RESOLUTION NO. 12-88

CITY OF CENTERVILLE, OHIO

SPONSORED BY COUNCILMAN SALLY D. BEALS ON THE 20th DAY OF JUNE, 1988.

A RESOLUTION ACCEPTING THE BID OF CIVIL ENGINEERS OF SOUTHWESTERN OHIO TO PREPARE ENGINEERING CONSTRUCTION DRAWINGS FOR CLOSED LOOP TRAFFIC CONTROL SYSTEM AND SIGNALIZED INTERSECTION TRAFFIC CONTROL IMPROVEMENTS SR-48 AND FRANKLIN STREET IN THE CITY OF CENTERVILLE AND TO AUTHORIZE THE CITY MANAGER TO ENTER INTO A CONTRACT IN CONNECTION THEREWITH.

WHEREAS, the City requested proposals for Engineering Construction Drawings for a Closed Loop Traffic Control System and Signalized Intersection Traffic Control Improvements SR-48 and Franklin Street in the City of Centerville, pursuant to specifications prepared by the City; and

WHEREAS, Civil Engineers of Southwestern Ohio, submitted the lowest and best proposal;

NOW, THEREFORE, THE MUNICIPALITY OF CENTERVILLE HEREBY RESOLVES:

SECTION 1. The proposal of Civil Engineers of Southwestern Ohio, marked Exhibit "A" attached hereto and made a part hereof not to exceed $42,170 is hereby accepted; and the City Manager is hereby authorized and directed to enter into any necessary contract to evidence acceptance of said bid and to make payment pursuant thereto.

PASSED this 20th day of JUNE 1988.

Shirley F. Heintz
Mayor of the City of
Centerville, Ohio

ATTEST:

Clerk of the Council of the
City of Centerville, Ohio

CERTIFICATE

The undersigned, Clerk of the Council of the City of Centerville, Ohio, hereby certifies that the foregoing is a true and correct copy of Resolution Number 12-88, passed by the Council of the City of Centerville, Ohio, on the 20th day of JUNE, 1988.

Clerk of Council

Approved as to form, consistency
with the Charter and Constitutional Provisions.
Department of Law
Robert N. Farquhar
Municipal Attorney

EXHIBIT "A"

CESO
CIVIL ENGINEERS OF SOUTHWEST OHIO
PROFESSIONAL ENGINEERS • REGISTERED LAND SURVEYORS
2261 MIAMISBURG-CENTERVILLE RD. • CENTERVILLE 45459 • 435-8584
1690 N. LIMESTONE • SPRINGFIELD, OHIO 45503 • (513) 399-0372

May 19, 1988

Alan C. Schwab
City Planner
City of Centerville
Centerville Municipal Building
100 West Spring Valley Road
Centerville, Ohio 45459

Dear Mr. Schwab:

Enclosed is Civil Engineers of Southwest Ohio's Engineering Proposal for the following project:

Traffic Signal Control Improvements - S.R.48 and Franklin St.

Thank you for the opportunity to present this proposal. Should you have any questions or require further information, please feel free to contact my office at any time.

Sincerely,

David C. Oakes

David C. Oakes, P.E., P.S.

DCO/mah

cc: Norbert Hoffman, Asst. City Engineer

Technical Approach

As specialists in traffic/transportation engineering design, CESO has the specific expertise and resources needed to efficiently -- and economically -- complete all work on this contract. Of particular note is the background of David Oakes, Project Manager, who served as Assistant Director of Traffic Engineering for the City of Kettering. Because of this experience, Mr. Oakes is skilled in the use of several innovative methods that, when used appropriately, provide significant cost savings through decreased design time and better designs. Methods likely to be use on this project include:

* Computerized traffic signal control for system coordination and time-of-day timing plan changes

* Innovative types of traffic signal coordination such as hardwire, time based, radio, microwave, etc.

* Computer programs developed for traffic engineering analysis and design, such as trip generation, capacity studies, signal timing, time-space diagrams, etc.

* Developed uses for vehicular detection methods, such as delay timing, extension timing, lock/nonlock operation, 2nd/3rd car loop location, etc.

CESO realizes that a project's expense doesn't end after the initial design is complete; therefore, we give careful consideration to construction, operation, maintenance and life cycle costs during the design phase. Mr. Oakes has first-hand experience with traffic signal installation and maintenance, is thoroughly familiar with economic, effective construction techniques, and has in-depth knowledge of equipment that has proven to be long-lasting and maintenance free.

CESO's design approach involves a careful balance of many factors, for example: advantages and costs of certain "new tech" methods (or equipment) vs. more traditional methods. While we do have state-of-the-art engineering techniques at our disposal, they are not used blindly just to impress a client; in cases where older, "tried and true" methods are more cost effective with little difference in quality of results, those are used. In short, CESO's objective is to give The City of Centerville high quality yet realistic designs that are constructible, maintainable, flexible (i.e. can be adapted to avoid obsolescence), and have low life cycle costs.

Key Personnel

Project Manager: DAVID C. OAKES, P.E., P.S.

David C. Oakes will be the engineer in charge of design on this project. Mr. Oakes has eight (8) years of extensive experience in the analysis, design and administration of traffic engineering projects in both urban and rural areas, and is thoroughly familiar with ODOT standards and procedures.

Mr. Oakes' background includes five years as Assistant Director of Traffic Engineering/Traffic Engineer for the City of Kettering. In this position, he was in charge of daily operations (analysis, design, construction, maintenance, repair, equipment/services procurement), and was personally responsible for programming and operation the city-wide KARTS (computerized traffic signal control) system. His comprehensive expertise in traffic signalization also includes:

- Signal warrants, data collection, justification
- Detection design and controller applications
- Signal support structure design
- Arterial system coordination
- Grid system coordination
- Traffic signal timing
- Computer system communication
- Construction of traffic signals and signal systems
- Inspection/testing of traffic signal installations
- Maintenance of traffic signal systems

Mr. Oakes complete resume is attached.

Other Key Project Personnel -

Two (2) Traffic Engineers with extensive traffic signal system installation and maintenance experience.

A three (3) man full-time surveying crew, available for field measurements and site investigation.

Two (2) full-time Drafter-Technicians with extensive experience in ODOT type plan preparation.

Availability and Capacity

CESO has the staff capacity and flexibility to complete all work on this project in a timely manner. The firms's medium size allows certain benefits over larger consulting firms such as:

* Shortened "chains of command" -- the person designing your project has authority to make critical decisions and answer questions on the spot, without wasting valuable time and money waiting for approval from higher management.

* Immediate response to City Staff requests.

* Specialization in Traffic Engineering/Transportation Planning and related services; personnel working on your project focus their energies only in their specific areas of expertise; no "jack of all trades and master of none" syndrome.

* Low overhead operating rates, making for lower hourly rates at all staff levels.

Two (2) professional engineers will be assigned to this project, so someone will always be available to discuss the project.

In addition, CESO's office is only a few minutes from the City of Centerville:

2261 Miamisburg-Centerville Rd.
Centerville, Ohio 45459
(513) 435-8584

Subcontracts

CESO is able to meet all stated project requirements in-house, and therefore does not plan to use subconsultants for any phase of this project.

TRAFFIC ENGINEERING PROPOSAL
SIGNALIZED INTERSECTION TRAFFIC CONTROL IMPROVEMENTS
State Route 48 and Franklin Street
City of Centerville, Ohio

WORK TO BE COMPLETED BY CESO:

1. TRAFFIC COUNTS

   (A) - Twenty Four (24) hour Traffic counts on each approach of all Fifteen (15) intersections. Approx. 60 counts

   (B) - Two (2) Peak Hour Turn Counts, One (1) in the morning and One (1) in the afternoon at all Fifteen (15) intersections. Approx. 30 counts

2. CONSULTATION WITH CENTERVILLE CITY STAFF TO FINALIZE A PRELIMINARY TRAFFIC CONTROL SYSTEM DESIGN.

3. CENTRAL OFFICE COMPUTER AND COMMUNICATIONS DESIGN

   (A) - Prepare specifications for Central Office Computer Hardware and Software requirements including communications interface.

   (B) - Prepare interconnect plans, using 200 scale aerials provided by the city, showing communication links between all Fifteen (15) intersections and the Central Office Computer.

4. SPECIFIC INTERSECTION IMPROVEMENTS

Prepare plans & specifications for the following Traffic Signals Improvements:

Whipp Rd. & SR-48 - Add pedestrian activated walk signals, black box interface to master controller. 20 Scale Mylar Drawing of Existing Traffic Signal Installation provided by the City.

North Village Dr. & SR-48 - Add pedestrian activated walk signals, black box interface to master controller. 20 Scale Mylar Drawing of Existing Traffic Signal Installation provided by the City.

Fireside Dr. & SR-48 - Add pedestrian activated walk signals, black box interface to master controller. 20 Scale Mylar Drawing of Existing Traffic Signal Installation provided by the City.

Loop Rd. & SR-48 - Add pedestrian activated walk signals, add protected/permissive left turn phase for southbound SR-48, black box interface to master controller. 20 Scale Mylar Drawing of Existing Traffic Signal Installation provided by the City.

I-675 ramp & SR-48 - Black box interface to master controller. 20 Scale Mylar Drawing of Existing Traffic Signal Installation provided by the City.

Alex-Bell Rd. & SR-48 - Change protected left turn phasing to protected/permissive left turn phasing (addition of five lens signal heads would be necessary), pedestrian activated walk signals, black box interface to master controller. 20 Scale Mylar Drawing of Existing Traffic Signal Installation provided by the City.

Alex-Bell Rd. & Cushwa Dr. - Black box interface to master controller. 20 Scale Mylar Drawing of Existing Traffic Signal Installation provided by the City.

Alex-Bell Rd. & Loop Rd. - Design a new traffic signal at this presently unsignalized intersection, black box interface to master controller. CESO will provide City with 20 Scale Mylar Drawing of Traffic Installation.

Williamsburg Ln. & SR-48 - Complete rework of old traffic control equipment at this intersection, study the intersection of Zengel Dr. and SR-48 in conjunction with this intersection, black box interface to master controller, detailed engineering design work on this intersection may be delayed by an on going historic district streetscape and traffic study that involves this area. CESO will provide City with 20 Scale Mylar Drawing of Traffic Installation.

Bradstreet & SR-48 - Complete rework of old traffic control equipment at this intersection, study the intersection of new driveways on the west approach to this intersection, black box interface to master controller, detailed engineering design work on this intersection may be delayed by an ongoing historic district streetscape and traffic study that involves this area. CESO will provide City with 20 Scale Mylar Drawing of Traffic Installation.

Franklin St. (SR-725) & SR-48 - Modernize traffic controller to eight phase equipment at this intersection, revise pavement detector loops, black box interface to master controller, detailed engineering design work on this intersection may be delayed by an ongoing historic district streetscape and traffic study that involves this area, the ongoing historic district studies are likely to require the consultant to redesign the traffic signal pole style and the traffic signal head style. 20 Scale Mylar Drawing of Existing Traffic Signal Installation to be provided by City.

Virginia St. & West Franklin St. - Complete rework of old traffic control equipment at this intersection, black box interface to master controller, detailed engineering design work on this intersection may be delayed by an ongoing historic district streetscape and traffic study that involves this area. CESO will provide City with 20 Scale Mylar Drawing of Traffic Installation.

North Johanna Dr. & East Franklin St. - Complete rework of old traffic control equipment at this intersection, study the intersection of South Johanna Dr. and East Franklin St. in conjunction with this intersection, black box interface to master controller, interconnection with adjacent signals along East Franklin St. CESO will provide City with 20 Scale Mylar Drawing of Traffic Installation.

Centerville High School East Driveway & East Franklin St. - Complete rework of old traffic control equipment at this intersection, study the intersection of North Johanna Dr. and East Franklin St. in conjunction with this intersection, black box interface to master controller, interconnection with adjacent signals along East Franklin St. CESO will provide City with 20 Scale Mylar Drawing of Traffic Installation.

Clyo Rd. & East Franklin St. - Replace older controller at this intersection, add pedestrian activated walk signals, study feasibility of black box interface to master controller, interconnection with adjacent signal along East Franklin St. 20 Scale Mylar Drawing of Existing Traffic Signal Installation to be provided by the City.

NOTE: Item # 4 includes a revised detector loop layout (If Necessary), a revised intersection pavement marking layout (If Necessary), and recommended Traffic Signal Timing Parameters including Cycle Lengths, Offsets and Splits. Plans & Specifications will be prepared to ODOT standards with modifications to reduce construction & maintenance costs.

5. ENGINEER'S COST ESTIMATE AND BID DOCUMENT PREPARATION

LUMP SUM BID $32170

ALTERNATE PROPOSAL

In reviewing the above stated proposal, CESO has found certain counts could be deleted and a quality Traffic Engineering Design could still be accomplished. The above proposal remains the same with the following change to Item #1 (A):

Instead of Sixty (60) - Twenty Four (24) Hour Counts as indicated in the proposal, CESO feels that Twelve (12) Counts would be adequate:

Six (6) - 24 Hour Counts on State Route 48
- 2 @ Whipp Road
- 2 @ Alex - Bell Road
- 2 @ Franklin Street

Four (4) - 24 Hour Counts on Franklin Street
- 2 @ State Route 48
- 2 @ Clyo Road

Two (2) - 24 Hour Counts on Alex-Bell Road
- 2 @ State Route 48

LUMP SUM BID $26890

RESUME

DAVID C. OAKES, P.E., P.S.
1588 Roamont Drive
Centerville, Ohio 45459
(513) 433-6902 (residence)
(513) 435-8584 (office)

EDUCATION

B.S., Civil Engineering, 1980, University of Wisconsin
Transportation Engineering Emphasis

M.S., Civil Engineering, 1988, University of Dayton
Transportation Engineering Emphasis

EXPERIENCE

1987-Present — Civil Engineers of Southwest Ohio, Inc.
Civil Engineers and Land Surveyors

Duties include:

- Design of traffic control plans to MUTCD standards including traffic signals, roadway geometries, pavement markings, roadway signing, maintenance of traffic and street lighting
- Roadway design including storm sewer, sanitary sewer, and water line design
- Hydrologic studies
- Overall supervision/scheduling of all CESO personnel

1983-1988 — City of Kettering, Ohio
Assistant Director of Transportation

Duties included:

- Operate and program Kettering's computerized traffic signal control system
- Design of traffic control plans to MUTCD standards including traffic signals, roadway geometries, pavement markings, roadway signing, maintenance of traffic and street lighting.
- Overall supervision/maintenance of traffic signal system, including signal timing and coordination
- Roadway design, project supervision, and construction inspection

DAVID C. OAKES, P.E., P.S.

1982-1983 Lockwood, Jones, and Beals Company
Civil Engineers and Land Surveyors

Duties included:
- Design of traffic control plans to MUTCD standards, including traffic signals, roadway geometries, pavement markings, roadway signing, maintenance of traffic and street lighting
- Roadway design including storm sewer, sanitary sewer, and water line design
- Overall supervision/scheduling of surveying crews

1980-1982 City of St. Paul, Minnesota
Traffic Engineer

Duties included:
- Project Manager for St. Paul's computerized traffic control system
- Plan and specification preparation as well as construction supervision
- Design of traffic control plans to MUTCD standards including traffic signals, roadway geometries, pavement markings, roadway signing, maintenance of traffic and street lighting
- Overall supervision/maintenance of traffic signal system, including signal timing and coordination
- Roadway design, project supervision, and construction inspection

PROFESSIONAL REGISTRATION
- Professional Engineer in the State of Ohio, State of Wisconsin, and the State of Indiana
- Registered Land Surveyor in the State of Ohio

OTHER CREDENTIALS
- Secretary, Dayton Section of American Society of Civil Engineers
- Member of Institute of Transportation Engineers
- Member of International Municipal Signal Association
- Graduated Cum Laude with 3.5 cumulative G.P.A.
- Member of Chi Epsilon -- National Civil Engineering Honor Society