TRAFFIC SIGNAL MAINTENANCE
SCOPE OF WORK

Section 1. SERVICES

In general, the work to be done consists of providing preventative and routine traffic signal maintenance, emergency service, and providing and maintaining a maintenance and inventory management system for the maintenance of traffic signals within the City of Pleasanton. The contractor shall furnish all tools, equipment, apparatus, facilities, labor, services and materials, and perform all work necessary to maintain in good workmanlike manner all of the traffic signal systems owned or maintained by the City.

This work does not include street lighting but does include intersection safety lighting, where the safety lighting is on the same pole as the traffic signal or wired to the same electrical service cabinet as the traffic signal.

The Contractor shall have available and readily accessible all required tools, equipment, apparatus, facilities, and material to perform all work necessary to maintain the traffic signals and the traffic control devices listed in Section 10 – Intersections and Section 11 – Beacons & In-Pavement Lights in compliance with current Caltrans Standards Plans and Specifications.

A traffic signal system includes, but is not limited to: traffic signal controller and cabinet and all appurtenant equipment, service cabinet, flashing beacons related to traffic signal operations (i.e. advanced warning beacons), pedestrian and vehicle signals, detector systems, video detection camera systems, CCTV camera systems, wireless vehicle detection system, automated signal performance measures, interconnect cable (copper and fiber optic), wireless communications equipment, traffic signal communications equipment, emergency vehicle preemption system, uninterrupted power supply system, intersection safety lighting, internally illuminated street name signs, and blank-out LED signs related to the traffic signal.

Radar speed signs that are not operated as a component of a traffic signal system shall not be included in the preventative and routine maintenance of traffic signal systems.

The Contractor shall provide qualified personnel to perform regular preventive field maintenance and emergency repair for the traffic signals in the City. The workforce of qualified employees shall be sufficient to respond to emergency calls and to promptly complete temporary and/or permanent repairs.

The Contractor shall provide a traffic signal technician with a minimum of three years experience in traffic signal repairs. The technician shall be familiar with Trafficware Commander, NAZTEC 980 and NAZTEC 2070 CONTROLLER systems, currently in operation in the City.

The Contractor shall provide a 24-hour service for knockdowns and other signal related emergencies. All personnel for Contractor that may be dispatched shall have continuous

communication access through two-way radio, pager, and/or cellular phone. Response times are detailed in Section 3 of this document.

The Contractor shall provide adequate shop facilities, spare traffic signal components and a lab equipped to operationally test a complete Trafficware Commander, NAZTEC 980 or 2070 signal controller assembly for an extended period.

The Contractor shall furnish spare traffic signal controllers, detectors, conflict monitors, etc., when the original unit must be replaced or are in the laboratory for repairs.

The Contractor shall keep a large stock of common replacement components for a typical traffic signal system in the City. The replacement component types, quantities and storage location shall be adequate to meet the Emergency and Non-emergency Service time requirements detailed in Section 3 of this document.

The Contractor shall supply proper field equipment and tools with the technician at all times so he may sufficiently address any problem with the traffic signal as well as maintain communication with the City. This shall include, but not be limited to: PDA or Smartphone for uploading and downloading new service calls and service call completion, cell phones for communication with the City and a laptop computer with the appropriate hardware and software to configure, operate, or troubleshoot the traffic signal equipment.

The Contractor shall offer alternatives to the existing traffic signal equipment to meet the changing demand, when directed by City.

The Contractor shall cooperate with the City Traffic Engineering Division of the Community Development Department in recalibrating signal timing and progression. The Contractor shall not change signal timing except under the direction of the City Traffic Engineering Division of the Community Development Department.

The Contractor shall cooperate with the Police Department, Fire Department, Maintenance Department and other City departments in cases of emergency.

The Contractor shall refer all questions from the public not covered under this Agreement to either the City Traffic Engineering Division of the Community Development Department or the City Police Department.

Section 2. PREVENTATIVE MAINTENANCE

The Contractor shall provide preventive maintenance services for the traffic signals listed in Section 10 – Intersections and Section 11 – Beacons & In-Pavement Lights. The Contractor shall provide and use a Preventive Maintenance Database checklist form to record inspection findings. Preventative Maintenance will include all maintenance activities identified in Section 12 – Preventative Maintenance Schedule. The Contractor shall provide a monthly update of the maintenance database to the City, and maintain a copy at the Contractor's office.

The contractor shall itemize each repair made as part of routine maintenance and recommend to the City additional work that may be needed and not covered in the Routine Maintenance Program.

2.1 Routine Maintenance

The Contractor shall perform a comprehensive signal maintenance program designed to eliminate or reduce traffic signal malfunctions, reduce signal operation complaints, and extend the useful life of the traffic signal equipment. This program shall include, but not be restricted to, Section 12 – Preventative Maintenance Schedule.

2.2 Traffic Signal Control Equipment

The Contractor shall repair or replace all defective parts of the traffic signal control equipment with like make and model parts for temporary and permanent replacements, except as individually agreed upon by City Traffic Engineering Division.

No permanent change of control mechanisms shall be made without prior approval of the City. Whenever equipment is removed from the controller cabinet, the City Traffic Engineering Division shall be notified by phone within 24 working hours.

Contractor agrees to notify the City Traffic Engineering Division in advance of any traffic signal turn-offs or turn-ons necessitated by Contractor's operations. Contractor shall not make said turn-off or turn-on without the approval of City Traffic Engineering Division.

All traffic signal controller equipment shall be maintained as recommended by the manufacturer.

The Contractor shall bear the full cost of repairing or replacing traffic signal components under the provisions of the routine maintenance program. When traffic signal components become obsolete or deteriorated to the point of being beyond repair, Contractor shall report such conditions to the City Traffic Engineering Division and provide satisfactory evidence that replacement is necessary. Contractor shall prepare an estimate showing the cost breakdown of material and labor for replacement of such equipment, and submit this information to the City Traffic Engineering Division.

2.3 Spare Equipment

The Contractor shall maintain adequate storage and shop repair facilities to perform the requirements of this Agreement, including a sufficient stock of spare parts, standby controllers and signal equipment to complete permanent repairs to the system within a thirty (30) day period. Failure to complete permanent repairs within this time limit may be sufficient cause for the City to authorize repairs to be completed by others. Repetitive failure shall be sufficient cause for the City to terminate this Agreement.

The Contractor shall be responsible for furnishing all spare standby controllers necessary to maintain the continued safe, efficient operation of the signal system when the original unit is withdrawn for maintenance, repair or modification. Standby controllers shall be fully compatible with the City's

traffic control system without exception. All component parts (detectors, load switches, phones, lights, signal monitors, etc.) of each system shall be maintained at all times to perform the functions for which they were designed unless authorized to the contrary by the City Traffic Engineering Division.

2.4 Vehicle Signals

All new installed lamps SHALL BE LED and meet the most current Caltrans Standard Specifications and City of Pleasanton Specifications for vehicle signal faces and signal heads. The Contractor shall replace or repair vehicle signals as they malfunction. All labor resulting from replacing burned out, flickering, dim or otherwise non-functioning vehicle signal indications shall be replaced as part of the preventative maintenance flat rate.

2.5 New Traffic Signal Installations

Contractor shall maintain any additional traffic signals and appurtenant devices as they are installed, or become a part of the maintenance requirements of the City. Refer to Section 8 of this document for Compensation.

Prior to the turn-on of a new traffic signal or a traffic signal modification, Contractor shall perform an inspection of the traffic signal, monitor the flashing-out of the new signal heads, and review the new traffic control equipment operation prior to full activation of the new traffic signal system. Compensation will be per Section 8 of this document as Extra Work.

2.6 Pedestrian Signals

All new installed pedestrian signals SHALL BE LED COUNTDOWN FULL SYMBOL and meet the most current Caltrans Standard Specifications and the City of Pleasanton Specifications for pedestrian signals. The Contractor shall replace or repair pedestrian signals as they malfunction. All labor costs resulting from replacing burned out, flickering, dim or otherwise non-functioning pedestrian signal indications shall be replaced as part of the preventative maintenance flat rate.

2.7 Warranty Service

During the period of warranty, the Contractor is expected to make all communications between manufacturer, installing contractor and the City Traffic Engineering Division regarding any warranty service. Contractor shall notify the City Traffic Engineering Division of any undue delays in response by the manufacturer or installing Contractor and details of each incident.

2.8 Electronic Record System

The contractor shall supply and make operational a Windows-based computerized maintenance and inventory management system accessible by the City and Contractor via the Internet that at a minimum shall provide the following features:

Intersections – A complete database of signalized intersections including all routine maintenance histories, complete equipment inventory, electronic photo images, repair history and installation date of all equipment utilized at each location.

Assets – Asset inventory, maintenance/repair history and real-time available inventoried replacement parts, current status of reordered equipment and inventory tracking.

Preventative/Emergency Maintenance – A record of all calls, date and time stamp of: moment of receipt, dispatch, contractor arrival and departure. All records shall have description of problem and repair made. All records shall be updated in real time by the contractor via PDA or similar device and made available to City for real-time monitor of call status via the internet.

The Electronic Record Management system shall be fully operational within 60 days of award of contract. The City, at its option, may request minor revisions or changes to the system. These changes will be at no cost to the City. Upon completion of the contract, the City, at its option, may retain possession of the database for future use related to the City's traffic signal maintenance management inventory. This option shall be at no cost to the City.

If the contractor does not provide the computerized Electronic Record Management system within the first 90 days of this contract, the Contractor shall pay liquidated damages to the City in the amount of $500 per calendar day until the system is fully operational.

Section 3. EMERGENCY SERVICE

Throughout the term of this agreement, the Contractor shall provide and maintain emergency service response on a 24-hour, 365-day basis, including all holidays. All personnel for Contractor that may be dispatched shall have continuous communication access through two-way radio, pager, and/or cellular phone. The response time for initial evaluation, safety, and clean-up tasks is one (1) hour. The outside time limit for follow-up action is two (2) hours from notification. In cases of major malfunction and/or damage, the Contractor shall contact the City Traffic Engineering Division to receive further direction.

The Contractor shall respond within one (1) hour after the City has first notified the Contractor's representative of the following events:

(1) Any signal controller malfunction
(2) Signal equipment knockdowns
(3) Other situations that are potentially hazardous to public safety

The replacement of burned-out lamps need not be on an emergency basis provided that there are two (2) remaining signal phase indications still in operation. Such replacements shall be completed within twenty-four (24) hours.

Contractor shall notify the City Traffic Engineering Division immediately of any change in traffic signal operations.

Emergency calls that require replacement of equipment will not require approval from City before such replacements are commenced.

Contractor shall maintain a single local telephone number where they can be reached twenty-four (24) hours per day. This telephone number shall be made available to all persons designated by the City.

The Contractor shall be responsible for responding to all emergency calls from persons designated by the City. Unless otherwise identified in this Scope of Work or the Agreement, all calls shall be included in the preventative maintenance flat rate, including all "false calls".

The City realizes that false calls occasionally occur outside of normal operating hours. The City also realizes that it is necessary to respond to all calls related to traffic signal malfunctions.

The Contractor shall be responsible for responding to ALL CALLS (including potentially false calls) from designated City officials. This service will be included in the monthly preventative maintenance costs.

3.1 Monitoring Emergency Calls

Upon completion of emergency work, the Contractor shall call the City Traffic Engineering Division to notify City staff that the emergency work has been completed.

3.2 Liquidated Damages

It is understood and agreed that failure on part of the Contractor to respond within one (1) hour, under normal conditions for emergency calls as provided in Section 3.0, will cause the City to suffer an unascertainable amount of damages. Contractor agrees to pay to the City, not as a penalty but as liquidated damages, the amount of $100 per hour that the Contractor is late to arrive. This amount is to be deducted from any payment due or to become due to the Contractor.

3.3 Non-emergency Service

All other non-emergency calls shall be responded to within 24 hours or as mutually agreed upon between the City Traffic Engineering Division and Contractor for each individual service call.

Section 4. SIGNAL UPGRADES AND INSTALLATIONS

The Contractor shall, if requested, install, modify and/or upgrade traffic signals, fiber or traffic safety devices. All additional work shall be performed to the satisfaction of the City Traffic Engineering Division.

No additional work shall be commenced or undertaken by Contractor without written approval by the City Traffic Engineering Division. Additional work shall be performed in accordance with the most current version of the California Manual of Uniform Traffic Control Devices, State of California Department of Transportation Standard Plans and Standard Specifications, and the City of Pleasanton Community Development Standard Specifications and Details. This work shall be performed within the time limit established by the City Traffic Engineering Division and at the mutually agreed upon price.

City shall retain the right to perform any additional work by use of City forces or, in the alternative, to advertise such work for bids.

Section 5. RECORDS

5.1 Intersection Records

Preventive Maintenance (PM) Checklist: The Contractor shall create and provide a MS Access or approved equal database with data entry forms for the field technicians to use to log preventative maintenance and emergency call-out activity. The Contractor shall maintain this database for use by maintenance staff whenever they visit any signalized intersection. The Contractor shall also maintain a hardcopy of the Preventive Maintenance Checklist Form at each intersection. The PM checklist form in the cabinet shall be completely filled out. The database shall be accessible via a wireless PDA or similar technology so that the technician may update the database from the intersection. Every time the signal cabinet door is opened, the maintenance technician shall make an entry in the maintenance database regarding the purpose of the maintenance activity and operational status of the signal. The database forms shall be used by the maintenance staff to record each Preventative Maintenance inspection and any non-scheduled maintenance activity by the Contractor to repair an element of the traffic signal installation at the intersection (cabinet components, detector loops, pedestrian heads, signal heads, lenses, signal poles, etc.). The PM database shall be continually updated. The City shall have access to the database via the internet and an updated hard copy of the database furnished to the City Traffic Engineering Division monthly.

5.2 Monthly Activity Report

The Contractor shall provide a computerized monthly activity report to the City Traffic Engineering Division of the Community Development Department by the fifteenth day of each month for the previous month. The report shall be emailed or delivered on a CD in a Microsoft database format and shall include the following:

a. Time the service calls were received by Contractor, City personnel making the call, time arrived at the intersection, the response time, the technician name, the number of hours spent for each repair and equipment replaced.

b. A complete record of all work that was performed on the traffic signal equipment during the previous month including the make, model, and serial number of any major components or other equipment that was newly installed at each intersection. The disposition of removed signal control components and the repair history of reinstalled components shall be included in the monthly report.

c. Time and date the PM work was performed.

If the contractor does not provide the computerized monthly activity report by the fifteenth day, the Contractor shall pay liquidated damages to the City in the amount of $500 per calendar day until the report is submitted.

5.3 Pending Repair List

The Contractor shall provide a computerized monthly report, to the City Traffic Engineering Division of the Community Development Department by the fifteenth day of each month, of all pending repair work needed at each intersection. This report shall be broken down by intersection and be separate from the Monthly Activity Report.

If the contractor does not provide the computerized monthly activity report by the fifteenth day, the Contractor shall pay liquidated damages to the City in the amount of $500 per calendar day until the report is submitted.

Section 6. MEETINGS

The Contractor's technician shall be available to meet with the City Traffic Engineering Division on a weekly basis at a mutually agreed upon time and place in the City of Pleasanton to review each week's maintenance activities. The Contractor's maintenance supervisor shall be similarly available to meet with the City Traffic Engineering Division on a monthly basis.

Section 7. KEY PERSONNEL

Any and all persons identified in this Agreement performing work hereunder are deemed by CITY to be key personnel whose services were a material inducement to CITY to enter into this Agreement, and without whose services CITY would not have entered into this Agreement. CONTRACTOR shall not remove, replace, substitute, or otherwise change any key personnel without the prior written consent of CITY.

Section 8. COMPENSATION

8.1 Compensation for Routine Maintenance

In consideration of the furnishing by the Contractor of the described labor, services, materials and equipment in accordance with all provisions of this Agreement, together with the appurtenances thereto, said Contractor shall be paid by the City per maintained intersection and per maintained beacon / in-pavement lights per month as the flat rate cost in accordance with Section 13 – Cost Proposal, attached and incorporated by reference as though fully set forth herein.

In the event that new traffic signals are installed, the Contractor agrees to maintain these signals at the same flat rate and in the same manner as those covered by this Agreement upon written notification from the City Traffic Engineering Division. In the event a notification is made at other than the beginning of the monthly contract period, payment for that month shall be prorated on a daily basis.

The flat rate maintenance cost does not include new traffic signal poles, pedestrian push buttons, LED indications, traffic signal cabinet installation, service cabinet installation, testing traffic signal controller cabinets, installing video detection cameras and CCTV PTZ cameras, painting of poles, heads, cabinets or other devices, nor the repair or replacement cost of inductive loops, signs, electroliers, radar speed signs not associated with traffic signal operations, or repairs to signal

equipment when such equipment has been damaged by vehicular collisions, acts of God, or malicious damage. All other work and repair required to maintain a fully operational traffic signal shall be considered to be included as part of the routine maintenance.

The maintenance of or replacement of inductive loop sensor units and amplifier units, load switches and other minor control components are included in the flat rate maintenance cost.

After hour, weekend and holiday calls shall be included in the flat rate maintenance cost, except in cases where necessary repair work results from vehicular collisions, acts of God, or malicious damage. Request for payment of this work shall be submitted to the City on a separate invoice.

It is the intent of this contract to contain all maintenance and repair costs within the monthly flat rate, with the exception of repair work resulting from vehicular collisions, acts of God, or malicious damage.

8.2 Compensation for Extra Work

The City shall pay for repairs under extra work when such repairs are made necessary due to damage to signals resulting from vehicular collisions, act of God, or malicious damage.

The City agrees to pay the Contractor the full amount of extra repairs in accordance with Section 13 Bid Items and Additional Bid items. The first two hours of Extra Work in response to calls for service received by Contractor between 7 AM and 4 PM on weekdays (non-holidays) shall be charged at the straight time rate (not overtime).

The Contractor shall contact the City Traffic Engineering Division to obtain prior approval before work is scheduled. The Contractor shall verify invoiced charges, when requested by City, with time cards and material invoices.

Repair or replacement of in-pavement loop vehicle detectors shall be considered extra work and shall require approval from the City Traffic Engineering Division prior to replacement.

Repair or replacement of equipment related to radar speed signs shall be considered extra work and shall require approval from the City Traffic Engineering Division prior to repair replacement. Payment shall be made on a time and materials basis.

MATERIAL ONLY required for the replacement of burned out, flickering, dim or otherwise non-functioning LED or incandescent vehicle and pedestrian signals shall be considered extra work.

Section 9. CONTRACT TERM

The period of this Agreement for Contract Services shall extend from July 1, 2025 thru June 30, 2027.

If the Agreement is extended beyond June 30, 2027 per Section 1 of the Maintenance Services Agreement, the Contractor may request an adjustment of the flat rate, labor, and Equipment costs

specified in Section 13 Bid Items and Additional Bid items. Changes in labor or equipment costs shall not exceed the change in the Consumer Price Index (CPI) since the immediately preceding amendment to such rates. The CPI to be used in rate adjustments shall be the all Urban Consumers (1982-84=100) for the San Francisco-Oakland-San Jose, California area as published by the United States Department of Labor, Bureau of Labor Statistics. The Contractor and the City's Community Development Director, may by mutual agreement, amend Section 13 Bid Items and Additional Bid items; provided, however, no more than one amendment may be made in each schedule in any calendar year. Increases due to the cost of Contractor's general liability insurance may be negotiated and approved by the City Community Development Director when said increases are properly documented by the Contractor.

Charges for extra work shall be consistent with Section 13 Bid Items and Additional Bid items.

Section 10 INTERSECTION LIST

ICU #	Name of Intersection			SIGNALS				IISNS
				8-IN	12-IN	PV	PED	
26	Bernal Avenue	@	Case Ave / Old Bernal Ave	7	13	-	8	4
24	Bernal Avenue	@	Fire Station # 4	-	10	-	2	2
96	Bernal Avenue	@	First / Sunol Boulevard	7	9	-	8	4
21	Bernal Avenue	@	I-680 & N/B Ramp	-	14	-	8	3
20	Bernal Avenue	@	I-680 & S/B Ramp	-	11	-	-	3
107	Bernal Avenue	@	Independence Drive	6	6	-	4	1
22	Bernal Avenue	@	Koll Center Drive	-	9	-	4	2
19	Bernal Avenue	@	Meadowlark	-	13	-	4	2
124	Bernal Avenue	@	Nevada	-	21	-	8	4
25	Bernal Avenue	@	Pleasanton Avenue	-	13	-	2	2
106	Bernal Avenue	@	Tawny Dr / Vineyard Ave	-	8	-	6	2
104	Bernal Avenue	@	Utah	-	20	-	8	4
23	Bernal Avenue	@	Valley Avenue	-	23	-	8	4
105	Bernal Avenue	@	Vineyard Avenue	-	15	-	4	3
103	Busch Road	@	Ironwood Drive	-	9	-	2	3
94	First Street	@	Kottinger Drive	-	12	-	6	2
95	First Street	@	Neal Street	6	8	-	8	2
93	First Street	@	Ray St / Vineyard Ave	-	14	-	8	2
92	First Street	@	Stanley Boulevard	6	10	-	6	2
8	Foothill Road	@	Bernal Avenue	7	5	-	4	3
1	Foothill Road	@	Canyon Way / Dublin Canyon	6	17	-	6	4
2	Foothill Road	@	Deodar Way	2	12	-	4	2
7	Foothill Road	@	Foothill High School	-	19	-	4	4
119	Foothill Road	@	I-580 E/B Ramp	-	15	-	2	3
120	Foothill Road	@	I-580 W/B Ramp	-	12	-	2	3
3	Foothill Road	@	Laurel Creek Way	7	6	-	4	3

5	Foothill Road	@	Muirwood Drive (North)	1	15	-	4	3
4	Foothill Road	@	Stoneridge Drive / Laurel Creek Dr	-	22	-	4	4
6	Foothill Road	@	W Las Positas Boulevard	5	5	-	4	2
48	Gibraltar Drive	@	Chabot	4	12	-	8	4
49	Gibraltar Drive	@	Willow Rd	12	4	2	8	2
56	Hacienda Drive	@	Gibraltar Drive (North)	13	4	3	8	2
58	Hacienda Drive	@	Gibraltar Drive (South)	11	4	2	8	-
54	Hacienda Drive	@	I-580 E/B Ramp	4	6	-	2	1
53	Hacienda Drive	@	I-580 W/B Ramp	5	6	-	2	1
117	Hacienda Drive	@	Iron Horse Trail	-	8	-	2	2
55	Hacienda Drive	@	Owens Drive	8	16	-	8	4
59	Hacienda Drive	@	W Las Positas Boulevard	-	19	2	8	2
36	Hopyard Road	@	Arthur Dr \ N Valley Trails	10	6	1	8	3
39	Hopyard Road	@	Black Avenue	10	4	-	8	2
34	Hopyard Road	@	Coronado Lane	-	10	-	2	2
30	Hopyard Road	@	Gibraltar Drive	-	20	-	6	3
28	Hopyard Road	@	I-580 E/B Ramp	4	6	-	-	-
27	Hopyard Road	@	I-580 W/B Ramp	2	8	-	2	-
33	Hopyard Road	@	Inglewood Drive	12	6	1	8	4
29	Hopyard Road	@	Owens Drive	7	13	-	6	4
37	Hopyard Road	@	Parkside Dr \ S Valley Trails	12	7	-	8	3
32	Hopyard Road	@	Stoneridge Drive	2	23	-	8	4
38	Hopyard Road	@	Valley Avenue	11	7	3	8	4
35	Hopyard Road	@	W Las Positas Boulevard	11	9	4	8	4
31	Hopyard Road	@	Clorox	6	4	2	4	2
126	Johnson Drive	@	Commerce Dr	-	11	-	4	3
127	Johnson Drive	@	Costco	-	12	-	4	3
41	Johnson Drive	@	Clorox	12	4	-	8	4
80	Main Street	@	Neal St / Rose Ave	6	4	-	8	-

79	Main Street	@	St John St / Ray St	11	5	-	8	-
44	Owens Dr	@	Chabot Drive	8	10	-	8	-
46	Owens Dr	@	East Bart Driveway	5	14	-	6	4
116	Owens Dr	@	Iron Horse Trail	-	9	-	4	2
40	Owens Dr	@	Johnson Drive	12	4	4	8	4
47	Owens Dr	@	Orcale Ln	-	18	-	6	4
60	Owens Dr	@	Rosewood Drive	4	14	-	8	4
65	Owens Dr	@	W Las Positas Boulevard	6	5	-	2	2
45	Owens Dr	@	Willow Rd / Bart Station	8	12	-	8	4
61	Rosewood Drive	@	CarrAmerica / WalMart	4	16	-	8	4
62	Rosewood Drive	@	Rose Pavillion	-	16	-	8	2
78	Santa Rita \ Main	@	Stanley Blvd / Del Valle Pkwy	-	27	-	12	6
77	Santa Rita Road	@	Amador Crosswalk	-	6	-	2	2
121	Santa Rita Road	@	Amador HS	-	17	-	4	2
76	Santa Rita Road	@	Black Avenue	11	4	-	6	2
68	Santa Rita Road	@	I-580 E/B Ramp / Pimlico	1	18	-	6	4
67	Santa Rita Road	@	I-580 W/B Ramp	3	8	-	2	1
73	Santa Rita Road	@	Mohr Drive	-	16	-	8	2
70	Santa Rita Road	@	Old Santa Rita Road	-	19	-	8	2
69	Santa Rita Road	@	Rosewood Drive	5	6	-	2	2
72	Santa Rita Road	@	Stoneridge Drive	15	7	-	8	2
74	Santa Rita Road	@	Valley Avenue	9	11	-	8	4
71	Santa Rita Road	@	W Las Positas Boulevard	7	14	-	6	4
91	Stanley Boulevard	@	California Ave / Reflection Dr	4	16	-	6	4
90	Stanley Boulevard	@	Valley Ave \ Bernal Ave	2	19	-	4	4
114	Stoneridge Drive	@	Auto Mall	-	20	-	8	4
50	Stoneridge Drive	@	Chabot Drive	10	10	-	8	4
17	Stoneridge Drive	@	Denker / Franklin Drive	10	10	-	8	4
115	Stoneridge Drive	@	El Charro	-	23	-	6	4

63	Stoneridge Drive	@	Gibraltar Drive	11	5	2	8	-
84	Stoneridge Drive	@	Guzman Pkwy	-	10	-	4	4
57	Stoneridge Drive	@	Hacienda Drive	12	8	4	8	4
15	Stoneridge Drive	@	I-680 N/B Ramp	4	8	-	-	-
14	Stoneridge Drive	@	I-680 S/B Ramp	4	8	-	2	-
16	Stoneridge Drive	@	Johnson Drive	5	12	-	4	4
82	Stoneridge Drive	@	Kamp Dr / Garden Creek	-	16	-	8	4
83	Stoneridge Drive	@	Newton Way	-	14	-	8	4
81	Stoneridge Drive	@	Rheem Dr / Milani Ave	-	14	-	8	2
12	Stoneridge Drive	@	Springdale Drive	4	10	-	8	2
13	Stoneridge Drive	@	Stoneridge Mall Road	2	9	-	4	2
113	Stoneridge Drive	@	Stoneridge Creek	-	16	-	8	4
85	Stoneridge Drive	@	Trevor Pkwy	-	11	-	6	3
64	Stoneridge Drive	@	W Las Positas Boulevard	8	14	2	8	-
51	Stoneridge Drive	@	Willow Road	12	4	2	8	-
122	Stoneridge Mall Road	@	Bart Garage	-	19	-	6	4
9	Stoneridge Mall Road	@	Canyon Way	-	12	-	4	2
111	Stoneridge Mall Road	@	Embarcadero Ct	-	18	-	4	2
10	Stoneridge Mall Road	@	Fabain Court	-	20	-	8	4
11	Stoneridge Mall Road	@	McWilliams Lane	6	10	-	4	-
123	Stoneridge Mall Road	@	Workday Way	-	18	-	8	4
100	Sunol Boulevard	@	Arlington Drive	-	19	-	6	4
98	Sunol Boulevard	@	Junipero Drive	-	20	-	8	4
97	Sunol Boulevard	@	Mission Drive	1	15	-	8	3
99	Sunol Boulevard	@	Sycamore Road	-	20	-	6	4
89	Valley Avenue	@	Boulder Street	-	13	-	6	4
88	Valley Avenue	@	Busch Road	-	12	-	2	3
43	Valley Avenue	@	Case Ave	-	12	-	6	4
66	Valley Avenue	@	Greenwood Road	4	10	-	8	2

42	Valley Avenue	@	Koll Center Pkwy / Gate #12	-	18	-	6	2
86	Valley Avenue	@	Kolln Street	6	7	-	6	3
125	Valley Avenue	@	Northway Rd	-	12	-	4	2
87	Valley Avenue	@	Quarry Lane	4	8	-	4	2
108	Vineyard Avenue	@	Montevino Dr / El Capitan	-	-	8	6	2
109	Vineyard Avenue	@	Pietronave	-	8	-	8	2
110	Vineyard Avenue	@	Ruby Hill Boulevard	-	8	-	2	3
18	W Las Positas Boulevard	@	Dorman Road	-	14	-	6	4
118	W Las Positas Boulevard	@	Iron Horse Trail	-	8	-	2	2
112	W Las Positas Boulevard	@	Muirwood Drive	-	16	-	8	4
52	W Las Positas Boulevard	@	Willow Road	4	2	8	-	-
			TOTALS	**444**	**1,451**	**50**	**710**	**335**

Section 11 BEACONS AND PAVEMENT LIGHTS LIST

Count	Location of Device			Type
1	Abbie St	@	Trail Xing	RRFB
2	Bernal	@	Kottinger Park Xing	RRFB
3	Bernal Ave	@	Puerto Vallarta	RRFB
4	Black Ave	@	Cedarwood Ln	RRFB
5	Embacadero Ct	@	Crosswalk	RRFB
6	First St	@	W Angela St	RRFB
7	First St	@	Abbie St	RRFB
8	Foothill Rd	@	Oak Creek Dr	RRFB
9	Franklin Dr	@	Johnson Dr	RRFB
10	Johnson Dr	@	Tom Burnett Ln	RRFB
11	Mohr Ave	@	Iron Horse Trail	RRFB
12	Owens Dr	@	Andrews Dr	RRFB
13	Pleasanton Ave	@	Alameda Fairgrounds	In-Pavement Crosswalk / RRFB
14	Santa Rita Rd	@	Francisco St	In-Pavement Crosswalk / RRFB
15	Valley Ave	@	Laguna Creek Ln	RRFB
16	Vineyard Ave	@	Touriga Dr	RRFB
17	W Las Positas Blvd	@	Fairlands Dr	RRFB

Section 12 PREVENTATIVE MAINTENANCE SCHEDULE

The City requires that the Contractor will perform preventative maintenance on all signal equipment. A traffic signal includes, but is not limited to: traffic signal controller and cabinet and all appurtenant equipment, service cabinet, flashing beacons related to traffic signal operations (i.e. advanced warning beacons), pedestrian and vehicle signals, detector systems, video detection camera systems, CCTV camera systems, wireless vehicle detection system, interconnect cable (copper and fiber optic), wireless communications equipment, traffic signal communications equipment, emergency vehicle preemption system, uninterrupted power supply system, intersection safety lighting, internally illuminated street name signs, and radar speed signs related to traffic signal operations.

The Contractor shall use a Windows-based computerized maintenance and inventory management system to record all work done as outlined in the Scope of Work. The Preventative Maintenance database shall be continually updated. The City shall have access to the database via the internet as well as an updated hard copy of the database that shall be furnished to the City on a monthly basis. All records shall be updated in real time by the contractor via Smartphone or similar device.

Upon completion of each Preventative Maintenance inspection detailed in this schedule, the contractor shall supply a computerized report to the City Traffic Engineering Division itemizing each check performed and the result of that check. A separate report shall be generated for the monthly, quarterly, and annual, even when all of these checks occur in the same month.

The Contractor shall also provide a computerized monthly report to the City Traffic Engineering Division of the Community Development Department by the fifteenth day of each month that summarizes the pending repair work needed at each intersection. This report shall be broken down by intersection and be separate from the Preventative Maintenance Report. This may be provided by hard copy or by email on the 15th day of each month.

The contractor shall perform the following **Monthly Preventative Maintenance** inspections and corrective work every month.

1. Controller Cabinet
    - Test and Check ground fault receptacle
    - Observe the general appearance of the cabinet, noting any rust or other signs of deterioration and complete/recommend repair work if needed
    - Inspect door gasket condition and replace if necessary
    - Inspect door lock operation and replace if necessary
    - Operate and inspect ventilation fan and cabinet light (where applicable)
    - Inspect for pests in cabinet and take corrective action if needed
    - Visually inspect all relays, photocells, cabinet locks, cabinet fans, switches and make routine adjustments and repairs as necessary
    - Move the fan thermostat setting and determine if fan is operable. Return thermostat to

proper setting

2. Signal Controller
   - Visually inspect signal controller and controller cabinet components for proper operation and make repairs/replacements as necessary
   - Check timing of individual signal phases. Contractor shall notify engineer immediately of any operational issues (i.e. skipped or omitted phases). The contractor shall not make any timing changes unless it is a matter of public safety or is needed for the proper operation of the traffic signal.
3. Signal & Pedestrian Heads
   - Visually inspect all vehicular and pedestrian signals for proper operation and replace outages. Replace all burnt out or flickering indications with LED indications
   - Walk intersection and visually inspect all signal heads including backplates, visors and indications for proper operation and alignment. Replace all broken parts, align signal heads and adjust all mast arm signs as necessary
   - Check that all pedestrian signals are in good condition, aimed properly and make adjustments as necessary
4. Pedestrian Push Buttons
   - Actuate each button for proper operation. Visually inspect and note condition. Replace or repair any broken or defective pedestrian push buttons. All new pedestrian push buttons shall be two inch ADA push buttons
   - Check all audible and tactile pedestrian signal are in good condition and properly positioned (where applicable) and make repairs as needed
5. Battery Backup Systems
   - Test battery backup system
   - Test battery charge and replace as needed
6. Interconnect Communication
   - Check operation
   - Visually inspect cables, antenna, and other hardware and make repairs as needed
7. Miscellaneous
   - Visually inspect other signal hardware
   - Correct and/or report all deficiencies
   - Check operation of flashing beacons at signalized intersections to ensure proper operation
   - Clean video detection camera lenses as needed

In addition to the monthly maintenance report, the Contractor shall conduct **Quarterly Preventative Maintenance** and submit a report that shall include all of the following elements. Quarterly maintenance shall take place in the months of July, October, January and April:

8. Detectors and Loops
    - Visually inspect for exposed wires, cracks, and/or pot holes and make repairs or recommendations for repair as needed
    - Check and tune detector amplifiers
9. Pull Boxes
    - Check Pull box and lid condition and replace/repair as needed
    - Check condition of splices and make repairs as needed
    - Clear any debris from pull boxes
10. Controller Cabinet
    - Measure voltage level at service entrance in cabinet and record
    - Vacuum and clean controller cabinet and contents
11. Battery Backup Systems
    - Measure voltage level at service entrance in cabinet and record
    - Vacuum and clean cabinet and contents
12. Emergency Vehicle Pre-Emption
    - Actuate preempt to check operation with Emergency Vehicle Pre-emption Emitter and make repairs as needed.
    - Visually inspect cables, antenna, and other hardware

In addition to the monthly and quarterly maintenance the Contractor shall conduct **Annual Preventative Maintenance** and submit a report that shall include all of the following elements. Annual maintenance shall take place in each month with the traffic signals being segmented into 12 equal zones:

13. Controller Cabinet
    - Replace cabinet air filter
    - Lubricate hinges and lock
14. Signal Heads
    - Align signal heads as needed
    - Clean and polish all lenses and reflectors
15. Signal System Assessment
    - Perform conflict monitor test and submit printout
    - Check for water accumulation and reseal ducts
16. Miscellaneous
    - Check any other equipment utilized during the term of the Agreement but not specifically listed
    - Anchor bolts tightened

- Adjust all mast arm mounted street name signs as needed
- Check condition of paint (frameworks, heads, cabinet, poles, and other appurtenances) and make recommendation for repainting as needed.
- Check cabinet inventory list and update as needed.

17. Night Inspections
    - Walk intersection and check for proper visibility and operation of traffic signal heads, pedestrian signal heads and flashing beacons
    - Check operation of safety lighting and recommend repair and replacement to City Traffic Engineering Division as needed
    - Check operation of internally illuminated street name signs and conduct repair and replacement as needed

Section 13 COST PROPOSAL

BID ITEMS AND ADDITIONAL ITEMS

Contractor _____

Item No.	Item	Units	Cost Per Unit Per Month
	REQUIRED BID ITEMS		
1	Preventative and Routine Maintenance for 124 Traffic Signals	Each	
2	Preventative and Routine Maintenance for 17 Beacons / In-Pavement Lights	Each	
3	Computerized Maintenance and Inventory System	Lump Sum	
	ADDITIONAL ITEMS IN SECTION 8.2 (COMPENSATION FOR EXTRA WORK)		
4	Signal maintenance technician (straight time)	Hour	
5	Signal maintenance technician (overtime)	Hour	
6	Signal maintenance technician (double time)	Hour	
7	Signal maintenance supervisor (straight time)	Hour	
8	Signal maintenance supervisor (overtime)	Hour	
9	Signal maintenance supervisor (double time)	Hour	
10	Laborer (straight time)	Hour	
11	Laborer (overtime)	Hour	

12	Laborer (double time)	Hour	
13	Bucket Truck (straight time)	Per Trip	
14	Bucket Truck (overtime)	Per Trip	
15	Crane Truck	Per Trip	
16	Furnish and Install 1A Pole	Each	
17	Furnish and install 1B pole	Each	
18	Furnish and install 1B pole and foundation	Each	
19	Furnish and install 1B pole and foundation in sidewalk	Each	
20	Furnish and install pedestrian push button post and 2" push button	Each	
21	Furnish and install pedestrian push button post with foundation and 2" push button	Each	
22	Install traffic signal cabinet on existing foundation	Each	
23	Install Type III style service cabinet on existing foundation	Each	
24	Install Type III service/BBS combo cabinet on existing foundation	Each	
25	Install Type III service/BBS combo cabinet and foundation	Each	
26	Install BBS cabinet on side of traffic signal cabinet	Each	
27	Test traffic signal cabinet	Each	
28a	Install video detection camera on signal pole/mast arm and 3#14 wiring or cat5e outdoor wire- 1 camera only	Each	
28b	Install video detection camera on signal pole/mast arm and 3#14 wiring or cat5e outdoor wire- 2 cameras	Each	

28c	Install video detection camera signal pole/mast arm and 3#14 wiring or cat5e outdoor wire- 3+ cameras	Each	
28d	Install video detection camera only (existing location no wire needed)	Each	
29	Install CCTV PTZ camera, power and Ethernet cabling	Each	
30	Install 6'x6' detector loop (Type A) - 1-5	Each	
31	Install 6'x6' detector loop (Type A) - 6+	Each	
32	Install 6'x6' detector loop (Type D) - 1-5	Each	
33	Install 6'x6' detector loop (Type D) - 6+	Each	
34	Install City furnished Solar Powered Radar Speed Sign	Each	
35	Install City furnished Solar Powered RRFB	Each	
36	Painting of intersection cabinets, back plates, housing and visors	Each	
37	Purchase 12" Red LED Lamp	Each	
38	Purchase 12" Yellow LED Lamp	Each	
39	Purchase 12" Green LED Lamp	Each	
40	Purchase 8" Red LED Lamp	Each	
41	Purchase 8" Yellow LED Lamp	Each	
42	Purchase 8" Green LED Lamp	Each	
43	Purchase countdown LED pedestrian signal lamp	Each	
44	Percent markup on materials	Percent	