

VILLAGE OF DOWNERS GROVE
Report for the Village
11/5/2019

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| SUBJECT: | SUBMITTED BY: |
| Award of Contract for Traffic Signal Modernization, Finley Road and Finley Square Mall | Nan Newlon Director of Public Works |

SYNOPSIS

A motion is requested to award a contract for Traffic Signal Modernization, Finley Road and Finley Square Mall, to H&H Electric Company of Franklin Park, Illinois in the amount of \$323,651.55.

STRATEGIC PLAN ALIGNMENT

The goals for 2017-2019 include *Top Quality Infrastructure*.

FISCAL IMPACT

The FY19 Budget includes \$325,000 in the Capital Projects Fund for this project.

UPDATE & RECOMMENDATION

This item was discussed at the October 15, 2019 Village Council meeting. Staff recommends approval on the November, 5 2019 consent agenda.

BACKGROUND

The intersection of Finley Road and Finley Square Mall was originally constructed in 1985. The traffic signal at this intersection has exceeded its expected life of approximately 20 years with minor component replacements. As a result of new technologies this project is anticipated to help relieve some congestion and provide safety benefits. The project consists of upgrading the traffic signal with video detection, a new traffic signal controller, new mast arms and updated ADA ramps at the intersection.

A Call for Bids was issued and published in accordance with the Village's Purchasing Policy. Two bids were received by the due date of October 4, 2019. Below is the synopsis of the bids received.

| CONTRACTOR | BID |
|----------------------|--------------|
| H&H Electric Company | \$323,651.55 |
| Hometowne Electric | \$361,189.80 |

Staff recommends award of the base bid to H&H Electric Company. H&H presently holds the traffic signal maintenance contract with the Village.

ATTACHMENTS

Contract Documents



CALL FOR BIDS – FIXED WORKS PROJECT

- I. Name of Company Bidding: H&H Electric Co.
- II. Instructions and Specifications:
- A. Bid No.: TR-026
 - B. For: TRAFFIC SIGNAL MODERNIZATION, FINLEY AND FINLEY SQUARE MALL
 - C. Bid Opening Date/Time: FRIDAY, OCTOBER 4, 2019 @ 10:00 AM
 - D. Pre-Bid Conference Date/Time: FRIDAY, SEPTEMBER 20, 2019 @ 10:00 AM
 - E. Pre-Bid Conference Location: PUBLIC WORKS BUILDING, 5101 WALNUT AVENUE, DOWNERS GROVE, IL 60515
- III. Required of All Bidders:
- A. Bid Deposit: 5%
 - B. Letter of Capability of Acquiring Performance Bond: YES
- IV. Required of Awarded Contractor(s)
- A. Performance Bond or Letter of Credit: YES
 - B. Certificate of Insurance: YES

Legal Advertisement Published: TUESDAY, SEPTEMBER 17, 2019

This document comprises 40 pages

RETURN ORIGINAL BID IN SEALED ENVELOPE MARKED WITH THE BID NUMBER AS NOTED ABOVE TO:

VILLAGE OF DOWNERS GROVE

5101 WALNUT AVE.
DOWNERS GROVE, IL 60515
PHONE: 630/434-5460
FAX: 630/434-5495
www.downers.us

Village of Downers Grove

CALL FOR BIDS – FIXED WORKS PROJECT**Bid No.:** TR-026

The VILLAGE OF DOWNERS GROVE will receive bids Monday thru Friday, 8:00 A.M. to 5:00 P.M. at the Public Works Building, 5101 Walnut Avenue, Downers Grove, IL 60515.

The Village Council reserves the right to accept or reject any and all bids, to waive technicalities and to accept or reject any item of any Bid.

The documents constituting component parts of this Contract are the following:

- I. CALL FOR BIDS ✓
- II. TERMS & CONDITIONS ✓
- III. GENERAL PROVISIONS ✓
- IV. SPECIAL PROVISIONS ✓
- V. BID & CONTRACT FORM ✓

All Bidders MUST submit the entire bid package, with one original Bid Form. Upon formal Award, the successful Bid will automatically convert to a Contract, and the successful Bidder will receive a copy of the executed contract upon formal award of the Bid with the Notice of Award.

DO NOT DETACH ANY PORTION OF THIS DOCUMENT. INVALIDATION COULD RESULT.

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I. CALL FOR BIDS and INSTRUCTIONS TO BIDDERS**1. GENERAL**

- 1.1 Notice is hereby given that Village of Downers Grove will receive sealed bids up to FRIDAY, OCTOBER 4, 2019 @ 10:00 AM.
 - 1.2 Defined Terms:
 - 1.2.1 Village – the Village of Downers Grove acting through its officers or agents.
 - 1.2.2 Contract Documents – this document plus any drawings issued therewith, any addenda and the Bidder's completed proposal, bonds and all required certifications.
 - 1.2.3 Bid – this document completed by an individual or entity and submitted to the Village.
 - 1.2.4 Bidder – the individual or entity who submits or intends to submit a bid proposal to the Village.
 - 1.2.5 Contractor – the individual or entity whose bid is selected by the Village and who enters into a contract with the Village.
 - 1.2.6 Work – the construction or service defined herein.
 - 1.2.7 Day – unless otherwise stated all references to day "Day" "Days", "day" or "days" shall refer to calendar days.
 - 1.2.8 Proposal Guaranty – the required bid deposit.
 - 1.3 Bids must be received at the Village by the time and date specified. Bids received after the specified time and date will not be accepted and will be returned unopened to the Bidder.
 - 1.4 Bids shall be sent to the Village of Downers Grove, ATTN: WILLIAM LORTON, in a sealed envelope marked "SEALED BID FOR TRAFFIC SIGNAL MODERNIZATION, FINLEY AND FINLEY SQUARE MALL". The envelope shall be marked with the name of the project, date, and time set for receipt of Bids. The bid package may be submitted any time prior to the time set for receipt of Bids.
 - 1.5 All Bids must be submitted on the forms supplied by the Village and signed by a proper official of the company submitting the Bid. Telephone, email and fax Bids will not be accepted.
 - 1.6 Under penalty of perjury, the Bidder certifies by submitting this Bid that he has not acted in collusion with any other Bidder or potential Bidder.
- 2. BID PREPARATION**
- 2.1 It is the responsibility of the Bidder to carefully examine the Contract Documents and to be familiar with all of the requirements, stipulations, provisions, and conditions surrounding the proposed Work.
 - 2.2 The Bidder shall inspect the site of the proposed Work in detail, investigate and become familiar with

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all the local conditions affecting the Work and become fully acquainted with the detailed requirements of the Work. Submitting a Bid shall be a conclusive assurance and warranty that the Bidder has made these examinations and that the Bidder understands all requirements for the performance of the Work. If the Bid is accepted, the Bidder will be responsible for all errors in the Bid resulting from his willing or neglectful failure to comply with these instructions. IN NO CASE WILL THE VILLAGE BE RESPONSIBLE FOR ANY COSTS, EXPENSES, LOSSES OR CHANGES IN ANTICIPATED MARGINS OF PROFIT RESULTING FROM THE WILLING OR NEGLECTFUL FAILURE OF THE BIDDER TO MAKE THESE EXAMINATIONS. THE VILLAGE WILL NOT BE RESPONSIBLE FOR ANY COSTS, EXPENSES, LOSSES OR CHANGES IN ANTICIPATED MARGINS OF PROFIT RESULTING FROM THE WILLING OR NEGLECTFUL FAILURE OF THE CONTRACTOR TO PROVIDE THE KNOWLEDGE, EXPERIENCE AND ABILITY TO PERFORM THE WORK REQUIRED BY THIS CONTRACT. No changes in the prices, quantities or contract provisions shall be made to accommodate the inadequacies of the Bidder, which might be discovered subsequent to award of contract. The Bidder shall take no advantage of any error or omission in the Contract Documents nor shall any error or omission in the Contract Documents serve as the basis for an adjustment of the amounts paid to the Bidder.

- 2.3 When the Contract Documents include information pertaining to subsurface explorations, borings, test pits, and other preliminary investigations, such information is included solely for the convenience of the Bidder. *The Village assumes no responsibility whatsoever with respect to the sufficiency of the information, and does not warrant, neither expressly nor by implication, that the conditions indicated represent those existing throughout the Work, or that unanticipated developments may not occur.*
- 2.4 Any information shown in the Contract Documents regarding the locations of underground utility facilities is included solely for the convenience of the Bidder. The Village assumes no responsibility whatsoever with respect to the sufficiency, accuracy or inadequacy of such information. It shall be the Bidder's responsibility to obtain detailed information from the respective utility companies relating to the location of their facilities and the work schedules of the utility companies for removing or adjusting them. Utilities whose facilities may be affected by the work include, but may not be limited to, the following: Nicor, ComEd, SBC, Comcast Cable, Downers Grove Sanitary District, and Village water, storm sewer, and street lighting systems.
- 2.5 No oral or telephone interpretations of specifications shall be binding upon the Village. All requests for interpretations or clarifications shall be made in writing and received by the Village at least five (5) business days prior to the date set for receipt of Bids or the pre-bid conference, if offered. The Village shall make all changes or interpretations of the Contract Documents in a written addendum and shall provide an addendum to any Bidder of record. Any and all changes to the Contract Documents are valid only if they are included by written addendum to all Bidders. Each Bidder must acknowledge receipt of any addenda by indicating same on the Bid Form. Each Bidder, by acknowledging receipt of any addenda, is responsible for the contents of the addenda and any changes to the Bid therein. Failure to acknowledge any addenda may cause the Bid to be rejected. The Village will not assume responsibility for receipt of any addenda. In all cases, it will be the Bidder's responsibility to obtain all addenda issued. Bidders will provide written acknowledgement of receipt of each addendum issued with the bid submission.
- 2.6 An estimate of the quantities of Work to be performed and the materials to be furnished is shown in the Bid Form. It is given as a basis for comparing the properly submitted Bids, and shall be used by the

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Village in awarding the Contract. The Village does not expressly warrant nor imply that the estimated quantities shown will correspond with those quantities required to perform the Work. No Bidder shall plead misunderstanding or deception because of such an estimate of quantities, or because of the character, location or other conditions pertaining to the Work. Payment shall be based on the actual quantities of work properly performed in accordance with the Contract, at the Contract unit prices specified. The Village reserves the right to increase, decrease or omit entirely, any or all items. No allowance will be made for any change in anticipated profits due to an increase or decrease in the original estimate of quantities.

- 2.7 The Bid shall be executed properly, and Bids shall be made for all items indicated in the Bid Form. The Bidder shall indicate, in figures, a unit price or lump sum price for each of the separate items called for in the Bid Form. The Bidder shall show the products of the respective quantities and unit prices in the column provided for that purpose. The gross sum shown in the place indicated in the Bid Form shall be the summation of said products. All writing shall be with ink or typewriter, except the signature of the Bidder, which shall be written with ink.
- 2.8 In case of error in the extension of prices in the Bid, the hourly rate or unit price will govern. In case of discrepancy in the price between the written and numerical amounts, the written amount will govern.
- 2.9 All costs incurred in the preparation, submission, and/or presentation of any Bid including the Bidder's travel or personal expenses shall be the sole responsibility of the Bidder and will not be reimbursed by the Village.
- 2.10 The Bidder hereby affirms and states that the prices quoted herein constitute the total cost to the Village for all work involved in the respective items, as well as the materials to be furnished in accordance with the collective requirements of the Contract Documents. The Bidder also affirms that this cost includes all insurance, bonds, royalties, transportation charges, use of all tools and equipment, superintendence, overhead expense, profits and other work, services and conditions necessarily involved in the work to be done.
- 2.11 The Bidder shall complete and submit with the Bid an "Affidavit" (IDOT Form BC-57, or similar) listing all uncompleted contracts, including subcontract work; all pending low bids not yet awarded or rejected, and equipment available.
- 2.12 The Bidder shall complete and submit with the Bid a "Municipal Reference List" indicating other municipalities for which the Bidder has successfully performed similar work.

3. PRE-BID CONFERENCE

- 3.1 A pre-bid conference may be offered to provide additional information, inspection or review of current facilities or equipment, and to provide an open forum for questions from Bidders. This pre-bid conference is not mandatory (unless stated "Mandatory" on the cover of this document), but attendance by Bidders is strongly advised as this will be the last opportunity to ask questions concerning the Bid.
- 3.2 Questions may be posed in writing to the Village (faxed and emailed questions are acceptable), but must be received by the Village prior to the scheduled time for the pre-bid conference. Questions received will be considered at the conference. An addendum may be issued as a result of the pre-bid

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conference. Such an addendum is subject to the provisions for issuance of an addendum as set forth in Section 2.5 above.

- 3.3 No Contract Documents will be issued after a mandatory pre-bid conference except to attendees.

4. BID SUBMISSION

- 4.1 An original copy of the sealed bid marked as indicated in Section 1 shall be submitted to the Village.

- 4.2 A bid deposit will be required, which shall not exceed ten percent (10%) of the estimated cost of the work to be furnished. Such bid deposit shall be in the form of a bid bond, certified check, cash or money order. Checks shall be drawn upon a bank of good standing payable to the order of the Village and said deposit shall be forfeited to the Village in the event the Bidder neglects or refuses to enter into a contract and bond when required, with approved sureties, to execute the Work or furnish the material for the price mentioned in his Bid and according to the plans and specifications in case the contract shall be awarded to him.

- 4.3 Bids shall be publicly opened at the hour and place indicated above.

5. BID MODIFICATION OR WITHDRAWAL

- 5.1 A Bid that is in the possession of the Village may be altered by a letter bearing the signature of the person authorized for submitting a Bid, provided that it is received prior to the time and date set for the bid opening. Telephone, email or verbal alterations of a Bid will not be accepted.

- 5.2 A Bid that is in the possession of the Village may be withdrawn by the Bidder, up to the time set for the bid opening, by a letter bearing the signature of the person authorized for submitting Bids. Bids may not be withdrawn after the bid opening and shall remain valid for a period of ninety (90) days from the date set for the bid opening, unless otherwise specified.

6. BID REJECTION

- 6.1 Bids that contain omissions, erasures, alterations, additions not called for, conditional bids or alternate bids not called for, or irregularities of any kind, shall be rejected as informal or insufficient. Bids otherwise acceptable, which are not accompanied by the proper Proposal Guaranty, shall also be rejected as informal or insufficient. The Village reserves the right however, to reject any or all Bids and to waive such technical error as may be deemed best for the interest of the Village.

7. BIDDER COMPETENCY

- 7.1 No Bid will be accepted from, or contract awarded to, any person, firm or corporation that is in arrears or is in default upon any debt or contract. The Bidder, if requested, must present evidence to the Village of ability and possession of necessary facilities, and financial resources to comply with the terms of the Contract Documents. Evidence must be presented within three (3) business days.

8. BIDDER DISQUALIFICATION

- 8.1 Any one or more of the following causes may be considered as sufficient for the disqualification of a Bidder and the rejection of their Bid.

- 8.1.1 More than one Bid for the same Work from an individual, firm partnership, or corporation under the same or different names.

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- 8.1.2 Evidence of collusion among Bidders.
- 8.1.3 Unbalanced Bids in which the prices for some items are substantially out of proportion to the prices for other items.
- 8.1.4 Failure to submit a unit price for each item of Work listed in the Bid Form.
- 8.1.5 Lack of competency as revealed by financial statement or experience questionnaire.
- 8.1.6 Unsatisfactory performance record as shown by past work, judged from the standpoint of workmanship and progress.
- 8.1.7 Uncompleted work which, in the judgment of the Village, might hinder or prevent the prompt completion of this Work.
- 8.1.8 Failure to submit a signed Bidder's Certificate stating the following:
 - 8.1.8.1 That the Bidder is not barred from bidding on this Contract as a result of a violation of Sections 720 ILCS 5/33-E3 and 720 ILCS 5/33-E4 of the Illinois Compiled Statutes; and
 - 8.1.8.2 The Bidder is not delinquent in the payment of any tax administered by the Illinois Department of Revenue; and
 - 8.1.8.3 The Bidder will maintain the types and levels of insurance required by the terms of this Contract; and
 - 8.1.8.4 The Bidder will comply with the Illinois Prevailing Wage Act, 820 ILCS 130/1 *et seq.*

9. BASIS OF AWARD

- 9.1 The Village reserves the exclusive right to accept or reject any and all Bids or to waive sections, technicalities and irregularities, or to accept or reject any Bid or any item of any Bid.

10. AWARD OF CONTRACT

- 10.1 Unless the Village exercises its right to reject all Bids, the Contract will be awarded to that responsible Bidder whose Bid, conforming to the Contract Documents, will be most advantageous to the Village, price and other factors considered. (the credentials, financial information, bonding capacity, insurance protection, qualifications of the labor and management of the firm, past experience and ability to complete the project within time frame required - lowest responsible bidder)
- 10.2 Unless otherwise specified, if a Contract is not awarded within ninety (90) days after the opening of Bids, a Bidder may file a written request with the Village for the withdrawal of their Bid. The Village will have a maximum of ten (10) days after the receipt of such request to award the Contract or release the Bidder from further obligation by return of the Bidder's bid deposit. Any attempt or actual withdrawal or cancellation of a Bid by the awarded contractor who has been notified by the Village of the acceptance of said Bid shall be considered a breach of contract.

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11. RETURN OF BID DEPOSIT

- 11.1 The bid deposit of all except the three (3) lowest responsive bidders on each contract will be returned within fifteen (15) days after the opening of Bids. The remaining bid deposits of each contractor will be returned within fifteen (15) days after the Village Council has awarded the contract and the required appurtenances to the contract have been received.

12. FAILURE TO ENTER INTO CONTRACT

- 12.1 Failure on the part of the successful Bidder to execute a Contract and provide acceptable bonds, as provided herein, within ten (10) days from the date of receipt of the Contract and Notice of Award from the Village, will be considered as just cause for the revocation of the award. The Bidder's bid security shall then be forfeited to the Village, not as a penalty, but in payment of liquidated damages sustained as a result of such failure.
- 12.2 The Bidder shall not be allowed to claim lack of receipt where the Contract and Notice of Award was mailed by U.S. Postal Services certified mail to the business address listed in his Bid. In case the Village does not receive evidence of receipt within ten (10) days of the date of Notice of Award, the Village may revoke the award. The Bidder shall then forfeit the bid security to the Village, not as a penalty, but in payment of liquidated damages sustained as the result of such failure to execute the Contract.
- 12.3 By submitting a Bid, the Bidder understands and agrees that, if his Bid is accepted, and he fails to enter into a contract forthwith, he shall be liable to the Village for any damages the Village may thereby suffer.

13. SECURITY FOR PERFORMANCE

- 13.1 The successful Bidder shall, within ten (10) days after acceptance of the Bidder's Bid by the Village, furnish a Performance Bond and a Materials and Labor Payment Bond acceptable to the Village in the full amount of the Bid. Said bonds shall guarantee the Bidder's performance under the Contract Documents and shall guarantee payment of all subcontractors and material suppliers. Any bond shall include a provision that guarantees faithful performance of the Illinois Prevailing Wage Act, 820 ILCS 130/1 et seq.

14. TAX EXEMPTION

- 14.1 The Village is exempt from Illinois sales or use tax for direct purchases of materials and supplies. A copy of the Illinois Sales Tax Exemption Form will be issued upon request. The Village's federal identification number will also be provided to the selected Bidder.

15. RESERVED RIGHTS

- 15.1 The Village reserves the right to waive sections, irregularities, technicalities and informalities to this Contract and to accept any Bid and to reject any and all Bids and to disapprove of any and all subcontractors as may be in the best interest of the Village. Time and date requirements for receipt of Bids, however, will not be waived.

16. CATALOGS AND SHOP DRAWINGS

- 16.1 Each Bidder shall submit catalogs, descriptive literature, and detailed drawings, where applicable, to fully illustrate and describe the work or material he proposes to furnish.

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17. TRADE NAMES AND SUBSTITUTIONS

- 17.1 Certain materials and equipment are specified by a manufacturer or trade name to establish standards or quality and performance and not for the purpose of limiting competition. Products of other manufacturers may be substituted, if, in the opinion of the Village, they are equal to those specified in quality, performance, design, and suitability for intended use. If the Bidder proposes to furnish an "equal", the proposed "equal" item must be so indicated in the written Bid. Where two or more items are specified, the selection among those specified is the Bidder's option, or he may submit his Bid on all such items. Detail specification sheets shall be provided by Bidder for all substituted items.

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II. TERMS AND CONDITIONS**18. VILLAGE ORDINANCES**

- 18.1 The successful Bidder, now the Contractor, will strictly comply with all ordinances of the Village of Downers Grove and laws of the State of Illinois.

19. USE OF VILLAGE'S NAME

- 19.1 The Contractor is specifically denied the right of using in any form or medium the name of the Village for public advertising unless the Village grants express permission.

20. HOURS OF WORK

- 20.1 The Contractor shall do no work between the hours of 7:00 p.m. and 7:00 a.m., nor on Saturdays, Sundays or legal holidays, unless otherwise approved in writing by the Village. However, such work may be performed at any time if necessary, for the proper care and protection of work already performed, or in case of an emergency. All after-hour work is still subject to the permission of the Village. Any work, including the starting and/or idling of vehicles or machinery, or a congregation of workers prior to starting work, which may cause any noise level that can be heard by adjacent residents, performed outside of these hours of work and not authorized by the Village shall be subject to a fine of \$250 per day, per violation.

21. PERMITS AND LICENSES

- 21.1 The Contractor shall obtain all necessary permits and licenses required to complete the Work. The cost of acquisition of all necessary permits, bonds, insurance and services as specified herein shall be considered INCLUDED IN THE TOTAL COST, and no additional compensation will be allowed the Contractor.

22. INSPECTION

- 22.1 The Village shall have a right to inspect, by its authorized representative, any material, components or workmanship as herein specified. Materials, components or workmanship that have been rejected by the Village as not in accordance with the terms of the contract specifications shall be replaced by the Contractor at no cost to the Village.

23. DELIVERIES

- 23.1 All materials shipped to the Village must be shipped F.O.B. designated location, Downers Grove, Illinois.

24. SPECIAL HANDLING

- 24.1 Prior to delivery of any product that is caustic, corrosive, flammable or dangerous to handle, the Contractor will provide written directions as to methods of handling such products, as well as the antidote or neutralizing material required for its first aid before delivery. Contractor shall also notify the Village and provide material safety data sheets for all substances used in connection with this Contract which are defined as toxic under the Illinois Toxic Substances Disclosure to Employees Act.

25. NONDISCRIMINATION

- 25.1 Contractor shall, as a party to a public contract:

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- 25.1.1 Refrain from unlawful discrimination in employment and undertake affirmative action to assure equality of employment opportunity and eliminate the effects of past discrimination;
- 25.1.2 By submission of this Bid, the Contractor certifies that he is an "equal opportunity employer" as defined by Section 2000(e) of Chapter 21, Title 42, U.S. Code Annotated and Executive Orders #11246 and #11375, which are incorporated herein by reference. The Equal Opportunity clause, Section 6.1 of the Rules and Regulations of the Department of Human Rights of the State of Illinois, is a material part of any contract awarded on the basis of this Bid.
- 25.2 It is unlawful to discriminate on the basis of race, color, religion, sex, marital status, national origin or ancestry, age, physical or mental disability unrelated to ability, military status, order of protection status, sexual orientation, sexual identity, or an unfavorable discharge from military service. Contractor shall comply with standards set forth in Title VII of the Civil Rights Act of 1964, 42 U.S.C. Secs. 2000 et seq., The Human Rights Act of the State of Illinois, 775 ILCS 5/1-101 et seq., and The Americans with Disabilities Act, 42 U.S.C. Secs. 12101 et seq.

26. SEXUAL HARASSMENT POLICY

- 26.1 The Contractor, as a party to a public contract, shall have a written sexual harassment policy that:
 - 26.1.1 Notes the illegality of sexual harassment;
 - 26.1.2 Sets forth the State law definition of sexual harassment;
 - 26.1.3 Describes sexual harassment utilizing examples;
 - 26.1.4 Describes the Contractor's internal complaint process including penalties;
 - 26.1.5 Describes the legal recourse, investigative and complaint process available through the Illinois Department of Human Rights and the Human Rights Commission and how to contact these entities; and
 - 26.1.6 Describes the protection against retaliation afforded under the Illinois Human Rights Act.

27. EQUAL EMPLOYMENT OPPORTUNITY

- 27.1 In the event of the Contractor's non-compliance with the provisions of this Equal Employment Opportunity Clause, the Illinois Human Rights Act or the Rules and Regulations of the Illinois Department of Human Rights ("Department"), the Contractor may be declared ineligible for future contracts or subcontracts with the State of Illinois or any of its political subdivisions or municipal corporations, and the contract may be canceled or voided in whole or in part, and such other sanctions or penalties may be imposed or remedies invoked as provided by statute or regulation. During the performance of this Contract, the Contractor agrees as follows:
 - 27.1.1 That it will not discriminate against any employee or applicant for employment because of race, color, religion, sex, marital status, national origin or ancestry, age, physical or mental disability unrelated to ability, military status, order of protection status, sexual orientation, sexual identity, or an unfavorable discharge from military service; and further that it will examine all job classifications to determine if minority persons or women are underutilized and will take

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appropriate affirmative action to rectify any such underutilization.

- 27.1.2 That, if it hires additional employees in order to perform this Contract or any portion thereof, it will determine the availability (in accordance with the Department's Rules and Regulations) of minorities and women in the area(s) from which it may reasonably recruit and it will hire for each job classification for which employees are hired in such a way that minorities and women are not underutilized.
- 27.1.3 That, in all solicitations or advertisements for employees placed by it or on its behalf, it will state that all applicants will be afforded equal opportunity without discrimination because of race, color, religion, sex, marital status, national origin or ancestry, age, physical or mental disability unrelated to ability, military status, order of protection status, sexual orientation, or an unfavorable discharge from military services.
- 27.1.4 That it will send to each labor organization or representative of workers with which it has or is bound by a collective bargaining or other agreement or understanding, a notice advising such labor organization or representative of the Contractor's obligations under the Illinois Human Rights Act and the Department's Rules and Regulations. If any such labor organization or representative fails or refuses to cooperate with the Contractor in its efforts to comply with such Act and Rules and Regulations, the Contractor will promptly so notify the Department and the contracting agency and will recruit employees from other sources when necessary to fulfill its obligations thereunder.
- 27.1.5 That it will submit reports as required by the Department's Rules and Regulations, furnish all relevant information as may from time to time be requested by the Department or the contracting agency, and in all respects comply with the Illinois Human Rights Act and the Department's Rules and Regulations.
- 27.1.6 That it will permit access to all relevant books, records, accounts and work sites by personnel of the contracting agency and the Department for purpose of investigation to ascertain compliance with the Illinois Human Rights Act and the Department's Rules and Regulations.
- 27.1.7 That it will include verbatim or by reference the provisions of this clause in every subcontract it awards under which any portion of the contract obligations are undertaken or assumed, so that such provisions will be binding upon such subcontractor. In the same manner as with other provisions of this Contract, the Contractor will be liable for compliance with applicable provisions of this clause by such subcontractors; and further it will promptly notify the contracting agency and the Department in the event any subcontractor fails or refuses to comply therewith. In addition, the Contractor will not utilize any subcontractor declared by the Illinois Human Rights Commission to be ineligible for contracts or subcontracts with the State of Illinois or any of its political subdivision or municipal corporations.

28. DRUG FREE WORK PLACE

28.1 Contractor, as a party to a public contract, certifies and agrees that it will provide a drug free workplace by:

28.1.1 Publishing a statement:

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- (1) Notifying employees that the unlawful manufacture, distribution, dispensation, possession or use of a controlled substance, including cannabis, is prohibited in the Village's or Contractor's workplace.
- (2) Specifying the actions that will be taken against employees for violations of such prohibition.
- (3) Notifying the employee that, as a condition of employment on such contract or grant, the employee will:
 - (A) abide by the terms of the statement; and
 - (B) notify the employer of any criminal drug statute conviction for a violation occurring in the workplace no later than five (5) days after such conviction.

28.1.2 Establishing a drug free awareness program to inform employees about:

- (1) the dangers of drug abuse in the workplace;
- (2) the Village's or Contractor's policy of maintaining a drug free workplace;
- (3) any available drug counseling, rehabilitation and employee assistance programs;
- (4) the penalties that may be imposed upon employees for drug violations.

28.1.3 Providing a copy of the statement required by subparagraph 1.1 to each employee engaged in the performance of the contract or grant and to post the statement in a prominent place in the workplace.

28.1.4 Notifying the contracting or granting agency within ten (10) days after receiving notice under part (3)(B) of subparagraph 1.1 above from an employee or otherwise receiving actual notice of such conviction.

28.1.5 Imposing a sanction on, or requiring the satisfactory participation in a drug abuse assistance or rehabilitation program by, any employee who is so convicted as required by section 5 of the Drug Free Workplace Act.

28.1.6 Assisting employees in selecting a course of action in the event drug counseling, treatment and rehabilitation is required and indicating that a trained referral team is in place.

28.1.7 Making a good faith effort to continue to maintain a drug free workplace through implementation of the Drug Free Workplace Act.

29. SUBSTANCE ABUSE PREVENTION ON PUBLIC WORKS PROJECTS ACT

29.1 In the event this is a public works project as defined under the Prevailing Wage Act, 820 ILCS 130/2, Contractor agrees to comply with the Substance Abuse Prevention on Public Works Projects Act, 820 ILCS 265/1 *et seq.*, and further agrees that all of its subcontractors shall comply with such Act.. As required by the Act, Contractor agrees that it will file with the Village prior to commencing work its written substance abuse prevention program and/or that of its subcontractor(s) which meet or exceed the requirements of the Act.

30. PREVAILING WAGE ACT

30.1 Contractor agrees to comply with the Illinois Prevailing Wage Act, 820 ILCS 130/1 *et seq.*, for all

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work completed under this Contract. Contractor agrees to pay the prevailing wage and require that all of its subcontractors pay prevailing wage to any laborers, workers or mechanics who perform work pursuant to this Contract or related subcontract. For applicable rates, go to the State of Illinois – Department of Labor website (www.state.il.us/agency/idol/rates/rates.HTM) and use the most current DuPage County rate. The Department revises the prevailing wage rates and the Contractor or subcontractor has an obligation to check the Department's website for revisions to prevailing wage rates throughout the duration of this Contract.

- 30.2 Contractor and each subcontractor shall keep or cause to be kept accurate records of all laborers, mechanics and other workers employed by them on the public works project, which records must include each worker's name, address, telephone number when available, social security number, classification, hourly wage paid (including itemized hourly cash and fringe benefits paid in each pay period), number of hours worked each day, and the starting and ending times of work each day. These records shall be open to inspection at all reasonable hours by any representative of the Village or the Illinois Department of Labor and must be preserved for five (5) years from the date of the last payment on the public work.
- 30.3 Since this is a contract for a public works project, as defined in 820 ILCS 130/2, Contractor agrees to post at the job site in an easily accessible place, the prevailing wages for each craft or type of worker or mechanic needed to execute the contract or work to be performed.
- 30.4 Because this is a public works project as defined under the Prevailing Wage Act, 820 ILCS 130/2, any and all contractors and subcontractors shall submit certified payroll records to the Village no later than the tenth (10th) day of each calendar month for the immediately preceding month in which construction on a public works project has occurred. **WITHOUT THIS PAPERWORK, NO INVOICE SHALL BE PAID BY THE VILLAGE.** Contractors and subcontractors must also submit a statement affirming that the records are true and accurate, that the wages paid to each worker are not less than the prevailing rate, and that the contractor and subcontractor are aware that filing false records is a Class A misdemeanor. The records must include the name, address, telephone number, social security number, job classification, hours of work, hourly rate, and start and end time of work each day for every worker employed on the public work. The Village reserves the right to check the pay stubs of the workers on the job. The Village further cautions that payment for any services rendered pursuant to this Contract may be predicated upon receipt of said records.
- 30.5 In the event that this is a construction project where Motor Fuel tax monies or state grant monies are used in the construction, maintenance and extension of municipal streets, traffic control signals, street lighting systems, storm sewers, pedestrian subways or overhead crossings, sidewalks and off-street parking facilities, and the like, the Village will require an Apprenticeship and Training Certification, attached after the Bidder's Certification.
- 30.6 Any bond furnished as security for performance shall include a provision that guarantees faithful performance of the Illinois Prevailing Wage Act, 820 ILCS 130/1 et seq.

31. PATRIOT ACT COMPLIANCE

- 31.1 The Contractor represents and warrants to the Village that neither it nor any of its principals,

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shareholders, members, partners, or affiliates, as applicable, is a person or entity named as a Specially Designated National and Blocked Person (as defined in Presidential Executive Order 13224) and that it is not acting, directly or indirectly, for or on behalf of a Specially Designated National and Blocked Person. The Contractor further represents and warrants to the Village that the it and its principals, shareholders, members, partners, or affiliates, as applicable are not, directly or indirectly, engaged in, and are not facilitating, the transactions contemplated by this Contract on behalf of any person or entity named as a Specially Designated National and Blocked Person. The Contractor hereby agrees to defend, indemnify and hold harmless the Village, and its elected or appointed officers, employees, agents, representatives, engineers and attorneys, from and against any and all claims, damages, losses, risks, liabilities and expenses (including reasonable attorney's fees and costs) arising from or related to any breach of the foregoing representations and warranties.

32. INSURANCE REQUIREMENTS

32.1 Prior to starting the Work, Contractor and any Subcontractors shall procure, maintain and pay for such insurance as will protect against claims for bodily injury or death, or for damage to property, including loss of use, which may arise out of operations by the Contractor or Subcontractor or any Sub-Sub Contractor or by anyone employed by any of them, or by anyone for whose acts any of them may be liable. Such insurance shall not be less than the greater of coverages and limits of liability specified below or any coverages and limits of liability specified in the Contract Documents or coverages and limits required by law unless otherwise agreed to by the Village.

| | | |
|------------------------------------|--------------|--|
| Workers Compensation | \$500,000 | Statutory |
| Employers Liability | \$1,000,000 | Each Accident |
| | \$1,000,000 | Disease Policy Limit |
| | \$1,000,000 | Disease Each Employee |
| Comprehensive General Liability | \$2,000,000 | Each Occurrence |
| | \$2,000,000 | Aggregate |
| | | <i>(Applicable on a Per Project Basis)</i> |
| Commercial Automobile Liability | \$1,000,000 | Each Accident |
| Professional Errors & Omissions | \$2,000,000 | Each Claim |
| (pursuant to section.9 below) | \$2,000,000 | Annual Aggregate |
| Umbrella Liability | \$ 5,000,000 | |

32.2 Comprehensive General Liability Insurance required under this paragraph shall be written on an occurrence form and shall include coverage for Products/Completed Operations, Personal Injury with Employment Exclusion (if any) deleted, Blanket XCU and Blanket Contractual Liability insurance applicable to defense and indemnity obligations and other contractual indemnity assumed under the Contract Documents. The limit must be on a "Per Project Basis".

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- 32.3 Commercial Automobile Liability Insurance required under this paragraph shall include coverage for all owned, hired and non-owned automobiles.
- 32.4 Workers Compensation coverage shall include a waiver of subrogation against the Village.
- 32.5 Comprehensive General Liability, Employers Liability and Commercial Automobile Liability Insurance may be arranged under single policies for full minimum limits required, **or** by a combination of underlying policies with the balance provided by Umbrella and/or Excess Liability policies.
- 32.6 Contractor and all Subcontractors shall have their respective Comprehensive General Liability (including products/completed operations coverage), Employers Liability, Commercial Automobile Liability, and Umbrella/Excess Liability policies endorsed to add the "Village of Downers, its officers, officials, employees and volunteers" as "additional insureds" with respect to liability arising out of operations performed; claims for bodily injury or death brought against the Village by any Contractor or Subcontractor employees, or the employees of Subcontractor's subcontractors of any tier, however caused, related to the performance of operations under the Contract Documents. Such insurance afforded to the Village shall be endorsed to provide that the insurance provided under each policy shall be **Primary and Non-Contributory**.
- 32.7 Contractor and all Subcontractors shall maintain in effect all insurance coverages required by the Contract Documents at their sole expense and with insurance carriers licensed to do business in the State of Illinois and having a current A. M. Best rating of no less than A- VIII. In the event that the Contractor or any Subcontractor fails to procure or maintain any insurance required by the Contract Documents, the Village may, at its option, purchase such coverage and deduct the cost thereof from any monies due to the Contractor or Subcontractor, or withhold funds in an amount sufficient to protect the Village, or terminate this Contract pursuant to its terms.
- 32.8 All insurance policies shall contain a provision that coverages and limits afforded hereunder shall not be canceled, materially changed, non-renewed or restrictive modifications added, without thirty (30) days prior written notice to the Village. Renewal certificates shall be provided to the Village not less than five (5) days prior to the expiration date of any of the required policies. All Certificates of Insurance shall be in a form acceptable to the Village and shall provide satisfactory evidence of compliance with all insurance requirements. The Village shall not be obligated to review such certificates or other evidence of insurance, or to advise Contractor or Subcontractor of any deficiencies in such documents, and receipt thereof shall not relieve the Contractor or Subcontractor from, nor be deemed a waiver of the right to enforce the terms of the obligations hereunder. The Village shall have the right to examine any policy required and evidenced on the Certificate of Insurance.
- 32.9 If the Work under the Contract Documents includes design, consultation, or any other professional services, Contractor or the Subcontractor shall procure, maintain, and pay for Professional Errors and Omissions insurance with limits of not less than \$2,000,000 per claim and \$2,000,000 annual aggregate. If such insurance is written on a claim made basis, the retrospective date shall be prior to the start of the Work under the Contract Documents. Contractor and all Subcontractors agree to maintain such coverage for three (3) years after final acceptance of the Project by the Village or such longer period as the Contract Documents may require. Renewal policies during this period shall maintain the same retroactive date.

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- 32.10 Any deductibles or self-insured retentions shall be the sole responsibility of the Insured. At the option of the Village, either: the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the Village, its officers, officials, employees and volunteers; or the Contractor shall procure a bond guaranteeing payment of losses and related investigations, claim administration and defense expenses.

33. INDEMNITY AND HOLD HARMLESS AGREEMENT

- 33.1 To the fullest extent permitted by law, the Contractor shall indemnify, keep and save harmless the Village and its agents, officers, and employees, against all injuries, deaths, strikes, losses, damages, claims, suits, liabilities, judgments, costs and expenses, which may arise directly or indirectly from any negligence or from the reckless or willful misconduct of the Contractor, its employees, or its subcontractors.
- 33.2 The Contractor shall, at its own expense, appear, defend and pay all charges of attorneys and all costs and other expenses arising therefrom or incurred in connection therewith, and, if any judgment shall be rendered against the Village in any such action, the Contractor shall, at its own expense, satisfy and discharge the same. This agreement shall not be construed as requiring the Contractor to indemnify the Village for its own negligence. The Contractor shall indemnify, keep and save harmless the Village only where a loss was caused by the negligent, willful or reckless acts or omissions of the Contractor, its employees, or its subcontractors.

34. SUBLETTING OF CONTRACT

- 34.1 No contract awarded by the Village shall be assigned or any part subcontracted without the written consent of the Village. In no case shall such consent relieve the Contractor from his obligation or change the terms of this Contract.

All approved subcontracts shall contain language which incorporates the terms and conditions of this Contract.

35. TERMINATION OF CONTRACT

- 35.1 The Village reserves the right to terminate the whole or any part of this Contract, upon written notice to the Contractor, for any reason.
- 35.2 The Village further reserves the right to terminate the whole or any part of this Contract, upon written notice to the Contractor, in the event of default by the Contractor. Default is defined as failure of the Contractor to perform any of the provisions of this Contract or failure to make sufficient progress so as to endanger performance of this Contract in accordance with its terms. In the event that the Contractor fails to cure the default upon notice, and the Village declares default and termination, the Village may procure, upon such terms and in such manner as it may deem appropriate, supplies or services similar to those so terminated. The Village may also contact the issuer of the Performance Bond to complete the Work. The Contractor shall be liable for any excess costs for such similar supplies or services. Any such excess costs incurred by the Village may be set-off against any monies due and owing by the Village to the Contractor.

36. BILLING AND PAYMENT PROCEDURES

- 36.1 Payment will be made upon receipt of an invoice referencing Village purchase order number. Once an

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invoice and receipt of materials or service have been verified, the invoice will be processed for payment in accordance with the Village's payment schedule. The Village will comply with the Local Government Prompt Payment Act, 50 ILCS 505/1 et seq., in that any bill approved for payment must be paid or the payment issued to the Contractor within 60 days of receipt of a proper bill or invoice. If payment is not issued to the Contractor within this 60-day period, an interest penalty of 1.0% of any amount approved and unpaid shall be added for each month or fraction thereof after the end of this 60-day period, until final payment is made.

- 36.2 The Village shall review each bill or invoice in a timely manner after its receipt. If the Village determines that the bill or invoice contains a defect making it unable to process the payment request, the Village shall notify the Contractor as soon as possible after discovering the defect pursuant to rules promulgated under 50 ILCS 505/1 et seq. The notice shall identify the defect and any additional information necessary to correct it.
- 36.3 As this Contract is for work defined as a "fixed public work" project under the Illinois Prevailing Wage Act, 820 ILCS 130/2, any contractor or subcontractor is required to submit certified payroll records along with the invoice. No invoice shall be paid without said records.
- 36.4 Please send all invoices to the attention of: Village of Downers Grove, Accounts Payable, 801 Burlington, Downers Grove, IL 60515.

37. COMPLIANCE WITH OSHA STANDARDS

- 37.1 Equipment supplied to the Village must comply with all requirements and standards as specified by the Occupational Safety and Health Act. All guards and protectors as well as appropriate markings will be in place before delivery. Items not meeting any OSHA specifications will be refused.

38. CERCLA INDEMNIFICATION

- 38.1 The Contractor shall, to the maximum extent permitted by law, indemnify, defend, and hold harmless the Village, its officers, employees, agents, and attorneys from and against any and all liability, including without limitation, costs of response, removal, remediation, investigation, property damage, personal injury, damage to natural resources, health assessments, health settlements, attorneys' fees, and other related transaction costs arising under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, 42 U.S.C.A. Sec. 9601, et seq., as amended, and all other applicable statutes, regulations, ordinances, and under common law for any release or threatened release of the waste material collected by the Contractor, both before and after its disposal.
- 38.2 If the Contractor encounters any waste material governed by the above Act, it shall immediately notify the Village and stop working in the area until the above requirements can be met.

39. COPYRIGHT or PATENT INFRINGEMENT

- 39.1 The Contractor agrees to indemnify, defend, and hold harmless the Village against any suit, claim, or proceeding brought against the Village for alleged use of any equipment, systems, or services provided by the Contractor that constitutes a misuse of any proprietary or trade secret information or an infringement of any patent or copyright.

40. BUY AMERICA

- 40.1 The Contractor agrees to comply with 49 U.S.C.5323(j), the Federal Transportation

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Administration's (FTA) Buy America regulations at 49 C.F.R. Part 661, and any amendments thereto, and any implementing guidance issued by the FTA, with respect to this Contract, when financed by Federal funds (through a grant agreement or cooperative agreement).

- 40.2 As a condition of responsiveness, the Contractor agrees to submit with its Bid submission, an executed Buy America Certificate, attached hereto.

41. CAMPAIGN DISCLOSURE

- 41.1 Any contractor, proposer, bidder or vendor who responds by submitting a bid or proposal to the Village of Downers Grove shall be required to submit with its bid submission, an executed Campaign Disclosure Certificate, attached hereto.
- 41.2 The Campaign Disclosure Certificate is required pursuant to the Village of Downers Grove Council Policy on Ethical Standards and is applicable to those campaign contributions made to any member of the Village Council.
- 41.3 Said Campaign Disclosure Certificate requires any individual or entity bidding to disclose campaign contributions, as defined in Section 9-1.4 of the Election Code (10 ILCS 5/9-1.4), made to current members of the Village Council within the five (5) year period preceding the date of the bid or proposal release.
- 41.4 By signing the bid documents, contractor/proposer/bidder/vendor agrees to refrain from making any campaign contributions as defined in Section 9-1.4 of the Election Code (10 ILCS 5/9-1.4) to any Village Council member and any challengers seeking to serve as a member of the Downers Grove Village Council.

42. GUARANTEE PERIOD

- 42.1 The Contractor shall guarantee all work and provide a maintenance bond for the full amount of the contract, covering a minimum period of one (1) year after approval and acceptance of the Work. The bond shall be in such form as the Village may prescribe, unless otherwise noted in the Specifications, and shall be submitted before receiving final payment. If longer guarantee periods are required, they will be noted in the Special Provisions for this project.

43. SUCCESSORS AND ASSIGNS

- 43.1 The terms of this Contract will be binding upon and inure to the benefit of the parties and their respective successors and assigns; provided, however, that neither party will assign this Contract in whole or in part without the prior written approval of the other. The Contractor will provide a list of key staff, titles, responsibilities, and contact information to include all expected subcontractors.

44. WAIVER OF BREACH OF CONTRACT

- 44.1 The waiver by one party of any breach of this Contract or the failure of one party to enforce at any time, or for any period of time, any of the provisions hereof will be limited to the particular instance and will not operate or be deemed to waive any future breaches of this Contract and will not be construed to be a waiver of any provision except for the particular instance.

45. CHANGE ORDERS

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- 45.1 The contract price is a "not-to-exceed" cost. At any time additional work is necessary or requested, and the not-to-exceed price is increased thereby, all parties must agree to any change, addition or price increase in writing.
- 45.2 Change orders for public works projects which authorize an increase in the contract price that is 50% or more of the original contract price or that authorize or necessitate any increase in the price of a subcontract under the contract that is 50% or more of the original subcontract price must be resubmitted for bidding in the same manner by which the original contract was bid. (50 ILCS 525/1)

46. SEVERABILITY OF INVALID PROVISIONS

- 46.1 If any provisions of this Contract are held to contravene or be invalid under the laws of any state, country or jurisdiction, contravention will not invalidate the entire Contract, but it will be construed as if not containing the invalid provision and the rights or obligations of the parties will be construed and enforced accordingly.

47. GOVERNING LAW AND VENUE

- 47.1 This Contract will be governed by and construed in accordance with the laws of the State of Illinois. Venue is proper only in the County of DuPage for state cases or the Northern District of Illinois for federal cases.

48. NOTICE

- 48.1 Any notice will be in writing and will be deemed to be effectively served when deposited in the mail with sufficient first class postage affixed, and addressed to the party at the party's place of business. Notices shall be addressed to the Village as follows:

**Village Manager
Village of Downers Grove
801 Burlington Ave.
Downers Grove, IL 60515**

And to the Contractor as designated on the Contract Form.

49. AMENDMENT

- 49.1 This Contract will not be subject to amendment unless made in writing and signed by all parties.

50. COOPERATION WITH FOIA COMPLIANCE

- 50.1 Contractor acknowledges that the Freedom of Information Act does apply to public records in possession of the Contractor or a subcontractor. Contractor and all of its subcontractors shall cooperate with the Village in its efforts to comply with the Freedom of Information Act. 5 ILCS 140/1 et seq.

51. EMPLOYMENT OF ILLINOIS WORKERS ON PUBLIC WORKS ACT

- 51.1 If the work contemplated by this Contract is funded or financed in whole or in part with State Funds or funds administered by the State, Contractor agrees to comply with the terms of the Employment of Illinois Workers on Public Works Act by employing at least 90% Illinois laborers on the project. 30 ILCS 570/1 et seq. Contractor agrees further to require compliance with this Act by all of its subcontractors.

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III. GENERAL PROVISIONS**1. STANDARD SPECIFICATIONS**

- 1.1 The following standards shall govern the construction of the proposed improvements:
- 1.1.1 Standard Specifications for Water and Sewer Main Construction in Illinois, Seventh Edition, 2014 (the Water & Sewer Specs.); and
 - 1.1.2 Standard Specifications for Road and Bridge Construction as adopted by the Illinois Department of Transportation, January 1, 2016; along with Supplemental Specifications and Recurring Special Provisions as adopted by the Illinois Department of Transportation, January 1, 2018 (collectively the "SSRBC"); and
 - 1.1.3 Water Distribution Specifications, Village of Downers Grove, Illinois, revised January 2017.
 - 1.1.4 Standard Detail Drawings, Village of Downers Grove, Illinois revised January, 2018.
- 1.2 These Contract Documents shall take precedence whenever there are conflicts in the wording or statements made by the above specifications and these Contract Documents.
- 1.3 Unless otherwise referenced herein, Division I of the Water and Sewer Specs and Section 102 and Articles 104.03, 104.07, 107.02, 107.27, 107.35, 108.10, 108.11, and 108.12 of the SSRBC are hereby ineffective and not a part of this Contract.

2. COOPERATION OF CONTRACTOR

- 2.1 The Contractor will be supplied with a minimum of 2 sets of approved plans and contract assemblies including Special Provisions, one set of which the Contractor shall keep available on the work site at all times. The Contractor shall give the work site constant attention necessary to facilitate the progress thereof, and shall cooperate with the Village in every way possible.
- 2.2 The Contractor shall have on the work site at all times, as the Contractor's agent, a competent English-speaking representative capable of reading and thoroughly understanding the Contract Documents, and thoroughly experienced in the type of work being performed. The representative shall also be capable of receiving instruction from the Village, and shall have full authority to promptly respond to such instruction. He shall be capable of supplying such materials, equipment, tools, labor and incidentals as may be required. The Contractor shall not replace him without prior written notification to the Village.

3. LEGAL REGULATIONS AND RESPONSIBILITY TO THE PUBLIC

- 3.1 Section 107 of the SSRBC shall govern the Contractor's legal regulations and responsibility to the public, with the following additions:
- 3.1.1 **PROJECT SAFETY.** Add the following to Article 107.28:
 - 3.1.1.1 The Contractor shall conduct his work in such a manner as to provide an environment consistent with the safety, health and well being of those engaged in the completion of the Work specified in this Contract.

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- 3.1.1.2 The Contractor shall comply with all State and Federal Safety Regulations as outlined in the latest revisions of the Federal Construction Safety Standards (Series 1926) and with applicable provisions and/or regulations of the Occupation Safety and Health Administration (OSHA) and Standards of the Williams-Stelger Occupational Health Safety Act of 1970 (Revised). **SPECIAL ATTENTION SHALL BE PAID TO COMPLIANCE WITH OSHA'S SUBPART P – EXCAVATIONS STANDARD.**
- 3.1.1.3 The Contractor and Village shall each be responsible for their own respective agents and employees.
- 3.1.1.4 The Contractor shall, prior to performing any work, request information from the Village regarding any existing confined spaces owned by the Village that may be entered in the course of the work, and shall obtain all required confined space entry permits prior to entering any confined spaces. Contractor shall follow all current laws and regulations with regard to confined space entry. Contractor shall maintain and, upon request, provide full documentation of compliance with the appropriate confined space permits for each separate confined space entered on the project.
- 3.1.2 **BACKING PRECAUTIONS.** Pursuant to Sections 14-139(b) and 14-171.1 of the Downers Grove Municipal Code, any motor vehicle which has an obstructed view to the rear and is to be operated at any time in reverse gear on the public streets of the Village by the Contractor or any subcontractor shall either be equipped with a reverse signal alarm (backup alarm) audible above and distinguishable from the surrounding noise level, or shall provide an observer to signal that it is safe to back up.
- 3.1.3 **OVERWEIGHT, OVERWIDTH AND OVERHEIGHT PERMITS.** The Village has and supports an overweight truck enforcement program. Contractors are required to comply with weight requirements and safety requirements as established by Illinois Law or Village Ordinance, for vehicles, vehicle operators and specialty equipment. In some instances, specialty equipment for road repairs or construction projects requires the movement of overweight, overwidth, or overheight loads utilizing a Village roadway. Such movement will require obtaining a permit from the Village Police Department's Traffic Supervisor.
- 3.1.4 **BARRICADES AND WARNING SIGNS.** The Contractor shall provide the Village with a telephone number of a person or company who is available 24 hours per day, seven days per week, to erect additional barricades or signs. If the Village or its representative deems it necessary for the Public's safety to erect additional barricades or signs during normal working hours, the Contractor will furnish the necessary barricades or signs, and have them in place within 30 minutes. If, after normal working hours, the requested signs are not in place within three hours after the request is made, the Village reserves the right to have the barricades and signs erected. The cost of erecting the barricades and signs shall be deducted by the Village from any payments due the Contractor.

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4. PROSECUTION AND PROGRESS

- 4.1 Section 108 of the SSRBC shall govern the prosecution and progress of the work, with the following additions:
- 4.1.1 The Contractor shall schedule his work such that all improvements shall be complete by **September 30, 2020**. The completion date will remain binding throughout the duration of the Contract unless revised in writing by the Village.
- 4.1.2 The total duration of disturbance for work related to means of public egress through the project site or access to private property (e.g. removal and replacement of curb and gutters, sidewalks, driveway entrances, etc.) must not exceed ten (10) calendar days. The Contractor may use high-early strength concrete, meeting all specifications herein, **at his own expense** to help meet this requirement.
- 4.1.3 The Contractor shall also make special note of the following work schedule requirements:
(a) N/A
- 4.1.4 Should the Contractor fail to complete the work on or before the specified completion dates set forth in Sections 4.1.1, 4.1.2, 4.1.3, or within such extended time as may be allowed, the Contractor shall be liable for liquidated damages in accordance with the applicable sections of Article 108.09 of the SSRBC.
- 4.1.5 Prior to commencing construction, a meeting will be held with the Contractor and the Village. Any questions concerning procedures, general conditions, special provisions, plans or specific items related to the project shall be answered and clarified. No Pre-Construction meeting shall be scheduled until submittals, performance bonds, and certificates of insurance are delivered to, and approved by, the Village.
- 4.1.6 Weekly progress meetings may be required by the Village. If required, the Contractor shall have a capable person, such as a site superintendent or project manager, attend such meetings and be prepared to report on the prosecution of the Work according to the progress schedule. The Village reserves the right to require adjustments to scheduling of work.

5. MEASUREMENT AND PAYMENT

- 5.1 Section 109 of the SSRBC shall govern measurement and payment, with the following additions:
- 5.1.1 Modifies Article 109.07 - Partial payments will be made per Section 36 of Part II of this document (Billing and Payment Procedures.)
- 5.1.2 The Village will require that partial and final affidavits for all labor, materials and equipment used on the Project and certified payroll records, be submitted with the partial and final payment requests. Such waivers shall indicate that charges for all labor, materials and equipment used on the project have been paid. Partial waivers from suppliers and subcontractors may be submitted after the first payment to the Contractor, and before the

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subsequent payment to that which they apply. However, partial waivers from the Contractor must accompany the invoice of the payment to which it applies. All final waivers, from all suppliers and subcontractors **MUST** accompany the Contractor's invoice upon submittal for final payment. A sworn statement by the Contractor shall accompany full waivers. Such requirement for full waivers is solely for the benefit of the Village and shall not be construed to benefit any other person. Partial payment for work done shall in no way imply acceptance of the work to that date.

- 5.1.3 For each progress payment made to the Contractor prior to acceptance of the Work by the Village, the Village shall have the right to retain ten percent (10%) of the amount due to the Contractor for each such payment. The Village may, in its sole discretion, reduce the amount to be retained at any time.

Typically, upon completion of 50% of the work, as determined by the Engineer, retainage may be reduced to 5%. Upon substantial completion, as determined by the Engineer, retainage may be reduced to 2%. Additionally, the Village has the right to withhold an amount of money equivalent to complete unfinished work and/or work that may need to be redone.

6. SCOPE OF WORK

- 6.1 In addition to the Special Provisions in the Detailed Specifications Section below, Section 104 of the SSRBC shall govern scope of work, with the following revisions:

- 6.1.1 Modify Article 104.02 as follows:

104.02 Alterations, Cancellations, Extensions, Deductions, and Extra Work.

The Department reserves the right to make, in writing, at any time during work, changes in quantities, alterations in work, and the performance of extra work to satisfactorily complete the project. Such changes in quantities, alterations, and extra work shall not invalidate the contract nor release the surety, and the Contractor agrees to perform the work as altered.

If the alterations or changes in quantities significantly change the character of the work under the contract, whether or not changed by any such different quantities or alterations, an adjustment, excluding loss of anticipated profits, will be made to the contract. The basis for the adjustment shall be agreed upon prior to the performance of the work. If a basis cannot be agreed upon, then an adjustment will be made either for or against the Contractor in such amount as the Engineer may determine to be fair and equitable.

If alterations or changes in quantities do not significantly change the character of the work to be performed under contract, the altered work will be paid for as provided elsewhere in the contract. The term "significant change" shall be construed to apply only when the character of the work as altered differs materially in kind or nature from that involved or included in the original proposed construction ~~or when a major item, defined as an item whose total original contract cost plus any additions exceeds ten percent of the total original contract amount, is increased in excess of 125 percent or decreased below 75 percent of the original contract quantity.~~

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All alterations, cancellations, extensions, and deductions shall be authorized in writing by the Engineer before work is started. Such authorizations shall set up the items of work involved and the method of payment for each item. The Contractor shall accept payment for alterations which result in an increase or decrease in the quantities of work to be performed according to the following.

(a) All increases in work of the type which appear in the contract as pay items accompanied by unit prices will, except as provided under paragraph (d) herein, be paid for at the contract unit prices. Decreases in quantities included in the contract will be deducted from the contract at the unit bid prices. No allowance will be made for delays or anticipated profits.

(b) Major items of work for which the quantities are increased by not more than 125 percent or reduced to not less than 75 percent of the original contract quantities OR DECREASED will be paid for as specified in paragraph (a) above. ~~Any adjustments for increased quantities for major items of work increased more than 125 percent shall only apply to that portion in excess of 125 percent of original contract quantities. Any adjustments made for major items of work which are decreased to less than 75 percent of the original contract quantities shall apply to the actual amount of work performed.~~

(c) Extra work which is not included in the contract as pay items at unit prices and is not included in other items of the contract will be paid for according to Article 109.04.

(d) Extra work for which there is a pay item at unit price in the contract which for any one or more of the following reasons materially increases or decreases the cost of the pay item as bid and which is not included in the prices bid for other items in the contract will be paid for according to Article 109.04. This includes:

- (1) Work involving a substantial change of location.
- (2) Work which differs in design.
- (3) Work requiring a change in the type of construction.

(e) In cases where the Department cancels or alters any portion of the contract items, items which are partially completed will be paid for as specified in Article 109.06.

Claims for extra work which have not been authorized in writing by the Engineer will be rejected.

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IV. SPECIAL PROVISIONS

The following Special Provisions shall modify, supercede, or supplement the Standard Specifications referred to in Section III - General Provisions.

Where any section, subsection, paragraph, or subparagraph of the Standard Specifications is *supplemented* by any of the following paragraphs, the provisions of such section, subsection, paragraph, or subparagraph shall remain in effect. The Special Provisions shall govern in addition to the particular Standard Specification so supplemented, and not in lieu thereof.

Where any section, subsection, paragraph, or subparagraph of the Standard Specifications is *amended, voided, or superceded* by any of the following paragraphs, any provision of such section, subsection, paragraph, or subparagraph standing unaffected, shall remain in effect. The Special Provisions shall govern in lieu of any particular provision of the Standard Specification so amended, voided, or superceded, and not in addition to the portion changed.

The following Special Provisions in conjunction with the attached specifications by SE3, LLC labeled “Traffic Signal Modernization Finley Road at Finley Square Mall Project Special Provisions” shall modify, supercede, or supplement the Standard Specifications referred to in Section III - General Provisions. Furthermore, Sections I, II, III, or IV of this Call for Bid document shall modify, supercede, or supplement any discrepancy or redundancy between this Call for Bid document and the attached “Traffic Signal Modernization Finley Road at Finley Square Mall Project Special Provisions”. References to “Owner” in the attached “Traffic Signal Modernization Finley Road at Finley Square Mall Project Special Provisions” refer to the Village as defined in Section 1.2 of this Call for Bid document.

SP-1 GENERAL SCOPE OF WORK

The work consists of modernizing the existing traffic signals at the intersection of Finley Road at Finley Square Mall. Temporary traffic signals will be installed at the intersection during construction. Sidewalk and curb & gutter will be removed and replaced with ADA compliant ramps and detectable warnings as shown on the plans. Pavement markings at the intersection will be refreshed. The new traffic signals will be interconnected to the existing traffic signal system at the intersection of Illinois Route 56 (Butterfield Road) and Finley Road.

The Village reserve the right to award based on any bid, combination of bids or all bids, whatever is deemed to be in the best interest of the Village.

SP-2 SPECIFICATIONS FOR VODG

See attached specifications for Finley Road & Finley Square Mall Traffic Signal Modernization by SE3, LLC.

Village of Downers Grove

V. BID and CONTRACT FORM (Village)

*****THIS BID WHEN ACCEPTED AND SIGNED BY AN AUTHORIZED SIGNATORY OF THE VILLAGE OF DOWNERS GROVE SHALL BECOME A CONTRACT BINDING UPON BOTH PARTIES.**

Entire Form Must Be Completed If a Submitted Bid Is To Be Considered For Award

BIDDER:

H&H Electric Co.

10/01/2019

Company Name

Date

2830 Commerce Street

louie.veneziano@hh-electric.com

Street Address of Company

E-mail Address

Franklin Park, Illinois 60131

Louie Veneziano

City, State, Zip

Contact Name (Print)

708-453-2222

708-453-0202

Business Phone

24-Hour Telephone

708-453-2851

Business Fax



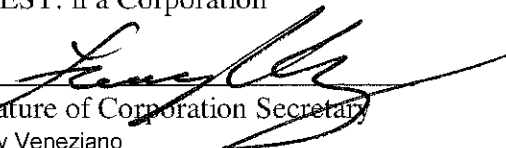
Signature of Officer, Partner or Sole Proprietor

Louie Veneziano, President

ATTEST: if a Corporation

Print Name & Title

Signature of Corporation Secretary
Lenny Veneziano



We hereby agree to furnish the Village of Downers Grove all necessary materials, equipment, labor, etc. to complete the project BY 09/30/2020 in accordance with the provisions, instructions and specifications for the unit prices shown on the Schedule of Prices.

VILLAGE OF DOWNERS GROVE:

ATTEST:

Authorized Signature

Village Clerk

Title

Date

Date

In compliance with the specifications, the above-signed offers and agrees, if this Bid is accepted within **90** calendar days from the date of opening, to furnish any or all of the services upon which prices are quoted, at the price set opposite each item, delivered at the designated point within the time specified above.


Village of Downers Grove

V. BID and CONTRACT FORM (Contractor)

*****THIS BID WHEN ACCEPTED AND SIGNED BY AN AUTHORIZED SIGNATORY OF THE VILLAGE OF DOWNERS GROVE SHALL BECOME A CONTRACT BINDING UPON BOTH PARTIES.**

Entire Form Must Be Completed If a Submitted Bid Is To Be Considered For Award

BIDDER:

| | |
|------------------------------------|---|
| H&H Electric Co. | 10/01/2019 |
| _____ Company Name | _____ Date |
| 2830 Commerce Street | louie.veneziano@hh-electric.com |
| _____ Street Address of Company | _____ E-mail Address |
| Franklin Park, Illinois 60131 | Louie Veneziano |
| _____ City, State, Zip | _____ Contact Name (Print) |
| 705-453-2222 | 708-453-0202 |
| _____ Business Phone | _____ 24-Hour Telephone |
| 708-453-2851 |  |
| _____ Business Fax | _____ Signature of Officer, Partner or Sole Proprietor |
| | Louie Veneziano, President |
| | _____ Print Name & Title |

ATTEST: if a Corporation



 Signature of Corporation Secretary
 Lenny Veneziano

We hereby agree to furnish the Village of Downers Grove all necessary materials, equipment, labor, etc. to complete the project BY 09/30/2020 in accordance with the provisions, instructions and specifications for the unit prices shown on the Schedule of Prices.

VILLAGE OF DOWNERS GROVE:

ATTEST:

Authorized Signature

Village Clerk

Title

Date

Date

In compliance with the specifications, the above-signed offers and agrees, if this Bid is accepted within 90 calendar days from the date of opening, to furnish any or all of the services upon which prices are quoted, at the price set opposite each item, delivered at the designated point within the time specified above.

Village of Downers Grove

SCHEDULE OF PRICES:

| ITEM CODE | DESCRIPTION | QUANTITY | UNIT | UNIT COST | TOTAL |
|-----------|---|----------|-------|--------------|--------------|
| 35100110 | AGGREGATE BASE COURSE, TYPE A | 2 | CU YD | \$ 57.10 | \$ 114.20 |
| 42400200 | PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH | 184 | SQ FT | \$ 17.10 | \$ 3,146.40 |
| 42400800 | DETECTABLE WARNINGS | 30 | SQ FT | \$ 40.00 | \$ 1,200.00 |
| 44000600 | SIDEWALK REMOVAL | 184 | SQ FT | \$ 5.70 | \$ 1,048.80 |
| 44003100 | MEDIAN REMOVAL | 25.5 | SQ FT | \$ 11.40 | \$ 290.70 |
| 60618300 | CONCRETE MEDIAN SURFACE, 4 INCH | 25.5 | SQ FT | \$ 28.60 | \$ 729.30 |
| 70102620 | TRAFFIC CONTROL AND PROTECTION, STANDARD 701501 | 1 | EACH | \$ 5,922.70 | \$ 5,922.70 |
| 72000100 | SIGN PANEL - TYPE 1 | 13.5 | SQ FT | \$ 30.20 | \$ 407.70 |
| 72000200 | SIGN PANEL - TYPE 2 | 21 | SQ FT | \$ 34.40 | 722.40 |
| 80500100 | SERVICE INSTALLATION, TYPE A | 1 | EACH | \$ 2,127.40 | \$ 2,127.40 |
| 81028200 | UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA. | 487 | FOOT | \$ 11.40 | \$ 5,551.80 |
| 81028220 | UNDERGROUND CONDUIT, GALVANIZED STEEL, 3" DIA. | 133 | FOOT | \$ 41.40 | \$ 5,506.20 |
| 81028240 | UNDERGROUND CONDUIT, GALVANIZED STEEL, 4" DIA. | 328 | FOOT | \$ 46.30 | \$ 15,186.40 |
| 81400100 | HANDHOLE | 3 | EACH | \$ 1,308.60 | \$ 3,925.80 |
| 81400300 | DOUBLE HANDHOLE | 1 | EACH | \$ 3,350.60 | \$ 3,350.60 |
| 85000200 | MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION | 2 | EACH | \$ 996.10 | \$ 1,992.20 |
| 86400100 | TRANSCIVER - FIBER OPTIC | 2 | EACH | \$ 3,532.20 | \$ 7,064.40 |
| 87300925 | ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C | 1495 | FOOT | \$ 0.10 - | \$ 149.50 |
| 87301215 | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C | 270 | FOOT | \$ 0.80 - | \$ 216.00 |
| 87301225 | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C | 650 | FOOT | \$ 0.90 - | \$ 585.00 |
| 87301245 | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C | 1425 | FOOT | \$ 1.00 - | \$ 1,425.00 |
| 87301255 | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C | 1450 | FOOT | \$ 1.20 - | \$ 1,740.00 |
| 87301295 | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 20 3C | 265 | FOOT | \$ 1.10 - | \$ 291.50 |
| 87301805 | ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2 C | 110 | FOOT | \$ 1.70 - | \$ 187.00 |
| 87501200 | TRAFFIC SIGNAL POST, 16 FT. | 3 | EACH | \$ 1,104.10 | \$ 3,312.30 |
| 87700220 | STEEL MAST ARM ASSEMBLY AND POLE, 32 FT. | 2 | EACH | \$ 9,072.10 | \$ 18,144.20 |
| 87702900 | STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 34 FT. | 1 | EACH | \$ 13,685.90 | \$ 13,685.90 |
| 87702950 | STEEL COMBINATION MAST ARM ASSEMBLY AND POLE, 44 FT. | 1 | EACH | \$ 15,068.00 | \$ 15,068.00 |
| 87800100 | CONCRETE FOUNDATION, TYPE A | 12 | FOOT | \$ 226.50 | \$ 2,718.00 |
| 87800150 | CONCRETE FOUNDATION, TYPE C | 4 | FOOT | \$ 440.60 | \$ 1,762.40 |
| 87800415 | CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER | 46 | FOOT | \$ 225.80 | \$ 10,386.80 |
| 87900200 | DRILL EXISTING HANDHOLE | 2 | EACH | \$ 337.10 | \$ 674.20 |
| 88030020 | SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED | 6 | EACH | \$ 671.80 | \$ 4,030.80 |
| 88030050 | SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED | 2 | EACH | \$ 631.50 | \$ 1,263.00 |
| 88030100 | SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED | 4 | EACH | \$ 906.00 | \$ 3,624.00 |
| 88030110 | SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED | 4 | EACH | \$ 1,064.70 | \$ 4,258.80 |
| 88102717 | PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER | 2 | EACH | \$ 679.40 | \$ 1,358.80 |

Village of Downers Grove

| | | | | | |
|----------|---|------|-------|-------------|-------------|
| 88200210 | TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM | 10 | EACH | \$113.30 | \$1,133.00 |
| 88700200 | LIGHT DETECTOR | 4 | EACH | \$1,082.50 | \$4,330.00 |
| 88700300 | LIGHT DETECTOR AMPLIFIER | 2 | EACH | \$2,338.40 | \$4,676.80 |
| 89000100 | TEMPORARY TRAFFIC SIGNAL INSTALLATION | 1 | EACH | \$52,779.40 | \$52,779.40 |
| 89502210 | MODIFY EXISTING CONTROLLER CABINET | 2 | EACH | \$1,586.50 | \$3,173.00 |
| 89502300 | REMOVE ELECTRIC CABLE FROM CONDUIT | 3600 | FOOT | \$0.60 - | \$2,160.00 |
| 89502375 | REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT | 1 | EACH | \$2,631.30 | \$2,631.30 |
| 89502380 | REMOVE EXISTING HANDHOLE | 6 | EACH | \$348.20 | \$2,089.20 |
| 89502382 | REMOVE EXISTING DOUBLE HANDHOLE | 1 | EACH | \$364.40 | \$364.40 |
| 89502385 | REMOVE EXISTING CONCRETE FOUNDATION | 6 | EACH | \$348.20 | \$2,089.20 |
| X0326885 | VIDEO DETECTION SYSTEM | 1 | EACH | \$32,498.00 | \$32,498.00 |
| X1400081 | FULL-ACTUATED CONTROLLER AND TYPE SUPER P CABINET (SPECIAL) | 1 | EACH | \$55,645.80 | \$55,645.80 |
| X1400150 | SERVICE INSTALLATION, GROUND MOUNTED, METERED | 1 | EACH | \$2,166.30 | \$2,166.30 |
| X7010216 | TRAFFIC CONTROL AND PROTECTION, (SPECIAL) | 1 | EACH | \$3,320.40 | \$3,320.40 |
| X8620200 | UNINTERRUPTABLE POWER SUPPLY, SPECIAL | 1 | EACH | \$5,240.80 | \$5,240.80 |
| X8710024 | FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM24F | 1495 | FOOT | \$2.10 | \$3,139.50 |
| X8760200 | ACCESSIBLE PEDESTRIAN SIGNALS | 2 | EACH | \$1,136.80 | \$2,273.60 |
| XXXDG01 | EXPLORATORY EXCAVATION | 15 | CU YD | \$0.01 - | \$0.15 - |
| Z0033044 | RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM LEVEL 1 | 1 | EACH | \$309.00 | \$309.00 |
| Z0073510 | TEMPORARY TRAFFIC SIGNAL TIMING | 1 | EACH | \$463.50 | \$463.50 |

| | | |
|-------|----|------------|
| TOTAL | \$ | 323,651.55 |
| | - | |

Village of Downers Grove

BIDDER'S CERTIFICATION (page 1 of 3)

Traffic Signal Modernization

With regard to Finley and Finley Square Mall, Bidder H&H Electric Co.
 (Name of Project) (Name of Bidder)

hereby certifies the following:

1. Bidder is not barred from bidding this Contract as a result of violations of Section 720 ILCS 5/33E-3 (Bid Rigging) or 720 ILCS 5/33E-4 (Bid-Rotating);
2. Bidder certifies that it has a written sexual harassment policy in place and full compliance with 775 ILCS 5/2-105(A)(4);
3. Bidder certifies that not less than the prevailing rate of wages as determined by the Village of Downers Grove, DuPage County or the Illinois Department of Labor shall be paid to all laborers, workers and mechanics performing work for the Village of Downers Grove. All bonds shall include a provision as will guarantee the faithful performance of such prevailing wage clause. Bidder agrees to comply with the Illinois Prevailing Wage Act, 820 ILCS 130/1 *et seq.*, for all work completed. Bidder agrees to pay the prevailing wage and require that all of its subcontractors pay prevailing wage to any laborers, workers or mechanics who perform work pursuant to this Contract or related subcontract. Bidder and each subcontractor shall keep or cause to be kept an accurate record of names, occupations and actual wages paid to each laborer, workman and mechanic employed by the Bidder in connection with the contract. This record shall be sent to the Village on a monthly basis along with the invoice and shall be open to inspection at all reasonable hours by any representative of the Village or the Illinois Department of Labor and must be preserved for five (5) years following completion of the contract. Bidder certifies that Bidder and any subcontractors working on the project are aware that filing false payroll records is a Class A misdemeanor and that the monetary penalties for violations are to be paid pursuant to law by the Bidder, contractor and subcontractor. The Village shall not be liable for any underpayments. If applicable: Since this is a contract for a fixed public works project, as defined in 820 ILCS 130/2, Contractor agrees to post at the job site in an easily accessible place, the prevailing wages for each craft or type of worker or mechanic needed to execute the contract or work to be performed;
4. Bidder certifies that it is in full compliance with the Federal Highway Administrative Rules on Controlled Substances and Alcohol Use and Testing, 49 C.F.R. Parts 40 and 382 and that all employee drivers are currently participating in a drug and alcohol testing program pursuant to the Rules;
5. Bidder further certifies that it is not delinquent in the payment of any tax administered by the Department of Revenue, or that Bidder is contesting its liability for the tax delinquency or the amount of a tax delinquency in accordance with the procedures established by the appropriate Revenue Act. Bidder further certifies that if it owes any tax payment(s) to the Department of Revenue, Bidder has entered into an agreement with the Department of Revenue for the payment of all such taxes that are due, and Bidder is in compliance with the agreement.

Village of Downers Grove

BIDDER'S CERTIFICATION (page 2 of 3)

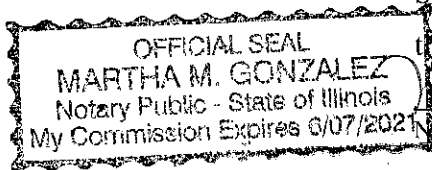
BY: 
Bidder's Authorized Agent
Louie Veneziano, President

| | | | | | | | | | |
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| 3 | 6 | - | 3 | 9 | 8 | 1 | 2 | 5 | 6 |
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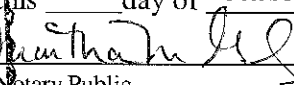
FEDERAL TAXPAYER IDENTIFICATION NUMBER

or _____
Social Security Number

Subscribed and sworn to before me



this 1st day of October, 2019.


Notary Public

(Fill Out Applicable Paragraph Below)

(a) Corporation

The Bidder is a corporation organized and existing under the laws of the State of Illinois, which operates under the Legal name of H&H Electric Co., and the full names of its Officers are as follows:

President: Louie Veneziano

Secretary: Lenny Veneziano

Treasurer: Louie Veneziano

and it does have a corporate seal. (In the event that this bid is executed by other than the President, attach hereto a certified copy of that section of Corporate By-Laws or other authorization by the Corporation which permits the person to execute the offer for the corporation.)

Limited Liability Company (LLC)

The Bidder is a LLC organized and existing under the laws of the State of _____, which operates under the legal name of _____, and the full names of its managers or members are as follows:

Manager or Member: _____

Manager or Member: _____

Manager or Member: _____

Manager or Member: _____

Village of Downers Grove

BIDDER'S CERTIFICATION (page 3 of 3)

(c) Partnership

The partnership does business under the legal name of: _____,
which name is registered with the office of _____ in the State of
_____.

Names and Addresses of All Partners:

(d) Sole Proprietor

The Bidder is a Sole Proprietor whose full name is: _____; and if
operating under a trade name, said trade name is: _____, which name is
registered with the office of _____ in the State of _____.

6. Are you willing to comply with the Village's insurance requirements within 10 days of the award of the contract? YES NO (circle one)

INSURER'S NAME: Brian Hollamon

AGENT: VIP Risk Solution, Inc.

Street Address: 1821 Walden Office Square, Suite 400

City, State, Zip Code: Schaumburg, Illinois 60173

Telephone Number: (847) 303-5815

I/We hereby affirm that the above certifications are true and accurate and that I/we have read and understand them.

Print Name of Company: H&H Electric Co.

Print Name and Title of Authorizing Signature: Louie Veneziano, President

Signature: 

Date: 10/01/2019

Village of Downers Grove

MUNICIPAL REFERENCE LIST

Municipality: Village of Maywood, Illinois (H&H Job #M-0009)
 Address: 40 Madison Plaza, Maywood, Illinois 60153
 Contact Name: John West Phone #: 708-491-8842
 Name of Project: Maywood Street Lighting
 Contract Value: \$274,355.97 Date of Completion: 12/31/2017

Municipality: Village of Norridge, Illinois (H&H Job #M-0012)
 Address: 4000 North Olcott Avenue, Norridge, Illinois 60706
 Contact Name: Brian Gaseor Phone #: 708-453-0800
 Name of Project: Norridge Street Lighting
 Contract Value: \$125,785.57 Date of Completion: 12/31/2017

Municipality: Village of Palatine, Illinois (H&H Job #M-0019)
 Address: 148 West Illinois Avenue, Palatine, Illinois 60067
 Contact Name: Marty Horwitz Phone #: 847-705-5200
 Name of Project: Palatine Street Lighting
 Contract Value: \$27,731.55 Date of Completion: 12/31/2017

Municipality: Village of Franklin Park, Illinois (H&H Job #M-0023)
 Address: 9500 West Belmont Avenue, Franklin Park, Illinois 60131
 Contact Name: Mike Saeli Phone #: 847-671-8252
 Name of Project: Franklin Park Street Lighting
 Contract Value: \$133,716.45 Date of Completion: 12/31/2017

Municipality: Village of Rosemont, Illinois (H&H Job #M-0015)
 Address: 7048 North Barry Avenue, Rosemont, Illinois 60018
 Contact Name: Mike Raimondi Phone #: 847-698-3744
 Name of Project: Rosemont Street Lighting
 Contract Value: \$102,314.51 Date of Completion: 12/31/2017

Village of Downers Grove

SUBCONTRACTORS LIST

The Bidder hereby states the following items of work will not be performed by its organization. (List items to be subcontracted as well as the names, addresses and phone numbers of the subcontractors.)

1) N/A Type of Work _____

Addr: _____ City _____ State _____ Zip _____

2) _____ Type of Work _____

Addr: _____ City _____ State _____ Zip _____

3) _____ Type of Work _____

Addr: _____ City _____ State _____ Zip _____

4) _____ Type of Work _____

Addr: _____ City _____ State _____ Zip _____

5) _____ Type of Work _____

Addr: _____ City _____ State _____ Zip _____

6) _____ Type of Work _____

Addr: _____ City _____ State _____ Zip _____

7) _____ Type of Work _____

Addr: _____ City _____ State _____ Zip _____

8) _____ Type of Work _____

Addr: _____ City _____ State _____ Zip _____

Village of Downers Grove



VENDOR W-9 REQUEST FORM

The law requires that we maintain accurate taxpayer identification numbers for all individuals and partnerships to whom we make payments, because we are required to report to the I.R.S all payments of \$600 or more annually. We also follow the I.R.S. recommendation that this information be maintained for all payees including corporations.

Please complete the following substitute W-9 letter to assist us in meeting our I.R.S. reporting requirements. The information below will be used to determine whether we are required to send you a Form 1099. Please respond as soon as possible, as failure to do so will delay our payments.

BUSINESS (PLEASE PRINT OR TYPE):

NAME: H&H Electric Co.
 ADDRESS: 2830 Commerce Street
 CITY: Franklin Park
 STATE: Illinois
 ZIP: 60131
 PHONE: 708-453-2222 FAX: 708-453-2851
 TAX ID #(TIN): 36-3981256

(If you are supplying a social security number, please give your full name)

REMIT TO ADDRESS (IF DIFFERENT FROM ABOVE):

NAME: (Same as Above)
 ADDRESS: _____
 CITY: _____
 STATE: _____ ZIP: _____

TYPE OF ENTITY (CIRCLE ONE):

- Individual
- Sole Proprietor
- Partnership
- Charitable/Nonprofit
- Limited Liability Company – Member-Managed
- Limited Liability Company- Manager-Managed
- Medical Corporation
- Government Agency
- Corporation

SIGNATURE: *Louie Veneziano* DATE: 10/01/2019
 Louie Veneziano, President

Village of Downers Grove

Apprenticeship and Training Certification

(Does not apply to federal aid projects. Applicable only to maintenance and construction projects that use Motor Fuel Tax funds or state grant monies.)

Name of Bidder: H&H Electric Co.

In accordance with the provisions of Section 30-22 (6) of the Illinois Procurement Code, the Bidder certifies that it is a participant, either as an individual or as part of a group program, in the approved apprenticeship and training programs applicable to each type of work or craft that the bidder will perform with its own forces. The Bidder further certifies for work that will 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 and training program; or (b) will, prior to commencement of performance of work pursuant to this Contract, begin participation in an approved apprenticeship and training program applicable to the work of the subcontract. The Illinois Department of Labor, 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. Applicable apprenticeship and training programs are those that have been approved and registered with the United States Department of Labor. The Bidder shall list in the space below, the official name of the 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 forces. Types of work or craft work 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 that does not have an applicable apprenticeship or training program. **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. Return this with the Bid.**

I.B.E.W. LOCAL #9 MIDDLE STATES CONTRACTORS ASSOCIATION, HILLSIDE, ILLINOIS 60162

SEE ATTACHED.

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. In order to fulfill this requirement, it shall not be necessary that an 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.

Print Name and Title of Authorizing Signature: Louie Veneziano, President

Signature:  _____

Date: 10/01/2019

United States Department of Labor

Office of Apprenticeship Training, Employer and Labor Services

Bureau of Apprenticeship and Training

Certificate of Registration

I.B.E.W. LOCAL #9 MIDDLE STATES ELECTRICAL CONTRACTORS ASSN.
Hillside, Illinois
For the Trades of Line Maintainer

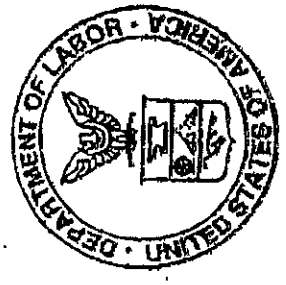
*Registered as part of the National Apprenticeship Program
in accordance with the basic standards of apprenticeship
established by the Secretary of Labor*

Revised May 5, 2003
August 26, 1992

Date _____

IL015920003

Registration No. _____



L. J. Chao
Secretary of Labor

Anthony Suro
Administrator, Apprenticeship Training, Employer and Labor Services

Village of Downers Grove

| |
|----------------------------------|
| BUY AMERICA CERTIFICATION |
|----------------------------------|

Certification requirement for procurement of steel, iron, or manufactured products when Federal funds (Grant Agreement or Cooperative Agreement) are used.


Instructions:

Bidder to complete the Buy America Certification listed below. Bidder shall certify EITHER COMPLIANCE OR NON-COMPLIANCE (not both). This Certification MUST BE submitted with the Bidder's bid response.

Special Note: Make sure you have signed only one of the above statements – either Compliance OR Non-Compliance (not both).

| |
|---|
| <i>Certificate of Compliance</i> |
|---|

The bidder or offeror hereby certifies that it **will meet** the requirements of 49 U.S.C. 5323(j)(1), as amended, and the applicable regulations in 49 CFR Part 661.

Signature 
 Louie Veneziano

Company Name H&H Electric Co.

Title President

Date 10/01/2019

| |
|---|
| <i>Certificate of Non-Compliance</i> |
|---|

The bidder or offeror hereby certifies that it **cannot comply** with the requirements of 49 U.S.C. 5323(j)(1), as amended, and 49 C.F.R. 661, but it may qualify for an exception pursuant to 49 U.S.C. 5323(j)(2)(A), 5323(j)(2)(B), or 5323(j)(2)(D), and 49 C.F.R. 661.7.

Signature _____

Company Name _____

Title _____

Date _____

AFTER THIS CERTIFICATE HAS BEEN EXECUTED, A BIDDER MAY NOT SEEK A WAIVER.

Note: The U.S./Canadian Free Trade Agreement does not supersede the Buy America requirement.

| |
|--|
| Suspension or Debarment Certificate |
|--|

Village of Downers Grove

Non-Federal entities are prohibited from contracting with or making sub-awards under covered transactions to parties that are suspended or debarred or whose principals are suspended or debarred. Covered transactions include procurement for goods or services equal to or in excess of \$100,000.00. Contractors receiving individual awards for \$100,000.00 or more and all sub-recipients must certify that the organization and its principals are not suspended or debarred.

By submitting this offer and signing this certificate, the Bidder certifies to the best of its knowledge and belief, that the company and its principals:

1. Are not presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from covered transactions by any federal, state or local governmental entity, department or agency;
2. Have not within a three-year period preceding this Bid been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction, or convicted of or had a civil judgment against them for a violation of Federal or state antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
3. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State, or local) with commission of any of the offenses enumerated in paragraph (2) of this certification; and
4. Have not within a three-year period preceding this application/proposal/contract had one or more public transactions (Federal, State or local) terminated for cause or default.

If the Bidder is unable to certify to any of the statements in this certification, Bidder shall attach an explanation to this certification.

Company Name: H&H Electric Co.

Address: 2830 Commerce Street

City: Franklin Park Zip Code: 60131

Telephone: (708) 453-2222 Fax Number: (708) 453-2851

E-mail Address: louie.veneziano@hh-electric.com

Authorized Company Signature: 

Print Signature Name: Louie Veneziano Title of Official: President

Date: 10/01/2019

| |
|--|
| CAMPAIGN DISCLOSURE CERTIFICATE |
|--|

Any contractor, proposer, bidder or vendor who responds by submitting a bid or proposal to the Village of

Village of Downers Grove

Downers Grove shall be required to submit with its bid submission, an executed Campaign Disclosure Certificate.

The Campaign Disclosure Certificate is required pursuant to the Village of Downers Grove Council Policy on Ethical Standards and is applicable to those campaign contributions made to any member of the Village Council.

Said Campaign Disclosure Certificate requires any individual or entity bidding to disclose campaign contributions, as defined in Section 9-1.4 of the Election Code (10 ILCS 5/9-1.4), made to current members of the Village Council within the five (5) year period preceding the date of the bid or proposal release.

By signing the bid documents, contractor/proposer/bidder/vendor agrees to refrain from making any campaign contributions as defined in Section 9-1.4 of the Election Code (10 ILCS 5/9-1.4) to any Village Council member and any challengers seeking to serve as a member of the Downers Grove Village Council.

Under penalty of perjury, I declare:

Bidder/vendor has not contributed to any elected Village position within the last five (5) years.


Signature

Louie Veneziano
Print Name

Bidder/vendor has contributed a campaign contribution to a current member of the Village Council within the last five (5) years.

Print the following information:

Name of Contributor: N/A
(company or individual)

To whom contribution was made: _____

Year contribution made: _____ Amount: \$ _____

Signature

Print Name

Village of Downers Grove

BID SUBMITTAL CHECKLIST

Each Bidder's Bid Package must be submitted with all requisite forms properly completed, and all documentation included. The following list is not all-inclusive, but is designed to facilitate a good, competitive bidding environment.

1. Instructions to Bidders read and understood. Any questions must be asked according to the instructions.
2. Cover sheet filled-in
3. Bid Form copies filled-in. All copies must have original signatures and seals on them.
4. Bid Bond or cashier's check enclosed with bid package.
5. Schedule of Prices completed. Check your math!
6. Bidder Certifications signed and sealed.
7. Letter from Surety ensuring issuance of Performance and Labor Bonds.
8. Letter from Insurance Agent or Carrier ensuring issuance of required job coverage.
9. Municipal Reference List completed.
10. Vendor request form W-9 completed.
11. Affidavit (IDOT Form BC-57, or similar).
12. Bid package properly sealed and labeled before delivery. If sending by mail or messenger, enclose in a second outer envelope or container. Project plan sheets do not have to be included with the bid package.



October 3, 2019

Village of Downers Grove
Public Works Building
5101 Walnut Avenue
Downers Grove, IL 60515

RE: H&H Electric Company Surety Commitment Letter for Traffic Signal Moderization Finley Road at Finley Mall Drive

To Whom it May Concern:

Our agency handles all surety bond matters for H&H Electric Company. H&H Electric Company is an outstanding contractor and specialized for the work in question. Further, they are highly regarded by our agency, and in great standing with us and all their partner surety companies.

The surety bond pay/performance terms for this bid/project have been reviewed, and the required pay/performance bond will be able to be issued, upon award, without exception to the bid/contract surety terms.

I am the sole Attorney-in-Fact for The Ohio Casualty Insurance Company (aka Liberty Mutual) in our agency. Any bid or pay/performance bonds, will be executed by my hand. The Ohio Casualty Insurance Company is an AM Best A, XV rated surety.

If there are any questions regarding this commiment letter, please feel free to contact me directly.

Best regards,

A handwritten signature in black ink, appearing to read 'Wm. Brian Hollamon, Sr.', written in a cursive style.

Wm. Brian Hollamon, Sr.

President

e) brian.hollamon@viprsi.com



October 3, 2019

Village of Downers Grove
Public Works Building
5101 Walnut Avenue
Downers Grove, IL 60515

**RE: H&H Electric Company Insurance Commitment Letter for Traffic Signal Moderization Finley Road
at Finley Mall Drive**

To Whom it May Concern:

Our agency handles all insurance matters for H&H Electric Company, while representing all insurance carrier policies. H&H Electric Company is an outstanding contractor and specialized for the work in question. Further, they are highly regarded by our agency, and in great standing with us and all their partner insurance companies.

The insurance terms for this bid/project have been reviewed, and the required certificate of insurance will be able to be issued, upon award, without exception to the bid/contract insurance terms, representing all applicable carriers to the respective required insurance policy.

If there are any questions regarding this commiment letter, please feel free to contact me directly.

Best regards,

A handwritten signature in black ink, appearing to read 'Wm. Brian Hollamon, Sr.', written in a cursive style.

Wm. Brian Hollamon, Sr.

President

e) brian.hollamon@viprsi.com



www.downers.us

NOTICE TO CONTRACTORS

Sealed bids will be accepted by the Village of Downers Grove for:

COMMUNITY RESPONSE

CENTER

630.434.CALL (2255)

CIVIC CENTER

801 Burlington Avenue

Downers Grove

Illinois 60515-4752

630.434.5500

TDD 630.434.5511

FAX 630.434.5571

FIRE DEPARTMENT

ADMINISTRATION

5420 Main Street

Downers Grove

Illinois 60515-4834

630.434.5980

FAX 630.434.5998

POLICE DEPARTMENT

825 Burlington Avenue

Downers Grove

Illinois 60515-4783

630.434.5600

FAX 630.434.5690

PUBLIC WORKS

DEPARTMENT

5101 Walnut Avenue

Downers Grove

Illinois 60515-4046

630.434.5460

FAX 630.434.5495

Traffic Signal Modernization, Finley & Finley Square Mall

Until Friday, 10:00 a.m., August 4, 2019 at the Public Works Facility, 5101 Walnut Avenue, Downers Grove, Illinois 60515-4074, and at that time publicly opened and read.

This project consists of modernization to the traffic signal at Finley and Finley Square Mall, which includes a temporary traffic signal, minor curb & gutter work, addition of ADA compliant ramps, signal interconnect, and signal equipment modernization.

Bid packages may be obtained beginning Tuesday, September 17, 2019 at the Public Works Facility, 5101 Walnut Avenue, Downers Grove.

A Pre-Bid Meeting will be held on Friday, September 20, 2019 at 10:00 a.m. at the Public Works Facility. This meeting is **OPTIONAL**.

Bids must be submitted on the forms furnished and must conform to the specifications. Bidders are advised to carefully apprise themselves of the contract specifications, as the contract will be awarded on the basis of the specifications, including all conditions thereof. The Village reserves the right to reject or award all or any part of any bid or contract and waive technicalities as may be deemed by the Village Council to be in the best interests of the Village.

Inquiries shall be directed to Will Lorton, Traffic Manager, at (630) 434-6863.

VILLAGE OF DOWNERS GROVE
DEPARTMENT OF PUBLIC WORKS



**Illinois Department
of Transportation**

Certificate of Eligibility

Contractor No 2550

H & H Electric Co.
2830 Commerce Street Franklin Park, IL 60131-2927

WHO HAS FILED WITH THE DEPARTMENT AN APPLICATION FOR PREQUALIFICATION STATEMENT OF EXPERIENCE, EQUIPMENT AND FINANCIAL CONDITION IS HEREBY QUALIFIED TO BID AT ANY OF DEPARTMENT OF TRANSPORTATION LETTINGS IN THE CLASSES OF WORK AND WITHIN THE AMOUNT AND OTHER LIMITATIONS OF EACH CLASSIFICATION, AS LISTED BELOW, FOR SUCH PERIOD AS THE UNCOMPLETED WORK FROM ALL SOURCES DOES NOT EXCEED \$34,001,000.00

| | | |
|-----|-----------------------|--------------|
| 014 | ELECTRICAL | \$21,075,000 |
| 017 | CONCRETE CONSTRUCTION | \$325,000 |
| 026 | SIGNING | \$100,000 |

THIS CERTIFICATE OF ELIGIBILITY IS VALID FROM 5/6/2019 TO 4/30/2020 INCLUSIVE, AND SUPERSEDES ANY CERTIFICATE PREVIOUSLY ISSUED, BUT IS SUBJECT TO REVISION OR REVOCATION, IF AND WHEN CHANGES IN THE FINANCIAL CONDITION OF THE CONTRACTING FIRM OR OTHER FACTS JUSTIFY SUCH REVISIONS OR REVOCATION. ISSUED AT SPRINGFIELD, ILLINOIS ON 5/7/2019.

Jim Bell
Engineer of Construction



Illinois Department of Transportation

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

Affidavit of Availability
For the Letting of 10/04/19
(Letting date)

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.

| | (C-1344) | (C-1359) | (C-1402) | | Awards Pending |
|--|------------------------------|------------------|--------------------------------|--|--------------------|
| Contract Number | SECTION 09-00183-00-FP | I.D.O.T. 60L71 | SECTION 08-00042-00-WR | | |
| Contract With | CAPITOL CEMENT COMPANY, INC. | JUDLAU OHL GROUP | AUSTIN TYLER CONSTRUCTION, LLC | | |
| Estimated Completion Date | 12/31/19 | 12/31/19 | 09/30/19 | | |
| Total Contract Price | 566,155.13 | 2,729,634.47 | 381,227.65 | | Accumulated Totals |
| Uncompleted Dollar Value if Firm is the Prime Contractor | | | | | 0.00 |
| Uncompleted Dollar Value if Firm is the Subcontractor | 419,574.53 | 275,440.97 | 377.56 | | 695,393.06 |
| Total Value of All Work | | | | | 695,393.06 |

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 | | | | | | 0.00 |
| Portland Cement Concrete Paving | | | | | | 0.00 |
| HMA Plant Mix | | | | | | 0.00 |
| HMA Paving | | | | | | 0.00 |
| Clean & Seal Cracks/Joints | | | | | | 0.00 |
| Aggregate Bases & Surfaces | | | | | | 0.00 |
| Highway, R.R. and Waterway Structures | | | | | | 0.00 |
| Drainage | | | | | | 0.00 |
| Electrical | 419,574.53 | 275,440.97 | 377.56 | 0.00 | 0.00 | 695,393.06 |
| Cover and Seal Coats | | | | | | 0.00 |
| Concrete Construction | | | | | | 0.00 |
| Landscaping | | | | | | 0.00 |
| Fencing | | | | | | 0.00 |
| Guardrail | | | | | | 0.00 |
| Painting | | | | | | 0.00 |
| Signing | | | | | | 0.00 |
| Cold Milling, Planning & Rotomilling | | | | | | 0.00 |
| Demolition | | | | | | 0.00 |
| Pavement Markings (Paint) | | | | | | 0.00 |
| Other Construction (List) | | | | | | 0.00 |
| | | | | | | 0.00 |
| | | | | | | 0.00 |
| Totals | 419,574.53 | 275,440.97 | 377.56 | 0.00 | 0.00 | 695,393.06 |

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.

| | (C-1344) | (C-1359) | (C-1402) | 0 | Awards Pending |
|--------------------------|---|------------------------------------|-------------|-------------|----------------|
| Subcontractor | HAMPTON, LENZINI, & RENWICK, INC. | GEWALT HAMILTON & ASSOCIATES, INC. | | | |
| Type of Work | OPTIMIZATION AND TRAFFIC SIGNAL TIMINGS | TRAFFIC SIGNAL TIMINGS | | | |
| Subcontract Price | 400.00 | 2,460.00 | | | |
| Amount Uncompleted | 0.00 | 0.00 | | | |
| Subcontractor | | | | | |
| Type of Work | | | | | |
| Subcontract Price | | | | | |
| Amount Uncompleted | | | | | |
| Subcontractor | | | | | |
| Type of Work | | | | | |
| Subcontract Price | | | | | |
| Amount Uncompleted | | | | | |
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| Type of Work | | | | | |
| Subcontract Price | | | | | |
| Amount Uncompleted | | | | | |
| Subcontractor | | | | | |
| Type of Work | | | | | |
| Subcontract Price | | | | | |
| Amount Uncompleted | | | | | |
| Total Uncompleted | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

I, being duly sworn, do hereby declare 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

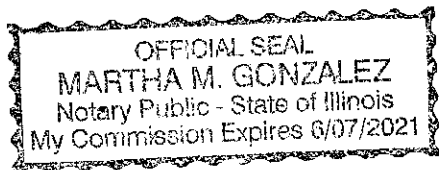
Subscribed and sworn to before me

this 24th day of September, 2019.

Martha M. Gonzalez
 Notary Public

My commission expires: 6/7/2021

(Notary Seal)



Type or Print Name Louie Veneziano President
 Officer or Director Title

Signed *Louie Veneziano*

Company H&H Electric Co.

Address 2830 Commerce Street
Franklin Park, Illinois 60131



Illinois Department of Transportation

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

Affidavit of Availability
For the Letting of 10/04/19
(Letting date)

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.

| | (C-1418) | (C-1424) | (C-1425) | (C-1433) | Awards Pending | |
|--|----------------|----------------|----------------|----------------|----------------|--------------------|
| Contract Number | I.D.O.T. 60W92 | I.D.O.T. 66H09 | I.D.O.T. 66H14 | I.D.O.T. 62B04 | | |
| Contract With | I.D.O.T. | I.D.O.T. | I.D.O.T. | I.D.O.T. | | |
| Estimated Completion Date | 09/30/19 | 06/30/19 | 06/30/19 | 09/30/19 | | |
| Total Contract Price | 1,526,782.36 | 52,730.00 | 47,665.59 | 89,429.20 | | Accumulated Totals |
| Uncompleted Dollar Value if Firm is the Prime Contractor | 14,340.89 | 3,670.01 | 32,482.76 | 74,393.90 | | 124,887.56 |
| Uncompleted Dollar Value if Firm is the Subcontractor | | | | | | 695,393.06 |
| Total Value of All Work | | | | | | 820,280.62 |

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 | | | | | | 0.00 |
| Portland Cement Concrete Paving | | | | | | 0.00 |
| HMA Plant Mix | | | | | | 0.00 |
| HMA Paving | | | | | | 0.00 |
| Clean & Seal Cracks/Joints | | | | | | 0.00 |
| Aggregate Bases & Surfaces | | | | | | 0.00 |
| Highway, R.R. and Waterway Structures | | | | | | 0.00 |
| Drainage | | | | | | 0.00 |
| Electrical | -144,351.75 | 3,670.01 | 32,482.76 | 74,393.90 | 0.00 | 661,587.98 |
| Cover and Seal Coats | | | | | | 0.00 |
| Concrete Construction | | | | | | 0.00 |
| Landscaping | | | | | | 0.00 |
| Fencing | | | | | | 0.00 |
| Guardrail | | | | | | 0.00 |
| Painting | | | | | | 0.00 |
| Signing | | | | | | 0.00 |
| Cold Milling, Planning & Rotomilling | | | | | | 0.00 |
| Demolition | | | | | | 0.00 |
| Pavement Markings (Paint) | | | | | | 0.00 |
| Other Construction (List) | | | | | | 0.00 |
| | | | | | | 0.00 |
| | | | | | | 0.00 |
| Totals | -144,351.75 | 3,670.01 | 32,482.76 | 74,393.90 | 0.00 | 661,587.98 |

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.

| | (C-1418) | (C-1424) | (C-1425) | (C-1433) | Awards Pending |
|--------------------------|---------------------------------------|-------------|-------------|-------------|----------------|
| Subcontractor | MYS, INCORPORATED | | | | |
| Type of Work | MISCELLANEOUS | | | | |
| Subcontract Price | 112,896.05 | | | | |
| Amount Uncompleted | 79,810.80 | | | | |
| Subcontractor | ELITE FBER OPTICS | | | | |
| Type of Work | FIBER OPTIC | | | | |
| Subcontract Price | 31,800.00 | | | | |
| Amount Uncompleted | 3,610.00 | | | | |
| Subcontractor | CAMPANELLA & SONS, INC. | | | | |
| Type of Work | UNDERGROUND | | | | |
| Subcontract Price | 255,630.04 | | | | |
| Amount Uncompleted | 67,421.84 | | | | |
| Subcontractor | ARTEAGA LANDSCAPES, LLC | | | | |
| Type of Work | LANDSCAPING | | | | |
| Subcontract Price | 7,832.73 | | | | |
| Amount Uncompleted | 0.00 | | | | |
| Subcontractor | LANDMARK CONSTRUCTION LAYOUT | | | | |
| Type of Work | CONSTRUCTION LAYOUT | | | | |
| Subcontract Price | 7,850.00 | | | | |
| Amount Uncompleted | 7,850.00 | | | | |
| Subcontractor | GEWALT HAMILTON & ASSOCIATES, INC. | | | | |
| Type of Work | TRAFFIC SIGNAL OPTIMIZATION & TIMINGS | | | | |
| Subcontract Price | 6,642.00 | | | | |
| Amount Uncompleted | 0.00 | | | | |
| Subcontractor | LORIG CONSTRUCTION COMPANY | | | | |
| Type of Work | MISCELLANEOUS | | | | |
| Subcontract Price | 139,785.65 | | | | |
| Amount Uncompleted | 0.00 | | | | |
| Total Uncompleted | 158,692.64 | 0.00 | 0.00 | 0.00 | 0.00 |

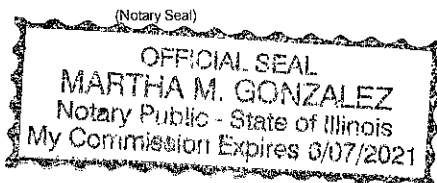
I, being duly sworn, do hereby declare this affidavit is a true and correct statement relating to ALL uncompleted contracts of the undersigned for Federal, State, County, City and private work, including ALL subcontract work, ALL pending low bids not yet awarded or rejected and ALL estimated completion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

Subscribed and sworn to before me

this 24th day of September, 2019.

Martha M. Gonzalez
 Notary Public

My commission expires: 6/7/2021



Type or Print Name Louie Veneziano President
 Officer or Director Title
 Signed *[Signature]*
 Company H&H Electric Co.
 Address 2830 Commerce Street
Franklin Park, Illinois 60131



Illinois Department of Transportation

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

Affidavit of Availability
For the Letting of 10/04/19
(Letting date)

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**.

| | (C-1441) | (C-1442) | (C-1450) | | Awards Pending |
|--|---------------------------------|-------------------|--------------------------|--|---------------------|
| Contract Number | SKOKIE BLVD. @ SUNSET RIDGE RD. | 1135 SKOKIE BLVD. | LD.O.T. 61E05 | | |
| Contract With | LIFETIME FITNESS | LIFETIME FITNESS | PLOTE CONSTRUCTION, INC. | | |
| Estimated Completion Date | 09/30/19 | 09/30/19 | 10/01/19 | | |
| Total Contract Price | 447,725.88 | 285,415.20 | 1,024,477.10 | | Accumulated Totals |
| Uncompleted Dollar Value if Firm is the Prime Contractor | 5,113.92 | 10,840.28 | | | 140,841.76 |
| Uncompleted Dollar Value if Firm is the Subcontractor | | | 615,324.33 | | 1,310,717.39 |
| Total Value of All Work | | | | | 1,451,559.15 |

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 | | | | | | 0.00 |
| Portland Cement Concrete Paving | | | | | | 0.00 |
| HMA Plant Mix | | | | | | 0.00 |
| HMA Paving | | | | | | 0.00 |
| Clean & Seal Cracks/Joints | | | | | | 0.00 |
| Aggregate Bases & Surfaces | | | | | | 0.00 |
| Highway,R.R. and Waterway Structures | | | | | | 0.00 |
| Drainage | | | | | | 0.00 |
| Electrical | 5,113.92 | 10,840.28 | 555,126.63 | 0.00 | 0.00 | 1,232,668.81 |
| Cover and Seal Coats | | | | | | 0.00 |
| Concrete Construction | | | | | | 0.00 |
| Landscaping | | | | | | 0.00 |
| Fencing | | | | | | 0.00 |
| Guardrail | | | | | | 0.00 |
| Painting | | | | | | 0.00 |
| Signing | | | | | | 0.00 |
| Cold Milling, Planning & Rotomilling | | | | | | 0.00 |
| Demolition | | | | | | 0.00 |
| Pavement Markings (Paint) | | | | | | 0.00 |
| Other Construction (List) | | | | | | 0.00 |
| | | | | | | 0.00 |
| | | | | | | 0.00 |
| Totals | 5,113.92 | 10,840.28 | 555,126.63 | 0.00 | 0.00 | 1,232,668.81 |

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.

| | (C-1441) | (C-1442) | (C-1450) | 0 | Awards Pending |
|--------------------------|-------------------------|--------------------------------|----------------------------------|-------------|----------------|
| Subcontractor | SAM SCHWARZ ENGINEERING | PEREZ TREE SERVICE & LANDSCAPE | ELITE FIBER OPTIC CO. | | |
| Type of Work | TIMINGS | LANDSCAPING | FIBER OPTIC | | |
| Subcontract Price | 950.00 | 14,800.00 | 57,927.70 | | |
| Amount Uncompleted | 0.00 | 0.00 | 57,927.70 | | |
| Subcontractor | | | HAMPTON, LENZINI & RENWICK, INC. | | |
| Type of Work | | | OPTIMIZE TRAFFIC SIGNALS | | |
| Subcontract Price | | | 2,270.00 | | |
| Amount Uncompleted | | | 2,270.00 | | |
| 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 | | | 60,197.70 | 0.00 | 0.00 |

I, being duly sworn, do hereby declare 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

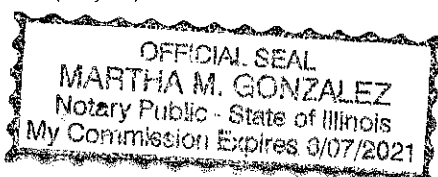
Subscribed and sworn to before me

this 24th day of September, 2019.

Martha M. Gonzalez
 Notary Public

My commission expires: 6/7/2021

(Notary Seal)



Type or Print Name Louie Veneziano President
 Officer or Director Title

Signed *Louie Veneziano*

Company H&H Electric Co.

Address 2830 Commerce Street

Franklin Park, Illinois 60131



Illinois Department of Transportation

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

Affidavit of Availability
For the Letting of 10/04/19
(Letting date)

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**.

| | (C-1452) | (C-1454) | (C-1455) | (C-1457) | Awards Pending | |
|--|--------------------------|--|----------------------------------|---------------------------|-------------------------|--------------------|
| Contract Number | C.D.O.T. B-4-118 | SECTION 17-002638-16-TL | I.D.O.T. 61E27 | WILLOWS OF WILLOWBROOK | | |
| Contract With | CAPITOL CEMENT CO., INC. | LAKE COUNTY DIVISION OF TRANSPORTATION | LORUSSO CEMENT CONTRACTORS, INC. | K-FIVE CONSTRUCTION CORP. | | |
| Estimated Completion Date | 11/30/19 | 09/30/19 | 09/30/19 | 12/31/19 | | |
| Total Contract Price | 1,927,910.12 | 418,267.04 | 470,799.37 | 859,654.13 | | Accumulated Totals |
| Uncompleted Dollar Value if Firm is the Prime Contractor | | 55,677.35 | | | | 196,519.11 |
| Uncompleted Dollar Value if Firm is the Subcontractor | 367,652.14 | | 924.74 | 480,850.89 | | 2,160,145.16 |
| | | | | | Total Value of All Work | 2,356,664.27 |

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 | | | | | | 0.00 |
| Portland Cement Concrete Paving | | | | | | 0.00 |
| HMA Plant Mix | | | | | | 0.00 |
| HMA Paving | | | | | | 0.00 |
| Clean & Seal Cracks/Joints | | | | | | 0.00 |
| Aggregate Bases & Surfaces | | | | | | 0.00 |
| Highway, R.R. and Waterway Structures | | | | | | 0.00 |
| Drainage | | | | | | 0.00 |
| Electrical | 367,652.14 | 55,677.35 | 924.74 | 480,850.89 | 0.00 | 2,137,773.93 |
| Cover and Seal Coats | | | | | | 0.00 |
| Concrete Construction | | | | | | 0.00 |
| Landscaping | | | | | | 0.00 |
| Fencing | | | | | | 0.00 |
| Guardrail | | | | | | 0.00 |
| Painting | | | | | | 0.00 |
| Signing | | | | | | 0.00 |
| Cold Milling, Planning & Rotomilling | | | | | | 0.00 |
| Demolition | | | | | | 0.00 |
| Pavement Markings (Paint) | | | | | | 0.00 |
| Other Construction (List) | | | | | | 0.00 |
| | | | | | | 0.00 |
| | | | | | | 0.00 |
| Totals | 367,652.14 | 55,677.35 | 924.74 | 480,850.89 | 0.00 | 2,137,773.93 |

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.

| | (C-1452) | (C-1454) | (C-1455) | (C-1457) | Awards Pending |
|--------------------------|-------------|-------------|-------------|-------------|----------------|
| Subcontractor | | | | | |
| Type of Work | | | | | |
| Subcontract Price | | | | | |
| Amount Uncompleted | | | | | |
| Subcontractor | | | | | |
| Type of Work | | | | | |
| Subcontract Price | | | | | |
| Amount Uncompleted | | | | | |
| Subcontractor | | | | | |
| Type of Work | | | | | |
| Subcontract Price | | | | | |
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| 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

I, being duly sworn, do hereby declare 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

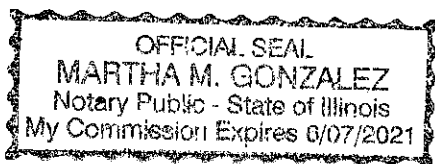
Subscribed and sworn to before me

this 24th day of September, 2019.

(Signature)
 Notary Public

My commission expires: 6/7/2021

(Notary Seal)



Type or Print Name Louie Veneziano President
 Officer or Director Title

Signed *(Signature)*

Company H&H Electric Co.

Address 2830 Commerce Street

Franklin Park, Illinois 60131



Illinois Department of Transportation

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

Affidavit of Availability
For the Letting of 10/04/19
(Letting date)

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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**.

| | (C-1459) | (C-1461) | (C-1465) | (C-1466) | Awards Pending |
|--|--------------------------|-----------------------|----------------|--------------------------|---------------------|
| Contract Number | 90 N. BLVD. - SCHAUMBURG | NAPERVILLE BID 18-121 | I.D.O.T. 62G12 | I.D.O.T. 61E53 | |
| Contract With | PLOTE CONSTRUCTION, INC. | NAPERVILLE | I.D.O.T. | PLOTE CONSTRUCTION, INC. | |
| Estimated Completion Date | 07/31/19 | 09/30/19 | 11/13/19 | 06/30/21 | |
| Total Contract Price | 1,141,492.32 | 297,654.46 | 2,378,249.31 | 4,877,859.12 | Accumulated Totals |
| Uncompleted Dollar Value if Firm is the Prime Contractor | | 5,037.16 | 1,182,588.83 | | 1,384,145.10 |
| Uncompleted Dollar Value if Firm is the Subcontractor | 96,084.45 | | | 3,822,051.91 | 6,078,281.52 |
| Total Value of All Work | | | | | 7,462,426.62 |

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 | | | | | | 0.00 |
| Portland Cement Concrete Paving | | | | | | 0.00 |
| HMA Plant Mix | | | | | | 0.00 |
| HMA Paving | | | | | | 0.00 |
| Clean & Seal Cracks/Joints | | | | | | 0.00 |
| Aggregate Bases & Surfaces | | | | | | 0.00 |
| Highway, R.R. and Waterway Structures | | | | | | 0.00 |
| Drainage | | | | | | 0.00 |
| Electrical | 91,084.45 | 5,037.16 | 1,152,488.83 | 3,807,561.91 | 0.00 | 7,193,946.28 |
| Cover and Seal Coats | | | | | | 0.00 |
| Concrete Construction | | | | | | 0.00 |
| Landscaping | | | | | | 0.00 |
| Fencing | | | | | | 0.00 |
| Guardrail | | | | | | 0.00 |
| Painting | | | | | | 0.00 |
| Signing | | | | | | 0.00 |
| Cold Milling, Planning & Rotomilling | | | | | | 0.00 |
| Demolition | | | | | | 0.00 |
| Pavement Markings (Paint) | | | | | | 0.00 |
| Other Construction (List) | | | | | | 0.00 |
| | | | | | | 0.00 |
| | | | | | | 0.00 |
| Totals | 91,084.45 | 5,037.16 | 1,152,488.83 | 3,807,561.91 | 0.00 | 7,193,946.28 |

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Part III. Work Subcontracted to Others

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

| | (C-1459) | (C-1461) | (C-1465) | (C-1466) | Awards Pending |
|--------------------------|-------------------------------|-------------|-------------------------------|---|----------------|
| Subcontractor | COMED | | INTEGRITY ENVIRONMENTAL, INC. | COMED | |
| Type of Work | ELECTRICAL SERVICE CONNECTION | | SOIL DISPOSAL AND TESTING | ELECTRICAL SERVICE CONNECTION | |
| Subcontract Price | 5,000.00 | | 18,650.00 | 2,000.00 | |
| Amount Uncompleted | 5,000.00 | | 7,900.00 | 2,000.00 | |
| Subcontractor | | | TRAFFIC CONTROL CORP. | TRAFFIC CONTROL CORP. | |
| Type of Work | | | MODIFY CONTROLLERS | MODIFY CONTROLLERS | |
| Subcontract Price | | | 22,200.00 | 2,590.00 | |
| Amount Uncompleted | | | 22,200.00 | 2,590.00 | |
| Subcontractor | | | | ITERIS | |
| Type of Work | | | | OPTIMIZE TRAFFIC SIGNAL & TEMPORARY TRAFFIC SIGNAL TIMING | |
| Subcontract Price | | | | 9,900.00 | |
| Amount Uncompleted | | | | 9,900.00 | |
| 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 | 5,000.00 | 0.00 | 30,100.00 | 14,490.00 | 0.00 |

I, being duly sworn, do hereby declare 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 24th day of September, 2019

Martha M. Gonzalez
 Notary Public

My commission expires: 6/7/2021

(Notary Seal)



Type or Print Name Louie Veneziano President
 Officer or Director Title

Signed *Louie Veneziano*

Company H&H Electric Co.

Address 2830 Commerce Street

Franklin Park, Illinois 60131



Illinois Department of Transportation

Bureau of Construction
2300 South Dirksen Parkway/Room 322
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Affidavit of Availability
For the Letting of 10/04/19
(Letting date)

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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 owner's estimate, and must include work subcontracted to others. If no work is contracted, show **NONE**.

| | (C-1467) | (C-1468) | (C-1471) | (C-1472) | Awards Pending | |
|--|--------------------------------------|--------------------------|----------------|-------------------|----------------|---------------------|
| Contract Number | VILLAGE OF SCHAUMBURG - MEACHAM ROAD | C.D.O.T. S-6-162 | I.D.O.T. 61F13 | I.D.O.T. 61F21 | | |
| Contract With | VILLAGE OF SCHAUMBURG | CAPITOL CEMENT CO., INC. | I.D.O.T. | GALLAGHER ASPHALT | | |
| Estimated Completion Date | 07/31/19 | 12/31/19 | 09/30/19 | 09/30/19 | | |
| Total Contract Price | 198,500.94 | 750,700.28 | 1,297,424.77 | 317,393.20 | | Accumulated Totals |
| Uncompleted Dollar Value if Firm is the Prime Contractor | 538.72 | | 935,453.82 | | | 2,320,137.64 |
| Uncompleted Dollar Value if Firm is the Subcontractor | | 564,563.93 | | 289,595.09 | | 6,932,440.54 |
| Total Value of All Work | | | | | | 9,252,578.18 |

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 | | | | | | 0.00 |
| Portland Cement Concrete Paving | | | | | | 0.00 |
| HMA Plant Mix | | | | | | 0.00 |
| HMA Paving | | | | | | 0.00 |
| Clean & Seal Cracks/Joints | | | | | | 0.00 |
| Aggregate Bases & Surfaces | | | | | | 0.00 |
| Highway, R.R. and Waterway Structures | | | | | | 0.00 |
| Drainage | | | | | | 0.00 |
| Electrical | 538.72 | 564,563.93 | 786,117.32 | 289,595.09 | 0.00 | 8,834,761.34 |
| Cover and Seal Coats | | | | | | 0.00 |
| Concrete Construction | | | | | | 0.00 |
| Landscaping | | | | | | 0.00 |
| Fencing | | | | | | 0.00 |
| Guardrail | | | | | | 0.00 |
| Painting | | | | | | 0.00 |
| Signing | | | | | | 0.00 |
| Cold Milling, Planning & Rotomilling | | | | | | 0.00 |
| Demolition | | | | | | 0.00 |
| Pavement Markings (Paint) | | | | | | 0.00 |
| Other Construction (List) | | | | | | 0.00 |
| | | | | | | 0.00 |
| | | | | | | 0.00 |
| Totals | 538.72 | 564,563.93 | 786,117.32 | 289,595.09 | 0.00 | 8,834,761.34 |

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Part III. Work Subcontracted to Others

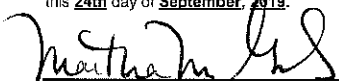
For each contract described in Part I, list all the work you have subcontracted to others.

| | (C-1467) | (C-1468) | (C-1471) | (C-1472) | Awards Pending |
|--------------------------|-------------|-------------|---|-------------|----------------|
| Subcontractor | | | STETTNER ENGINEERING | | |
| Type of Work | | | CONSTRUCTION LAYOUT | | |
| Subcontract Price | | | 3,750.00 | | |
| Amount Uncompleted | | | 3,750.00 | | |
| Subcontractor | | | MYS INCORPORATED | | |
| Type of Work | | | BIKE PATH REMOVAL AND CONCRETE WORK | | |
| Subcontract Price | | | 65,405.00 | | |
| Amount Uncompleted | | | 65,405.00 | | |
| Subcontractor | | | SUPERIOR ROAD STRIPING PAVEMENT MARKINGS AND GROOVING | | |
| Type of Work | | | | | |
| Subcontract Price | | | 62,196.50 | | |
| Amount Uncompleted | | | 62,196.00 | | |
| Subcontractor | | | COMED | | |
| Type of Work | | | ELECTRICAL CONNECTION | | |
| Subcontract Price | | | 15,000.00 | | |
| Amount Uncompleted | | | 15,000.00 | | |
| Subcontractor | | | TRAFFIC CONTROL CORPORATION | | |
| Type of Work | | | MODIFY EXISTING CONTROLLER CABINET | | |
| Subcontract Price | | | 2,985.00 | | |
| Amount Uncompleted | | | | | |
| Subcontractor | | | | | |
| Type of Work | | | | | |
| Subcontract Price | | | | | |
| Amount Uncompleted | | | | | |
| Subcontractor | | | | | |
| Type of Work | | | | | |
| Subcontract Price | | | | | |
| Amount Uncompleted | | | | | |
| Total Uncompleted | 0.00 | 0.00 | 149,336.50 | 0.00 | 0.00 |

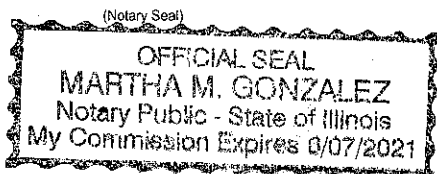
I, being duly sworn, do hereby declare this affidavit is a true and correct statement relating to ALL uncompleted contracts of the undersigned for Federal, State, County, City and private work, including ALL subcontract work, ALL pending low bids not yet awarded or rejected and ALL estimated completion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

Subscribed and sworn to before me

this 24th day of September, 2019.


 Notary Public

My commission expires: 6/7/2021



Type or Print Name Louie Veneziano President
 Officer or Director Title

Signed 

Company H&H Electric Co.

Address 2830 Commerce Street

Franklin Park, Illinois 60131



Illinois Department of Transportation

Bureau of Construction
2300 South Dirksen Parkway/Room 322
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Affidavit of Availability
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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**.

| | (C-1473) | (C-1474) | (C-1475) | (C-1476) | Awards Pending |
|--|---------------------------------|------------------------|---------------------------------|----------------|---------------------------|
| Contract Number | OAK PARK 19-12 | I.D.O.T. 61F28 | I.D.O.T. 61F38 | I.D.O.T. 61F59 | |
| Contract With | K-FIVE CONSTRUCTION CORPORATION | CURRAN CONTRACTING CO. | K-FIVE CONSTRUCTION CORPORATION | I.D.O.T. | |
| Estimated Completion Date | 11/15/19 | 09/30/19 | 09/30/19 | 07/31/19 | |
| Total Contract Price | 282,791.10 | 953,337.65 | 64,535.90 | 826,204.54 | Accumulated Totals |
| Uncompleted Dollar Value if Firm is the Prime Contractor | | | | 820,647.54 | 3,140,785.18 |
| Uncompleted Dollar Value if Firm is the Subcontractor | 207,079.64 | 816,680.57 | 27,427.33 | | 7,983,628.08 |
| Total Value of All Work | | | | | 11,124,413.26 |

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 | | | | | | 0.00 |
| Portland Cement Concrete Paving | | | | | | 0.00 |
| HMA Plant Mix | | | | | | 0.00 |
| HMA Paving | | | | | | 0.00 |
| Clean & Seal Cracks/Joints | | | | | | 0.00 |
| Aggregate Bases & Surfaces | | | | | | 0.00 |
| Highway, R.R. and Waterway Structures | | | | | | 0.00 |
| Drainage | | | | | | 0.00 |
| Electrical | 207,079.64 | 811,580.57 | 27,427.33 | 669,415.34 | 0.00 | 10,550,264.22 |
| Cover and Seal Coats | | | | | | 0.00 |
| Concrete Construction | | | | | | 0.00 |
| Landscaping | | | | | | 0.00 |
| Fencing | | | | | | 0.00 |
| Guardrail | | | | | | 0.00 |
| Painting | | | | | | 0.00 |
| Signing | | | | | | 0.00 |
| Cold Milling, Planning & Rotomilling | | | | | | 0.00 |
| Demolition | | | | | | 0.00 |
| Pavement Markings (Paint) | | | | | | 0.00 |
| Other Construction (List) | | | | | | 0.00 |
| | | | | | | 0.00 |
| | | | | | | 0.00 |
| Totals | 207,079.64 | 811,580.57 | 27,427.33 | 669,415.34 | 0.00 | 10,550,264.22 |

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

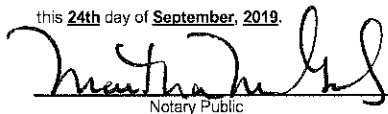
For each contract described in Part I, list all the work you have subcontracted to others.

| | (C-1473) | (C-1474) | (C-1475) | (C-1476) | Awards Pending |
|--------------------------|-------------|-----------------------|-------------|-----------------------------|----------------|
| Subcontractor | | ITERIS | | TRAFFIC CONTROL CORPORATION | |
| Type of Work | | OPTIMIZATIONS | | ITEM XX007993 | |
| Subcontract Price | | 2,600.00 | | 109,750.00 | |
| Amount Uncompleted | | 2,600.00 | | 109,750.00 | |
| Subcontractor | | COMED | | ITERIS | |
| Type of Work | | ELECTRICAL CONNECTION | | OPTIMIZATION | |
| Subcontract Price | | 2,500.00 | | 5,975.00 | |
| Amount Uncompleted | | 2,500.00 | | 5,975.00 | |
| Subcontractor | | | | TRAFFIC CONTROL CORPORATION | |
| Type of Work | | | | ITEM 89502210 | |
| Subcontract Price | | | | 2,700.00 | |
| Amount Uncompleted | | | | 2,700.00 | |
| Subcontractor | | | | ELITE FIBER OPTIC | |
| Type of Work | | | | FIBER OPTIC | |
| Subcontract Price | | | | 32,807.20 | |
| Amount Uncompleted | | | | 32,807.20 | |
| Subcontractor | | | | | |
| Type of Work | | | | | |
| Subcontract Price | | | | | |
| Amount Uncompleted | | | | | |
| Subcontractor | | | | | |
| Type of Work | | | | | |
| Subcontract Price | | | | | |
| Amount Uncompleted | | | | | |
| Total Uncompleted | 0.00 | 5,100.00 | 0.00 | 151,232.20 | 0.00 |

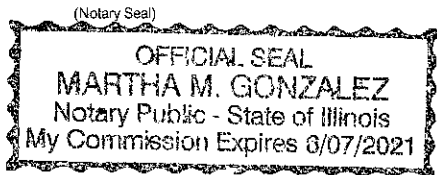
I, being duly sworn, do hereby declare this affidavit is a true and correct statement relating to ALL uncompleted contracts of the undersigned for Federal, State, County, City and private work, including ALL subcontract work, ALL pending low bids not yet awarded or rejected and ALL estimated completion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

Subscribed and sworn to before me

this 24th day of September, 2019.


 Notary Public

My commission expires: 6/7/2021



Type or Print Name Louie Veneziano President
 Officer or Director Title

Signed 

Company H&H Electric Co.

Address 2830 Commerce Street

Franklin Park, Illinois 60131



Illinois Department of Transportation

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

Affidavit of Availability
For the Letting of 10/04/19
(Letting date)

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**.

| | (C-1477) | (C-1478) | (C-1479) | (C-1481) | Awards Pending |
|--|----------------|---------------------------------|---------------------------------|---------------------------------|----------------------|
| Contract Number | I.D.O.T. 61F03 | I.D.O.T. 61F60 | I.D.O.T. 62G64 | SECTION 19-PVMT-12-GM | |
| Contract With | DAVIS CONCRETE | K-FIVE CONSTRUCTION CORPORATION | K-FIVE CONSTRUCTION CORPORATION | K-FIVE CONSTRUCTION CORPORATION | |
| Estimated Completion Date | 09/30/19 | 09/30/19 | 09/30/19 | 08/30/19 | |
| Total Contract Price | 21,749.30 | 33,663.50 | 11,855.70 | 69,065.90 | Accumulated Totals |
| Uncompleted Dollar Value if Firm is the Prime Contractor | | | | | 3,140,785.18 |
| Uncompleted Dollar Value if Firm is the Subcontractor | 18,856.88 | 32,648.50 | 8,958.20 | 55,108.32 | 8,099,199.98 |
| Total Value of All Work | | | | | 11,239,985.16 |

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 | | | | | | 0.00 |
| Portland Cement Concrete Paving | | | | | | 0.00 |
| HMA Plant Mix | | | | | | 0.00 |
| HMA Paving | | | | | | 0.00 |
| Clean & Seal Cracks/Joints | | | | | | 0.00 |
| Aggregate Bases & Surfaces | | | | | | 0.00 |
| Highway, R.R. and Waterway Structures | | | | | | 0.00 |
| Drainage | | | | | | 0.00 |
| Electrical | 18,856.88 | 32,648.50 | 8,958.20 | 55,108.32 | 0.00 | 10,665,836.12 |
| Cover and Seal Coats | | | | | | 0.00 |
| Concrete Construction | | | | | | 0.00 |
| Landscaping | | | | | | 0.00 |
| Fencing | | | | | | 0.00 |
| Guardrail | | | | | | 0.00 |
| Painting | | | | | | 0.00 |
| Signing | | | | | | 0.00 |
| Cold Milling, Planning & Rotomilling | | | | | | 0.00 |
| Demolition | | | | | | 0.00 |
| Pavement Markings (Paint) | | | | | | 0.00 |
| Other Construction (List) | | | | | | 0.00 |
| | | | | | | 0.00 |
| | | | | | | 0.00 |
| Totals | 18,856.88 | 32,648.50 | 8,958.20 | 55,108.32 | 0.00 | 10,665,836.12 |

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Part III. Work Subcontracted to Others

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

| | (C-1477) | (C-1478) | (C-1479) | (C-1481) | 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 | | | | | |
| Total Uncompleted | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

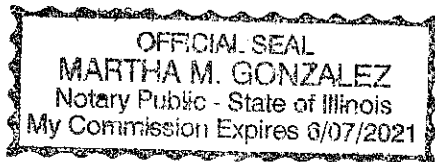
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Martha M. Gonzalez
 Notary Public

My commission expires: 6/7/2021



Type or Print Name Louie Veneziano President
 Officer or Director Title

Signed *Louie Veneziano*

Company H&H Electric Co.

Address 2830 Commerce Street
Franklin Park, Illinois 60131



Illinois Department of Transportation

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

Affidavit of Availability
For the Letting of 10/04/19
(Letting date)

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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**.

| | (C-1482) | (C-1483) | (C-1484) | (C-1485) | Awards Pending |
|--|----------------|---------------------------------|----------------|------------------------------|---------------------------|
| Contract Number | I.D.O.T. 62G64 | I.D.O.T. 62G23 | MONTGOMERY RD. | CITY OF ELGIN 2019 COLLECTOR | |
| Contract With | I.D.O.T. | K-FIVE CONSTRUCTION CORPORATION | CITY OF AURORA | ARROW ROAD CONSTRUCTION CO. | |
| Estimated Completion Date | 05/14/21 | 07/31/19 | 11/30/19 | 11/15/19 | |
| Total Contract Price | 6,338,790.80 | 79,124.20 | 273,718.85 | 29,467.80 | Accumulated Totals |
| Uncompleted Dollar Value if Firm is the Prime Contractor | 6,338,790.80 | | 271,747.85 | | 9,751,323.83 |
| Uncompleted Dollar Value if Firm is the Subcontractor | | 79,124.20 | | 29,467.80 | 8,207,791.98 |
| Total Value of All Work | | | | | 17,959,115.81 |

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 | | | | | | 0.00 |
| Portland Cement Concrete Paving | | | | | | 0.00 |
| HMA Plant Mix | | | | | | 0.00 |
| HMA Paving | | | | | | 0.00 |
| Clean & Seal Cracks/Joints | | | | | | 0.00 |
| Aggregate Bases & Surfaces | | | | | | 0.00 |
| Highway,R.R. and Waterway Structures | | | | | | 0.00 |
| Drainage | | | | | | 0.00 |
| Electrical | 5,203,392.79 | 79,124.20 | 219,947.65 | 29,467.80 | 0.00 | 16,197,768.56 |
| Cover and Seal Coats | | | | | | 0.00 |
| Concrete Construction | | | | | | 0.00 |
| Landscaping | | | | | | 0.00 |
| Fencing | | | | | | 0.00 |
| Guardrail | | | | | | 0.00 |
| Painting | | | | | | 0.00 |
| Signing | | | | | | 0.00 |
| Cold Milling, Planning & Rotomilling | | | | | | 0.00 |
| Demolition | | | | | | 0.00 |
| Pavement Markings (Paint) | | | | | | 0.00 |
| Other Construction (List) | | | | | | 0.00 |
| | | | | | | 0.00 |
| | | | | | | 0.00 |
| Totals | 5,203,392.79 | 79,124.20 | 219,947.65 | 29,467.80 | 0.00 | 16,197,768.56 |

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Part III. Work Subcontracted to Others

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

| | (C-1482) | (C-1483) | (C-1484) | (C-1485) | Awards Pending |
|--------------------------|---|-------------|---|-------------|----------------|
| Subcontractor | WORK ZONE SAFETY, INC. | | MOBOTREX, INC. | | |
| Type of Work | PAVEMENT MARKING, TRAFFIC CONTROL & PROTECTION, SIGNING | | CENTRALIZED SYSTEM FIELD INTEGRATION/SET UP | | |
| Subcontract Price | 487,852.60 | | 1,500.00 | | |
| Amount Uncompleted | 487,852.60 | | 1,500.00 | | |
| Subcontractor | GENEVA CONSTRUCTION COMPANY | | ELITE FIBER OPTICS | | |
| Type of Work | CONCRETE | | CENTRALIZED SYSTEM FIELD INTEGRATION/SET UP | | |
| Subcontract Price | 520,420.20 | | 2,250.00 | | |
| Amount Uncompleted | 520,420.20 | | 2,250.00 | | |
| Subcontractor | MARKING SPECIALISTS CORPORATION | | GENEVA CONSTRUCTION COMPANY | | |
| Type of Work | PAVEMENT MARKING | | CONCRETE | | |
| Subcontract Price | 46,847.71 | | 22,041.90 | | |
| Amount Uncompleted | 46,847.71 | | 22,041.90 | | |
| Subcontractor | COMED | | MARKING SPECIALISTS CORPORATION | | |
| Type of Work | ELECTRICAL SERVICE | | PAVEMENT MARKINGS | | |
| Subcontract Price | 25,000.00 | | 5,133.30 | | |
| Amount Uncompleted | 25,000.00 | | 5,133.30 | | |
| Subcontractor | MCGINTY BROTHERS, INC. | | WORK ZONE SAFETY, INC. | | |
| Type of Work | LANDSCAPING | | SIGNS | | |
| Subcontract Price | 22,417.50 | | 875.00 | | |
| Amount Uncompleted | 22,417.50 | | 875.00 | | |
| Subcontractor | MACRIE CONSULTANTS, LLC | | CITY OF AURORA | | |
| Type of Work | CONSTRUCTION LAYOUT | | ITEMS ORDERED BY ENGINEER | | |
| Subcontract Price | 17,700.00 | | 20,000.00 | | |
| Amount Uncompleted | 17,700.00 | | 20,000.00 | | |
| Subcontractor | INTEGRITY ENVIRONMENTAL SERVICES, INC. | | | | |
| Type of Work | ENVIRONMENTAL | | | | |
| Subcontract Price | 15,160.00 | | | | |
| Amount Uncompleted | 15,160.00 | | | | |
| Total Uncompleted | 1,135,398.01 | 0.00 | 51,800.20 | 0.00 | 0.00 |

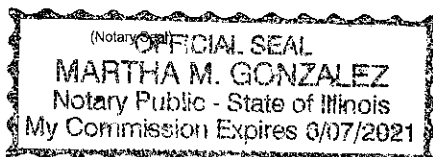
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this 24th day of September, 2019

Martha M. Gonzalez
 Notary Public

My commission expires: 6/7/2021



Type or Print Name Louie Veneziano President
 Officer or Director Title

Signed *Louie Veneziano*

Company H&H Electric Co.

Address 2830 Commerce Street

Franklin Park, Illinois 60131



Illinois Department of Transportation

Bureau of Construction
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| | (C-1486) | (C-1487) | (M-0047) | (M-0048) | Awards Pending |
|--|------------------------|------------------------|----------------|----------------|----------------------|
| Contract Number | SECTION 19-00999-64-TL | I.D.O.T. 62C08 | I.D.O.T. 66J75 | I.D.O.T. 66J80 | |
| Contract With | L.C.D.O.T. | "D" CONSTRUCTION, INC. | I.D.O.T. | I.D.O.T. | |
| Estimated Completion Date | 12/20/19 | 08/21/20 | 06/30/21 | 06/30/21 | |
| Total Contract Price | 284,578.70 | 265,785.60 | 46,599.53 | 46,599.52 | Accumulated Totals |
| Uncompleted Dollar Value if Firm is the Prime Contractor | 284,578.70 | | 45,767.36 | 46,253.52 | 10,127,923.41 |
| Uncompleted Dollar Value if Firm is the Subcontractor | | 265,785.60 | | | 8,473,577.58 |
| Total Value of All Work | | | | | 18,601,500.99 |

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| | | | | | | Accumulated Totals |
|---------------------------------------|-------------------|-------------------|------------------|------------------|-------------|----------------------|
| Earthwork | | | | | | 0.00 |
| Portland Cement Concrete Paving | | | | | | 0.00 |
| HMA Plant Mix | | | | | | 0.00 |
| HMA Paving | | | | | | 0.00 |
| Clean & Seal Cracks/Joints | | | | | | 0.00 |
| Aggregate Bases & Surfaces | | | | | | 0.00 |
| Highway, R.R. and Waterway Structures | | | | | | 0.00 |
| Drainage | | | | | | 0.00 |
| Electrical | 271,558.70 | 265,285.60 | 45,767.36 | 46,253.52 | 0.00 | 16,826,633.74 |
| Cover and Seal Coats | | | | | | 0.00 |
| Concrete Construction | | | | | | 0.00 |
| Landscaping | | | | | | 0.00 |
| Fencing | | | | | | 0.00 |
| Guardrail | | | | | | 0.00 |
| Painting | | | | | | 0.00 |
| Signing | | | | | | 0.00 |
| Cold Milling, Planning & Rotomilling | | | | | | 0.00 |
| Demolition | | | | | | 0.00 |
| Pavement Markings (Paint) | | | | | | 0.00 |
| Other Construction (List) | | | | | | 0.00 |
| | | | | | | 0.00 |
| | | | | | | 0.00 |
| Totals | 271,558.70 | 265,285.60 | 45,767.36 | 46,253.52 | 0.00 | 16,826,633.74 |

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Part III. Work Subcontracted to Others

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

| | (C-1486) | (C-1487) | (M-0047) | (M-0048) | Awards Pending |
|--------------------------|--------------------|--|-------------|-------------|----------------|
| Subcontractor | ELITE FIBER OPTICS | CHRISTOPHER B. BURKE ENGINEERING, LTD. | | | |
| Type of Work | FIBER OPTIC | TRAFFIC SIGNAL TIMING | | | |
| Subcontract Price | 13,020.00 | 500.00 | | | |
| Amount Uncompleted | 13,020.00 | 500.00 | | | |
| 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 | 13,020.00 | 500.00 | 0.00 | 0.00 | 0.00 |

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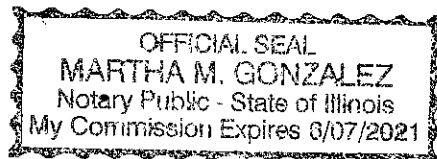
Subscribed and sworn to before me

this 24th day of September, 2019

Martha M. Gonzalez
 Notary Public

My commission expires: 6/7/2021

(Notary Seal)



Type or Print Name Louie Veneziano President
 Officer or Director Title

Signed *Louie Veneziano*

Company H&H Electric Co.

Address 2830 Commerce Street
Franklin Park, Illinois 60131

PLANS FOR PROPOSED FINLEY ROAD AT FINLEY MALL DRIVE TRAFFIC SIGNAL MODERNIZATION

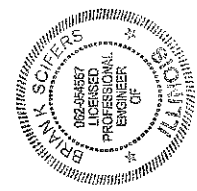
VILLAGE OFFICIALS
MAYOR
Bob Barnett

VILLAGE COMMISSIONERS
Greg Esch
Mike Gendron
Nicole Valus
Laelle Sadowski-Fugitt
Rich Kulavany

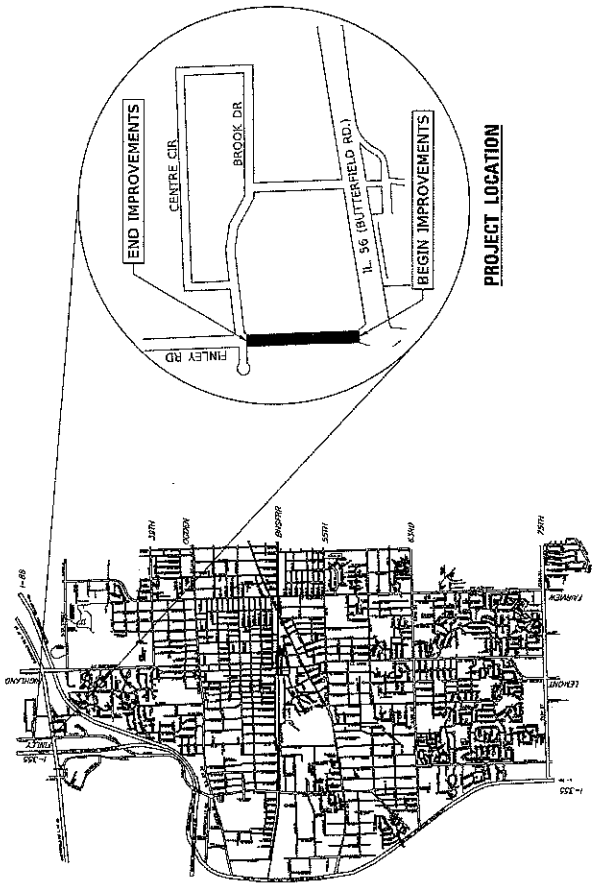
CLERK
April K. Holden

**VILLAGE OF DOWNERS GROVE
DUPAGE COUNTY**

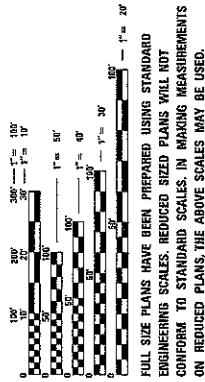
VILLAGE OF DOWNERS GROVE
PUBLIC WORKS - ENGINEERING
5101 WALNUT AVE.
DOWNERS GROVE, IL 60515
PH: (630)-434-5460



Brian K. Scifers
11-20-2019
DUPAGE



- INDEX OF SHEETS**
- TITLE SHEET
 - SUMMARY OF QUANTITIES
 - DISTRICT 3, STANDARD DETAIL SHEETS
 - REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT PLAN
 - TEMPORARY CABLE PLAN, TEMPORARY PHASE DESIGNATION DIAGRAM, TEMPORARY EMERGENCY VEHICLE PRE-EMPTION SEQUENCE
 - REMOVALS AND NEW PAVEMENT PLAN
 - TRAFFIC SIGNAL MODERNIZATION PLAN
 - CABLE PLAN, TEMPORARY PHASE DESIGNATION DIAGRAM, EMERGENCY VEHICLE PRE-EMPTION SEQUENCE
 - MAST ARM MOUNTED STREET NAME SIGNS AND SCHEDULE OF QUANTITIES
 - TRAFFIC SIGNAL INTERCONNECT PLAN
 - INTERCONNECT SCHEMATIC
- IDOT STANDARDS**
- 424001-11 PERPENDICULAR CURB RAMP FOR SIDEWALKS
 - 606301-04 PCC ISLANDS AND MEDIANS
 - 701101-05 OFF-ROAD OPERATIONS, MULTILANE, 15' (4.5m) TO 24' (600mm) FROM PAVEMENT EDGE
 - 701106-02 OFF-ROAD OPERATIONS, MULTILANE, MORE THAN 15' (4.5m) AWAY
 - 701701-10 URBAN LANE CLOSURE, MULTILANE INTERSECTION
 - 701801-06 SIDEWALK, CORNER OR CROSSWALK CLOSURE
 - 701901-06 TRAFFIC CONTROL DEVICES
 - 720016-04 MAST ARM MOUNTED STREET NAME SIGNS
 - 780001-05 TYPICAL PAVEMENT MARKINGS
 - 805001-01 ELECTRICAL SERVICE INSTALLATION DETAILS
 - 814001-03 HANDHOLES
 - 814001-04 HOLES
 - 814001-05 FOUNDATION
 - 822001-01 UNINTERRUPTIBLE POWER SUPPLY (UPS)
 - 823001-02 TRAFFIC SIGNAL GROUND AND BOND
 - 877001-07 STEEL MAST ARM ASSEMBLY AND POLE, 16' THROUGH 55'
 - 878001-10 CONCRETE FOUNDATION DETAILS
 - 880001-01 SPAN WIRE MOUNT SIGNALS AND FLASHING BEACON INSTALLATION
 - 880006-01 TRAFFIC SIGNAL MOUNTING DETAILS



ALL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.



JULIE
JOINT UTILITY LOCATION
INFORMATION FOR EXCAVATION
1-800-832-0123
OR 811

GROSS LENGTH = 1250 FT. = 0.237 MILE
NET LENGTH = 1250 FT. = 0.237 MILE

PROJECT ENGINEER: WSA
PROJECT MANAGER: BKS

SCHEDULE OF QUANTITIES

| ITEM CODE | ITEM DESCRIPTION | UNITS | QUANTITY |
|-----------|--|-------|----------|
| 35100110 | AGGREGATE BASE COURSE, TYPE A | CU YD | 2 |
| 42400200 | PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH | 50 FT | 184 |
| 42400300 | DEFLECTABLE WARNING | 50 FT | 30 |
| 44000500 | SIDEWALK REMOVAL | 50 FT | 164 |
| 44003100 | MEDIAN REMOVAL | 50 FT | 25.5 |
| 60613000 | CONCRETE MEDIAN SURFACE, 4 INCH | 50 FT | 25.5 |
| 67100100 | MOBILIZATION | L SUM | 1 |
| 72900100 | SIGN PANEL - TYPE 1 | 50 FT | 13.5 |
| 72900200 | SIGN PANEL - TYPE 2 | 50 FT | 21 |
| 81202200 | UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA. | FOOT | 487 |
| 81202300 | UNDERGROUND CONDUIT, GALVANIZED STEEL, 3" DIA. | FOOT | 133 |
| 81202400 | UNDERGROUND CONDUIT, GALVANIZED STEEL, 4" DIA. | FOOT | 328 |
| 81400100 | HANDHOLE | EACH | 3 |
| 81400300 | DOUBLE HANDHOLE | EACH | 1 |
| 85000200 | MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION | EACH | 2 |
| 86400100 | TRANSMITTER - FIBER OPTIC | EACH | 2 |
| 87300010 | GROUNDING EXISTING HANDHOLE FRAME AND COVER | EACH | 1 |
| 87300925 | ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C | FOOT | 1495 |
| 87301215 | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C | FOOT | 270 |
| 87301225 | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C | FOOT | 650 |
| 87301245 | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C | FOOT | 1425 |
| 87301255 | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C | FOOT | 1450 |
| 87301265 | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 20 3C | FOOT | 265 |
| 87301805 | ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2 C | FOOT | 110 |
| 87301900 | ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C | FOOT | 535 |
| 87501200 | TRAFFIC SIGNAL POST, 18 FT. | EACH | 3 |
| 87700200 | STEEL MAST ARM ASSEMBLY AND POLE, 32 FT. | EACH | 2 |
| 87700900 | STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 34 FT. | EACH | 1 |
| 87700950 | STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 44 FT. | EACH | 1 |
| 87800100 | CONCRETE FOUNDATION, TYPE A | FOOT | 12 |

| ITEM CODE | ITEM DESCRIPTION | UNITS | QUANTITY |
|-----------|---|-------|----------|
| 87800150 | CONCRETE FOUNDATION, TYPE C | FOOT | 4 |
| 87800415 | CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER | FOOT | 46 |
| 87900200 | DRILL EXISTING HANDHOLE | EACH | 7 |
| 88030020 | SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED | EACH | 6 |
| 88030050 | SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED | EACH | 2 |
| 88030100 | SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED | EACH | 4 |
| 88030110 | SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED | EACH | 4 |
| 88100217 | PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER | EACH | 2 |
| 88200410 | TRAFFIC SIGNAL BACKPLATE, LOWERED FORMED PLASTIC | EACH | 10 |
| 88700200 | LIGHT DETECTOR | EACH | 4 |
| 88700300 | LIGHT DETECTOR AMPLIFIER | EACH | 2 |
| 89000100 | TEMPORARY TRAFFIC SIGNAL INSTALLATION | EACH | 1 |
| 89502210 | MODIFY EXISTING CONTROLLER CABINET | EACH | 2 |
| 89503300 | REMOVE ELECTRIC CABLE FROM CONDUIT | FOOT | 3600 |
| 89502375 | REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT | EACH | 1 |
| 89502380 | REMOVE EXISTING CONCRETE FOUNDATION | EACH | 6 |
| 89502382 | REMOVE EXISTING DOUBLE HANDHOLE | EACH | 1 |
| 89502385 | REMOVE EXISTING CONCRETE FOUNDATION | EACH | 6 |
| X0202885 | VIDEO DETECTION SYSTEM | EACH | 1 |
| X1400081 | FULL-ACTUATED CONTROLLER AND TYPE SUPER P CABINET (SPECIAL) | EACH | 1 |
| X1400150 | SERVICE INSTALLATION, GROUND MOUNTED, METERED | EACH | 1 |
| X7010216 | TRAFFIC CONTROL AND PROTECTION, (SPECIAL) | L SUM | 1 |
| X8620200 | UNINTERRUPTIBLE POWER SUPPLY, SPECIAL | EACH | 1 |
| X8710024 | FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F 5M24F | FOOT | 1495 |
| X8760200 | ACCESSIBLE PEDESTRIAN SIGNALS | EACH | 2 |
| XX00601 | EXPLORATORY EXCAVATION | CU YD | 15 |
| Z063044 | RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM LEVEL 1 | EACH | 1 |
| Z067310 | TEMPORARY TRAFFIC SIGNAL TIMING | EACH | 1 |



DESIGNED - WSA
 DRAWN - SW
 CHECKED - JG
 DATE - 02/03/19

VILLAGE OF DOWNERS GROVE
 DUPAGE COUNTY

FINLEY ROAD AND FINLEY MALL DRIVE
 SUMMARY OF QUANTITIES

| | | | |
|--------------|--------------|---------|---------|
| TOTAL SHEETS | COUNTY | SECTION | SHEET |
| 2 | DUPAGE | | 10 STA. |
| 2 | CONTRACT NO. | | |
| | PROJECT | | |

TRAFFIC SIGNAL LEGEND (NOT TO SCALE)

| ITEM | EXISTING | PROPOSED | 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 -4P1 POLE MOUNTED | | | | | RAILROAD FLASHING SIGNAL | | |
| SERVICE INSTALLATION -10' GROUND MOUNTED | | | | | RAILROAD CROSSING GATE | | |
| SERVICE INSTALLATION -10M GROUND MOUNTED METERED | | | | | RAILROAD CROSSBUCK | | |
| TELEPHONE CONNECTION | | | | | RAILROAD CONTROLLER CABINET | | |
| STEEL MAST ARM ASSEMBLY AND POLE | | | | | UNDERGROUND CONDUIT (UC) GALVANIZED STEEL | | |
| ALUMINUM MAST ARM ASSEMBLY AND POLE | | | | | TEMPORARY SPAN WIRE TETHER WIRE, AND CABLE | | |
| STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE | | | | | SYSTEM ITEM | | |
| SIGNAL POST MOUNTED - TEMPORARY -18M BARRREL MOUNTED | | | | | INTERSECTION ITEM | | |
| WOOD POLE | | | | | REMOVE ITEM | | |
| GUY WIRE | | | | | RELLOCATE ITEM | | |
| SIGNAL HEAD | | | | | ABANDON ITEM | | |
| SIGNAL HEAD WITH BACKPLATE | | | | | CONTROLLER CABINET AND FOUNDATION TO BE REMOVED | | |
| SIGNAL HEAD OPTICALLY PROGRAMMED | | | | | MAST ARM POLE AND FOUNDATION TO BE REMOVED | | |
| FLASHER INSTALLATION -4P1 SOLAR POWERED | | | | | SIGNAL POST AND FOUNDATION TO BE REMOVED | | |
| PEDESTRIAN SIGNAL HEAD | | | | | DETECTOR LOOP, TYPE I | | |
| PEDESTRIAN PUSH BUTTON -4P1 ACCESSIBLE PEDESTRIAN PUSH BUTTON | | | | | PREFORMED DETECTOR LOOP | | |
| RADAR DETECTION SENSOR | | | | | SAMPLING SYSTEM DETECTOR | | |
| VIDEO DETECTION CAMERA | | | | | INTERSECTION AND SAMPLING SYSTEM DETECTOR | | |
| RADAR/VIDEO DETECTION ZONE | | | | | QUEUE AND SAMPLING SYSTEM DETECTOR | | |
| PAN, TILT, ZOOM (PTZ) CAMERA | | | | | WIRELESS DETECTOR SENSOR | | |
| EMERGENCY VEHICLE LIGHT DETECTOR | | | | | WIRELESS ACCESS POINT | | |
| CONFIRMATION BEACON | | | | | | | |
| WIRELESS INTERCONNECT | | | | | | | |
| WIRELESS INTERCONNECT RADIO REPEATER | | | | | | | |

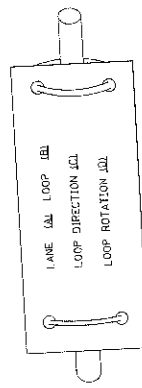
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|---|-----------------|-----------------|-----------------|-----------------|---|-----------------|-----------------|
| ITEM | EXISTING | PROPOSED | EXISTING | PROPOSED | ITEM | EXISTING | PROPOSED |
| SIGNAL HEAD -4P1 PROGRAMMABLE SIGNAL HEAD | | | | | SIGNAL HEAD WITH BACKPLATE -4P1 PROGRAMMABLE SIGNAL HEAD -18M RETROREFLECTIVE BACKPLATE | | |
| SIGNAL HEAD WITH BACKPLATE -4P1 PROGRAMMABLE SIGNAL HEAD -18M RETROREFLECTIVE BACKPLATE | | | | | PEDESTRIAN SIGNAL HEAD AT RAILROAD INTERSECTIONS | | |
| PEDESTRIAN SIGNAL HEAD AT RAILROAD INTERSECTIONS | | | | | PEDESTRIAN SIGNAL HEAD WITH COUNTDOWN TIMER | | |
| PEDESTRIAN SIGNAL HEAD WITH COUNTDOWN TIMER | | | | | ILLUMINATED SIGN "NO LEFT TURN"/"NO RIGHT TURN" | | |
| ILLUMINATED SIGN "NO LEFT TURN"/"NO RIGHT TURN" | | | | | NUMBER OF CONDUCTORS, ELECTRIC CABLE NO. 14, UNLESS NOTED OTHERWISE, ALL DETECTOR LOOP CABLE TO BE SHIELDED | | |
| NUMBER OF CONDUCTORS, ELECTRIC CABLE NO. 14, UNLESS NOTED OTHERWISE, ALL DETECTOR LOOP CABLE TO BE SHIELDED | | | | | GROUND, CABLE IN CONDUIT, NO. 6 SOLID COPPER (GREEN) | | |
| GROUND, CABLE IN CONDUIT, NO. 6 SOLID COPPER (GREEN) | | | | | ELECTRIC CABLE IN CONDUIT, TRACER NO. 14 1/2" | | |
| ELECTRIC CABLE IN CONDUIT, TRACER NO. 14 1/2" | | | | | CONVEX CABLE | | |
| CONVEX CABLE | | | | | VENDOR CABLE | | |
| VENDOR CABLE | | | | | COPPER INTERCONNECT CABLE NO. 18, 3 PAIR TWISTED, SHIELDED | | |
| COPPER INTERCONNECT CABLE NO. 18, 3 PAIR TWISTED, SHIELDED | | | | | FIBER OPTIC CABLE -NO. 62.5/125, MM12P -NO. 62.5/125, MM12P SAMP -NO. 62.5/125, MM12P SAMP | | |
| FIBER OPTIC CABLE -NO. 62.5/125, MM12P -NO. 62.5/125, MM12P SAMP -NO. 62.5/125, MM12P SAMP | | | | | GROUND ROD -NO. 1/2" GALVANIZED -4P1 MAST ARM -4P1 POST -1S1 SERVICE | | |
| GROUND ROD -NO. 1/2" GALVANIZED -4P1 MAST ARM -4P1 POST -1S1 SERVICE | | | | | | | |

| | | | | | |
|---|--|-------------------------|-------------------------|--------------------|-------------------|
| STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | DISTRICT ONE STANDARD TRAFFIC SIGNAL DESIGN DETAILS | SECTION TS-05 | COUNTY DUPAGE | SHEET 34 | SHEET 3 |
| SCALE: NONE | | OF 1 SHEETS | | TO 31A | |
| REVISIONS | | DATE | | BY | |
| DESIGNED - JP | REVISION - | 9/23/2016 | | | |
| DRAWN - JP | REVISION - | | | | |
| CHECKED - LP | REVISION - | | | | |
| DATE | REVISION - | | | | |

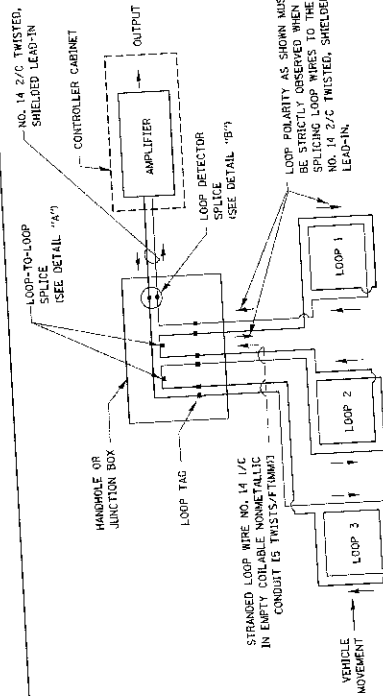
LOOP DETECTOR NOTES

- 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 DIVERTHOLES MARKED AT THE CURB WITH A SAW-CUT. THE SAW-CUT SHALL BE CUT IN ACCORDANCE WITH LOCAL AND EPA-A, DUST CONTROL REQUIREMENTS. DETECTOR LOOPS 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.
- PREFORMED 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

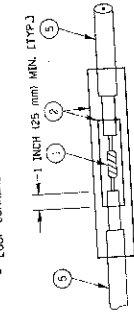


- LANE 1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY.
- LOOP #1 IS THE LOOP IN THE LANE CLOSEST TO THE INTERSECTION.
- LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".
- LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.

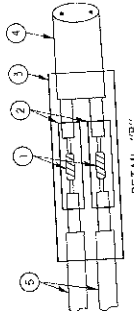


DETECTOR LOOP WIRING SCHEMATIC

- LOOPS SHALL BE SPLICED IN SERIES.
- SAW-CUTS SHALL BE A MINIMUM WIDTH OF 5/16" (8 mm).
- SAW-CUT DEPTHS SHALL BE 3/4" (19 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.

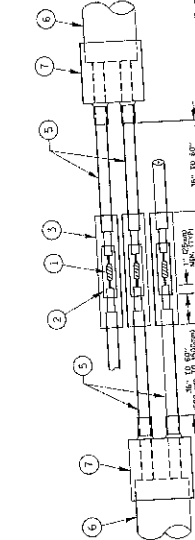


DETAIL "A"
LOOP-TO-LOOP SPLICE



DETAIL "B"
LOOP-TO-CONTROLLER SPLICE

TYPE I LOOP



PRE-FORMED LOOP

DETAIL "B"
LOOP-TO-CONTROLLER SPLICE

LOOP DETECTOR SPLICE

- WESTERN UNION SPLICE SOLDERED WITH ROBIN CORE FLUX. ALL EXPOSED SURFACES OF THE SOLDER SHALL BE SMOOTH. THE WESTERN UNION SPLICES SHALL BE STAGGERED.
- WCSMW 30/700 HEAT SHRINK TUBE, MINIMUM LENGTH 3" (75 mm), UNDERWATER GRADE.
- WCS 200/750 HEAT SHRINK TUBE, MINIMUM LENGTH 5" (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

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
STANDARD TRAFFIC SIGNAL DESIGN DETAILS

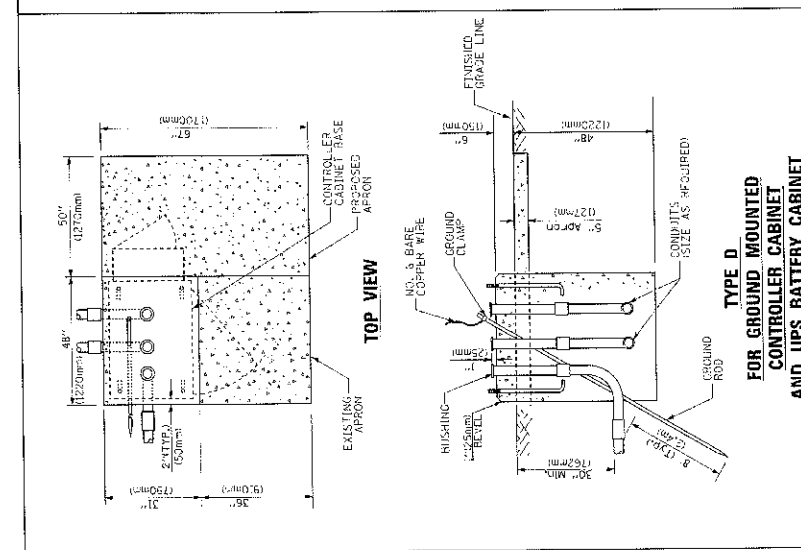
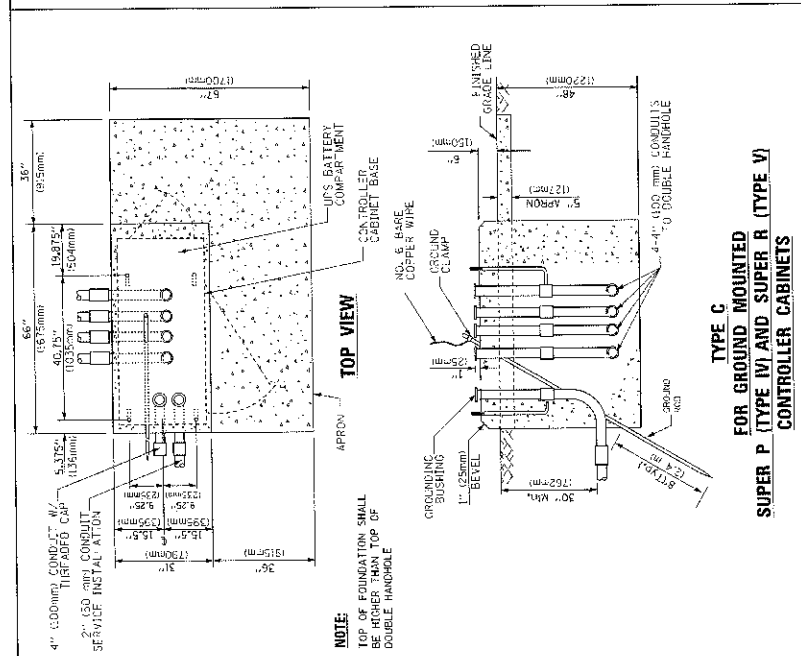
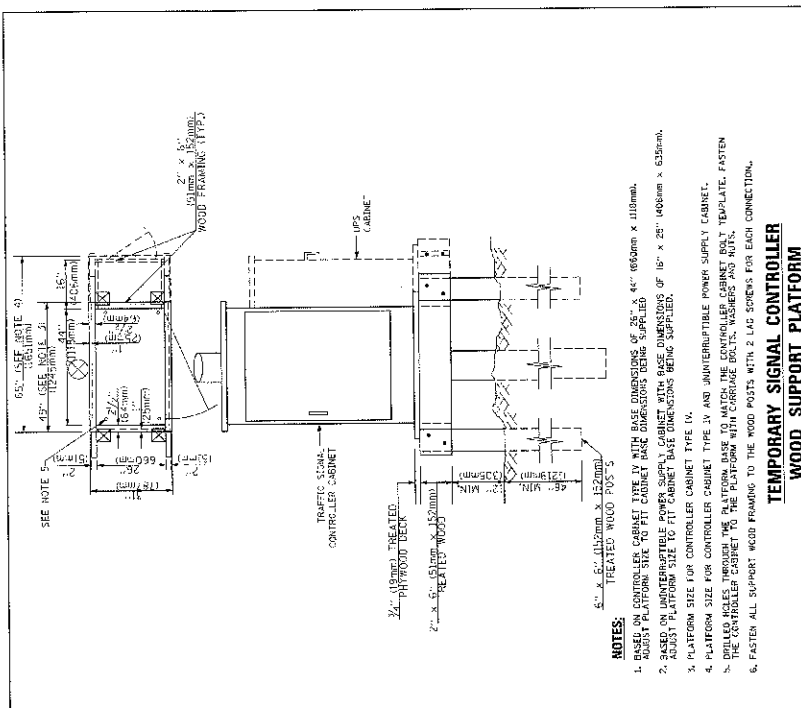
SCALE: NONE SHEET NO. 2 OF 7 SHEETS STA. TO STA.

| DESIGNED - | DWG 11-116 | REVISED - | DWG 11-116 |
|------------|------------|-----------|------------|
| DATE | 03-28-03 | REVISED | |
| CHECKED - | | REVISED | |
| DATE | | REVISED | |

FILE NO. 03-28-03

| SECTION | COUNTY | TOTAL SHEETS |
|---------|--------|--------------|
| IS-05 | | |
| | | |
| | | |

CONTRACT NO. PROJECT NO.



| Max Arm Length | Foundation Diameter (mm) | Spigot Diameter (mm) | Quantity of Spigots | Size of Spigot (mm) |
|---|--------------------------|----------------------|---------------------|---------------------|
| Less than 30' (9.14 m) | 30" (762 mm) | 30" (762 mm) | 8 | 8193 |
| 30' (9.14 m) and less than 40' (12.19 m) | 30" (762 mm) | 30" (762 mm) | 8 | 8193 |
| 40' (12.19 m) and less than 50' (15.24 m) | 30" (762 mm) | 30" (762 mm) | 12 | 7020 |
| 50' (15.24 m) and up to 60' (18.29 m) | 36" (914 mm) | 36" (914 mm) | 12 | 7020 |
| 60' (18.29 m) and up to 70' (21.34 m) | 36" (914 mm) | 36" (914 mm) | 12 | 7020 |
| 70' (21.34 m) and up to 80' (24.38 m) | 36" (914 mm) | 36" (914 mm) | 12 | 7020 |
| 80' (24.38 m) and up to 90' (27.43 m) | 42" (1067 mm) | 42" (1067 mm) | 16 | 8025 |
| 90' (27.43 m) and up to 100' (30.48 m) | 42" (1067 mm) | 42" (1067 mm) | 16 | 8025 |

| FOUNDATION | DEPTH |
|----------------------------|----------------|
| TYPE A - SIGNAL POST | 4'-0" (1.21 m) |
| TYPE B - CONTROLLER W/ UPS | 8'-0" (2.44 m) |
| TYPE C - MAST ARM | 2'-0" (0.61 m) |
| TYPE D - MAST ARM | 4'-0" (1.21 m) |
| TYPE E - SQUARE | 4'-0" (1.21 m) |

| VERTICAL CABLE LENGTH | FEET | METER |
|---|------|-------|
| MAST ARM POLE (MAST ARM MOUNTED SIGNAL HEAD) | 26.0 | 8.0 |
| BRACKET MOUNTED MAST ARM POLE OR SIGNAL POLE | 26.0 | 8.0 |
| PEDESTAL MOUNTED MAST ARM POLE OR SIGNAL POLE | 33.0 | 10.1 |
| SERVICE INSTALLATION MOUNT TO SERVICE PROP | 33.0 | 10.1 |
| SERVICE INSTALLATION MOUNT TO GROUND | 33.0 | 10.1 |
| SERVICE INSTALLATION MOUNT TO GROUND | 33.0 | 10.1 |
| FOUNDATION SIGNAL POST, MAST ARM POLE, CONTROLLER CABINET, SERVICE-GROUND MOUNT | 6.0 | 2.0 |
| | 3.0 | 1.0 |

| CABLE SLACK LENGTH | FEET | METER |
|---|------|-------|
| DOUBLE HANDLE | 9.5 | 2.9 |
| SIGNAL POST | 13.0 | 4.0 |
| MAST ARM | 2.0 | 0.6 |
| PEDESTAL MOUNTED MAST ARM POLE OR SIGNAL POLE | 3.0 | 0.9 |
| PEDESTAL MOUNTED MAST ARM POLE OR SIGNAL POLE | 3.0 | 0.9 |
| ELECTRIC SERVICE AT CABINET OR SERVICE LOCATION | 1.5 | 0.5 |
| GROUND CABLE SIGNAL POST, MAST ARM, CABINET | 1.5 | 0.5 |
| GROUND CABLE SIGNAL POST, MAST ARM, CABINET | 3.0 | 1.0 |

NOTES:

- These foundations are for use with the standard signal cabinet only. For other cabinet types, the foundations should be verified by having data prior to construction. The contractor should be consulted for a final design if other conditions are encountered.
- Combination mast arm assemblies under 55 feet (16.8 m) shall use 3/4" (19.0 mm) diameter foundations. Combination mast arm assemblies under 56 feet (17.1 m) through 75 feet (22.9 m) shall use 42" (1067 mm) diameter foundations.
- For mast arm assemblies with dual units refer to state standard 87B(10).

DEPTH OF FOUNDATION

TYPE A - SIGNAL POST
 TYPE B - CONTROLLER W/ UPS
 TYPE C - MAST ARM
 TYPE D - MAST ARM
 TYPE E - SQUARE

VERTICAL CABLE LENGTH

VERTICAL CABLE LENGTH

MAST ARM POLE (MAST ARM MOUNTED SIGNAL HEAD)
 BRACKET MOUNTED MAST ARM POLE OR SIGNAL POLE
 PEDESTAL MOUNTED MAST ARM POLE OR SIGNAL POLE
 SERVICE INSTALLATION MOUNT TO SERVICE PROP
 SERVICE INSTALLATION MOUNT TO GROUND
 SERVICE INSTALLATION MOUNT TO GROUND
 FOUNDATION SIGNAL POST, MAST ARM POLE, CONTROLLER CABINET, SERVICE-GROUND MOUNT

DEPTH OF MAST ARM FOUNDATIONS, TYPE E

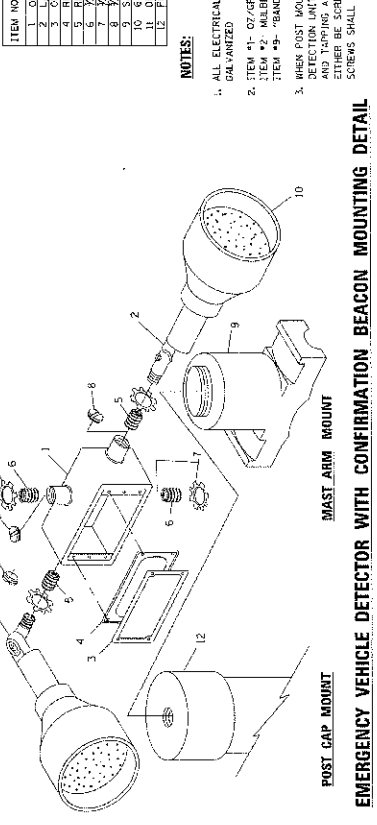
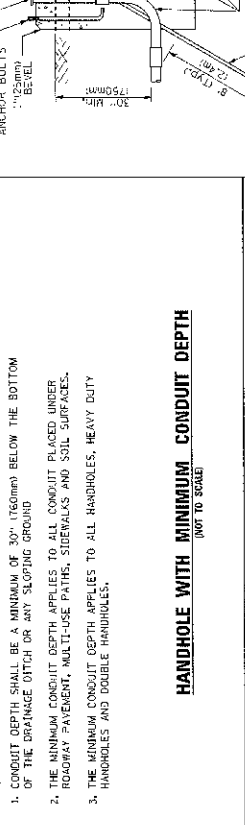
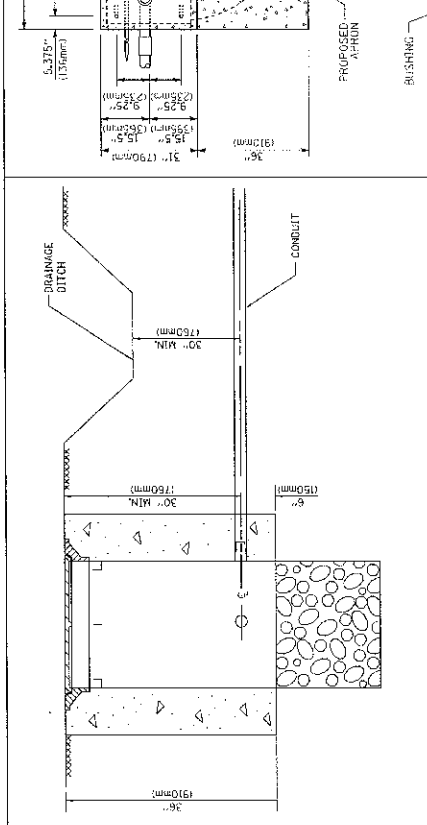
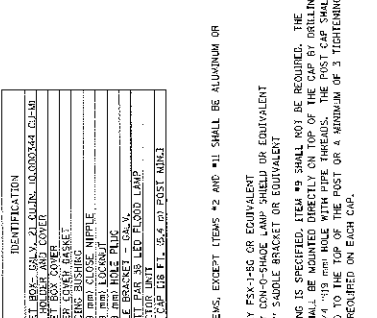
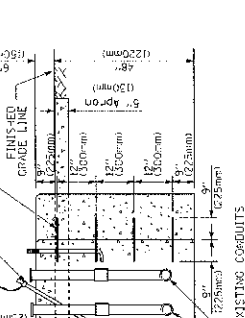
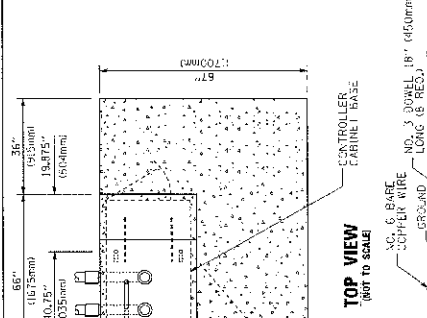
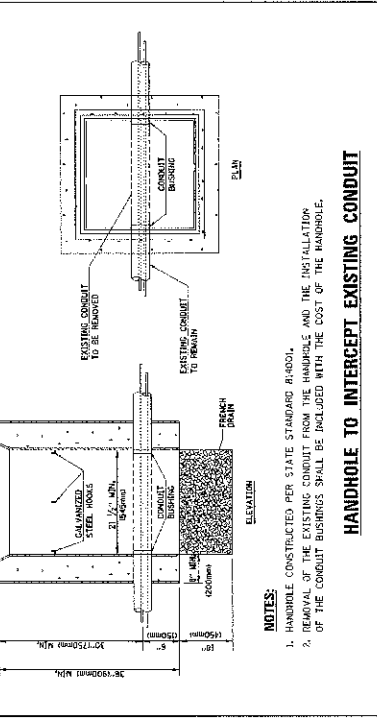
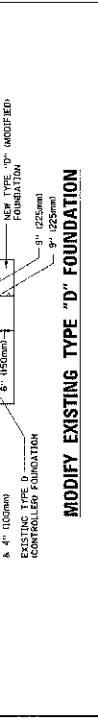
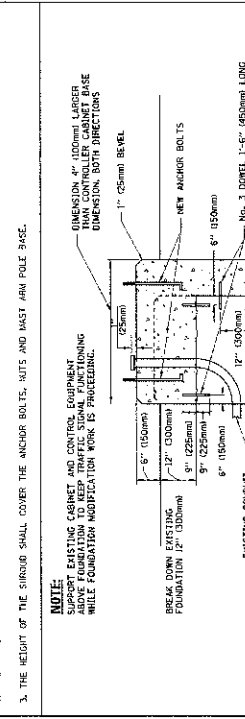
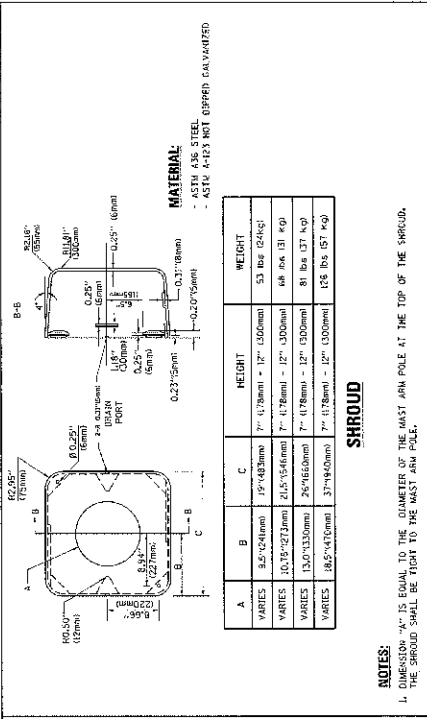
DISTRICT ONE
 STANDARD TRAFFIC SIGNAL DESIGN DETAILS
 SHEET NO. 5 OF 7 SHEETS STA. _____ TO STA. _____

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

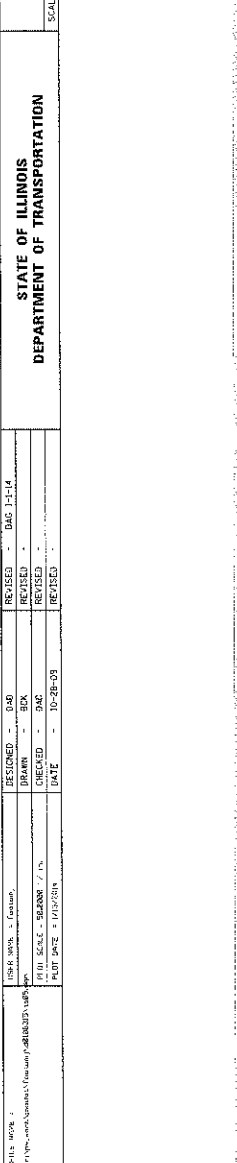
DESIGNED BY: DAC 1-1-14
 DRAWN BY: BDK
 CHECKED BY: RCR
 DATE: 10-28-09

USER NAME: /usr/...
 PLOT SCALE: 1/4"=1'-0"
 PLOT DATE: 11-22-09

COUNTY: _____ SECTION: _____
 SHEET NO.: 5 OF 7 CONTRACT NO.: _____
 SCALE: NONE

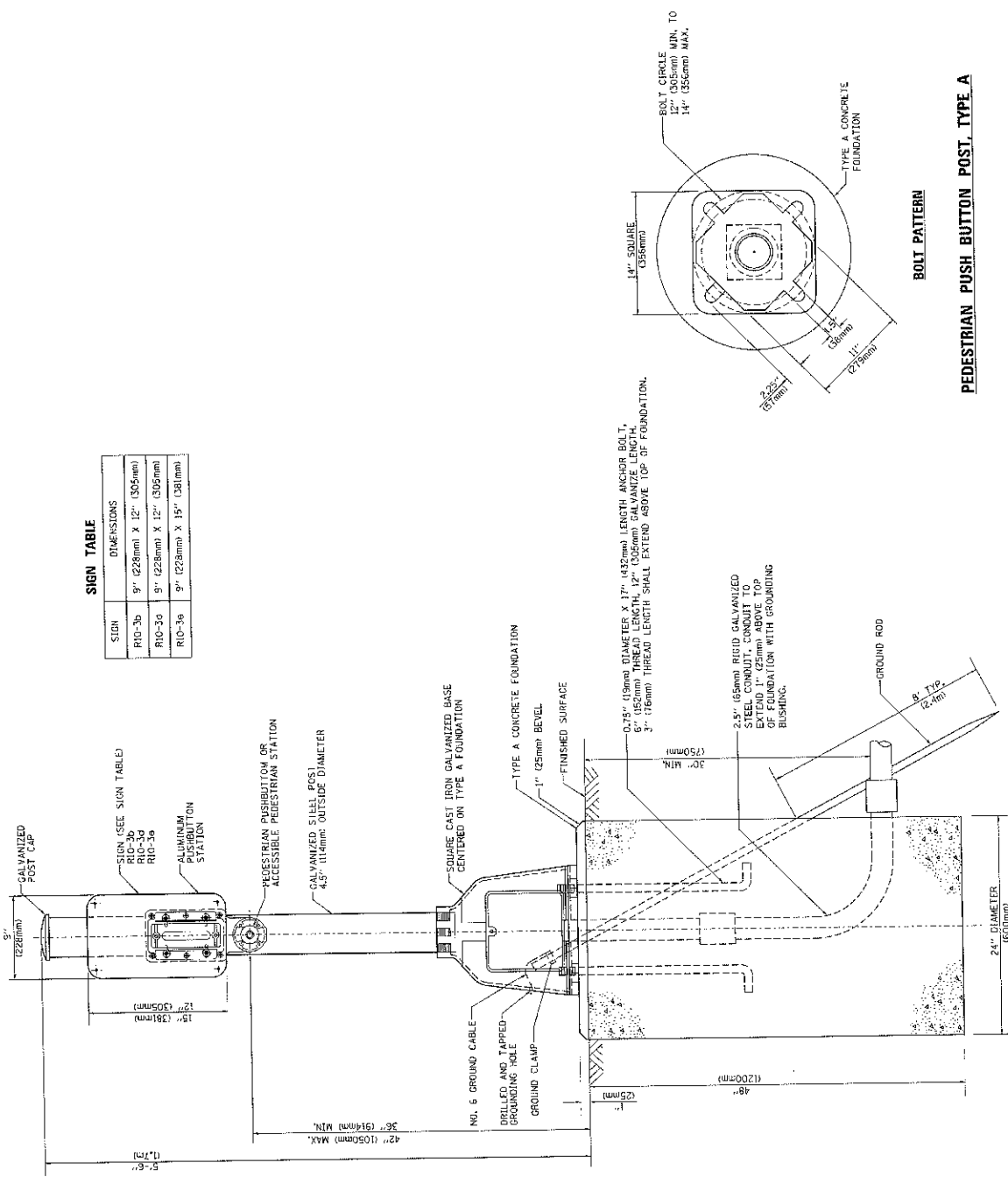


| | | | | | | | |
|--|--|----------|--|-------------------------|--|--------------|--|
| DISTRICT ONE | | COUNTY | | SHEET NO. 6 OF 7 SHEETS | | TOTAL SHEETS | |
| STANDARD TRAFFIC SIGNAL DESIGN DETAILS | | SECTION | | TO SHEET | | FROM SHEET | |
| SCALE: NONE | | DATE | | DESIGNED BY | | CHECKED BY | |
| STATE OF ILLINOIS | | DRAWN BY | | DESIGNED BY | | CHECKED BY | |
| DEPARTMENT OF TRANSPORTATION | | DATE | | DESIGNED BY | | CHECKED BY | |
| PROJECT NO. 10-100-0000 | | DATE | | DESIGNED BY | | CHECKED BY | |
| SHEET NO. 6 OF 7 SHEETS | | DATE | | DESIGNED BY | | CHECKED BY | |
| SCALE: NONE | | DATE | | DESIGNED BY | | CHECKED BY | |
| STANDARD TRAFFIC SIGNAL DESIGN DETAILS | | SECTION | | TO SHEET | | FROM SHEET | |
| SHEET NO. 6 OF 7 SHEETS | | DATE | | DESIGNED BY | | CHECKED BY | |
| SCALE: NONE | | DATE | | DESIGNED BY | | CHECKED BY | |



SIGN TABLE

| SIGN | DIMENSIONS |
|--------|--------------------------|
| RIQ-3b | 9" (228mm) x 12" (305mm) |
| RIQ-3c | 9" (228mm) x 12" (305mm) |
| RIQ-3d | 9" (228mm) x 15" (381mm) |



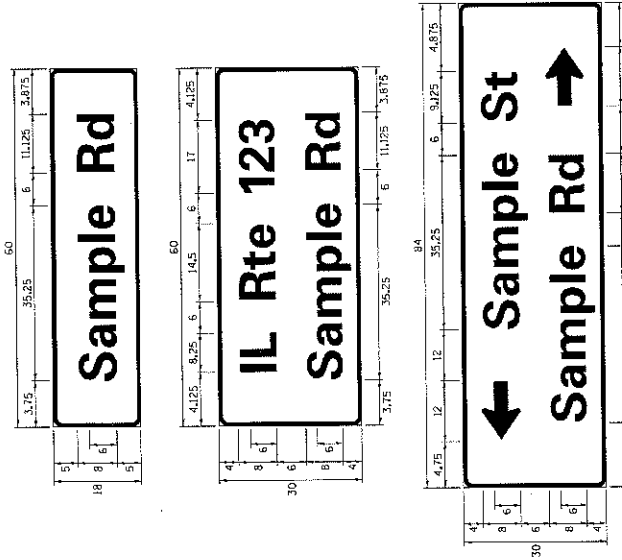
BOLT PATTERN

PEDESTRIAN PUSH BUTTON POST, TYPE A

| | | | |
|-------------|-----------|----------|------------|
| DESIGNED BY | DAG | REVISION | DAG 1-1-15 |
| DRAWN BY | GND | REVISION | |
| CHECKED BY | DAD | REVISION | |
| DATE | 10/1/2012 | REVISION | |

DISTRICT ONE
 STANDARD TRAFFIC SIGNAL DESIGN DETAILS
 SHEET NO. 7 OF 7 SHEETS STA. TO STA.
 SCALE: NONE
 COUNTY: ILLINOIS
 DISTRICT: DIST. NO. 1
 SECTION: TS-05
 SHEET NO. 7 OF 7 SHEETS STA. TO STA.

SIGN PANEL - TYPE 1 OR TYPE 2



| DESIGN SERIES | AREA (SQ FT) | SIGN PANEL TYPE | SHEETING TYPE | CITY REQUIRED |
|---------------|--------------|-----------------|---------------|---------------|
| D OR C | - | 1 OR 2 | ZZ | - |

ALL DIMENSIONS ARE IN INCHES EXCEPT NOTED OTHERWISE

COMMON STREET NAME ABBREVIATIONS AND WIDTHS

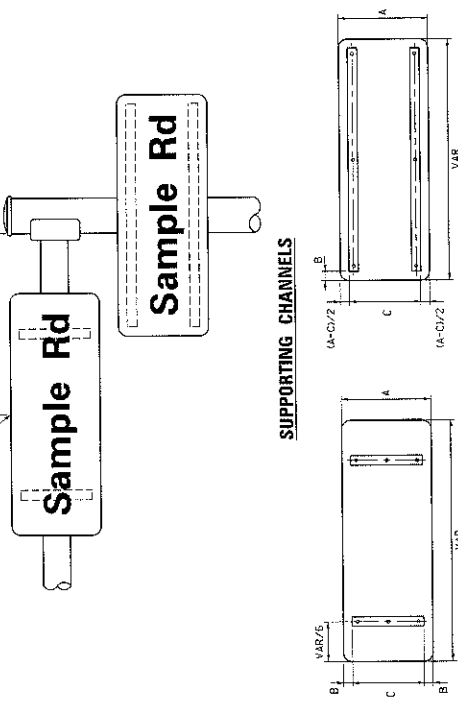
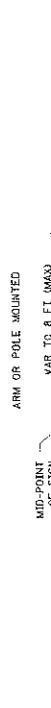
| NAME | ABBREVIATION | SERIES "C" | SERIES "D" | WIDTH (INCH) |
|---------------|--------------|------------|------------|--------------|
| AVENUE | AVG | 15,000 | 18,250 | |
| BOULEVARD | BLVD | 17,125 | 20,000 | |
| CIRCLE | CR | 8,250 | 9,125 | |
| DRIVE | DR | 8,625 | 10,125 | |
| HIGHWAY | Hwy | 18,375 | 22,000 | |
| ILLINOIS | IL | 7,000 | 8,250 | |
| LANE | LA | 5,125 | 10,150 | |
| PARKWAY | Pkwy | 23,375 | 27,375 | |
| PLACE | PL | 7,125 | 7,750 | |
| ROAD | Rd | 5,625 | 11,125 | |
| ROUTE | Rte | 12,625 | 14,125 | |
| STREET | ST | 12,625 | 14,625 | |
| TRAIL | Tr | 7,750 | 9,125 | |
| UNITED STATES | US | 10,375 | 12,250 | |

GENERAL NOTES

- WHERE MAINT ARM MOUNTED STREET NAME SIGNS ARE SPECIFIED, THE MAINT ARM ASSEMBLY AND POLES SHALL BE DESIGNED TO SUPPORT THE LOADINGS CALLED FOR ON STANDARDS 877001, 877002, 877003, 877004, 877010 AND 877012, AS APPLICABLE, PLUS THE TWO (2) SIGN PANELS "B" OR "C" CURRENTLY IN USE. STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS, AS PUBLISHED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS FOR 80 MPH, WIND VELOCITY.
- ALL SIGNS SHALL CONSIST OF A WHITE LEAF AND BORDER (TYPE ZZ SHEETING) ON A GREEN BACKGROUND (TYPE ZZ SHEETING).
- THE SIGN LENGTH SHALL BE IN 6-INCH INCREMENTS, BUT THE OVERALL LENGTH SHALL NOT EXCEED 8'-0". ALL BORDERS SHALL BE 3/4" WIDE. CORNER RADIUS SHALL BE 1-7/8". THE SPACING BETWEEN THE WORDS SHOULD BE 6", IF POSSIBLE, BUT MAY BE REDUCED TO 5" WHEN SPACING IS CRITICAL. A MINIMUM OF 2-1/2" SHALL BE INCLUDED BETWEEN THE WORD AND THE RIGHT AND LEFT EDGES OF THE SIGN.
- A. PREFERRED METHOD FOR THE SIGN DESIGN IS TO USE SERIES "D" LETTER ON A ONE-LINE SIGN 18" IN HEIGHT AND A MAXIMUM OF 8'-0" IN WIDTH. IF SERIES "D" DOES NOT FIT ON A 8'-0" SIGN, THEN SERIES "C" SHOULD BE USED. IF SERIES "C" DOES NOT FIT ON A 8'-0" SIGN, A 30" HIGH TWO-LINE SIGN CAN BE USED. THE CROSSROAD DESIGNATION AS TO STREET, AVENUE, ETC, SHOULD BE SPILLED OUT ON THE SECOND LINE, IF THE ABBREVIATION CANNOT FIT ON THE FIRST LINE.
- LED ILLUMINATED STREET NAME SIGNS CAN BE USED IN PLACE OF REGULAR SIGN PANELS BUT ANY SPECIAL WORDING AND SYMBOLS MUST BE APPROVED BY THE DEPARTMENT. GENERAL DESIGN REQUIREMENT AS LISTED ABOVE COLOR, FONT, SIZE, ETC) MUST BE FOLLOWED.
- SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM SHALL BE USED FOR ALL SIGNS ATTACHED TO SIGNAL POLES AND POSTS.

- LOCAL SUPPLIERS:
- J.O. HERBERT COMPANY, INC. PART #NPRO53 (MED. CHANNEL)
 - MIDLOTHIAN, VA 1/4" X 14 X 1" N.M.M. #3
 - WESTERN REMAC, INC. SELF TAPPING WITH NEOPRENE WASHER
 - WOODBRIDGE, IL CHANNEL CLAMPS WITH STAINLESS STEEL STRAPPING
- OTHER BRANDS OF MOUNTING HARDWARE ARE ACCEPTABLE, BASED UPON THE DEPARTMENT'S APPROVAL AND COMPATIBILITY WITH THE CHANNEL/BRAKET OF THE ABOVE PRODUCT.

MOUNTING LOCATION



STANDARD ALPHABETS SPACING CHART (8") UPPER CASE AND (6") LOWER CASE

| CHARACTER | FWA SERIES "C" | | | FWA SERIES "D" | | |
|-----------|---------------------|--------------|----------------------|---------------------|--------------|----------------------|
| | LEFT SPACING (INCH) | WIDTH (INCH) | RIGHT SPACING (INCH) | LEFT SPACING (INCH) | WIDTH (INCH) | RIGHT SPACING (INCH) |
| A | 0.240 | 5.125 | 0.240 | 0.240 | 5.604 | 0.240 |
| B | 0.890 | 4.892 | 0.480 | 0.890 | 5.446 | 0.800 |
| C | 0.720 | 4.982 | 0.720 | 0.960 | 5.446 | 0.800 |
| D | 0.720 | 4.982 | 0.720 | 0.960 | 5.446 | 0.800 |
| E | 0.890 | 4.982 | 0.480 | 0.960 | 4.982 | 0.400 |
| F | 0.890 | 4.982 | 0.480 | 0.960 | 4.982 | 0.400 |
| G | 0.720 | 4.482 | 0.720 | 0.800 | 5.446 | 0.800 |
| H | 0.890 | 4.482 | 0.880 | 0.960 | 5.446 | 0.800 |
| I | 0.890 | 4.482 | 0.880 | 0.960 | 5.446 | 0.800 |
| J | 0.240 | 4.092 | 0.880 | 0.240 | 5.122 | 0.800 |
| K | 0.890 | 4.482 | 0.480 | 0.960 | 5.604 | 0.400 |
| L | 0.890 | 4.092 | 0.240 | 0.960 | 5.604 | 0.400 |
| M | 0.890 | 4.482 | 0.880 | 0.960 | 5.604 | 0.400 |
| N | 0.720 | 4.482 | 0.880 | 0.800 | 5.604 | 0.800 |
| O | 0.720 | 4.482 | 0.720 | 0.800 | 5.604 | 0.800 |
| P | 0.890 | 4.482 | 0.720 | 0.960 | 5.446 | 0.240 |
| Q | 0.720 | 4.482 | 0.720 | 0.800 | 5.604 | 0.800 |
| R | 0.890 | 4.482 | 0.480 | 0.960 | 5.604 | 0.800 |
| S | 0.240 | 4.092 | 0.480 | 0.240 | 5.446 | 0.400 |
| T | 0.240 | 4.092 | 0.240 | 0.240 | 5.446 | 0.240 |
| U | 0.890 | 4.482 | 0.880 | 0.960 | 5.446 | 0.800 |
| V | 0.240 | 4.092 | 0.240 | 0.240 | 5.446 | 0.240 |
| W | 0.240 | 4.092 | 0.240 | 0.240 | 5.446 | 0.240 |
| X | 0.240 | 4.092 | 0.240 | 0.240 | 5.446 | 0.240 |
| Y | 0.240 | 4.092 | 0.240 | 0.240 | 5.446 | 0.240 |
| Z | 0.480 | 4.482 | 0.480 | 0.480 | 5.446 | 0.400 |
| a | 0.320 | 3.842 | 0.610 | 0.400 | 4.982 | 0.720 |
| b | 0.720 | 4.092 | 0.480 | 0.800 | 4.802 | 0.480 |
| c | 0.480 | 4.092 | 0.240 | 0.480 | 4.722 | 0.240 |
| d | 0.480 | 4.092 | 0.240 | 0.480 | 4.802 | 0.480 |
| e | 0.480 | 4.092 | 0.240 | 0.480 | 4.802 | 0.480 |
| f | 0.480 | 4.092 | 0.240 | 0.480 | 4.802 | 0.480 |
| g | 0.480 | 4.092 | 0.240 | 0.480 | 4.802 | 0.480 |
| h | 0.720 | 4.092 | 0.640 | 0.800 | 4.722 | 0.720 |
| i | 0.720 | 4.092 | 0.640 | 0.800 | 4.722 | 0.720 |
| j | 0.000 | 2.320 | 0.240 | 0.000 | 2.642 | 0.800 |
| k | 0.720 | 4.320 | 0.150 | 0.800 | 5.122 | 0.150 |
| l | 0.720 | 4.320 | 0.150 | 0.800 | 5.122 | 0.150 |
| m | 0.720 | 4.320 | 0.150 | 0.800 | 5.122 | 0.150 |
| n | 0.720 | 4.320 | 0.150 | 0.800 | 5.122 | 0.150 |
| o | 0.720 | 4.320 | 0.150 | 0.800 | 5.122 | 0.150 |
| p | 0.720 | 4.320 | 0.150 | 0.800 | 5.122 | 0.150 |
| q | 0.720 | 4.320 | 0.150 | 0.800 | 5.122 | 0.150 |
| r | 0.720 | 4.320 | 0.150 | 0.800 | 5.122 | 0.150 |
| s | 0.320 | 3.842 | 0.240 | 0.320 | 3.762 | 0.240 |
| t | 0.890 | 4.882 | 0.880 | 0.800 | 3.902 | 0.880 |
| u | 0.890 | 4.882 | 0.880 | 0.800 | 3.902 | 0.880 |
| v | 0.160 | 7.524 | 0.160 | 0.160 | 5.684 | 0.160 |
| w | 0.160 | 7.524 | 0.160 | 0.160 | 5.684 | 0.160 |
| x | 0.000 | 5.202 | 0.000 | 0.000 | 6.244 | 0.000 |
| y | 0.160 | 4.982 | 0.160 | 0.160 | 4.902 | 0.160 |
| z | 0.160 | 4.982 | 0.160 | 0.160 | 4.902 | 0.160 |
| 1 | 0.720 | 3.586 | 0.800 | 0.800 | 2.000 | 0.960 |
| 2 | 0.480 | 4.482 | 0.480 | 0.480 | 4.802 | 0.800 |
| 3 | 0.480 | 4.482 | 0.480 | 0.480 | 4.802 | 0.800 |
| 4 | 0.240 | 4.962 | 0.240 | 0.160 | 5.004 | 0.960 |
| 5 | 0.480 | 4.482 | 0.480 | 0.800 | 5.004 | 0.800 |
| 6 | 0.720 | 4.482 | 0.720 | 0.800 | 5.446 | 0.800 |
| 7 | 0.240 | 4.482 | 0.240 | 0.800 | 5.446 | 0.800 |
| 8 | 0.480 | 4.482 | 0.480 | 0.800 | 5.446 | 0.800 |
| 9 | 0.720 | 4.482 | 0.720 | 0.800 | 5.446 | 0.800 |
| 0 | 0.240 | 2.902 | 0.240 | 0.240 | 2.802 | 0.240 |

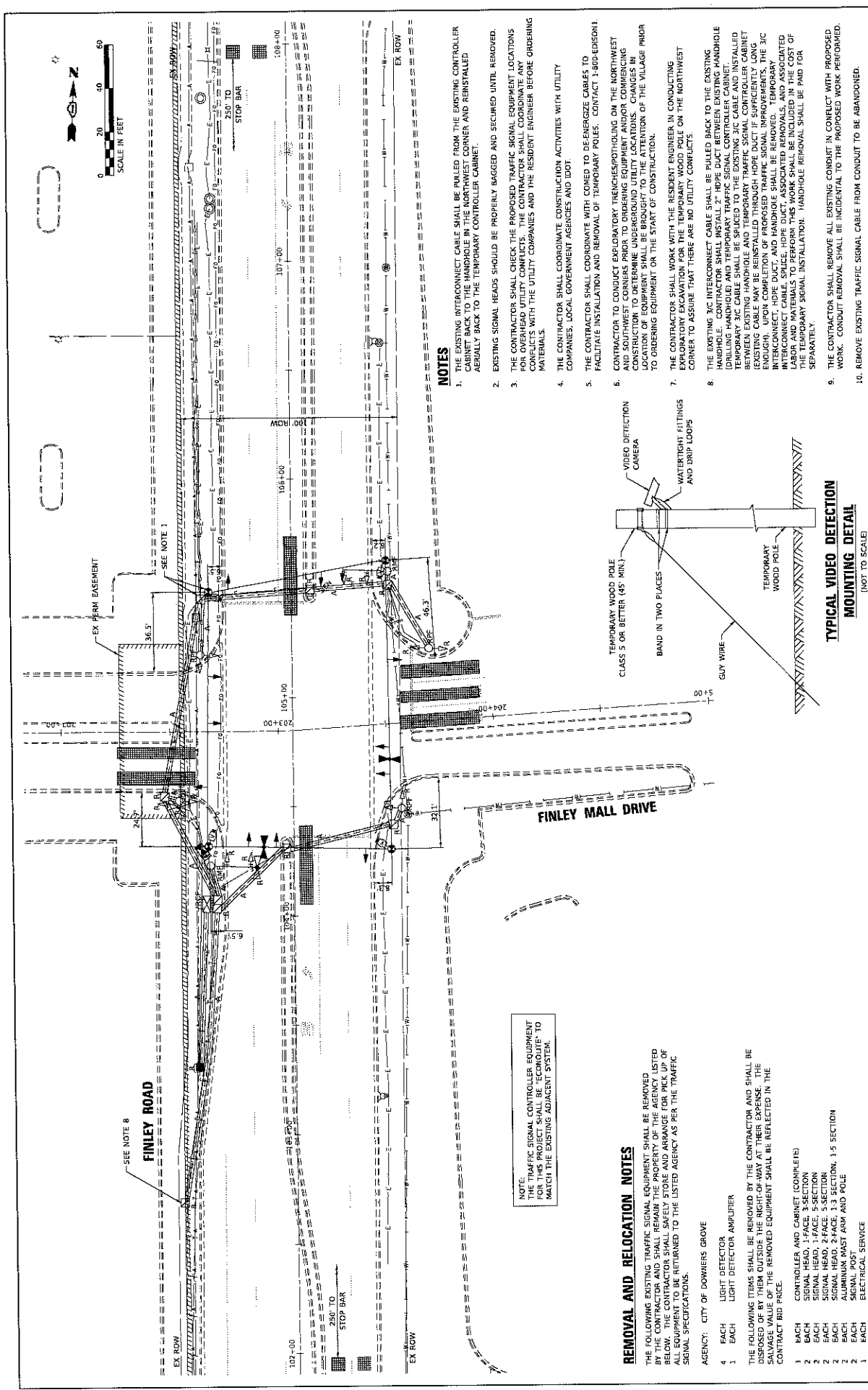
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 DESIGNED: LP/JP
 CHECKED: IP
 DATE: 10/01/2014

DISTRICT ONE
 MAINT ARM MOUNTED STREET NAME SIGNS
 SHEET 1 OF 1

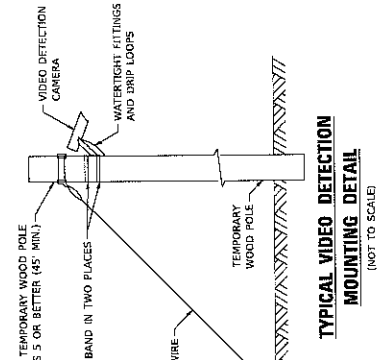
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

SCALE: 1" = 1'-0"

COUNTY: ILLINOIS
 SHEETS: 10
 CONTRACT NO.: 10/01/2014



- NOTES**
- THE EXISTING INTERCONNECT CABLE SHALL BE PULLED FROM THE EXISTING CONTROLLER CABINET BACK TO THE HANDHOLE IN THE NORTHWEST CORNER AND REINSTALLED AERIALY BACK TO THE TEMPORARY CONTROLLER CABINET.
 - EXISTING SIGNAL HEADS SHOULD BE PROPERLY BAGGED AND SECURED UNTIL REMOVED.
 - THE CONTRACTOR SHALL CHECK THE PROPOSED TRAFFIC SIGNAL EQUIPMENT LOCATIONS FOR OVERHEAD UTILITY CONFLICTS. THE CONTRACTOR SHALL COORDINATE ANY CONFLICTS WITH THE UTILITY COMPANIES AND THE RESIDENT ENGINEER BEFORE ORDERING MATERIALS.
 - THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITY COMPANIES, LOCAL GOVERNMENT AGENCIES AND IDOT.
 - THE CONTRACTOR SHALL COORDINATE WITH COMED TO DE-ENERGIZE CABLES TO FACILITATE INSTALLATION AND REMOVAL OF TEMPORARY POLES. CONTACT 1-800-EDISON1.
 - CONTRACTOR TO CONDUCT EXPLORATORY TRENCHING/POTHOLING ON THE NORTHWEST AND SOUTHWEST CORNERS PRIOR TO ORDERING EQUIPMENT. CHANGES IN THE LOCATION OF EQUIPMENT SHALL BE BROUGHT TO THE ATTENTION OF THE VILLAGE PRIOR TO ORDERING EQUIPMENT ON THE START OF CONSTRUCTION.
 - THE CONTRACTOR SHALL WORK WITH THE RESIDENT ENGINEER IN CONDUCTING EXPLORATORY TRENCHING AND POTHOLING ON THE NORTHWEST CORNER TO ASSURE THAT THERE ARE NO UTILITY CONFLICTS.
 - THE EXISTING 3/4" INTERCONNECT CABLE SHALL BE PULLED BACK TO THE EXISTING HANDHOLE. CONTRACTOR SHALL INSTALL 2" HOPE DUCT BETWEEN EXISTING HANDHOLE AND TEMPORARY 3/4" CABLE SHALL BE SPLICED TO THE EXISTING 3/4" CABLE AND INSTALLED BETWEEN EXISTING HANDHOLE AND TEMPORARY TRAFFIC SIGNAL CONTROLLER CABINET (EXISTING CABLE MAY BE REINSTALLED THROUGH HOPE DUCT IF SUFFICIENTLY LONG ENOUGH). UPON COMPLETION OF PROPOSED TRAFFIC SIGNAL IMPROVEMENTS, THE 3/4" INTERCONNECT HOPE DUCT SHALL BE REMOVED. HOPE DUCT, ASSOCIATED REMOVALS, AND ASSOCIATED LABOR AND MATERIALS TO PERFORM THIS WORK SHALL BE INCLUDED IN THE COST OF THE TEMPORARY SIGNAL INSTALLATION. HANDHOLE REMOVAL SHALL BE PAID FOR SEPARATELY.
 - THE CONTRACTOR SHALL REMOVE ALL EXISTING CONDUIT IN CONFLICT WITH PROPOSED WORK. CONDUIT REMOVAL SHALL BE INCIDENTAL TO THE PROPOSED WORK PERFORMED.
 - REMOVE EXISTING TRAFFIC SIGNAL CABLE FROM CONDUIT TO BE ABANDONED.



NOTE: TRAFFIC SIGNAL CONTROLLER EQUIPMENT FOR THIS PROJECT SHALL BE "CONQUITE" TO MATCH THE EXISTING ADJACENT SYSTEM.

REMOVAL AND RELOCATION NOTES

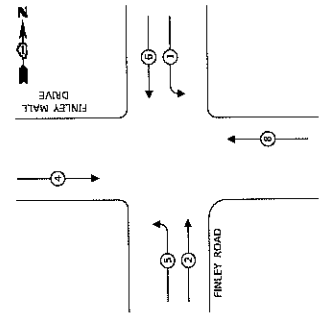
- THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED AND RELOCATED TO THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.
- CONTROLLER AND CABINET (COMPLETED)
 - SIGNAL HEAD, 1-FACE, 3-SECTION
 - SIGNAL HEAD, 2-FACE, 5-SECTION
 - SIGNAL HEAD, 2-FACE, 5-SECTION
 - SIGNAL HEAD, 2-FACE, 1-3 SECTION, 1-5 SECTION
 - CONTROLLER MOUNT ARM AND POLE
 - SIGNAL POLE
 - ELECTRICAL SERVICE
- AGENCY: CITY OF DOWNERS GROVE
- 4 EACH LIGHT DETECTOR
 - 1 EACH LIGHT DETECTOR AMPLIFIER

| | | | |
|--|-----------|----------|-----------|
| DESIGNED - WSA | 6/13/2013 | REVISION | 6/13/2013 |
| DRAWN - SWJ | 9/22/2013 | REVISION | 9/22/2013 |
| CHECKED - BKS | 3/14/2019 | REVISION | 3/14/2019 |
| DATE | 5/29/2019 | REVISION | |
| USA NAME - 4800000 | | | |
| FILE NAME - 03-232-003-00-02-000000000000-01.dwg | | | |
| PLOT SCALE - 1/4" = 10'-0" | | | |
| PLOT DATE - 3/14/2019 | | | |

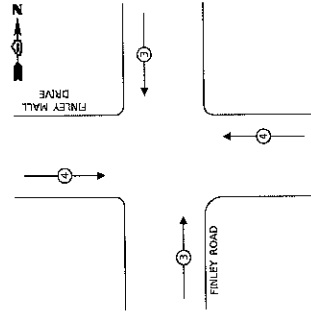
| | | | | |
|--------------------------|-----------------------------------|--|--------------|----|
| VILLAGE OF DOWNERS GROVE | FINLEY ROAD AND FINLEY MALL DRIVE | TEMPORARY TRAFFIC SIGNAL INSTALLATION PLAN | SHEET NO. | 11 |
| DUPAGE COUNTY | | AND REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT | CONTRACT NO. | |
| | | | SHEET OF | 11 |



TEMPORARY CONTROLLER SEQUENCE



TEMPORARY EMERGENCY VEHICLE PREEMPTION SEQUENCE



LEGEND:
 ◀ (V) ▶ DUAL ENTRY PHASE
 ◀ (P) ▶ PEDESTRIAN PHASE
 ◀ (O) ▶ OVERLAP
 * NUMBER REFERS TO ASSOCIATED PHASE

| TEMPORARY EMERGENCY VEHICLE PREEMPTORS | |
|--|---|
| EMERGENCY VEHICLE PREEMPTOR | 3 |
| MOVEMENT | 4 |

TRAFFIC SIGNAL ELECTRICAL SERVICE REQUIREMENTS

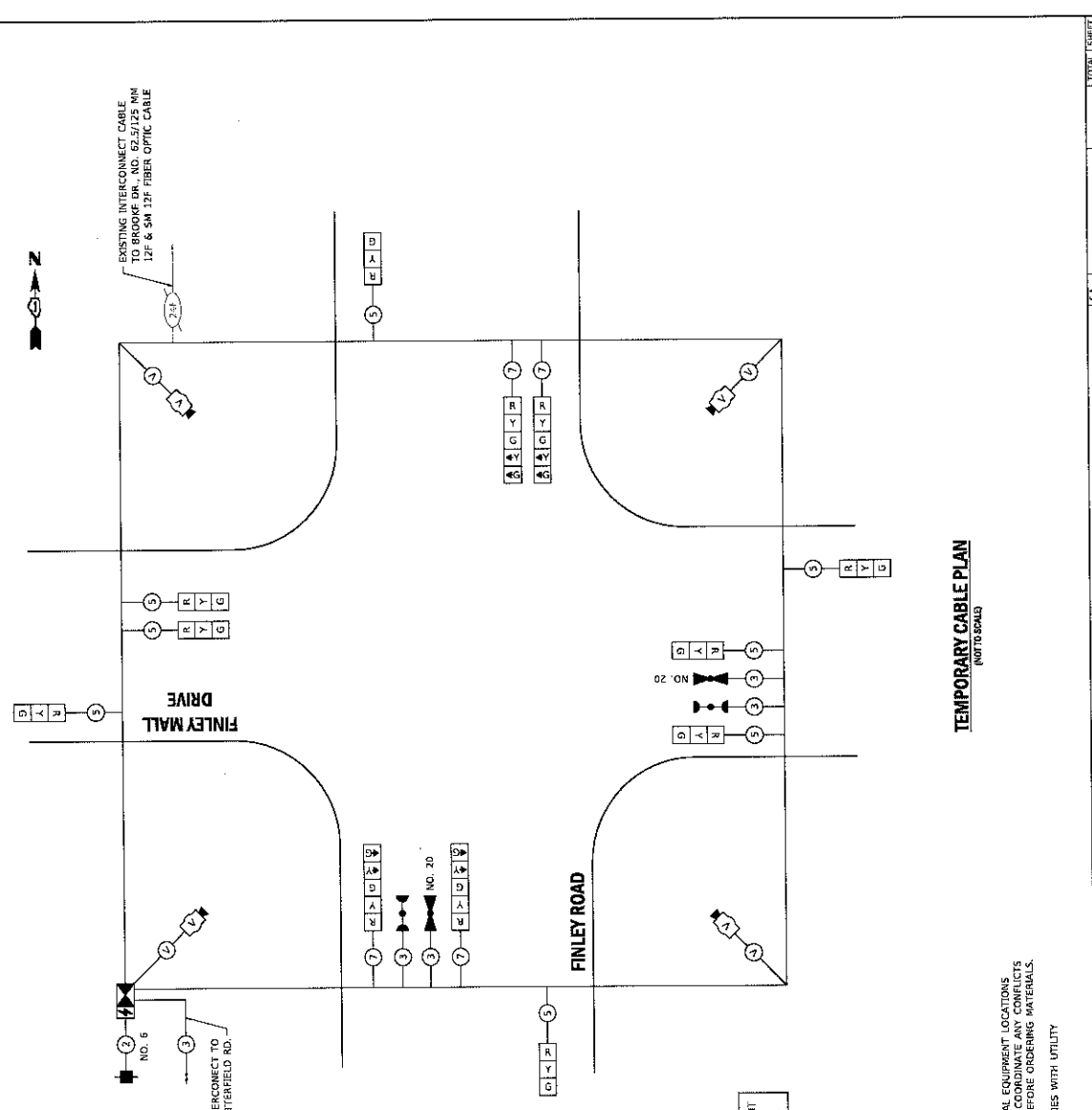
| TYPE | NO. OF LAMPS | LED WATTAGE | % OPERATION | TOTAL WATTAGE |
|------------------|--------------|-------------|-------------|---------------|
| SIGNAL (RED) | 12 | 17 | 50 | 102.0 |
| SIGNAL (YELLOW) | 12 | 25 | 50 | 150.0 |
| SIGNAL (GREEN) | 12 | 15 | 45 | 81.0 |
| PERMISSIVE ARROW | 8 | 12 | 10 | 9.6 |
| PIED. SIGNAL | - | - | - | - |
| CONTROLLER | 1 | 100 | 100.0 | 100.0 |
| UPS | 1 | 25 | 100 | 25.0 |
| VIDEO SYSTEM | 1 | 150 | 100 | 150.0 |
| BLANK-OUT SIGN | - | - | - | - |
| FLASHER | - | - | - | - |
| STREET NAME SIGN | - | - | - | - |
| LOUVER | - | - | - | - |
| TOTAL | | | | 482.6 |

ENERGY COSTS TO:
VILLAGE OF DOWNERS GROVE
 510 WALNUT AVENUE, SUITE 1015
 DOWNERS GROVE, IL 60515
 ENERGY SUPPLY: CONTACT: _____
 COMPANY: _____
 ACCOUNT NUMBER: _____

DESIGNED - WSA
 DRAWN - SVI
 CHECKED - BUS
 DATE - 5/28/2019

REVISED - 6/13/2013
 REVISED - 9/27/2013
 REVISED - 3/14/2019

COMPANY: **SEA**

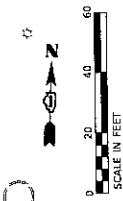
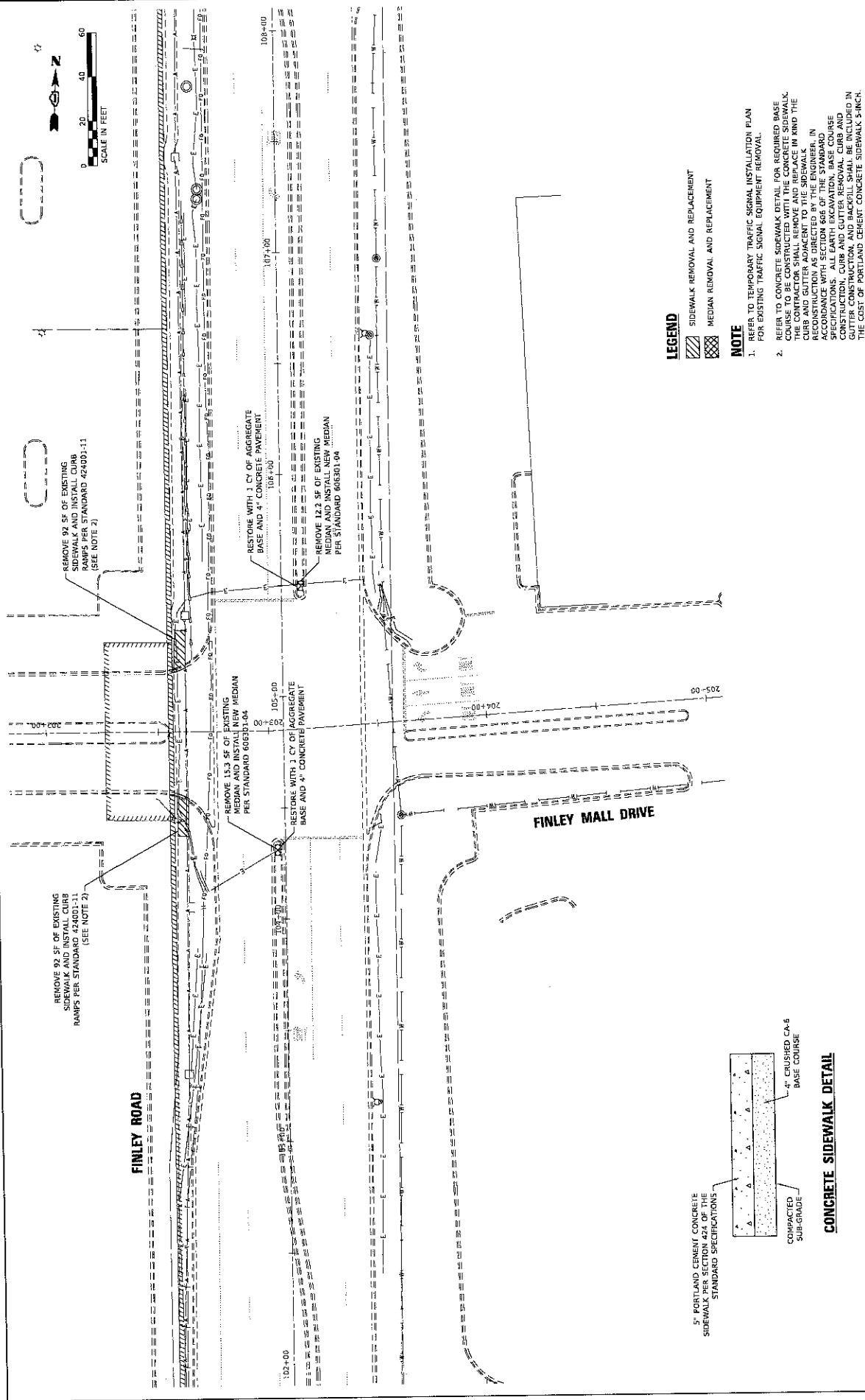


THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT FOR THIS PROJECT SHALL BE "ECOMUTE" TO MATCH THE EXISTING ADJACENT SYSTEM.

TEMPORARY CABLE PLAN (NOT TO SCALE)

- GENERAL NOTES:**
- THE CONTRACTOR SHALL CHECK THE PROPOSED TRAFFIC SIGNAL EQUIPMENT LOCATIONS AGAINST THE EXISTING UTILITY RECORDS. THE CONTRACTOR SHALL COORDINATE ANY CONFLICTS WITH THE UTILITY COMPANIES AND THE RESIDENT ENGINEER BEFORE ORDERING MATERIALS.
 - THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITY COMPANIES, LOCAL GOVERNMENT AGENCIES AND IDOT.

| | | | |
|-------------------------------------|----------|--------------------------|---------|
| FINLEY ROAD AND FINLEY MALL DRIVE | | VILLAGE OF DOWNERS GROVE | |
| TEMPORARY TRAFFIC SIGNAL CABLE PLAN | | DUPAGE COUNTY | |
| SCALE: | SHEET | OF | SHEETS |
| STA. | TO STA. | STA. | TO STA. |
| SECTION | BLUMBERG | ED. AND PROJECT | |
| COUNTY | DUPAGE | CONTRACT NO. | |
| TOTAL SHEETS | 12 | | |
| SHEET NO. | 79 | | |

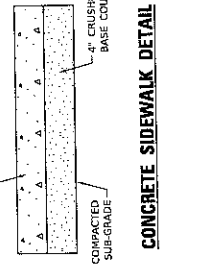


LEGEND

- SIDEWALK REMOVAL AND REPLACEMENT
- MEDIAN REMOVAL AND REPLACEMENT

NOTE

1. REFER TO TEMPORARY TRAFFIC SIGNAL INSTALLATION PLAN FOR EXISTING TRAFFIC SIGNAL EQUIPMENT REMOVAL.
2. REFER TO CONCRETE SIDEWALK DETAIL FOR REQUIRED BASE COURSE TO BE CONSTRUCTED WITH THE CONCRETE SIDEWALK. THE CONTRACTOR SHALL REMOVE AND REPLACE IN KIND THE CURB AND GUTTER AND GUTTER PROTECTION AS SHOWN ON THE DRAWING AND DIRECTED BY THE ENGINEER, IN ACCORDANCE WITH SECTION 608 OF THE STANDARD SPECIFICATIONS. ALL EARTH EXCAVATION, BASE COURSE CONSTRUCTION, CURB AND GUTTER PROTECTION SHALL BE INCLUDED IN THE COST OF PORTLAND CEMENT CONCRETE SIDEWALK 5-RCH.



| | | | | |
|-----------------------------------|---------|--------------------------------|---------------|----------|
| COUNTY | SECTION | SHEET | NO. OF SHEETS | SCALE |
| DUPAGE | 104-100 | 80 | 113 | AS SHOWN |
| FINLEY ROAD AND FINLEY MALL DRIVE | | REMOVALS AND NEW PAVEMENT PLAN | | |
| VILLAGE OF DOWNERS GROVE | | DUPAGE COUNTY | | |

| | | |
|-----------|-----|----------|
| DATE | BY | REVISION |
| 3/14/2019 | SVI | REVISED |
| 3/14/2019 | BKS | REVISED |
| 5/28/2018 | SVI | REVISED |

| | |
|-------------|-----------|
| DESIGNED BY | DATE |
| SVI | 6/13/2013 |
| REVISION | DATE |
| SVI | 9/26/2013 |
| BKS | 3/14/2019 |
| SVI | 5/28/2018 |

5" PORTLAND CEMENT CONCRETE SIDEWALK PER SECTION 608 OF THE STANDARD SPECIFICATIONS

COMPACTED SUB-GRADE

4" CRUSHED C&G BASE COURSE

CONCRETE SIDEWALK DETAIL

DATE: 3/14/2019

BY: SVI

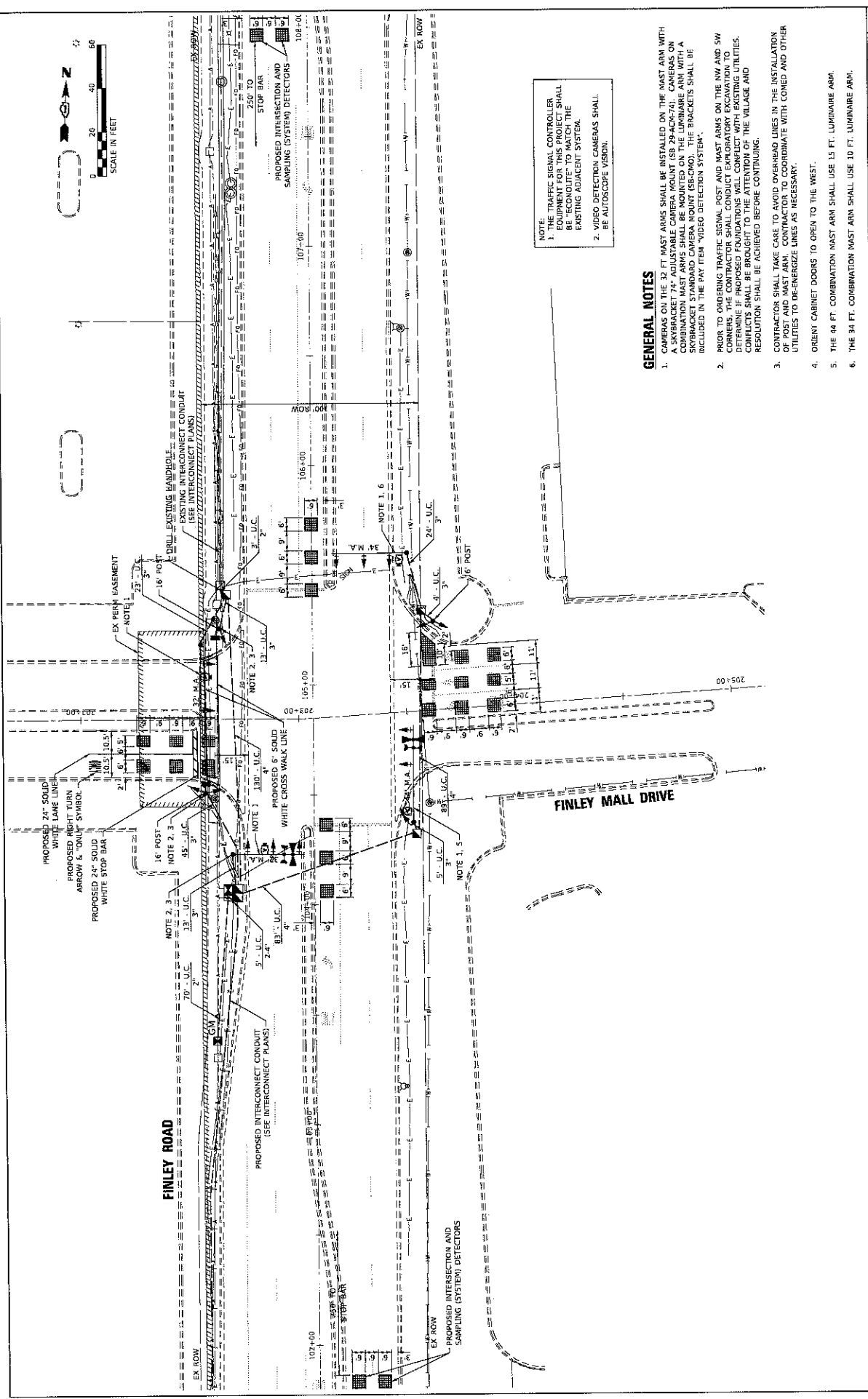
REVISION: 9/26/2013

BY: BKS

REVISION: 3/14/2019

BY: SVI

REVISION: 5/28/2018

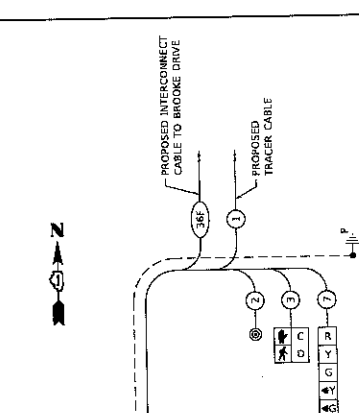
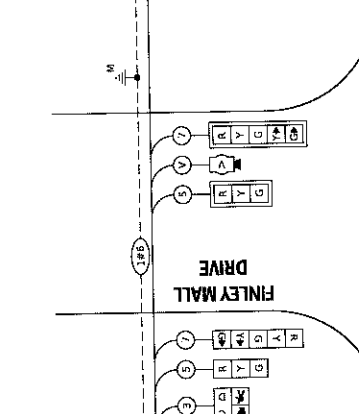
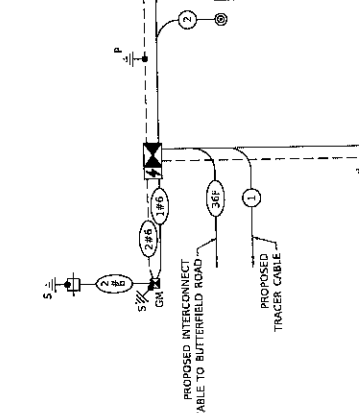
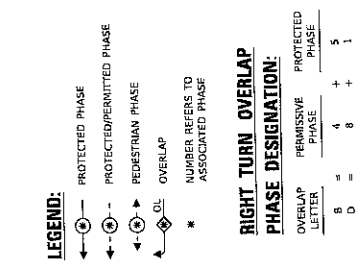
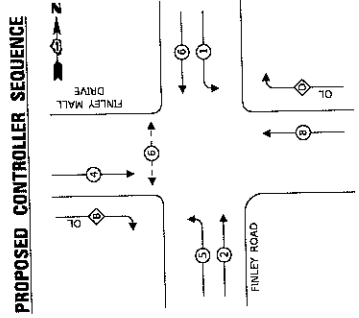


NOTE:
 1. THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT FOR THIS PROJECT SHALL BE "CONDUITE" TO MATCH THE EXISTING ADJACENT SYSTEM.
 2. VIDEO DETECTION CAMERAS SHALL BE AUTOSCOPE VISION.

GENERAL NOTES

1. CAMERAS ON THE 32 FT MAST ARMS SHALL BE INSTALLED ON THE MAST ARM WITH A SKYBRACKET 74" ADJUSTABLE CAMERA MOUNT (S9 29-ACM-74). CAMERAS ON COMBINATION MAST ARMS SHALL BE MOUNTED ON THE LUMINAIRE ARM WITH A SKYBRACKET 74" ADJUSTABLE CAMERA MOUNT (S9 29-ACM-74). VIDEO DETECTION BRACKETS SHALL BE INCLUDED IN THE PAY ITEM "VIDEO DETECTION SYSTEM".
2. PRIOR TO ORDERING TRAFFIC SIGNAL POST AND MAST ARMS ON THE NW AND SW CORNERS, THE CONTRACTOR SHALL CONDUCT SURVEYING TO VERIFY EXISTING UTILITIES. CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE VILLAGE AND RESOLUTION SHALL BE ACHIEVED BEFORE CONTINUING.
3. CONTRACTOR SHALL TAKE CARE TO AVOID OVERHEAD LINES IN THE INSTANTANEOUS CORNER AND SHALL COORDINATE WITH CONEY AND OTHER UTILITIES TO DEENERGIZE LINES AS NECESSARY.
4. ORIENT CABINET DOORS TO OPEN TO THE WEST.
5. THE 44 FT. COMBINATION MAST ARM SHALL USE 15 FT. LUMINAIRE ARM.
6. THE 34 FT. COMBINATION MAST ARM SHALL USE 10 FT. LUMINAIRE ARM.

| | | | | | | |
|---|---|--|---|---|--|--|
|  | DESIGNED - WSA DRAWN - SWJ CHECKED - BKS DATE - 02/28/2019 | REVISIONS 01 - 02/28/2019 02 - 02/28/2019 03 - 02/28/2019 | USER NAME - WSA FILE NAME - 02-28-2019-02-28-2019.dwg PLOT SCALE - 1/8" = 1'-0" PLOT DATE - 02/28/2019 | VILLAGE OF DOWNERS GROVE DUPAGE COUNTY | FINLEY ROAD AND FINLEY MALL DRIVE TRAFFIC SIGNAL MODERNIZATION PLAN | COUNTY - DUPAGE SECTION - 18 SHEETS - 14 CONTRACT NO. |
| | SCALE: | SHEET: | OF: | SHEETS: | STA. TO STA. | PROJECT NO. |



LEGEND:

- Protected Phase
- Protected/Permitted Phase
- Permitted Phase
- Overlap
- Number Refers to Associated Phase

RIGHT TURN OVERLAP PHASE DESIGNATION:

OVERLAP LETTER PERMISSIVE PHASE PROTECTED PHASE

B = 4 + 8 + + 5 1

| EMERGENCY VEHICLE PREEMPTOR | PROPOSED EMERGENCY VEHICLE PREEMPTIONS |
|-----------------------------|--|
| 3 | ← → |
| 4 | ↑ ↓ |

NOTES:

- THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT AND THE SIGNAL CABINET SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.
- ALL SIGNAL HEADS SHALL BE LED.
- ALL R/B CABLE SHALL BE 3/4" #20, TWISTED, SHIELDED.
- CONFIRMATION BEACON CABLES SHALL BE 3/4" #14.
- EMERGENCY VEHICLE PREEMPTION SHALL BE 3M-OPTICOM.
- PEDESTRIAN PUSHBUTTONS SHALL BE AUDIBLE.
- SUPER P TYPE CABINET SHALL BE CAPABLE OF CONTAINING ALL CONTROLLER PARTS AND UNINTERRUPTIBLE POWER SUPPLY PARTS.

TRAFFIC SIGNAL ELECTRICAL SERVICE REQUIREMENTS

| TYPE SIGNAL | NO. OF LAMPS | LED WATTAGE | % OPERATION | TOTAL WATTAGE |
|------------------|--------------|-------------|-------------|---------------|
| (RED) | 16 | 17 | 50 | 136.0 |
| (YELLOW) | 16 | 25 | 5 | 20.0 |
| (GREEN) | 16 | 35 | 45 | 108.0 |
| PERMISSIVE ARROW | 16 | 12 | 10 | 19.2 |
| PED. SIGNAL | 2 | 100 | 100 | 200.0 |
| CONTROLLER | 1 | 100 | 100 | 100.0 |
| UPS SYSTEM | 1 | 150 | 100 | 150.0 |
| VIDEO SYSTEM | 1 | 150 | 100 | 150.0 |
| FLASHER | 1 | 150 | 100 | 150.0 |
| STREET NAME SIGN | 1 | 150 | 100 | 150.0 |
| LUMINAIRE | 1 | 150 | 100 | 150.0 |
| TOTAL | | | | 997.5 |

ENERGY COSTS TO:
 VILLAGE OF DOWNERS GROVE
 5101 WALNUT AVENUE
 DOWNERS GROVE, IL 60515
 ENERGY SUPPLY: CONTACT: _____
 PHONE: _____
 COMPANY: COMED
 ACCOUNT NUMBER: _____

DESIGNED BY: WSA
 DRAWN BY: SVT
 CHECKED BY: BKS
 DATE: 3/29/2019

REVISIONS:
 REVISION NO. 01/30/2013
 REVISION DATE 9/2/2013
 REVISION BY 1/14/2019

SCALE: _____
 SHEET OF _____
 TO STA. _____
 FROM STA. _____

VILLAGE OF DOWNERS GROVE
 DUPAGE COUNTY

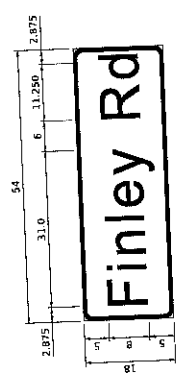
FINLEY ROAD AND FINLEY MALL DRIVE
 TRAFFIC SIGNAL CABLE PLAN

COUNTY: DUPAGE
 DISTRICT: 15
 SHEET NO. 15

SCHEDULE OF QUANTITIES

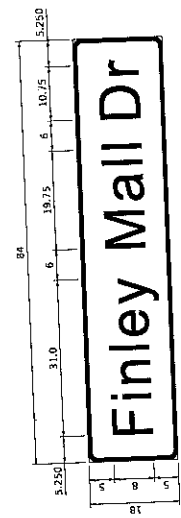
| ITEM CODE | ITEM DESCRIPTION | UNITS | QUANTITY |
|-----------|---|-------|----------|
| 7200100 | SIGN PANEL - TYPE 1 | 50 FT | 13.5 |
| 7200200 | SIGN PANEL - TYPE 2 | 50 FT | 21 |
| 8102200 | UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA. | FOOT | 77 |
| 8102300 | UNDERGROUND CONDUIT, GALVANIZED STEEL, 3" DIA. | FOOT | 133 |
| 8102400 | UNDERGROUND CONDUIT, GALVANIZED STEEL, 4" DIA. | FOOT | 328 |
| 81400100 | HANDHOLE | EACH | 3 |
| 81400300 | DOUBLE HANDHOLE | EACH | 1 |
| 84400100 | TRANSMITTER - FIBER OPTIC | EACH | 1 |
| 87300010 | GROUNDING EXISTING HANDHOLE FRAME AND COVER | FOOT | 270 |
| 87300020 | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C | FOOT | 650 |
| 87300030 | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C | FOOT | 1475 |
| 87300040 | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C | FOOT | 1450 |
| 87300050 | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C | FOOT | 265 |
| 87300060 | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 20 3C | FOOT | 119 |
| 87300070 | ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2 C | FOOT | 535 |
| 87300080 | ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C | EACH | 3 |
| 87300090 | TRAFFIC SIGNAL POST, 16 FT. | BACH | 2 |
| 87700200 | STEEL MAST ARM ASSEMBLY AND POLE, 32 FT. | EACH | 1 |
| 87700300 | STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 34 FT. | EACH | 1 |
| 87700400 | STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 44 FT. | FOOT | 12 |
| 87700500 | CONCRETE FOUNDATION, TYPE A | FOOT | 4 |
| 87800100 | CONCRETE FOUNDATION, TYPE C | FOOT | 46 |
| 87800150 | CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER | EACH | 1 |
| 87800200 | RAIL EXISTING HANDHOLE | EACH | 6 |
| 88300020 | SIGNAL HEAD, LED, 1-FACE, 1-SECTION, MAST-ARM MOUNTED | EACH | 2 |
| 88300030 | SIGNAL HEAD, LED, 1-FACE, 2-SECTION, BRACKET MOUNTED | EACH | 4 |
| 88300040 | SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED | EACH | 4 |
| 88300050 | SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED | EACH | 2 |
| 88300100 | PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED WITH COUNTDOWN TIMER | EACH | 10 |
| 88300150 | TRAFFIC SIGNAL BACKPLATE, LOUVERED, FORMED PLASTIC | EACH | 4 |
| 88700200 | LIGHT DETECTOR | EACH | 2 |
| 88700300 | LIGHT DETECTOR AMPLIFIER | EACH | 1 |
| 88700400 | TEMPORARY TRAFFIC SIGNAL INSTALLATION | FOOT | 3000 |
| 89502300 | REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT | EACH | 1 |
| 89502375 | REMOVE EXISTING HANDHOLE | EACH | 6 |
| 89502380 | REMOVE EXISTING DOUBLE HANDHOLE | EACH | 6 |
| 89502382 | REMOVE EXISTING CONCRETE FOUNDATION | EACH | 1 |
| 89502385 | REMOVE EXISTING CONCRETE FOUNDATION | EACH | 1 |
| X0326885 | VIDEO DETECTION SYSTEM | EACH | 1 |
| X1400981 | FULL-ACTUATED CONTROLLER AND TYPE SUPER P CABINET (SPECIAL) | EACH | 1 |
| X1400150 | SERVICE INSTALLATION, GROUND MOUNTED, METERED | EACH | 2 |
| X4822020 | UNINTERLUPTIBLE POWER SUPPLY, SPECIAL | EACH | 2 |
| X0760200 | ACCESSIBLE PEDESTRIAN SIGNALS | CU YD | 25 |
| X0760500 | EXPLORATORY EXCAVATION | EACH | 1 |
| X0073510 | TEMPORARY TRAFFIC SIGNAL TIMING | EACH | 1 |

SIGN PANEL - TYPE 1
ALL DIMENSIONS ARE IN INCHES UNLESS NOTED OTHERWISE



| DESIGN SERIES | AREA (SQ FT) | SIGN PANEL TYPE | SHEETING TYPE | QTY. REQUIRED |
|---------------|--------------|-----------------|---------------|---------------|
| D | 6.75 | 1 | ZZ | 2 |

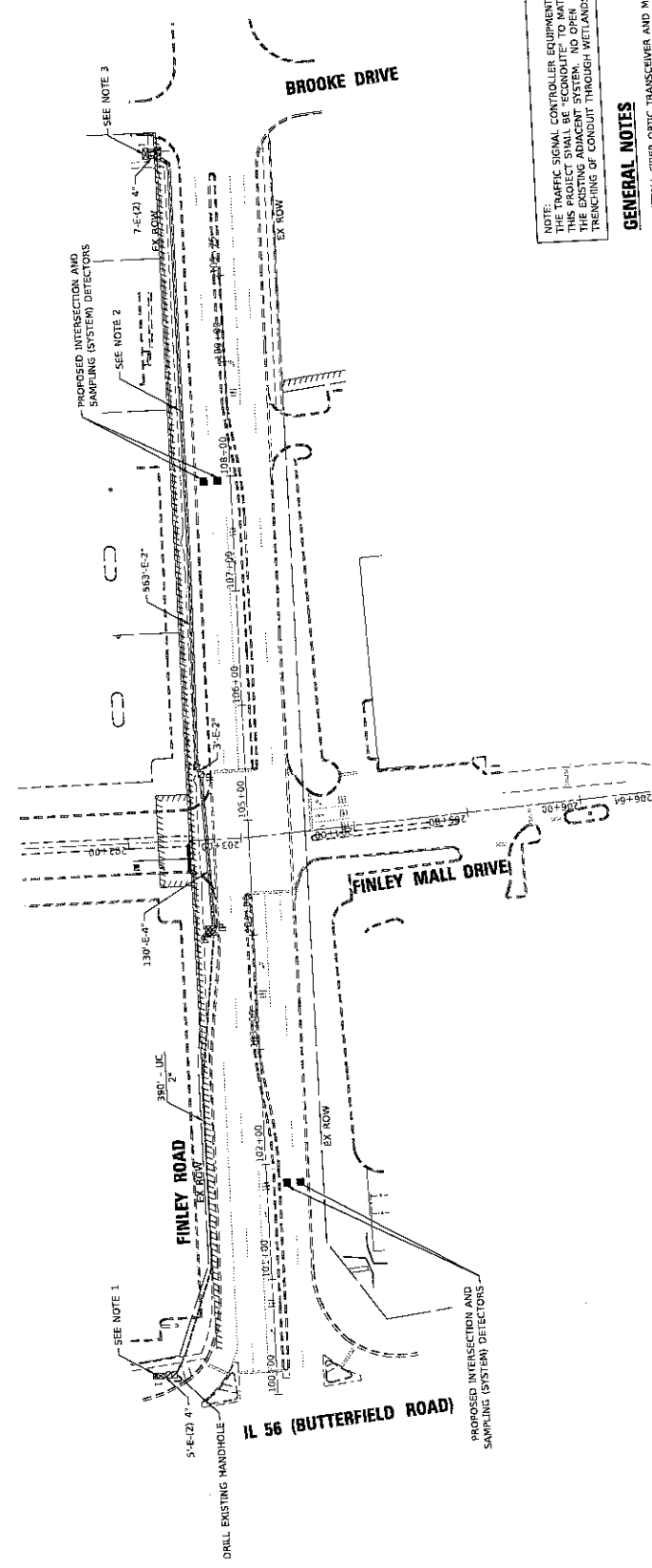
SIGN PANEL - TYPE 2
ALL DIMENSIONS ARE IN INCHES UNLESS NOTED OTHERWISE



| DESIGN SERIES | AREA (SQ FT) | SIGN PANEL TYPE | SHEETING TYPE | QTY. REQUIRED |
|---------------|--------------|-----------------|---------------|---------------|
| D | 10.5 | 2 | ZZ | 2 |

NOTE: FOR ADDITIONAL DESIGN AND INSTALLATION INFORMATION PLEASE SEE DISTRICT ONE MAST ARM MOUNTED STREET NAME SIGNS DETAIL

| | | | |
|---|--|---|---|
| | | DESIGNED - WEA DRAWN - SVJ CHECKED - BCS DATE - 07/27/2019 | REVISIONS 01/20/13 09/20/13 11/20/13 |
| VILLAGE OF DOWNERS GROVE DUPAGE COUNTY | | SCALE _____ OF _____ SHEETS _____ TO STA. _____ | SECTION _____ COUNTY _____ TOTAL SHEETS _____ SHEET _____ OF _____ |
| FINLEY ROAD AND FINLEY MALL DRIVE MAST ARM MOUNTED STREET NAME SIGNS | | PROJECT NO. _____ CONTRACT NO. _____ | TOTAL SHEETS _____ SHEET _____ OF _____ |

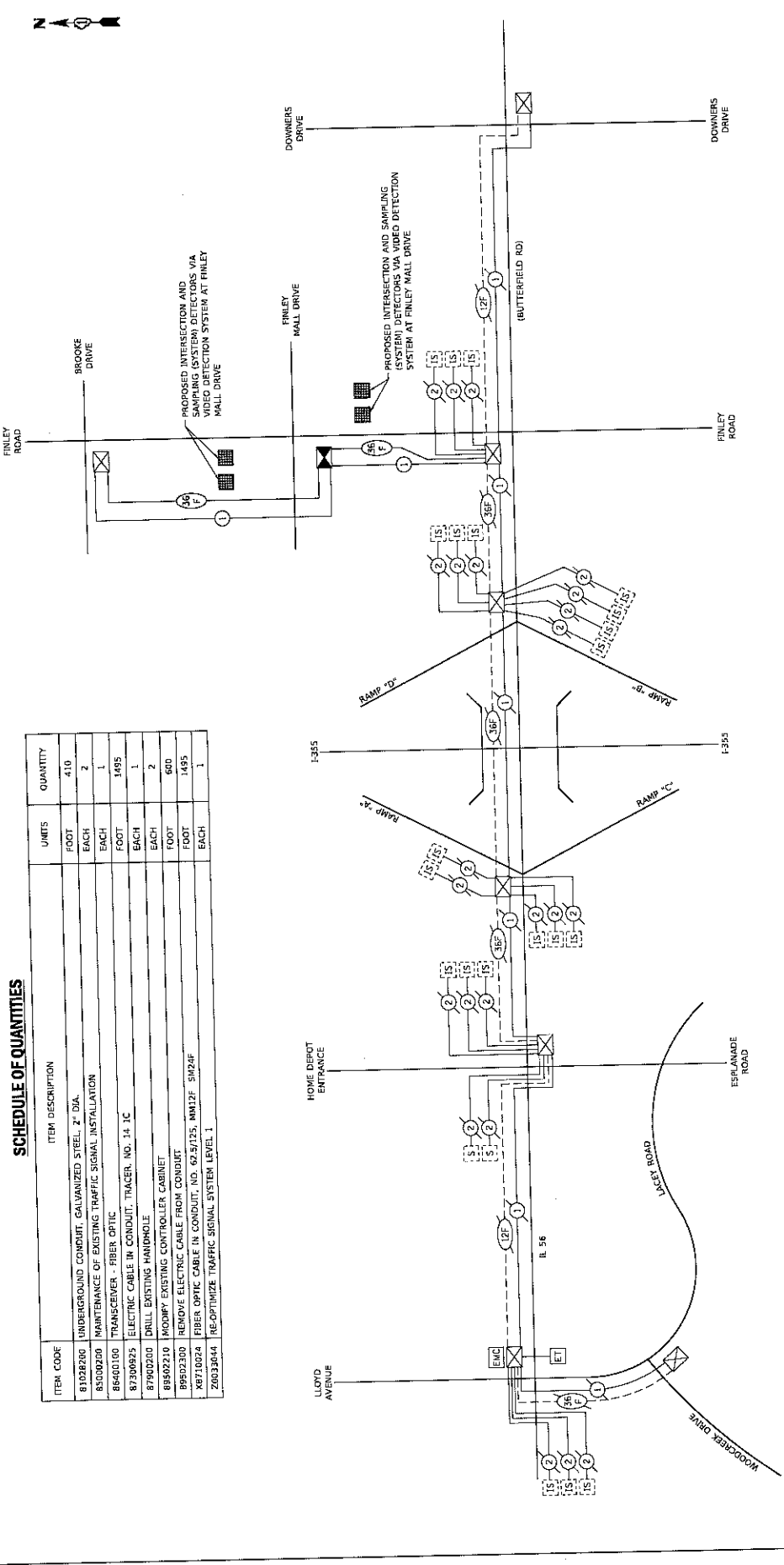


NOTE:
 THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT FOR THE PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM. NO OTHER TRENCHING OF CONDUIT THROUGH WETLANDS.

GENERAL NOTES

1. INSTALL FIBER OPTIC TRANSMITTER AND MODIFY CABINET FOR PROPOSED FIBER INTERCONNECT.
2. REMOVE EXISTING FIBER OPTIC CABLE FROM INSTALLATION OF PROPOSED FIBER OPTIC CABLE. PROPOSED INTERCONNECT SHALL BE TURNED ON AND OPERATIONAL WITHIN 48-HOURS OF DISCONNECTING THE EXISTING INTERCONNECT.
3. MODIFY EXISTING CABINET TO RECONFIGURE FIBER OPTIC TRANSMITTER AND CONTROLLER FOR PROPOSED FIBER INTERCONNECT OPERATION. TO BE COMPLETED AND OPERATIONAL WITHIN 48-HOURS OF DISCONNECTING THE EXISTING INTERCONNECT. THE MASTER CONTROLLER AT THE VILLAGE DROP TO BE REMOVED AND RELOCATED TO THE VILLAGE UPON ACTIVATION OF PROPOSED INTERCONNECT.

| | | | |
|--|--|--|--|
| COUNTY: DUPAGE SECTION: 18 TOWNSHIP: 18 RANGE: 17 | | COUNTY: DUPAGE SECTION: 18 TOWNSHIP: 18 RANGE: 17 | |
| FINLEY ROAD AND FINLEY MALL DRIVE TRAFFIC SIGNAL INTERCONNECT PLAN | | | |
| SCALE: _____ SHEET: _____ OF _____ SHEETS | | TO STA. _____ FROM STA. _____ | |
| VILLAGE OF DOWNERS GROVE DUPAGE COUNTY | | | |
| DESIGNED: BSA DRAWN: SW CHECKED: BCS DATE: 5/29/2019 | REVISION: 01/20/2013 REVISION: 02/20/2013 REVISION: 3/16/2019 REVISION: 5/29/2019 | PROJECT NO.: 181-0007-1-A PLOT DATE: 12/20/18 | |
| | | | |



SCHEDULE OF QUANTITIES

| ITEM CODE | ITEM DESCRIPTION | UNITS | QUANTITY |
|-----------|---|-------|----------|
| 8102R200 | UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA. | FOOT | 410 |
| 8300Q200 | MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION | EACH | 2 |
| 86400100 | TRANSMITTER - FIBER OPTIC | EACH | 1 |
| 87300825 | ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C | FOOT | 1495 |
| 87900200 | DRILL EXISTING HANDHOLE | EACH | 1 |
| 89502210 | MOONEY EXISTING CONTROLLER CABINET | EACH | 2 |
| 89502300 | REMOVE ELECTRIC CABLE FROM CONDUIT | FOOT | 600 |
| X8710024 | FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F, SIM24F | FOOT | 1495 |
| Z0033644 | REOPTIMIZE TRAFFIC SIGNAL SYSTEM LEVEL 1 | EACH | 1 |

NOTE:
 THE EXISTING TRAFFIC SIGNALS AT WOODCREK DRIVE AT LACEY ROAD, FINLEY ROAD AT FINLEY MALL DRIVE, AND FINLEY MALL DRIVE AT DOWNERS DRIVE ARE TO BE MAINTAINED BY THE VILLAGE OF DOWNERS GROVE.

ECON 41

FINLEY ROAD AND FINLEY MALL DRIVE
 TRAFFIC SIGNAL INTERCONNECT SCHEMATIC

VILLAGE OF DOWNERS GROVE
 DUPAGE COUNTY

DESIGNED BY: WSA
 DRAWN BY: SVI
 CHECKED BY: SCS
 DATE: 5/29/2014

REVISIONS:
 01/13/2015
 02/27/2015
 07/14/2015

SCALE: 1" = 30' (AS SHOWN)

SHEET 15 OF 18 SHEETS

CONTRACT NO. 15JMSD FID #0 PROJECT

SECTION

F.A. AREA

COUNTY

DUPAGE

SHEET NO.

TO STA.

FROM STA.





www.downers.us

Addendum -01

CFB-0-62-2019/DC

COMMUNITY RESPONSE
CENTER
630.434.CALL (2255)

An addendum has been posted to update the due date for sealed bids to

Friday, October 4 @ 10:00am

CIVIC CENTER
801 Burlington Avenue
Downers Grove
Illinois 60515-4782
630.434.5500
TDD 630.434.5511
FAX 630.434.5571

Attached are the correct documents.

FIRE DEPARTMENT
ADMINISTRATION
5420 Main Street
Downers Grove
Illinois 60515-4834
630.434.5980
FAX 630.434.5998

POLICE DEPARTMENT
825 Burlington Avenue
Downers Grove
Illinois 60515-4783
630.434.5600
FAX 630.434.5690

PUBLIC WORKS
DEPARTMENT
5101 Walnut Avenue
Downers Grove
Illinois 60515-4046
630.434.5460
FAX 630.434.5495



www.downers.us

NOTICE TO CONTRACTORS

Sealed bids will be accepted by the Village of Downers Grove for:

**COMMUNITY RESPONSE
CENTER**

630.434.CALL (2255)

CIVIC CENTER

801 Burlington Avenue

Downers Grove

Illinois 60515-4782

630.434.5500

TDD 630.434.5511

FAX 630.434.5571

FIRE DEPARTMENT

ADMINISTRATION

5420 Main Street

Downers Grove

Illinois 60515-4834

630.434.5980

FAX 630.434.5998

POLICE DEPARTMENT

825 Burlington Avenue

Downers Grove

Illinois 60515-4783

630.434.5600

FAX 630.434.5690

PUBLIC WORKS

DEPARTMENT

5101 Walnut Avenue

Downers Grove

Illinois 60515-4046

630.434.5460

FAX 630.434.5495

Traffic Signal Modernization, Finley & Finley Square Mall

until Friday, 10:00 a.m., October 4, 2019 at the Public Works Facility, 5101 Walnut Avenue, Downers Grove, Illinois 60515-4074, and at that time publicly opened and read.

This project consists of modernization to the traffic signal at Finley and Finley Square Mall, which includes a temporary traffic signal, minor curb & gutter work, addition of ADA compliant ramps, signal interconnect, and signal equipment modernization.

Bid packages may be obtained beginning Tuesday, September 17, 2019 at the Public Works Facility, 5101 Walnut Avenue, Downers Grove.

A Pre-Bid Meeting will be held on Thursday, September 20, 2019 at 10:00 a.m. at the Public Works Facility. This meeting is **OPTIONAL**.

Bids must be submitted on the forms furnished and must conform to the specifications. Bidders are advised to carefully apprise themselves of the contract specifications, as the contract will be awarded on the basis of the specifications, including all conditions thereof. The Village reserves the right to reject or award all or any part of any bid or contract and waive technicalities as may be deemed by the Village Council to be in the best interests of the Village.

Inquiries shall be directed to Will Lorton, Traffic Manager, at (630) 434-6863.

VILLAGE OF DOWNERS GROVE
DEPARTMENT OF PUBLIC WORKS

**TRAFFIC SIGNAL MODERNIZATION
FINLEY ROAD AT FINLEY MALL DRIVE
VILLAGE OF DOWNERS GROVE, DUPAGE COUNTY, IL**

PROJECT SPECIAL PROVISIONS

MAY 29, 2019

Finley Road at Finley Mall Drive
 Village of Downers Grove

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Finley Road at Finley Mall Drive
Village of Downers Grove

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Finley Road at Finley Mall Drive
Village of Downers Grove

SPECIAL PROVISIONS

The following Special Provisions supplement the Illinois Department of Transportation "Standard Specifications for Road and Bridge Construction," adopted January 1, 2012 (hereinafter referred to as the Standard Specifications); the latest edition of the "Illinois 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, which apply to and govern the construction of the intersection improvement project, and in case of conflict with any part, or parts, of said specifications, the said Special Provisions shall take precedence and shall govern.

References within the following Special Provisions to Department, State, or Illinois Department of Transportation staff shall be interpreted to mean Village of Downers Grove Public Works for all work along Finley Road, north of Butterfield Road (IL 56), including the intersections with Finley Mall and Brook Drive. Only that work covered by permit with the Illinois Department of Transportation shall apply to coordination with the Illinois Department of Transportation. All coordination required for this contract shall otherwise be with or through the Village of Downers Grove or its representative(s).

LOCATION OF PROJECT

The project is located at the intersection of Finley Mall and Finley Road and extends south to include the intersection of Finley Road with Butterfield Road (IL 56) and north to the intersection of Brook Drive and Finley Road. The gross and net length of the project is 1,250 feet (0.237 miles) all within the Village of Downers Grove, DuPage County.

DESCRIPTION OF PROJECT

The work consists of modernizing the existing traffic signals, temporary traffic signals, pavement markings, and the new traffic signals will be interconnected to the existing traffic signal system along Finley Road at the intersections of Brook Drive, Finley Mall and Butterfield Road and all incidental and collateral work as necessary to complete the improvements as shown on the plans and described herein.

Finley Road at Finley Mall Drive
Village of Downers Grove

STATUS OF UTILITIES TO BE ADJUSTED

Effective: January 30, 1987

Revised: January 24, 2013

Utilities companies involved in this project have provided the following estimated durations:

| NAME OF UTILITY | TYPE | LOCATION | Estimated Duration of Time for the Completion of Relocation or Adjustments |
|---|--------------------------------|---|--|
| Downers Grove Public Works 5101 Walnut Ave. Downers Grove, IL 60515 | Water | East side of Finley Road & crossing just north of Butterfield | N/A |
| ComEd | Electric - Overhead | West side of Finley Road | N/A |
| Level 3 Network Relocations 877-366-8344 x2 | Communication - Underground | West side of Finley Road | N/A |
| | | | |
| | | | |

The above represents the best information available to the Department and is included for the convenience of the bidder. The applicable portions of Articles 105.07 and 107.31 of the Standard Specifications shall apply.

In accordance with 605 ILCS 5/9-113 of the Illinois Compiled Statutes, utility companies have 90 days to complete the relocation of their facilities after receipt of written notice from the Department. The 90-day written notice will be sent to the utility companies after the following occurs:

- 1) Proposed right of way is clear for contract award.
- 2) Final plans have been sent to and received by the utility company.
- 3) Utility permit is received by the Department and the Department is ready to issue said permit.
- 4) If a permit has not been submitted, a 15 day letter is sent to the utility company notifying them they have 15 days to provide their permit application. After allowing 15 days for submission of the permit the 90 day notice is sent to the utility company.
- 5) Any time within the 90 day relocation period the utility company may request a waiver for additional time to complete their relocation. The Department has 10 days to review and respond to a waiver request.

Finley Road at Finley Mall Drive
Village of Downers Grove

MAINTENANCE OF ROADWAYS

Beginning on the date that work begins on this project, the Contractor shall assume responsibility for normal maintenance of all existing roadways within the limits of the improvement. This normal maintenance shall include all repair work deemed necessary by the Engineer, but shall not include snow removal operations. Traffic control and protection for maintenance of roadways will be provided by the Contractor as required by the Engineer.

If items of work have not been provided in the contract, or otherwise specified for payment, such items, including the accompanying traffic control and protection required by the Engineer, will be paid for in accordance with Article 109.04 of the Standard Specifications.

PUBLIC CONVENIENCE AND SAFETY

Add the following to the end of the fourth paragraph of Article 107.09:

“If the holiday is on a Saturday or Sunday, and is legally observed on a Friday or Monday, the length of Holiday Period for Monday or Friday shall apply.”

Add the following sentence after the Holiday Period table in the fourth paragraph of Article 107.09:

“The Length of Holiday Period for Thanksgiving shall be from 5:00 AM the Wednesday prior to 11:59 PM the Sunday After”

Delete the fifth paragraph of Article 107.09 of the Standard Specifications:

“On weekends, excluding holidays, roadways with Average Daily Traffic of 25,000 or greater, all lanes shall be open to traffic from 3:00 P.M. Friday to midnight Sunday except where structure construction or major rehabilitation makes it impractical.”

Finley Road at Finley Mall Drive
Village of Downers Grove

TRAFFIC CONTROL PLAN

Traffic Control shall be according to the applicable sections of the Standard Specifications, the Supplemental Specifications, the "Illinois Manual on Uniform Traffic Control Devices for Streets and Highways", any special details and Highway Standards contained in the plans, and the Special Provisions contained herein.

Special attention is called to Article 107.09 of the Standard Specifications and the following Highway Standards, Details, Quality Standard for Work Zone Traffic Control Devices, Recurring Special Provisions and Special Provisions contained herein, relating to traffic control.

The Contractor shall contact the District One Bureau of Traffic and the Village of Downers Grove Public Works Department at least 72 hours in advance of beginning work. The Contractor shall prepare and submit a traffic control plan as required by the permit agency.

STANDARDS: 701101, 701106, 701701, 701801, 701901

SPECIAL PROVISIONS: Maintenance of Roadways
Public Convenience and Safety

TRAFFIC CONTROL AND PROTECTION, (SPECIAL)

The work zone traffic control and protection shall be in accordance with Section 701 and applicable Highway Standards.

Basis of Payment

Traffic control and protection will be paid for at the contract unit price per lump sum for TRAFFIC CONTROL AND PROTECTION, (SPECIAL), which price shall include all traffic control and protection as required by TRAFFIC CONTROL PLAN special provisions.

Finley Road at Finley Mall Drive
Village of Downers Grove

MAST ARM SIGN PANELS

Effective: May 22, 2002

Revised: July 1, 2015

720.01TS

Add the following to Article 720.02 of the Standard Specifications:

Sign stiffening channel systems shall be aluminum and meet the requirements of ASTM 6261-T5. Sign mounting banding, buckles and buckle straps shall be manufactured from AISI 201 stainless steel.

Finley Road at Finley Mall Drive
Village of Downers Grove

TRAFFIC SIGNAL GENERAL REQUIREMENTS

Effective: May 22, 2002

Revised: March 25, 2016

800.01TS

These Traffic Signal Special Provisions and the "District One Standard Traffic Signal Design Details" supplement the requirements of the State of Illinois "Standard Specifications for Road and Bridge Construction." The intent of these Special Provisions is to prescribe the materials and construction methods commonly used for traffic signal installations.

- All material furnished shall be new unless otherwise noted herein.
- Traffic signal construction and maintenance work shall be performed by personnel holding current ISeptember 17, 2019
- MSA Traffic Signal Technician Level II certification. A copy of the certification shall be immediately available upon request of the Engineer.
- The work to be done under this contract consists of furnishing, installing and maintaining all traffic signal work and items as specified in the Plans and as specified herein in a manner acceptable and approved by the Engineer.

Definitions of Terms.

Add the following to Section 101 of the Standard Specifications:

101.56 Vendor. Company that sells a particular type of product directly to the contractor or the Equipment Supplier.

101.57 Equipment supplier. Company that supplies, represents and provides technical support for IDOT District One approved traffic signal controllers and other related equipment. The Equipment Supplier shall be located within IDOT District One and shall:

- Be full service with on-site facilities to assemble, test and trouble-shoot traffic signal controllers and cabinet assemblies.
- Maintain an inventory of IDOT District One approved controllers and cabinets.
- Be staffed with permanent sales and technical personnel able to provide traffic signal controller and cabinet expertise and support.
- Technical staff shall hold current IMSA Traffic Signal Technician Level III certification and shall attend traffic signal turn-ons and inspections with a minimum 14 calendar day notice.

Submittals.

Revise Article 801.05 of the Standard Specifications to read:

All material approval requests shall be submitted electronically through the District's SharePoint System unless directed otherwise by the Engineer. Electronic material submittals shall follow the District's Traffic Operations Construction Submittals guidelines. General requirements include:

1. All material approval requests shall be made prior to or no later than the date of the preconstruction meeting. A list of major traffic signal items can be found in Article 801.05. Material or equipment which is similar or identical shall be the product of the same manufacturer, unless necessary for system continuity. Traffic signal materials and equipment shall bear the U.L. label whenever such labeling is available.

Finley Road at Finley Mall Drive
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2. Product data and shop drawings shall be assembled by pay item. Only the top sheet of each pay item submittal will be stamped by the Department with the review status, except shop drawings for mast arm pole assemblies and the like will be stamped with the review status on each sheet.
3. Original manufacturer published product data and shop drawing sheets with legible dimensions and details shall be submitted for review.
4. When hard copy submittals are necessary, four complete copies of the manufacturer's descriptive literatures and technical data for the traffic signal materials shall be submitted. For hard copy or electronic submittals, the descriptive literature and technical data shall be adequate for determining whether the materials meet the requirements of the plans and specifications. If the literature contains more than one item, the Contractor shall indicate which item or items will be furnished.
5. 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.
6. Partial or incomplete submittals will be returned without review.
7. Certain non-standard mast arm poles and special structural elements will require additional review from IDOT's Central Office. Examples include ornamental/decorative, non-standard length mast arm pole assemblies and monotube structures. The Contractor shall account for the additional review time in his schedule.
8. The contract number or permit number, project location/limits and corresponding pay code number must be on each sheet of correspondence, catalog cuts and mast arm poles and assemblies drawings.
9. 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 be complete with all test data, dates, and times.
10. After the Engineer reviews the submittals for conformance with the design concept of the project, the Engineer will stamp the drawings indicating their status as 'Approved', 'Approved-As-Noted', 'Disapproved', or 'Incomplete'. Since the Engineer'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 Department's approval thereof. The Contractor must still be in full compliance with contract and specification requirements.
11. The Contractor shall secure approved materials in a timely manner to assure construction schedules are not delayed.
12. All submitted items reviewed and marked 'APPROVED AS NOTED', 'DISAPPROVED', or 'INCOMPLETE' are to 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.
13. Exceptions to and deviations from the requirements of the Contract Documents will not be allowed. It is the Contractor's responsibility to note any deviations from Contract requirements at the time of submittal and to make any requests for deviations in writing to the Engineer. In general, substitutions will not be acceptable. Requests for substitutions must demonstrate that the proposed substitution is superior to the material or equipment required by the Contract Documents. No exceptions, deviations or substitutions will be permitted without the approval of the Engineer.

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14. Contractor shall not order major equipment such as mast arm assemblies prior to Engineer 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 One. The Department reserves the right to request any controller and cabinet to be tested at the equipment supplier's facility prior to field installation, at no extra cost to this contract.

Maintenance and Responsibility.

Revise Article 801.11 of the Standard Specifications to read:

- a. Existing traffic signal installations and/or any electrical facilities at all or various locations may be altered or reconstructed totally or partially as part of the work on this Contract. The Contractor is hereby advised that all traffic control equipment, presently installed at these locations, may be the property of the State of Illinois, Department of Transportation, Division of Highways, County, Private Developer, Municipality or Transit Agency in which they are located. Once the Contractor has begun any work on any portion of the project, all traffic signals within the limits of this contract or those which have the item "Maintenance of Existing Traffic Signal Installation," "Temporary Traffic Signal Installation(s)" and/or "Maintenance of Existing Flashing Beacon Installation," shall become the full responsibility of the Contractor. The Contractor shall supply the Engineer, Area Traffic Signal Maintenance and Operations Engineer, IDOT ComCenter and the Department's Electrical Maintenance Contractor with two 24-hour emergency contact names and telephone numbers.
- b. Automatic Traffic Enforcement equipment such as red lighting running and railroad crossing camera systems are owned and operated by others and the Contractor shall not be responsible for maintaining this equipment.
- c. Regional transit, County and other agencies may also have equipment connected to existing traffic signal or peripheral equipment such as PTZ cameras, switches, transit signal priority (TSP and BRT) servers and other

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devices that shall be included with traffic signal maintenance at no additional cost to the contract.

- d. When the project has a pay item for "Maintenance of Existing Traffic Signal Installation," "Temporary Traffic Signal Installation(s)" and/or "Maintenance of Existing Flashing Beacon Installation," the Contractor must notify both the Area Traffic Signal Maintenance and Operations Engineer at (847) 705-4424 and the Department's Electrical Maintenance Contractor, of their intent to begin any physical construction work on the Contract or any portion thereof. This notification must be made a minimum of seven (7) working days prior to the start of construction to allow sufficient time for inspection of the existing traffic signal installation(s) and transfer of maintenance to the Contractor. The Department will attempt to full-fill the Contractor's inspection date request(s), however workload and other conditions may prevent the Department from accommodating specific dates or times. The Contractor shall not be entitled to any other compensation if the requested inspection date(s) cannot be scheduled by the Department. If work is started prior to an inspection, maintenance of the traffic signal installation(s) will be transferred to the Contractor without an inspection. The Contractor will become responsible for repairing or replacing all equipment that is not operating properly or is damaged at no cost to the owner of the traffic signal. Final repairs or replacement of damaged equipment must meet the approval of the Engineer prior to or at the time of final inspection otherwise the traffic signal installation will not be accepted.
- e. The Contractor is advised that the existing and/or temporary traffic signal installation must remain in operation during all construction stages, except for the most essential down time. Any shutdown of the traffic signal installation, which exceeds fifteen (15) minutes, must have prior approval of the Engineer. Approval to shut down the traffic signal installation will only be granted during the period extending from 10:00 a.m. to 3:00 p.m. on weekdays. Shutdowns shall not be allowed during inclement weather or holiday periods.
- f. The Contractor shall be fully responsible for the safe and efficient operation of the traffic signals and other equipment noted herein. Any inquiry, complaint or request by the Department, the Department's Electrical Maintenance Contractor or the public, shall be investigated and repairs begun within one hour. Failure to provide this service will result in liquidated damages of \$1000 per day per occurrence. In addition, the Department reserves the right to assign any work not completed within this timeframe to the Electrical Maintenance Contractor. All costs associated to repair this uncompleted work shall be the responsibility of the Contractor. Failure to pay these costs to the Electrical Maintenance Contractor within one month after the incident will result in additional liquidated damages of \$1000 per month per occurrence. Unpaid bills will be deducted from the cost of the Contract. The Department may inspect any signaling device on the Department's highway system at any time without notification.
- g. Any proposed activity in the vicinity of a highway-rail grade crossing must adhere to the guidelines set forth in the current edition of the Manual on Uniform Traffic Control Devices (MUTCD) regarding work in temporary traffic control zones in the vicinity of highway-rail grade crossings which states that lane restrictions,

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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.

- h. The Contractor shall be responsible to clear snow, ice, dirt, debris or other condition that obstructs visibility of any traffic signal display or access to traffic signal equipment.
- i. The Contractor shall maintain the traffic signal in normal operation during short or long term loss of utility or battery back-up power at critical locations designated by the Engineer. Critical locations may include traffic signals interconnected to railroad warning devices, expressway ramps, intersection with an SRA route, critical corridors or other locations identified by the Engineer. Temporary power to the traffic signal must meet applicable NEC and OSHA guidelines and may include portable generators and/or replacement batteries. Temporary power to critical locations shall not be for separately but shall be included in the contract.

Damage to Traffic Signal System.

Add the following to Article 801.12(b) of the Standard Specifications to read:

Any traffic signal control equipment damaged or not operating properly from any cause shall be replaced with new equipment meeting current District One traffic signal specifications and provided by the Contractor at no additional cost to the Contract and/or owner of the traffic signal system, all as approved by the Engineer. Final replacement of damaged equipment must meet the approval of the Engineer prior to or at the time of final inspection otherwise the traffic signal installation will not be accepted. Cable splices are only allowed at the bases of post and mast arms.

Temporary replacement of damaged or knockdown of a mast arm pole assembly shall require construction of a full or partial span wire signal installation or other method approved by the Engineer to assure signal heads are located overhead and over traveled pavement. Temporary replacement of mast arm mount signals with post mount signals will not be permitted.

Automatic Traffic Enforcement equipment, such as Red Light Enforcement cameras, detectors, and peripheral equipment, damaged or not operating properly from any cause, shall be the responsibility of the municipality or the Automatic Traffic Enforcement company per Permit agreement.

Traffic Signal Inspection (TURN-ON).

Revise Article 801.15(b) of the Standard Specifications to read:

It is the intent to have all electric work completed and equipment field tested by the Equipment Supplier prior to the Department's "turn-on" field inspection. If in the event the Engineer determines work is not complete and the inspection will require more than two (2) hours to complete, the inspection shall be canceled and the Contractor will be required to reschedule at

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another date. The maintenance of the traffic signals will not be accepted until all punch list work is corrected and re-inspected.

When the road is open to traffic, except as otherwise provided in Section 850 of the Standard Specifications, the Contractor may request a turn-on and inspection of the completed traffic signal installation at each separate location. This request must be made to the Area Traffic Signal Maintenance and Operations Engineer at (847) 705-4424 a minimum of seven (7) working days prior to the time of the requested inspection. The Department will attempt to full-fill the Contractor's turn-on and inspection date request(s), however workload and other conditions may prevent the Department from accommodating specific dates or times. The Contractor shall not be entitled to any other compensation if the requested turn-on and inspection date(s) cannot be scheduled by the Department. The Department will not grant a field inspection until written or electronic notification is provided from the Contractor that the equipment has been field tested and the intersection is operating according to Contract requirements. The Contractor must invite local fire department personnel to the turn-on when Emergency Vehicle Preemption (EVP) is included in the project. When the contract includes the item RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM, OPTIMIZE TRAFFIC SIGNAL SYSTEM, or TEMPORARY TRAFFIC SIGNAL TIMINGS, the Contractor must notify the SCAT Consultant of the turn-on/detour implementation schedule, as well as stage changes and phase changes during construction.

The Contractor must 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. The Contractor shall be responsible to provide a police officer to assist with traffic control at the time of testing.

The Contractor shall provide a representative from the control equipment vendor's office who is knowledgeable of the cabinet design and controller functions to attend the traffic signal inspection for both permanent and temporary traffic signal turn-ons.

Upon demonstration that the signals are operating and all work is completed in accordance with the Contract and to the satisfaction of the Engineer, the Engineer will then allow the signals to be placed in continuous operation. The Agency that is responsible for the maintenance of each traffic signal installation will assume the maintenance upon successful completion of this inspection.

The District requires the following Final Project Documentation from the Contractor at traffic signal turn-ons in electronic format in addition to hard copies where noted. A CD/DVD shall be submitted with separate folders corresponding to each numbered title below. The CD/DVD shall be labelled with date, project location, company and contract or permit number. Record Drawings, Inventory and Material Approvals shall be submitted prior to traffic signal turn-on for review by the Department as described here-in.

Final Project Documentation:

1. Record Drawings. Signal plans of record with field revisions marked in red ink. One hard copy set of 11"x17" record drawings shall also be provided.
2. Inventory. Inventory of new and existing traffic signal equipment including cabinet types and devices within cabinets in an Excel spread sheet format. One hard copy shall also be provided.

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3. Pictures. Digital pictures of a minimum 12M pixels of each intersection approach showing all traffic signal displays and equipment. Pictures shall include controller cabinet equipment in enough detail to clearly identify manufacture and model of major equipment.
4. Field Testing. Written notification from the Contractor and the equipment vendor of satisfactory field testing with corresponding material performance measurements, such as for detector loops and fiber optic systems (see Article 801.13). One hard copy of all contract required performance measurement testing shall also be provided.
5. Materials Approval. The material approval letter. A hard copy shall also be provided.
6. Manuals. Operation and service manuals of the signal controller and associated control equipment. One hard copy shall also be provided.
7. Cabinet Wiring Diagram and Cable Logs. Five (5) hard copies 11" x 17" of the cabinet wiring diagrams shall be provided along with electronic pdf and dgn files of the cabinet wiring diagram. Five hard copies of the cable logs and electronic excel files shall be provided with cable #, number of conductors and spares, connected device/signal head and intersection location.
8. Controller Programming Settings. The traffic signal controller's timings; backup timings; coordination splits, offsets, and cycles; TBC Time of Day, Week and Year Programs; Traffic Responsive Program, Detector Phase Assignment, Type and Detector Switching; and any other functions programmable from the keyboard. The controller manufacturer shall also supply a printed form, not to exceed 11" x 17" for recording that data noted above. The form shall include a location, date, manufacturer's name, controller model and software version. The form shall be approved by the Engineer and a minimum of three (3) copies must be furnished at each turn-on. The manufacturer must provide all programming information used within the controller at the time of turn-on.
9. Warrantees and Guarantees. All manufacturer and contractor warrantees and guarantees required by Article 801.14.
10. GPS coordinate of traffic signal equipment as describe in the Record Drawings section herein.

Acceptance of the traffic signal equipment by the Department shall be based upon inspection results at the traffic signal "turn on", completeness of the required documentation and successful operation during a minimum 72 hour "burn-in" period following activation of the traffic signal. If approved, traffic signal acceptance shall be verbal at the "turn on" inspection followed by written correspondence from the Engineer. The Contractor shall be responsible for all traffic signal equipment and associated maintenance thereof until Departmental acceptance is granted.

All equipment and/or parts to keep the traffic signal installation operating shall be furnished by the Contractor. No spare traffic signal equipment is available from the Department.

All punch list work shall be completed within two (2) weeks after the final inspection. The Contractor shall notify the Electrical Maintenance Contractor to inspect all punch list work. Failure to meet these time constraints shall result in liquidated damage charges of \$500 per month per incident.

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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 shall be subject to removal and disposal at the Contractor's expense.

Record Drawings.

The requirements listed for Electrical Installation shall apply for Traffic Signal Installations in Article 801.16. Revise the 2nd paragraph of Article 801.16 of the Standard Specifications to read:

"When the work is complete, and seven days before the request for a final inspection, the reduced-size set of contract drawings, stamped "RECORD DRAWINGS", shall be submitted to the Engineer for review and approval and shall be stamped with the date and the signature of the Contractor's supervising Engineer or electrician. The record drawings shall be submitted in PDF format on CDROM as well as hardcopy for review and approval. If the contract consists of multiple intersections, each intersection shall be saved as an individual PDF file with TS# and location name in its file name.

In addition to the record drawings, copies of the final catalog cuts which have been Approved or Approved as Noted shall be submitted in PDF format along with the record drawings. The PDF files shall clearly indicate the pay item either by filename or PDF Table of Contents referencing the respective pay item number for multi-item PDF files. Specific part or model numbers of items which have been selected shall be clearly visible."

As part of the record drawings, the Contractor shall inventory all traffic signal equipment, new or existing, on the project and record information in an Excel spreadsheet. The inventory shall include equipment type, model numbers, software manufacturer and version and quantities.

Add the following to Article 801.16 of the Standard Specifications:

"In addition to the specified record drawings, the Contactor shall record GPS coordinates of the following traffic signal components being installed, modified or being affected in other ways by this contract:

- All Mast Arm Poles and Posts
- Traffic Signal Wood Poles
- Rail Road Bungalow
- UPS
- Handholes
- Conduit roadway crossings
- Controller Cabinets
- Communication Cabinets
- Electric Service Disconnect locations
- CCTV Camera installations
- Fiber Optic Splice Locations
- Conduit Crossings

Datum to be used shall be North American 1983.

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Data shall be provided electronically and in print form. The electronic format shall be compatible with MS Excel. Latitude and Longitude shall be in decimal degrees with a minimum of 6 decimal places. Each coordinate shall have the following information:

- File shall be named: TSXXX-YY-MM-DD (i.e. TS22157_15-01-01)
- Each intersection shall have its own file
- Row 1 should have the location name (i.e. IL 31 @ Klausen)
- Row 2 is blank
- Row 3 is the headers for the columns
- Row 4 starts the data
- Column A (Date) – should be in the following format: MM/DD/YYYY
- Column B (Item) – as shown in the table below
- Column C (Description) – as shown in the table below
- Column D and E (GPS Data) – should be in decimal form, per the IDOT special provisions

Examples:

| Date | Item | Description | Latitude | Longitude |
|------------|---------------------------------|--|-----------|------------|
| 01/01/2015 | MP (Mast Arm Pole) | NEQ, NB, Dual, Combination Pole | 41.580493 | -87.793378 |
| 01/01/2015 | HH (Handhole) | Heavy Duty, Fiber, Intersection, Double | 41.558532 | -87.792571 |
| 01/01/2015 | ES (Electrical Service) | Ground mount, Pole mount | 41.765532 | -87.543571 |
| 01/01/2015 | CC (Controller Cabinet) | | 41.602248 | -87.794053 |
| 01/01/2015 | RSC (Rigid Steel Crossing) | IL 31 east side crossing south leg to center HH at Klausen | 41.611111 | -87.790222 |
| 01/01/2015 | PTZ (PTZ) | NEQ extension pole | 41.593434 | -87.769876 |
| 01/01/2015 | POST (Post) | | 41.651848 | -87.762053 |
| 01/01/2015 | MCC (Master Controller Cabinet) | | 41.584593 | -87.793378 |
| 01/01/2015 | COMC (Communication Cabinet) | | 41.584600 | -87.793432 |
| 01/01/2015 | BBS (Battery Backup System) | | 41.558532 | -87.792571 |
| 01/01/2015 | CNGR (Conduit Crossing) | 4-inch IL 31 n/o of Klausen | 41.588888 | -87.794440 |

Prior to the collection of data, the contractor shall provide a sample data collection of at least six data points of known locations to be reviewed and verified by the Engineer to be accurate within 1 foot. Upon verification, data collection can begin. Data collection can be made as construction progresses, or can be collected after all items are installed. If the data is unacceptable the contractor shall make corrections to the data collection equipment and or process and submit the data for review and approval as specified.

Accuracy. Data collected is to be mapping grade. A handheld mapping grade GPS device shall be used for the data collection. The receiver shall support differential correction and data shall have a minimum 1 foot accuracy after post processing.

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GPS receivers integrated into cellular communication devices, recreational and automotive GPS devices are not acceptable.

The GPS shall be the product of an established major GPS manufacturer having been in the business for a minimum of 6 years."

Delete the last sentence of the 3rd paragraph of Article 801.16.

Locating Underground Facilities.

Revise Section 803 to the Standard Specifications to read:

IDOT traffic signal facilities are not part of any of the one-call locating service such as J.U.L.I.E or Digger. If this Contract requires the services of an Electrical Contractor, the Contractor shall be responsible at his/her own expense for locating existing IDOT electrical facilities prior to performing any work. If this Contract does not require the services of an Electrical Contractor, the Contractor may request one free locate for existing IDOT electrical facilities from the District One Electrical Maintenance Contractor prior to the start of any work. Additional requests may be at the expense of the Contractor. The location of underground traffic facilities does not relieve the Contractor of their responsibility to repair any facilities damaged during construction at their expense.

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, locally owned equipment, and leased enforcement camera system facilities, the local Counties or Municipalities may need to be contacted: in the City of Chicago contact Digger at (312) 744-7000 and for all other locations contact J.U.L.I.E. at 1-800-892-0123 or 811.

Restoration of Work Area.

Add the following article to Section 801 of the Standard Specifications:

801.17 Restoration of work area. Restoration of the traffic signal work area shall be included in the related pay items such as foundation, conduit, handhole, underground raceways, etc. All roadway surfaces such as shoulders, medians, sidewalks, pavement, etc. shall be replaced in kind. All damage to mowed lawns shall be replaced with an approved sod, and all damage to unmowed fields shall be seeded. All brick pavers disturbed in the work area shall be restored to their original configuration as directed by the Engineer. All damaged brick pavers shall be replaced with a comparable material approved by the Engineer. Restoration of the work area shall be included in the contract without any extra compensation allowed to the Contractor.

Bagging Signal Heads.

Light tan colored traffic and pedestrian signal reusable covers shall be used to cover dark/un-energized signal sections and visors. Covers shall be made of outdoor fabric with urethane coating for repelling water, have elastic fully sewn around the cover ends for a tight fit over the visor, and have a minimum of two straps with buckles to secure the cover to the backplate. A center mesh strip allows viewing without removal for signal status testing purposes. Covers shall include a message indicating the signal is not in service.

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RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM

Effective: May 22, 2002

Revised: July 1, 2015

800.03TS

Description.

This work shall consist of re-optimizing a closed loop traffic signal system according to the following Levels of work.

LEVEL I applies when improvements are made to an existing signalized intersection within an existing closed loop traffic signal system. The purpose of this work is to integrate the improvements to the subject intersection into the signal system while minimizing the impacts to the existing system operation. This type of work would be commonly associated with the addition of signal phases, pedestrian phases, or improvements that do not affect the capacity at an intersection.

LEVEL II applies when improvements are made to an existing signalized intersection within an existing closed loop traffic signal system and detailed analysis of the intersection operation is desired by the engineer, or when a new signalized or existing signalized intersection is being added to an existing system, but optimization of the entire system is not required. The purpose of this work is to optimize the subject intersection, while integrating it into the existing signal system with limited impact to the system operations. This item also includes an evaluation of the overall system operation, including the traffic responsive program.

For the purposes of re-optimization work, an intersection shall include all traffic movements operated by the subject controller and cabinet.

After the signal improvements are completed, the signal shall be re-optimized as specified by an approved Consultant who has previous experience in optimizing Closed Loop Traffic Signal Systems for District One of the Illinois Department of Transportation. The Contractor shall contact the Traffic Signal Engineer at (847) 705-4424 for a listing of approved Consultants. Traffic signal system optimization work, including fine-tuning adjustments of the optimized system, shall follow the requirements stated in the most recent IDOT District 1 SCAT Guidelines, except as note herein.

A listing of existing signal equipment, interconnect information, phasing data, and timing patterns may be obtained from the Department, if available and as appropriate. The existing SCAT Report is available for review at the District One office and if the Consultant provides blank computer discs, copies of computer simulation files for the existing optimized system and a timing database will be made for the Consultant. The Consultant shall confer with the Traffic Signal Engineer prior to optimizing the system to determine if any extraordinary conditions exist that would affect traffic flows in the vicinity of the system, in which case, the Consultant may be instructed to wait until the conditions return to normal or to follow specific instructions regarding the optimization.

(a) LEVEL I Re-Optimization

1. The following tasks are associated with LEVEL I Re-Optimization.
 - a. Appropriate signal timings shall be developed for the subject intersection and existing timings shall be utilized for the rest of the intersections in the system.

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- b. Proposed signal timing plan for the modified intersection(s) shall be forwarded to IDOT for review prior to implementation.
 - c. Consultant shall conduct on-site implementation of the timings at the turn-on and make fine-tuning adjustments to the timings of the subject intersection in the field to alleviate observed adverse operating conditions and to enhance operations. The consultant shall respond to IDOT comments and public complaints for a minimum period of 60 days from date of timing plan implementation.
2. The following deliverables shall be provided for LEVEL I Re-Optimization.
 - a. Consultant shall furnish to IDOT a cover letter describing the extent of the re-optimization work performed.
 - b. Consultant shall furnish an updated intersection graphic display for the subject intersection to IDOT and to IDOT's Traffic Signal Maintenance Contractor.
- (b) LEVEL II Re-Optimization
1. In addition to the requirements described in the LEVEL I Re-Optimization above, the following tasks are associated with LEVEL II Re-Optimization.
 - a. Traffic counts shall be taken at the subject intersection(s) after the traffic signals are approved for operation by the Area Traffic Signal Operations Engineer. Manual turning movement counts shall be conducted from 6:30 a.m. to 9:30 a.m., 11:00 a.m. to 1:00 p.m., and 3:30 p.m. to 6:30 p.m. on a typical weekday from midday Monday to midday Friday and on a Saturday and/or Sunday, as directed by the Engineer, to account for special traffic generators such as shopping centers, educational institutes and special event facilities. The turning movement counts shall identify cars, and single-unit, multi-unit heavy vehicles, and transit buses.
 - b. As necessary, the intersection(s) shall be re-addressed and all system detectors reassigned in the master controller according to the current standard of District One.
 - c. Traffic responsive program operation shall be evaluated to verify proper pattern selection and lack of oscillation and a report of the operation shall be provided to IDOT.
 2. The following deliverables shall be provided for LEVEL II Re-Optimization.
 - a. Consultant shall furnish to IDOT one (1) copy of a technical memorandum for the optimized system. The technical memorandum shall include the following elements:
 - (1) Brief description of the project
 - (2) Printed copies of the analysis output from Synchro (or other appropriate, approved optimization software file)
 - (3) Printed copies of the traffic counts conducted at the subject intersection
 - b. Consultant shall furnish to IDOT two (2) CDs for the optimized system. The CDs shall include the following elements:
 - (1) Electronic copy of the technical memorandum in PDF format
 - (2) Revised Synchro files (or other appropriate, approved optimization software file) including the new signal and the rest of the signals in the closed loop system
 - (3) Traffic counts conducted at the subject intersection(s)
 - (4) New or updated intersection(s) graphic display file for the subject intersection(s)
 - (5) The CD shall be labeled with the IDOT system number and master location, as well as the submittal date and the consultant logo. The CD case shall

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include a clearly readable label displaying the same information securely affixed to the side and front.

Basis of Payment.

This work shall be paid for at the contract unit price each for RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM – LEVEL I or RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM – LEVEL II, which price shall be payment in full for performing all work described herein per intersection. Following completion of the timings and submittal of specified deliverables, 100 percent of the bid price will be paid. Each intersection will be paid for separately.

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SERVICE INSTALLATION (TRAFFIC SIGNALS)

Effective: May 22, 2002

Revised: June 15, 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 (2.03 mm) 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 (350 mm) high, 9-inches (225 mm) wide and 8-inches (200 mm) 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 (3.175 mm) thick, the top 0.250-inch (6.350 mm) thick and the bottom 0.500-inch (12.70 mm) thick. Seams shall be continuous welded and ground

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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 (1.91 mm) 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 (1000 mm) high, 16-inches (400 mm) wide and 15-inches (375 mm) 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. The contractor is to coordinate the work to be performed and the materials required with the utility company to make the final connection at the power source. 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 <5n 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

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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 (3.0m) in length, and 3/4 inch (20mm) 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 (20mm) 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.

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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.

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- (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 .

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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 (700 mm) 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 300 mm (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 3 mm (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.”

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HANDHOLES

Effective: January 01, 2002

Revised: July 1, 2018

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 (762 mm) except for the conduits for detector loops when the handhole is less than 5 feet (1.52 m) 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 (13 mm) diameter with two 90 degree bends and extend into the handhole at least 6 inches (152 mm). Hooks shall be placed a minimum of 12 inches (305 mm) 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. Only handholes serving IDOT traffic signal equipment shall have this label. Handhole covers for Red Light Running Cameras shall be labeled "RLRC".

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 (13 mm) 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 (546 mm) minimum. Frames and lid openings shall match this dimension.

For grounding purposes the handhole frame shall have provisions for a 7/16 inch (11 mm) 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 (305mm).

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Precast Round Handholes.

All precast handholes shall be concrete, with inside dimensions of 30 inches (762mm) diameter. Frames and covers shall have a minimum opening of 26 inches (660mm) and no larger than the inside diameter of the handhole.

For grounding purposes the handhole frame shall have provisions for a 7/16 inch (11 mm) 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 (11 mm) 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 (152 mm).

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).”

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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. Bonding to existing handhole frames and covers shall be paid for separately.

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.

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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 (100 mm) and with a minimum 1 inch (25 mm) 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.

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MAINTENANCE OF EXISTING TRAFFIC SIGNAL AND FLASHING BEACON INSTALLATION

Effective: May 22, 2002

Revised: July 1, 2015

850.01TS

General.

1. Full maintenance responsibility shall start as soon as the Contractor begins any physical work on the Contract or any portion thereof. If Contract work is started prior to a traffic signal inspection, maintenance of the traffic signal installation(s) will be transferred to the Contractor without an inspection.
2. The Contractor shall have electricians with IMSA Level II certification on staff to provide signal maintenance. A copy of the certification shall be immediately available upon request of the Engineer.
3. This item shall include maintenance of all traffic signal equipment and other connected and related equipment such as flashing beacons, emergency vehicle pre-emption equipment, master controllers, uninterruptable power supply (UPS and batteries), PTZ cameras, vehicle detection, handholes, lighted signs, telephone service installations, communication cables, conduits to adjacent intersections, and other traffic signal equipment.
4. Regional transit, County and other agencies may also have equipment connected to existing traffic signal or peripheral equipment such as PTZ cameras, switches, transit signal priority (TSP and BRT) servers, radios and other devices that shall be included with traffic signal maintenance at no additional cost to the contract.
5. Maintenance shall not include Automatic Traffic Enforcement equipment, such as Red Light Enforcement cameras, detectors, or peripheral equipment. This equipment is operated and maintained by the local municipality and should be de-activated while on contractor maintenance.
6. The energy charges for the operation of the traffic signal installation shall be paid for by the Contractor.

Maintenance.

1. The Contractor shall check all controllers every two (2) weeks, which will include visually inspecting all timing intervals, relays, detectors, and pre-emption equipment to ensure that they are functioning properly. The Contractor shall check signal system communications and phone lines to assure proper operation. This item includes, as routine maintenance, all portions of emergency vehicle pre-emption equipment. The Contractor shall maintain in stock at all times a sufficient amount of materials and equipment to provide effective temporary and permanent repairs. Prior to the traffic signal maintenance transfer, the contractor shall supply a detailed maintenance schedule that includes dates, locations, names of electricians providing the required checks and inspections along with any other information requested by the Engineer.
2. The Contractor is advised that the existing and/or span wire traffic signal installation must remain in operation during all construction stages, except for the most essential

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down time. Any shutdown of the traffic signal installation, which exceeds fifteen (15) minutes, must have prior approval of the Engineer. Approval to shut down the traffic signal installation will only be granted during the period extending from 10:00 a.m. to 3:00 p.m. on weekdays. Shutdowns shall not be allowed during inclement weather or holiday periods.

3. The Contractor shall provide immediate corrective action when any part or parts of the system fail to function properly. Two far side heads facing each approach shall be considered the minimum acceptable signal operation pending permanent repairs. When repairs at a signalized intersection require that the controller be disconnected or otherwise removed from normal operation, and power is available, the Contractor shall place the traffic signal installation on flashing operation. The signals shall flash RED for all directions unless a different indication has been specified by the Engineer. The Contractor shall be required to place stop signs (R1-1-36) at each approach of the intersection as a temporary means of regulating traffic. When the signals operate in flash, the Contractor shall furnish and equip all their vehicles assigned to the maintenance of traffic signal installations with a sufficient number of stop signs as specified herein. The Contractor shall maintain a sufficient number of spare stop signs in stock at all times to replace stop signs which may be damaged or stolen.
4. The Contractor shall provide the Engineer with 2 (two) 24 hour telephone numbers for the maintenance of the traffic signal installation and for emergency calls by the Engineer.
5. Traffic signal equipment which is lost or not returned to the Department for any reason shall be replaced with new equipment meeting the requirements of the Standard Specifications and these special provisions.
6. The Contractor shall respond to all emergency calls from the Department or others within one (1) hour after notification and provide immediate corrective action. When equipment has been damaged or becomes faulty beyond repair, the Contractor shall replace it with new and identical equipment. The cost of furnishing and installing the replaced equipment shall be borne by the Contractor at no additional charge to the contract. The Contractor may institute action to recover damages from a responsible third party. If at any time the Contractor fails to perform all work as specified herein to keep the traffic signal installation in proper operating condition or if the Engineer cannot contact the Contractor's designated personnel, the Engineer shall have the State's Electrical Maintenance Contractor perform the maintenance work. The Contractor shall be responsible for all of the State's Electrical Maintenance Contractor's costs and liquidated damages of \$1000 per day per occurrence. The State's Electrical Maintenance Contractor shall bill the Contractor for the total cost of the work. The Contractor shall pay this bill within thirty (30) days of the date of receipt of the invoice or the cost of such work will be deducted from the amount due the Contractor. The Contractor shall allow the Electrical Maintenance Contractor to make reviews of the Existing Traffic Signal Installation that has been transferred to the Contractor for Maintenance.
7. Any proposed activity in the vicinity of a highway-rail grade crossing must adhere to the guidelines set forth in the current edition of the Manual on Uniform Traffic Control Devices (MUTCD) regarding work in temporary traffic control zones in the vicinity of highway-rail grade crossings which states that lane restrictions, flagging, or other

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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.

8. Equipment included in this item that is damaged or not operating properly from any cause shall be replaced with new equipment meeting current District One traffic signal specifications and provided by the Contractor at no additional cost to the Contract and/or owner of the traffic signal system, all as approved by the Engineer. Final replacement of damaged equipment must meet the approval of the Engineer prior to or at the time of final inspection otherwise the traffic signal installation will not be accepted. Cable splices outside the controller cabinet shall not be allowed.
9. Automatic Traffic Enforcement equipment, such as Red Light Enforcement cameras, detectors, and peripheral equipment, damaged or not operating properly from any cause, shall be the responsibility of the municipality or the Automatic Traffic Enforcement Company per Permit agreement.
10. The Contractor shall be responsible to clear snow, ice, dirt, debris or other condition that obstructs visibility of any traffic signal display or access to traffic signal equipment.
11. The Contractor shall maintain the traffic signal in normal operation during short or long term loss of utility or battery back-up power at critical locations designated by the Engineer. Critical locations may include traffic signals interconnected to railroad warning devices, expressway ramps, intersection with an SRA route, critical corridors or other locations identified by the Engineer. Temporary power to the traffic signal must meet applicable NEC and OSHA guidelines and may include portable generators and/or replacement batteries. Temporary power to critical locations shall not be paid for separately but shall be included in the contract.
12. Temporary replacement of damaged or knockdown of a mast arm pole assembly shall require construction of a full or partial span wire signal installation or other method approved by the Engineer to assure signal heads are located overhead and over traveled pavement. Temporary replacement of mast arm mount signals with post mount signals will not be permitted.

Basis of Payment.

This work will be paid for at the contract unit price per each for MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION. Each intersection will be paid for separately. Maintenance of a standalone and or not connected flashing beacon shall be paid for at the contract unit price for MAINTENANCE OF EXISTING FLASHING BEACON INSTALLATION. Each flashing beacon will be paid for separately.

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FULL-ACTUATED CONTROLLER AND CABINET

Effective: January 1, 2002

Revised: July 1, 2018

857.02TS

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 a(n) "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 or Eagle/Siemens M52 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 Centracs, 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"
- (b) (5) Cabinets – Provide 1/8" (3.2 mm) thick unpainted aluminum alloy 5052-H32. The surface shall be smooth, free of marks and scratches. All external hardware shall be stainless steel.
- (b) (6) Controller Harness – Provide a TS2 Type 2 "A" wired harness in addition to the TS2 Type 1 harness.
- (b) (7) Surge Protection – Shall be a 120VAC Single phase Modular filter Plug-in type, supplied from an approved vendor.
- (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.

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- (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 (38mm) 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 (610mm) wide.
- (b) (14) Plan & Wiring Diagrams – 12" x 15" (305mm x 406mm) 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.
- (b) (16) Field Wiring Labels – All field wiring shall be labeled.
- (b) (17) Field Wiring Termination – Approved channel lugs required.
- (b) (18) Power Panel – 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.

Basis of Payment.

This work will be paid for at the contract unit price each for FULL-ACTUATED CONTROLLER AND TYPE IV CABINET; FULL-ACTUATED CONTROLLER AND TYPE V CABINET; FULL-ACTUATED CONTROLLER AND TYPE SUPER P CABINET; FULL-ACTUATED CONTROLLER AND TYPE SUPER R CABINET; FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL; FULL-ACTUATED CONTROLLER AND TYPE V CABINET, SPECIAL; FULL-ACTUATED CONTROLLER AND TYPE SUPER P CABINET (SPECIAL); FULL-ACTUATED CONTROLLER AND TYPE SUPER R CABINET (SPECIAL).

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UNINTERRUPTABLE POWER SUPPLY, SPECIAL

Effective: January 1, 2013

Revised: May 19, 2016

862.01TS

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 6 (six) 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. For Super-P (Type IV) and Super-R (Type V) cabinets, the battery cabinet is integrated to the traffic signal cabinet, and shall be included in the cost for the traffic signal cabinet of the size and type indicated on the plans.

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.

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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 6 (six) 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 in. (785 mm), a depth of 16 in. (440 mm), and a height of 41 to 48 in. (1.1 to 1.3 m). Clearance between shelves shall be a minimum of 10 in. (250 mm).

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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 6 (six) hours.

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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 or UNINTERRUPTABLE POWER SUPPLY AND CABINET, 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 or UNINTERRUPTABLE POWER SUPPLY AND CABINET, SPECIAL item. The concrete apron and earth excavation required shall be included in the cost of the UNINTERRUPTABLE POWER SUPPLY AND CABINET, SPECIAL item.

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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. 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 dB/km nominal at 1300nm for single mode fiber.

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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.

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GROUNDING EXISTING HANDHOLE FRAME AND COVER

Effective: May 22, 2002

Revised: July 1, 2015

873.02TS

Description.

This work shall consist of all materials and labor required to bond the equipment grounding conductor to the existing handhole frame and handhole cover. All installations shall meet the requirements of the details in the "District One Standard Traffic Signal Design Details," and applicable portions of the Standard Specifications and District One Traffic Signal Special Provisions 806.01TS GROUNDING OF TRAFFIC SIGNAL SYSTEMS and 817.01TS GROUNDING CABLE.

The equipment grounding conductor shall be bonded to the handhole frame and to the handhole cover. Two (2) ½-inch diameter x 1 ¼-inch long hex-head stainless steel bolts, spaced 1.75-inches apart center-to-center shall be fully welded to the frame and to the cover to accommodate a heavy duty UL listed grounding compression terminal. The grounding compression terminal shall be secured to the bolts with stainless steel split-lock washers and nylon-insert locknuts.

Welding preparation for the stainless steel bolt hex-head to the frame and to the cover shall include thoroughly cleaning the contact and weldment area of all rust, dirt and contaminants. The Contractor shall assure a solid strong weld. The welds shall be smooth and thoroughly cleaned of flux and spatter. The grounding installation shall not affect the proper seating of the cover when closed.

The grounding cable shall be paid for separately.

Method of Measurement.

Units measured for payment will be counted on a per handhole basis, regardless of the type of handhole and its location.

Basis of Payment.

This work shall be paid for at the contract unit price each for GROUNDING EXISTING HANDHOLE FRAME AND COVER which shall be payment in full for grounding the handhole complete.

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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.

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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 Department approves painting, powder coating by the manufacturer will be required over the galvanization in accordance with 851.01TS TRAFFIC SIGNAL PAINTING Special Provisions.

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MAST ARM ASSEMBLY AND POLE

Effective: May 22, 2002

Revised: July 01, 2015

877.01TS

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 Department approves painting, powder coating by the manufacturer will be required over the galvanization in accordance with 851.01TS TRAFFIC SIGNAL PAINTING Special Provisions.

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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. (300 mm) 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.

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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

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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.

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(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.

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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.

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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.

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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

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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.

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TRAFFIC SIGNAL BACKPLATE

Effective: May 22, 2002

Revised: July 1, 2015

882.01TS

Delete 1st 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.

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EMERGENCY VEHICLE PRIORITY SYSTEM

Effective: May 22, 2002

Revised: July 1, 2015

887.01TS

Revise Section 887 of the Standard Specifications to read:

It shall be the Contractor's responsibility to contact the municipality or fire district to verify the brand of emergency vehicle pre-emption equipment to be installed prior to the contract bidding. The equipment 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 signaled 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 signaled 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.

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ACCESSIBLE PEDESTRIAN SIGNALS

Effective: April 1, 2003

Revised: July 1, 2015

888.02TS

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.

If two accessible pedestrian pushbuttons are placed less than 10 ft (3 m) apart or placed on the same pole, the audible walk indication shall be a speech walk message.

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.

Where two accessible pedestrian pushbuttons are separated by at least 10 ft (3 m), the walk indication shall be an audible percussive tone. It shall repeat at 8 to 10 ticks per second with a dominant frequency of 880 Hz.

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.

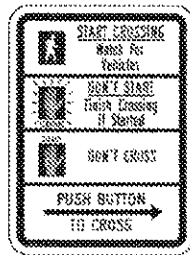
Pedestrian pushbuttons shall be at least 2 in. (50 mm) in diameter or width. The force required to activate the pushbutton shall be no greater than 3.5 lb (15.5 N).

A red LED indicator shall be located on or near the pushbutton which, when activated, acknowledges the pedestrians request to cross the street. The recorded messages and roadway designations shall be confirmed with the engineer and included with submitted product data.

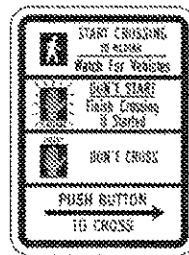
Signage.

A sign shall be located immediately above the pedestrian pushbutton and parallel to the crosswalk controlled by the pushbutton. The sign shall be one of the following standard MUTCD designs: R10-3b, R10-3d, or R10-3e.

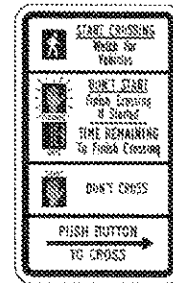
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R10-3b



R10-3d



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 Department 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.

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TEMPORARY TRAFFIC SIGNAL INSTALLATION

Effective: May 22, 2002

Revised: January 1, 2017

890.01TS

Revise Section 890 of the Standard Specifications to read:

Description.

This work shall consist of furnishing, installing, maintaining, and removing a temporary traffic signal installation as shown on the plans, including but not limited to temporary signal heads, emergency vehicle priority systems, interconnect, vehicle detectors, uninterruptable power supply, and signing. Temporary traffic signal controllers and cabinets interconnected to railroad traffic control devices shall be new. When temporary 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 Traffic Management System.

General.

Only an approved controller equipment supplier will be allowed to assemble temporary traffic signal and railroad traffic signal cabinet. Traffic signal inspection and TURN-ON shall be according to 800.01TS TRAFFIC SIGNAL GENERAL REQUIREMENTS special provision.

Construction Requirements.

(a) Controllers.

1. Only controllers supplied by one of the District approved closed loop equipment supplier will be approved for use at temporary signal locations. All controllers used for temporary 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 temporary signal controller shall be capable of providing an adjustable all red clearance setting of up to 30 seconds in length. All controllers used for temporary 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 District approved closed loop equipment suppliers will be approved for use at temporary traffic signal locations. All control equipment for the temporary traffic signal(s) shall be furnished by the Contractor unless otherwise stated in the plans. On projects with multiple temporary 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.

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- (b) Cabinets. All temporary 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 (100 mm) diameter holes to run the electric cables through. The 4 inch (100 mm) diameter holes shall have a bushing installed to protect the electric cables and shall be sealed after the electric cables are installed.
- (c) Grounding. Grounding shall be provided for the temporary 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.
- (d) Traffic Signal Heads. All traffic signal sections shall be 12 inches (300 mm). Pedestrian signal sections shall be 16 inch (406mm) x 18 inch (457mm). 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 temporary traffic signal is installed at an intersection interconnected with a railroad grade crossing. When a temporary traffic signal is installed at an intersection interconnected with a railroad grade crossing, Light Emitting Diode (LED) Pedestrian Signal Heads shall be furnished. The temporary traffic signal heads shall be placed as indicated on the temporary 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 temporary 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 illustrated on the plans for construction staging. The temporary traffic signal shall remain in operation during all signal head relocations. Each temporary traffic signal head shall have its own cable from the controller cabinet to the signal head.
- (e) Interconnect.
1. Temporary traffic signal interconnect shall be provided using fiber optic cable or wireless interconnect technology as specified in the plans. The Contractor may request, in writing, to substitute the fiber optic temporary interconnect indicated in the contract documents with a wireless interconnect. The Contractor must provide assurances that the radio device will operate properly at all times and during all construction staging. If approved for use by the Engineer, the Contractor shall submit marked-up traffic signal plans indicating locations of radios and antennas and installation details. If wireless interconnect is used, and in the opinion of the engineer, it is not viable, or if it fails during testing or operations, the Contractor shall be responsible for installing all necessary poles, fiber optic cable, and other infrastructure for providing temporary fiber optic interconnect at no cost to the contract.
 2. The existing system interconnect and phone lines are to be maintained as part of the Temporary Traffic Signal Installation specified for on the plan. The interconnect, including any required fiber splices and terminations, shall be installed into the temporary controller cabinet as per the notes or details on the

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plans. All labor and equipment required to install and maintain the existing interconnect as part of the Temporary Traffic Signal Installation shall be included in the cost of TEMPORARY TRAFFIC SIGNAL INSTALLATION. When shown in the plans, temporary traffic signal interconnect equipment shall be furnished and installed. The temporary traffic signal interconnect shall maintain interconnect communications throughout the entire signal system for the duration of the project. Any temporary signal within an existing closed loop traffic signal system shall be interconnected to that system using similar brand control equipment at no additional cost to the contract.

3. Temporary wireless interconnect. The radio interconnect system shall be compatible with Eagle or Econolite controller closed loop systems. This work shall include all temporary wireless interconnect components, at the adjacent existing traffic signal(s) to provide a completely operational closed loop system. This work shall include all materials, labor and testing to provide the completely operational closed loop system as shown on the plans. The radio interconnect system shall include the following components:

- a. Rack or Shelf Mounted RS-232 Frequency Hopping Spread Spectrum (FHSS) Radio
- b. Software for Radio Configuration (Configure Frequency and Hopping Patterns)
- c. Antennas (Omni Directional or Yagi Directional)
- d. Antenna Cables, LMR400, Low Loss. Max. 100-ft from controller cabinet to antenna
- e. Brackets, Mounting Hardware, and Accessories Required for Installation
- f. RS232 Data Cable for Connection from the radio to the local or master controller
- g. All other components required for a fully functional radio interconnect system

All controller cabinet modifications and other modifications to existing equipment that are required for the installation of the radio interconnect system components shall be included in the cost of TEMPORARY TRAFFIC SIGNAL INSTALLATION.

The radio interconnect system may operate at 900Mhz (902-928) or 2.4 Ghz depending on the results of a site survey. The telemetry shall have an acceptable rate of transmission errors, time outs, etc. comparable to that of a hardwire system.

The proposed or existing master controller and telemetry module shall be configured for use with the radio interconnect at a minimum rate of 9600 baud.

The radio interconnect system shall include all other components required for a complete and fully functional telemetry system and shall be installed in accordance to the vendors recommendations.

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- (f) Emergency Vehicle Pre-Emption. All emergency vehicle preemption equipment (light detectors, light detector amplifiers, confirmation beacons, etc.) as shown on the temporary traffic signal plans shall be provided by the Contractor. It shall be the Contractor's responsibility to contact the municipality or fire district to verify the brand of emergency vehicle preemption equipment to be installed prior to the contract bidding. The equipment must be completely compatible with all components of the equipment currently in use 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 Temporary Traffic Signal Installation.
- (g) Vehicle Detection. All temporary 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. Microwave vehicle sensors or video vehicle detection system shall be approved by IDOT prior to Contractor furnishing and installing. The Contractor shall install, wire, and adjust the alignment of the microwave vehicle sensor or video vehicle detection system in accordance to the manufacturer's recommendations and requirements. The Contractor shall be responsible for adjusting the alignment of the microwave vehicle sensor or video vehicle detection system for all construction staging changes and for maintaining proper alignment throughout the project. An equipment supplier shall be present and assist the contractor in setting up and maintaining the microwave vehicle sensor or 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 Temporary Traffic Signal Installation.
- (h) Uninterruptable Power Supply. All temporary traffic signal installations shall have Uninterruptable Power Supply (UPS). The UPS cabinet shall be mounted to the temporary 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) Signs. All existing street name and intersection regulatory signs shall be removed from existing poles and relocated to the temporary signal span wire. If new mast arm assembly and pole(s) and posts are specified for the permanent signals, the signs shall be relocated to the new equipment at no extra cost. Any intersection regulatory signs that are required for the temporary traffic signal shall be provided as shown on the plans or as directed by the Engineer. Relocation, removing, bagging and installing the regulatory signs for the various construction stages shall be provided as shown on the plans or as directed by the Engineer. If Illuminated Street Name Signs exist they shall be taken down and stored by the contractor and reflecting street name signs shall be installed on the temporary traffic signal installation.
- (j) Energy Charges. The electrical utility energy charges for the operation of the temporary traffic signal installation shall be paid for by others if the installation replaces an existing signal. Otherwise charges shall be paid for under 109.05 of the Standard Specifications.

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- (k) Maintenance. Maintenance shall meet the requirements of the Standard Specifications and 850.01TS MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION Special Provisions. Maintenance of temporary signals and of the existing signals shall be included in the cost of the TEMPORARY TRAFFIC SIGNAL INSTALLATION pay item. When temporary traffic signals are to be installed at locations where existing signals are presently operating, the Contractor shall be fully responsible for the maintenance of the existing signal installation as soon as he begins any physical work on the Contract or any portion thereof. In addition, a minimum of seven (7) days prior to assuming maintenance of the existing traffic signal installation(s) under this Contract, the Contractor shall request that the Resident Engineer contact the Bureau of Traffic Operations (847) 705-4424 for an inspection of the installation(s).
- (l) Temporary Traffic Signals for Bridge Projects. Temporary Traffic Signals for bridge projects shall follow the State Standards, Standard Specifications, Special Provisions and any plans for Bridge Temporary Traffic Signals included in the plans. The installation shall meet the Standard Specifications and all other requirements in this TEMPORARY TRAFFIC SIGNAL INSTALLATION specification. In addition all electric cable shall be aerially suspended, at a minimum height of 18 feet (5.5m) on temporary wood poles (Class 5 or better) of 45 feet (13.7 m) minimum height. The signal heads shall be span wire mounted or bracket mounted to the wood pole or as directed by the Engineer. The Controller cabinet shall be mounted to the wood pole as shown in the plans, or as directed by the Engineer. Microwave vehicle sensors or video vehicle detection system may be used in place of detector loops as approved by the Engineer.
- (m) Temporary Portable Traffic Signal for Bridge Projects.
1. The controller and cabinet shall be NEMA type designed for NEMA TS2 Type 1 operation. Controller and LED signal displays shall meet the applicable Standard Specifications and all other requirements in this TEMPORARY TRAFFIC SIGNAL INSTALLATION special provision.
 2. Work shall be according to Article 701.18(b) of the Standard Specifications except as noted herein.
 3. General.
 - a. The temporary portable bridge traffic signals shall be trailer-mounted units. The trailer-mounted units shall be set up securely and level. Each unit shall be self-contained and consist of two signal heads. The left signal head shall be mounted on a mast arm capable of extending over the travel lane. Each unit shall contain a solar cell system to facilitate battery charging. There shall be a minimum of 12 days backup reserve battery supply and the units shall be capable of operating with a 120 V power supply from a generator or electrical service.
 - b. All signal heads located over the travel lane shall be mounted at a minimum height of 17 feet (5m) from the bottom of the signal back plate

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to the top of the road surface. All far right signal heads located outside the travel lane shall be mounted at a minimum height of 8 feet (2.5m) from the bottom of the signal back plate to the top of the adjacent travel lane surface.

- c. The long all red intervals for the traffic signal controller shall be adjustable up to 250 seconds in one-second increments.
- d. As an alternative to detector loops, temporary portable bridge traffic signals may be equipped with microwave sensors or other approved methods of vehicle detection and traffic actuation.
- e. All portable traffic signal units shall be interconnected using hardwire communication cable. Radio communication equipment may be used only with the approval of the Engineer. If radio communication is used, a site analysis shall be completed to ensure that there is no interference present that would affect the traffic signal operation. The radio equipment shall meet all applicable FCC requirements.
- f. The temporary portable bridge traffic signal system shall meet the physical display and operational requirements of conventional traffic signals as specified in Part IV and other applicable portions of the currently adopted version of the Manual on Uniform Traffic Control Devices (MUTCD) and the Illinois MUTCD. The signal system shall be designed to continuously operate over an ambient temperature range between -30 °F (-34 °C) and 120 °F (48 °C). When not being utilized to inform and direct traffic, portable signals shall be treated as non-operating equipment according to Article 701.11.

Basis of Payment.

This work shall be paid for at the contract unit price each for TEMPORARY TRAFFIC SIGNAL INSTALLATION, TEMPORARY BRIDGE TRAFFIC SIGNAL INSTALLATION, or TEMPORARY PORTABLE BRIDGE TRAFFIC SIGNAL INSTALLATION, the price of which shall include all costs for the modifications required for traffic staging, changes in signal phasing as required in the Contract plans, microwave vehicle sensors, video vehicle detection system, any maintenance or adjustment to the microwave vehicle sensors/video vehicle detection system, the temporary wireless interconnect system, temporary fiber optic interconnect system, all material required, the installation and complete removal of the temporary traffic signal, and any changes required by the Engineer. Each intersection will be paid for separately.

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TEMPORARY TRAFFIC SIGNAL TIMING

Effective: May 22, 2002

Revised: July 1, 2015

890.02TS

Description.

This work shall consist of developing and maintaining appropriate traffic signal timings for the specified intersection for the duration of the temporary signalized condition, as well as impact to existing traffic signal timings caused by detours or other temporary conditions.

All timings and adjustments necessary for this work shall be performed by an approved Consultant who has previous experience in optimizing Closed Loop Traffic signal Systems for District One of the Illinois Department of Transportation. The Contractor shall contact the Traffic Signal Engineer at (847) 705-4424 for a listing of approved Consultants.

The following tasks are associated with TEMPORARY TRAFFIC SIGNAL TIMING.

- (a) Consultant shall attend temporary traffic signal inspection (turn-on) and/or detour meeting and conduct on-site implementation of the traffic signal timings.
- (b) Consultant shall be responsible for making fine-tuning adjustments to the timings in the field to alleviate observed adverse operating conditions and to enhance operations.
- (c) Consultant shall provide monthly observation of traffic signal operations in the field.
- (d) Consultant shall provide on-site consultation and adjust timings as necessary for construction stage changes, temporary traffic signal phase changes, and any other conditions affecting timing and phasing, including lane closures, detours, and other construction activities.
- (e) Consultant shall make timing adjustments and prepare comment responses as directed by the Area Traffic Signal Operations Engineer.
- (f) Return original timing plan once construction is complete.

Basis of Payment.

The work shall be paid for at the contract unit price each for TEMPORARY TRAFFIC SIGNAL TIMING, which price shall be payment in full for performing all work described herein per intersection. When the temporary traffic signal installation is turned on and/or detour implemented, 50 percent of the bid price will be paid. The remaining 50 percent of the bid price will be paid following the removal of the temporary traffic signal installation and/or detour.

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MODIFY EXISTING CONTROLLER CABINET

The work shall consist of modifying an existing controller cabinet as follows:

- (a) Uninterruptable Power Supply (UPS). The addition of uninterruptable power supply (UPS) to an existing controller cabinet could require the relocation of the existing controller cabinet items to allow for the installation of the uninterruptable power supply (UPS) components inside the existing controller cabinet as outlined under Sections 862 and 1074.04 of the Standard Specifications and the wiring of UPS alarms.
- (b) Light Emitting Diode (LED) Signal Heads, Light Emitting Diode (LED) Optically Programmed Signal Heads and Light Emitting Diode (LED) Pedestrian Signal Heads. The contractor shall verify that the existing load switches meet the requirements of Section 1074.03(b)(2) of the Standard Specifications and the recommended load requirements of the light emitting diode (LED) signal heads that are being installed at the existing traffic signal. If any of the existing load switches do not meet these requirements, they shall be replaced, as directed by the Engineer.
- (c) Light Emitting Diode (LED), Signal Head, Retrofit. The contractor shall verify that the existing load switches meet the requirements of Section 1074.03(b)(2) of the Standard Specifications and the recommended load requirements of light emitting diode (LED) traffic signal modules, pedestrian signal modules, and pedestrian countdown signal modules as specified in the plans. If any of the existing load switches do not meet these requirements, they shall be replaced, as directed by the Engineer.
- (d) This item shall include the upgrade of all non-railroad controller software to the latest version available at the time of the signal TURN-ON.
- (e) Fiber Optic Interconnect Interface. The contractor shall reconfigure existing fiber optic transceiver and controller to accept the proposed fiber optic interconnect, for full and complete operation of the traffic signal interconnect using the proposed fiber optic interconnect cable. The contractor shall replace any of the existing interconnect equipment within the existing controller cabinet found to be incompatible with the proposed fiber optic interconnect, as directed by the Engineer.

Basis of Payment.

Modifying an existing controller cabinet will be paid for at the contract unit price per each for MODIFY EXISTING CONTROLLER CABINET. This shall include all material and labor required to complete the work as described above, the removal and disposal of all items removed from the controller cabinet, as directed by the Engineer.

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REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT

Effective: May 22, 2002

Revised: July 1, 2015

895.02TS

Add the following to Article 895.05 of the Standard Specifications:

The traffic signal equipment which is to be removed and 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 State shall be delivered by the Contractor to the State's Traffic Signal Maintenance Contractor's main facility. The Contractor shall contact the State's Electrical Maintenance Contractor 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 State, including model and serial numbers, where applicable. The Contractor shall also provide a copy of the Contract plan or special provision 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 State's Electrical Maintenance Contractor. 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 State's Electrical Maintenance Contractor 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 agencies other than the State. 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 Department for any reason shall be replaced with new equipment meeting the requirements of these Specifications at no cost to the contract.

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VIDEO DETECTION SYSTEM

This specification sets forth the minimum requirements for a video detection system that detects vehicles, bicycles, and motorcycles on a roadway by processing video images and that provides vehicle presence, traffic flow data, event alarms, and full-motion video for real-time traffic control and management systems.

1. System Hardware

The video detection system shall be comprised of two major hardware components: a video sensor and a communications interface panel. An optional wired input/output card shall be available for certain cabinet types.

1.1. Video Sensor

The video detection system shall include a video sensor that integrates a high-definition (HD) camera with an embedded processor for analyzing the video and performing detection.

1.1.1. Camera and Processor

- 1.1.1.1. The camera shall be a color CMOS imaging array.
- 1.1.1.2. The camera shall have HD resolution of at least 720p (1280x720 pixels).
- 1.1.1.3. The camera shall include a minimum 10X optical zoom.
 - 1.1.1.3.1. It shall be possible to zoom the lens as required to satisfy across-the-intersection detection objectives, including stop line and advance detection.
 - 1.1.1.3.2. It shall be possible to zoom the lens remotely from the TMC for temporary traffic surveillance operations or to inspect the cleanliness of the faceplate.
- 1.1.1.4. The camera shall have direct, real-time iris and shutter speed control by the integrated processor.
- 1.1.1.5. The processor shall support H.264 video compression for streaming output.

1.1.2. Video Sensor Enclosure Assembly

- 1.1.2.1. The camera and processor shall be housed in a sealed IP-67 enclosure.
 - 1.1.2.1.1. The faceplate of the enclosure shall be glass and shall have hydrophilic coating on the exterior surface to reduce debris accumulation and maintenance.
 - 1.1.2.1.2. The faceplate shall have a thermostatically-controlled indium tin oxide (ITO) heater applied directly on the interior surface to keep the faceplate clear of condensation, snow, ice and frost.
- 1.1.2.2. An adjustable aluminum visor shall shield the faceplate from the sun and extraneous light sources.
- 1.1.2.3. An integral aiming sight shall assist in aiming the camera for the detection objectives.

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1.1.2.4. A removable rear cap and cable strain relief shall seal the power connection.

1.1.2.4.1. The rear cap shall be tethered to the enclosure to avoid dropping the cap during installation.

1.1.2.4.2. The rear cap shall be fastened to the body of the video sensor with a single, captive bolt.

1.1.2.5. The rear cap and enclosure shall include Gore breathers to equalize internal and external pressure.

1.1.2.6. The sensor shall be self-supporting on manufacturer's mounting brackets for easier fastening during installation.

1.1.2.6.1. It shall be possible to rotate the field-of-view 360° without changing the angle of the visor.

1.1.3. Power and Communications

1.1.3.1. Power and communications for the video sensor shall be carried over a single three-conductor cable. 1.1.3.1.1. Termination of the three-conductor cable shall be inside the rear cap of the enclosure on a three-position, removable Phoenix terminal block. Each conductor shall be attached to the Phoenix plug via a screw connection.

1.1.3.2. The video sensor shall operate normally over an input voltage range of 89 to 265 VAC at 50 or 60 Hz.

1.1.3.3. Power consumption shall be no more than 16 watts typical.

1.1.3.4. No supplemental surge suppression shall be required outside the cabinet.

1.1.3.5. All communications to the video sensor shall be broadband-over-power via the same three-conductor cable that powers the unit. Coaxial cable shall not be required.

1.2. Communications Interface Panel

The video detection system shall include an interface panel in the traffic cabinet that manages communications between the video sensors, the traffic management center, a maintenance technician, and the traffic cabinet itself.

1.2.1. Video Sensor Connection

1.2.1.1. The communications interface panel shall provide connection points for four video sensors.

1.2.1.1.1. Each sensor connection shall be a 3-pole terminal block, which supplies power and broadband-over-power communications to the sensor.

1.2.1.1.2. The broadband-over-power communications shall provide a throughput of 70 to 90 Mbps.

1.2.1.1.3. The broadband-over-power connection shall support at least 1,000 feet of cabling to the video sensor.

1.2.1.1.4. Each video sensor connection shall include a power switch.

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1.2.1.1.5. There shall be an LED for each video sensor to indicate the state of the power to the sensor and an LED for each video sensor to indicate the status of communications.

1.2.1.1.6. Each video sensor connection shall contain a resettable fuse.

1.2.1.1.7. Each video sensor connection shall provide high-energy transient protection.

1.2.2. Traffic Management Center (TMC) Communications

1.2.2.1. An Ethernet port shall be provided to connect to a remote Traffic Management Center (TMC).

1.2.2.1.1. The TMC connection shall support 10/100/1000 Mbps Ethernet communication.

1.2.2.1.2. The communications interface panel shall proxy all network requests that arrive on the TMC connection to avoid unwanted network traffic from reaching the broadband-over-power network between the communications interface panel and the video sensors.

1.2.2.1.3. All communications to the video detection system through the TMC connection shall be to a single IP address.

1.2.3. Local User Communications

1.2.3.1. A wired Ethernet port shall be provided to connect the technician at the cabinet to the video detection system for setup and maintenance purposes.

1.2.3.1.1. The maintenance port shall support 10/100/1000 Mbps Ethernet communication.

1.2.3.1.2. All communications to the video detection system through the maintenance port shall be to a single IP address.

1.2.3.1.3. The maintenance port shall support DHCP to automatically assign an IP address to the user's computer, if desired.

1.2.3.2. An 802.11g Wi-Fi access point shall allow wireless connection to the video detection system at the cabinet for setup and maintenance purposes.

1.2.3.2.1. All communications to the video detection system through the Wi-Fi access point shall be to a single IP Address.

1.2.3.2.2. The Wi-Fi access point shall support DHCP to automatically assign an IP Address to the user's computer.

1.2.3.2.3. The Wi-Fi access point shall include a dipole, omnidirectional antenna.

1.2.3.2.4. A momentary pushbutton shall allow the user to turn the Wi-Fi access point on or off.

1.2.3.2.5. The Wi-Fi access point shall turn itself off automatically after a period of inactivity from connected devices.

1.2.3.2.6. An LED shall indicate when the Wi-Fi access point is enabled.

1.2.3.2.7. The Wi-Fi access point shall operate simultaneously with the wired maintenance port and with the TMC connection.

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1.2.4. Traffic Controller Connection

The communications interface panel shall provide one connection to communicate to the traffic controller through the cabinet.

1.2.4.1. The traffic controller connection shall support a TS2 Type 1 compatible SDLC interface.

1.2.4.1.1. The traffic controller connector shall be a 15-pin female metal shell D sub-miniature type connector to support a standard NEMA TS2 or TEES SDLC cable.

1.2.4.1.2. The traffic controller connection shall support a protocol interface to SDLC-capable traffic controllers (NEMA or TEES).

1.2.4.1.3. The traffic controller connection shall support the NEMA TS2 SDLC protocol to include up to 64 detector outputs and 32 inputs.

1.2.4.2. The traffic controller connection shall be able to connect to a wired input/output card, which supports wired I/O in cabinets without a SDLC-capable controller.

1.2.4.2.1. The wired I/O data communications link shall support at least 24 outputs and 16 inputs.

1.2.4.3. It shall be possible to connect and use both SDLC communications and communication to the wired input/output card simultaneously.

1.2.5. USB Ports

1.2.5.1. The communications interface panel shall include two USB 2.0 ports.

1.2.5.1.1. If a communications interface panel fails to start and run due to a software or operating system failure, it shall be possible to reinstall all system and application software from a USB memory stick without necessitating removal of the communications interface panel from the cabinet.

1.2.6. Power

1.2.6.1. The communications interface panel shall accept input voltage in the range of 89-265 VAC, 50/60 Hz power from the transient-protected side of the cabinet.

1.2.6.2. The communications interface panel shall be protected by two slow blow fuses. Spares shall be attached to the panel.

1.3. Wired Input/Output Card

The video detection system shall support an optional wired input/output card that communicates with the communications interface panel for real-time detection states and other I/O to the traffic controller. The card may reside in a standard detector rack or shelf-mount enclosure with power module.

1.3.1. The optional wired input/output card shall comply with the form factor and electrical characteristics to plug directly into a NEMA type C or D detector rack or Caltrans TEES Input File.

1.3.1.1. The card shall occupy two slots of the detector rack.

1.3.1.2. The card shall provide four detector outputs on its rear-edge connector.

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1.3.1.3. A front connector shall provide communication to the communications interface panel.

1.3.1.4. A front connector shall allow 16 inputs and 24 contact-closure detector outputs for wiring into the cabinet. 1.3.1.4.1. A front panel LED for each of the 16 inputs and 24 outputs shall indicate the state of the input or output.

1.3.1.5. The wired input/output card shall support optional expansion cards in other slots. Each expansion card shall support 4 outputs to the back edge of the card.

1.3.1.6. The wired input/output card shall support optional harnesses for connection to Input Files or C1, C4, C11, and C12 ports to support Type 170 or Type 2070 controllers.

2. System Software

The video detection system shall include management software for configuration, monitoring and data collection purposes.

2.1. Management Software

2.1.1. Management software shall be a Windows-based application.

2.1.1.1. The software shall be compatible with Windows 7 and Windows 10 operating systems.

2.1.1.2. The software shall communicate with the video detection system via Ethernet.

2.1.2. The management software shall automatically determine all video sensors and communications interface panels available on the local network and populate a list of all devices.

2.1.3. The management software shall provide the user a means to name individual video sensors and communications interface panels.

2.1.4. The management software shall provide a means for the user to zoom the camera optics while viewing a live video stream.

2.1.5. The management software shall provide a means for the user to calibrate distances in the field of view.

2.1.6. The management software shall provide the user a means to create 4-sided detection zones in the field of view using either a still snapshot or live video.

2.1.6.1. The management software will overlay an outline of each detection zone over the background image.

2.1.6.2. It shall be possible for the user to place detection zones anywhere in the field of view for stop line detection and/or advance detection.

2.1.6.3. It shall be possible for the user to set the desired color of both the on and off states of the detection zone overlay.

2.1.6.4. It shall be possible for the user to alter the size and shape of any previously created zone.

2.1.6.5. It shall be possible for the user to overlap zones, either partially or fully.

2.1.6.6. It shall be possible for the user to name each zone uniquely.

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- 2.1.6.7. It shall be possible for the user to assign each zone to detect vehicles, to detect bicycles, or to detect both, and to specify different outputs for each type.
- 2.1.6.8. It shall be possible for the user to assign the same output to multiple zones such that the output will be on if any of the zones are detecting a vehicle or bicycle.
- 2.1.6.9. It shall be possible for the user to assign a single zone to more than one output such that if a vehicle or bicycle is detected, all the assigned outputs shall be turned on.
- 2.1.6.10. The management software shall be capable of creating at least 99 detection zones per video sensor.
- 2.1.7. It shall be possible for the management software to retrieve all configuration parameters from video sensors or communications interface panels.
- 2.1.7.1. It shall be possible for the user to save all the settings for a video sensor or a communications interface panel to a laptop file.
- 2.1.7.2. The management software shall provide a means to read or import all the settings from a previously saved configuration file for a video sensor or a communications interface panel.
- 2.1.8. The management software shall be able to download a new version of the application software into a communications interface panel and its attached video sensors.
- 2.1.9. The management software shall provide a screen to monitor operation of a video sensor.
- 2.1.9.1. The monitoring screen shall include a live video stream from the video sensor with at least HD 1280x720 pixel resolution.
- 2.1.9.2. The monitoring screen shall show indications of detection in real time by changing the color of the detection zone.
- 2.1.9.3. It shall be possible for the user to configure different indications for vehicle detections vs. bicycle detections when both are configured for the same zone.
- 2.1.9.4. The monitoring screen shall include the following optional, configurable objects. It shall be possible for the user to size and position them anywhere on the screen and to change the color and size of text.
- 2.1.9.4.1. An indication of when an output is on or off, along with a user-configurable name for that indicator.
- 2.1.9.4.2. The current time in the video sensor.
- 2.1.9.4.3. A user-configurable title or name.
- 2.1.9.4.4. The version number of the video sensor software.
- 2.1.9.5. It shall be possible for the user to turn the overlay graphics on or off with a single setting.
- 2.1.10. The management software shall provide a screen to monitor operation of the intersection with a quad-view video stream from the communications interface panel.

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2.1.10.1. The quad-view video stream shall have a resolution of at least HD 1280x720 pixels, where each of the sensor videos comprising the quad-view shall be at least 640x360 pixels.

2.1.10.2. It shall be possible for the user to configure the order that the sensor videos appear in the quad-view.

2.1.10.3. The real-time quad-view video stream shall be capable of displaying the overlay graphics for all four sensors simultaneously.

2.1.11. While monitoring the video of a single video sensor or of the quad-view, it shall be possible for the user to request a "snapshot" or single-frame image to save to a named file on a laptop.

2.1.12. While monitoring the video of a single video sensor or of the quad-view, it shall be possible for the user to record a period of the video to save to a named file on a laptop.

3. System Functionality

The video detection system shall provide the following features and functionality.

3.1. Detection Performance

3.1.1. The video detection system shall detect the presence of vehicles in defined zones and turn on the assigned output when the vehicle is present in the zone.

3.1.1.1. Stop Line Detection

3.1.1.1.1. For detection zones placed at the stop line, the probability of not detecting the presence of a vehicle shall be 1% or less under all operating conditions when the video sensor is installed and configured properly.

3.1.1.1.2. For detection zones placed at the stop line, the probability of falsely detecting a vehicle that is not present shall be 3% or less under all operating conditions when the video sensor is installed and configured properly.

3.1.1.2. Advance Detection

3.1.1.2.1. It shall be possible to place advance detector zones such that the farthest point of the zone is up to 600 feet from the video sensor. Advance detector zone placement shall include 2-3 car lengths of field-of-view beyond the farthest point of the zone.

3.1.2. To ensure statistical significance for the above detection performance specifications, the data shall be collected over 24-hour time intervals (so as to avoid a single lighting condition) and will contain a minimum of one hundred (100) vehicles per lane. The calculations of detection performance will not include turning movements where vehicles do not pass through the detectors, vehicle lane-change anomalies, or where they stop short or stop beyond the combined detection zones.

3.2. Failsafe Mode

3.2.1. The video detection system shall provide a failsafe mode for each video sensor. If the failsafe mode is enabled, all programmed presence detection outputs for the video

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sensor shall be turned on, thus placing constant calls to the controller. When failsafe mode is disabled, all outputs revert to normal on/off operations.

3.2.2. The video sensor shall continuously monitor the overall contrast in the video. If the overall contrast falls below a preset level (such as caused by dirty faceplate, severe glare, extreme fog, or temporary ice/snow on the faceplate), the sensor shall enable the failsafe mode. When sufficient contrast is restored in the video, the sensor will disable the failsafe mode.

3.2.3. The communications interface panel shall continuously monitor the connectivity status of the attached video sensors. If any video sensor goes offline due to either electrical failure or internal software failure, the communications interface panel shall enable the failsafe mode for that video sensor. If the video sensor comes back online, failsafe mode shall be disabled.

3.3. Data Collection

3.3.1. The video detection system shall automatically collect and store traffic flow data in non-volatile memory for later retrieval and analysis. No additional hardware or software shall be necessary. The data shall include:

3.3.1.1. Vehicle counts.

3.3.1.2. Vehicle average speeds.

3.3.2. The management software shall be able to retrieve collected data for a specified period of time or for all currently stored data and save into a standard CSV file.

3.4. Operations Log 3.4.1. The communications interface panel and each video sensor shall maintain a time-stamped operations log of routine and special events in non-volatile memory for later retrieval and analysis.

3.5. Time Synchronization

3.5.1. The video detection system and management software shall provide three methods to synchronize the time of day clocks in the communication interface panel and the video sensors, as follows:

3.5.1.1. Manual time synchronization operation by the user, which sets the time to the current time on the laptop where the management software is running.

3.5.1.2. A configuration setting to allow the communications interface panel to automatically obtain time from the NEMA TS2 protocol on the SDLC channel and broadcast it to the video sensors.

3.5.1.3. A configuration setting to allow the communications interface panel to automatically obtain time from up to five Network Time Protocol (NTP) sources and broadcast it to the video sensors.

3.6. Video Streaming

3.6.1. In addition to the ability to view video streams in the management software, it shall be possible to view video from individual sensors or to view the quad-view from the communications interface panel using a third-party video player application on a tablet, smartphone or laptop computer.

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4. Installation and Setup

The video detection system hardware shall be designed for flexible, fast and easy installation and setup.

- 4.1. It shall be possible to mount the video sensor on an intersection pole, mast arm, or luminaire arm.
- 4.2. No special tools or extra equipment, other than a laptop for configuration, will be required.
- 4.3. Once all hardware is installed, connected and functional, it shall be possible to configure the video detection system for a typical 4-approach, 8-phase intersection in 15 minutes or less.

5. Warranty, Service and Support

The video detection system shall be provided with the following warranty, service and support options.

5.1. Warranty

- 5.1.1. The manufacturer shall warrant the video detection system for a minimum of three (3) years. An option for up to six (6) years of warranty shall be available.

5.2. Service

- 5.2.1. Ongoing software support by the manufacturer will include software updates of the video sensor, communications interface panel, and management software. These updates will be provided free of charge during the warranty period. The manufacturer will maintain a program for technical support

6. Basis of Payment

This work will be paid for at the contract unit price per each for VIDEO DETECTION SYSTEM, complete in place, fully operational, and accepted by the Village.