500			600
EQ-51	OUTDOOR RATED NETWORK CABLE	FOOT	2000	600			2600
EQ-52	FIBER OPTIC IN CONDUIT, 12 MM, 24 SM	FOOT	2500	3000			5500
EQ-53	FIBER OPTIC IN CONDUIT, 24 SM	FOOT	6800				6800
EQ-54	FIBER OPTIC IN CONDUIT, 48 SM	FOOT	2500	3500			6000
EQ-55	TRANSCEIVER, FIBER OPTIC	EACH	4	1			5
EQ-56	SPLICE FIBER OPTIC CABLE IN CABINET	EACH	20	45			65
EQ-57	TERMINATE FIBER IN CABINET	EACH	48	60			108
EQ-58	SUBMERSIBLE FIBER SPLICE ENCLOSURE	EACH	20	3			23
EQ-59	LAYER II (DATALINK) SWITCH, DUPAGE	EACH	1				1
EQ-60	LAYER II (DATALINK) SWITCH, NAPERVILLE	EACH				2	2
EQ-61	LAYER II (DATALINK) SWITCH, AURORA	EACH		2			2
EQ-62	LAYER III (NETWORK) SWITCH, DUPAGE	EACH	1				1
EQ-63	LAYER III (NETWORK) SWITCH, NAPERVILLE	EACH				1	1
EQ-64	LAYER III (NETWORK) SWITCH, AURORA	EACH		1			1
EQ-65	PROGRAM ITS EQUIPMENT	EACH	4				4
EQ-66	REMOTE CONTROLLED VIDEO SYSTEM	EACH	2	2			4
EQ-67	SERVICE INSTALLATION, POLE MOUNT	EACH	1	2			3
EQ-68	SERVICE INSTALLATION, GROUND MOUNT	EACH	1	1			2
EQ-69	CONCRETE FOUNDATION, TYPE A	FOOT	16	16			32
EQ-70	CONCRETE FOUNDATION, TYPE C	FOOT	8	8			16
EQ-71	CONCRETE FOUNDATION, TYPE E, 30-INCH DIAMETER	FOOT	15	60			75
EQ-72	CONCRETE FOUNDATION, TYPE E, 36-INCH DIAMETER	FOOT	15	60			75
EQ-73	CONCRETE FOUNDATION, TYPE E, 42-INCH DIAMETER	FOOT	21	60			81
EQ-74	CONCRETE HANDHOLE	EACH	2	4		2	8
EQ-75	CONCRETE HEAVY DUTY HANDHOLE	EACH	2	2		2	6

SUMMARY OF QUANTITIES

Item No.	Items	Unit	DuPage Quantity	Aurora Quantity	Lombard Quantity	Naperville Quantity	Total Quantity
EQ-76	REBUILD EXISTING HANDHOLE	EACH	4	2		4	10
EQ-77	REBUILD EXISTING HEAVY DUTY HANDHOLE	EACH	4	2			6
EQ-78	DRILL EXISTING HANDHOLE	EACH	8	8		4	20
EQ-79	TS GROUNDING AND ELECTRICAL SERVICE UPGRADE	EACH	1	1			2
EQ-80	VIDEO DETECTION SYSTEM (COMPLETE INTERSECTION)	EACH	2	1	4		7
EQ-81	RADAR VEHICLE DETECTION SYSTEM (COMPLETE INTERSECTION)	EACH	2	1			3
EQ-82	HEMISPHERICAL VIDEO DETECTION SYSTEM (COMPLETE INTERSECTION)	EACH	2	1			3
EQ-83	REMOVE AND REINSTALL EXISTING WIRELESS DETECTION UNIT	EACH	2			20	22
EQ-84	REMOVE EXISTING AND INSTALL NEW WIRELESS DETECTION UNIT	EACH	2			10	12
EQ-85	LED INTERNALLY ILLUMINATED STREET NAME SIGN	EACH	2	4			6
EQ-86	PEDESTRIAN PUSH BUTTON POST	EACH	4	8			12
EQ-87	TRAFFIC SIGNAL POST, 10 FT	EACH	4	1		4	9
EQ-88	TRAFFIC SIGNAL POST, 14 FT	EACH	2	2			4
EQ-89	TRAFFIC SIGNAL POST, 16 FT	EACH	4	4		4	12
EQ-90	TRAFFIC SIGNAL POST, 18 FT	EACH	1	4		4	9
EQ-91	PAINT TRAFFIC SIGNAL POST AND BASE	EACH	1	4	15		20
EQ-92	PAINT MAST ARM AND POST	EACH	1	4	15		20
EQ-93	PAINT COMBINATION MAST ARM AND POLE	EACH	1	4	15		20
EQ-94	ULTRASOUND TESTING	EACH	10		20		30
EQ-95	SPECIAL MAINTENANCE SERVICE CALL	EACH	5				5
EQ-96	INSTALL BROADBAND RADIO INTERCONNECT SYSTEM	EACH		2			2
CH-1	CENTURY HILL STREET LIGHT REPAIR, POST TOP MOUNTED	EACH	12				12
CH-2	CENTURY HILL STREET LIGHT REPAIR, LUMINAIRE ARM MOUNTED	EACH	12				12
CH-EW	CENTURY HILL BUDGETARY ALLOWANCE FOR EXTRA WORK	\$	15000				15,000
CH-KD	CENTURY HILL BUDGETARY ALLOWANCE FOR KNOCKDOWNS	\$	5000				5,000
DU-EW	DUPAGE COUNTY IT/FACILITIES EXTRA WORK	\$	30,000.00				30,000

○ **DuPAGE COUNTY**

○ **EQUIPMENT LIST**

○ **SCHEDULE OF ROUTINE MAINTENANCE PAY ITEMS**



Traffic Signals under DuPage County Jurisdiction maintained by DuPage County

Primary Street	Secondary Street	A1	A2	A3	A4	A5	A6	A7-A	A7-B	A7-C	A8	A9	A10	A11	A12	A13	A14	A15	A16	A17	A18	A19	A20
31st Street	Concord Drive / Trinity Lane				8		4			4	4	2			1	1	1					1	1
31st Street	Highland Avenue				8		12			12	9	4		1	1	1	1			4	4	2	
31st Street	Highland Parkway				10	2	2			2	2				1	1	1					1	
31st Street	IL 83 NB Ramps (East)				9	2				2	2						1					1	1
31st Street	IL 83 SB Ramps (West)				9	2				2	2				1		1					1	
31st Street	Midwest Road				4		8			4	3	4			1		1					1	
31st Street	Midwestern Univ. / Avenue La Tours				12		6			8	8	4			1	1	1						
31st Street	Regent Dr. / St. Paschal Drive				10		4			4	3	2		1	1		1					2	1
31st Street	York Road				4		8			8	4	4			1		1						
55th Street	Cass Avenue				7		10			8					1								
55th Street	Clarendon Hills Road				8	2	4			4	4	2			1	1	1					1	
55th Street	Fairview Avenue	10		4						8	6				1		1						
55th Street	Garfield Avenue				2		8			8	4	2			1		1					1	1
55th Street	Grant Street				2		8			8	4	2	2		1		1					2	2
55th Street	Holmes Avenue				4		8			8	7	4			1		1					1	
55th Street	IL 83 NBD Ramps (East)				9		2					2			1		1					2	1
55th Street	IL 83 SBD Ramps (West)				7		2					2		1	1		1					1	
55th Street	Madison Street				2		8			8	4	2			1		1					1	1
55th Street	Main Street DG	6	2	6										1	1	1	1						
63rd Street	Belmont Road				2	4	8			8	4	2			1		1					1	
63rd Street	Cass Avenue				8		8			8	4	3			1		1					2	
63rd Street	Clarendon Hills Road				6		8			8	5	2			1		1					1	
63rd Street	Dunham Road				6		8			8	5	2			1		1						1
63rd Street	Fairview Avenue				6		8			8	6	2			1		1					1	1
63rd Street	Hinsdale Lake Commons SC / Americana				6		8			4	3	2			1		1					1	
63rd Street	I-355 NBD Ramps (East)				13	1									1		1					2	
63rd Street	I-355 SBD Ramps (West)				11	1	2								1		1					1	
63rd Street	Leonard Avenue / Westwood SC				5		6			2	2	2			1		1					1	
63rd Street	Madison Street				8		2			2	2	2			1		1						
63rd Street	Main Street DG				4		8			8	5	4			1		1					1	1
63rd Street	Ridge Road				8		4			6	3	2			1		1					1	

Traffic Signals under DuPage County Jurisdiction maintained by DuPage County

Primary Street	Secondary Street	A1	A2	A3	A4	A5	A6	A7-A	A7-B	A7-C	A8	A9	A10	A11	A12	A13	A14	A15	A16	A17	A18	A19	A20
63rd Street	Williams Street				2		8			8	4	2			1		1					1	
63rd Street	Woodward Avenue				2	4	8			8	4	2			1		1					1	1
75th Street	Adams Street				19					8	8	4	4		1	1	1					1	
75th Street	Beebe Drive				14		6			8	4	4			1	1	1					1	
75th Street	Book Road				3		8			8	8	2			1		1					1	
75th Street	Cass Avenue				12		10			8	8	4	4	1	1	1	1					2	
75th Street	Clarendon Hills Road				11		4			8	4				1		1						
75th Street	Dunham Road				16		4			8	7	4	2		1	1	1					1	
75th Street	Exner Road / Williams Street				8		4	8			7	2			1		1					1	
75th Street	Fairmont Avenue	6		6			4				3	2			1		1					1	
75th Street	Fairview Avenue				12		4			8	8	2			1		1					1	
75th Street	Fort Hill Drive				11					4	3	2			1	1	1					1	
75th Street	Greene Road				8		4			8	16	2			1	1	1					1	
75th Street	I-355 NBD Ramps (East)				13	1			4		4				1	1	1					1	
75th Street	I-355 SBD Ramps (West)				16					4	4			1	1	1	1					2	
75th Street	Janes Avenue	10		8				8			5	4			1	1	1					1	
75th Street	Lemont Road				17		8			8	8	4	4		1	1	1					1	
75th Street	Lyman Avenue				11		2			4	4	2			1	1	1					1	
75th Street	Millbrook Lane				2		8			8	8				1	1	1					1	
75th Street	Modaff Road				2		8			8	4	2			1	1	1					1	
75th Street	Naper Boulevard				3		12		12		10	4			1	1	1					1	
75th Street	Olympus Drive				2		8			8	4	2			1	1	1					1	
75th Street	Plainfield Road				20		4			6	6	6	4		1	1	1					1	
75th Street	Plainfield-Naperville Road				4		8			8	4	4			1		1					1	
75th Street	Ranchview Drive				9		2			4	3	2			1	1	1					1	
75th Street	Washington Street				16		10			12		4		1	1	1	1					2	
75th Street	Wehrli Road				10		4			8	16	3			1	1	1					1	
75th Street	Woodridge Drive				16					6	4				1		1						
75th Street	Woodward Avenue				16		4			8	4	4			1	1	1					1	
87th Street / Boughton Road	Woodward Avenue				3		9			2	2	4			1	1	1					1	
Addison Road	Elizabeth Drive				8		4			8	4	2			1		1						

Traffic Signals under DuPage County Jurisdiction maintained by DuPage County

Primary Street	Secondary Street	A1	A2	A3	A4	A5	A6	A7-A	A7-B	A7-C	A8	A9	A10	A11	A12	A13	A14	A15	A16	A17	A18	A19	A20
Addison Road	Green Meadow Drive				9					2	2				1		1						
Addison Road	Potter Street				10					4	3				1		1						
Arlington Heights Road	Kester Drive																						
Army Trail Road	Bloomington Court SC				6		4			4	3	2			1	1	1			3		1	
Army Trail Road	Bloomington Road				8		6			8	8	4			1	1	1	1	1			1	
Army Trail Road	Butterfield Drive				5	4	8			8	4	4			1	1	1			4		1	
Army Trail Road	Cardinal Drive				4		8			8	4	4			1	1	1			4		1	
Army Trail Road	Clipper Drive				4		8			8	4	4			1		1					1	
Army Trail Road	County Farm Road				3		10			8	7	4			1	1	1					1	
Army Trail Road	Creekside Drive				13					4	3	2			1	1	1			3		1	
Army Trail Road	Fair Oaks Road				6		4			6	4	2			1		1					1	
Army Trail Road	Gary Avenue				8		12			8	4	4		1	1		1			4		2	
Army Trail Road	Gerber Road				8		4			8	4	3			1		1					1	
Army Trail Road	Gladstone Drive				2		12			8	8	4			1	1	1			4		1	
Army Trail Road	Glen Ellyn Road				12		6			8	8	4			1	1	1		1			1	
Army Trail Road	Home Depot Ent. / George Bell Dr.				20					8	6	4			1	1	1			4		1	
Army Trail Road	I-355 Ramps East				8									1	1		1		1			2	
Army Trail Road	I-355 Ramps West				7										1		1		1			1	
Army Trail Road	Krollwood Drive				4		8			8	4	4			1	1	1			4		1	
Army Trail Road	Kuhn Road / Madsen Road				6		10			8	8	4			1		1					1	
Army Trail Road	Meadow Road				12	4				4	3	2			1	1	1					1	
Army Trail Road	Merbach Drive				8		4				3	2			1		1					1	
Army Trail Road	Petersdorf Road				4		8			8	4	4			1		1			1			
Army Trail Road	Regency Drive				16					8	8	4			1	1	1			4		1	
Army Trail Road	Schmale Road / Skyhawk Drive				2	4	8			8	5	2			1	1	1		1			1	
Army Trail Road	Spring Valley Drive				6		4			8	4				1		1					1	
Army Trail Road	Springfield Drive				4		14			8	4	4			1	1	1			4		1	
Army Trail Road	Swift Road				14		6			8	4	4			1	1	1		1			1	
Army Trail Road	Woodlake Drive				4		8			8	4	2			1		1					1	
Bartlett Road	Pipers Drive / Bartlett Public Library				8		4			8	4	2			1		1					1	
Bartlett Road	Schick Road				7		2			5	2	2			1		1						

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Primary Street	Secondary Street	A1	A2	A3	A4	A5	A6	A7-A	A7-B	A7-C	A8	A9	A10	A11	A12	A13	A14	A15	A16	A17	A18	A19	A20
Bartlett Road	Struckman Boulevard				4		8			8	4	4			1		1						
Belmont Road	Curtiss Street				6		8			8	5	4			1		1					1	
Belmont Road	Haddon Avenue				9		4			4	3	2			1	1	1					1	
Belmont Road	Hobson Road / 59th Street				12		2			8	5	2			1	1	1						
Belmont Road	Prairie Avenue				8		4			6	4	2			1	1	1					1	
Bloomingdale Road	Armitage Avenue				8		4			8	6				1	1	1					1	
Bloomingdale Road	Edgewater Drive				5		4			4	3				1	1	1					1	
Bloomingdale Road	Fairfield Way / Founders Pointe				8		4		8		4			1	1		1					2	
Bloomingdale Road	Fullerton Avenue				8		8			8	8			1	1	1	1		1			2	
Bloomingdale Road	Glen Pointe Drive				6		8			8	4	1			1	1	1					1	
Bloomingdale Road	Greenway Drive				6		8			8	5	4			1	1	1					1	
Bloomingdale Road	North Brandon Drive				12		4			8	4				1	1	1					1	
Bloomingdale Road	Queen Bee School				7		2			4	3				1	1	1					1	
Bloomingdale Road	Schick Road				8		8			8	4	2			1		1					1	
Bloomingdale Road	Shorewood Drive				8		4			8	5			1	1	1	1					2	
Bloomingdale Road	Sidney Avenue				11					2	2				1	1	1					1	
Bloomingdale Road	St. Charles Road				8		8			2	2	4			1		1					1	
Bloomingdale Road	Stevenson Drive				10		4			4	4				1	1	1					1	
Cass Avenue	59th Street				4		8			8	7	4			1		1					1	
Cass Avenue	65th Street				2		8			8	4	2			1		1					1	
Cass Avenue	67th Street				2		8			8	6	2			1		1					1	
Cass Avenue	Concord Place / Ashbrook Court				5		8			8	6	1			1		1						
Cass Avenue	Plainfield Road				8		8			8	8	4	4		1	1	1					1	
Cass Avenue / Midwest Road	35th Street West				8		4			2	2	2			1		1					1	
Chicago Avenue	Charles Avenue				4		8			8	5	2			1		1					1	
Chicago Avenue	Oleson Drive				6	1	2			2	2	2			1		1					1	
College Road	Abbeywood Drive				6		8			8		3			1		1					1	
College Road	IBU Main Entrance				7		2			2	2	2			1		1					1	
College Road	Green Trails Drive				4		8			8	4	4			1		1					1	
College Road / Wehrli Road	Hobson Road				4		8			8		4			1		1					1	
County Farm Road	Birchbank Trail				4		8			8	6	2			1		1					1	

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Primary Street	Secondary Street	A1	A2	A3	A4	A5	A6	A7-A	A7-B	A7-C	A8	A9	A10	A11	A12	A13	A14	A15	A16	A17	A18	A19	A20
County Farm Road	County Complex Main Entrance				12		4			8	5	2			1	1	1		1				
County Farm Road	County Complex North Entrance				4		8			8	4	2			1	1	1						1
County Farm Road	Jewell Road				4		8			8	4	2			1	1	1		1				1
County Farm Road	Kelly Drive				2		8			8	4	2		1	1		1	1					2
County Farm Road	Lies Road				6		8			8	6	2			1		1						1
County Farm Road	Manchester Road				4		8			8	4	2		1	1	1	1						2
County Farm Road	Ontarioville Road				5		8			10	9	4			1		1						1
County Farm Road	Schick Road				4		8			8	8	4			1		1						1
County Farm Road	St. Charles Road				3		10					2			1		1						
County Farm Road	Stearns Road / Greenbrook Blvd				3		10			8	6	2		1	1		1						1
County Farm Road	Williams Street				6		6			8	6	2			1		1				4		1
Devon Avenue	Prospect Avenue				8		4			8	5	2			1		1						
Diehl Road	AMC Theater Drive				12		6			8	7	4			1		1						1
Diehl Road	Bulger Court / Weaver Parkway				10		6			8	6				1		1						1
Diehl Road	Winfield Road				17		4			12	8	3			1		1						1
Eola Road	Diehl Road				20		8			16	8	4			1	1	1						1
Eola Road	Ferry Road / Bilter Road				6		8			8	5	2			1		1						1
Eola Road	Jewel-Osco Entrance / Sheffer Road				2		13			8	4	2			1	1	1						1
Eola Road	Liberty Street				2		12			8	8	4			1		1						
Eola Road	Metee H.S. N. Ent. / Mustang Way				11		4			4	4	3			1	1	1				3		1
Eola Road	Molitor Road / Metee H.S. South Ent.				16		4			6	5	4		1	1	1	1				4		2
Eola Road	North Aurora Road / Indian Trail Rd				2		14			8	4	2		1	1	1	1						2
Eola Road	Stone Bridge Boulevard / Haverhill Drive				8		4			8	4	2			1		1						1
Fabyan Parkway	Tech Boulevard				2		12			4	3	3			1		1						
Fairview Avenue	39th Street				8		1			2	2	2			1		1						
Fairview Avenue / Meyers Road	35th Street				8		4			4	3	2			1		1						
Ferry Road	Bella Vista Parkway / Chase Court				14		4			8	5				1		1						1
Ferry Road	Raymond Drive				2		13			8	5	3			1		1						1
Ferry Road	River Road				4		8			8	7	2			1		1						1
Ferry Road	Torch Parkway				14		4			8	6				1		1						1
Finley Road	Lacey Road				14					8	4	2			1		1						

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Primary Street	Secondary Street	A1	A2	A3	A4	A5	A6	A7-A	A7-B	A7-C	A8	A9	A10	A11	A12	A13	A14	A15	A16	A17	A18	A19	A20
Finley Road	Opus Place				4		8			6	4				1		1						
Freedom Drive	I-88 EB Ramps (South)				12					4	4	2			1		1			2			1
Freedom Drive	I-88 WB Ramps (North)				14				4		3	2			1		1						1
Gary Avenue	Central Avenue				8		8		8		8	4			1		1						1
Gary Avenue	Elk Trail				6		8			4	4	2	4		1	1	1						1
Gary Avenue	Fullerton Avenue / Hiawatha Drive				5		10			8	8	4	4		1	1	1		1				1
Gary Avenue	Jewell Road				8		2			6	4	2			1		1						1
Gary Avenue	Lawrence Avenue				4		8		8		6	4			1		1						1
Gary Avenue	Lies Road				8		12			2	2	4	4	1	1	1	1		1				1
Gary Avenue	Meijer Entrance / Glenwood Drive				4		8		8		4	2			1	1	1						1
Gary Avenue	Schick Road				7		10			8	4	4			1	1	1		1				1
Gary Avenue	Scott Drive				4		12			8	5	2			1	1	1						1
Gary Avenue	St. Charles Road North				8		2			4	3	2			1		1						1
Gary Avenue	St. Charles Road South				5		4			2	2	2			1	1	1						1
Gary Avenue	Stark Drive				4		8		8		8	2			1		1						1
Gary Avenue	Stratford Square North (Entrance #5)				8		8			8	6	6			1	1	1						1
Gary Avenue	Thomas Road				8	4	2			2	2				1		1						1
Gary Avenue	Thunderbird Drive				10		4			4	4	2	4		1	1	1						2
Gary Avenue	Travis Parkway				4		8			4	3			1	1		1						2
Geneva Road	Bloomingtondale Road				6		2			4	4	2			1	1	1		1				1
Geneva Road	County Farm Road				12		8			8	7	4			1	1	1		1				1
Geneva Road	Gary Avenue				1		14			8	8	4			1	1	1		1				1
Geneva Road	Geneva Crossing / Dominicks SC				8		6			8	6	2			1		1						1
Geneva Road	Kenilworth Avenue				8		4			6	4	1		1	1		1						2
Geneva Road	Morse Street				6		6			8	6	2			1		1			4			1
Geneva Road	Pleasant Hill Road				8		8			8	6	1			1		1						1
Geneva Road	President Street				7		8			8	4	2			1		1						1
Geneva Road	Prince Crossing Road				4		8			8	5	2			1		1						1
Geneva Road	Schmale Road / Main Street (Wheaton)				4		8			8	4	4			1	1	1		1			4	1
Geneva Road	Western Avenue				14					8	4	1			1		1						1
Geneva Road	Winfield Road				6	1	2			6	4	2			1		1						1

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Primary Street	Secondary Street	A1	A2	A3	A4	A5	A6	A7-A	A7-B	A7-C	A8	A9	A10	A11	A12	A13	A14	A15	A16	A17	A18	A19	A20
Glen Ellyn Road	Armitage Avenue				11		4			8					1		1					2	
Glen Ellyn Road	Fullerton Avenue				4		8			8	6	4			1	1	1		1			1	
Glen Ellyn Road	Gregory Avenue				8		2			4	4	2			1		1					1	
Glen Ellyn Road	St. Matthew's Church				6					2	2				1		1					1	
Glen Ellyn Road	Windy Point Drive				7		8			8	8	2			1		1					1	
Grand Avenue	Church Road	6		8						4	4	2			1		1					1	
Grand Avenue	Crown Road				7		2		4		3				1		1					1	
Grand Avenue	Industrial Drive	2		10			2			4	4	2			1		1					1	
Grand Avenue	Oak Lawn Avenue / Old Grand Ave	8		4				8			5	2			1		1					1	
Grand Avenue	York Road	8		8				8			4	4		1	1	1	1					2	
Greenbrook Boulevard	Arlington Drive				7		6			8	4	1			1		1						
Highland Avenue	15TH Street				2					2	2				1		1						
Highland Avenue	39th Street				8		6			6	6	1			1	1	1						
Highland Avenue	Good Samaritan Hospital				4		6			2	2				1		1						
Highland Avenue	I-88 EB Ramp (South)				8	2	3			8	6	3			1	1	1			3		1	
Highland Avenue	I-88 WB Ramp (North)				13	1	2			6	5	2			1		1			3			
Hobson Road	Double Eagle Drive				6		4			4	3	2			1		1			1		1	
Hobson Road	Greene Road				4		8			8	6	2			1		1					1	1
Hobson Road	Naper Boulevard				8		8			8	6	2			1		1					1	1
Hobson Road	Olesen Drive				9		2			6	6	2			1		1						
Hobson Road	Washington Street				10		4			4	4	2			1		1					1	
Hobson Road	Woodridge Drive				3		10			8	5	2			1		1						
Jewell Road	Pleasant Hill Road				8		4			8	6	2			1		1						
Lemont Road	101st Street				4		8			2	2	2		1	1	1	1					2	
Lemont Road	87th Street				10		6					2			1		1					1	
Lemont Road	Chestnut Court SC				8		4							1	1	1	1					2	
Lemont Road	Davey Road				8	2	4					2			1	1	1			1		1	
Lemont Road	Dunham Road				10		4			2		2			1		1					1	
Lemont Road	Grove SC				4		8								1		1					1	
Lemont Road	I-55 N - Frontage / Timber Trails				11	2	6			8	5	4	2		1		1					1	
Lemont Road	Internationale Parkway				9		6			2	2	2			1		1					1	

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Lemont Road	Plainfield Road / 83rd Street			12	4		4			8	6				1	1						1	
Lemont Road	Westgate Road / 97th Street			6	8					8	5	1			1		1					1	
Main Street DG	59th Street			12						8	4	4			1	1	1			4		1	
Main Street DG	67th Street			12						2	2				1	1	1					1	
Maple Avenue	Belmont Road			10	4					8	8	4			1	1	1						
Maple Avenue	Burr Oak Road			15						4	3	2			1	1	1					1	
Maple Avenue	Dunham Road			11	2					8	6	2			1	1	1						
Maple Avenue	I-355 NBD Ramps (East)			13	1									1	1	1	1					2	
Maple Avenue	I-355 SBD Ramps (West)			12	1										1	1	1					1	
Maple Avenue	Illinois Benedictine / Benet Academy			8	4					8	4	2			1	1	1					1	
Maple Avenue	Patton Drive / East Lake Drive			6	4					4	3	2			1	1	1					1	
Maple Avenue	Primrose Avenue			5	2					4	4	2			1	1	1					1	
Maple Avenue	Steeple Run Drive			4	8					8	7	2			1	1	1					1	
Maple Avenue	Wainut Avenue			4	8					4	3	2			1	1	1					1	
Maple Avenue	Yackley Avenue / College Road			4	8				4		3	4		1	1	1	1					2	
Maple Avenue / Chicago Avenue	Naper Boulevard			4	8					8	4	4			1	1	1					1	
Medinah Road / Meacham Road	I-390 East Ramps			11	2										1	1	1						
Meyers Road	14th Street			4	8					8	6	4			1	1	1			4	4	1	
Meyers Road	16th Street			4	8					8	4	4			1	1	1			4	4	1	
Meyers Road	22nd Street			7	4					8	6	2			1	1	1			3	3	1	
Meyers Road	31st Street			4	8					4	4	4			1	1	1						
Meyers Road	Oak Brook Corporate Center			10	1						2			1	1	1	1			4	4	2	
Midwest Road	I-88 Ramps / Baybrook Lane			11	5					4	3	2			1	1	1			4	4	1	
Midwest Road / Cass Avenue	35th Street N/E			8	4					4	3	2			1	1	1					2	
Mill Street	Bauer Road			4	8					8	4	2			1	1	1					1	
Mill Street	Bella Vista Pkwy / Amoco West			6	8					2	2				1	1	1					1	
Mill Street	Commons Street / Nike Park Entrance			10	4					4	4				1	1	1						
Mill Street	Dlehl Road			3	10							2			1	1	1					1	1
Naper Boulevard	Ridgeland Avenue			4	2					8	8	2			1	1	1					1	
Naper Boulevard	Tower Crossing SC			4	7					2	2				1	1	1					1	
Naperville Road	Blanchard Street			7	2					8	4	2			1	1	1					1	

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Primary Street	Secondary Street	A1	A2	A3	A4	A5	A6	A7-A	A7-B	A7-C	A8	A9	A10	A11	A12	A13	A14	A15	A16	A17	A18	A19	A20	
Naperville Road	Central Park Entrance / ISTA Service Drive				17	2						3			1		1				4		1	
Naperville Road	Danada Drive				5		6			8	3	2			1		1						1	
Naperville Road	Danada Forest Preserve				10		4			8	4	4			1		1						1	
Naperville Road	Danada Square SC				7		9			8	8	1			1		1						1	
Naperville Road	Diehl Road				3	4	8			6	5	2		1	1		1						2	
Naperville Road	East-West Loop Road				2		18			8	4	2			1		1						1	
Naperville Road	Elm Street				10					8	6	2			1		1						1	
Naperville Road	Farnham Lane				6		4			8	6	2			1		1						1	
Naperville Road	Longfellow Drive				6		4			8	6	2			1		1						1	
Naperville Road	Lucent Drive North				5		7			12	6	1			1		1						1	
Naperville Road	Warrenville Road				13		8		2			4			1		1				4		1	
Naperville Road - Wheaton Road	US 34 (Ogden Avenue)				9		6								1		1						1	
Park Boulevard	22nd Street (Fawell Boulevard)				5		6			6	4	2		1	1		1						2	
Park Boulevard	College Road				6		4			4	3	2			1		1						1	
Park Boulevard	Glenbard HS / Raider Lane				8				2		2				1		1							
Plainfield Road	Bailey Road																							
Plainfield Road	Clarendon Hills Road	8						8			8	4		1	1		1						1	
Plainfield Road	Fairmount Avenue				6		4			8	4	2			1		1							
Plainfield Road	Garfield Avenue / Fieldstone Drive				6		4			8	4	2		1	1		1				4		2	
Plainfield Road	High Road				14					8	8	2			1		1							
Plainfield Road	Madison Street				6		8			8	6	2			1		1						1	
Plainfield Road	Manning Lane				8		4			8	8	2			1		1							
Plainfield Road	Tri-State FPD				9										1		1						1	
Plainfield Road - Naperville Road	87th Street				4		8			8	4	2			1		1							
Prospect Avenue	Marino Court / New Pierce Road				4	4	8		4		3	4			1		1				4		1	
Raymond Drive	Diehl Road				10		6			2	2	2			1		1						1	
Raymond Drive	McDowell Road				8		4		8		4			1	1		1						2	
Roselle Road	Bryn Mawr Avenue				6		2		4	4	4	1			1		1						1	
Roselle Road	Central Avenue				8		4		8		6	2			1		1						1	
Roselle Road	Maple Avenue				10		2			8	8	2			1		1						1	
Roselle Road	Walnut Street				10		6			8	6	4			1	1	1						1	

Traffic Signals under DuPage County Jurisdiction maintained by DuPage County

Primary Street	Secondary Street	A1	A2	A3	A4	A5	A6	A7-A	A7-B	A7-C	A8	A9	A10	A11	A12	A13	A14	A15	A16	A17	A18	A19	A20
Schick Road	Mallard Lane				7		6			4	4	2			1		1						
Schick Road	Meijer SC				4		8		8		4	2			1		1			4			1
Schmale Road	Fullerton Avenue				4		8			8	4				1		1		1				
Schmale Road	Gundersen Drive				4		8			8	4	2		1	1		1			4			2
Schmale Road	Home Depot Ent / Geneva Crossing				3		10			8	4	2			1		1						1
Schmale Road	Lies Road				5		4			4	4	2			1		1						
Schmale Road	Thornhill Drive				4		8			8	4	2			1		1			4			1
Schmale Road	Walmart/Target				3		10			6	4	3			1		1						1
St. Charles Road	Geneva Road / Main Street (Glen Ellyn)				3		10			8	4	3		1	1	1	1		1	4			2
St. Charles Road	President Street				12					8	8					1							
St. Charles Road	Riford Lane				7		4			8	7	2			1		1						1
St. Charles Road	Schmale Road				4		8			8	4	4			1		1		1	4			1
St. Charles Road	Swift Road				6		4					2			1		1						1
Stearns Road	Bartlett Road				4		8			8	4	2		1	1		1						2
Stearns Road	Munger Road				2		12			8	5	4			1		1			4			
Stearns Road	Sycamore Lane				8		4			8	4	2			1		1						
Summit Avenue	14th Street				9		2			6	4				1		1						
North Thorndale Avenue	Arlington Heights Road				8	6	1			4	4	4	3		1	1	1						
South Thorndale Avenue	Arlington Heights Road				4		8			4	4	4			1	1	1						1
North Thorndale Avenue	Prospect Avenue				22					8	8	4			1	1	1						
South Thorndale Avenue	Prospect Avenue				4		10			6	6	4			1	1	1			4	4		1
North Thorndale Avenue	Supreme Drive				4		8			4	4				1	1	1						1
North Thorndale Avenue	Wood Dale Road				16					8	8	3			1	1	1						
South Thorndale Avenue	Wood Dale Road				7		9			10	8	3		1	1	1	1						2
Villa Avenue	Fullerton Avenue				4		8			4	4	8			1		1			4			
Warrenville Road	Arboretum Lakes				3		8					2			1		1						
Warrenville Road	Cabot Drive				4		12			8	8	2			1		1						1
Warrenville Road	Corporate West Drive				4		8			2	2	2			1		1						1
Warrenville Road	Cross Street				5		8								1		1						
Warrenville Road	Freedom Drive				13		8			10	6	4			1		1			4			1
Warrenville Road	Herrick Road				4		8					2			1		1						1

Traffic Signals under DuPage County Jurisdiction maintained by DuPage County

Primary Street	Secondary Street	A1	A2	A3	A4	A5	A6	A7-A	A7-B	A7-C	A8	A9	A10	A11	A12	A13	A14	A15	A16	A17	A18	A19	A20
Warrenville Road	IL Hospital Association / Indian West				7		8			2	2	1			1		1						1
Warrenville Road	Leask Lane / Yender Avenue				2	4	4			8	4	1		1	1		1						2
Warrenville Road	Main Street Lisle				4	2	2					2			1		1						
Warrenville Road	Mill Street / Ferry Road						16			16	8	2			1		1						1
Warrenville Road	Washington Street				9		4			6	4				1		1						1
Warrenville Road	Winfield Road				4		8			10	5	2			1		1						1
Warrenville Road	Yackley Avenue				4	4	6			4	5	1			1		1						1
Winfield Road	Ferry Road				12		8			16	8	2			1		1						1
Winfield Road	I-88 EB Ramps (South)				13					4	4				1		1						1
Winfield Road	I-88 WB Ramps (North)				11		2			4	4			1	1		1						2
Winfield Road	Mack Road				7		9			8	8	4			1		1						
Winfield Road	Torch Parkway				6		10			8	6	2			1		1						1
Wood Dale Road	Elizabeth Drive				10		2								1		1						
Wood Dale Road	Foster Avenue				7		6			8	8	2			1		1						
Wood Dale Road	Mittel Drive				7		2			2	2	2			1		1						
Wood Dale Road	Oak Meadows Drive				5	4	4					1			1		1						
Woodward Avenue	83rd Street				4		8			8	4				1		1						
Yackley Avenue	Ohio Street				8		4			4	4	2			1		1						
York Road	Foster Avenue				6		2					2			1		1						
York Road	Spring Road				8		4			8	4	2			1		1						
York Road	South Frontage Road / Slewert Court				12							2			1		1						4
TOTALS =		64	2	62	2358	86	1815	44	106	1837	1408	695	45	39	327	96	327	1	20	171	12	298	16

A1 = 3 Section Heads - Incandescent
A2 = 4 Section Heads - Incandescent
A3 = 5 Section Heads - Incandescent
A4 = 3 Section Heads - LED
A5 = 4 Section Heads - LED
A6 = 5 Section Heads - LED
A7-A = Pedestrian Heads-Incandescent
A7-B = Pedestrian Heads-LED, Non countdown
A7-C = Pedestrian Heads-LED Countdown

A8 = Pedestrian Push Buttons
A9 = Combo-mounted Luminaires
A10 = Illuminated Signs
A11 = Master Controllers
A12 = Local Cabinets
A13 = UPS System
A14 = Emergency Vehicle Preemption
A15 = Radar Detectors
A16 = Pan Tilt Zoom Camera System

A17 = Video Vehicle Detectors
A18 = FLIR Cameras
A19 = Transceivers
A20 = Radio Communications
A29 = Magnetic Detectors
A30 = Accessible Pedestrian Signals

Traffic Signals under State or Municipal Jurisdiction maintained by DuPage County

Primary Street	Secondary Street	Owner	A1	A2	A3	A4	A5	A6	A7-A	A7-B	A7-C	A8	A9	A10	A11	A12	A13	A14	A15	A16	A17	A18	A19	A20	A29	A30
31st Street	IL 83 (Exit Ramps)	IDOT				9	2		2			2														
31st Street	IL 83 (West Ramps)	IDOT				9	2		2																	
Army Trail Road	IL 53 (Rehwing Road)	IDOT	11	0	4				9			9	0	0		1		1			0		1			
Blanchard Street	Town Square SC	Wheaton	6		4				2			2	2			1		1								
Diehl Road	Freedom Drive / Connector Road	Naperville				19	3	3		12		8	4			1		1								
Freedom Drive	Freedom Commons Ent. / Independence Avenue	Naperville				4	8	8		8		7	4			1		1								
Hamilton Lakes Drive	Park Boulevard	Itasca																								
Hamilton Lakes Drive	Pierce Road	Itasca																								
IL 56 (Butterfield Road)	Highland Avenue	IDOT																								
Ketter Drive	I-390 Ramp L1	Itasca																								
Lies Road	Kuhn Road	Carol Stream	4		8				8			8	4			1		1								
Main Street (Lisle)	Burlington Avenue	Lisle	8		8				8			6	4			1		1								
Main Street (Lisle)	School Street	Lisle	9						6			5	2			1		1								
US 34 (Ogden Avenue)	Naper Boulevard	IDOT				2	12	12		8		8	2			1		1								1
US 34 (Ogden Avenue)	Iroquois Avenue	IDOT				8	6	6		8		5					1									
US 34 (Ogden Avenue)	Wheaton-Naperville Road	IDOT	9		6					2		2				1		1								
TOTALS =			47	0	30	51	4	29	37	36	10	64	22	0	0	9	2	9	0	0	8	0	4	0	0	0

- A1 = 3 Section Heads - Incandescent
- A2 = 4 Section Heads - Incandescent
- A3 = 5 Section Heads - Incandescent
- A4 = 3 Section Heads - LED
- A5 = 4 Section Heads - LED
- A6 = 5 Section Heads - LED
- A7-A = Pedestrian Heads-Incandescent
- A7-B = Pedestrian Heads-LED, Non countdown
- A7-C = Pedestrian Heads- LED Countdown
- A8 = Pedestrian Push Buttons
- A9 = Combo-mounted Luminaires
- A10 = Illuminated Signs
- A11 = Master Controllers
- A12 = Local Cabinets
- A13 = UPS System
- A14 = Emergency Vehicle Preemption
- A15 = Radar Detectors
- A16 = Pan Tilt Zoom Camera System
- A17 = Video Vehicle Detectors
- A18 = FLIR Cameras
- A19 = Transceivers
- A20 = Radio Communications
- A29 = Magnetic Detectors
- A30 = Accessible Pedestrian Signals

DPCDOT MAINTAINED BEACON / UNDERPASS LIGHTING / PUMP STATION / STREET LIGHTING / SIGN LIGHTING INVENTORY

Location	A21	A22	A23	A24	A25	A26	A27	A28
31st Street & Salt Creek Bridge					8			
55th Street & County Line Road					2			
55th Street & Main Street (Downers Grove)		1						
63rd Street & Fairmont Avenue		2						
75th Street & Adams Street		2						
75th Street & Greene Road		2						
75th Street & Olympus Drive					16		2	
75th Street & Plainfield Road					10			
75th Street & Washington Street			0		19			
87th Street & Woodward Drive-East					10			
87th Street & Woodward Drive-West					11			
Addison Road & Elizabeth Street					10			
Arlington Height Road & New Pierce Road	3							
Army Trail Road - Swift Road to Rohlwing Road			25		45	1		
Belmont Road & Metra Station			12	1				
Belmont Road & Prairie Avenue		2						
Bloomingtondale Road & Glen Arbor Court					1			
County Farm Rd & Ill. Rte 38 (Roosevelt Rd.)					2			
County Farm Rd - Manchester Rd to Jewell Rd					29			
County Farm Rd S Curve & Ontarioville					10			
County Farm Rd & Union Pacific RR			12	1				
Freedom Dr & I-88			15					
Gary Ave & Elgin O'Hare Ramp		2						
Gary Ave & ICC & P RR		1						
Geneva Rd & Churchill School/Kenilworth Dr		2						
Geneva Rd & Coventry Dr					1			
Geneva Rd & Gary Av					8			
Geneva Rd & Partridge Dr					1			
Geneva Rd & Wheatberry Dr					1			
Hobson Rd & Goodrich Elementary School Ent		2						
Lemont Rd & 109th St		1						
Main St (Downers Grove) & McCollum Park Ent		2						
Maple Avenue & Burr Oak Road		1						
Maple Av/Dunham Rd & 55th St		1						
Medinah Rd/Meacham Rd & I-390 East Ramps			8		13			
Medinah Rd & Lake Park H.S. School Ent	1							
Medinah Rd & Medinah Country Club	1							
Medinah Rd & Medinah Intermediate School Ent	4							
Naperville Rd & I-88 South Ramp			10					
North Ave (IL Rt 64) & Illinois Prairie Path			8					
Plainfield Rd & Lakeview Jr High School Ent		2						
Plainfield Rd & Our Lady of Peace Ent		2						
Prospect Avenue & North Thorndale Avenue			10					
Prospect Avenue & South Thorndale Avenue			10					
River Rd/Woodland Rd & Bower School Ent		2						
St. Charles Rd & Blue Ridge Ct					1			
Stearns Rd & Munger Rd					19			
Swift Rd - St. Charles Rd to North Ave.					8			
Warrenville Rd & I-88			20					
Warrenville Rd & Mill St/Ferry Rd					44			
Warrenville Rd & Private Entrance (801 Warr.)					1			
Winfield Rd & I-88			14					
Winfield Rd & Mack Rd		1						
Wood Dale Rd & Elizabeth Dr								
Yackley Av & I-88			10					
York Rd / Salt Creek Bridge					8			
TOTALS	9	28	154	2	278	1	2	0

LEGEND

A21 = Overhead Beacon
 A22 = Post Mount Beacon
 A23 = Underpass Lighting
 A24 = Pump Station

A25 = Street Lighting
 A26 = Sign Lighting
 A27 = Solar Flashers
 A28 = Washington Street No Parking Signs

DUPAGE COUNTY LOCATION LISTING

LOCATION	ROUTINE MAINTENANCE PAY ITEMS																
	T-1	T-2	T-3	T-4	T-5	T-6	T-7	T-8	T-9	T-10	T-11	L-1	L-2	L-3	L-4	PUMP STATION	
Traffic Signal / Combination Ltg																	
1 31st St. & Concord Dr. / Trinity Ln.	1											2					
2 31st St. & Highland Ave.	1											4					
3 31st St. & IL 83 SR Ramps	1																
4 31st St. & IL 83 NB Ramps	1																
5 31st St. & Meyers Rd.	1											4					
6 31st St. & Midwestern University / Avenue La Tours	1											4					
7 31st St. & Regent Dr. / St. Paschal Dr.	1											2					
8 31st St. & Summit / Midwest Rd.	1											4					
9 31st St. & York Rd.	1											4					
10 31st St. & Highland Pkwy.	1																
11 550th St. & Cass Ave.	1											4					
12 550th St. & Clarendon Hills Rd	1											2					
13 550th St. & Fairview Ave.	1																
14 550th St. & Garfield Ave.	1											2					
15 550th St. & Grant St.	1											2					
16 550th St. & Holmes Ave.	1											4					
17 550th St. & IL 83 East Ramps	1											2					
18 550th St. & IL 83 West Ramps	1											2					
19 550th St. & Madison St.	1											2					
20 550th St. & Maple Ave. / Dumbarn Rd.	1			2								2					
21 550th St. & Main St. (Dowmers Grove)	1			2								2					
22 550th St. & Washington St.	1			2								2					
23 63rd St. & Belmont Rd.	1											2					
24 63rd St. & Cass Ave.	1											3					
25 63rd St. & Clarendon Hills Rd.	1											2					
26 63rd St. & Dumbarn Rd.	1											2					
27 63rd & Fairmount Ave.	1			1													
28 63rd St. & Fairview Ave.	1											2					
29 63rd St. & Americana Dr. / Hinsdale Commons Shopping Ctr.	1											2					
30 63rd St. & I-355 East Ramps	1											2					
31 63rd St. & I-355 West Ramps	1											2					
32 63rd St. & Leonard Ave. / Target	1											2					
33 63rd St. & Madison St.	1											2					
34 63rd St. & Main St. (Dowmers Grove)	1											4					
35 63rd St. & Ridge Rd.	1											2					
36 63rd St. & Williams St.	1											2					
37 63rd St. & Woodward Ave.	1											2					
38 750th St. & Adams St.	1											4					
39 750th St. & Beebe Dr.	1											4					
40 750th St. & Book Rd.	1											2					
41 750th St. & Cass Ave.	1											4					
42 750th St. & Clarendon Hills Rd.	1											4					
43 750th St. & Dumbarn Rd.	1											4					
44 750th St. & Fairmount Ave.	1											4					
45 750th St. & Fairview Ave.	1											2					
46 750th St. & Fort Hill Dr.	1											2					
47 750th St. & Greene Rd.	1											2					
48 750th St. & I-355 East Ramps	1											2					
49 750th St. & I-355 West Ramps	1											2					
50 750th St. & James Ave.	1											4					
51 750th St. & Lemont Rd.	1											4					
52 750th St. & Lyman Ave.	1											2					
53 750th St. & Millbrook Dr. / Hobson West Commons	1											2					
54 750th St. & Moulton Rd.	1											4					
55 750th St. & Naper Blvd.	1											4					
56 750th St. & Naperville - Plainfield Rd. / Rickert Dr.	1											4					
57 750th St. & Olympus Dr.	1			2								2					
58 750th St. & Plainfield Rd.	1											6					
59 750th St. & Ranchoview	1											2					
60 750th St. & Washington St.	1											4					
61 750th St. & Walnut Rd.	1											3					
62 750th St. & Williams St. / Exner Rd.	1											2					
63 750th St. & Woodbridge Dr.	1											2					

DUPAGE COUNTY LOCATION LISTING

		ROUTINE MAINTENANCE PAY ITEMS															
	LOCATION	T-1	T-2	T-3	T-4	T-5	T-6	T-7	T-8	T-9	T-10	T-11	L-1	L-2	L-3	L-4	PS-1
		TRAFFIC SIGNAL LOCATION	SPAN WIRE SIGNAL LOCATION	FLASHING BEACON OVERHEAD MOUNT	FLASHING BEACON MOUNT	VEHICLE COUNT STATION	VIDEO COM CABINET	LAYER II DATA LINKS SWITCH	LAYER III NETWORK SWITCH	REMOTE CONTROL VIDEO TRAFFIC SIGNAL SYSTEM	PEDESTRIAN TRAFFIC SIGNAL LOCATION	EVT TRAFFIC SIGNAL LOCATION	LUMINAIRE	UNDERPASS LIGHTING	SIGN LIGHTING	WASHINGTON STREET NO PARKING SIGNS	PUMP STATION
64	75th St. & Woodward Ave.	1											4				
65	87th St. & Woodward Ave.	1											4				
66	Addison Rd. & Elizabeth Dr.	1											2				
67	Addison Rd. & Green Meadow Dr.	1															
68	Addison Rd. & Puffer St.	1															
69	Arlington Heights Road & Ketter Drive	1											4				
70	Army Trail Rd. & Bloomingdale Court Shopping Ctr.	1											2				
71	Army Trail Rd. & Bloomingdale Rd.	1											4				
72	Army Trail Rd. & Butterfield Dr.	1											4				
73	Army Trail Rd. & Cardinal	1											4				
74	Army Trail Rd. & Clipper Dr.	1											4				
75	Army Trail Rd. & County Farm Rd.	1											4				
76	Army Trail Rd. & Creekside Dr.	1											2				
77	Army Trail Rd. & Fair Oaks Rd.	1											2				
78	Army Trail Rd. & Gary Ave.	1											4				
79	Army Trail Rd. & George Bell / Home Depot	1											4				
80	Army Trail Rd. & Gladstone Dr.	1											4				
81	Army Trail Rd. & Gerber Rd.	1											3				
82	Army Trail Rd. & Glen Ellyn Rd.	1											4				
83	Army Trail Rd. & I-355	1							1					25	1		
84	Army Trail Rd. & I-355 East Ramps	1											0				
85	Army Trail Rd. & I-355 West Ramps	1											0				
86	Army Trail Rd. & Knollwood Dr.	1											4				
87	Army Trail Rd. & Madsen Dr. / Kuhn Rd.	1											4				
88	Army Trail Rd. & Meadow Rd.	1											2				
89	Army Trail Rd. & Meacham Dr.	1											2				
90	Army Trail Rd. & Petersdorf Rd.	1											4				
91	Army Trail Rd. & Regency Dr. / High Grove Blvd.	1											4				
92	Army Trail Rd. & Schmale Rd. / Skyark Dr.	1											2				
93	Army Trail Rd. & Spring Valley Dr.	1											4				
94	Army Trail Rd. & Springfield Dr.	1											4				
95	Army Trail Rd. & Swift Rd.	1											4				
96	Army Trail Rd. & Valley View Rd.	1				1							2				
97	Army Trail Rd. & Woodlake Dr.	1											2				
98	Bartlett Rd. & Pipers Dr. / Bartlett Public Library	1											2				
99	Bartlett Rd. & Schick Rd.	1											2				
100	Bartlett Rd. & Stearns Rd.	1											2				
101	Bartlett Rd. & Struckman Blvd.	1											2				
102	Belmont Rd. & Burlington Ave. (Downers Grove)	1											4				1
103	Belmont & Burlington Northern Railroad Underpass	1											12				
104	Belmont & Curtis St.	1											4				
105	Belmont & Haddon Ave.	1											2				
106	Belmont & Prairie Ave.	1											2				
107	Blanchard Rd. & Town Square Shopping Center	1			2								2				
108	Bloomingdale Rd. & Armitage Ave.	1											2				
109	Bloomingdale Rd. & Edgewater Dr.	1											2				
110	Bloomingdale Rd. & Fairfield Way / Founders Pointe	1											4				
111	Bloomingdale Rd. & Fullerton Ave.	1											1				
112	Bloomingdale Rd. & Glen Pointe Dr.	1											4				
113	Bloomingdale Rd. & Greenway Dr.	1											2				
114	Bloomingdale Rd. & N. Brandon Dr.	1											2				
115	Bloomingdale Rd. & Queen Bee School District	1											2				
116	Bloomingdale Rd. & Raven Lane	1			1								2				
117	Bloomingdale Rd. & Schick Rd.	1											2				
118	Bloomingdale Rd. & Shorewood Dr.	1											2				
119	Bloomingdale Rd. & Sidney Ave.	1											4				
120	Bloomingdale Rd. & St. Charles Rd.	1											4				
121	Bloomingdale Rd. & Stevenson Dr.	1											4				
122	Cass Ave. & 59th St.	1											2				
123	Cass Ave. & 65th St.	1											2				
124	Cass Ave. & 67th St.	1											2				
125	Cass Ave. & Clarendon Hills Cemetery	1			1								1				
126	Cass Ave. & Concord Pl. / Ashbrook Ct.	1											1				
127	Cass Ave. & Plainfield Rd.	1											1				

DUPAGE COUNTY LOCATION LISTING

	LOCATION	ROUTINE MAINTENANCE PAY ITEMS																
		T-1	T-2	T-3	T-4	T-5	T-6	T-7	T-8	T-9	T-10	T-11	L-1	L-2	L-3	L-4	PUMP STATION	
192	Geneva Rd. & Kenilworth Ave. / Churchill School	1																
193	Geneva Rd. & Morse St.	1																
194	Geneva Rd. & Pleasant Hill Rd.	1																
195	Geneva Rd. & President St.	1																
196	Geneva Rd. & Prince Crossing Rd.	1																
197	Geneva Rd. & Schmale Rd. / Main St.	1																
198	Geneva Rd. & Western Ave.	1																
199	Geneva Rd. & Winfield Rd.	1																
200	Glen Ellyn Rd. & Armitage Ave.	1																
201	Glen Ellyn Rd. & Fullerton Ave.	1																
202	Glen Ellyn Rd. & Gregory Dr.	1																
203	Glen Ellyn Rd. & St. Matthew Church	1																
204	Glen Ellyn Rd. & Windy Pointe Dr.	1																
205	Grand Ave. & Church Rd.	1																
206	Grand Ave. & Crown Rd.	1																
207	Grand Ave. & Industrial Dr.	1																
208	Grand Ave. & Old Grand Ave. / Oaklawn Ave.	1																
209	Grand Ave. & York Rd.	1																
210	Greenbrook Blvd. & Arlington Dr.	1																
211	Highland Ave. & 39th St.	1																
212	Highland Ave. & Butterfield Rd. (IL. 56)	1																
213	Highland Ave. & Good Samaritan Hospital	1																
214	Highland Ave. & I-88 EB Ramps	1																
215	Highland Ave. & I-88 WB Ramps	1																
216	Hobson Rd. & Double Eagle Dr.	1																
217	Hobson Rd. & Goodrich Elementary School	1																
218	Hobson Rd. & Green Rd.	1																
219	Hobson Rd. & Naper Blvd.	1																
220	Hobson Rd. & Olsson	1																
221	Hobson Rd. & Washington St.	1																
222	Hobson Rd. & Woodridge Dr.	1																
223	Hobson Rd. / 59th St. & Belmont Rd.	1																
224	Jewell Rd. & Pleasant Hill	1																
225	Lemont Rd. & 87th St.	1																
226	Lemont Rd. & 101st St.	1																
227	Lemont Rd. & 109th St.	1																
228	Lemont Rd. & Chestnut Crt Shopping Ctr.	1																
229	Lemont Rd. & Davey Rd	1																
230	Lemont Rd. & Dunham Rd.	1																
231	Lemont Rd. & Grove Shopping Ctr.	1																
232	Lemont Rd. & I-55 North Frontage Rd. / Timber Trails	1																
233	Lemont Rd. & Internationale Pkwy.	1																
234	Lemont Rd. & McCollum Park Entrance	1																
235	Lemont Rd. & Plainfield Rd. / 83rd St.	1																
236	Lemont Rd. & Westgate Rd. / 97th St.	1																
237	Lies Rd. & Kuhn Rd.	1																
238	Main St. (Lisle) & Burlington Av.	1																
239	Main St. (Lisle) & School St.	1																
240	Main St. (Downers Grove) & 59th St.	1																
241	Main St. (Downers Grove) & 67th St.	1																
242	Maple Ave. & Belmont Ave.	1																
243	Maple Ave. & Burr Oak Rd.	1																
244	Maple Ave. / Chicago Ave. & Charles Ave.	1																
245	Maple Ave. & I-55 East Ramps	1																
246	Maple Ave. & I-55 West Ramps	1																
247	Maple Ave. & IBC / Bened	1																
248	Maple Ave. / Chicago Ave. & Olesen Dr.	1																
249	Maple Ave. & Patton Dr.	1																
250	Maple Ave. & Primrose Ave.	1																
251	Maple Ave. Steeple Run Dr.	1																
252	Maple Ave. & Walnut Ave.	1																
253	Maple Ave. & Yackley Ave.	1																
254	Maple Ave. / Chicago Ave. & Sagar Blvd.	1																
255	Medinah Rd. / Meacham Rd. & I-590 East Ramps	1																

DUPAGE COUNTY LOCATION LISTING

	LOCATION	ROUTINE MAINTENANCE PAY ITEMS																
		T-1	T-2	T-3	T-4	T-5	T-6	T-7	T-8	T-9	T-10	T-11	L-1	L-2	L-3	L-4	PUMP STATION	
256	Medinah Rd. & Lake Park High School																	
257	Medinah Rd. & Medinah Country Club			1														
258	Medinah Rd. & Medinah Intermediate School		1															
259	Medinah Rd. & Thorndale Ave.																	
260	Meyers Rd. & 14th St.												2					
261	Meyers Rd. & 16th St.												4					
262	Meyers Rd. & 22nd St.												4					
263	Meyers Rd. & Corporate Center												2					
264	Midwest Rd. & 1587 / Baybrook Ln.												2					
265	Midwest Rd. / Cass Ave. & 35th St. N/E												2					
266	Mill St. & Amoco West / Bella Vista												2					
267	Mill St. & Baner Rd.												2					
268	Mill St. & Commons/Nice Park												4					
269	Mill St. & Diehl Rd.												2					
270	Naper Blvd. & Ogden Ave. (US 34)												2					
271	Naper Blvd. & Ridgeland Ave.												2					
272	Naper Blvd. & Tower Crossing Shopping Ctr.												2					
273	Naperville Rd. & Blanchard Rd.												2					
274	Naperville Rd. & Danada Dr.												2					
275	Naperville Rd. & Danada Forest Preserve												4					
276	Naperville Rd. & Danada Square Shopping Ctr.												1					
277	Naperville Rd. & Diehl Rd.												2					
278	Naperville Rd. & East / West Loop Rd.												2					
279	Naperville Rd. & Elm St.												2					
280	Naperville Rd. & Farnham Ln.												2					
281	Naperville Rd. & Central Park Entrance												3					
282	Naperville Rd. & 1488 South Ramp																	
283	Naperville Rd. & Lucent Technologies												1					
284	Naperville Rd. & Longfellow												2					
285	Naperville Rd. & Warrenville Rd.												4					
286	Naperville Rd. / Wheaton Rd. & Ogden Ave. (US 34)																	
287	North Ave. (IL 64) & Illinois Prairie Path																	
288	Ogden Ave. (US 34) & Iroquois Ave.																	
289	Park Blvd. & College Rd.												2					
290	Park Blvd. & Fawell Blvd. (22nd St.)												2					
291	Park Blvd. & Glenbard South High School																	
292	Plainfield Rd. & Clarendon Hills Rd.												4					
293	Plainfield Rd. & Fairmount Ave.												2					
294	Plainfield Rd. & Garfield Rd. / Fieldstone Dr.												2					
295	Plainfield Rd. & High Rd.												2					
296	Plainfield Rd. & Madison St.												2					
297	Plainfield Rd. & Manning Ln.												2					
298	Plainfield Rd. / Naperville Rd. & 87th St.												2					
299	Plainfield Rd. & Our Lady of Peace																	
300	Prospect Rd. & Tri State Fire Station # 2																	
301	Prospect Rd. & Marino Ct. / Pierce Rd.												4					
302	Raymond Dr. & Diehl Rd.												2					
303	Raymond Dr. & McDowell Rd.												2					
304	Raymond Dr. & Ferry Rd.												3					
305	River Rd. & Woodland Rd. / Lower School																	
306	Roselle Rd. & Bryn Mawr Ave.												1					
307	Roselle Rd. & Central Ave.												2					
308	Roselle Rd. & Maple Ave.												2					
309	Roselle Rd. & Walnut												2					
310	Schick Rd. & Mallard Lake / Mallard Ln.												2					
311	Schick Rd. & Thorn Rd. / Meijer Entrance												2					
312	Schmale Rd. & Fullerton Ave.												-					
313	Schmale Rd. & Gunderson Dr.												2					
314	Schmale Rd. & Home Depot / Geneva Crossing												2					
315	Schmale Rd. & Lies Rd.												2					
316	Schmale Rd. & Thornhill Dr.												2					
317	Schmale Rd. & Walmart / Target												3					
318	St. Charles Rd. & President St.		1										4					
319	St. Charles Rd. & Riford Ln.												1					

DUPAGE COUNTY LOCATION LISTING

LOCATION	ROUTINE MAINTENANCE PAY ITEMS															
	T-1	T-2	T-3	T-4	T-5	T-6	T-7	T-8	T-9	T-10	T-11	LUMINAIRE	UNDERPASS LIGHTING	SIGN LIGHTING	WASHINGTON STREET NO PARKING SIGNS	PUMP STATION
320 St. Charles Rd. & Schmale Rd.	1											4	L-2	L-3	L-4	PS-1
321 St. Charles Rd. & Swift Rd.	1											2				
322 St. Charles Rd. / Geneva Rd. & Main St. (Glen Ellyn)	1											3				
323 Stearns Rd. & Minger Rd.	1											4				
324 Stearns Rd. & Sycamore Ln.	1											2				
325 Summit Ave. & 14th St.	1															
326 Thorndale Ave. & Arlington Heights Rd. (North)	1											4				
327 Thorndale Ave. & Arlington Heights Rd. (South)	1											4				
328 Thorndale Ave. & Prospect Ave. (North)	1											4				
329 Thorndale Ave. & Prospect Ave. (South)	1											2				
330 Thorndale Ave. & Supreme Dr. (North)	1											3				
331 Thorndale Ave. & Wood Dale Rd. (North)	1											3				
332 Thorndale Ave. & Wood Dale Rd. (South)	1											4				
333 Villa Ave. & Fullerton Ave.	1											8				
334 Warrenville Rd. & Arborium Lakes	1											2				
335 Warrenville Rd. & Cabot Dr.	1											2				
336 Warrenville Rd. & Lucent Technologies East	1											2				
337 Warrenville Rd. & Cross St.	1											2				
338 Warrenville Rd. & Herrick Rd.	1											2				
339 Warrenville Rd. & I-88	1											2	20			
340 Warrenville Rd. & H. Hospital Assoc. (Corporate West)	1											2				
341 Warrenville Rd. & Leask Ln. / Yelder Ave.	1											0				
342 Warrenville Rd. & Lucent Technologies West	1											4				
343 Warrenville Rd. & Main St. (Lisle)	1											2				
344 Warrenville Rd. & Mill St. / Ferry Rd.	1											2				
345 Warrenville Rd. & Washington St.	1											2				
346 Warrenville Rd. & Winfield Rd.	1											2				
347 Warrenville Rd. & Yackley Ave.	1											1				
348 Winfield Rd. & Diehl Rd.	1											3				
349 Winfield Rd. & Ferry Rd.	1											2				
350 Winfield Rd. & I-88	1												14			
351 Winfield Rd. & I-88 North Ramps	1															
352 Winfield Rd. & I-88 South Ramps	1															
353 Winfield Rd. & Mack Rd.	1											4				
354 Winfield Rd. & Torch Pkwy.	1											2				
355 Wood Dale Rd. & Elizabeth Dr.	1															
356 Wood Dale Rd. & Oak Meadow Dr.	1											1				
357 Wood Dale Rd. & Foster Ave.	1											2				
358 Wood Dale Rd. & Mittle Dr.	1											2				
359 Woodboard Ave. & 83rd St.	1												10			
360 Yackley Ave. & I-88	1											2				
361 Yackley Ave. & Ohio St.	1											2				
362 York Rd. & Foster Ave.	1											2				
363 York Rd. & S. Frontage Rd. / Sievert Ct.	1															
364 York Rd. & Spring Rd.	1											2				

DUPAGE COUNTY LOCATION LISTING

LOCATION	ROUTINE MAINTENANCE PAY ITEMS															
	T-1	T-2	T-3	T-4	T-5	T-6	T-7	T-8	T-9	T-10	T-11	L-1	L-2	L-3	L-4	PS-1
Street Lighting (Systems and Stand Alone)																
365 31st St. over Salt Creek Bridge												8				
366 55th St. & County Line Rd.												2				
367 75th St. & Olympus Dr.												16				
368 75th St. & Washington St.												19				
369 87th St. & Woodward Ave. (East)												10				
370 87th St. & Woodward Ave. (West)												11				
371 Addison Rd. & Elizabeth Dr.												10				
372 Army Trail Rd. - Swift Rd. to Rohlfing Rd.												32				
373 Bloomingdale Rd. & Glen Arbor Ct.												1				
374 County Farm Rd. & Il. 38												2				
375 County Farm Rd. - Manchester Rd. to Jewell Rd.												29				
376 County Farm Rd. - S' Curve - Olataville Rd. (north limit)												10				
377 Gary Ave. & Travis Pkwy.												15				
378 Geneva Rd. & Conventry Dr.												1				
379 Geneva Rd. & Gary Ave.												8				
380 Geneva Rd. & Partridge Dr.												1				
381 Geneva Rd. & Wheatberry Dr.												1				
382 St. Charles Rd. & Blue Ridge Ct. (Carol Stream)												1				
383 Stearns Rd. & Mungler Rd.												19				
384 Warrenville Rd. & Mill St. / Ferry Rd.												44				
385 Warrenville Rd. & Private Entrance (801 Warr.)												1				
386 York Rd. over Salt Creek Bridge (Graue Mill)												8				
Totals	337	3	3	29	1	0	0	0	1	0	0	1000	142	13	0	2

○ CITY OF AURORA

○ EQUIPMENT LIST

○ SCHEDULE OF ROUTINE MAINTENANCE PAY ITEMS



City of Aurora Traffic Signal Inventory

Serial No.	Primary Street	Secondary Street	A1	A2	A3	A4	A5	A6	A7-A	A7-B	A7-C	A8	A9	A10	A11	A12	A13	A14	A15	A16	A17	A18	A19	A20
1	Lake Street	Jericho Road	-	-	-	10	-	4	-	-	-	-	1	-	-	1	-	-	-	-	-	-	-	-
2	Lake Street	Prairie Street	-	-	-	8	-	4	-	-	-	-	2	-	-	1	-	-	-	-	-	-	-	-
3	Lake Street	Gale Street	-	-	-	4	-	8	-	-	8	8	-	-	-	1	1	1	1	-	-	-	-	-
4	Lake Street	Benton Street	-	-	-	6	-	8	-	-	8	8	4	3	-	1	1	1	1	1	-	-	-	-
5	Lake Street	Downer Place	-	-	-	5	-	5	-	-	8	8	4	3	-	1	1	1	1	-	-	4	-	-
6	Lake Street	Galena Blvd	-	-	-	4	6	0	-	-	8	8	3	3	-	1	1	1	1	-	-	-	-	1
7	Lake Street	New York Street	-	-	-	9	-	0	-	-	7	4	3	3	-	1	1	1	1	1	-	-	-	-
8	Lake Street	West Park Avenue	-	-	-	8	-	4	-	-	8	8	-	-	-	1	1	1	1	-	-	-	-	-
9	Lake Street	Illinois Avenue	-	-	-	10	-	12	-	-	10	10	-	-	-	1	1	1	1	1	-	-	-	-
10	Lake Street	Northgate (South)	-	-	-	7	-	4	-	-	4	4	-	-	-	1	1	1	1	-	-	-	-	-
11	Lake Street	Northgate (Middle)	-	-	-	10	-	2	-	-	2	2	-	-	-	1	1	1	1	-	-	-	-	-
12	Lake Street	Northgate (McD)	-	-	-	8	-	4	-	-	5	4	4	-	-	1	1	1	1	-	-	-	-	-
13	Lake Street	Indian Trail	-	-	-	4	-	8	-	-	8	7	3	-	-	1	1	1	1	-	-	-	-	-
14	Lake Street	Aurora Commons	-	-	-	10	-	4	-	-	2	2	-	-	-	1	1	1	1	-	-	-	-	-
15	Lake Street	Sullivan Road	-	-	-	4	-	12	-	-	8	8	-	-	-	1	1	1	1	-	-	-	-	-
16	Galena Blvd	Barnes Road	-	-	-	4	-	8	-	-	-	-	-	-	-	1	1	1	1	-	-	-	-	-
17	Galena Blvd	Hankes Road	-	-	-	8	-	8	-	-	-	-	-	-	-	1	1	1	1	-	-	-	-	-
18	Galena Blvd	Canterbury Road	-	-	-	8	-	8	-	8	-	8	2	-	-	1	1	1	1	-	-	-	-	-
19	Galena Blvd	Constitution Dr	-	-	-	6	-	10	-	-	6	5	-	-	-	1	1	1	1	-	-	-	-	-
20	Galena Blvd	Walmar	-	-	-	6	-	8	-	-	4	3	-	-	-	1	1	1	1	-	-	-	-	-
21	Galena Blvd	Reimer Dr	-	-	-	8	1	7	-	-	4	4	-	-	-	1	1	1	1	-	-	-	-	-
22	Galena Blvd	Edgelawn Dr	-	-	-	6	-	8	-	-	4	4	-	-	-	1	1	1	1	-	-	-	-	-
23	Galena Blvd	Randall Rd	-	-	-	6	-	8	-	-	4	3	2	-	-	1	1	1	1	-	-	-	-	-
24	Galena Blvd	Gladstone Ave	-	-	-	10	-	-	-	8	-	5	-	-	-	1	1	1	1	-	-	-	-	-
25	Galena Blvd	Commonwealth Ave	-	-	-	10	-	2	-	-	4	6	2	-	-	1	1	1	1	-	-	-	-	-
26	Galena Blvd	Elmwood Dr	-	-	-	6	-	6	-	-	8	4	2	-	-	1	1	1	1	-	-	-	-	-
27	Galena Blvd	Lancaster Ave	-	-	-	9	-	2	-	-	8	4	2	-	-	1	1	1	1	-	-	-	-	-
28	Galena Blvd	Highland Ave	-	-	-	8	-	6	-	-	8	6	-	-	-	1	1	1	1	-	-	-	-	-
29	Galena Blvd	View St	-	-	-	7	-	6	-	-	8	4	-	-	-	1	1	1	1	-	-	-	-	-
30	Galena Blvd	Locust St	-	-	-	10	-	6	-	-	7	4	2	-	-	1	1	1	1	-	-	-	-	-
31	Galena Blvd	Stolp Ave	-	-	-	11	-	-	-	-	8	4	3	2	-	1	1	1	1	-	-	-	-	-
32	Galena Blvd	Lincoln Ave	-	-	-	4	-	8	-	-	8	4	4	3	-	1	1	1	1	-	-	-	-	2
33	Galena Blvd	Root St	-	-	-	8	-	4	-	-	8	4	2	-	-	1	1	1	1	-	-	-	-	2
34	Galena Blvd	Union St	-	-	-	4	-	8	-	-	8	4	-	-	-	1	1	1	1	-	-	-	-	-
35	Galena Blvd	Smith Street	-	-	-	8	-	6	-	-	8	8	1	-	-	1	1	1	1	-	-	-	-	-
36	Galena Blvd	Ohio St	-	-	-	11	-	6	-	-	8	4	4	-	-	1	1	1	1	-	-	-	-	-
37	Farnsworth Blvd	I-88 EB Ramps	-	-	-	12	1	-	-	-	3	4	2	-	-	1	1	1	1	-	-	-	-	-
38	Farnsworth Blvd	I-88 WB Ramps	-	-	-	4	-	2	-	-	2	2	2	-	-	1	1	1	1	-	-	-	-	-
39	Farnsworth Blvd	New York Street	-	-	-	4	-	12	-	-	12	6	2	-	-	1	1	1	1	-	-	-	-	-
40	Farnsworth Blvd	Liberty Street	-	-	-	10	-	6	-	-	8	8	-	-	-	1	1	1	1	-	-	-	-	-
41	Farnsworth Blvd	Front Street	-	-	-	10	-	2	-	-	8	8	-	-	-	1	1	1	1	-	-	-	-	-
42	Farnsworth Blvd	Sheffer Road	-	-	-	6	-	8	-	-	8	8	2	-	-	1	1	1	1	-	-	-	-	-
43	Farnsworth Blvd	Indian Trail	-	-	-	2	-	14	-	-	8	8	4	-	-	1	1	1	1	-	-	-	-	-
44	Farnsworth Blvd	Reckinger Road	-	-	-	6	-	8	-	-	8	8	4	-	-	1	1	1	1	-	-	-	-	-
45	Farnsworth Blvd	Molitor Road	-	-	-	6	-	8	-	-	2	2	4	-	-	1	1	1	1	-	-	-	-	-
46	Farnsworth Blvd	Prem Outlet Blvd	-	-	-	8	4	4	-	-	2	2	4	-	-	1	1	1	1	-	-	-	-	-
47	Farnsworth Blvd	Blitzer Road	-	-	-	6	-	14	-	-	4	4	3	-	-	1	1	1	1	-	-	-	-	-
48	Church Road	Blitzer Road	-	-	-	4	-	10	-	-	8	8	2	-	-	1	1	1	1	-	-	-	-	-
49	Sealmaster	Blitzer Road	-	-	-	5	4	4	-	-	-	-	4	-	-	1	1	1	1	-	-	-	-	-

City of Aurora Traffic Signal Inventory

Serial No.	Primary Street	Secondary Street	A1	A2	A3	A4	A5	A6	A7-A	A7-B	A7-C	A8	A9	A10	A11	A12	A13	A14	A15	A16	A17	A18	A19	A20
50	Eola Road	Blitter Rd/I-88	-	-	-	13	-	4	-	4	-	4	2	-	-	1	1	1	-	-	-	3	-	-
51	Eola Road	Delhi Rd/I-88	-	-	-	7	-	3	-	-	-	-	2	-	-	1	1	1	-	-	-	3	-	-
52	Eola Road	New York Street	-	-	-	8	-	12	-	-	10	8	8	-	-	1	1	1	1	1	-	-	-	-
53	Eola Road	Mc Coy Road	-	-	-	8	-	8	-	8	-	8	-	-	-	1	1	1	1	-	-	-	-	-
54	Eola Road	Long Grove Drive	-	-	-	6	-	6	-	-	6	6	-	-	-	1	1	1	1	1	-	-	-	-
55	Eola Road	Waubensie H. School	-	-	-	7	-	7	-	-	8	8	4	-	-	1	1	1	1	1	-	4	-	-
56	Eola Road	Montgomery Rd	-	-	-	8	-	8	-	-	8	8	4	-	-	1	1	1	1	1	-	4	-	-
57	Eola Road	Keating Drive	-	-	-	5	-	8	-	8	-	8	4	-	-	1	1	1	1	1	-	4	-	-
58	Eola Road	Hafenrichter Rd	-	-	-	5	-	6	-	-	4	4	4	-	-	1	1	1	1	1	-	4	-	-
59	Eola Road	Wolf's Crossing Rd	-	-	-	4	-	8	-	8	-	6	4	-	-	1	1	1	1	1	-	4	-	-
60	New York Street	Lincoln Avenue	-	-	-	7	-	8	-	-	8	4	4	3	-	1	1	1	1	1	-	-	-	2
61	New York Street	Root Street	-	-	-	10	-	4	-	-	8	4	2	1	-	1	1	1	1	1	-	-	-	1
62	New York Street	Union Street	-	-	-	10	-	4	-	-	8	4	4	-	-	1	1	1	1	1	-	-	-	1
63	New York Street	Smith Street	-	-	-	6	-	6	-	-	8	8	4	-	-	1	1	1	1	1	-	4	-	1
64	New York Street	Ohio Street	-	-	-	8	-	8	-	-	12	7	4	-	-	1	1	1	1	1	-	4	-	-
65	New York Street	Kautz/County Ln	-	-	-	6	-	10	-	-	6	6	4	-	-	1	1	1	1	1	-	4	-	-
66	New York Street	Vaughn Road	-	-	-	6	-	8	-	-	8	8	4	-	-	1	1	1	1	1	-	4	-	-
67	New York Street	Asbury Drive	-	-	-	6	-	8	-	6	-	5	4	-	-	1	1	1	1	1	-	-	-	-
68	New York Street	Oakhurst Drive	-	-	-	5	-	8	-	8	-	5	4	-	-	1	1	1	1	1	-	-	-	-
69	New York Street	Frontenac Street	-	-	-	6	-	8	-	-	6	5	4	-	-	1	1	1	1	1	-	-	-	-
70	New York Street	Commons Drive	-	-	-	5	-	12	-	-	2	2	2	-	-	1	1	1	1	1	-	-	-	-
71	New York Street	Station Blvd (Ent # 5)	-	-	-	3	-	14	-	-	4	-	-	-	-	1	1	1	1	1	-	-	-	-
72	New York Street	Entrance # 6	-	-	-	6	-	12	-	-	-	-	-	-	-	1	1	1	1	1	-	4	-	-
73	River Street	New York Street	-	-	-	6	2	0	-	-	8	4	3	2	-	1	1	1	1	1	-	3	-	1
74	River Street	Galena Blvd	-	-	-	8	-	4	-	-	8	4	3	2	-	1	1	1	1	1	-	3	-	2
75	River Street	Downer Place	-	-	-	9	-	4	-	-	8	4	4	-	-	1	1	1	1	1	-	3	-	1
76	River Street	Benton Street	-	-	-	7	-	2	-	-	8	4	4	3	-	1	1	1	1	1	-	3	-	1
77	River Street	North Avenue	-	-	-	7	-	6	-	4	-	2	4	-	-	1	1	1	1	1	-	3	-	1
78	River Street	Prairie Street	-	-	-	10	-	2	-	4	-	4	2	2	-	1	1	1	1	1	-	3	-	-
79	Broadway	Post Office	-	-	-	10	-	4	-	4	-	3	-	-	-	1	1	1	1	1	-	-	-	1
80	Broadway	ATC/Roundhouse	-	-	-	8	4	4	-	4	-	3	-	-	-	1	1	1	1	1	-	3	-	-
81	Broadway	Spring Street	-	-	-	5	5	1	-	-	6	4	-	-	-	1	1	1	1	1	-	4	-	-
82	Broadway	New York Street	-	-	-	10	-	4	-	-	8	4	3	3	-	1	1	1	1	1	-	3	-	4
83	Broadway	Galena Blvd	-	-	-	12	-	2	-	-	8	4	4	3	-	1	1	1	1	1	-	3	-	2
84	Broadway	Downer Place	-	-	-	10	-	6	-	-	8	4	3	4	-	1	1	1	1	1	-	4	-	2
85	Broadway	Benton Street	-	-	-	12	-	2	-	-	8	4	3	3	-	1	1	1	1	1	-	3	-	1
86	Broadway	North Avenue	-	-	-	5	-	6	-	6	-	3	-	-	-	1	1	1	1	1	-	-	-	1
87	Broadway	Ashland Avenue	-	-	-	7	-	4	-	-	-	-	-	-	-	1	1	1	1	1	-	-	-	-
88	Illinois Avenue	Randall Road	-	-	-	4	-	8	-	8	-	8	2	-	-	1	1	1	1	1	-	-	-	-
89	Illinois Avenue	Elmwood Drive	-	-	-	4	-	8	-	8	-	8	1	-	-	1	1	1	1	1	-	-	-	-
90	Illinois Avenue	Highland Avenue	-	-	-	4	-	8	-	8	-	8	1	-	-	1	1	1	1	1	-	-	-	-
91	Randall Road	Sullivan Road	-	-	-	8	-	8	-	-	-	8	-	2	-	1	1	1	1	1	-	-	-	-
92	Liberty Street	Asbury Drive	-	-	-	4	-	8	-	-	8	8	-	-	-	1	1	1	1	1	-	-	-	-
93	Liberty Street	Commons Drive	-	-	-	8	-	8	-	-	6	6	-	-	-	1	1	1	1	1	-	-	-	-
94	Liberty Street	Station Blvd	-	-	-	12	-	8	-	8	8	8	2	4	-	1	1	1	1	1	-	4	-	-
95	Liberty Street	Meijer Drive	-	-	-	8	-	8	-	8	-	8	2	-	-	1	1	1	1	1	-	-	-	-
96	Station Blvd	Meridian Lake (Metra)	-	-	-	17	-	8	-	-	12	12	2	4	-	1	1	1	1	1	-	4	-	-
97	Indian Trail	Greenfield Commons	-	-	-	9	-	6	-	6	-	4	2	-	-	1	1	1	1	1	-	-	-	-
98	Indian Trail	Edgelawn Drive	-	-	-	6	-	8	-	8	-	4	2	-	-	1	1	1	1	1	-	-	-	-
99	Indian Trail	Randall Road	-	-	-	8	-	8	-	8	-	4	2	-	-	1	1	1	1	1	-	-	-	-
100	Indian Trail	Elmwood Drive	-	-	-	4	-	8	-	8	-	4	2	-	-	1	1	1	1	1	-	-	-	-
101	Indian Trail	Nantucket Road	-	-	-	4	-	4	-	4	-	3	1	-	-	1	1	1	1	1	-	-	-	-
102	Indian Trail	Highland Avenue	-	-	-	5	-	8	-	4	-	3	1	-	-	1	1	1	1	1	-	-	-	-
103	Indian Trail	Mitchell Road	-	-	-	4	-	8	-	-	-	2	2	-	-	1	1	1	1	1	-	-	-	-
104	Indian Trail	Church Road	-	-	-	7	-	8	-	-	-	-	2	-	-	1	1	1	1	1	-	-	-	-
105	Indian Trail	Ohio Street	-	-	-	6	-	4	-	-	4	4	3	-	-	1	1	1	1	1	-	3	-	-

City of Aurora Traffic Signal Inventory

Serial No.	Primary Street	Secondary Street	A1	A2	A3	A4	A5	A6	A7-A	A7-B	A7-C	A8	A9	A10	A11	A12	A13	A14	A15	A16	A17	A18	A19	A20
106	Indian Trail	Felten Road	-	-	-	4	-	8	-	8	-	7	-	-	-	1	1	1	-	-	-	-	-	-
107	Indian Trail	Stonebridge West	-	-	-	10	-	4	-	4	-	4	-	-	-	1	1	1	-	-	-	-	-	-
108	Indian Trail	Stonebridge East	-	-	-	8	-	2	-	4	-	4	-	-	-	1	1	1	-	-	-	-	-	-
109	North Aurora Rd	Pensbury Lane	-	-	-	8	-	4	-	6	-	4	-	-	-	1	1	1	-	-	-	4	-	-
110	Hill Avenue	Fifth Avenue	-	-	-	4	-	8	-	-	-	4	2	-	-	1	1	1	-	1	1	4	-	-
111	Hill Avenue	Fire Station 5	-	-	-	8	-	0	-	-	-	-	-	-	-	1	1	1	-	-	-	-	-	-
112	Hill Avenue	Montgomery Rd	-	-	-	4	-	8	-	-	-	-	4	-	-	1	1	1	-	1	1	4	-	-
113	Montgomery Rd	Waterford Drive	-	-	-	8	-	8	-	8	-	4	1	-	-	1	-	1	-	-	-	-	-	-
114	Montgomery Rd	Middlebury Drive	-	-	-	4	-	8	-	-	8	8	2	-	-	1	-	1	-	-	-	-	-	-
115	Montgomery Rd	Normantown Road	-	-	-	13	-	2	-	-	2	2	3	-	-	1	1	1	-	-	-	3	-	-
116	Montgomery Rd	Frontenac Street	-	-	-	6	-	4	-	-	6	6	-	-	-	1	-	1	-	1	1	-	-	-
117	Montgomery Rd	Meadowbrook	-	-	-	8	-	8	-	-	8	8	-	-	-	1	1	1	-	1	1	4	-	-
118	Commons Drive	Raintree Road	-	-	-	10	-	4	-	4	-	4	-	-	-	1	1	1	-	-	-	-	-	-
119	Commons Drive	Mc Coy Drive	-	-	-	8	-	8	-	-	2	2	-	-	-	1	1	1	-	1	1	-	-	-
120	Fifth Avenue	Waterford Drive	-	-	-	9	-	2	-	-	2	2	-	-	-	1	1	1	-	1	1	4	-	-
121	McCoy Drive	Frontenac Street	-	-	-	10	-	4	-	-	8	8	8	-	-	1	1	1	-	1	1	4	-	-
122	McCoy Drive	Gregory Street	-	-	-	4	-	4	-	-	8	8	4	-	-	1	1	1	-	-	-	4	-	-
123	McCoy Drive	Entrance No.2	-	-	-	10	-	4	-	-	2	2	-	-	-	1	1	1	-	-	-	-	-	-
124	McCoy Drive	Entrance No.3	-	-	-	12	-	4	-	-	2	2	-	-	-	1	1	1	-	-	-	-	-	-
TOTALS =			0	0	0	899	31	755	0	184	538	581	216	56	0	124	109	121	0	45	170	0	0	26

- A1 = 3 Section Heads - Incandescent
- A2 = 4 Section Heads - Incandescent
- A3 = 5 Section Heads - Incandescent
- A4 = 3 Section Heads - LED
- A5 = 4 Section Heads - LED
- A6 = 5 Section Heads - LED
- A7-A = Pedestrian Heads-Incandescent
- A7-B = Pedestrian Heads-LED, Non countdown
- A7-C = Pedestrian Heads-LED Countdown
- A8 = Pedestrian Push Buttons
- A9 = Combo-mounted Luminares

- A10= Illuminated Signs
- A11 = Master Controllers
- A12 =Local Cabinets
- A13 = UPS System
- A14 = Emergency Vehicle Preemption
- A15 = Radar Detectors
- A16 = Pan Tilt Zoom Camera System
- A17 = Video Vehicle Detectors
- A18 = FLIR Cameras
- A19 = Transceivers
- A20 = Radio Communications

CITY OF AURORA LOCATION LISTING

		ROUTINE MAINTENANCE PAY ITEMS													
Primary Street	Secondary Street	T-1	T-2	T-3	T-4	T-5	T-6	T-7	T-8	T-9	L-1	L-2	L-3	L-4	RUMP STATION
		TRAFFIC SIGNAL LOCATION	SPAN WIRE TRAFFIC SIGNAL LOCATION	FLASHING BEACON OVERHEAD MOUNT	FLASHING BEACON LOW MOUNT	LAYER II DATA LINK SWITCH	LAYER III (NETWORK) SWITCH	REMOTE CONTROL VIDEO SYSTEM	PEDESTRIAN TRAFFIC SIGNAL LOCATION	EVP TRAFFIC SIGNAL LOCATION	LUMINAIRE	UNDERPASS LIGHTING	SIGN LIGHTING	WASHINGTON STREET NO PARKING SIGNS	
Traffic Signal / Combination Ltg															
1	Lake Street	Jericho Road									1				
2	Lake Street	Prairie Street									2				
3	Lake Street	Gale Street									4				
4	Lake Street	Benton Street									4				
5	Lake Street	Downer Place									4				
6	Lake Street	Galena Blvd									3				
7	Lake Street	New York Street									3				
8	Lake Street	West Park Avenue													
9	Lake Street	Illinois Avenue													
10	Lake Street	Northgate (South)													
11	Lake Street	Northgate (Middle)													
12	Lake Street	Northgate/Lyons (McD)													
13	Lake Street	Indian Trail									3				
14	Lake Street	Aurora Commons													
15	Lake Street	Sullivan Road													
16	Galena Blvd	Barnes Road													
17	Galena Blvd	Hankes Road													
18	Galena Blvd	Canterbury Road									2				
19	Galena Blvd	Constitution Dr													
20	Galena Blvd	Walmar													
21	Galena Blvd	Reimer Dr													
22	Galena Blvd	Edgelawn Dr													
23	Galena Blvd	Randall Rd									2				
24	Galena Blvd	Gladstone Ave													
25	Galena Blvd	Commonwealth Ave									2				
26	Galena Blvd	Elmwood Dr									2				
27	Galena Blvd	Lancaster Ave									2				
28	Galena Blvd	Highland Ave													
29	Galena Blvd	View St													
30	Galena Blvd	Locust St									2				
31	Galena Blvd	Stolp Ave									3				
32	Galena Blvd	Lincoln Ave									4				
33	Galena Blvd	Root St									2				
34	Galena Blvd	Union St													
35	Galena Blvd	Smith Street									1				
36	Galena Blvd	Ohio St									4				
37	Farnsworth Blvd	I-88 EB Ramps									2				
38	Farnsworth Blvd	I-88 WB Ramps									2				
39	Farnsworth Blvd	New York Street									2				
40	Farnsworth Blvd	Liberty Street													
41	Farnsworth Blvd	Front Street													
42	Farnsworth Blvd	Sheffer Road									2				
43	Farnsworth Blvd	Indian Trail									4				
44	Farnsworth Blvd	Reckinger Road									4				
45	Farnsworth Blvd	Mollitor Road									4				
46	Farnsworth Blvd	Prem Outlet Blvd									4				
47	Farnsworth Blvd	Bitler Road									3				
48	Church Road	Bitler Road									2				
49	Sealmaster	Bitler Road									4				
50	Eola Road	Bitler Rd/I-88									2				

○ **VILLAGE OF LOMBARD**

○ **EQUIPMENT LIST**

○ **SCHEDULE OF ROUTINE MAINTENANCE PAY ITEMS**



Traffic Signals under 2020 Lombard Maintenance Jurisdiction

Primary Street	Secondary Street	A1	A2	A3	A4	A5	A6	A7-A	A7-B	A7-C	A8	A9	A10	A11	A12	A13	A14	A15	A16	A17	A18	A19	A20
Main St	22nd St				8		8			8	6				1	1	2						
Main St	16th St				4	4				8	6				1	1	2			2			
Main St	Morris Ave				7		6			8	8				1	1	2			4			1
Main St	Edward St				7		6			8	8			1	1	1	2			4			2
Main St	Glenbard East HS				8		2			4	4				1	1	2			3			1
Main St	Wilson Ave				4		8			8	8				1	1	2						1
Main St	Madison St				2		8			8	6				1	1	2			4			
Main St	Hickory St				4		6			8	4				1	1	2			3			
Main St	Maple St				4		8			8	4		1		1	1	2			4			1
Main St	Parkside Ave				7		4			6	4				1	1	2			4			1
Main St	St Charles Rd				5		8			8	8			1	1	1	2			4			1
Main St	Pleasant Ave Ped				6					2	2				1		1						
Highland Ave	Yorktown South				12		8			2	2				1	1	4			4			
Highland Ave	Yorktown Central				8		6			2	2				1	1	2			4			
Highland Ave	Majestic Dr				7		6			2	2				1	1	2			4			
Highland Ave	22nd St				6		12			8	4			1	1	1	3						
Highland Ave	Fire Station 2	2													1		1						
Westmore-Meyers Rd	Highridge Rd				6		4			4	3				1	1	2			3			1
Westmore-Meyers Rd	Wilson Ave				7		6			8	6				1	1	2			4			1
Westmore-Meyers Rd	Jackson St				7		2			8	7				1	1	2			4			1
Westmore-Meyers Rd	Madison St				6		4			8	5			1	1	1	2			4			1
Westmore-Meyers Rd	Washington Blvd				10					8	4				1	1	2			4			1
Westmore-Meyers Rd	Maple St				6		4			8	6				1	1	2			4			1
22nd St	Convention Way				9		2			4	4		1		1	1	2			3			1
22nd St	Grace St				4		8			8	7				1	1	2						
Finley Rd	Eisenhower Ln				4		8			2	2				1	1	2						
Finley Rd	22nd St				6		10			9	6				1	1	2						
Finley Rd	Oak Creek Dr				10		8			8	8				1	1	2			4			
Finley Rd	Pinebrook Ped				6					4	2				1		1						
Finley Rd	Sunset Knoll Ped				6					2	2				1								
St. Charles Rd	Grace St				12	6	4			8	8				1	1	4						
St. Charles Rd	Fire Station 1	3													1								
St. Charles Rd	Park Ave				7					8	4				1	1	2			3			1
St. Charles Rd	Elizabeth St				8		4			8	8				1	1	2			4			1
St. Charles Rd	Crescent Blvd				5		4			6	4				1	1	2			3			1
Rt 53	St Charles Rd				4		8			8	6				1	1	2						
	TOTALS =	5			222	10	172			217	170		2	4	36	31	70			84			18

A1 = 3 Section Heads - Incandescent

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A4 = 3 Section Heads - LED

A5 = 4 Section Heads - LED

A6 = 5 Section Heads - LED

A7-A = Pedestrian Heads-Incandescent

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A9 = Combo-mounted Luminaires

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A11 = Master Controllers

A12 =Local Cabinets

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A15 = Radar Detectors

A16 = Pan Tilt Zoom Camera System

A17 = Video Vehicle Detectors

A18 = FLIR Cameras

A19 = Transceivers

A20 = Radio Communications

○ CITY OF NAPERVILLE

○ EQUIPMENT LIST

○ SCHEDULE OF ROUTINE MAINTENANCE PAY ITEMS



Traffic Signals under City of Naperville Jurisdiction maintained by City of Naperville

Primary Street	Secondary Street	A1	A2	A3	A4	A5	A6	A7-A	A7-B	A7-C	A8	A9	A10	A11	A12	A13	A14	A15	A16	A17	A18	A19	A20	A29	A30
WASHINGTON	BAUER				12					6	5				1		1					1			14
WASHINGTON	IROQUOIS				5	2	2			4	4	1			1		1					1			12
WASHINGTON	DIEHL						16			8	8	4		1	1		1		1			1			24
WASHINGTON	SHUMAN				6		10			8	8				1		1					1			12
WASHINGTON	AMOCO				9		6			4	4				1		1					1			15
NAPER	PLANK				6		8			0	0	2			1		1					1			
WASHINGTON	GARTNER				4		8			8	4	2			1		1					1			12
WASHINGTON	EDWARDS HOSP.				7		2			8	8	4		1	1		1					1			12
WASHINGTON	MARTIN				6		4			4	4				1		1					1			12
WASHINGTON	HILLSIDE				4		8			8	8				1		1					1			12
WASHINGTON	AURORA				3	4	4			6	2	2		1	1		1		1			1			12
WASHINGTON	CHICAGO				5		8			8	4	2	4		1		1					1	1	1	16
WASHINGTON	JEFFERSON				5		4			8	4	2			1		1					1			16
WASHINGTON	VAN BUREN				7		2			4	2	2			1		1					1			16
WASHINGTON	BENTON				4		8			8	8	2			1		1					1			16
WASHINGTON	SCHOOL				4		2			6	4	1			1		1					1			16
WASHINGTON	NORTH				6		4			6	2	2			1		1					1			16
WASHINGTON	5TH				6	4	2			6	2	1			1		1					1			16
CHICAGO	ELLSWORTH				10					6	6	1			1		1					1	1	1	6
WEST	MARTIN				4	4	4			4	4	1			1		1					1			12
WEST	HILLSIDE				5		4			4	4	1			1		1					1			12
AURORA	WEST				3	4	6			6	6	3			1		1		1			1	1		12
AURORA	NCHS-ROTARY HILL				8		4			8	8	2			1		1					1			12

Traffic Signals under City of Naperville Jurisdiction maintained by City of Naperville

Primary Street	Secondary Street	A1	A2	A3	A4	A5	A6	A7-A	A7-B	A7-C	A8	A9	A10	A11	A12	A13	A14	A15	A16	A17	A18	A19	A20	A29	A30	
AURORA	EAGLE				4	4	4			4	4	2			1		1					1			9	
AURORA	MAIN				6	4	4			8	8	2			1		1					1				6
AURORA	WEBSTER				4	8	8			8	8	4			1		1	4				1				
DIEHL	TELLABS				4	8	8			8	8	4			1		1					1				
DIEHL	NALCO				7	2	4			8	8	4		1	1		1					1				
104TH	BOOK				4	8	8			6	6	4		1	1		1					1				
103RD	BOOK				8	2	4			4	4	2			1		1					1				
BOOK	CONAN DOYLE				4	8	8			8	8	4			1		1					1				
RICKERT	BOOK				7	8	8			8	8	4			1	1	1			1		1				
RICKERT	WEST				4	10	8			8	8	1			1	1	1			1		1				
NAPER	BAILEY				3	10	10			8	8	4			1	1	1			1		1				
NAPER	FOX RUN-MKT. MEADOWS				3	12	6			6	6	4			1		1					1				
CULPEPPER	NAPER				8	4	8			8	4	4			1	1	1			1		1				
GREEN TRAILS	NAPER				5	6	4			4	2	2			1	1	1			1		1				
NAPER	DUNROBIN				8	4	2			2	2	2			1		1					1				
95TH	CEDAR GLADE				2	10	6			6	6	3			1		1	4				1				
95TH	WILDCAT WAY				5	4	2			2	2	1			1		1	3				1				
95TH	SKYLANE				4	8	6			6	6	2			1		1	4				1				
95TH	BOOK				8	8	8			8	8	4		1	1		1					1				
95TH	KNOCH KNOLLS				6	8	8			8	8	2			1	1	1					1				
NAPER-PLAINFIELD	95TH				16	4	8			8	8	4		1	1		1					1				
NAPER-PLAINFIELD	GATESHEAD				4	8	8			8	8	3			1		1					1				
NAPER-PLAINFIELD	LEVERENZ				4	8	8			8	8	3			1		1					1				

Traffic Signals under City of Naperville Jurisdiction maintained by City of Naperville

Primary Street	Secondary Street	A1	A2	A3	A4	A5	A6	A7-A	A7-B	A7-C	A8	A9	A10	A11	A12	A13	A14	A15	A16	A17	A18	A19	A20	A29	A30
87TH	NAPER				4	8				8	8	4			1		1						1		
NAPER	STONEBROOK				11	2				8	8		1		1		1						1		
87TH	BOOK				6	8				4	4	4	1		1		1						1		
83RD	BOOK				7	2				2	2	2			1	1	1						1		
95TH	WOLF'S CROSSING				2	8				8	8	2			1		1						1		
95TH	248TH				5	12				8	8	4			1		1						1		
95TH	DEERING BAY				4	8				8	8	4			1		1						1		
95TH	REFLECTION				4	8				8	8	4			1		1						1		
111TH	248TH				4	8				8	8	4			1		1						1	1	
103RD	248TH				4	10				4	4	2			1	1	1						1	1	
TRUMPET	WOLF'S CROSSING				10	2				2	2				1	1	1						1	1	
TRUMPET	248TH				8	2				2	2				1	1	1						1	1	
NORTH AURORA	FRONTENAC				8	8				8	8	4			1		1						1		
NORTH AURORA	GENESEE				7	2				0	0	2			1		1					3			
NORTH AURORA	WESTON RIDGE				6	4				4	4	2			1		1						1		
NORTH AURORA	FAIRWAY				8	9				8	8	1			1		1						1		
US 34	N. AURORA/RAYMOND				18	2				6	5				1	1	1						1		
US 34	RIVER				6	8				8	4				1	1	1						1		
US 34	FIFTH				8	4				8	8				1	1	1						1		
US 34	ROYAL ST. GEORGE				4	8				8	4				1	1	1						1		
US 34	BENEDETTI				10	4				8	8	4			1	1	1						1		
US 34	MILL				3	10				8	8				1	1	1						1		
US 34	WASHINGTON				6	10				8	8	2			1	1	1			1			1		8

Traffic Signals under City of Naperville Jurisdiction maintained by City of Naperville

Primary Street	Secondary Street	A1	A2	A3	A4	A5	A6	A7-A	A7-B	A7-C	A8	A9	A10	A11	A12	A13	A14	A15	A16	A17	A18	A19	A20	A29	A30
US 34	LOOMIS				6	8	8			8	8	1			1	1	1						1		
US 34	COLUMBIA				10	4	4			8	8	1			1	1	1	4					1		
RAYMOND	RIVERBROOK CENTER				4	8	8			6	6				1		1						1		
RAYMOND	RIVER/BROOKDALE				4	10	8			8	8				1		1						1		
NORTH AURORA	TUDOR				8	4	4			8	8	4			1		1						1		
US 34	FORT HILL				5	8	8			4	8				1	1	1						1		
US 34	RICKERT				12	3	2			2	2				1	1	1						1		
US 34	FELDOTT				4	8	6			6	6				1	1	1						1		
US 34	AURORA				4	8	8			8	8			1	1	1	1						1		
US 34	JEFFERSON				4	8	8			8	5				1	1	1						1		
US 34	QUINCY				8	8	8			6	6	2			1	1	1						1		
AURORA	CAR DEALERSHIP				4	8	8			8	8	4			1		1						1		
AURORA	FORT HILL				7	8	8			8	8	4			1		1						1		
JEFFERSON	FORT HILL				8	8	8			4	4	3			1		1						1		
AURORA	BIRCHWOOD				7	5	6			6	6				1		1						1		
AURORA	RIVER				4	8	8			8	8	1			1		1						1		
RICKERT	SEQUOIA				6	8	6			6	6	4			1		1						1		
WASHINGTON	ROYCE				4	8	2			2	2	2			1		1							12	
WASHINGTON	NAPER				8	1	2			2	2	3			1		1		1				1		12
WASHINGTON	RING				4	5	4			4	4	2			1		1						1		12
WASHINGTON	87TH				7	2	2			2	2	1			1		1						1		12
WASHINGTON	BAILEY				4	8	8			8	8			1	1		1						1		12
NAPER	RIVERWOODS				4	8	8			8	4	2			1		1						1		12

Traffic Signals under City of Naperville Jurisdiction maintained by City of Naperville

Primary Street	Secondary Street	A1	A2	A3	A4	A5	A6	A7-A	A7-B	A7-C	A8	A9	A10	A11	A12	A13	A14	A15	A16	A17	A18	A19	A20	A29	A30
HASSERT BLVD (11.1TH)	BOOK				8		8			8	8	4			1		1					1	1		
HASSERT BLVD (11.1TH)	CHOKEBERRY				6		8			8	8	4			1	1	1					1	1		
5TH	MILL				3		6			4	4	2			1		1								
104TH	NAPERVILLE PLAINFIELD				4		8			8	8	4			1		1								
COUNTRY CLUB	DIEHL				5		10			6	6	3			1	1	1								
TOTALS =		0	0	0	572	23	612	0	0	606	559	200	4	13	97	27	97	19	10	3	0	94	8	390	38

A1 = 3 Section Heads - Incandescent
A2 = 4 Section Heads - Incandescent
A3 = 5 Section Heads - Incandescent
A4 = 3 Section Heads - LED
A5 = 4 Section Heads - LED
A6 = 5 Section Heads - LED
A7-A = Pedestrian Heads-Incandescent
A7-B = Pedestrian Heads-LED, Non countdown
A7-C = Pedestrian Heads- LED Countdown

A8 = Pedestrian Push Buttons
A9 = Combo-mounted Luminaires
A10= Illuminated Signs
A11 = Master Controllers
A12 =Local Cabinets
A13 = UPS System
A14 = Emergency Vehicle Preemption
A15 = Radar Detectors
A16 = Pan Tilt Zoom Camera System

A17 = Video Vehicle Detectors
A18 = FLIR Cameras
A19 = Transceivers
A20 = Radio Communications
A29 = Magnetic Detectors
A30 = Accessible Pedestrian Signals

CITY OF NAPERVILLE MAINTAINED BEACON / UNDERPASS LIGHTING / PUMP STATION / STREET
LIGHTING / SIGN LIGHTING INVENTORY

Location	A21	A22	A23	A24	A25	A26	A27
83RD/CHANDELLE							2
GARTNER/CATALPA							2
ROYCE/BRADDOCK							2
BOOK/S OF CONAN DOYLE							2
248TH/LAPP							2
111TH/W OF CEDAR							2
BAUER/EAGLE		2					
CHARLES/BALMORAL		2					
MILL/LAURA		2					
HILLSIDE/LOOMIS		2					
WEST SIDE WASHINGTON - BENTON TO JACKSON							
EAST SIDE WASHINGTON - VAN BUREN TO CHICAGO							
WEST - MARTIN TO OSLER	2						
TOTALS	2	8	0	0	0	0	12

LEGEND

A21 = Overhead Beacon
A22 = Post Mount Beacon
A23 = Underpass Lighting
A24 = Pump Station

A25 = Street Lighting
A26 = Sign Lighting
A27 = Solar Flashers
A28 = Washington Street No Parking

NAPERVILLE LOCATION LISTING

LOCATION	ROUTINE MAINTENANCE PAY ITEMS													
	T-1	T-2	T-3	T-4	T-5	T-6	T-7	T-8	T-9	L-1	L-2	L-3	L-4	PUMP STATION
	TRAFFIC SIGNAL LOCATION	SPAN WIRE SIGNAL LOCATION	FLASHING BEACON OVERHEAD MOUNT	FLASHING BEACON LOW MOUNT	LAYER II (DATA LINK) SWITCH	LAYER III NETWORK SWITCH	REMOTE CONTROL VIDEO SYSTEM	PEDESTRIAN TRAFFIC SIGNAL LOCATION	EYE TRAFFIC SIGNAL LOCATION	LUMINAIRE	UNDERPASS LIGHTING	SIGN LIGHTING	WASHINGTON STREET LIGHTING PARKING SIGNS	
Traffic Signal / Combination Lighting														
1 WASHINGTON/BAUER	1				1									
2 WASHINGTON/BOQUOIS	1				1					1				
3 WASHINGTON/DIEHL	1				1					4				
4 WASHINGTON/HUMAN	1				1									
5 WASHINGTON/AMOCO	1				1									
6 NAPER/PLANK	1				1					2				
7 WASHINGTON/GARTNER	1				1					2				
8 WASHINGTON/EDWARDS HOSP.	1				1					4				
9 WASHINGTON/MARTIN	1				1									
10 WASHINGTON/HILLSIDE	1				1									
11 WASHINGTON/AURORA	1				1					2				
12 WASHINGTON/CHICAGO	1				1					2				
13 WASHINGTON/JEFFERSON	1				1					2				
14 WASHINGTON/VAN BUREN	1				1					2				
15 WASHINGTON/BENTON	1				1					2				
16 WASHINGTON/SCHOOL	1				1					1				
17 WASHINGTON/NORTH	1				1					2				
18 WASHINGTON/5TH	1				1					1				
19 CHICAGO/ELLSWORTH	1				1					1				
20 WEST/MARTIN	1				1					1				
21 WEST/HILLSIDE	1				1					1				
22 AURORA/WEST	1				1					3				
23 AURORA/NCHS-ROTARY HILL	1				1					2				
24 AURORA/EAGLE	1				1					2				
25 AURORA/MAIN	1				1					2				
26 AURORA/WEBSTER	1				1					4				
27 DIEHL/TELLABS	1				1					4				
28 DIEHL/NALCO	1				1					4				
29 104TH/BOOK	1				1					4				
30 103RD/BOOK	1				1					2				
31 BOOK/CONAN DOYLE	1				1					4				
32 RICKERT/BOOK	1				1					4				
33 RICKERT/WEST	1				1					1				
34 NAPER/BAILEY	1				1					4				
35 NAPER/FOX RUN-MKT. MEADOWS	1				1					4				
36 CULPEPPER/NAPER	1				1					4				
37 GREEN TRAILS/NAPER	1				1					2				
38 NAPER/DUNROBIN	1				1					2				
39 95TH/CEDAR GLADE	1				1					3				
40 95TH/WILD CAT WAY	1				1					1				
41 95TH/SKYLARK	1				1					2				
42 95TH/BOOK	1				1					4				
43 95TH/KNOX KNOLLS	1				1					2				
44 NAPER-PLAINFIELD/95TH	1				1					4				
45 NAPER-PLAINFIELD/GATESHEAD	1				1					3				
46 NAPER-PLAINFIELD/LEVERENZ	1				1					3				
47 87TH/NAPER	1				1					4				
48 NAPER/STONEBROOK	1				1					4				
49 87TH/BOOK	1				1					4				
50 83RD/BOOK	1				1					2				
51 95TH/WOLF'S CROSSING	1				1					4				
52 95TH/248TH	1				1					4				
53 95TH/DEERING BAY	1				1					4				
54 95TH/REFLECTION	1				1					4				
55 111TH/248TH	1				1					4				
56 103RD/248TH	1				1					2				
57 TRUMPET/WOLF'S CROSSING	1				1					4				
58 TRUMPET/248TH	1				1					4				
59 NORTH AURORA/FRONTENAC	1				1					4				

NAPERVILLE LOCATION LISTING

ROUTINE MAINTENANCE PAY ITEMS														
LOCATION	TRAFFIC SIGNAL LOCATION	SPAN WIRE SIGNAL LOCATION	FLASHING BEACON OVERHEAD MOUNT	FLASHING BEACON LOW MOUNT	LAYER II (DATA LINK) SWITCH	LAYER III NETWORK SWITCH	REMOTE CONTROL VIDEO SYSTEM	PEDESTRIAN TRAFFIC SIGNAL LOCATION	EVP TRAFFIC SIGNAL LOCATION	LUMINAIRE	UNDERPASS LIGHTING	SIGN LIGHTING	WASHINGTON STREET NO PARKING SIGNS	PUMP STATION
	T-1	T-2	T-3	T-4	T-5	T-6	T-7	T-8	T-9	L-1	L-2	L-3	L-4	PS-1
60										2				
61										1				
62										1				
63										1				
64										4				
65										2				
66										1				
67										1				
68										1				
69										1				
70										1				
71										1				
72										1				
73										4				
74										1				
75										1				
76										1				
77										1				
78										1				
79										1				
80										2				
81										4				
82										4				
83										3				
84										1				
85										1				
86										4				
87										2				
88										3				
89										2				
90										1				
91										2				
92										4				
93										4				
94										2				
95										4				
96										2				
97										3				
98										2				
99										2				
100										2				
101										2				
102										2				
103										2				
104										2				
105										2				
106										2				
107										2				
108										1				
109										1				
110										1				
111										2				
112										2				
95										2				
Totals										200				

○ **INDEX FOR SUPPLEMENTAL SPECIFICATIONS**

○ **CHECK SHEET FOR RECURRING SPECIAL PROVISIONS**

○ **CHECK SHEET FOR LOCAL ROADS & STREETS SPECIAL PROVISIONS**

○ **BDE SPECIAL PROVISIONS**





The Following Recurring Special Provisions Indicated By An "X" Are Applicable To This Contract And Are Included By Reference:

Recurring Special Provisions

<u>Check Sheet #</u>		<u>Page No.</u>
1	<input type="checkbox"/> Additional State Requirements for Federal-Aid Construction Contracts	75
2	<input type="checkbox"/> Subletting of Contracts (Federal-Aid Contracts)	78
3	<input type="checkbox"/> EEO	79
4	<input type="checkbox"/> Specific EEO Responsibilities Non Federal-Aid Contracts	89
5	<input type="checkbox"/> Required Provisions - State Contracts	94
6	<input type="checkbox"/> Asbestos Bearing Pad Removal	100
7	<input type="checkbox"/> Asbestos Waterproofing Membrane and Asbestos HMA Surface Removal	101
8	<input type="checkbox"/> Temporary Stream Crossings and In-Stream Work Pads	102
9	<input type="checkbox"/> Construction Layout Stakes Except for Bridges	103
10	<input type="checkbox"/> Construction Layout Stakes	106
11	<input type="checkbox"/> Use of Geotextile Fabric for Railroad Crossing	109
12	<input type="checkbox"/> Subsealing of Concrete Pavements	111
13	<input type="checkbox"/> Hot-Mix Asphalt Surface Correction	115
14	<input type="checkbox"/> Pavement and Shoulder Resurfacing	117
15	<input type="checkbox"/> Patching with Hot-Mix Asphalt Overlay Removal	118
16	<input type="checkbox"/> Polymer Concrete	120
17	<input type="checkbox"/> PVC Pipeliner	122
18	<input type="checkbox"/> Bicycle Racks	123
19	<input type="checkbox"/> Temporary Portable Bridge Traffic Signals	125
20	<input type="checkbox"/> Work Zone Public Information Signs	127
21	<input checked="" type="checkbox"/> Nighttime Inspection of Roadway Lighting	128
22	<input type="checkbox"/> English Substitution of Metric Bolts	129
23	<input type="checkbox"/> Calcium Chloride Accelerator for Portland Cement Concrete	130
24	<input type="checkbox"/> Quality Control of Concrete Mixtures at the Plant	131
25	<input type="checkbox"/> Quality Control/Quality Assurance of Concrete Mixtures	139
26	<input type="checkbox"/> Digital Terrain Modeling for Earthwork Calculations	155
27	<input type="checkbox"/> Reserved	157
28	<input type="checkbox"/> Preventive Maintenance - Bituminous Surface Treatment	158
29	<input type="checkbox"/> Reserved	164
30	<input type="checkbox"/> Reserved	165
31	<input type="checkbox"/> Reserved	166
32	<input type="checkbox"/> Temporary Raised Pavement Markers	167
33	<input type="checkbox"/> Restoring Bridge Approach Pavements Using High-Density Foam	168
34	<input type="checkbox"/> Portland Cement Concrete Inlay or Overlay	171
35	<input type="checkbox"/> Portland Cement Concrete Partial Depth Hot-Mix Asphalt Patching	175

The Following Local Roads And Streets Recurring Special Provisions Indicated By An "X" Are Applicable To This Contract And Are Included By Reference:

Local Roads And Streets Recurring Special Provisions

<u>Check Sheet #</u>		<u>Page No.</u>
LRS 1	Reserved	179
LRS 2	<input type="checkbox"/> Furnished Excavation	180
LRS 3	<input checked="" type="checkbox"/> Work Zone Traffic Control Surveillance	181
LRS 4	<input checked="" type="checkbox"/> Flaggers in Work Zones	182
LRS 5	<input type="checkbox"/> Contract Claims	183
LRS 6	<input checked="" type="checkbox"/> Bidding Requirements and Conditions for Contract Proposals	184
LRS 7	<input type="checkbox"/> Bidding Requirements and Conditions for Material Proposals	190
LRS 8	Reserved	196
LRS 9	<input type="checkbox"/> Bituminous Surface Treatments	197
LRS 10	Reserved	198
LRS 11	<input checked="" type="checkbox"/> Employment Practices	199
LRS 12	<input checked="" type="checkbox"/> Wages of Employees on Public Works	201
LRS 13	<input checked="" type="checkbox"/> Selection of Labor	203
LRS 14	<input type="checkbox"/> Paving Brick and Concrete Paver Pavements and Sidewalks	204
LRS 15	<input type="checkbox"/> Partial Payments	207
LRS 16	<input checked="" type="checkbox"/> Protests on Local Lettings	208
LRS 17	<input checked="" type="checkbox"/> Substance Abuse Prevention Program	209
LRS 18	<input type="checkbox"/> Multigrade Cold Mix Asphalt	210

Prevailing Wage Rates for DuPage County as of 07/25/19

Effective Date	County	Trade Title	Region	Type	Class	Base Wage	Foreman Wage	OT M-F	OT Sa	OT Su	OT Hol	H/W	Pension	Vacation	Training	Other Fringe Benefit
11/23/2018	DuPage	ASBESTOS ABT-GEN	All	ALL		42.72	43.72	1.5	1.5	2	2	14.9	12.57	0	0.72	0
11/5/2018	DuPage	ASBESTOS ABT-MEC	All	BLD		37.88	40.38	1.5	1.5	2	2	12.92	11.82	0	0.72	0
8/15/2018	DuPage	BOILERMAKER	All	BLD		49.46	53.91	2		2	2	6.97	20.41	0	0.4	0
11/16/2018	DuPage	BRICK MASON	All	BLD		46.19	50.81	1.5	1.5	2	2	10.65	17.92	0	0.92	0
1/11/2019	DuPage	CARPENTER	All	ALL		47.35	49.35	1.5	1.5	2	2	11.79	20.41	0	0.63	0
4/5/2019	DuPage	CEMENT MASON	All	ALL		45.25	47.25	2	1.5	2	2	14.25	18.03	0	1.1	0
8/15/2018	DuPage	CERAMIC TILE FNLSHER	All	BLD		39.56	39.56	1.5	1.5	2	2	10.75	12.02	0	0.77	0
11/5/2018	DuPage	COMMUNICATION TECH	All	BLD		33.82	36.62	1.5	1.5	2	2	12.35	20.39	1.89	0.68	0
8/15/2018	DuPage	ELECTRIC PWR EQMT OP	All	ALL		42.59	57.95	1.5	1.5	2	2	5.75	13.21	0	0.75	0
8/15/2018	DuPage	ELECTRIC PWR EQMT OP	All	HWY		41.45	56.38	1.5	1.5	2	2	5.5	12.87	0	0.73	0
4/5/2019	DuPage	ELECTRIC PWR GRNDMAN	All	ALL		32.86	57.95	1.5	1.5	2	2	5.75	10.2	0	0.58	0
8/15/2018	DuPage	ELECTRIC PWR GRNDMAN	All	HWY		32	56.38	1.5	1.5	2	2	5.5	9.92	0	0.66	0
10/26/2018	DuPage	ELECTRIC PWR LINEMAN	All	ALL		51.06	57.95	1.5	1.5	2	2	5.75	15.85	0	0.9	0
8/15/2018	DuPage	ELECTRIC PWR LINEMAN	All	HWY		49.67	56.38	1.5	1.5	2	2	5.5	15.4	0	0.88	0
8/15/2018	DuPage	ELECTRIC PWR TRK DRV	All	ALL		34.03	57.95	1.5	1.5	2	2	5.75	10.55	0	0.6	0
8/15/2018	DuPage	ELECTRIC PWR TRK DRV	All	HWY		33.14	56.38	1.5	1.5	2	2	5.5	10.29	0	0.59	0
11/5/2018	DuPage	ELECTRICIAN	All	BLD		40.5	44.5	1.5	1.5	2	2	12.35	23	5.25	0.75	0
4/5/2019	DuPage	ELEVATOR CONSTRUCTOR	All	BLD		54.85	61.71	2	2	2	2	15.43	9.71	4.38	0.61	0
4/5/2019	DuPage	FENCE ERECTOR	NE	ALL		40.88	42.88	1.5	1.5	2	2	13.59	14.5	0	0.65	0
8/15/2018	DuPage	FENCE ERECTOR	W	ALL		45.06		1.5	1.5	1.5	1.5	10.52	20.76	0	0.7	0
2/8/2019	DuPage	GLAZIER	All	BLD		43.85	45.35	1.5	2	2	2	14.17	21.11	0	0.94	0
11/5/2018	DuPage	HT/FROST INSULATOR	All	BLD		50.5	53	1.5	1.5	2	2	12.92	13.16	0	0.72	0
8/15/2018	DuPage	IRON WORKER	E	ALL		48.33	51.83	2	2	2	2	14.15	23.28	0	0.35	0
4/5/2019	DuPage	IRON WORKER	W	ALL		45.84	49.51	2	2	2	2	11.77	22.9	0	0.83	0
4/5/2019	DuPage	LABORER	All	ALL		42.72	43.47	1.5	1.5	2	2	14.9	12.57	0	0.72	0
8/15/2018	DuPage	LATHER	All	ALL		47.35	49.35	1.5	1.5	2	2	11.79	20.41	0	0.63	0
8/15/2018	DuPage	MACHINIST	All	BLD		48.38	50.88	1.5	1.5	2	2	7.23	8.95	1.85	1.47	0
8/15/2018	DuPage	MARBLE FINISHERS	All	ALL		34.65	47.7	1.5	1.5	2	2	10.65	16.46	0	0.49	0
8/15/2018	DuPage	MARBLE MASON	All	BLD		45.43	49.97	1.5	1.5	2	2	10.65	17.39	0	0.61	0
4/5/2019	DuPage	MATERIAL TESTER I	All	ALL		32.72	32.72	1.5	1.5	2	2	14.9	12.57	0	0.72	0
10/26/2018	DuPage	MATERIALS TESTER II	All	ALL		37.72	37.72	1.5	1.5	2	2	14.9	12.57	0	0.72	0
4/5/2019	DuPage	MILLWRIGHT	All	ALL		47.35	49.35	1.5	1.5	2	2	11.79	20.41	0	0.63	0
2/15/2019	DuPage	OPERATING ENGINEER	All	BLD	1	51.1	55.1	2	2	2	2	19.65	15.1	2	1.4	0
2/15/2019	DuPage	OPERATING ENGINEER	All	BLD	2	49.8	55.1	2	2	2	2	19.65	15.1	2	1.4	0
8/15/2018	DuPage	OPERATING ENGINEER	All	BLD	3	47.25	55.1	2	2	2	2	19.65	15.1	2	1.4	0
4/5/2019	DuPage	OPERATING ENGINEER	All	BLD	4	45.5	55.1	2	2	2	2	19.65	15.1	2	1.4	0
8/15/2018	DuPage	OPERATING ENGINEER	All	BLD	5	54.85	55.1	2	2	2	2	19.65	15.1	2	1.4	0
8/15/2018	DuPage	OPERATING ENGINEER	All	BLD	6	52.1	55.1	2	2	2	2	19.65	15.1	2	1.4	0
4/5/2019	DuPage	OPERATING ENGINEER	All	BLD	7	54.1	55.1	2	2	2	2	19.65	15.1	2	1.4	0
11/9/2018	DuPage	OPERATING ENGINEER	All	FLT		38	38	1.5	1.5	2	2	18.8	14.35	2	1.3	0
12/28/2018	DuPage	OPERATING ENGINEER	All	HWY	1	49.3	53.3	1.5	1.5	2	2	19.65	15.1	2	1.4	0
11/9/2018	DuPage	OPERATING ENGINEER	All	HWY	2	48.75	53.3	1.5	1.5	2	2	19.65	15.1	2	1.4	0
11/9/2018	DuPage	OPERATING ENGINEER	All	HWY	3	46.7	53.3	1.5	1.5	2	2	19.65	15.1	2	1.4	0
8/15/2018	DuPage	OPERATING ENGINEER	All	HWY	4	45.3	53.3	1.5	1.5	2	2	19.65	15.1	2	1.4	0
11/9/2018	DuPage	OPERATING ENGINEER	All	HWY	5	44.1	53.3	1.5	1.5	2	2	19.65	15.1	2	1.4	0
8/15/2018	DuPage	OPERATING ENGINEER	All	HWY	6	52.3	53.3	1.5	1.5	2	2	19.65	15.1	2	1.4	0
11/9/2018	DuPage	OPERATING ENGINEER	All	HWY	7	50.3	53.3	1.5	1.5	2	2	19.65	15.1	2	1.4	0

Prevailing Wage Rates for DuPage County as of 07/25/19																
Effective Date	County	Trade Title	Region	Type	Class	Base Wage	Foreman Wage	OT M-F	OT Sa	OT Su	OT Hol	H/W	Pension	Vacation	Training	Other Fringe Benefit
8/15/2018	DuPage	ORNAMNTL IRON WORKER	E	ALL		48.05	50.55	2	2	2	2	14.09	20.59	0	1.25	0
8/15/2018	DuPage	ORNAMNTL IRON WORKER	W	ALL		45.06	48.66	2	2	2	2	10.52	20.76	0	0.7	
4/5/2019	DuPage	PAINTER	All	ALL		45.28	47.28	1.5	1.5	1.5	1.5	11.55	8.2	0	1.35	0
8/15/2018	DuPage	PAINTER SIGNS	All	BLD		38.2	43.25	1.5	1.5	2	2	2.6	3.25	0	0	0
8/15/2018	DuPage	PILEDRIWER	All	ALL		47.35	49.35	1.5	1.5	2	2	11.79	20.41	0	0.63	0
11/16/2018	DuPage	PIPEFITTER	All	BLD		48.5	51.5	1.5	1.5	2	2	10.05	18.85	0	2.54	0
11/5/2018	DuPage	PLASTERER	ALL	BLD		43.25	45.85	1.5	1.5	2	2	14.25	16.69	0	1.45	0
10/26/2018	DuPage	PLUMBER	All	BLD		50.25	53.25	1.5	1.5	2	2	14.34	14.42	0	1.31	0
4/5/2019	DuPage	ROOFER	All	BLD		43.65	47.65	1.5	1.5	2	2	9.73	12.44	0	0.53	0
12/14/2018	DuPage	SHEETMETAL WORKER	All	BLD		48.02	50.42	1.5	1.5	2	2	10.75	16.19	0	1.03	3.5
4/5/2019	DuPage	SPRINKLER FITTER	All	BLD		48.1	50.6	1.5	1.5	2	2	13.25	15.9	0	0.55	0
8/15/2018	DuPage	STEEL ERECTOR	E	ALL		42.07		2	2	2	2	13.45	19.59	0	0.35	0
8/15/2018	DuPage	STEEL ERECTOR	W	ALL		45.06	48.66	2	2	2	2	10.52	20.76	0	0.7	
8/15/2018	DuPage	STONE MASON	All	BLD		46.19	50.81	1.5	1.5	2	2	10.65	17.92	0	0.92	0
11/16/2018	DuPage	TERRAZZO FINISHER	All	BLD		41.54	44.54	1.5	1.5	2	2	10.75	13.71	0	0.86	0
11/16/2018	DuPage	TERRAZZO MASON	All	BLD		45.38	48.88	1.5	1.5	2	2	10.75	15.17	0	0.89	0
8/15/2018	DuPage	TILE MASON	All	BLD		46.49	50.49	1.5	1.5	2	2	10.75	14.99	0	0.9	0
4/5/2019	DuPage	TRAFFIC SAFETY WRKR	All	HWY		36	37.6	1.5	1.5	2	2	8.9	9.27	0	0.25	0
4/5/2019	DuPage	TRUCK DRIVER	All	ALL	1	37.61	38.16	1.5	1.5	2	2	9.08	11.36	0	0.15	0
4/5/2019	DuPage	TRUCK DRIVER	All	ALL	2	37.76	38.16	1.5	1.5	2	2	9.08	11.36	0	0.15	0
4/5/2019	DuPage	TRUCK DRIVER	All	ALL	3	37.96	38.16	1.5	1.5	2	2	9.08	11.36	0	0.15	0
4/5/2019	DuPage	TRUCK DRIVER	All	ALL	4	38.16	38.16	1.5	1.5	2	2	9.08	11.36	0	0.15	0
10/26/2018	DuPage	TUCKPOINTER	All	BLD		46	48	1.5	1.5	2	2	8.34	16.81	0	0.93	0

Legend	
OT M-F	Unless otherwise noted, OT Pay is required for any hour greater than 8 worked each day, Monday through Friday.
OT Sa	The number listed is the multiple of the base wage.
OT Su	Overtime pay required for every hour worked on Saturdays.
OT Hol	Overtime pay required for every hour worked on Sundays.
H/W	Overtime pay required for every hour worked on Holidays.
	Health/Welfare benefit.

Explanations

DUPAGE COUNTY

IRON WORKERS AND FENCE ERECTOR (WEST) - West of Route 53.

The following list is considered as those days for which holiday rates of wages for work performed apply: New Years Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day, Christmas Day and Veterans Day in some classifications/counties. Generally, any of these holidays which fall on a Sunday is celebrated on the following Monday. This then makes work performed on that Monday payable at the appropriate overtime rate for holiday pay. Common practice in a given local may alter certain days of celebration. If in doubt, please check with IDOL.

EXPLANATION OF CLASSES

ASBESTOS - GENERAL - removal of asbestos material/mold and hazardous materials from any place in a building, including mechanical systems where those mechanical systems are to be removed. This includes the removal of asbestos materials/mold and hazardous materials from ductwork

or pipes in a building when the building is to be demolished at the time or at some close future date.

ASBESTOS - MECHANICAL - removal of asbestos material from mechanical systems, such as pipes, ducts, and boilers, where the mechanical systems are to remain.

TRAFFIC SAFETY - work associated with barricades, hoses and drums used to reduce lane usage on highway work, the installation and removal of temporary lane markings, and the installation and removal of temporary road signs.

CERAMIC TILE FINISHER

The grouting, cleaning, and polishing of all classes of tile, whether for interior or exterior purposes, all burned, glazed or unglazed products; all composition materials, granite tiles, warning detectable tiles, cement tiles, epoxy composite materials, pavers, glass, mosaics, fiberglass, and all substitute materials, for tile made in tile-like units; all mixtures in tile like form of cement, metals, and other materials that are for and intended for use as a finished floor

surface, stair treads, promenade roofs, walks, walls, ceilings, swimming pools, and all other places where tile is to form a finished interior or exterior. The mixing of all setting mortars including but not limited to thin-set mortars, epoxies, wall mud, and any other sand and cement mixtures or adhesives when used in the preparation, installation, repair, or maintenance of tile and/or similar materials. The handling and unloading of all sand, cement, lime, tile, fixtures, equipment, adhesives, or any other materials to be used in the preparation, installation, repair, or maintenance of tile and/or similar materials. Ceramic Tile Finishers shall fill all joints and voids regardless of method on all tile work, particularly and especially after installation of said tile work. Application of any and all protective coverings to all types of tile installations including, but not be limited to, all soap compounds, paper products, tapes, and all polyethylene coverings, plywood, masonite, cardboard, and any new type of products that may be used to protect tile installations, Blastrac equipment, and all floor scarifying equipment used in preparing floors to receive tile. The clean up and removal of all waste and materials. All demolition of existing tile floors and walls to be re-tiled.

COMMUNICATIONS TECHNICIAN

Low voltage installation, maintenance and removal of telecommunication facilities (voice, sound, data and video) including telephone and data inside wire, interconnect, terminal equipment, central offices, PABX, fiber optic cable and equipment, micro waves, V-SAT, bypass, CATV, WAN (wide area networks), LAN (local area networks), and ISDN (integrated system digital network), pulling of wire in raceways, but not the installation of raceways.

MARBLE FINISHER

Loading and unloading trucks, distribution of all materials (all stone, sand, etc.), stocking of floors with material, performing all rigging for heavy work, the handling of all material that may be needed for the installation of such materials, building of scaffolding, polishing if needed, patching, waxing of material if damaged, pointing up, caulking, grouting and cleaning of marble, holding water on diamond or Carborundum blade or saw for setters cutting, use of tub saw or any other saw needed for preparation of material, drilling of holes for wires that anchor material set by

setters, mixing up of molding plaster for installation of material, mixing up thin set for the installation of material, mixing up of sand to cement for the installation of material and such other work as may be required in helping a Marble Setter in the handling of all material in the erection or installation of interior marble, slate, travertine, art marble, serpentine, alberene stone, blue stone, granite and other stones (meaning as to stone any foreign or domestic materials as are specified and used in building interiors and exteriors and customarily known as stone in the trade), carrara, sanionyx, vitrolite and similar opaque glass and the laying of all marble tile, terrazzo tile, slate tile and precast tile, steps, risers treads, base, or any other materials that may be used as substitutes for any of the aforementioned materials and which are used on interior and exterior which are installed in a similar manner.

MATERIAL TESTER I: Hand coring and drilling for testing of materials; field inspection of uncured concrete and asphalt.

MATERIAL TESTER II: Field inspection of welds, structural steel, fireproofing, masonry, soil, facade, reinforcing steel, formwork, cured concrete, and concrete and asphalt batch plants; adjusting

proportions of bituminous mixtures.

OPERATING ENGINEER – BUILDING

Class 1. Asphalt Plant; Asphalt Spreader; Autograde; Backhoes with Caisson Attachment; Batch Plant; Benoto (requires Two Engineers); Boiler and Throttle Valve; Caisson Rigs; Central Redi-Mix Plant; Combination Back Hoe Front End-loader Machine; Compressor and Throttle Valve; Concrete Breaker (Truck Mounted); Concrete Conveyor; Concrete Conveyor (Truck Mounted); Concrete Paver Over 27E cu. ft; Concrete Paver 27E cu. ft. and Under: Concrete Placer; Concrete Placing Boom; Concrete Pump (Truck Mounted); Concrete Tower; Cranes, All; Cranes, Hammerhead; Cranes, (GCI and similar Type); Creter Crane; Spider Crane; Crusher, Stone, etc.; Derricks, All; Derricks, Traveling; Formless Curb and Gutter Machine; Grader, Elevating; Grouting Machines; Heavy Duty Self-Propelled Transporter or Prime Mover; Highlift Shovels or Front Endloader 2-1/4 yd. and over; Hoists, Elevators, outside type rack and pinion and similar machines; Hoists, One, Two and Three Drum; Hoists, Two Tugger One Floor; Hydraulic Backhoes; Hydraulic Boom Trucks; Hydro Vac (and similar equipment); Locomotives, All; Motor Patrol; Lubrication Technician; Manipulators;

Pile Drivers and Skid Rig; Post Hole Digger; Pre-Stress Machine; Pump
Cretes Dual Ram; Pump Cretes: Squeeze Cretes-Screw Type Pumps; Gypsum
Bulkler and Pump; Raised and Blind Hole Drill; Roto Mill Grinder;
Scoops - Tractor Drawn; Slip-Form Paver; Straddle Buggies; Operation
of Tie Back Machine; Tournapull; Tractor with Boom and Side Boom;
Trenching Machines.

Class 2. Boilers; Broom, All Power Propelled; Bulldozers; Concrete
Mixer (Two Bag and Over); Conveyor, Portable; Forklift Trucks;
Highlift Shovels or Front Endloaders under 2-1/4 yd.; Hoists,
Automatic; Hoists, Inside Elevators; Hoists, Sewer Dragging Machine;
Hoists, Tugger Single Drum; Laser Screed; Rock Drill (Self-Propelled);
Rock Drill (Truck Mounted); Rollers, All; Steam Generators; Tractors,
All; Tractor Drawn Vibratory Roller; Winch Trucks with "A" Frame.

Class 3. Air Compressor; Combination Small Equipment Operator;
Generators; Heaters, Mechanical; Hoists, Inside Elevators (remodeling
or renovation work); Hydraulic Power Units (Pile Driving, Extracting,
and Drilling); Pumps, over 3" (1 to 3 not to exceed a total of 300
ft.); Low Boys; Pumps, Well Points; Welding Machines (2 through 5);
Winches, 4 Small Electric Drill Winches.

Class 4. Bobcats and/or other Skid Steer Loaders; Oilers; and Brick Forklift.

Class 5. Assistant Craft Foreman.

Class 6. Gradall.

Class 7. Mechanics; Welders.

OPERATING ENGINEERS - HIGHWAY CONSTRUCTION

Class 1. Asphalt Plant; Asphalt Heater and Planer Combination; Asphalt Heater Scarfire; Asphalt Spreader; Autograder/GOMACO or other similar type machines: ABG Paver; Backhoes with Caisson Attachment; Ballast Regulator; Belt Loader; Caisson Rigs; Car Dumper; Central Redi-Mix Plant; Combination Backhoe Front Endloader Machine, (1 cu. yd. Backhoe Bucket or over or with attachments); Concrete Breaker (Truck Mounted); Concrete Conveyor; Concrete Paver over 27E cu. ft.; Concrete Placer; Concrete Tube Float; Cranes, all attachments; Cranes, Tower Cranes of all types: Creter Crane; Spider Crane; Crusher, Stone, etc.;

Derricks, All; Derrick Boats; Derricks, Traveling; Dredges;
Elevators, Outside type Rack & Pinion and Similar Machines; Formless
Curb and Gutter Machine; Grader, Elevating; Grader, Motor Grader,
Motor Patrol, Auto Patrol, Form Grader, Pull Grader, Subgrader; Guard
Rail Post Driver Truck Mounted; Hoists, One, Two and Three Drum; Heavy
Duty Self-Propelled Transporter or Prime Mover; Hydraulic Backhoes;
Backhoes with shear attachments up to 40' of boom reach; Lubrication
Technician; Manipulators; Mucking Machine; Pile Drivers and Skid Rig;
Pre-Stress Machine; Pump Cretes Dual Ram; Rock Drill - Crawler or Skid
Rig; Rock Drill - Truck Mounted; Rock/Track Tamper; Roto Mill
Grinder; Slip-Form Paver; Snow Melters; Soil Test Drill Rig (Truck
Mounted); Straddle Buggies; Hydraulic Telescoping Form (Tunnel);
Operation of Tieback Machine; Tractor Drawn Belt Loader; Tractor
Drawn Belt Loader (with attached pusher - two engineers); Tractor with
Boom; Tractaire with Attachments; Traffic Barrier Transfer Machine;
Trenching; Truck Mounted Concrete Pump with Boom; Raised or Blind Hole
Drills (Tunnel Shaft); Underground Boring and/or Mining Machines 5
ft. in diameter and over tunnel, etc; Underground Boring and/or Mining
Machines under 5 ft. in diameter; Wheel Excavator; Widener (APSCO).

Class 2. Batch Plant; Bituminous Mixer; Boiler and Throttle Valve;

Bulldozers; Car Loader Trailing Conveyors; Combination Backhoe Front Endloader Machine (Less than 1 cu. yd. Backhoe Bucket or over or with attachments); Compressor and Throttle Valve; Compressor, Common Receiver (3); Concrete Breaker or Hydro Hammer; Concrete Grinding Machine; Concrete Mixer or Paver 7S Series to and including 27 cu. ft.; Concrete Spreader; Concrete Curing Machine, Burlap Machine, Belting Machine and Sealing Machine; Concrete Wheel Saw; Conveyor Muck Cars (Haglund or Similar Type); Drills, All; Finishing Machine - Concrete; Highlift Shovels or Front Endloader; Hoist - Sewer Dragging Machine; Hydraulic Boom Trucks (All Attachments); Hydro-Blaster; Hydro Excavating (excluding hose work); Laser Screed; All Locomotives, Dinky; Off-Road Hauling Units (including articulating) Non Self-Loading Ejection Dump; Pump Cretes: Squeeze Cretes - Screw Type Pumps, Gypsum Bulker and Pump; Roller, Asphalt; Rotary Snow Plows; Rototiller, Seaman, etc., self-propelled; Self-Propelled Compactor; Spreader - Chip - Stone, etc.; Scraper - Single/Twin Engine/Push and Pull; Scraper - Prime Mover in Tandem (Regardless of Size); Tractors pulling attachments, Sheeps Foot, Disc, Compactor, etc.; Tug Boats.

Class 3. Boilers; Brooms, All Power Propelled; Cement Supply Tender; Compressor, Common Receiver (2); Concrete Mixer (Two Bag and Over);

Conveyor, Portable; Farm-Type Tractors Used for Mowing, Seeding, etc.; Forklift Trucks; Grouting Machine; Hoists, Automatic; Hoists, All Elevators; Hoists, Tugger Single Drum; Jeep Diggers; Low Boys; Pipe Jacking Machines; Post-Hole Digger; Power Saw, Concrete Power Driven; Pug Mills; Rollers, other than Asphalt; Seed and Straw Blower; Steam Generators; Stump Machine; Winch Trucks with "A" Frame; Work Boats; Tamper-Form-Motor Driven.

Class 4. Air Compressor; Combination - Small Equipment Operator; Directional Boring Machine; Generators; Heaters, Mechanical; Hydraulic Power Unit (Pile Driving, Extracting, or Drilling); Light Plants, All (1 through 5); Pumps, over 3" (1 to 3 not to exceed a total of 300 ft.); Pumps, Well Points; Vacuum Trucks (excluding hose work); Welding Machines (2 through 5); Winches, 4 Small Electric Drill Winches.

Class 5. SkidSteer Loader (all); Brick Forklifts; Oilers.

Class 6. Field Mechanics and Field Welders

Class 7. Dowell Machine with Air Compressor; Gradall and machines of like nature.

OPERATING ENGINEER – FLOATING

Diver. Diver Wet Tender, Diver Tender, ROV Pilot, ROV Tender

TRUCK DRIVER - BUILDING, HEAVY AND HIGHWAY CONSTRUCTION

Class 1. Two or three Axle Trucks. A-frame Truck when used for transportation purposes; Air Compressors and Welding Machines, including those pulled by cars, pick-up trucks and tractors; Ambulances; Batch Gate Lockers; Batch Hopperman; Car and Truck Washers; Carry-alls; Fork Lifts and Hoisters; Helpers; Mechanics Helpers and Greasers; Oil Distributors 2-man operation; Pavement Breakers; Pole Trailer, up to 40 feet; Power Mower Tractors; Self-propelled Chip Spreader; Skipman; Slurry Trucks, 2-man operation; Slurry Truck Conveyor Operation, 2 or 3 man; Teamsters; Unskilled Dumpman; and Truck Drivers hauling warning lights, barricades, and portable toilets on the job site.

Class 2. Four axle trucks; Dump Crets and Adgetors under 7 yards; Dumpsters, Track Trucks, Euclids, Hug Bottom Dump Turnapulls or Turnatrailers when pulling other than self-loading equipment or similar equipment under 16 cubic yards; Mixer Trucks under 7 yards;

Ready-mix Plant Hopper Operator, and Winch Trucks, 2 Axles.

Class 3. Five axle trucks; Dump Crets and Adgetors 7 yards and over; Dumpsters, Track Trucks, Euclids, Hug Bottom Dump Turntrailers or turnapulls when pulling other than self-loading equipment or similar equipment over 16 cubic yards; Explosives and/or Fission Material Trucks; Mixer Trucks 7 yards or over; Mobile Cranes while in transit; Oil Distributors, 1-man operation; Pole Trailer, over 40 feet; Pole and Expandable Trailers hauling material over 50 feet long; Slurry trucks, 1-man operation; Winch trucks, 3 axles or more; Mechanic--Truck Welder and Truck Painter.

Class 4. Six axle trucks; Dual-purpose vehicles, such as mounted crane trucks with hoist and accessories; Foreman; Master Mechanic; Self-loading equipment like P.B. and trucks with scoops on the front

TERRAZZO FINISHER

The handling of sand, cement, marble chips, and all other materials that may be used by the Mosaic Terrazzo Mechanic, and the mixing, grinding, grouting, cleaning and sealing of all Marble, Mosaic, and

Terrazzo work, floors, base, stairs, and wainscoting by hand or machine, and in addition, assisting and aiding Marble, Masonic, and Terrazzo Mechanics.

Other Classifications of Work:

For definitions of classifications not otherwise set out, the Department generally has on file such definitions which are available.

If a task to be performed is not subject to one of the classifications of pay set out, the Department will upon being contacted state which neighboring county has such a classification and provide such rate, such rate being deemed to exist by reference in this document. If no neighboring county rate applies to the task, the Department shall undertake a special determination, such special determination being then deemed to have existed under this determination. If a project requires these, or any classification not listed, please contact IDOL at 217-782-1710 for wage rates or clarifications.

LANDSCAPING

Landscaping work falls under the existing classifications for laborer, operating engineer and truck driver. The work performed by landscape plantsman and landscape laborer is covered by the existing classification of laborer. The work performed by landscape operators (regardless of equipment used or its size) is covered by the classifications of operating engineer. The work performed by landscape truck drivers (regardless of size of truck driven) is covered by the classifications of truck driver.

MATERIAL TESTER & MATERIAL TESTER/INSPECTOR I AND II

Notwithstanding the difference in the classification title, the classification entitled "Material Tester I" involves the same job duties as the classification entitled "Material Tester/Inspector I". Likewise, the classification entitled "Material Tester II" involves the same job duties as the classification entitled "Material Tester/Inspector II".

Prevailing Wage Rates for Kane County as of 07/25/19

Effective Date	County	Trade Title	Region	Type	Class	Base Wage	Foreman Wage	OT M-F	OT Sa	OT Su	OT Hol	H/W	Pension	Vacation	Training	Other Fringe Benefit
10/26/2018	Kane	ASBESTOS ABT-GEN	All	ALL		42.72	43.72	1.5	1.5	2	2	13.77	13.7	0	0.72	0
11/5/2018	Kane	ASBESTOS ABT-MEC	All	BLD		37.88	40.38	1.5	1.5	2	2	12.92	11.82	0	0.72	0
8/15/2018	Kane	BOILERMAKER	All	BLD		49.46	53.91	2		2	2	6.97	20.41	0	0.4	0
8/15/2018	Kane	BRICK MASON	All	BLD		46.19	50.81	1.5	1.5	2	2	10.65	17.92	0	0.92	0
12/14/2018	Kane	CARPENTER	All	ALL		47.35	49.35	1.5	1.5	2	2	11.79	20.42	0	0.63	0
2/8/2019	Kane	CEMENT MASON	All	ALL		45.89	47.89	2		2	2	10.25	22.01	0	0.5	0
11/5/2018	Kane	CERAMIC TILE FNLSHER	All	BLD		39.56	39.56	1.5	1.5	2	2	10.75	12.02	0	0.77	0
11/5/2018	Kane	COMMUNICATION TECH	N	BLD		39.24	41.64	1.5	1.5	2	2	13.03	12.71	0	0.69	0
4/5/2019	Kane	COMMUNICATION TECH	S	BLD		40.12	42.52	1.5	1.5	2	2	13.31	11.23	0	1.4	0
10/26/2018	Kane	ELECTRIC PWR EQMT OP	All	ALL		42.59	57.95	1.5	1.5	2	2	5.75	13.21	0	0.75	0
8/15/2018	Kane	ELECTRIC PWR EQMT OP	ALL	HWY		41.45	56.38	1.5	1.5	2	2	5.5	12.87	0	0.73	0
10/26/2018	Kane	ELECTRIC PWR GRNDMAN	All	ALL		32.86	57.95	1.5	1.5	2	2	5.75	15.85	0	0.9	0
8/15/2018	Kane	ELECTRIC PWR GRNDMAN	ALL	HWY		32	56.38	1.5	1.5	2	2	5.5	9.92	0	0.66	0
12/21/2018	Kane	ELECTRIC PWR LINEMAN	All	ALL		51.06	57.95	1.5	1.5	2	2	5.75	15.85	0	0.9	0
8/15/2018	Kane	ELECTRIC PWR LINEMAN	ALL	HWY		49.67	56.38	1.5	1.5	2	2	5.5	15.4	0	0.88	0
8/15/2018	Kane	ELECTRIC PWR TRK DRV	All	ALL		34.03	57.95	1.5	1.5	2	2	5.75	10.55	0	0.6	0
8/15/2018	Kane	ELECTRIC PWR TRK DRV	ALL	HWY		33.14	56.38	1.5	1.5	2	2	5.5	10.29	0	0.59	0
11/5/2018	Kane	ELECTRICIAN	N	ALL		48.64	53.04	1.5	1.5	2	2	14.94	16.69	0	0.97	0
10/26/2018	Kane	ELECTRICIAN	S	BLD		47.72	51.97	1.5	1.5	2	2	17.36	14.55	0	1.67	0
8/15/2018	Kane	ELEVATOR CONSTRUCTOR	All	BLD		54.85	61.71	2	2	2	2	15.43	16.61	4.38	0.61	0
8/15/2018	Kane	FENCE ERECTOR	All	ALL		45.56		2	2	2	2	11.02	21.51	0	0.7	0
2/8/2019	Kane	GLAZIER	All	BLD		43.85	45.35	1.5	1.5	2	2	14.17	21.11	0	0.94	0
11/5/2018	Kane	HT/FROST INSULATOR	All	BLD		50.5	53	1.5	1.5	2	2	12.92	13.16	0	0.72	0
4/5/2019	Kane	IRON WORKER	All	ALL		45.84	49.51	2		2	2	11.77	22.9	0	0.83	0
4/5/2019	Kane	LABORER	All	ALL		42.72	43.47	1.5	1.5	2	2	13.77	13.7	0	0.72	0
8/15/2018	Kane	LATHER	All	ALL		47.35	49.35	1.5	1.5	2	2	11.79	20.42	0	0.63	0
8/15/2018	Kane	MACHINIST	All	BLD		48.38	50.88	1.5	1.5	2	2	7.23	8.95	1.85	1.47	0
8/15/2018	Kane	MARBLE FINISHERS	All	ALL		34.65	47.7	1.5	1.5	2	2	10.65	16.46	0	0.49	0
8/15/2018	Kane	MARBLE MASON	All	BLD		45.43	49.97	1.5	1.5	2	2	10.65	17.39	0	0.61	0
4/5/2019	Kane	MATERIAL TESTER I	All	ALL		32.72	32.72	1.5	1.5	2	2	13.77	13.7	0	0.72	0
11/9/2018	Kane	MATERIALS TESTER II	ALL	ALL		37.72	37.72	1.5	1.5	2	2	13.77	13.7	0	0.72	0
4/5/2019	Kane	MILLWRIGHT	All	ALL		47.35	49.35	1.5	1.5	2	2	11.79	20.42	0	0.63	0
10/26/2018	Kane	OPERATING ENGINEER	All	BLD	1	51.1	55.1	2	2	2	2	19.65	15.1	2	1.4	0
8/15/2018	Kane	OPERATING ENGINEER	All	BLD	2	49.8	55.1	2	2	2	2	19.65	15.1	2	1.4	0
4/5/2019	Kane	OPERATING ENGINEER	All	BLD	3	47.25	55.1	2	2	2	2	19.65	15.1	2	1.4	0
10/26/2018	Kane	OPERATING ENGINEER	All	BLD	4	45.5	55.1	2	2	2	2	19.65	15.1	2	1.4	0
8/15/2018	Kane	OPERATING ENGINEER	All	BLD	5	54.85	55.1	2	2	2	2	19.65	15.1	2	1.4	0
8/15/2018	Kane	OPERATING ENGINEER	All	BLD	6	52.1	55.1	2	2	2	2	19.65	15.1	2	1.4	0
8/15/2018	Kane	OPERATING ENGINEER	All	BLD	7	54.1	55.1	2	2	2	2	19.65	15.1	2	1.4	0
8/15/2018	Kane	OPERATING ENGINEER	All	FLT		38	38	1.5	1.5	2	2	18.8	14.35	2	1.3	0
10/26/2018	Kane	OPERATING ENGINEER	All	HWY	1	49.3	53.3	1.5	1.5	2	2	19.65	15.1	2	1.4	0
10/26/2018	Kane	OPERATING ENGINEER	All	HWY	2	48.75	53.3	1.5	1.5	2	2	19.65	15.1	2	1.4	0
8/15/2018	Kane	OPERATING ENGINEER	All	HWY	3	46.7	53.3	1.5	1.5	2	2	19.65	15.1	2	1.4	0
8/15/2018	Kane	OPERATING ENGINEER	All	HWY	4	45.3	53.3	1.5	1.5	2	2	19.65	15.1	2	1.4	0
4/5/2019	Kane	OPERATING ENGINEER	All	HWY	5	44.1	53.3	1.5	1.5	2	2	19.65	15.1	2	1.4	0
8/15/2018	Kane	OPERATING ENGINEER	All	HWY	6	52.3	53.3	1.5	1.5	2	2	19.65	15.1	2	1.4	0
11/9/2018	Kane	OPERATING ENGINEER	All	HWY	7	50.3	53.3	1.5	1.5	2	2	19.65	15.1	2	1.4	0

Prevailing Wage Rates for Kane County as of 07/25/19																
Effective Date	County	Trade Title	Region	Type	Class	Base Wage	Foreman Wage	OT M-F	OT Sa	OT Su	OT Hol	H/W	Pension	Vacation	Training	Other Fringe Benefit
8/15/2018	Kane	ORNAMNTL IRON WORKER	ALL	ALL		45.06	48.66	2	2	2	2	10.52	20.76	0	0.7	0
4/5/2019	Kane	PAINTER	All	ALL		45.28	47.28	1.5	1.5	1.5	1.5	11.55	8.2	0	1.35	0
8/15/2018	Kane	PAINTER SIGNS	All	BLD		38.2	43.25	1.5	1.5	2	2	2.6	3.25	0	0	0
8/15/2018	Kane	PILEDRIVER	All	ALL		47.35	49.35	1.5	1.5	2	2	11.79	20.42	0	0.63	0
11/16/2018	Kane	PIPEFITTER	All	BLD		48.5	51.5	1.5	1.5	2	2	10.05	18.85	0	2.54	0
8/15/2018	Kane	PLASTERER	All	BLD		43.25	45.85	1.5	1.5	2	2	14.25	16.69	0	1.35	0
10/26/2018	Kane	PLUMBER	All	BLD		50.25	53.25	1.5	1.5	2	2	14.34	14.42	0	1.31	0
11/30/2018	Kane	ROOFER	All	BLD		43.65	47.65	1.5	1.5	2	2	9.73	12.44	0	0.53	0
2/22/2019	Kane	SHEETMETAL WORKER	All	BLD		48.02	50.42	1.5	1.5	2	2	10.75	16.19	0	1.03	3.5
8/15/2018	Kane	SIGN HANGER	ALL	BLD		26.07	27.57	1.5	1.5	2	2	3.8	3.55	0	0	0
4/5/2019	Kane	SPRINKLER FITTER	All	BLD		48.1	50.6	1.5	1.5	2	2	13.25	15.9	0	0.55	0
8/15/2018	Kane	STEEL ERECTOR	ALL	ALL		45.56	49.2	2	2	2	2	11.02	21.51	0	0.7	0
8/15/2018	Kane	STONE MASON	All	BLD		46.19	50.81	1.5	1.5	2	2	10.65	17.92	0	0.92	0
11/16/2018	Kane	TERRAZZO FINISHER	All	BLD		41.54	44.54	1.5	1.5	2	2	10.75	13.71	0	0.86	0
11/16/2018	Kane	TERRAZZO MASON	All	BLD		45.38	48.88	1.5	1.5	2	2	10.75	15.17	0	0.89	0
8/15/2018	Kane	TILE MASON	All	BLD		46.49	50.49	1.5	1.5	2	2	10.75	14.99	0	0.9	0
4/5/2019	Kane	TRAFFIC SAFETY WRKR	All	HWY		36	37.6	1.5	1.5	2	2	8.9	9.27	0	0.25	0
4/5/2019	Kane	TRUCK DRIVER	All	ALL	1	37.61	38.16	1.5	1.5	2	2	9.08	11.36	0	0.15	0
8/15/2018	Kane	TRUCK DRIVER	All	ALL	2	37.76	38.16	1.5	1.5	2	2	9.08	11.36	0	0.15	0
4/5/2019	Kane	TRUCK DRIVER	All	ALL	3	37.96	38.16	1.5	1.5	2	2	9.08	11.36	0	0.15	0
4/5/2019	Kane	TRUCK DRIVER	All	ALL	4	38.16	38.16	1.5	1.5	2	2	9.08	11.36	0	0.15	0
8/15/2018	Kane	TUCKPOINTER	All	BLD		46	47	1.5	1.5	2	2	8.34	16.81	0	0.93	0

Legend	
OT M-F	Unless otherwise noted, OT Pay is required for any hour greater than 8 worked each day, Monday through Friday. The number listed is the multiple of the base wage.
OT Sa	Overtime pay required for every hour worked on Saturdays.
OT Su	Overtime pay required for every hour worked on Sundays.
OT Hol	Overtime pay required for every hour worked on Holidays.
H/W	Health/Welfare benefit.

Explanations

KANE COUNTY

ELECTRICIANS AND COMMUNICATIONS TECHNICIAN (NORTH) - Townships of

Burlington, Campton, Dundee, Elgin, Hampshire, Plato, Rutland, St.

Charles (except the West half of Sec. 26, all of Secs. 27, 33, and

34, South half of Sec. 28, West half of Sec. 35), Virgil and Valley

View CCC and Elgin Mental Health Center.

The following list is considered as those days for which holiday rates

of wages for work performed apply: New Years Day, Memorial Day,

Fourth of July, Labor Day, Thanksgiving Day, Christmas Day and

Veterans Day in some classifications/counties. Generally, any of

these holidays which fall on a Sunday is celebrated on the following

Monday. This then makes work performed on that Monday payable at the

appropriate overtime rate for holiday pay. Common practice in a given

local may alter certain days of celebration. If in doubt, please

check with IDOL.

EXPLANATION OF CLASSES

ASBESTOS - GENERAL - removal of asbestos material/mold and hazardous materials from any place in a building, including mechanical systems where those mechanical systems are to be removed. This includes the removal of asbestos materials/mold and hazardous materials from ductwork or pipes in a building when the building is to be demolished at the time or at some close future date.

ASBESTOS - MECHANICAL - removal of asbestos material from mechanical systems, such as pipes, ducts, and boilers, where the mechanical systems are to remain.

CERAMIC TILE FINISHER

The grouting, cleaning, and polishing of all classes of tile, whether for interior or exterior purposes, all burned, glazed or unglazed products; all composition materials, granite tiles, warning detectable tiles, cement tiles, epoxy composite materials, pavers, glass, mosaics, fiberglass, and all substitute materials, for tile made in tile-like units; all mixtures in tile like form of cement, metals, and other materials that are for and intended for use as a finished floor

surface, stair treads, promenade roofs, walks, walls, ceilings, swimming pools, and all other places where tile is to form a finished interior or exterior. The mixing of all setting mortars including but not limited to thin-set mortars, epoxies, wall mud, and any other sand and cement mixtures or adhesives when used in the preparation, installation, repair, or maintenance of tile and/or similar materials. The handling and unloading of all sand, cement, lime, tile, fixtures, equipment, adhesives, or any other materials to be used in the preparation, installation, repair, or maintenance of tile and/or similar materials. Ceramic Tile Finishers shall fill all joints and voids regardless of method on all tile work, particularly and especially after installation of said tile work. Application of any and all protective coverings to all types of tile installations including, but not be limited to, all soap compounds, paper products, tapes, and all polyethylene coverings, plywood, masonite, cardboard, and any new type of products that may be used to protect tile installations, Blastrac equipment, and all floor scarifying equipment used in preparing floors to receive tile. The clean up and removal of all waste and materials. All demolition of existing tile floors and walls to be re-tiled.

COMMUNICATIONS TECHNICIAN

Construction, installation, maintenance and removal of telecommunication facilities (voice, sound, data and video), telephone, security systems, fire alarm systems that are a component of a multiplex system and share a common cable, and data inside wire, interconnect, terminal equipment, central offices, PABX and equipment, micro waves, V-SAT, bypass, CATV, WAN (wide area network), LAN (local area networks), and ISDN (integrated system digital network), pulling of wire in raceways, but not the installation of raceways.

MARBLE FINISHER

Loading and unloading trucks, distribution of all materials (all stone, sand, etc.), stocking of floors with material, performing all rigging for heavy work, the handling of all material that may be needed for the installation of such materials, building of scaffolding, polishing if needed, patching, waxing of material if damaged, pointing up, caulking, grouting and cleaning of marble, holding water on diamond or Carborundum blade or saw for setters

cutting, use of tub saw or any other saw needed for preparation of material, drilling of holes for wires that anchor material set by setters, mixing up of molding plaster for installation of material, mixing up thin set for the installation of material, mixing up of sand to cement for the installation of material and such other work as may be required in helping a Marble Setter in the handling of all material in the erection or installation of interior marble, slate, travertine, art marble, serpentine, alberene stone, blue stone, granite and other stones (meaning as to stone any foreign or domestic materials as are specified and used in building interiors and exteriors and customarily known as stone in the trade), carrara, sanionyx, vitrolite and similar opaque glass and the laying of all marble tile, terrazzo tile, slate tile and precast tile, steps, risers treads, base, or any other materials that may be used as substitutes for any of the aforementioned materials and which are used on interior and exterior which are installed in a similar manner.

MATERIAL TESTER I: Hand coring and drilling for testing of materials; field inspection of uncured concrete and asphalt.

MATERIAL TESTER II: Field inspection of welds, structural steel,

fireproofing, masonry, soil, facade, reinforcing steel, formwork, cured concrete, and concrete and asphalt batch plants; adjusting proportions of bituminous mixtures.

OPERATING ENGINEER – BUILDING

Class 1. Asphalt Plant; Asphalt Spreader; Autograde; Backhoes with Caisson Attachment; Batch Plant; Benoto (requires Two Engineers); Boiler and Throttle Valve; Caisson Rigs; Central Redi-Mix Plant; Combination Back Hoe Front End-loader Machine; Compressor and Throttle Valve; Concrete Breaker (Truck Mounted); Concrete Conveyor; Concrete Conveyor (Truck Mounted); Concrete Paver Over 27E cu. ft.; Concrete Paver 27E cu. ft. and Under; Concrete Placer; Concrete Placing Boom; Concrete Pump (Truck Mounted); Concrete Tower; Cranes, All; Cranes, Hammerhead; Cranes, (GCI and similar Type); Creter Crane; Spider Crane; Crusher, Stone, etc.; Derricks, All; Derricks, Traveling; Formless Curb and Gutter Machine; Grader, Elevating; Grouting Machines; Heavy Duty Self-Propelled Transporter or Prime Mover; Highlift Shovels or Front Endloader 2-1/4 yd. and over; Hoists, Elevators, outside type rack and pinion and similar machines; Hoists, One, Two and Three Drum; Hoists, Two Tugger One Floor; Hydraulic

Backhoes; Hydraulic Boom Trucks; Hydro Vac (and similar equipment); Locomotives, All; Motor Patrol; Lubrication Technician; Manipulators; Pile Drivers and Skid Rig; Post Hole Digger; Pre-Stress Machine; Pump Cretes Dual Ram; Pump Cretes: Squeeze Cretes-Screw Type Pumps; Gypsum Bulker and Pump; Raised and Blind Hole Drill; Roto Mill Grinder; Scoops - Tractor Drawn; Slip-Form Paver; Straddle Buggies; Operation of Tie Back Machine; Tournapull; Tractor with Boom and Side Boom; Trenching Machines.

Class 2. Boilers; Broom, All Power Propelled; Bulldozers; Concrete Mixer (Two Bag and Over); Conveyor, Portable; Forklift Trucks; Highlift Shovels or Front Endloaders under 2-1/4 yd.; Hoists, Automatic; Hoists, Inside Elevators; Hoists, Sewer Dragging Machine; Hoists, Tugger Single Drum; Laser Screed; Rock Drill (Self-Propelled); Rock Drill (Truck Mounted); Rollers, All; Steam Generators; Tractors, All; Tractor Drawn Vibratory Roller; Winch Trucks with "A" Frame.

Class 3. Air Compressor; Combination Small Equipment Operator; Generators; Heaters, Mechanical; Hoists, Inside Elevators (remodeling or renovation work); Hydraulic Power Units (Pile Driving, Extracting, and Drilling); Pumps, over 3" (1 to 3 not to exceed a total of 300

ft.); Low Boys; Pumps, Well Points; Welding Machines (2 through 5);
Winches, 4 Small Electric Drill Winches.

Class 4. Bobcats and/or other Skid Steer Loaders; Oilers; and Brick
Forklift.

Class 5. Assistant Craft Foreman.

Class 6. Gradall.

Class 7. Mechanics; Welders.

OPERATING ENGINEERS - HIGHWAY CONSTRUCTION

Class 1. Asphalt Plant; Asphalt Heater and Planer Combination; Asphalt
Heater Scarfire; Asphalt Spreader; Autograder/GOMACO or other similar
type machines: ABG Paver; Backhoes with Caisson Attachment; Ballast
Regulator; Belt Loader; Caisson Rigs; Car Dumper; Central Redi-Mix
Plant; Combination Backhoe Front Endloader Machine, (1 cu. yd. Backhoe
Bucket or over or with attachments); Concrete Breaker (Truck
Mounted); Concrete Conveyor; Concrete Paver over 27E cu. ft.; Concrete

Placer; Concrete Tube Float; Cranes, all attachments; Cranes, Tower
Cranes of all types: Creter Crane; Spider Crane; Crusher, Stone, etc.;
Derricks, All; Derrick Boats; Derricks, Traveling; Dredges;
Elevators, Outside type Rack & Pinion and Similar Machines; Formless
Curb and Gutter Machine; Grader, Elevating; Grader, Motor Grader,
Motor Patrol, Auto Patrol, Form Grader, Pull Grader, Subgrader; Guard
Rail Post Driver Truck Mounted; Hoists, One, Two and Three Drum; Heavy
Duty Self-Propelled Transporter or Prime Mover; Hydraulic Backhoes;
Backhoes with shear attachments up to 40' of boom reach; Lubrication
Technician; Manipulators; Mucking Machine; Pile Drivers and Skid Rig;
Pre-Stress Machine; Pump Cretes Dual Ram; Rock Drill - Crawler or Skid
Rig; Rock Drill - Truck Mounted; Rock/Track Tamper; Roto Mill
Grinder; Slip-Form Paver; Snow Melters; Soil Test Drill Rig (Truck
Mounted); Straddle Buggies; Hydraulic Telescoping Form (Tunnel);
Operation of Tieback Machine; Tractor Drawn Belt Loader; Tractor
Drawn Belt Loader (with attached pusher - two engineers); Tractor with
Boom; Tractaire with Attachments; Traffic Barrier Transfer Machine;
Trenching; Truck Mounted Concrete Pump with Boom; Raised or Blind Hole
Drills (Tunnel Shaft); Underground Boring and/or Mining Machines 5
ft. in diameter and over tunnel, etc; Underground Boring and/or Mining
Machines under 5 ft. in diameter; Wheel Excavator; Widener (APSCO).

Class 2. Batch Plant; Bituminous Mixer; Boiler and Throttle Valve;
Bulldozers; Car Loader Trailing Conveyors; Combination Backhoe Front
Endloader Machine (Less than 1 cu. yd. Backhoe Bucket or over or with
attachments); Compressor and Throttle Valve; Compressor, Common
Receiver (3); Concrete Breaker or Hydro Hammer; Concrete Grinding
Machine; Concrete Mixer or Paver 7S Series to and including 27 cu.
ft.; Concrete Spreader; Concrete Curing Machine, Burlap Machine,
Beltng Machine and Sealing Machine; Concrete Wheel Saw; Conveyor Muck
Cars (Haglund or Similar Type); Drills, All; Finishing Machine -
Concrete; Highlift Shovels or Front Endloader; Hoist - Sewer Dragging
Machine; Hydraulic Boom Trucks (All Attachments); Hydro-Blaster; Hydro
Excavating (excluding hose work); Laser Screed; All Locomotives,
Dinky; Off-Road Hauling Units (including articulating) Non
Self-Loading Ejection Dump; Pump Cretes: Squeeze Cretes - Screw Type
Pumps, Gypsum Bulker and Pump; Roller, Asphalt; Rotary Snow Plows;
Rototiller, Seaman, etc., self-propelled; Self-Propelled Compactor;
Spreader - Chip - Stone, etc.; Scraper - Single/Twin Engine/Push and
Pull; Scraper - Prime Mover in Tandem (Regardless of Size); Tractors
pulling attachments, Sheeps Foot, Disc, Compactor, etc.; Tug Boats.
Class 3. Boilers; Brooms, All Power Propelled; Cement Supply Tender;

Compressor, Common Receiver (2); Concrete Mixer (Two Bag and Over); Conveyor, Portable; Farm-Type Tractors Used for Mowing, Seeding, etc.; Forklift Trucks; Grouting Machine; Hoists, Automatic; Hoists, All Elevators; Hoists, Tugger Single Drum; Jeep Diggers; Low Boys; Pipe Jacking Machines; Post-Hole Digger; Power Saw, Concrete Power Driven; Pug Mills; Rollers, other than Asphalt; Seed and Straw Blower; Steam Generators; Stump Machine; Winch Trucks with "A" Frame; Work Boats; Tamper-Form-Motor Driven.

Class 4. Air Compressor; Combination - Small Equipment Operator; Directional Boring Machine; Generators; Heaters, Mechanical; Hydraulic Power Unit (Pile Driving, Extracting, or Drilling); Light Plants, All (1 through 5); Pumps, over 3" (1 to 3 not to exceed a total of 300 ft.); Pumps, Well Points; Vacuum Trucks (excluding hose work); Welding Machines (2 through 5); Winches, 4 Small Electric Drill Winches.

Class 5. SkidSteer Loader (all); Brick Forklifts; Oilers.

Class 6. Field Mechanics and Field Welders

Class 7. Dowell Machine with Air Compressor; Gradall and machines of

like nature.

OPERATING ENGINEERS – FLOATING

Diver, Diver Wet Tender, Diver Tender, ROV Pilot, ROV Tender

TRAFFIC SAFETY - work associated with barricades, horses and drums used to reduce lane usage on highway work, the installation and removal of temporary lane markings, and the installation and removal of temporary road signs.

TRUCK DRIVER - BUILDING, HEAVY AND HIGHWAY CONSTRUCTION

Class 1. Two or three Axle Trucks. A-frame Truck when used for transportation purposes; Air Compressors and Welding Machines, including those pulled by cars, pick-up trucks and tractors; Ambulances; Batch Gate Lockers; Batch Hopperman; Car and Truck Washers; Carry-alls; Fork Lifts and Hoisters; Helpers; Mechanics Helpers and Greasers; Oil Distributors 2-man operation; Pavement Breakers; Pole Trailer, up to 40 feet; Power Mower Tractors; Self-propelled Chip Spreader; Skipman; Slurry Trucks, 2-man operation; Slurry Truck Conveyor Operation, 2 or 3 man; Teamsters;

Unskilled Dumpman; and Truck Drivers hauling warning lights, barricades, and portable toilets on the job site.

Class 2. Four axle trucks; Dump Crets and Adgetors under 7 yards; Dumpsters, Track Trucks, Euclids, Hug Bottom Dump Turnapulls or Turnatrailers when pulling other than self-loading equipment or similar equipment under 16 cubic yards; Mixer Trucks under 7 yards; Ready-mix Plant Hopper Operator, and Winch Trucks, 2 Axles.

Class 3. Five axle trucks; Dump Crets and Adgetors 7 yards and over; Dumpsters, Track Trucks, Euclids, Hug Bottom Dump Turnatrailers or turnapulls when pulling other than self-loading equipment or similar equipment over 16 cubic yards; Explosives and/or Fission Material Trucks; Mixer Trucks 7 yards or over; Mobile Cranes while in transit; Oil Distributors, 1-man operation; Pole Trailer, over 40 feet; Pole and Expandable Trailers hauling material over 50 feet long; Slurry trucks, 1-man operation; Winch trucks, 3 axles or more; Mechanic--Truck Welder and Truck Painter.

Class 4. Six axle trucks; Dual-purpose vehicles, such as mounted crane trucks with hoist and accessories; Foreman; Master Mechanic;

Self-loading equipment like P.B. and trucks with scoops on the front.

TERRAZO FINISHER

The handling of sand, cement, marble chips, and all other materials that may be used by the Mosaic Terrazzo Mechanic, and the mixing, grinding, grouting, cleaning and sealing of all Marble, Mosaic, and Terrazzo work, floors, base, stairs, and wainscoting by hand or machine, and in addition, assisting and aiding Marble, Masonic, and Terrazzo Mechanics.

Other Classifications of Work:

For definitions of classifications not otherwise set out, the Department generally has on file such definitions which are available.

If a task to be performed is not subject to one of the classifications of pay set out, the Department will upon being contacted state which neighboring county has such a classification and provide such rate, such rate being deemed to exist by reference in this document. If no neighboring county rate applies to the task, the Department shall undertake a special determination, such special

determination being then deemed to have existed under this determination. If a project requires these, or any classification not listed, please contact IDOL at 217-782-1710 for wage rates or clarifications.

LANDSCAPING

Landscaping work falls under the existing classifications for laborer, operating engineer and truck driver. The work performed by landscape plantsman and landscape laborer is covered by the existing classification of laborer. The work performed by landscape operators (regardless of equipment used or its size) is covered by the classifications of operating engineer. The work performed by landscape truck drivers (regardless of size of truck driven) is covered by the classifications of truck driver.

MATERIAL TESTER & MATERIAL TESTER/INSPECTOR I AND II

Notwithstanding the difference in the classification title, the classification entitled "Material Tester I" involves the same job duties as the classification entitled "Material Tester/Inspector I".

Likewise, the classification entitled "Material Tester II" involves the same job duties as the classification entitled "Material Tester/Inspector II".

Prevailing Wage Rates for Kendall County as of 07/25/19

Effective Date	County	Trade Title	Region	Type	Class	Base Wage	Foreman Wage	OT M-F	OT Sa	OT Su	OT Hol	H/W	Pension	Vacation	Training	Other Fringe Benefit
8/15/2018	Kendall	ASBESTOS ABT-GEN	All	ALL		42.72	43.72	1.5	1.5	2	2	13.77	13.7	0	0.72	0
11/5/2018	Kendall	ASBESTOS ABT-MEC	All	BLD		37.88	40.38	1.5	1.5	2	2	12.92	11.82	0	0.72	0
8/15/2018	Kendall	BOILERMAKER	All	BLD		49.46	53.91	2		2	2	6.97	20.41	0	0.4	0
8/15/2018	Kendall	BRICK MASON	All	BLD		46.19	50.81	1.5	1.5	2	2	10.65	17.92	0	0.92	0
4/5/2019	Kendall	CARPENTER	All	ALL		47.35	49.35	1.5	1.5	2	2	11.79	20.42	0	0.63	0
2/22/2019	Kendall	CEMENT MASON	All	ALL		45.89	47.89	2	1.5	2	2	10.25	22.01	0	0.5	0
8/15/2018	Kendall	CERAMIC TILE FNCSHER	All	BLD		39.56	39.56	1.5	1.5	2	2	10.75	12.02	0	0.77	0
4/5/2019	Kendall	COMMUNICATION TECH	All	BLD		40.12	42.52	1.5	1.5	2	2	13.31	11.23	0	1.4	0
8/15/2018	Kendall	ELECTRIC PWR EQMT OP	All	ALL		42.59	57.95	1.5	1.5	2	2	5.75	13.21	0	0.75	0
8/15/2018	Kendall	ELECTRIC PWR EQMT OP	ALL	HWY		41.45	56.38	1.5	1.5	2	2	5.5	12.87	0	0.73	0
8/15/2018	Kendall	ELECTRIC PWR GRNDMAN	All	ALL		32.86	57.95	1.5	1.5	2	2	5.75	10.2	0	0.58	0
8/15/2018	Kendall	ELECTRIC PWR GRNDMAN	ALL	HWY		32	56.38	1.5	1.5	2	2	5.5	9.92	0	0.66	0
8/15/2018	Kendall	ELECTRIC PWR LINEMAN	All	ALL		51.06	57.95	1.5	1.5	2	2	5.75	15.85	0	0.9	0
8/15/2018	Kendall	ELECTRIC PWR LINEMAN	ALL	HWY		49.67	56.38	1.5	1.5	2	2	5.5	15.4	0	0.88	0
8/15/2018	Kendall	ELECTRIC PWR TRK DRV	All	ALL		34.03	57.95	1.5	1.5	2	2	5.75	10.55	0	0.6	0
8/15/2018	Kendall	ELECTRIC PWR TRK DRV	ALL	HWY		33.14	56.38	1.5	1.5	2	2	5.5	10.29	0	0.59	0
4/5/2019	Kendall	ELECTRICIAN	All	BLD		47.72	51.97	1.5	1.5	2	2	17.36	13.36	0	1.67	0
8/15/2018	Kendall	ELEVATOR CONSTRUCTOR	All	BLD		54.85	61.71	2	2	2	2	15.43	16.61	4.38	0.61	0
8/15/2018	Kendall	FENCE ERECTOR	ALL	ALL		45.56	49.2	2	2	2	2	11.02	21.51	0	0.7	0
2/8/2019	Kendall	GLAZIER	All	BLD		43.85	45.35	1.5	1.5	2	2	14.17	21.11	0	0.94	0
11/5/2018	Kendall	HT/FROST INSULATOR	All	BLD		50.5	53	1.5	1.5	2	2	12.92	13.16	0	0.72	0
4/5/2019	Kendall	IRON WORKER	All	ALL		45.84	49.51	2	2	2	2	11.77	22.9	0	0.83	0
4/18/2019	Kendall	LABORER	All	ALL		42.72	43.47	1.5	1.5	2	2	13.77	13.7	0	0.72	0
8/15/2018	Kendall	LATHER	All	ALL		47.35	49.35	1.5	1.5	2	2	11.79	20.42	0	0.63	0
8/15/2018	Kendall	MACHINIST	All	BLD		48.38	50.88	1.5	1.5	2	2	7.23	8.95	1.85	1.47	0
8/15/2018	Kendall	MARBLE FINISHERS	All	ALL		34.65	47.7	1.5	1.5	2	2	10.65	16.46	0	0.49	0
8/15/2018	Kendall	MARBLE MASON	All	BLD		45.43	49.97	1.5	1.5	2	2	10.65	17.39	0	0.61	0
11/9/2018	Kendall	MATERIAL TESTER I	ALL	ALL		32.72	32.72	1.5	1.5	2	2	13.77	13.7	0	0.72	0
11/9/2018	Kendall	MATERIALS TESTER II	ALL	ALL		37.72	37.72	1.5	1.5	2	2	13.77	13.7	0	0.72	0
8/15/2018	Kendall	MILLWRIGHT	All	ALL		47.35	49.35	1.5	1.5	2	2	11.79	20.42	0	0.63	0
10/26/2018	Kendall	OPERATING ENGINEER	All	BLD	1	51.1	55.1	2	2	2	2	19.65	15.1	2	1.4	0
8/15/2018	Kendall	OPERATING ENGINEER	All	BLD	2	49.8	55.1	2	2	2	2	19.65	15.1	2	1.4	0
8/15/2018	Kendall	OPERATING ENGINEER	All	BLD	3	47.25	55.1	2	2	2	2	19.65	15.1	2	1.4	0
8/15/2018	Kendall	OPERATING ENGINEER	All	BLD	4	45.5	55.1	2	2	2	2	19.65	15.1	2	1.4	0
8/15/2018	Kendall	OPERATING ENGINEER	All	BLD	5	54.85	55.1	2	2	2	2	19.65	15.1	2	1.4	0
8/15/2018	Kendall	OPERATING ENGINEER	All	BLD	6	52.1	55.1	2	2	2	2	19.65	15.1	2	1.4	0
8/15/2018	Kendall	OPERATING ENGINEER	All	BLD	7	54.1	55.1	2	2	2	2	19.65	15.1	2	1.4	0
8/15/2018	Kendall	OPERATING ENGINEER	All	FLT		38	38	1.5	1.5	2	2	18.8	14.35	2	1.3	0
11/5/2018	Kendall	OPERATING ENGINEER	All	HWY	1	49.3	53.3	1.5	1.5	2	2	19.65	15.1	2	1.4	0
8/15/2018	Kendall	OPERATING ENGINEER	All	HWY	2	48.75	53.3	1.5	1.5	2	2	19.65	15.1	2	1.4	0
8/15/2018	Kendall	OPERATING ENGINEER	All	HWY	3	46.7	53.3	1.5	1.5	2	2	19.65	15.1	2	1.4	0
4/5/2019	Kendall	OPERATING ENGINEER	All	HWY	4	45.3	53.3	1.5	1.5	2	2	19.65	15.1	2	1.4	0
4/5/2019	Kendall	OPERATING ENGINEER	All	HWY	5	44.1	53.3	1.5	1.5	2	2	19.65	15.1	2	1.4	0
8/15/2018	Kendall	OPERATING ENGINEER	All	HWY	6	52.3	53.3	1.5	1.5	2	2	19.65	15.1	2	1.4	0
8/15/2018	Kendall	OPERATING ENGINEER	All	HWY	7	50.3	53.3	1.5	1.5	2	2	19.65	15.1	2	1.4	0
8/15/2018	Kendall	ORNAMNTL IRON WORKER	ALL	ALL		45.56	49.2	2	2	2	2	11.02	21.51	0	0.7	0
8/15/2018	Kendall	PAINTER	All	ALL		45.28	47.28	1.5	1.5	1.5	1.5	11.55	8.2	0	1.35	0

Prevailing Wage Rates for Kendall County as of 07/25/19																
Effective Date	County	Trade Title	Region	Type	Class	Base Wage	Foreman Wage	OT M-F	OT Sa	OT Su	OT Hol	H/W	Pension	Vacation	Training	Other Fringe Benefit
8/15/2018	Kendall	PAINTER SIGNS	All	BLD		38.2	43.25	1.5	1.5	2	2	2.6	3.25	0	0	0
8/15/2018	Kendall	PILED RIVER	All	ALL		47.35	49.35	1.5	1.5	2	2	11.79	20.42	0	0.63	0
1/11/2019	Kendall	PIPEFITTER	All	BLD		48.5	51.5	1.5	1.5	2	2	10.05	18.85	0	2.54	0
8/15/2018	Kendall	PLASTERER	All	BLD		43.25	45.85	1.5	1.5	2	2	14.25	16.69	0	1.35	0
4/18/2019	Kendall	PLUMBER	All	BLD		50.25	53.25	1.5	1.5	2	2	14.34	14.42	0	1.31	0
11/23/2018	Kendall	ROOFER	All	BLD		43.65	47.65	1.5	1.5	2	2	9.73	12.44	0	0.53	0
1/18/2019	Kendall	SHEETMETAL WORKER	All	BLD		48.02	50.42	1.5	1.5	2	2	10.75	16.19	0	1.03	3.5
4/5/2019	Kendall	SPRINKLER FITTER	All	BLD		48.1	50.6	1.5	1.5	2	2	13.25	15.9	0	0.55	0
8/15/2018	Kendall	STEEL ERECTOR	ALL	ALL		45.06	48.66	2	2	2	2	10.52	20.76	0	0.7	
8/15/2018	Kendall	STONE MASON	All	BLD		46.19	50.81	1.5	1.5	2	2	10.65	17.92	0	0.92	0
8/15/2018	Kendall	TERRAZZO FINISHER	All	BLD		41.54	41.54	1.5	1.5	2	2	10.75	13.71	0	0.86	0
8/15/2018	Kendall	TERRAZZO MASON	All	BLD		45.38	48.88	1.5	1.5	2	2	10.75	15.17	0	0.89	0
8/15/2018	Kendall	TILE MASON	All	BLD		46.49	50.49	1.5	1.5	2	2	10.75	14.99	0	0.9	0
4/5/2019	Kendall	TRUCK DRIVER	All	ALL	1	38.41	38.96	1.5	1.5	2	2	9.15	10.43	0	0.15	0
8/15/2018	Kendall	TRUCK DRIVER	All	ALL	2	38.56	38.96	1.5	1.5	2	2	9.15	10.43	0	0.15	0
4/5/2019	Kendall	TRUCK DRIVER	All	ALL	3	38.76	38.96	1.5	1.5	2	2	9.15	10.43	0	0.15	0
8/15/2018	Kendall	TRUCK DRIVER	All	ALL	4	38.96	38.96	1.5	1.5	2	2	9.15	10.43	0	0.15	0
8/15/2018	Kendall	TUCKPOINTER	All	BLD		46	47	1.5	1.5	2	2	8.34	16.81	0	0.93	0

Legend	
OT M-F	Unless otherwise noted, OT Pay is required for any hour greater than 8 worked each day, Monday through Friday.
OT Sa	The number listed is the multiple of the base wage.
OT Su	Overtime pay required for every hour worked on Saturdays.
OT Hol	Overtime pay required for every hour worked on Sundays.
H/W	Overtime pay required for every hour worked on Holidays.
	Health/Welfare benefit.

Prevailing Wage Rates for Will County as of 07/25/19

Effective Date	County	Trade Title	Region	Type	Class	Base Wage	Foreman Wage	OT M-F	OT Sa	OT Su	OT Hol	H/W	Pension	Vacation	Training	Other Fringe Benefit
4/5/2019	Will	ASBESTOS ABT-GEN	All	ALL		42.72	43.72	1.5	1.5	2	2	14.9	12.57	0	0.72	0
11/5/2018	Will	ASBESTOS ABT-MEC	All	BLD		37.88	40.38	1.5	1.5	2	2	12.92	11.82	0	0.72	0
8/15/2018	Will	BOILERMAKER	All	BLD		49.46	53.91	2	2	2	2	6.97	20.41	0	0.4	0
11/16/2018	Will	BRICK MASON	All	BLD		46.19	50.81	1.5	1.5	2	2	10.65	17.92	0	0.92	0
4/5/2019	Will	CARPENTER	All	ALL		47.35	52.09	2	2	2	2	11.99	22.49	0	0.63	0
2/22/2019	Will	CEMENT MASON	All	ALL		42	44	2	1.5	2	2	10.25	26.02	0	0.5	0
8/15/2018	Will	CERAMIC TILE FNSHER	All	BLD		39.56	39.56	1.5	1.5	2	2	10.75	12.02	0	0.77	0
1/11/2019	Will	COMMUNICATION TECH	All	BLD		36	37.5	1.5	1.5	2	2	14.92	13.44	1.5	0.72	0
8/15/2018	Will	ELECTRIC PWR EQMT OP	All	ALL		51.9	56.9	1.5	1.5	2	2	12.04	17.18	0	3.23	0
10/26/2018	Will	ELECTRIC PWR GRNDMAN	All	ALL		40.48	56.9	1.5	1.5	2	2	9.39	13.4	0	2.51	0
8/15/2018	Will	ELECTRIC PWR LINEMAN	All	ALL		51.9	56.9	1.5	1.5	2	2	12.04	17.18	0	3.23	0
11/9/2018	Will	ELECTRICIAN	All	BLD		43.5	47.42	1.5	1.5	2	2	15.72	18.34	4	1.2	0
4/5/2019	Will	ELEVATOR CONSTRUCTOR	All	BLD		54.85	61.71	2	2	2	2	15.43	9.71	4.38	0.61	0
2/8/2019	Will	GLAZIER	All	BLD		43.85	45.35	1.5	2	2	2	14.17	21.11	0	0.94	0
11/5/2018	Will	HT/FROST INSULATOR	All	BLD		50.5	53	1.5	1.5	2	2	12.92	13.16	0	0.72	0
4/5/2019	Will	IRON WORKER	All	ALL		43	47.3	2	2	2	2	11.81	25.54	0	0.85	0
4/18/2019	Will	LABORER	All	ALL		42.72	43.47	1.5	1.5	2	2	14.9	12.57	0	0.72	0
8/15/2018	Will	LATHER	All	ALL		47.35	52.09	2	2	2	2	11.99	22.49	0	0.63	0
4/5/2019	Will	MACHINIST	All	BLD		48.38	50.88	1.5	1.5	2	2	7.23	8.95	1.85	1.47	0
8/15/2018	Will	MARBLE FINISHERS	All	ALL		34.65	47.7	1.5	1.5	2	2	10.65	16.46	0	0.49	0
11/16/2018	Will	MARBLE MASON	All	BLD		45.53	49.97	1.5	1.5	2	2	10.65	17.39	0	0.61	0
11/9/2018	Will	MATERIAL TESTER I	All	ALL		32.72	32.72	1.5	1.5	2	2	14.9	12.57	0	0.72	0
10/26/2018	Will	MATERIALS TESTER II	All	ALL		37.72	37.72	1.5	1.5	2	2	14.9	12.57	0	0.72	0
8/15/2018	Will	MILLWRIGHT	All	ALL		47.35	52.09	2	2	2	2	11.99	22.49	0	0.63	0
4/5/2019	Will	OPERATING ENGINEER	All	BLD	1	51.1	55.1	2	2	2	2	19.65	15.1	2	1.4	0
4/5/2019	Will	OPERATING ENGINEER	All	BLD	2	49.8	55.1	2	2	2	2	19.65	15.1	2	1.4	0
8/15/2018	Will	OPERATING ENGINEER	All	BLD	3	47.25	55.1	2	2	2	2	19.65	15.1	2	1.4	0
4/5/2019	Will	OPERATING ENGINEER	All	BLD	4	45.5	55.1	2	2	2	2	19.65	15.1	2	1.4	0
8/15/2018	Will	OPERATING ENGINEER	All	BLD	5	54.85	55.1	2	2	2	2	19.65	15.1	2	1.4	0
4/5/2019	Will	OPERATING ENGINEER	All	BLD	6	52.1	55.1	2	2	2	2	19.65	15.1	2	1.4	0
4/5/2019	Will	OPERATING ENGINEER	All	BLD	7	54.1	55.1	2	2	2	2	19.65	15.1	2	1.4	0
8/15/2018	Will	OPERATING ENGINEER	All	FLT	1	57.05	57.05	1.5	1.5	2	2	18.8	14.35	2	1.3	0
8/15/2018	Will	OPERATING ENGINEER	All	FLT	2	55.55	57.05	1.5	1.5	2	2	18.8	14.35	2	1.3	0
8/15/2018	Will	OPERATING ENGINEER	All	FLT	3	49.45	57.05	1.5	1.5	2	2	18.8	14.35	2	1.3	0
8/15/2018	Will	OPERATING ENGINEER	All	FLT	4	41.1	57.05	1.5	1.5	2	2	18.8	14.35	2	1.3	0
8/15/2018	Will	OPERATING ENGINEER	All	FLT	5	58.55	57.05	1.5	1.5	2	2	18.8	14.35	2	1.3	0
8/15/2018	Will	OPERATING ENGINEER	All	FLT	6	38	57.05	1.5	1.5	2	2	18.8	14.35	2	1.3	0
11/5/2018	Will	OPERATING ENGINEER	All	HWY	1	49.3	53.3	1.5	1.5	2	2	19.65	15.1	2	1.4	0
11/5/2018	Will	OPERATING ENGINEER	All	HWY	2	48.75	53.3	1.5	1.5	2	2	19.65	15.1	2	1.4	0
8/15/2018	Will	OPERATING ENGINEER	All	HWY	3	46.7	53.3	1.5	1.5	2	2	19.65	15.1	2	1.4	0
8/15/2018	Will	OPERATING ENGINEER	All	HWY	4	45.3	53.3	1.5	1.5	2	2	19.65	15.1	2	1.4	0
10/26/2018	Will	OPERATING ENGINEER	All	HWY	5	44.1	53.3	1.5	1.5	2	2	19.65	15.1	2	1.4	0
8/15/2018	Will	OPERATING ENGINEER	All	HWY	6	52.3	53.3	1.5	1.5	2	2	19.65	15.1	2	1.4	0
8/15/2018	Will	OPERATING ENGINEER	All	HWY	7	50.3	53.3	1.5	1.5	2	2	19.65	15.1	2	1.4	0
11/16/2018	Will	PAINTER	All	ALL		46.55	49.46	1.5	1.5	1.5	2	11.81	11.94	0	1.87	0
8/15/2018	Will	PAINTER SIGNS	All	BLD		38.2	43.25	1.5	1.5	2	2	2.6	3.25	0	0	0
8/15/2018	Will	PILEDRIIVER	All	ALL		47.35	52.09	2	2	2	2	11.99	22.49	0	0.63	0

Explanations

KENDALL COUNTY

The following list is considered as those days for which holiday rates of wages for work performed apply: New Years Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day, Christmas Day and Veterans Day in some classifications/counties. Generally, any of these holidays which fall on a Sunday is celebrated on the following Monday. This then makes work performed on that Monday payable at the appropriate overtime rate for holiday pay. Common practice in a given local may alter certain days of celebration. If in doubt, please check with IDOL.

EXPLANATION OF CLASSES

ASBESTOS - GENERAL - removal of asbestos material/mold and hazardous materials from any place in a building, including mechanical systems where those mechanical systems are to be removed. This includes the removal of asbestos materials/mold and hazardous materials from ductwork or pipes in a building when the building is to be demolished

at the time or at some close future date.

ASBESTOS - MECHANICAL - removal of asbestos material from mechanical systems, such as pipes, ducts, and boilers, where the mechanical systems are to remain.

CERAMIC TILE FINISHER

The grouting, cleaning, and polishing of all classes of tile, whether for interior or exterior purposes, all burned, glazed or unglazed products; all composition materials, granite tiles, warning detectable tiles, cement tiles, epoxy composite materials, pavers, glass, mosaics, fiberglass, and all substitute materials, for tile made in tile-like units; all mixtures in tile like form of cement, metals, and other materials that are for and intended for use as a finished floor surface, stair treads, promenade roofs, walks, walls, ceilings, swimming pools, and all other places where tile is to form a finished interior or exterior. The mixing of all setting mortars including but not limited to thin-set mortars, epoxies, wall mud, and any other sand and cement mixtures or adhesives when used in the preparation, installation, repair, or maintenance of tile and/or similar materials.

The handling and unloading of all sand, cement, lime, tile, fixtures, equipment, adhesives, or any other materials to be used in the preparation, installation, repair, or maintenance of tile and/or similar materials. Ceramic Tile Finishers shall fill all joints and voids regardless of method on all tile work, particularly and especially after installation of said tile work. Application of any and all protective coverings to all types of tile installations including, but not be limited to, all soap compounds, paper products, tapes, and all polyethylene coverings, plywood, masonite, cardboard, and any new type of products that may be used to protect tile installations, Blastrac equipment, and all floor scarifying equipment used in preparing floors to receive tile. The clean up and removal of all waste and materials. All demolition of existing tile floors and walls to be re-tiled.

COMMUNICATIONS TECHNICIAN

Construction, installation, maintenance and removal of telecommunication facilities (voice, sound, data and video), telephone, security, and data inside wire, interconnect, terminal equipment, central offices, PABX and equipment, micro waves, V-SAT,

bypass, CATV, WAN (wide area network), LAN (local area networks), and ISDN (integrated system digital network), pulling of wire in raceways, but not the installation of raceways.

MARBLE FINISHER

Loading and unloading trucks, distribution of all materials (all stone, sand, etc.), stocking of floors with material, performing all rigging for heavy work, the handling of all material that may be needed for the installation of such materials, building of scaffolding, polishing if needed, patching, waxing of material if damaged, pointing up, caulking, grouting and cleaning of marble, holding water on diamond or Carborundum blade or saw for setters cutting, use of tub saw or any other saw needed for preparation of material, drilling of holes for wires that anchor material set by setters, mixing up of molding plaster for installation of material, mixing up thin set for the installation of material, mixing up of sand to cement for the installation of material and such other work as may be required in helping a Marble Setter in the handling of all material in the erection or installation of interior marble, slate, travertine, art marble, serpentine, alberene stone, blue stone,

granite and other stones (meaning as to stone any foreign or domestic materials as are specified and used in building interiors and exteriors and customarily known as stone in the trade), carrara, sanionyx, vitrolite and similar opaque glass and the laying of all marble tile, terrazzo tile, slate tile and precast tile, steps, risers treads, base, or any other materials that may be used as substitutes for any of the aforementioned materials and which are used on interior and exterior which are installed in a similar manner.

MATERIAL TESTER I: Hand coring and drilling for testing of materials; field inspection of uncured concrete and asphalt.

MATERIAL TESTER II: Field inspection of welds, structural steel, fireproofing, masonry, soil, facade, reinforcing steel, formwork, cured concrete, and concrete and asphalt batch plants; adjusting proportions of bituminous mixtures.

OPERATING ENGINEER – BUILDING

Class 1. Asphalt Plant; Asphalt Spreader; Autograde; Backhoes with Caisson Attachment; Batch Plant; Benoto (requires Two Engineers);

Boiler and Throttle Valve; Caisson Rigs; Central Redi-Mix Plant;
Combination Back Hoe Front End-loader Machine; Compressor and Throttle Valve; Concrete Breaker (Truck Mounted); Concrete Conveyor; Concrete Conveyor (Truck Mounted); Concrete Paver Over 27E cu. ft.; Concrete Paver 27E cu. ft. and Under; Concrete Placer; Concrete Placing Boom; Concrete Pump (Truck Mounted); Concrete Tower; Cranes, All; Cranes, Hammerhead; Cranes, (GCI and similar Type); Creter Crane; Spider Crane; Crusher, Stone, etc.; Derricks, All; Derricks, Traveling; Formless Curb and Gutter Machine; Grader, Elevating; Grouting Machines; Heavy Duty Self-Propelled Transporter or Prime Mover; Highlift Shovels or Front Endloader 2-1/4 yd. and over; Hoists, Elevators, outside type rack and pinion and similar machines; Hoists, One, Two and Three Drum; Hoists, Two Tugger One Floor; Hydraulic Backhoes; Hydraulic Boom Trucks; Hydro Vac (and similar equipment); Locomotives, All; Motor Patrol; Lubrication Technician; Manipulators; Pile Drivers and Skid Rig; Post Hole Digger; Pre-Stress Machine; Pump Cretes Dual Ram; Pump Cretes; Squeeze Cretes-Screw Type Pumps; Gypsum Bulker and Pump; Raised and Blind Hole Drill; Roto Mill Grinder; Scoops - Tractor Drawn; Slip-Form Paver; Straddle Buggies; Operation of Tie Back Machine; Tournapull; Tractor with Boom and Side Boom; Trenching Machines.

Class 2. Boilers; Broom, All Power Propelled; Bulldozers; Concrete Mixer (Two Bag and Over); Conveyor, Portable; Forklift Trucks; Highlift Shovels or Front Endloaders under 2-1/4 yd.; Hoists, Automatic; Hoists, Inside Elevators; Hoists, Sewer Dragging Machine; Hoists, Tugger Single Drum; Laser Screed; Rock Drill (Self-Propelled); Rock Drill (Truck Mounted); Rollers, All; Steam Generators; Tractors, All; Tractor Drawn Vibratory Roller; Winch Trucks with "A" Frame.

Class 3. Air Compressor; Combination Small Equipment Operator; Generators; Heaters, Mechanical; Hoists, Inside Elevators (remodeling or renovation work); Hydraulic Power Units (Pile Driving, Extracting, and Drilling); Pumps, over 3" (1 to 3 not to exceed a total of 300 ft.); Low Boys; Pumps, Well Points; Welding Machines (2 through 5); Winches, 4 Small Electric Drill Winches.

Class 4. Bobcats and/or other Skid Steer Loaders; Oilers; and Brick Forklift.

Class 5. Assistant Craft Foreman.

Class 6. Gradall.

Class 7. Mechanics; Welder.

OPERATING ENGINEERS - HIGHWAY CONSTRUCTION

Class 1. Asphalt Plant; Asphalt Heater and Planer Combination; Asphalt Heater Scarfire; Asphalt Spreader; Autograder/GOMACO or other similar type machines: ABG Paver; Backhoes with Caisson Attachment; Ballast Regulator; Belt Loader; Caisson Rigs; Car Dumper; Central Redi-Mix Plant; Combination Backhoe Front Endloader Machine, (1 cu. yd. Backhoe Bucket or over or with attachments); Concrete Breaker (Truck Mounted); Concrete Conveyor; Concrete Paver over 27E cu. ft.; Concrete Placer; Concrete Tube Float; Cranes, all attachments; Cranes, Tower Cranes of all types: Creter Crane: Spider Crane; Crusher, Stone, etc.; Derricks, All; Derrick Boats; Derricks, Traveling; Dredges; Elevators, Outside type Rack & Pinion and Similar Machines; Formless Curb and Gutter Machine; Grader, Elevating; Grader, Motor Grader, Motor Patrol, Auto Patrol, Form Grader, Pull Grader, Subgrader; Guard Rail Post Driver Truck Mounted; Hoists, One, Two and Three Drum; Heavy Duty Self-Propelled Transporter or Prime Mover; Hydraulic Backhoes;

Backhoes with shear attachments up to 40' of boom reach; Lubrication Technician; Manipulators; Mucking Machine; Pile Drivers and Skid Rig; Pre-Stress Machine; Pump Cretes Dual Ram; Rock Drill - Crawler or Skid Rig; Rock Drill - Truck Mounted; Rock/Track Tamper; Roto Mill Grinder; Slip-Form Paver; Snow Melters; Soil Test Drill Rig (Truck Mounted); Straddle Buggies; Hydraulic Telescoping Form (Tunnel); Operation of Tieback Machine; Tractor Drawn Belt Loader; Tractor Drawn Belt Loader (with attached pusher - two engineers); Tractor with Boom; Tractaire with Attachments; Traffic Barrier Transfer Machine; Trenching; Truck Mounted Concrete Pump with Boom; Raised or Blind Hole Drills (Tunnel Shaft); Underground Boring and/or Mining Machines 5 ft. in diameter and over tunnel, etc; Underground Boring and/or Mining Machines under 5 ft. in diameter; Wheel Excavator; Widener (APSCO).

Class 2. Batch Plant; Bituminous Mixer; Boiler and Throttle Valve; Bulldozers; Car Loader Trailing Conveyors; Combination Backhoe Front Endloader Machine (Less than 1 cu. yd. Backhoe Bucket or over or with attachments); Compressor and Throttle Valve; Compressor, Common Receiver (3); Concrete Breaker or Hydro Hammer; Concrete Grinding Machine; Concrete Mixer or Paver 7S Series to and including 27 cu. ft.; Concrete Spreader; Concrete Curing Machine, Burlap Machine,

Belting Machine and Sealing Machine; Concrete Wheel Saw; Conveyor Muck Cars (Haglund or Similar Type); Drills, All; Finishing Machine - Concrete; Highlift Shovels or Front Endloader; Hoist - Sewer Dragging Machine; Hydraulic Boom Trucks (All Attachments); Hydro-Blaster; Hydro Excavating (excluding hose work); Laser Screed; All Locomotives, Dinky; Off-Road Hauling Units (including articulating) Non Self-Loading Ejection Dump; Pump Cretes: Squeeze Cretes - Screw Type Pumps, Gypsum Bulker and Pump; Roller, Asphalt; Rotary Snow Plows; Rototiller, Seaman, etc., self-propelled; Self-Propelled Compactor; Spreader - Chip - Stone, etc.; Scraper - Single/Twin Engine/Push and Pull; Scraper - Prime Mover in Tandem (Regardless of Size); Tractors pulling attachments, Sheeps Foot, Disc, Compactor, etc.; Tug Boats.

Class 3. Boilers; Brooms, All Power Propelled; Cement Supply Tender; Compressor, Common Receiver (2); Concrete Mixer (Two Bag and Over); Conveyor, Portable; Farm-Type Tractors Used for Mowing, Seeding, etc.; Forklift Trucks; Grouting Machine; Hoists, Automatic; Hoists, All Elevators; Hoists, Tugger Single Drum; Jeep Diggers; Low Boys; Pipe Jacking Machines; Post-Hole Digger; Power Saw, Concrete Power Driven; Pug Mills; Rollers, other than Asphalt; Seed and Straw Blower; Steam Generators; Stump Machine; Winch Trucks with "A" Frame; Work Boats;

Tamper-Form-Motor Driven.

Class 4. Air Compressor; Combination - Small Equipment Operator; Directional Boring Machine; Generators; Heaters, Mechanical; Hydraulic Power Unit (Pile Driving, Extracting, or Drilling); Light Plants, All (1 through 5); Pumps, over 3" (1 to 3 not to exceed a total of 300 ft.); Pumps, Well Points; Vacuum Trucks (excluding hose work); Welding Machines (2 through 5); Winches, 4 Small Electric Drill Winches.

Class 5. SkidSteer Loader (all); Brick Forklifts; Oilers.

Class 6. Field Mechanics and Field Welders

Class 7. Dwell Machine with Air Compressor; Gradall and machines of like nature.

OPERATING ENGINEERS – FLOATING

Diver. Diver Wet Tender, Diver Tender, ROV Pilot, ROV Tender

TRUCK DRIVER - BUILDING, HEAVY AND HIGHWAY CONSTRUCTION

Class 1. Two or three Axle Trucks. A-frame Truck when used for transportation purposes; Air Compressors and Welding Machines, including those pulled by cars, pick-up trucks and tractors; Ambulances Batch Gate Lockers; Batch Hopperman; Car and Truck Washers; Carry-alls; Fork Lifts and Hoisters; Helpers; Mechanics Helpers and Greasers; Oil Distributors 2-man operation; Pavement Breakers; Pole Trailer, up to 40 feet; Power Mower Tractors; Self-propelled Chip Spreader; Skipman; Slurry Trucks, 2-man operation; Slurry Truck Conveyor Operation, 2 or 3 man; Teamsters; Unskilled Dumpman; and Truck Drivers hauling warning lights, barricades, and portable toilets on the job site.

Class 2. Four axle trucks; Dump Crets and Adgetors under 7 yards; Dumpsters, Track Trucks, Euclids, Hug Bottom Dump Turnapulls or Turntrailers when pulling other than self-loading equipment or similar equipment under 16 cubic yards; Mixer Trucks under 7 yards; Ready-mix Plant Hopper Operator, and Winch Trucks, 2 Axles.

Class 3. Five axle trucks; Dump Crets and Adgetors 7 yards and over; Dumpsters, Track Trucks, Euclids, Hug Bottom Dump Turntrailers or

turnapulls when pulling other than self-loading equipment or similar equipment over 16 cubic yards; Explosives and/or Fission Material Trucks; Mixer Trucks 7 yards or over; Mobile Cranes while in transit; Oil Distributors, 1-man operation; Pole Trailer, over 40 feet; Pole and Expandable Trailers hauling material over 50 feet long; Slurry trucks, 1-man operation; Winch trucks, 3 axles or more; Mechanic--Truck Welder and Truck Painter.

Class 4. Six axle trucks; Dual-purpose vehicles, such as mounted crane trucks with hoist and accessories; Foreman; Master Mechanic; Self-loading equipment like P.B. and trucks with scoops on the front.

TERRAZZO FINISHER

The handling of sand, cement, marble chips, and all other materials that may be used by the Mosaic Terrazzo Mechanic, and the mixing, grinding, grouting, cleaning and sealing of all Marble, Mosaic, and Terrazzo work, floors, base, stairs, and wainscoting by hand or machine, and in addition, assisting and aiding Marble, Masonic, and Terrazzo Mechanics.

Other Classifications of Work:

For definitions of classifications not otherwise set out, the Department generally has on file such definitions which are available. If a task to be performed is not subject to one of the classifications of pay set out, the Department will upon being contacted state which neighboring county has such a classification and provide such rate, such rate being deemed to exist by reference in this document. If no neighboring county rate applies to the task, the Department shall undertake a special determination, such special determination being then deemed to have existed under this determination. If a project requires these, or any classification not listed, please contact IDOL at 217-782-1710 for wage rates or clarifications.

LANDSCAPING

Landscaping work falls under the existing classifications for laborer, operating engineer and truck driver. The work performed by landscape plantsman and landscape laborer is covered by the existing classification of laborer. The work performed by landscape operators

(regardless of equipment used or its size) is covered by the classifications of operating engineer. The work performed by landscape truck drivers (regardless of size of truck driven) is covered by the classifications of truck driver.

MATERIAL TESTER & MATERIAL TESTER/INSPECTOR I AND II

Notwithstanding the difference in the classification title, the classification entitled "Material Tester I" involves the same job duties as the classification entitled "Material Tester/Inspector I". Likewise, the classification entitled "Material Tester II" involves the same job duties as the classification entitled "Material Tester/Inspector II".

Prevailing Wage Rates for Will County as of 07/25/19																
Effective Date	County	Trade Title	Region	Type	Class	Base Wage	Foreman Wage	OT M-F	OT Sa	OT Su	OT Hol	H/W	Pension	Vacation	Training	Other Fringe Benefit
11/16/2018	Will	PIPEFITTER	All	BLD		48.5	51.5	1.5	1.5	2	2	10.05	18.85	0	2.54	0
11/5/2018	Will	PLASTERER	All	BLD		43.25	45.85	1.5	1.5	2	2	14.25	16.69	0	1.45	0
10/26/2018	Will	PLUMBER	All	BLD		50.25	53.25	1.5	1.5	2	2	14.34	14.42	0	1.31	0
10/26/2018	Will	ROOFER	All	BLD		43.65	47.65	1.5	1.5	2	2	9.73	12.44	0	0.53	0
11/16/2018	Will	SHEETMETAL WORKER	All	BLD		48.02	50.42	1.5	1.5	2	2	10.75	16.19	0	1.03	3.5
4/5/2019	Will	SPRINKLER FITTER	All	BLD		48.1	50.6	1.5	1.5	2	2	13.25	15.9	0	0.55	0
8/15/2018	Will	STONE MASON	All	BLD		46.19	50.81	1.5	1.5	2	2	10.65	17.92	0	0.92	0
11/16/2018	Will	TERRAZZO FINISHER	All	BLD		41.54	44.54	1.5	1.5	2	2	10.75	13.71	0	0.86	0
11/16/2018	Will	TERRAZZO MASON	All	BLD		45.38	48.88	1.5	1.5	2	2	10.75	15.17	0	0.89	0
8/15/2018	Will	TILE MASON	All	BLD		46.49	50.49	1.5	1.5	2	2	10.75	14.99	0	0.9	0
4/5/2019	Will	TRAFFIC SAFETY WRKR	All	HWY		36	37.6	1.5	1.5	2	2	8.9	6.82	0	0.25	0
4/5/2019	Will	TRUCK DRIVER	All	ALL	1	38.41	38.96	1.5	1.5	2	2	9.15	10.43	0	0.15	0
4/5/2019	Will	TRUCK DRIVER	All	ALL	2	38.56	38.96	1.5	1.5	2	2	9.15	10.43	0	0.15	0
4/5/2019	Will	TRUCK DRIVER	All	ALL	3	38.76	38.96	1.5	1.5	2	2	9.15	10.43	0	0.15	0
8/15/2018	Will	TRUCK DRIVER	All	ALL	4	38.96	38.96	1.5	1.5	2	2	9.15	10.43	0	0.15	0
8/15/2018	Will	TUCKPOINTER	All	BLD		46	47	1.5	1.5	2	2	8.34	16.81	0	0.93	0

Legend	
OT M-F	Unless otherwise noted, OT Pay is required for any hour greater than 8 worked each day, Monday through Friday. The number listed is the multiple of the base wage.
OT Sa	Overtime pay required for every hour worked on Saturdays.
OT Su	Overtime pay required for every hour worked on Sundays.
OT Hol	Overtime pay required for every hour worked on Holidays.
H/W	Health/Welfare benefit.

Explanations

WILL COUNTY

The following list is considered as those days for which holiday rates of wages for work performed apply: New Years Day, Memorial Day, Fourth of July, Labor Day, Thanksgiving Day, Christmas Day and Veterans Day in some classifications/counties. Generally, any of these holidays which fall on a Sunday is celebrated on the following Monday. This then makes work performed on that Monday payable at the appropriate overtime rate for holiday pay. Common practice in a given local may alter certain days of celebration. If in doubt, please check with IDOL.

EXPLANATION OF CLASSES

ASBESTOS - GENERAL - removal of asbestos material/mold and hazardous materials from any place in a building, including mechanical systems where those mechanical systems are to be removed. This includes the removal of asbestos materials/mold and hazardous materials from ductwork or pipes in a building when the building is to be demolished at the time or at some close future date.

ASBESTOS - MECHANICAL - removal of asbestos material from mechanical systems, such as pipes, ducts, and boilers, where the mechanical systems are to remain.

CERAMIC TILE FINISHER

The grouting, cleaning, and polishing of all classes of tile, whether for interior or exterior purposes, all burned, glazed or unglazed products; all composition materials, granite tiles, warning detectable tiles, cement tiles, epoxy composite materials, pavers, glass, mosaics, fiberglass, and all substitute materials, for tile made in tile-like units; all mixtures in tile like form of cement, metals, and other materials that are for and intended for use as a finished floor surface, stair treads, promenade roofs, walks, walls, ceilings, swimming pools, and all other places where tile is to form a finished interior or exterior. The mixing of all setting mortars including but not limited to thin-set mortars, epoxies, wall mud, and any other sand and cement mixtures or adhesives when used in the preparation, installation, repair, or maintenance of tile and/or similar materials. The handling and unloading of all sand, cement, lime, tile,

fixtures, equipment, adhesives, or any other materials to be used in the preparation, installation, repair, or maintenance of tile and/or similar materials. Ceramic Tile Finishers shall fill all joints and voids regardless of method on all tile work, particularly and especially after installation of said tile work. Application of any and all protective coverings to all types of tile installations including, but not be limited to, all soap compounds, paper products, tapes, and all polyethylene coverings, plywood, masonite, cardboard, and any new type of products that may be used to protect tile installations, Blastrac equipment, and all floor scarifying equipment used in preparing floors to receive tile. The clean up and removal of all waste and materials. All demolition of existing tile floors and walls to be re-tiled.

COMMUNICATIONS TECHNICIAN

Installation, operation, inspection, maintenance, repair and service of radio, television, recording, voice, sound and vision production and reproduction, telephone and telephone interconnect, facsimile, equipment and appliances used for domestic, commercial, educational and entertainment purposes, pulling of wire through conduit but not

the installation of conduit.

MARBLE FINISHER

Loading and unloading trucks, distribution of all materials (all stone, sand, etc.), stocking of floors with material, performing all rigging for heavy work, the handling of all material that may be needed for the installation of such materials, building of scaffolding, polishing if needed, patching, waxing of material if damaged, pointing up, caulking, grouting and cleaning of marble, holding water on diamond or Carborundum blade or saw for setters cutting, use of tub saw or any other saw needed for preparation of material, drilling of holes for wires that anchor material set by setters, mixing up of molding plaster for installation of material, mixing up thin set for the installation of material, mixing up of sand to cement for the installation of material and such other work as may be required in helping a Marble Setter in the handling of all material in the erection or installation of interior marble, slate, travertine, art marble, serpentine, alberene stone, blue stone, granite and other stones (meaning as to stone any foreign or domestic materials as are specified and used in building interiors and

exteriors and customarily known as stone in the trade), carrara, sanionyx, vitrolite and similar opaque glass and the laying of all marble tile, terrazzo tile, slate tile and precast tile, steps, risers treads, base, or any other materials that may be used as substitutes for any of the aforementioned materials and which are used on interior and exterior which are installed in a similar manner.

MATERIAL TESTER I: Hand coring and drilling for testing of materials; field inspection of uncured concrete and asphalt.

MATERIAL TESTER II: Field inspection of welds, structural steel, fireproofing, masonry, soil, facade, reinforcing steel, formwork, cured concrete, and concrete and asphalt batch plants; adjusting proportions of bituminous mixtures.

OPERATING ENGINEER – BUILDING

Class 1. Asphalt Plant; Asphalt Spreader; Autograde; Backhoes with Caisson Attachment; Batch Plant; Benoto (requires Two Engineers); Boiler and Throttle Valve; Caisson Rigs; Central Redi-Mix Plant; Combination Back Hoe Front End-loader Machine; Compressor and Throttle

Valve; Concrete Breaker (Truck Mounted); Concrete Conveyor; Concrete Conveyor (Truck Mounted); Concrete Paver Over 27E cu. ft; Concrete Paver 27E cu. ft. and Under: Concrete Placer; Concrete Placing Boom; Concrete Pump (Truck Mounted); Concrete Tower; Cranes, All; Cranes, Hammerhead; Cranes, (GCI and similar Type); Creter Crane; Spider Crane; Crusher, Stone, etc.; Derricks, All; Derricks, Traveling; Formless Curb and Gutter Machine; Grader, Elevating; Grouting Machines; Heavy Duty Self-Propelled Transporter or Prime Mover; Highlift Shovels or Front Endloader 2-1/4 yd. and over; Hoists, Elevators, outside type rack and pinion and similar machines; Hoists, One, Two and Three Drum; Hoists, Two Tugger One Floor; Hydraulic Backhoes; Hydraulic Boom Trucks; Hydro Vac (and similar equipment); Locomotives, All; Motor Patrol; Lubrication Technician; Manipulators; Pile Drivers and Skid Rig; Post Hole Digger; Pre-Stress Machine; Pump Cretes Dual Ram; Pump Cretes: Squeeze Cretes-Screw Type Pumps; Gypsum Bulker and Pump; Raised and Blind Hole Drill; Roto Mill Grinder; Scoops - Tractor Drawn; Slip-Form Paver; Straddle Buggies; Operation of Tie Back Machine; Tournapull; Tractor with Boom and Side Boom; Trenching Machines.

Class 2. Boilers; Broom, All Power Propelled; Bulldozers; Concrete

Mixer (Two Bag and Over); Conveyor, Portable; Forklift Trucks; Highlift Shovels or Front Endloaders under 2-1/4 yd.; Hoists, Automatic; Hoists, Inside Elevators; Hoists, Sewer Dragging Machine; Hoists, Tugger Single Drum; Laser Screed; Rock Drill (Self-Propelled); Rock Drill (Truck Mounted); Rollers, All; Steam Generators; Tractors, All; Tractor Drawn Vibratory Roller; Winch Trucks with "A" Frame.

Class 3. Air Compressor; Combination Small Equipment Operator; Generators; Heaters, Mechanical; Hoists, Inside Elevators (remodeling or renovation work); Hydraulic Power Units (Pile Driving, Extracting, and Drilling); Pumps, over 3" (1 to 3 not to exceed a total of 300 ft.); Low Boys; Pumps, Well Points; Welding Machines (2 through 5); Winches, 4 Small Electric Drill Winches.

Class 4. Bobcats and/or other Skid Steer Loaders; Oilers; and Brick Forklift.

Class 5. Assistant Craft Foreman.

Class 6. Gradall.

Class 7. Mechanics; Welders.

OPERATING ENGINEERS - HIGHWAY CONSTRUCTION

Class 1. Asphalt Plant; Asphalt Heater and Planer Combination; Asphalt Heater Scarfire; Asphalt Spreader; Autograder/GOMACO or other similar type machines: ABG Paver; Backhoes with Caisson Attachment; Ballast Regulator; Belt Loader; Caisson Rigs; Car Dumper; Central Redi-Mix Plant; Combination Backhoe Front Endloader Machine, (1 cu. yd. Backhoe Bucket or over or with attachments); Concrete Breaker (Truck Mounted); Concrete Conveyor; Concrete Paver over 27E cu. ft.; Concrete Placer; Concrete Tube Float; Cranes, all attachments; Cranes, Tower Cranes of all types: Creter Crane: Spider Crane; Crusher, Stone, etc.; Derricks, All; Derrick Boats; Derricks, Traveling; Dredges; Elevators, Outside type Rack & Pinion and Similar Machines; Formless Curb and Gutter Machine; Grader, Elevating; Grader, Motor Grader, Motor Patrol, Auto Patrol, Form Grader, Pull Grader, Subgrader; Guard Rail Post Driver Truck Mounted; Hoists, One, Two and Three Drum; Heavy Duty Self-Propelled Transporter or Prime Mover; Hydraulic Backhoes; Backhoes with shear attachments up to 40' of boom reach; Lubrication Technician; Manipulators; Mucking Machine; Pile Drivers and Skid Rig;

Pre-Stress Machine; Pump Cretes Dual Ram; Rock Drill - Crawler or Skid Rig; Rock Drill - Truck Mounted; Rock/Track Tamper; Roto Mill Grinder; Slip-Form Paver; Snow Melters; Soil Test Drill Rig (Truck Mounted); Straddle Buggies; Hydraulic Telescoping Form (Tunnel); Operation of Tieback Machine; Tractor Drawn Belt Loader; Tractor Drawn Belt Loader (with attached pusher - two engineers); Tractor with Boom; Tractaire with Attachments; Traffic Barrier Transfer Machine; Trenching; Truck Mounted Concrete Pump with Boom; Raised or Blind Hole Drills (Tunnel Shaft); Underground Boring and/or Mining Machines 5 ft. in diameter and over tunnel, etc; Underground Boring and/or Mining Machines under 5 ft. in diameter; Wheel Excavator; Widener (APSCO).

Class 2. Batch Plant; Bituminous Mixer; Boiler and Throttle Valve; Bulldozers; Car Loader Trailing Conveyors; Combination Backhoe Front Endloader Machine (Less than 1 cu. yd. Backhoe Bucket or over or with attachments); Compressor and Throttle Valve; Compressor, Common Receiver (3); Concrete Breaker or Hydro Hammer; Concrete Grinding Machine; Concrete Mixer or Paver 7S Series to and including 27 cu. ft.; Concrete Spreader; Concrete Curing Machine, Burlap Machine, Belting Machine and Sealing Machine; Concrete Wheel Saw; Conveyor Muck Cars (Haglund or Similar Type); Drills, All; Finishing Machine -

Concrete; Highlift Shovels or Front Endloader; Hoist - Sewer Dragging Machine; Hydraulic Boom Trucks (All Attachments); Hydro-Blaster; Hydro Excavating (excluding hose work); Laser Screed; All Locomotives, Dinky; Off-Road Hauling Units (including articulating) Non Self-Loading Ejection Dump; Pump Cretes: Squeeze Cretes - Screw Type Pumps, Gypsum Bulker and Pump; Roller, Asphalt; Rotary Snow Plows; Rototiller, Seaman, etc., self-propelled; Self-Propelled Compactor; Spreader - Chip - Stone, etc.; Scraper - Single/Twin Engine/Push and Pull; Scraper - Prime Mover in Tandem (Regardless of Size); Tractors pulling attachments, Sheeps Foot, Disc, Compactor, etc.; Tug Boats.

Class 3. Boilers; Brooms, All Power Propelled; Cement Supply Tender; Compressor, Common Receiver (2); Concrete Mixer (Two Bag and Over); Conveyor, Portable; Farm-Type Tractors Used for Mowing, Seeding, etc.; Forklift Trucks; Grouting Machine; Hoists, Automatic; Hoists, All Elevators; Hoists, Tugger Single Drum; Jeep Diggers; Low Boys; Pipe Jacking Machines; Post-Hole Digger; Power Saw, Concrete Power Driven; Pug Mills; Rollers, other than Asphalt; Seed and Straw Blower; Steam Generators; Stump Machine; Winch Trucks with "A" Frame; Work Boats; Tamper-Form-Motor Driven.

Class 4. Air Compressor; Combination - Small Equipment Operator; Directional Boring Machine; Generators; Heaters, Mechanical; Hydraulic Power Unit (Pile Driving, Extracting, or Drilling); Light Plants, All (1 through 5); Pumps, over 3" (1 to 3 not to exceed a total of 300 ft.); Pumps, Well Points; Vacuum Trucks (excluding hose work); Welding Machines (2 through 5); Winches, 4 Small Electric Drill Winches.

Class 5. SkidSteer Loader (all); Brick Forklifts; Oilers.

Class 6. Field Mechanics and Field Welders

Class 7. Dowell Machine with Air Compressor; Gradall and machines of like nature.

OPERATING ENGINEER – FLOATING

Class 1. Craft Foreman; Master Mechanic; Diver/Wet Tender; Engineer; Engineer (Hydraulic Dredge).

Class 2. Crane/Backhoe Operator; Boat Operator with towing endorsement; Mechanic/Welder; Assistant Engineer (Hydraulic Dredge);

Leverman (Hydraulic Dredge); Diver Tender.

Class 3. Deck Equipment Operator, Machineryman, Maintenance of Crane (over 50 ton capacity) or Backhoe (115,000 lbs. or more); Tug/Launch Operator; Loader/Dozer and like equipment on Barge, Breakwater Wall, Slip/Dock, or Scow, Deck Machinery, etc.

Class 4. Deck Equipment Operator, Machineryman/Fireman (4 Equipment Units or More); Off Road Trucks; Deck Hand, Tug Engineer, Crane Maintenance (50 Ton Capacity and Under) or Backhoe Weighing (115,000 pounds or less); Assistant Tug Operator.

Class 5. Friction or Lattice Boom Cranes.

Class 6. ROV Pilot, ROV Tender

TRAFFIC SAFETY - work associated with barricades, horses and drums used to reduce lane usage on highway work, the installation and removal of temporary lane markings, and the installation and removal of temporary road signs.

TRUCK DRIVER - BUILDING, HEAVY AND HIGHWAY CONSTRUCTION

Class 1. Two or three Axle Trucks. A-frame Truck when used for transportation purposes; Air Compressors and Welding Machines, including those pulled by cars, pick-up trucks and tractors; Ambulances; Batch Gate Lockers; Batch Hopperman; Car and Truck Washers; Carry-alls; Fork Lifts and Hoisters; Helpers; Mechanics Helpers and Greasers; Oil Distributors 2-man operation; Pavement Breakers; Pole Trailer, up to 40 feet; Power Mower Tractors; Self-propelled Chip Spreader; Skipman; Slurry Trucks, 2-man operation; Slurry Truck Conveyor Operation, 2 or 3 man; Teamsters; Unskilled Dumpman; and Truck Drivers hauling warning lights, barricades, and portable toilets on the job site.

Class 2. Four axle trucks; Dump Crets and Adgetors under 7 yards; Dumpsters, Track Trucks, Euclids, Hug Bottom Dump Turnapulls or Turntrailers when pulling other than self-loading equipment or similar equipment under 16 cubic yards; Mixer Trucks under 7 yards; Ready-mix Plant Hopper Operator, and Winch Trucks, 2 Axles.

Class 3. Five axle trucks; Dump Crets and Adgetors 7 yards and over;

Dumpsters, Track Trucks, Euclids, Hug Bottom Dump Turntrailers or turnpulls when pulling other than self-loading equipment or similar equipment over 16 cubic yards; Explosives and/or Fission Material Trucks; Mixer Trucks 7 yards or over; Mobile Cranes while in transit; Oil Distributors, 1-man operation; Pole Trailer, over 40 feet; Pole and Expandable Trailers hauling material over 50 feet long; Slurry trucks, 1-man operation; Winch trucks, 3 axles or more; Mechanic--Truck Welder and Truck Painter.

Class 4. Six axle trucks; Dual-purpose vehicles, such as mounted crane trucks with hoist and accessories; Foreman; Master Mechanic; Self-loading equipment like P.B. and trucks with scoops on the front.

TERRAZZO FINISHER

The handling of sand, cement, marble chips, and all other materials that may be used by the Mosaic Terrazzo Mechanic, and the mixing, grinding, grouting, cleaning and sealing of all Marble, Mosaic, and Terrazzo work, floors, base, stairs, and wainscoting by hand or machine, and in addition, assisting and aiding Marble, Masonic, and Terrazzo Mechanics.

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LANDSCAPING

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classification of laborer. The work performed by landscape operators (regardless of equipment used or its size) is covered by the classifications of operating engineer. The work performed by landscape truck drivers (regardless of size of truck driven) is covered by the classifications of truck driver.

MATERIAL TESTER & MATERIAL TESTER/INSPECTOR I AND II

Notwithstanding the difference in the classification title, the classification entitled "Material Tester I" involves the same job duties as the classification entitled "Material Tester/Inspector I". Likewise, the classification entitled "Material Tester II" involves the same job duties as the classification entitled "Material Tester/Inspector II".

CONSTRUCTION AIR QUALITY – DIESEL RETROFIT (BDE)

Effective: June 1, 2010

Revised: November 1, 2014

The reduction of emissions of particulate matter (PM) for off-road equipment shall be accomplished by installing retrofit emission control devices. The term “equipment” refers to diesel fuel powered devices rated at 50 hp and above, to be used on the jobsite in excess of seven calendar days over the course of the construction period on the jobsite (including rental equipment).

Contractor and subcontractor diesel powered off-road equipment assigned to the contract shall be retrofitted using the phased in approach shown below. Equipment that is of a model year older than the year given for that equipment’s respective horsepower range shall be retrofitted:

Effective Dates	Horsepower Range	Model Year
June 1, 2010 ^{1/}	600-749	2002
	750 and up	2006
June 1, 2011 ^{2/}	100-299	2003
	300-599	2001
	600-749	2002
	750 and up	2006
June 1, 2012 ^{2/}	50-99	2004
	100-299	2003
	300-599	2001
	600-749	2002
	750 and up	2006

1/ Effective dates apply to Contractor diesel powered off-road equipment assigned to the contract.

2/ Effective dates apply to Contractor and subcontractor diesel powered off-road equipment assigned to the contract.

The retrofit emission control devices shall achieve a minimum PM emission reduction of 50 percent and shall be:

- a) Included on the U.S. Environmental Protection Agency (USEPA) *Verified Retrofit Technology List* (<http://www.epa.gov/cleandiesel/verification/verif-list.htm>), or verified by the California Air Resources Board (CARB) (<http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm>); or
- b) Retrofitted with a non-verified diesel retrofit emission control device if verified retrofit emission control devices are not available for equipment proposed to be used on the project, and if the Contractor has obtained a performance certification from the retrofit

device manufacturer that the emission control device provides a minimum PM emission reduction of 50 percent.

Note: Large cranes (Crawler mounted cranes) which are responsible for critical lift operations are exempt from installing retrofit emission control devices if such devices adversely affect equipment operation.

Diesel powered off-road equipment with engine ratings of 50 hp and above, which are unable to be retrofitted with verified emission control devices or if performance certifications are not available which will achieve a minimum 50 percent PM reduction, may be granted a waiver by the Department if documentation is provided showing good faith efforts were made by the Contractor to retrofit the equipment.

Construction shall not proceed until the Contractor submits a certified list of the diesel powered off-road equipment that will be used, and as necessary, retrofitted with emission control devices. The list(s) shall include (1) the equipment number, type, make, Contractor/rental company name; and (2) the emission control devices make, model, USEPA or CARB verification number, or performance certification from the retrofit device manufacturer. Equipment reported as fitted with emissions control devices shall be made available to the Engineer for visual inspection of the device installation, prior to being used on the jobsite.

The Contractor shall submit an updated list of retrofitted off-road construction equipment as retrofitted equipment changes or comes on to the jobsite. The addition or deletion of any diesel powered equipment shall be included on the updated list.

If any diesel powered off-road equipment is found to be in non-compliance with any portion of this special provision, the Engineer will issue the Contractor a diesel retrofit deficiency deduction.

Any costs associated with retrofitting any diesel powered off-road equipment with emission control devices shall be considered as included in the contract unit prices bid for the various items of work involved and no additional compensation will be allowed. The Contractor's compliance with this notice and any associated regulations shall not be grounds for a claim.

Diesel Retrofit Deficiency Deduction

When the Engineer determines that a diesel retrofit deficiency exists, a daily monetary deduction will be imposed for each calendar day or fraction thereof the deficiency continues to exist. The calendar day(s) will begin when the time period for correction is exceeded and end with the Engineer's written acceptance of the correction. The daily monetary deduction will be \$1,000.00 for each deficiency identified.

The deficiency will be based on lack of diesel retrofit emissions control.

If a Contractor accumulates three diesel retrofit deficiency deductions for the same piece of equipment in a contract period, the Contractor will be shutdown until the deficiency is corrected.

Such a shutdown will not be grounds for any extension of the contract time, waiver of penalties, or be grounds for any claim.

80261

EQUIPMENT PARKING AND STORAGE (BDE)

Effective: November 1, 2017

Replace the first paragraph of Article 701.11 of the Standard Specifications with the following.

“701.11 Equipment Parking and Storage. During working hours, all vehicles and/or nonoperating equipment which are parked, two hours or less, shall be parked at least 8 ft (2.5 m) from the open traffic lane. For other periods of time during working and for all nonworking hours, all vehicles, materials, and equipment shall be parked or stored as follows.

- (a) When the project has adequate right-of-way, vehicles, materials, and equipment shall be located a minimum of 30 ft (9 m) from the pavement.
- (b) When adequate right-of-way does not exist, vehicles, materials, and equipment shall be located a minimum of 15 ft (4.5 m) from the edge of any pavement open to traffic.
- (c) Behind temporary concrete barrier, vehicles, materials, and equipment shall be located a minimum of 24 in. (600 mm) behind free standing barrier or a minimum of 6 in. (150 mm) behind barrier that is either pinned or restrained according to Article 704.04. The 24 in. or 6 in. measurement shall be from the base of the non-traffic side of the barrier.
- (d) Behind other man-made or natural barriers meeting the approval of the Engineer.”

80388

LIGHTS ON BARRICADES (BDE)

Effective: January 1, 2018

Revise Article 701.16 of the Standard Specifications to read:

“701.16 Lights. Lights shall be used on devices as required in the plans, the traffic control plan, and the following table.

Circumstance	Lights Required
Daylight operations	None
First two warning signs on each approach to the work involving a nighttime lane closure and “ROUGH GROOVED SURFACE” (W8-I107) signs	Flashing mono-directional lights
Devices delineating isolated obstacles, excavations, or hazards at night (Does not apply to patching)	Flashing bi-directional lights
Devices delineating obstacles, excavations, or hazards exceeding 100 ft (30 m) in length at night (Does not apply to widening)	Steady burn bi-directional lights
Channelizing devices for nighttime lane closures on two-lane roads	None
Channelizing devices for nighttime lane closures on multi-lane roads	None
Channelizing devices for nighttime lane closures on multi-lane roads separating opposing directions of traffic	None
Channelizing devices for nighttime along lane shifts on multilane roads	Steady burn mono-directional lights
Channelizing devices for night time along lane shifts on two lane roads	Steady burn bi-directional lights
Devices in nighttime lane closure tapers on Standards 701316 and 701321	Steady burn bi-directional lights
Devices in nighttime lane closure tapers	Steady burn mono-directional lights
Devices delineating a widening trench	None
Devices delineating patches at night on roadways with an ADT less than 25,000	None
Devices delineating patches at night on roadways with an ADT of 25,000 or more	None

Batteries for the lights shall be replaced on a group basis at such times as may be specified by the Engineer.”

Delete the fourth sentence of the first paragraph of Article 701.17(c)(2) of the Standard Specifications.

Revise the first paragraph of Article 603.07 of the Standard Specifications to read:

“603.07 Protection Under Traffic. After the casting has been adjusted and Class SI concrete has been placed, the work shall be protected by a barricade for at least 72 hours.”

80392

MAST ARM ASSEMBLY AND POLE (BDE)

Effective: August 1, 2018

Revise the first sentence of Article 1077.03(b) of the Standard Specifications to read:

“Anchor rods shall be according to Article 1006.09, Grade 105, and shall be threaded a minimum of 7 1/2 in. (185 mm) at one end and threaded a minimum of 2 in. (50 mm) with matching hex head nut at the other end.”

80400

PAYMENTS TO SUBCONTRACTORS (BDE)

Effective: November 2, 2017

Add the following to the end of the fourth paragraph of Article 109.11 of the Standard Specifications:

“If reasonable cause is asserted, written notice shall be provided to the applicable subcontractor and/or material supplier and the Engineer within five days of the Contractor receiving payment. The written notice shall identify the contract number, the subcontract or material purchase agreement, a detailed reason for refusal, the value of payment being withheld, and the specific remedial actions required of the subcontractor and/or material supplier so that payment can be made.”

80390

PROGRESS PAYMENTS (BDE)

Effective: November 2, 2013

Revise Article 109.07(a) of the Standard Specifications to read:

“(a) Progress Payments. At least once each month, the Engineer will make a written estimate of the quantity of work performed in accordance with the contract, and the value thereof at the contract unit prices. The amount of the estimate approved as due for payment will be vouchered by the Department and presented to the State Comptroller for payment. No amount less than \$1000.00 will be approved for payment other than the final payment.

Progress payments may be reduced by liens filed pursuant to Section 23(c) of the Mechanics' Lien Act, 770 ILCS 60/23(c).

If a Contractor or subcontractor has defaulted on a loan issued under the Department's Disadvantaged Business Revolving Loan Program (20 ILCS 2705/2705-610), progress payments may be reduced pursuant to the terms of that loan agreement. In such cases, the amount of the estimate related to the work performed by the Contractor or subcontractor, in default of the loan agreement, will be offset, in whole or in part, and vouchered by the Department to the Working Capital Revolving Fund or designated escrow account. Payment for the work shall be considered as issued and received by the Contractor or subcontractor on the date of the offset voucher. Further, the amount of the offset voucher shall be a credit against the Department's obligation to pay the Contractor, the Contractor's obligation to pay the subcontractor, and the Contractor's or subcontractor's total loan indebtedness to the Department. The offset shall continue until such time as the entire loan indebtedness is satisfied. The Department will notify the Contractor and Fund Control Agent in a timely manner of such offset. The Contractor or subcontractor shall not be entitled to additional payment in consideration of the offset.

The failure to perform any requirement, obligation, or term of the contract by the Contractor shall be reason for withholding any progress payments until the Department determines that compliance has been achieved.”

SUBCONTRACTOR AND DBE PAYMENT REPORTING (BDE)

Effective: April 2, 2018

Add the following to Section 109 of the Standard Specifications.

“109.14 Subcontractor and Disadvantaged Business Enterprise Payment Reporting.
The Contractor shall report all payments made to the following parties:

- (a) first tier subcontractors;
- (b) lower tier subcontractors affecting disadvantaged business enterprise (DBE) goal credit;
- (c) material suppliers or trucking firms that are part of the Contractor’s submitted DBE utilization plan.

The report shall be made through the Department’s on-line subcontractor payment reporting system within 21 days of making the payment.”

80397

TRAFFIC CONTROL DEVICES - CONES (BDE)

Effective: January 1, 2019

Revise Article 701.15(a) of the Standard Specifications to read:

“(a) Cones. Cones are used to channelize traffic. Cones used to channelize traffic at night shall be reflectorized; however, cones shall not be used in nighttime lane closure tapers or nighttime lane shifts.”

Revise Article 1106.02(b) of the Standard Specifications to read:

“(b) Cones. Cones shall be predominantly orange. Cones used at night that are 28 to 36 in. (700 to 900 mm) in height shall have two white circumferential stripes. If non-reflective spaces are left between the stripes, the spaces shall be no more than 2 in. (50mm) in width. Cones used at night that are taller than 36 in. (900 mm) shall have a minimum of two white and two fluorescent orange alternating, circumferential stripes with the top stripe being fluorescent orange. If non-reflective spaces are left between the stripes, the spaces shall be no more than 3 in. (75 mm) in width.

The minimum weights for the various cone heights shall be 4 lb for 18 in. (2 kg for 450 mm), 7 lb for 28 in. (3 kg for 700 mm), and 10 lb for 36 in. (5 kg for 900 mm) with a minimum of 60 percent of the total weight in the base. Cones taller than 36 in. shall be weighted per the manufacturer’s specifications such that they are not moved by wind or passing traffic.”

80409

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2020-2021 EMC

SPECIAL PROVISIONS

The following Special Provisions provide detailed requirements and definitions for the materials and construction processes associated with the routine maintenance and extra work pay item tasks summarized elsewhere in the Contract. In the event of conflict with any part or parts of said documents, the following detailed Special Provisions shall govern.

TRAFFIC SIGNAL GENERAL REQUIREMENTS

The following requirements apply to the Contractor's overall prosecution of work under the Contract and are not necessarily related to specific pay items. Any labor or materials required to satisfy the general requirements shall be included in the cost of the associated Routine Maintenance or Extra Work pay items and shall not be paid for separately.

SUBMITTALS

Revise Article 801.05 of the Standard Specifications to read:

All material approval requests shall be submitted electronically unless otherwise directed by the Agency. The submittal shall be by email and shall include a cover letter and one PDF file with all pay items for the project.

General requirements include:

- a. All material approval requests shall be submitted within 7 calendar days after the preconstruction meeting. Traffic signal materials and equipment shall bear the U.L. label whenever such labeling is available.
- b. Original manufacturer published product data and shop drawing sheets with legible dimensions and details shall be submitted for review.
- c. Product data and shop drawings shall be arranged by pay item. Pages of the submittal should be numbered. If the literature contains more than one item, the Contractor shall indicate which item or items will be furnished.
- d. When hard copy submittals are necessary for another agency, four complete copies of the manufacturer's descriptive literatures and technical data for the traffic signal materials will be submitted, in addition to the electronic copy required above.
- e. When hard copy submittals are necessary for structural elements, four complete copies of the shop drawings for the mast arm assemblies and poles, and the combination mast arm assemblies and poles showing, in detail, the fabrication thereof and the certified mill analyses of the materials used in the fabrication, anchor rods, and reinforcing materials, shall be submitted, in addition to the electronic copy required above.
- f. Partial or incomplete submittals will be returned without review.

- g. Certain non-standard mast arm poles and structures will require additional review from IDOT's Bureau of Bridges and Structures. Examples include special mast arms and non-standard length mast arm pole assemblies. The Contractor shall account for the additional review time in their schedule.
- h. Where certifications and/or warranties are specified, the information submitted for approval shall include certifications and warranties. Certifications involving inspections, and/or tests of material shall include all test data, dates, and times.
- i. The Contractor shall secure approved materials in a timely manner to assure construction schedules are not delayed.
- j. After the Agency reviews the submittals for conformance with the design concept of the project, the Agency will request revisions or authorize the Contractor to procure the materials. Since the Agency's review is for conformance with the design concept only, it is the Contractor's responsibility to coordinate the various items into a working system as specified. The Contractor shall not be relieved from responsibility for errors or omissions in the shop, working, layout drawings, or other documents by the Agency's approval thereof.
- k. All submitted items reviewed and marked 'APPROVED AS CORRECTED', 'NOT APPROVED', or 'RESUBMIT' shall be resubmitted in their entirety, unless otherwise indicated within the submittal comments, with a disposition of previous comments to verify Contract compliance at no additional cost to the contract.
- l. The Contractor shall not order major equipment (i.e., mast arm assemblies) prior to Agency's approval of the Contractor marked proposed traffic signal equipment locations to assure proper placement of Contract required traffic signal displays, push buttons and other facilities. Field adjustments may require changes in proposed mast arm length and other coordination.

MARKING PROPOSED LOCATIONS

Revise "Marking Proposed Locations for Highway Lighting System" of Article 801.09 to read "Marking Proposed Locations for Highway Lighting System and Traffic Signals."

Add the following to Article 801.09 of the Standard Specifications:

It shall be the Contractor's responsibility to verify all dimensions and conditions existing in the field prior to ordering materials and beginning construction. This shall include locating the mast arm foundations and verifying the mast arms lengths.

INSPECTION OF ELECTRICAL SYSTEMS

Add the following to Article 801.10 of the "Standard Specifications":

- (c) All cabinets, including temporary traffic signal cabinets, shall be assembled by an approved Equipment Supplier in District 1. Agency reserves the right to request that any controller and cabinet be tested at a District 1 approved Equipment Supplier's facility prior to field installation. Such testing will be at no extra cost to the contract. All permanent or temporary "railroad interconnected" controllers and cabinets, shall be new, built, tested and approved by the controller Equipment Supplier, in the Equipment Supplier's District 1 approved facility, prior to field installation. The test

shall be conducted in the presence of Agency and Illinois Commerce Commission personnel, or as directed by the Agency. The Equipment Supplier shall provide the technical equipment and assistance as required by the Agency to fully test this equipment.

LIQUIDATED DAMAGES FOR UNTIMELY WORK

A primary concern is to maintain a safe and efficient roadway for the public. Therefore, the Contractor shall proceed with the traffic signal work as soon as conditions and project staging permit. If in the opinion of the Agency construction conditions are suitable for traffic signal work, and the Contractor has not yet begun the traffic signal work, the Agency shall notify the Contractor to proceed. The Contractor shall begin the traffic signal work within seven (7) calendar days after notification to proceed except for loop detector installation, for which the Contractor is required to install fully operational loops within fourteen (14) calendar days. The Contractor shall continue to prosecute the traffic signal work until completion, or until they can no longer proceed due to conditions beyond their control. The Contractor shall notify the Agency of any conditions impeding and/or delaying their prosecution of the work. Failure by the Contractor to proceed with the traffic signal work as specified herein shall result in liquidated damages of **\$500.00** per calendar day per intersection. This requirement remains in effect throughout the entire year, including the off-season.

WORK NEAR HIGHWAY-RAIL GRADE CROSSINGS

Any proposed activity in the vicinity of a highway-rail grade crossing shall adhere to the guidelines set forth in the MUTCD regarding work in temporary traffic control zones in the vicinity of highway-rail grade crossings which states that lane restrictions, flagging, or other operations shall not create conditions where vehicles can be queued across the railroad tracks. If the queuing of vehicles across the tracks cannot be avoided, a uniformed law enforcement officer or flagger shall be provided at the crossing to prevent vehicles from stopping on the tracks, even if automatic warning devices are in place.

MODIFICATION OF IDOT SPECIAL PROVISION REQUIREMENTS

When IDOT Special Provisions for traffic signal items are included in the Contract, the following modifications shall apply to the noted Special Provisions.

Pedestrian Push-Button Station Requirements: Add the following paragraph to the following District 1 Special Provision:

888.01 TS Pedestrian Push-Button

The pedestrian push button signs shall be retroreflective R10-3, 9"x12" signs displaying the "Push Button For" legend with the Walking Man symbol and arrow, unless shown otherwise in the plans. The pedestrian push button station shall be natural, unfinished aluminum with rounded corners sized to accommodate the 9"x12" sign.

Handhole Requirements: Add the following paragraph to the following District 1 Special Provision:

814.01 TS Handholes

The "Traffic Signals" label for the handhole lid shall also be applicable to Agency handholes.

MAINTENANCE AND RESPONSIBILITY

Revise Article 801.11 of the "Standard Specifications" to read:

- a. The Contractor shall be fully responsible for the safe and efficient operation of the traffic signals. Any inquiry, complaint or request by Agency or the public shall be investigated and repairs started. The Contractor shall restore service and complete permanent repairs according to the following Repair Timetable. Failure to provide this service will result in liquidated damages of **\$500** per calendar day per occurrence. All costs associated with the completion of the uncompleted repair shall be the responsibility of the Contractor. Liquidated damages will be deducted from the cost of the Contract. Agency personnel, the Agency's Traffic Signal Maintenance Contractor, and the Agency's Network Integration Consultant may inspect any signaling device on Agency's highway system at any time without notification.
- b. At signals where the Contractor is responsible for maintenance, including temporary traffic signals and newly constructed traffic signals that are operational but not yet accepted by the Agency, the Contractor shall be responsible for clearing snow, ice, dirt, debris or other condition that obstructs visibility of any traffic signal display or access to traffic signal equipment in compliance with the REPAIR TIMETABLE. Two clearly visible signal indications of all colors and arrows are required to be maintained at all time.
- c. In the event of power loss at locations where the Contractor is responsible for maintenance, including temporary traffic signals and newly constructed traffic signals that are not yet accepted by the Agency, the Contractor shall be responsible for working with Agency personnel to make connections of portable Agency -supplied generators at the maintained location, as directed by the Agency.
- d. New equipment that is installed or under construction under this Contract, but is not yet fully operational, shall be maintained in a workmanlike manner such that it does not constitute a hazard to Agency or Contractor personnel, or the public, and to minimize the likelihood of damage to the equipment.

All items shall be repaired within the period described in the Repair Timetable. The times listed are noncumulative. Any repairs not specifically covered in the Repair Timetable, or described elsewhere, shall be completed within a period matching the most similar line item in the Repair Timetable.

REPAIR TIMETABLE
(non cumulative)

ITEM	<u>RESPONSE TIME</u>	<u>SERVICE RESTORATION</u>	<u>PERMANENT REPAIRS</u>
KNOCKDOWNS/FAILURE/DAMAGE:			
Cabinet	1 hr	24 hrs	2 wks
Controller (Local or Master)	1 hr	24 hrs	2 wks
Detector Loop/Magnetometer	1 hr	n.a.	2 wks
Loop Detector Amplifier	1 hr	4 hrs	2 wks
Video Detection Camera/Processing Hardware	1 hr	4 hrs	2 wks
PTZ Camera	2 hrs	48 hrs	2 wks
Modem	2 hrs	NWD	2 wks
Load Switch/BIU	1 hr	2 hrs	2 hrs
Signal Head/Lenses	1 hr	2 hrs	NWD
Pole/Mast Arm	1 hr	2 hrs	AGY
Cabling/Conduit	1 hr	4 hrs	AGY
Interconnect/Communication	NWD	NWD	AGY
Graffiti/Advertising	NWD	NWD	NWD
Telemetry, Electrical	1 hr	2 hrs	NWD
Ethernet Switches/Video Encoders	NWD	48 hrs	2 wks
Indicators/switches/LEDs/displays	NWD	n.a.	2 wks
Snow/Ice/Debris/Other Obstructions	1 hr	2 hrs	NWD
Outages not covered elsewhere	1 hr	2 hrs	NWD
Filter/Cleanliness/fans/thermostat	NWD	NWD	n.a.
Misalignment (conflicting)	1 hr	2 hrs	NWD
Misalignment (non-conflicting)	4 hrs	6 hrs	NWD
COMPLAINTS/CALLS/ALARMS:			
Timing/Phasing/Programming	1 hr	2 hrs	AGY
Coordination Alarm/Cycle Fail	NWD	AGY	AGY
Controller Alarm/Status Change	1 hr	NWD	1 wk
Detector Alarm/Status change	NWD	NWD	AGY
UPS	1 hr	2 hrs	2 wks
CMU Flash/Local Flash	1 hr	2 hrs	1 wk
Door Open	1 hr	n.a.	NWD

LEGEND: hr=hour, hrs=hours, NWD=next week day, days=calendar days,
AGY=acceptable to Agency, wk=week, wks=weeks, n.a.=not applicable

VIDEO AND NETWORK SYSTEM REQUIREMENTS

Whenever work is performed on the Agency's video and/or network equipment under the Contract, the Contractor shall contact the Agency prior to departing the site to confirm proper operation of the equipment within the field Ethernet communications system. This includes confirming that the camera horizon is properly adjusted, camera lens is clear, network settings are correct, and all devices are communicating correctly with the Central Signal System. For equipment requiring an IP address or other Agency assigned parameters, the Agency will provide all available IP and programming details upon request. For new equipment installation, the Contractor should request the information from the Agency a minimum of one week in advance of activating the networked equipment. The Contractor shall be responsible for making any changes necessary to the camera mounting, aiming, and/or equipment programming to meet the Agency requirements and/or to operate the equipment to the satisfaction of the Agency. Contacting the Agency for confirmation of equipment operation does not constitute an installation review and does not relieve the Contractor of the responsibility to correct deficiencies identified prior to acceptance by the Agency. The cost of meeting these requirements shall be included in the associated pay item and no additional compensation shall be made. Calls to the Agency shall be made according to the Central Signal System Support section of this special provision.

TRAFFIC SIGNAL INSPECTION ("TURN-ON")

Revise Article 801.15(b) of the "Standard Specifications" to read:

When the Contractor installs a component under the Contract that requires a "turn-on" field inspection, the Contractor shall request to schedule the inspection with the Agency a minimum of ten calendar days prior to the time of the requested inspection. Prior to the date of the "turn-on," the Contractor must provide written notification (by letter or email) that the equipment has been field tested and the intersection is capable of operating according to Contract requirements.

It is the Agency's intent to have all electric work completed and the equipment field-tested by the Equipment Supplier prior to Agency's "turn-on" field inspection. The Contractor shall have all traffic signal work completed and the electrical service installation connected by the utility company prior to requesting an inspection and "turn-on" of the traffic signal installation. In the event the Agency determines that the work is not complete and that the inspection will require more than two hours to complete, the inspection may be cancelled, and the Contractor will be required to reschedule at another date.

The Contractor shall provide a representative from the Equipment Supplier's office to attend the traffic signal inspection for both permanent and temporary traffic signal "turn-ons." Signal indications being tested shall match the lane configurations and markings at the intersection. If any conflicting signal indications are visible to motorist or pedestrians while testing, the Contractor shall be responsible to provide police officer(s) to assist with traffic control at the time of testing.

Upon demonstration that the signals are operating properly according to the Contract and to the satisfaction of the Agency, the Agency will allow the signals to be placed in continuous operation. The Agency will inspect the traffic signal installation, with the assistance of the Contractor, and provide a written "punch-list" of deficient items requiring completion. The traffic signals will not be transferred to Agency maintenance until all "punch-list" work is corrected and re-inspected. The Contractor shall complete all "punch-list" work within 30 calendar days of notification. If this work is not completed within 30 days, Agency reserves the right to have the work completed by others at the Contractor's expense. This cost will be in addition to Liquidated Damages for Untimely Work.

The Contractor shall furnish all equipment and/or parts to keep the traffic signal installation operating. No spare traffic signal equipment is available from Agency. The Contractor shall be responsible for all traffic signal equipment and associated maintenance thereof until Agency acceptance is granted.

When the Contractor has completed the “punch-list” work, he shall contact the Agency to schedule a follow-up inspection of the traffic signal installation. If the Agency determines that any “punch-list” items have not been completed, he may cancel the inspection, and the Contractor will need to reschedule.

It is possible that during any follow-up inspections of the traffic signal installation, deficient items may be identified that were not identified at the “turn-on” inspection or included in the initial “punch-list.” The Agency shall advise the Contractor of any such items, and it shall be the Contractor’s responsibility to complete these items prior to acceptance of the traffic signal.

Acceptance of the traffic signal by Agency shall be based on the inspection results and successful operation during a minimum 72-hour “burn-in” period following activation of the traffic signal and related equipment. Therefore, due to the required “burn-in” period, acceptance of the traffic signal shall not occur at the time of the “turn-on.” Upon notification by the Contractor that all noted deficiencies have been corrected, and after the “burn-in” period, the Agency shall perform an acceptance inspection of the traffic signal installation. If approved, the traffic signal acceptance shall be given verbally at the inspection, followed by written correspondence from the Agency. When the Agency is acting as a representative of other agencies, the agency that is responsible for the maintenance of each traffic signal installation will assume the traffic signal maintenance upon acceptance by the Agency.

The Agency requires the following Final Project Documentation from the Contractor prior to acceptance of the traffic signal. The documentation shall be provided in hard copy and electronic format as indicated below.

1. One (1) copy (11”x17”) and one electronic PDF file of as-built signal plans with field revisions marked in red, including the location and labeling of detection equipment that differs from that shown in the plans.
2. One (1) copy of the operation and service manuals for the signal controller and the associated control equipment.
3. Five (5) copies (11"x17") and one electronic PDF file of the cabinet wiring diagrams.
4. Five (5) copies of the traffic signal installation cable log, along with electronic PDF and DGN files.
5. Original certificates for all manufacturer and Contractor warranties and guarantees required by Article 801.14 of the Standard Specifications.
6. GPS coordinates of traffic signal equipment as detailed in the Record Drawings section herein.
7. For new cabinet installations, two (2) cabinet keys and one (1) police door key.

All cost of work and materials required to comply with the above requirements shall be included in the pay item bid prices, under which the subject materials and signal equipment are paid, and no additional

compensation will be allowed. Materials and signal equipment not complying with the above requirements will be subject to removal and disposal at the Contractor's expense.

LOCATING UNDERGROUND FACILITIES

Revise Section 803 of the “Standard Specifications” to read:

In addition to requirements to locate utilities on behalf of the Agency as described in this Contract, the Contractor is responsible to request utility locates for work performed under this Contract.

The exact location of all utilities shall be field verified by the Contractor before the installation of any components of the traffic signal system. For locations of utilities call J.U.L.I.E. at **1-800-892-0123**. The location of some utilities may require contacting other Agencies or Municipalities.

The Contractor should note that IDOT does not participate in J.U.L.I.E. Underground work that is proposed to take place within IDOT right-of-way requires the Contractor to contact IDOT for the procedures involved in locating their facilities.

RESTORATION OF WORK AREA

Add to Section 801 of the “Standard Specifications”:

Restoration of the traffic signal work area shall be included in the related pay item including foundation, conduit, handhole, trench and backfill, etc. and no extra compensation shall be allowed. All roadway surfaces including shoulders, medians, sidewalks, pavement, etc. shall be restored to match the previously existing conditions. All damage to mowed lawns shall be replaced with an approved sod, and all damage to unmowed fields shall be seeded, according to Section 250 and Section 252 of the Standard Specifications respectively. All brick pavers disturbed in the work area shall be restored to their original configuration as directed by the Agency. All damaged brick pavers shall be replaced with a comparable material approved by the Agency. Areas in front of residences are to be restored within two weeks of the completion of work causing the disturbance regardless of the duration of the project remaining. The traffic signal work area includes any area where the Contractor or their subcontractors perform work to install, repair, or maintain Agency owned traffic, lighting, or ITS equipment or facilities, regardless of the presence of an actual traffic signal.

CABINET NEATNESS AND WIRING

The Contractor shall ensure that all wiring and peripheral equipment in any new traffic signal cabinet is in a neat and orderly fashion that is acceptable to the Agency. This applies to controller cabinets, master cabinets, railroad cabinets, communication/ITS cabinets, lighting cabinets, electrical service cabinets, or any other new cabinet called for in the project plans.

All conduit entrances into the cabinet shall be sealed with a pliable waterproof material. Electrical cables inside the cabinet shall be neatly trained along the base and back of the cabinet. Each conductor shall be connected individually to the proper terminal. The spare conductors shall be bound into a neat bundle. All cables, including those for signals, vehicle detection, pushbuttons, emergency vehicle preemption, video transmission, and communication shall be neatly arranged and bundled within the cabinet to the satisfaction of the Agency. Each cable shall be marked with an identification number which corresponds to the number and description on the cabinet cable log.

When modernizing or modifying an existing cabinet, the new cables being installed shall be trained, bundled, and labeled to the satisfaction of the Agency. When working inside an existing cabinet, the

Contractor shall minimize disturbance to existing cables and cabinet wiring. Any existing cables and cabinet wiring disturbed by the Contractor shall be re-trained, bundled, and/or labeled to the satisfaction of the Agency.

Unless indicated elsewhere in the plans and specs, all equipment in the cabinet shall be wired through the UPS except lighted street name signs and luminaires.

Components with Ethernet capabilities installed under this Contract shall be connected to the Switch or other communications equipment in the cabinet as directed by the Agency. All equipment, materials, labor and hardware, including Ethernet patch cables, required to provide cabinet neatness and wiring to the satisfaction of the Agency shall be included in the applicable pay item for FULL ACTUATED CONTROLLER AND TYPE IV CABINET SPECIAL, FULL-ACTUATED CONTROLLER IN EXISTING CABINET, and/or MODIFY EXISTING CONTROLLER.

The Agency will not accept the work and approve payment until the above requirements are satisfied.

EQUIPMENT SUPPLIER AND VENDOR REPRESENTATION

The Agency reserves the right to request a representative of the Equipment Supplier and/or Vendor be present at the activation of new traffic equipment. The traffic equipment may include signal heads, cabinets, controllers, amplifiers, preemption, detection, monitoring, communication/transmission, fiber-optic/telemetry, radio, microwave, infrared, illuminated signs, streetlights, push buttons, lighted crosswalks, uninterruptable power supplies, adaptive, counters, and any other new equipment being installed and activated. The representative shall be a qualified technician trained in the proper installation and operation of the equipment being installed under the Contract.

The Agency reserves the right to cancel the “turn-on,” transfer, or other scheduled activity if, in their opinion, knowledgeable personnel from the Equipment Supplier or Vendor are not present. Rescheduling, and any associated costs, shall be the responsibility of the Contractor, and shall be subject to availability of Agency staff.

This provision is in addition to the requirement contained herein that the Contractor provide a representative from the Equipment Supplier to attend the traffic signal inspection for both permanent and temporary traffic signal “turn-on”.

Any costs associated with Equipment Supplier and/or Vendor representation shall be included in the unit price of the associated traffic equipment being activated. Any unforeseen costs incurred by the Contractor to provide this representation shall not be the responsibility of the Agency.

INTERRUPTION OF COMMUNICATION

The interruption of communication with County equipment shall be kept to an absolute minimum. Communication includes controller telemetry, video transmission, camera control signals, Highway Advisory Radio, wireless interconnect, telephone (POTS/ISDN/DSL), high speed Internet, cellular modem, or any other County communication equipment. This provision applies to cable types including copper, multimode fiber optic, singlemode fiber optic, telephone cables, Ethernet cables, or any other cable used by the County to monitor and maintain its various signal and ITS equipment.

The Contractor shall plan ahead and shall stage their construction work accordingly so that they can interrupt communication, and then restore communication, with as little down time as possible. For example, when a section of existing interconnect is being relocated, the new handholes and conduits

should be installed prior to disconnecting the interconnect cable. The interconnect cable can then be disconnected, pulled out of the existing conduit, pulled through the new conduit, and re-connected. In addition, when an existing fiber optic cable is to be re-used, the Contractor shall be prepared to immediately replace any fiber splices and/or terminations that become damaged.

Prior to disconnecting any communication link, the Contractor shall contact the Agency for approval of their planned construction method.

CENTRAL SIGNAL SYSTEM SUPPORT

Agency staff are available to provide a limited amount of technical support to the Contractor between the hours of 8:00 AM and 4:30 PM. The Contractor may request the Agency staff provide configuration information, settings, and testing support, and other items approved by the Agency. Requests that require support after 4:30 PM may not be honored until the next business day. Extensions to project schedules or completion dates will not be authorized solely due to requests for support that do not meet these requirements.

ACCESSIBLE PEDESTRIAN SIGNALS

Description.

This work shall consist of furnishing and installing pedestrian push button accessible pedestrian signals (APS) type. Each APS shall consist of an interactive vibrotactile pedestrian pushbutton with speaker, an informational sign, a light emitting diode (LED) indicator light, a solid state electronic control board, a power supply, wiring, and mounting hardware. The APS shall meet the requirements of the MUTCD and Sections 801 and 888 of the Standard Specifications, except as modified herein.

Electrical Requirements.

The APS shall operate with systems providing 95 to 130 VAC, 60 Hz and throughout an ambient air temperature range of -29 to +160 °F (-34 to +70 °C).

The APS shall contain a power protection circuit consisting of both fuse and transient protection.

Audible Indications.

A pushbutton locator tone shall sound at each pushbutton with volume settings a maximum of 5 dBA louder than ambient sound.

Buttons shall be programmed to generate an audible walk indication with a speech walk message regardless of their placement. All buttons shall also be capable of producing a user-selectable audible percussive tone, repeating at 8 to 10 ticks per second with a dominant frequency of 880 Hz.

A clear, verbal message shall be used to communicate the pedestrian walk interval. This message shall sound throughout the WALK interval only. The verbal message shall be modeled after: "Street Name." Walk Sign is on to cross "Street Name." No other messages shall be used to denote the WALK interval.

Automatic volume adjustments in response to ambient traffic sound level shall be provided up to a maximum volume of 100 dBA. Locator tone and verbal messages shall be no more than 5 dB louder than ambient sound.

Pedestrian Pushbutton.

Pedestrian pushbuttons shall be at least 2 in. in diameter or width. The force required to activate the pushbutton shall be no greater than 3.5 lb (15.5 N). Mounting shall be according to the MUTCD.

A red LED indicator shall be located on or near the pushbutton which, when activated, acknowledges the pedestrian's request to cross the street. The recorded messages and roadway designations shall be confirmed with the engineer and included with submitted product data.

Signage.

The MUTCD sign R10-3e shall be located immediately above the pedestrian pushbutton and parallel to the crosswalk controlled by the pushbutton.



R10-3e

Tactile Arrow.

A tactile arrow, pointing in the direction of travel controlled by a pushbutton, shall be provided either on the pushbutton or its sign.

Vibrotactile Feature.

The pushbutton shall pulse when depressed and shall vibrate continuously throughout the WALK interval.

Training.

The Contractor shall provide APS onsite training for Agency personnel and person(s) or group that requested the installation of the APS. APS features and operation shall be demonstrated during the training. The training shall be presented by the APS equipment supplier. Time, date, and location of the training and demonstration shall be coordinated with the Engineer.

Basis of Payment.

This work will be paid for at the contract unit price each for a pedestrian push button, ACCESSIBLE PEDESTRIAN SIGNALS type and shall include furnishing, installation, mounting hardware, message programming, and training.

BATTERY (SET)

This item shall consist of furnishing and installing a new battery set (a set of 4 batteries or a set of 6 batteries as required for the specific UPS) in an existing cabinet and removing and disposing of the existing batteries. Each battery shall meet the applicable requirements of the UNINTERRUPTIBLE POWER SUPPLY, SPECIAL section of the Special Provisions contained in this Contract. The Contractor shall label each battery with the date of install.

The existing batteries shall be disposed of in accordance shall be disposed of in accordance with all applicable local, state and federal laws and regulations.

The Agency may authorize the use of this pay item to replace batteries found to be weak or deficient during Routine Maintenance, the Annual UPS Inspection/Battery Testing, or Patrol Inspection. The Engineer may also use this pay item to replace existing batteries at locations throughout the County.

This work will be paid for at the Contract unit price per set of BATTERY, when authorized in advance by the Engineer. The unit price shall include furnishing and installing a set of batteries at the location indicated in the authorization or as directed by the Engineer and removing and disposing of the existing batteries.

CENTURY HILL STREET LIGHT REPAIR, LUMINAIRE ARM MOUNTED

Effective May 21, 2018

This item shall consist of furnishing and installing a LED luminaire of the type specified, and all required hardware as specified herein. The materials and work for this item shall comply with Section 821 of the Standard Specification, the LED REQUIREMENTS special provision in this Contract, and the following.

The Contractor shall dispose of the existing lighting fixture and housing outside of the right-of-way according to applicable laws and regulations. The cost of removing and disposing of the existing equipment is included in the cost of the pay item CENTURY HILL STREET LIGHT REPAIR, LUMINAIRE MOUNTED.

Materials: The luminaire shall be GE ERL1-0-04-B3-30-A-DKBZ-GILR (084), or equivalent as approved by the Engineer.

Installation: The Contractor will remove and re-install existing shorting caps and photocells onto new luminaires. The cost of relocating existing shorting caps and photocells is included in the cost of the pay item CENTURY HILL STREET LIGHT REPAIR, LUMINAIRE MOUNTED.

Each luminaire shall be installed according to the manufacturer's recommendations.

Luminaires which are pole mounted shall be mounted on site such that poles and arms are not left unloaded. Pole mounted luminaires shall be level/adjusted after poles are set and vertically aligned before being energized. When mounted on a tenon, care shall be exercised to assure maximum insertion of the mounting tenon. Each luminaire shall be checked to assure compatibility with the project power system. When the night-time check of the lighting system by the Engineer indicates that any luminaires are mis-aligned, the mis-aligned luminaires shall be corrected at no additional cost.

No luminaire shall be installed before it is approved.

Pole wire shall be extended through the pole, pole grommet, luminaire ring, and any associated arm and tenon. The pole wire shall be terminated in a manner that avoids sharp kinks, pinching, pressure on the insulation, or any other arrangement prone to damaging insulation value and producing poor megger test results. Wire shall be trained away from heat sources within the luminaire. Wires shall be terminated so all strands are extended to the full depth of the terminal lug with the insulation removed far enough so it abuts against the shoulder of the lug, but is not compressed as the lug is tightened.

Each luminaire and optical assembly shall be free of all dirt, smudges, etc. Should the optical assembly require cleaning, a cleaning procedure approved by the luminaire manufacturer shall be used.

Fuse shall be installed in existing fuse kit according to manufacturer's recommendation.

Basis of Payment: This work shall be paid for at the contract unit price each for CENTURY HILL STREET LIGHT REPAIR, LUMINAIRE MOUNTED of the type specified. The unit price shall include all equipment, materials, and labor required to remove the existing luminaire fixture, furnish and install new luminaire on the existing arm, relocate existing shorting caps and photocells, furnish and install fuse, dispose of existing lighting unit outside of the right-of-way, and place lighting unit into proper operation to the satisfaction of the Engineer.

CENTURY HILL STREET LIGHT REPAIR, POST TOP MOUNTED

Effective May 21, 2018

This item shall consist of furnishing and installing a LED lamp as specified herein. The materials and work for this item shall comply with Section 821 of the Standard Specification, the LED REQUIREMENTS special provision in this Contract, and the following.

The Contractor shall dispose of the existing lamp module outside of the right-of-way according to applicable laws and regulations. The cost of removing and disposing of the existing equipment is included in the cost of the pay item CENTURY HILL STREET LIGHT REPAIR, POST TOP MOUNTED.

Materials: The lamp shall be Eiko #LED27-WPT-30KMOG-G7, or equivalent as approved by the Engineer.

Installation: Post top lamps are to be installed according to the manufacturer's recommendations.

No lamp shall be installed before it is approved.

Each optical assembly shall be free of all dirt, smudges, etc. Should the optical assembly require cleaning, a cleaning procedure approved by the light unit manufacturer shall be used.

Fuse shall be installed in existing fuse kit according to manufacturer's recommendation.

Basis of Payment: This work shall be paid for at the contract unit price each for CENTURY HILL STREET LIGHT REPAIR, POST TOP MOUNTED. The unit price shall include all equipment, materials, and labor required to remove the existing lamp, furnish and install new lamp on the fixture, dispose of existing lighting unit outside of the right-of-way, and place lighting unit into proper operation to the satisfaction of the Engineer.

CONCRETE FOUNDATIONS

Effective: May 22, 2002

Revised: July 01, 2015

878.01TS

Add the following to Article 878.03 of the Standard Specifications:

All anchor bolts shall be according to Article 1006.09, with all anchor bolts hot dipped galvanized a minimum of 12 in. at the threaded end.

Foundations used for Combination Mast Arm Poles shall provide an extra 2-1/2 inch (65 mm) raceway.

No foundation is to be poured until the Resident Engineer gives his/her approval as to the depth of the foundation.

Add the following to the first paragraph of Article 878.05 of the Standard Specifications:

The price shall include a concrete apron in front of the cabinet and UPS as shown in the plans or as directed by the engineer.

DETECTOR LOOP

Procedure.

A minimum of seven (7) working days prior to the Contractor cutting loops, the Contractor shall mark the proposed loop locations and contact the appropriate Agency to inspect and approve the layout. When preformed detector loops are installed, the Contractor shall have them inspected and approved prior to the pouring of the Portland cement concrete surface, using the same notification process as above.

Installation.

Revise Article 886.04 of the Standard Specifications to read:

Loop detectors shall be installed according to the requirements of the "District One Standard Traffic Signal Design Details." Saw-cuts (homeruns on preformed detector loops) from the loop to the edge of pavement shall be made perpendicular to the edge of pavement when possible in order to minimize the length of the saw-cut (homerun on preformed detector loops) unless directed otherwise by the Engineer or as shown on the plan.

The detector loop cable insulation shall be labeled with the cable specifications.

Each loop detector lead-in wire shall be labeled in the handhole using a water proof tag, from an approved vendor, secured to each wire with nylon ties.

Resistance to ground shall be a minimum of 100 mega-ohms under any conditions of weather or moisture. Inductance shall be more than 50 and less than 700 microhenries. Quality readings shall be more than 5.

- (a) Type I. All loops installed in new asphalt pavement shall be installed in the binder course and not in the surface course. The edge of pavement, curb and handhole shall be cut with a 1/4- inch deep x 4 inches saw cut to mark location of each loop cable.
- (b) Loop sealant shall be two-component thixotropic chemically cured polyurethane from an approved vendor. The sealant shall be installed 1/8 inch below the pavement surface. If installed above the surface the excess shall be removed immediately.
- (c) Handholes shall be placed next to the shoulder or back of curb when preformed detector loops enter the handhole. CNC, included in this pay item, shall be used to protect the preformed lead-ins from back of curb to the handhole.

Coilable Non-Metallic Conduit for Loop Detectors

Empty coilable non-metallic conduit (CNC) shall be furnished and installed in accordance with Sections 810 and 811 of the Standard Specifications except for the following:

Add the following to Article 810.03 of the Standard Specifications:

CNC meeting the requirements of NEC Article 353 shall be used for detector loop raceways to the handholes.

Method of Measurement.

Add the following to Article 886.05 of the Standard Specifications:

Detector loop measurements shall include the saw cut and the length of the detector loop wire to the edge of pavement. The detector loop wire, including all necessary connections for proper operations, from the edge of pavement to the handhole, shall be included in the price of the detector loop. CNC, trench and backfill, and drilling of pavement or handholes shall be included in detector loop quantities.

Basis of Payment.

This work shall be paid for at the contract unit price per foot for DETECTOR LOOP as specified in the plans, which price shall be payment in full for furnishing and installing the detector loop and all related connections for proper operation. All installations of CNC for loop detection shall be included in the contract and not paid for separately.

ELECTRIC CABLE

Effective: May 22, 2002

Revised: July 1, 2015

873.01TS

Delete “or stranded, and No. 12 or” from the last sentence of Article 1076.04 (a) of the Standard Specifications.

Add the following to the Article 1076.04(d) of the Standard Specifications:

Service cable may be single or multiple conductor cable.

ELECTRIC CABLE IN CONDUIT, COAXIAL

Description.

This work shall consist of furnishing and installing a coaxial cable from the traffic signal cabinet to the associated field device as shown on the plans.

Materials.

The coaxial cable shall be an RG-6/U Type low loss digital coaxial cable. The cable shall be a 75-ohm coaxial cable with 18 AWG solid 0.040” bare copper conductor, tinned copper braided shield (95% min), and black polyvinyl chloride jacket. The nominal outside diameter shall be 0.274 inches. The cable shall be rated suitable for outdoor use by the manufacturer.

General.

The work shall be performed according to the applicable portions of Section 873 of the “Standard Specifications”, the details shown on the plans and the following:

Crimp-on BNC plug connectors with 75-ohm resistance shall be used at both the PTZ camera and traffic signal cabinet ends of the cable. The Contractor shall use a hand crimping tool recommended by the plug connector manufacturer to perform the termination.

No splices shall be allowed in the cable between the PTZ camera and the traffic signal cabinet.

Basis of Payment.

This work will be paid for at the contract unit price per foot for ELECTRIC CABLE IN CONDUIT, COAXIAL. The unit price shall include all equipment, materials and labor required to furnish and install the cable making all electrical connections necessary for proper operation.

EMERGENCY VEHICLE PREEMPTION SYSTEM

Revise Section 887 of the Standard Specifications to read:

The emergency vehicle preemption equipment shall be GTT Opticom and must be completely compatible with all components of the equipment currently in use by the Agency.

All new installations shall be equipped with Confirmation Beacons as shown on the "District One Standard Traffic Signal Design Details." The Confirmation Beacon shall consist of a 6-watt Par 38 LED flood lamp with a 30-degree light spread, or a 7-watt Par 30 LED flood lamp with a 15 degree or greater spread, maximum 7-watt energy consumption at 120V, and a 2,000 hour warranty for each direction of pre-emption. The lamp shall have an adjustable mount with a weatherproof enclosure for cable splicing. All hardware shall be cast aluminum or stainless steel. Holes drilled into signal poles, mast arms, or posts shall require rubber grommets. In order to maintain uniformity between communities, the confirmation beacons shall indicate when the control equipment receives the pre-emption signal. The pre-emption movement shall be signalized by a flashing indication at the rate specified by Section 4L.01 of the "Manual on Uniform Traffic Control Devices," and other applicable sections of future editions. The stopped pre-empted movements shall be signalized by a continuous indication.

All light operated systems shall include security and transit preemption software and operate at a uniform rate of 14.035 Hz \pm 0.002, or as otherwise required by the Engineer, and provide compatible operation with other light systems currently being operated in the District.

This item shall include any required modifications to an existing traffic signal controller as a result of the addition of the EMERGENCY VEHICLE PRIORITY SYSTEM.

Basis of Payment.

The work shall be paid for at the contract unit price each for furnishing and installing LIGHT DETECTOR and LIGHT DETECTOR AMPLIFIER. Furnishing and installing the confirmation beacon shall be included in the cost of the Light Detector. Any required modifications to the traffic signal controller shall be included in the cost of the LIGHT DETECTOR AMPLIFIER. The preemption detector amplifier shall be paid for on a basis of (1) one each per intersection controller and shall provide operation for all movements required in the pre-emption phase sequence.

EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C

Effective: January 1, 2013

Revised: July 1, 2015

873.03TS

This work shall consist of furnishing and installing lead-in cable for light detectors installed at existing and/or proposed traffic signal installations as part of an emergency vehicle priority system. The work

includes installation of the lead-in cables in existing and/or new conduit. The electric cable shall be shielded and have (3) stranded conductors, colored blue, orange, and yellow with a stranded tinned copper drain wire. The cable shall meet the requirements of the vendor of the Emergency Vehicle Priority System Equipment.

Basis of Payment.

This work will be paid for at the contract unit price per foot for EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C, which price shall be payment in full for furnishing, installing and making all electrical connections necessary for proper operations.

FIBER OPTIC CABLE

Effective: May 22, 2002

Revised: July 1, 2015

871.01TS

Add the following to Article 871.01 of the Standard Specifications:

The Fiber Optic cable shall be installed in conduit or as specified on the plans.

Add the following to Article 871.02 of the Standard Specifications:

The control cabinet distribution enclosure shall be 24 Port Fiber Wall Enclosure, unless otherwise indicated on plans. The fiber optic cable shall provide twelve fibers per tube for the amount of fibers called for in the Fiber Optic Cable pay item in the Contract. Fiber Optic cable may be gel filled or have an approved water blocking tape.

Add the following to Article 871.04 of the Standard Specifications:

A minimum of six multimode fibers from each cable shall be terminated with approved mechanical connectors at the distribution enclosure. New fiber installations will include a total of 12 singlemode terminations and splices combined at each end of the fiber. If the Agency requires additional terminations or splices, they will be paid for separately. Fibers not being used shall be labeled "spare." Fibers not attached to the distribution enclosure shall be capped. A minimum of 13.0 feet (4m) of extra cable length shall be provided for controller cabinets. The controller cabinet extra cable length shall be stored as directed by the Engineer.

Add the following to Article 871.06 of the Standard Specifications:

The distribution enclosure and all connectors will be included in the cost of the fiber optic cable.

Testing shall be in accordance with Article 801.13(d). Electronic files of OTDR signature traces shall be provided in the Final project documentation with certification from the Contractor that attenuation of each fiber does not exceed 3.5 dB/km nominal at 850nm for multimode fiber and 0.4 bd/km nominal at 1300nm for single mode fiber.

FIBER OPTIC TRACER CABLE

Effective: May 22, 2002

Revised: July 1, 2015

817.02TS

The cable shall meet the requirements of Section 817 of the Standard Specifications, except for the following:

Add the following to Article 817.03 of the Standard Specifications:

In order to trace the fiber optic cable after installation, the tracer cable shall be installed in the same conduit as the fiber optic cable in locations shown on the plans. The tracer cable shall be continuous, extended into the controller cabinet and terminated on a barrier type terminal strip mounted on the side wall of the controller cabinet. The barrier type terminal strip and tracer cable shall be clearly marked and identified. All tracer cable splices shall be kept to a minimum and shall incorporate maximum lengths of cable supplied by the manufacturer. The tracer cable will be allowed to be spliced at handholes only. The tracer cable splice shall use a Western Union Splice soldered with resin core flux and shall be soldered using a soldering iron. Blow torches or other devices which oxidize copper cable shall not be allowed for soldering operations. All exposed surfaces of the solder shall be smooth. The splice shall be covered with a black shrink tube meeting UL 224 guidelines, Type V and rated 600V, minimum length 4 inches and with a minimum 1 inch coverage over the XLP insulation, underwater grade.

Add the following to Article 817.05 of the Standard Specifications:

Basis of Payment.

The tracer cable shall be paid for separately as ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C per foot (meter), which price shall include all associated labor and material for installation.

FULL-ACTUATED CONTROLLER

Effective June 20, 2019

Add the following to Section 857 of the "Standard Specifications":

The controller shall be the latest model available that is compatible with the central signal system software (NTCIP) or "Aries" software, currently in use by the Agencies. Controller software compatibility requirements are based upon the controller's location in the communication system, and shall be as shown on the plans.

FULL-ACTUATED CONTROLLER (SPECIAL)

Description.

This work shall consist of furnishing and installing an "Econolite" brand traffic actuated solid state digital controller meeting the requirements of the Special Provisions for Full Actuated Controller and Cabinet, and Full Actuated Controller and Cabinet, Railroad. This pay item shall include furnishing and installing the controller complete including malfunction management unit, load switches and flasher relays, and all necessary connections for proper operation.

Materials.

Add the following to Article 857.02 of the Standard Specifications:

Controllers shall be NTCIP compliant, Econolite Cobalt running ASC/3 software unless specified otherwise on the plans or elsewhere on these specifications. A NTCIP compliant controller may be used at a traffic signal interconnected to railroad warning devices but only upon the approval of the Engineer. Only controllers supplied by one of the District One approved closed loop equipment supplier will be allowed. The controller shall be the most recent model and software version supplied by the equipment supplier at the time of the traffic signal TURN-ON and include data key. The traffic signal controller shall provide features to inhibit simultaneous display of a circular yellow ball and a yellow arrow display. Individual load switches shall be provided for each vehicle, pedestrian, and right turn over lap phase. The controller shall prevent phases from being omitted during program changes and after all preemption events.

Basis of Payment.

This work will be paid for at the contract unit price each for FULL-ACTUATED CONTROLLER (SPECIAL).

FULL-ACTUATED CONTROLLER AND CABINET

Description.

This work shall consist of furnishing and installing a traffic actuated solid state digital controller in the controller cabinet of the type specified, meeting the requirements of Section 857 of the Standard Specifications, as modified herein, including malfunction management unit, load switches and flasher relays, with all necessary connections for proper operation.

If the intersection is part of an existing system and/or when specified in the plans, this work shall consist of furnishing and installing an "Econolite" brand traffic actuated solid state controller.

Materials.

Add the following to Article 857.02 of the Standard Specifications:

For installation as a stand-alone traffic signal, connected to a closed loop system or integrated into an advance traffic management system (ATMS), controllers shall be Econolite Cobalt running ASC/3 software unless specified otherwise on the plans or elsewhere on these specifications. Only controllers supplied by one of the District One approved closed loop equipment suppliers will be allowed. Unless specified otherwise on the plans or these specifications, the controller shall be of the most recent model and software version supplied by the equipment supplier at the time of the traffic signal TURN-ON. A removable controller data key shall also be provided. Individual load switches shall be provided for each vehicle, pedestrian, and right turn over lap phase. The controller shall prevent phases from being skipped during program changes and after all preemption events and shall inhibit simultaneous display of circular yellow and yellow arrow indications.

For integration into an ATMS such as Centrac, Tactics, or TransSuite, the controller shall have the latest version of NTCIP software installed. For operation prior to integration into an ATMS, the controller shall maintain existing close loop management communications.

Add the following to Article 1074.03 of the Standard Specifications:

- (a) (6) Cabinets shall be designed for NEMA TS2 Type 1 operation. All cabinets shall be pre-wired for a minimum of eight (8) phases of vehicular, four (4) phases of pedestrian and four (4) phases of overlap operation.
- (b) (1) Revise “conflict monitor” to read “Malfunction Management Unit (MMU).” The MMU shall be a RENO A&E or approved equal 16 Channel, LCD display, IP addressable (Ethernet) Malfunction Management.
- (b) (5) Cabinets – Provide 1/8"-thick unpainted aluminum alloy 5052-H32. The surface shall be smooth, free of marks and scratches. All external hardware shall be stainless steel. Controller cabinets shall have a footprint of approximately 44 inches wide by 26 inches deep. Type IV cabinets shall be 65 inches high, and shall provide a third shelf for mounting additional equipment. Type V cabinets shall be 77 inches high. Cabinets shall be fabricated of 1/8" thick unpainted aluminum alloy 5052-H32. The surface shall be smooth, free of marks and scratches. All external hardware shall be stainless steel. All Cabinets shall provide a front door NEMA type 3R construction with cellular neoprene gasket that is rain tight. Door hinges shall be continuous 14-gauge stainless steel and shall be secured with ¼-20 stainless steel carriage bolts. TYPE IV CABINET, SPECIAL shall additionally provide a rear door of the same construction.
- (b) (6) Controller Harness – Provide a TS2 Type 2 “A” wired harness in addition to the TS2 Type 1 harness.
- (b) (7) Surge Protection – Atlantic Scientific ZoneIT Model 91391 base station, Model 91375 ZoneIT pluggable module (50kA rating) with LED status indicators, or approved equivalent.
- (b) (8) BIU – shall be secured by mechanical means.
- (b) (9) Transfer Relays – Solid state or mechanical flash relays are acceptable.
- (b) (10) Switch Guards – All switches shall be guarded.
- (b) (11) Heating – One (1) 200-watt, thermostatically-controlled, Hoffman electric heater, or approved equivalent and two switched light receptacles thermostatically controlled.
- (b) (12) Lighting –One (1) LED Panel shall be placed inside the cabinet top panel and one (1) LED Panel shall be placed on each side of the pull-out drawer/shelf assembly located beneath the controller support shelf. The LED Panels shall be controlled by a door switch. The LED Panels shall be provided from an approved vendor.
- (b) (13) The cabinet shall be equipped with a pull-out drawer/shelf assembly. A 1 ½ inch deep drawer shall be provided in the cabinet, mounted directly beneath the controller support shelf. The drawer shall have a hinged top cover and shall be capable of accommodating one (1) complete set of cabinet prints and manuals. This drawer shall support 50 lbs. in weight when fully extended. The drawer shall open and close smoothly. Drawer dimensions shall make maximum use of available depth offered by the controller shelf and be a minimum of 18 inches wide.
- (b) (14) Plan & Wiring Diagrams – 12” x 15” moisture sealed container attached to door.
- (b) (15) Detector Racks – Fully wired and labeled for four (4) channels of emergency vehicle pre-emption and sixteen channels (16) of vehicular operation. Configuration #1, Half-size rack, to be used when few, if any, detector loops are required. Fully wired to support one BIU, eight channels of vehicle detection, and four channels of Emergency Vehicle Preemption (EVP).
Configuration #2, Full-size rack, to be used when the required detector loops cannot be accommodated by the half-size rack. Fully wired to support one BIU, sixteen channels of vehicle detection, and four channels of EVP.

- (b) (16) Field Wiring Labels – All field wiring shall be labeled.
- (b) (17) Field Wiring Termination – Approved channel lugs required.
- (b) (18) Power Panel and Power Supply – Provide a nonconductive shield.
- (b) (19) Circuit Breaker – The circuit breaker shall be sized for the proposed load but shall not be rated less than 30 amps.
- (b) (20) Police Door – Provide wiring and termination for plug in manual phase advance switch.
- (b) (21) Photo Cell for illuminated street name signs-mount photo cell above front door of cabinet.
- (b) (22) Power distribution panel and circuit breaker for Illuminated Street Name signs shall be mounted near cabinet power supply.
- (b) (23) Roadway combination lighting distribution panel and 30-amp circuit breaker shall be mounted near cabinet power supply.

Basis of Payment.

This work will be paid for at the contract unit price each for FULL-ACTUATED CONTROLLER IN TYPE IV CABINET; FULL-ACTUATED CONTROLLER IN TYPE V CABINET; FULL-ACTUATED CONTROLLER IN TYPE IV CABINET, SPECIAL.

FULL-ACTUATED CONTROLLER AND CABINET, RAILROAD

Description.

This work shall consist of furnishing and installing a traffic actuated solid state digital controller in the controller cabinet of the type specified, meeting the requirements of Section 857 of the Standard Specifications as modified herein and including conflict monitor, load switches and flasher relays, with monitoring and/or providing redundancy to the railroad preemptor and all necessary connections for proper operation.

If the intersection is part of an existing system and/or when specified in the plans, this work shall consist of furnishing and installing an “Econolite” brand traffic actuated solid state controller.

Controller and cabinet shall be assembled only by an approved IDOT District One traffic signal equipment supplier. The equipment shall be tested and approved in the equipment supplier’s District One’s facility prior to field installation.

Materials.

Add the following to Article 857.02 of the Standard Specifications:

For installation as a stand-alone traffic signal, connected to a closed loop system or integrated into an advance traffic management system (ATMS), controllers shall be Econolite Cobalt running ASC/3 software unless specified otherwise on the plans or elsewhere on these specifications. Only controllers supplied by one of the District One approved closed loop equipment supplier will be allowed. The controller shall be the most recent model and software version approved by IDOT for use with railroad intersections supplied by the equipment supplier at the time of the traffic signal TURN-ON unless specified otherwise on plans or this specification, and include a removable data key. Individual load switches shall be provided for each vehicle, pedestrian, and right turn over lap phase. The controller shall prevent phases from being omitted during program changes and after all preemption events and shall inhibit simultaneous display of circular yellow and yellow arrow indications.

For integration into an ATMS such as Centrac, Tactics, or TransSuite, the controller shall have the latest version of NTCIP software installed. For operation prior to integration into an ATMS, the controller shall maintain existing communications.

Controller shall comply with Article 1073.01 as amended herein.

Controller Cabinet and Peripheral Equipment shall comply with Article 1074.03 as amended in these Traffic Signal Special Provisions.

Add the following to Articles 1073.01 (c) (2) and 1074.03 (a) (5) (e) of the Standard Specifications:

Controllers and cabinets shall be new and NEMA TS2 Type 1.

Railroad interconnected controllers and cabinets shall be assembled only by an approved traffic signal equipment supplier. All railroad interconnected (including temporary railroad interconnect) controllers and cabinets shall be new, built, tested and approved by the controller equipment vendor, in the vendor's District One facility, prior to field installation. The vendor shall provide the technical equipment and assistance as required by the Engineer to fully test this equipment.

Add the following to Article 1074.03 of the Standard Specifications:

- (a) (6) Cabinets shall be designed for NEMA TS2 Type 1 operation. All cabinets shall be pre-wired for a minimum of eight (8) phases of vehicular, four (4) phases of pedestrian and four (4) phases of overlap operation.
- (b) (1) Revise “conflict monitor” to read “Malfunction Management Unit (MMU)”. The MMU shall be a RENO A&E or approved equal 16 Channel, LCD display, IP addressable (Ethernet) Malfunction Management.
- (b) (5) Cabinets – Provide 1/8"-thick unpainted aluminum alloy 5052-H32. The surface shall be smooth, free of marks and scratches. All external hardware shall be stainless steel. Controller cabinets shall have a footprint of approximately 44 inches wide by 26 inches deep. Type IV cabinets shall be 65 inches high, and shall provide a third shelf for mounting additional equipment. Type V cabinets shall be 77 inches high. Cabinets shall be fabricated of 1/8" thick unpainted aluminum alloy 5052-H32. The surface shall be smooth, free of marks and scratches. All external hardware shall be stainless steel.
Cabinet Doors – Provide front and rear doors of NEMA type 3R construction with cellular neoprene gasket that is rain tight. Door hinges shall be continuous 14-gauge stainless steel and shall be secured with ¼-20 stainless steel carriage bolts.
- (b) (6) Controller Harness – Provide a TS2 Type 2 “A” wired harness in addition to the TS2 Type 1 harness.
- (b) (7) Surge Protection –Atlantic Scientific ZoneIT Model 91391 base station, Model 91375 ZoneIT pluggable module (50kA rating) with LED status indicators, or approved equivalent.
- (b) (8) BIU – shall be secured by mechanical means.
- (b) (9) Transfer Relays – Solid state or mechanical flash relays are acceptable.
- (b) (10) Switch Guards – All switches shall be guarded.
- (b) (11) Heating – One (1) 200 watt, thermostatically-controlled, electric heater.
- (b) (12) Lighting – One (1) LED Panel shall be placed inside the cabinet top panel and one (1) LED Panel shall be placed on each side of the pull-out drawer/shelf assembly located

- beneath the controller support shelf. The LED Panels shall be controlled by a door switch. The LED Panels shall be provided from an approved vendor.
- (b) (13) The cabinet shall be equipped with a pull-out drawer/shelf assembly. A 1 ½ inch deep drawer shall be provided in the cabinet, mounted directly beneath the controller support shelf. The drawer shall have a hinged top cover and shall be capable of accommodating one (1) complete set of cabinet prints and manuals. This drawer shall support 50 lbs. (23 kg) in weight when fully extended. The drawer shall open and close smoothly. Drawer dimensions shall make maximum use of available depth offered by the controller shelf and be a minimum of 18 inches wide.
 - (b) (14) Plan & Wiring Diagrams – 12” x 15” moisture sealed container attached to door.
 - (b) (15) Detector Racks – Fully wired and labeled for four (4) channels of emergency vehicle pre-emption and sixteen channels (16) of vehicular operation. Configuration #1, Half-size rack, to be used when few, if any, detector loops are required. Fully wired to support one BIU, eight channels of vehicle detection, and four channels of Emergency Vehicle Preemption (EVP).
Configuration #2, Full-size rack, to be used when the required detector loops cannot be accommodated by the half-size rack. Fully wired to support one BIU, sixteen channels of vehicle detection, and four channels of EVP.
 - (b) (16) Field Wiring Labels – All field wiring shall be labeled.
 - (b) (17) Field Wiring Termination – Approved channel lugs required.
 - (b) (18) Power Panel and Power Supply – Provide a nonconductive shield.
 - (b) (19) Circuit Breaker – The circuit breaker shall be sized for the proposed load but shall not be rated less than 30 amps.
 - (b) (20) Police Door – Provide wiring and termination for plug in manual phase advance switch.
 - (b) (21) Photo Cell for illuminated street name signs-mount photo cell above front door of cabinet.
 - (b) (22) Power distribution panel and circuit breaker for Illuminated Street Name signs shall be mounted near cabinet power supply.
 - (b) (23) Roadway combination lighting distribution panel and 30-amp circuit breaker shall be mounted near cabinet power supply.
 - (b) (24) Railroad Pre-Emption Test Switch – Shall be provided from an approved vendor.

Installation.

Add the following to Article 857.03 of the Standard Specifications:

The Contractor shall arrange to install a standard voice-grade dial-up telephone line and all equipment to dial into the controller and have the controller dial out to the RAILROAD, FULL-ACTUATED CONTROLLER AND CABINET as called for on the traffic signal installation plans. If the traffic signal installation is part of a traffic signal system, a telephone line is usually not required, unless a telephone line is called for on the traffic signal plans. The Contractor shall follow the requirements for the telephone service installation as contained in the current District One Traffic Signal Special Provision for Master Controller.

Basis of Payment.

This work will be paid for at the contract unit price each for FULL-ACTUATED CONTROLLER AND TYPE IV CABINET; RAILROAD.

GROUNDING CABLE

Effective: May 22, 2002

Revised: July 1, 2015

817.01TS

The cable shall meet the requirements of Section 817 of the "Standard Specifications," except for the following:

Add the following to Article 817.02 (b) of the Standard Specifications:

Unless otherwise noted on the Plans, traffic signal grounding conductor shall be one conductor, #6 gauge copper, with a green color coded XLP jacket.

The traffic signal grounding conductor shall be bonded, using a UL Listed grounding connector to all proposed and existing traffic signal mast arm poles and traffic/pedestrian signal posts, including push button posts. The grounding conductor shall be bonded to all proposed and existing pull boxes, handhole frames and covers and other metallic enclosures throughout the traffic signal wiring system and noted herein and detailed on the plans. The grounding conductor shall be bonded to conduit terminations using rated grounding bushings.

Add the following to Article 817.05 of the Standard Specifications:

Basis of Payment.

Grounding cable shall be measured in place for payment in foot (meter). Payment shall be at the contract unit price for ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C, which price includes all associated labor and material including grounding clamps, splicing, exothermic welds, grounding connectors, conduit grounding bushings, and other hardware.

GROUNDING OF TRAFFIC SIGNAL SYSTEMS

Effective: May 22, 2002

Revised: July 1, 2015

806.01TS

Revise Section 806 of the Standard Specifications to read:

General.

All traffic signal systems, equipment and appurtenances shall be properly grounded in strict conformance with the NEC. This work shall be in accordance with IDOT's District One Traffic Signal Design Details.

The grounding electrode system shall include a ground rod installed with each traffic signal controller concrete foundation and all mast arm and post concrete foundations. An additional ground rod will be required at locations where measured resistance exceeds 25 ohms. Ground rods are included in the applicable concrete foundation or service installation pay item and will not be paid for separately.

Testing shall be according to Article 801.13 (a) (4) and (5).

- (a) The grounded conductor (neutral conductor) shall be white color coded. This conductor shall be bonded to the equipment grounding conductor only at the Electric Service Installation. All power cables shall include one neutral conductor of the same size.
- (b) The equipment grounding conductor shall be green color coded. The following is in addition to Article 801.04 of the Standard Specifications.
 - 1. Equipment grounding conductors shall be bonded to the grounded conductor (neutral conductor) only at the Electric Service Installation. The equipment grounding conductor is paid for separately and shall be continuous. The Earth shall not be used as the equipment grounding conductor.
 - 2. Equipment grounding conductors shall be bonded, using a UL Listed grounding connector, to all traffic signal mast arm poles, traffic signal posts, pedestrian posts, pull boxes, handhole frames and covers, conduits, and other metallic enclosures throughout the traffic signal wiring system, except where noted herein. Bonding shall be made with a splice and pigtail connection, using a sized compression type copper sleeve, sealant tape, and heat-shrinkable cap. A UL listed electrical joint compound shall be applied to all conductors' terminations, connector threads and contact points. Conduit grounding bushings shall be installed at all conduit terminations including spare or empty conduits.
 - 3. All metallic and non-metallic raceways shall have a continuous equipment grounding conductor, except raceways containing only detector loop lead-in circuits, circuits under 50 volts and/or fiber optic cable will not be required to include an equipment grounding conductor.
 - 4. Individual conductor splices in handholes shall be soldered and sealed with heat shrink. When necessary to maintain effective equipment grounding, a full cable heat shrink shall be provided over individual conductor heat shrinks.
- (c) The grounding electrode conductor shall be similar to the equipment grounding conductor in color coding (green) and size. The grounding electrode conductor is used to connect the ground rod to the equipment grounding conductor and is bonded to ground rods via exothermic welding, UL listed pressure connectors, and UL listed clamps.

HANDHOLES

Effective: January 01, 2002

Revised: July 1, 2015

814.01TS

Description.

Add the following to Section 814 of the Standard Specifications:

All conduits shall enter the handhole at a depth of 30 inches except for the conduits for detector loops when the handhole is less than 5 feet from the detector loop. All conduit ends should be sealed with a waterproof sealant to prevent the entrance of contaminants into the handhole.

Steel cable hooks shall be coated with hot-dipped galvanization in accordance with AASHTO Specification M111. Hooks shall be a minimum of 1/2-inch diameter with two 90 degree bends and extend into the

handhole at least 6 inches. Hooks shall be placed a minimum of 12 inches below the lid or lower if additional space is required.

Precast round handholes shall not be used unless called out on the plans.

The cover of the handhole frame shall be labeled "Traffic Signals" with legible raised letters.

Revise the third paragraph of Article 814.03 of the Standard Specifications to read:

“Handholes shall be constructed as shown on the plans and shall be cast-in-place, or precast concrete units. Heavy duty handholes shall be either cast-in-place or precast concrete units.”

Add the following to Article 814.03 of the Standard Specifications:

“(c) Precast Concrete. Precast concrete handholes shall be fabricated according to Article 1042.17. Where a handhole is contiguous to a sidewalk, preformed joint filler of 1/2-inch thickness shall be placed between the handhole and the sidewalk.”

Cast-In-Place Handholes.

All cast-in-place handholes shall be concrete, with inside dimensions of 21-1/2 inches minimum. Frames and lid openings shall match this dimension.

For grounding purposes, the handhole frame shall have provisions for a 7/16-inch diameter stainless steel bolt cast into the frame. The covers shall have a stainless steel threaded stint extended from the eye hook assembly for the purpose of attaching the grounding conductor to the handhole cover.

The minimum wall thickness for heavy duty hand holes shall be 12 inches.

Precast Round Handholes.

All precast handholes shall be concrete, with inside dimensions of 30 inches diameter. Frames and covers shall have a minimum opening of 26 inches and no larger than the inside diameter of the handhole.

For grounding purposes, the handhole frame shall have provisions for a 7/16-inch diameter stainless steel bolt cast into the frame. For the purpose of attaching the grounding conductor to the handhole cover, the covers shall either have a 7/16-inch diameter stainless steel bolt cast into the cover or a stainless steel threaded stint extended from an eye hook assembly. A hole may be drilled for the bolt if one cannot be cast into the frame or cover. The head of the bolt shall be flush or lower than the top surface of the cover.

The minimum wall thickness for precast heavy-duty hand holes shall be 6 inches.

Precast round handholes shall be only produced by an approved precast vendor.

Materials.

Add the following to Section 1042 of the Standard Specifications:

“1042.17 Precast Concrete Handholes. Precast concrete handholes shall be according to Articles 1042.03(a)(c)(d)(e).”

HEMISPHERICAL VIDEO DETECTION SYSTEM (VIDEO IMAGE VEHICLE TRACKING AND DETECTION SYSTEM) (COMPLETE INTERSECTION)

This work shall consist of furnishing and installing a new hemispherical video detection system (VIVTDS) at the location shown on the plans or as directed by the Engineer. The hemispherical detection camera shall be mounted on the top of the arm of the combination mast arm assemblies in accordance with the manufacturer's specifications, unless otherwise noted in the plans or directed by the Engineer.

The new hemispherical video detection equipment shall be Gridsmart Video Detection System or an equal approved by the Agency. The system shall have a modular electrical design and use Ethernet to connect and network with the different system components. Streaming video images, alerts, and data shall be transmitted from the field back to a Traffic Operations Center (TOC) via the systems client software and to the VIVTDS's cloud by using any or combination of the following: fiber optic, microwave, WAN, TCP/IP, internal modem or any other means of commonly used communication practices and standards for digital content and information.

Basis of Payment.

This work shall be paid for at the contract unit price each for HEMISPHERICAL VIDEO DETECTION SYSTEM (COMPLETE INTERSECTION), the price of which shall include the cost for all of the work and material described herein and included furnishing, installing, delivery, handling, testing, set-up and all appurtenances, cables, and mounting hardware necessary for a fully operational hemispherical video detection system for the complete intersection.

INSTALL BROADBAND RADIO INTERCONNECT SYSTEM

This item shall consist of furnishing and installing a broadband wireless radio system between two signalized intersections. The work shall include broadband antennas, cabling, wiring, in-cabinet Ethernet radio units, boards, contacts, connectors, jumpers, power supplies, mounting hardware, software and all other necessary related equipment and material to complete the installation and establish data and video communication, according to the manufacturer's specifications and vendor/supplier recommendations.

This work shall be paid for at the Contract unit price each for INSTALL BROADBAND RADIO INTERCONNECT SYSTEM, which shall include furnishing and installing components between two signalized intersections. The price shall include the testing of the hardware and connections, to the satisfaction of the Agency.

INSTALL EXISTING TRAFFIC SIGNAL CABINET

This item shall consist of installing a traffic signal cabinet furnished by the Agency at an existing signal cabinet location. This item shall include the vendor testing, installation, connection, and or modification of all necessary equipment including panels, program card, wiring, connectors, harnesses, mounting hardware, and related equipment necessary for proper operation. The existing cabinet which is being replaced, along with any unused existing equipment, shall be returned to the Agency as directed.

INSTALL EXISTING TRAFFIC SIGNAL CONTROLLER

This item shall consist of installing a traffic signal controller and associated components furnished by the Agency at an existing signalized intersection. This item shall include bench testing, providing and installing all necessary panels, wiring, connectors, harnesses, mounting hardware, and related equipment necessary to complete the installation in accordance with the manufacturer's specifications. The existing controller which is being replaced, along with any unused equipment, shall be returned to the Agency.

INSTALL UPDATED PROM SET AT EXISTING LOCAL OR MASTER CONTROLLER

This item shall consist of installing a new PROM or set of PROMS of the version of software specified by the Engineer in an existing traffic signal local or master controller. At locations that contain coordination modules, all PROMS in the controller, telemetry module, and coordination module must be of the same version and revision. New system interface board shall be included in cost of this item.

LAYER II (DATA LINK) SWITCH

This specification sets forth the minimum requirements for a Layer II Ethernet switch that will transmit data from one traffic signal cabinet to another traffic signal cabinet containing a Layer II switch or a Layer III (Network) switch.

Materials: The make and model of the Layer II switch shall be as follows:

- The LAYER II (DATA LINK) SWITCH, DuDOT shall be a Cisco IE-2000-8TC-G-B, or approved equal, compatible with the DuDOT or City of Naperville networks.
- The LAYER II (DATA LINK) SWITCH, Naperville shall be a Cisco IE-4000, or approved equal, compatible with the DuDOT or City of Naperville networks.
- The LAYER II (DATA LINK) SWITCH, Aurora shall be a Ruggedcom RS900G, or approved equal, compatible with the City of Aurora network.

The switch shall include two (2) SFPs compatible with the Agency network.

The procurement source of the switch shall be at the discretion of the Contractor. If required, programming of the switch shall be paid for separately as PROGRAMMING ITS EQUIPMENT. Note that Agencies may choose to have programming completed in-house, in which then the Contractor shall make arrangements to deliver the switch to the Agency at a mutually convenient time.

The Layer II switch and its power supply shall be mounted to either a standard DIN rail or an equipment mounting channel in the cabinet. The power supply shall be hard-wired to the cabinet power, not plugged into one of the traffic signal cabinet power outlets.

Basis of Payment.

This item will be paid for at the contract unit price each for LAYER II (DATA LINK) SWITCH, of the type specified, which price shall be payment in full for furnishing and installing the switch, two SFP's, and all necessary connectors, cables, fiber optic jumpers, hardware, software, other peripheral equipment, and placing it in operation to the satisfaction of the Engineer. The VIDEO ENCODER, MEDIA

CONVERTERS, TERMINAL SERVERS, and PROGRAMMING ITS EQUIPMENT shall be paid for separately.

LAYER III (NETWORK) SWITCH

This specification sets forth the minimum requirements for a Layer III switch that will transmit video data from one traffic signal cabinet to another traffic signal cabinet or to another location having a Layer III switch.

Materials: The make and model of the Layer III switch shall be as follows:

- The LAYER III (DATA LINK) SWITCH, DuDOT shall be a Cisco IE-4010-16S-12P with L-IE4000-RTU+ (IP Services IOS upgrade), or approved equal, compatible with the DuDOT or City of Naperville networks.
- The LAYER III (DATA LINK) SWITCH, Naperville shall be a Cisco IE-4000, or approved equal, compatible with the DuDOT or City of Naperville networks.
- The LAYER III (DATA LINK) SWITCH, Aurora shall be a Ruggedcom RX1400, or approved equal, compatible with the City of Aurora network.

The procurement source of the switch shall be at the discretion of the Contractor. If required, programming of the switch shall be paid for separately as PROGRAMMING ITS EQUIPMENT. Note that Agencies may choose to have programming completed in-house, in which then the Contractor shall make arrangements to deliver the switch to the Agency at a mutually convenient time.

The Layer III switch shall be mounted to the 19-inch equipment rack inside the cabinet. The power supply shall be mounted to either a standard DIN rail or an equipment mounting channel in the cabinet. The power supply shall be hard-wired to the cabinet power, not plugged into one of the traffic signal cabinet power outlets.

Basis of Payment.

This item will be paid for at the contract unit price each for LAYER III (NETWORK) SWITCH, of the type specified, which price shall be payment in full for furnishing and installing the switch, and all necessary connectors, cables, fiber optic jumpers, hardware, software, other peripheral equipment, and placing it in operation to the satisfaction of the Engineer. The VIDEO ENCODER, LAYER III FIBER OPTIC TRANSCEIVER MODULES, MEDIA CONVERTERS, TERMINAL SERVERS, and PROGRAMMING ITS EQUIPMENT shall be paid for separately.

LED INTERNALLY ILLUMINATED STREET NAME SIGN

Description.

This work shall consist of furnishing a street name sign which is internally illuminated with light emitting diodes, and installing the sign on a traffic signal mast arm or span wire.

Materials.

The LED Street Name Sign shall be one of the following approved models:

- Southern Manufacturing Clean Profile
- Temple Edge-Lit Razor
- Traffic Signs, Inc. ULTRASlim

The Contractor shall furnish the required mounting hardware.

3M Diamond Grade (ASTM Type IX) retroreflective sign sheeting shall be used for all sign legend and background surfaces.

All exterior metal surfaces of the sign housing shall be powder coated black by the supplier/manufacturer.

The electrical sign components shall be UL Listed and the light emitting diodes shall have a documented life span of 60,000 hours to 70% of the initial brightness. The sign faces shall display a minimum of 400 Lux when measured at any point and the lighting shall be spread evenly across each face of the sign.

The manufacturer shall warranty the entire sign, including all components, for a period of at least five years from the date of installation. The Contractor shall provide a copy of the warranty to the Traffic Engineer upon request.

Installation.

The LED Street Name Sign shall be installed as shown on the plans, suspended from the mast arm unless a different mounting is called for, using a mounting bracket compatible with the sign model and manufacture.

All holes drilled into signal poles, mast arms, or posts shall require rubber grommets to prevent the chafing of wires.

The signs shall not be energized when traffic signals are powered by an alternate energy source such as a generator or uninterruptable power source (UPS).

All signs at the intersection shall be activated by a common photocell installed in the controller cabinet.

General.

The sign shall be mounted on the mast arm three feet to the right of the furthest right signal head, as viewed by the approaching traffic.

The Manufacturer/Vendor shall supply shop drawings of the fixtures, sign, sign message and mounting hardware for approval. All hardware used to install the sign shall be according to the manufacturer's recommendations.

Basis of Payment.

This work will be paid for at the contract unit price per each for LED INTERNALLY ILLUMINATED STREET NAME SIGN, of the size specified. The unit price shall include all associated equipment; hardware; wiring; connections; materials and labor required to furnish and install the sign, and place it in operation to the satisfaction of the Traffic Engineer. The #14 2/C cable from the signal cabinet to the sign shall be paid for separately. The photocell in the signal cabinet shall be paid for in FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL or MODIFY EXISTING CONTROLLER AND CABINET or related pay item.

LIGHT EMITTING DIODE (LED) PEDESTRIAN SIGNAL HEAD

Effective: May 22, 2002

Revised: July 1, 2015

881.01TS

Add the following to the third paragraph of Article 881.03 of the Standard Specifications:

No mixing of different types of pedestrian traffic signals or displays will be permitted.

Add the following to Article 881.03 of the Standard Specifications:

(a) Pedestrian Countdown Signal Heads.

- (1) Pedestrian Countdown Signal Heads shall not be installed at signalized intersections where traffic signals and railroad warning devices are interconnected.
- (2) Pedestrian Countdown Signal Heads shall be 16 inch (406mm) x 18 inch (457mm), for single units with glossy yellow or black polycarbonate housings. All pedestrian head housings shall be the same color (yellow or black) at the intersection. For new signalized intersections and existing signalized intersections where all pedestrian heads are being replaced, the proposed head housings shall be black. Where only selected heads are being replaced, the proposed head housing color (yellow or black) shall match existing head housings. Connecting hardware and mounting brackets shall be polycarbonate (black). A corrosion resistant anti-seize lubricant shall be applied to all metallic mounting bracket joints, and shall be visible to the inspector at the signal turn-on.
- (3) Each pedestrian signal LED module shall be fully MUTCD compliant and shall consist of double overlay message combining full LED symbols of an Upraised Hand and a Walking Person. "Egg Crate" type sun shields are not permitted. Numerals shall measure 9 inches (229mm) in height and easily identified from a distance of 120 feet (36.6m).

Materials.

Add the following to Article 1078.02 of the Standard Specifications:

General.

1. The module shall operate in one mode: Clearance Cycle Countdown Mode Only. The countdown module shall display actual controller programmed clearance cycle and shall start counting when the flashing clearance signal turns on and shall countdown to "0" and turn off when the steady Upraised Hand (symbolizing Don't Walk) signal turns on. Module shall not have user accessible switches or controls for modification of cycle.
2. At power on, the module shall enter a single automatic learning cycle. During the automatic learning cycle, the countdown display shall remain dark.
3. The module shall re-program itself if it detects any increase or decrease of Pedestrian Timing. The counting unit will go blank once a change is detected and then take one complete pedestrian cycle (with no counter during this cycle) to adjust its buffer timer.

4. If the controller preempts during the Walking Person (symbolizing Walk), the countdown will follow the controller's directions and will adjust from Walking Person to flashing Upraised Hand. It will start to count down during the flashing Upraised Hand.
5. If the controller preempts during the flashing Upraised Hand, the countdown will continue to count down without interruption.
6. The next cycle, following the preemption event, shall use the correct, initially programmed values.
7. If the controller output displays Upraised Hand steady condition and the unit has not arrived to zero or if both the Upraised Hand and Walking Person are dark for some reason, the unit suspends any timing and the digits will go dark.
8. The digits will go dark for one pedestrian cycle after loss of power of more than 1.5 seconds.
9. The countdown numerals shall be two (2) "7 segment" digits forming the time display utilizing two rows of LEDs.
10. The LED module shall meet the requirements of the Institute of Transportation Engineers (ITE) LED purchase specification, "Pedestrian Traffic Control Signal Indications - Part 2: LED Pedestrian Traffic Signal Modules," or applicable successor ITE specifications, except as modified herein.
11. The LED modules shall provide constant light output under power. Modules with dimming capabilities shall have the option disabled or set on a non-dimming operation.
12. In the event of a power outage, light output from the LED modules shall cease instantaneously.
13. The LEDs utilized in the modules shall be AlInGaP technology for Portland Orange (Countdown Numerals and Upraised Hand) and GaN technology for Lunar White (Walking Person) indications.
14. The individual LEDs shall be wired such that a catastrophic loss or the failure of one or more LED will not result in the loss of the entire module.

Basis of Payment.

Add the following to the first paragraph of Article 881.04 of the Standard Specifications:

The price shall include furnishing the equipment described above, all mounting hardware and installing them in satisfactory operating condition.

Add the following to Article 881.04 of the Standard Specifications:

If the work consists of retrofitting an existing polycarbonate pedestrian signal head and pedestrian countdown signal head with light emitting diodes (LEDs), it will be paid for as a PEDESTRIAN SIGNAL HEAD, LED, RETROFIT, of the type specified, and of the particular kind of material, when specified. Price shall be payment in full for furnishing the equipment described above including LED modules, all mounting hardware, and installing them in satisfactory operating condition.

LIGHT EMITTING DIODE (LED) SIGNAL HEAD AND OPTICALLY PROGRAMMED LED SIGNAL HEAD

Effective: May 22, 2002

Revised: July 1, 2015

880.01TS

Materials.

Add the following to Section 1078 of the Standard Specifications:

1. LED modules proposed for use and not previously approved by IDOT District One will require independent testing for compliance to current VTCSH-ITE standards for the product and be Intertek ETL Verified. This would include modules from new vendors and new models from IDOT District One approved vendors.
2. The proposed independent testing facility shall be approved by IDOT District One. Independent testing must include a minimum of two (2) randomly selected modules of each type of module (i.e. ball, arrow, pedestrian, etc.) used in the District and include as a minimum Luminous Intensity and Chromaticity tests. However, complete module performance verification testing may be required by the Engineer to assure the accuracy of the vendor's published data and previous test results. An IDOT representative will select sample modules from the local warehouse and mark the modules for testing. Independent test results shall meet current ITE standards and vendor's published data. Any module failures shall require retesting of the module type. All costs associated with the selection of sample modules, testing, reporting, and retesting, if applicable, shall be the responsibility of the LED module vendor and not be a cost to this contract.
3. All signal heads shall provide 12" (300 mm) displays with glossy yellow or black polycarbonate housings. All head housings shall be the same color (yellow or black) at the intersection. For new signalized intersections and existing signalized intersections where all signals heads are being replaced, the proposed head housings shall be black. Where only selected heads are being replaced, the proposed head housing color (yellow or black) shall match existing head housings. Connecting hardware and mounting brackets shall be polycarbonate (black). A corrosion resistant anti-seize lubricant shall be applied to all metallic mounting bracket joints, and shall be visible to the inspector at the signal turn-on. Post top mounting collars are required on all posts, and shall be constructed of the same material as the brackets.
4. The LED signal modules shall be replaced or repaired if an LED signal module fails to function as intended due to workmanship or material defects within the first 7 years from the date of traffic signal TURN-ON. LED signal modules which exhibit luminous intensities less than the minimum values specified in Table 1 of the ITE Vehicle Traffic Control Signal Heads: Light Emitting Diode (LED) Circular Signal Supplement (June 27, 2005) [VTSCH], or applicable successor ITE specifications, or show signs of entrance of moisture or contaminants within the first 7 years of the date of traffic signal TURN-ON shall be replaced or repaired. The vendor's written warranty for the LED signal modules shall be dated, signed by a vendor's representative and included in the product submittal to the State.

(a) Physical and Mechanical Requirements

1. Modules can be manufactured under this specification for the following faces:
 - a. 12-inch (300 mm) circular, multi-section
 - b. 12-inch (300 mm) arrow, multi-section
2. The maximum weight of a module shall be 4 lbs. (1.8 kg).
3. Each module shall be a sealed unit to include all parts necessary for operation (a printed circuit board, power supply, a lens and gasket, etc.), and shall be weather proof after installation and connection.
5. The lens of the module shall be tinted with a wavelength-matched color to reduce sun phantom effect and enhance on/off contrast. The tinting shall be uniform across the lens face. Polymeric lens shall provide a surface coating or chemical surface treatment applied to provide abrasion resistance. The lens of the module shall be integral to the unit, convex with a smooth outer surface and made of plastic. The lens shall have a textured surface to reduce glare.
6. The use of tinting or other materials to enhance ON/OFF contrasts shall not affect chromaticity and shall be uniform across the face of the lens.
7. Each module shall have a symbol of the type of module (i.e. circle, arrow, etc.) in the color of the module. The symbol shall be 1 inch (25.4 mm) in diameter. Additionally, the color shall be written out in 1/2 inch (12.7mm) letters next to the symbol.

(b) Photometric Requirements

4. The LEDs utilized in the modules shall be AlInGaP technology for red and InGaN for green and amber indications, and shall be the ultra bright type rated for 100,000 hours of continuous operation from -40 °C to +74 °C.

(c) Electrical

1. Maximum power consumption for LED modules is per Table 2.
2. Operating voltage of the modules shall be 120 VAC. All parameters shall be measured at this voltage.
3. The modules shall be operationally compatible with currently used controller assemblies (solid state load switches, flashers, and conflict monitors).
4. When a current of 20 mA AC (or less) is applied to the unit, the voltage read across the two leads shall be 15 VAC or less.
5. The LED modules shall provide constant light output under power. Modules with dimming capabilities shall have the option disabled or set on a non-dimming operation.

6. LED arrows shall be wired such that a catastrophic loss or the failure of one or more LED will not result in the loss of the entire module.

(d) Retrofit Traffic Signal Module

1. The following specification requirements apply to the Retrofit module only. All general specifications apply unless specifically superseded in this section.
2. Retrofit modules can be manufactured under this specification for the following faces:
 - a. 12-inch (300 mm) circular, multi-section
 - b. 12-inch (300 mm) arrow, multi-section
3. Each Retrofit module shall be designed to be installed in the doorframe of a standard traffic signal housing. The Retrofit module shall be sealed in the doorframe with a one-piece EPDM (ethylene propylene rubber) gasket.
4. The maximum weight of a Retrofit module shall be 4 lbs. (1.8 kg).
5. Each Retrofit module shall be a sealed unit to include all parts necessary for operation (a printed circuit board, power supply, a lens and gasket, etc.), and shall be weather proof after installation and connection.
6. Electrical conductors for modules, including Retrofit modules, shall be 39.4 inches (1m) in length, with quick disconnect terminals attached.
7. The lens of the Retrofit module shall be integral to the unit, shall be convex with a smooth outer surface and made of plastic or of glass.

(e) The following specification requirements apply to the 12-inch (300 mm) arrow module only. All general specifications apply unless specifically superseded in this section.

1. The arrow module shall meet specifications stated in Section 9.01 of the Equipment and Material Standards of the Institute of Transportation Engineers (November 1998) [ITE Standards], Chapter 2 (Vehicle Traffic Control Signal Heads) or applicable successor ITE specifications for arrow indications.
2. The LEDs arrow indication shall be a solid display with a minimum of three (3) outlining rows of LEDs and at least one (1) fill row of LEDs.

(f) The following specification requirement applies to the 12-inch (300 mm) programmed visibility (PV) module only. All general specifications apply unless specifically superseded in this section.

1. The LED module shall be a module designed and constructed to be installed in a programmed visibility (PV) signal housing without modification to the housing.

Basis of Payment.

Add the following to the first paragraph of Article 880.04 of the Standard Specifications:

The price shall include furnishing the equipment described above, all mounting hardware and installing them in satisfactory operating condition.

Revise the second paragraph of Article 880.04 of the Standard Specifications to read:

If the work consists of retrofitting an existing polycarbonate traffic signal head with light emitting diodes (LEDs), it will be paid for as a SIGNAL HEAD, LED, RETROFIT, of the type specified, and of the particular kind of material, when specified. Price shall be payment in full for removal of the existing module, furnishing the equipment described above including LED modules, all mounting hardware, and installing them in satisfactory operating condition. The type specified will indicate the number of signal faces, the number of signal sections in each signal face and the method of mounting.

MAST ARM ASSEMBLY AND POLE

Effective: May 22, 2002

Revised: April 19, 2016

877.01TS

Add the following to Article 1077.03 (a) of the Standard Specifications:

The base of the mast arm pole shall be protected by a stainless steel screening.

Revise the second sentence of Article 1077.03 (a)(3) of the Standard Specifications to read:

Traffic signal mast arms shall be one piece construction, unless otherwise approved by the Engineer.

Add the following to Article 1077.03 (a)(3) of the Standard Specifications:

If the Agency approves painting, powder coating by the manufacturer will be required over the galvanization in accordance with 851.01TS TRAFFIC SIGNAL PAINTING Special Provisions.

MODIFY EXISTING CONTROLLER AND CABINET

Description.

This work shall be in accordance with Section 895 of the Standard Specifications and shall include the modification of existing control cabinet for the existing traffic signal equipment to be operate the proposed signal equipment and to make the cabinet compatible and functioning on the DuPage County Central Signal System.

Construction.

Installation of various new components of the traffic signal system, including but not limited to traffic signal detection hardware and wiring, EVP equipment, communication equipment, UPS and power distribution equipment, shall be completed in the existing cabinet in a workmanlike manner. When LED signal head installations are called for, this item shall include the installation of new load switches as required to ensure proper operation of the signals. The Contractor shall move any existing equipment in conflict with the

proposed work to another suitable location in the cabinet in a workmanlike manner, including training cables so they do not interfere with routine access to cabinet components. Any required relocation of equipment within the cabinet shall be included in the cost of MODIFY EXISTING CONTROLLER AND CABINET. All necessary materials, parts and labor required for modifying the controller cabinet to accommodate the proposed equipment to be installed in the existing cabinet at the intersection shall be considered included in the cost of the pay item.

Existing controllers and other IP-addressable components shall be reprogrammed as needed to place the existing controller in the Agency's IP scheme. Necessary connections and modifications of existing connections shall be made to place the controller into Ethernet-based operations, including furnishing and installing the necessary Ethernet patch cable.

Basis of Payment.

This work will be paid for at the contract unit price EACH for MODIFY EXISTING CONTROLLER AND CABINET, which price shall be payment in full for furnishing all materials, parts and labor to modify the existing controller cabinet and associated equipment necessary for proper operation to the satisfaction of the Agency.

OUTDOOR RATED NETWORK CABLE

This work shall consist of furnishing and installing a network cable from the traffic signal cabinet to the associated field device as shown on the plans.

Materials

The outdoor rated network cable shall be a black Category 5e cable, meeting the TIA/EIA 568-B.2 telecommunication standards. The cable shall be composed of 24 AWG solid bare copper conductors, twisted pairs, polyolefin insulation, inner LLPE jacket, overall shield (100% coverage), 24 AWG stranded TC drain wire, industrial grade sunlight- and oil-resistant LLPE jacket. The cable shall be capable of performing from -40 °F to 160 °F.

Each end of the cable shall be terminated with an RJ-45 connector installed according to the TIA/EIA 568B standard. The drain wire at the cabinet end shall be terminated with a ring lug and attached to a suitable ground point.

General

The work shall be performed according to the applicable portions of Section 873 of the "Standard Specifications", and details as shown on the plans.

Basis of Payment

This work will be paid for at the contract unit price per foot for OUTDOOR RATED NETWORK CABLE. The unit price shall include all equipment, materials and labor required to furnish and install the cable, and make all connections necessary for proper operation. The unit price shall also include furnishing and installing the RJ-45 connectors, ring terminals and grounding the cable.

PEDESTRIAN PUSH BUTTON POST

Effective: May 22, 2002

Revised: July 01, 2015

876.01TS

Revise the first sentence of Article 1077.02 (a) of the Standard Specifications to read:

The steel post shall be according to Article 1077.01. Washers for post bases shall be the same size or larger than the nut.

Revise the first sentence of Article 1077.02 (a) of the Standard Specifications to read:

All posts and bases shall be steel and hot dipped galvanized according to AASHTO M 111. If the Agency approves painting, powder coating by the manufacturer will be required over the galvanization in accordance with 851.01TS TRAFFIC SIGNAL PAINTING Special Provisions.

PEDESTRIAN PUSH-BUTTON

Effective: May 22, 2002

Revised: July 1, 2015

888.01TS

Description.

Revise Article 888.01 of the Standard Specifications to read:

This work shall consist of furnishing and installing a latching (single call) or non-latching (dual call) pedestrian push-button and a regulatory pedestrian instruction sign according to MUTCD, sign series R10-3e 9" x 15" sign with arrow(s) for a count-down pedestrian signal. The pedestrian station sign size without count-down pedestrian signals shall accommodate a MUTCD sign series R10-3b or R10-3d 9" x 12" sign with arrow(s).

Installation.

Add the following to Article 888.03 of the Standard Specifications:

A mounting bracket and/or extension shall be used to assure proper orientation when two pedestrian push buttons are required for one post. The price of the bracket and/or extension shall be included in the cost of the pedestrian push button. The contractor is not allowed to install a push-button assembly with the sign below the push-button in order to meet mounting requirements.

Materials.

Revise Article 1074.02(a) of the Standard Specifications to read:

The pedestrian push-button housing shall be constructed of aluminum alloy according to ASTM B 308 6061-T6 and powder coated yellow, unless otherwise noted on the plans. The housing shall be furnished with suitable mounting hardware.

Revise Article 1074.02(e) of the Standard Specifications to read:

Stations shall be designed to be mounted to a post, mast arm pole or wood pole. The station shall be aluminum and shall accept a 3 inch (75mm) round push-button assembly and a regulatory pedestrian instruction sign according to MUTCD, sign series R10-3e 9" x 15" sign with arrow(s) for a count-down pedestrian signal. The pedestrian station size without count-down pedestrian signals shall accommodate a MUTCD sign series R10-3b or R10-3d 9" x 12" sign with arrow(s).

Add the following to Article 1074.02 of the Standard Specifications:

- (f) Location. Pedestrian push-buttons and stations shall be mounted to a post, mast arm pole or wood pole as shown on the plans and shall be fully ADA accessible from a paved or concrete surface. See the District's Detail sheets for orientation and mounting details.

Basis of Payment.

Revise Article 888.04 of the Standard Specifications to read:

This work will be paid for at the contract unit price per each for PEDESTRIAN PUSH-BUTTON or PEDESTRIAN PUSH-BUTTON, NON-LATCHING.

RADAR VEHICLE DETECTION SYSTEM

This work shall consist of furnishing and installing a radar vehicle detection system for the complete intersection as specified and as shown on the plan. This pay item shall include all necessary work and equipment required to have a fully operational system including but not limited to the detector units, the interface unit and all the necessary hardware, cable and accessories required to complete the installation in accordance with the manufacturer's specifications.

The radar vehicle detection system shall work under all weather conditions, including rain, freezing rain, snow, wind, dust, fog, and changes in temperature and light. It shall work in an ambient temperature range of -34 to 74 degrees Celsius. It shall have a max power output of 75 watts or less.

The radar vehicle detection system shall be compatible with the Agency's approved traffic controller assemblies utilizing NEMA TS 1 or NEMA TS 2 controllers and cabinet components for full time operation. The radar vehicle detection system shall provide a minimum of one interface unit that has Ethernet connectivity, surge protection and shall be capable of supporting a minimum of 2 detector units.

The stop bar radar vehicle detection system shall have true presence capabilities in which it can detect stopped, slow moving or turning vehicles, consistent with the Agency's in-pavement detection. The radar shall be able to drop the call if the vehicle leaves the detection zone. A manufacturer's statement confirming proper operation is required along each catalog cut submittal. The Agency will not allow substitutes for other types of detection.

When cable lengths are provided in the plan, they are approximate values for guidance only. The Contractor shall be solely responsible for confirming the exact distances prior to procuring the materials.

Installation: A representative from the supplier of the radar vehicle detection system shall supervise the installation and testing of the radar vehicle detection system and shall be present at the traffic signal turn-

on inspection. Once the radar vehicle detection system is configured, it shall not need reconfiguration to maintain performance, unless the roadway configuration or the application requirements change.

The mounting locations shown in the plan are representative only. The actual number of detector units and their specific mounting locations shall be per the manufacturer's recommendations to ensure coverage of the proposed detection zones indicated on the plan sheets. Far back detection equipment shall be installed on existing traffic signal equipment at the intersection. No additional posts shall be allowed. If an extension mounting assembly is needed, it shall be included in this item.

All holes drilled into signal poles, mast arms, or posts shall require rubber grommets to prevent chafing of wires.

The radar vehicle detection system shall be warranted, free from material and workmanship defects for a period of two years from final inspection.

Basis of Payment.

This work shall be paid for at the contract unit price each for RADAR VEHICLE DETECTION SYSTEM (COMPLETE INTERSECTION), the price of which shall include the cost for all of the work and material described herein and included furnishing, installing, delivery, handling, testing, set-up and all appurtenances, cables, and mounting hardware necessary for a fully operational radar vehicle detection system for the complete intersection.

REBUILD EXISTING HANDHOLE

This item shall consist of rebuilding and bringing to grade a handhole at a location shown on the plans or as directed by the Engineer. The work shall consist of removing the handhole frame and cover and the walls of the handhole to a depth of eight (8) inches below the finished grade.

Upon completion of the above work, four (4) holes, four (4) inches in depth and one half (1/2) inch in diameter, shall be drilled into the remaining concrete; one hole centered on each of the four handhole walls. Four (4) #3 steel dowels, eight (8) inches in length, shall be furnished and shall be installed in the drilled holes with a masonry epoxy.

All concrete debris shall be disposed of outside the right-of-way.

The area adjacent to each side of the handhole shall be excavated to allow forming. All steel hooks, handhole frame, cover, and concrete shall be provided to construct a rebuilt handhole according to applicable portions of Section 814 of the Standard Specification and as modified in 814.01TS HANDHOLES Special Provision. The existing frame and cover shall be replaced if it was damaged during removal or as determined by the Engineer.

Basis of Payment.

This work shall be paid for at the contract unit price each for REBUILD EXISTING HANDHOLE or REBUILD EXISTING HEAVY DUTY HANDHOLE, which price shall be payment in full for all labor, materials, and equipment necessary to complete the work described above and as indicated on the drawings.

REMOTE CONTROLLED VIDEO SYSTEM

This work shall consist of furnishing and installing an IP based remote-controlled video system at a location designated by the Traffic Engineer. The work shall include a color camera, dome assembly, all mounting hardware, connectors, cables, power injectors, and related equipment necessary to complete the installation according to the manufacturer's specifications.

Materials.

The PTZ camera shall be one of the following approved models:

- TKH Security Solutions PD1103Z2-E
- AXIS Q6055-E

The Contractor shall furnish the required number of power injectors for the camera make and model selected, including operation of the camera heater, as well as all required mounting hardware, connectors, patch cables, and power supplies.

The camera shall have an exterior dome.

The system shall have anonymous FTP capabilities disabled by the vendor/equipment supplier or provide a feature for the user to disable the functionality through the standard internal menu.

Installation.

The camera shall be installed as shown on the plans, either on the luminaire arm near the luminaire, or on the combination mast arm assembly pole, angled toward the center of the intersection using a mounting bracket compatible with the camera and procured from one of the approved camera manufacturers. When installed on the pole, the camera shall be mounted to provide a minimum of 12 inches clear space between face of the pole and the camera housing. When installed on the luminaire arm, the camera shall be installed with a 30-degree tilt-adjustable bracket. The camera and any external hardware and housing shall be installed with stainless steel straps.

All holes drilled into signal poles, mast arms, or posts shall require rubber grommets to prevent the chafing of wires.

The Contractor shall contact the Traffic Engineer prior to installing the camera and associated wiring, to receive final approval on the camera location.

Basis of Payment.

This item will be paid for at the contract unit price per each for REMOTE CONTROLLED VIDEO SYSTEM. The unit price shall include all associated equipment, hardware, cables, materials and labor required to install the complete system in place and in operation to the satisfaction of the Traffic Engineer.

The OUTDOOR RATED NETWORK cable from the traffic signal cabinet will be paid for separately. If required, the LAYER II (DATALINK) SWITCH and/or the LAYER III (NETWORK) SWITCH will be paid for separately.

REMOVE AND REINSTALL EXISTING WIRELESS DETECTION UNIT

This work shall be completed by an approved Electrical Contractor as directed by the Agency. The Electrical Contractor shall be responsible for recovering the existing Trafficware PODS wireless detector unit from the pavement, storing the detector unit, and reinstalling the unit in the location shown on the plans or as directed by the Agency according to the following requirements. If the wireless detector unit is lost or damaged for any reason, including damage during the removal process, it shall be replaced with a new unit at no additional cost to the contract.

REMOVAL REQUIREMENTS

The Contractor shall remove the wireless detector unit from the pavement using the one of the following methods. The Contractor may use alternative methods for removal only with advanced approval from the Agency.

Method 1: The Contractor shall drill out the existing wireless detector unit and sealant using a 5-inch core drill to a depth sufficient to remove the unit from the pavement, as directed by the Agency. The Contractor shall remove any loose sealant and debris from the hole. If this method is utilized, the Contractor shall be responsible for providing all equipment necessary for removal, including the 5-inch drill bit.

Method 2: The Contractor shall utilize a hand chisel and air drill to remove sufficient amount of sealant to allow removal of the detector clamshell housing from the roadway.

After recovering the wireless detector unit from the pavement, the Contractor shall remove sufficient amount of sealant from the outside of the clamshell housing to facilitate removal of the detection unit from the housing. The clamshell shall be discarded and shall not be reused.

MATERIAL REQUIREMENTS

The Contractor shall furnish one Trafficware clamshell housing and one sealant package for each wireless detector unit, to be procured through the local Trafficware vendor. The clamshell housing is Trafficware Part Number 50285-5002. The required epoxy sealant for this item is Fabick M-PP-450 epoxy from Trafficware, Part Number 9000-2000.

WIRELESS DETECTION UNIT INSTALLATION

The Wireless Sensor and clamshell shall be installed according to manufacturer's recommendations at the location shown in the plans.

If the Wireless Sensor is to be installed in a location different than the original hole that it was recovered from, the Contractor shall drill the roadway pavement using a 4.5 inch outside diameter drill bit capable of drilling a hole 5 inches deep. The contractor shall provide a compatible percussion type drill for use during installation. The use of a pavement saw is not allowed. The Wireless Sensor should be installed in a hole drilled to a depth as directed by the Agency in the pavement utilizing the clamshell plastic housing. Saw cutting of the pavement is not allowed. If the Contractor saw cuts the pavement, the Agency shall specify a new location for the installation and the Contractor shall be responsible for patching the pavement according to the Standard Specifications. No additional compensation shall be made for the saw cut or the patching.

If water is used in the drilling application, the hole must be completely dry prior to installation to avoid interaction with the epoxy sealant. If a pilot bit is used to start the drilling process, it must be removed prior

to coring the full depth hole. The Contractor shall chisel out the bottom of the hole to provide a flat surface for the detector in accordance with manufacturer's recommended installation procedures.

The Wireless Sensor shall be oriented in the direction of traffic according to the product labeling. The Contractor shall record the serial number and associated location of each installed Wireless Sensor and shall allow the Agency to verify orientation of the sensor prior to applying the epoxy sealant. The installation shall be secured and sealed according to manufacturer's recommendations. The epoxy shall be according to the requirements set forth in this specification.

Sealant Installation: The epoxy sealant shall be installed according to manufacturer's recommendations at the location shown in the plans after the Wireless Detection Unit orientation has been verified by the Agency. The Contractor shall utilize the dual applicator tool and apply the epoxy sealant according to the manufacturer's recommendations. One package of sealant is sufficient to seal one Wireless Detector Unit installation.

Basis of Payment.

This work shall be paid for at the unit price each for REMOVE AND REINSTALL EXISTING WIRELESS DETECTION UNIT, which shall include all material, equipment, and labor for recovering the existing wireless detector unit, drilling the resurfaced pavement, finishing the hole, furnishing the detector sealant and clamshell housing, installing the wireless detector unit and clamshell housing, and applying the detector sealant. No additional compensation will be made for a drill, compressor, generator, supplemental drilling equipment, removal tools including air hammer or 5-inch drill bit, or repairing damaged drilling equipment.

REMOVE EXISTING AND INSTALL NEW WIRELESS DETECTION UNIT

This work shall be completed by an approved Electrical Contractor as directed by the Agency. The Electrical Contractor shall be responsible for removing the existing Trafficware PODS wireless detector unit from the pavement, disposing of the detector unit, furnishing a replacement unit, and installing the replacement unit in the location shown on the plans or as directed by the Agency according to the following requirements.

REMOVAL REQUIREMENTS

The Contractor shall remove the wireless detector unit from the pavement using the one of the following methods. The Contractor may use alternative methods for removal only with advanced approval from the Agency.

Method 1: The Contractor shall drill out the existing wireless detector unit and sealant using a 5-inch core drill to a depth sufficient to remove the unit from the pavement, as directed by the Agency. The Contractor shall remove any loose sealant and debris from the hole. If this method is utilized, the Contractor shall be responsible for providing all equipment necessary for removal, including the 5-inch drill bit.

Method 2: The Contractor shall utilize a hand chisel and air drill to remove sufficient amount of sealant to allow removal of the detector clamshell housing from the roadway.

After recovering the wireless detector unit from the pavement, the Contractor shall dispose of the clamshell and the wireless detector unit.

MATERIAL REQUIREMENTS

The Contractor shall furnish one Trafficware magnetometer pod detector, one Trafficware clamshell housing and one sealant package for each wireless detector unit, to be procured through the local Trafficware vendor. The Contractor shall coordinate with the Agency and with the Trafficware vendor to ensure that the new pod detector is properly configured for the location that it is being installed. The wireless sensor is Trafficware Part Number 50285-2000. The clamshell housing is Trafficware Part Number 50285-5002. The required epoxy sealant for this item is Fabick M-PP-450 epoxy from Trafficware, Part Number 9000-2000.

WIRELESS DETECTION UNIT INSTALLATION

The Wireless Sensor and clamshell shall be installed according to manufacturer's recommendations at the location shown in the plans.

If the Wireless Sensor is to be installed in a location different than the original hole, the Contractor shall drill the roadway pavement using a 4.5 inch outside diameter drill bit capable of drilling a hole 5 inches deep. The contractor shall provide a compatible percussion type drill for use during installation. The use of a pavement saw is not allowed. The Wireless Sensor should be installed in a hole drilled to a depth as directed by the Agency in the pavement utilizing the clamshell plastic housing. Saw cutting of the pavement is not allowed. If the Contractor saw cuts the pavement, the Agency shall specify a new location for the installation and the Contractor shall be responsible for patching the pavement according to the Standard Specifications. No additional compensation shall be made for the saw cut or the patching.

If water is used in the drilling application, the hole must be completely dry prior to installation to avoid interaction with the epoxy sealant. If a pilot bit is used to start the drilling process, it must be removed prior to coring the full depth hole. The Contractor shall chisel out the bottom of the hole to provide a flat surface for the detector in accordance with manufacturer's recommended installation procedures.

The Wireless Sensor shall be oriented in the direction of traffic according to the product labeling. The Contractor shall record the serial number and associated location of each installed Wireless Sensor and shall allow the Agency to verify orientation of the sensor prior to applying the epoxy sealant. The installation shall be secured and sealed according to manufacturer's recommendations. The epoxy shall be according to the requirements set forth in this specification.

Sealant Installation: The epoxy sealant shall be installed according to manufacturer's recommendations at the location shown in the plans after the Wireless Detection Unit orientation has been verified by the Agency. The Contractor shall utilize the dual applicator tool and apply the epoxy sealant according to the manufacturer's recommendations. One package of sealant is sufficient to seal one Wireless Detector Unit installation.

Basis of Payment.

This work shall be paid for at the unit price each for REMOVE EXISTING AND INSTALL NEW WIRELESS DETECTION UNIT, which shall include all material, equipment, and labor for removing the existing wireless detector unit, drilling the resurfaced pavement, finishing the hole, furnishing the wireless detector, detector sealant and clamshell housing, installing the wireless detector unit and clamshell housing, and applying the detector sealant. No additional compensation will be made for a drill, compressor, generator, supplemental drilling equipment, removal tools including air hammer or 5-inch drill bit, or repairing damaged drilling equipment.

REMOVE EXISTING SPAN WIRE TRAFFIC SIGNAL, FOUR APPROACHES OR LESS

This work will consist of removing all equipment, poles, down guys, mounting hardware, signal heads, controller cabinets, electrical service, detection equipment, and any other equipment associated with the specified existing span wire traffic signal installation, and delivering the equipment to the Agency as directed. All holes caused by the removal of wood poles shall be backfilled with sand and the work area restored as directed by the Engineer. This work will be paid for at the Contract unit price each for REMOVE EXISTING SPAN WIRE TRAFFIC SIGNAL, FOUR APPROACHES OR LESS which will be payment in full for all work.

REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT

Add the following to Article 895.05(a) of the Standard Specifications:

The traffic signal equipment which is to be removed as directed by the Agency is to become the property of the Contractor shall be disposed of outside the right-of-way at the Contractor's expense.

All equipment to be returned to the Agency shall be delivered by the Contractor to the Agency. The Contractor shall contact the Engineer to schedule an appointment to deliver the equipment. No equipment will be accepted without a prior appointment. All equipment shall be delivered within 30 days of removing it from the traffic signal installation. The Contractor shall provide one hard copy and one electronic file of a list of equipment that is to remain the property of the Agency, including model and serial numbers, where applicable. The Contractor shall also provide a copy of the plan sheet or Contract documents showing the quantities and type of equipment. Controllers and peripheral equipment from the same location shall be boxed together (equipment from different locations may not be mixed) and all boxes and controller cabinets shall be clearly marked or labeled with the location from which they were removed. If equipment is not returned according to these requirements, it will be rejected by the Agency. The Contractor shall be responsible for the condition of the traffic signal equipment from the time Contractor takes maintenance of the signal installation until the acceptance of a receipt drawn by the Engineer indicating the items have been returned in good condition.

The Contractor shall safely store and arrange for pick up or delivery of all equipment to be returned to other agencies. The Contractor shall package the equipment and provide all necessary documentation as stated above.

Traffic signal equipment which is lost or not returned to the Agency for any reason shall be replaced with new equipment meeting the requirements of these Specifications at no cost to the contract.

For all traffic signal posts or mast arms to remain, all vacated holes remaining in existing posts or mast arms shall be plugged with a kneadable, two-part epoxy putty. The putty shall cure in two hours or less and, when dried, the putty shall be sandable and paintable. It shall be capable of withstanding up to 500 degree Fahrenheit temperatures, with minimum tensile strength of 6000 psi and compressive strength of 18 psi. Products that include asbestos are prohibited.

The epoxy putty shall be applied to each vacated hole according to manufacturer's recommendations. The putty shall be shaped and smoothed, and excess putty shall be removed before it hardens. After the putty is fully hardened, it shall be sanded, cleaned, and painted to match the traffic signal post or mast arm.

SERVICE INSTALLATION (TRAFFIC SIGNALS)

Effective: May 22, 2002

Revised: January 27, 2016

805.01TS

Revise Section 805 of the Standard Specifications to read:

Description.

This work shall consist of all materials and labor required to install, modify, or extend the electric service installation. All installations shall meet the requirements of the "District One Standard Traffic Signal Design Details".

General.

The electric service installation shall be the electric service disconnecting means and it shall be identified as suitable for use as service equipment.

The electric utility contact information is noted on the plans and represents the current information at the time of contract preparation. The Contractor must request in writing for service and/or service modification within 10 days of contract award and must follow-up with the electric utility to assure all necessary documents and payment are received by the utility. The Contractor shall forward copies of all correspondence between the contractor and utility company to the Engineer and Area Traffic Signal Maintenance and Operations Engineer. The service agreement and sketch shall be submitted for signature to the IDOT's Traffic Operations Programs Engineer.

Materials.

- a. General. The completed control panel shall be constructed in accordance with UL Std. 508A, Industrial Control Panel, and carry the UL label. Wire terminations shall be UL listed.
- b. Enclosures.
 1. Pole Mounted Cabinet. The cabinet shall be UL 50, NEMA Type 4X, unfinished single door design, fabricated from minimum 0.080-inch thick Type 5052 H-32 aluminum. Seams shall be continuous welded and ground smooth. Stainless steel screws and clamps shall secure the cover and assure a watertight seal. The cover shall be removable by pulling the continuous stainless steel hinge pin. The cabinet shall have an oil-resistant gasket and a lock kit shall be provided with an internal O-ring in the locking mechanism assuring a watertight and dust-tight seal. The cabinet shall be sized to adequately house all required components with extra space for arrangement and termination of wiring. A minimum size of 14-inches high, 9-inches wide and 8-inches in depth is required. The cabinet shall be channel mounted to a wooden utility pole using assemblies recommended by the vendor.
 2. Ground Mounted Cabinet. The cabinet shall be UL 50, NEMA Type 3R unfinished single door design with back panel. The cabinet shall be fabricated from Type 5052 H-32 aluminum with the frame and door 0.125-inch thick, the top 0.250-inch thick and the bottom 0.500-inch thick. Seams shall be continuous welded and ground smooth. The door and door opening shall be double flanged. The door shall be approximately 80% of the front surface, with a full length tamperproof stainless steel .075-inch thick

hinge bolted to the cabinet with stainless steel carriage bolts and nylocks nuts. The locking mechanism shall be slam-latch type with a keyhole cover. The cabinet shall be sized to adequately house all required components with extra space for arrangement and termination of wiring. A minimum size of 40-inches high, 16-inches wide and 15-inches in depth is required. The cabinet shall be mounted upon a square Type A concrete foundation as indicated on the plans. The foundation is paid for separately.

3. All enclosures shall include a green external power indicator LED light with circuitry as shown in the Electrical Service-Panel Diagram detail sheet. For pole mounted service enclosures, the power indicator light shall be mounted as shown in the detail. For ground mounted enclosures, the power indicator light shall be mounted on the side of the enclosure most visible from the major roadway.
- c. Electric Utility Meter Housing and Riser. The electric meter housing and meter socket shall be supplied and installed by the contractor. Electric utility required risers, weather/service head and any other materials necessary for connection shall also be included in the pay item. Materials shall be in accordance with the electric utility's requirements. For ground-mounted service, the electric utility meter housing shall be mounted to the enclosure. The meter shall be supplied by the utility company. Metered service shall not be used unless specified in the plans.
 - d. Surge Protector. Overvoltage protection, with LED indicator, shall be provided for the 120 volt load circuit by the means MOV and thermal fusing technology. The response time shall be <math><5n</math> seconds and operate within a range of $-40C$ to $+85C$. The surge protector shall be UL 1449 Listed.
 - e. Circuit Breakers. Circuit breakers shall be standard UL listed molded case, thermal-magnetic bolt-on type circuit breakers with trip free indicating handles. 120 volt circuit breakers shall have an interrupting rating of not less than 65,000 rms symmetrical amperes. Unless otherwise indicated, the main disconnect circuit breaker for the traffic signal controller shall be rated 60 amperes, 120 V and the auxiliary circuit breakers shall be rated 10 amperes, 120 V.
 - f. Fuses, Fuseholders and Power Indicating Light. Fuses shall be small-dimensional cylindrical fuses of the dual element time-delay type. The fuses shall be rated for 600 V AC and shall have a UL listed interrupting rating of not less than 10,000 rms symmetrical amperes at rated voltage. The power indicating light shall be LED type with a green colored lens and shall be energized when electric utility power is present.
 - g. Ground and Neutral Bus Bars. A single copper ground and neutral bus bar, mounted on the equipment panel shall be provided. Ground and neutral conductors shall be separated on the bus bar. Compression lugs, plus 2 spare lugs, shall be sized to accommodate the cables with the heads of the connector screws painted green for ground connections and white for neutral connections.
 - h. Utility Services Connection. The Contractor shall notify the Utility Company marketing representative a minimum of 30 working days prior to the anticipated date of hook-up. This 30 day advance notification will begin only after the Utility Company marketing representative has received service charge payments from the Contractor. Prior to

contacting the Utility Company marketing representative for service connection, the service installation controller cabinet and cable must be installed for inspection by the Utility Company.

- i. Ground Rod. Ground rods shall be copper-clad steel, a minimum of 10 feet in length, and 3/4 inch in diameter. Ground rod resistance measurements to ground shall be 25 ohms or less. If necessary additional rods shall be installed to meet resistance requirements at no additional cost to the contract.

Installation.

- a. General. The Contractor shall confirm the orientation of the traffic service installation and its door side with the engineer, prior to installation. All conduit entrances into the service installation shall be sealed with a pliable waterproof material.
- b. Pole Mounted. Brackets designed for pole mounting shall be used. All mounting hardware shall be stainless steel. Mounting height shall be as noted on the plans or as directed by the Engineer.
- c. Ground Mounted. The service installation shall be mounted plumb and level on the foundation and fastened to the anchor bolts with hot-dipped galvanized or stainless steel nuts and washers. The space between the bottom of the enclosure and the top of the foundation shall be caulked at the base with silicone.

Basis of Payment.

The service installation shall be paid for at the contract unit price each for SERVICE INSTALLATION of the type specified which shall be payment in full for furnishing and installing the service installation complete. The CONCRETE FOUNDATION, TYPE A, which includes the ground rod, shall be paid for separately. SERVICE INSTALLATION, POLE MOUNTED shall include the 3/4 inch grounding conduit, ground rod, and pole mount assembly. Any charges by the utility companies shall be approved by the engineer and paid for as an addition to the contract according to Article 109.05 of the Standard Specifications.

SPAN WIRE TRAFFIC SIGNAL INSTALLATION

Revise Section 890 of the Standard Specifications to read:

Description.

This work shall consist of furnishing, installing, and maintaining a span wire traffic signal installation as shown on the plans, including but not limited to traffic signal heads, emergency vehicle priority systems, interconnect, vehicle detectors, uninterruptable power supply, and signing. Span wire traffic signal controllers and cabinets interconnected to railroad traffic control devices shall be new. When span wire traffic signals will be operating within a county or local agency Traffic Management System, the equipment must be NTCIP compliant and compatible with the current operating requirements of the Agency's Traffic Management System.

General.

Only an approved controller equipment supplier will be allowed to assemble the span wire traffic signal and/or railroad traffic signal cabinet. Traffic signal inspection and TURN-ON shall be according to TRAFFIC SIGNAL GENERAL REQUIREMENTS special provision.

Construction Requirements.

- (a) All equipment shall be new and upon acceptance, shall be owned and operated by the Agency.
- (b) Controllers.
 - 1. Only controllers compatible with Econolite software currently in use by the Agency, will be approved for use at span wire signal locations. Only controllers supplied by one of the IDOT District 1 approved closed loop equipment supplier will be approved for use at span wire traffic signal locations. All controllers used for span wire traffic signals shall be fully actuated NEMA microprocessor based with RS232 data entry ports compatible with existing monitoring software approved by IDOT District 1, installed in NEMA TS2 cabinets with 8 phase back panels, capable of supplying 255 seconds of cycle length and individual phase length settings up to 99 seconds. On projects with one lane open and two-way traffic flow, such as bridge deck repairs, the span wire traffic signal controller shall be capable of providing an adjustable all red clearance setting of up to 30 seconds in length. All controllers used for span wire traffic signals shall meet or exceed the requirements of Section 857 of the Standard Specifications with regards to internal time base coordination and preemption. All railroad interconnected temporary controllers and cabinets shall be new and shall satisfy the requirements of Article 857.02 of the Standard Specifications and as modified herein.
 - 2. Only control equipment, including controller cabinet and peripheral equipment, supplied by one of the IDOT District 1 approved closed loop equipment suppliers will be approved for use at span wire traffic signal locations. All control equipment for the span wire traffic signal(s) shall be furnished by the Contractor unless otherwise stated in the plans. On projects with multiple span wire traffic signal installations, all controllers shall be the same manufacturer brand and model number with the latest version software installed at the time of the signal TURN-ON.
- (c) Cabinets. All span wire traffic signal cabinets shall have a closed bottom made of aluminum alloy. The bottom shall be sealed along the entire perimeter of the cabinet base to ensure a water, dust and insect-proof seal. The bottom shall provide a minimum of two (2) 4-inch diameter holes to run the electric cables through. The 4-inch diameter holes shall have a bushing installed to protect the electric cables and shall be sealed after the electric cables are installed.
- (d) Grounding. Grounding shall be provided for the span wire traffic signal cabinet meeting or exceeding the applicable portions of the National Electrical Code, Section 806 of the Standard Specifications and shall meet the requirements of the 806.01TS GROUNDING OF TRAFFIC SIGNAL SYSTEMS special provision.
- (e) Traffic Signal Heads. All traffic signal sections shall be 12 inches. Pedestrian signal sections shall be 16 inch x 18 inch. Traffic signal sections shall be LED with expandable view, unless otherwise approved by the Engineer. Pedestrian signal heads shall be Light Emitting Diode (LED) Pedestrian Countdown Signal Heads except when a span wire traffic signal is installed at an intersection interconnected with a railroad grade crossing. When a span wire traffic signal is installed at an intersection interconnected with a railroad grade crossing, Light Emitting

Diode (LED) Pedestrian Signal Heads shall be furnished. The span wire traffic signal heads shall be placed as indicated on the span wire traffic signal plan or as directed by the Engineer. If no traffic staging is in place or will not be staged on the day of the turn-on, the span wire traffic signal shall have the signal head displays, signal head placements and controller phasing match the existing traffic signal or shall be as directed by the engineer. The Contractor shall furnish enough extra cable length to relocate heads to any position on the span wire or at locations as directed by the Agency. The span wire traffic signal shall remain in operation during all signal head relocations. Each span wire traffic signal head shall have its own cable from the controller cabinet to the signal head.

- (f) Emergency Vehicle Pre-Emption. All emergency vehicle preemption equipment (light detectors, light detector amplifiers, confirmation beacons, etc.) as shown on the span wire traffic signal plans shall be provided by the Contractor. Contractor shall be responsible for installing GTT Opticom unless directed by the Agency. All light operated systems shall operate at a uniform rate of 14.035 hz \pm 0.002, or as otherwise required by the Engineer, and provide compatible operation with other light systems currently being operated in the District. All labor and material required to install and maintain the Emergency Vehicle Preemption installation shall be included in the item SPAN WIRE TRAFFIC SIGNAL INSTALLATION.
- (g) Vehicle Detection. All span wire traffic signal installations shall have vehicular detection installed at all approaches of the intersection and as directed by the Engineer. Pedestrian push buttons shall be provided for all pedestrian signal heads/phases as directed by the Engineer. A video vehicle detection system meeting the requirements of the VIDEO DETECTION SYSTEM (COMPLETE INTERSECTION) special provision included herein shall be reviewed for approval by the Agency prior to Contractor furnishing and installing. The Contractor shall install, wire, and adjust the alignment of the video vehicle detection system in accordance to the manufacturer's recommendations and requirements. The Contractor shall be responsible for adjusting the alignment of the video vehicle detection system for all construction staging changes and for maintaining proper alignment while the signal and detectors are installed. An equipment supplier shall be present and assist the contractor in setting up and maintaining the video vehicle detection system. An in-cabinet video monitor shall be provided with all video vehicle detection systems and shall be included in the item SPAN WIRE TRAFFIC INSTALLATION.
- (h) Uninterruptable Power Supply. All span wire traffic signal installations shall have Uninterruptable Power Supply (UPS). The UPS cabinet shall be mounted to the span wire traffic signal cabinet and shall be according to the applicable portions of Section 862 of the Standard Specifications and as modified in 862.01TS UNINTERRUPTABLE POWER SUPPLY, SPECIAL Special Provision.
- (i) Energy Charges. The electrical utility energy charges for the operation of the span wire traffic signal installation shall be paid for by Agency or by Others as directed. Contractor shall not be responsible for paying energy charges, but shall coordinate with the utility to establish the necessary account for the span wire traffic signal installation.
- (j) Maintenance. Contractor shall be responsible for maintaining the equipment as soon as construction begins. Once the signal is turned on and accepted for operations, the Contractor shall maintain the signal in a fully-operational condition until the signal has been transferred to

the Agency's maintenance, at which time the signal will be paid for as a T-2 or other applicable pay item(s) according to this Contract.

Basis of Payment.

This work shall be paid for at the contract unit price each for INSTALL SPAN WIRE TRAFFIC SIGNAL, FOUR APPROACHES OR LESS, the price of which shall include all costs for all material and installation of the span wire traffic signal, placed into proper operation to the satisfaction of the Agency. The detection system shall be paid for separately. Each intersection will be paid for separately.

SPLICE FIBER IN CABINET

Description.

This work shall consist of fusion splicing singlemode fibers in a field cabinet, inside a building, as shown on the plans and/or as directed by the Traffic Engineer.

General.

This pay item shall include splices between existing fiber optic cables and any splices shown on the plans as a bid item.

Splices shall be secured in fiber optic splice trays within fiber optic distribution enclosures. All fusion splices shall be secured on aluminum splice trays capable of accommodating the required number of fusion splices, including necessary splice holders and a compatible splice tray cover. The tray dimensions shall not exceed 7.5" x 4.1" x 0.45" and shall be mounted within the enclosure using suitable hardware that allows removal for maintenance purposes without the use of tools. All individual splice trays shall be labelled. Splice trays shall be included in the unit cost of SPLICE FIBER IN CABINET.

The quality of all fiber splices shall be verified by testing and documentation according to Article 801.13(d) of the "Standard Specifications," to the satisfaction of the Engineer.

All optical fibers shall be spliced to provide continuous runs. Splices shall only be allowed in equipment cabinets, in buildings, as shown on the plans and/or as directed by the Engineer.

All splices shall be made using a fusion splicer that automatically positions the fibers using a system of light injection and detection. The Contractor shall provide all equipment and consumable supplies.

Basis of Payment.

This work shall be paid for at the contract unit price per each fusion splice for SPLICE FIBER IN CABINET. The unit price shall include all equipment; materials; fiber optic splice trays; testing and documentation; and labor required to fusion splice singlemode fiber optic cable. Splices involving new fiber optic cable installed under this contract, and any splices shown on the plans as an included item, shall be included in the unit cost of the applicable FIBER OPTIC CABLE of the type, size, and number of fibers specified.

SUBMERSIBLE FIBER SPLICE ENCLOSURE

Description.

This work shall consist of furnishing and installing a submersible fiber splice enclosure within a handhole or at another location as directed by the Engineer.

Materials.

The Submersible Fiber Splice Enclosure shall meet the following requirements:

- Fiber closure designed for underground application with watertight capabilities for placement in a manhole/handhole
- Maximum length of 30 inches
- Capable of holding at least 6 splice trays with a capacity of 12 individual fibers in each tray
- Closure shall have a watertight seal at its access point with re-entry capabilities

General.

This work shall be performed according to Section 871 of the “Standard Specifications” and the following:

This work shall consist of furnishing and installing Submersible Fiber Splice Enclosure in the handhole or other location as directed by the Engineer, including six splice trays and all components necessary to secure the enclosure and make it watertight within the handhole. Splices on the installed fiber optic cable shall be included in the cost of the fiber optic cable or paid for separately according to the applicable pay items.

Submersible Fiber Splice Enclosure shall only be used at the direction of the Agency. In no case shall the Contractor install a Submersible Fiber Splice Enclosure without first advising the Agency of their intent to splice fibers outside of the traffic signal cabinet and obtaining written authorization to proceed.

The Contractor shall take care during the fiber removal and installation process to ensure that adequate slack remains in the existing fiber optic cable that is being reused. In the event that too much cable is removed, the Contractor shall be responsible for installing sufficient quantity of cable to provide the required slack at no additional cost to the Agency. All optical fibers shall be spliced to provide continuous runs.

Basis of Payment.

The work shall be paid for at the contract unit price per EACH for SUBMERSIBLE FIBER SPLICE ENCLOSURE. The unit price shall include the watertight closure, six splice trays, and the hardware necessary to secure the enclosure, and make it watertight within the handhole or other mounting location. The actual fiber splices will be paid for as part of the applicable pay items for FIBER OPTIC CABLE or SPLICE FIBER IN CABINET.

TERMINATE FIBER IN CABINET

Description.

This work shall consist of terminating existing or new fibers in a field cabinet, inside a building, as shown on the plans and/or as directed by the Traffic Engineer.

General.

This pay item shall include splices between existing fiber optic cables and any splices shown on the plans as a bid item.

All multimode connectors shall be ST compatible, with ceramic ferrules. Singlemode fiber terminations shall utilize pre-fabricated, factory-terminated (SC compatible with ceramic ferrules) pigtails fusion spliced to bare fibers. The splicing of pigtails for singlemode fibers is included in the cost of TERMINATE FIBER IN CABINET. The pre-fabricated pigtails shall have all of their fibers color coded to match the singlemode fibers in the fiber optic cable. All fusion splices shall be secured on aluminum splice trays capable of accommodating the required number of fusion splices, including necessary splice holders and a compatible splice tray cover. The tray dimensions shall not exceed 7.5" x 4.1" x 0.45" and shall be mounted within the enclosure using suitable hardware that allows removal for maintenance purposes without the use of tools. All individual splice trays shall be labelled. Splice trays and connector bulkheads shall be included in the cost of TERMINATE FIBER IN CABINET. Connector bulkheads shall be the proper type for the fiber enclosure at the location, and shall be properly secured to the enclosure.

The quality of all fiber splices shall be verified by testing and documentation according to Article 801.13(d) of the "Standard Specifications," to the satisfaction of the Engineer.

Basis of Payment.

This work shall be paid for at the contract unit price per each fusion splice for TERMINATE FIBER IN CABINET. The unit price shall include all equipment; materials; connectors; pigtails; splice trays; bulkheads; testing and documentation; and labor required to terminating each required multimode or singlemode fiber. Terminations involving new fiber optic cable installed under this contract, including any terminations shown on the plans as an included item, shall be included in the unit cost of the applicable FIBER OPTIC CABLE of the type, size, and number of fibers specified.

TRAFFIC SIGNAL BACKPLATE

Delete first sentence of Article 1078.03 of the Standard Specifications and add "All backplates shall be louvered, formed ABS plastic".

Add the following to the third paragraph of Article 1078.03 of the Standard Specifications. The retroreflective backplate shall not contain louvers.

Delete second sentence of the fourth paragraph of Article 1078.03 the Standard Specifications.

Add the following to the fourth paragraph of Article 1078.03 of the Standard Specifications:

When retro reflective sheeting is specified, it shall be Type ZZ sheeting according to Article 1091.03 and applied in preferred orientation for the maximum angularity according to the vendor's recommendations. The retroreflective sheeting shall be installed under a controlled environment at the vendor/equipment supplier before shipment to the contractor. The formed plastic backplate shall be prepared and cleaned, following recommendations of the retroreflective sheeting manufacturer.

TRAFFIC SIGNAL POST

Effective: May 22, 2002

Revised: July 01, 2015

875.01TS

Add the following to Article 1077.01 (c) of the Standard Specifications:

Washers for post bases shall be the same size or larger than the nut.

Revise the first sentence of Article 1077.01 (d) of the Standard Specifications to read:

All posts and bases shall be steel and hot dipped galvanized according to AASHTO M 111. If the Agency approves painting, powder coating by the manufacturer will be required over the galvanization in accordance with 851.01TS TRAFFIC SIGNAL PAINTING Special Provisions.

UNDERGROUND RACEWAYS

Effective: May 22, 2002

Revised: July 1, 2015

810.02TS

Revise Article 810.04 of the Standard Specifications to read:

“Installation. All underground conduits shall have a minimum depth of 30-inches below the finished grade.”

Add the following to Article 810.04 of the Standard Specifications:

“All metal conduit installed underground shall be Rigid Steel Conduit unless otherwise indicated on the plans.”

Add the following to Article 810.04 of the Standard Specifications:

“All raceways which extend outside of a structure or duct bank but are not terminated in a cabinet, junction box, pull box, handhole, post, pole, or pedestal shall extend a minimum of 12” or the length shown on the plans beyond the structure or duct bank. The end of this extension shall be capped and sealed with a cap designed for the conduit to be capped.

The ends of rigid metal conduit to be capped shall be threaded, the threads protected with full galvanizing, and capped with a threaded galvanized steel cap.

The ends of rigid nonmetallic conduit and coilable nonmetallic conduit shall be capped with a rigid PVC cap of not less than 0.125” thick. The cap shall be sealed to the conduit using a room-temperature-vulcanizing (RTV) sealant compatible with the material of both the cap and the conduit. A washer or similar metal ring shall be glued to the inside center of the cap with epoxy, and the pull cord shall be tied to this ring.”

UNINTERRUPTABLE POWER SUPPLY, SPECIAL

This work shall be in accordance with section 862 of the Standard Specification except as modified herein.

Add the following to Article 862.01 of the Standard Specifications:

The UPS shall have the power capacity to provide normal operation of a signalized intersection that utilizes all LED type signal head optics, for a minimum of 10 (ten) hours.

Add the following to Article 862.02 of the Standard Specifications:

Materials shall be according to Article 1074.04 as modified in UNINTERRUPTABLE POWER SUPPLY, SPECIAL.

Add the following to Article 862.03 of the Standard Specifications:

The UPS shall additionally include, but not be limited to, a battery cabinet, where applicable.
The UPS shall provide reliable emergency power to the traffic signals in the event of a power failure or interruption.

Revise Article 862.04 of the Standard Specifications to read:

Installation.

When a UPS is installed at an existing traffic signal cabinet, the UPS cabinet shall partially rest on the lip of the existing controller cabinet foundation and be secured to the existing controller cabinet by means of at least four (4) stainless steel bolts. The UPS cabinet shall be completely enclosed with the bottom and back constructed of the same material as the cabinet.

When a UPS is installed at a new signal cabinet and foundation, it shall be mounted as shown on the plans.

At locations where UPS is installed and an Emergency Vehicle Priority System is in use, any existing incandescent confirmation beacons shall be replaced with LED lamps in accordance with the District One Emergency Vehicle Priority System specification at no additional cost to the contract.

A concrete apron shall be provided and be in accordance with Articles 424 and 202 of the Standard Specifications. The concrete apron shall also, follow the District 1 Standard Traffic Signal Design Detail, Type D for Ground Mounted Controller Cabinet and UPS Battery Cabinet.

This item shall include any required modifications to an existing traffic signal controller as a result of the addition of the UPS including the addition of alarms.

Materials.

Revise Article 1074.04(a)(1) of the Standard Specifications to read:

The UPS shall be line interactive or double conversion and provide voltage regulation and power conditioning when utilizing utility power. The UPS shall be sized appropriately for the intersection(s) normal traffic signal operating load. The UPS must be able to maintain the intersection's normal operating load plus 20 percent (20%) of the intersection's normal operating load. When installed at a railroad-

interconnected intersection the UPS must maintain the railroad pre-emption load, plus 20 percent (20%) of the railroad preemption-operating load. The total connected traffic signal load shall not exceed the published ratings for the UPS.

The UPS shall provide a minimum of 10 (ten) hours of normal operation run-time for signalized intersections with LED type signal head optics at 77 °F (25 °C) (minimum 1000 W active output capacity, with 86 percent minimum inverter efficiency).

Revise the first paragraph of Article 1074.04(a)(3) of the Standard Specifications to read:

The UPS shall have a minimum of four (4) sets of normally open (NO) and normally closed (NC) single-pole double-throw (SPDT) relay contact closures, available on a panel mounted terminal block or locking circular connectors, rated at a minimum 120 V/1 A, and labeled so as to identify each contact according to the plans.

Revise Article 1074.04(a)(10) of the Standard Specifications to read:

The UPS shall be compatible with the District's approved traffic controller assemblies utilizing NEMA TS 1 or NEMA TS 2 controllers and cabinet components for full time operation.

Revise Article 1074.04(a)(17) of the Standard Specifications to read:

When the intersection is in battery backup mode, the UPS shall bypass all internal cabinet lights, ventilation fans, cabinet heaters, service receptacles, luminaires, any lighted street name signs, any automated enforcement equipment and any other devices directed by the Engineer.

Revise Article 1074.04(b)(2)b of the Standard Specifications to read:

Batteries, inverter/charger and power transfer relay shall be housed in a separate NEMA Type 3R cabinet. The cabinet shall be Aluminum alloy, 5052-H32, 0.125-inch thick and have a natural mill finish.

Revise Article 1074.04(b)(2)c of the Standard Specifications to read:

No more than three batteries shall be mounted on individual shelves for a cabinet housing six batteries and no more than four batteries per shelf for a cabinet housing eight batteries.

Revise Article 1074.04(b)(2)e of the Standard Specifications to read:

The battery cabinet housing shall have the following nominal outside dimensions: a width of 25 inches, a depth of 16 inches, and a height of 41 to 48 inches. Clearance between shelves shall be a minimum of 10 inches.

End of paragraph 1074.04(b)(2)e

The door shall be equipped with a two position doorstop, one a 90° and one at 120°.

Revise Article 1074.04(b)(2)g of the Standard Specifications to read:

The door shall open to the entire cabinet, have a neoprene gasket, an Aluminum continuous piano hinge with stainless steel pin, and a three point locking system. The cabinet shall be provided with a main door

lock which shall operate with a traffic industry conventional No. 2 key. Provisions for padlocking the door shall be provided.

Add the following to Article 1074.04(b)(2) of the Standard Specifications:

j. The battery cabinet shall have provisions for an external generator connection.

Add the following to Article 1074.04(c) of the Standard Specifications:

- (8) The UPS shall include a tip or kill switch installed in the battery cabinet, which shall completely disconnect power from the UPS when the switch is manually activated.
- (9) The UPS shall include standard RS-232 and internal Ethernet interface.
- (10) The UPS shall incorporate a flanged electric generator inlet for charging the batteries and operating the UPS. The generator connector shall be male type, twist-lock, rated as 15A, 125VAC with a NEMA L5-15P configuration and weatherproof lift cover plate. Access to the generator inlet shall be from a secured weatherproof lift cover plate or behind a locked battery cabinet police panel.
- (11) The bypass switch shall include an internal power transfer relay that allows removal of the battery back-up unit, while the traffic signal is connected to utility power, without impacting normal traffic signal operation.

Revise Article 1074.04(d)(3) of the Standard Specifications to read:

All batteries supplied in the UPS shall be either gel cell or AGM type, deep cycle, completely sealed, prismatic lead calcium based, silver alloy, valve regulated lead acid (VRLA) requiring no maintenance. All batteries in a UPS installation shall be the same type; mixing of gel cell and AGM types within a UPS installation is not permitted.

Revise Article 1074.04(d)(4) of the Standard Specifications to read:

Batteries shall be certified by the manufacturer to operate over a temperature range of -13 to 160 °F (-25 to + 71 °C) for gel cell batteries and -40 to 140 °F (-40 to + 60 °C) for AGM type batteries.

Add the following to Article 1074.04(d) of the Standard Specifications:

- (9) The UPS shall consist of an even number of batteries that are capable of maintaining normal operation of the signalized intersection for a minimum of 10 (ten) hours. Calculations shall be provided showing the number of batteries of the type supplied that are needed to satisfy this requirement. A minimum of four batteries shall be provided.
- (10) Battery Heater mats shall be provided, when gel cell type batteries are supplied.

Add the following to the Article 1074.04 of the Standard Specifications:

(e) Warranty. The warranty for an uninterruptable power supply (UPS) and batteries (full replacement) shall cover a minimum of 5 years from date the equipment is placed in operation.

(f) Installation. Bypass switch shall completely disconnect the traffic signal cabinet from the utility provider.

(g) The UPS shall be set-up to run the traffic signal continuously, without going to a red flashing condition, when switched to battery power unless otherwise directed by the Engineer. The Contractor shall confirm set-up with the Engineer. The continuous operation mode when switched to battery may require modification to unit connections and these modifications are included in the unit price for this item.

Revise Article 862.05 of the Standard Specifications to read:

Basis of Payment.

This work will be paid for at the contract unit price per each for UNINTERRUPTABLE POWER SUPPLY, SPECIAL. Replacement of Emergency Vehicle Priority System confirmation beacons and any required modifications to the traffic signal controller shall be included in the cost of the UNINTERRUPTABLE POWER SUPPLY, SPECIAL. The concrete apron and earth excavation required shall be included in the cost of the UNINTERRUPTABLE POWER SUPPLY, SPECIAL item.

UPGRADE EXISTING CONTROLLER TO NTCIP SPECIAL

This item shall comply with Section 857 of the Standard Specifications and shall also comply with the following requirements:

This work shall consist of upgrading an existing traffic signal controller to the manufacturer's latest version of National Transportation Communications for ITS Protocol (NTCIP) software, compatible with the DuPage County Central Signal System.

Basis of Payment.

This work will be paid for at the contract unit price EACH for UPGRADE EXISTING CONTROLLER TO NTCIP SPECIAL, which price shall be payment in full for all material, equipment and labor necessary for upgrading the existing controller to meet NTCIP standards.

VIDEO DETECTOR CABLE

This work shall consist of furnishing and installing the cable for the video detection units of the type, size and number of conductors specified. This work shall conform to Section 873 of the Standard Specifications and as noted below.

Aerial and duct, communications cable with 16 AWG solid bare copper twisted-pair conductors, a 0.005 inches corrugated overall copper tape shield and polyethylene insulation. Nominal outside diameter shall be 0.715 inches. The cable shall conform to the IMSA 20-2 polyethylene specifications and have the following pair color combinations:

Pair No.	Tip	Ring
1	White	Blue
2	White	Orange
3	White	Green
4	White	Brown
5	White	Slate
6	Red	Blue

Materials

Materials shall be according to Article 873.02 of the Standard Specifications and as noted above.

Installation

Installation shall be according to Article 873.03 of the Standard Specifications and as noted above.

Method of Measurement

Measurement of the cable shall be according to Article 873.04 of the Standard Specifications.

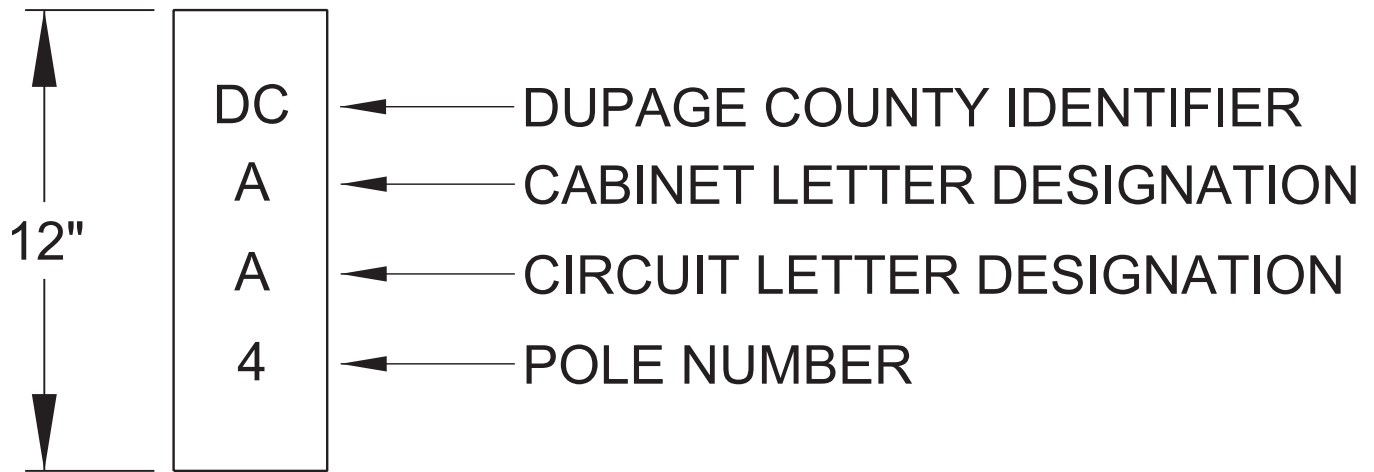
Basis of Payment

This work will be paid for at the contract unit price per foot for ELECTRIC CABLE IN CONDUIT, COMMUNICATION, NO. 16, 6 PAIR.

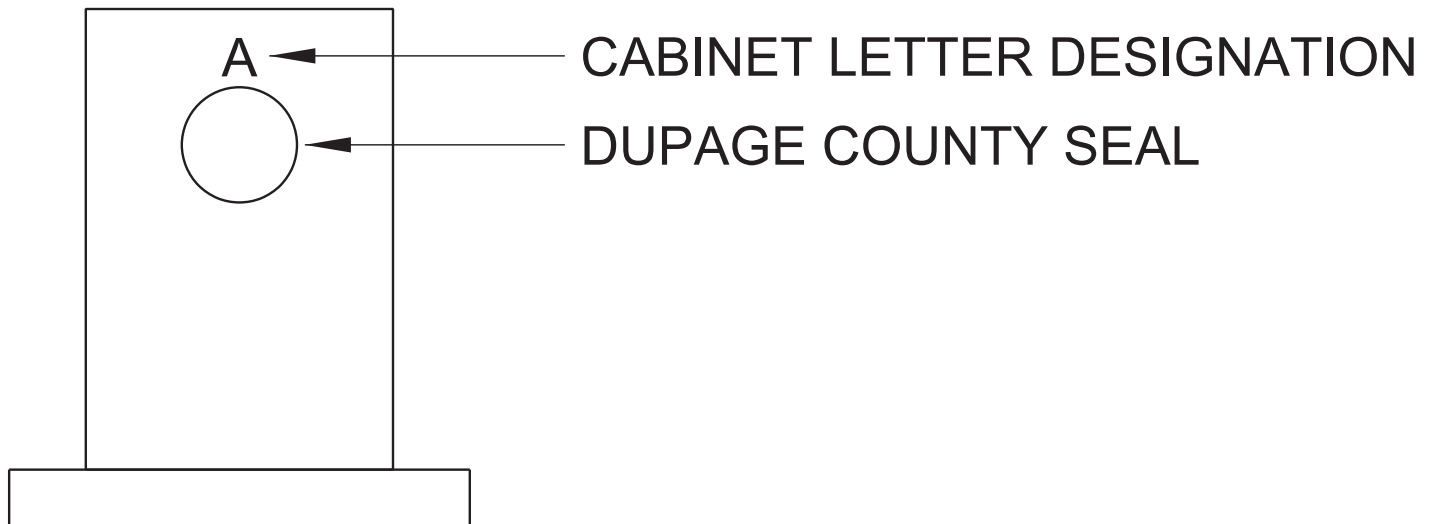


DUPAGE COUNTY DOT LIGHTING LABEL DETAILS

POLE LABELS



CABINET LABELS



NOTES:

- 1.) LABELS SHALL CONSIST OF BLACK LETTERS ON A YELLOW BACKGROUND

<u>ADJUSTMENT ITEMS</u>	<u>EX</u>	<u>PR</u>	<u>ALIGNMENT ITEMS</u>	<u>EX</u>	<u>PR</u>	<u>DRAINAGE ITEMS</u>	<u>EX</u>	<u>PR</u>
Structure To Be Adjusted		ADJ	Baseline	_____	_____	Channel or Stream Line	-----	-----
Structure To Be Cleaned		C	Centerline	-----	-----	Culvert Line	- - - - -	-----
Main Structure To Be Filled		FM	Centerline Break Circle	o	o	Grading & Shaping Ditches	-----	-----
Structure To Be Filled		F	Baseline Symbol			Drainage Boundary Line	-----	-----
Structure To Be Filled Special		FSP	Centerline Symbol	∅	∅	Paved Ditch	-----	-----
Structure To Be Removed		R	PI Indicator	Δ	Δ	Aggregate Ditch	-----	-----
Structure To Be Reconstructed		REC	Point Indicator	o	o	Pipe Underdrain	-----	-----
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=	Storm Sewer	-----	-----
Frame and Grate To Be Adjusted		A	<u>BOUNDARIES ITEMS</u>	<u>EX</u>	<u>PR</u>	Flowline	ff	ff
Frame and Lid To Be Adjusted		A	Dashed Property Line	-----	-----	Ditch Check	◆	◆
Domestic Service Box To Be Adjusted		A	Solid Property/Lot Line	_____	_____	Headwall	-	-
Valve Vault To Be Adjusted		A	Section/Grant Line	-----	-----	Inlet	▭	▭
Special Adjustment		SP	Quarter Section Line	-----	-----	Manhole	⊙	⊙
Item To Be Abandoned		AB	Quarter/Quarter Section Line	-----	-----	Summit	↔	↔
Item To Be Moved		M	County/Township Line	-----	-----	Roadway Ditch Flow	~	~
Item To Be Relocated		REL	State Line	- - - - -	- - - - -	Swale	↑	↑
Pavement Removal and Replacement		REL	Iron Pipe Found	o	o	Catch Basin	●	●
			Iron Pipe Set	●	●	Culvert End Section	▼	▼
			Survey Marker	◐	◐	Water Surface Indicator	▽	▽
			Property Line Symbol	ℙ	ℙ	Riprap	▭	▭
			Same Ownership Symbol (Half Size)	↗	↗	<u>HYDRAULICS ITEMS</u>	<u>EX</u>	<u>PR</u>
			Northwest Quarter Corner (Half Size)	⊙	⊙	Overflow	↶	↶
			Section Corner (Half Size)	⊙	⊙	Sheet Flow	↑	↑
			Southeast Quarter Corner (Half Size)	⊙	⊙	Hydrant Outlet	➔	➔

**STANDARD SYMBOLS,
ABBREVIATIONS
AND PATTERNS**
(Sheet 2 of 9)

STANDARD 000001-07

Illinois Department of Transportation

PASSED January 1, 2019

APPROVED January 1, 2019

ENGINEER OF POLICY AND PROCEDURES

ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

EROSION & SEDIMENT CONTROL ITEMS

Cleaning & Grading Limits		PR
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		

CONTOUR ITEMS

Approx. Index Line		EX
Approx. Intermediate Line		
Index Contour		
Intermediate Contour		

NON-HIGHWAY IMPROVEMENT ITEMS

Noise Attn./Levee		EX
Field Line		
Fence		
Base of Levee		
Mailbox		
Multiple Mailboxes		
Pay Telephone		
Advertising Sign		
ITS* Camera		
Wind Turbine		
Cellular Tower		

LANDSCAPING ITEMS

Contour Mounding Line		PR
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.)

Seeding Class 5		EX
Seeding Class 7		
Seedlings Type 1		
Seedlings Type 2		
Sodding		
Mowstake w/Sign		
Tree Trunk Protection		
Evergreen Tree		
Shade Tree		

LIGHTING

Duct		
Conduit		
Electrical Aerial Cable		
Electrical Buried Cable		
Controller		
Underpass Luminaire		
Power Pole		

**STANDARD SYMBOLS,
ABBREVIATIONS
AND PATTERNS**
(Sheet 3 of 9)

STANDARD 000001-07

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LIGHTING
(contd.)

Pull Point		PR
Handhole		PR
Heavy Duty Handhole		PR
Junction Box		PR
Light Unit Comb.		PR
Electrical Ground		PR
Traffic Flow Arrow		PR
High Mast Pole (Half Size)		PR
Light Unit-1		PR

PAVEMENT (MISC.)

Keyed Long. Joint		PR
Keyed Long. Joint w/Tie Bars		PR
Sawed Long. Joint w/Tie Bars		PR
Bituminous Shoulder		PR
Bituminous Taper		PR
Stabilized Driveway		PR
Widening		PR

PAVEMENT MARKINGS

PR

EX

Handicap Symbol		PR
RR Crossing		PR
Raised Marker Amber 1 Way		PR
Raised Marker Amber 2 Way		PR
Raised Marker Crystal 1 Way		PR
Two Way Turn Left		PR
Shoulder Diag. Pattern		PR
Skip-Dash White		PR
Skip-Dash Yellow		PR
Stop Line		PR
Solid Line		PR
Double Centerline		PR
Dotted Lines		PR

Illinois Department of Transportation
 PASSED January 1, 2019
 ENGINEER OF POLICY AND PROCEDURES
 APPROVED January 1, 2019
 ENGINEER OF DESIGN AND ENVIRONMENT

**STANDARD SYMBOLS,
 ABBREVIATIONS
 AND PATTERNS**
 (Sheet 4 of 9)
STANDARD 000001-07

PAVEMENT MARKINGS
(contd.)

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

Urban Combination Left

Urban Combination Right

Urban Left Turn Arrow

Urban Right Turn Arrow

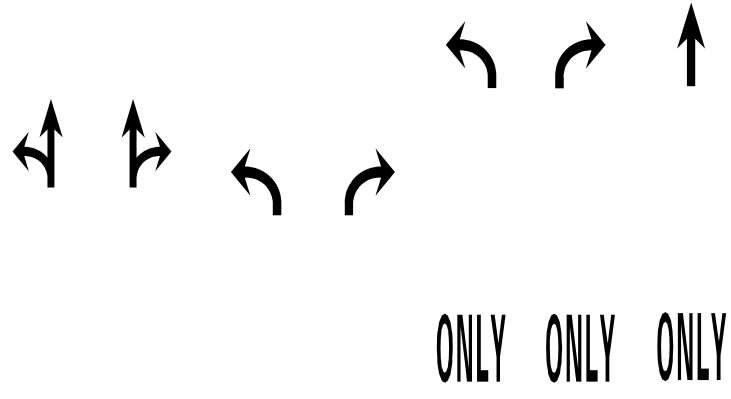
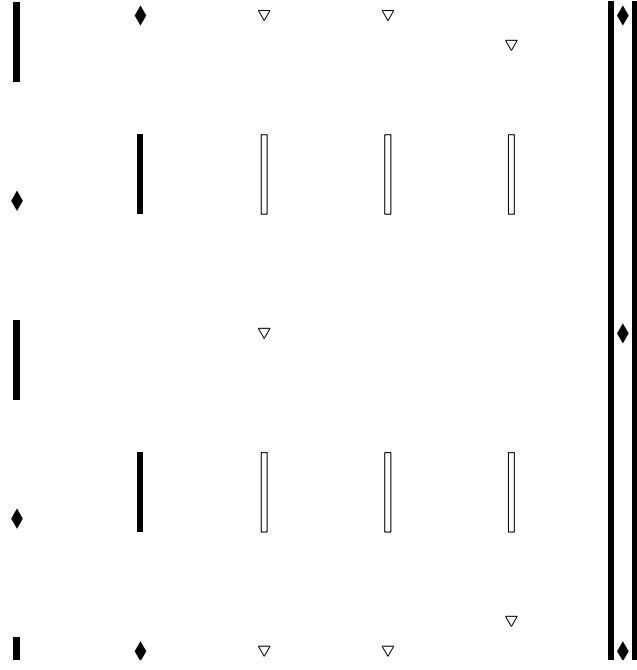
Urban Left Turn Only

Urban Right Turn Only

Urban Thru Only

EX

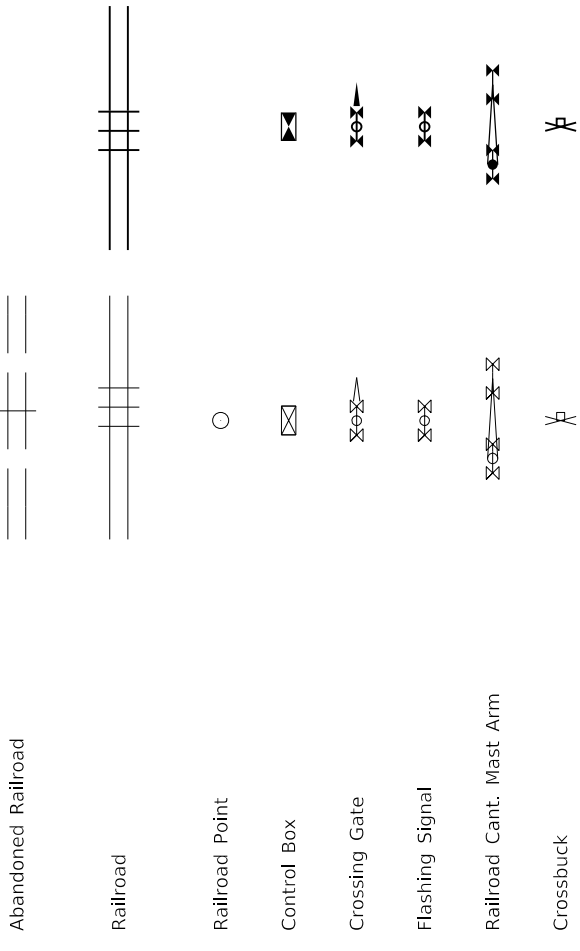
PR



RAILROAD ITEMS

EX

PR



REMOVAL ITEMS

EX

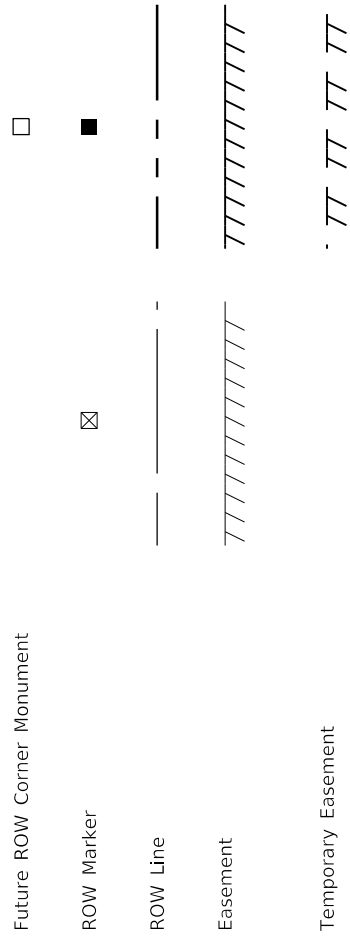
PR



RIGHT OF WAY ITEMS

EX

PR



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PASSED January 1, 2019
 APPROVED January 1, 2019
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**STANDARD SYMBOLS,
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(Sheet 5 of 9)

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PAVEMENT MARKINGS
(contd.)

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

Rural Right Turn Only

Rural Thru Only

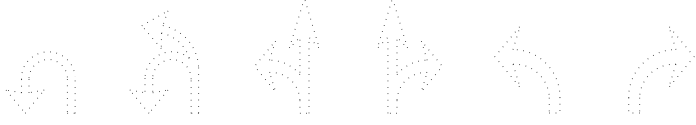
Bike Lane Symbol

Bike Lane Text

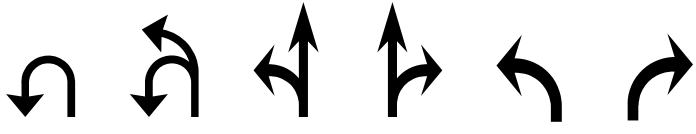
Bike Path Shared

Bike Shared Roadway

EX



PR



ONLY ONLY ONLY



LANE
BIKE



Illinois Department of Transportation

PASSED January 1, 2019

ENGINEER OF POLICY AND PROCEDURES

APPROVED January 1, 2019

ENGINEER OF DESIGN AND ENVIRONMENT

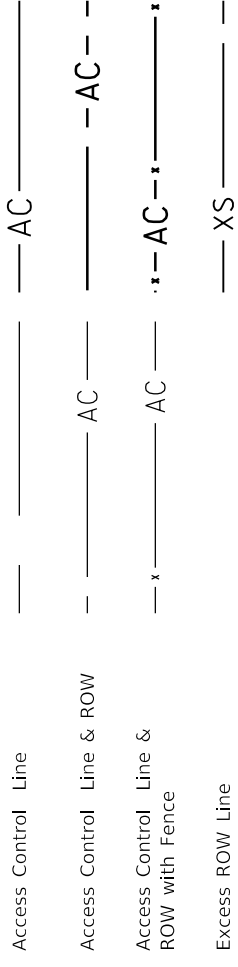
ISSUED 1-1-97

**STANDARD SYMBOLS,
ABBREVIATIONS
AND PATTERNS**

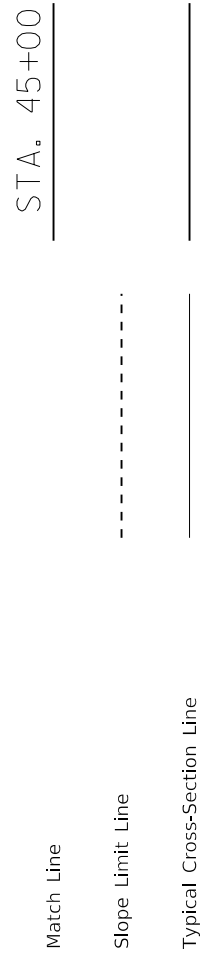
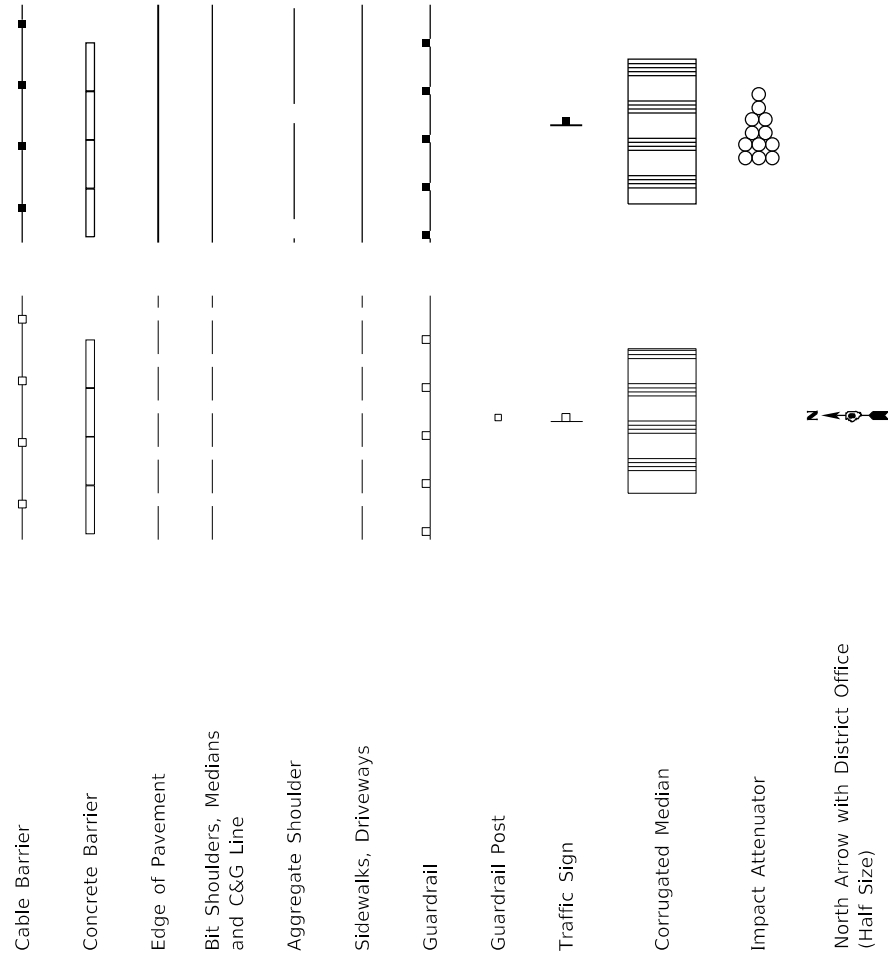
(Sheet 6 of 9)

STANDARD 000001-07

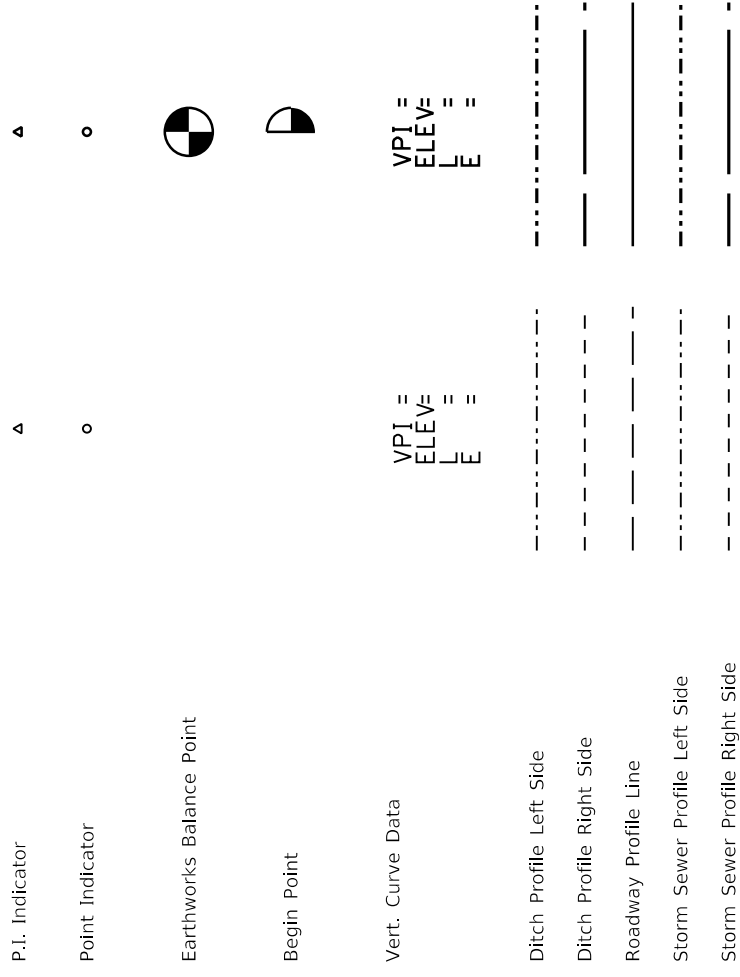
RIGHT OF WAY ITEMS
(contd.)



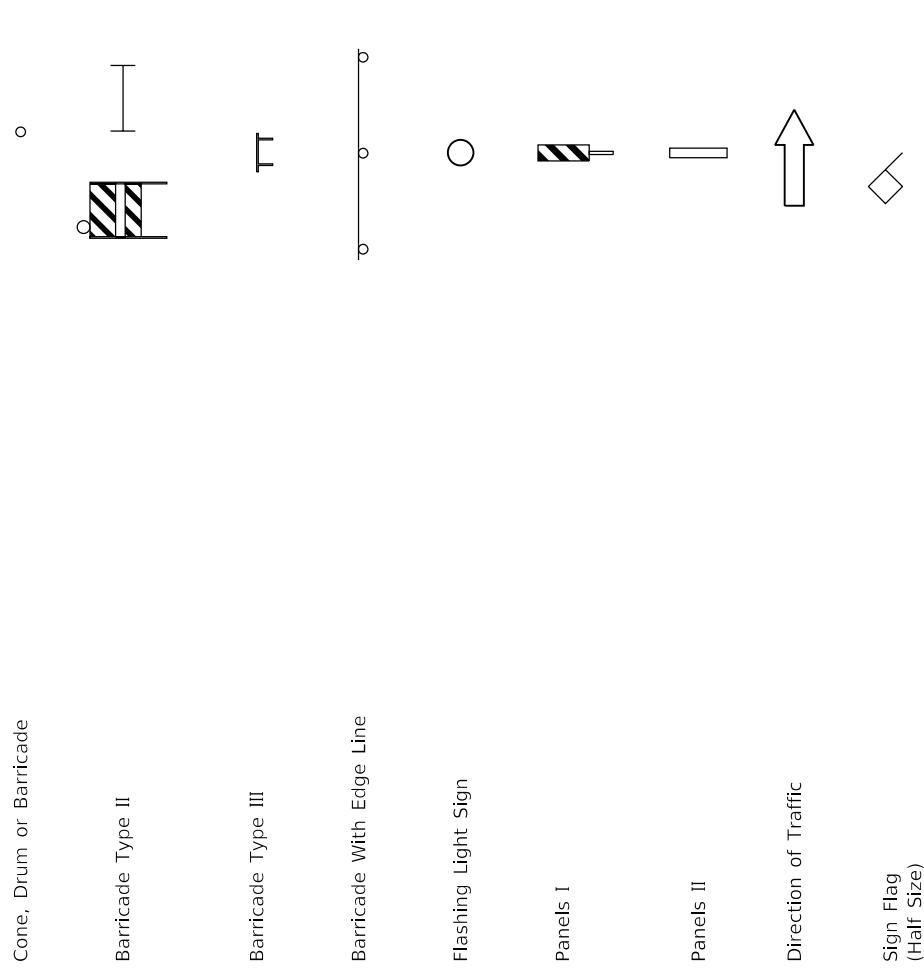
ROADWAY PLAN
ITEMS



ROADWAY PROFILES



SIGNING ITEMS



SIGNING ITEMS
(contd.)

Reverse Left W1-4L
(Half Size)

Reverse Right W1-4R
(Half Size)

Two Way Traffic Sign W6-3
(Half Size)

Detour Ahead W20-2(O)
(Half Size)

Left Lane Closed Ahead W20-5L(O)
(Half Size)

Right Lane Closed Ahead W20-5R(O)
(Half Size)

Road Closed Ahead W20-3(O)
(Half Size)

Road Construction Ahead W20-1(O)
(Half Size)

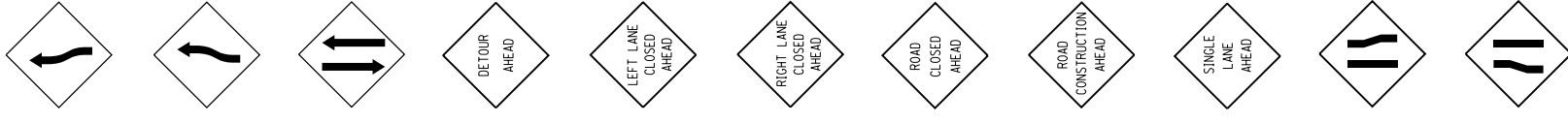
Single Lane Ahead
(Half Size)

Transition Left W4-2L
(Half Size)

Transition Right W4-2R
(Half Size)

EX

PR



**STANDARD SYMBOLS,
ABBREVIATIONS
AND PATTERNS**

(Sheet 7 of 9)

STANDARD 000001-07

Illinois Department of Transportation

PASSED January 1, 2019
 APPROVED January 1, 2019
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ENGINEER OF POLICY AND PROCEDURES
 ENGINEER OF DESIGN AND ENVIRONMENT

SIGNING ITEMS
(contd.)

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

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

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

Detour M4-10R-(O)
(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)

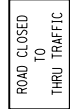
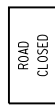
Stop Here On Red R10-6-AR
(Half Size)

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)



EX

PR

STRUCTURES ITEMS

Box Culvert Barrel

Box Culvert Headwall

Bridge Pier

Bridge

Retaining Wall

Temporary Sheet Piling



EX

PR

TRAFFIC SHEET ITEMS

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

Galv. Steel Conduit

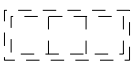
Underground Cable

Detector Loop Line

Detector Loop Large

Detector Loop Small

Detector Loop Quadrapole



EX

PR



**STANDARD SYMBOLS,
ABBREVIATIONS
AND PATTERNS**

(Sheet 8 of 9)

STANDARD 000001-07

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PASSED January 1, 2019

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TRAFFIC SIGNAL ITEMS (contd.)

Detector Raceway		
Aluminum Mast Arm		
Steel Mast Arm		
Veh. Detector Magnetic		
Conduit Splice		
Controller		
Gulftbox 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

Cable TV			
Electric Cable			
Fiber Optic			
Gas Pipe			
Oil Pipe			
Sanitary Sewer			
Telephone Cable			
Water Pipe			

UTILITIES ITEMS

Controller			
Double Handhole			
Fire Hydrant			
GuyWire or Deadman Anchor			
Handhole			
Heavy Duty Handhole			
Junction Box			
Light Pole			
Manhole			
Monitoring Well (Gasoline)			
Pipeline Warning Sign			
Power Pole			
Power Pole with Light			
Sanitary Sewer Cleanout			
Splice Box Above Ground			
Telephone Splice Box Above Ground			
Telephone Pole			

ABANDONED

Cable TV		
Electric Cable		
Fiber Optic		
Gas Pipe		
Oil Pipe		
Sanitary Sewer		
Telephone Cable		
Water Pipe		

UTILITY ITEMS (contd.)

Traffic Signal		
Traffic Signal Control Box		
Water Meter		
Water Meter Valve Box		
Profile Line		
Aerial Power Line		

VEGETATION ITEMS

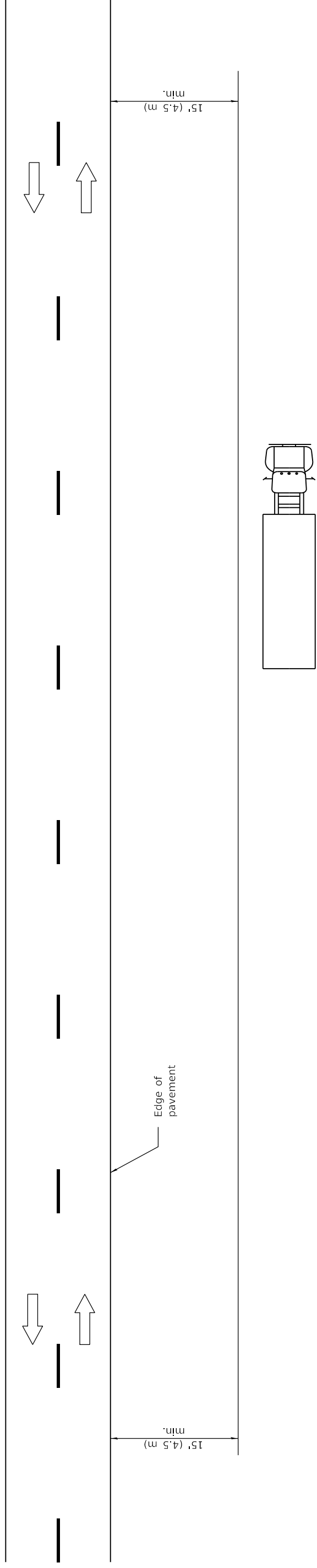
Deciduous Tree		
Bush or Shrub		
Evergreen Tree		
Stump		
Orchard/Nursery Line		
Vegetation Line		
Woods & Bush Line		

WATER FEATURE ITEMS

Stream or Drainage Ditch		
Waters Edge		
Water Surface Indicator		
Water Point		
Disappearing Ditch		
Marsh		
Marsh/Swamp Boundary		

Illinois Department of Transportation
 PASSED January 1, 2019
 ENGINEER OF POLICY AND PROCEDURES
 APPROVED January 1, 2019
 ENGINEER OF DESIGN AND ENVIRONMENT

STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
 (Sheet 9 of 9)
STANDARD 000001-07



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.

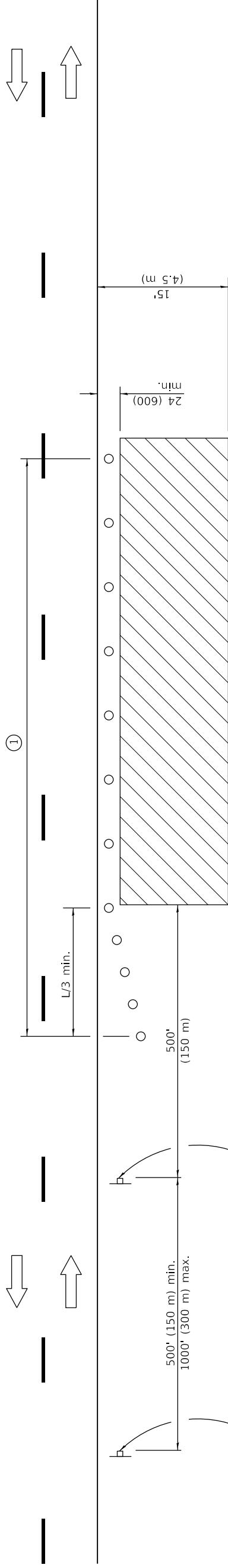
DATE	REVISIONS
1-1-09	Switched units to English (metric).
1-1-05	Revised title and notes.

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

STANDARD 701001-02


 Illinois Department of Transportation
 PASSED January 1, 2009
 ENGINEER OF OPERATIONS
 APPROVED January 1, 2009
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97



For contract construction projects

W20-1103(0)-48

For maintenance and utility projects

W20-1(0)-48

W21-1(0)-48

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.

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

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	English	FORMULAS (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.

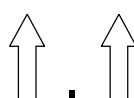
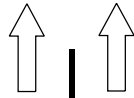
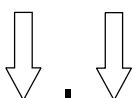
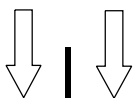
OFF-RD OPERATIONS, 2L, 2W, 15' (4.5 m) TO 24" (600 mm) FROM PAVEMENT EDGE

STANDARD 701006-05

Illinois Department of Transportation

PASSED January 1, 2014
 ENGINEER OF SAFETY ENGINEERING
 APPROVED January 1, 2014
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97



Median

①

L/3 min.

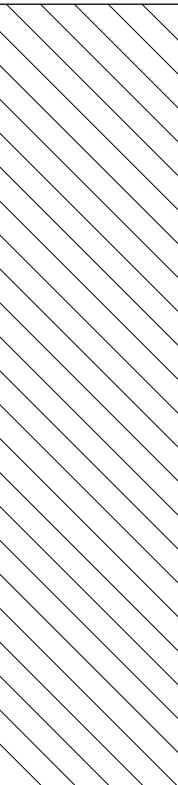
500' (150 m) min.
1000' (300 m) max.

500' (150 m)

24 (600) min.

15' (4.5 m)

Edge of paved shoulder



For contract construction projects

For maintenance and utility projects

W20-1103(0)-48

W21-1(0)-48

W20-1(0)-48

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)

$$L = \frac{WS^2}{60}$$

$$L = \frac{WS^2}{150}$$

$$L = (W)(S) \quad L = 0.65(W)(S)$$

40 mph (70 km/h) or less:

45 mph (80 km/h) or greater:

W = Width of offset in feet (meters).

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

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.

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

Illinois Department of Transportation

ISSUED 1-1-97

PASSED April 1, 2016

APPROVED April 1, 2016

ENGINEER OF SAFETY ENGINEERING

ENGINEER OF DESIGN AND ENVIRONMENT

DATE

4-1-16

REVISIONS

Corrected typo in title.

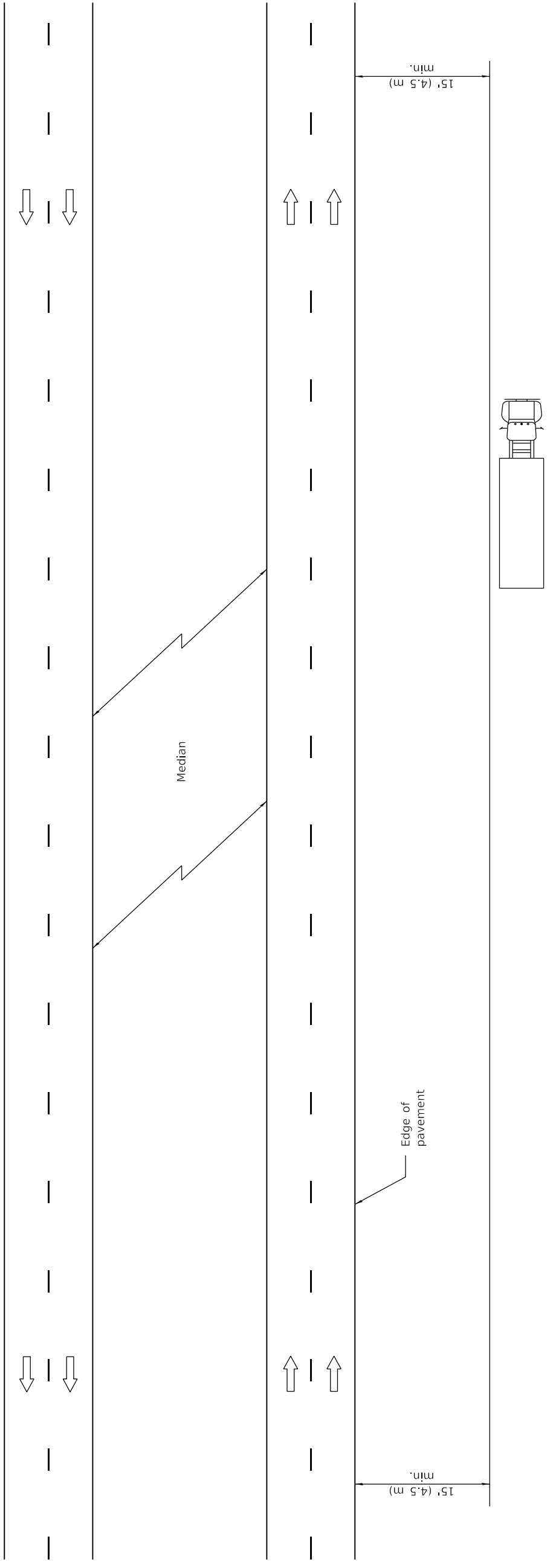
1-1-14

Revised workers sign number to agree with current MUTCD.

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

**OFF-RD OPERATIONS, MULTILANE,
15' (4.5 m) TO 24" (600 mm)
FROM PAVEMENT EDGE**

STANDARD 701101-05



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.

TYPICAL APPLICATIONS

- Landscaping work
- Utility work
- Fencing contracts

Illinois Department of Transportation

PASSED January 1, 2009

ENGINEER OF OPERATIONS *[Signature]*

APPROVED January 1, 2009

ENGINEER OF DESIGN AND ENVIRONMENT *[Signature]*

ISSUED 1-1-97

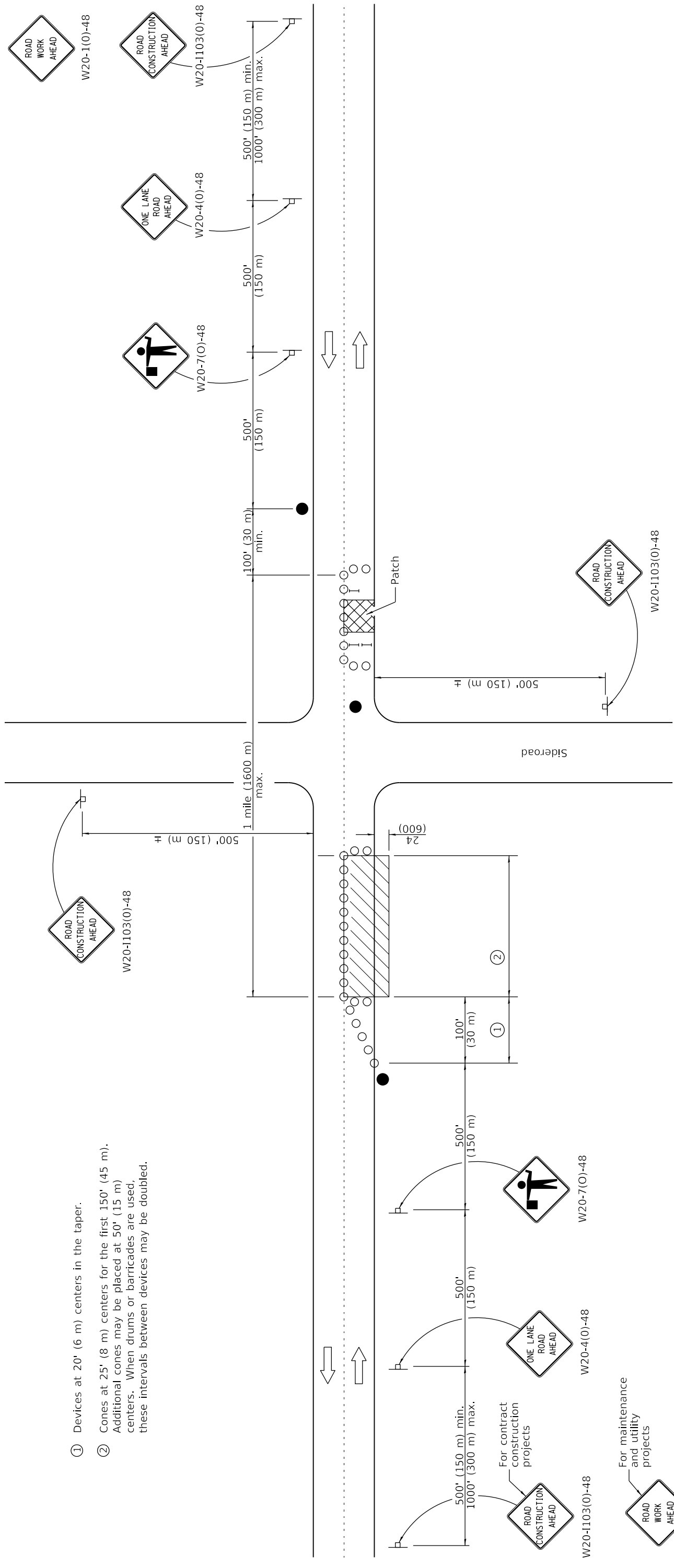
DATE	REVISIONS
1-1-05	Switched units to English (metric).
1-1-05	Revised title.

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

STANDARD 701106-02

① Devices at 20' (6 m) centers in the taper.

② Cones at 25' (8 m) centers for the first 150' (45 m). Additional cones may be placed at 50' (15 m) centers. When drums or barricades are used, these intervals between devices may be doubled.



SYMBOLS

- Work area
- Sign
- Barricade or drum
- Cone, drum or barricade
- Flagger with traffic control sign

TYPICAL APPLICATIONS

- Isolated patching
- Utility operations
- Storm sewer
- Culverts
- Cable placement

GENERAL NOTES

This Standard is used where at any time, any vehicles, equipment, workers or their activities will encroach in the area between the center line and a line 24 (600) outside the edge of pavement for daylight operation.

When the distance between successive work areas exceeds 2000' (600 m), additional warning signs, flaggers, and taper shall be placed as shown.

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

DATE	REVISIONS
1-1-19	Revised device spacing in taper.
1-1-11	Revised flagger sign.

**LANE CLOSURE, 2L, 2W,
DAY ONLY,
FOR SPEEDS ≥ 45 MPH**

STANDARD 701201-05

Illinois Department of Transportation

ISSUED 1-1-97

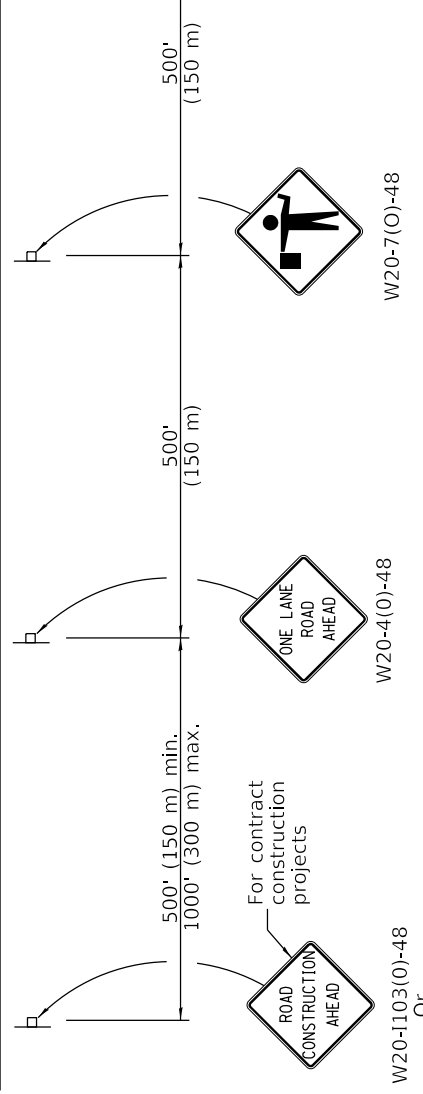
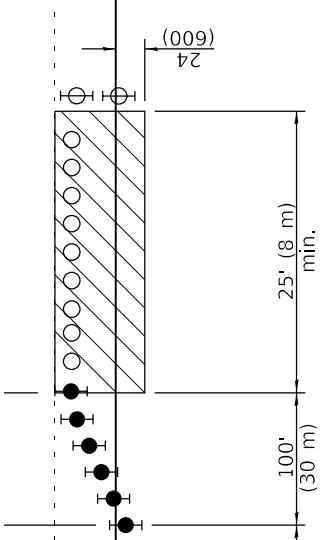
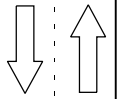
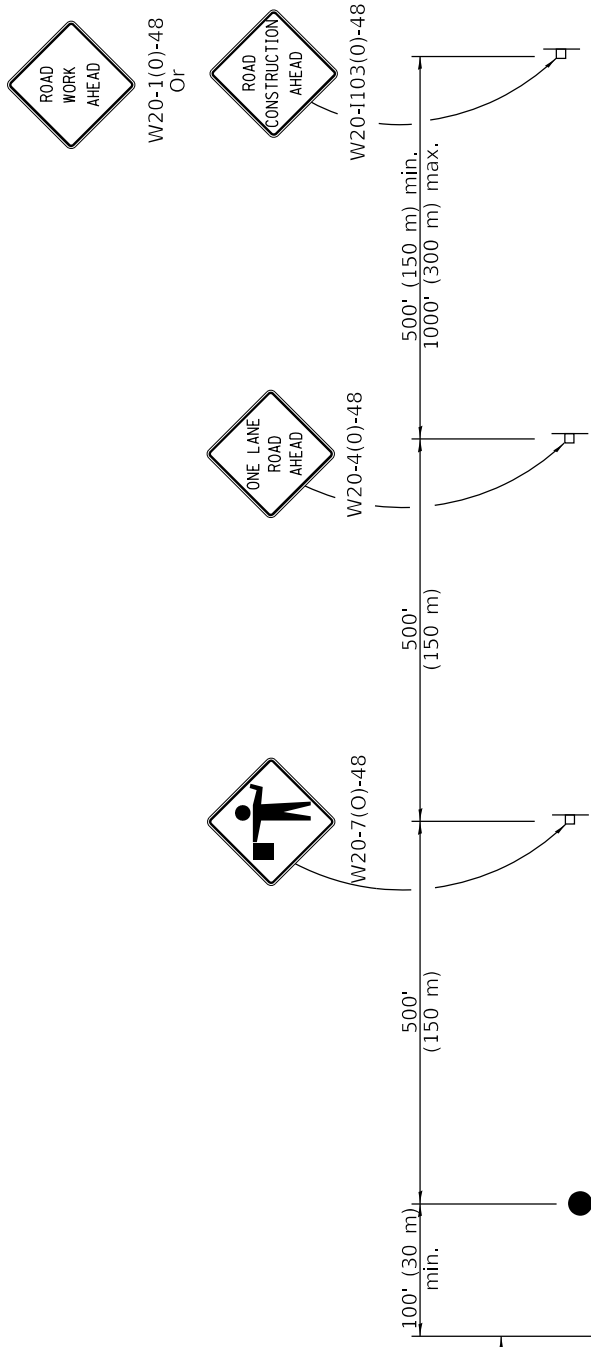
APPROVED January 1, 2019

 ENGINEER OF SAFETY PROGRAM AND ENGINEERING

APPROVED January 1, 2019

 ENGINEER OF DESIGN AND ENVIRONMENT

- ① Barricades or drums at 20' (6 m) centers in the taper.
- ② Cones at 25' (8 m) centers for the first 150' (45 m). Additional cones may be placed at 50' (15 m) centers. When barricades or drums are used, these intervals between devices may be doubled.



For contract construction projects

For maintenance and utility projects

TYPICAL APPLICATIONS

- Isolated patch
- Installation of drainage structure
- Utility operations

SYMBOLS

- Work area
- Sign
- Flagger with traffic control sign
- Cone, drum or barricade
- Barricade or drum with flashing light
- Barricade or drum with steady burning light

GENERAL NOTES

This Standard is used where at any time, any vehicle, equipment, workers or their activities will encroach in the area between the center line and a line 24 (600) from the edge of pavement for nighttime operation.

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

DATE	REVISIONS
1-1-19	Revised device spacing in taper and added cones as an option.
1-1-18	Omitted steady burning lights in tangent.

**LANE CLOSURE, 2L, 2W,
NIGHT ONLY,
FOR SPEEDS ≥ 45 MPH**

STANDARD 701206-05

Illinois Department of Transportation

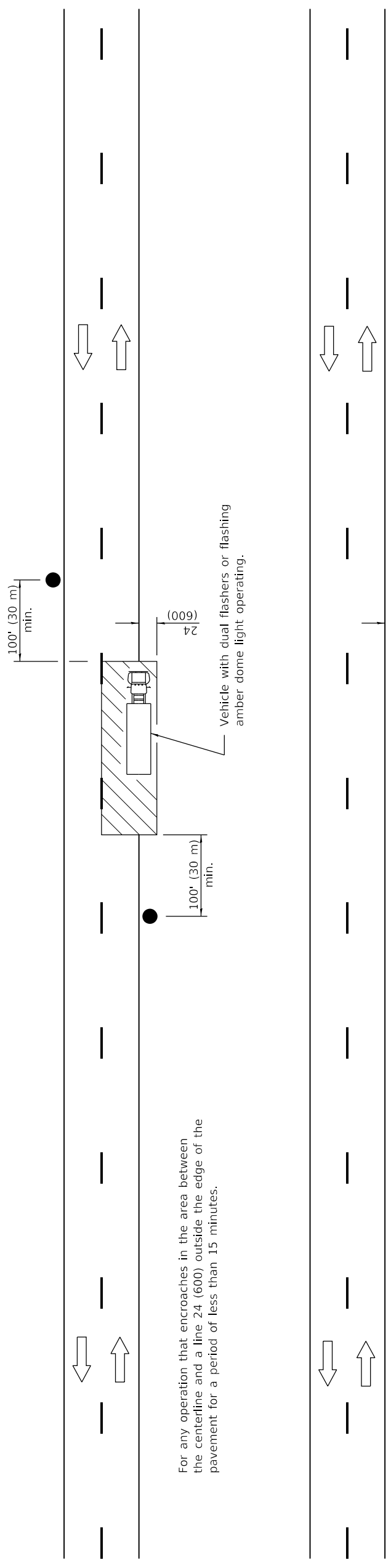
APPROVED January 1, 2019

 ENGINEER OF SAFETY PROG. AND ENGINEERING

ISSUED 1-1-97

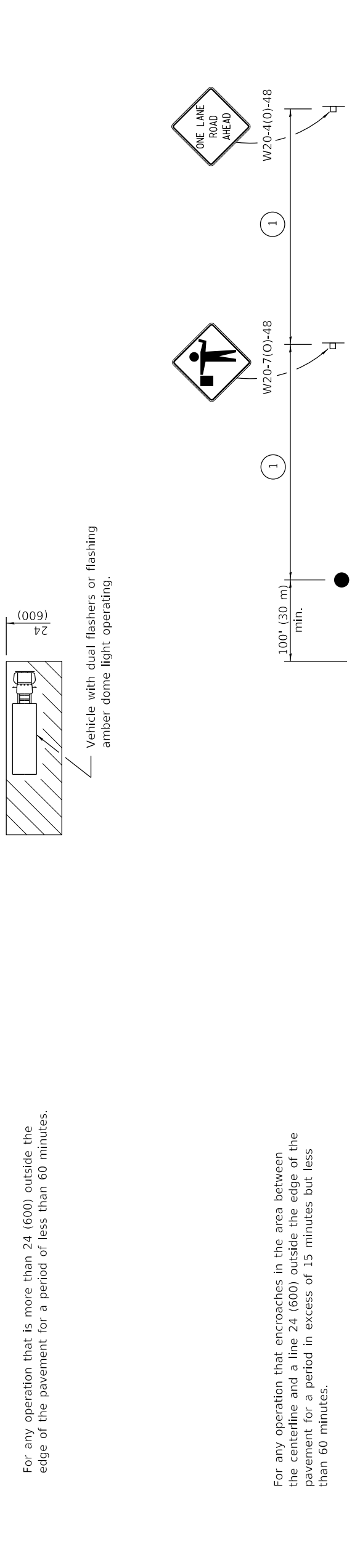
APPROVED January 1, 2019

 ENGINEER OF DESIGN AND ENVIRONMENT

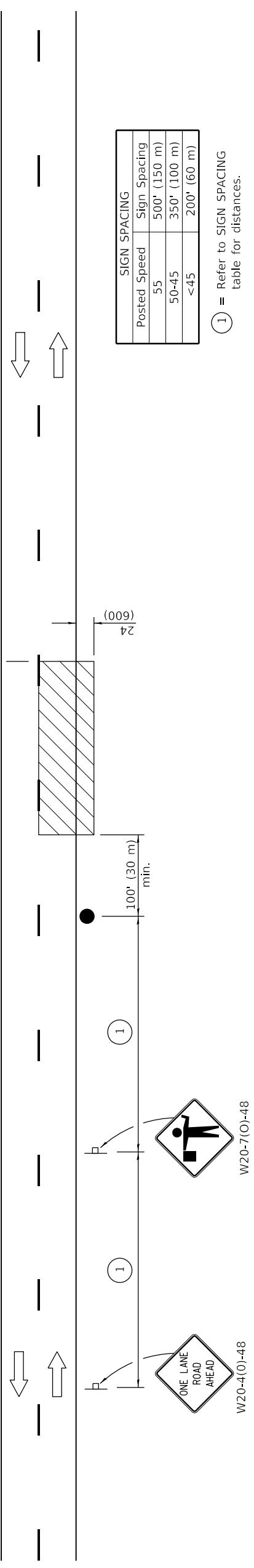


For any operation that encroaches in the area between the centerline and a line 24 (600) outside the edge of the pavement for a period of less than 15 minutes.

For any operation that is more than 24 (600) outside the edge of the pavement for a period of less than 60 minutes.



For any operation that encroaches in the area between the centerline and a line 24 (600) outside the edge of the pavement for a period in excess of 15 minutes but less than 60 minutes.



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

① = Refer to SIGN SPACING table for distances.

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

PASSED January 1, 2011
Arnold O. Sias
 ENGINEER OF SAFETY ENGINEERING

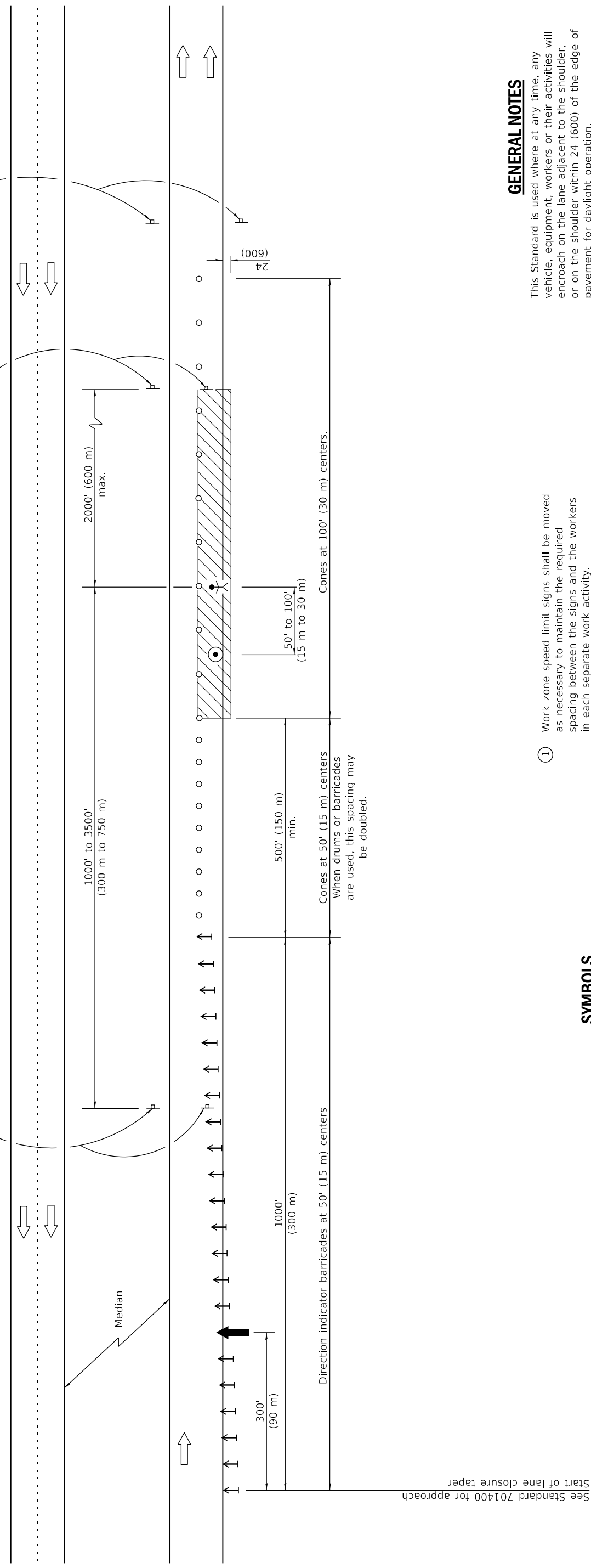
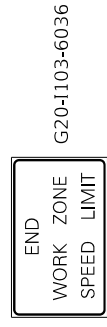
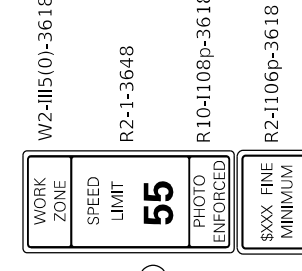
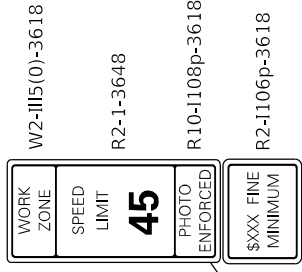
APPROVED January 1, 2011
Scott Sisk
 ENGINEER OF DESIGN AND ENVIRONMENT

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



See Standard 701400 for approach
Start of lane closure taper

TYPICAL APPLICATIONS

- Pavement patch
- Utility operations
- Bituminous resurfacing

SYMBOLS

- ↑ Arrow board
- ▨ Work area
- ⊙ Worker
- ⊥ Sign
- ↑ Direction indicator barricade
- Cone, drum or barricade
- ⊙ Spotter

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 for daylight operation.

This Standard must always be used in combination with Standard 701400.

This Standard also applies when work is being performed in the left lane. Under these conditions, the set up would be a mirror image to what is shown.

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

① Work zone speed limit signs shall be moved as necessary to maintain the required spacing between the signs and the workers in each separate work activity.

② Work Zone Speed Limit 55 Photo Enforced sign shall be omitted when the work area dictates placement of the sign array within 500' (150 m) of the End Work Zone Speed Limit sign.

DATE	REVISIONS
1-1-19	Replaced flagger with spotter.
1-1-17	Revised END WORK ZONE SPEED LIMIT sign from orange to white background.

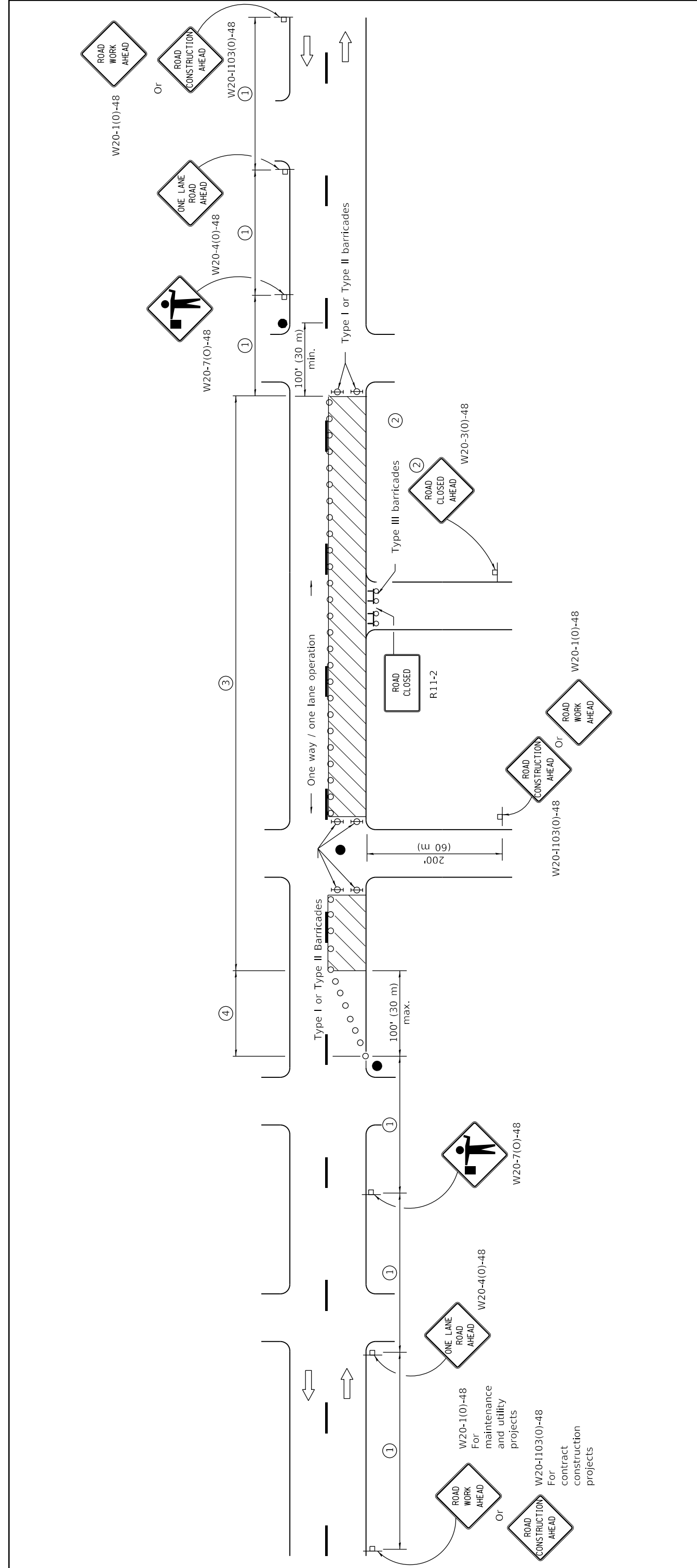
**LANE CLOSURE,
FREEWAY/EXPRESSWAY,
DAY OPERATIONS ONLY**

STANDARD 701406-12

Illinois Department of Transportation

APPROVED January 1, 2019
 ENGINEER OF SAFETY PROGRAM AND ENGINEERING
 APPROVED January 1, 2019
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97



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.

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

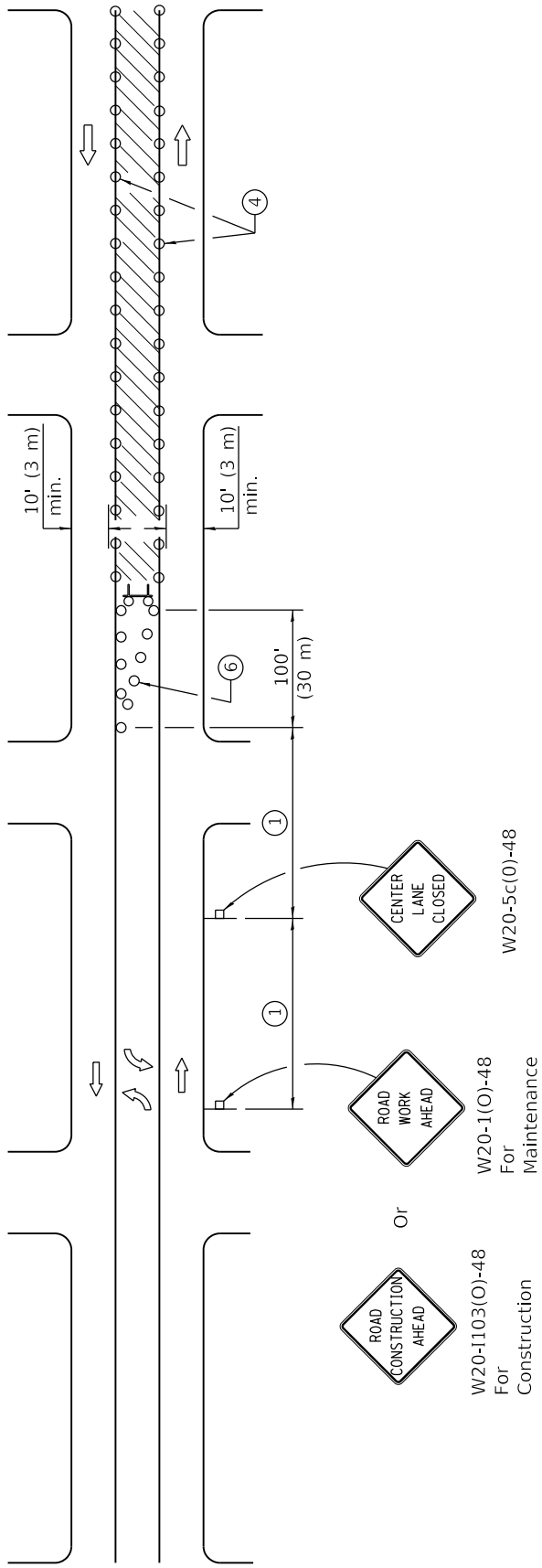
Illinois Department of Transportation

PASSED January 1, 2011
 ENGINEER OF SAFETY ENGINEERING
 APPROVED January 1, 2011
 ENGINEER OF DESIGN AND ENVIRONMENT

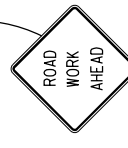
**URBAN LANE CLOSURE,
2L, 2W, UNDIVIDED**

STANDARD 701501-06

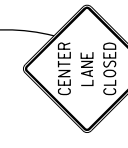
ISSUED 1-1-97



W20-1103(O)-48
For
Construction



W20-1(O)-48
For
Maintenance



W20-5c(O)-48

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

CASE I

(Signs required for both directions)

- ① Refer to SIGN SPACING TABLE for distances.
- ② Required for speeds > 40 mph (70 km/h).
- ③ Required if work exceeds 500' (164 m) or 1 block.
- ④ Cones at 25' (8 m) centers for 250' (75 m) on approach. Additional cones may be placed at 50' (15 m) centers. When drums or type I or II barricades are used, the interval between devices may be doubled.
- ⑤ For approved sideroad closures.
- ⑥ Cones, drums or barricades at 20' (6 m) centers in taper.
- ⑦ Use flagger sign only when flagger is present.

SYMBOLS

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

GENERAL NOTES

This Standard is used to close one lane of an urban, two lane, two way roadway with a bidirectional turn lane.

Case I applies when no workers are present. When workers are present, two lanes shall be closed and traffic control shall be according to Standard 701501.

Calculate L as follows:

SPEED LIMIT	FORMULAS	English	(Metric)
		$L = \frac{WS^2}{60}$	$L = \frac{WS^2}{150}$

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
1-1-19	Revised to allow cones at night.
1-1-18	Corrected sign number for TWO WAY TRAFFIC sign for CASE II.

**URBAN LANE CLOSURE,
2L, 2W, WITH BIDIRECTIONAL
LEFT TURN LANE**

(Sheet 1 of 2)

STANDARD 701502-09

Illinois Department of Transportation

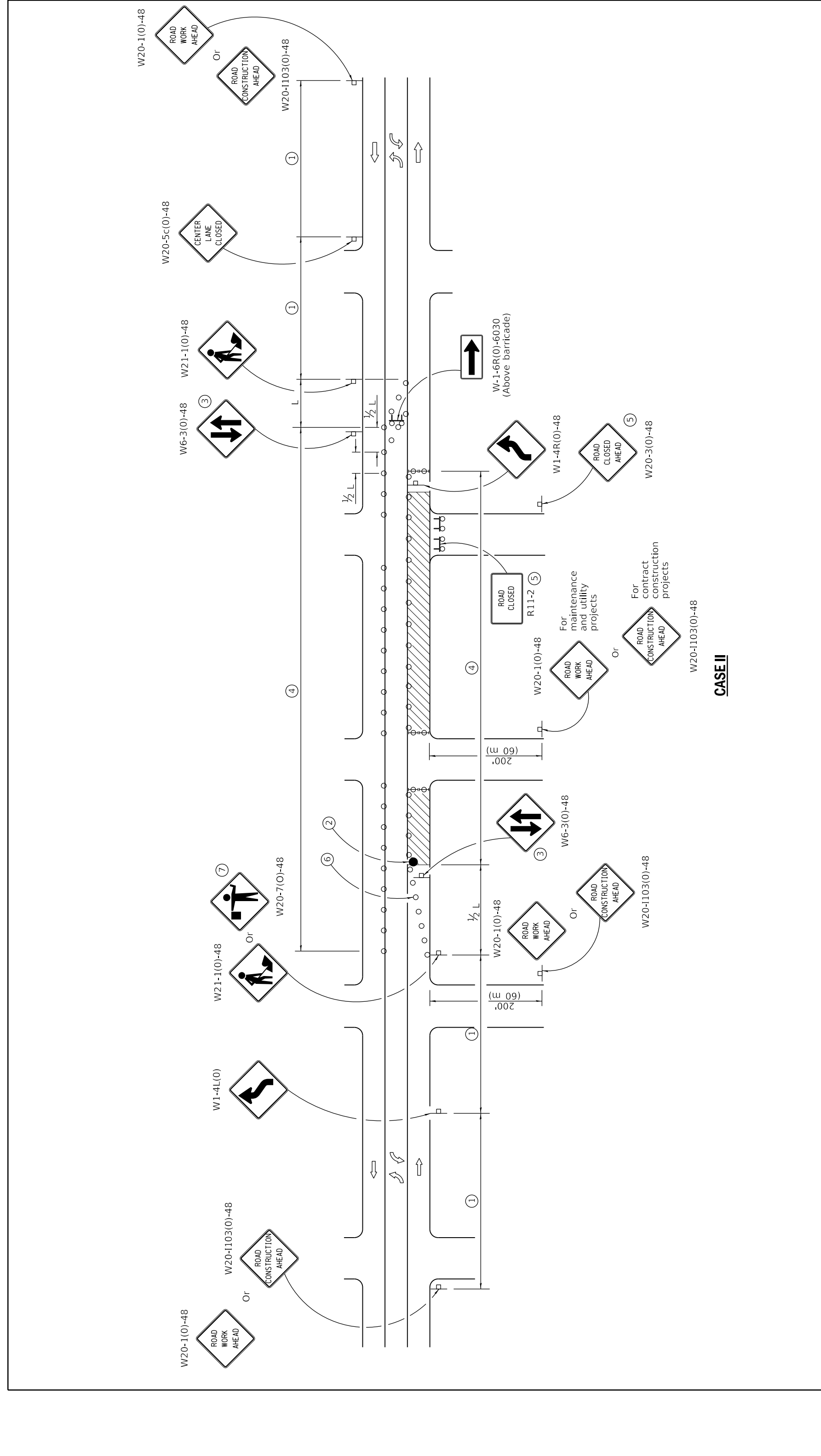
APPROVED January 1, 2019

ENGINEER OF SAFETY PROG. AND ENGINEERING

APPROVED January 1, 2019

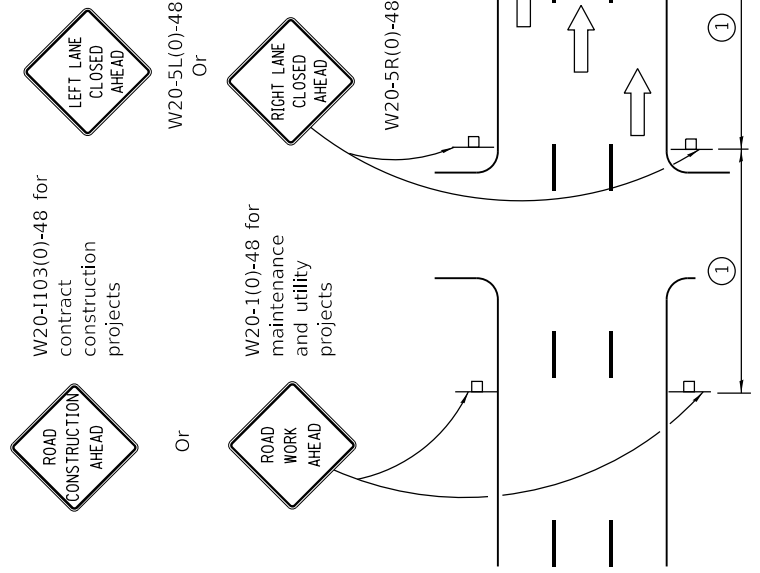
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-01



**URBAN LANE CLOSURE,
2L, 2W, WITH BIDIRECTIONAL
LEFT TURN LANE**

STANDARD 701502-09
(Sheet 2 of 2)



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 sideroad 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
40 mph (70 km/h) or less:	English $L = \frac{WS^2}{60}$ (Metric) $L = \frac{WS^2}{150}$
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.

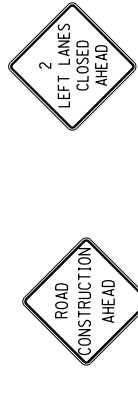
URBAN LANE CLOSURE, MULTILANE, 1W OR 2W WITH NONTRAVERSABLE MEDIAN
(Sheet 1 of 2)

STANDARD 701601-09

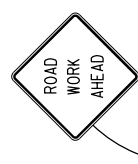
Illinois Department of Transportation

PASSED January 1, 2014
 APPROVED January 1, 2014
 ISSUED 1-1-97

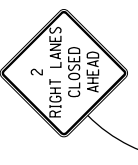
ENGINEER OF DESIGN AND ENVIRONMENT



W20-1103(0)-48
Or
W21-1106L(0)-48



W20-1(0)-48



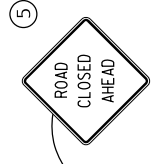
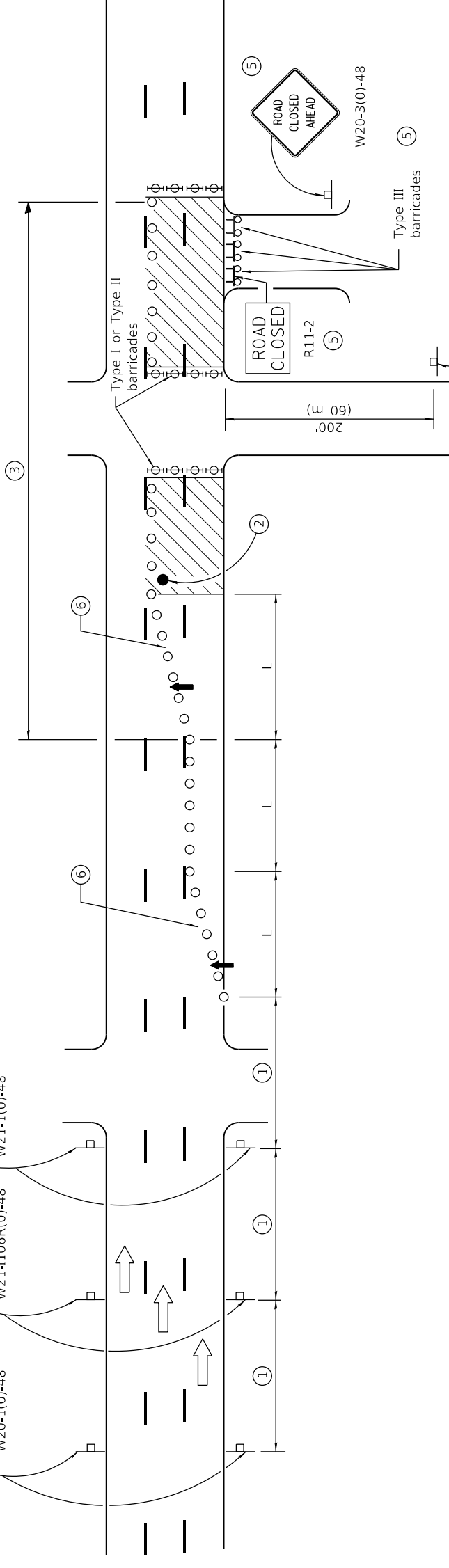
W21-1106R(0)-48



W21-1(0)-48



W20-7(0)-48



W20-3(0)-48



W20-1(0)-48



W20-1103(0)-48

Illinois Department of Transportation

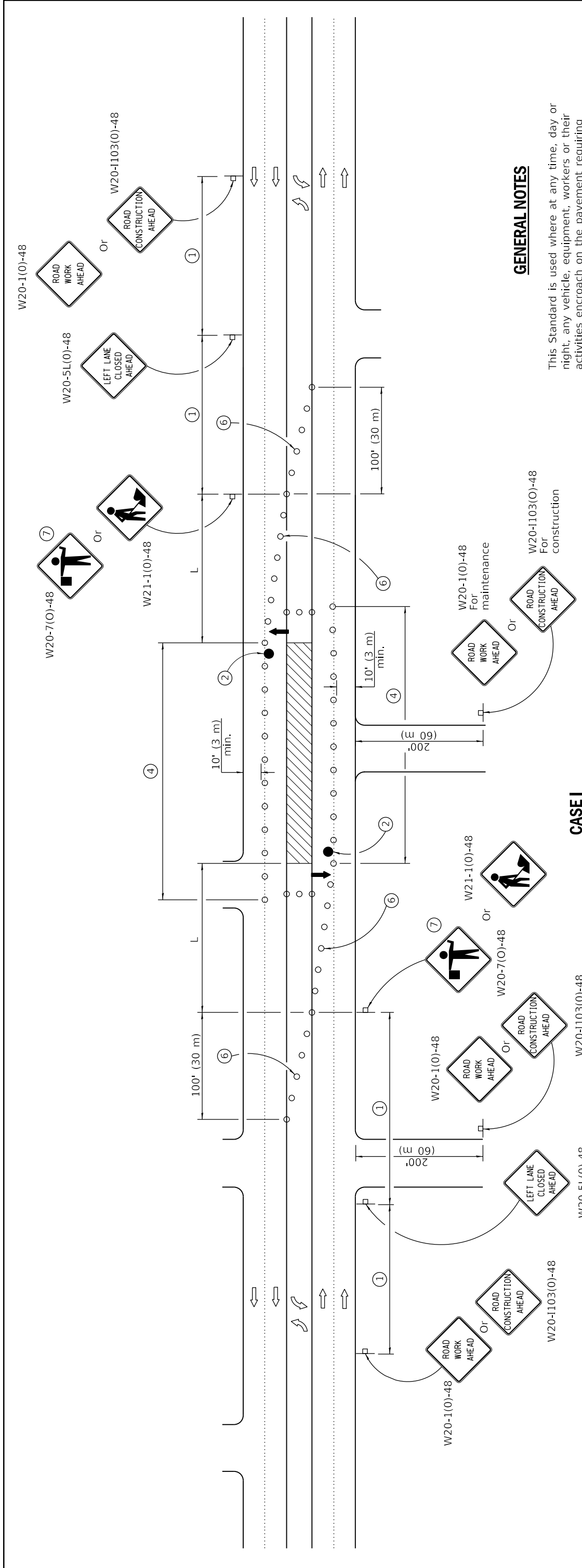
PASSED January 1, 2014
ENGINEER OF SAFETY ENGINEERING
APPROVED January 1, 2014
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

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

(Sheet 2 of 2)

STANDARD 701601-09



CASE I

- ① Refer to SIGN SPACING TABLE for distances.
- ② Required for speeds > 40 mph (70 km/h).
- ③ Required if work exceeds 500' (164 m) or 1 block, repeat every 1 mile (1.6 km).
- ④ Cones at 25' (8 m) centers for 250' (75 m) on approach. Additional cones may be placed at 50' (15 m) centers. When drums or type I or II barricades are used, the interval between devices may be doubled.
- ⑤ For approved sideroad closures.
- ⑥ Cones, drums or barricades at 20' (6 m) centers in taper.
- ⑦ Use flagger sign only when flagger is present.

SYMBOLS

- ↑ Arrow board
- ▨ Work area
- ⊕ Barricade or drum with steady burning monidirectional light
- Flagger with traffic control sign
- Cone, drum or barricade
- ⊥ Sign on portable or permanent support
- ⊕ Type III barricade with flashing lights

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

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.

If the work operation is performed between 9:00 a.m. and 3:00 p.m. and does not exceed 15 min. Traffic protection shall be as shown for Standard 701426.

Calculate L as follows:

SPEED LIMIT	FORMULAS	FORMULAS (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.

URBAN LANE CLOSURE, MULTILANE, 2W WITH BIDIRECTIONAL LEFT TURN LANE	
DATE	REVISIONS
1-1-19	Revised to allow cones at night.
1-1-18	Moved arrow boards into closed lanes for CASE I.

Illinois Department of Transportation

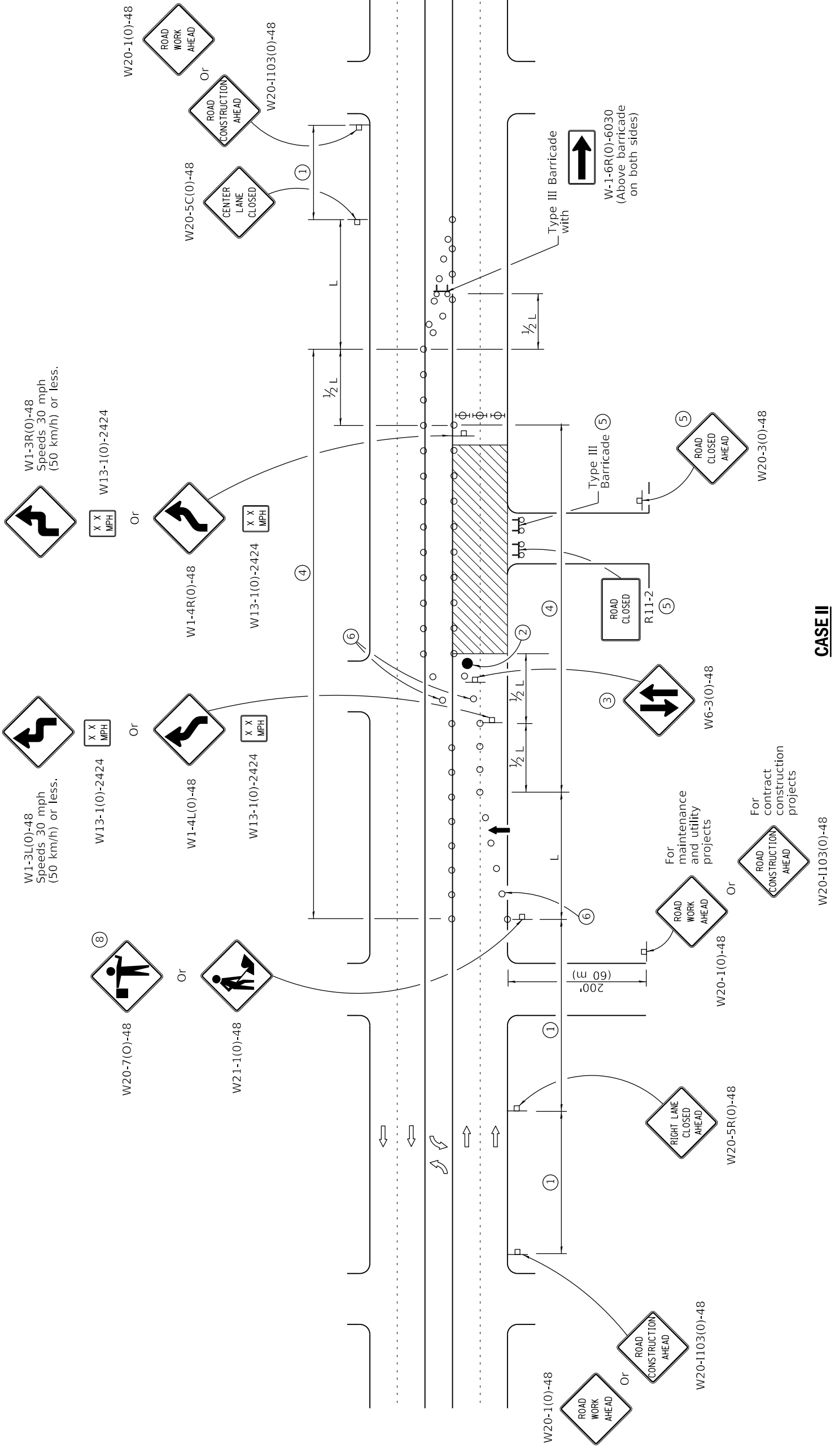
ISSUED 1-1-13

APPROVED January 1, 2019

ENGINEER OF SAFETY PROGRAM AND ENGINEERING

APPROVED January 1, 2019

ENGINEER OF DESIGN AND ENVIRONMENT



CASE II

**URBAN LANE CLOSURE,
MULTILANE, 2W WITH
BIDIRECTIONAL LEFT TURN LANE**
(Sheet 2 of 4)

STANDARD 701602-10

Illinois Department of Transportation

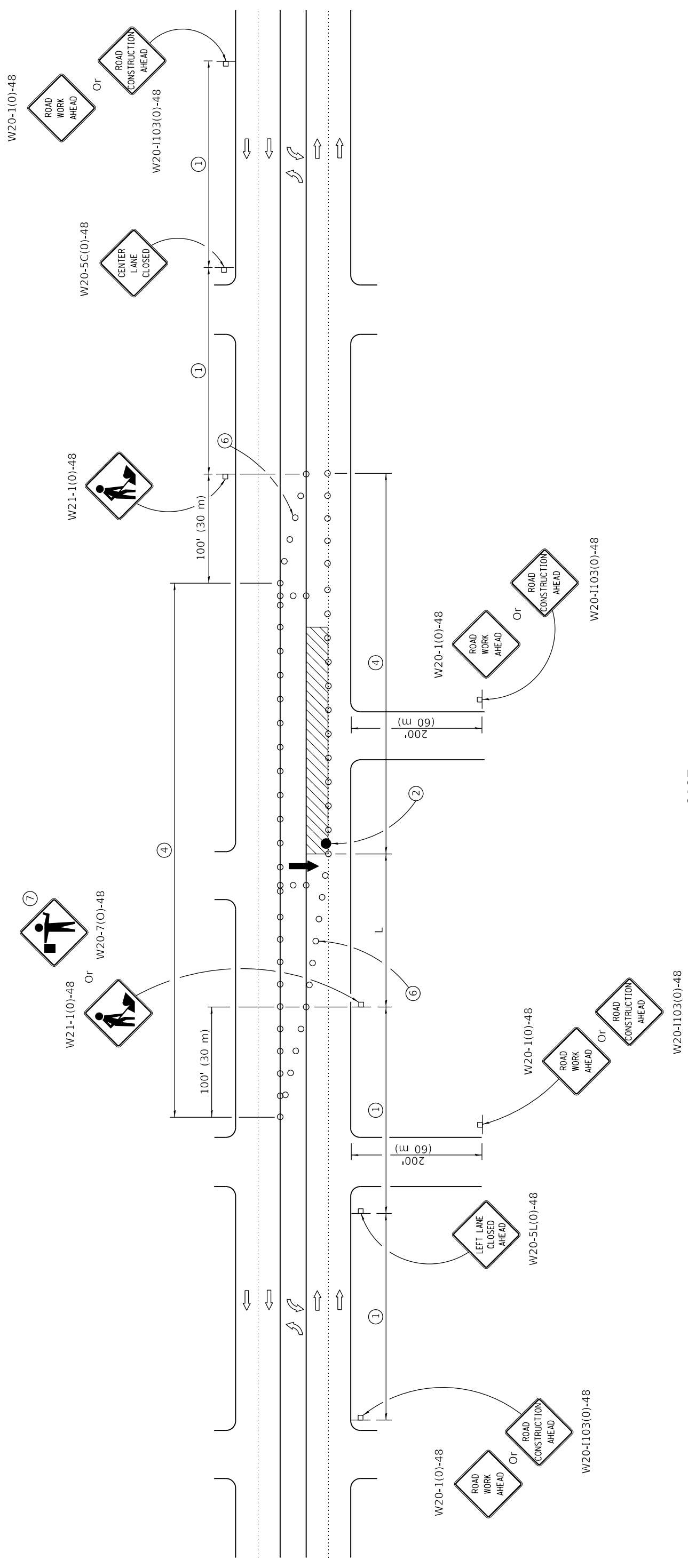
ISSUED 1-1-13

APPROVED January 1, 2019

ENGINEER OF SAFETY PROGRAM AND ENGINEERING

APPROVED January 1, 2019

ENGINEER OF DESIGN AND ENVIRONMENT

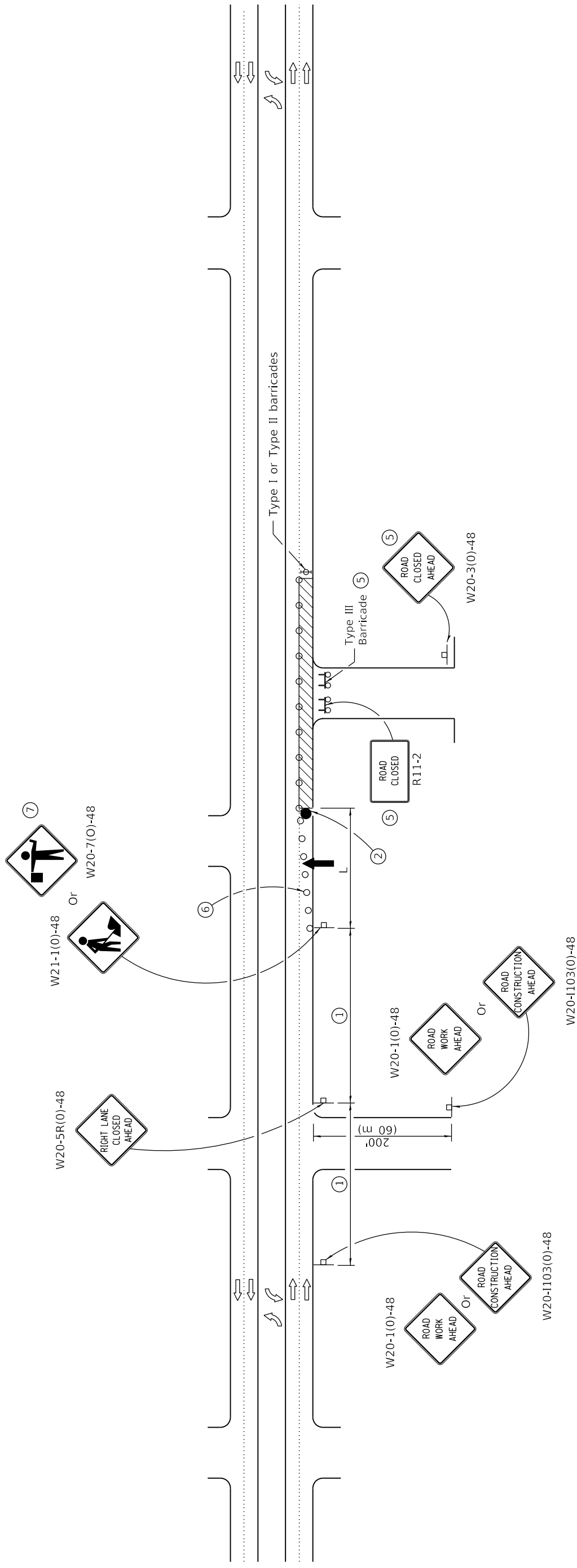


CASE III

**URBAN LANE CLOSURE,
MULTILANE, 2W WITH
BIDIRECTIONAL LEFT TURN LANE**

STANDARD 701602-10

(Sheet 3 of 4)



CASE IV

Illinois Department of Transportation

ISSUED 1-1-13

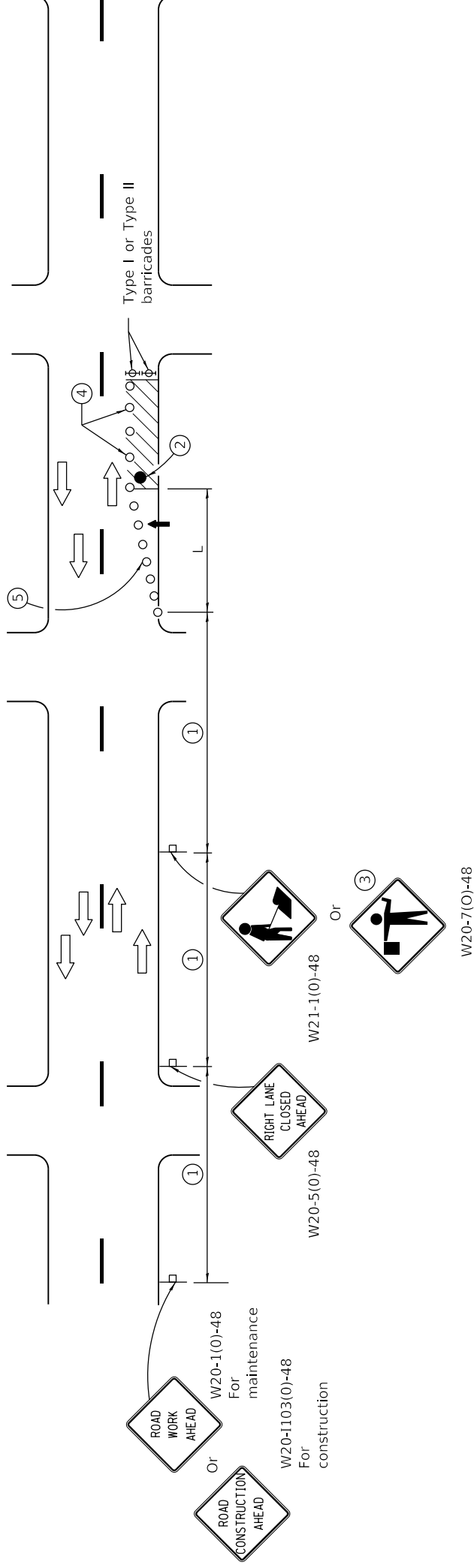
APPROVED January 1, 2019
[Signature]
 ENGINEER OF SAFETY PROG. AND ENGINEERING

APPROVED January 1, 2019
[Signature]
 ENGINEER OF DESIGN AND ENVIRONMENT

**URBAN LANE CLOSURE,
 MULTILANE, 2W WITH
 BIDIRECTIONAL LEFT TURN LANE**

(Sheet 4 of 4)

STANDARD 701602-10



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.

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.

- 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.

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

STANDARD 701606-10

Illinois Department of Transportation

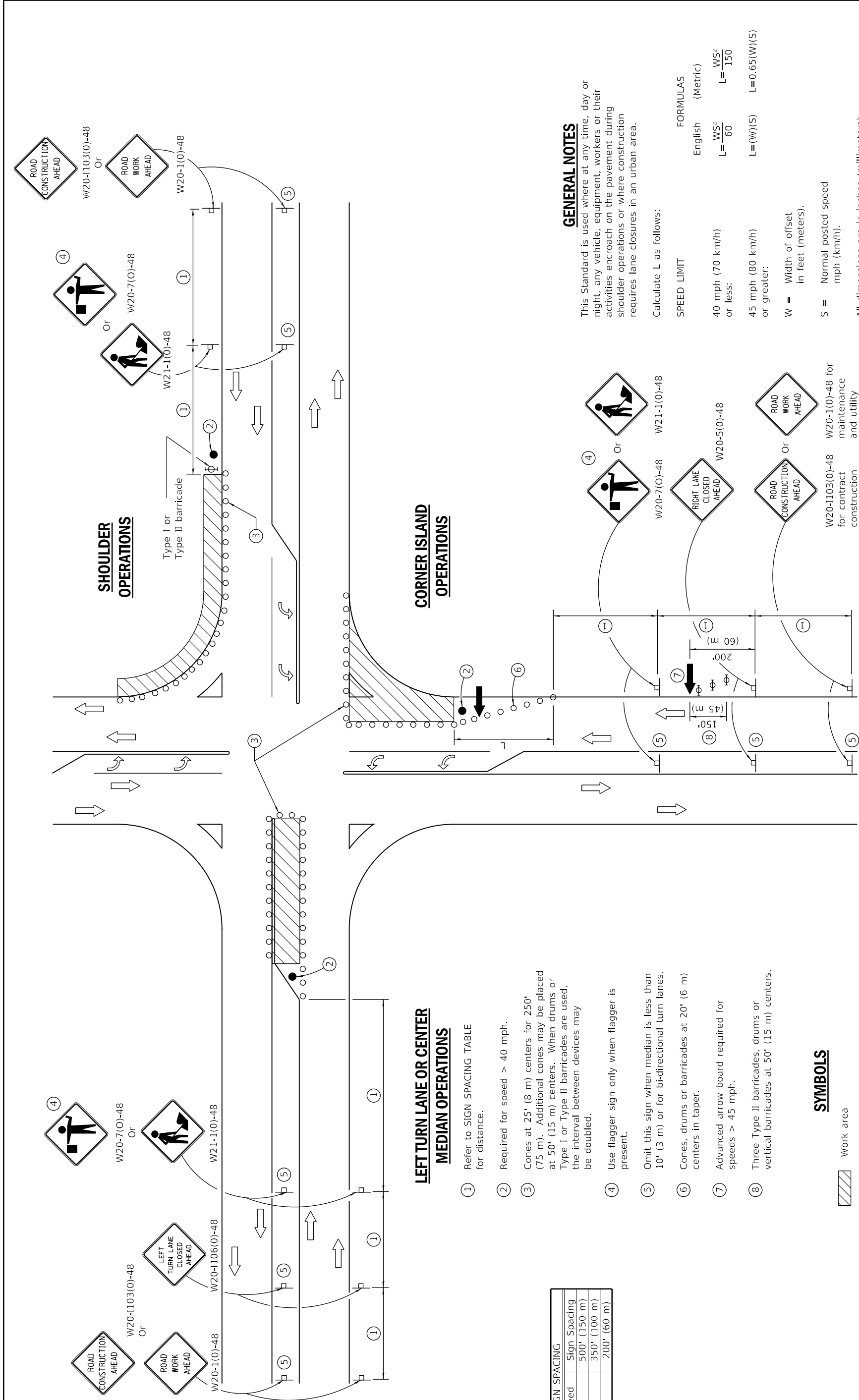
PASSED January 1, 2015

APPROVED January 1, 2015

ISSUED 1-1-97

ENGINEER OF SAFETY ENGINEERING

ENGINEER OF DESIGN AND ENVIRONMENT



LEFT TURN LANE OR CENTER MEDIAN OPERATIONS

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.

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
- Sign on portable or permanent support
- Arrow board
- Barricade or drum with flashing light
- Flagger with traffic control sign

CORNER ISLAND OPERATIONS

SHOULDER 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	English	FORMULAS
	(Metric)	
40 mph (70 km/h) or less:	$L = \frac{WS^2}{60}$	
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.

Illinois Department of Transportation

ISSUED 1-1-97

PASSED April 1, 2016

ENGINEER OF SAFETY ENGINEERING

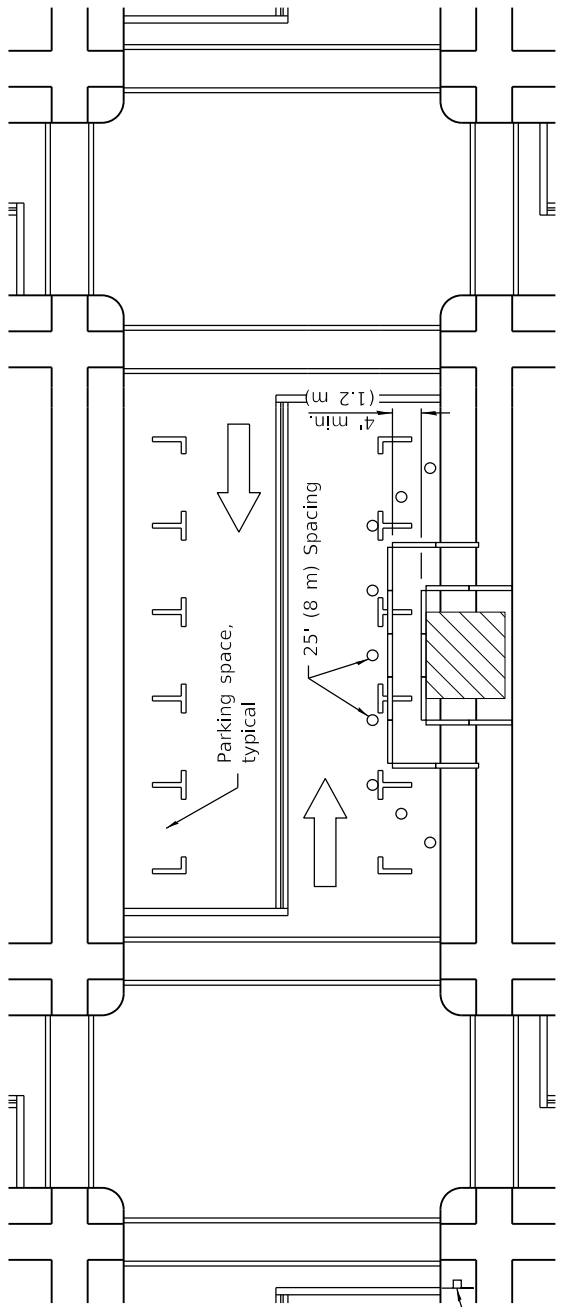
APPROVED April 1, 2016

ENGINEER OF DESIGN AND ENVIRONMENT

URBAN LANE CLOSURE, MULTILANE INTERSECTION

STANDARD 701701-10

① Omit whenever duplicated by road work traffic control.

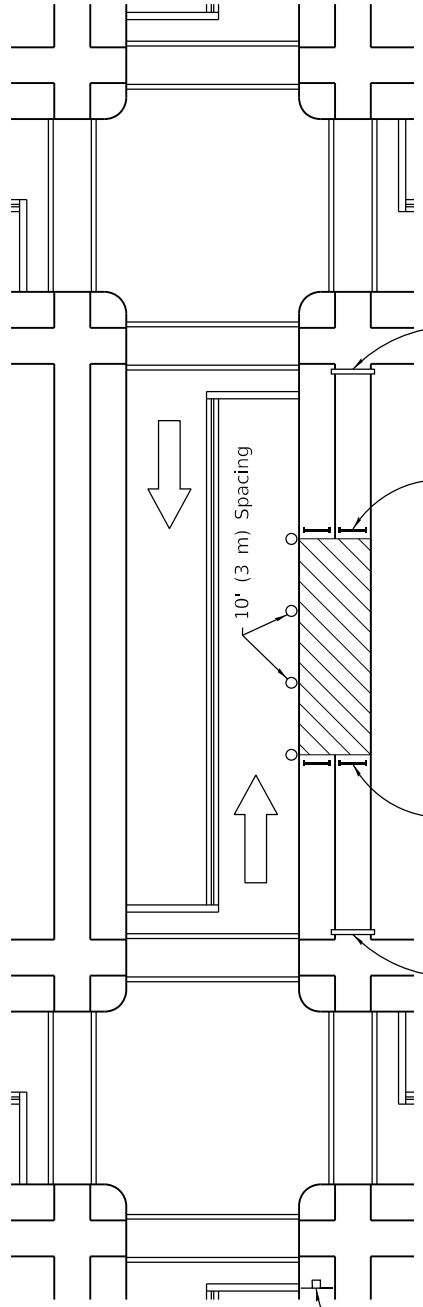


① ROAD CONSTRUCTION AHEAD
W20-1103(0)-48 for contract construction projects

Or

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

SIDEWALK DIVERSION









① ROAD CONSTRUCTION AHEAD
W20-1103(0)-48 for contract construction projects

Or

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

SIDEWALK CLOSURE

SYMBOLS

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

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.


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

Illinois Department of Transportation

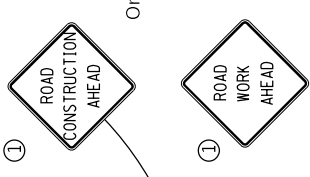
PASSED April 1, 2016

 ENGINEER OF SAFETY ENGINEERING

APPROVED April 1, 2016

 ENGINEER OF DESIGN AND ENVIRONMENT

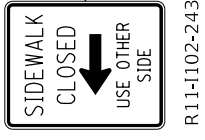
ISSUED 1-1-97

W20-1103(0)-48 for contract construction projects

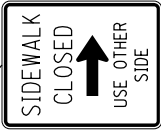
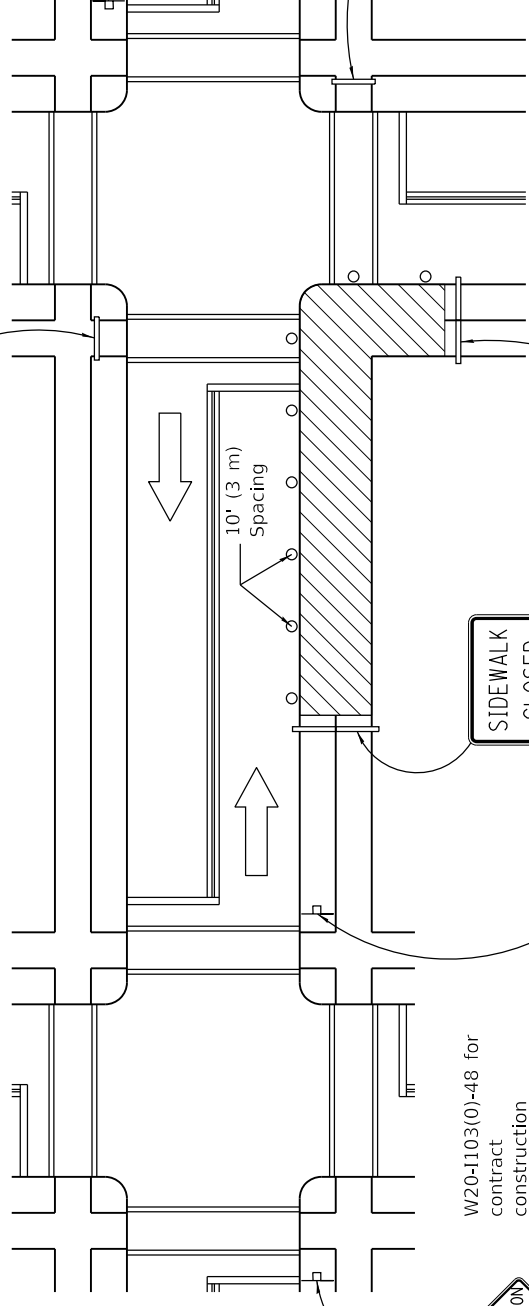
W20-1(0)-48 for maintenance and utility projects



Or



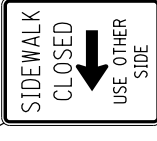
R11-1102-2430



R11-1102-2430



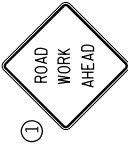
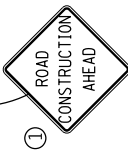
R11-1101-2418



R11-1102-2430

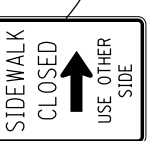
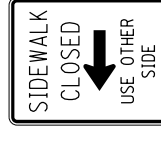
W20-1103(0)-48 for contract construction projects

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



Or

CORNER CLOSURE



R11-1102-2430



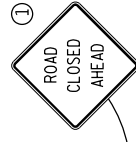
R3-1-2424



R11-1102-2430



R3-2-2424



R20-3(0)-48

CROSSWALK CLOSURE

Illinois Department of Transportation

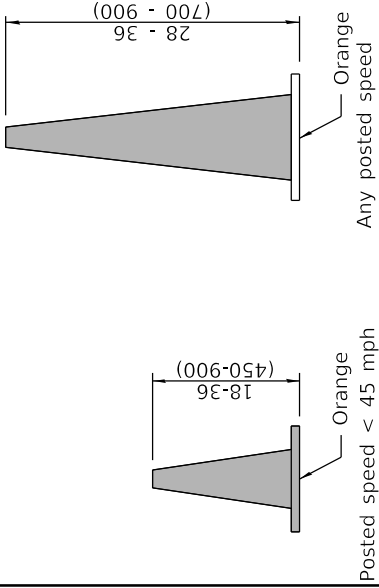
PASSED April 1, 2016
 ENGINEER OF SAFETY ENGINEERING
 APPROVED April 1, 2016
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

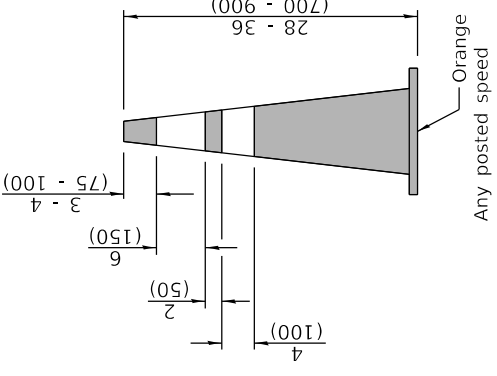
SIDEWALK, CORNER OR CROSSWALK CLOSURE

(Sheet 2 of 2)

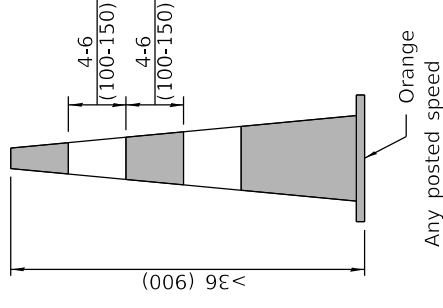
STANDARD 701801-06



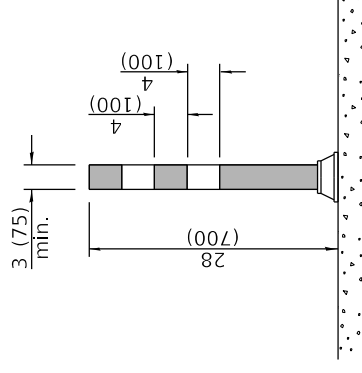
DAYTIME USE



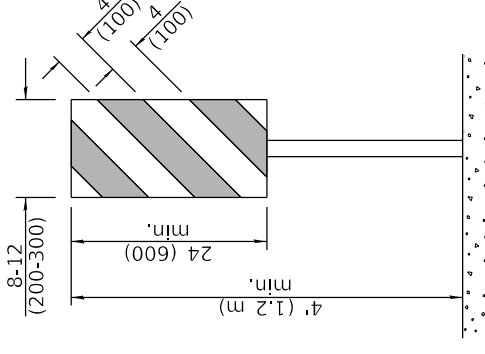
DAY OR NIGHTTIME USE



CONES

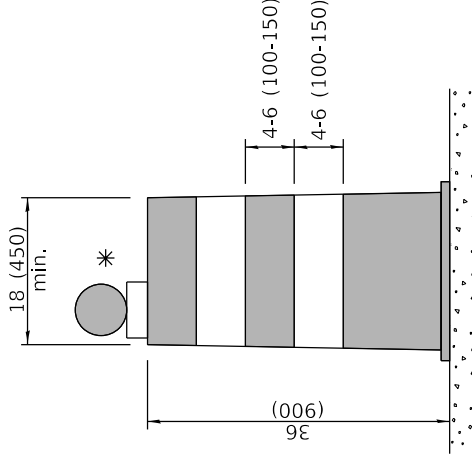


TUBULAR MARKER

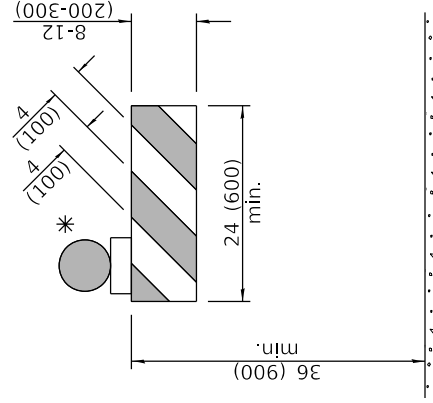


VERTICAL PANEL

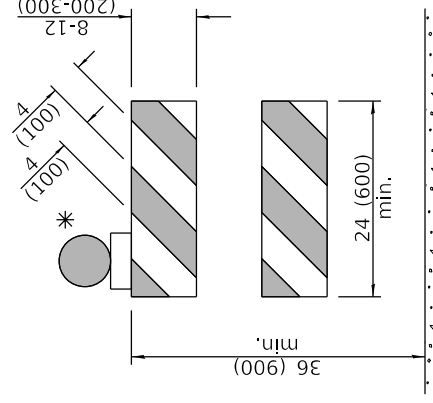
POST MOUNTED



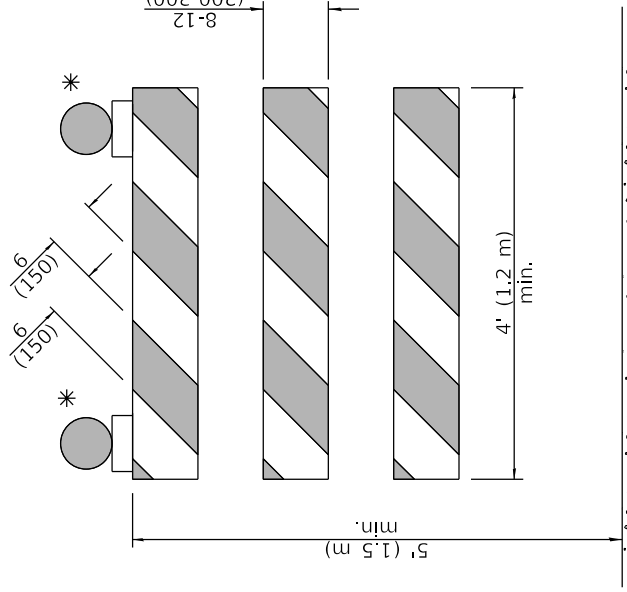
DRUM



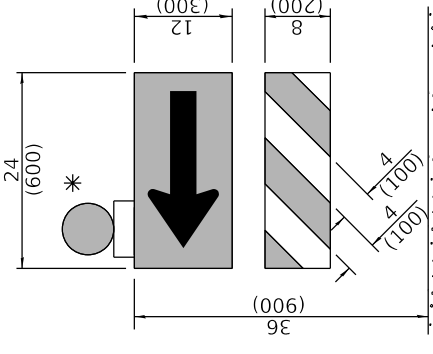
TYPE I BARRICADE



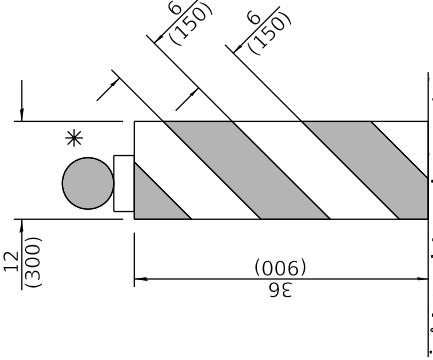
TYPE II BARRICADE



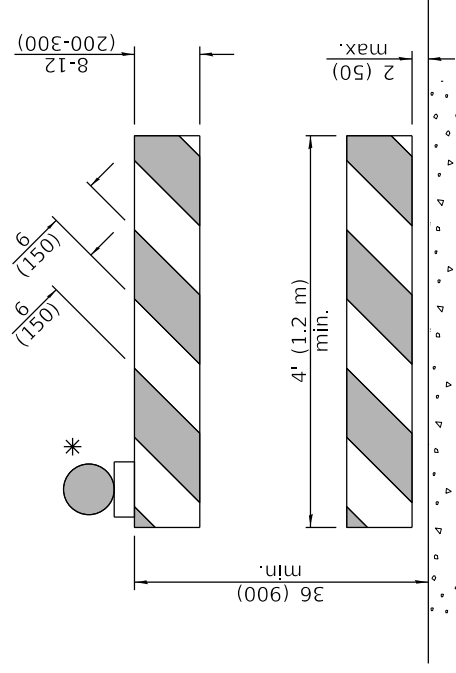
TYPE III BARRICADE



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.

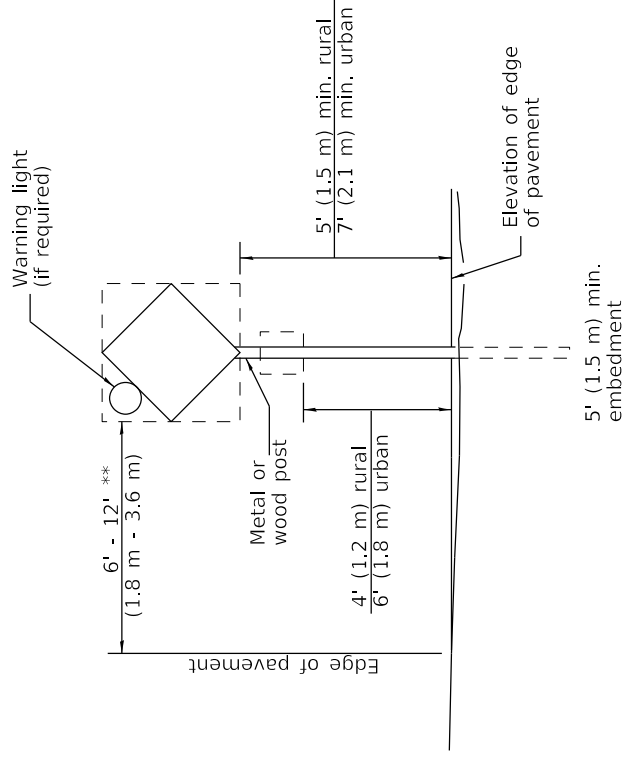
Illinois Department of Transportation	ISSUED 1-1-13
APPROVED January 1, 2019	
<i>[Signature]</i> ENGINEER OF SAFETY PROGRAM AND ENGINEERING	
APPROVED January 1, 2019	
<i>[Signature]</i> ENGINEER OF DESIGN AND ENVIRONMENT	

DATE	REVISIONS
1-1-19	Revised cone usage and added cones > 36" (900 m) height.
1-1-18	Revised END WORK ZONE SPEED LIMIT sign from orange to white background.

TRAFFIC CONTROL DEVICES

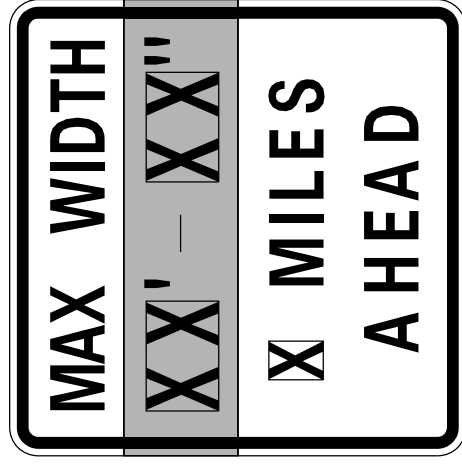
(Sheet 1 of 3)

STANDARD 701901-08



POST MOUNTED SIGNS

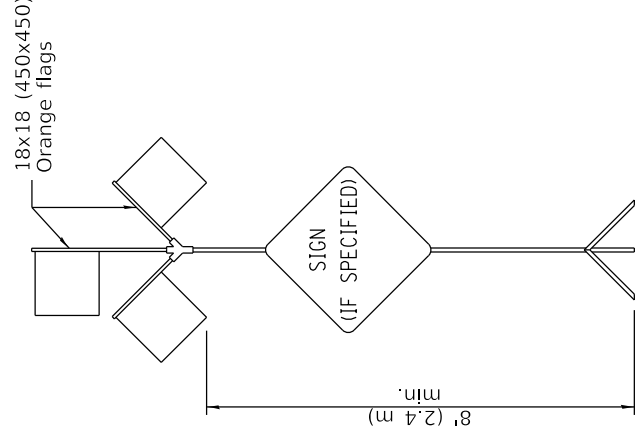
** When curb or paved shoulder are present this dimension shall be 24 (600) to the face of curb or 6' (1.8 m) to the outside edge of the paved shoulder.



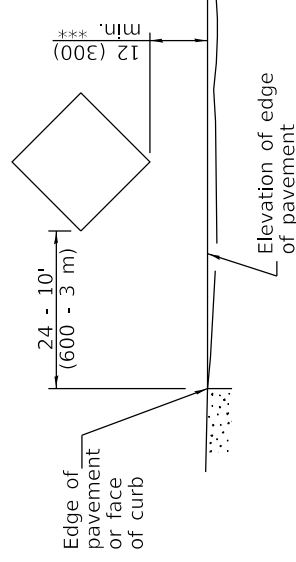
W12-1103-4848

WIDTH RESTRICTION SIGN

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

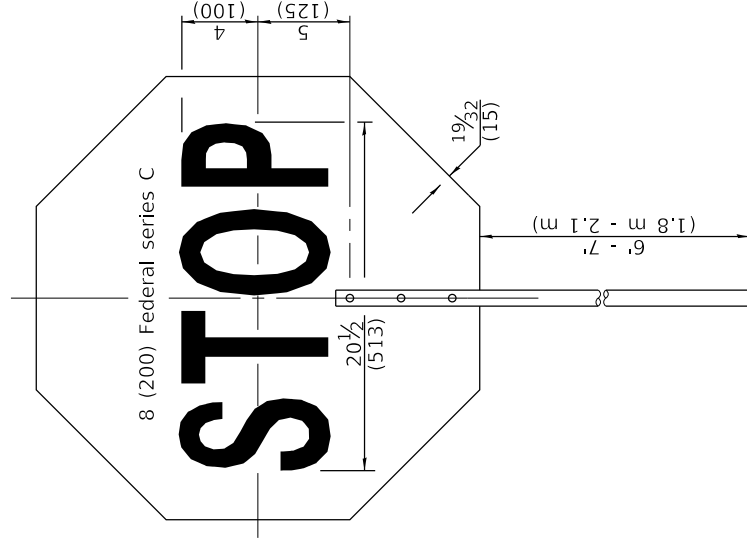


HIGH LEVEL WARNING DEVICE

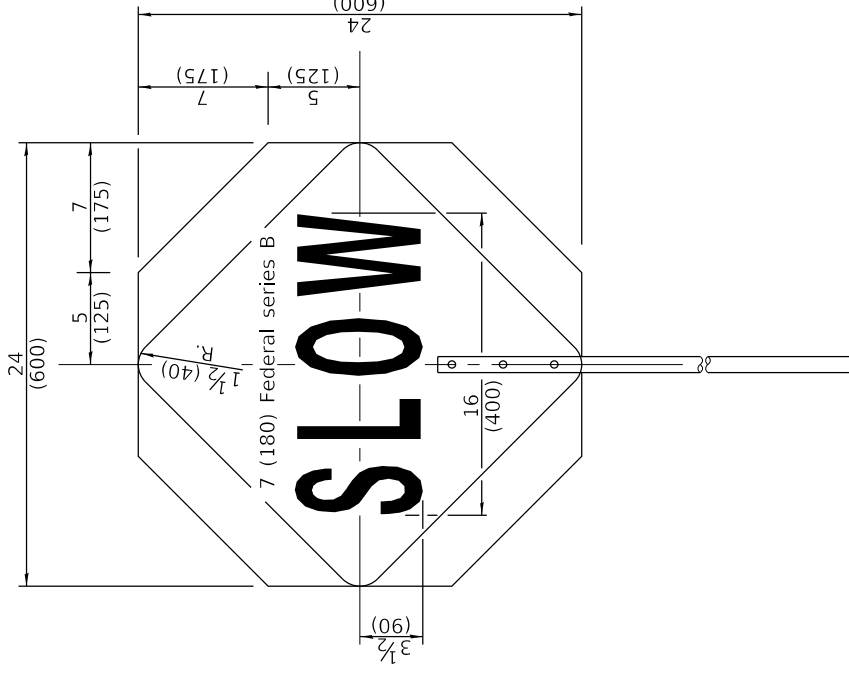


SIGNS ON TEMPORARY SUPPORTS

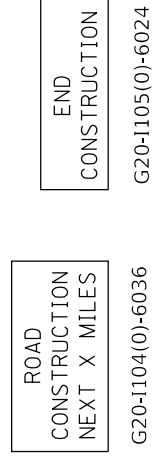
*** When work operations exceed four days, this dimension shall be 5' (1.5 m) min. If located behind other devices, the height shall be sufficient to be seen completely above the devices.



FRONT SIDE

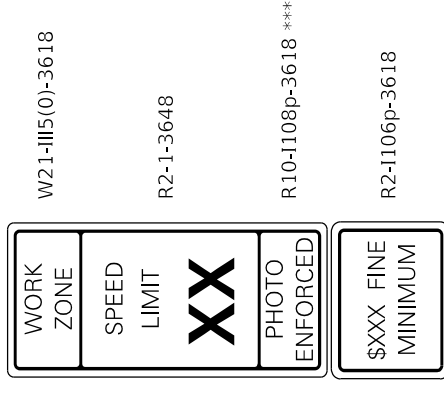


REVERSE SIDE

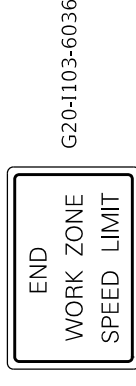


This signing is required for all projects 2 miles (3200 m) or more in length.
 ROAD CONSTRUCTION NEXT X MILES sign shall be placed 500' (150 m) in advance of project limits.
 END CONSTRUCTION sign shall be erected at the end of the job unless another job is within 2 miles (3200 m).
 Dual sign displays shall be utilized on multi-lane highways.

WORK LIMIT SIGNING



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



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

HIGHWAY CONSTRUCTION SPEED ZONE SIGNS

**** R10-1108p shall only be used along roadways under the jurisdiction of the State.

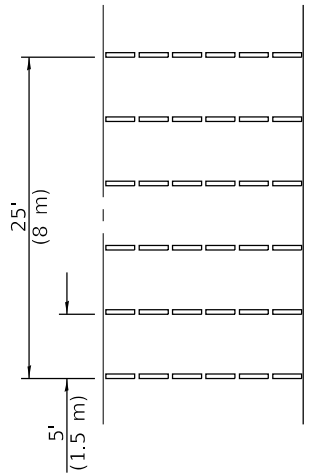
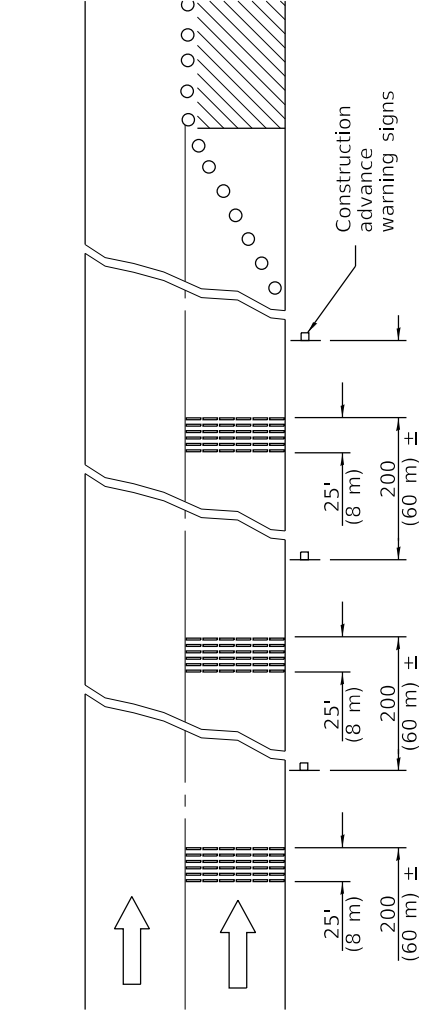
Illinois Department of Transportation
 APPROVED January 1, 2019
 ENGINEER OF SAFETY PROGRAM AND ENGINEERING
 APPROVED January 1, 2019
 ENGINEER OF DESIGN AND ENVIRONMENT

FLAGGER TRAFFIC CONTROL SIGN

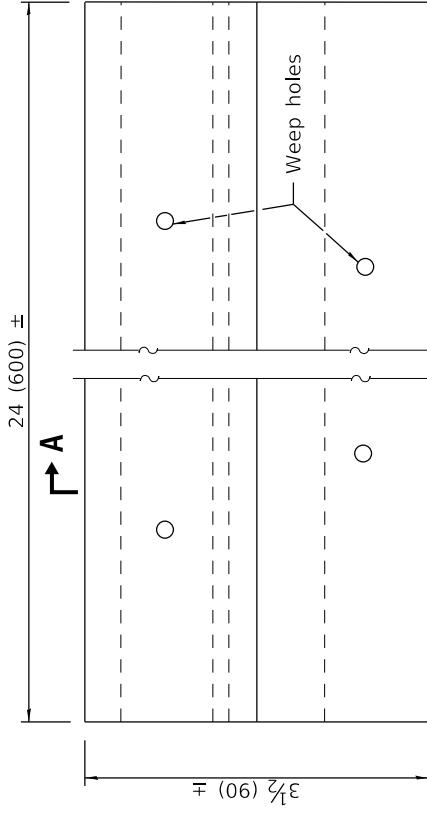
TRAFFIC CONTROL DEVICES

STANDARD 701901-08

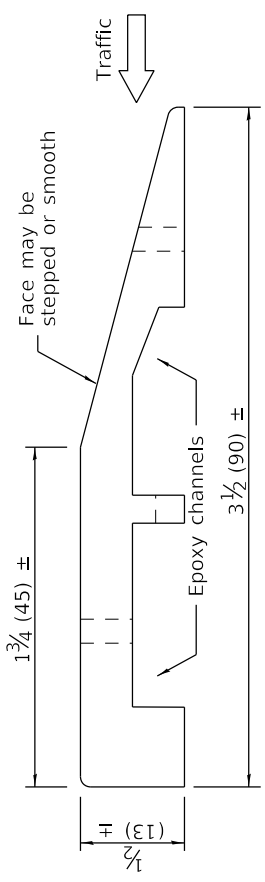
(Sheet 2 of 3)



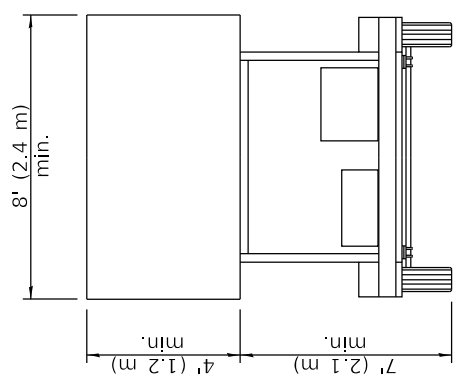
TYPICAL INSTALLATION



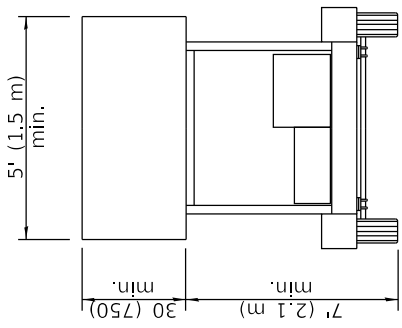
PLAN



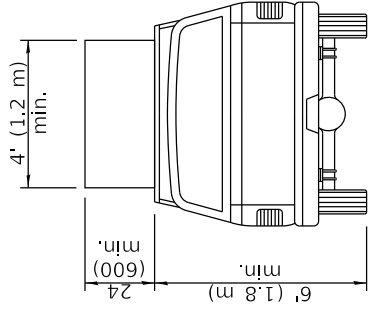
SECTION A-A



**TYPE C
TRAILER
MOUNTED**



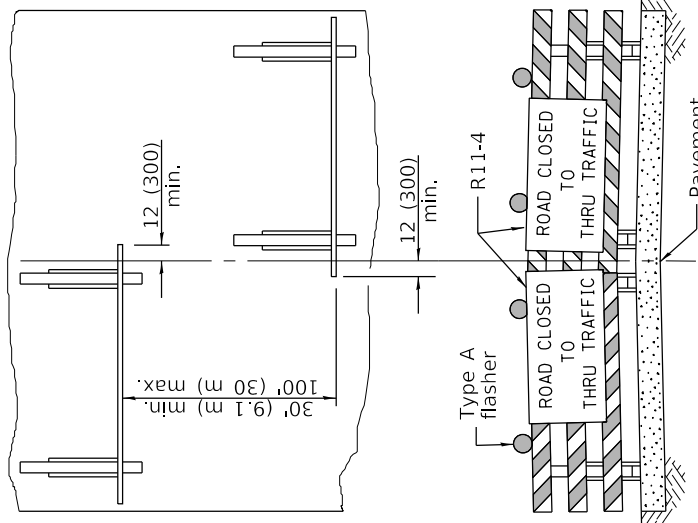
**TYPE B
ROOF OR TRAILER
MOUNTED**



**TYPE A
ROOF
MOUNTED**

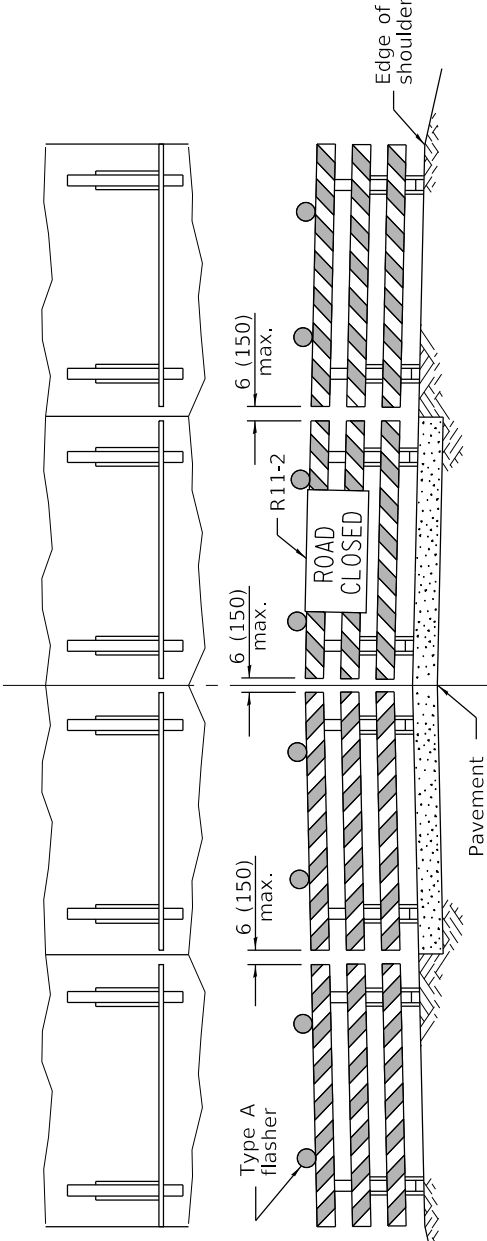
ARROW BOARDS

TEMPORARY RUMBLE STRIPS



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.



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.

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

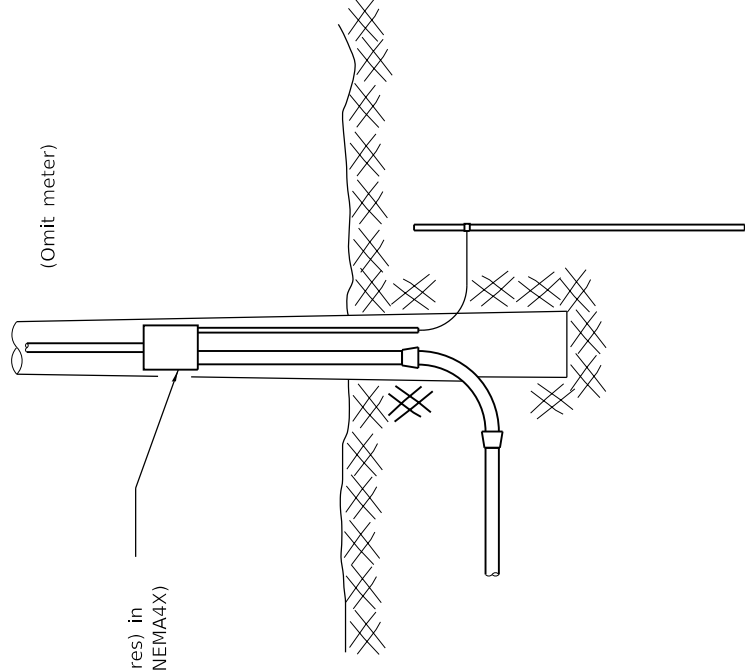
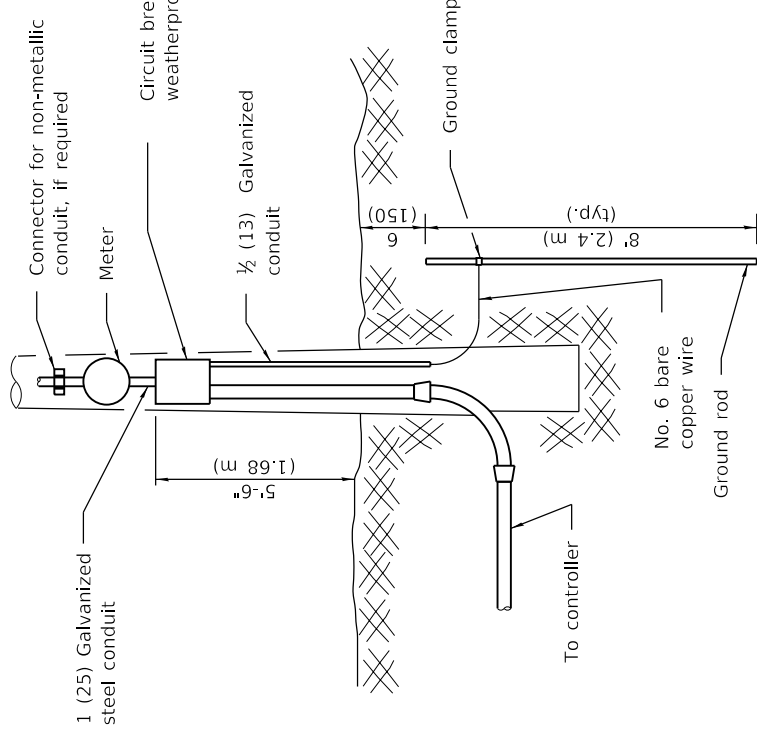
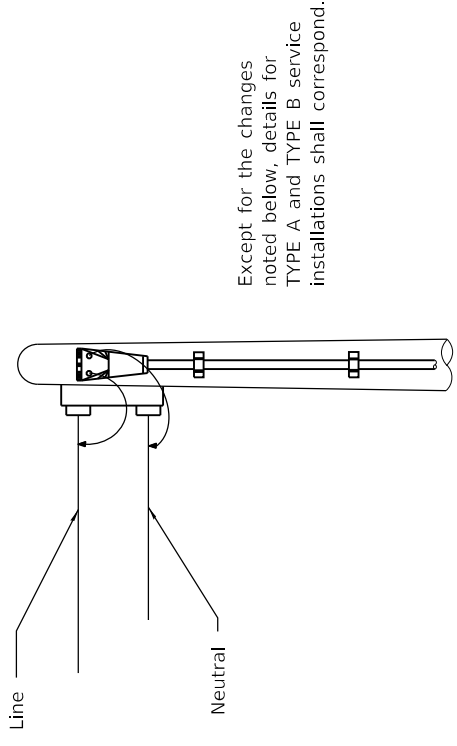
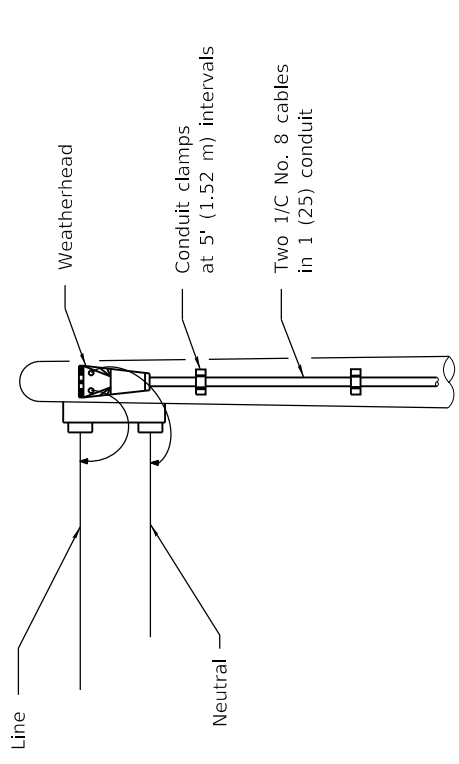
Illinois Department of Transportation
 APPROVED January 1, 2019
 ENGINEER OF SAFETY PROG. AND ENGINEERING
 APPROVED January 1, 2019
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-13

**TRAFFIC CONTROL
DEVICES**

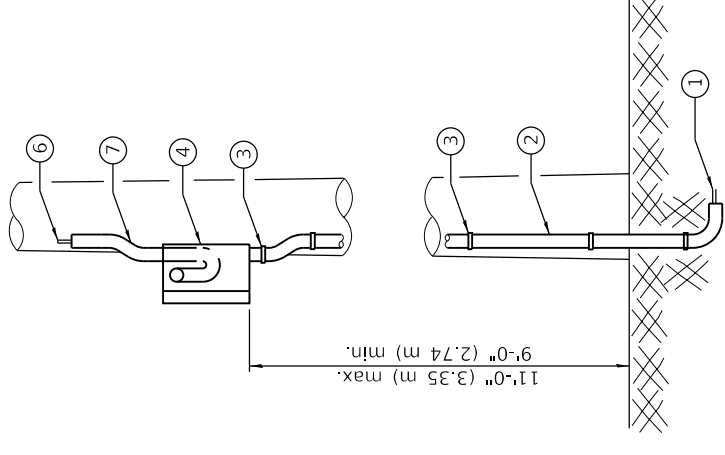
STANDARD 701901-08

(Sheet 3 of 3)



TYPE A

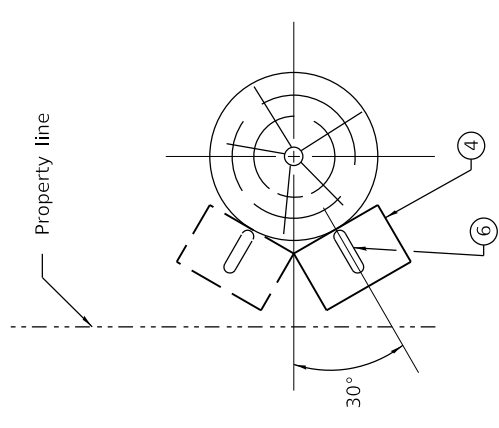
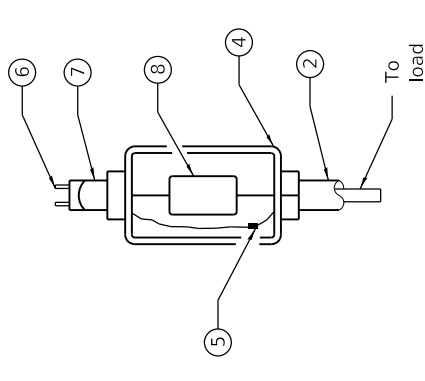
TYPE B



The following equipment is to be furnished and installed on the TYPE C installation.

- ① Cable in conduit (electric cable, No. 6, 2/C except where otherwise specified)
- ② Galvanized steel conduit 1 1/2 (32) with bend
- ③ Galvanized conduit clamps
- ④ Aluminum weatherproof box with gasketed cover. Weatherproof box shall be installed facing the adjacent property line. (See diagram for alternate installation.)
- ⑤ Ground stud for neutral connection
- ⑥ Service cables
- ⑦ Offset weatherproof fitting
- ⑧ Circuit breaker

TYPE C



ALTERNATE INSTALLATION
(Installation when weatherproof box cannot be installed facing the adjacent property line.)

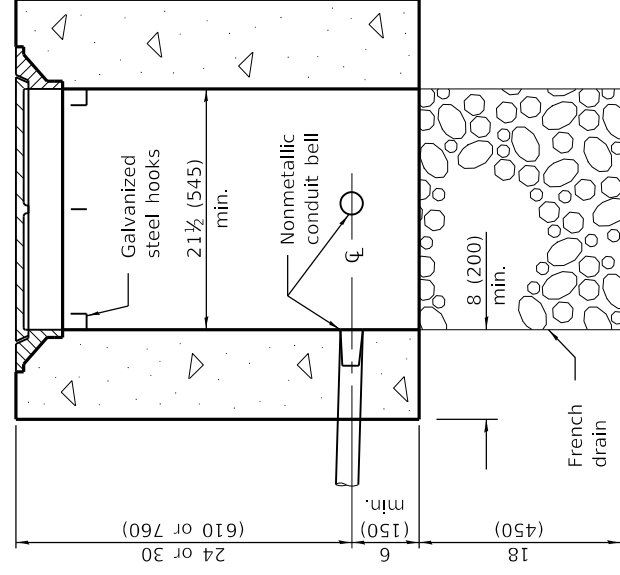
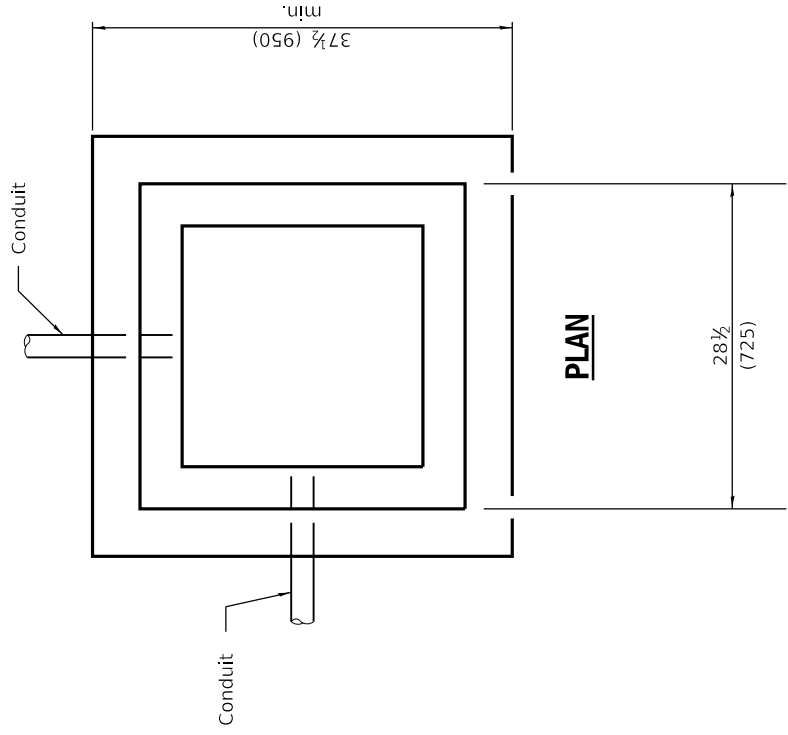
All dimensions are in inches (millimeters) unless otherwise shown.

	PASSED January 1, 2009 ENGINEER OF OPERATIONS APPROVED January 1, 2009 ENGINEER OF DESIGN AND ENVIRONMENT
	ISSUED 1-1-02

DATE	REVISIONS
1-1-09	Switched units to English (metric).
1-1-02	Renum. Standard 2373-1.

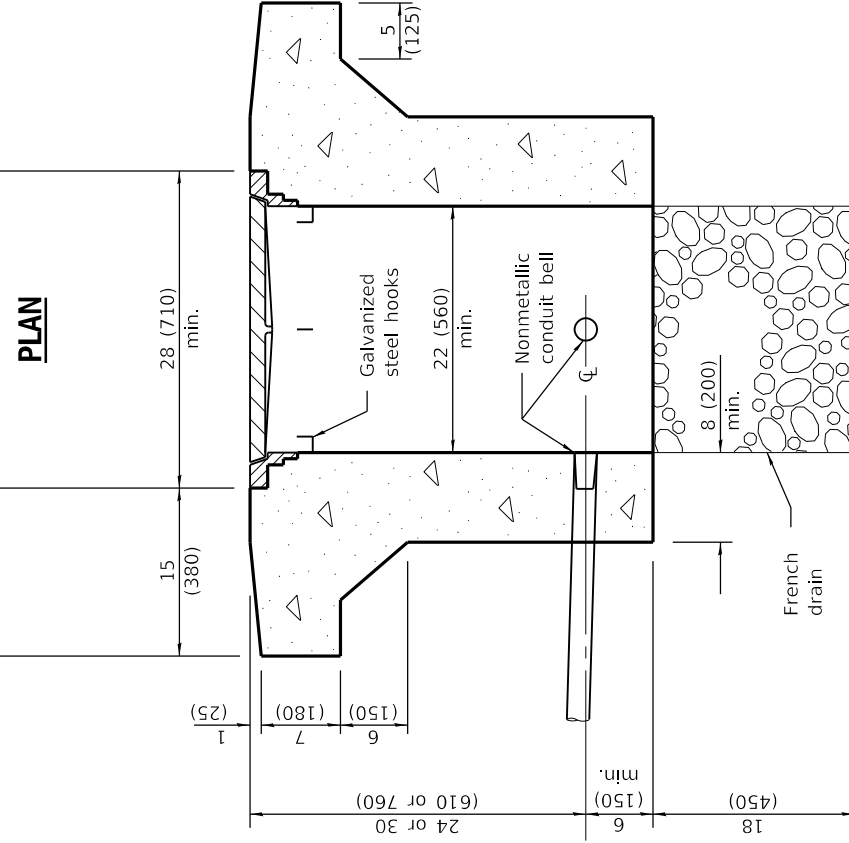
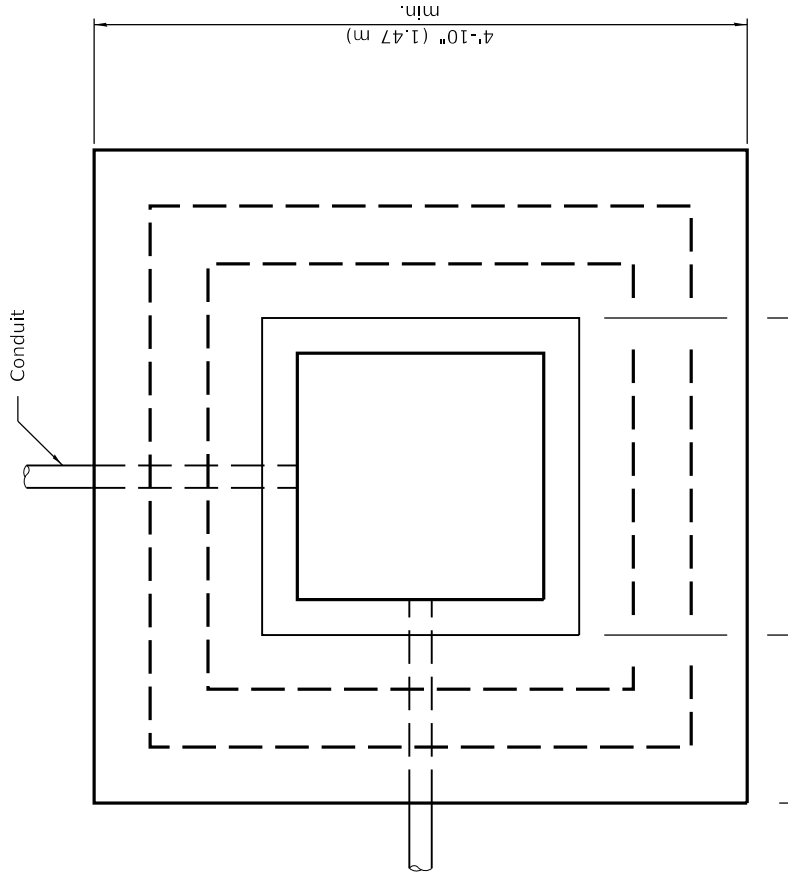
**ELECTRICAL SERVICE
INSTALLATION DETAILS**

STANDARD 805001-01



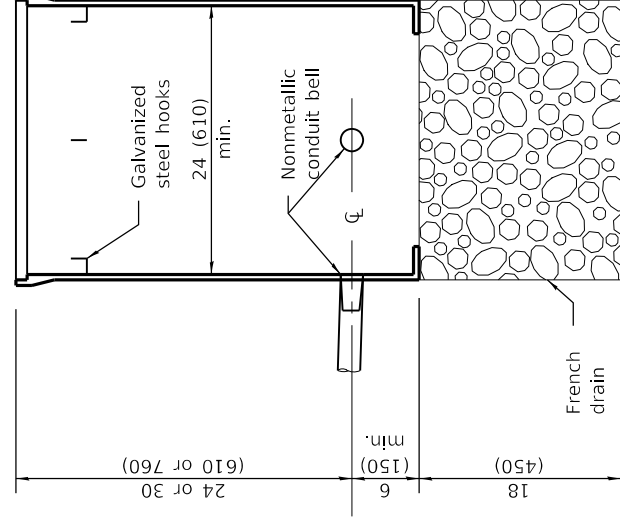
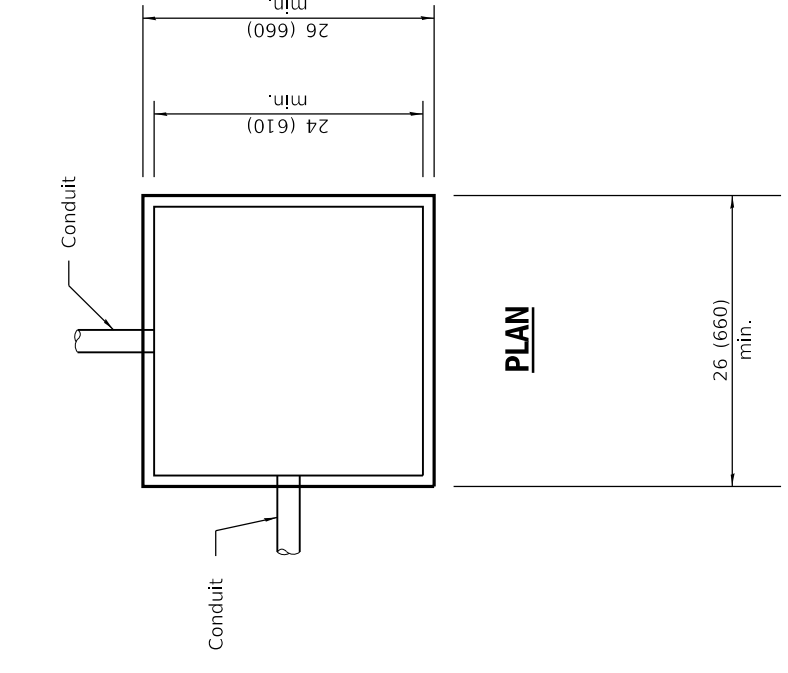
ELEVATION

PORTLAND CEMENT CONCRETE



ELEVATION

COMPOSITE CONCRETE



Illinois Department of Transportation
 PASSED January 1, 2015
 ENGINEER OF OPERATIONS
 APPROVED January 1, 2015
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

QUANTITIES

Depth	Concrete yd ³ (m ³)	
	Handhole	Heavy Duty Handhole
30 (762)	0.61 (0.47)	0.98 (0.75)
36 (914)	0.73 (0.56)	1.10 (0.84)

ELEVATION

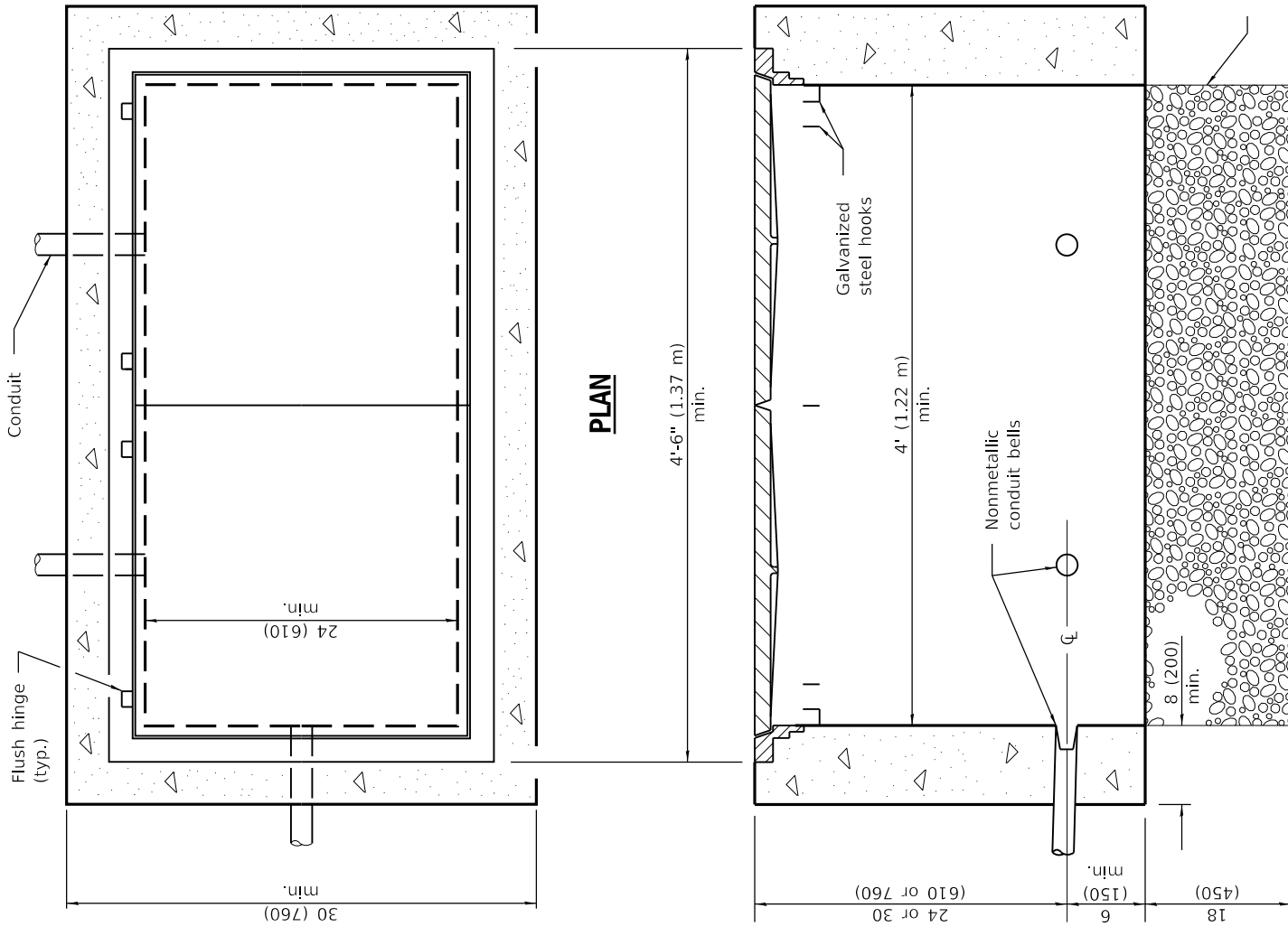
**PORTLAND CEMENT CONCRETE
HEAVY DUTY**

DATE	REVISIONS
1-1-15	Corrected dimension on heavy duty handhole. Added concrete quantities table.
1-1-09	Switched units to English (metric).

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

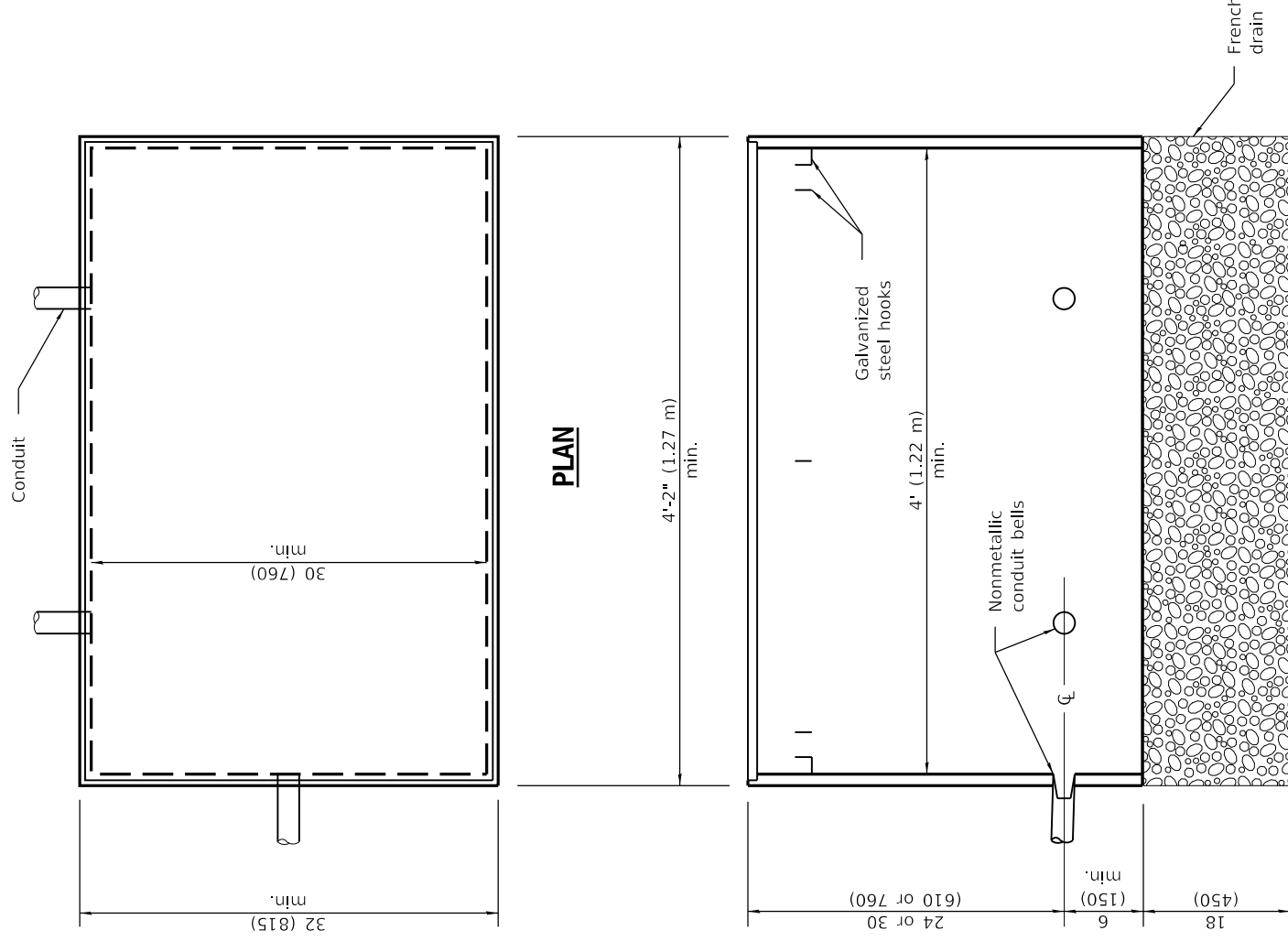
HANDHOLES

STANDARD 814001-03



ELEVATION

PORTLAND CEMENT CONCRETE



ELEVATION

COMPOSITE CONCRETE

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

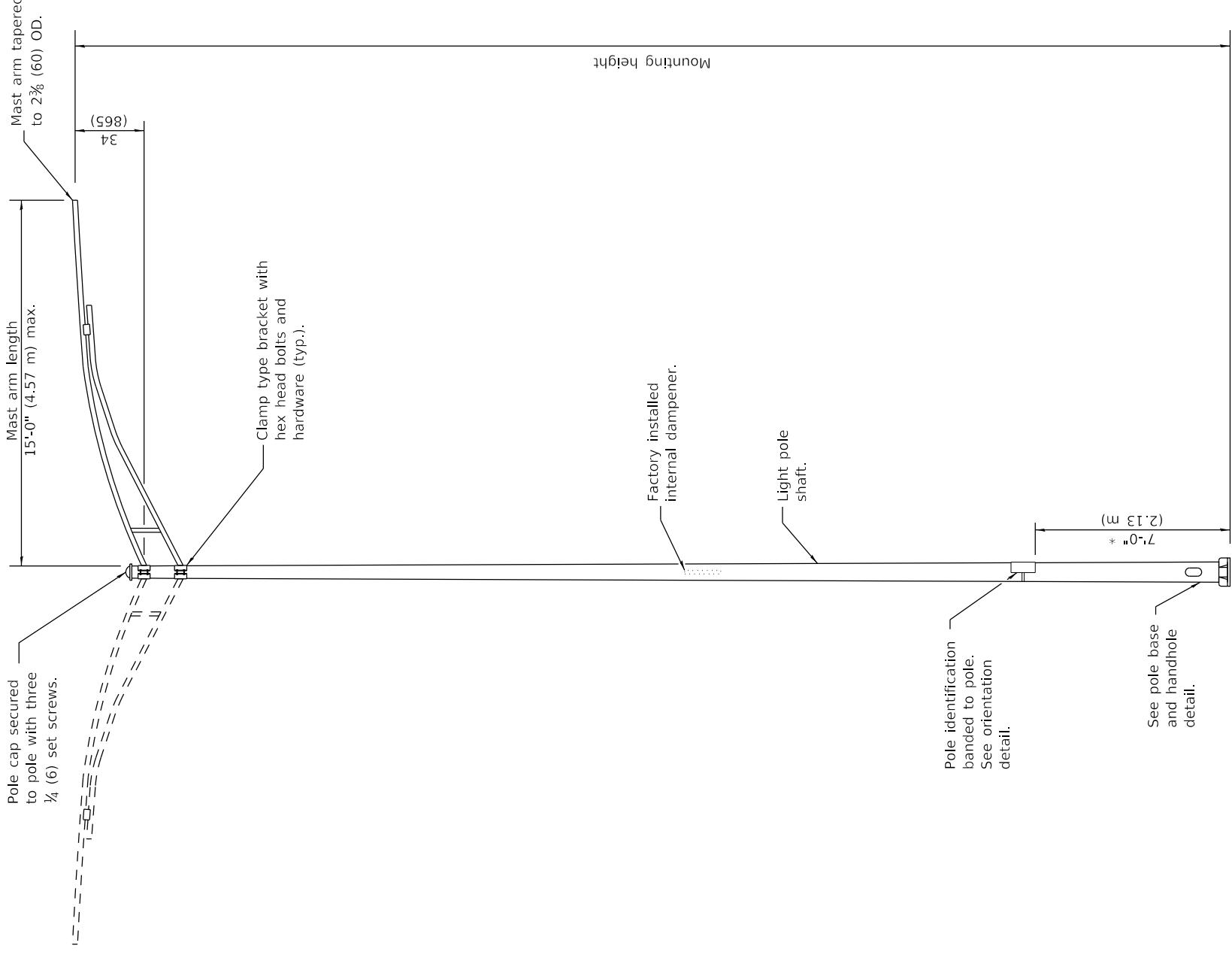
Illinois Department of Transportation
 PASSED January 1, 2009
 ENGINEER OF OPERATIONS
 APPROVED January 1, 2009
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

DATE	REVISIONS
1-1-09	Switched units to English (metric).
1-1-07	Revised composite conc. handhole. Rem. weights of frames and covers.

DOUBLE HANDHOLES

STANDARD 814006-02



POLE		
MOUNTING HEIGHT	MINIMUM SHAFT DIAMETER	MINIMUM WALL THICKNESS
35' (10.7 m) or less	8 tapered to 4½ (200 to 114)	0.25 (6)
Greater than 35' (10.7 m) to 45' (13.7 m)	10 tapered to 6 (250 to 150)	0.25 (6)
Greater than 45' (13.7 m) to 50' (15.2 m)	10 tapered to 6 (250 to 150)	0.312 (8)

POLE BASE	
MOUNTING HEIGHT	BOLT CIRCLE DIAMETER
35' (10.7 m) or less	11½ (290)
Greater than 35' (10.7 m) to 50' (15.2 m)	15 (380)

GENERAL NOTES

See Standard 836001 for Light Pole Foundation and grounding electrode.

See Standard 720001 for pole identification banding to pole.

Voids in light pole base shall be sealed to prevent rodent entry.

Provide breakaway devices where required.

Where anchor rods on existing bridge parapets are too short to mount poles as shown, install leveling plate directly on concrete and level with stainless steel washers.

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

MAST ARM LIGHT POLE
(Single or twin mount)

* Unless directed otherwise by the Engineer.

DATE	REVISIONS
1-1-15	Revised note on HANDHOLE DETAIL.
1-1-14	Added pole mounted on bridge parapet. Modified attachment of screen.

LIGHT POLE
ALUMINUM MAST ARM

(Sheet 1 of 2)

STANDARD 830001-03

Illinois Department of Transportation

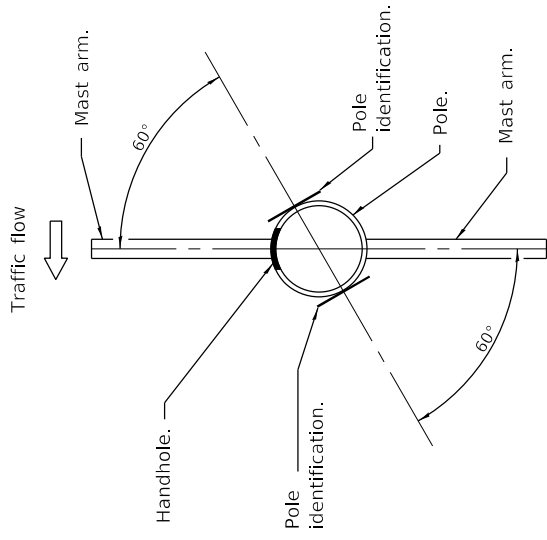
APPROVED January 1, 2015

ENGINEER OF PRELIMINARY ENGINEERING

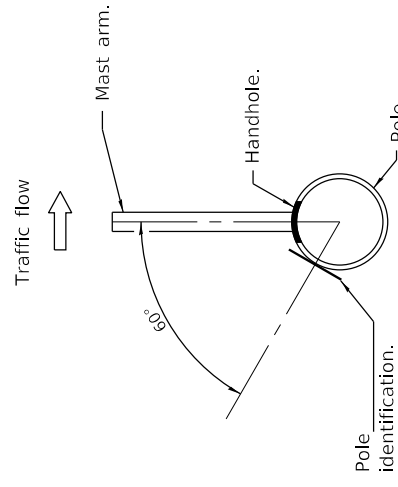
APPROVED January 1, 2015

ENGINEER OF DESIGN AND ENVIRONMENT

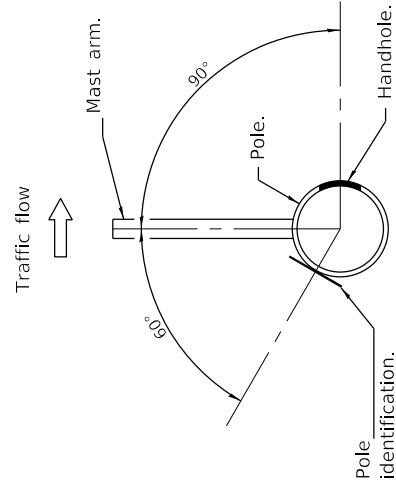
ISSUED 1-1-12



Traffic flow ↑
Pole on median barrier wall.



Traffic flow ↑
Pole on barrier wall, retaining wall or parapet.

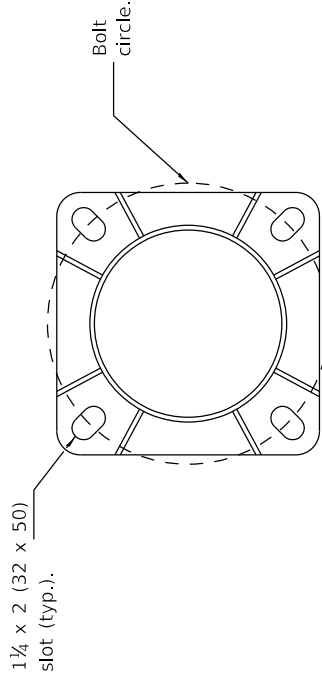


Traffic flow ↑
Pole on ground mounted foundation.

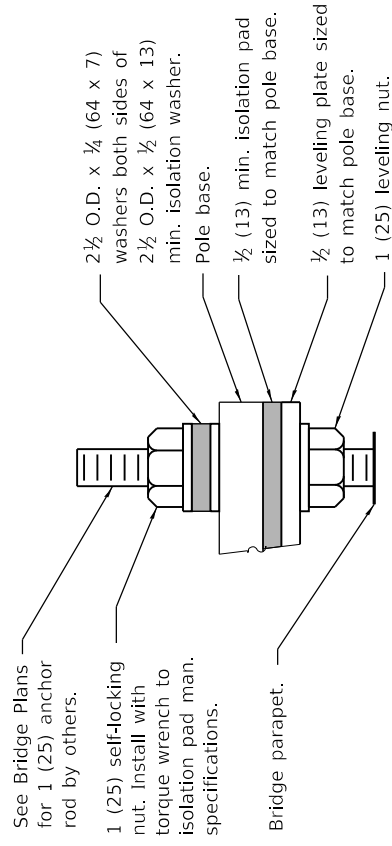
HANDHOLE / IDENTIFICATION ORIENTATION DETAIL

Illinois Department of Transportation
 APPROVED January 1, 2015
 ENGINEER OF PRELIMINARY ENGINEERING
 APPROVED January 1, 2015
 ENGINEER OF DESIGN AND ENVIRONMENT

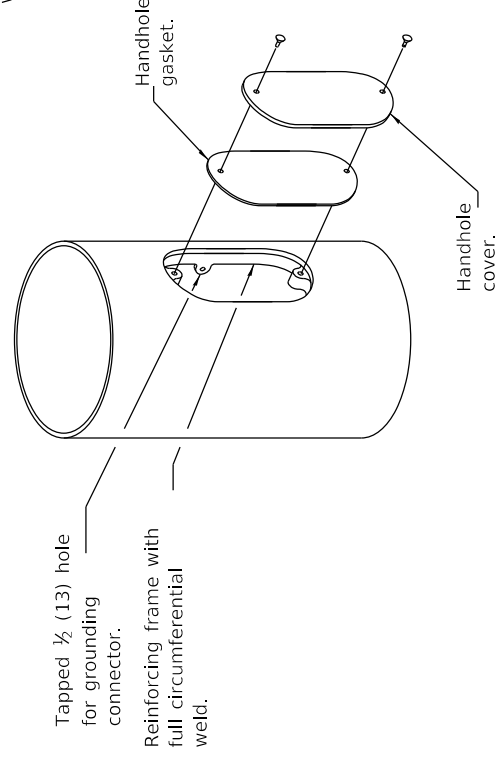
ISSUED 1-1-12



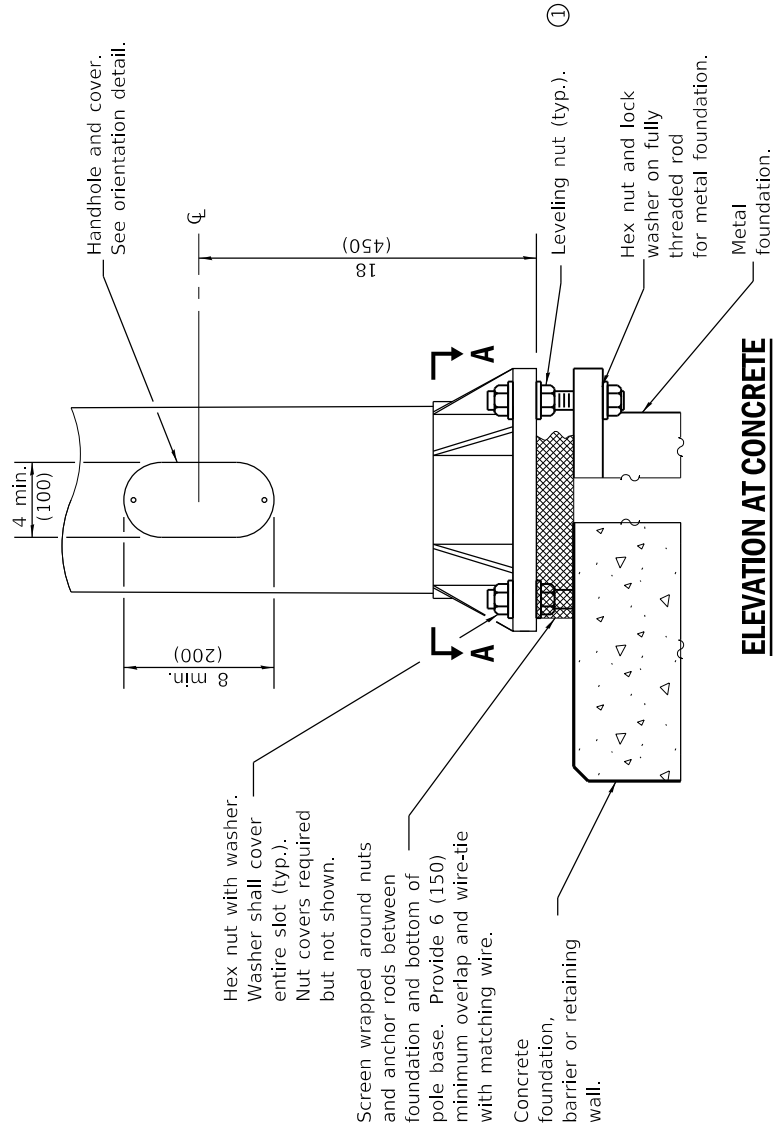
SECTION A-A
(Bolts not shown)



DETAIL A

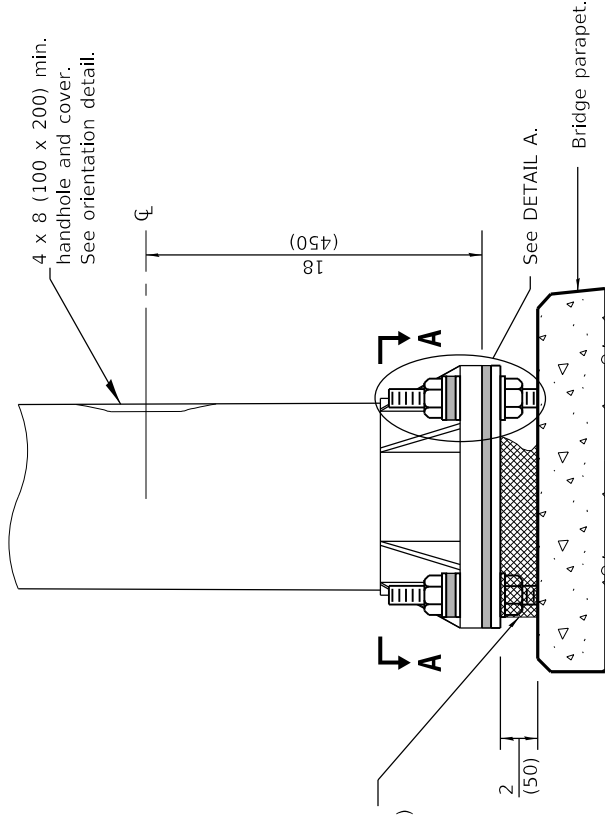


HANDHOLE DETAIL



ELEVATION AT CONCRETE FOUNDATION, METAL FOUNDATION OR RETAINING WALL

① Omit leveling nuts when breakaway devices are required.



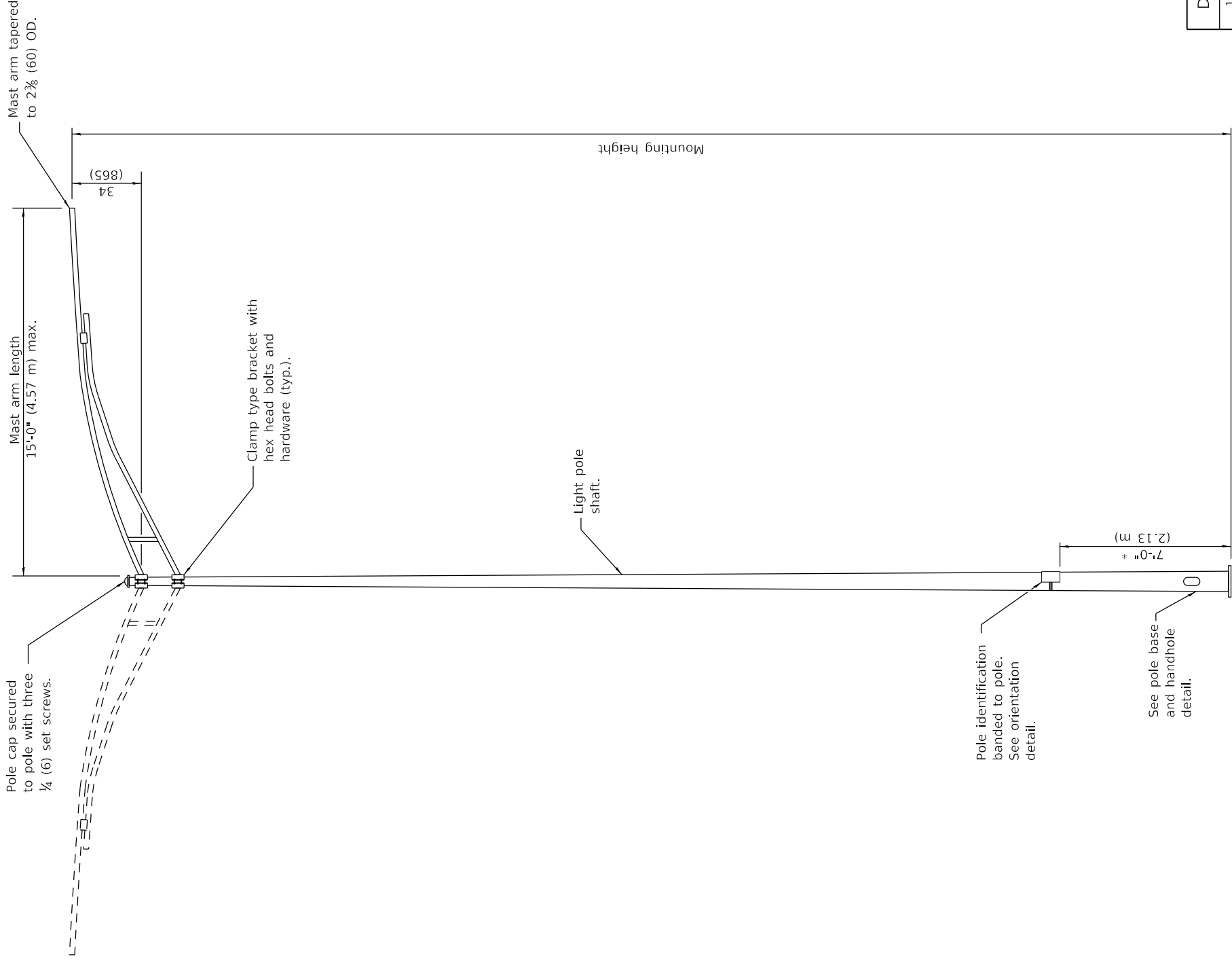
ELEVATION AT BRIDGE PARAPET

POLE BASE DETAILS

LIGHT POLE ALUMINUM MAST ARM

(Sheet 2 of 2)

STANDARD 830001-03



POLE		
MOUNTING HEIGHT	MINIMUM SHAFT DIAMETER	MINIMUM WALL THICKNESS
35' (10.7 m) or less	8 tapered to 4 (200 to 100)	10 gauge
Greater than 35' (10.7 m) to 50' (15.2 m)	10 tapered to 4 (250 to 100)	7 gauge

BASE PLATE		
MOUNTING HEIGHT	BOLT CIRCLE DIAMETER	BASE PLATE THICKNESS
35' (10.7 m) or less	11½ (290)	1 (25)
Greater than 35' (10.7 m) to 50' (15.2 m)	15 (380)	1½ (32)

GENERAL NOTES

See Standard 836001 for Light Pole Foundation and grounding electrode.

See Standard 720001 for pole identification banding to pole.

Provide breakaway devices where required.

Where anchor rods on existing bridge parapets are too short to mount poles as shown, install leveling plate directly on concrete and level with stainless steel washers.

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

DATE	REVISIONS
1-1-19	Revised POLE and BASE POLE tables.
1-1-14	Added pole mounted on bridge parapet. Modified attachment of screen.

**LIGHT POLE
STEEL MAST ARM**

(Sheet 1 of 2)

STANDARD 830011-03

Illinois Department of Transportation

PASSED January 1, 2019

APPROVED January 1, 2019

ELECTRICAL AND MECHANICAL UNIT CHIEF

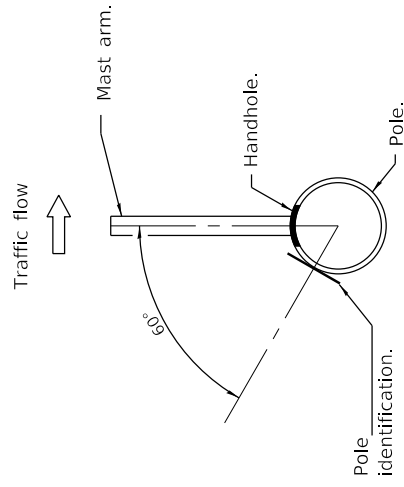
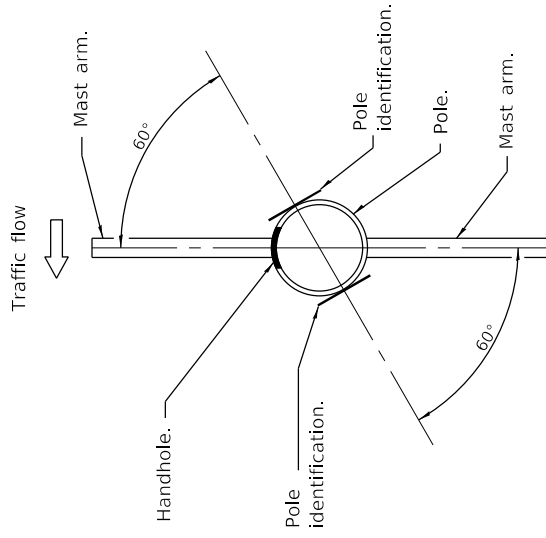
ENGINEER OF DESIGN AND ENVIRONMENT

**MAST ARM
LIGHT POLE**

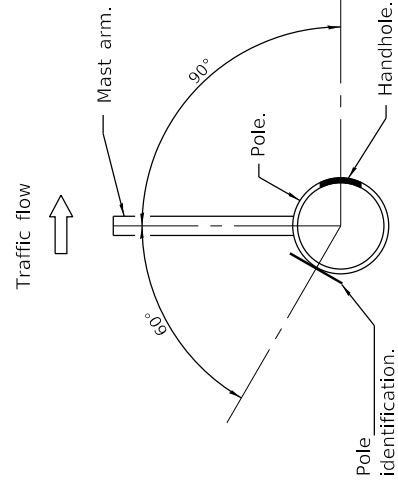
(Single or twin mount)

* Unless directed otherwise by the Engineer.

ISSUED 1-1-12



Pole on barrier wall, retaining wall or parapet.

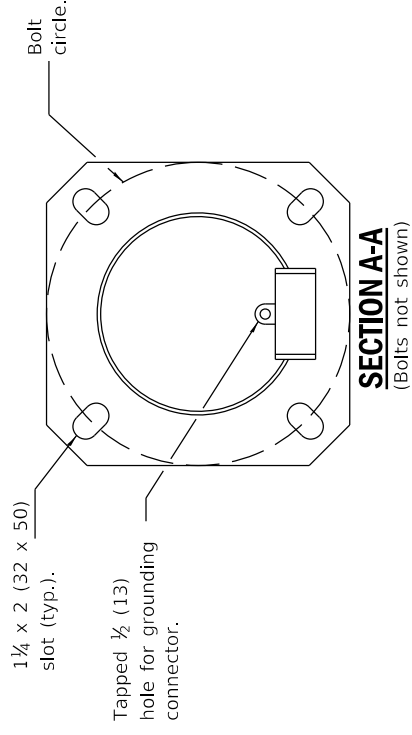


Pole on ground mounted foundation.

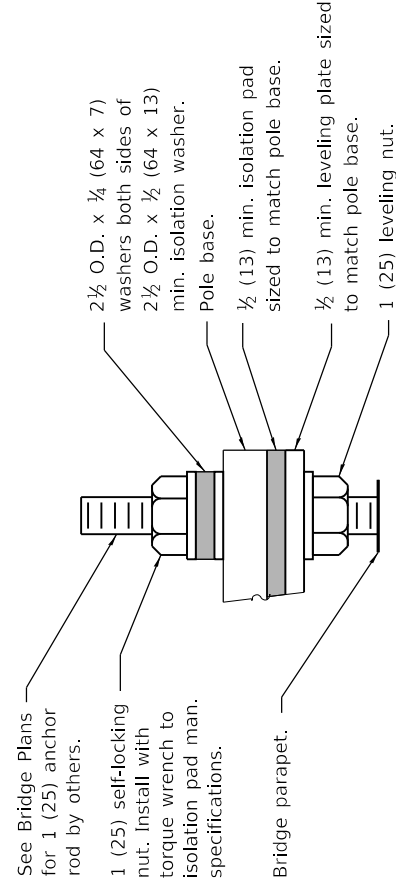
HANDHOLE / IDENTIFICATION ORIENTATION DETAIL

Illinois Department of Transportation
 PASSED January 1, 2019
 APPROVED January 1, 2019
 ELECTRICAL AND MECHANICAL UNIT CHIEF
 ENGINEER OF DESIGN AND ENVIRONMENT

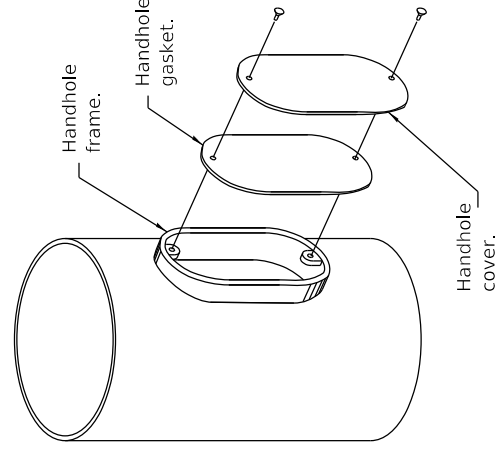
ISSUED 1-1-12



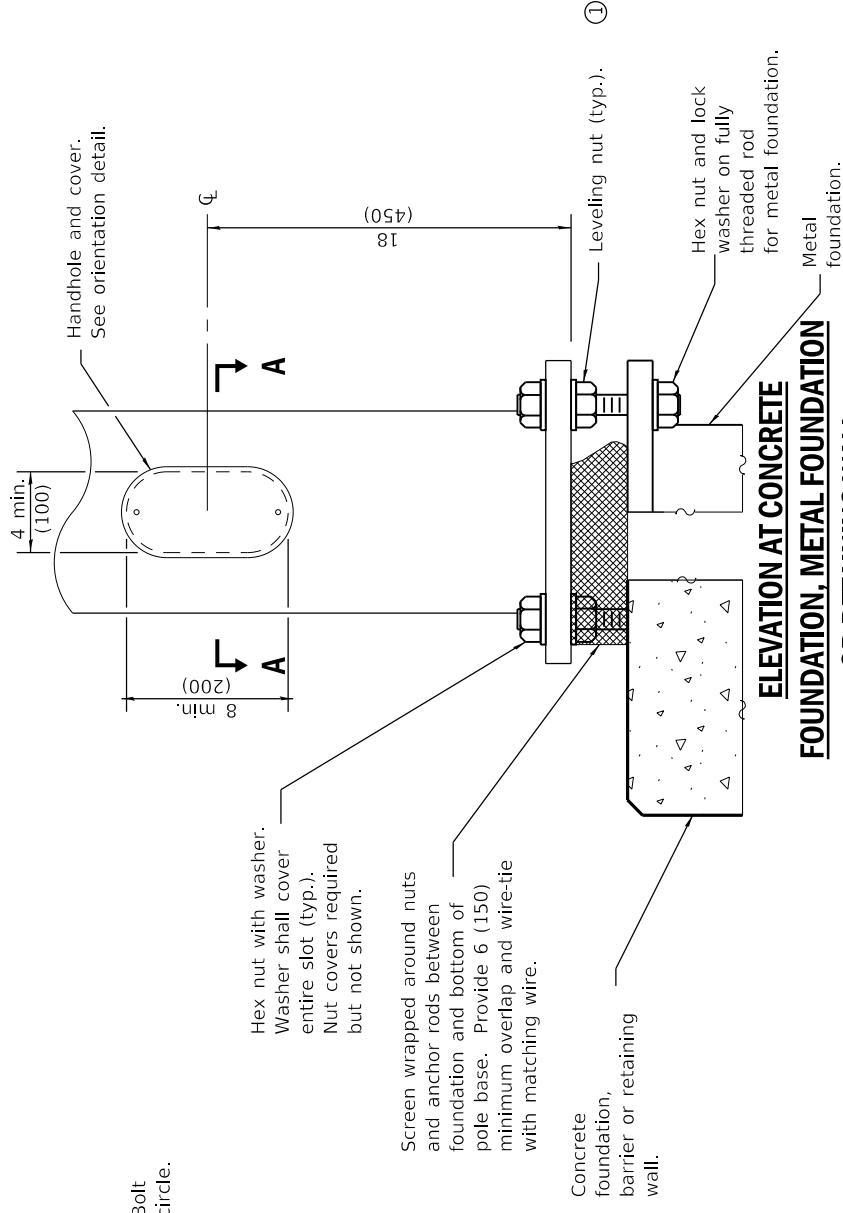
SECTION A-A
(Bolts not shown)



DETAIL A

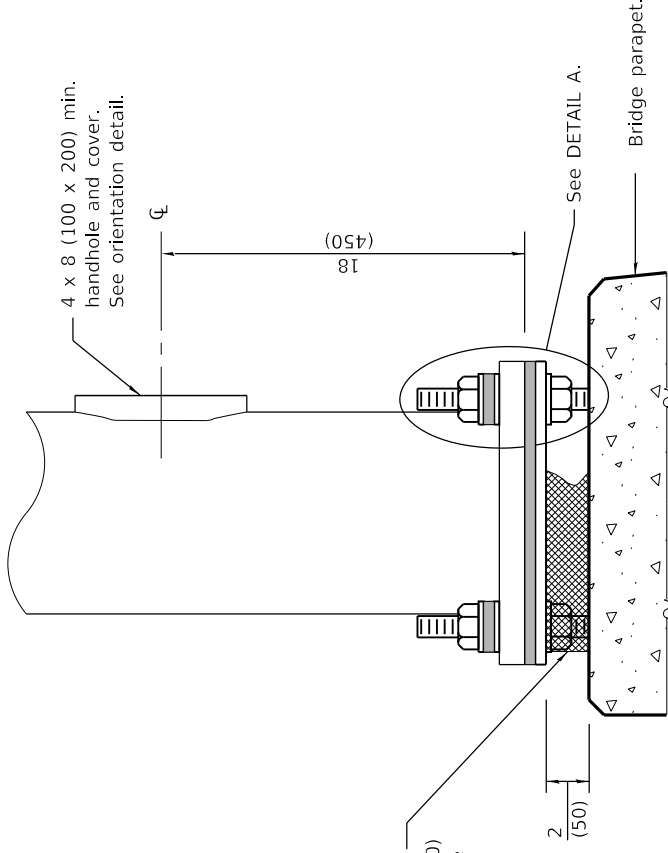


HANDHOLE DETAIL



ELEVATION AT CONCRETE FOUNDATION, METAL FOUNDATION OR RETAINING WALL

① Omit leveling nuts when breakaway devices are required.



ELEVATION AT BRIDGE PARAPET

POLE BASE DETAILS

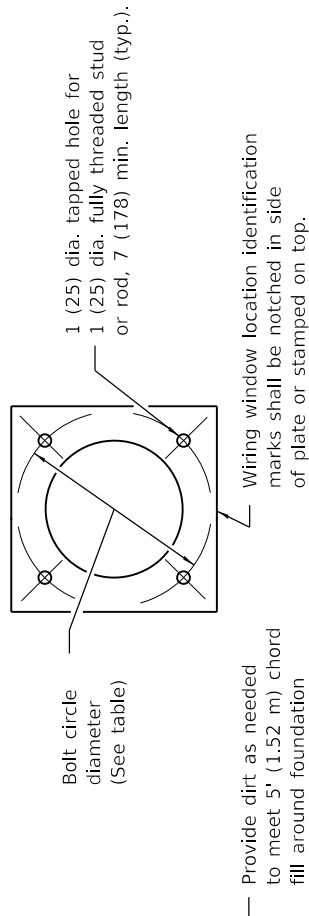
LIGHT POLE STEEL MAST ARM

(Sheet 2 of 2)

STANDARD 830011-03

LIGHT POLE MOUNTING HEIGHT	METAL FOUNDATION			CONCRETE FOUNDATION			
	BOLT CIRCLE DIAMETER	SHAFT DIAMETER	SHAFT DEPTH	TOP PLATE (min)	SHAFT DIAMETER	SHAFT DEPTH	ANCHOR ROD LENGTH
≤30' (9.1 m)	11½ (292)	8" (220)	6' (1.83 m)	12 x 12 x 1 (300 x 300 x 25)	24 (610)	5'-0" (1.52 m)	4'-9" (1.45 m)
31'-35' (9.4 m - 10.7 m)	11½ (292)	8" (220)	6' (1.83 m)	12 x 12 x 1 (300 x 300 x 25)	24 (610)	5'-6" (1.67 m)	5'-3" (1.60 m)
36'-40' (10.9 m - 12.2 m)	15 (381)	8" (220)	6' (1.83 m)	15 x 15 x 1¼ (375 x 375 x 31)	30 (762)	6'-0" (1.83 m)	5'-9" (1.75 m)
41'-45' (12.5 m - 13.7 m)	15 (381)	8" (220)	6' (1.83 m)	15 x 15 x 1¼ (375 x 375 x 31)	30 (762)	6'-6" (1.98 m)	6'-3" (1.90 m)
46'-50' (14.0 m - 15.2 m)	15 (381)	8" (220)	8' (2.44 m)	15 x 15 x 1¼ (375 x 375 x 31)	30 (762)	7'-0" (2.13 m)	6'-9" (2.00 m)

- 8" x 8'-0" (220 x 2.44 m) for twin luminaires.
- Bolt circle diam. shall be 17 (430) when a transformer base is used.



Provide dirt as needed to meet 5' (1.52 m) chord fill around foundation top. Grade dirt level with bottom of top plate.

Wiring window location identification marks shall be notched in side of plate or stamped on top.

Use dirt removed from foundation to meet 5' (1.52 m) chord fill around foundation top. Grade dirt level with bottom of concrete chamfer.

5 (125) I.D. Schedule 40 P.V.C. wiring window. Fill with fine aggregate.

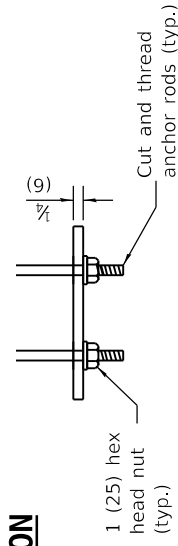
Two (min.) ½ x 10' (16 x 3 m) connected (threaded) grounding electrodes.

9 (230) I.D. with 11½ (292) bolt circle
12 (305) I.D. with 15 (381) bolt circle
14 (356) I.D. with 17 (432) bolt circle

1½ (27) dia.

Thread bottom of anchor rod 2 (50) and provide matching hex head nut fully seated, typ.

* If the required anchor rod length above top of foundation is less than 3 (75), anchor rods may be lowered below 6 (150).



RING PLATE DETAIL

METAL FOUNDATION

Illinois Department of Transportation
 ISSUED 1-1-10
 PASSED January 1, 2019
 APPROVED January 1, 2019
 ELECTRICAL AND MECHANICAL UNIT CHIEF
 ENGINEER OF DESIGN AND ENVIRONMENT

24 (610) min. dia. with 11½ (292) bolt circle, 30 (762) min. dia. with 15 (381) or 17 (432) bolt circle.

Pole Foundation Setback:

Maximum pole setback shall be 30' (9 m) from edge of pavement and shall be located no closer than 5' (1.5 m) behind guardrail or other protective barriers, or as directed by the Engineer.

Top of wiring window shall be flush with top of foundation.

Plate to be installed when required (See ring plate detail)

3 (75) Min. concrete cover on all steel

Anchor rod 1 (25) diameter with 9 (230) threads. Anchor rod shall extend through nut 1 (25). For foundation behind barrier or guardrail, use self-locking nut and flat washer. Do not use lock washer.

Length above foundation shall be adjusted to accommodate breakaway devices furnished by the contractor for a specific installation.

¼ (19) Chamfer

Finished grade

15 (381) Formed

Shaft depth (See table)

Anchor rod length (See table)

See Ring Plate Detail when rock is encountered.

GENERAL NOTES

All foundations are designed to be located on slopes not exceeding 2:1 where soils have an unconfined compressive strength of at least 1.0 TSF. The Contractor shall verify the soil strength during drilling for concrete foundations or by monitoring installation resistance of metal foundations and notify the Engineer if other conditions are encountered.

When rock is encountered the foundation depth may be reduced 6 (150) for every 12 (300) of embedment in rock. The minimum foundation depth shall be 4'-6" (1.37 m) with cut anchor rods 6 (150) above bottom of excavated hole. See ring plate detail.

Anchor rods shall be increased in diameter as needed for 50' (15.2 m) mounting height or above. The Contractor shall match the breakaway device size or slotted hole size in the pole base plate to accommodate larger rod sizes.

Transformer bases shall not be used on metal foundations.

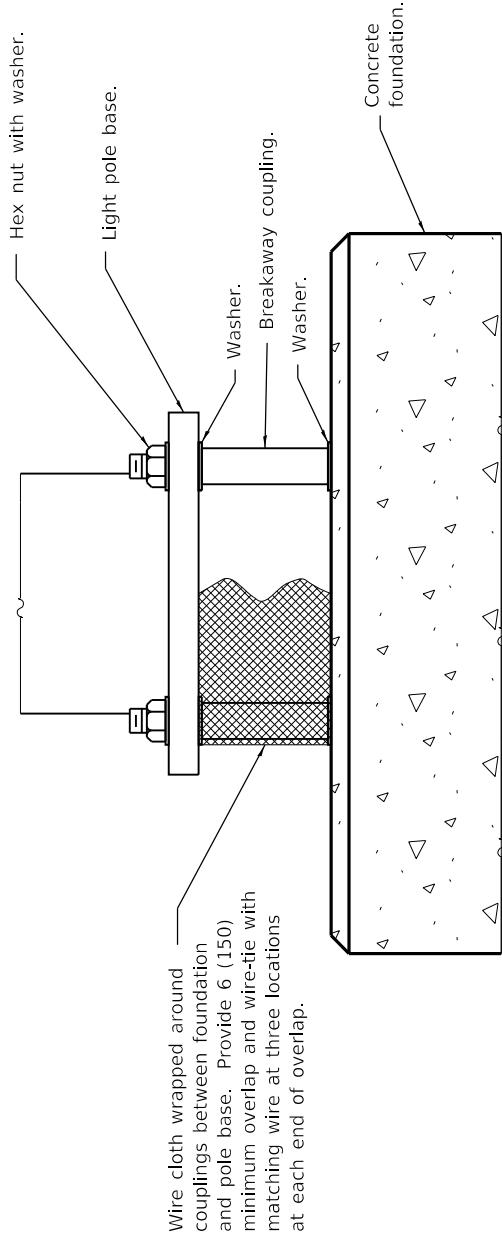
All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-19	Omitted multamount luminaire to agree with BDE Manual.
1-1-18	Replaced rod hooks with nuts.

LIGHT POLE FOUNDATION

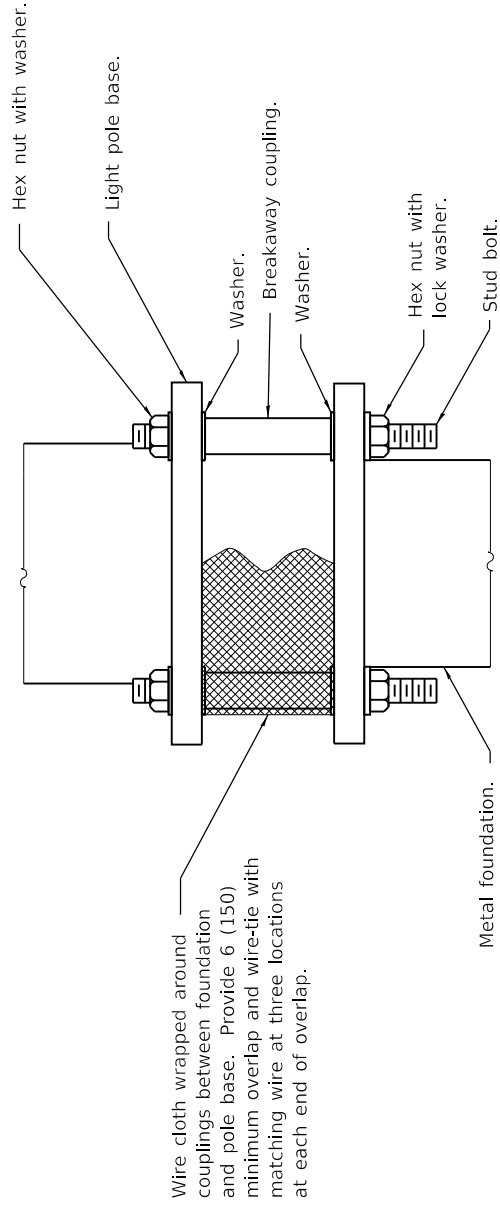
STANDARD 836001-04

CONCRETE FOUNDATION



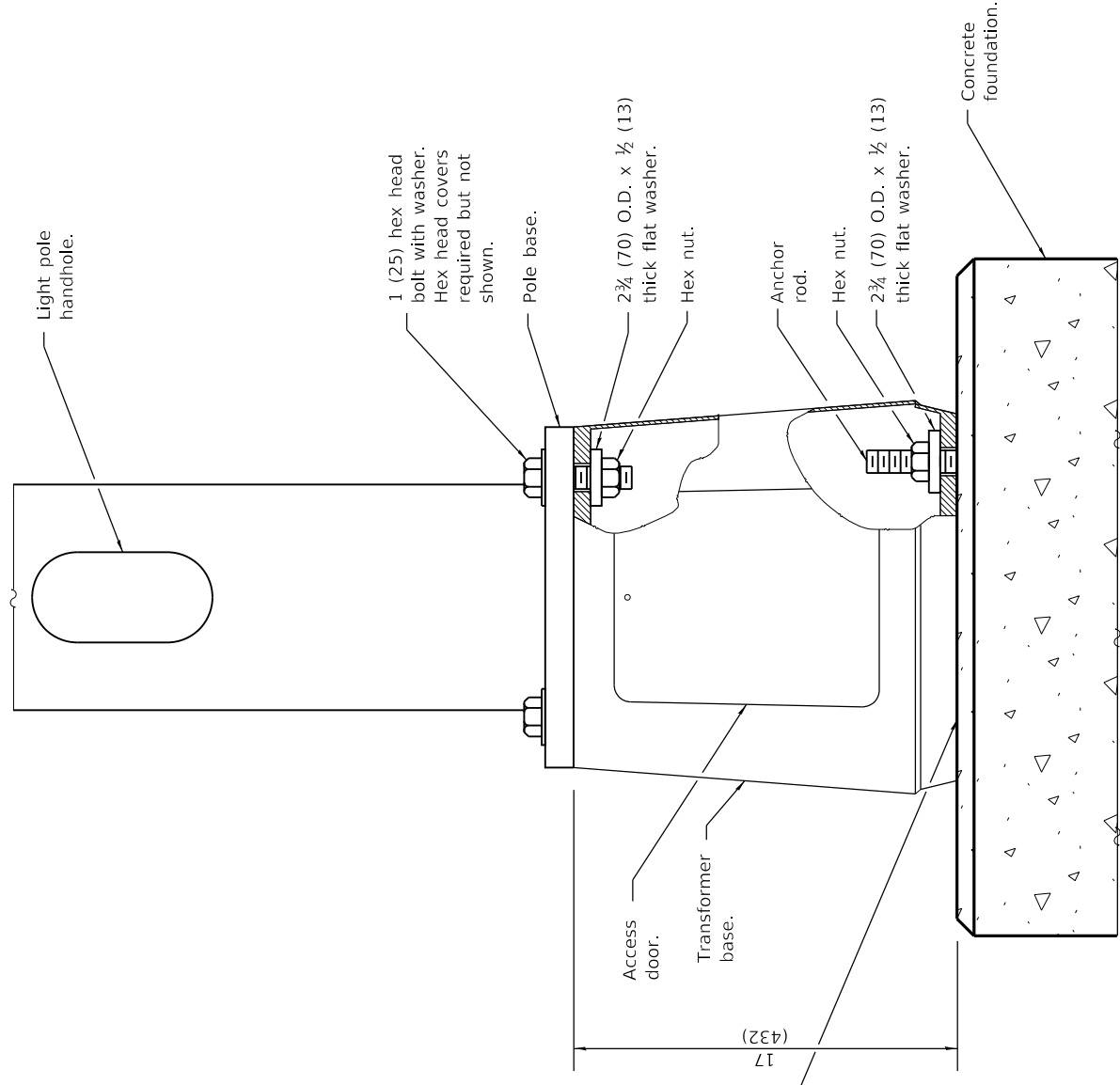
BREAKAWAY COUPLINGS ON CONCRETE FOUNDATION FOR STEEL LIGHT POLE

(Provide pole base skirt around wire cloth when required.)



BREAKAWAY COUPLINGS ON METAL FOUNDATION FOR STEEL POLE

(Provide pole base skirt around wire cloth when required.)



BREAKAWAY TRANSFORMER BASE FOR STEEL OR ALUMINUM POLE
(Steel pole shown)

Seal all gaps between transformer base and concrete foundation.

See Sheet 2 for GENERAL NOTES.

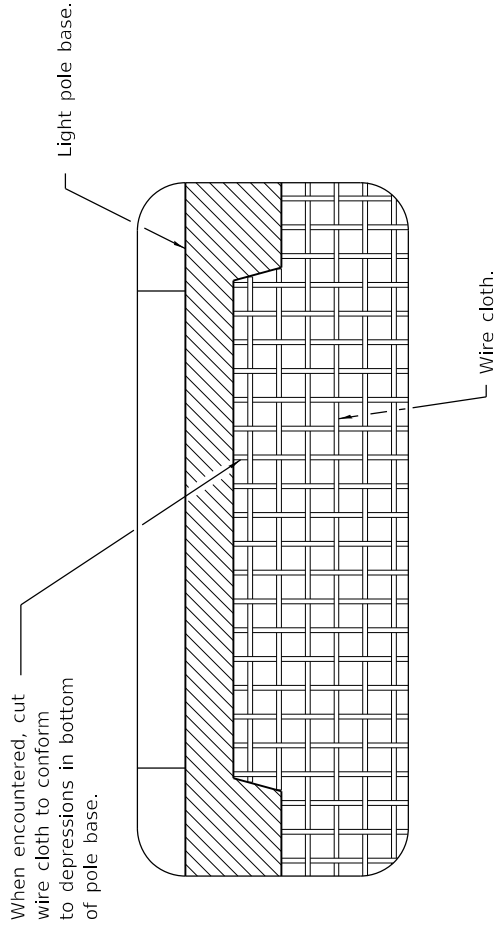
DATE	REVISIONS
1-1-18	Revised to show rodent shield installation for aluminum poles.
1-1-14	New Standard.

Illinois Department of Transportation
 PASSED January 1, 2018
 ENGINEER OF PRELIMINARY ENGINEERING
 APPROVED January 1, 2018
 ENGINEER OF DESIGN AND ENVIRONMENT

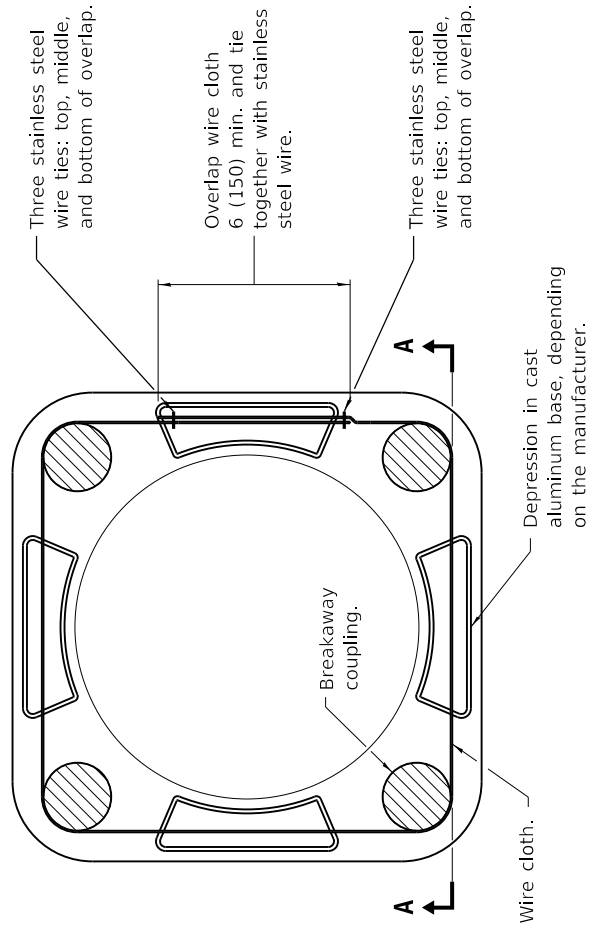
BREAKAWAY DEVICES

(Sheet 1 of 2)

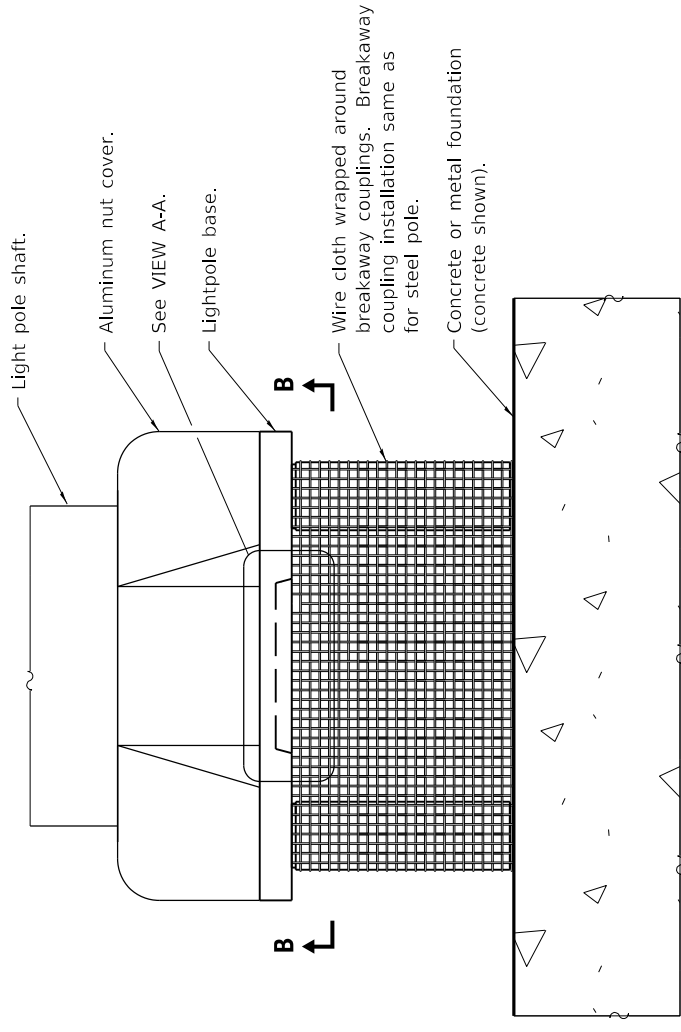
STANDARD 838001-01



VIEW A-A



VIEW B-B

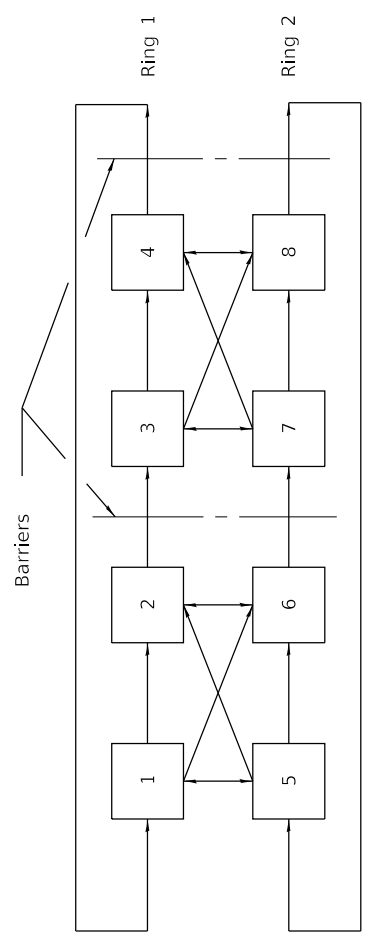
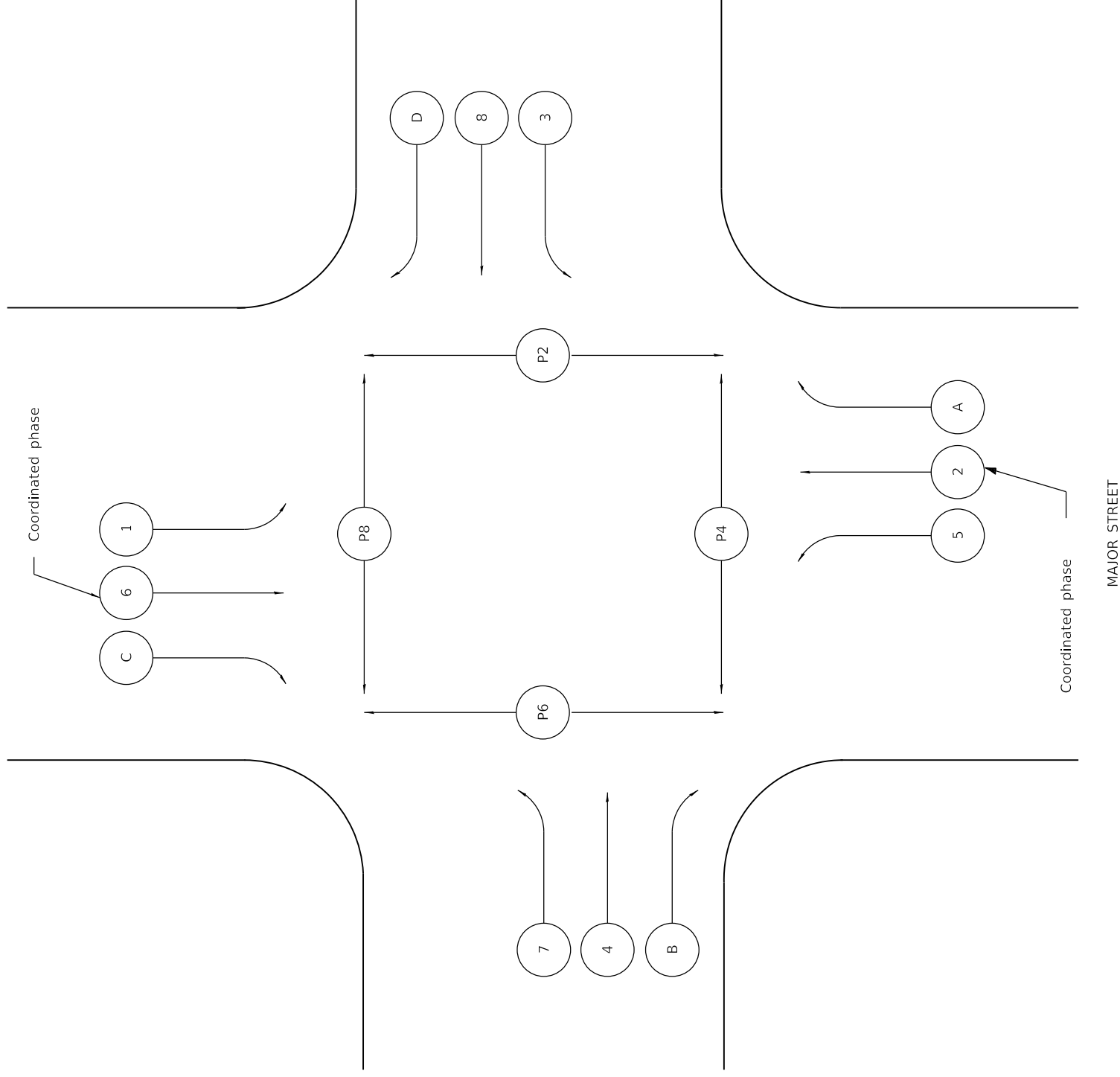


BREAKAWAY COUPLINGS FOR ALUMINUM POLES

(Provide pole base skirt around wire cloth when required.)

GENERAL NOTES

- See light pole standard for details not shown.
- Use largest transformer base bolt circle possible.
- Transformer bases shall not be installed on metal foundations.
- Washers on top of pole base shall cover the entire bolt slot.
- See Standard 836001 for Light Pole Foundation.
- Wire cloth shall be stainless steel, have a maximum opening of ¼ (6), and have a minimum wire size of AWG No. 16 (1.6).
- All dimensions are in inches (millimeters) unless otherwise shown.



**NEMA EIGHT PHASE DUAL RING
ACTUATED CONFIGURATION**

LEGEND

- (X), [X] Vehicular phase no. x
- (PX) Pedestrian phase no. x
- (A), (B), (C), (D) Right turn overlaps where:
 - (A) = (2) + (3)
 - (B) = (4) + (5)
 - (C) = (6) + (7)
 - (D) = (8) + (1)

NEMA
National Electrical Manufacturers
Association

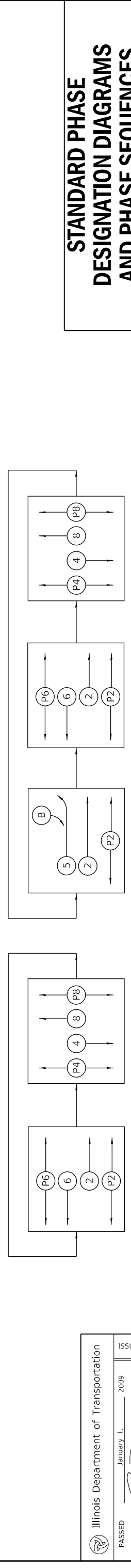
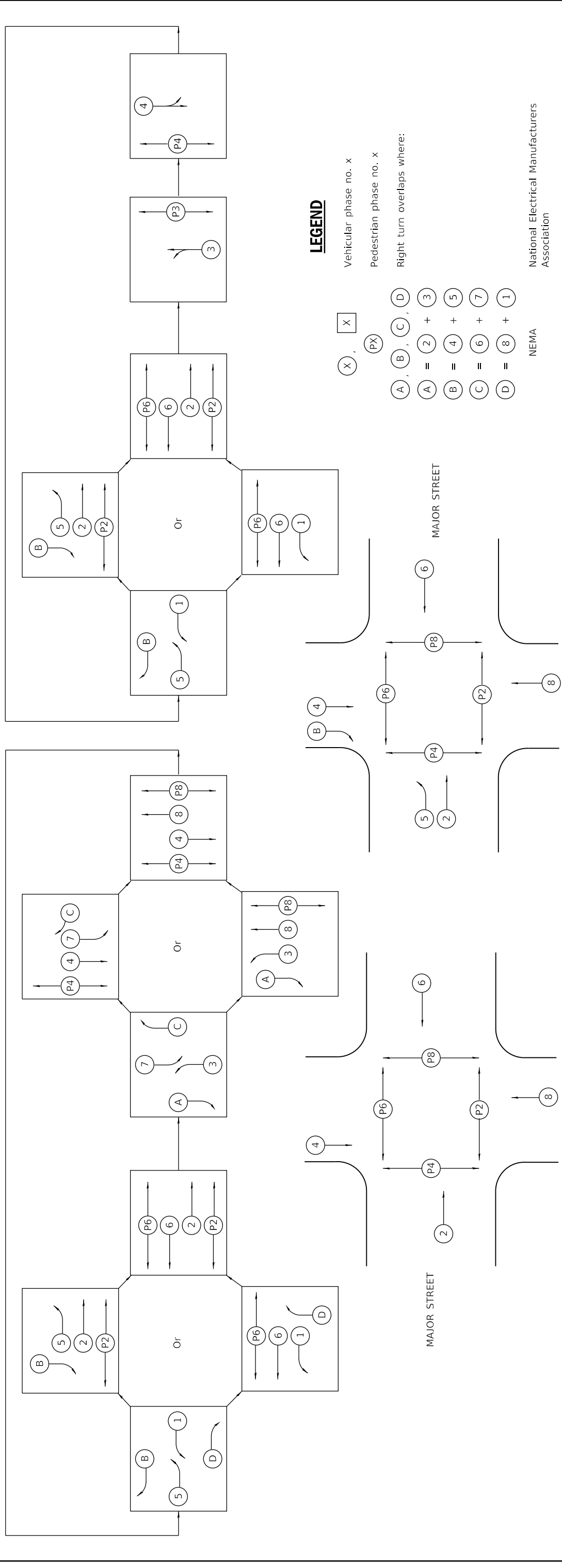
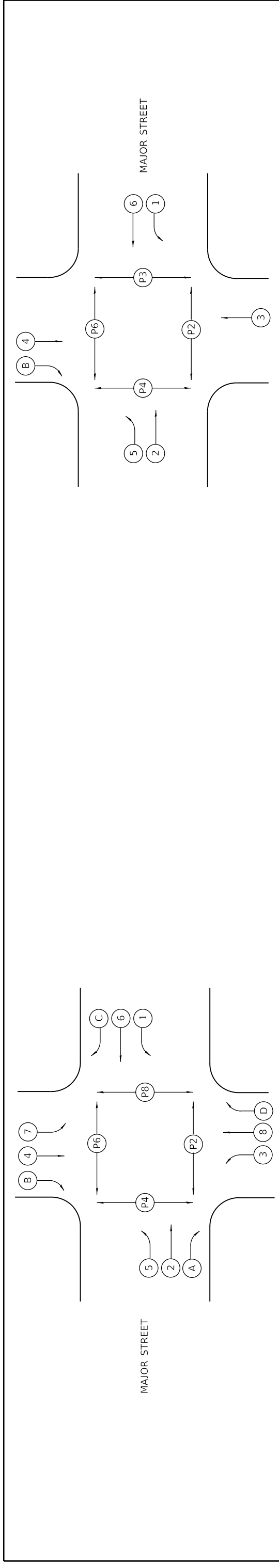
STANDARD PHASE DESIGNATION DIAGRAM (NEMA)

Illinois Department of Transportation
 PASSED January 1, 2009
 ENGINEER OF OPERATIONS
 APPROVED January 1, 2009
 ENGINEER OF DESIGN AND ENVIRONMENT

DATE	REVISIONS
1-1-09	Omitted note regarding units of length.
1-1-97	Renum. Standard 2393-2.

STANDARD 857001-01

**STANDARD PHASE
DESIGNATION DIAGRAMS
AND PHASE SEQUENCES**
(Sheet 1 of 2)



LEGEND

- (X), [X] Vehicular phase no. x
 - PX Pedestrian phase no. x
 - Right turn overlaps where:
- | | | |
|--------------------|---|-----------|
| (A), (B), (C), (D) | = | (2) + (3) |
| (A) | = | (4) + (5) |
| (B) | = | (6) + (7) |
| (C) | = | (8) + (1) |

NEMA
National Electrical Manufacturers Association

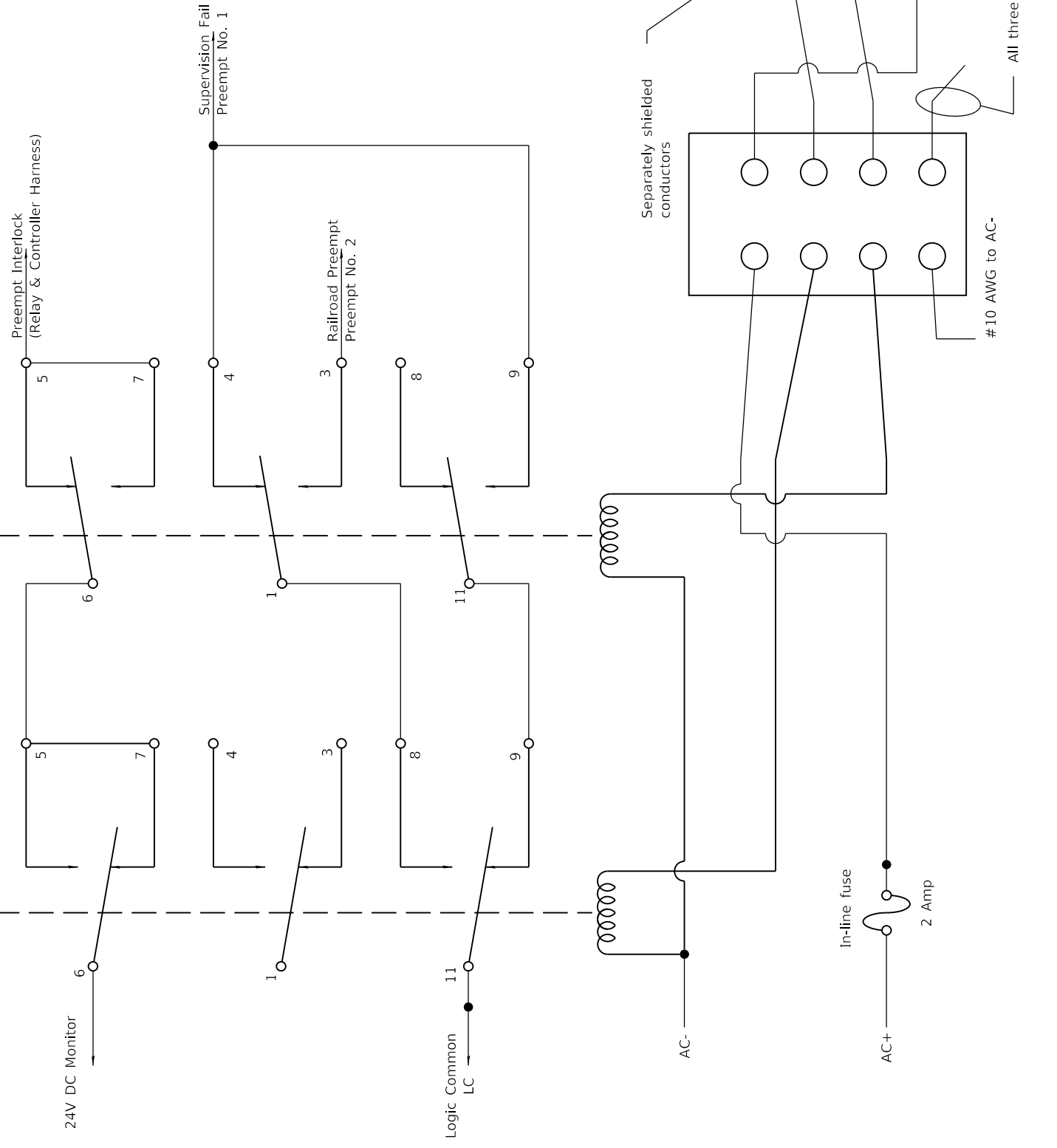
Illinois Department of Transportation
 PASSED January 1, 2009
 ENGINEER OF OPERATIONS
 APPROVED January 1, 2009
 ENGINEER OF DESIGN AND ENVIRONMENT

STANDARD PHASE DESIGNATION DIAGRAMS AND PHASE SEQUENCES
 (Sheet 2 of 2)
 STANDARD 857001-01

PHASE DESIGNATION DIAGRAMS AND CORRESPONDING PHASE SEQUENCES

**PREEMPT RELAY
CR1**

**SUPERVISORY RELAY
CR2**



GENERAL NOTES

CR1 and CR2 are 120VAC 3PDT Relays.

Supervision Fail is Preempt No. 1, causing traffic signal controller to implement all-red flash following track clearance phase.

Railroad Preempt is Preempt No. 2, causing traffic signal controller to implement railroad preempt routine following 1 second delay.

Preempt No. 1 and Preempt No. 2 shall have priority over all other preempts. The railroad preempt routine shall abbreviate each and all active pedestrian phases by immediately entering into flashing DONT WALK and timing concurrently with the associated vehicle yellow change interval.

RELAYS IN NON-PREEMPT STATE - RAILROAD AND PREEMPT RELAYS ENERGIZED

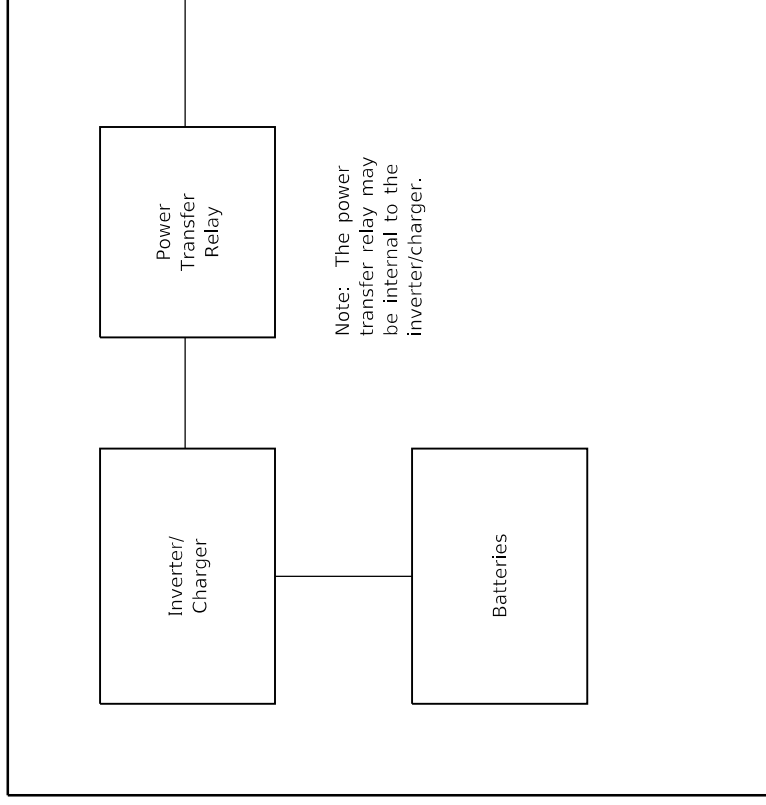
Illinois Department of Transportation		ISSUED 1-1-04	
PASSED	January 1, 2009		
ENGINEER OF OPERATIONS	<i>[Signature]</i>		
APPROVED	January 1, 2009		
ENGINEER OF DESIGN AND ENVIRONMENT	<i>[Signature]</i>		

DATE	REVISIONS
1-1-09	Omitted note regarding units of length.
1-1-04	New Standard.

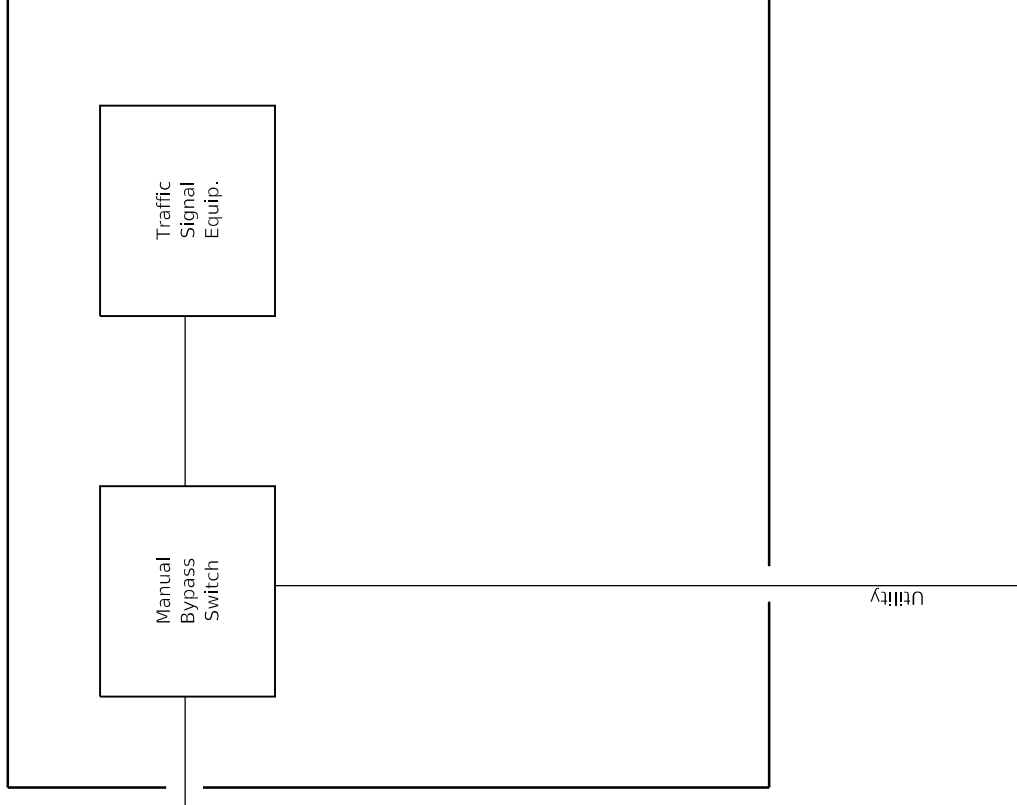
**SUPERVISED RAILROAD
INTERCONNECT CIRCUIT**

STANDARD 857006-01


UPS CABINET



TRAFFIC SIGNAL (NEMA) CABINET



SINGLE LINE BLOCK DIAGRAM

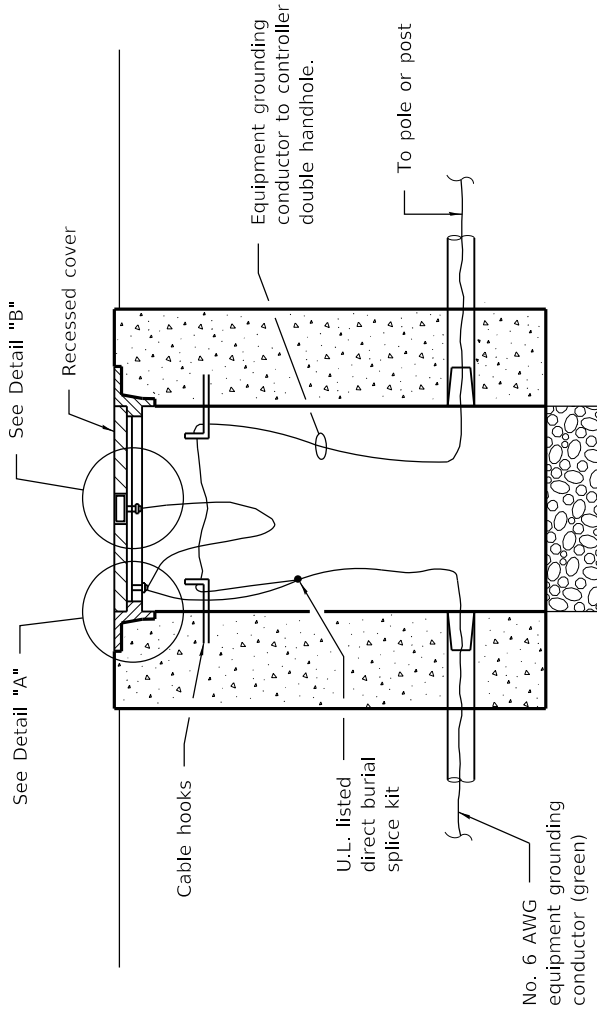

 Illinois Department of Transportation
 PASSED January 1, 2009
 ENGINEER OF OPERATIONS
 APPROVED January 1, 2009
 ENGINEER OF DESIGN AND ENVIRONMENT

DATE	REVISIONS
1-1-09	Omitted note regarding units of length.
4-1-06	New Standard

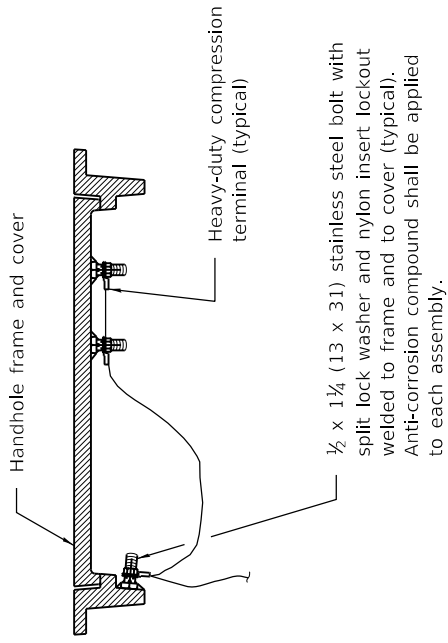
**UNINTERRUPTABLE
POWER SUPPLY (UPS)**

STANDARD 862001-01

ISSUED 4-1-06



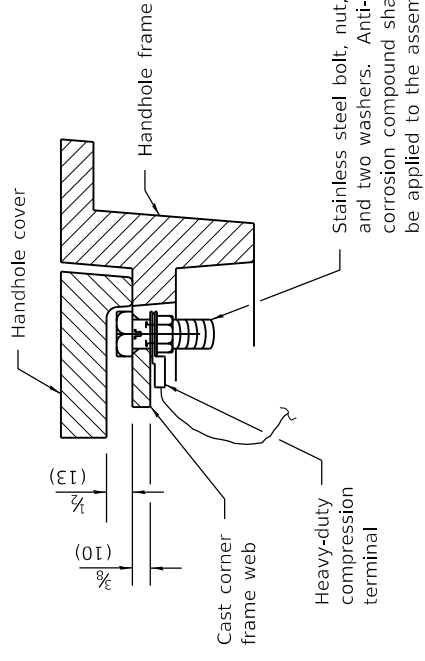
BONDING A HANDHOLE COVER & FRAME



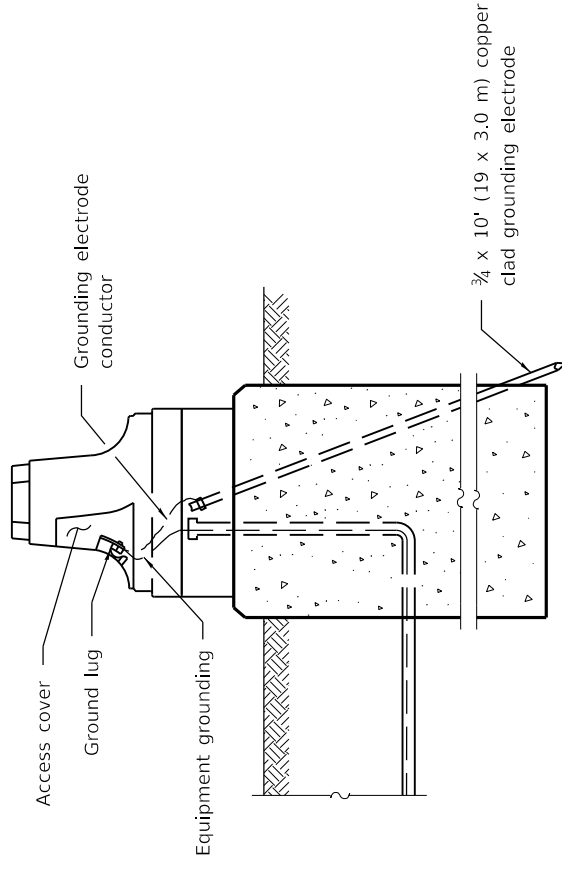
BONDING AN EXISTING HANDHOLE COVER & FRAME



HEAVY-DUTY COMPRESSION TERMINAL

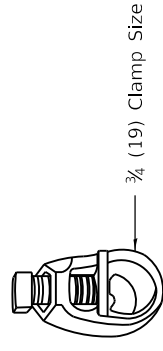


DETAIL "A"



DETAIL "B"

GROUNDING A MAST ARM POLE/POST



HEAVY-DUTY GROUND ROD CLAMP

Illinois Department of Transportation

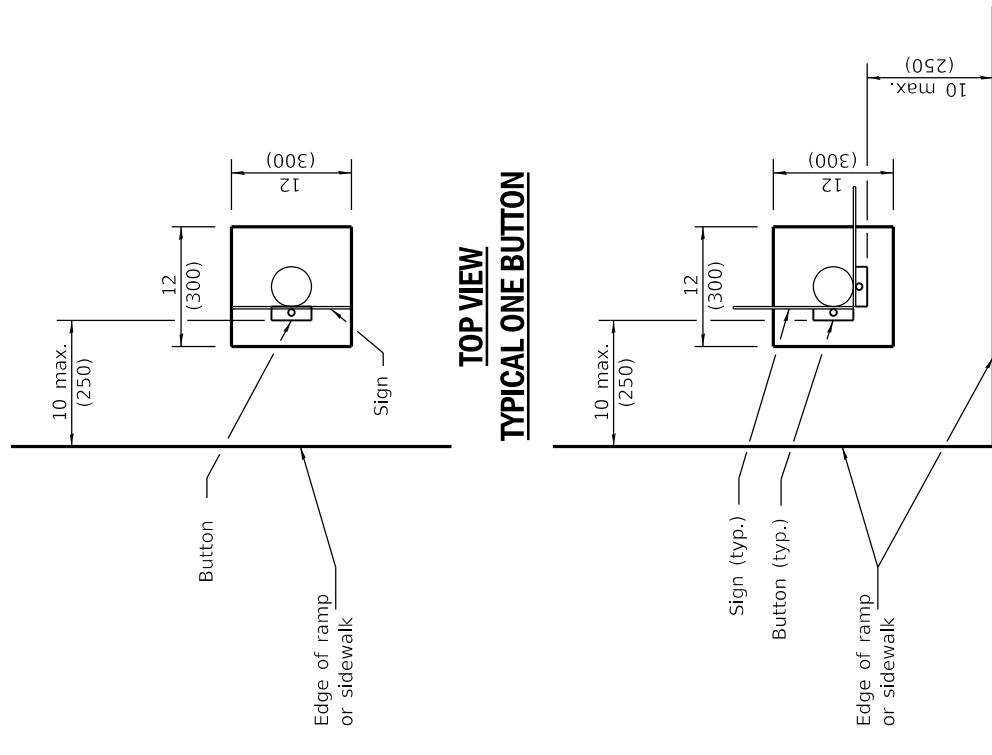
PASSED January 1, 2009
 ENGINEER OF OPERATIONS
 APPROVED January 1, 2009
 ENGINEER OF DESIGN AND ENVIRONMENT

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

DATE	REVISIONS
1-1-09	Switched units to English (metric).
1-1-07	Revised terminology.

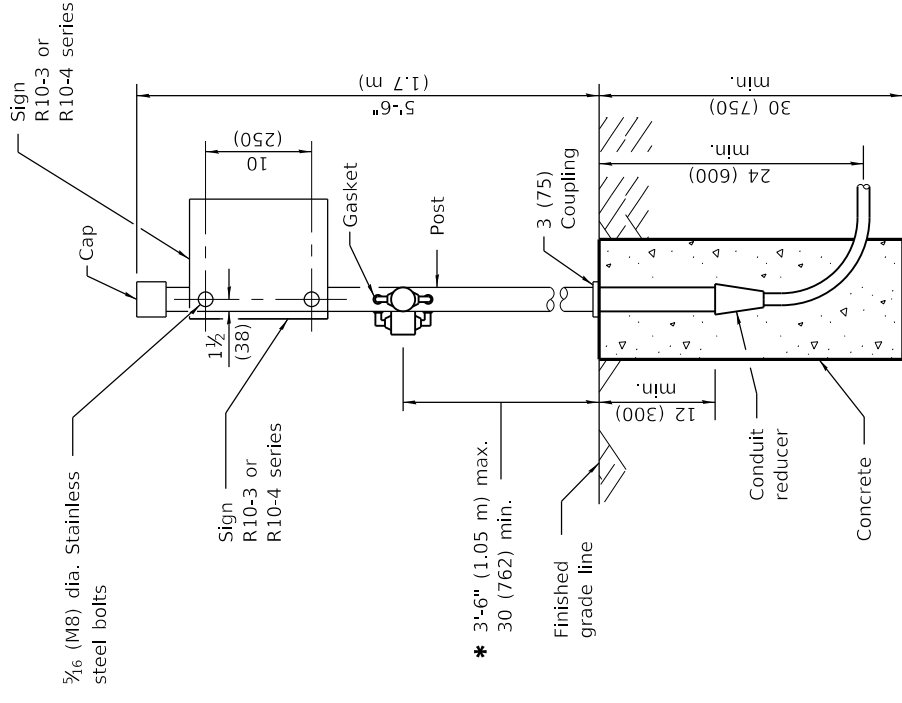
**TRAFFIC SIGNAL
GROUNDING & BONDING**

STANDARD 873001-02

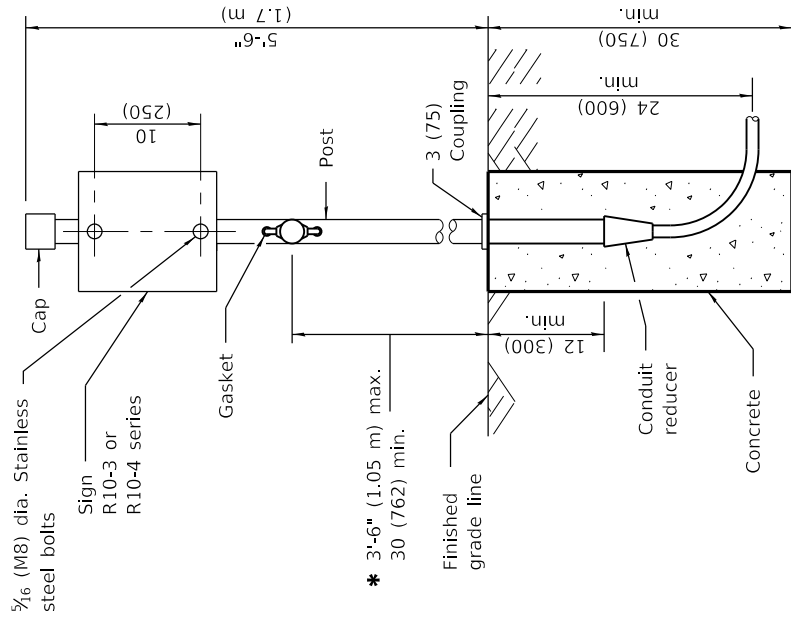


TOP VIEW
TYPICAL ONE BUTTON

TOP VIEW
TYPICAL TWO BUTTONS



PEDESTRIAN TWO PUSH BUTTON POST



PEDESTRIAN ONE PUSH BUTTON POST

* 36 (914) preferred

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

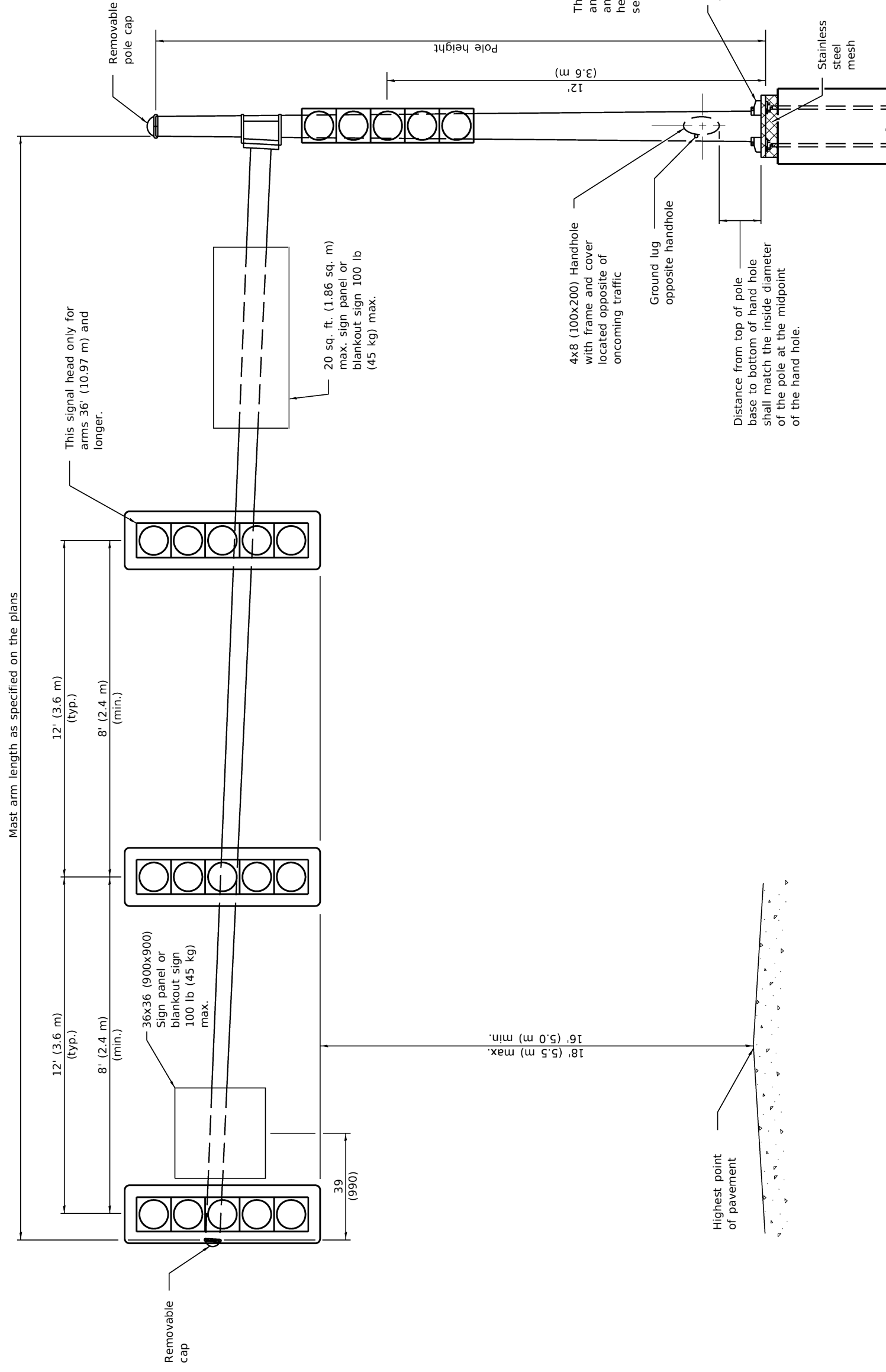
	PASSED APRIL 1, 2016 AMY ALLEN ENGINEER OF OPERATIONS
	APPROVED APRIL 1, 2016 [REDACTED] ENGINEER OF DESIGN AND ENVIRONMENT
ISSUED 1-1-07	

DATE	REVISIONS
4-1-16	Revised sign numbers for consistency with current MUTCD.
1-1-14	Revised and added dimensions for PROWAG reach range requirements.

**PEDESTRIAN PUSH
BUTTON POST**

STANDARD 876001-04

Mast arm length as specified on the plans



This signal head only for arms 36' (10.97 m) and longer.

12' (3.6 m) (typ.)
8' (2.4 m) (min.)

12' (3.6 m) (typ.)
8' (2.4 m) (min.)

36x36 (900x900)
Sign panel or
blankout sign
100 lb (45 kg)
max.

Removable cap

20 sq. ft. (1.86 sq. m)
max. sign panel or
blankout sign 100 lb
(45 kg) max.

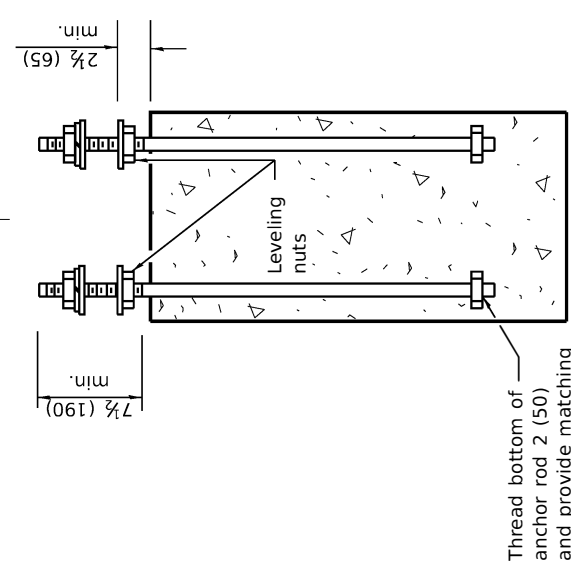
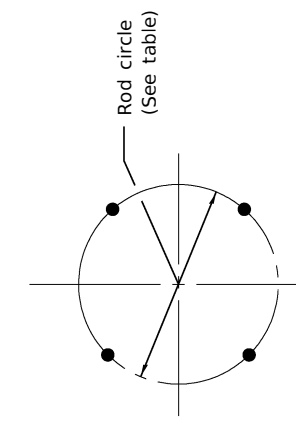
18' (5.5 m) max.
16' (5.0 m) min.

Highest point of pavement

4x8 (100x200) Handhole with frame and cover located opposite of oncoming traffic

Ground lug opposite handhole

Distance from top of pole base to bottom of hand hole shall match the inside diameter of the pole at the midpoint of the hand hole.



ANCHOR ROD DETAIL

GENERAL NOTES

Signal heads, sign panels, and other attachments are shown for minimum design loading purposes only. Each signal head shall weigh 80 lb (36 kg) and have a projected area of 14.7 sq. ft. (1.37 sq. m).
See Standard 720016 for location of sign panel or blankout sign closest to pole.
All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-18	Revised table for LRFD reqs. Revised GEN. NOTES for sign location. Rep. rod hooks with nuts.
4-1-16	Changed sign panel to 36x36. Added max. weight of 100 lb. Modified dim. to outer signal.

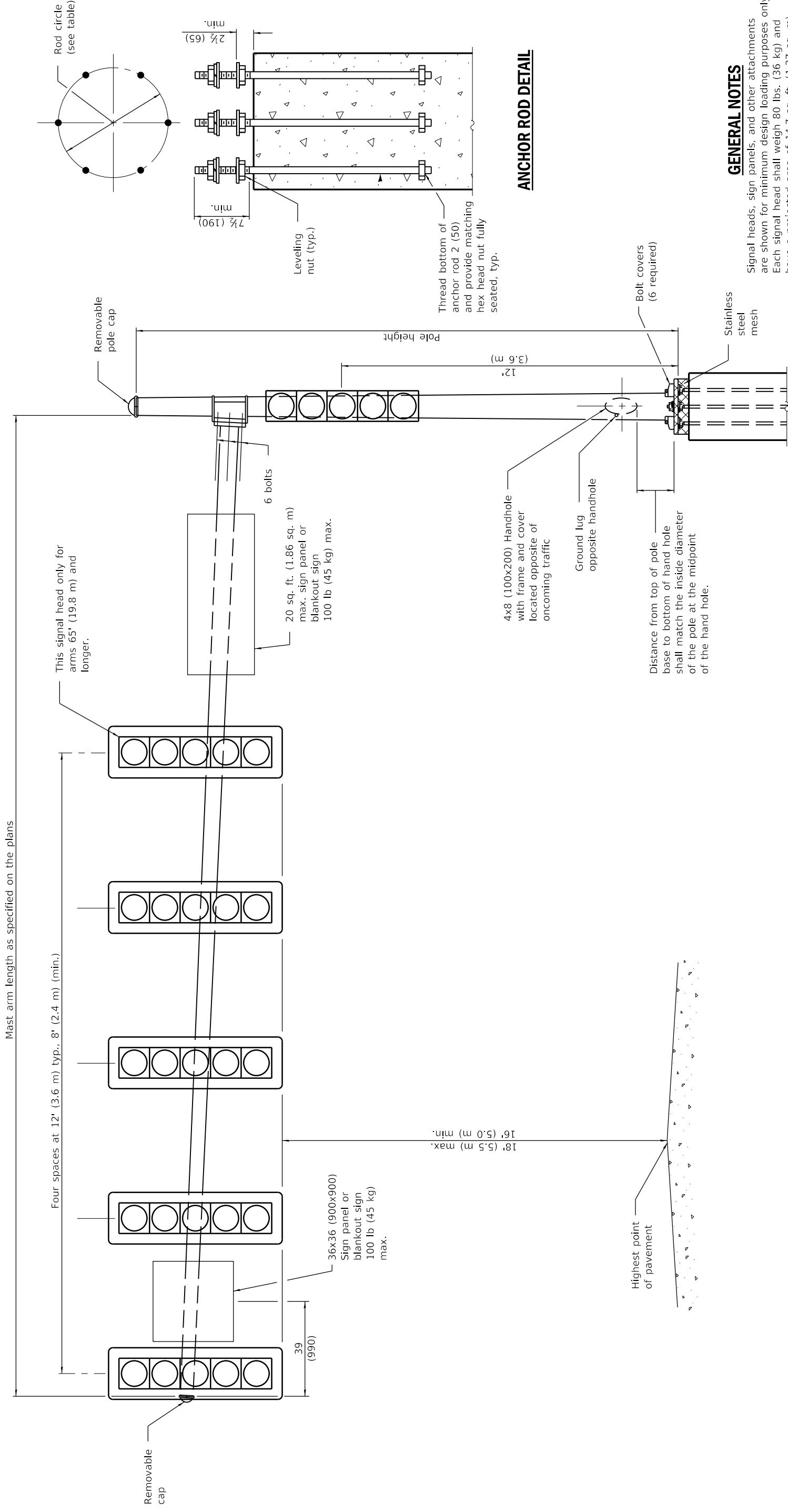
STEEL MAST ARM ASSEMBLY AND POLE 16' THROUGH 55'

STANDARD 877001-07

Illinois Department of Transportation
 PASSED January 1, 2018
 ENGINEER OF OPERATIONS
 APPROVED January 1, 2018
 ENGINEER OF DESIGN AND ENVIRONMENT

MAST ARM LENGTH	ANCHOR ROD CIRCLE	ANCHOR ROD SIZE
16' thru 20' (4.87 m thru 6.10 m)	18 (450)	1 3/4 x 7' (44 x 2.10 m)
42' thru 55' (12.80 m thru 16.80 m)	21 (535)	1 3/4 x 7' (44 x 2.10 m)

ISSUED 1-1-02



ANCHOR ROD DETAIL

GENERAL NOTES

Signal heads, sign panels, and other attachments are shown for minimum design loading purposes only. Each signal head shall weigh 80 lbs. (36 kg) and have a projected area of 14.7 sq. ft. (1.37 sq. m).
See Standard 720016 for location of sign panel or blankout sign closest to pole.
All dimensions are in inches (millimeters) unless otherwise shown.

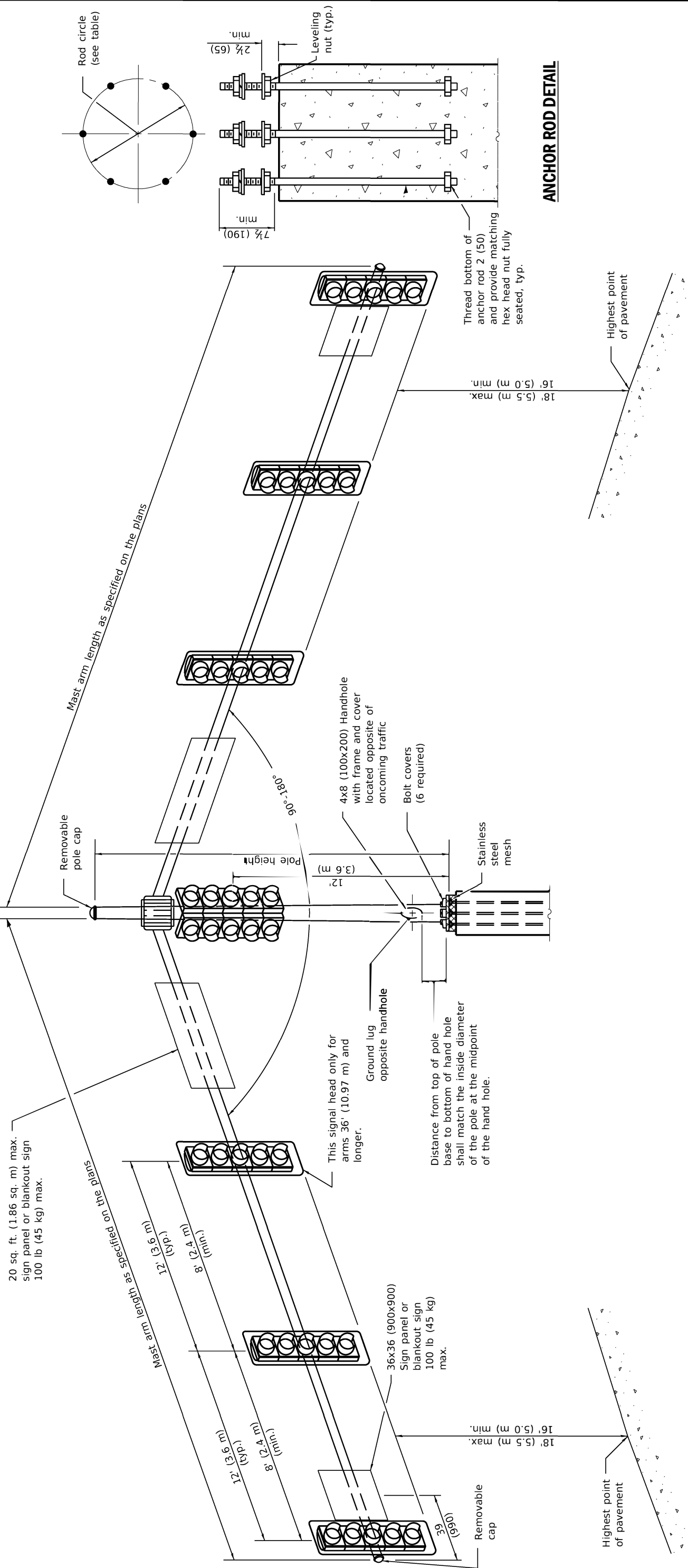
MAST ARM LENGTH	ANCHOR ROD CIRCLE	ANCHOR ROD SIZE
56' thru 64' (17.07 m thru 19.51 m)	24 (610)	1 3/4" x 7" (44 x 2.10 m)
65' thru 75' (19.81 m thru 22.86 m)	27 (685)	2 x 7'-6" (51 x 2.29 m)

DATE	REVISIONS
1-1-18	Rev. hand hole loc. Rev. Gen. Notes for sign loc.
4-1-16	Replaced rod hooks with nuts. Changed sign panel to 36x36 and 100 lb max.

STEEL MAST ARM ASSEMBLY AND POLE 56' THROUGH 75'

STANDARD 877002-04

Illinois Department of Transportation
 PASSED January 1, 2018
 APPROVED January 1, 2018
 ISSUED 1-1-08



GENERAL NOTES

Signal heads, sign panels, and other attachments are shown for minimum design loading purposes only. Each signal head shall weigh 80 lb (36 kg) and have a projected area of 14.7 sq. ft. (1.37 sq. m).
 See Standard 720016 for location of sign panels or blankout signs closest to pole.
 All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-18	Revised for LRFD reqs. Revised GEN. NOTES for sign location.
4-1-16	Revised ANCHOR ROD DETAIL. Changed sign panel to 36x36. Added max weight of 100 lb. Modified dim. to outer signal.

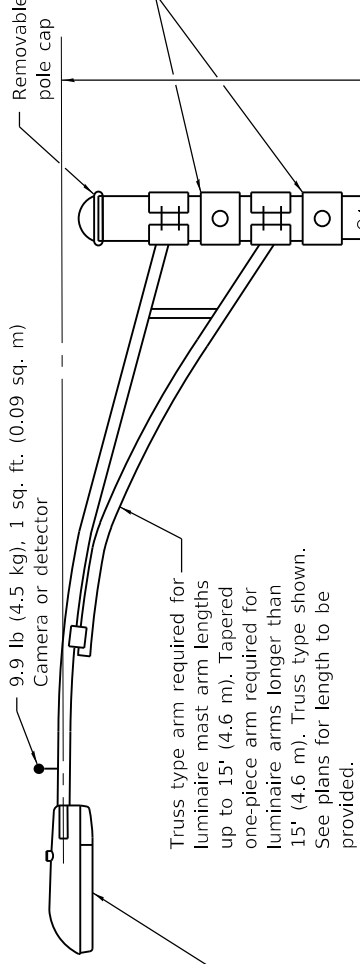
STEEL MAST ARM ASSEMBLY AND POLE WITH DUAL MAST ARMS

STANDARD 877006-06

Illinois Department of Transportation

PASSED January 1, 2018
 ENGINEER OF OPERATIONS
 APPROVED January 1, 2018
 ENGINEER OF DESIGN AND ENVIRONMENT

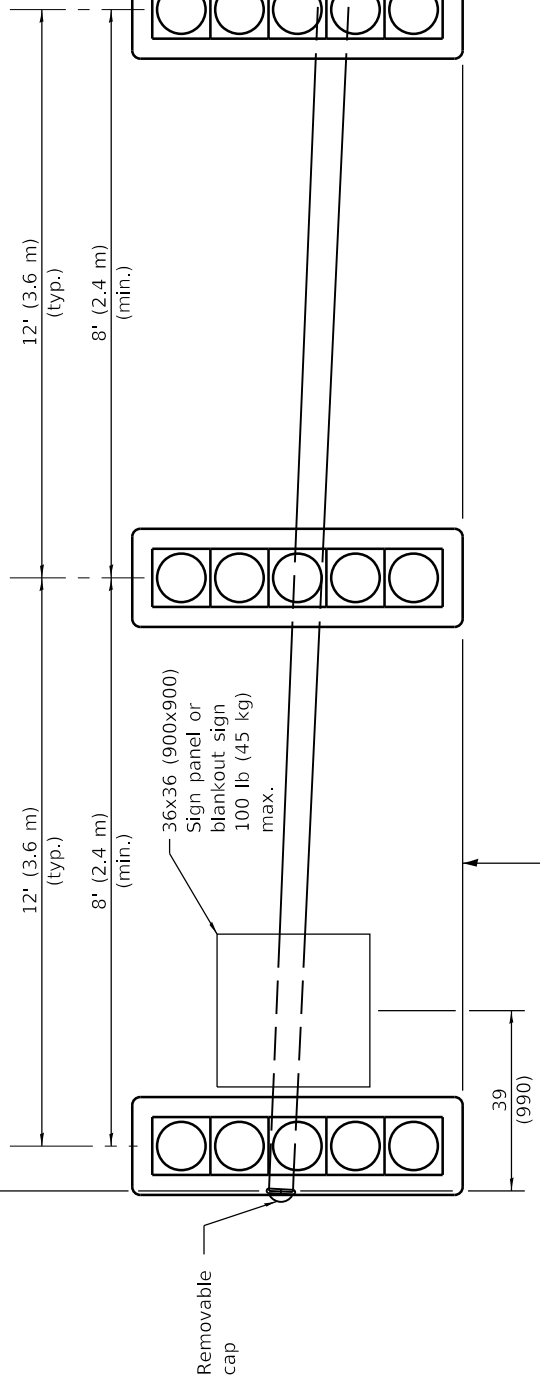
MAST ARM LENGTH	ANCHOR ROD CIRCLE	ANCHOR ROD SIZE
16' thru 30' (4.87 m thru 9.14 m)	18 (450)	1 3/8" x 7" (44 x 2.10 m)
32' thru 50' (9.75 m thru 15.24 m)	21 (535)	2" x 7'-6" (51 x 2.29 m)



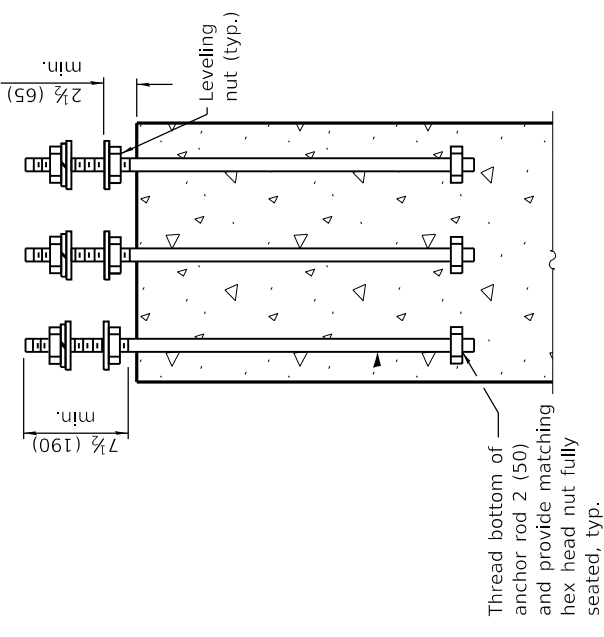
Truss type arm required for luminaire mast arm lengths up to 15' (4.6 m). Tapered one-piece arm required for luminaire arms longer than 15' (4.6 m). Truss type shown. See plans for length to be provided.

Maximum 40 lb (18 kg), 1.6 sq. ft. (0.15 sq. m) EPA Luminaire

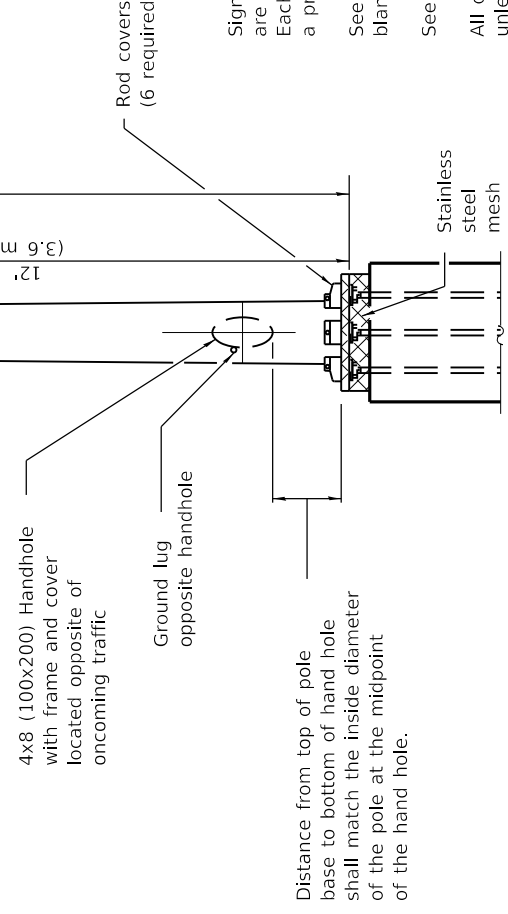
Mast arm length as specified on the plans



This signal head only for arms 36' (10.97 m) and longer.



ANCHOR ROD DETAIL



Distance from top of pole base to bottom of hand hole shall match the inside diameter of the hand hole.

GENERAL NOTES

Signal heads, sign panels, and other attachments are shown for minimum design loading purposes only. Each signal head shall weigh 80 lb (36 kg) and have a projected area of 14.7 sq. ft. (1.37 sq. m).
See Standard 720016 for location of sign panel or blankout sign closest to pole.
See standard 821101 for luminaire wiring diagram.
All dimensions are in inches (millimeters) unless otherwise shown.

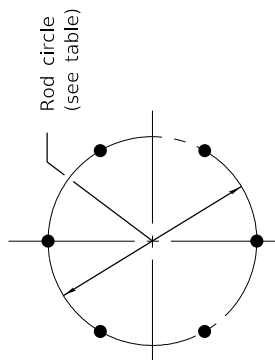
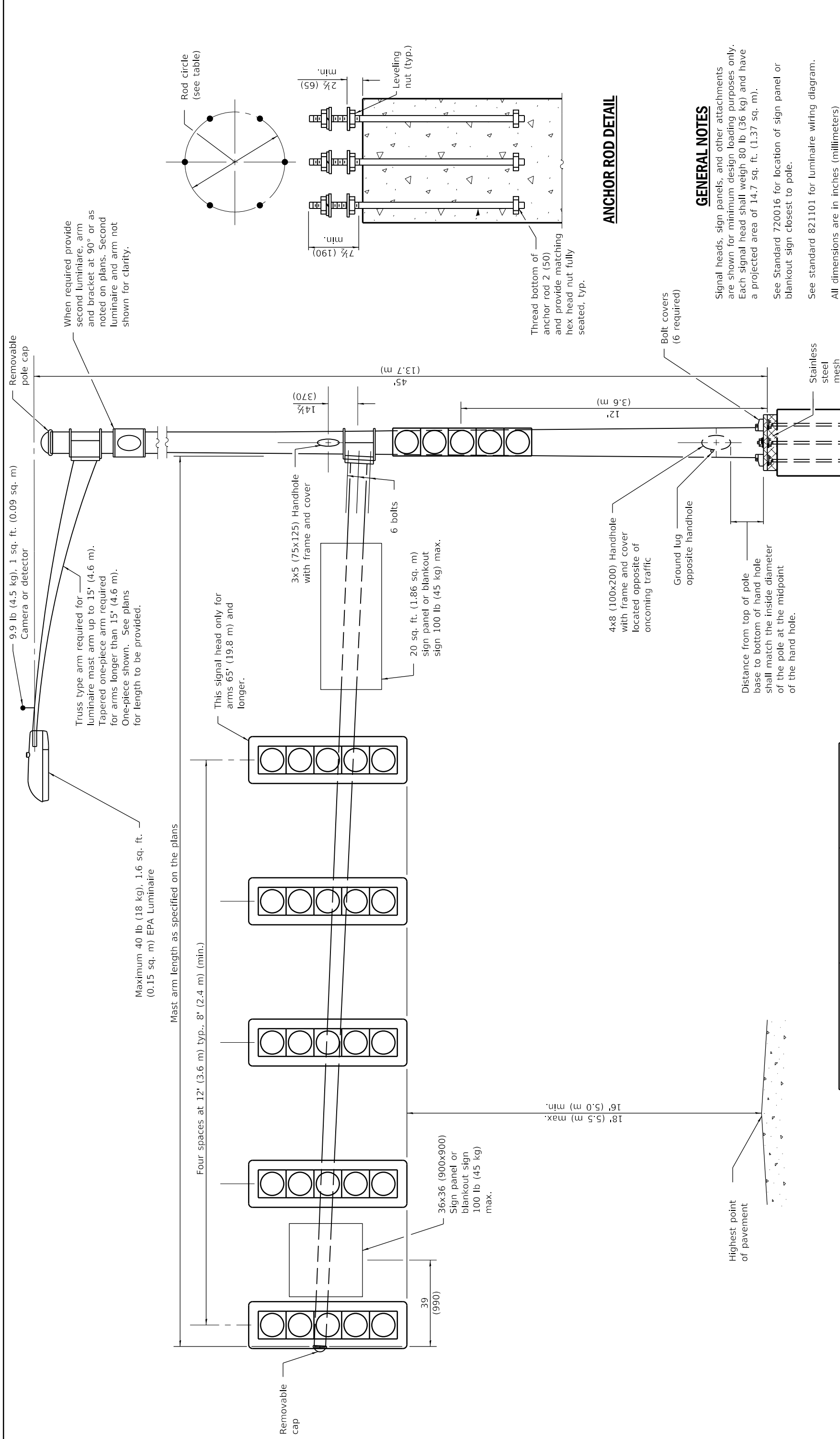
MAST ARM LENGTH	ANCHOR ROD CIRCLE	ANCHOR ROD SIZE
16' thru 35' (4.87 m thru 10.67 m)	18 (450)	1 3/4 x 7' (44 x 2.10 m)
36' thru 55' (10.97 m thru 16.80 m)	21 (535)	1 3/4 x 7' (44 x 2.10 m)

STEEL COMB. MAST ARM ASSEMBLY AND POLE 16' THROUGH 55'

DATE	REVISIONS
1-1-19	Remove tenon top info. Rev. luminaire arm info. Rev. second luminaire info.
1-1-18	Revised for RFLD reqs. Revised GEN. NOTES for sign locaton. Revised ANCHOR ROD DETAIL.

STANDARD 877011-10

Illinois Department of Transportation
 APPROVED January 1, 2019
Amy Allen
 ENGINEER OF OPERATIONS
 APPROVED January 1, 2019
Scott E. Egan
 ENGINEER OF DESIGN AND ENVIRONMENT
 ISSUED 1-1-02



ANCHOR ROD DETAIL

GENERAL NOTES

Signal heads, sign panels, and other attachments are shown for minimum design loading purposes only. Each signal head shall weigh 80 lb (36 kg) and have a projected area of 14.7 sq. ft. (1.37 sq. m).

See Standard 720016 for location of sign panel or blankout sign closest to pole.

See standard 821101 for luminaire wiring diagram.

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

MAST ARM LENGTH	ANCHOR ROD CIRCLE	ANCHOR ROD SIZE
56' thru 64' (17.07 m thru 19.51 m)	24 (610)	1 3/4 x 7' (44 x 2.10 m)
65' thru 75' (19.81 m thru 22.86 m)	27 (685)	2 x 7'-6" (51 x 2.29 m)

DATE	REVISIONS
1-1-19	Remove tenon top info.
	Rev. luminaire arm info.
	Rev. second luminaire info.
1-1-18	Rev. hand hole location. Rev.
	Gen. Notes for sign location.
	Replaced rod hooks with nuts.

STEEL COMB. MAST ARM ASSEMBLY AND POLE 56' THROUGH 75'

STANDARD 877012-07

Illinois Department of Transportation

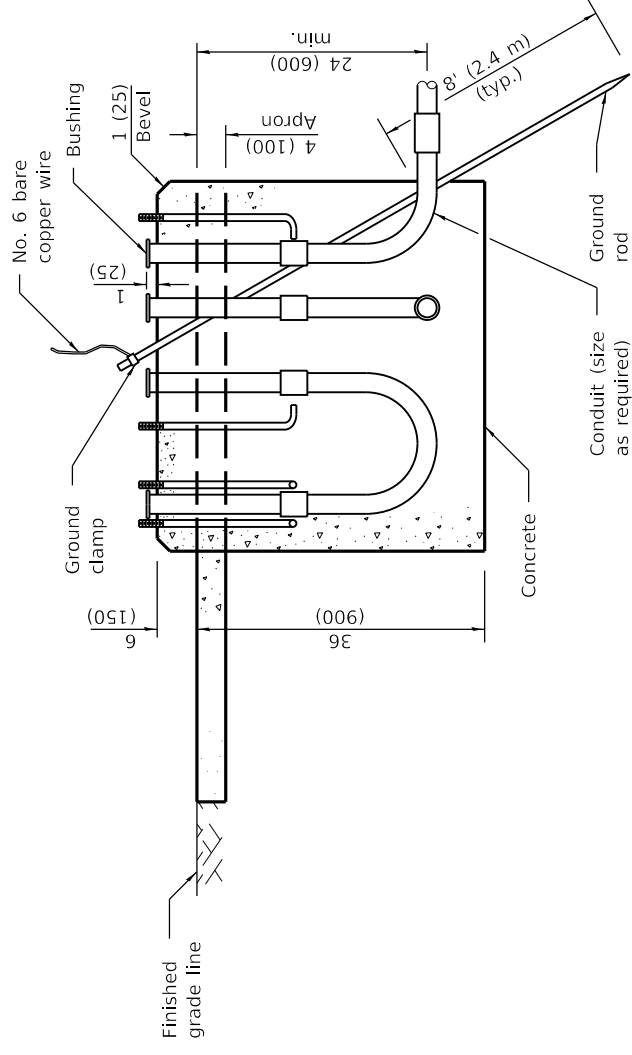
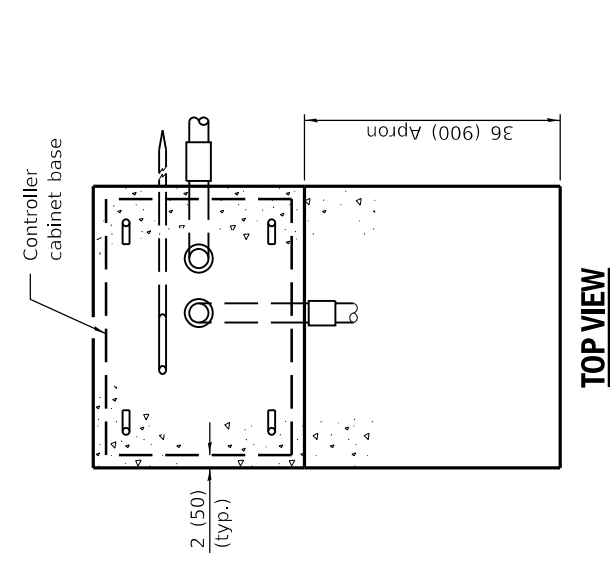
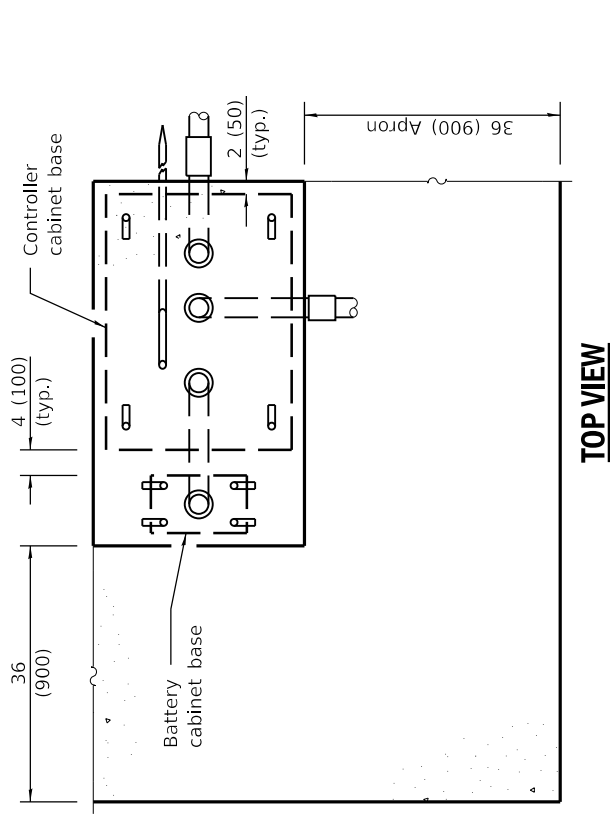
ISSUED 1-1-08

APPROVED January 1, 2019

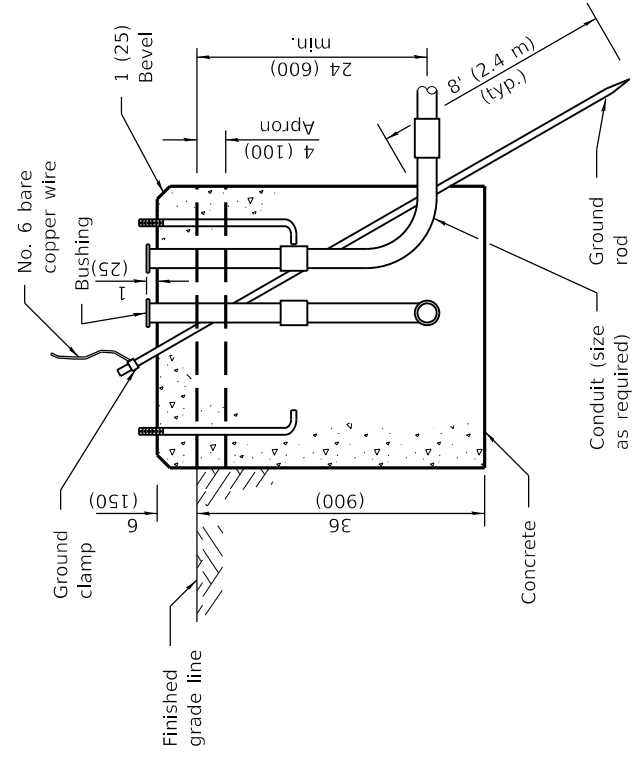
APPROVED January 1, 2019

ENGINEER OF OPERATIONS

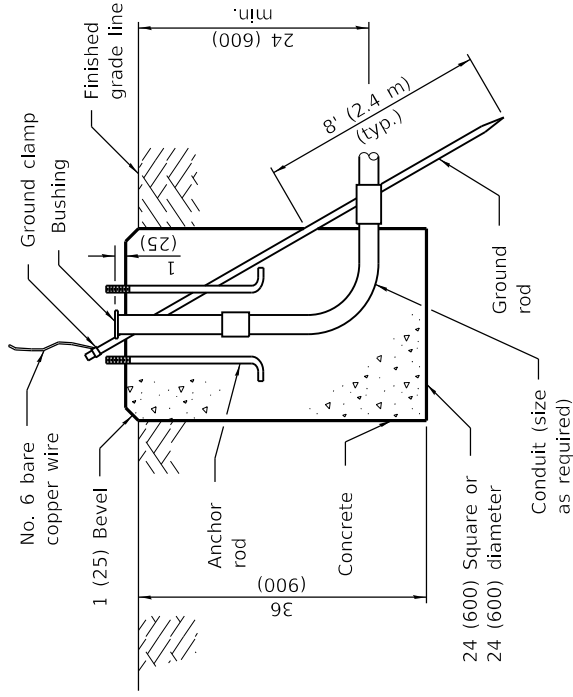
ENGINEER OF DESIGN AND ENVIRONMENT



TYPE C
FOR GROUND MOUNTED
CONTROLLER CABINET
AND UPS BATTERY CABINET



TYPE D
FOR GROUND MOUNTED
CONTROLLER CABINET



TYPE A

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

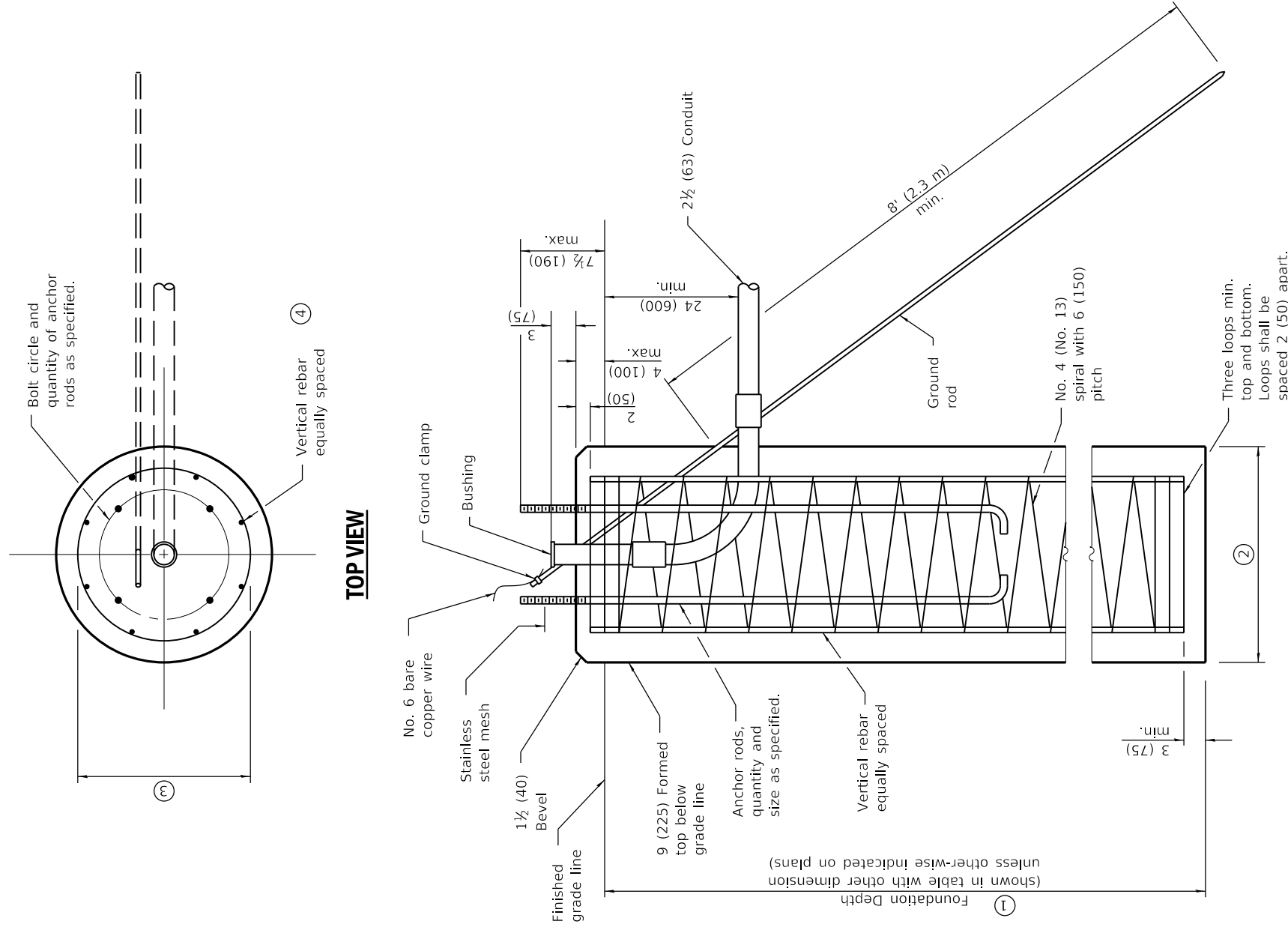
Illinois Department of Transportation PASSED January 1, 2015 ENGINEER OF OPERATIONS APPROVED January 1, 2015 ENGINEER OF DESIGN AND ENVIRONMENT	ISSUED 1-1-02
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DATE	REVISIONS
1-1-15	Revised TYPE E detail.
1-1-12	Replaced rebar No.'s with 'Vertical' for TYPE E foundation detail.

CONCRETE
FOUNDATION DETAILS

(Sheet 1 of 2)

STANDARD 878001-10



Mast Arm Length	① Foundation Depth *	② Foundation Diameter	③ Spiral Diameter	④ Quantity of Rebars	Size of Rebars
Less than 30' (9.1 m)	10'-0" (3.0 m)	30 (750)	24 (600)	8	6 (19)
Greater than or equal to 30' (9.1 m) and less than 40' (12.2 m)	13'-6" (4.1 m)	30 (750)	24 (600)	8	6 (19)
Greater than or equal to 40' (12.2 m) and less than 50' (15.2 m)	11'-0" (3.4 m)	36 (900)	30 (750)	12	7 (22)
Greater than or equal to 50' (15.2 m) and up to 55' (16.8 m)	13'-0" (4.0 m)	36 (900)	30 (750)	12	7 (22)
Greater than or equal to 55' (16.8 m) and up to 65' (19.8 m)	15'-0" (4.6 m)	36 (900)	30 (750)	12	7 (22)
Greater than or equal to 65' (19.8 m) and up to 75' (22.9 m)	21'-0" (6.4 m)	42 (1060)	36 (900)	16	8 (25)
	25'-0" (7.6 m)	42 (1060)	36 (900)	16	8 (25)

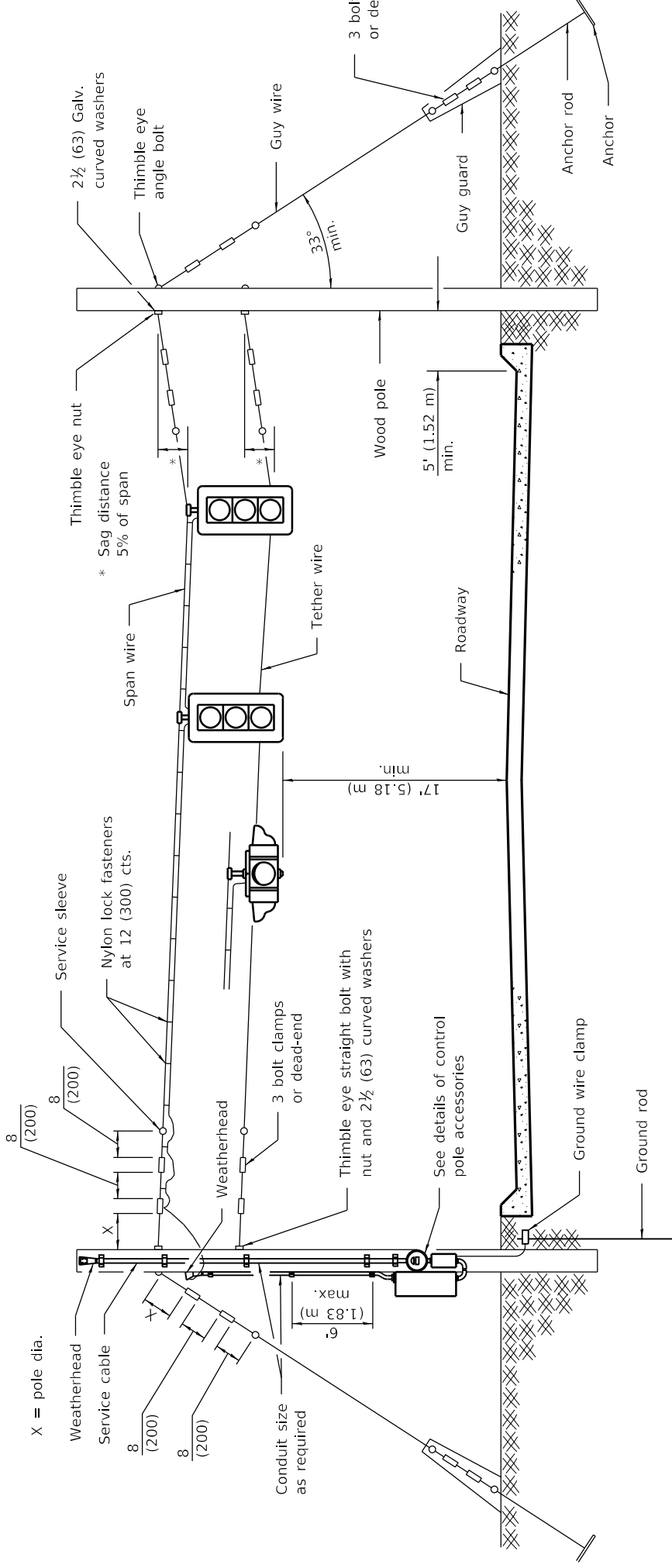
* For standard and combination mast arm assemblies. Foundation depths for standard dual mast arms with the longest arm length upto and including 55' (16.8 m) shall be increased by 1' (0.3 m) of that shown in the table, based on the longer of the two arms.

These foundation depths are for sites which have cohesive soils (clayey silt, sandy clay, etc.) along the length of the shaft, with an average Unconfined Compressive Strength (Qu) > 1.0 tsf (100 kpa). This strength shall be verified by boring data prior to construction or with testing by the Engineer during foundation drilling. The Bureau of Bridges & Structures should be contacted for a revised design if other conditions are encountered.

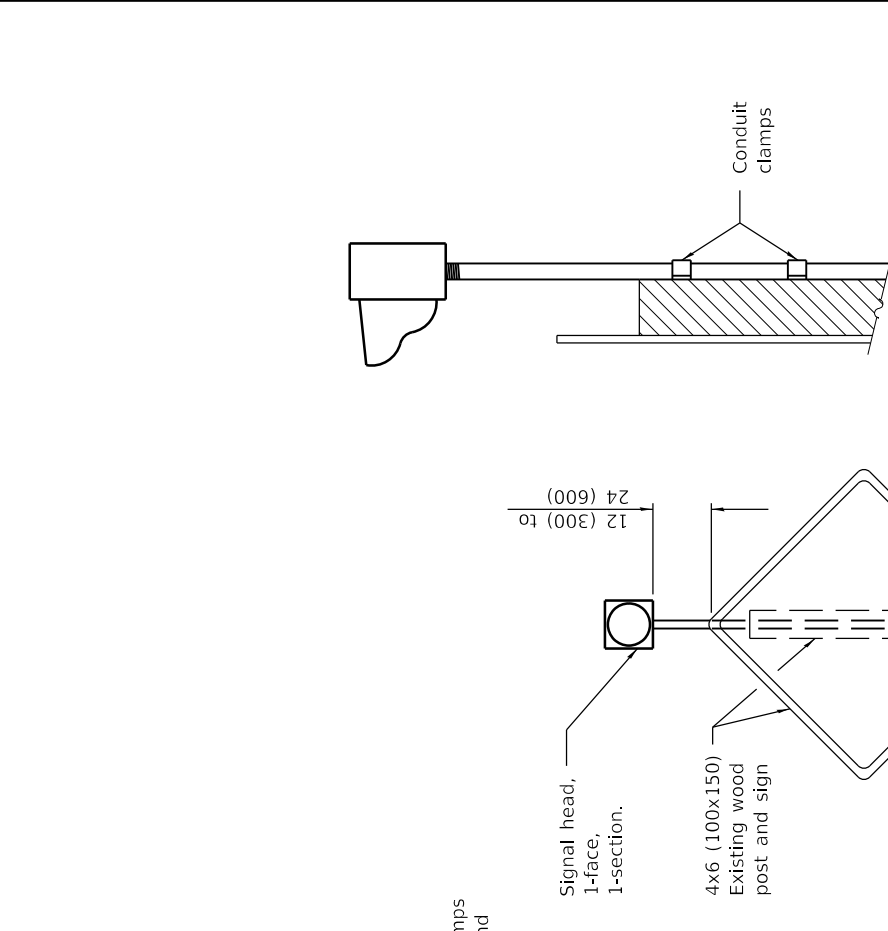
Illinois Department of Transportation
 PASSED January 1, 2015
 ENGINEER OF OPERATIONS
 APPROVED January 1, 2015
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-02

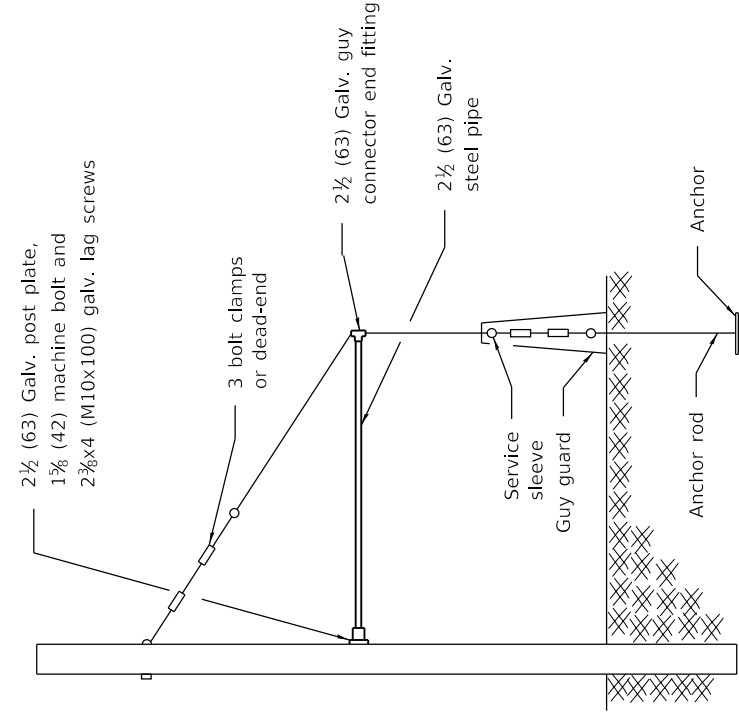
**CONCRETE
 FOUNDATION DETAILS**
 (Sheet 2 of 2)
STANDARD 878001-10



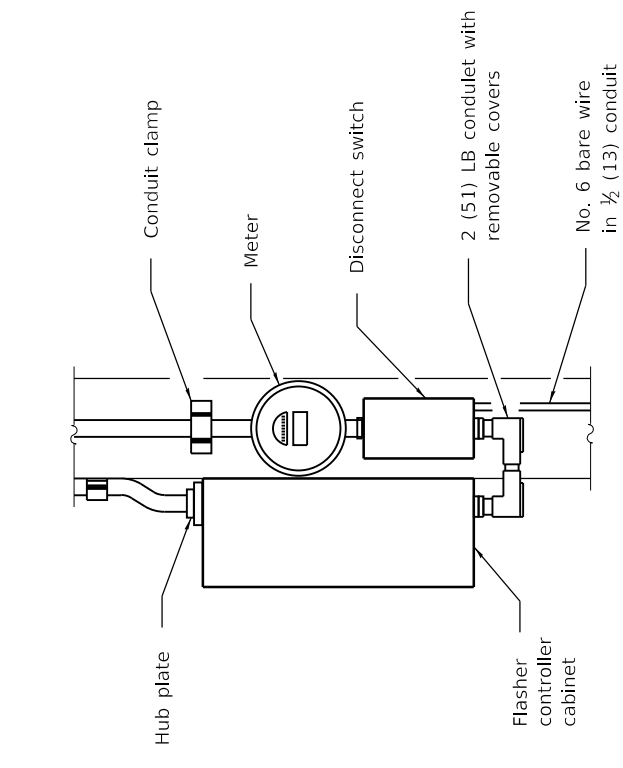
SPAN WIRE MOUNTED SIGNALS AND FLASHING BEACON



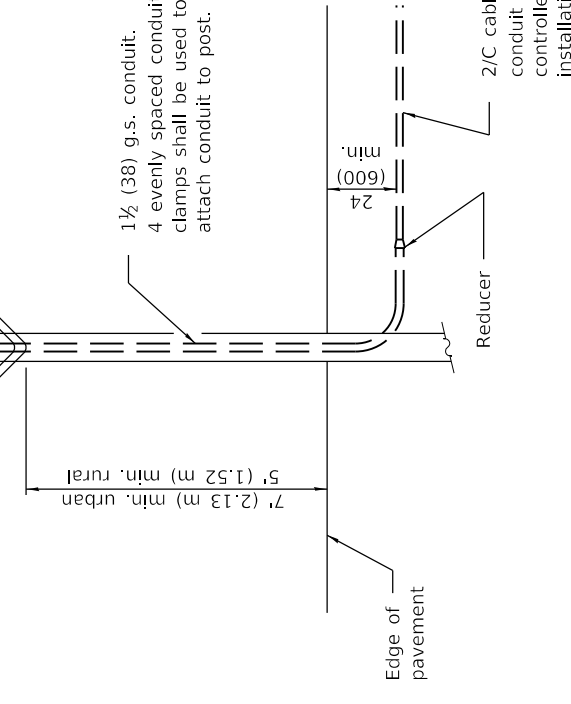
MOUNTING DETAIL



SIDEWALK GUY DETAIL



CONTROL POLE DETAIL



POST MOUNTED FLASHING BEACON

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

DATE	REVISIONS
1-1-09	Switched units to English (metric).
1-1-02	Renum. Standard 840001.

SPAN WIRE MOUNTED SIGNALS AND FLASHING BEACON INSTALLATION

STANDARD 880001-01

Illinois Department of Transportation

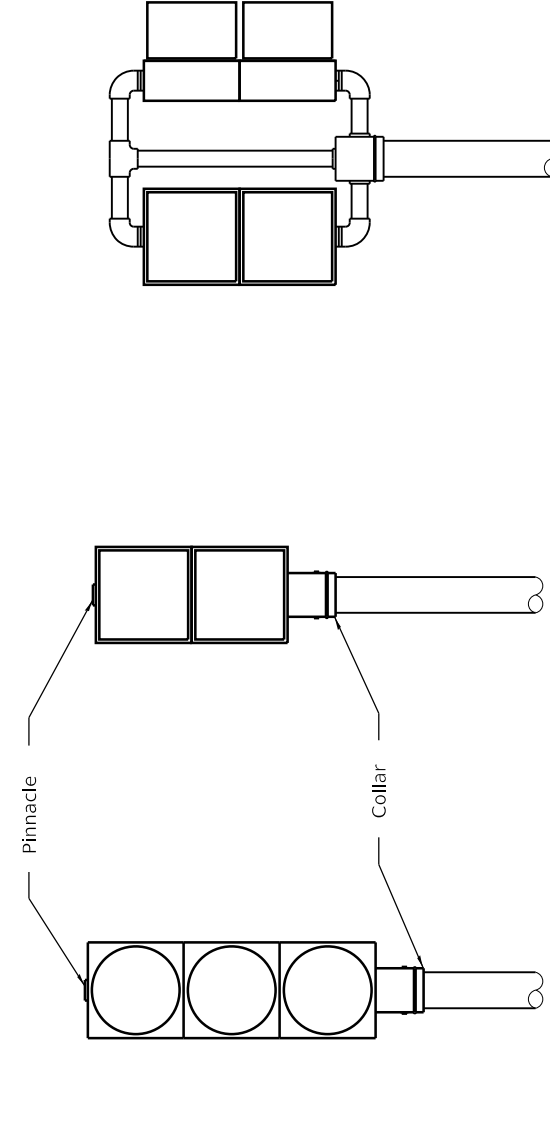
PASSED January 1, 2009

ENGINEER OF OPERATIONS

APPROVED January 1, 2009

ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-02



**POST MOUNTED
TRAFFIC SIGNAL HEAD**

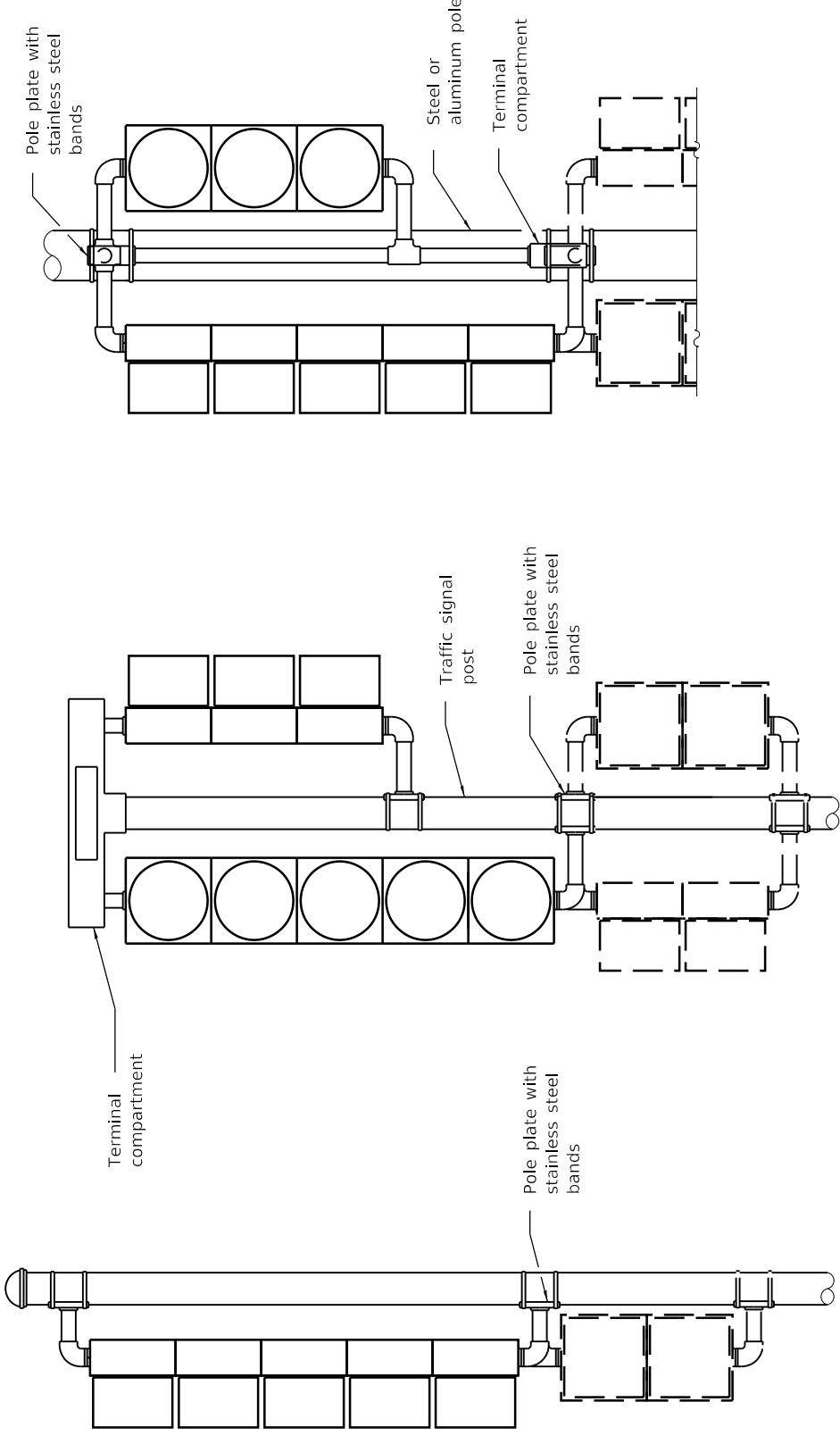
**POST MOUNTED
PEDESTRIAN SIGNAL HEAD**

ONE WAY

TWO WAY

**POST MOUNTED
PEDESTRIAN SIGNAL HEAD**

**POST MOUNTED
TRAFFIC SIGNAL HEAD**



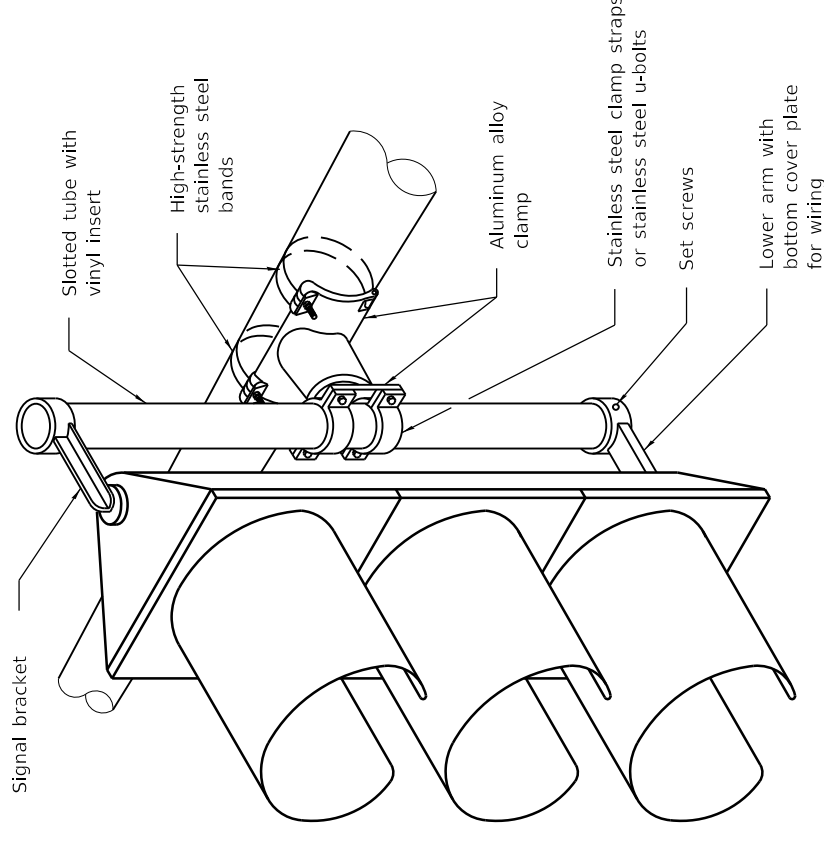
**BRACKET MOUNTED
TRAFFIC SIGNAL HEAD**

**BRACKET MOUNTED
TRAFFIC SIGNAL HEAD**

**BRACKET MOUNTED
TRAFFIC SIGNAL HEAD**

ONE WAY

TWO WAY



STEEL MAST ARM MOUNTING

DATE	REVISIONS
1-1-09	Omitted note regarding units of length.
1-1-02	Renum. Standard 840006.

**TRAFFIC SIGNAL
MOUNTING DETAILS**

STANDARD 880006-01

Illinois Department of Transportation

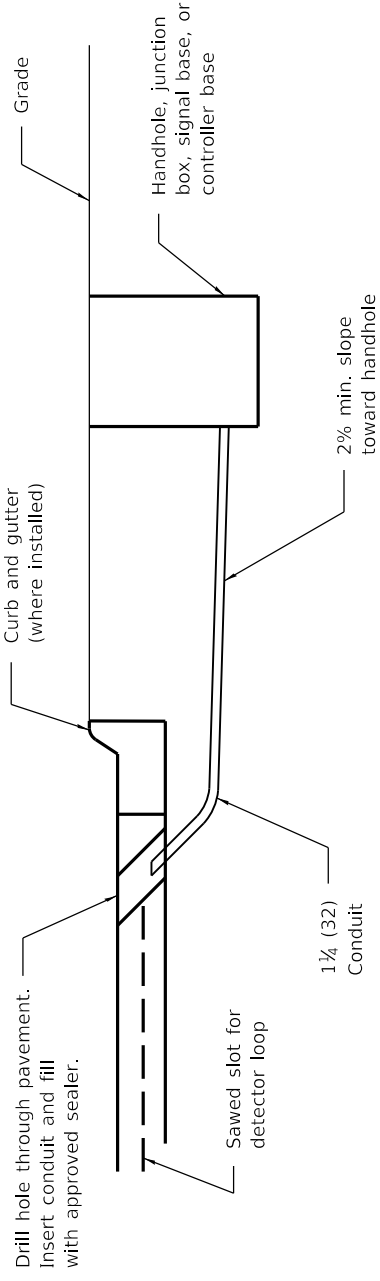
PASSED January 1, 2009

ENGINEER OF OPERATIONS *[Signature]*

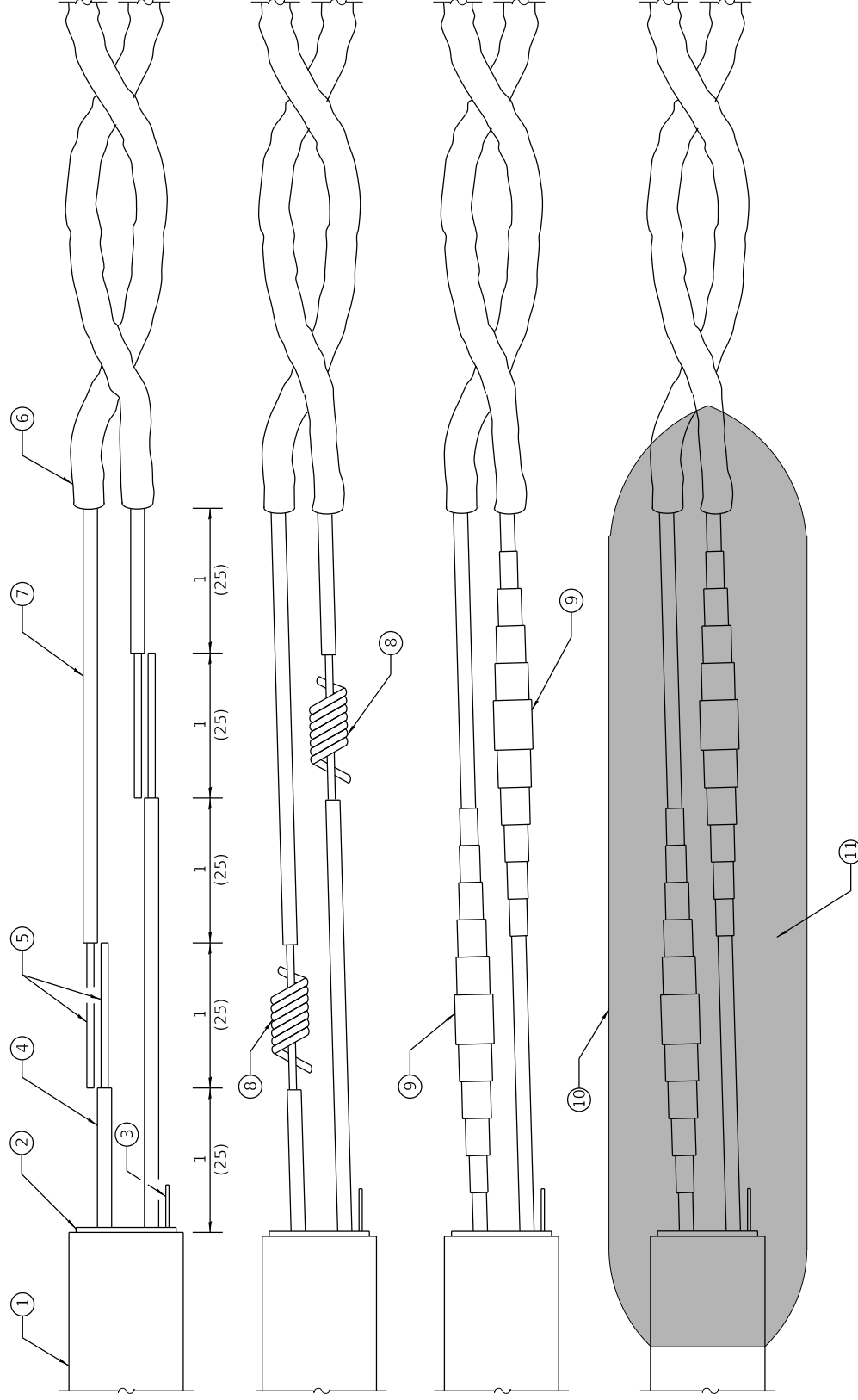
APPROVED January 1, 2009

ENGINEER OF DESIGN AND ENVIRONMENT *[Signature]*

ISSUED 1-1-02



DETECTOR LOOP LEAD-IN



- ① = Lead-in cable (single pair or multipair)
- ② = Lead-in cable shield
- ③ = Lead-in cable shield drain-wire
- ④ = Lead-in cable insulated conductor
- ⑤ = Bare conductor
- ⑥ = Loop wire in tube
- ⑦ = Loop wire insulated conductor
- ⑧ = Twisted and resin soldered conductor
- ⑨ = Electrical tape insulated splice
- ⑩ = Rigid mold
- ⑪ = Waterproof and dielectric resin

Illinois Department of Transportation
 PASSED January 1, 2009
 ENGINEER OF OPERATIONS
 APPROVED January 1, 2009
 ENGINEER OF DESIGN AND ENVIRONMENT

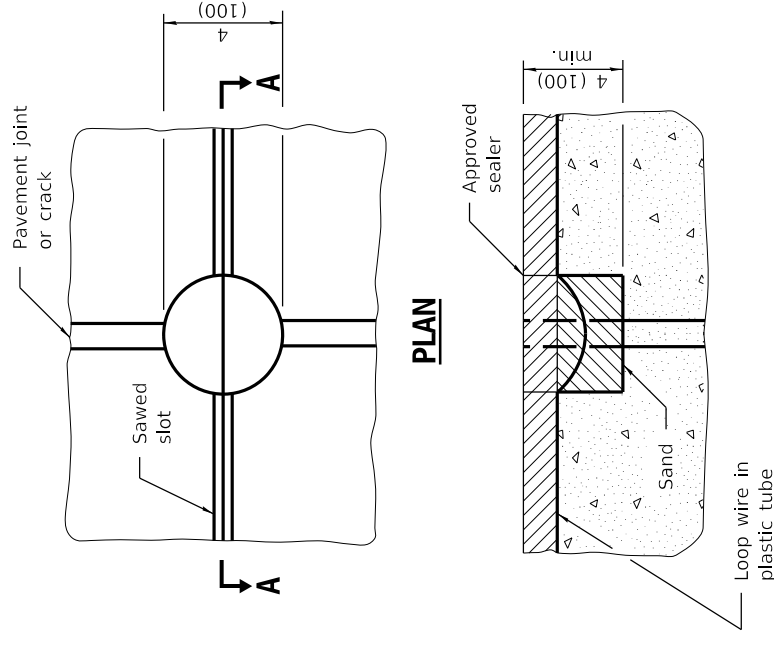
LOOP WIRE AND LEAD-IN CABLE SPLICE

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

DATE	REVISIONS
1-1-09	Switched units to English (metric)
1-1-02	Renum. Standard 846001.

DETECTOR LOOP INSTALLATIONS

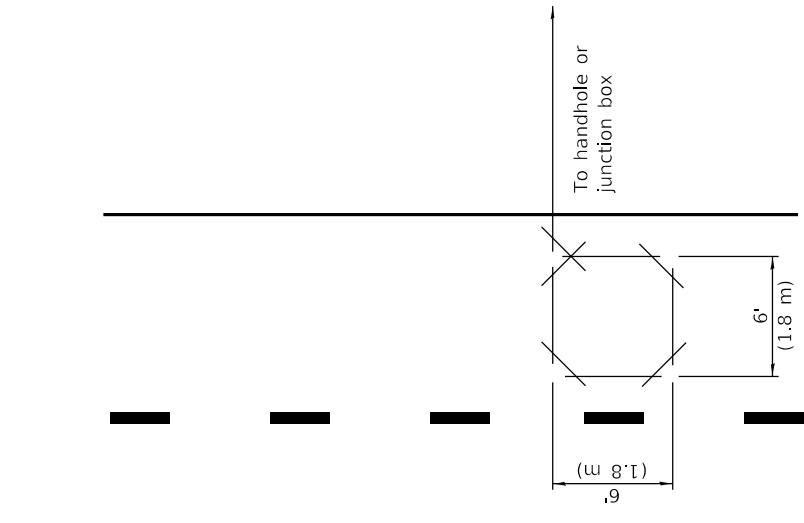
STANDARD 886001-01



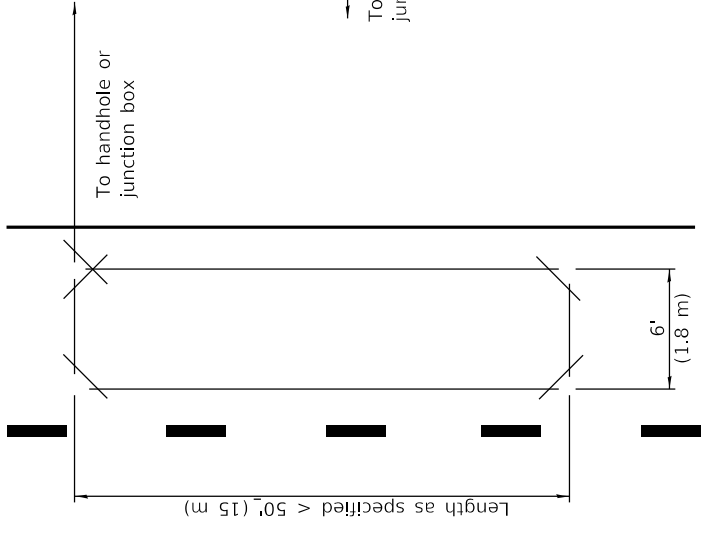
SECTION A-A

NOTE
 Loop wire shall follow saw cut to bottom, forming slack section at joint.

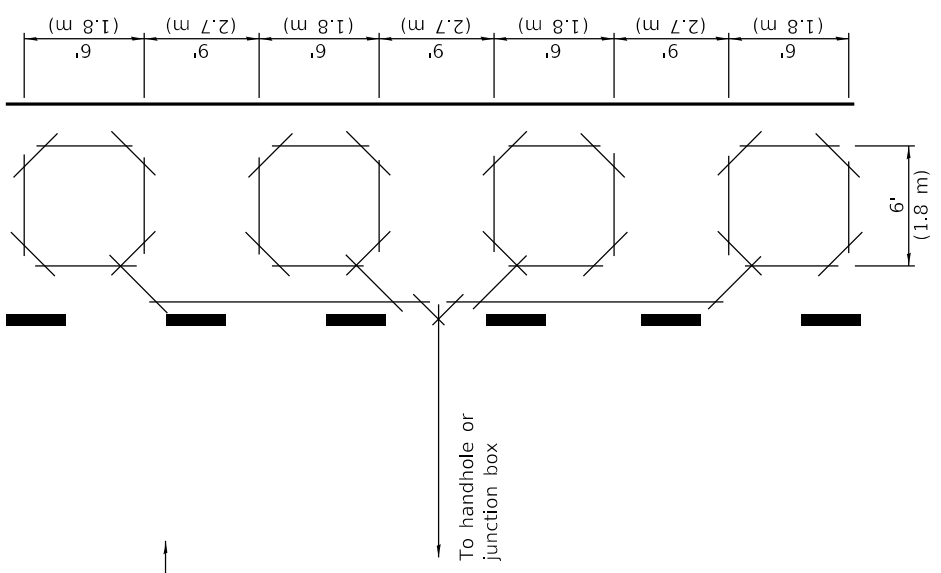
DETECTOR LOOP AT PAVEMENT JOINT OR PAVEMENT CRACK



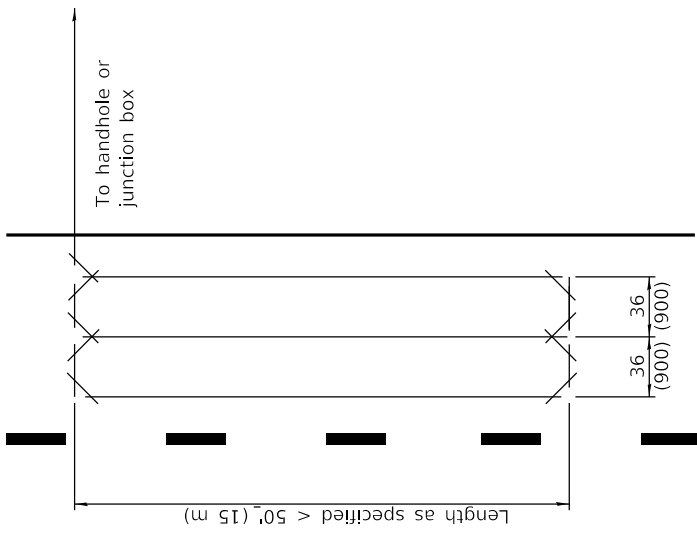
FOR POINT DETECTION
SHORT LOOP



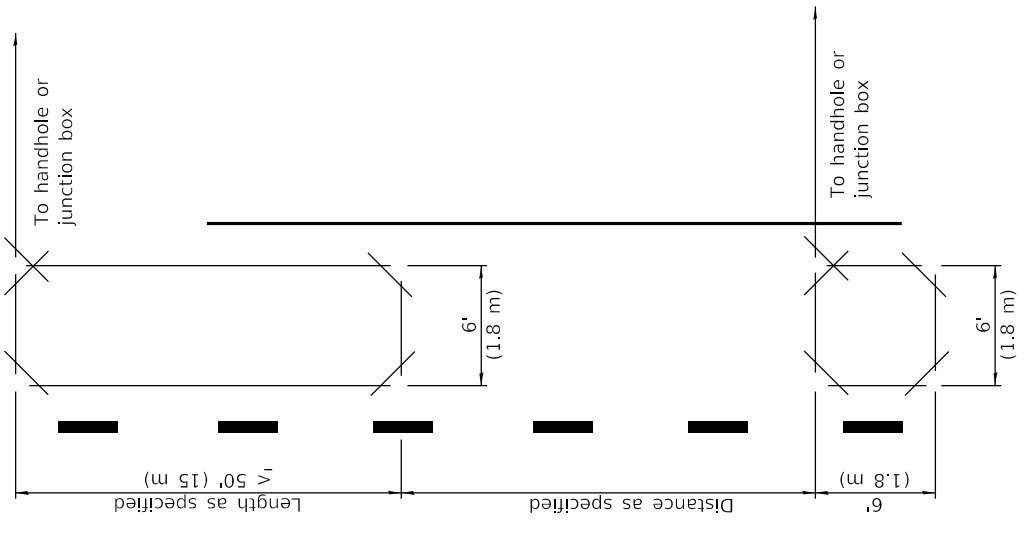
FOR PRESENCE DETECTION
LONG LOOP



FOR PRESENCE DETECTION
MULTIPLE LOOP IN SERIES

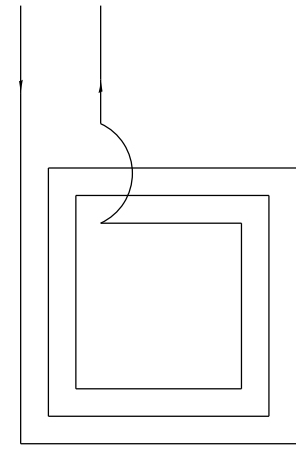


FOR PRESENCE DETECTION
QUADRUPOLE LOOP

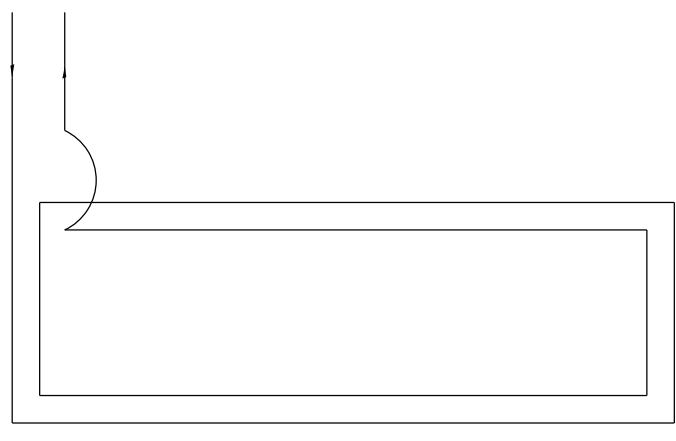


FOR EXTENDED-CALL DETECTION

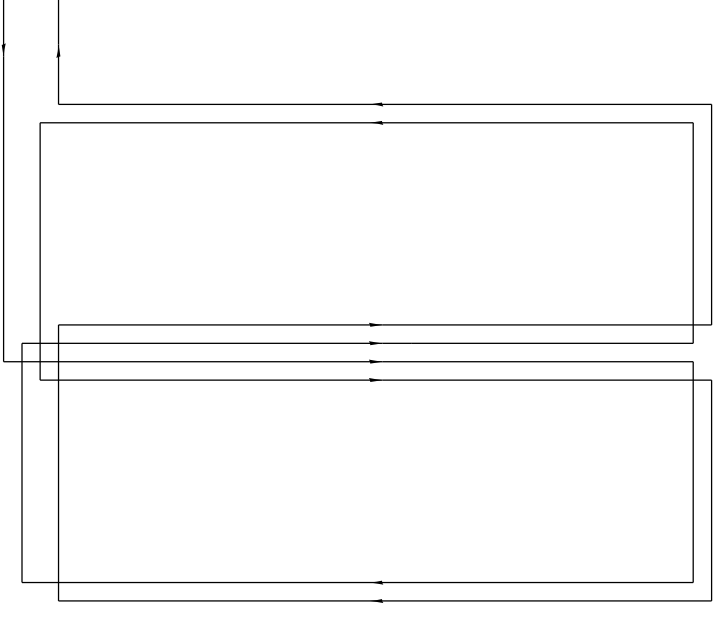
SLOT PLAN



SHORT LOOP



LONG LOOP



QUADRUPOLE LOOP

Illinois Department of Transportation

PASSED January 1, 2009

ENGINEER OF OPERATIONS

APPROVED January 1, 2009

ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-02

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

DATE	REVISIONS
1-1-09	Switched units to English (metric)
1-1-02	Renum. Standard 846006.

**TYPICAL LAYOUTS
FOR DETECTION LOOPS**

WIRING DIAGRAM

STANDARD 886006-01

TRAFFIC SIGNAL LEGEND

(NOT TO SCALE)

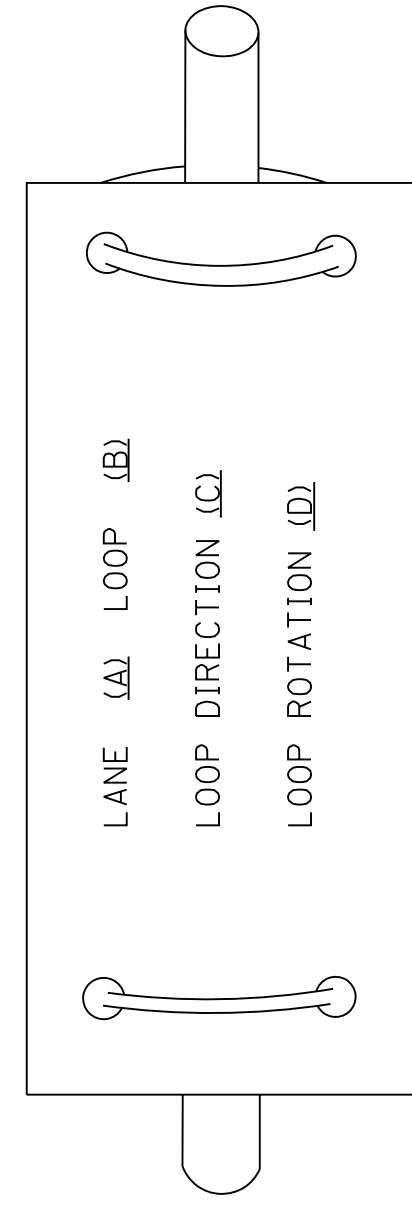
ITEM	EXISTING	PROPOSED	ITEM	EXISTING	PROPOSED
CONTROLLER CABINET			HANDHOLE -SQUARE -ROUND		
COMMUNICATION CABINET			HEAVY DUTY HANDHOLE -SQUARE -ROUND		
MASTER CONTROLLER			DOUBLE HANDHOLE		
MASTER MASTER CONTROLLER			JUNCTION BOX		
UNINTERRUPTIBLE POWER SUPPLY			RAILROAD CANTILEVER MAST ARM		
SERVICE INSTALLATION -(P) POLE MOUNTED			RAILROAD FLASHING SIGNAL		
SERVICE INSTALLATION -(G) GROUND MOUNTED -(GM) GROUND MOUNTED METERED			RAILROAD CROSSING GATE		
TELEPHONE CONNECTION			RAILROAD CROSSBUCK		
STEEL MAST ARM ASSEMBLY AND POLE			RAILROAD CONTROLLER CABINET		
ALUMINUM MAST ARM ASSEMBLY AND POLE			UNDERGROUND CONDUIT (UC), GALVANIZED STEEL		
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE			TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE		
SIGNAL POST -(BM) BARREL MOUNTED - TEMPORARY			SYSTEM ITEM	S	SP
WOOD POLE			INTERSECTION ITEM	I	IP
GUY WIRE			REMOVE ITEM		R
SIGNAL HEAD			RELOCATE ITEM		RL
SIGNAL HEAD WITH BACKPLATE			ABANDON ITEM		A
SIGNAL HEAD OPTICALLY PROGRAMMED			CONTROLLER CABINET AND FOUNDATION TO BE REMOVED		RCF
FLASHER INSTALLATION -(FS) SOLAR POWERED			MAST ARM POLE AND FOUNDATION TO BE REMOVED		RMF
PEDESTRIAN SIGNAL HEAD			SIGNAL POST AND FOUNDATION TO BE REMOVED		RPF
PEDESTRIAN PUSH BUTTON -(APS) ACCESSIBLE PEDESTRIAN PUSH BUTTON			DETECTOR LOOP, TYPE I		
RADAR DETECTION SENSOR			PERFORMED DETECTOR LOOP		
VIDEO DETECTION CAMERA			SAMPLING (SYSTEM) DETECTOR		
RADAR/VIDEO DETECTION ZONE			INTERSECTION AND SAMPLING (SYSTEM) DETECTOR		
PAN, TILT, ZOOM (PTZ) CAMERA			QUEUE AND SAMPLING (SYSTEM) DETECTOR		
EMERGENCY VEHICLE LIGHT DETECTOR			WIRELESS DETECTOR SENSOR		
CONFIRMATION BEACON			WIRELESS ACCESS POINT		
WIRELESS INTERCONNECT					
WIRELESS INTERCONNECT RADIO REPEATER					

FILE NAME = t4-05.dgn	DESIGNED - IP	REVISION -	DISTRICT ONE
	DRAWN - IP	REVISION -	STANDARD TRAFFIC SIGNAL DESIGN DETAILS
	CHECKED - LP	REVISION -	SECTION
	DATE - 9/29/2016	REVISION -	TS-05
			ILLINOIS FED. AID PROJECT
			COUNTY
			TOTAL SHEETS
			CONTRACT NO.
			TO STA.
			FROM STA.

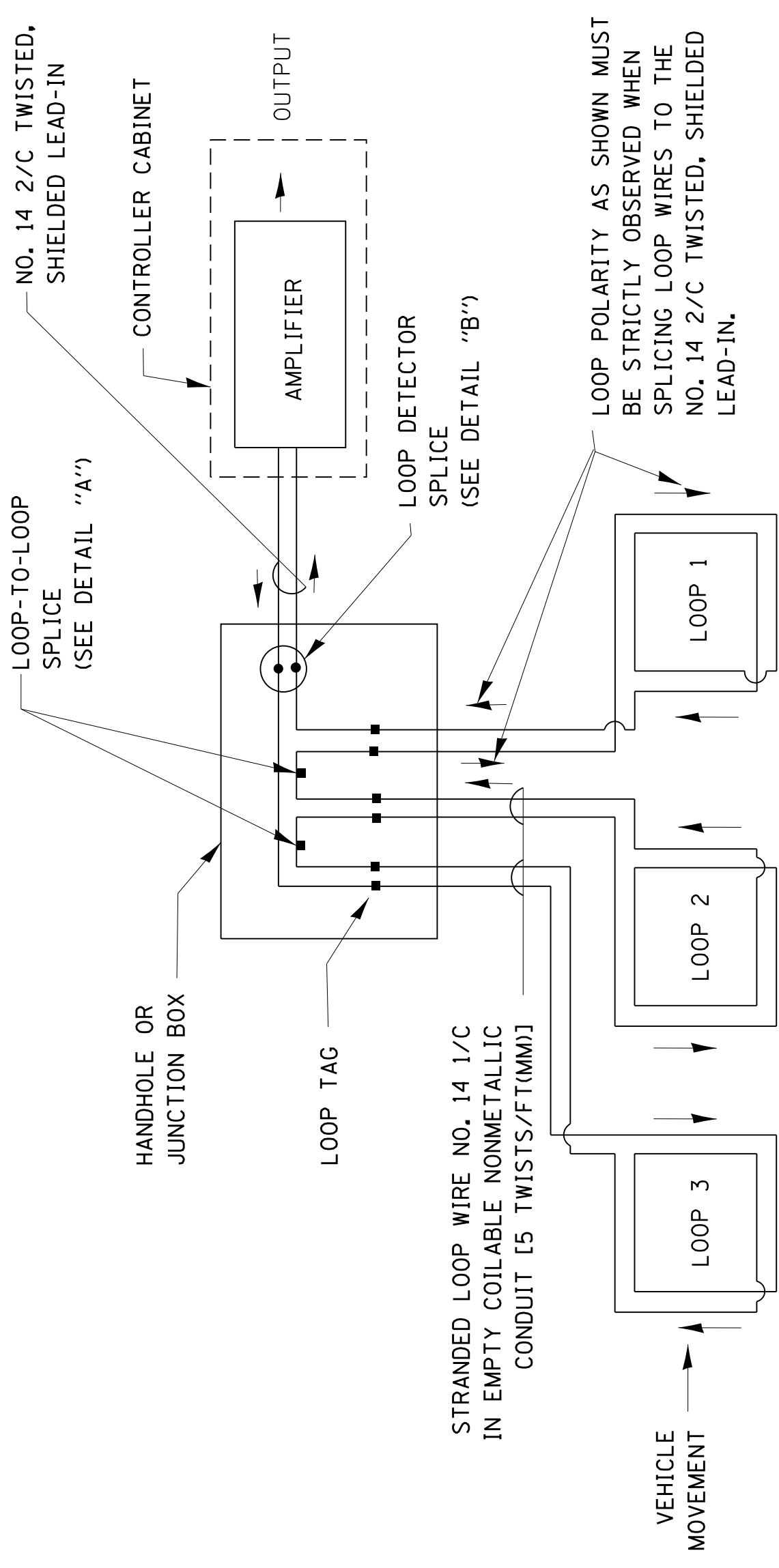
LOOP DETECTOR NOTES

- EACH PAIR OF LOOP WIRES SHALL BE PLACED IN A SEPARATE EMPTY COILABLE NONMETALLIC CONDUIT FROM THE EDGE OF PAVEMENT TO THE HANDHOLE. SPACING BETWEEN THE HOLES DRILLED IN THE PAVEMENT SHALL NOT BE LESS THAN 6" (150 mm). EMPTY COILABLE NONMETALLIC CONDUIT SHALL BE INCLUDED IN THE COST OF THE LOOP WIRE.
- THE NUMBER OF LOOP TURNS SHALL BE AS RECOMMENDED BY THE AMPLIFIER MANUFACTURER. ALL ADJACENT SIDES OF THE LOOPS SHALL BE INSTALLED IN SUCH A WAY THAT THE CURRENT FLOW IS IN THE SAME DIRECTION TO REINFORCE ITS MAGNETIC FIELDS FOR SMALL VEHICLE DETECTION.
- EACH LOOP LEAD-IN SHALL BE IDENTIFIED AND PERMANENTLY TAGGED IN THE HANDHOLE. EACH LEAD-IN CABLE TAG SHALL INDICATE THE LOCATION OF THE LOOP, LOOP ROTATION (CLOCKWISE/COUNTERCLOCKWISE), LOOP LEAD-IN DIRECTION (IN OR OUT), LOOP CABLE NUMBER AND LOCATION IN CABINET, AND NUMBER OF TURNS IN THE DETECTOR LOOPS IN WATER PROOF INK AS INDICATED ON THE DISTRICT 1 STANDARD TRAFFIC SIGNAL DESIGN DETAIL. THE CONTRACTOR SHALL MARK LOOP LOCATIONS ON RECORD DRAWINGS AND PRESENT TO THE ENGINEER AFTER FINAL INSPECTION. LOOPS SHALL BE MARKED BY LANE AND LOOP NUMBER. SEE DETAIL BELOW.
- ALL LOOP CABLE SHALL BE FASTENED WITH PLASTIC TIE WRAP TO THE HANDHOLE HOOKS.
- IN ASPHALT PAVEMENT, LOOPS SHOULD BE PLACED IN THE BINDER AND DIVESHOLES MARKED AT THE CURB WITH A SAW-CUT. THE SAW-CUT SHALL BE CUT IN ACCORDANCE WITH LOCAL AND E.P.A. DUST CONTROL REQUIREMENTS. DETECTOR LOOP(S) SHALL NOT BE INSTALLED IN WET CONDITIONS AND THE SAW-CUTS MUST BE FREE OF DEBRIS AND RESIDUE SUCH AS DUST AND WATER WHICH IS TO BE ACHIEVED BY THE USE OF COMPRESSED AIR, WIRE BRUSHING AND HEAT DRYING ACCORDING TO SEALANT MANUFACTURER REQUIREMENTS. THE DETECTOR WIRE SHALL BE HELD IN PLACE BY THE USE OF FORM WEDGES. WEDGES SHALL BE SPACED NO MORE THAN 18" (450 mm) APART.
- LOOP SPLICES SHALL BE SOLDERED USING A SOLDERING IRON. BLOW TORCHES OR OTHER DEVICES WHICH OXIDIZE COPPER CABLE SHALL NOT BE ALLOWED FOR SOLDERING OPERATIONS. SEE DETAIL BELOW RIGHT.
- PERFORMED DETECTOR LOOPS SHALL BE USED, AS SHOWN ON THE PLANS, WHERE NEW CONCRETE PAVEMENT IS PROPOSED. THE INSTALLATION OF PREFORMED LOOPS SHALL BE IN ACCORDANCE WITH THE DISTRICT 1 SPECIFICATIONS OR AS DIRECTED BY THE ENGINEER.

LOOP LEAD-IN CABLE TAG

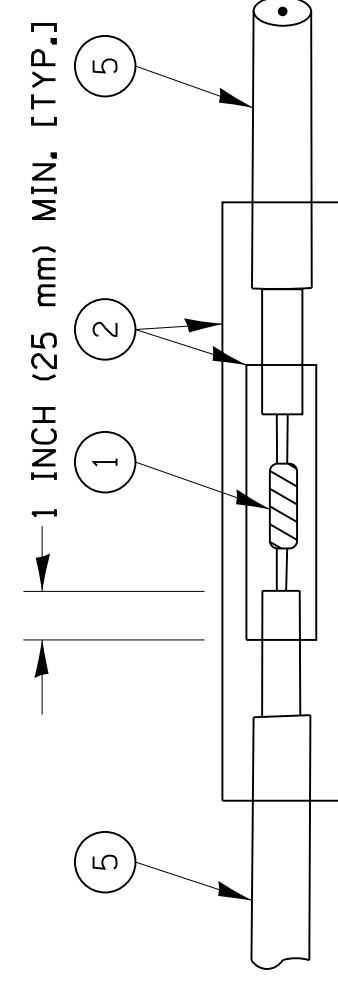


- LANE 1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY
- LOOP #1 IS THE LOOP IN THE LANE CLOSEST TO THE INTERSECTION.
- LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".
- LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.

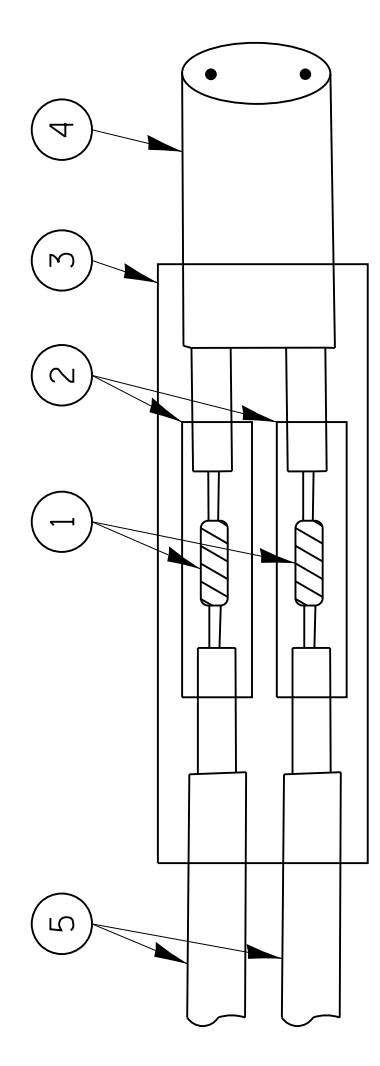


DETECTOR LOOP WIRING SCHEMATIC

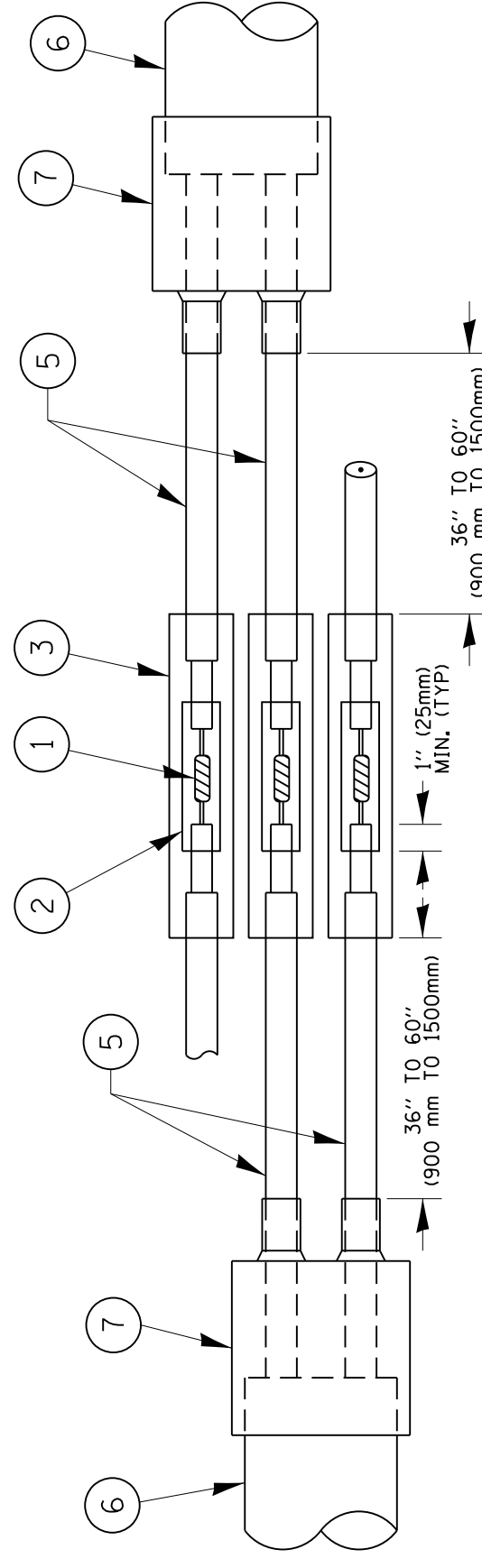
- LOOPS SHALL BE SPLICED IN SERIES.
- SAW-CUTS SHALL BE A MINIMUM WIDTH OF 5/16" (8 mm).
- SAW-CUT DEPTHS SHALL BE 3" (75 mm), IF IN CONCRETE. THE SAW-CUT DEPTH SHALL BE TO THE TOP OF THE REINFORCEMENT.
- LOOP CORNERS SHALL BE DRILLED WITH A 2" (50 mm) DIAMETER CORE.



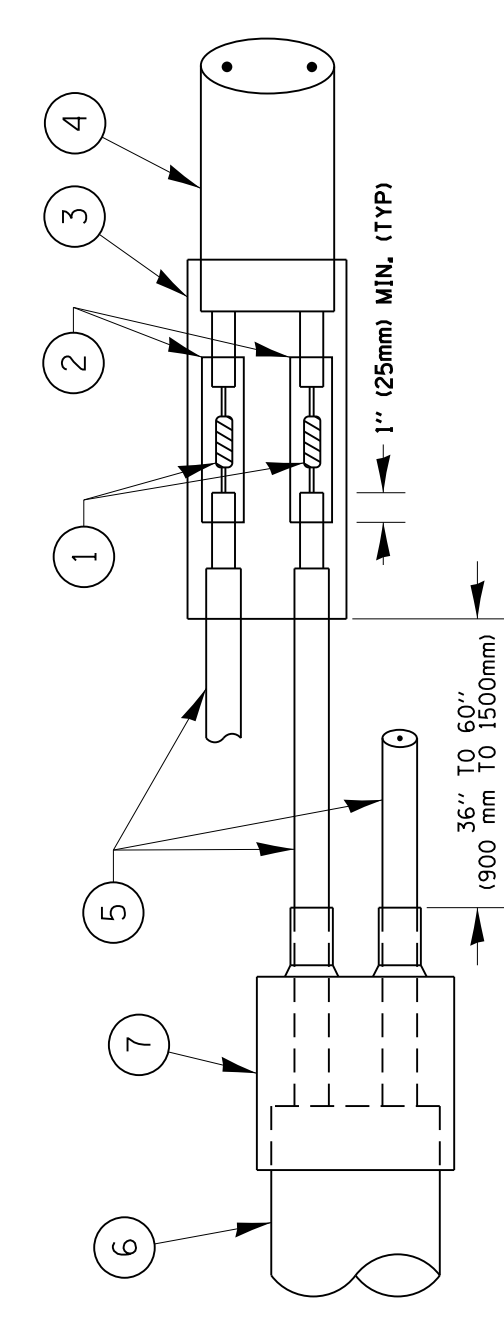
DETAIL "A"
LOOP-TO-LOOP SPLICE



DETAIL "B"
LOOP-TO-CONTROLLER SPLICE



DETAIL "A"
LOOP-TO-LOOP SPLICE



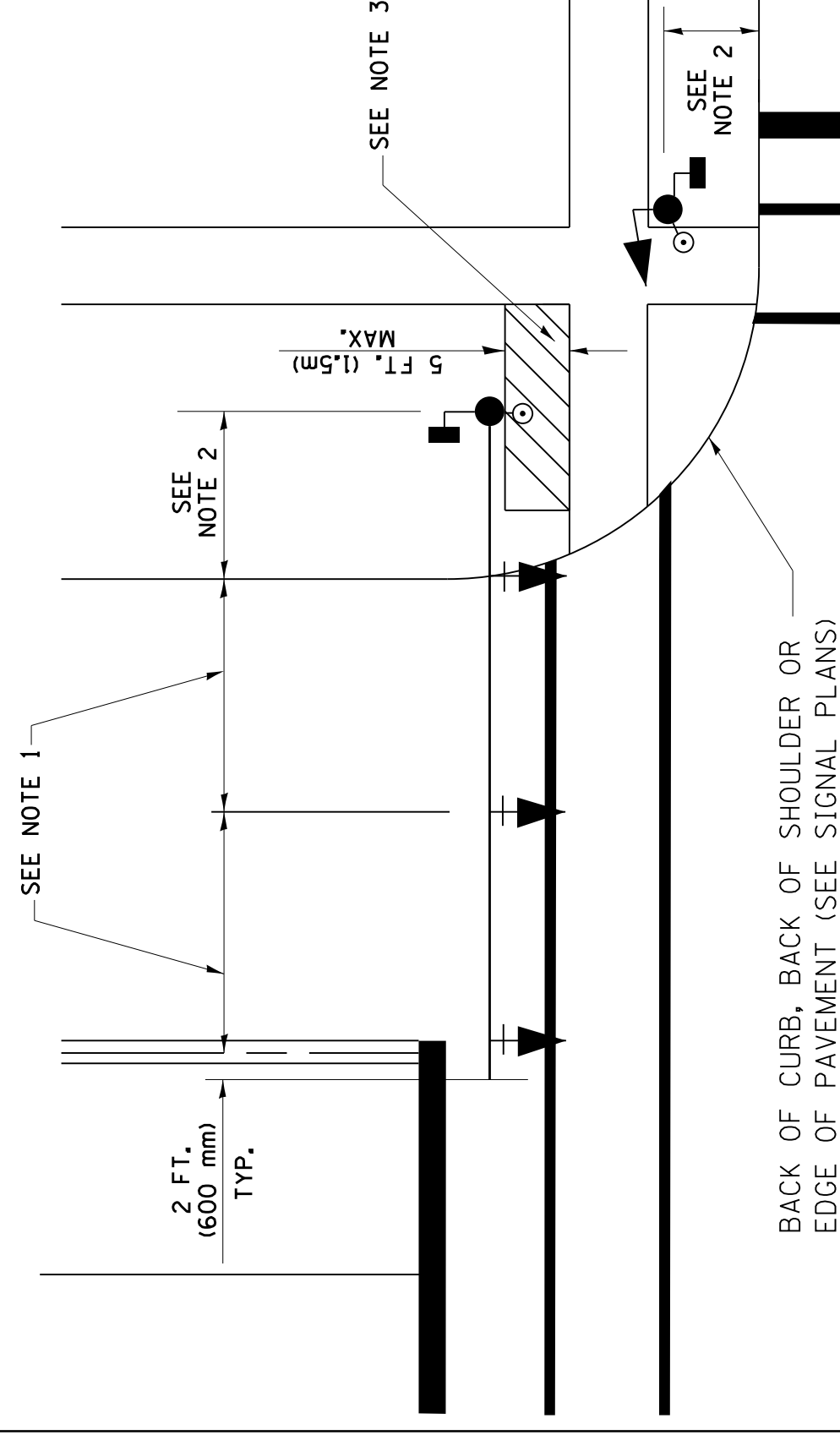
DETAIL "B"
LOOP-TO-CONTROLLER SPLICE

LOOP DETECTOR SPLICE

- WESTERN UNION SPLICE SOLDERED WITH ROSIN CORE FLUX. ALL EXPOSED SURFACES OF THE SOLDER SHALL BE SMOOTH. THE WESTERN UNION SPLICES SHALL BE STAGGERED.
- WCSMW 30/100 HEAT SHRINK TUBE, MINIMUM LENGTH 3" (75 mm), UNDERWATER GRADE.
- WCS 200/750 HEAT SHRINK TUBE, MINIMUM LENGTH 6" (150 mm), UNDERWATER GRADE.
- NO. 14 2/C TWISTED, SHIELDED CABLE.
- LOOP CONDUCTOR WITH FLEXIBLE PLASTIC TUBE.
- PRE-FORMED LOOP
- XL POLYOLEFIN 2 CONDUCTOR
- BREAKOUT SEALS. TYCO CBR-2 OR APPROVED EQUAL

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		DISTRICT ONE				STANDARD TRAFFIC SIGNAL DESIGN DETAILS		CONTRACT NO.	
		STATE OF ILLINOIS				DEPARTMENT OF TRANSPORTATION		ILLINOIS FED. AID PROJECT	
		SECTION				COUNTY		TOTAL SHEETS	
		TS-05				TO STA.		CONTRACT NO.	

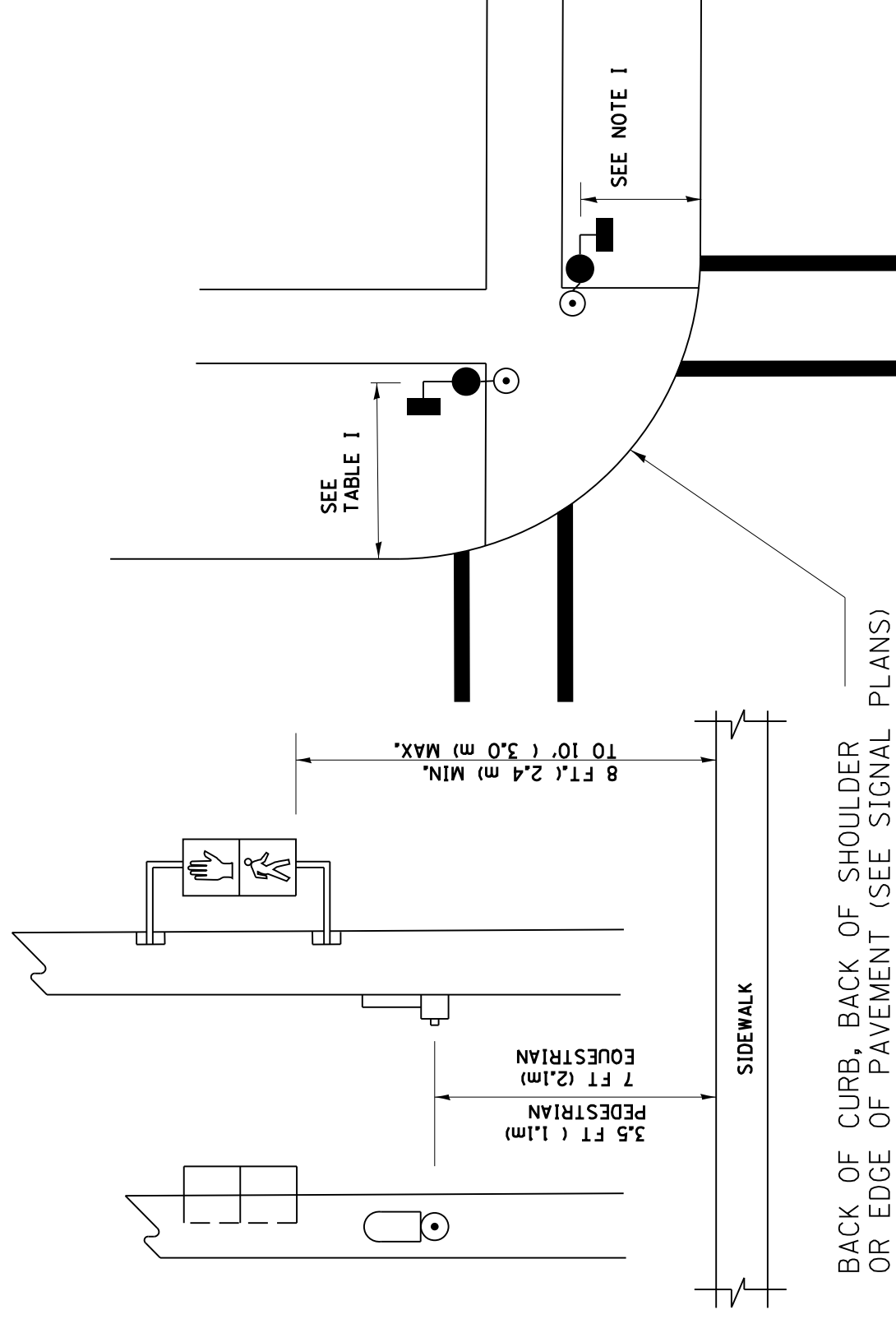
**TRAFFIC SIGNAL MAST ARM AND SIGNAL POST
MAST ARM MOUNTED SIGNALS IN EXISTING, PROPOSED OR
FUTURE SIDEWALK/BICYCLE PATH AREA, INTERSECTION SHOWN
WITH PEDESTRIAN SIGNALS AND PEDESTRIAN PUSHBUTTON DETECTORS.**



NOTES:

1. THE SIGNAL HEAD SPACING IS EQUAL TO THE LANE WIDTH OR AS SHOWN ON THE TRAFFIC SIGNAL PLAN.
2. REFER TO THE TRAFFIC SIGNAL EQUIPMENT OFFSET TABLE.
3. PROVIDE A LEVEL ALL-WEATHER SURFACE (CONCRETE SIDEWALK, ASPHALT BICYCLE PATH SURFACE OR MATCHING MATERIAL TO THE ADJACENT SURFACE) UP TO THE MAST ARM SHAFT OR THE SIGNAL POST.
4. THE FACE OF THE PEDESTRIAN PUSHBUTTON SHALL BE PARALLEL TO THE CROSSWALK TO BE USED.
5. THE LOCATIONS AND INSTALLATION OF PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS SHALL MEET THE REQUIREMENTS OF THE MUTCD AND INFORMATION FOUND IN THE "AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES."

**PEDESTRIAN SIGNAL POST
AND
PEDESTRIAN PUSH BUTTON POST**

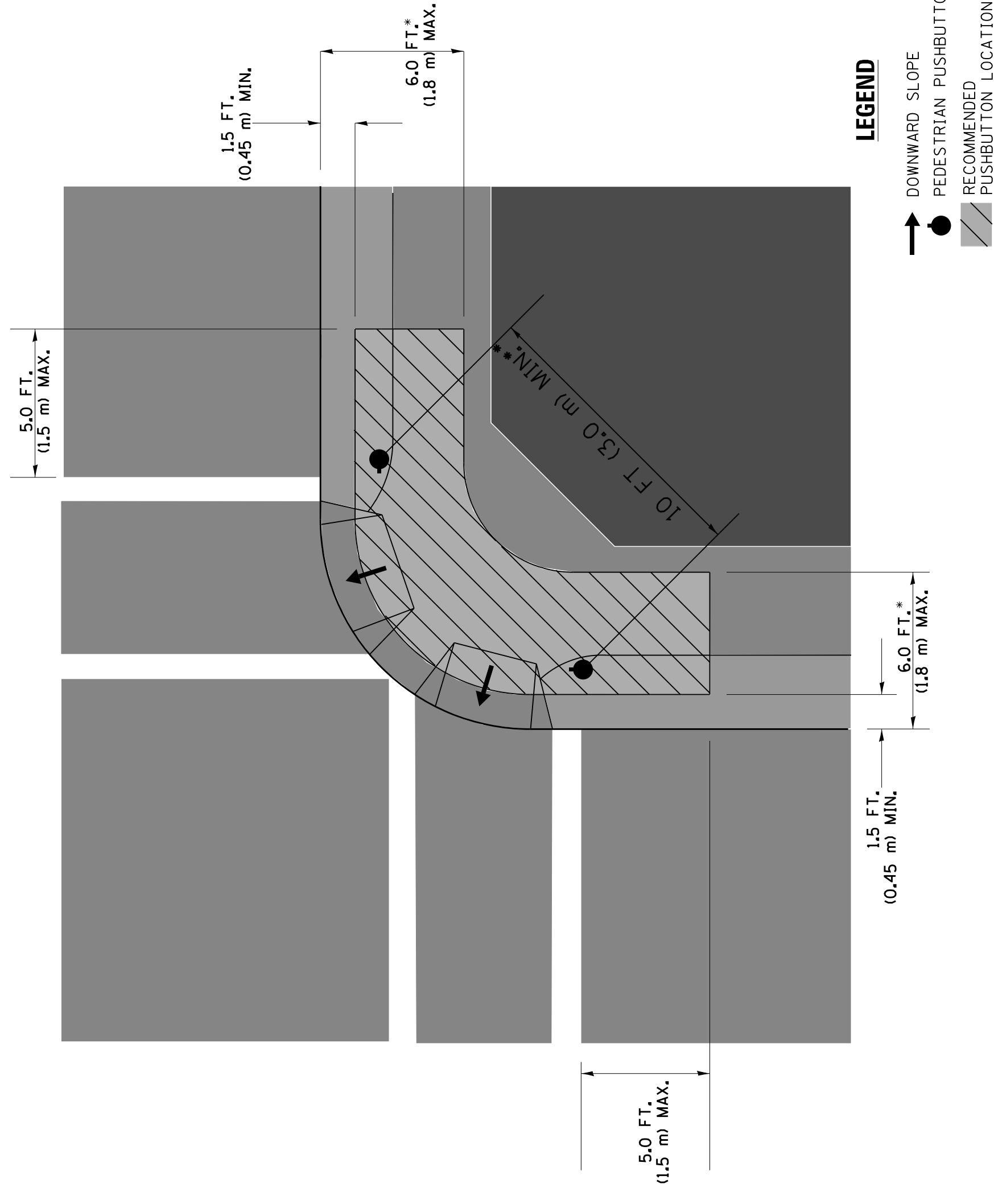


BACK OF CURB, BACK OF SHOULDER OR EDGE OF PAVEMENT (SEE SIGNAL PLANS)

NOTES:

1. REFER TO THE TRAFFIC SIGNAL EQUIPMENT OFFSET TABLE.
2. PROVIDE A LEVEL ALL-WEATHER SURFACE (CONCRETE SIDEWALK, ASPHALT BICYCLE PATH SURFACE OR MATCHING MATERIAL TO THE ADJACENT SURFACE) UP TO THE PEDESTRIAN SIGNAL POST OR THE PEDESTRIAN PUSH BUTTON POST.
3. THE FACE OF THE PEDESTRIAN PUSHBUTTON SHALL BE PARALLEL TO THE CROSSWALK TO BE USED.
4. THE LOCATIONS AND INSTALLATION OF PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS SHALL MEET THE REQUIREMENTS OF THE MUTCD AND INFORMATION FOUND IN THE "AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES."

RECOMMENDED PUSHBUTTON LOCATIONS



LEGEND

- DOWNWARD SLOPE
- PEDESTRIAN PUSHBUTTON
- RECOMMENDED PUSHBUTTON LOCATIONS

- WHERE THERE ARE CONSTRAINTS THAT MAKE IT IMPRACTICAL TO PLACE THE PEDESTRIAN PUSHBUTTON BETWEEN 1.5 FT (0.45 m) AND 6 FT (1.8 m) FROM THE EDGE OF THE CURB, SHOULDER, OR PAVEMENT, IT SHOULD NOT BE FURTHER THAN 10 FT (3 m) FROM THE EDGE OF CURB, SHOULDER, OR PAVEMENT.
- WHERE THERE ARE CONSTRAINTS ON A PARTICULAR CORNER THAT MAKE IT IMPRACTICAL TO PROVIDE THE 10 FT (3 m) SEPERATION BETWEEN THE TWO PEDESTRIAN PUSHBUTTONS, THE PUSHBUTTONS MAY BE PLACED CLOSER TOGETHER OR ON THE SAME POLE.

NOTES:

1. PEDESTRIAN SIGNAL HEADS SHALL BE MOUNTED WITH THE BOTTOM OF THE SIGNAL HOUSING INCLUDING BRACKETS NOT LESS THAN 8 FT (2.4 m) OR MORE THAN 10 FT (3 m) ABOVE SIDEWALK LEVEL, AND SHALL BE POSITIONED AND ADJUSTED TO PROVIDE MAXIMUM VISIBILITY AT THE BEGINNING OF THE CONTROLLED CROSSWALK.
2. THE BOTTOM OF THE SIGNAL HOUSING (INCLUDING BRACKETS) OF A VEHICULAR SIGNAL FACE THAT IS NOT LOCATED OVER A HIGHWAY SHALL BE AT LEAST 8 FT (2.4 m) BUT NOT MORE THAN 19 FT (5.8 m) ABOVE THE SIDEWALK OR, IF THERE IS NO SIDEWALK, ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE ROADWAY.
3. THE BOTTOM OF THE SIGNAL HOUSING AND ANY RELATED ATTACHMENTS TO A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL BE ACCORDING TO CURRENT STATE STANDARDS 877001, 877002, 877006, 877011 AND 877012 WITH A MINIMUM OF 16 FT (5.0 m) AND A MAXIMUM OF 18 FT (5.5 m) FROM THE HIGHEST POINT OF PAVEMENT.
4. THE BOTTOM OF THE TEMPORARY SPAN WIRE MOUNTED SIGNAL HOUSING AND ANY RELATED ATTACHMENTS TO A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL BE ACCORDING TO CURRENT STATE STANDARD 880001 WITH A MINIMUM OF 17 FT (5.18 m) FROM THE HIGHEST POINT OF PAVEMENT.
5. THE TOP OF THE SIGNAL HOUSING OF A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL NOT BE MORE THAN 25.6 FT (7.8 m) ABOVE THE PAVEMENT.

TRAFFIC SIGNAL EQUIPMENT OFFSET

TRAFFIC SIGNAL EQUIPMENT	COMBINATION CONCRETE CURB AND GUTTER (MINIMUM DISTANCE FROM BACK OF CURB TO CENTERLINE OF FOUNDATION)	SHOULDER/NON-CURBED AREA (MINIMUM DISTANCE FROM EDGE OF PAVEMENT TO CENTERLINE OF FOUNDATION)
TRAFFIC SIGNAL MAST ARM POLE	6 FT (1.8m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
TRAFFIC SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
PEDESTRIAN SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
PEDESTRIAN PUSHBUTTON POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
TEMPORARY WOOD POLE	6 FT (1.8m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
CONTROLLER CABINET	6 FT (1.8m) MINIMUM DISTANCE SEE NOTE 2	SHOULDER WIDTH + 6 FT (1.8m), MINIMUM 16 FT (4.9m) SEE NOTE 3.
SERVICE INSTALLATION, GROUND MOUNT	6 FT (1.8m) MINIMUM DISTANCE SEE NOTE 2	SHOULDER WIDTH + 6 FT (1.8m), MINIMUM 16 FT (4.9m) SEE NOTE 3.

NOTES:

1. CONTACT THE "AREA TRAFFIC SIGNAL MAINTENANCE AND OPERATIONS ENGINEER" FOR ASSISTANCE IN LOCATING THE TRAFFIC SIGNAL EQUIPMENT WHEN THERE ARE CONFLICTS WITH DITCHES OR THE MINIMUM OFFSET DISTANCES CANNOT BE MET.
2. MINIMUM DISTANCE FROM THE BACK OF CURB TO THE ROADWAY SIDE OF THE FOUNDATION.
3. MINIMUM DISTANCE FROM THE EDGE OF PAVEMENT TO THE ROADWAY SIDE OF THE FOUNDATION.
4. ANY CHANGES TO THE OFFSETS OF THE FOUNDATIONS, FROM THE MINIMUM DISTANCES LISTED IN THE "TRAFFIC SIGNAL EQUIPMENT OFFSET" CHART AND THE TRAFFIC SIGNAL INSTALLATION PLAN, COULD EFFECT THE PLACEMENT OF THE SIGNAL HEADS, PEDESTRIAN SIGNAL HEADS AND THE PEDESTRIAN PUSHBUTTONS. THE SIGNAL HEAD PLACEMENT ON THE MAST ARMS SHALL REMAIN AS PER THE TRAFFIC SIGNAL INSTALLATION PLAN AND THE "TRAFFIC SIGNAL MAST ARM AND SIGNAL POST" DETAIL ABOVE. THE PROPOSED MAST ARM LENGTHS MAY NEED TO BE REVISED TO MEET THE ABOVE REQUIREMENTS. THE PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS MUST MEET THE REQUIREMENTS UNDER THE DETAILS ON THIS SHEET.

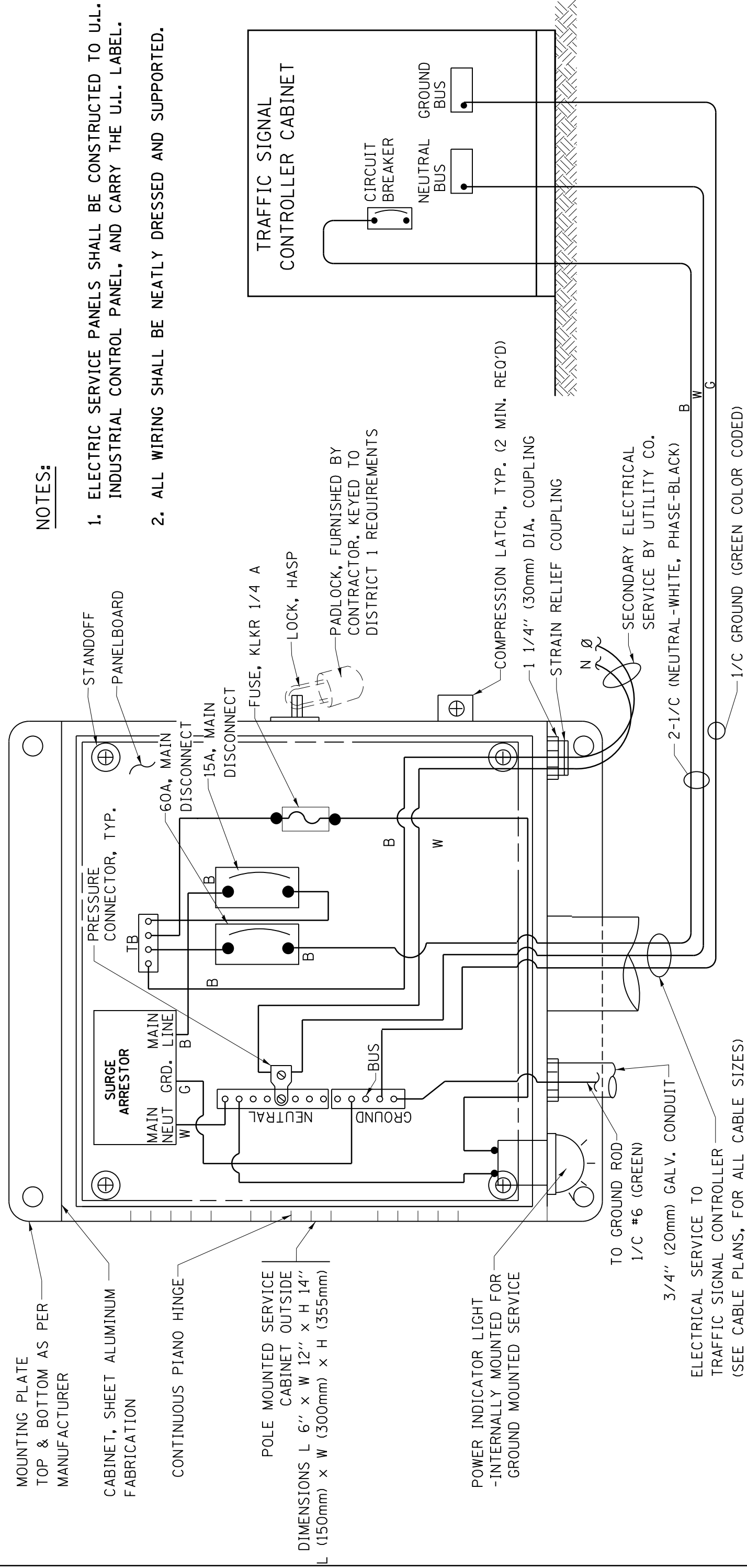
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STATE OF ILLINOIS		DISTRICT ONE	
DEPARTMENT OF TRANSPORTATION		STANDARD TRAFFIC SIGNAL DESIGN DETAILS	
SCALE: NONE	SHEET NO. 3 OF 7	SHEETS	TO STA.

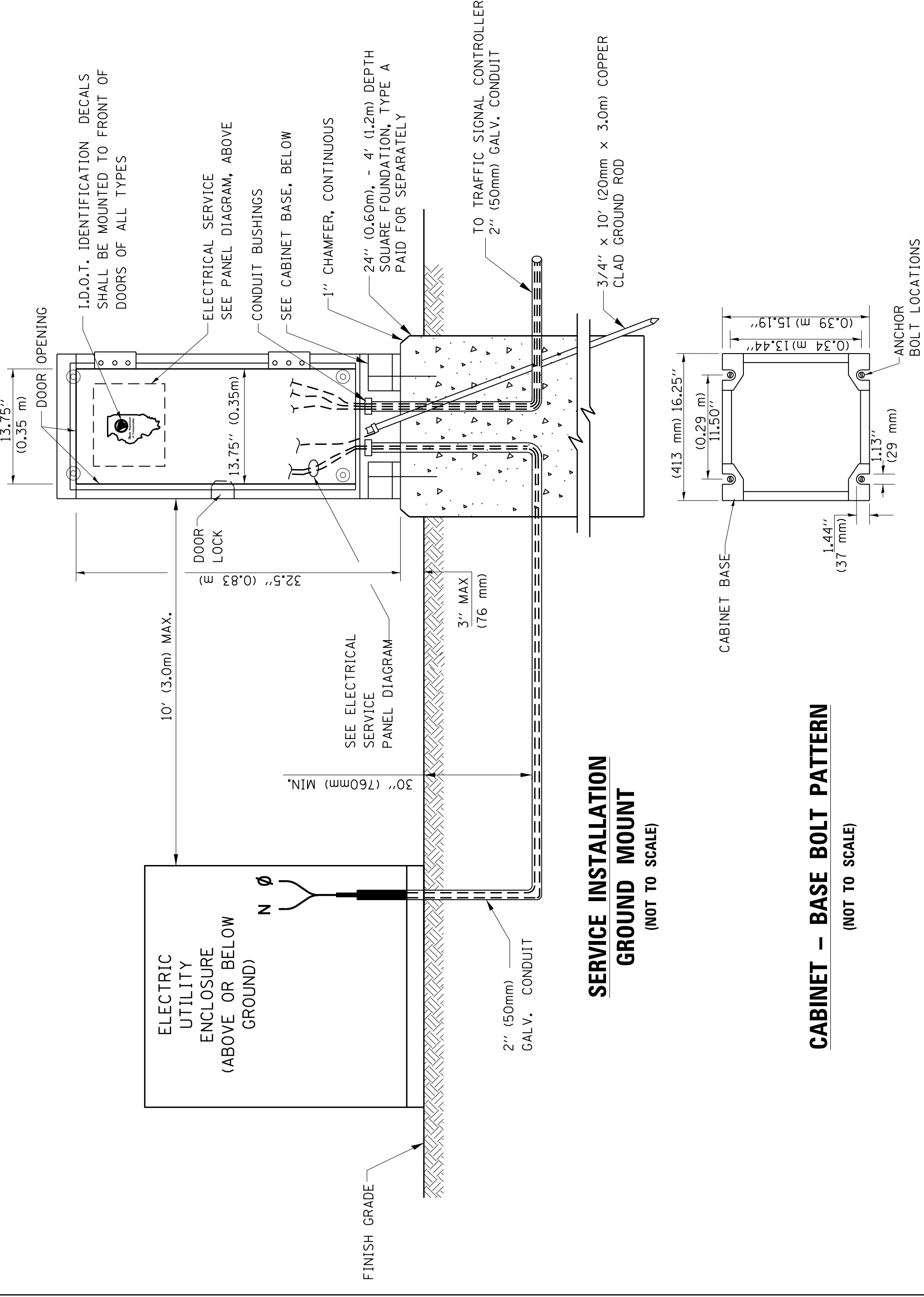
E.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FED. ROAD DIST. NO. 1 ILLINOIS			CONTRACT NO.	
			TS-05	

NOTES:

1. ELECTRIC SERVICE PANELS SHALL BE CONSTRUCTED TO U.L. STD 508, INDUSTRIAL CONTROL PANEL, AND CARRY THE U.L. LABEL.
2. ALL WIRING SHALL BE NEATLY DRESSED AND SUPPORTED.



ELECTRIC SERVICE - PANEL DIAGRAM (TYPICAL FOR POLE AND GROUND MOUNTED SERVICE)
SERVICE INSTALLATION POLE MOUNT (SHOWN)
(NOT TO SCALE)

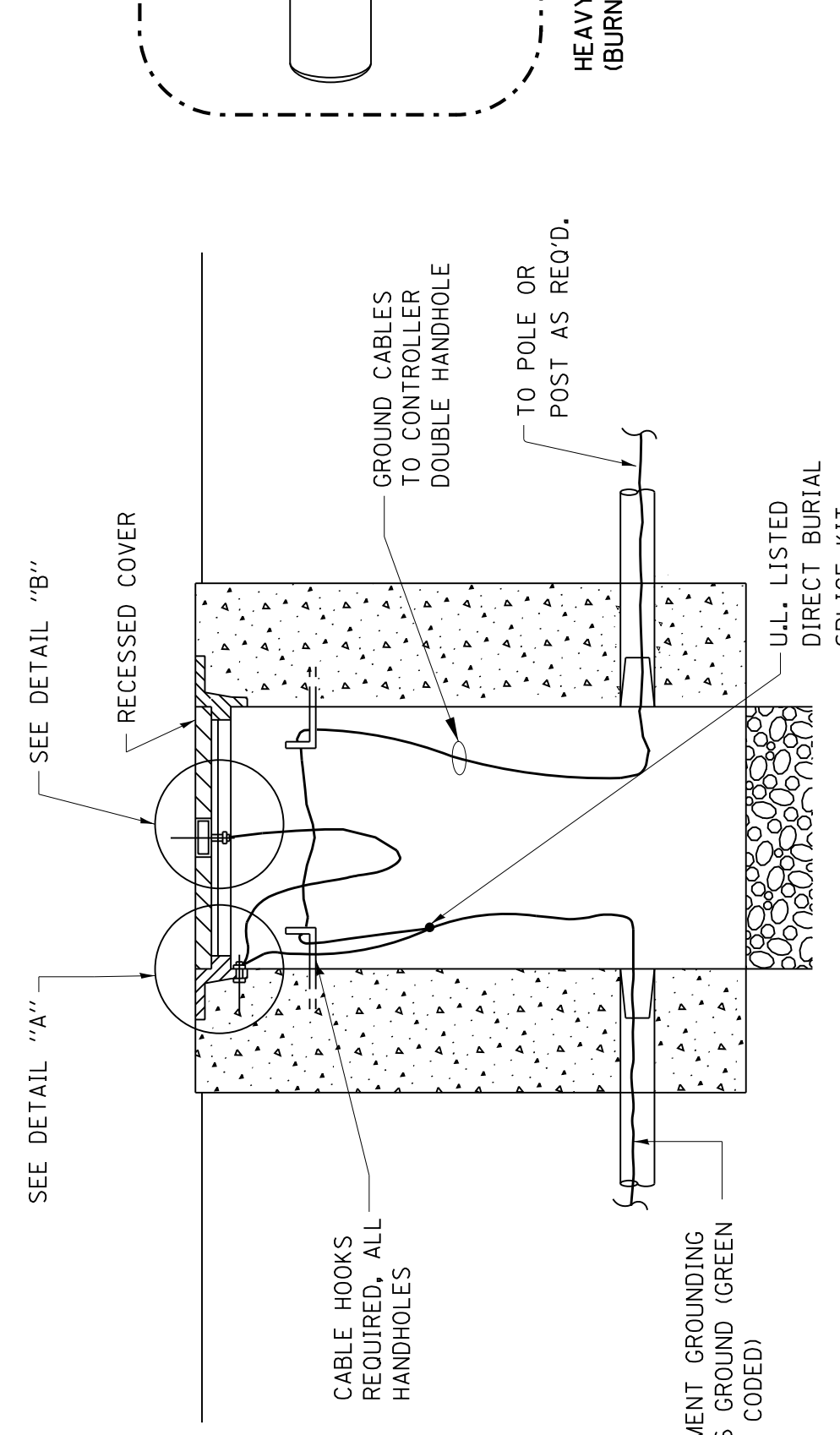
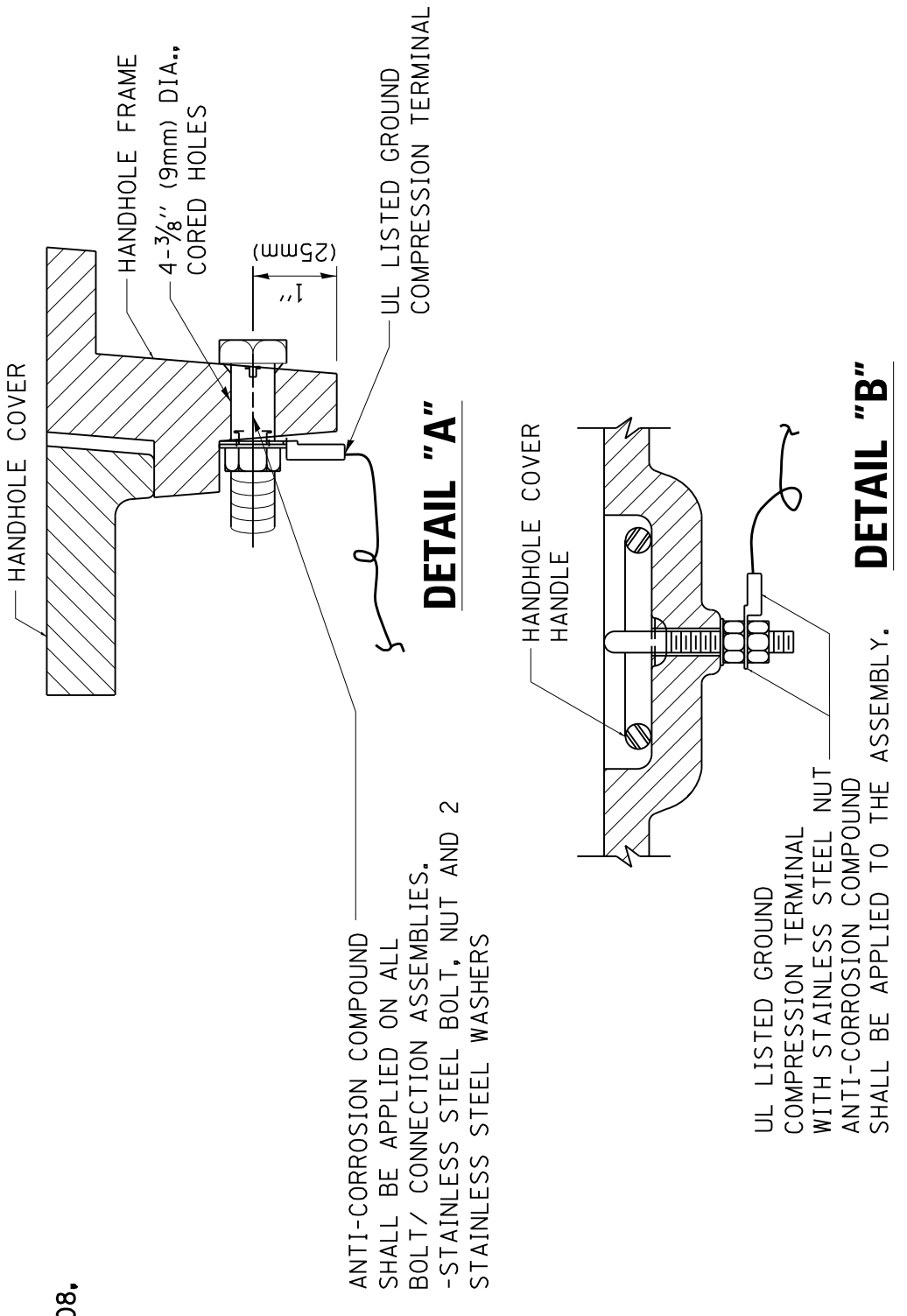


CABINET - BASE BOLT PATTERN
(NOT TO SCALE)

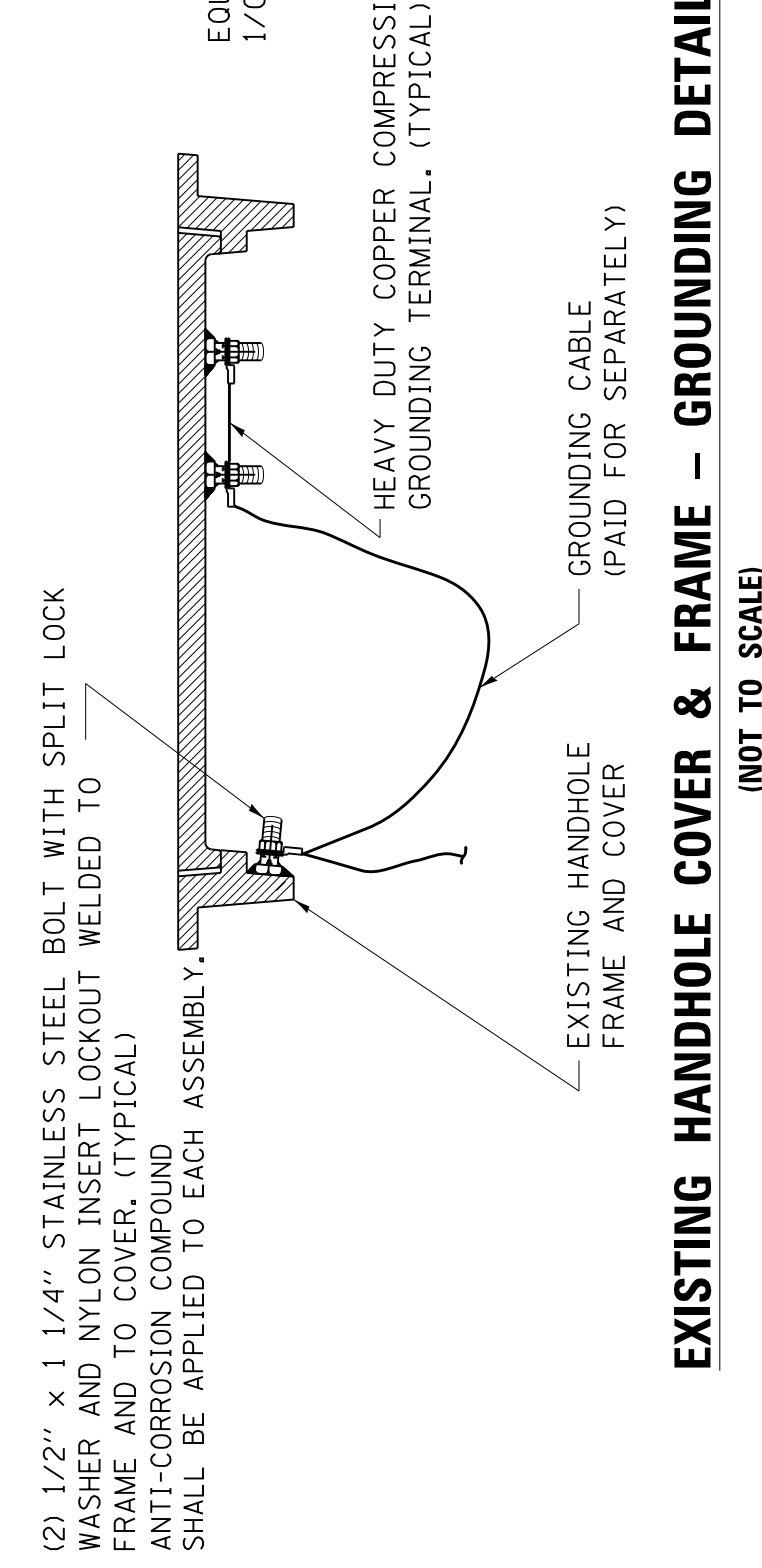
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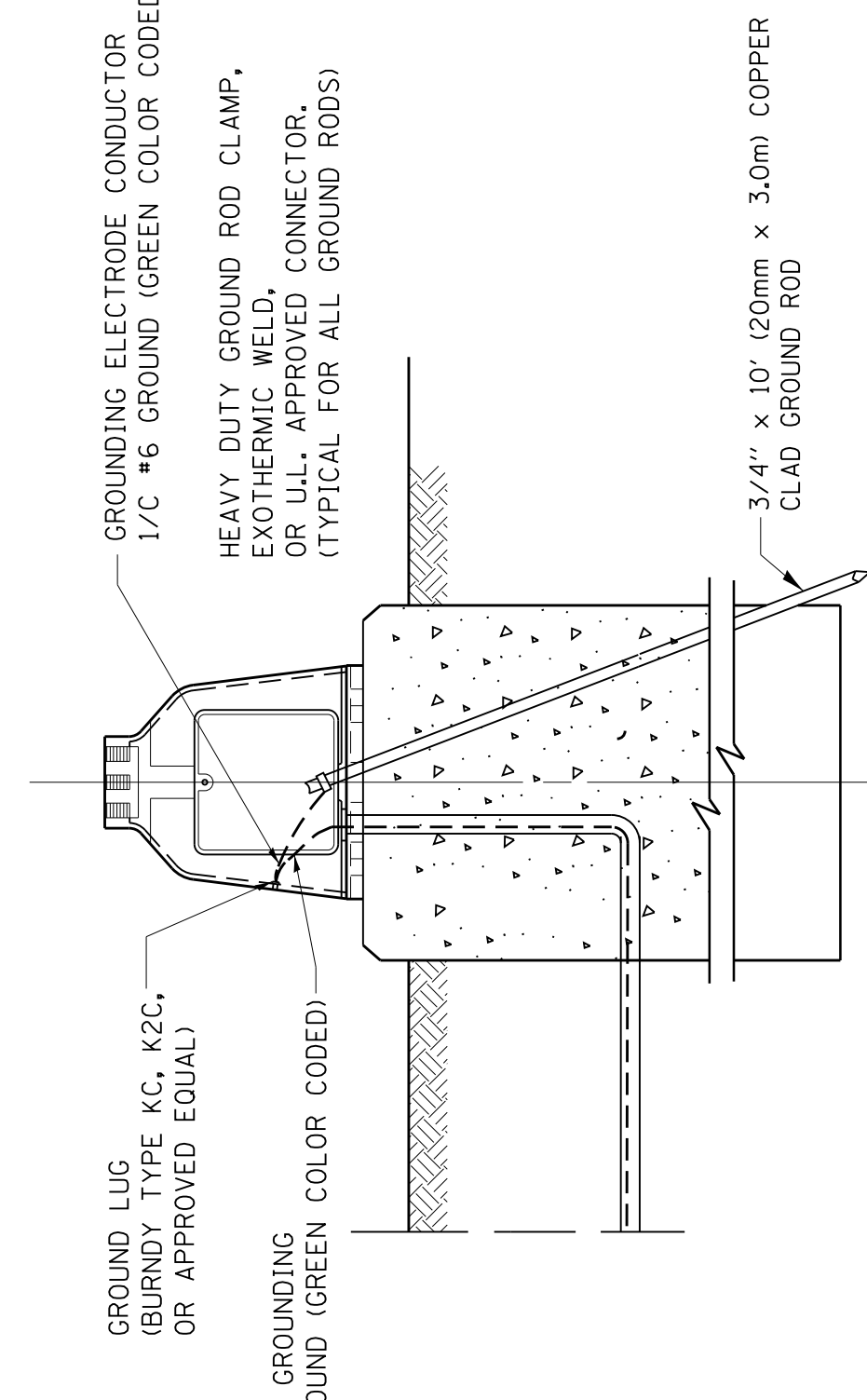
- GROUNDING SYSTEM**
1. THE GROUNDING SYSTEM SHALL CONSIST OF AN INSULATED CONDUCTOR TYPE XLP, NO. 6 A.W.G., STRANDED COPPER TO BE INSTALLED IN RACEWAYS. THE GROUNDING CABLE SHALL BE INSTALLED IN A CONTINUOUS MANNER AS SHOWN ON THE CABLE PLAN PROVIDED. ALL GROUNDING CONDUCTORS SHALL BE BONDED TO METAL ENCLOSURE (HANDHOLE, POST, MAST ARM, CONTROLLER, ETC.). GROUND ROD SHALL BE 3/4" DIA. x 10'-0" (20mm x 3.0m) LONG, COPPER CLAD, ONE GROUND ROD SHALL BE INSTALLED AT ALL POST FOUNDATIONS, POLE FOUNDATIONS, CONTROLLER CABINET FOUNDATION AND ELECTRICAL SERVICE INSTALLATION AS INDICATED ON THE CABLE PLAN. IF THERE ARE ANY SPECIAL CONDITIONS SUCH AS SUB-SURFACE CONDITIONS OR INSTALLATION PROBLEMS, THE RESIDENT ENGINEER SHALL BE NOTIFIED OR CONTACT THE BUREAU OF TRAFFIC, ILLINOIS DEPARTMENT OF TRANSPORTATION DISTRICT ONE AT (847) 705-4139.
 2. THE NEUTRAL CONDUCTOR AND THE GROUND CONDUCTOR SHALL BE CONNECTED IN THE SERVICE INSTALLATION. AT NO OTHER POINT IN THE TRAFFIC SIGNAL SYSTEM SHALL THE NEUTRAL AND GROUND CONDUCTORS BE CONNECTED.
 3. ALL EQUIPMENT GROUNDING CONDUCTORS SHALL TERMINATE AT THE GROUND BUS IN THE CONTROLLER CABINET.
 4. THE CONTRACTOR SHALL PROVIDE A GROUND CABLE WITH CONNECTORS BETWEEN THE HANDHOLE COVER AND HANDHOLE FRAME.



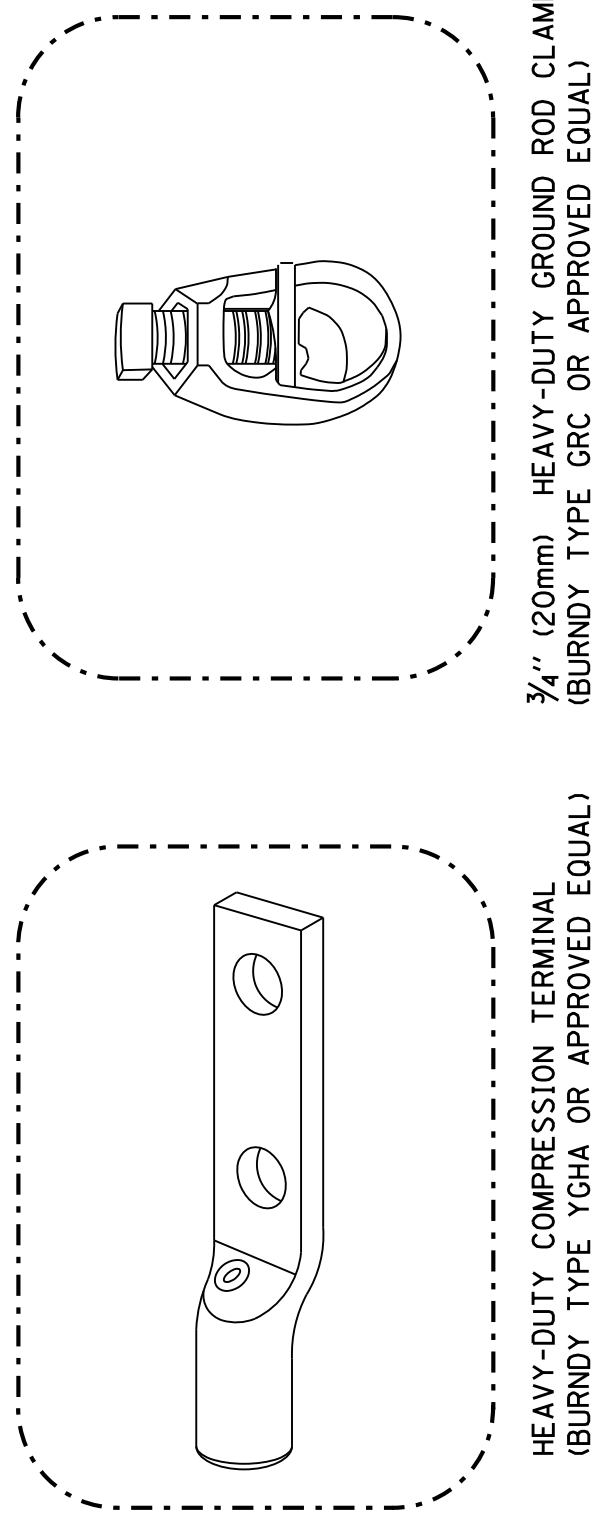
HANDHOLE COVER & FRAME - GROUNDING DETAIL
(NOT TO SCALE)



EXISTING HANDHOLE COVER & FRAME - GROUNDING DETAIL
(NOT TO SCALE)



MAST ARM POLE / POST-GROUNDING DETAIL
(NOT TO SCALE)

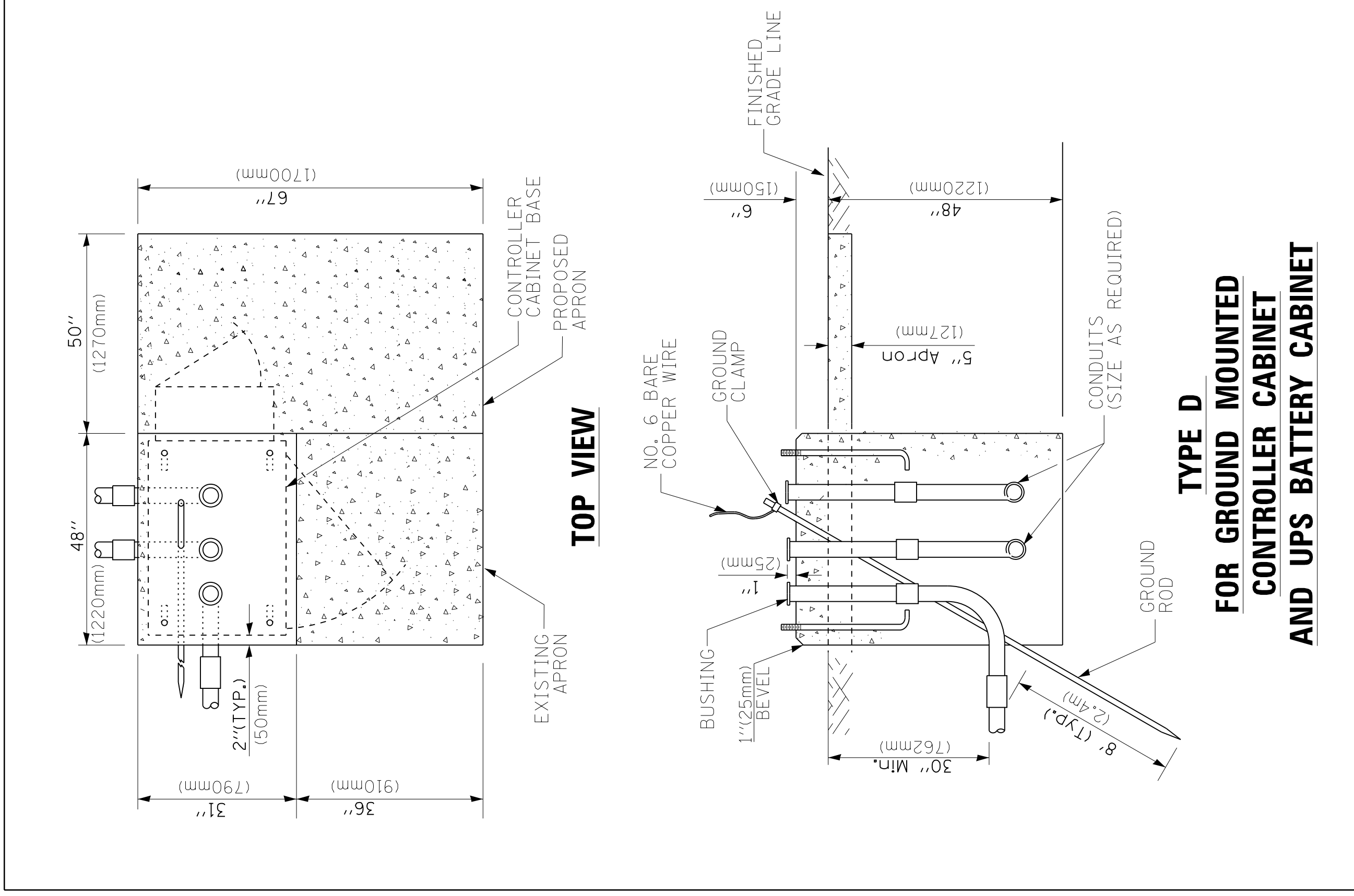


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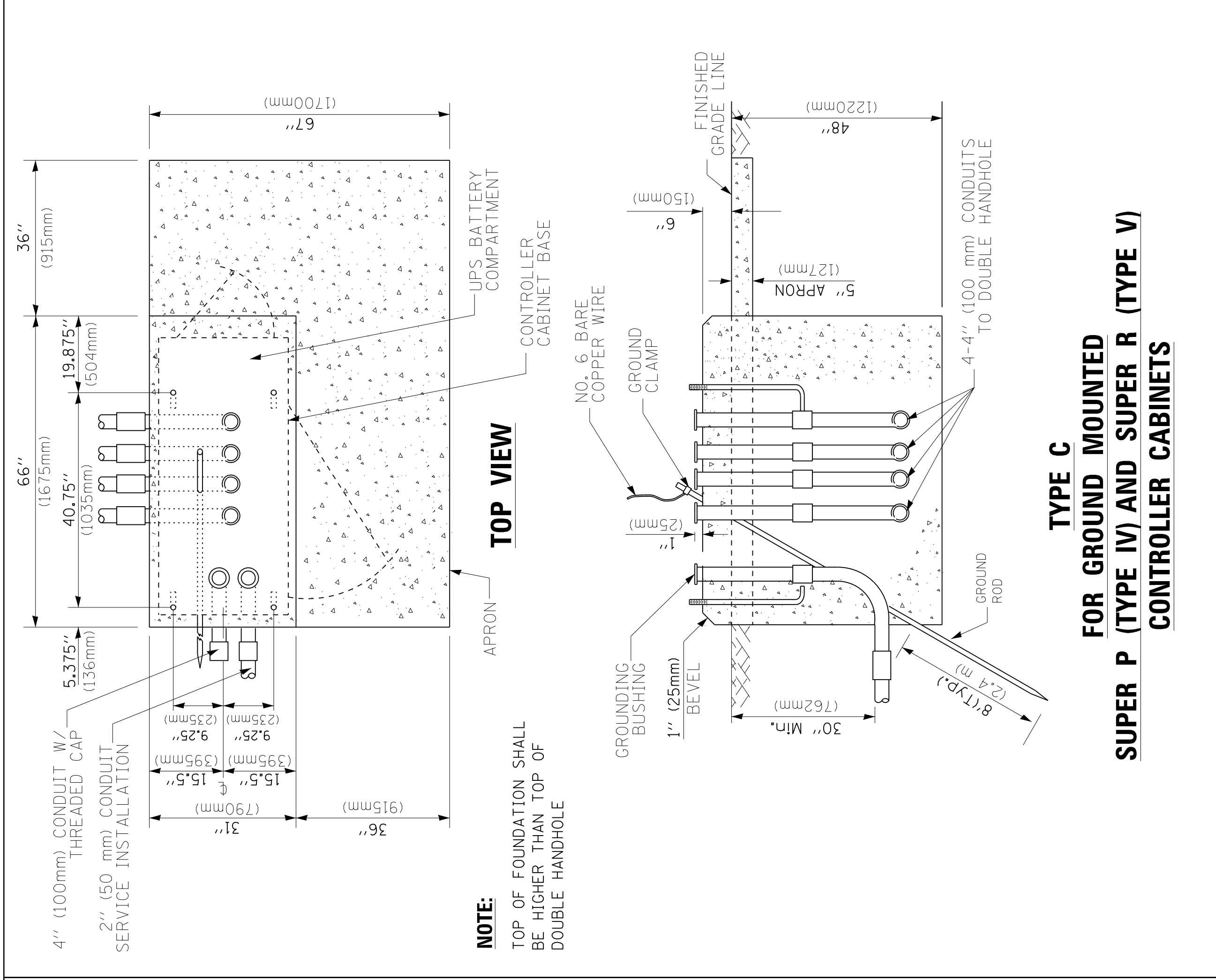
- ALL CLAMPS SHALL BE BRONZE OR COPPER, UL APPROVED.
- GROUND CABLE SHALL BE LOOPED OVER HOOKS IN THE HANDHOLES 6.5' (2.0m) SLACK SHALL BE PROVIDED IN SINGLE HANDHOLES 13' (4.0m) OF SLACK SHALL BE PROVIDED IN DOUBLE HANDHOLES 5' (1.5m) OF SLACK SHALL BE PROVIDED BETWEEN FRAME AND COVER.

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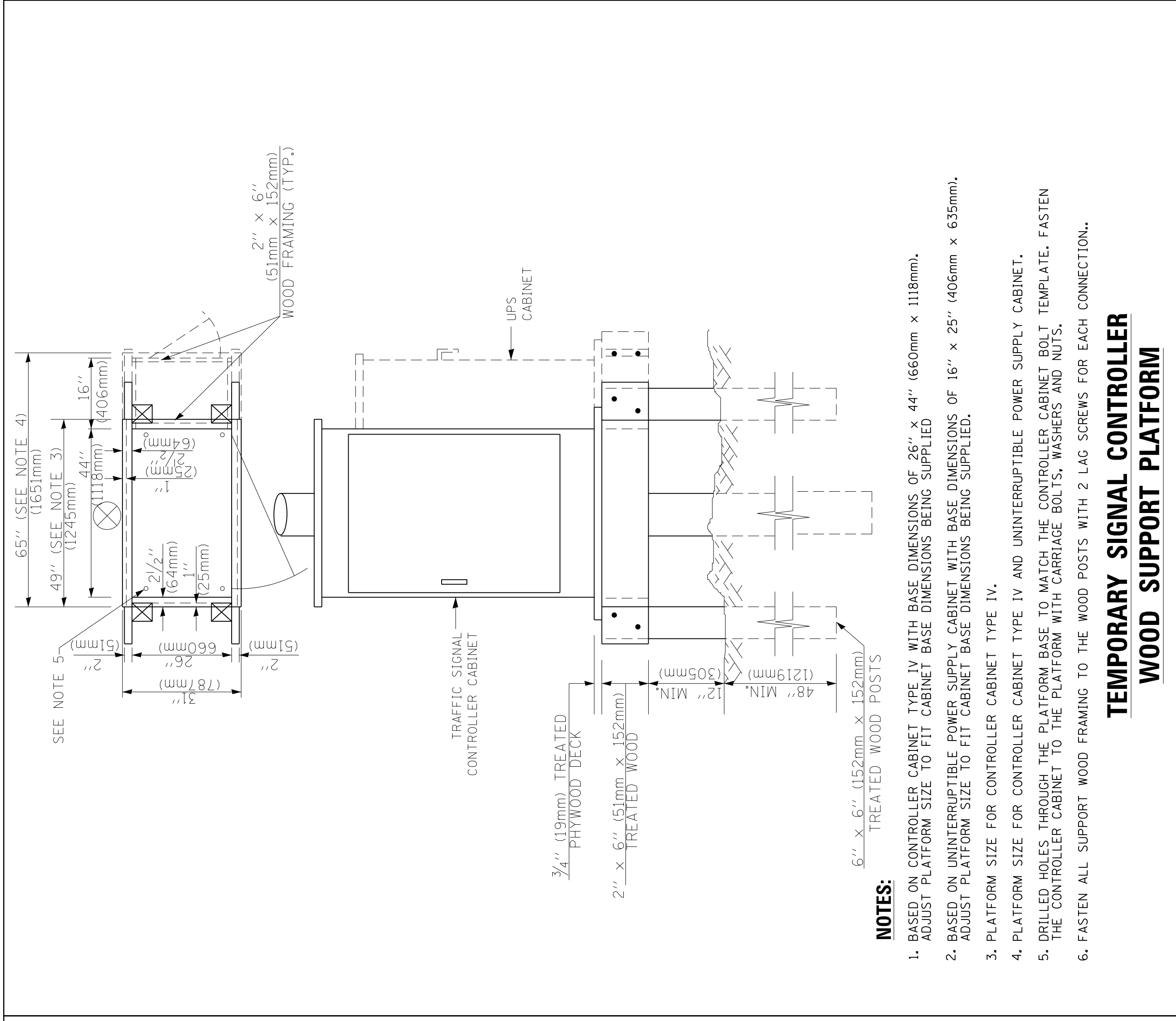
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DISTRICT ONE				
STANDARD TRAFFIC SIGNAL DESIGN DETAILS				
SECTION			COUNTY	TOTAL SHEET NO.
F.A. RTE.			TS-05	CONTRACT NO.
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



TYPE D
FOR GROUND MOUNTED
CONTROLLER CABINET
AND UPS BATTERY CABINET



TYPE C
FOR GROUND MOUNTED
SUPER P (TYPE IV) AND SUPER R (TYPE V)
CONTROLLER CABINETS



TEMPORARY SIGNAL CONTROLLER
WOOD SUPPORT PLATFORM

- NOTES:**
1. BASED ON CONTROLLER CABINET TYPE IV WITH BASE DIMENSIONS OF 26" x 44" (660mm x 1118mm). ADJUST PLATFORM SIZE TO FIT CABINET BASE DIMENSIONS BEING SUPPLIED.
 2. BASED ON UNINTERRUPTIBLE POWER SUPPLY CABINET WITH BASE DIMENSIONS OF 16" x 25" (406mm x 635mm). ADJUST PLATFORM SIZE TO FIT CABINET BASE DIMENSIONS BEING SUPPLIED.
 3. PLATFORM SIZE FOR CONTROLLER CABINET TYPE IV.
 4. PLATFORM SIZE FOR CONTROLLER CABINET TYPE IV AND UNINTERRUPTIBLE POWER SUPPLY CABINET.
 5. DRILLED HOLES THROUGH THE PLATFORM BASE TO MATCH THE CONTROLLER CABINET BOLT TEMPLATE. FASTEN THE CONTROLLER CABINET TO THE PLATFORM WITH CARRIAGE BOLTS, WASHERS AND NUTS.
 6. FASTEN ALL SUPPORT WOOD FRAMING TO THE WOOD POSTS WITH 2 LAG SCREWS FOR EACH CONNECTION.

CABLE SLACK LENGTH	FEET	METER
HANDHOLE	6.5	2.0
DOUBLE HANDHOLE	13.0	4.0
SIGNAL POST	2.0	0.6
MAST ARM	2.0	0.6
CONTROLLER CABINET	1.5	0.5
FIBER OPTIC AT CABINET	13.0	4.0
ELECTRIC SERVICE AT CABINET OR SERVICE LOCATION	1.5	0.5
GROUND CABLE (SIGNAL POST, MAST ARM, CABINET)	1.5	0.5
GROUND CABLE (BETWEEN FRAME AND COVER)	5.0	1.6

CABLE SLACK

VERTICAL CABLE LENGTH	FEET	METER
MAST ARM POLE (MAST ARM MOUNTED SIGNAL HEAD)	20.0-H	6.0-H
(L = MAST ARM LENGTH - DISTANCE TO SIGNAL HEAD FROM END OF ARM)	13.0	4.0
BRACKET MOUNTED (MAST ARM POLE OR SIGNAL POLE)	6.0	2.0
PEDESTRIAN PUSH BUTTON	13.5	4.1
SERVICE INSTALLATION POLE MOUNT TO SERVICE DROP	13.5	4.1
SERVICE INSTALLATION POLE MOUNT TO GROUND	6.0	2.0
FOUNDATION (SIGNAL POST, MAST ARM POLE, CONTROLLER CABINET, SERVICE-GROUND MOUNT)	3.0	1.0

VERTICAL CABLE LENGTH

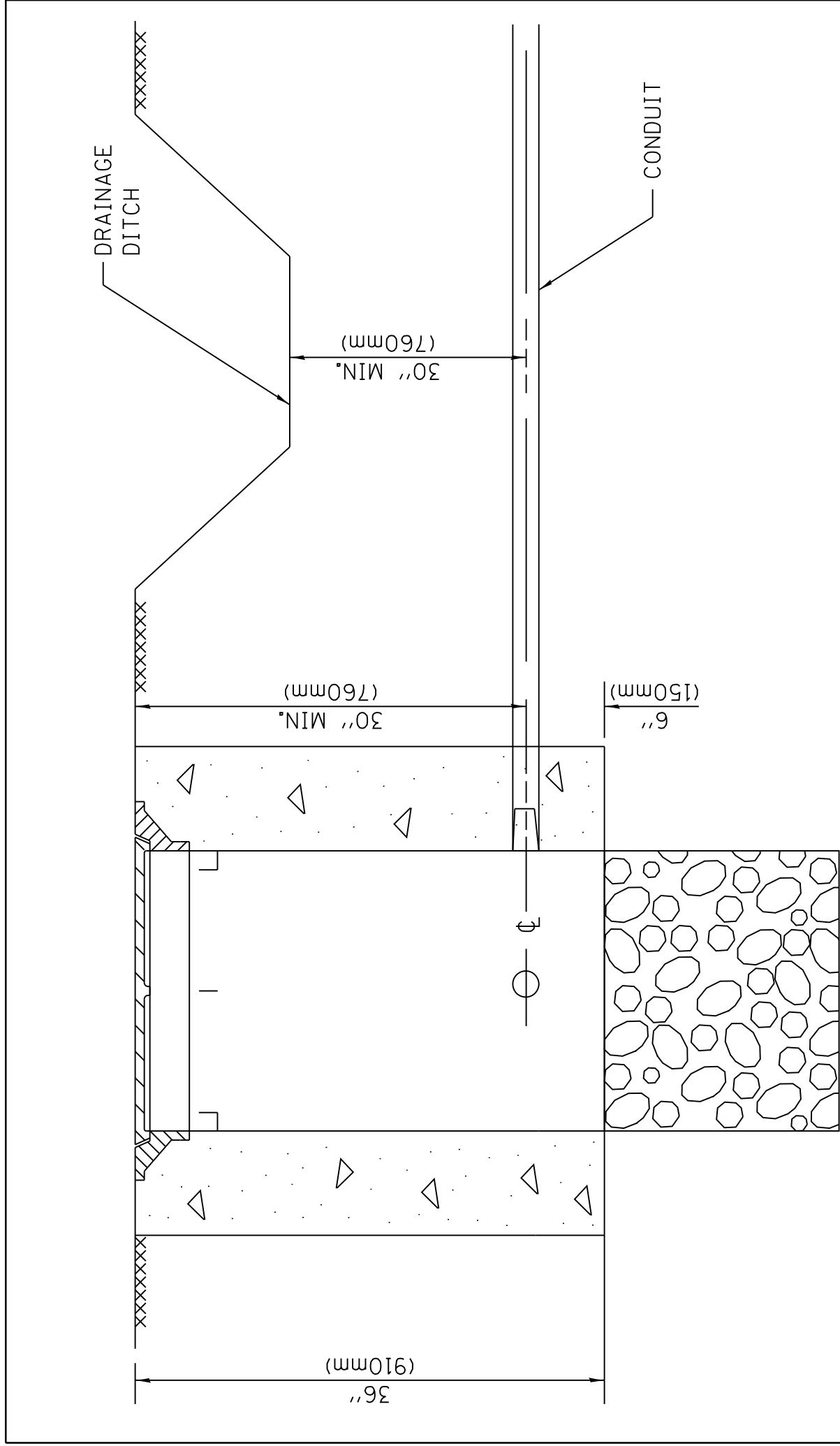
FOUNDATION	DEPTH
TYPE A - Signal Post	4'-0" (1.2m)
TYPE C - CONTROLLER W/ UPS	4'-0" (1.2m)
TYPE D - CONTROLLER	4'-0" (1.2m)
SERVICE INSTALLATION, GROUND MOUNT	4'-0" (1.2m)
TYPE A - SQUARE	

DEPTH OF FOUNDATION

Mast Arm Length	① Foundation Depth	Foundation Diameter	Spiral Diameter	Quantity of Rebars	Size of Rebars
Less than 30' (9.1 m)	10'-0" (3.0 m)	30" (750mm)	24" (600mm)	8	6(19)
Greater than or equal to 30' (9.1 m) and less than 40' (12.2 m)	13'-6" (4.1 m)	30" (750mm)	24" (600mm)	8	6(19)
Greater than or equal to 40' (12.2 m) and less than 50' (15.2 m)	11'-0" (3.4 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 50' (15.2 m) and up to 55' (16.8 m)	13'-0" (4.0 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 55' (16.8 m) and up to 56' (16.8 m) and less than 56' (16.8 m) and less than 65' (19.8 m)	15'-0" (4.6 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 65' (19.8 m) and up to 75' (22.9 m)	21'-0" (6.4 m)	42" (1060mm)	36" (900mm)	16	8(25)
	25'-0" (7.6 m)	42" (1060mm)	36" (900mm)	16	8(25)

NOTES:

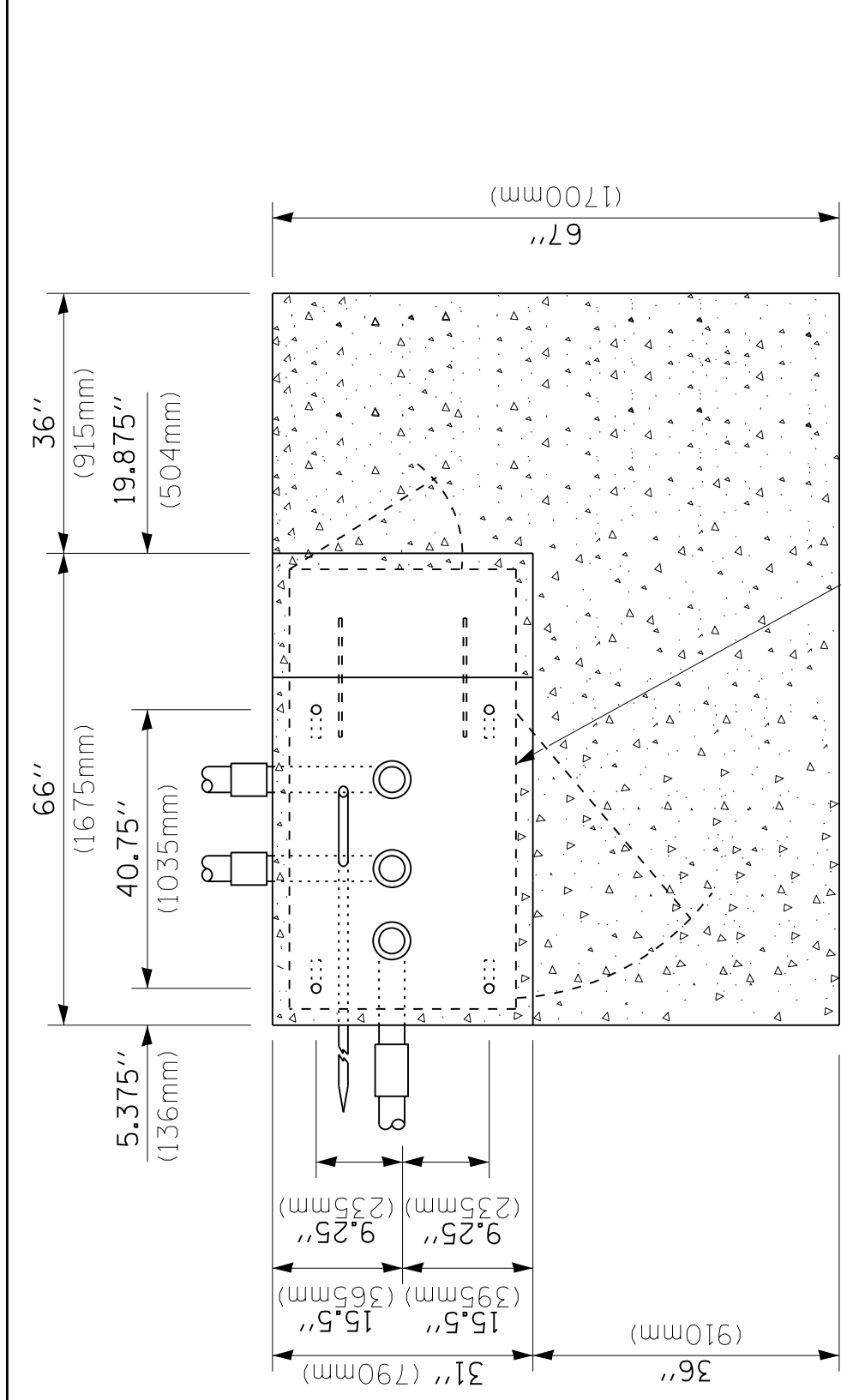
1. These foundation depths are for sites which have cohesive soils (clayey silt, sandy clay, etc.) along the length of the shaft. With an average Unconfined Compressive Strength (C_u) > 1.0 tsf (100 kPa). The foundation depth should be increased for sites with non-cohesive soils. The engineer during foundation drilling. The Bureau of Bridges & Structures should be contacted for a revised design if other conditions are encountered.
2. Combination mast arm assemblies under 55 feet (16.8 m) shall use 36" (900 mm) diameter foundations.
3. Combination mast arm assemblies under 56 feet (16.8 m) through 75 feet (22.9 m) shall use 42" (1060 mm) diameter foundations
4. For mast arm assemblies with dual arms refer to state standard 878001..



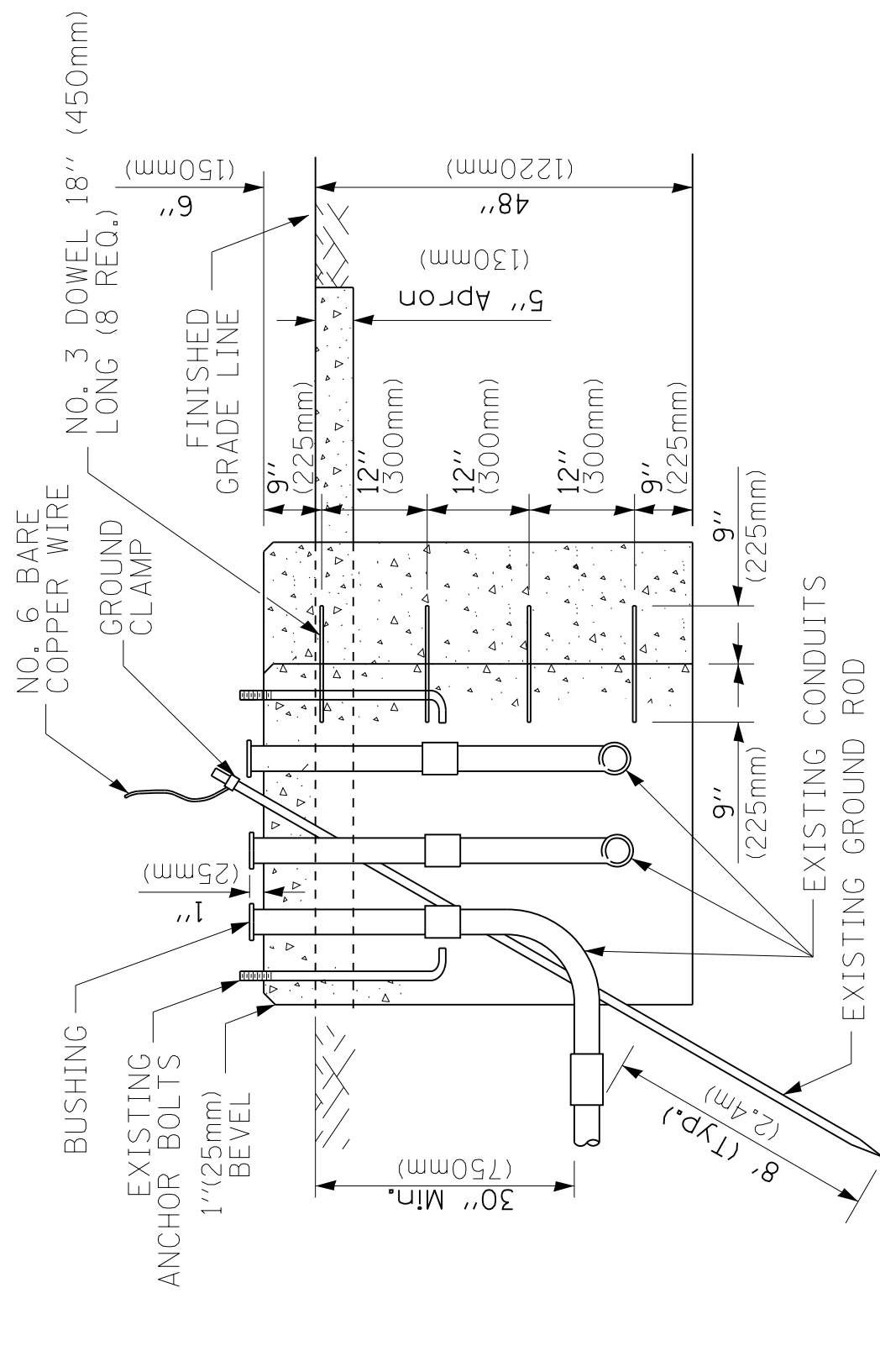
NOTES:

1. CONDUIT DEPTH SHALL BE A MINIMUM OF 30" (760mm) BELOW THE BOTTOM OF THE DRAINAGE DITCH OR ANY SLOPING GROUND
2. THE MINIMUM CONDUIT DEPTH APPLIES TO ALL CONDUIT PLACED UNDER ROADWAY PAVEMENT, MULTI-USE PATHS, SIDEWALKS AND SOIL SURFACES.
3. THE MINIMUM CONDUIT DEPTH APPLIES TO ALL HANDHOLES, HEAVY DUTY HANDHOLES AND DOUBLE HANDHOLES.

HANDHOLE WITH MINIMUM CONDUIT DEPTH
(NOT TO SCALE)



TOP VIEW
(NOT TO SCALE)

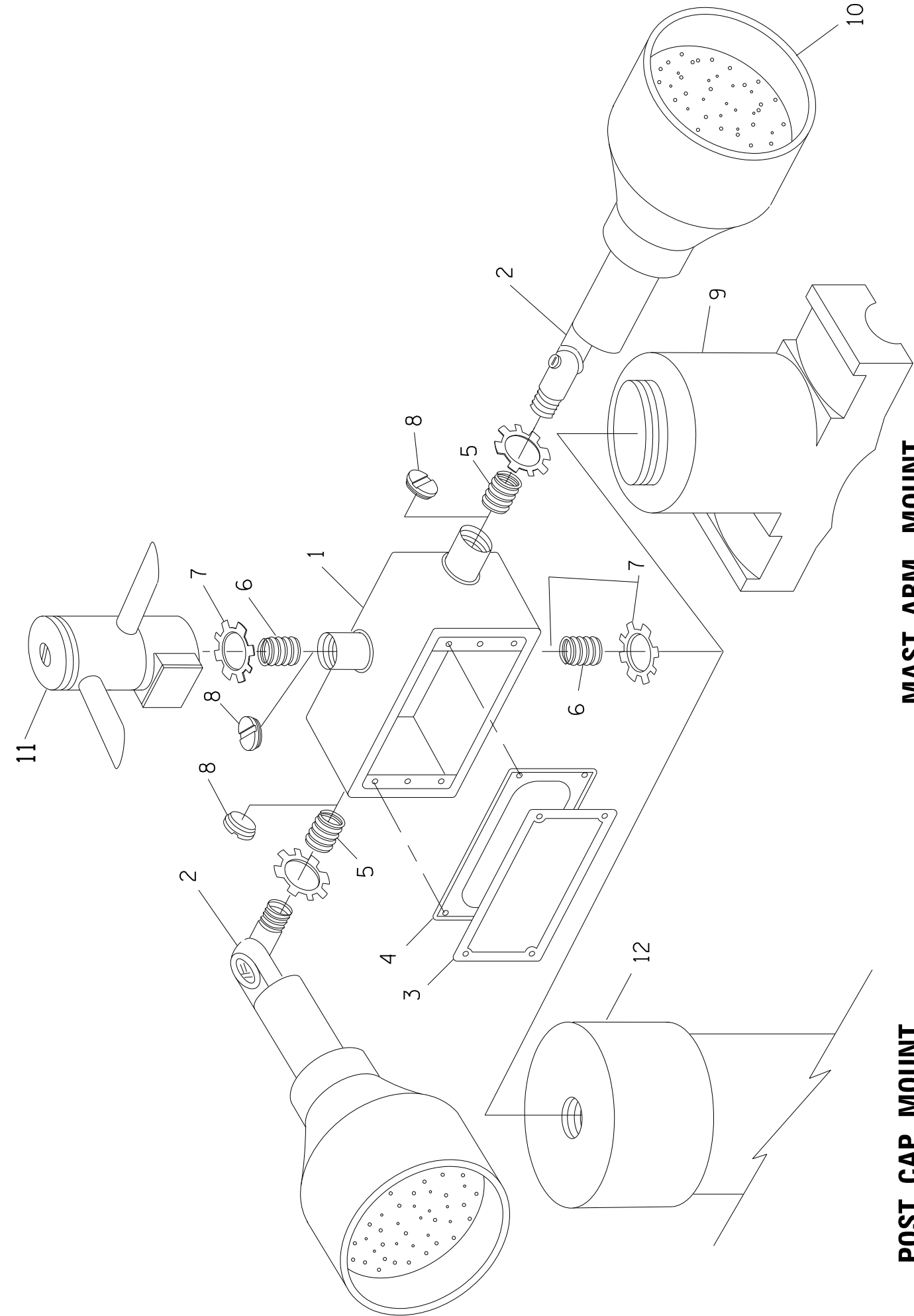


MODIFY EXISTING TYPE "D" FOUNDATION TO TYPE "C" FOUNDATION
(NOT TO SCALE)

ITEM NO.	IDENTIFICATION
1	OUTLET BOX- GALV. 21 CU.IN. (0.000344 CU-M)
2	LAMP HOLDER AND COVER
3	OUTLET BOX COVER
4	RUBBER COVER GASKET
5	REDUCING BUSHING
6	3/4" (19 mm) CLOSE NIPPLE
7	3/4" (19 mm) LOCKNUT
8	3/4" (19 mm) HOLE PLUG
9	SADDLE BRACKET - GALV.
10	6 WATT PAR 38 LED FLOOD LAMP
11	DETECTOR UNIT
12	POST CAP [18 FT. (5.4 m) POST MIN.]

NOTES:

1. ALL ELECTRICAL ITEMS, EXCEPT ITEMS #2 AND #11 SHALL BE ALUMINUM OR GALVANIZED
2. ITEM #1- OZ/GEDNEY FSX-1-50 OR EQUIVALENT
ITEM #2- MULBERRY CON-0-SHADE LAMP SHIELD OR EQUIVALENT
ITEM #9- "BAND-IT", SADDLE BRACKET OR EQUIVALENT
3. WHEN POST MOUNTING IS SPECIFIED, ITEM #9 SHALL NOT BE REQUIRED. THE DETECTION UNIT SHALL BE MOUNTED DIRECTLY ON TOP OF THE CAP BY DRILLING AND TAPPING A 3/4" (19 mm) HOLE WITH PIPE THREADS. THE POST CAP SHALL EITHER BE SCREWED TO THE TOP OF THE POST OR A MINIMUM OF 3 TIGHTENING SCREWS SHALL BE REQUIRED ON EACH CAP.



POST CAP MOUNT

MAST ARM MOUNT

EMERGENCY VEHICLE DETECTOR WITH CONFIRMATION BEACON MOUNTING DETAIL

FILE NAME =	USER NAME =	DESIGNED -	DAD	REVISION -	DAG 1-1-14
et:\pw_aor-k\pwwdot\footem\02108315\ts05.dgn		DRAWN -	BCK	REVISED -	
		CHECKED -	DAD	REVISED -	
		DATE	10-28-09	REVISED -	
		PLOT SCALE =	50.0000		
		PLOT DATE =	1/13/2014		

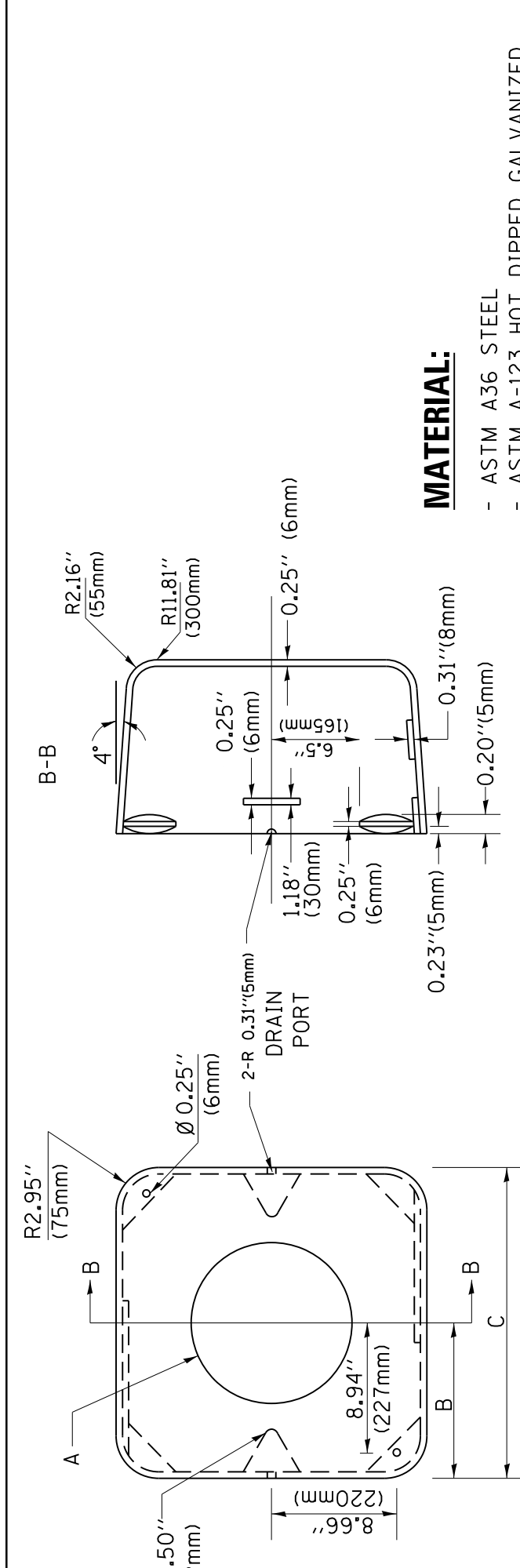
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
STANDARD TRAFFIC SIGNAL DESIGN DETAILS

SECTION
TS-05

COUNTY
ILLINOIS FED. AID PROJECT

SCALE: NONE SHEET NO. 6 OF 7 SHEETS STA. TO STA. CONTRACT NO. TOTAL SHEETS NO.



MATERIAL:

- ASTM A36 STEEL
- ASTM A-123 HOT DIPPED GALVANIZED

A	B	C	HEIGHT	WEIGHT
VARIABLES	9.5" (241mm)	19" (483mm)	7" (178mm) - 12" (300mm)	53 lbs (24kg)
VARIABLES	10.75" (273mm)	21.5" (546mm)	7" (178mm) - 12" (300mm)	68 lbs (31 kg)
VARIABLES	13.0" (330mm)	25" (660mm)	7" (178mm) - 12" (300mm)	81 lbs (37 kg)
VARIABLES	18.5" (470mm)	37" (940mm)	7" (178mm) - 12" (300mm)	126 lbs (57 kg)

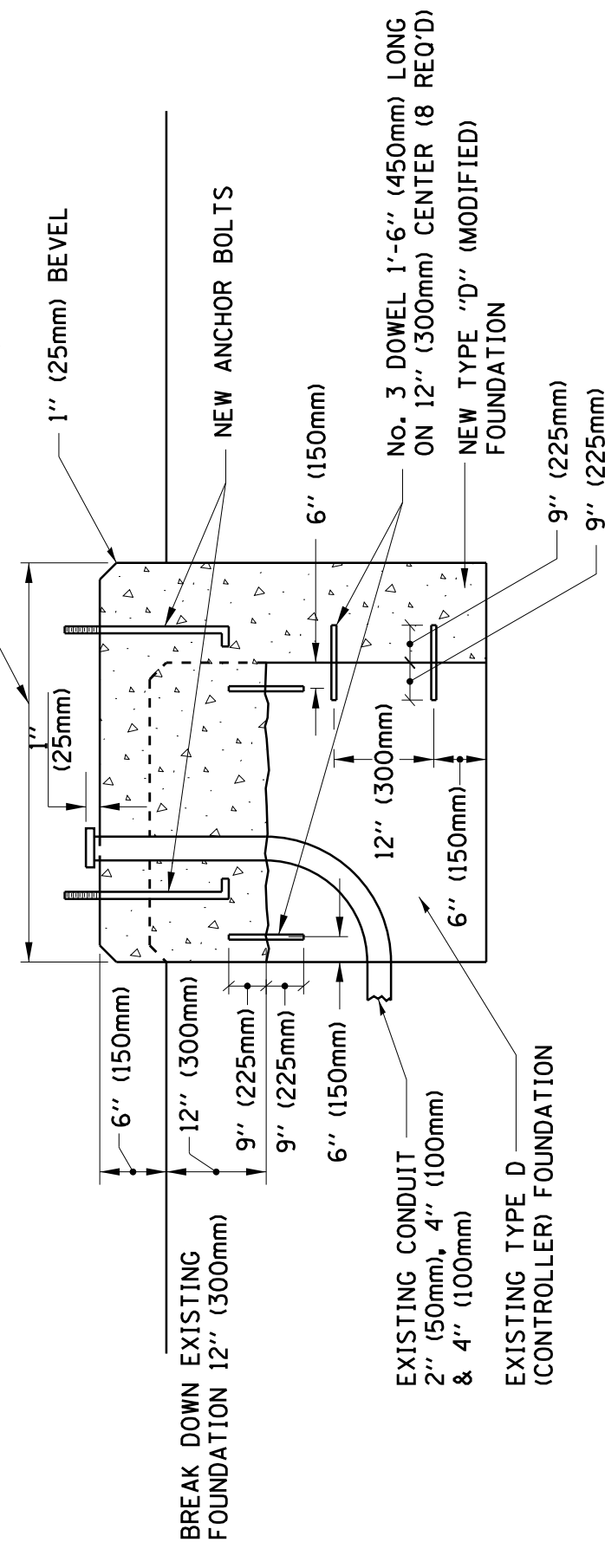
SHROUD

NOTES:

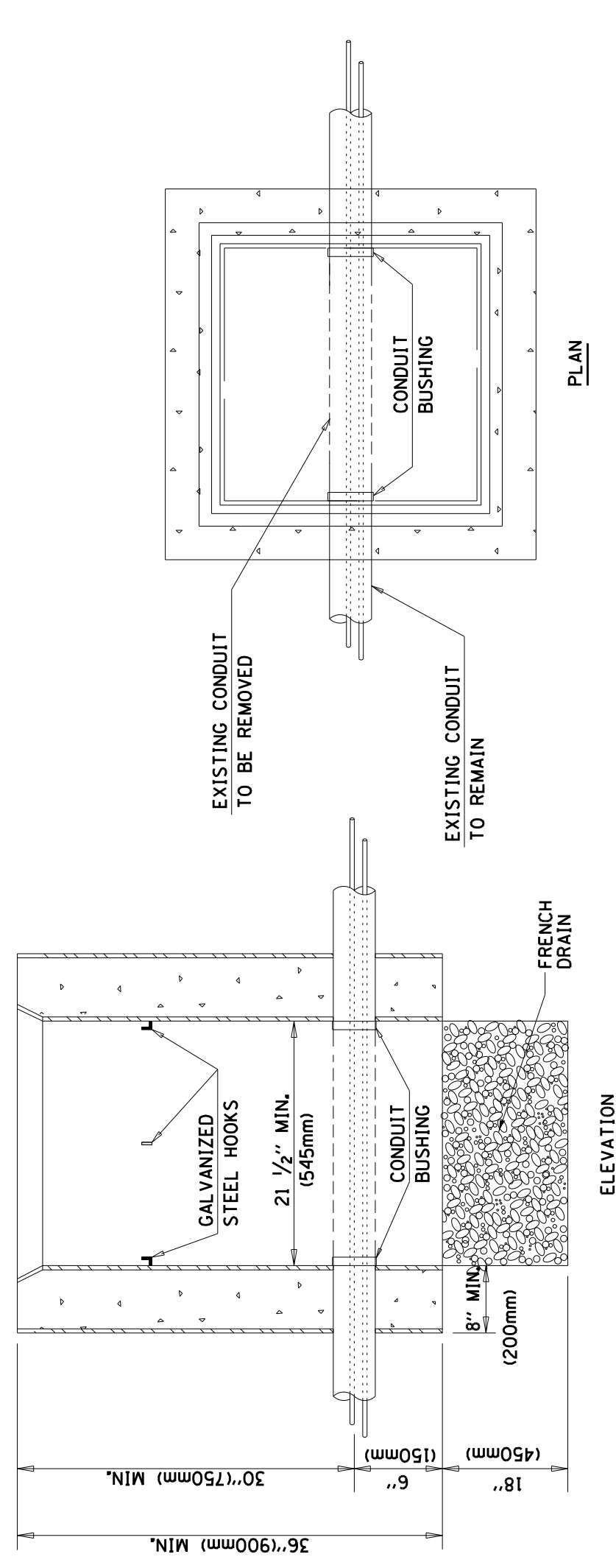
1. DIMENSION "A" IS EQUAL TO THE DIAMETER OF THE MAST ARM POLE AT THE TOP OF THE SHROUD. THE SHROUD SHALL BE TIGHT TO THE MAST ARM POLE.
2. THE SUPPLIER SHALL VERIFY THE ABOVE DIMENSIONS BASED ON MAST ARM REQUIREMENTS.
3. THE HEIGHT OF THE SHROUD SHALL COVER THE ANCHOR BOLTS, NUTS AND MAST ARM POLE BASE.

NOTE:

SUPPORT EXISTING CABINET AND CONTROL EQUIPMENT ABOVE FOUNDATION TO KEEP TRAFFIC SIGNAL FUNCTIONING WHILE FOUNDATION MODIFICATION WORK IS PROCEEDING.



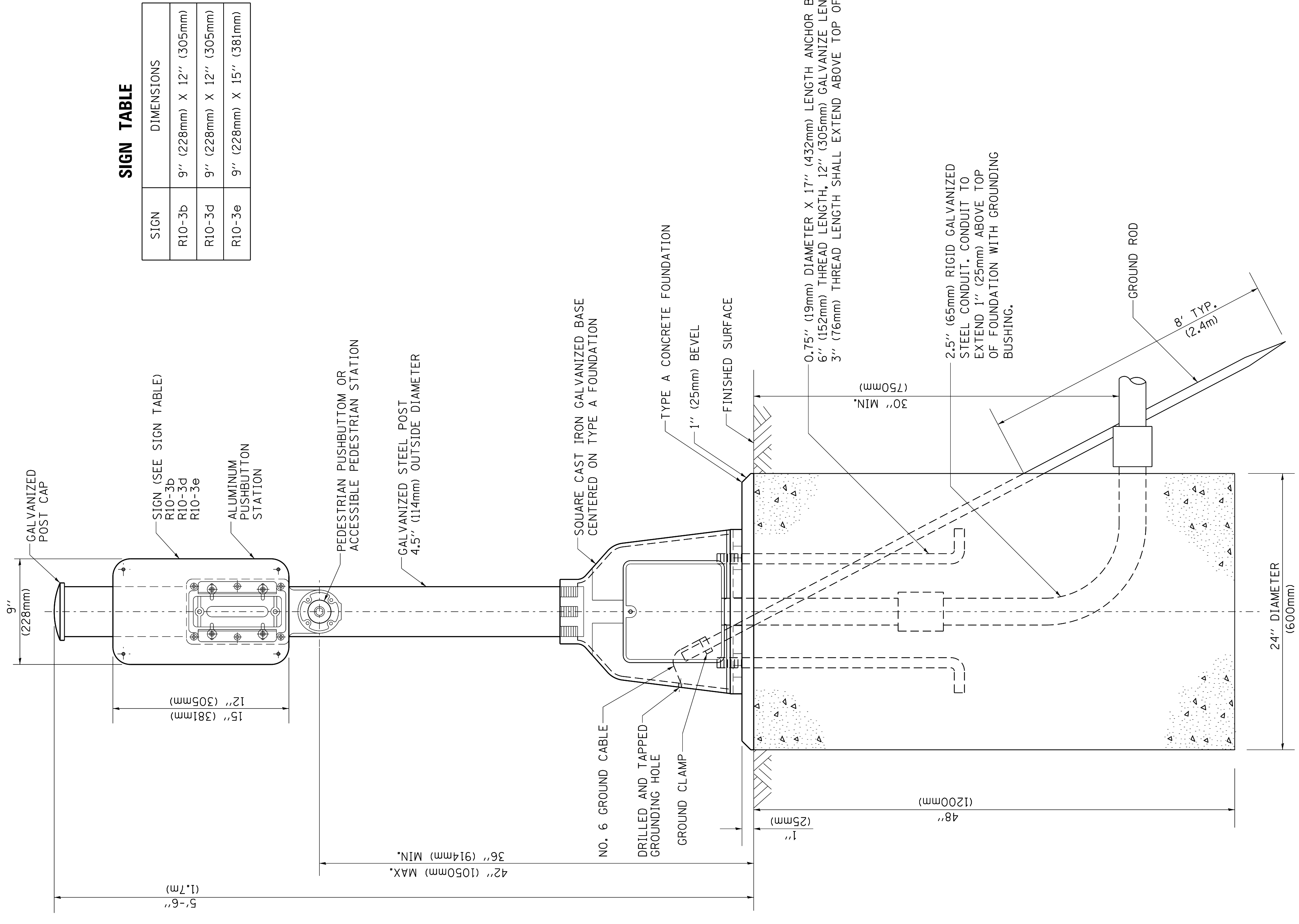
MODIFY EXISTING TYPE "D" FOUNDATION



NOTES:

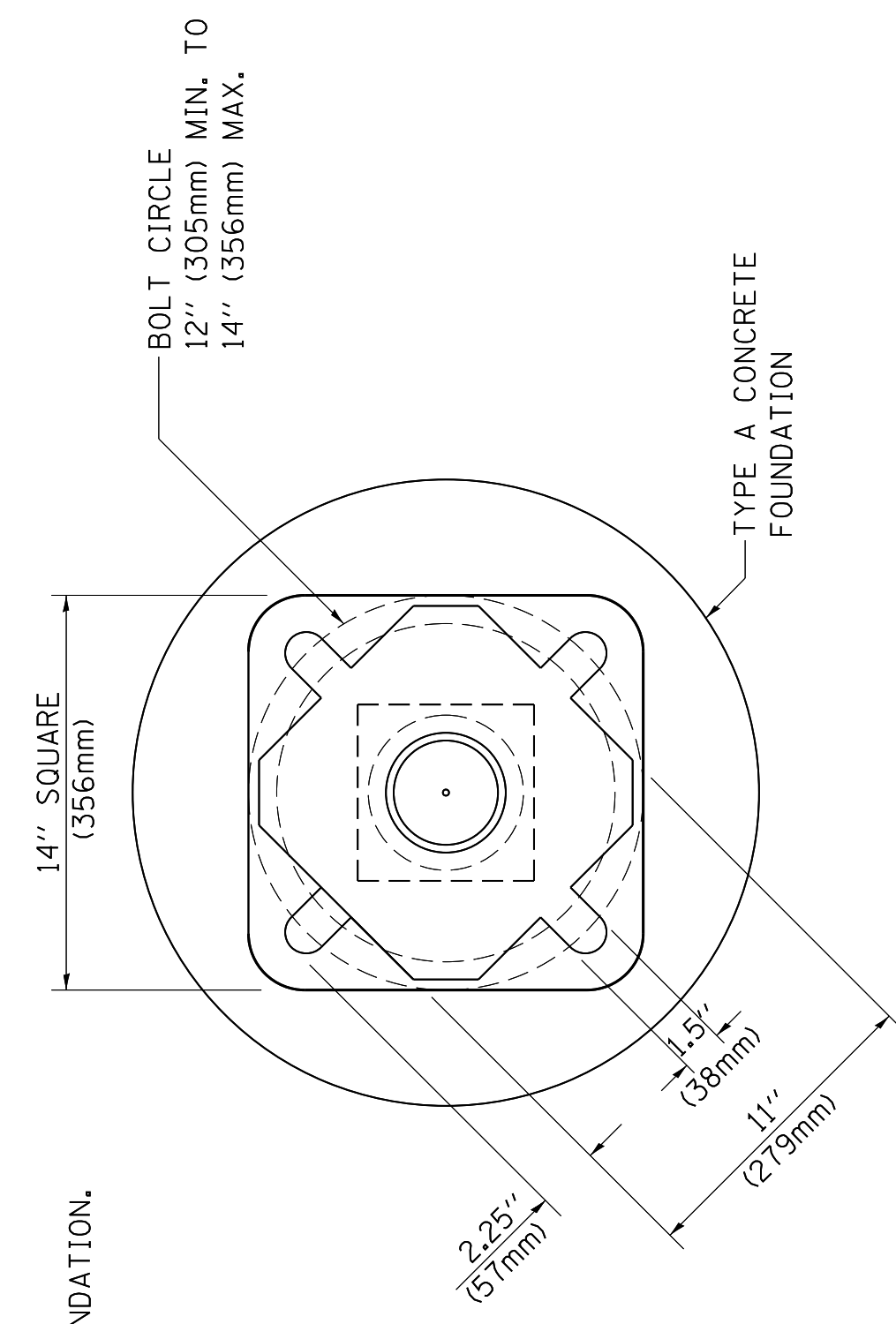
1. HANDHOLE CONSTRUCTED PER STATE STANDARD 814001.
2. REMOVAL OF THE EXISTING CONDUIT FROM THE HANDHOLE AND THE INSTALLATION OF THE CONDUIT BUSHINGS SHALL BE INCLUDED WITH THE COST OF THE HANDHOLE.

HANDHOLE TO INTERCEPT EXISTING CONDUIT



SIGN TABLE

SIGN	DIMENSIONS
R10-3b	9" (228mm) X 12" (305mm)
R10-3d	9" (228mm) X 12" (305mm)
R10-3e	9" (228mm) X 15" (381mm)



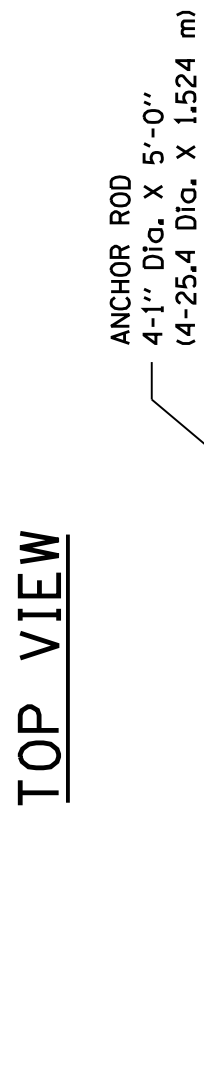
BOLT PATTERN

PEDESTRIAN PUSH BUTTON POST, TYPE A

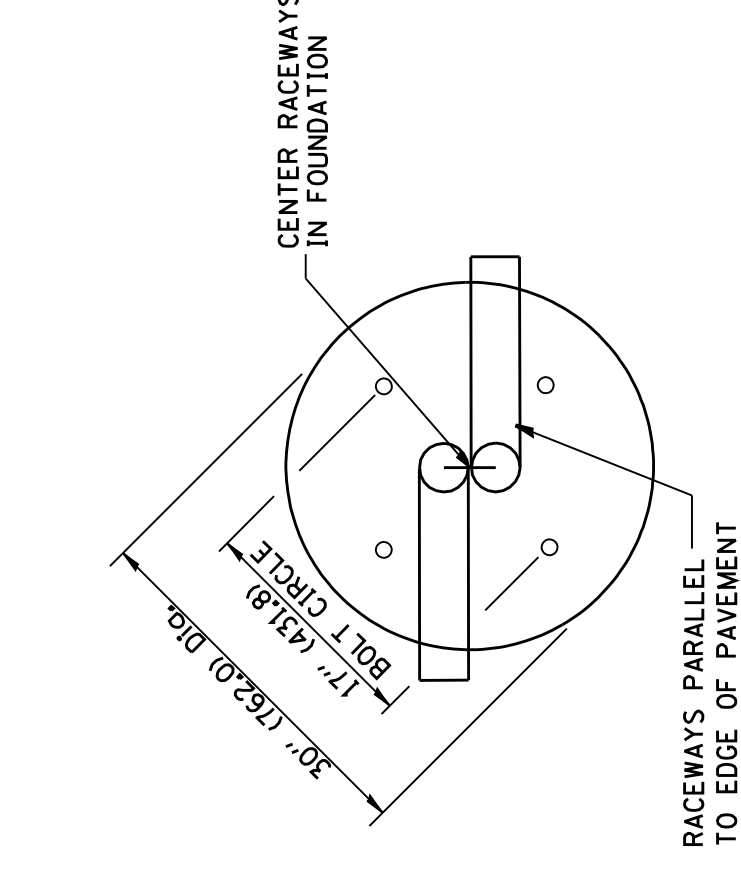
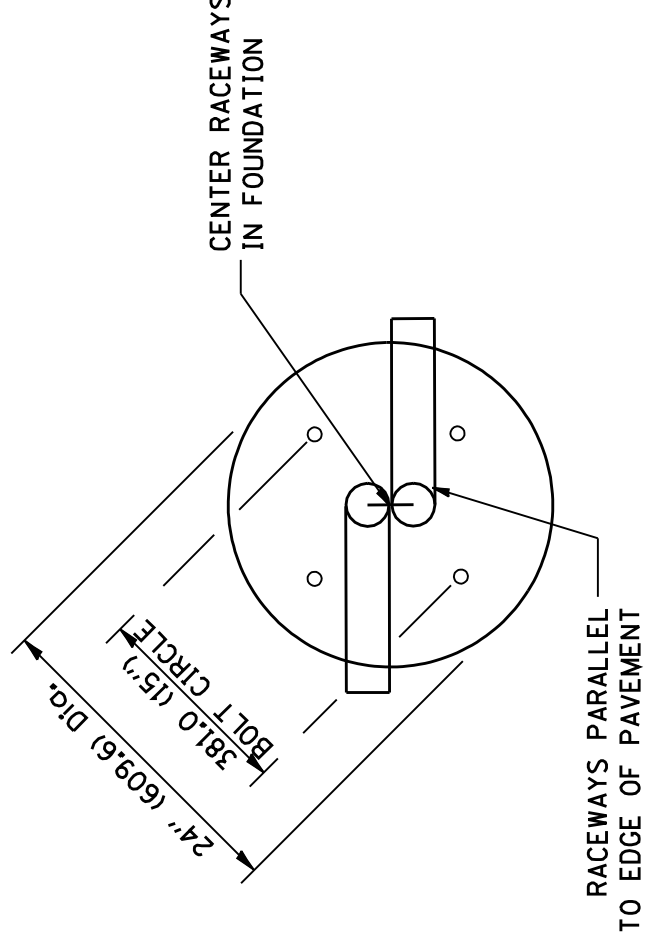
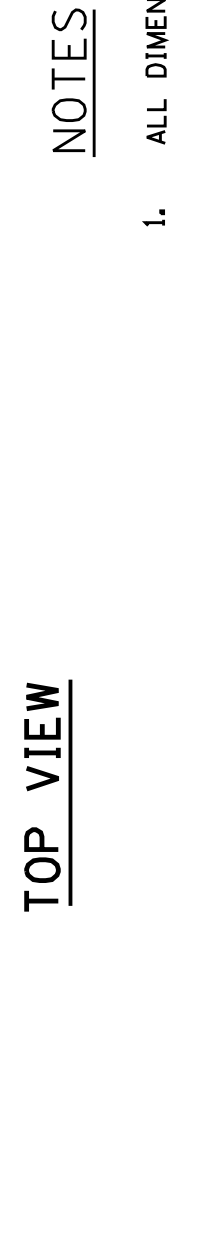
LIGHT POLE FOUNDATION DEPTH TABLE
40 FT. (12.192 m) TO 47.5 FT. (14.478 m) MOUNTING HEIGHT

SOIL CONDITIONS	DESIGN DEPTH 'D', OF FOUNDATION	
	SINGLE ARM POLE	TWIN ARM POLE
SOFT CLAY Ou = 0.375 TON/SO. FT.	13'-0" (3.96 m)	15'-0" (4.57 m)
MEDIUM CLAY Ou = 0.75 TON/SO.FT	9'-6" (2.89 m)	10'-9" (3.23 m)
STIFF CLAY Ou = 1.50 TON/SO. FT.	7'-0" (2.13 m)	8'-0" (2.44 m)
LOOSE SAND φ = 34°	9'-0" (2.74 m)	10'-0" (3.05 m)
MEDIUM SAND φ = 37.5°	8'-3" (2.52 m)	9'-0" (2.74 m)
DENSE SAND φ = 40°	7'-9" (2.36 m)	9'-0" (2.74 m)

TOP VIEW

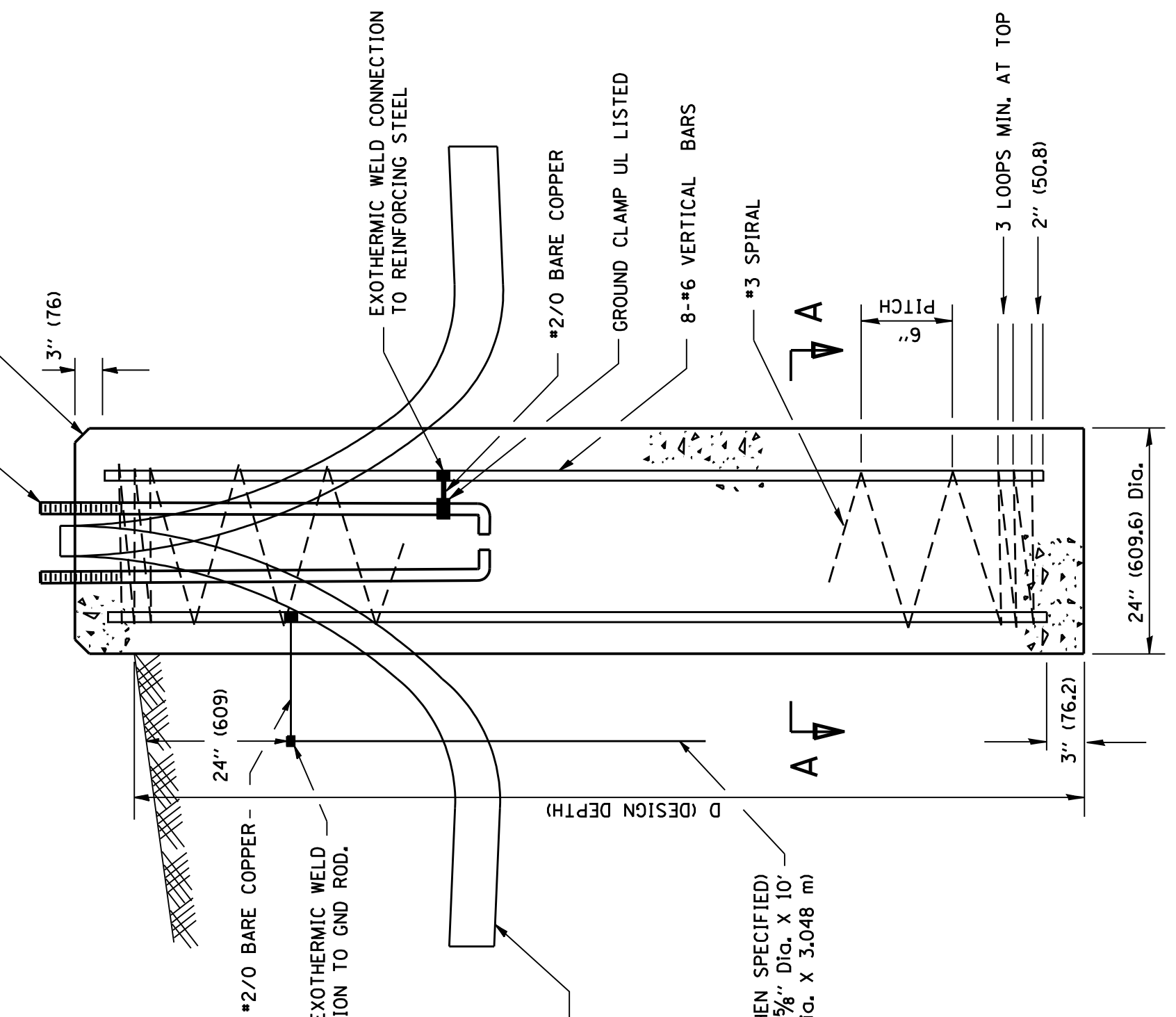


TOP VIEW

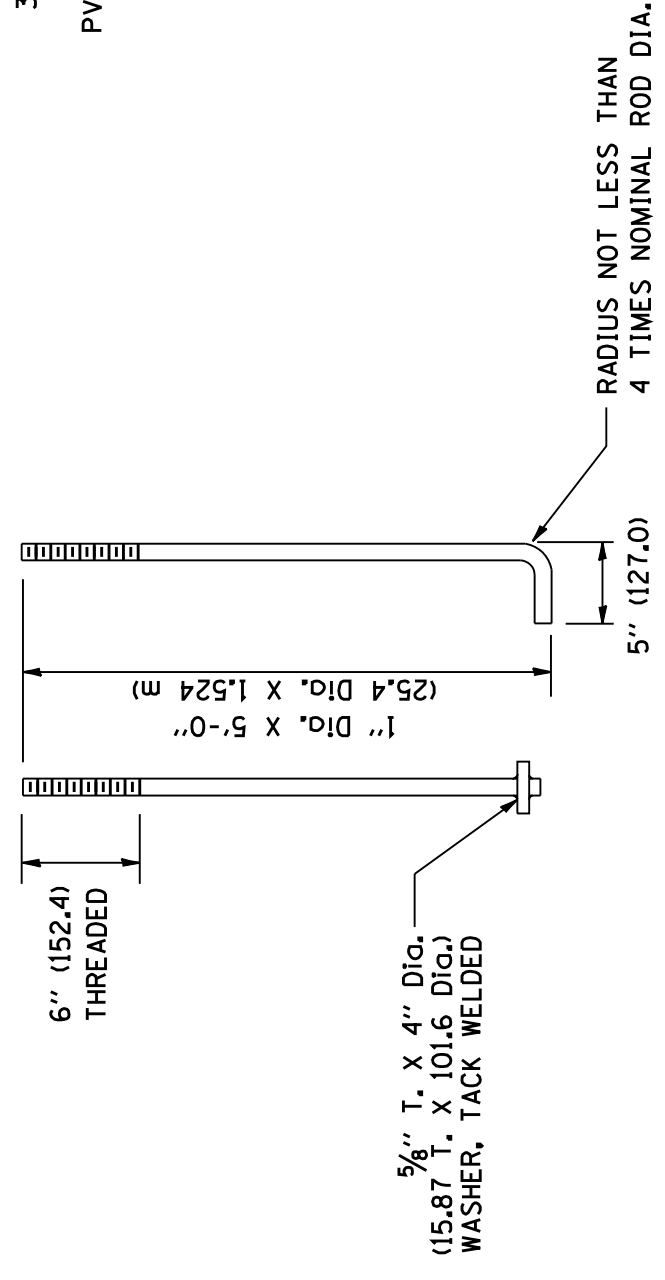


NOTES

- ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
- THE ANCHOR RODS AND RACEWAYS SHALL BE PROPERLY SECURED IN PLACE BEFORE THE CONCRETE IS PLACED.
- THE FOUNDATION SHALL NOT PROTRUDE MORE THAN 100MM (4 IN.) ABOVE THE FINISHED GRADE WITHIN A 60 IN. (1.5 m) CHORD ACROSS THE FOUNDATION, WITH ANCHOR RODS INCLUDED, IN ACCORDANCE WITH AASHTO GUIDELINES. IF THE FOUNDATION HEIGHT, INCLUDING ANCHOR RODS, EXTENDS BEYOND THESE SPECIFIED LIMITS, THE FOUNDATION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. SEE FOUNDATION EXTENSION DETAIL.
- THE HOLE FOR THE FOUNDATION SHALL BE MADE BY DRILLING WITH AN AUGER, OF THE SAME DIAMETER AS THE FOUNDATION. IF SOIL CONDITIONS REQUIRE THE USE OF A LINER TO FORM THE HOLE, THE LINER SHALL BE WITHDRAWN AS THE CONCRETE IS DEPOSITED.
- THE TOP OF THE FOUNDATION SHALL BE CONSTRUCTED LEVEL. A LINER OR FORM SHALL BE USED TO PRODUCE A UNIFORM SMOOTH SIDE TO THE TOP OF THE FOUNDATION. FOUNDATION TOP SHALL BE CHAMFERED 3/4-IN. (20 mm).
- THE CONCRETE SHALL BE CLASS SI. CONCRETE SHALL CURE ACCORDING TO ARTICLE 1020.13 BEFORE LIGHT POLES ARE INSTALLED.
- THE ANCHOR ROD SHALL BE A HOOK ROD TYPE. COLD BENDING OF THE ANCHOR ROD WILL NOT BE ALLOWED. THE RADIUS OF THE HOOK BEND SHALL NOT BE LESS THAN 4 TIMES THE NOMINAL DIAMETER OF THE ANCHOR ROD. A TACK WELDED ANCHOR ROD MAY BE SUBSTITUTED WITH THE APPROVAL OF THE ENGINEER.
- THE ANCHOR RODS SHALL BE ACCORDING TO ASTM F1554 GRADE 725 (GRADE 105). NUTS SHALL BE HEXAGON NUTS ACCORDING TO ASTM A 194 2H OR ASTM A 563 DH, AND WASHERS SHALL BE ACCORDING TO ASTM F 436.
- ANCHOR RODS, NUTS AND WASHERS SHALL BE COMPLETELY GALVANIZED BY EITHER THE HOT-DIPPED PROCESS CONFORMING WITH AASHTO M 232, THE MECHANICAL PLATING METHOD CONFORMING TO AASHTO M 298, CLASS 50 WITH A MAXIMUM COATING THICKNESS OF 150 UMG MILS) OR THE ELECTROLYTIC PROCESS ACCORDING TO ASTM F 1136.
- THE ANCHOR RODS SHALL BE THREADED A MINIMUM OF 6 INCHES (150 mm) WITH A MINIMUM OF 3 INCHES (75 mm) OF THREADED ANCHOR ROD EMBEDDED IN THE FOUNDATION.
- ANCHOR RODS SHALL PROJECT 2 3/4" (69.9 mm) ABOVE THE TOP OF THE FOUNDATION. IF BREAKAWAY COUPLINGS ARE SPECIFIED, THE CONTRACTOR SHALL CAREFULLY COORDINATE THE ANCHOR ROD PROJECTION WITH THE INSTALLATION REQUIREMENTS OF THE BREAKAWAY COUPLINGS.
- THE CONTRACTOR SHALL USE A #3 SPIRAL AT 6" (152.4 mm) PITCH OR MAY SUBSTITUTE #3 TIES AT 12" (304.8 mm) O.C. WITH THE APPROVAL OF THE ENGINEER.
- THE CABLE TRENCHES AND FOUNDATION SHALL BE BACK FILLED AND COMPACTED AS SPECIFIED BEFORE THE LIGHT POLE IS ERRECTED.
- THE RACEWAYS SHALL PROJECT 1" (25.4 mm) ABOVE THE TOP OF THE FOUNDATION.



ANCHOR ROD DETAIL



FOUNDATION EXTENSION DETAIL

