



# Illinois Department of Transportation

## Memorandum

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To: Operations Engineers  
From: Amy Eller *Amy Eller*  
Subject: OPS-T-12: Installation of License Plate Readers within  
State Right-of-Way  
Date: October 5, 2021

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Several districts continue to receive requests for permission to install License Plate Readers on IDOT appurtenances such as bridges and overhead sign structures. These readers are technology used by law enforcement agencies to gather license plate data at locations with higher traffic volumes and/or previous incidences of crime.

To facilitate the installation of these readers, the department should review these requests for approval when received. If approved, installations should be allowed through the permit process utilizing the new OPER 1051 form. Attached please find guidance district offices should use during the review process.

If you have any questions regarding requests for installation of License Plate Readers, please contact Kyle Armstrong, Engineer of Traffic Operations, at 217-782-2076.

cc: Bureau of Bridges and Structures  
Office of Chief Counsel

## Guidance for License Plate Reader Installation within State Right-of-Way

September 2021

License Plate Reader ("LPR") installations are technology used by law enforcement agencies to gather license plate data. An LPR installation may consist of cameras, controllers, electrical power, structures, and communications equipment. Law enforcement agencies wish to gather this data at locations where many vehicles pass; therefore, they will likely request to install this technology on state-maintained routes. Further, due to the nature of this technology, the requesting agency may ask to attach the equipment to an existing structure. This document provides guidance for reviewing these requests when received.

Any LPR installation within state right-of-way will require an IDOT permit. Permit applications shall include:

- 1) Form OPER 1051 – License Plate Reader Permit
- 2) Form OPER 1046 – Individual Highway Permit Bond if determined necessary by the district office
- 3) Description of LPR installation, including installation plans and method for data logging / connectivity.
- 4) Crashworthiness documentation if the LPR installation will be mounted to a newly installed support not owned by IDOT. NCHRP 350 compliance is acceptable as supports for mounting LPR installations have not been MASH tested.
- 5) When existing local agency structures are used to mount LPR equipment, structural documentation shall be provided demonstrating that the structure can accommodate the additional loading. This documentation should be stamped by a licensed Structural Engineer.

District offices should consider the following in determining what will be required and if a permit for an LPR installation within state right-of-way should be issued:

- 1) The location of the LPR installation should be within the jurisdictional boundaries of the requesting local agency. If not, separate permit applications shall be submitted by all local agencies involved. Documentation of an agreement or cooperative arrangements between the multiple agencies involved shall also be provided.
- 2) The LPR installation shall be performed by an IDOT prequalified electrical contractor at the applicant's expense. District offices may also require the use of a prequalified traffic signal/electrical designer in developing the design plans if deemed necessary.
- 3) Utility protection:
  - a. The applicant will be responsible for determining the location of and protecting any state-owned facilities, including buried facilities. IDOT-owned facilities are not located by JULIE. The district office should provide general location information and other district-specific requirements for locating underground state-owned utilities.
  - b. The applicant will also be responsible for contacting all necessary statewide locating services for determining the location of and protecting non-state-owned underground facilities.

- c. The applicant shall relocate or remove LPR installations at no cost to the department should they conflict with any future state or local work.
- 4) LPR installation method:
- a. LPRs may be installed on IDOT-owned structures, however district offices may place their own restrictions on specific structures or specific types of structures where LPR installations would not be allowed.
  - b. No puncturing of tubular structural steel or aluminum shall be allowed.
  - c. No cables or other equipment shall be allowed inside of an IDOT structure.
  - d. LPR installations shall utilize separate conduit for wiring. Exposed wiring shall not be allowed.
  - e. If the LPR installation is to be installed on an existing structure, the total weight shall not exceed the allowable load for the structure, in addition to and including existing and planned IDOT appurtenances. Also, the total surface area shall not exceed the allowable wind load for the structure, in addition to and including existing and planned IDOT appurtenances. Existing wind load capacity shall be verified by adding any existing/planned traffic sign area to 1.45 times the total surface area of the LPR system. This total shall be below the maximum sign area allowed by the Sign Structures Manual.
  - f. The LPR installation attachment method shall be reviewed for structural adequacy, aesthetics, and corrosion potential.
  - g. The Bureau of Operations and Bureau of Bridges and Structures should be consulted if the structural adequacy of the proposed installation is in question.
- 5) LPR installation traffic control.
- a. The district office shall specify what traffic control standards and requirements, including work hour restrictions are to be in place.
  - b. All traffic control shall be the responsibility of the applicant.
  - c. The applicant shall file appropriate traffic control forms for each individual incidence of traffic control as specified in the permit.
- 6) LPR installations should be solar-powered or utilize a separate electrical meter for energy usage. Some LPR installations may be allowed to utilize the Department's existing electric service where separate service installations are deemed cost-prohibitive by the Department due to physical constraints. If this is allowed, it shall be understood by the applicant that the Department makes no guarantees on the continuity and maintenance of the electric service. District offices reserve the right to prohibit use of IDOT-owned electric service.
- 7) LPR installations shall utilize separate communication methods. Data collection shall not involve Department communications infrastructure in any way. IDOT shall not host or move data for other agencies, nor record data for storage or later transmission. This protection is necessary because if LPR data is carried on Department communications equipment, the Department may be liable for FOIA requests, demands for network reliability, and otherwise become involved in enforcement activities.
- 8) The applicant is responsible for making recovery for damage to any part of the installation.

- 9) The applicant shall provide a 24-hour contact for emergency repair calls and be available to de-energize or otherwise deactivate the equipment at the Department's request. A mutually agreeable response timeframe shall be included.
- 10) The applicant shall dispose of and be responsible for the resolution of all waste, special waste, and refuse when work is completed within the state right-of-way. All areas disturbed by equipment and workers shall be repaired and returned to the original condition.
- 11) IDOT staff or designee should inspect the installation to verify general compliance with the applicant's proposal and with the terms of the permit.
- 12) The LPR and related equipment shall not interfere with driver sight distance or visibility of traffic control devices.
- 13) Newly installed supports as part of the LPR installation shall include the display of LPR vendor information or other identification if deemed necessary by the district office.
- 14) A separate OPER 1051 permit form should be submitted by the applicant and approved by the district office before the proposed removal of an LPR installation. Similarly, a separate OPER 1051 permit form should be submitted by the applicant and approved by the district office before any maintenance work is performed on an LPR installation. A district office may opt to only require written or verbal notification from the applicant of planned or emergency LPR installation maintenance work and forego the submittal of an OPER 1051 form. District offices may require the involvement of their electrical maintenance contractor for LPR installation maintenance to avoid conflicts or issues with IDOT-owned structures or systems.
- 15) The district office shall notify the applicant of any planned actions or activities which impact an LPR installation. The applicant shall be required to remove any and all LPR equipment impacted by the Department's planned actions or activities, and as required or requested by the Department.

Flock Safety is an LPR vendor and has developed a standard support structure design for mounting their readers and associated equipment on a separate post as opposed to installation on an existing structure. The attached standard design has been reviewed and approved for use by the Bureau of Bridges and Structures. If this design is included as part of a permit application, it may be considered pre-approved and does not require further review by IDOT Central Office. District offices should review the field installation to ensure it matches with this standard detail.

Flock Safety has also inquired about the use of standard traffic signal posts as support structures for LPR installations. This does not involve installation of LPR equipment on existing posts with installed traffic signal heads, but rather installing new and separate standard traffic signal posts and foundations solely for LPR equipment. The Bureau of Bridges and Structures has also reviewed this proposal and finds the use of either steel or aluminum traffic signal posts in accordance with Article 1077.01 of the Standard Specifications for Road and Bridge Construction to be acceptable for supporting LPR equipment in the same configuration as the attached Flock Safety design proposal.

# flock safety

## ILLINOIS STANDARD DETAILS AUTOMATIC LICENSE PLATE READER 100 WATT SYSTEM

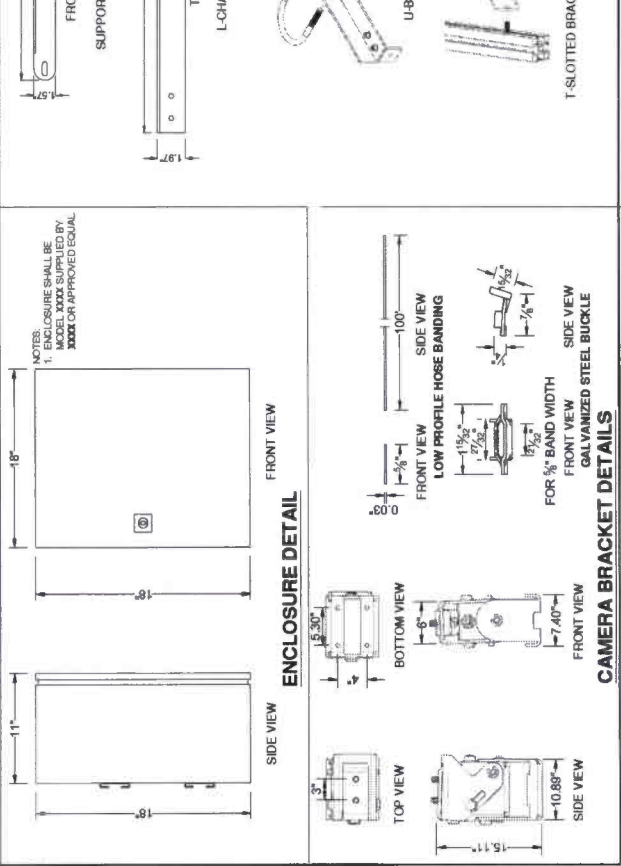
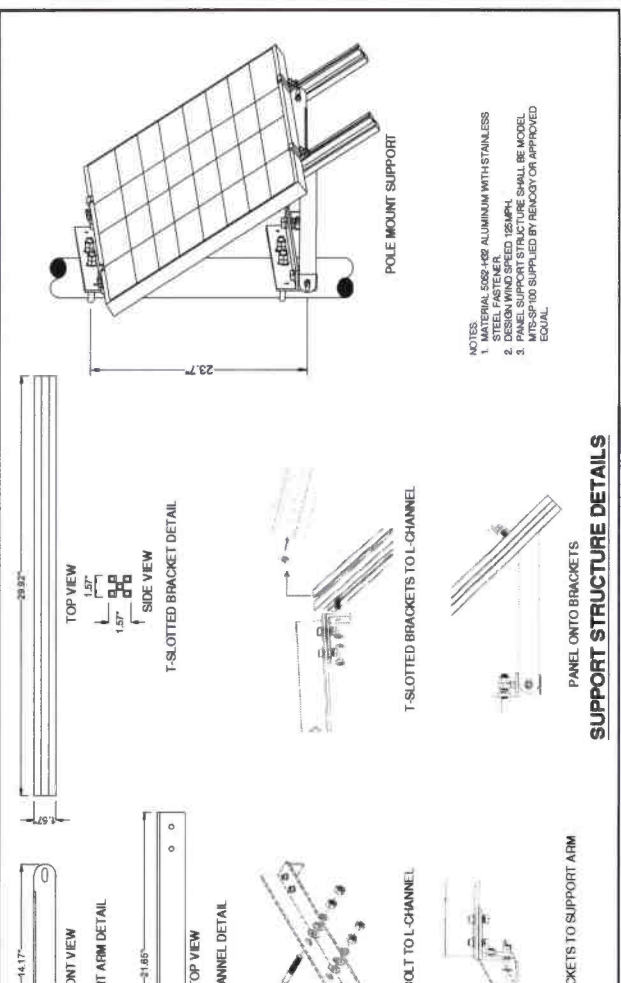
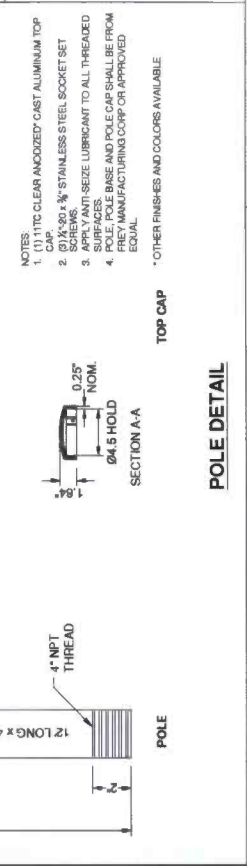
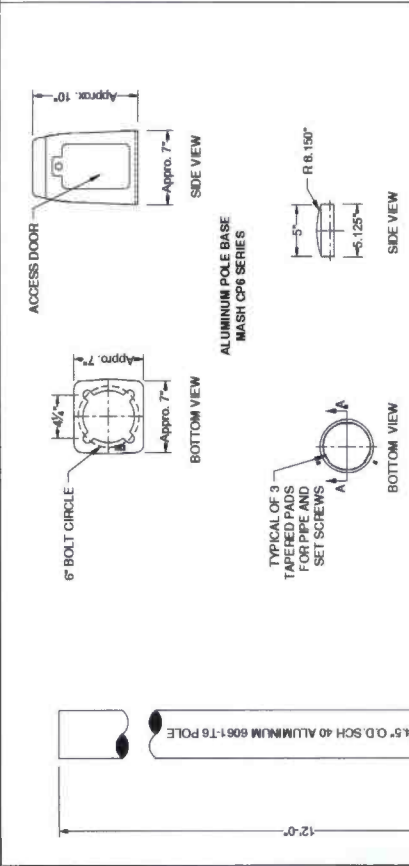
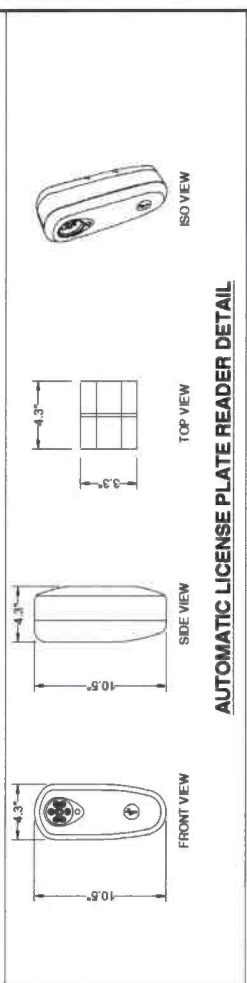
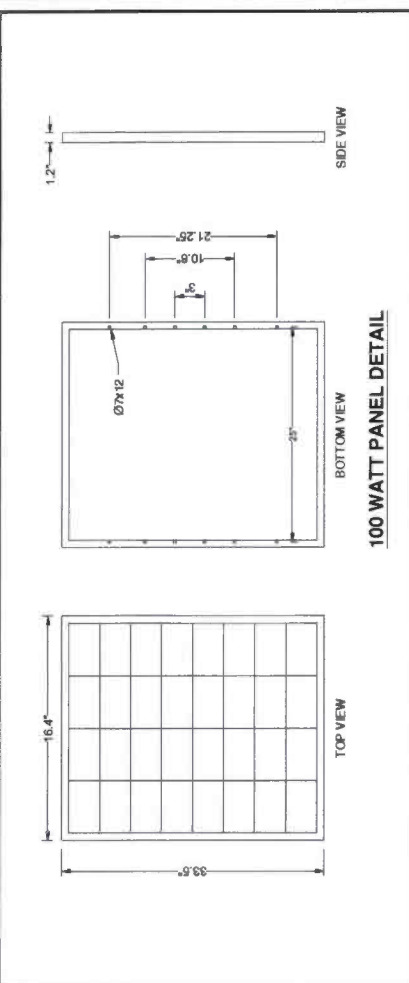
### SHEET INDEX

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	GENERAL NOTES & POLE ASSEMBLY DETAIL
3	EQUIPMENT DETAILS
4	FOUNDATION DETAILS

	DATE 09-10-2021	DESCRIPTION 1ST SUBMITTAL	DATE 09-10-2021	PROJECT flock safety ILLINOIS STANDARD DETAILS AUTOMATIC LICENSE PLATE READER 100 WATT SYSTEM	SHEET NUMBER 1 OF 4 SHEETS

CONSULTANT  
flock safety  
RED S  
ENGINEERING & ARCHITECTURE  
1111 S. WASHINGTON ST. SUITE 200  
CHICAGO, IL 60605-4002

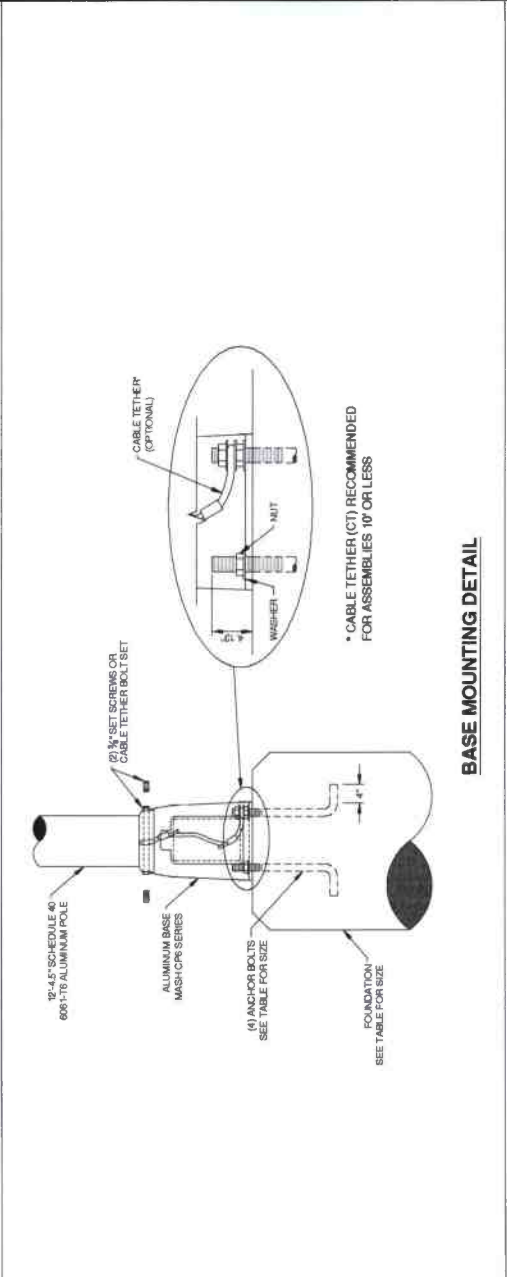
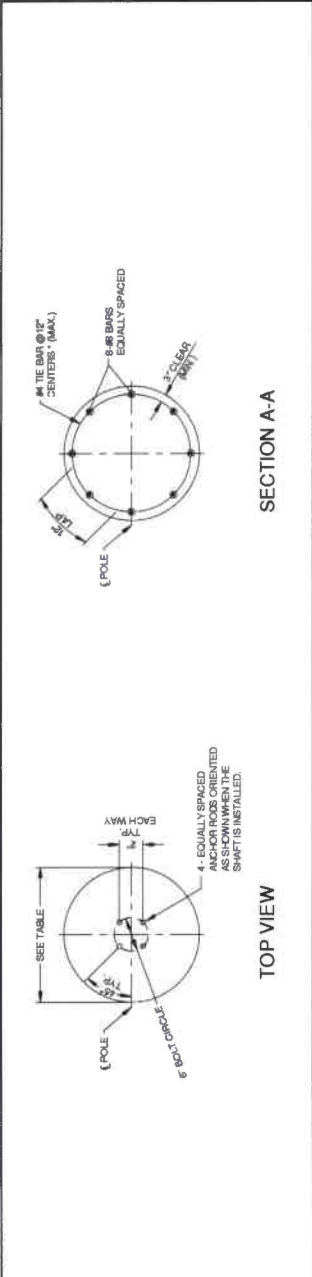




NOTES:  
 1. MATERIAL 5052-H32 ALUMINUM WITH STAINLESS STEEL FASTENER.  
 2. DESIGN WIND SPEED 125MPH.  
 3. ALL DIMENSIONS SHALL BE MODEL MTS-SP-100 SUPPLIED BY RENCOY OR APPROVED EQUAL.

NOTES:  
 1. (1) 1/4" CLEAR ANODIZED CAST ALUMINUM TOP CAP.  
 2. 1/4" x 1/2" x 3/4" STAINLESS STEEL SOCKET SET SCREWS.  
 3. APPLY ANTI-SEIZE LUBRICANT TO ALL THREADED SURFACES.  
 4. BASE AND POLE CAP SHALL BE FROM FRET MANUFACTURING CORP OR APPROVED EQUAL.  
 \* OTHER FINISHES AND COLORS AVAILABLE

NOTES:  
 1. ENCLOSURE SHALL BE MODEL MASH CP-6 SERIES SUPPLIED BY RENCOY OR APPROVED EQUAL.



**FOUNDATION NOTES:**

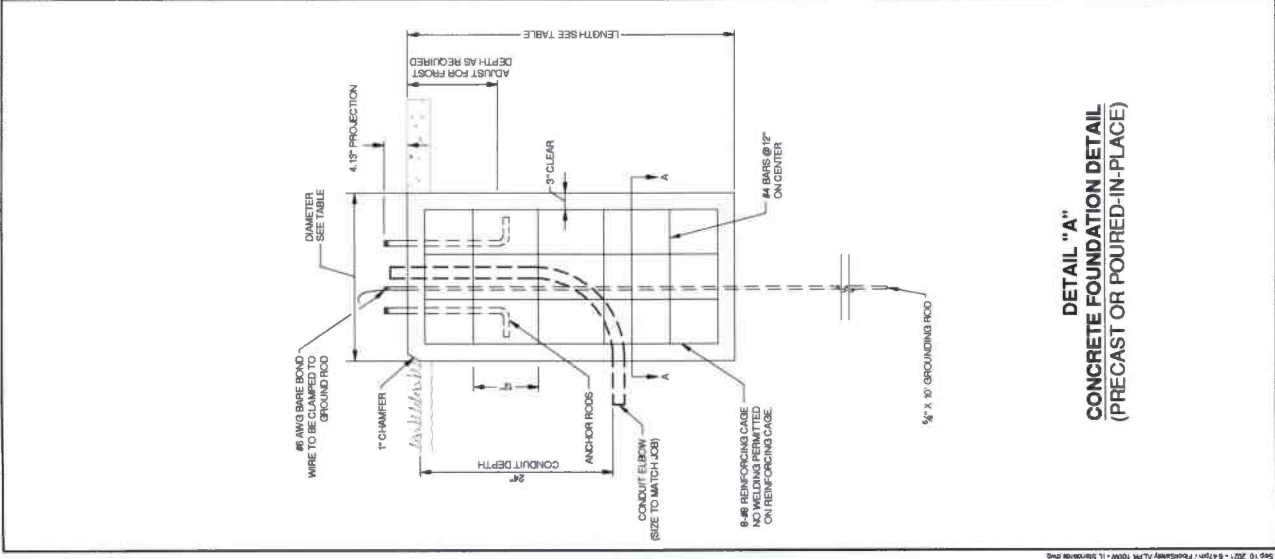
- CONCRETE: CLASS I WITH A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3,000 PSI.
- REINFORCING STEEL: ASTM A615, GRADE 60.
- ANCHOR RODS:
  - A. RODS: ASTM F1554, GRADE 55
  - B. NUTS: ASTM A563
  - C. WASHERS: ASTM F436
- D. GALVANIZE ALL ITEMS IN ACCORDANCE WITH ASTM F2329. FOR PRECAST CONCRETE FOUNDATIONS, FILL THE VOID AROUND THE FOUNDATION WITH FLOWABLE FILL OR CLEAN SANDS USING HYDRAULIC METHODS TO A LEVEL 8 INCHES BELOW GRADE.
- AFTER THE POLE IS SET IN FINAL POSITION AND ALIGNMENT, APPLY A COAT OF ZINC-RICH PAINT TO THE ANCHOR ROD THREADS AND NUTS TO SEAL THE JOINT BETWEEN THE NUT AND ANCHOR ROD.
- WHERE FOUNDATION ABUTS THE SIDEWALK, THE TOP OF THE FOUNDATION SHALL BE LEVEL WITH THE SIDEWALK. FOR ALL OTHER CASES, THE TOP OF THE FOUNDATION SHALL NOT BE MORE THAN 3 INCHES ABOVE GRADE.

**FOUNDATION DESIGN NOTES:**

- DESIGN CRITERIA
  - A. AASHTO LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS (LRFDLS-1) AND STATE DEPARTMENT OF TRANSPORTATION STRUCTURES MANUAL (CURRENT EDITION).
  - DESIGN WIND SPEED: 105 MPH
- THE FOLLOWING SOIL PROPERTIES WERE ASSUMED FOR THE FOUNDATION DESIGN. IF THE ENCOUNTERED SOIL CONDITIONS DO NOT MEET THESE ASSUMED SOIL PARAMETERS, THEN A SPECIAL FOUNDATION MUST BE DESIGNED.
  - A. SUBMERGED UNIT WEIGHT: 82.5 PCF
  - B. INTERNAL ANGLE OF FRICTION: 32 DEGREES

POLE TYPE ASSEMBLY	POLE TYPE	POLE HEIGHT	POLE DIAMETER	DEPTH	FOUNDATION REINFORCEMENT		ANCHOR RODS		
					BOLT ORCLE (B.C.)	VERTICAL	HORIZONTAL	DIA	LENGTH
105 MPH	12"	1'-6"	* 4-0"	6"	8 - NO. 6	NO. 4 @ 12" C-C	5/8"	16.00"	6"

\* MUST ALLOW FOR FROST DEPTH AS APPLICABLE BASED ON REGION OR LOCAL REQUIREMENTS.







Whereas, I (We)

(Name of Applicant)

(Application Serial Number)

(Mailing Address)

(City)

(State)

(Zip Code)

hereinafter termed the Applicant, request permission and authority to install license plate readers ("Readers") herein described on the right-of-way of the State Highway known as \_\_\_\_\_ Route \_\_\_\_\_

Section \_\_\_\_\_, Structure Info \_\_\_\_\_

County. The work is described in detail on the attached plan or sketch and/or as follows:

Large empty rectangular box for describing the work.

Emergency Contact Info:

Emergency contact information fields: Name, E-mail, Phone, Address, City, State, Zip Code.

All work authorized by this permit shall be completed \_\_\_\_\_ after the date this permit is approved, otherwise the permit becomes null and void.

This permit is subject to the conditions and restrictions printed on the following pages of this form.

This permit is hereby accepted and its provisions agreed to this \_\_\_\_\_ day of \_\_\_\_\_

Signature and address fields for Witness and Applicant.

Sign and Return to: Regional Engineer

Regional Engineer Signature and Date fields.

Approved by Department of Transportation:

**First:** The Applicant represents and warrants that it is the party in interest respecting this permit and that it is the agent in fact with authority to bind all parties in interest to the obligations and undertakings agreed to in this permit. The Applicant represents and warrants that the property lines shown on the attached plan sheet(s) or sketch are true and correct, and that all proposed work is accurately depicted thereon.

**Second:** The proposed work shall be located and constructed to the satisfaction of the Regional Engineer or his/her duly authorized representative. No revision or additions shall be made to the proposed work on the right-of-way without the written permission of the Regional Engineer. The Applicant agrees to complete all work to the standards and specifications identified by the Regional Engineer or his/her authorized representative as a condition of granting this Permit. The Applicant agrees to furnish all labor, equipment and material to restore portions of the highway right-of-way to the condition satisfactory to the Regional Engineer or his/her authorized representative including, but not limited to, all landscape restoration. The Applicant shall not trim, cut or in any way disturb any trees or shrubbery along the highway without the approval of the Regional Engineer or his/her duly authorized representative. Any and all documents, writings and notes reflecting or identifying the standards, specifications, understandings and conditions applicable to the performance of the permitted work required by the Regional Engineer or his/her authorized representative are hereby incorporated into this Permit by reference as though fully set forth herein.

**Third:** Traffic control is to be utilized when installing License Plate Readers. The attached Highway Standards shall be utilized. The attached OPER 2410 Form shall be submitted at least 21 days in advance of any required lane closure. The Applicant shall also fill out and submit the BSPE 725 form for the proposed traffic control. Both items shall be submitted via e-mail to \_\_\_\_\_ for approval and processing by the District.

**Fourth:** An additional Traffic Control permit shall be required each time a lane closure is required for maintenance or repair of any one of the License Plate Readers along with a new OPER 2410 form and a new BSPE 725 form. These future permits shall be obtained from the appropriate District office.

**Fifth:** The Applicant shall engage only in the proposed work approved herein, and subject to the hazards incident to such activities, assumes all risks associated therewith. The Applicant assumes full and strict liability for the actions of itself, all parties in interest, its agents and employees, contractors, subcontractors and consultants. The Applicant and all parties in interest shall save, defend, hold harmless and indemnify the State of Illinois and each of its officers, agents, employees, invitees and others associated with it from and against any and all suits, claims, actions, losses, injuries, damages, judgments, and expenses that are based on, or that arise or are alleged to have arisen out of the performance of the work approved herein, including, but not limited to, any act, willful or intended, or negligence of the Applicant and any party in interest, its agents and employees, contractors, subcontractors and consultants whether at law, in equity or common law. In the event the Applicant or any party in interest fails, neglects, or refuses to comply with any provision of this indemnity, the State of Illinois may take any action necessary to protect itself from liability, including any action to pay, settle, compromise and procure the discharge thereof, in which case the Applicant or party in interest, jointly and severally, shall be liable and bound unto the State of Illinois for any and all expenses related thereto, including attorney's fees.

**Sixth:** The Department is not responsible for any damage costs to the License Plate Readers or times when the License Plate Readers cannot be operated due to the Department's normal maintenance or repair activities. Components of the Reader system shall be clear of any walkways or other areas required for structural maintenance operations. Should the License Plate Readers or conduits need to be adjusted, removed or relocated due to the Department's construction, maintenance or repair activities, the costs of said adjustment, removal or relocation will be the Applicant's responsibility. The Department does not warrant nor guarantee the validity of this permit on any new or replacement structure.

**Seventh:** This permit is effective only insofar as the Department has jurisdiction and does not presume to release the Applicant from compliance with the provisions of any existing statutes, including the Biometric Information Privacy Act, local regulations, or future statutes or regulations.

**Eighth:** A contractor currently prequalified by the Department in electrical work shall be approved. Prior to the commencement of the said work on the State highway, the applicant shall furnish the Regional Engineer a copy of the contractor's current Certificate of Eligibility, or, if the permittee proposes to use a contractor not currently prequalified by the Department, information satisfactory to the Department evidencing the contractor's qualification and ability to perform the said work. The Department may require the use of one of its electrical maintenance contractors to perform said work in order to avoid conflicts with maintenance of existing Department structures.

**Ninth:** The Applicant or their contractor at their expense will be responsible for determining the location of and protecting any State owned facilities, including buried facilities, and will be responsible for the cost of repair or replacement of any such facilities damaged as a result of the work covered herein. The Applicant may contact \_\_\_\_\_ for location information of State-owned facilities. The Applicant shall assume all responsibility for interference with all other existing utilities in, along or upon said right of way. Any damage to IDOT property or appurtenances shall be repaired by the Applicant or their contractor in a manner meeting the Department's approval.

**Tenth:** License Plate Readers must utilize a separate electrical meter for their energy charges unless specifically authorized by the Department in which case the Department makes no guarantees on the continuity and maintenance of the electric service. The License Plate Readers must use separate electrical cabling and either dedicated communication lines or cellular modems to collect data from the License Plate Readers so as to not use or involve any Department communications infrastructure whatsoever.

**Eleventh:** Separate conduits for any wiring must be installed outside of the IDOT conduits. The Applicant or their contractor shall provide specific mounting details to the Department for review, comment, and approval prior to any installation of conduit or mounting brackets on the Department structure. All mounting hardware or brackets shall be either stainless steel or other material which will not harm or impede aesthetics. The additional surface area of installed Readers and mounting hardware shall not create a total surface area attached to the structure that exceeds the allowed maximum. The Department reserves the right to perform or require a structural analysis of the proposed attachment of the License Plate Reader system prior to execution of this permit. ABSOLUTELY NO DRILLING, TAPPING, OR PUNCTURING SHALL BE PERMITTED ON ANY STRUCTURE.

**Twelfth:** The Applicant shall be responsible for repair, removal or replacement of any and all License Plate Reader equipment damaged by any cause whatsoever, and any associated costs. The Department will not provide any compensation for repair, removal or replacement.

**Thirteenth:** The Applicant shall be responsible to make recovery for damage to any part of the installation from the third party causing the damage.

**Fourteenth:** The Applicant agrees to respond to emergency calls to repair License Plate Reader equipment and/or associated hardware from authorized parties twenty-four (24) hours per day including Saturdays, Sundays, and holidays.

**Fifteenth:** The Applicant shall provide the Department the name, address, and telephone number of at least one person who will be available for emergency repair to the License Plate Reader system and shall keep the Department informed on any changes of same.

**Sixteenth:** The Applicant or their designee bears sole responsibility for all aspects of installation, operations, maintenance, data, and compliance with existing and future laws, including the Biometric Information Privacy Act, associated with the License Plate Readers.

**Seventeenth:** All documents, data, and records associated with the Applicant's use of the License Plate Readers, without limitation and whether preliminary or final, are the property and responsibility of the Applicant. The Department shall have no responsibility with respect to production or communication of data produced by the License Plate Readers. License Plate Reader installations shall utilize separate microwave or other wireless communication methods. Data collection and/or transfer shall not use IDOT communications infrastructure, including fiber optic cable. IDOT shall not host or move data for other entities, nor record data for storage or later transmission.

**Eighteenth:** The Applicant acknowledges and agrees that the Applicant will be individually responsible for the obligations of a public body required under the Illinois Freedom of Information Act, 5 ILCS 140 et seq. ("FOIA") for FOIA requests seeking the electronically stored, or otherwise recorded, video, film or other visual memorialization(s) and data created under this permit that constitute a public record, as defined in section 2 of the FOIA statute. Accordingly, the Applicant agrees that IDOT will refer any individuals who submit to IDOT such FOIA requests to the Applicant's Freedom of Information Officer, and that the Applicant will receive and respond to all such requests, and search for, obtain, review for FOIA exempt information, and otherwise entirely handle any of the above-described responsive public records.

**Nineteenth:** The Department shall give notice to Applicant of any planned actions or activities which impact the License Plate Readers. The Applicant shall be required to remove any and all License Plate Reader equipment impacted by the Department's planned actions or activities, and as required or requested by the Department. However, the Department will neither compensate nor guarantee alternatives under any circumstances. Applicant's failure to remove equipment within thirty (30) days shall constitute permission to the Department to remove the License Plate Reader equipment, at the Applicant's cost.

**Twentieth:** Following completion of any work, all waste materials shall be removed from the highway right of way. Any damage to State property shall be the responsibility of the Applicant. Any areas disturbed by equipment or workers shall be repaired and returned to its original condition.

**Twenty-first:** The Department reserves all rights and authority to revoke this permit at any time for any cause.

Other Applicable Requirements

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