

# CITY OF MOBILE

## BID SHEET

This is Not an Order

**Mailing Address:**

P. O. Box 1948  
 Mobile, Alabama 36633  
 (251) 208-7434

**Purchasing Department  
 and Package Delivery:**

Government Plaza  
 4<sup>th</sup> Floor, Room S-408  
 205 Government St  
 Mobile, Alabama 36644

**READ TERMS AND CONDITIONS  
 ON REVERSE SIDE OF THIS PAGE  
 BEFORE BIDDING**

Typed by: nm Buyer: 004

**Please quote the lowest price at which you will furnish the articles listed below**

|            |         |                     |   |
|------------|---------|---------------------|---|
| DATE       | BID NO. | DEPARTMENT          | Commodities to be delivered F.O.B. Mobile to: |
| 02/06/2019 | 5255    | Traffic Engineering | To Be Specified                               |

**This bid must be received and stamped by the Purchasing office not later than: 10:30 A.M., Tuesday, February 26, 2019**

| QUANTITY   | ARTICLES   | UNIT | UNIT PRICE   |       | EXTENSION |       |
|------------|--|------|--------------|-------|-----------|-------|
|            |  |      | Dollars      | Cents | Dollars   | Cents |
| Qty<br>1-2 | <p style="text-align: center;"><b>TRAFFIC CONTROL EQUIPMENT -<br/>                     ACCESSIBLE PEDESTRIAN SIGNAL</b></p> <p>Accessible Pedestrian Signal System (2 wire).</p> <p>Includes: (1) Central Control Unit<br/>                     (4) Pedestrian Push Button Stations</p> <p>System to meet the attached minimum specifications.</p> <p>Make _____ Model _____</p> <p>Pricing to be firm for a one (1) year period following the award of this bid. At the option of the City of Mobile and the successful vendor(s), the award of this bid may be extended for two (2) additional one (1) year periods.</p> <p>All items must meet requirements as per the attached specifications.</p> <p>Provide Literature and Specifications on item bid.</p> <p>Quote delivered pricing FOB Mobile.</p> <p>System / Products Bid are to be compatible with existing equipment in use by the City of Mobile.</p> <p>Upon award, the City of Mobile will purchase minimum quantities.</p> <p style="text-align: center;">Page 1 of 2</p> |      |              |       |           |       |
|            |  |      | <b>TOTAL</b> |       |           |       |

**RETURN ONE SIGNED COPY OF THIS BID  
 IN ENCLOSED ENVELOPE**

State delivery time within \_\_\_\_\_ days of receipt of P.O.

Firm Name \_\_\_\_\_

Typed Signature \_\_\_\_\_

By \_\_\_\_\_

We will allow a discount \_\_\_\_\_ % 20 days from date of receipt of goods and correct invoice of completed order.

1. All quotations must be signed with the firm name and by an authorized officer or employee.
2. Verify your bid before submission as it cannot be withdrawn or corrected after being opened. In case of error in extension of prices, the unit price will govern.
3. If you do not bid, return this sheet and state reason. Otherwise, your name may be removed from our mailing list.
4. The right is reserved to reject any, or all quotations, or any portions thereof, and to waive technicalities if deemed to be in the interest of the City of Mobile.
5. This bid shall not be reassignable except by written approval of the Purchasing Agent of the City of Mobile.
6. State brand and model number of each item. All items bid must be new and latest model unless otherwise specified.
7. If bid results are desired, enclose a self-addressed and stamped envelope with your bid. (All or None bids only)
8. Do not include Federal Excise Tax as exemption certificate will be issued in lieu of same. The City is exempt from the Alabama and City sales taxes.
9. PRICES ARE TO BE FIRM AND F.O.B. DESTINATION UNLESS OTHERWISE REQUESTED.
10. BID WILL BE AWARDED ON ALL OR NONE BASIS UNLESS OTHERWISE STATED.
11. Bids received after specified time will be returned un-opened.
12. Failure to observe stated instructions and conditions will constitute grounds for rejection of your bid.
13. Furnish literature, specifications, drawings, photographs, etc., as applicable with the items bid.
14. Vendor May be required to obtain City of Mobile Business License as applicable to City of Mobile Municipal Code Section 34-50. For Business License inquiry contact the Revenue Department at (251) 208-7461 or [cityofmobile.org/taxes.php](http://cityofmobile.org/taxes.php).
15. If a bid bond is required in the published specifications, see below:  
Each Bid Shall be Accompanied By A **Cashier's Check, Certified Check, Bank Draft Or Bid Bond** For the Sum Of Five (5) Percent Of The Amount Bid, Made Payable To The City Of Mobile And Certified By A Reputable Banking Institution. All Checks Shall Be Returned Promptly, Except The Check Of The Successful Bidder, Which Shall Be Returned After Fulfilling The Bid.
16. Contracts in excess of \$50,000 require that the successful bidder make every possible effort to have at least fifteen (15) percent of the total value of the contract performed by socially and economically disadvantaged individuals.
17. All bids/bid envelopes must have the bid number noted on the front. Bids that arrive unmarked and are opened in error shall be returned to vendor as an unacceptable bid.
18. If successful vendor's principal place of business is out-of-state, vendor may be required to have a Certificate of Authority to do business in the State of Alabama from the Alabama Secretary of State prior to issuance of a Purchase Order. Vendors are solely responsible for consulting with the Secretary of State to determine whether a Certificate is required. See [www.sos.alabama.gov/BusinessServices/ForeignCorps.aspx](http://www.sos.alabama.gov/BusinessServices/ForeignCorps.aspx) . Please note that the time between application for and issuance of a Certificate of Authority may be several weeks.
19. Vendors do not need a City of Mobile Business License or Certificate of Authority from the Alabama Secretary of State to submit a bid, but will need to obtain the Business License and Certificate of Authority, if applicable, prior to issuance of a Purchase Order.

**BID CONTINUATION SHEET**

| QUANTITY | ARTICLES  | UNIT | UNIT PRICE   |       | EXTENSION |       |
|----------|---|------|--------------|-------|-----------|-------|
|          |   |      | Dollars      | Cents | Dollars   | Cents |
|          | <p align="center">Page 2 of 2</p> <p>All vendors will be required to provide verification of enrollment in the E-Verify program. Additional information may be found at <a href="http://immigration.alabama.gov/">http://immigration.alabama.gov/</a></p> <p>If the successful vendor's principal place of business is out-of-state, vendor may be required to have a Certificate of Authority to do business in the State of Alabama from the Secretary of State prior to issuance of a Purchase Order.</p> <p>Vendors are solely responsible for consulting with the Secretary of State to determine whether a Certificate is required.<br/>See: <a href="http://www.sos.alabama.gov/BusinessServices/ForeignCorps.aspx">www.sos.alabama.gov/BusinessServices/ForeignCorps.aspx</a>.<br/>Please note that the time between application for the issuance of a Certificate of Authority may be several weeks.</p> <p>Upon notification, vendor will have 10 business days to provide the Certificate of Authority and the E-Verify numbers to the Purchasing Department before award can be completed.<br/>(Vendors will possibly need to pay the expedite fee to meet this requirement because application is not sufficient. We must have a copy of the certificate with your Company ID number).</p> <p>Vendors do not need a City of Mobile Business License or Certificate of Authority from the Alabama Secretary of State, nor the E-Verify for certification to submit a bid, but will need to obtain the Business License and Certificate of Authority verification and/or provide the E-Verify Certification, if applicable, prior to issuance of a Purchase Order.</p> <p>State of Alabama Local Vendor Preference Law 41-16-50 (a) and (d) will apply to this purchase.</p> <p>If you have any questions please feel free to contact the Purchasing Department at 251-208-7434 or <a href="mailto:purchasing@cityofmobile.org">purchasing@cityofmobile.org</a>.</p> <p><b>TO BE AWARDED ON AN ITEM BASIS.</b></p> |      |              |       |           |       |
|          |   |      | <b>TOTAL</b> |       |           |       |

**RETURN ONE SIGNED COPY OF THIS QUOTATION IN ENCLOSED ENVELOPE**

**READ ABOVE INSTRUCTIONS BEFORE QUOTING**

Firm Name \_\_\_\_\_

By \_\_\_\_\_

We will allow a discount \_\_\_\_\_ % 20 days from date of receipt of goods and correct invoice of completed order.

# **Specifications for 2 Wire Accessible Pedestrian Signal (APS)**

## **SYSTEM DESCRIPTION**

The Audible-Tactile Pedestrian Signal System shall consist of all electronic control equipment, mounting hardware, push buttons and signs, which are designed to provide both a push button with a raised vibrating tactile arrow on the button, along with a variety of audible sounds for different pedestrian signal functions.

Substantiating documentation for meeting ISO, NEMA, IEC, and FCC requirements must be supplied from an outside Testing Services Laboratory.

## General Description

1. The System shall consist of a Central Control Unit (CCU) and Pedestrian Push Button Stations (PBS), as described below, and an iOS device w/ the iOS client application or Windows PC with BLE dongle and Windows client application, for programming the system settings.
2. The System shall be manufactured by an ISO 9001:2008 (minimum) registered company.
3. The System shall meet the requirements of Made in America and/or The Buy American Act.

## Design Compliance

1. The System shall meet the functionality requirements of MUTCD 2009 – 4E and CAMUTCD 2011 – 4E.
2. The System shall meet NEMA TS 2 Section 2.1 Temperature & Humidity requirements, or TS4 equivalent.
3. The System shall meet NEMA TS 2 Section 2.1 Transient Voltage Protection requirements, or TS4 equivalent.
4. The System shall meet NEMA TS 2 Section 2.1 Mechanical Shock and Vibration requirements, or TS4 equivalent.
5. The System shall meet IEC 61000-4-4, IEC 61000-4-5 Transient Suppression requirements.
6. The System shall meet FCC Title 47, Part 15, Class A Electronic Noise requirements.
7. The Push Button Station (PBS) Enclosure shall meet NEMA 250 – Type 4X requirements.
8. The Central Control Unit (CCU) Enclosure shall meet NEMA 250 – Type 1 requirements.

## Functional Requirements

1. The System shall support at least 16 PBS's per intersection (on at least 1 channel) controlled by a single base unit located in the traffic control cabinet.
2. The System shall be able to be set to vibrate a tactile arrow button during the WALK interval following a button push and/or every time the walk comes up.
3. The System shall have the field-selectable function known as "LOCATE TONE". This means that during the FLASHING DON'T WALK and the DON'T WALK intervals, the system shall provide a locating tone that emanates from the Pedestrian Push Button Station. The system shall provide at least 3 different sounds to choose from.
4. The System shall have the field selectable function known as "Extended Push Activation". This is defined as the audible WALK message shall only be activated and audible during the WALK interval if the button is depressed for a field selectable minimum period of time (from 0.5 to 6 seconds). Also, for the following walk and clearance intervals, the volumes have a separately settable minimum and maximum volume level.
5. The System shall have the field selectable function known as "Informational Message". This means that a custom message giving the location of the street to cross and the intersection (or other information) will be vocalized only when the button is depressed for a minimum field selectable time.
6. The System shall provide a "Wait" message that plays once the button is activated until the Walk cycle goes into effect. This message must have the field selectable option of OFF or repeating every 4, 6, 8 or 10 seconds.
7. The System shall have standard "Travel Direction" options that can be selected at the time of installation.
8. The System shall have at least 10 field selectable WALK sound options including a cuckoo, a chirp, an MUTCD rapid tick or custom voice message.
9. The System shall provide at least 7 Ped-clearance sound choices including audible countdown (field selectable). The audible countdown shall represent the time remaining during the pedestrian Clearance interval. Timing is automatically adjusted to the CLEARANCE INTERVAL timing, provided by the traffic controller.
10. The System shall provide 2 language capabilities, selectable by user (as a field selectable feature).
11. The System shall provide an Emergency preemption message in conjunction with a preemption system (selectable feature).



12. The system LOCATE TONE, WALK, and DON'T WALK audible features shall have independent assignable minimum and maximum volume limits. CLEARANCE volume level shall be controlled by WALK volume setting.
13. All sounds for all PBS's shall be synchronized.
14. The system shall have a non-visible, ambient sensing microphone located in the pedestrian station in an environmentally protected housing.
15. The LOCATE TONE volume shall adjust automatically in response to ambient noise with field selectable adjustment levels from -30dB below to +20dB above ambient in 2.5dB increments.
16. All other sounds volumes shall adjust automatically in response to ambient noise with field selectable adjustment levels from -30dB below to +20dB above ambient in 5dB increments.
17. The system shall utilize high quality digital audio technology, with a minimum 16-bit sample at a 48 kHz sample rate.
18. The PBS firmware and voice messages shall be updatable via Bluetooth. There shall be no requirement for the IC chips or module hardware to be removed or exchanged in order to complete a firmware or audio update.
19. The System shall have the option to mute sounds on all crosswalks except activated crosswalk (selectable feature).
20. The System shall have a real time clock capable of keeping time when there is no system power, for at least 2 years from the date of manufacture.
21. The System shall have the ability to have four separate program configurations with all features available, and any single configuration can be selected through an external input.
22. The System shall provide a user settable calendar function, allowing four separate configuration profiles to be configured to become active at different times of the day on a daily, weekly, or holiday basis.
23. The entire System shall be configurable from any PBS over Bluetooth.
24. The entire System shall be configurable from the CCU over Wi-Fi or Ethernet.
25. All field access to selectable options using a Bluetooth, Wi-Fi or Ethernet devices shall be protected using password security.

**Central Control Unit (CCU) - The CCU is the control unit that provides data for the Push Button Stations. The CCU shall be either a shelf mount (CCU-S) or rack mount (CCU-C) assembly.**

1. The CCU-S shall be installed inside the Traffic Cabinet and powered by the AC supply mains (115 VAC).
2. The CCU-C shall be installed inside the 300 series Traffic Cabinet's Input File, replacing 2 PED isolator boards and receiving power from the rack (24VDC).
3. The CCU-S shall provide internal power to operate up to 16 PBS's.
4. A 24 volt power brick shall power up to 16 PBS's in a CCU-C configuration.
5. The CCU shall control at least 16 PBS's.
6. The CCU shall be logically configurable to assign any PBS to one of 16 traffic phases.
7. The CCU-S shall receive pedestrian phase Walk, Don't Walk and Clearance inputs from either the traffic cabinet load switches or an SDLC input.
8. The CCU-C shall receive pedestrian phase Walk, Don't Walk and Clearance inputs from a Transport Electrical Equipment Specification (TEES) C4S connector.
9. The CCU shall be able to self-test all PBS's and put a corresponding phase into recall should a PBS assigned to a phase fail the self-test.
10. The CCU-S shall provide optically isolated general purpose inputs.

11. The CCU-S shall be used with a 4-cable interface harness assembly.
12. The CCU shall have internal storage to log several hundred events with a date-time stamp for each event.
13. The CCU shall have an internal real-time clock capable of being set in the field and propagating the time to each connected PBS.
14. The CCU firmware shall be updatable via either Wi-Fi or Ethernet. There shall be no requirement for the IC chips or module hardware to be removed or exchanged in order to complete the firmware update.
15. The CCU shall monitor PED interval conflicts and signal affected PBS's to an off state when a conflict occurs.
16. The CCU-S shall meet NEMA 250 – Type 1 enclosures requirements.
17. The CCU shall have a backlit LCD screen and button interface to allow placing test calls and display status.

**Pedestrian Push Button Station (PBS) – The PBS allows the pedestrian to place calls to the traffic controller and provides vibro-tactile feedback during the Walk cycle. This equipment is typically mounted on a pole, near the start of the crossing.**

1. The PBS shall be mounted to a pole by banding or bolting.
2. The PBS shall be a single fixture that contains a 2" activation area, in which resides an ADA compliant vibro-tactile push button with a raised directional tactile arrow, and a sign mounted above the button.
3. The PBS Speaker shall be 8 Ohms, 6 Watt, and weather-proof.
4. The button shall be cast aluminum, nickel-plated and powder coated black around the arrow, to provide high contrast to arrow color. The PBS arrow shall allow for change in orientation to one of four directions.
5. The PBS Arrow Button Actuation shall use Hall Effect Sensor technology rated to greater than 20 million operations.
6. The PBS Arrow Button Push Force shall have three adjustable pressure settings between approximately 1 and 3lbs to activate a button push.
7. The PBS Arrow Button shall pulse and vibrate at approximately 20 Hz with displacement factor based on pounds of force used to actuate.
8. The PBS shall have a rear facing speaker projecting sound from front and back, providing 360° omnidirectional sound performance.
9. The PBS shall include internal Conflict Monitoring that monitors WALK, and DON'T WALK input signals for conflict conditions; disables system operation and logs errors if conflict occurs.
10. The PBS firmware and voice messages shall be updatable via Bluetooth. There shall be no requirement for the hardware to be changed out to update.
11. The system shall operate with the vendor's client application to record and upload cumulative ped count & call data.
12. The PBS shall meet or exceed NEMA 250 type 4X enclosure requirements.
13. The PBS Construction shall be:
  - I. FRAME: Cast Aluminum, Powder Coated.
  - II. HOUSING: Reinforced, UL-listed Thermoplastic.
  - III. MESSAGE SIGN: Aluminum, Powder Coated, Ink Markings, or Reflective Vinyl Sheeting
  - IV. PUSH BUTTON: Aluminum, Powder Coated.
14. Electronic circuits (printed circuit board assemblies) shall be in a water-tight housing/enclosure or encapsulated with a thermoplastic polyamide having a UL94-V0 flammability rating and allowing light and RF transmissions (i.e. over-molded), for environmental protection. The housing/closure or encapsulation shall be capable of providing NEMA 250 4X protection to all covered components.

15. The PBS Message Marking at the time of order may specify the Message Sign Markings to be the International Walking Person or the Informational Explanations for the three (3) distinct pedestrian displays (WALK, DON'T WALK, and PED CLEAR) that a pedestrian would see on an active pedestrian signal.

### **Field Programming via Client Application (Apple iOS v8.0 or higher devices or a PC with Windows 7, 8 or 10)**

1. The iOS and PC applications shall be upgradable.
2. The iOS and PC applications shall notify the user when a newer version of the client application is available.
3. The iOS and PC applications shall notify the user when newer PBS and CCU firmware is available.
4. The iOS and PC applications shall provide the mechanism to download the latest PBS and CCU firmware.
5. The iOS and PC applications shall be capable of setting all volumes and features of the APS system specific to the PBS's.
6. The iOS and PC applications shall be capable of setting/updating configuration options for a single PBS or all PBS's on the intersection for most functions from a single PBS or CCU. (Global updating).
7. The iOS and PC applications shall be capable of storing, modifying, loading, and emailing PBS configuration settings.





## PURCHASING DEPARTMENT

Potential bidders are responsible to check this site for any **ADDENDUMS** that are issued. It is the responsibility of the **BIDDER** to check for, download, and include with their **BID RESPONSE** any and all **ADDENDUMS** that are issued for a specific **BID** published by the City of Mobile. Failure to download and include **ADDENDUMS** in your **BID RESPONSE** may cause your bid to be rejected.

This is a sealed bid. Any responses faxed or e-mailed will be rejected.

This is a sealed bid. Any response must be submitted in a sealed envelope with the bid number and bid opening date on the outside of the envelope.

Any response that arrives improperly marked or with no bid number and opening date on the outside of the delivery or express package and opened in error will be rejected and not considered.

It is the responsibility of the bidder to insure that their bid response is delivered to and received in the Purchasing Department before the date and time of the bid opening.

Be sure to read the Terms and Conditions. All bids are F.O.B. Destination unless otherwise stated.

Be sure to sign your bid!

**Package/Bid Delivery Address:**  
**Purchasing Department**  
**205 Government St. Room S408**  
**Mobile, AL 36644**

**(Request First Delivery)**