



ENGINEERING • 115 Executive Parkway, Suite 400 • Hudson, Ohio 44236 • (330) 342-1770

REQUEST FOR PROPOSAL

ENGINEERING CONSULTING SERVICES

For the Design of a

Central Adaptive Traffic Control System Improvement Project

**For the City of Hudson
Summit County, Ohio**

Dated: January 12, 2021

General Proposal Information and Requirements

A. Project Introduction

The City of Hudson, Ohio (City) is soliciting proposals from professional design, engineering and surveying consultants (Consultant) for the analysis and design of a fully integrated Central Adaptive Signal Control Technology (ASCT) Traffic Signal Improvement Project, as recommended in the attached study, Sec. 7 and compatible with our existing traffic signal systems. These services include the preparation of engineering plans, specifications, estimates (100% PS&E) and other miscellaneous services described within this proposal with the intention to bid this project for construction in the Fall 2021. The consultant shall provide the Request for Information (RFI) during the bid process; consulting during the construction, including shop drawing review, system testing & approval of the completed system and construction management during construction. The City of Hudson Engineering Standards, Ohio Manual of Uniform Traffic Control Devices, and American with Disabilities Act shall be upheld with this project. The first phase of the timing of the signals has been completed.

B. Background

The City of Hudson is located in northern Summit County, Ohio with a population of 22,500. The City is approximately 25 square miles. The City is primarily a residential community with commercial, retail, office and some light industrial areas which are mainly on the south and west borders of the City. The central business district is centrally located near the intersection of SR 91 and SR 303.

All Consultants are encouraged to visit the project sites prior to submitting a proposal. The consultant shall review all areas from the public right-of-way and please do not enter any private property. The Consultant is encouraged to utilize the City GIS website, which includes multiple layers of utilities, signage, and other miscellaneous information on the City website.

The objective of this project is to improve traffic safety, reduce travel times, and reduce fuel consumption within the City. The central business district area consists of 13 signalized intersections along the primary arterials in the City, including State Route 303 (east-west) and State Route 91 (north-south). One intersection which is not currently signalized is on Owen Brown St. and it is a one-lane railroad underpass (15 ft. wide) that the City shall have designed for a signal as part of this project design. There are also 3 existing flashing pedestrian signal crosswalks that are included in this design on College St and Hudson St. near the Western Reserve Academy (WRA) Campus that the City is requesting adaptive signal design.

The new adaptive central traffic control system will allow the City of Hudson to remotely monitor the system and the patterns shall be capable of being changed or optimized by an operator and also automatically in real-time, providing timing to traffic controllers, bring the intersections signal controllers under a single

operational system, and prepare for future additions and expansions to the system. The system will adhere to the “Smart City” principals in which technology and sensors will increase operational efficiency of the traffic signals and allow each signal to be constantly optimized to reduce delays and increase travel movement throughout the central business district area. Note: The City currently has a Velocity Broadband Fiber System within this area of the project. The City requires underground utility services within the former Village.

The project limits include the following intersections and locations. This list supersedes the list within the attached Study, Dated May 21, 2019:

No.	Intersections	CCTV Locations
1	SR 91 and Corporate Drive	
2	SR 91 and Terex Road	1
3	Terex Road and Hudson Drive	
4	SR 91 and Barlow Road	2
5	SR 91 and Stoney Hill Drive	
6	SR 91 and Veterans Way	3
7	SR 91 and SR 303	4
8	SR 91 and Clinton-Aurora Road	5
9	SR 91 and Prospect St.	
10	SR 303 and Boston Mills Road	6
11	SR 303 and Acme Store Plaza Drive	
12	SR 303 and Atterbury-Milford Road	
13	SR 303 and Library St.	7
14	Owen Brown Railroad Underpass	
15	WRA - 3 Pedestrian Crosswalks	

C. Issuing Department

The City of Hudson prepared the RFP for this project. Questions relating to its contents shall be addressed to Mr. Thomas J. Sheridan, Asst. City Manager – Professional Services; at TSheridan@hudson.oh.us or by telephone (330) 342-1775.

D. Consultant Qualifications

All prospective consultants must clearly demonstrate and document the following minimum criteria:

The Consultant and sub-consultants shall have a minimum of three-years’ experience providing centralized adaptive traffic signal management system design, and/or intelligent transportation systems (ITS) engineering design services.

The Consultant and subconsultants shall be currently registered, and in good standing throughout the length of this project, as professional engineers, and surveyors within the State of Ohio.

E. Consultant Responsibilities

The Consultant shall be capable of providing all professional services as described under the Scope of Services and to maintain those capabilities until the project is successfully finished.

F. Completeness of the Proposal

1. The proposal shall address all items completely in accordance with the format provided within this proposal & shall be signed by an officer of the firm authorized to bind the Consultant to its stated provisions.
2. The contents and commitments in the proposal shall remain firm for Ninety (90) calendar days from the submittal due date.

G. Scope of Project

The general scope of this project is described in **Appendix-A** under Project Description.

H. Scope of Services

The expected work to be performed by the Consultant is described in **Appendix-B** under Scope of Services.

I. Project Schedule

The ASCT system design shall be completed for the bid phase on or before September 1, 2021.

Proposed Milestones	Date
Proposal Release	January 13, 2021
Proposals for design due	January 28, 2021
Evaluate Proposals, Interviews	February, 2021
Council approval of Design Firm	March, 2021
Contract Executed, Notice to Proceed	April 1, 2021
Substantial Completion/Utility Reviews	August, 2021
Design Completed & Bid the Project	September 1, 2021

J. Responses

One (1) electronic version of the Consultants Proposal (PDF Format) shall be submitted to the City of Hudson, Thomas J. Sheridan, Assistant City Manager – Professional Services at: TSheridan@hudson.oh.us by **4:00 P.M. local time, Thursday, January 28, 2021. No proposals will be accepted after the above date and time.**

K. Acceptance of Proposal Content

The completeness and content of the proposal will be the basis for the initial

evaluation. Further information, as required, including the possible interview of one or more of the Consultants, the thoroughness of the consultant's proposals may serve in the final decision of the recommended Consultant.

L. Contract

A formal contract will be entered into with the recommended Consultant and the City of Hudson once City Council has approved the selection. The approved Consultant will be required to sign the City of Hudson - Standard Consultant Agreement. (See attached.)

M. Consultant Compensation Reimbursement

After the execution of the contract with the selected Consultant, the City of Hudson will conduct the compensation reimbursements in accordance with the following guidelines:

1. The Consultant shall keep records of the hours spent on this project by task and by employee classification along with all direct expenses. These records must be made available for audit by the City of Hudson at any time during the course of the project.
2. Invoices submitted by the Consultant shall be in a format approved by the City of Hudson and consistent with the present policies of the City. The City will not be subject to any type of late fees or penalties associated with any invoice submitted as part of this project. Failure to comply with this provision will serve as cause for termination of the contract. The approved purchase order number shall be on all invoices. The P.O. # on all invoices.
3. The type of compensation for this project shall be in accordance with the information found in the section identified as Fee in Part II, Proposal Format.

N. Rejection of Proposals

The City of Hudson reserves the right to reject any and all proposals received as a result of this RFP, or to negotiate separately with any source whatsoever, to serve the best interests of the City. Failure to provide all requested information in the format stated below may serve as cause for rejection of the proposal.

O. Incurred Cost

The City of Hudson will not be liable for any cost incurred by the Consultant for any work performed during this proposal process and including the executing of a contract, prior to the execution of a contract for professional services.

Proposal Format

- A. The proposal shall be simple to follow and understand and in an 8 ½ " by 11" PDF format. The text shall be concise, complete, and clearly written. All responses shall be the property of the City and will not be returned. During the evaluation process, the City reserves the right to request additional information or clarification from the consultant if needed.
- B. Consultants shall be evaluated based on the following submitted information:

1. Cover Page and Background

Provide a brief and concise history of the consulting firm listing corporate officers, total years in business, general experience and specific capabilities that relate to this project. State the location of the office in which each component of work for this project will be accomplished. This shall include surveying, engineering, consulting, design, specification development, probable cost of construction calculation, project supervision and any other services necessary to complete this project. If different offices will be utilized for different design components, that must be clearly stated within the proposal. Include the name, address, phone numbers and email address of the consultant(s) offices. *(1 page maximum)*

2. Insurance

Provide proof that the Consultant currently has the following insurance: (a) Workmen's Compensation Insurance, (b) Professional Liability Insurance (Errors and Omissions) of not less than \$1,000,000 and (c) Comprehensive Public Liability Insurance of not less than \$2,000,000. The consultant shall maintain during the course of the project, until acceptance by the City, the insurance components noted above. *(1 page maximum)*

3. Related Project Experience

Provide descriptions of at least three (3), but no more than five (5), current or completed centralized adaptive signal technology projects your firm has performed, which are similar to the complexities of this project improvements. It is preferred that the projects listed are within 100 miles of the City of Hudson, Ohio. The Consultant shall provide a contact name of the agency, address, email address and phone number of the person who would have the most knowledge of your firm's performance on that project.

The City may visit one or more of the projects listed as part of the Consultant's experience list prior to the selection of a Consultant. The Consultant may be required to arrange, coordinate, and conduct any visits planned by the City. For the City, the transportation costs associated with each visit shall be borne by the City. Any transportation costs for the Consultant shall be borne by the Consultant, if needed. *(1 page maximum)*

4. Understanding of the Project

The statement of understanding shall be concise, complete and shall be based upon the requirements of the RFP. The Consultant shall include the nature of services your firm is proposing for the project and any concerns or innovative resources which may be anticipated. Any task or tasks the Consultant listed in the **Understanding of the Project** that the Consultant feels are missing in this RFP, but required for the completeness of the project, shall be detailed in a separate fee schedule.

List key staff members: The role of each team member shall be described to provide the City with sufficient detail to understand the work that each member will be performing. Provide the members brief resume, including their adaptive signal experience, education, licenses, and other applicable information related to this type of work.

(3 pages maximum)

5. Schedule

A schedule shall be provided for the project, indicating the time for the completion of the major elements of the **Scope of Services**. The overall completion of this project shall allow for bidding no later than **September 1, 2021**. *(2 page maximum)*

6. Fee

An estimated Not-to-Exceed fee based on the **Scope of Services** and the overall RFP shall be provided as a part of the Proposal. A fee schedule shall be included with an estimate of man-hours by discipline and task, raw hourly rates (excluding benefits and overhead) by discipline, anticipated direct expenses (such as mileage, meals, postage, copying, etc.), the proposed overhead rate and a fixed fee (profit). * **Note:** The name of each sub-consultant proposed for this project shall be listed separately under the direct expense section along with the proposed Not-to-Exceed fee for that sub-consultant. All project design invoices shall ONLY be submitted from the Lead Consultant that the City enters into an agreement. *(2 pages maximum)*

7. Management Summary

Briefly address the Consultant's project management, innovative methods, and previous experience with similar traffic signal system improvement projects. Demonstrate the Consultant's ability, which shall include, previous experience, technical capabilities, staffing capabilities, staff availability, public relations experience, control of project costs and plan accuracy/quality to meet the attached project schedule. *(1 page maximum)*

8. Additional Information

The submission of additional pertinent information beyond the requirements of this RFP is acceptable but shall be limited to one (1) 8 1/2" by 11" page. This makes the maximum number of pages to be submitted including the cover letter to be no more than ***twelve (12) total pages.***

- D. The Proposal shall designate a prime contact or Project Manager for the Consultant on this RFP and project, who shall have intimate knowledge of the project details, through whom the City of Hudson may communicate through the course of the project. This shall include questions concerning all aspects of the project, including the Consultant’s invoices and the status on all design items in the project.

Evaluation and Selection Criteria:

	City Evaluation Criteria of Proposal	Points
1	Adaptive Signal Experience of the Consultant	20
2	Adaptive Signal Experience of the Project Team	10
3	Project Understanding / Project Schedule	15
4	Past Relevant Projects/References	15
5	Response to Scope of Services	10
6	Cost Proposal Score	10
7	Familiarity with the City and Traffic System	10
8	Innovative Approach from the Consultant	10
Total Possible Points		100

The City has the option to revise rating criteria at its discretion.

The City may request an oral interview of any respondents prior to the final scoring and selection. In the event an oral interview is performed, the consultants will be provided advanced notice of three (3) working days. Meeting shall be virtual style meetings.

The City reserves the right to amend the terms of this RFP, to circulate various addenda, or to withdraw the RFP.

Governing Law and Venue

In the event of any litigation, the submittal documents, specifications, agreement, and related matters shall be governed by and construed in accordance with the laws of the State of Ohio. Venue shall be with the appropriate state or federal court located in Summit County, Ohio.

Appendix - A

Project Description

The funding source for this project is **100% City of Hudson funds. The design shall conform to the recommendations listed within Section 7; Pg. 52 of the attached report entitled: *City Wide Adaptive Signals. Dated: May 21, 2019, shall apply to this project, as applicable.***

The City of Hudson, Ohio is requesting proposals from certified traffic & roadway engineering consultants for the analysis & design of a real-time Central Adaptive Traffic Signal System, with a bid for construction and implementation of this Project in the Fall of 2021. The Project includes: The City of Hudson Central Business District has 13 existing signalized intersections, the Citywide pre-emption system, 7 CCTV locations to view a min. of 4 directions or 180 degrees; the unsignalized Morse Road, one-way lane railroad underpass; and 3 existing signalized pedestrian crosswalks at the Western Reserve Academy campus. Several of the traffic intersections may lack pedestrian accommodations, efficient Citywide pre-emption system, and/or ADA compliance as per the study.

The proposed signals design within this project will be connected into a central traffic control system, real-time adaptive signal technology system to ensure a smooth progression through the city and efficient signal operations at all traffic signals in the proposal. The City will provide the computer hardware for the central control system at City Hall. The design of all field hardware and system software, training, technical support, testing, licenses, system integration, server requirements, safety dispatch connection to the CCTV and pre-emptions system and all other system requirements to provide a full-functioning central adaptive traffic system shall be included in the proposal. (See attached maps).

The City prefers to not overhaul all of the existing infrastructure and equipment at the intersections, the consultant shall design the infrastructure for reuse including control boxes, poles/mast arms, conduit, etc.

The type of centralized traffic system shall be a system that has had a minimum of 1 years in service, as of January 28, 2021. Attach the list of existing projects that meet these criteria. The City prefers a system that will provide 10-years minimum of service, and this shall be provided by the Consultant in the specifications.

Owen Brown Street Norfolk and Southern Underpass design shall be a single lane, alternating traffic signal shall be coordinated with the railroad owner, as needed. The railroad owner is Norfolk and Southern Railroad.

The WRA pedestrian crosswalk signals were installed in 2020. The consultant shall review & analyzed the (3) crosswalk signal devices for the adaptive system technology & design system to detect approaching traffic & alert pedestrians. These signals may not be connected to the central system.

Appendix- B

Scope of Services

The services to be provided by the Consultant shall include, but are not limited to the following items:

1. Prepare a Project Start-up agenda and meeting with the City of Hudson to discuss all aspects of the project. At this meeting, the Consultant shall review the City fiber system and be prepared to discuss the schedule for completion of the proposal for bidding. The City will provide public notifications, social media, and website updates of information on this project throughout the length of the project including during construction.
2. Research and obtain all documentation of the existing public rights-of-way, and a minimum of at least 500 feet (or more if needed for fiber or detection design) beyond the centerline of the intersections as noted above. This research shall include, but not limited to, tax maps, boundary surveys, boundary plats, subdivision plats, City, County and Ohio Department of Transportation records, and any other applicable files. The Consultant shall review the Hudson Velocity Map for areas that will require additional survey and data collection in order to connect to the City of Hudson Velocity fiber control system. Including SR 91/303, Boston Mills/SR 303, Library/SR 303, Veterans/SR 91, SR 91/Aurora, and SR 91/Prospect.
3. Field verify the information gathered in Item 2 above. This should include, but not limited to, verification of monument locations, distances and angles recorded for monuments, property owners, right-of-way lines, property monumentation, adjacent property lines, and easements.
4. A complete topographic and level survey of the intersection areas and the limits of the project as described above, in order to construct the project within the existing right of way with minimal disturbance to existing infrastructure. The survey shall include the location, type and size of all landscape features, driveways including type, all existing utility & service locations, edge of pavement, mailboxes, signs, structures & any other existing topographic or structural features.

The design engineer shall obtain the U.S.G.S. datum in the area and the Summit County monument system. The level data shall be in reference to the most current U.S.G.S. datum (NAD & NAVD) and the Summit County monument system. Elevations shall be taken at such intervals as to provide an adequate profile for the installation of the roadway including working cross sections at intervals (50' intervals if necessary by the consultant), to provide an adequate set of bid documents for construction. The survey shall begin at a Summit County placed monument and end at a different Summit County placed monument. The design plan and profile sheets do not need to be drawn utilizing the state plane coordinates; however, the survey information must be in a digital format that will allow the design and record drawing information to be placed on the state plane coordinate base map.

The survey shall also include the location, name and address for each existing

house, business establishment or any other type of structure located in the described intersections and project limits.

5. Separate costs breakdown: The Consultant shall provide a soil investigation report as an alternate cost for use by the design engineer to determine if the existing soil conditions warrant additional design and/or construction considerations for any new infrastructure during the design of this project, as applicable. Copies of the report shall be made available to the City at the end of the design completion. The cost to coordinate and obtain a soils investigation report, if needed, shall be borne by the selected Consultant. The Consultant shall determine the location and depth of each soil boring.
6. Notify all existing utility agencies of the proposed project and obtain plans or drawings of their existing facilities within the project limits. Call 8-1-1. Submit plans of the proposed improvements to the utility companies for their review. Conduct utility meetings, emails and phone calls if required, to secure the existing utility locations for the final design. If necessary, coordinate the removal or relocation of a utility that is in conflict with the proposed improvements of the project.
7. **Traffic System Design:** (“Contractor” = The successful Contractor bidder on the proposed project design.)
 - Analyze & design a Complete ASCT system for the City as described within the proposal. Additional detection shall be added as needed to provide a complete real-time adaptive system.
 - The design shall furnish, configure, test, train and install all the required software, license, and hardware for a complete system. The City will provide and install the central computer hardware, server or cloud storage needed at City Hall. The system shall connect to the City Hall. All work outside the City Hall to provide a complete adaptive and remote monitoring system shall be provided within the design. This includes all local controller software, controller hardware, CPU, wires, conduits, and connections, etc.
 - The consultant shall verify, adjust, and test the system when installed by the contractor as part of this proposal.
 - Adaptive Traffic System Training shall be provided to the City staff (3 staff) for a minimum of three (3) eight-hour days upon completion of the installation and testing as part of the Contractor’s bid.
 - The Contractor shall provide in the bid contract the line item for price escalation rates for the system licensing and software up to a 5-year period from the date of the system installation & acceptance by the City. The consultant shall review and report to the City on this at bid award.
8. Separate costs breakdown: Coordinate with the City of Hudson all possible temporary and/or permanent easements and/or right-of-way purchases required for the installation of the proposed improvements. The City prefers to minimize any temporary or permanent acquisitions and maintain any work within the existing rights-of-way. For any temporary or permanent acquisitions, the consultant shall prepare a legal description, legal drawing and gather current

information of the existing property including property county identification number, current owner and current tax mailing address for each easement or right-of-way purchase; regardless of the type of acquisition. The Consultant will incorporate the legal description and drawing into the City's standard easement format. The City will work with a separate Consultant (NOT PART of This CONTRACT) to secure the easement from the affected property owner(s), if needed.

9. Prepare preliminary design drawings for the profile design and plan view for the length of the project. Provide engineering renderings and a matrix of the proposed options, % reduction of traffic delays and costs. Include a minimum of two (2) public meetings and also include any changes to the plans for final approval of the preliminary plans. Prepare the plan and profile plans, typical sections, structure design plans, utility relocation plans, and preliminary right-of-way plans, including anticipated takes based on the field survey and designs as applicable. All existing topography and utility information shall be included with the preliminary design plans. Prepare a preliminary detailed sequence of construction with a maintenance of traffic control plan considering peak traffic flows, school busing and activities, such as community events, activities, etc. Attend a preliminary design meeting with the City to review all the preliminary information and documentation requested. After the review meeting, the consultant shall provide a copy of all the documents reviewed to allow for further review and comment by the City and for any public input meetings. (Estimated review duration 2-4 weeks).
10. After the preliminary plans have been approved by the City, and the comments have been given to the Consultant, the Consultant shall prepare and submit detailed final construction analysis and design drawings (final plans). Plan preparation of the construction drawings shall be in accordance with the City of Hudson's and Ohio Department of Transportation's design standards. Note: Hudson Standards shall govern if in conflict with the State Standards. Engineering size plans for quantity calculations, sub-summaries maybe be required.

The construction drawings shall include, as applicable, to bid this project:

- Title Sheet
- Schematic and Survey Control Plan
- Typical Sections
- General Notes
 - Specific project notes.
 - Hudson standard notes
 - Project notes
- Maintenance of Traffic Plans
 - MOT and Sequence of Construction Notes
 - Phased Construction Plans
- General Summary
- Roadway & Utility Plans and Profile Sheets (1"=20')
- Traffic signal system design and specifications
- Intersection Details
 - Pavement elevations.
 - Existing signal and proposed signal infrastructure.

- Grading details.
- Crosswalks,
- New signage
- ADA ramps and compliance.
- Miscellaneous Roadway and Traffic Design, specifications, plans and details for the following, may be needed for this type of project including relocations and conflicts and shall include:
 - Roadway design.
 - Storm and sanitary sewer design
 - Waterline design.
 - Electrical or cable design.
 - Striping and signage design.
 - Maintenance of Traffic Control.
 - Street lighting.
 - Structural design.
 - Geotechnical design.

In addition to the design and construction drawings above, the Consultant shall prepare and provide the Detailed Specifications for this project for the City bid book including the legal advertisement, estimated quantities, bid documents, bid tab, contract documents, bonds, technical specifications, and a detailed Engineers Probable Cost of Construction (Engineer's Estimate). The City of will add the consultants document to the Hudson's Standard front end and general conditions sections, which shall be used and modified accordingly.

11. The consultant shall evaluate the traffic volumes, speeds, and topography to determine the best options for the MOT, including off peak-hours and night work by the contract, since most of the construction equipment will be parked at various large volume traffic intersections as part of this project. Any sidewalk or roadway lane closures shall have detours included in the design and follow State of Ohio transportation construction traffic design standards.
12. After the approval of the final plans, specifications and the probable cost of construction, the project documents shall be finalized and submitted to all agencies (including but not limited to: All existing utility companies in the area of the project; Ohio Department of Transportation, if applicable; Norfolk and Southern Railroad, if applicable; and other agencies having authority over the project for their review and approval. No later than August 15, 2021.
14. Once the documents have been finalized, including any comments from review agencies, submit one complete set of finished construction drawings (AutoCAD & PDF format), one complete set of the specifications (MS WORD and PDF), for bidding which will be performed by the City. Also, provide in digital format the construction drawings and specifications along with plotting configurations files, if needed. The construction drawings shall be provided in the current City owned release of AutoCAD software and PDF format. All files will be the property of the City of Hudson.
15. The Consultant shall have design review meetings with the City at 50% & 90% preliminary design submittals. Following Preliminary approval, Final plans shall be reviewed at 50%, 90% and final plan completion (100%). The consultant shall

provide PDF formats of the design and any other exhibits or reports as noted above. The Consultant shall have its prime contact person at the meeting as well as the individuals of the design team that can answer specific questions regarding the details of the design, including the intent of the designer. Although these submittal milestones are specifically designated, early informal submittals may prove helpful to the project development. The consultant shall include a minimum of one (1) hour progress meeting/conference call/virtual meeting with the City of Hudson a minimum of every three weeks during the length of the project design. Due to the Covid-19 Pandemic, meetings may need to be virtual.

16. The consultant shall provide for in their proposal three (3) public meetings and three (3) City Council or City Board presentations. The City of Hudson will provide the venue and the consultant will provide the necessary exhibits, comment forms, and project descriptions, including the cost of travel, printing, & files. Due to the Covid-19 Pandemic, meetings may be held virtually or in-person.
17. The consultant shall include a fee for bid assistance in the Proposal during bidding. Attendance at a pre-bid meeting, answering Contractor's questions during the bidding(s) 3-week period per City of Hudson Charter and preparing and distributing addenda as required. Analyzing and reviewing the bids and the bidders, recommending to the City of Hudson for the awarding of the contract.
18. The consultant shall include a fee for preparation of a shop drawing submittal list and review of shop drawings. Submittals will be sent to the consultant for review and comment and then to the City for final review prior to delivery to the contractor. The City will require the consultant to provide a history of review turn-around times by their staff for projects similar to this project.
19. The City prefers to utilize our fiber conduits for this project. We strongly request the adaptive traffic system is Ethernet TCP/IP standards compliant and does not require "dark" fiber to interconnect the cabinets. Each traffic control cabinet shall have a network switch installed that enables the adaptive signals solution to connect with the City of Hudson, Ohio municipal network. The selected consultant shall meet with the City Velocity Broadband Team at the onset of the design.

Fiber

Information:

- Fiber type – Minimum 12 strand Singlemode fiber. Low water peak - full Spectrum ITU-T G.652.D, loose-tube.
- Drop fiber (installed at the cabinet) it is preferred that the terminating fiber is G.657 compliant as it allows for a tighter bend radius in and around the closure.
- Provide a service loop with a minimum length of 30ft in or next to each cabinet. The fiber termination in each cabinet should support removal and ability to get spliced inside a vehicle positioned near to the cabinet. Alternatively, a pre-terminated pigtail assembly could be used so long as the splice side of the cable is no longer than 300ft from the cabinet and used in an open dedicated conduit.
- All terminations should be of a style SC/APC or SC/UPC.
- Most of our fiber will be aerial near the current traffic cabinets, as such a 2" conduit will need to be bored to each cabinet from the nearest pole location.

Attachments:

1. *City of Hudson Standard Contract Agreement for Consultants.*
2. *City of Hudson Adaptive Signals Study. TMS Engineers. Dated: May 21,2019.*
3. *Project Traffic Signal Intersection Map.*
4. *City of Hudson Overall Velocity Fiber Map.*
5. *AMATS ADT Map.*

Thank you.

Respectfully,

Thomas J. Sheridan
Thomas J. Sheridan, P.E., P.S.
Asst. City Manager–Professional Services

January 13, 2021
Date

C: File – Adaptive Signal Project