TRAFFIC STANDARDS

Adopted by the
Santa Rosa City Council
Resolution No. 27067
April 8, 2008
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No Santa Rosa supplement to MUTCD or California Supplement at this time

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No Santa Rosa supplement to MUTCD or California Supplement at this time

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No Santa Rosa supplement to MUTCD or California Supplement at this time

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No Santa Rosa supplement to MUTCD or California Supplement at this time

List of Approved Items

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General Notes:

1. The following Traffic Standards are for use in the City of Santa Rosa and are in substantial conformance with the California Manual on Uniform Traffic Control Devices also called the California MUTCD, the State of California Standard Specifications, and the State of California Standard Plans as adopted by the City of Santa Rosa, and are to be used in conjunction with the named references for any project within the public right-of-way. Deviations from these standards shall be granted by the City Traffic Engineer.

2. The format of this document follows the California MUTCD. Those Parts which contain no City Standards are included as place holders for future standards.
Traffic Sign Notes:

1. The base metal of all signs shall conform to ASTM designation B209, of either 5052-H38 or 6061-T6 alloy, and shall conform with all other applicable current Caltrans specifications for sign materials.

2. Unless otherwise specified by the City Traffic Engineer, the thickness of all signs shall be 0.080 inches for roadside signs and 0.125 inches for overhead signs.

3. Unless otherwise specified by the City Traffic Engineer the following sign dimensions shall be used for all warning and regulatory signs:
   a. Federal signs specifications are found in the FHWA Sign Specifications and California signs are found in the California Sign Specifications. There is no one document containing both sets of signs. Unless otherwise specified in the City of Santa Rosa Traffic Standards or as directed by the City Traffic Engineer, FHWA signs shall conform with the dimensions for Conventional Road indicated by a C and California signs shall conform with the dimensions for STANDARD sizes when more than one set of dimensions are offered. In some cases STANDARD is not specified. In these cases the size of the sign shall be determined by the City Traffic Engineer.
   b. Street name signs shall conform with the dimensions found in City of Santa Rosa Standards 703A, 704A, and 705A.
   c. At All-Way Stop controlled intersections, all Stop Signs shall be 36"x36".
   d. The Standard Size Dimension shall be used for the R73 series.
   e. The R81 Bike Lane sign shall be 18"x24".
   f. The FHWA sign for School Pedestrians (S1-1) shall be 30"x30".
   g. For pedestrian barricades, use the R49 per California Sign Specifications.

4. Standard abbreviations shall conform with the latest version of the California MUTCD.

5. Advance street name signs shall be placed on all arterial streets and those collector streets as required by the City Traffic Engineer. Advance street name signs shall be installed in advance of the street per California MUTCD guidelines for advance placement of warning signs, condition A. No advance street name signs shall be placed where the distance between side streets curb to curb is less than 200 feet.
Traffic Signs Notes:

6. Where a median island exists and there are 2 or more lanes in the same direction, an advance street name signs shall be installed in the island if the width of the island will allow it.

7. Traffic signs may be installed on luminaire poles under the following conditions:
   a. No more than 3 traffic signs shall be installed on a single luminaire pole.
   b. The location of the luminaire pole shall be appropriate for the given sign. This location shall be determined acceptable by the City Engineer.

8. All poles shall be 2 inch I.D. galvanized steel, in conformance with the most current Caltrans specification for sign poles. Both ends shall be threaded.

9. For poles installed in finished surfaces, a 2 1/2 inch diameter hole shall be drilled to a depth of 18 inches. The pole shall be set using a 1/3 cement to 2/3 sand mix.

10. For poles installed in unfinished surfaces, an 8 inch diameter hole shall be dug to a minimum depth of 18 inches. The pole shall be set using a 1 part cement to 2 parts sand mix and 3 parts gravel.
Traffic Signs - Retroreflectivity Specifications

The following reflective sheeting shall be used for the construction of the indicated signs.

I. Engineer Grade (Table A):

All signs not indicated below.

II. Long Distance Performance Grade (Table B):

Stop signs, yield signs, stop ahead signs, speed limit signs, keep right signs, no U-turn signs, mast-arm mounted street name signs, street name signs, chevrons, wrong way signs, end-of-road signs, and type 1, 2, and 3 object markers.

III. Visual Impact Performance Grade (Fluorescent Yellow Green) (Table C):

Pedestrian crossing signs, school pedestrian signs, bicycle warning signs, and associated supplemental arrows.

Table A - Minimum Coefficient of Retroreflection RA (cd/lux/m2) for Engineer Grade Reflective Sheeting.

<table>
<thead>
<tr>
<th>Color</th>
<th>Observation Angle</th>
<th>Entrance Angle</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>-4°</td>
</tr>
<tr>
<td>White</td>
<td>0.2°</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td>0.5°</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td>1.0°</td>
<td>—</td>
</tr>
<tr>
<td>Yellow</td>
<td>0.2°</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>0.5°</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>1.0°</td>
<td>—</td>
</tr>
<tr>
<td>Red</td>
<td>0.2°</td>
<td>14.5</td>
</tr>
<tr>
<td></td>
<td>0.5°</td>
<td>7.5</td>
</tr>
<tr>
<td></td>
<td>1.0°</td>
<td>—</td>
</tr>
<tr>
<td>Green</td>
<td>0.2°</td>
<td>9.0</td>
</tr>
<tr>
<td></td>
<td>0.5°</td>
<td>4.5</td>
</tr>
<tr>
<td></td>
<td>1.0°</td>
<td>—</td>
</tr>
<tr>
<td>Blue</td>
<td>0.2°</td>
<td>4.0</td>
</tr>
<tr>
<td></td>
<td>0.5°</td>
<td>2.0</td>
</tr>
<tr>
<td></td>
<td>1.0°</td>
<td>—</td>
</tr>
<tr>
<td>Brown</td>
<td>0.2°</td>
<td>2.0</td>
</tr>
<tr>
<td></td>
<td>0.5°</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td>1.0°</td>
<td>—</td>
</tr>
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</table>
Table B - Minimum Coefficient of Retroreflection RA (cd/lux/m²) for High Intensity Grade Reflective Sheeting.

<table>
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<th>Entrance Angle</th>
</tr>
</thead>
<tbody>
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<td>Color</td>
<td>Angle</td>
</tr>
<tr>
<td>White</td>
<td>0.2°</td>
</tr>
<tr>
<td></td>
<td>0.5°</td>
</tr>
<tr>
<td></td>
<td>1.0°</td>
</tr>
<tr>
<td>Yellow</td>
<td>0.2°</td>
</tr>
<tr>
<td></td>
<td>0.5°</td>
</tr>
<tr>
<td></td>
<td>1.0°</td>
</tr>
<tr>
<td>Red</td>
<td>0.2°</td>
</tr>
<tr>
<td></td>
<td>0.5°</td>
</tr>
<tr>
<td></td>
<td>1.0°</td>
</tr>
<tr>
<td>Green</td>
<td>0.2°</td>
</tr>
<tr>
<td></td>
<td>0.5°</td>
</tr>
<tr>
<td></td>
<td>1.0°</td>
</tr>
<tr>
<td>Blue</td>
<td>0.2°</td>
</tr>
<tr>
<td></td>
<td>0.5°</td>
</tr>
<tr>
<td></td>
<td>1.0°</td>
</tr>
<tr>
<td>Brown</td>
<td>0.2°</td>
</tr>
<tr>
<td></td>
<td>0.5°</td>
</tr>
<tr>
<td></td>
<td>1.0°</td>
</tr>
</tbody>
</table>

Table C - Minimum Coefficient of Retroreflection RA (cd/lux/m²) for Visual Impact Performance Reflective Sheeting.

<table>
<thead>
<tr>
<th>Observation</th>
<th>Entrance Angle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>Angle</td>
</tr>
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<td>Fluorescent</td>
<td>0.2°</td>
</tr>
<tr>
<td>Yellow</td>
<td>0.5°</td>
</tr>
<tr>
<td></td>
<td>1.0°</td>
</tr>
<tr>
<td>Fluorescent</td>
<td>0.2°</td>
</tr>
<tr>
<td>Yellow Green</td>
<td>0.5°</td>
</tr>
<tr>
<td></td>
<td>1.0°</td>
</tr>
</tbody>
</table>
In Urban Areas with Curb

In Medians

All other typical applications can be found in chapter 2A of the California MUTCD.
NOTES:

1. Blanks are 0.125" aluminum per Caltrans Specifications.

2. Font, dimensions and spacing of letters shall be per the latest edition of the FHWA Standard Alphabets for Traffic Control Devices.Abbreviations shall be per the latest version of the California MUTCD and found in the appendix A102.

3. Series D 2000 shall be used. Series C 2000 may be used if the street name is too long for the maximum sign length, upon approval of City Traffic Engineer.

4. When street name changes at the intersection, the far-side mast arm shall display the name of the street to the right and shall have an arrow facing away from the street name and towards the right. The near-side mast arm shall display the name of the street to the left and shall have an arrow facing away from the street name and towards the left.

5. Mast-arm mounted street name signs shall be mounted at all signalized intersections where mast arms exist. One double-sided sign shall be installed on each mast-arm.
Notes:

1. All signs shall be reinforced by mounting on a 1"x2" aluminum 3/16" channel back brace.
2. Mounting bolts shall be 5/16"x1" stainless steel.
3. Location of sign mounting on mast arm shall be determined by the City Traffic Engineer during the plan check process.
4. Fixed and/or adjustable brackets shall be used as necessary to horizontally level the sign.
5. Approved brackets are indicated in the Engineer's Approved List of Materials.
NOTES:

1. Blanks are 0.080" aluminum per Caltrans Specifications.

2. Font, dimensions and spacing of letters shall be per the latest edition of the FHWA Standard Alphabets for Traffic Control Devices. Abbreviations shall be per the latest version of the California MUTCD and found in the appendix A102.

3. FHWA Series C 2000 font shall be used. Series B 2000 may be used if the street name is too long for the maximum sign length, upon approval of the City Traffic Engineer.

4. When street name changes from one side of the intersection to the other the sign design shall conform to Detail B - Street Name Change.
1. For all cantilever mount signs and any center mount signs that exceed 36”, use 1”x2” aluminum 3/16 channel back brace.

2. For center mount signs 36” or less in length, use 1/4 14x3/4 hex washer self drilling screw and mount directly to 2” pole.

3. Use 3/4” heavy duty 0.032” stainless steel mounting strapping with 3/4” heavy duty strapping buckle.
NOTES:

1. Blanks are 0.080" aluminum per latest Caltrans Specifications.

2. Font, dimensions and spacing of letter s shall be per the latest edition of the FHWA Standard Alphabets for Traffic Control Devices. Abbreviations shall be per the latest version of the California MUTCD and found in the appendix A102.

3. Series B 2000 shall be used.

4. Arrows shall point away from block number, indicating the ascending direction for addresses.

5. Signs are to be single sided and riveted together (see STD 705B).
3/16" pop rivets w/ stainless steel washer

1.5" x 1.5" square tube

3/8" drive rivets (typ)

2" pipe

Notes:

1. The square tube shall be 12 gauge, ASTM spec. A653 and hot dip galvanized in conformance with designation G-90.
Notes:

1. The traffic signal poles that will receive street name signs shall be determined by the City Engineer during the plan check process.

2. All sign brackets, cantilever mounts and associated hardware must be designed specifically for the installation of traffic signs, and specifications for this hardware must be submitted for approval by the City Engineer prior to construction.
Notes

1. Where Stop Signs are present, the Street Name Signs shall be installed above the Stop Sign.
Traffic Markings Notes:

1. The following City Standards and Specifications are in substantial conformance with the California MUTCD and the State of California Standard Plans and Specifications, and are to be used in conjunction with these named references.

2. Unless otherwise specified by the City Traffic Engineer, the following State of California Standard Plan details (CA MUTCD details are for cross-referencing) shall be used for all pavement markings installed in Santa Rosa:
   a. Centerlines shall conform with State of California Standard Plans Detail 4, (CA MUTCD Figure 3A-101).
   b. Lane Lines shall conform with State of California Standard Plans Detail 10, (CA MUTCD Figure 3A-102).
   c. No Passing Zones shall conform with State of California Standard Plans Detail 23, (CA MUTCD Figure 3A-104).
   d. Left Edge Lines shall conform with State of California Standard Plans Detail 26, (CA MUTCD Figure 3A-105).
   e. Median Islands shall conform with State of California Standard Plans Detail 30, (CA MUTCD Figure 3A-107).
   f. Two-Way Left Turn Lanes shall conform with State of California Standard Plans Detail 33, (CA MUTCD Figure 3A-108).
   g. Channelizing Lines shall conform with State of California Standard Plans Detail 38, (CA MUTCD Figure 3A-112).
   h. The Type IV Arrow shall be used for left or right only lanes and the type I Arrow shall be used for through only lanes. See figure 3B-21.
   i. Bike lanes where parking is permitted shall include the optional 4 inch white marking shown in the California MUTCD Figure 9C-102 for applications Without Parking Stalls.
   j. The bicycle symbol shall be used with the arrow for bike lane markings. See CA MUTCD Figure 9C-6.

3. The following markings shall be installed with the indicated materials:
   a. 4" Edge Lines shall be paint
   b. 6" Bike Lane Lines shall be paint
   c. 8" Channelizing Lines shall be Raised Pavement Markers and thermoplastic
   d. Crosswalks, Legends, Symbols, Arrows shall be thermoplastic
   *Tape shall be used in new pavement

4. Tape shall be durable, reflective, and specifically designed for use on streets and highways, and shall conform with the following specifications:
   In accordance with most current and applicable ASTM testing, the initial minimum retroreflectance values shall be:
   a. Entrance Angle = 88.76°
   b. Observation Angle = 1.05°
   c. Retroreflected Luminance = 500 millicandels per square ft per foot-candle (mcd/sq.ft./fc)
   The retroreflected luminance shall be guaranteed to maintain a minimum of 100 mcd/sq.ft./fc for 4 years.
   Tape shall only be inlaid into fresh asphalt concrete during the final rolling.
Traffic Markings Notes:

5. All paint and thermoplastic shall be lead free and conform with the most current State of California specifications that have been adopted by the City of Santa Rosa.

6. All non-reflective raised pavement markers (RPMs) shall be ceramic and conform with the most current Caltrans specifications. All retroreflective pavement markers shall conform with the most current Caltrans specifications. The Contractor shall provide manufacturer’s specifications for all materials prior to the start of work.

7. Existing pavement markings conflicting with the proposed striping shall be removed immediately prior to the placement of the new markings.

8. All pavement markings damaged by a contractor during construction, shall be replaced in kind at the contractor's expense prior to the finish of contract work.

9. Removal of all striping shall be done by mechanical grinding. All holes left in the pavement due to the removal of raised pavement markers shall be filled with enough adhesive to leave a level surface.

10. Temporary pavement markers shall be installed prior to the removal of any temporary work zone traffic controls, to provide delineation until permanent raised pavement markers are installed or replaced. Damaged or missing temporary markers or markings shall be replaced daily until permanent markers are installed.

11. For all markings relating to bicycle facilities refer to the California MUTCD Part 9, Traffic Controls for Bicycle Facilities.

12. Bike loop detector markings, Figure 9C-7 from the California MUTCD, shall be installed at signalized intersections at all approaches that have detection as directed by the City Traffic Engineer.

13. Unless otherwise specified by the City Engineer, the design width for all Class 2 bicycle lanes shall be a minimum of 4 feet from the edge of gutter to the center of the 6 inch bike lane line.

14. Any Asphalt Concrete dikes installed for pedestrian paths must be painted white with reflective beads applied per Caltrans Standard Specifications, section 84. The top surface and both sides shall be painted.

CITY OF SANTA ROSA
Traffic Markings
Miscellaneous Notes

SCALE: NTS DATE: 2/05
DWN: be APPROVED: STD.-
Notes:

1. The top and face of the curb at the island nose shall be painted white.
2. Two-way reflective markers shall be installed on top of the curb at the island nose, along radial lines as illustrated in the drawing. The color of these markers shall be in conformance with California MUTCD section 3A.04, white markers shall be used if the island separates traffic of the same direction and yellow markers shall be used if the island separates traffic of opposite directions.
3. The minimum number of two-way reflective markers shall be five, with one at each beginning of curve of the island nose and one at the mid point. The maximum distance between markers shall be 2 feet. Additional markers shall be installed to maintain this maximum allowable spacing. Additional markers shall be installed in such a way that the spacing between all markers is equal.
4. A Type Q marker shall be installed at the midpoint of the island nose and just behind the island curb, as shown.
5. When the width of a median island is 3 feet or greater and the island separates traffic of opposite directions, a R4-7 Keep Right symbol sign and Type 1 (OM1-1) object marker (per CA MUTCD section 3C.02) shall be installed at the midpoint of the island nose defined by the radius.
6. On median islands which separate traffic of the same direction, a W12-1 Double Arrow Sign shall be used in place of the R4-7.
Traffic Signal Notes:

A. General

1. The following City Standards and Specifications are in substantial conformance with the State of California Standard Plans and Specifications and are to be used in conjunction with these named references.

2. All deviations from these Specifications shall be approved only in writing by the City Traffic Engineer.

3. All Traffic Signal designs in Santa Rosa shall be approved by the City Traffic Engineer.

B. Traffic Signal Controller - Supplemental to California Specification Section 86-3.03

1. The controller assembly shall be a Type 170E and conform with the latest Caltrans "Traffic Signal Control Equipment Specifications" and all addenda. If specified by the City Traffic Engineer, a Type 2070 controller may be required, which shall conform with the latest Caltrans "Traffic Control Equipment Specification" and all addenda, and as specified on the Engineer's List of Approved Items For Use With The City of Santa Rosa Traffic Standards.

2. The ACIA baud rate shall be jumper selectable from 19.2 KHz to 307.2 KHz.

3. The controller shall be capable of supporting 3 additional ACIA auxiliary communication adapter ports.

C. Traffic Signal Controller Cabinet - Supplemental to California Specification Section 86-3.04

1. The controller cabinet shall be a Type 332A as specified and shown in the Caltrans Traffic Signal Control Equipment Specification. The cabinet shall be constructed of anodized aluminum.

2. The controller cabinet shall be installed no closer than four feet from the service cabinet.

3. The foundation for the Type 332A cabinet shall conform with the Caltrans Standard Plan ES-3C.

D. Traffic Signal Service Cabinet - Supplemental to California Specification Section 86-2.11

1. The traffic signal service cabinet shall be the type III-BF, per Caltrans Standard Plan ES-2E.

2. The service cabinet shall have a provision for reading the service meter through a window without opening any doors.

3. The cabinet shall be watertight with a weatherproof door and window.

4. The service cabinet foundation shall be Type III-B, per Caltrans Standard Plan ES-2E.

5. The service cabinet shall be located no closer than 6 feet from the distribution pole and no closer than 4 feet from the controller cabinet.
Traffic Signal Notes:

E. Traffic Signal Heads - Supplemental to California Specification Section 86-4

1. Count down pedestrian signals shall conform to Section 4E.07 of the California MUTCD. Countdown pedestrian signals shall use the international hand and walking person symbols, illuminated by LEDs to form a solid, filled shape. The numbers shall be illuminated by a double row of LEDs to create a block or bold shape. The hand and walking person symbols shall be the overlaid configuration.

2. All signal head sections shall be constructed of metal, not plastic.

3. All visors shall be constructed of metal and shall be the full circle type.

F. Conduit - Supplemental to State Specification Section 86-2.05

1. Service run conduit shall be 2 inches minimum diameter.

2. Signal run conduit shall be 2 inches minimum diameter. Conduit used exclusively for pedestrian push button runs, shall be 1 inch minimum diameter.

3. All conduit under any street crossing shall be 3 inches minimum diameter.

4. Conduit under any street, sidewalk or planter area shall have a minimum of 18 inches of cover.

5. There shall be two (2) 3 inch diameter conduits between the controller cabinet and the main pull box.

6. All signal interconnect conduit runs shall contain two (2) 2 inches minimum diameter conduit, one with signal interconnect cable and one spare. Signal interconnect conduit shall connect with the main traffic signal pull box for each traffic signal in the run.

7. All conduit shall be Schedule 40 PVC except pole risers which shall be Schedule 80 PVC.

8. All underground metal conduits and metal parts shall be continuously bonded and grounded.

9. All bends and/or offsets shall be made with factory manufactured sections.

10. All empty conduits shall have a flat, woven, lubricated soft fiber polyester tape, (per Caltran's specifications) inside for its entire length and extending 24 inches out of each end.

11. After conduits, wire, and tape have been installed, the ends of all conduits terminating in pull boxes shall be sealed with an approved type of sealing compound. Conduits stubbed for future extension shall be capped.

12. There shall be no cutting of existing conduit to create a window for viewing the content of the conduit. Any conduit that is cut or broken whether intentionally or not, shall be replaced at the contractor's expense.
Traffic Signal Notes:

G. Conductors/Cable/Wiring - Supplemental to California Specifications Section 86-2

1. #14 THW solid conductor wiring shall be used for all traffic signal lights, pedestrian signal lights or pedestrian push buttons.

2. There shall be no splicing of the conductor hot leads for traffic signal lights, pedestrian signal lights, and pedestrian push button wires in any pull box. There shall be no splicing of interconnect cable and video cable in any pull box.

3. Splicing in pull boxes shall be allowed for the traffic signal neutral, pedestrian push button commons, ground wires and multiple lighting conductors. These shall be straight splices in conformance with Method "A" as shown on Caltrans Standard Plan ES-13A. Tap splices for signal neutral and multiple lighting conductors shall be Type "C" as shown on Caltrans Standard Plan ES-13A.

4. All signal interconnect cable shall be run exclusively in signal interconnect conduit.

H. Detectors - Supplemental to State Specifications Section 86-5

1. Video detection shall be used for all approaches, unless otherwise specified by the City Traffic Engineer. Video detection equipment shall be specified in the Engineer's List of Approved Items for Use With The City of Santa Rosa Traffic Standards, or as approved by the City Traffic Engineer.

2. The detection zone shall extend from the limit line to 60 feet back.

3. Inductive loops shall be used for all advance loops. They shall be the Type B loop detector configuration, per Caltrans Specification ES-5B.

4. Each advance loop detector shall have its own detector lead-in cable per approach lane and address.

5. For loop detector wiring, there shall be one shielded cable pair lead-in continuous to controller. No splicing of this cable shall be permitted.

6. Detector lead-in cable shall be permanently and clearly marked at cabinet and pull boxes.

7. Type A detector hand holes shall be installed per Caltrans Standard Plan ES-5D.

8. Type A curb termination shall be installed per Caltrans Standard Plan ES-5D.
**NO. 5 CONCRETE PULLBOX**

**NOTES**

1. This design is supplemental to the most current Caltrans plans and specifications.
NOTES
1. Spare to be used only when specified.
2. Provide sufficient conductor length to connect to PG&E connection point either on pole or in U.G. vault. Check with PG&E for exact length.
NOTES

1. The detection zone should extend to the full width of the travel lane and extend 60 feet from the limit line or crosswalk, as shown in the diagram, unless conditions and/or engineering judgement suggest otherwise.

2. Typical application for large radius right turn.

3. Advance loops shall be inground type B loops, installed per State Specifications and State Plans.

4. Loops shall be centered in travel lane. Parking lane is not to be considered in determining travel lane width.

5. Adjacent loops on the same sensor unit channel shall be wound in opposite directions.

6. Loops in adjacent lanes shall be wound in opposite configuration.
NOTES:

1. Contractor to install conduit into utility company vault with utility company representative in attendance.

2. Contractor to install #5 pull box, 2" service conduit (when nonexistent), and 2" conduit with conductors from equipment to pull box.
NOTES

1. Contractor to install #5 pull box and 2" service conduit (when non-existent) and 2" conduit and conductors from equipment to pull box.
Temporary Traffic Control Notes:

1. The following City Standards are in substantial conformance with the California MUTCD and the State of California Standard Plans and Specifications, and are to be used in conjunction with these named references.

2. All **temporary** Traffic Control Plans shall conform with the most current version of the California MUTCD and all provisions contained in this City of Santa Rosa Standard.

A **temporary** traffic control plan may be a reference to a typical application in the California MUTCD if the work zone conditions are identical to those of the Typical Application. If more than one Typical Application is referenced, the **temporary** traffic control plan shall consist of a description of each work zone condition and when each of the Typical Applications shall be used. If any deviation from the Typical Application is necessary, a site specific design shall be prepared by a person knowledgeable (trained and/or certified) about the fundamental principals of Temporary Traffic Controls and the work activities to be performed, and shall be approved by the City Traffic Engineer, or designee.

3. Compliance with appropriate temporary traffic controls used in work zones shall be required when the normal operation of any City street or sidewalk is impacted by any construction and/or maintenance operation.

4. Work within the public right of way requiring lane closures, flagging or any other activities which may impact the flow of traffic, shall not be permitted during periods of peak traffic from 7:30 AM to 8:30 AM and from 4:00 PM to 6:00 PM. Work within these specific hours shall be permitted only by written authorization by the City Traffic Engineer.

5. Flagging against a functioning traffic signal indication is prohibited.
LIST OF APPROVED ITEMS FOR CONSTRUCTION

   Safetran type 170E and type 2070 controllers
   Compatible with SCATS adaptive software
   GDI model 400F modem

   Safetran type 332A controller cabinets

   Tesco type III-BF service cabinet

   Autoscope Video Detector
   Solo Pro II
   Minihub

5. Emergency Vehicle Preemption
   3M Opticom, 700 series
   711, 721, 722 detectors depending on application
   Phase selector 752