STANDARD DRAWINGS
2024

Amended by City Engineer on May 28, 2024
# Table of Contents

## ACCESSIBLE RAMPS

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>AR-2.0</td>
<td>Curb Ramp Elements Definitions and Stand</td>
</tr>
<tr>
<td>AR-3.0</td>
<td>Curb Ramp General Details</td>
</tr>
<tr>
<td>AR-3.1</td>
<td>Detectable Warning Specifications</td>
</tr>
<tr>
<td>AR-3.2A</td>
<td>Detectable Warning Standard Layout</td>
</tr>
<tr>
<td>AR-3.2B</td>
<td>Detectable Warning Standard Layout</td>
</tr>
<tr>
<td>AR-4.1</td>
<td>Dual Parallel Curb Ramps</td>
</tr>
<tr>
<td>AR-4.2</td>
<td>Single Parallel Curb Ramp For Uncontrolled T-Intersections</td>
</tr>
<tr>
<td>AR-4.3</td>
<td>Dual Perpendicular Curb Ramps with Attached Sidewalk</td>
</tr>
<tr>
<td>AR-4.4</td>
<td>Single Perpendicular Ramp</td>
</tr>
<tr>
<td>AR-4.5</td>
<td>Dual Flared Perpendicular Curb Ramps with Detached Sidewalk</td>
</tr>
<tr>
<td>AR-4.6</td>
<td>Dual Perpendicular Curb Ramps with Detached Sidewalk</td>
</tr>
<tr>
<td>AR-4.7</td>
<td>Sidewalk Driveway Detail</td>
</tr>
<tr>
<td>AR-4.8</td>
<td>Detached Sidewalk Driveway Details</td>
</tr>
</tbody>
</table>

## DRAFTING

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>D-1</td>
<td>Approval Blocks</td>
</tr>
<tr>
<td>D-2</td>
<td>Drafting Standards</td>
</tr>
<tr>
<td>D-3</td>
<td>Standard Map Associated with Legal Description for 8-1/2” x 11” Sheet</td>
</tr>
</tbody>
</table>

## GRADING

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>G-1</td>
<td>Exterior Perimeter Property Line Grading for Fill Areas</td>
</tr>
<tr>
<td>G-2</td>
<td>Grading for Interior Property Lines and Perimeter Property Lines in Cut Areas</td>
</tr>
<tr>
<td>G-3</td>
<td>Wood Retaining Wall Details for Interior Property Lines</td>
</tr>
<tr>
<td>G-4</td>
<td>Masonry/Concrete Retaining Way Detail for Fill Areas at Boundary and Project Phase Lines</td>
</tr>
</tbody>
</table>

## LANDSCAPING

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>L-1</td>
<td>Tree Planting</td>
</tr>
<tr>
<td>L-2</td>
<td>Shrub Planting</td>
</tr>
<tr>
<td>L-3</td>
<td>Remote Control Valve</td>
</tr>
<tr>
<td>L-4</td>
<td>Drip Irrigation Valve Assembly</td>
</tr>
<tr>
<td>L-5</td>
<td>Quick Coupling Valve</td>
</tr>
<tr>
<td>L-6</td>
<td>Master Valve Flow Sensor</td>
</tr>
<tr>
<td>L-7</td>
<td>Flush Valve</td>
</tr>
<tr>
<td>-------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>L-8</td>
<td>Air Relief Valve</td>
</tr>
<tr>
<td>L-9</td>
<td>Pop-Up Rotor Sprinkler</td>
</tr>
<tr>
<td>L-10</td>
<td>Pop-Up Spray Sprinkler</td>
</tr>
<tr>
<td>L-11</td>
<td>Bubbler Sprinkler Head</td>
</tr>
<tr>
<td>L-12</td>
<td>Drip Irrigation Multi-Outlet Emitter</td>
</tr>
<tr>
<td>L-13</td>
<td>Subsurface In-Line Drip Irrigation Layout</td>
</tr>
<tr>
<td>L-14</td>
<td>Subsurface In-Line Drip Irrigation Center-Feed Supply Manifold</td>
</tr>
<tr>
<td>L-15</td>
<td>Subsurface In-Line Drip Irrigation End-Feed Supply Manifold</td>
</tr>
<tr>
<td>L-16</td>
<td>Deep Watering Pipe for Trees</td>
</tr>
<tr>
<td>L-17</td>
<td>Irrigation Controller Enclosure</td>
</tr>
<tr>
<td>L-18</td>
<td>Irrigation System Trenching</td>
</tr>
<tr>
<td>L-19</td>
<td>Drinking Fountain</td>
</tr>
<tr>
<td>L-20</td>
<td>Post and Cable Fencing</td>
</tr>
<tr>
<td>L-21</td>
<td>Knock-Down Bollard and Stationary Bollard</td>
</tr>
<tr>
<td>L-22</td>
<td>Removable Bollard</td>
</tr>
<tr>
<td>L-23</td>
<td>Concrete Walk (In park Areas, not Frontage Areas)</td>
</tr>
<tr>
<td>L-24</td>
<td>Concrete Mow Strip</td>
</tr>
<tr>
<td>L-25</td>
<td>Bike Trail Paving Section</td>
</tr>
<tr>
<td>L-26</td>
<td>Roadway Median Section</td>
</tr>
<tr>
<td>L-27</td>
<td>Redwood Headerboard</td>
</tr>
<tr>
<td>L-28</td>
<td>Double Pipe Gate</td>
</tr>
<tr>
<td>L-29</td>
<td>Single Pipe Gate</td>
</tr>
</tbody>
</table>

**STORM DRAINAGE**

<table>
<thead>
<tr>
<th>SD-1</th>
<th>10-Year Peak Flow Sacramento Method Rainfall Zone 2, &lt;80 Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>SD-1A</td>
<td>Design Runoff Nolte Method Drainage Areas, &lt;50 Acres</td>
</tr>
<tr>
<td>SD-1B</td>
<td>Design Runoff Nolte Method Residential Areas, 50-160 Acres</td>
</tr>
<tr>
<td>SD-1C</td>
<td>Design Runoff Nolte Method Commercial Areas, 50-160 Acres</td>
</tr>
<tr>
<td>SD-2</td>
<td>10-Year Peak Flow Sacramento Method Rainfall Zone 2, 80-640 Acres</td>
</tr>
<tr>
<td>SD-3</td>
<td>100-Year Peak Flow Sacramento Method Rainfall Zone 2, &lt;80 Acres</td>
</tr>
<tr>
<td>SD-4</td>
<td>100-Year Peak Flow Sacramento Method Rainfall Zone 2, 80-640 Acres</td>
</tr>
<tr>
<td>SD-5</td>
<td>Loss in Junction Due to Change in Direction of Flow in Lateral</td>
</tr>
<tr>
<td>SD-6.0</td>
<td>Storm Drain Trench Detail</td>
</tr>
<tr>
<td>SD-6.1</td>
<td>Storm Drain Reinforced Concrete Pipe Bedding and Initial Backfill</td>
</tr>
<tr>
<td>SD-6.2</td>
<td>Storm Drain Plastic Pipe Bedding and Initial Backfill</td>
</tr>
<tr>
<td>SD-6.3</td>
<td>Cutoff Collar</td>
</tr>
<tr>
<td>SD-7</td>
<td>Standard Precast Concrete Drainage Manhole</td>
</tr>
<tr>
<td>SD-8A</td>
<td>Type A Saddle Manhole</td>
</tr>
<tr>
<td>SD-8B</td>
<td>Type B Saddle Manhole</td>
</tr>
</tbody>
</table>
City of Elk Grove

Table of Contents

SD-9 Grey Cast Iron Standard 24” Manhole Frame & Cover
SD-10 Grey Cast Iron Standard 36” Manhole Frame & Cover
SD-11 Grate Type Manhole Cover
SD-12 Drop Inlet Type B
SD-12.1 Drop Inlet Type B at Detached Sidewalk
SD-13 Drop Inlet Type C
SD-14 Welded Steel Grate Frame
SD-15 Welded Steel Grate
SD-16 Center Support Assembly for Multiple Grates
SD-17 Catch Basin Face Plate Assembly and Protection Bar
SD-18 Drop Inlet Type F
SD-19.1 Drop Inlet Type G, Type 2 C&G Only (Page 1 of 2)
SD-19.2 Drop Inlet Type G, Type 2 C&G Only (Sheet 2 of 2)
SD-19.3 Modified Type J Inlet
SD-23 Pipe Connects
SD-24 Flexible Pipe to Manhole Connection
SD-25 Typical Ramp and Transition Detail
SD-26 Outlet Pipe Headwall and Apron
SD-27 Ditch Discharge Control and Apron
SD-28.1 Trash Rack 24”-36” Pipe (Sheet 1 of 4)
SD-28.2 Trash Rack 42” Pipe and Larger (Sheet 2 of 4)
SD-28.3 Trash Rack 42” Pipe and Larger (Sheet 3 of 4)
SD-28.4 Trash Rack Details (Sheet 4 of 4)
SD-29.1 Inlet Pipe Headwall Wingwall Structure (Sheet 1 of 2)
SD-29.2 Inlet Pipe Headwall Wingwall Structure (Sheet 2 of 2)
SD-30.1 Lined Channel Section (Sheet 1 of 2)
SD-30.2 Lined Channel Section (Sheet 2 of 2)
SD-31 Utility Stream Crossing

STREET LIGHTING

SL-1 Street Lighting Poles and Symbols
SL-2 Street Lighting Illumination Criteria
SL-3 Street Light Foundations
SL-4 Standard Pull Box
SL-5 Traffic-Rated Pull Box
SL-6 Base Location for Street Light
SL-7 Underground Service Installation
SL-8 Metered Service Pedestal (Can) (120/208V, 120/240V)
SL-9 Metered Service Pedestal (Can) with Step-Down Transformer (277/480V to 120/240V)
| SL-12 | In-Line Fuse Requirements |
| SL-13 | 2-Wire Street Light System Wire Size and Voltage Drop Calculation |
| SL-14 | 3-Wire Street Light System Wire Size and Voltage Drop Calculation |
| SL-15 | Conduit, Service Wire and Breaker Sizing |
| SL-19 | Street Light Areas |
| SL-20 | Common Type Electrolier (Series ‘A’) |
| SL-22 | Common Type Electrolier (Series ‘B’) |
| SL-24 | Common Type Street Light Pole Spacing Guide (Series ‘A’/Series ‘B’) |
| SL-25 | Common Type Typical Locations Arterial Streets (Series ‘A’/Series ‘B’) |
| SL-26 | Common Type Typical Locations Collector and Residential Streets (Series ‘A’/Series ‘B’) |
| SL-30 | Zone 2 Electrolier (Dual Arm) |
| SL-31 | Zone 2 Electrolier (Series ‘A’) |
| SL-33 | Zone 2 Luminaire Options (Series ‘A’) |
| SL-34 | Zone 2 Electrolier (Series ‘B’) |
| SL-36 | Zone 2 Pole Spacing Guide (Series ‘A’/Series ‘B’/Dual Arm) |
| SL-37 | Zone 2 Typical Locations Arterials and Collectors with Medians (Series ‘A’/Series ‘B’/Dual Arm) |
| SL-38 | Zone 2 Typical Locations Collector and Residential Street (Series ‘A’/Series ‘B’) |
| SL-40 | Laguna West Electrolier (Dual Arm) |
| SL-42 | Laguna West Electrolier (Series ‘B’) |
| SL-46 | Old Town Electrolier (Series ‘B’) |

**STORMWATER QUALITY**

| SQ-1 | Stabilized Construction Site Access |
| SQ-3 | Sediment Trap Stabilized Outlet SQ-3 |
| SQ-4 | Fiber Rolls |
| SQ-5 | Silt Fence |
| SQ-6 | Concrete Washout |
| SQ-7 | Inlet Sediment Control |
| SQ-8 | Storm Drain Inlet Filter Bag |
| SQ-9A | Erosion Control Blankets/Mats Channel Installation |
| SQ-9B | Erosion Control Blankets/Mats Slope Installation |
| SQ-10.1 | Drop Inlet Concrete Stamp (Sheet 1 of 2) |
| SQ-10.2 | Drop Inlet Concrete Stamp (Sheet 2 of 2) |

**STREETS**

| ST-1A | Trench Backfilling and Resurfacing |
| ST-5 | Trench Resurfacing When Fabric is Required |
Table of Contents

ST-6A  Utility Pothole Repair
ST-7   General Notes
ST-8   Typical Trench Compaction Detail
ST-8A  Manhole Backfill Detail
ST-9   Trench Resurfacing
ST-10  Trench Sections in Improved Area Horticulture, Lawn or Cultivated Areas
ST-11  Widening Details for Thoroughfares at Various Street Intersections
ST-12A Widening Details for Arterials at Major Street Intersections
ST-12B Widening Details for Arterials at Collector Street Intersections
ST-13  Typical Striping for Collector Streets with Bicycle Lanes at Intersections with
        Thoroughfare or Arterial Streets
ST-14A Typical Striping for Arterial Intersections with Thoroughfares or Arterials
ST-14B Typical Striping for Arterial Intersections with Collectors
ST-15A Typical Striping for Thoroughfare Intersections with Thoroughfares or Arterials
ST-15B Typical Striping for Thoroughfare Intersections with Collectors
ST-16  Typical Raised Island Designs for Limiting Access
ST-17  Typical Sections Streets Classes “A”, “B”, & “C”
ST-17A Typical Sections Interim Improvements for Special Thoroughfare and
        Thoroughfare Streets with Rolled-In Rumble Strips
ST-17B Rolled-In Rumble Strips for Interim Roadway Improvements
ST-17C Rolled-In Rumble Strips for Interim Roadway Improvements
ST-17D Typical Sections Interim Improvements for Special Thoroughfare and
        Thoroughfare Streets with Rolled-In Rumble Strips
ST-18  Class “C’” Street Intersection
ST-19  Typical Street Sections at Residential Driveways
ST-20  Commercial Driveways Type A-6
ST-21B Sidewalk Ramp for A-7 Driveways Without Additional R/W (Not for New
        Construction)
ST-22  Driveway Location Standards
ST-23  Cul-De-Sac
ST-24  Bulb-Out Detail
ST-25  90 Degree Intersection Elbow
ST-26.1 Minimum Sight Distance at Intersections and Non-Residential Driveways
ST-26.2 Visibility Requirements, City of Elk Grove
ST-27  Bus Turnouts
ST-28  Bus Stop Details
ST-30  A.C. Conforms to New Sidewalk Ramp Re-Construction
ST-31  Typical Curb and Gutter Sections
ST-32  Cross Gutter
ST-33  Barrier Curb Detail
ST-34  Under Sidewalk
ST-35  Separated (Or Detached) Sidewalk Transition
ST-36  A.C. Sidewalk Conform
ST-37  Residential Corner Lot Driveway Location Residential or Collector Streets
ST-38  Pavement Widening Detail
ST-39  Standard Concrete Joint Details
ST-40  Street Survey Monument
ST-41  Street Closure Timber Barricade
ST-42  Signs and Barricades at Abrupt Change of Pavement Width
ST-43  Sidewalk Barricade
ST-44  Multi-Use Trail Connections at Driveways and Intersections
ST-45  Multi-Use Mid Block Trail Connection
ST-46  Micro-Trenching

TRAFFIC

T-1  Stop Sign and Stop Legend Location
T-2A  Bollard Detail
T-2B  Asphalt Speed Hump Detail (W=26’ – 34’)
T-2C  Asphalt Speed Hump Detail (1) (W=26’ – 34’)
T-2D  Asphalt Speed Hump Detail (2) (W=36’ – 44’)
T-2E  Asphalt Speed Table Detail (W=26’ – 44’)
T-3  Street Name Sign
T-3.1  Veteran And Public Safety Street Name Sign
T-4  Private Street Name Sign
T-5A  Street Name Sign on Street Light Pole Placement Detail
T-5B  Street Name Sign on Electroliers
T-6A  Street Name Sign General Location
T-6B  Signs Post
T-6C  Sign Back Bracing
T-7  Bike Loop and Bike Legend Installation Detail
T-8  Mid-Block Crosswalk at Uncontrolled Locations
T-9A  Typical Street Cross Locations
T-9B  Typical Street Cross Sections 72’, 96’, and 118’
T-9C  Typical Street Cross Sections Frontage Road
T-9D  20-Foot Street (Private Alley)
T-10  Class C Street Cross Section
T-11  Pedestrian Lane with Bike Barrier
T-12  Concrete Foundation for Type P Controller Cabinet and Type III Service Cabinet
T-13  (Edge-Lit LED) Internally Illuminated Street Name Sign
T-14  IISNS Support Arm Typical Clamp Detail
T-15  Conduit, Service Wire and Breaker Sizing
<table>
<thead>
<tr>
<th>T-16</th>
<th>Typical Detector Loop Layouts</th>
</tr>
</thead>
<tbody>
<tr>
<td>T-17</td>
<td>Type “B” Detector Handhole Detail</td>
</tr>
<tr>
<td>T-18</td>
<td>Interconnect Terminal Cabinet and Pedestrian Signal Controller Cabinet Details</td>
</tr>
<tr>
<td>T-19</td>
<td>Accessible Pedestrian Signal System</td>
</tr>
<tr>
<td>T-20</td>
<td>CCTV IP Dome Camera (Signal Pole Mounted)</td>
</tr>
<tr>
<td>T-21.1</td>
<td>Traffic Signal Mast Arm Sign Assembly (1 of 2)</td>
</tr>
<tr>
<td>T-21.2</td>
<td>Traffic Signal Mast Arm Sign Assembly (2 of 2)</td>
</tr>
<tr>
<td>T-22</td>
<td>Fiber Backbone Network</td>
</tr>
</tbody>
</table>
1) SIDEWALK TRANSITIONS
   A: LOCATED ADJACENT TO THE TOP OF RAMP AS NEEDED
   B: 48" MINIMUM WIDTH
   C: 1.5% (1:66) MAXIMUM CROSS SLOPE
   D: 4.5% (1:22) MAXIMUM PARALLEL SLOPE

2) LANDINGS
   A: LOCATED ABOVE OR BELOW RAMP (AS SHOWN IN DETAILS)
   B: 48" MINIMUM CLEAR SPACE IN ALL DIRECTIONS
   C: 1.5% (1:66) MAXIMUM PARALLEL AND CROSS SLOPE

3) RAMPS
   A: LOCATED ABOVE PAN OR BELOW LANDING
   B: 48" MINIMUM WIDTH
   C: 1.5% (1:66) MAXIMUM CROSS SLOPE
   D: 7.5% (1:13) MAXIMUM SLOPE
   E: ALL RAMPS SHALL HAVE A DETECTABLE WARNING SURFACE (TRUNCATED DOMES) AND SHALL BE PLACED ON THE RAMP UNLESS THE RAMP IS CONNECTED TO A PAN.
   F: TRANSITION TO GUTTER SHALL BE FLUSH AND FREE OF ABRUPT CHANGES
   G: GRADE BREAKS SHALL BE PERPENDICULAR TO DIRECTION OF RAMP RUN

4) PANS
   A: LOCATED BELOW RAMP (AS SHOWN IN DETAILS)
   B: 60" MINIMUM AT BACK OF PAN
   C: 54" MINIMUM FROM BACK OF PAN TO FLOW LINE
   D: 1.5% (1:66) MAXIMUM CROSS SLOPE
   E: ON CORNERS, PAN BOUNDARIES ARE TO BE RADIAL
   F: TRANSITIONS TO GUTTER SHALL BE FLUSH AND FREE OF ABRUPT CHARGES.
   G: ALL PANS SHALL HAVE A DETECTABLE WARNING SURFACE (TRUNCATED DOMES).

5) FLARES
   A: LOCATED ADJACENT TO RAMP (AS SHOWN IN DETAILS)
   B: REQUIRED BETWEEN RAMPS WHERE THERE IS NO PLANTER AREA
   C: REQUIRED ON THE EXTERIOR OF RAMPS WHERE THERE IS AN ADJACENT CONCRETE SIDEWALK, REGARDLESS OF OBSTACLES
   D: SHALL ALSO HAVE AT LEAST 24" LONG SEGMENT OF STRAIGHT CURB LOCATED ON EACH SIDE OF THE CURB RAMP AND WITHIN MARKED CROSSINGS.
   E: GENERALLY TRIANGULAR IN NATURE
   F: 9% (1:11) MAXIMUM SLOPE WHEN NOT IN THE PATH OF TRAVEL
   G: 7.5% (1:13) MAXIMUM SLOPE WHEN FLARE IS IN THE PATH OF TRAVEL

6) GUTTERS
   A: ADJACENT TO RAMP OR PAN
   B: 4.5% (1:22) MAXIMUM SLOPE FOR 4' OUT FROM FLOW LINE
   C: TRANSITION TO RAMP OR PAN SHALL BE FLUSH AND FREE OF ABRUPT CHANGES

7) RETAINING CURBS
   A: REQUIRED ADJACENT TO SIDEWALK TRANSITIONS, LANDINGS, RAMPS AND PANS WHERE THE EXISTING LANDSCAPE (PLANTER AREA) IS 1" OR HIGHER AT ANY POINT ABOVE THE NEWLY CONSTRUCTED CURB RAMP ELEMENT
   B: REQUIRED FOR EXISTING PLANTER AREAS BETWEEN RAMPS
   C: RETAINING CURBS ARE TO HAVE A 6" WIDTH AND A VERTICAL FACE
   D: RETAINING CURB FOUNDATIONS ARE TO EXTEND 8" BELOW THE ADJACENT RAMP ELEMENT SURFACE
   E: OUTSIDE CORNERS OF RETAINING CURBS MUST HAVE A 6" RADIUS

8) DETECTABLE WARNINGS
   A: PLACEMENT OF DETECTABLE WARNINGS SHALL BE PER DRAWINGS AR - 3.2A AND AR - 3.2B.
   B: 6"-8" FROM THE FLOW LINE
   C: 3' DEPTH X FULL WIDTH
   D: DETECTABLE WARNING REQUIREMENTS, SEE AR - 3.1

NOTES:
1. DIRECTIONAL CURB RAMPS ARE REQUIRED UNLESS OTHERWISE APPROVED BY THE ENGINEER.
2. ALL ELEMENTS, EXCEPT GUTTERS AND RETAINING CURBS, MUST BE CONSTRUCTED PLANAR IN NATURE WITH WEAKENED PLANE JOINTS SCORED BETWEEN EACH ELEMENT.
3. OPPOSING CURB RAMPS SHALL ALIGN UNLESS OTHERWISE APPROVED BY THE ENGINEER.
4. THESE ELEMENTS, DEFINITIONS AND STANDARDS, GENERAL DETAILS, AND STANDARD DRAWINGS SHALL APPLY TO ALL CURB AND GUTTER TYPES.
5. THERE ARE VARIATIONS AND ADJUSTMENTS THAT MAY BE REQUIRED UPON THE APPROVAL OF THE ENGINEER.
6. REFERENCES TO MAXIMUM CROSS SLOPE OF 1.5% ARE INTENDED TO ALLOW FOR NORMAL CONSTRUCTION TOLERANCES IN AN EFFORT TO KEEP THE ACTUAL CONSTRUCTED CROSS SLOPE TO LESS THAN THE REQUIRED ADA STANDARD OF 2.0% MAXIMUM CROSS SLOPE. ANY INSTALLATIONS OF CROSS SLOPES GREATER THAN 2.0% WILL BE UNACCEPTABLE.
WEAKENED PLANE JOINT (WPJ)

1. SURFACE OF RAMPS AND PANS SHALL HAVE A TRANSVERSE BROOM SURFACE TEXTURE ROUGHER THAN ADJACENT SIDEWALK.

2. COLORING SHALL BE ADDED TO NEW CONCRETE AS NECESSARY TO MATCH EXISTING COLOR.
A) A WRITTEN 5-YEAR PRODUCT WARRANTY FOR SHAPE, COLOR FASTNESS, SOUND-ON-CANE ACOUSTIC QUALITY, RESILIENCE, AND ATTACHMENT:

1. SHAPE:
   MUST BE ABLE TO RETAIN ITS ORIGINAL SHAPE WHEN SUBJECT TO VARYING DEGREES OF TEMPERATURE, MOISTURE, PRESSURE, OR OTHER STRESS.

2. COLOR FASTNESS:
   THE ABILITY OF THE MATERIAL OR COATING TO RETAIN ITS ORIGINAL HUE WITHOUT FADING OR CHANGING WHEN EXPOSED TO ENVIRONMENTAL CONDITIONS.

3. SOUND-ON-CANE ACOUSTIC QUALITY:
   THE ABILITY OF A MATERIAL TO RETAIN ITS ORIGINAL SOUND CHARACTERISTICS WHEN IMPACTED BY AN OBJECT.

4. RESILIENCE:
   THE ABILITY OF THE MATERIAL TO ABSORB ENERGY WHEN DEFORMED ELASTICALLY WITHOUT CREATING A PERMANENT DEFORMATION.

5. ATTACHMENT:
   ATTACHMENT WILL NOT DEGRADE SIGNIFICANTLY FOR AT LEAST FIVE (5) YEARS AFTER INITIAL INSTALLATION - MEANING THE PRODUCT MAINTAINS AT LEAST 90% OF ORIGINAL PRODUCT AND BOND. BOLT DOWN PRODUCTS SHALL NOT BE USED.

B) CONFIRMATION - A WRITTEN DIMENSIONAL SPECIFICATION:

A WRITTEN DIMENSIONAL SPECIFICATION OF THE TRUNCATED DOMES AND RAISED BARS AS SPECIFIED IN THE CODES - SEE BELOW DIMENSIONS:

1. BASE DIAMETER: 0.9" TO 0.92"
2. TOP DIAMETER: 0.45" TO 0.47"
3. CENTER-TO-CENTER SPACING 2.3" TO 2.4"
4. HEIGHT: 0.18" TO 0.22"

C) LIGHT ON DARK OR DARK ON LIGHT:


D) METHODS OF INSTALLATIONS:

CAST-IN-PLACE (REQUIRED FOR ALL NEW CONSTRUCTION) OR SURFACE MOUNT (RETROFIT ONLY).

E) SIZE:

3' DEPTH BY FULL WIDTH.

F) COLOR:

COLOR SHALL BE YELLOW COLOR NO. 33538 OF FED-STD-595 UNLESS SPECIFIED OTHERWISE.
CLOSEST CORNER OF DETECTABLE WARNING TO STREET TO BE SET 6" - 8" FROM FLOWLINE

FLOWLINE

3' DEPTH x WIDTH DETECTABLE WARNING TO BE CENTERED AND SQUARED ON RAMP

FLOWLINE

CLOSEST CORNER OF DETECTABLE WARNING TO STREET TO BE SET 6" - 8" FROM FLOWLINE

FLOWLINE
BOTH ENDS OF THE BOTTOM GRADE BREAK ARE LESS THAN 5' FROM BACK OF CURB

ONE OR BOTH ENDS OF THE BOTTOM GRADE BREAK ARE GREATER THAN 5' FROM BACK OF CURB
NOTES:

1. ALL SLOPES SHOWN ARE MAXIMUMS.
2. ALL DIMENSIONS SHOWN ARE MINIMUMS.
3. ALL PANS MUST BE LOCATED INSIDE CROSSWALKS OR IN FRONT OF STOP BARS.
4. DETECTABLE WARNING IS PLACED IN THE PAN AS PER DRAWING AR-3.2.
5. ALL JOINTS BETWEEN ELEMENTS ARE RADIAL.
6. DRAIN INLET SHALL NOT BE INSTALLED WITHIN THE LIMITS OF THE CURB RAMP INCLUDING PAN, RAMP, AND SIDEWALK TRANSITION AREAS.
7. SEE IMPROVEMENT STANDARDS SECTION 9-14.H FOR INSTALLING DRAINAGE INLETS NEXT TO CURB RAMPS.
   ** SLOPE 1% MINIMUM TO 1.5% MAXIMUM FROM BACK OF PAN TO FLOW LINE.
8. 4" MINIMUM CURB HEIGHT, UNLESS OTHERWISE APPROVED BY THE ENGINEER
9. FROM THE FLOW LINE OUT THE RUNNING SLOPE CANNOT EXCEED 4.5% FOR A DISTANCE OF 4'.
NOTES:
1. ALL SLOPES SHOWN ARE MAXIMUMS.
2. ALL DIMENSIONS SHOWN ARE MINIMUMS.
3. ALL PANS MUST BE LOCATED INSIDE CROSSWALKS OR IN FRONT OF STOP BARS.
4. DETECTABLE WARNING IS PLACED IN THE PAN AS PER DRAWING AR-3.2.
5. ALL JOINTS BETWEEN ELEMENTS ARE RADIAL.
** SLOPE 1% MINIMUM TO 1.5% MAXIMUM FROM BACK OF PAN TO FLOW LINE.
A FROM THE FLOW LINE OUT THE RUNNING SLOPE CANNOT EXCEED 4.5% FOR A DISTANCE OF 4'.
B 56" FOR TYPE 2 CURB
58" FOR TYPE 1A CURB
NOTES:
1. ALL SLOPES SHOWN ARE MAXIMUMS.
2. ALL DIMENSIONS SHOWN ARE MINIMUMS.
3. THE RAMP MUST BE LOCATED INSIDE CROSSWALKS OR PRIOR TO STOP BARS.
4. DETECTABLE WARNING SURFACE IS PLACED IN THE RAMP PER STANDARD DRAWING AR-3.2A and AR-3.2B.
5. IF THE FLARE IS IN THE PATH OF TRAVEL THEN THE SLOPE SHALL NOT EXCEED 7.5%.
   A. 4" MINIMUM CURB HEIGHT DESIRABLE - 9% MAX SLOPE CONTROLS CURB HEIGHT, UNLESS OTHERWISE APPROVED BY THE ENGINEER.
   B. NO MINIMUM DIMENSION. FLARES CAN INTERSECT.
   C. ALL RAMPS WILL HAVE A MINIMUM OF 48" x 48" LANDING. TWO RAMPS CAN SHARE ONE LANDING.
   D. FROM THE FLOW LINE OUT THE RUNNING SLOPE CANNOT EXCEED 4.5% FOR A DISTANCE OF 4'.

DRAWING NUMBER
DUAL FLARE CURB RAMPS
WITH ATTACHED SIDEWALK

CITY OF ELK GROVE - PUBLIC WORKS

APPROVED BY:
CITY ENGINEER
05-28-2024

DATE
09/22/2017

NOT TO SCALE

REVISION
BY
APPROVED
DATE
1
LM
TW
07/18/2019
2
STN
JRW
02/16/2021
3
SJB
SMA
03-13-2024

AR - 4.3
NOTES:
A. ALL SLOPES SHOWN ARE MAXIMUMS.
B. ALL DIMENSIONS SHOWN ARE MINIMUMS.
C. RAMP MUST BE LOCATED INSIDE CROSSWALKS OR IN FRONT OF STOP BARS
D. DETECTABLE WARNING SURFACE IS PLACED IN THE RAMP PER STANDARD DRAWING AR-3.2A AND AR-3.2B.
E. ALL JOINTS BETWEEN ELEMENTS, EXCEPT BETWEEN RAMP AND FLARE ARE RADIAL. RAMP WIDTH REMAINS CONSTANT.
F. IF THE FLARE IS IN THE PATH OF TRAVEL THEN THE SLOPE SHALL NOT EXCEED 7.5%.
G. SINGLE RAMPS SHALL BE CONSTRUCTED PARALLEL TO CROSSING DIRECTION.
NOTES:
1. ALL SLOPES SHOWN ARE MAXIMUMS.
2. ALL DIMENSIONS SHOWN ARE MINIMUMS.
3. THE RAMP MUST BE LOCATED INSIDE CROSSWALKS OR IN FRONT OF STOP BARS.
4. DETECTABLE WARNING IS PLACED IN THE RAMP AND AS PER DRAWING AR-3.2A AND AR-3.2B.
5. IF THE FLARE IS IN THE PATH OF TRAVEL THEN THE SLOPE SHALL NOT EXCEED 7.5%.

A. 4" MINIMUM CURB HEIGHT DESIRABLE - 9% MAX SLOPE CONTROLS CURB HEIGHT, UNLESS OTHERWISE APPROVED BY THE ENGINEER.
B. NO MINIMUM DIMENSION. FLARES CAN INTERSECT.
C. ALL RAMPS WILL HAVE A MINIMUM OF 48" x 48" LANDING. TWO RAMPS CAN SHARE ONE LANDING.
D. FROM THE FLOW LINE OUT THE RUNNING SLOPE CANNOT EXCEED 4.5% FOR A DISTANCE OF 4'.

DUAL FLARED PERPENDICULAR CURB RAMPS WITH DETACHED SIDEWALK

CITY OF ELK GROVE - PUBLIC WORKS

DRAWING NUMBER

APPROVED BY:
CITY ENGINEER
DATE

NOT TO SCALE

REVISION BY APPROVED DATE
1 LM TW 07/18/2019
2 STN JRW 02/16/2021
3 SJB SMA 03-13-2024

09/22/2017

05-28-2024
NOTES:

1. ALL SLOPES SHOWN ARE MAXIMUMS.
2. ALL DIMENSIONS SHOWN ARE MINIMUMS.
3. ALL RAMPS MUST BE LOCATED INSIDE CROSSWALKS OR IN FRONT OF STOP BARS.
4. DETECTABLE WARNING IS PLACED IN THE RAMP AND AS PER DRAWING AR-3.2A AND AR-3.2B.
5. ADD LAMP BLACK TO NEW CONCRETE AS DIRECTED BY ENGINEER. MATCH EXISTING COLOR.

A. STANDARD CURB HEIGHT TO MATCH EXISTING.
B. TOP OF RETAINING CURB TO MATCH ADJACENT RETAINING CURB ELEVATIONS CAN BE FLUSH WITH LANDING.
C. FROM THE FLOW LINE OUT THE RUNNING SLOPE CANNOT EXCEED 4.5% FOR A DISTANCE OF 4'.
NOTES:

A. DRIVEWAY WIDTH AS PER CITY CODE.

B. WEAKENED PLANE JOINTS (WPJ) REQUIRED ON CENTERLINE FOR DRIVEWAYS 10' TO 20' WIDE. DRIVEWAYS 22' TO 35' WIDE SHALL HAVE TWO WPJ EVENLY SPACED AT ⅓ AND ⅔ POINTS.

C. THICKNESS OF APRONS SHALL BE 6" ON RESIDENTIAL AND COMMERCIAL DRIVEWAYS.

D. APRON WILL BE DEPRESSED ON CURB AND GUTTER WHEN RECONSTRUCTING EXISTING COMMERCIAL DRIVEWAYS.

* SEE SECTION 4-7 OF THE IMPROVEMENT STANDARDS

** IF CURB & GUTTER ARE POURED SEPARATE OF APRON THEN DOWELS ARE REQUIRED AT BACK OF CURB.
NOTES:
A. DRIVEWAY WIDTH AS PER CITY CODE.

B. WEAKENED PLANE JOINTS (WPJ) REQUIRED ON CENTERLINE FOR DRIVEWAYS 10' TO 20' WIDE. DRIVEWAYS 22' TO 35' WIDE SHALL HAVE TWO WPJ EVENLY SPACED AT 1/3 AND 2/3 POINTS.

C. THICKNESS OF DRIVEWAYS AND APRONS SHALL BE 6".

---

**SEE SECTION 4-7 OF THE IMPROVEMENT STANDARDS**

**IF CURB & GUTTER ARE Poured SEPARATE OF APRON THEN DOWELS ARE REQUIRED AT BACK OF CURB.**
CITY OF ELK GROVE PLAN APPROVAL BLOCK

CITY OF ELK GROVE DEVELOPMENT SERVICES

(PUT PROJECT NAME HERE)

Parcel No.:

California Map Coordinates: (Can use Thomas Brothers Guide to estimate coordinates)

Facility Code:

City’s Project No.:

Accepted By:

CITY OF ELK GROVE DEVELOPMENT SERVICES DATE

1. PROJECT NAME, PARCEL NUMBER AND MAP COORDINATES SHALL BE IN 10 POINT ARIAL FONT.
2. APPROVAL BLOCK SHALL BE LOCATED AT THE LOWER RIGHT CORNER OF TITLE SHEET, WITHIN BOTTOM 6 INCHES AND RIGHT 8 INCHES OF PAGE.

OTHER AGENCY APPROVAL BLOCKS

INCLUDE ON PLANS AS NECESSARY

Approved By:

ELK GROVE CSD - FIRE DEPARTMENT DATE

Approved By:

ELK GROVE CSD - PARKS AND RECREATION DEPT. DATE

Approved By:

COUNTY SANITATION DISTRICT 1 DATE

Approved For: Water Conservation Only

Approved By:

CITY OF ELK GROVE LANDSCAPE ARCHITECT DATE

Approved By:

WATER AGENCY NAME DATE

1. PUT "SACRAMENTO COUNTY WATER AGENCY" OR "ELK GROVE WATER SERVICE" OR BOTH IN PLACE OF "WATER AGENCY NAME" ABOVE.

CITY OF ELK GROVE - PUBLIC WORKS

APPROVAL BLOCKS

DATE 09-22-2017 NOT TO SCALE

REVISION BY APPROVED DATE

01 STN SA 06-20-2023

APPROVED BY: CITY ENGINEER DATE

DRAWING NUMBER D - 1
DRAFTING STANDARDS

ALL SUBDIVISION PLANS, CONSTRUCTION DRAWINGS, & PROPERTY PLATS SUBMITTED TO THE CITY ENGINEER FOR CONSIDERATION SHALL CONFORM TO AND BE PREPARED IN ACCORDANCE WITH THE FOLLOWING STANDARDS:

1. ALL LETTERING, OTHER THAN THAT HEREIN SPECIFIED OR SHOWN BELOW, SHALL BE A MINIMUM OF 0.100 INCH IN HEIGHT AND USING 0.01" LINE WIDTH, OR EQUAL.

2. SUBDIVISION PLANS

<table>
<thead>
<tr>
<th>LINE WIDTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>STREET CENTER LINES</td>
</tr>
<tr>
<td>RADIAL BEARING LINES</td>
</tr>
<tr>
<td>EASEMENT LINES</td>
</tr>
<tr>
<td>LOT LINES</td>
</tr>
<tr>
<td>RIGHT-OF-WAY LINES</td>
</tr>
<tr>
<td>BLOCK OUTLINE</td>
</tr>
<tr>
<td>SUBDIVISION OUTLINE</td>
</tr>
<tr>
<td>MONUMENTS SET</td>
</tr>
<tr>
<td>MONUMENTS SET IN MONUMENT BOX</td>
</tr>
<tr>
<td>MONUMENTS FOUND</td>
</tr>
<tr>
<td>MONUMENTS FOUND IN MONUMENT BOX</td>
</tr>
<tr>
<td>BENCH MARK ELEVATION</td>
</tr>
<tr>
<td>STREET NAMES</td>
</tr>
<tr>
<td>LOT NUMBERS</td>
</tr>
<tr>
<td>BEARINGS, DISTANCES, CURVE DATA, COORDINATES, ETC.</td>
</tr>
<tr>
<td>ADJACENT SUBDIVISIONS</td>
</tr>
<tr>
<td>ADJACENT LOT NUMBERS</td>
</tr>
</tbody>
</table>

TITLE BLOCK AND OTHER RELATED LETTERING SHALL BE IN ACCORDANCE WITH STANDARD ACCEPTED ENGINEERING PRACTICE, BUT IN NO CASE SHALL THE LETTERING BE LESS THAN 0.100 INCH IN HEIGHT AND USING LINE WIDTH OF 0.01".

3. IMPROVEMENT PLANS

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>PROPOSED</th>
<th>EXISTING</th>
</tr>
</thead>
<tbody>
<tr>
<td>SANITARY SEWER</td>
<td>6&quot; SS</td>
<td>6&quot; SS</td>
</tr>
<tr>
<td>STORM SEWER (AKA STORM DRAIN)</td>
<td>8&quot; SD</td>
<td>8&quot; SD</td>
</tr>
<tr>
<td>GAS LINE</td>
<td>4&quot; G</td>
<td>4&quot; G</td>
</tr>
<tr>
<td>WATER LINE</td>
<td>8&quot; W</td>
<td>8&quot; W</td>
</tr>
<tr>
<td>TELEPHONE</td>
<td>T</td>
<td>T</td>
</tr>
<tr>
<td>CABLE TELEVISION</td>
<td>TV</td>
<td>TV</td>
</tr>
<tr>
<td>GAS VALVE</td>
<td>G</td>
<td>G</td>
</tr>
<tr>
<td>WATER VALVE</td>
<td>W</td>
<td>W</td>
</tr>
<tr>
<td>ELECTRICAL CONDUIT</td>
<td>E</td>
<td>E</td>
</tr>
<tr>
<td>MATCH LINE</td>
<td>STA. 5 + 00</td>
<td>STA. 5 + 00</td>
</tr>
</tbody>
</table>
POINT OF COMMENCEMENT/POINT OF BEGINNING SHALL BE AN EXISTING CENTERLINE MONUMENT OR LOT CORNER OF RECORD.

STREET NAME

P.U.E.

MAP SHALL INCLUDE:
- STREET NAMES
- RIGHT-OF-WAY AND EASEMENT WIDTHS DIMENSIONED
- PROJECT LIMITS CLEARLY SHOWN
- CITY-COUNTY BOUNDARIES AND SECTION LINES SHOWN WHERE APPLICABLE
- NORTH ARROW AND SCALE
- BASIS OF Bearing

SHALL INCLUDE:
- LOT/PARCEL NO.
- AREA
- Bearings & Distances
- Curve Data—Radius, Central Angle, Arc Length, Chord Bearing, & Chord Length
- Existing Easements Shown and Dimensioned
- Existing Centerline Monuments
- Official Record Information

NOTES:
1. DRAFTING STANDARDS AND SYMBOLS SHALL CONFORM TO CITY OF ELK GROVE STANDARDS.
2. CLOSURE CALCULATIONS, INCLUDING AREA AND PRECISION, SHALL BE SUBMITTED SEPARATELY.
3. LEGAL DESCRIPTIONS SUBMITTED WITH THE MAP SHALL BE STAMPED AND SIGNED BY A REGISTERED PROFESSIONAL ENGINEER OR LICENSED LAND SURVEYOR.

PREPARED BY:

(ENGINEERING FIRM)
2' MIN. FOR ELEVATION DIFFERENCE EXCEEDING 2'  
(1' MIN. FOR ALL OTHERS)

RETAINING WALL  
(SEE STD DWG G-3 AND G-4)  
NOTE: NO DOUBLE RETAINING WALLS SHALL BE CONSTRUCTED ON SIDE YARD

5:1 MAX.
NOTES:
1. MATERIAL FOR WALLS SHALL BE GRADE NO. 2 OR BETTER REDWOOD WITH NO OPEN GRAIN MATERIAL.
2. WOOD WALLS SHALL NOT BE USED ADJACENT TO PUBLIC RIGHTS OF WAY.
3. ALL WALLS WITHIN 8 FEET OF A BOUNDARY OR PROJECT PHASE LINE SHALL BE CONSTRUCTED WITH Masonry or CONCRETE.
4. 4-INCH BY 6-INCH POSTS AT 4-FOOT ON CENTER SHALL BE USED AS FENCE POSTS WHEN FENCES ARE ATTACHED TO RETAINING WALLS.
5. NO DOUBLE RETAINING WALLS SHALL BE CONSTRUCTED ON SIDE YARDS.
NOTES:

1. 8-INCH NORMAL WEIGHT BLOCK WITH FULL GROUTING REQUIRED.

2. A 6-INCH WIDE CAST-IN-PLACE CONCRETE STEM WALL MAY BE USED IN LIEU OF MASONRY.

3. SPECIAL INSPECTION IS NOT REQUIRED.

4. A BUILDING PERMIT IS REQUIRED FOR WALLS EXCEEDING 24" IN HEIGHT WHEN CONSTRUCTION DETAILS ARE NOT SHOWN ON APPROVED IMPROVEMENT PLANS.
NOTE:

1. FOR 36" BOX TREES, STAGE WITH TWO 2" X 12' LONG SCHEDULE 40 GALVANIZED STEEL PIPES. PAINTED WITH TWO COATS OF DARK GREEN PAINT. TIE TREE WITH A METAL TWIST BRACE BOLTED TO THE STAKES OR OTHER APPROVED TREE TIE AS SPECIFIED.
PLACE ROOTBALL 1" ABOVE FINISHED GRADE. PROVIDE POSITIVE DRAINAGE AWAY FROM CROWN.

3" LAYER OF WOOD MULCH KEEP 3" AWAY FROM SHRUB CROWN.

3" HIGH SOIL WATERING BASIN.

PLANTING PIT SHALL BE 2x THE DIAMETER OF THE ROOTBALL SCARIFY SIDES/BOTTOM AND BACKFILL WITH NATIVE SOIL.

ROOTBALL

FERTILIZER TABLET OR PACKET (TYP.) SEE SPECIFICATIONS

UNDISTURBED SOIL

FINISHED GRADE
1. ALL WIRE SHALL BE TAPED AND BUNDLED EVERY TEN FEET AND SHALL BE INSTALLED AS PER LOCAL CODE.

2. SHUT-OFF VALVES 3" AND SMALLER SHALL BE SCH. 80 BALL VALVES. VALVES LARGER THAN 3" SHALL BE BRASS GATE VALVES.

3. ALL VALVE BOXES AND LIDS WITHIN THE SIDEWALK SHALL BE OF TRAFFIC RATED QUALITY.
NOTES:

1. ALL WIRE SHALL BE TAPED AND BUNDLED EVERY TEN FEET AND SHALL BE INSTALLED AS PER LOCAL CODE.

2. ALL VALVE BOXES AND LIDS WITHIN THE SIDEWALK SHALL BE OF TRAFFIC RATED QUALITY.
NOTES:

1. INSTALLATION OF TRIPLE SWING JOINTS SHALL BE AT AN ANGLE NO GREATER THAN 45 DEGREES TO HORIZONTAL

2. ALL PRE-MANUFACTURED TRIPLE SWING JOINTS SHALL BE MANUFACTURED WITH D0RINGS AND SHALL BE RATED AT 200 PSI.

3. ALL VALVE BOXES AND LIDS WITHIN THE SIDEWALK SHALL BE OF TRAFFIC RATED QUALITY.

DATE: 09/22/2007
APPROVED BY: CITY ENGINEER
DATE: 10/24/2018
VALVE BOX WITH BOLT DOWN COVER. SEE SPECIFICATIONS FOR SIZE
FINISHED GRADE
MASTER VALVE
18"
BRICK SUPPORT (TYP OF 4)
8" DEPTH OF 3/4" WASHED PEA GRAVEL
PVC PIPE MAINLINE

WATERPROOF ELECTRICAL 3M CONNECTORS (DO NOT USE PRE-FILLED TYPE CONNECTORS)
ALL MODELS OF CALSENSE CONTROLLERS

BLACK WIRE HARNESS

CALSENSE FLOW METER

PIPE SIZING CHART

<table>
<thead>
<tr>
<th>FLOW METER SIZE</th>
<th>UPSTREAM LENGTH</th>
<th>DOWNSTREAM LENGTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&quot;</td>
<td>10&quot;</td>
<td>5&quot;</td>
</tr>
<tr>
<td>1.25&quot;</td>
<td>12.5&quot;</td>
<td>6.25&quot;</td>
</tr>
<tr>
<td>1.5&quot;</td>
<td>15&quot;</td>
<td>7.5&quot;</td>
</tr>
<tr>
<td>2&quot;</td>
<td>20&quot;</td>
<td>10&quot;</td>
</tr>
<tr>
<td>3&quot;</td>
<td>30&quot;</td>
<td>15&quot;</td>
</tr>
</tbody>
</table>

MINIMUM UPSTREAM DISTANCE
10 X FLOW METER SIZE

MINIMUM DOWNSTREAM DISTANCE
5 X FLOW METER SIZE

NOTES:
1. ALL VALVE BOXES AND LIDS WITHIN THE SIDEWALK AREA SHALL BE TRAFFIC RATED QUALITY.

DATE: 09/22/2007
NOT TO SCALE
CITY OF ELK GROVE - PUBLIC WORKS
DRAWING NUMBER L - 6
APPROVED BY: 10/24/2018
1. ALL VALVE BOXES AND LIDS WITHIN THE SIDEWALK AREA SHALL BE OF TRAFFIC RATED QUALITY.
NOTES:

1. AIR RELIEF VALVE SHALL BE INSTALLED AT THE HIGHEST POINT OF THE SYSTEM ABOVE ALL DRIPLINE LATERALS.

2. ALL VALVE BOXES AND LIDS WITHIN THE SIDEWALK SHALL BE OF TRAFFIC RATED QUALITY.
NOTES:

1. INSTALLATION OF TRIPLE SWING JOINTS SHALL BE AT AN ANGLE NO GREATER THAN 45 DEGREES TO HORIZONTAL.

2. ALL PRE-MANUFACTURED TRIPLE SWING JOINTS SHALL BE MANUFACTURED WITH O-RINGS AND SHALL BE RATED AT 200 PSI.
NOTES:

1. INSTALLATION OF TRIPLE SWING JOINTS SHALL BE AT AN ANGLE NO GREATER THAN 45 DEGREES TO HORIZONTAL.

2. ALL PRE-MANUFACTURED TRIPLE SWING JOINTS SHALL BE MANUFACTURED WITH O-RINGS AND SHALL BE RATED AT 200 PSI.
BUBBLER SPRINKLER HEAD

- BUBBLER
- 3" MULCH LAYER
- 1/2" SCH. 80 RISER 3" ABOVE MULCH
- PVC SCH. 40 ELL
- FLEXIBLE COUPLING
- PVC LATERAL PIPE

CITY OF ELK GROVE - PUBLIC WORKS

NOT TO SCALE

DATE: 09/22/2007

APPROVED BY:

CITY ENGINEER

DATE: 10/24/2018

DRAWING NUMBER: L - 11
AIR/VACUUM RELIEF VALVE. PLUMBED TO TUBING AT HIGH POINT OF PLANTER (TYP.).

CLASS 200 PVC LATERAL LINE. SIZE PER PLAN (TYP.) INSTALLED AT 12" BELOW FINISHED GRADE.

SUBSURFACE IN-LINE DRIP TUBING INSTALLED AT 4" BELOW FINISHED GRADE.

LINE FLUSHING VALVE. PLUMBED TO TUBING (TYP.).

REMOTE CONTROL VALVE ASSEMBLY. PLACE IN PLANTER WHENEVER POSSIBLE.

PLANTER EDGE (TYP.).

CURB LINE (TYP.).

NOTES:
1. ALL DRIP TUBING FITTINGS SHALL BE BARBED.
CAP WITH PVC GRATE
BARBED TEE
DRILL HOLE FOR DRIP TUBING
SUBSURFACE IN-LINE DRIP TUBING WITH AT LEAST ONE EMITTER VERTICALLY
6" DIA x 24' LONG PERFORATED PVC PIPE WRAPPED WITH FILTER FABRIC
FILL PIPE WITH 3/4' CRUSHED ROCK
END CAP

3" LAYER OF MULCH

1.5'

24'

3'

17"
OPTIONAL DOME ANTENNA
MODEL ANT-1 (DIGITAL RADIO)
MODEL ANT-1-RR (DIGITAL RADION AND RR RADIO REMOTE OPTION)
MODEL LR-DOME (LOCAL RADIO)
MODEL LR-DOME-RR (LOCAL RADIO AND RR RADIO REMOTE OPTION)
MODEL RR-DOME (RADIO REMOTE OPTION)

FLIP TOP IN OPEN POSITION

CALSENSE CONTROLLER PANEL MOUNTED
FLUSH ON FACE OF ENCLOSURE AT A 25° ANGLE FOR EASY ACCESS AND VIEWING

PISTON CONNECTED TO FLIP TOP

GFI OUTLET AND SWITCH

MODEL SSE STAINLESS STEEL ENCLOSURE MODEL SSE-R
(WITH DOME ANTENNA)

CALSENSE TP-1 TRANSIENT PROTECTION BOARD

#6 AWG GROUNDING WIRE CONNECTED TO GROUND LUG

26"x24"x8" CONCRETE BASE

MOUNTING BOLTS
(BOLTS AND TEMPLATE INCLUDED WITH ENCLOSURE)

SCH 40 ELECTRICAL SWEEP ELL FOR LOW VOLTAGE CONTROL WIRES

PVC SLEEVE FOR GROUND ROD

5/8"x8' COPPER GROUND ROD

SCH 40 ELECTRICAL SWEEP ELL FOR 120 VAC POWER
NOTES:
1. ALL TRENCH DEPTHS ARE MEASURED FROM TOP OF FINISH GRADE.
2. TRACER WIRE SHALL BE REQUIRED ONLY WHEN PIPES ARE INSTALLED UNDER PAVEMENT.
3. ALL PIPE TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS INSTALLATION SPECIFICATIONS.
4. IF SPRINKLER HEAD AND NIPPLE HEIGHT EXCEED 11" LATERAL LINE DEPTH SHALL BE 18".
5. INSTALL PIPE BEDDING UNDER PIPING, WHEN SPECIFIED.
6. INSTALL SLEEVING UNDER PAVING PER PLANS.
FILL SUMP WITH 3/4” TO 1” CRUSHED ROCK. PLACE SUMP A MINIMUM OF 10 FEET AWAY FROM DRINKING FOUNTAIN.

18” x 18” CATCH BASIN WITH LOCKING CONCRETE COVER

2” SCH. 40 PVC PIPE WATER LINE

4” DEPTH OR 3/4” WASHED PEA GRAVEL

2” CL 315 PVC DRAIN PIPE EXTEND PIPE 1” INTO SUMP

2” CL 315 PVC DRAIN PIPE SLOPED AT .005 TO CATCH BASIN

1” SCH. 40 PVC PIPE WATER LINE

1” GATE VALVE

1” CL 315 PVC PIPE WATER LINE

CONCRETE PAD

ANCHOR BOLTS AS PER MANUFACTURER

HANDICAP ACCESSIBLE DRINKING FOUNTAIN

CONC. VALVE BOX

L - 19
NOTES:

1. CONCRETE FOOTING SHALL BE INSTALLED AT ALL TERMINAL POSTS AND AT ALL BENDS.

3/8" GALV. EYE BOLT TYP.

1/2" DIA. DRILLED HOLE, TYP.

3/8" DIA. 7 GALV. WIRE CABLE, TYP.

6" x 6" PRESSURE TREATED DOUGLAS FIR POST CONST. GRADE, TYP.

BACKFILL W/ AGGREGATE BASE COMPACTED TO 95%, TYP.

NOT TO SCALE

DATE: 09/22/2007

APPROVED BY:

CITY OF ELK GROVE - PUBLIC WORKS

POST AND CABLE FENCING

DREWING NUMBER L - 20
3/16" STEEL PLATE WELDED TO TUBE AND GROUND SMOOTH

2 1/2" STEEL TUBE, 3/16" THICK. PAINT WITH 2 COATS OF PRIMER YELLOW PAINT.

3" X 4" X 16" LONG 3/16" THICK STEEL TUBING. PAINT ABOVE GROUND PORTION.

#4 REBAR WELDED TO TUBING, BOTH SIDES

CONCRETE FOOTING

#1 1/4" HEX BOLT, WASHER AND NUT.

TOP OF PAVING

SWIVEL

KNOCK-DOWN BOLLARD

FRONT VIEW

KNOCK-DOWN BOLLARD

SIDE VIEW

STREET SIDE

BOLLARD STRIPING IF REQUIRED

1/4" REBAR WELDED LOOP FOR LOCK 1" DIA.

1/2" THICK STEEL PLATE WELDED TO TUBE

1/2" THICK STEEL PLATE WITH 1/2" R CORNERS WITH 7/16" HOLE

DETAIL B

WELD 1/4" THICK STEEL PLATE TO TOP OF TUBE

TOP OF PAVING

WELD 4" WIDE BY 1/4" THICK STEEL PLATE TO TUBE (TYP.)

HOLE

CONCRETE FOOTING

FINISH SURFACE

PAVING #4 REBAR WELDED TO TUBING, BOTH SIDES

SWIVEL

SEE DETAIL A

SEE DETAIL B

NOT TO SCALE

DATE: 09/22/2007

CITY OF ELK GROVE - PUBLIC WORKS

KNOCK-DOWN BOLLARD AND STATIONARY BOLLARD

APPROVED BY: 10/24/2018

CITY ENGINEER DATE

DRAWING NUMBER L - 21

L - 21
3'-0" STEEL PLATE WELDED TO POST & GROUND SMOOTH

3" YELLOW HIGH INTENSITY RETRO-REFLECTIVE TAPE (TYP.)

2-1/4" DIA. GALVANIZED STEEL POST, PAINTED WITH 2 COATS OF PRIMER AND INSIGNIA YELLOW

3/4" DIA. STEEL PIN W/ HEAD W/ 3/8" DIA. HOLE FOR LOCK

FINISH SURFACE

3" DIA. GALVANIZED STEEL PIPE SLEEVE (PAINT ABOVE GROUND PORTION SAME AS POST)

CONCRETE FOOTING

3/8" STEEL PLATE WELDED TO SLEEVE

NOTES:
1. DRILL A 13/16" DIA. HOLE THRU BOTH THE POST AND SLEEVE FOR PIN PLACEMENT
NOTES:

1. PROVIDE 25% OF THICKNESS OR 1.5" DEEP SCORE JOINTS AT 10'-0" ON CENTER.
2. PROVIDE EXPANSION JOINTS AT 20'-0" INTERVALS.
3. CLASS "B" CONCRETE.
4. MEDIUM BROOM FINISH PERPENDICULAR TO WALK EDGE UNLESS OTHERWISE SPECIFIED.
5. PROVIDE FULL DEPTH FELT EXPANSION JOINTS WHEN ABUTTING WALKS, WALLS AND BUILDINGS.
NOTES:
1. PROVIDE 1" DEEP SCORE JOINTS AT 10'-0" ON CENTER.
2. PROVIDE EXPANSION JOINTS AT 20'-0" INTERVALS.
3. CLASS "B" CONCRETE.
4. MEDIUM BROOM FINISH UNLESS OTHERWISE SPECIFIED.
5. PROVIDE FULL DEPTH FELT EXPANSION JOINTS WHEN ABUTTING WALKS, WALLS AND BUILDINGS.
NOTES:

1. APPLY PRE-EMERGENT HERBICIDE UNDER DECOMPOSED GRANITE PRIOR TO INSTALLING IT.

2. APPLY PRE-EMERGENT HERBICIDE OR WEED INTRUSION FABRIC TO AGGREGATE BASE PRIOR TO PAVING ASPHALT CONCRETE.

3. APPLY A 4" WIDE SOLID THERMOPLASTIC YELLOW CENTERLINE STRIPE CONTINUOUSLY DOWN THE CENTER OF THE BIKE TRAIL.

4. A MINIMUM 3-FOOT HORIZONTAL CLEARANCE FROM THE PAVED EDGE OF A BIKE PATH TO OBSTRUCTIONS SHALL BE PROVIDED.

5. FOR TRAILS PARALLEL AND ADJACENT TO CITY STREET, THE TRAIL EDGE OF TRAVELED WAY SHALL BE 5' MINIMUM FROM THE ROADWAY EDGE OF SHOULDER OR 5' MINIMUM FROM THE ROADWAY TOP FACE OF CURB, WHICHEVER IS GREATER.

6. A GEOTECHNICAL RECOMMENDATION IS REQUIRED FOR AN R-VALUE OF LESS THAN 50 TO PROVIDE A DESIGN LIFE OF 20 YEARS AND A TI OF 5.
NOTES:
1. CONTOUR OF MEDIAN WILL VARY DEPENDING UPON MEDIAN WIDTH. DO NOT EXCEED BID QUANTITY OF IMPORTED TOPSOIL TO ACHIEVE 12" HEIGHT.
NOTES:
1. INSTALL ALL STAKES AND SPLICES ON PLANTING SIDE OF HEADERBOARD.
2. ALL NAILS SHALL BE GALVANIZED.
3. ALL REDWOOD SHALL BE ROUGH CONSTRUCTION COMMON GRADE IN ACCORDANCE TO CALIFORNIA REDWOOD ASSOCIATION GRADING RULES. DRIVE STAKES TO RESISTANCE AND CUT TOP AT 45 DEGREE ANGLE.
NOTES:

1. DOUBLE PIPE GATES SHALL BE USED FOR ROADWAYS OR DRIVEWAYS OVER 24' WIDE OPENING.

2. ALL PIPES SHALL BE BLACK STEEL PIPES. OUTSIDE DIAMETER (O.D.) AND WELDED.

3. ALL STEEL TO BE PAINTED WITH 2 COATS OF PRIMER AND SAFETY YELLOW.

4. PROVIDE TWO (2) 5" O.D. PIPES AND INSTALL WITH CONCRETE FOOTING (18" x 24" D) FOR TIE-DOWN WHEN GATE IS OPENED.
NOTES:

1. SINGLE PIPE GATE SHALL BE USED FOR ROADWAYS OR DRIVEWAYS UP TO 24' WIDE MAXIMUM OPENING.

2. ALL PIPES SHALL BE BLACK STEEL PIPES. OUTSIDE DIAMETER (O.D.) AND WELDED.

3. ALL STEEL TO BE PAINTED WITH 2 COATS OF PRIMER AND SAFETY YELLOW.

4. PROVIDE TWO (2) 5" O.D. PIPES AND INSTALL WITH CONCRETE FOOTING (18" X 24" D) FOR TIE-DOWN WHEN GATE IS OPENED AND CLOSED.
NOTES:

1. REFER TO VOLUME 2 HYDROLOGY STANDARDS OF THE CITY/COUNTY DRAINAGE MANUAL FOR ASSUMPTIONS MADE IN DERIVING THIS FIGURE.
1. Design runoff for multiple family development shall be based on the following formula:

\[ Q_m = Q_r + (Q_c - Q_r)(I - 50)/40 \]

Where:
- RD-7  \( I = 60 \)
- RD-10 \( I = 70 \)
- RD-20 \( I = 80 \)
- RD-30 \( I = 90 \)

Source: County of Sacramento Master Drainage Plan, Part 1, County-wide Hydrology, Nolte and Assoc.
1. Design runoff for multiple family development shall be based on the following formula:

\[ Q_m = Q_r + \frac{(Q_c - Q_r)(I - 50)}{40} \]

Where:
- RD-7
- I = 60
- RD-10
- I = 70
- RD-20
- I = 80
- RD-30
- I = 90

Source: County of Sacramento Master Drainage Plan, Part 1, County-wide Hydrology, Nolte and Assoc.
NOTES:
1. REFER TO VOLUME 2 HYDROLOGY STANDARDS OF THE CITY/COUNTY DRAINAGE MANUAL FOR ASSUMPTIONS MADE IN DERIVING THIS FIGURE.
NOTES:
1. REFER TO VOLUME 2 HYDROLOGY STANDARDS OF THE CITY/COUNTY DRAINAGE MANUAL FOR ASSUMPTIONS MADE IN DERIVING THIS FIGURE.
1. REFER TO VOLUME 2 HYDROLOGY STANDARDS OF THE CITY/COUNTY DRAINAGE MANUAL FOR ASSUMPTIONS MADE IN DERIVING THIS FIGURE.
\[ H_L = K \frac{V_1^2}{2g} \]

- \( V_1 \) = Velocity of flow in lateral in f.p.s.
- \( g \) = Acceleration due to gravity, 32 ft/sec/sec
- \( H_L \) = Feet of head lost in Jct. due to change in direction of lateral flow
- \( K \) = Factor from graph
INTERMEDIATE BACKFILL
- WHERE INTERMEDIATE BACKFILL IS ≥ 18", USE TYPE "A" OR TYPE "C" BACKFILL MATERIAL. WHERE INTERMEDIATE BACKFILL IS < 18", USE TYPE "A" OR TYPE "D" BACKFILL MATERIAL, SEE NOTES 2 AND 4

NOTES:
1. GEOTEXTILE SHALL BE INSTALLED AS PER STD DWG SD-6.1, SD-6.2, AND AS PER SECTION 50 OF THE CITY STANDARD CONSTRUCTION SPECIFICATIONS.
2. INTERMEDIATE BACKFILL TO BE PLACED IN 8" MAXIMUM LOOSE LIFTS AS PER SECTION 19 OF THE CITY STANDARD CONSTRUCTION SPECIFICATIONS.
3. CUTOFF COLLARS TO BE INSTALLED EVERY MANHOLE RUN AS PER STD DWG SD-6.3 AND AS PER SECTION 19 OF THE CITY STANDARD CONSTRUCTION SPECIFICATIONS.
4. IF ROADWAY SUBGRADE IS WITHIN 24" OF TOP OF PIPE, RCP PIPE IS REQUIRED & BEDDING AND INITIAL BACKFILL SHALL CONFORM TO SHALLOW PIPE DETAILS AS PER STD DWG SD-6.1.

BACKFILL MATERIALS

TYPE "A" BACKFILL MATERIAL: 3/4" CLASS II AB AS PER SECTION 50 OF THE CITY STANDARD CONSTRUCTION SPECIFICATIONS.

TYPE "B" BACKFILL MATERIAL: 3/4" CLEAN CRUSHED ROCK AS PER SECTION 50 OF THE CITY STANDARD CONSTRUCTION SPECIFICATIONS.

TYPE "C" BACKFILL MATERIAL: JOB EXCAVATED NATIVE MATERIAL FREE OF ORGANIC OR UNSUITABLE MATERIALS THAT CAN CAUSE VOIDS OR DEPRESSIONS TO DEVELOP DURING OR AFTER PLACEMENT OF THE BACKFILL. ROCKS, STONES, AND SOLID EARTH CHUNKS EXCEEDING 3-INCHES IN GREATEST DIMENSION ARE NOT ALLOWED.

TYPE "D" BACKFILL MATERIAL: CONTROLLED DENSITY FILL AS PER SECTION 50 OF THE CITY STANDARD CONSTRUCTION SPECIFICATIONS.

TYPE "E" BACKFILL MATERIAL: CLASS "C" CONCRETE AS PER SECTION 50 OF THE CITY STANDARD CONSTRUCTION SPECIFICATIONS.
1. Initial backfill material shall be thoroughly compacted around pipe as per Section 19 of the City Standard Construction Specifications.

2. "Trench excavation, bedding and backfill" as per Section 19 of the City Standard Construction Specifications.

3. Minimum depth of bedding shall be the greater of:
   - 4" min for pipes with ID ≤ 48"
   - 6" min for pipes with ID > 48"
   or
   - The difference between the OD of the pipe barrel and the bell plus 1.5".

   For rocky or unsuitable bedding conditions, see Section 19 of the City Standard Construction Specifications for tYP. bedding requirements.

4. If minimum trench width cannot be achieved, type "D" material shall be used in lieu of type "B" material at no extra cost.

5. If bottom of roadway structural section (subgrade) is within 12" of top of pipe, bedding and initial backfill shall be per one of the two shallow pipe details on this sheet.

6. For additional initial backfill material options for 48" and larger RCP, see Section 19 of the City Standard Construction Specifications.

7. See STD DWG SD-6.0 and Section 19 of the City Standard Construction Specifications for backfill material definitions and additional requirements.

8. Geotextile fabric shall be installed as follows for RCP & plastic pipe:
   - Per Section 19 of City Standard Construction Specifications.
   - For dry trench conditions - place on top of initial backfill material or between the bedding and the type D material, extending a 2" edge facing down on the trench sides.
   - For saturated trench conditions - wrap type B materials with geotextile fabric. Overlap the fabric edges at least two feet (2') on top of initial backfill material or bedding material.
INTERMEDIATE BACKFILL SHALL BE TYPE 'A' OR TYPE 'C' PER STD DWG SD-6.0

BACKFILL REQUIREMENTS FOR PLASTIC PIPE 12" TO 42" DIAMETER ONLY

Plastic Pipe

Backfill shall be Type "B" material or D material see STD DWG. SD-6.1
(See Note 4)

INITIAL BACKFILL REQUIREMENTS FOR PLASTIC PIPE (12" TO 60" DIAMETER) -

OPTION 1

Bedding shall be Type B material

OPTION 2

Bedding shall be Type B material

TRENCH WIDTH
MIN = OD + 36" FOR PIPES ≤ 24"
MIN = OD + 48" FOR PIPES > 24"

SUBGRADE OR INTERMEDIATE BACKFILL
NOTES:
1. TOP OF COLLAR TO EXTEND INTO INTERMEDIATE BACKFILL 12" MINIMUM OR TOP OF GROUND WATER HGL.
**NOTES:**

1. On all pipes up to 30" I.D. use flexible compression gasket or boot connector conforming to ASTM C-923. Connection shall be water and soil tight. For pipes greater than 30" I.D., base may be cast-in-place and a water stop conforming to ASTM C-923 shall be used.

2. Sump shall be 1'-0" deep, measured from invert of outfall pipe. Sump not required if outfall pipe is 24" I.D. or larger.

3. Riser sections, cones, and adjusting rings shall conform to ASTM C-478.

4. All joints shall be made with preformed plastic joint sealing compound. Following installation grout all interior and exterior joints.

5. Concentric components shall be used unless otherwise specified on the plans.

6. Precast manholes shall be sized to provide the following: The annular space on the inside of the manhole barrel between cored pipe connection holes shall be a minimum of 10 inches, if the connection hole is cast monolithically with the manhole barrel the measurement shall be taken from the finished concrete connection.

7. See Section 39, Construction Specifications, "Manholes."

8. Cone for manholes greater than 60" diameter shall be individually designed.

**TABLE OF MINIMUM DIMENSIONS**

<table>
<thead>
<tr>
<th>M.H.</th>
<th>A</th>
<th>B</th>
<th>T*</th>
<th>W</th>
</tr>
</thead>
<tbody>
<tr>
<td>48&quot;</td>
<td>48&quot;</td>
<td>18&quot;</td>
<td>8&quot;</td>
<td>4'</td>
</tr>
<tr>
<td>60&quot;</td>
<td>60&quot;</td>
<td>28&quot;</td>
<td>9&quot;</td>
<td>6'</td>
</tr>
<tr>
<td>72&quot;</td>
<td>72&quot;</td>
<td>38&quot;</td>
<td>10&quot;</td>
<td>7&quot;</td>
</tr>
</tbody>
</table>

**PROFILE**

Flat slab shall be used when depth does not permit use of taper unit.

**FLAT SLAB TOP**

6" concrete collar w/ 2-#4 hoops in unpaved areas.

**IN PAVED AREAS:**
- Set flush or within 1/4" above pavement.
- Set 1" below adjacent grade.

**IN UNPAVED AREAS:**
- Set flush or within 1/4" above pavement.
- Set 1" below adjacent grade.

**4" concrete collar in paved areas**

4" concrete collar in unpaved areas.

**IN PAVED AREAS:**
- Set flush.
- 1/4" max.

**IN UNPAVED AREAS:**
- Set 1" below adjacent grade.

**Tongue and groove joint see note 3**

**Standard frame and cover per SD-9**

**Resilient connector see note 1**

**Resilient connector see note 1**

**1'-0" SUMP see note 2**

**FLAT SLAB TOP**

6" concrete collar w/ 2-#4 hoops in unpaved areas.
STANDARD 24" FRAME AND COVER
(SEE NOTES ON SD-7)

1'-6" MAX. FOR 24" OPENING
2'-0" MAX. FOR 36" OPENING

CONCRETE COLLAR
(SEE SD-7)

6"

VARIABLE

VARIABLE 48" MIN

NOTES:

1. REMOVE CONCRETE IN MANHOLE OPENING AND CONSTRUCT RISER BASE WHILE CONCRETE IS STILL WORKABLE.

2. PLACE RISER SECTION AFTER CONCRETE HAS SET.

3. SEE SECTION 39, "MANHOLES," AND SECTION 36, CAST-IN-PLACE CONCRETE PIPE.

TYPE A
CAST-IN-PLACE PIPE ONLY

CITY OF ELK GROVE - PUBLIC WORKS

DATE: 09/22/2017
NOT TO SCALE

CITY ENGINEER

APPROVED BY: 10/24/2018

DRAWING NUMBER

SD - 8A
**CONCRETE COLLAR**
(SEE STD DWG SD-7)

**STANDARD 24" FRAME AND COVER**
(SEE NOTES ON STD DWG SD-7)

---

**NOTES:**

1. CONCRETE SHALL BE CLASS "A" IN CONFORMANCE WITH ARTICLE 50-5
   "PORTLAND CEMENT CONCRETE."

2. SEE SECTION 39, "MANHOLES."
NOTES:

1. ALL CASTINGS TO CONFORM TO ASTM A48, CLASS 35B. CONTACT CITY OF ELK GROVE FOR IMAGE FILE.

2. FRAME AND COVER TO MEET AASHTO M-306-10 LOAD SPECIFICATIONS & MANUFACTURER'S PERFORMANCE REQUIREMENTS FOR POSITION & FIT.

3. FRAME AND COVER SHALL HAVE A COATING OF BLACK BITUMINOUS MATERIAL.

4. A TAMPER RESISTANT BOLTED TYPE FRAME & COVER SHALL BE USED IN EASEMENT AREAS UNLESS OTHERWISE APPROVED.

APPROX. SET WEIGHT

<table>
<thead>
<tr>
<th>Item</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>FRAME</td>
<td>163 LBS</td>
</tr>
<tr>
<td>COVER</td>
<td>135 LBS</td>
</tr>
<tr>
<td>TOTAL</td>
<td>298 LBS</td>
</tr>
</tbody>
</table>

CITY OF ELK GROVE - PUBLIC WORKS
GREY CAST IRON
STANDARD 24" MANHOLE
FRAME & COVER WITH CITY LOGO

APPROVED BY: [Signature]
CITY ENGINEER
02/20/2021
01 STN JRW 02/16/2021
NOTES:
1. ALL CASTINGS TO CONFORM TO ASTM A48, CLASS 35B.
2. FRAME AND COVER TO MEET H-20 LOAD SPECIFICATIONS.
3. MACHINED HORIZONTAL AND VERTICAL BEARING SURFACES NOT TO EXCEED 1/64" TOLERANCE.
4. FRAME AND COVER SHALL HAVE A COATING OF BLACK BITUMINOUS PAINT.
5. LOCKING COVER TYPE FRAME AND COVERS SHALL BE USED WHEN SPECIFIED IN CONTRACT DOCUMENTS.
6. H20 RATED SLOTTED GRATE OR GRATE TYPE MANHOLE COVER MAY BE SUBSTITUTE FOR COVER WHEN SPECIFIED IN CONTRACT DOCUMENTS OR UPON APPROVAL OF DIRECTOR.
7. COVER SHALL BE "STORM DRAIN" STAMPED.
NOTES:
1. MANHOLE COVER SHALL FIT FRAME SHOWN ON STANDARD DRAWING SD-9.
2. SEATING SURFACES SHALL BE MACHINED AS SHOWN IN DETAIL ON STANDARD DRAWING SD-9.
3. THIS COVER MAY BE USED ONLY WITH APPROVAL OF THE CITY ENGINEER.
4. GALVANIZE AFTER FABRICATION.
NOTES:

1. STANDARD DEPRESSION FOR INLET IS 1-1/2" AND LIP OF GUTTER MUST BE SET BACK 3" FROM GUTTER FLOW LINE.
2. FRAME AND GRATE SHALL CONFORM TO STANDARD DRAWINGS SD-14 AND SD-15.
3. OPEN-BACK HOOD SHALL BE H-20 RATED.
5. AN EDGING TOOL SHALL BE USED ON ALL EDGES WHERE THE CONCRETE SIDEWALK AND CURB MEET THE TOP OF THE HOOD.
6. ALL EXPOSED PARTS TO BE HOT DIP GALVANIZED PER ASTM A123, AFTER FABRICATION.
7. SEE SD-12.1 FOR INSTALLATION OF INLETS AT DETACHED SIDEWALKS.
8. INCREASE SIDEWALK THICKNESS TO 8" IN ORDER TO ANCHOR CAST IRON HOOD AND INLET WALL.
9. WHEN MORE THAN ONE GRATE IS PROPOSED, STD DWG SD-16 FOR SUPPORT ASSEMBLY.
NOTES:

1. TO BE USED ON TYPE 1A AND TYPE 2 CURB AND GUTTER WHERE INLETS ARE AT DETACHED SIDEWALKS.
NOTES:
1. STANDARD DEPRESSION FOR INLET IS 1-1/2".
2. FRAME AND GRATE SHALL CONFORM TO STANDARD DRAWINGS SD-14 AND SD-15.
3. OPEN-BACK HOOD SHALL BE H-20 RATED.
4. ALL EXPOSED EDGES SHALL HAVE A 1/8" R (MINIMUM).
5. AN EDGING TOOL SHALL BE USED ON ALL EDGES WHERE THE CONCRETE SIDEWALK AND CURB MEET THE TOP OF THE HOOD.
6. ALL EXPOSED PARTS TO BE HOT DIP GALVANIZED PER ASTM A123, AFTER FABRICATION.
NOTES:
1. OMIT 1/2" FRAME ANCHORS OVER CENTER SUPPORT ASSEMBLY WHEN MULTIPLE FRAMES ARE USED.
2. MATERIAL: ASTM A36 MILD STEEL
4. ALL EXPOSED PARTS TO BE HOT DIP GALVANIZED PER ASTM A123, AFTER FABRICATION.
NOTES:

1. DIMENSIONS TO CENTERLINE OF BARS UNLESS OTHERWISE NOTED.

2. ALL EXPOSED PARTS TO BE HOT DIP GALVANIZED PER ASTM A123, AFTER FABRICATION.
NOTES:

1. OMIT 1/2" FRAME ANCHORS OVER CENTER SUPPORT.

2. L=57 INCHES FOR CURB OPENING CATCH BASIN WITH GRATING(S) AND DEBRIS SKIMMER.

3. ALL EXPOSED PARTS TO BE HOT DIP GALVANIZED PER ASTM A123, AFTER FABRICATION.
NOTES:
1. TO BE USED ONLY IN TYPE 2 CURB AND GUTTER WITH 2" DEPRESSION. USE IN TYPE 1A CURB AND GUTTER ONLY UPON APPROVAL OF THE CITY ENGINEER. SEE KEYNOTE 1.
2. FACE ANGLE SHALL BE CAST INTO STRUCTURE CONTINUOUS FOR THE FULL LENGTH "W".
3. ALL EXPOSED METAL PARTS TO BE HOT-DIPPED GALVANIZED AFTER FABRICATION.
4. WHEN CURB INLET OPENING HEIGHT (H) EXCEEDS 6" INSTALL 1" Ø STEEL PROTECTION BAR.
5. INSTALL ADDITIONAL BARS AT 3-1/2" CLEAR SPACING ABOVE FIRST BAR WHEN OPENING EXCEEDS 13".
6. WHEN CURB INLET OPENING LENGTH EXCEEDS 8' INSTALL 1" Ø STEEL SUPPORT BOLTS, SPACED AT NOT MORE THAN 5' O.C.

KEYNOTES:
1. ALTERNATE ANGLE IRON SIZE, DEPRESSION DEPTH, AND SLAB THICKNESS MAY BE USED UPON APPROVAL OF THE CITY ENGINEER.
NOTES:

1. PROVIDE 1/4" x 18" GALVANIZED CHAIN WELD TO COVER AND EYE BOLT.

2. PROVIDE END OR SIDE OPENINGS AS SHOWN ON PLANS OR CROSS SECTION.

3. TOP OF WALLS TO BE FINISHED TO A FLAT PLANE TO PROVIDE EVEN BEARING FOR PLATE COVER.

4. ALL METALS SHALL BE HOT DIP GALVANIZED PER ASTM A123.
MIN. WEIGHT OF PRECAST REINFORCED CONCRETE COVER IS 80 LBS.

#4 REBAR @ 12" O.C. E.W., ADD 2-#4 ON 4 SIDES OF MANHOLE FRAME. MINIMUM 1" CLEAR COVER ALL DIRECTIONS

FRAME AND COVER PER STD. DWG. SD-9

PLAN

BATTER, SEE SD - 17

1/4" PER FOOT

8"

6" MIN.

R=6"

2'-9"

VARIES 8'-0" MAX.

SECTION A-A

SECTION B-B

NOTES:

1. CURB INLET ASSEMBLY MAY BE PRECAST CONCRETE OR FORMED AND CAST-IN-PLACE P.C.C.

2. ALL METAL SHALL BE HOT DIP GALVANIZED PER ASTM A123.

3. SEE STANDARD DRAWING SD - 17 FOR FACE PLATE ASSEMBLY.
Curb Inlet Detail

Notes:
1. Curb inlet assembly may be precast concrete, or formed and cast-in-place P.C.C.
2. All metal shall be hot dipped galvanized ASTM A123.
3. All castings to conform to ASTM A4B, Class 35B
4. Frame and cover to meet H-20 load specifications.
5. Bearing surfaces are machine beveled to assure a close, non-rocking surface.
6. Frame and cover shall have a coating of black bituminous material conforming to ASTM 48-30.
7. See Article 50-31 "Sewer and Storm Drain Castings" of Section 50, Construction Specifications.
8. Install "No Dumping, Drains to Creek" placard on top of curb.
NOTES:

1. STANDARD DEPRESSION FOR INLET IS 1'2".

2. FRAME AND GRATE SHALL CONFORM TO STANDARD DRAWINGS SD-14 AND SD-15.

3. OPEN BACK CAST IRON HOOD SHALL BE H-20 RATED, 3/4" THICK AND CONFORM TO STANDARD DRAWING SD-12.

4. ALL EXPOSED EDGES SHALL HAVE A 1/8" RADIUS (MINIMUM).

5. AN EDGING TOOL SHALL BE USED ON ALL EDGES WHERE THE CONCRETE SIDEWALK AND CURB MEET THE TOP OF THE HOOD.

6. EXPOSED SURFACES OF THE GRATES, FRAMES, AND HOODS WITH THE PARTS ASSEMBLED DISASSEMBLED SHALL BE PAINTED WITH COMMERCIAL QUALITY ASPHALTUM PAINT AFTER TESTING AND ASSEMBLY.

7. THE MINIMUM PIPE SIZE IS 12". IF THE INLET DEPTH IS GREATER THAN 4', THE MINIMUM PIPE SIZE SHALL BE 15".

1. CONCRETE PIPE TO CONCRETE PIPE WITHOUT STANDARD JOINT

2. CAST-IN-PLACE OR PRE-CAST CONCRETE PIPE TO EXISTING CSP

EXISTING CSP

INSIDE FACE

CONCRETE COLLAR

T OR 6" MIN.

12" MIN.

6"

INSIDE FACE

CAST-IN-PLACE OR PRE-CAST CONCRETE PIPE

T OR 6" MIN.

12" MIN.

6"

#3 REBAR (TYP.)

INSIDE FACE

CONCRETE COLLAR
NOTES:

1. TO HELP CREATE A FLEXIBLE, WATERTIGHT JOINT, DO NOT PLACE MORTAR AROUND THE CONNECTOR ON THE OUTSIDE OF THE STRUCTURE OR AROUND THE TOP HALF OF THE CONNECTOR ON THE INSIDE WHEN COMPLETING THE INVERT WORK.

2. RESILIENT CONNECTORS SHALL BE A FLEXIBLE COMPRESSION GASKET OR BOOT CONNECTOR PER SECTION 39-2.01 "PRECAST CONCRETE STORM DRAIN MANHOLES" OF THE CITY OF ELK GROVE STANDARD CONSTRUCTION SPECIFICATIONS.

3. ALL CONNECTORS SHALL MEET OR EXCEED THE REQUIREMENTS OF A.S.T.M. C-923.
NOTES:
1. BOTTOM TRANSITION 25' MINIMUM APRON LENGTH WITH NO RAMP.
2. WEEP HOLES AND JOINTS AS REQUIRED FOR ALL LINED CHANNEL SECTIONS.
3. LOW SIDE OF CHANNEL TO BE OPPOSITE RAMP.
4. SIDE SLOPE LINING MAY BE USED AT RAMP LOCATIONS TO INCREASE SLOPE TO MAXIMUM 1:1. TOP OF SLOPE GREATER THAN 3:1 MUST BE FENCED.
NOTES:
1. USE CLASS "B" CONCRETE.
2. 6" x 6" - W6 x W6 WELDED WIRE FABRIC (WWF) THROUGHOUT CONCRETE.
3. ADD ENERGY DISSIPATION FEATURES SUCH AS COBBLES, RIP-RAPS, OR MOLDED CONCRETE AT END OF APRON.
NOTES:

1. USE CLASS "B" CONCRETE OR GROUTED COBBLES AS SPECIFIED.

2. 6" x 6" - W6 x W6 WWF THROUGHOUT CONCRETE.

3. ON LINED CHANNELS APRON SHALL CONNECT TO SIDE LINING.

4. B = DITCH BOTTOM WIDTH OR AS SHOWN ON PLANS.

5. D = DITCH WATER DEPTH PLUS ONE FOOT OF FREEBOARD.

6. ADD ENERGY DISSIPATION FEATURES SUCH AS COBBLES, RIP-RAP, OR MOLDED CONCRETE AT END OF APRON.
<table>
<thead>
<tr>
<th>PIPE DIA. (IN)</th>
<th>PIPE OD (IN)</th>
<th>QUANTITY*</th>
<th>BAR &quot;A&quot; SIZE (IN)</th>
<th>H (IN)</th>
<th>W (IN)</th>
<th>L (IN)</th>
<th>S (IN)</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>30</td>
<td>11</td>
<td>3/8x2 1/2</td>
<td>46</td>
<td>48</td>
<td>40</td>
<td>18</td>
</tr>
<tr>
<td>27</td>
<td>33.5</td>
<td>11</td>
<td>3/8x2 1/2</td>
<td>50</td>
<td>48</td>
<td>42</td>
<td>19</td>
</tr>
<tr>
<td>30</td>
<td>37</td>
<td>11</td>
<td>3/8x2 1/2</td>
<td>53</td>
<td>48</td>
<td>46</td>
<td>21</td>
</tr>
<tr>
<td>33</td>
<td>40.5</td>
<td>11</td>
<td>3/8x2 1/2</td>
<td>57</td>
<td>48</td>
<td>52</td>
<td>24</td>
</tr>
<tr>
<td>36</td>
<td>44</td>
<td>13</td>
<td>3/8x2 1/2</td>
<td>60</td>
<td>60</td>
<td>52</td>
<td>24</td>
</tr>
</tbody>
</table>

*INCLUDES OUTSIDE FRAME

SIDEBAR LENGTH AND ANGLE WILL BE DETERMINED BY WING WALL DESIGN

BAR "A" @ 6" OC

SYMmetrical about center line

TOP VIEW

SIDE VIEW

CITY OF ELK GROVE - PUBLIC WORKS

TRASH RACK

24"-36" PIPE

(SHEET 1 OF 4)
2" DIA. SCH 80 SEAMLESS STEEL PIPE

SIDE BAR LENGTH AND ANGLE WILL BE DETERMINED BY WING WALL DESIGN

BAR "A" @ 6" OC

ACCESS GATE SEE SD-28.3

3" x 1 1/2" x 1/4" C10 CHANNEL BAR

ADDITIONAL HINGE REQUIRED ON TRASH RACK FOR 60" AND 72" PIPE

SYMMETRICAL ABOUT CENTER LINE

4" MAX (TYP.)

NOTES:
1. SEE IMPROVEMENT STANDARDS SECTION 9-17 FOR DESIGN REQUIREMENTS

CITY OF ELK GROVE - PUBLIC WORKS
TRASH RACK
42" PIPE AND LARGER
(SHEET 2 OF 4)
NOTES:

1. SEE STANDARD DRAWINGS SD-29.1 AND SD-29.2 FOR PIPE HEADWALL DETAILS.

2. MATERIAL TO CONFORM TO ASTM DESIGNATION A-36. GALVANIZE ALL EXPOSED FERROUS PARTS AFTER FABRICATION.

3. ALL FILLET WELDS TO BE 3/16".

4. ALL STEEL SHALL CONFORM TO SECTION 75 OF THE STATE SPECIFICATIONS AND ASTM A36, A575 AND A576.

5. GATE HINGES TO BE COATED TO RESIST CORROSION.
NOTES:

1. SEE STANDARD DRAWINGS SD-29.1 AND SD-29.2 FOR PIPE HEADWALL DETAILS.
2. MATERIAL TO CONFORM TO ASTM DESIGNATION A-36. GALVANIZE ALL EXPOSED FERROUS PARTS AFTER FABRICATION.
3. ALL FILLET WELDS TO BE 3/16".
4. ALL STEEL SHALL CONFORM TO SECTION 75 OF THE STATE SPECIFICATIONS AND ASTM A36, A575 AND A576.
NOTES:
1. SEE DWG SD-28 FOR EMBEDMENT OF TRASH RACK COMPONENTS PRIOR TO POURING CONCRETE

EXISTING GROUND

A BAR

B BAR

C BAR

D BAR

E BAR

2% SLOPE VARIES PER SITE CONDITIONS

WINGWALL TOP BAR

PIPE OD

H min

12"

12"

24"

L min

6" MIN

VARIES PER SITE CONDITIONS

PLAN

SIDE ELEVATION

SECTION A-A

SEE NOTE 1

SEE NOTE 2

SD - 29.1
NOTES:
1. PLACE #5 REBAR ON DIAGONALS @ 4" FROM PIPE OD.
2. PIPE CONNECTIONS SHALL CONFORM TO ASTM C-923. UNITS SHALL INCLUDE A WATER STOP.
3. CHAMFER ALL EXPOSED EDGES 3/4".
4. ALL STEEL MINIMUM 2" FROM CONCRETE EDGES.
5. ALL LAP SPLICES MINIMUM 12".

HEADWALL DIMENSIONS

<table>
<thead>
<tr>
<th>PIPE DIA</th>
<th>PIPE OD</th>
<th>W</th>
<th>H_{min}</th>
<th>T</th>
<th>L_{min}</th>
</tr>
</thead>
<tbody>
<tr>
<td>24&quot;</td>
<td>30&quot;</td>
<td>4'-6&quot;</td>
<td>4'-8&quot;</td>
<td>8&quot;</td>
<td>2'-9&quot;</td>
</tr>
<tr>
<td>27&quot;</td>
<td>33.5</td>
<td>4'-6&quot;</td>
<td>4'-10&quot;</td>
<td>8&quot;</td>
<td>3'-0&quot;</td>
</tr>
<tr>
<td>30&quot;</td>
<td>37&quot;</td>
<td>4'-6&quot;</td>
<td>5'-3&quot;</td>
<td>8&quot;</td>
<td>3'-3&quot;</td>
</tr>
<tr>
<td>33&quot;</td>
<td>40.5&quot;</td>
<td>4'-6&quot;</td>
<td>5'-9&quot;</td>
<td>8&quot;</td>
<td>3'-6&quot;</td>
</tr>
<tr>
<td>36&quot;</td>
<td>44&quot;</td>
<td>5'-6&quot;</td>
<td>5'-9&quot;</td>
<td>8&quot;</td>
<td>3'-9&quot;</td>
</tr>
<tr>
<td>42&quot;</td>
<td>51&quot;</td>
<td>6'-6&quot;</td>
<td>6'-6&quot;</td>
<td>8&quot;</td>
<td>4'-3&quot;</td>
</tr>
<tr>
<td>48&quot;</td>
<td>58&quot;</td>
<td>7'-6&quot;</td>
<td>7'-5&quot;</td>
<td>10&quot;</td>
<td>5'-3&quot;</td>
</tr>
<tr>
<td>54&quot;</td>
<td>65&quot;</td>
<td>9'-6&quot;</td>
<td>7'-7&quot;</td>
<td>10&quot;</td>
<td>5'-9&quot;</td>
</tr>
<tr>
<td>60&quot;</td>
<td>72&quot;</td>
<td>10'-6&quot;</td>
<td>8'-3&quot;</td>
<td>10&quot;</td>
<td>6'-0&quot;</td>
</tr>
<tr>
<td>72&quot;</td>
<td>86&quot;</td>
<td>12'-6&quot;</td>
<td>9'-8&quot;</td>
<td>10&quot;</td>
<td>7'-3&quot;</td>
</tr>
</tbody>
</table>

REINFORCING STEEL DIMENSIONS AND DATA

<table>
<thead>
<tr>
<th></th>
<th>A BAR</th>
<th>B BAR</th>
<th>C BAR</th>
<th>D BAR</th>
<th>E BAR</th>
<th>WINGWALL TOP BAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>H \leq 7</td>
<td>#4 @ 12&quot;OC</td>
<td>#4 @ 12&quot;OC</td>
<td>#4 @ 12&quot;OC</td>
<td>#4 @ 12&quot;OC</td>
<td>#4 @ 12&quot;OC</td>
<td>#4</td>
</tr>
<tr>
<td>7' &lt; H \leq 8'</td>
<td>#4 @ 12&quot;OC EF</td>
<td>#4 @ 12&quot;OC EF</td>
<td>#4 @ 12&quot;OC EF</td>
<td>#4 @ 12&quot;OC EF</td>
<td>#4 @ 12&quot;OC EF</td>
<td>#4</td>
</tr>
<tr>
<td>8' &lt; H \leq 10'</td>
<td>#5 @ 12&quot;OC EF</td>
<td>#5 @ 6&quot;OC EF</td>
<td>#5 @ 12&quot;OC EF</td>
<td>#5 @ 12&quot;OC EF</td>
<td>#5 @ 12&quot;OC EF</td>
<td>#5</td>
</tr>
</tbody>
</table>
PLAN VIEW

EXPANSION JOINT AT 50' CENTERS

CONTRACTION JOINT AT 10' CENTERS

TYPICAL BOTTOM LINING

2" WEEP HOLES AT 10' CENTERS

CONTRACTION JOINT AT 10' CENTERS

EXPANSION JOINT AT 50' CENTERS

CITY OF ELK GROVE - PUBLIC WORKS

LINED CHANNEL SECTION
(SHEET 1 OF 2)

DATE: 09/22/2007
NOT TO SCALE

APPROVED BY:
CITY ENGINEER
10/24/2018

SD - 30.1
OPTION 2

NATIVE OR OTHER SELECT BACKFILL 90% RELATIVE COMPACTION

WEEP HOLE SHALL BE CENTERED IN A MINIMUM OF 1 C.F. OF 3/4" CRUSHED ROCK CONFORMING TO SECTION 50 "CLEAN CRUSHED ROCK", TYPE B. ROCK SHALL BE WRAPPED IN FABRIC CONFORMING TO SECTION 50 "GEOTEXTILE FABRIC". HOLE SHALL BE 2" DIAMETER PIPE CUT TO FIT FLUSH WITH CHANNEL FACE. (TYPICAL)

OPTION 1

CUTOFF WALL
TO BE PLACED ALONG ENTIRE END OF LINED SECTION AT BEGINNING AND AT END OF LINING

TYPICAL FULL LINING

4" POURED-IN-PLACE CONCRETE

6" x 6"- W6XW6 WWF

1'-0" 1:1 OR VAR

12"

VARIABLE 6' MIN

TYPICAL FULL LINING

6" x 6"-W6XW6 WWF

6' CHAIN LINK FENCE

R/W

3" POURED-IN-PLACE CONCRETE OR AIR-BLOWN MORTAR

INVERT

SEE JOINT DETAIL

CONSTRUCTION JOINT

6" x 6"-W6XW6 WWF

VAR.

18"

6" x 6"-W6XW6 WWF

JOINT DETAIL

NATURAL OR OTHER SELECT BACKFILL 90% RELATIVE COMPACTION
NOTES:

1. ALL UTILITY CROSSINGS OF EXISTING STREAMS SHALL BE AT LEAST 30" BELOW EXISTING CHANNEL SIDES AND BOTTOMS. DEEPER PLACEMENT MAY BE REQUIRED IF FUTURE CHANNEL IMPROVEMENTS ARE ANTICIPATED.

2. THE CUT SHALL BE SEALED AS SHOWN WITH GROUTED COBBLES OR CLASS B CONCRETE TO A WIDTH OF 1 FOOT EACH SIDE OF THE UTILITY TRENCH. ALL NATURAL STREAMS, AS SHOWN ON THE NATURAL STREAMS PLAN, SHALL UTILIZED GROUTED COBBLES.

3. CONSTRUCTION IS TO CONFORM TO SECTION 44-2.07 OF THE CITY OF ELK GROVE STANDARD CONSTRUCTION SPECIFICATIONS WITH CUT OFF WALLS CONFORMING TO STANDARD DRAWING SD-30.2 (OPTION 1).
TYPICAL STREET LIGHTS

STANDARD ARM BASE
2'-3"

STANDARD POLE HEIGHT
28'-6"

STANDARD POLE HEIGHT
30'-9"

SERIES 'A'

SERIES 'B'

SYMBOLS

PROPOSED
EXISTING

......SERIES 'A' STREET LIGHT

......SERIES 'B' STREET LIGHT

......PULL BOX

......SERVICE POINT PULL BOX

......CONDUIT

......SERVICE ENCLOSURE

......U.G. UTILITY SERVICE

......TRANSFORMER

......WOOD POLE
<table>
<thead>
<tr>
<th>STREET CLASSIFICATION</th>
<th>RIGHT-OF-WAY WIDTH</th>
<th>STREET LIGHT SUB-TYPE (SERIES)</th>
<th>STANDARD MOUNTING TYPE</th>
<th>AVERAGE MAINTAINED FOOTCANDLE</th>
<th>MAINTENANCE FACTOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIAL THOROUGHFARE</td>
<td>118'</td>
<td>A</td>
<td>30' - 9&quot;</td>
<td>0.57</td>
<td>0.65</td>
</tr>
<tr>
<td>THOROUGHFARE</td>
<td>96'</td>
<td>A</td>
<td>30' - 9&quot;</td>
<td>0.56</td>
<td>0.65</td>
</tr>
<tr>
<td>ARTERIAL</td>
<td>72'</td>
<td>A</td>
<td>30' - 9&quot;</td>
<td>0.36</td>
<td>0.65</td>
</tr>
<tr>
<td>COLLECTOR</td>
<td>60'</td>
<td>A</td>
<td>30' - 9&quot;</td>
<td>0.26</td>
<td>0.65</td>
</tr>
<tr>
<td>RESIDENTIAL</td>
<td>&lt; 50'</td>
<td>B</td>
<td>21'</td>
<td>0.13</td>
<td>0.70</td>
</tr>
<tr>
<td>PEDESTRIAN LANE</td>
<td>--</td>
<td>B</td>
<td>14'</td>
<td>0.17</td>
<td>0.70</td>
</tr>
</tbody>
</table>

**NOTES:**

1. LUMENS USED TO CALCULATE THE AVERAGE MAINTAINED FOOTCANDLE SHALL BE 80% OF INITIAL LUMEN VALUE RATED BY THE LAMP MANUFACTURER.
SIDEWALK FINISH
(IF APPLICABLE)

D, W FOR SQUARE
2R FOR ROUND

ELEVATION

CLASS "A" CONCRETE
FIELD CAST - 3,500 PSI MIN.

2" ELECTROLIER
CONDUIT

BASE PLATE **

GALVANIZED ANCHOR BOLTS **

ELECTROLIER MUST BE GROUNDED BACK TO THE SERVICE POINT

MINIMUM FOUNDATION DIMENSIONS *

<table>
<thead>
<tr>
<th>STREET LIGHT AREAS</th>
<th>STREET LIGHT SUB-TYPE (SERIES)</th>
<th>SQUARE</th>
<th>ROUND</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT</td>
<td>SERIES 'A'</td>
<td>30&quot;</td>
<td>5'</td>
</tr>
<tr>
<td>CT, OT, LW</td>
<td>SERIES 'B'</td>
<td>24&quot;</td>
<td>4'</td>
</tr>
<tr>
<td>LW, ZONE 2</td>
<td>SERIES 'A'</td>
<td>30&quot;</td>
<td>6'-6&quot;</td>
</tr>
<tr>
<td>ZONE 2</td>
<td>SERIES 'B'</td>
<td>24&quot;</td>
<td>12&quot;</td>
</tr>
</tbody>
</table>

CT - COMMON TYPE
OT - OLD TOWN
LW - LAGUNA WEST
SEE STANDARD DRAWING SL-19 FOR STREET LIGHT AREAS

* STABLE SOILS ONLY. UNSTABLE SOIL MAY REQUIRE A DEEPER FOUNDATION AS DETERMINED BY THE DESIGN ENGINEER.

** IN LIEU OF USING THE STANDARD MINIMUM DIMENSIONS, A LICENSED PROFESSIONAL ENGINEER MAY SUBMIT A SITE-SPECIFIC (BY STREET LIGHT TYPE/LOCATION) FOUNDATION DESIGN FOR APPROVAL. FOUNDATION DESIGN MUST CONFORM TO AASHTO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS."

** ANCHOR BOLT SIZES AND BASE PLATE SHALL BE PURSUANT TO THE POLE MANUFACTURER'S DESIGN REQUIREMENTS, WHICH SHALL BE IN ACCORDANCE WITH AASHTO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS."
1. IN UNIMPROVED AREAS, THE TOP OF PULL BOXES SHALL BE PLACED 0.10 FOOT ABOVE THE SURROUNDING GRADE OR, WHEN ADJACENT TO A CURB, FLUSH WITH THE TOP OF THE CURB. THE SURROUNDING GRADE SHALL BE RAMPS UP TO MATCH THE TOP OF THE CONCRETE COLLAR. UNLESS OTHERWISE NOTED, PULL BOXES SHOWN IN THE VICINITY OF SIDEWALK SHALL BE PLACED ADJACENT TO THE CURB AND PULL BOXES SHOWN ADJACENT TO POLES SHALL BE PLACED ON THE SIDE OF THE FOUNDATION FACING AWAY FROM TRAFFIC.

2. PLACEMENT OF PULL BOXES IN AREAS SUBJECT TO VEHICULAR TRAFFIC LOADS (INCLUDES TRAFFIC LANES, BIKE LANES, SHOULDERS, AND DRIVEWAYS) SHALL BE AVOIDED WHENEVER POSSIBLE. IF UNAVAILABE, THEN A TRAFFIC RATED PULL BOX WITH STEEL TRAFFIC COVER SHALL BE USED. SEE STANDARD DRAWING SL-5.

3. PULL BOXES SHALL NOT BE PLACED WITHIN THE BOUNDARIES AND SIDEWALK RAMPS.

4. FINAL LOCATION OF ALL PULL BOXES SHALL BE APPROVED BY CITY INSPECTOR PRIOR TO PLACEMENT.

5. PULL BOX COVERS SHALL BE MARKED AS FOLLOWS:
   A) "TRAFFIC SIGNAL" TRAFFIC SIGNAL CIRCUITS WITH OR WITHOUT STREET LIGHTING CIRCUITS.
   B) "STREET LIGHTING" STREET LIGHTING CIRCUITS WHERE NO VOLTAGE IS ABOVE 600V.
   C) "STREET LIGHTING-HIGH VOLTAGE" STREET LIGHTING CIRCUITS WHERE VOLTAGE IS ABOVE 600V.
   D) "SERVICE" SERVICE CIRCUITS BETWEEN SERVICE POINT AND SERVICE DISCONNECT.
   E) "SPRINKLER CONTROL" SPRINKLER CONTROL CIRCUITS, 50VOLTS OR LESS.
   F) "IRRIGATION" CIRCUIT FOR IRRIGATION CONTROLLER, 120VOLTS OR LESS
   G) "RAMP METER" RAMP METER CIRCUITS.
   H) "COUNT STATION" COUNT AND/OR SPEED MONITOR CIRCUITS.
   I) "TELEPHONE" TELEPHONE SERVICE.
   J) "TOS COMMUNICATIONS" TOS COMMUNICATIONS TRUNK LINE.
   K) "TOS POWER" TOS POWER.
   L) "TDC POWER" TELEPHONE DEMARCATION CABINET POWER.
   M) "SIGNAL INTERCONNECT" TRAFFIC SIGNAL INTERCONNECT CIRCUIT.

6. COVERS SHALL FIT FLUSH WITH THE TOP OF PULL BOXES. THERE SHALL BE 1/8" MAXIMUM CLEARANCE ALL AROUND BETWEEN COVERS AND PULL BOX OPENINGS.

7. ALL COVERS AND BOXES SHALL BE INTERCHANGEABLE WITH CALIFORNIA STANDARD MALE AND FEMALE GAUGES. WHEN INTERCHANGED WITH STANDARD MALE OR FEMALE GAUGE, THE TOP SURFACES SHALL BE FLUSH WITHIN 1/8" INCH.

8. THE TOP EDGES OF ALL CONCRETE COVER AND PULL BOXES SHALL HAVE A 1/4" MINIMUM RADIUS.

9. STACKING OF PULL BOXES IS PERMITTED (TWO PULL BOXES MINIMUM).

10. STEEL REINFORCING SHALL BE A REGULARLY USED IN THE STANDARD PRODUCTS OF THE RESPECTIVE MANUFACTURER.

11. PULL BOXES FOR STREET LIGHTING, UPON COMPLETION OF BURN TEST, SHALL BE FILLED WITH CONTROLLED DENSITY BACKFILL, PER CITY OF ELK GROVE CONSTRUCTION SPECIFICATIONS SECTION 50-19. A 5 MIL PLASTIC SHEET SHALL COVER THE CONDUITS/WIRES PRIOR TO PourING OF BACKFILL TO A DEPTH OF TWO (2) INCHES OVER THE CONDUITS.

12. WHEN NON-METALLIC CONDUIT IS USED AND CONDUIT SWEEPS ARE METALLIC, THE BONDING JUMPER SHALL BE CONNECTED TO THE SWEEP GROUND BUSHING AND SHALL BE SPliced TO THE GROUND WIRE IN THE CONDUIT.
PULL BOXES SHALL BE PLACED BEHIND THE SIDEWALK OR IN THE PLANTER AREA WHENEVER POSSIBLE. TRAFFIC RATED BOXES AND COVERS SHALL BE USED IF A PULL BOX MUST BE INSTALLED IN THE SIDEWALK OR DRIVEWAY.

**EXCLUDING CONDUIT WEB**

<table>
<thead>
<tr>
<th>PULL BOX No.</th>
<th>MIN. <strong>THICKNESS</strong></th>
<th>MIN. DEPTH BOX AND EXTENSION</th>
<th>LO</th>
<th>WO</th>
<th>L</th>
<th>W</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-1/2</td>
<td>1&quot;</td>
<td>NO EXTENSION</td>
<td>20&quot;</td>
<td>14&quot;</td>
<td>15-1/2&quot;±</td>
<td>10&quot;±</td>
</tr>
<tr>
<td>5</td>
<td>1&quot;</td>
<td>22&quot;</td>
<td>28&quot;</td>
<td>18&quot;</td>
<td>23&quot;±</td>
<td>13-1/2&quot;±</td>
</tr>
<tr>
<td>5A</td>
<td>1&quot;</td>
<td>22&quot;</td>
<td>25-1/4&quot;</td>
<td>15-3/4&quot;</td>
<td>21&quot;±</td>
<td>10-1/2&quot;±</td>
</tr>
</tbody>
</table>

NOTES:

1. STEEL COVER SHALL HAVE EMBOSSED NON-SKID PATTERN.
2. STEEL REINFORCING SHALL BE AS REGULARLY USED IN THE STANDARD PRODUCTS OF THE RESPECTIVE MANUFACTURER.
3. PULL BOX COVERS SHALL BE MARKED AS DESCRIBED IN NOTE 5 ON STANDARD DRAWING SL-4. MARKING SHALL BE APPLIED TO EACH COVER PRIOR TO GALVANIZING BY BEAD WELDING THE LETTERS ON THE COVERS. THE LETTERS SHALL BE RAISED AT LEAST 3/32 INCH.
5. CONDUITS SHALL ENTER AT BOTTOM OF PULL BOX AS SHOWN IN THE DRAWING.
6. PULL BOXES FOR STREET LIGHTING, UPON COMPLETION OF BURN TEST, SHALL BE FILLED WITH CONTROLLED DENSITY BACKFILL PER CITY OF ELK GROVE CONSTRUCTION SPECIFICATIONS SECTION 50-15. A 5 MIL. PLASTIC SHEET SHALL COVER THE CONDUITS/WIRES PRIOR TO POURING OF BACKFILL, TO A DEPTH OF TWO (2) INCHES OVER THE CONDUITS.
NOTES:

1. BACKFILL FOR CONDUIT TRENCH LOCATED UNDER CURB, GUTTER & SIDEWALK AND IN UNIMPROVED AREAS SHALL BE COMPACTED TO 90% RELATIVE COMPACTION. BACKFILL FOR CONDUIT TRENCH LOCATED IN PAVEMENT SHALL BE COMPACTED TO 95% RELATIVE COMPACTION.

2. LANDSCAPING IN THE AREA OF THE STREET LIGHT STANDARD TO MATCH BASE ELEVATION AND HAVE A MINIMUM OF 12" OF CLEARANCE FROM THE BASE.

3. IF THIS LENGTH IS 12" OR LESS, PLACE 3-1/2" THICK CONCRETE FROM STREET LIGHT BASE TO EDGE OF SIDEWALK. WIDTH TO MATCH CONCRETE AROUND STREET LIGHT FOUNDATION.

4. IF CONDUIT IS LOCATED BENEATH THE SIDEWALK, IT MAY BE PLACED AT 18" DEPTH INSTEAD OF 2'.

5. IF THE PLANTER AREA IS LESS THAN 6' WIDE, THEN PLACE STREET LIGHT SO THAT THE BASE PLATE ALIGNS WITH THE EDGE OF SIDEWALK. TOP OF FOUNDATION TO MATCH SIDEWALK GRADE.

6. PULL BOXES SHALL NOT BE PLACED IN SIDEWALK. THEY SHALL BE PLACED IN PUE OR PLANTER AREA.
NOTES:

1. ALL CITY OWNED FACILITIES SHALL BE WITHIN RIGHT-OF-WAY (R/W) OR PUBLIC UTILITY EASEMENT (PUE).

2. SEE STANDARD DRAWING SL-12 FOR SERVICE POINT PULL BOX DETAILS AND WIRING DIAGRAM.

3. SEE STANDARD DRAWING SL-4 FOR PULL BOX DETAILS.

4. PHOTOCELLS SHALL BE INSTALLED ON THE TOP OF THE LUMINAIRE NEAREST THE SERVICE PEDESTAL OR SERVICE POINT.

5. THE SERVICING UTILITY WILL INSTALL AND MAINTAIN CONDUCTORS FROM THEIR TRANSFORMER, OR POWER POLE TO THE SERVICE POINT PULL BOX.

6. STREET LIGHT CIRCUITS SHALL HAVE A DEDICATED SERVICE METER AND SHALL NOT BE WIRED TO BYPASS THE METER.
1. EXTERIOR SHALL BE 14 GAUGE #304D STAINLESS STEEL. INTERIOR DEAD FRONT PANEL AND BACK PANEL SHALL BE 14 GAUGE STEEL. PAINTED WHITE. ENCLOSURE SHALL BE ELECTRICALLY WELDED AND REINFORCED WHERE REQUIRED.

2. CONSTRUCTION SHALL BE NEMA 3R AND 12, RAINTIGHT AND DUSTTIGHT.

3. ALL NUTS, BOLTS, SCREWS AND HINGES SHALL BE STAINLESS STEEL.

4. NUTS, BOLTS, AND SCREWS SHALL NOT BE USED ON THE OUTSIDE OF THE SERVICE ENCLOSURE.

5. PHENOLIC NAMEPLATES SHALL BE USED TO IDENTIFY ALL OPERATOR CONTROLS.

6. CONTROL WIRING SHALL BE MARKED AT BOTH ENDS BY PERMANENT WIRE MARKERS.

7. A PLASTIC COVERED WIRING DIAGRAM SHALL BE ATTACHED TO THE INSIDE OF THE FRONT DOOR.

8. SERVICE ENCLOSURE SHALL BE FACTORY WIRED AND CONFORM TO REQUIRED NEMA STANDARDS.


10. WIRING BETWEEN CIRCUIT BREAKER AND CONTROLLER SHALL BE #18 OR THINNER.

11. SERVICE ENCLOSURE SHALL BE OF TWO-PIECE CONSTRUCTION.

12. THE WIRING SCHEMATIC DIAGRAM AS SHOWN IS FOR A 2-WIRE STREET LIGHTING SYSTEM. IF THE SERVICE ENCLOSURE WILL BE USED FOR A 3-WIRE STREET LIGHTING SYSTEM, THEN THE LIGHTING BREAKERS SHALL CONSIST OF 2-POLE BREAKERS WITH INTERNAL COMMON TRIP. EACH POLE WITH INDIVIDUAL ON-OFF CONTROL AND HANDLE TIE FOR COMMON OPERATION. FOR EACH 2-POLE BREAKER, THE CIRCUIT LOAD SHALL BE EQUALLY DIVIDED ACROSS THE LIGHTING MAIN.

13. SEE STANDARD SPECIFICATIONS FOR ADDITIONAL DETAILS.

14. DUAL METERS SHALL BE PROVIDED AND SHALL CONFORM TO CALTRANS STANDARD DRAWING ES-3-2F.

15. STREET LIGHT CIRCUITS SHALL HAVE A DEDICATED SERVICE METER AND SHALL NOT BE WIRED TO Bypass the Meter.

METERED SERVICE PEDESTAL WORKS

(Can) (120/208V, 120/240V)
NOTES:
1. EXTERIOR SHALL BE 14 GAUGE #304D STAINLESS STEEL, INTERIOR SHALL BE 14 GAUGE STEEL, PAINTED WHITE. ENCLOSURE SHALL BE ELECTRICALLY WELDED AND REINFORCED WHERE REQUIRED.
2. CONSTRUCTION SHALL BE NEMA 3R AND 12, RAINTIGHT AND DUSTTIGHT.
3. ALL NUTS, BOLTS, SCREWS AND HINGES SHALL BE STAINLESS STEEL.
4. NUTS, BOLTS, AND SCREWS SHALL NOT BE USED ON THE OUTSIDE OF THE SERVICE ENCLOSURE.
5. PHENOLIC NAMEPLATES SHALL BE USED TO IDENTIFY ALL OPERATION CONTROLS.
6. CONTROL WIRING SHALL BE MARKED AT BOTH ENDS BY PERMANENT WIRE MARKERS.
7. A PLASTIC COVERED WIRING DIAGRAM SHALL BE ATTACHED TO THE INSIDE OF THE FRONT DOOR.
8. SERVICE ENCLOSURE SHALL BE FACTORY WIRED AND CONFORM TO REQUIRED NEMA STANDARDS.
10. WIRING BETWEEN CIRCUIT BREAKER AND CONTACTOR SHALL BE #6 THWN OR THHN MINIMUM.
11. SIZE OF TRANSFORMER FOR SIGNALS SHALL BE 5 KVA. SIZE OF TRANSFORMER FOR 120 V INTERSECTION SHALL BE 2 KVA.
13. THE WIRING SCHEMATIC DIAGRAM AS SHOWN IS FOR A 2-WIRE STREET LIGHTING SYSTEM. THEN THE LIGHTING BREAKERS SHALL CONSIST OF 2-POLE BREAKERS WITH INTERNAL COMMON TRIP. EACH POLE WITH INDIVIDUAL ON-OFF CONTROL AND HANDLE TIE FOR COMMON OPERATION. FOR EACH 2-POLE BREAKER, THE CIRCUIT LOAD SHALL BE EQUALLY DIVIDED ACROSS THE LIGHTING MAIN.
14. SEE STANDARD SPECIFICATIONS FOR ADDITIONAL DETAILS.
15. DUAL METERS SHALL BE PROVIDED AND SHALL CONFORM TO CALTRANS STANDARD DRAWING ES-2F.
16. STREET LIGHT CIRCUITS SHALL HAVE A DEDICATED SERVICE METER AND SHALL NOT BE WIRED TO BYPASS THE METER.
SERVICE POINT PULL BOX DETAILS

NOTES:
1. FUSE SHALL BE A MIDGET FERRULE TYPE, RATED AT 600 VOLTS.
2. ATTACH GROUND CONDUCTOR TO THE ELECTROLIER.
3. ALL PULL BOXES SHALL HAVE PROVISIONS FOR LOCKING.

<table>
<thead>
<tr>
<th>LAMP WATTAGE</th>
<th>ELECTROLIER FUSE SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>115 WATT OR LESS</td>
<td>2 AMP</td>
</tr>
</tbody>
</table>

IN-LINE FUSE REQUIREMENTS

CITY OF ELK GROVE - PUBLIC WORKS

DATE: 09/22/2007
NOT TO SCALE

REVISION BY APPROVED DATE
1 SJB SMA 03-25-2024
VOLTAGE DROP (COPPER CONDUCTOR) = \( \frac{D \times A \times N \times 22}{\text{CIRCULAR MILS}} \)

- \( D \) = Length of section, in feet.
- \( A \) = Line operating amperes drawn by one light.
- \( N \) = Number of lights in the circuit beyond the section.

<table>
<thead>
<tr>
<th>WIRE SIZE (AWG)</th>
<th>AREA (Circular MILs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>4,110</td>
</tr>
<tr>
<td>12</td>
<td>6,530</td>
</tr>
<tr>
<td>10</td>
<td>10,380</td>
</tr>
<tr>
<td>8</td>
<td>16,510</td>
</tr>
<tr>
<td>6</td>
<td>26,250</td>
</tr>
<tr>
<td>4</td>
<td>41,740</td>
</tr>
</tbody>
</table>

**EXAMPLE CALCULATION:**

FIND TOTAL VOLTAGE DROP IN CIRCUIT #1:
(115 volt system)

- **Section a** = \( \frac{10 \times (1.25 \times 4) \times (22)}{10,380} = 0.11 \)
- **Section b + c** = \( \frac{360 \times (1.25 \times 2) \times (22)}{10,380} = 1.91 \)
- **Section d + e** = \( \frac{350 \times (1.25 \times 1) \times (22)}{10,380} = 0.93 \)

**TOTAL VOLTAGE DROP = 2.95**

**NOTES:**

1. Design must be based on a two (2) wire system, even though three (3) wires (with a single common wire) are actually used.
2. Maximum voltage drop allowed in 115 volt system = 8.05 volts.
TYPICAL VOLTAGE DROP CALCULATION
FOR 3 - WIRE SYSTEM

VOLTAGE DROP (COPPER CONDUCTOR) = \( \frac{D \times A \times N \times 11}{\text{CIRCULAR MILS}} \)

- \( D \) = Length of section, in feet.
- \( A \) = Line operating amperes drawn by one light.
- \( N \) = Number of lights in the circuit beyond the section.

<table>
<thead>
<tr>
<th>WIRE SIZE (AWG)</th>
<th>AREA (Circular Mils)</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>4,110</td>
</tr>
<tr>
<td>12</td>
<td>6,530</td>
</tr>
<tr>
<td>10</td>
<td>10,380</td>
</tr>
<tr>
<td>8</td>
<td>16,510</td>
</tr>
<tr>
<td>6</td>
<td>26,250</td>
</tr>
<tr>
<td>4</td>
<td>41,740</td>
</tr>
</tbody>
</table>

EXAMPLE CALCULATION:
FIND TOTAL VOLTAGE DROP IN CIRCUIT #1:
(115 volt system)

Voltage drop calculations:

- Section \( a \) = \( \frac{10 \times (1.25 \times 4) \times (11)}{6,530} = 0.08 \)
- Section \( b + c \) = \( \frac{360 \times (1.25 \times 2) \times (11)}{6,530} = 1.52 \)
- Section \( d + e \) = \( \frac{350 \times (1.25 \times 1) \times (11)}{6,530} = 0.74 \)

TOTAL VOLTAGE DROP = 2.34

NOTE:
Dimension "a" is the distance between the service can and the adjacent load pull box. Use "a"=10' for standard installations where the load pull box is immediately adjacent to the service can.

NOTES:
1. Maximum voltage drop allowed in 115 volt system = 6.90 volts.
### Conduit Sizing

<table>
<thead>
<tr>
<th>Conductor</th>
<th>Equivalent Number of #14 AWG Conductors for Use in Conduit Sizing</th>
</tr>
</thead>
<tbody>
<tr>
<td>#12 Conductor</td>
<td>1.2</td>
</tr>
<tr>
<td>#10 Conductor</td>
<td>1.5</td>
</tr>
<tr>
<td>#8 Conductor</td>
<td>2.3</td>
</tr>
<tr>
<td>#6 Conductor</td>
<td>3</td>
</tr>
<tr>
<td>#4 Conductor</td>
<td>4</td>
</tr>
<tr>
<td>#2 Conductor</td>
<td>5.3</td>
</tr>
<tr>
<td>#0 Conductor</td>
<td>11.5</td>
</tr>
<tr>
<td>Interconnect Cable</td>
<td>18</td>
</tr>
<tr>
<td>Detector Lead-In Cable</td>
<td>2.5</td>
</tr>
<tr>
<td>Emergency Vehicle Detector Cable</td>
<td>2</td>
</tr>
</tbody>
</table>

### Conduit Size

<table>
<thead>
<tr>
<th>Conduit Size</th>
<th>2&quot;</th>
<th>2.5&quot;</th>
<th>3&quot;</th>
<th>3.5&quot;</th>
<th>4&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Number of #14 AWG Conductors</td>
<td>31</td>
<td>44</td>
<td>69</td>
<td>91</td>
<td>113</td>
</tr>
</tbody>
</table>

**Note:** Minimum size for new conduits is 2.0".

### Circuit Breaker Sizing

<table>
<thead>
<tr>
<th>Conductor Size (AWG)</th>
<th>Maximum Circuit Breaker Amperage</th>
</tr>
</thead>
<tbody>
<tr>
<td>#2</td>
<td>100</td>
</tr>
<tr>
<td>#4</td>
<td>80</td>
</tr>
<tr>
<td>#6</td>
<td>50</td>
</tr>
<tr>
<td>#8</td>
<td>40</td>
</tr>
<tr>
<td>#10</td>
<td>30</td>
</tr>
</tbody>
</table>

### Service Wire Maximum Lengths for Traffic Signals

<table>
<thead>
<tr>
<th>Wire Size</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>#0</td>
<td>576'</td>
</tr>
<tr>
<td>#2</td>
<td>360'</td>
</tr>
<tr>
<td>#4</td>
<td>224'</td>
</tr>
</tbody>
</table>

**Note:**
1. The breaker size shall be determined by the load requirements. Minimum breaker size is 15 amps.
SERIES 'A' NUMBERING PROCEDURE

POLE SIZE 'A'

NOTES:
1. LUMINAIRE ARM SIZE "F"
2. 1-1/2" R "HOLE - ANCHOR BOLT DIAM. + 1/4"
3. "C" B.C. 1-1/2" R
4. 1/4" 1/4" 1/4"
5. 4" x 6-1/2" HANDHOLE REINFORCED WITH NO. 3 GAUGE RING 1-1/2" WIDE WELDED TO OUTSIDE OF POLE. COVER OF 11 GAUGE PLATE.
6. BOND WIRE
7. TOP OF CONDUIT SHALL EXTEND 4" ABOVE TOP OF GROUT
8. GROUT 2" MIN. TO 3" MAX. WITH 1/2" DIAM. DRAIN HOLE
9. GALV. ANCHOR BOLTS, NUTS, AND FLAT WASHERS, SEE NOTE 3
10. GALV. LEVELING NUT AND WASHER
11. 2" MIN TO 4" MIN THREADS
12. "A" SERIES
13. LUMINAIRE ARM SIZE "F"
14. COMMON TYPE ELECTROLIER (SERIES 'A')
15. CITY OF ELK GROVE - PUBLIC WORKS
16. DRAWING NUMBER
17. SL - 20

LUMINAIRE ARM DATA

<table>
<thead>
<tr>
<th>END OD</th>
<th>BASE OD</th>
<th>GA</th>
<th>&quot;G&quot;</th>
<th>&quot;H&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>6'-0&quot;</td>
<td>2-3/8&quot;</td>
<td>10</td>
<td>1'-6&quot;</td>
<td>7-5&quot;</td>
</tr>
<tr>
<td>8'-0&quot;</td>
<td>2-3/8&quot;</td>
<td>10</td>
<td>2'-3&quot;</td>
<td>7-5&quot;</td>
</tr>
<tr>
<td>10'-0&quot;</td>
<td>2-3/8&quot;</td>
<td>10</td>
<td>2'-6&quot;</td>
<td>13-3&quot;</td>
</tr>
<tr>
<td>12'-0&quot;</td>
<td>2-3/8&quot;</td>
<td>10</td>
<td>3'-9&quot;</td>
<td>13-3&quot;</td>
</tr>
<tr>
<td>15'-0&quot;</td>
<td>2-3/8&quot;</td>
<td>10</td>
<td>4'-3&quot;</td>
<td>13-3&quot;</td>
</tr>
<tr>
<td>18'-0&quot;</td>
<td>2-3/8&quot;</td>
<td>10</td>
<td>5'-3&quot;</td>
<td>13-3&quot;</td>
</tr>
</tbody>
</table>

LUMINAIRE ARM DETAILS

FOUNDATION DIMENSIONS

<table>
<thead>
<tr>
<th>SQUARE</th>
<th>ROUND</th>
</tr>
</thead>
<tbody>
<tr>
<td>2'6&quot; x 2'6&quot; x 5'</td>
<td>2'6&quot; x 6'6&quot;</td>
</tr>
</tbody>
</table>

BASE PLATE DATA

<table>
<thead>
<tr>
<th>&quot;B&quot;</th>
<th>&quot;C&quot;</th>
<th>&quot;D&quot;</th>
<th>&quot;E&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-1/2&quot;</td>
<td>12&quot;</td>
<td>11&quot;</td>
<td>1&quot;</td>
</tr>
</tbody>
</table>

POLE DATA

<table>
<thead>
<tr>
<th>&quot;A&quot;</th>
<th>TOP OD</th>
<th>BASE OD</th>
<th>GA</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;A&quot;</td>
<td>&quot;B&quot;</td>
<td>&quot;C&quot;</td>
<td>&quot;D&quot;</td>
</tr>
<tr>
<td>A-250-F&quot;</td>
<td>25'-0&quot;</td>
<td>3-7/8&quot;</td>
<td>7-9/16&quot;</td>
</tr>
<tr>
<td>A-266-F&quot;</td>
<td>26'-6&quot;</td>
<td>3-7/8&quot;</td>
<td>7-7/8&quot;</td>
</tr>
<tr>
<td>A-286-F&quot;</td>
<td>28'-6&quot;</td>
<td>3-7/8&quot;</td>
<td>7-3/4&quot;</td>
</tr>
<tr>
<td>A-300-F&quot;</td>
<td>30'-0&quot;</td>
<td>3-7/8&quot;</td>
<td>8&quot;</td>
</tr>
</tbody>
</table>

IDENTIFICATION NUMBER

<table>
<thead>
<tr>
<th>&quot;A&quot; SERIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-250-F&quot;</td>
</tr>
<tr>
<td>A-266-F&quot;</td>
</tr>
<tr>
<td>A-286-F&quot;</td>
</tr>
<tr>
<td>A-300-F&quot;</td>
</tr>
</tbody>
</table>

POLE SIZE 'A'

NOTES:
1. SERIES 'A' NUMBERING PROCEDURE
2. STANDARD SHALL BE INSTALLED SO HANDHOLE FACES THE STREET.
3. ANCHOR BOLT SIZES SHALL BE PURSUANT TO THE POLE MANUFACTURER'S DESIGN REQUIREMENTS, WHICH SHALL BE IN ACCORDANCE WITH AASHTO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS."

DATE 09/22/2007  NOT TO SCALE

REVISION 01  APPROVED 02/16/2021

CITY ENGINEER 02/26/2021

APPROVED BY:

CITY OF ELK GROVE - PUBLIC WORKS

COMMON TYPE ELECTROLIER
(SERIES 'A')

Drawing Number: SL - 20
1. STANDARD SHALL BE INSTALLED SO HANDHOLE FACES THE STREET.
2. FOR USE IN ALL IN-FILL PROJECTS EAST OF HIGHWAY 99 OR NORTH OF ELK GROVE BLVD AND WEST OF HIGHWAY 99.
3. ANCHOR BOLTS SIZES SHALL BE PURSUANT TO THE POLE MANUFACTURER'S DESIGN REQUIREMENTS, WHICH SHALL BE IN ACCORDANCE WITH AASHTO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS."
<table>
<thead>
<tr>
<th>STREET CLASSIFICATION</th>
<th>RIGHT - OF - WAY WIDTH</th>
<th>STREET LIGHT SUB-TYPE (SERIES)</th>
<th>STANDARD MOUNTING HEIGHT</th>
<th>MAXIMUM SPACING** (ONE SIDE ONLY)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIAL THOROUGHFARE</td>
<td>130'</td>
<td>A</td>
<td>30' - 9'</td>
<td>180'</td>
</tr>
<tr>
<td>THOROUGHFARE</td>
<td>108'</td>
<td>A</td>
<td>30' - 9'</td>
<td>220'</td>
</tr>
<tr>
<td>ARTERIAL</td>
<td>84'</td>
<td>A</td>
<td>30' - 9'</td>
<td>220'</td>
</tr>
<tr>
<td>MAJOR COLLECTOR</td>
<td>74'</td>
<td>A*</td>
<td>30' - 9'</td>
<td>220'</td>
</tr>
<tr>
<td></td>
<td>70'</td>
<td>A*</td>
<td>30' - 9'</td>
<td>220'</td>
</tr>
<tr>
<td>COLLECTOR</td>
<td>60'</td>
<td>A*</td>
<td>30' - 9'</td>
<td>220'</td>
</tr>
<tr>
<td></td>
<td>56'</td>
<td>B</td>
<td>21'</td>
<td>180'</td>
</tr>
<tr>
<td>RESIDENTIAL</td>
<td>50'</td>
<td>B</td>
<td>21'</td>
<td>200'</td>
</tr>
<tr>
<td></td>
<td>40'</td>
<td>B</td>
<td>21'</td>
<td>240'</td>
</tr>
</tbody>
</table>

**NOTES:**
1. WATTAGE AND MODEL NUMBER FOR LIGHT Emitting DIODE (LED) LAMP SHALL BE SPECIFIED ON THE PLANS. EQUIPMENT SHALL CONFORM TO CITY OF ELK GROVE APPROVED EQUIPMENT LIST.

2. ILLUMINATION SHALL CONFORM TO STANDARD DRAWING SL-2.

3. SEE SECTION 5-8D OF THE CITY IMPROVEMENT STANDARDS, "SPACING," FOR DEFINITIONS OF ONE-SIDE AND TWO-SIDE SPACING.

*4. SINGLE FAMILY AND DUPLEX FAMILY ZONING SHALL USE SERIES 'B' STREET LIGHT, 21' MOUNTING HEIGHT, AND 180' SPACING.

**5. MAXIMUM SPACING MAY BE ADJUSTED AS LONG AS ILLUMINATION CRITERIA ARE MET WITH APPROVAL OF THE ENGINEER.
STREET LIGHT PLACEMENT
ON SPECIAL THROUGHFARE,
THOROUGHFARE, AND ARTERIAL STREETS
(118', 96', AND 84' STREETS)

SPECIAL THROUGHFARE, THOROUGHFARE, OR ARTERIAL STREET

ALL SERIES 'A' STREET LIGHTS
WITH ANSI TYPE III LIGHT
DISTRIBUTION PATTERN

SPECIAL THROUGHFARE, THOROUGHFARE, OR ARTERIAL STREET

*SEE STANDARD DRAWING SL-24
D = 180' FOR 118' STREETS
D = 220" FOR 72' STREETS AND 96' STREETS

MAJOR COLLECTOR, COLLECTOR, OR RESIDENTIAL STREET

ALL SERIES 'A' STREET LIGHTS
WITH ANSI TYPE III LIGHT
DISTRIBUTION PATTERN
(EXCEPT AS INDICATED)

IN ACCORDANCE WITH STREET CLASSIFICATION,
SERIES 'A' OR SERIES 'B' STREET LIGHT WITH ANSI
TYPE III LIGHT DISTRIBUTION PATTERN. SEE
STANDARD DRAWINGS SL-2 AND SL-24

THE Following are typical location drawings:

- Special Thoroughfare, Thoroughfare, or Arterial Street
- All Series 'A' Street Lights with ANSI Type III Light Distribution Pattern
- Maximum Distance: 180' for 118' streets, 220" for 72' and 96' streets

Additional notes and specifications are included in Standard Drawings SL-2 and SL-24.
STREET LIGHT PLACEMENT
ON MAJOR COLLECTOR,
Collector, AND RESIDENTIAL STREETS
(ALL STREETS OTHER THAN 118', 96' AND 72' STREETS)

SELECT ONE (1) LOCATION ONLY

SELECT ONE (1) LOCATION ONLY

PLACE ON NEAREST LOT LINE

NOTE:
1. IN ACCORDANCE WITH STREET CLASSIFICATIONS,
ALL ARE SERIES 'A' OR SERIES 'B' STREET LIGHTS
WITH ANSI TYPE III LIGHT DISTRIBUTIONS PATTERN.
SEE STANDARD DRAWINGS SL-2 AND SL-24
APPLICATION:
WIDE MEDIANS ON ARTERIALS AND THOROUGHFARES

SPECIFICATIONS:

POST BASE

POST SHAFT
THE POST SHAFT SHALL BE 11-GAUGE STEEL WITH A STEEL PLATE FOR MOUNTING TO THE BASE. THE OCTAGONAL SHAFT TAPERS FROM 8" (FLAT TO FLAT) AT THE BOTTOM TO 4-3/8" AT THE TOP, WITH A DECORATIVE OCTAGONAL FINIAL.

CROSSARM
THE CLAMP ON CROSSARM SHALL BE STEEL PIPE CONSTRUCTION WITH FLAT BAR SCROLLS AND 1-1/2" X 1/2" FLAT BAR CLAMP-ON BRACE. A SLEEVE GASKET SHALL BE INSTALLED TO PREVENT ARM MOVEMENT. ARMS SHALL HAVE A 2" PIPE SLEEVE FOR LUMINAIRE MOUNTING. THE CROSSARM MEASURES 52" FROM POST TO LUMINAIRE CENTERS. A LUMINAIRE LEVELING FITTER SHALL BE MOUNTED TO THE END OF THE PIPE ARM FOR LUMINAIRE MOUNTING.

FINISH
THE POST SHALL BE SHIPPED FINISHED WITH A STANDARD BLACK POWDER COAT FINISH.

NOTES:
1. ALL HARDWARE STAINLESS STEEL. ALL EXTERIOR HARDWARE TAMPER RESISTANT. BASE AND SHAFT TO BE SHIPPED AS A ONE-PIECE UNIT.
2. POLES AND LIGHTING EQUIPMENT SHALL CONFORM TO CITY OF ELK GROVE AUTHORIZED MATERIALS LIST
3. ANCHOR BOLT SIZES SHALL BE PURSUANT TO THE POLE MANUFACTURER'S DESIGN REQUIREMENTS, WHICH SHALL BE IN ACCORDANCE WITH AASHTO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS."
APPLICATION:
ARTERIAL (REDUCED MEDIAN) AND COLLECTOR STREETS

SPECIFICATIONS:

POST BASE

POST SHAFT
THE POST SHAFT SHALL BE 11-GAUGE STEEL WITH A STEEL PLATE FOR MOUNTING TO THE BASE. THE OCTAGONAL SHAFT TAPERS FROM 8" (FLAT TO FLAT) AT THE BOTTOM TO 4-3/8" AT THE TOP, WITH A DECORATIVE OCTAGONAL FINIAL.

CROSSARM
THE CLAMP ON CROSSARM SHALL BE STEEL PIPE CONSTRUCTION WITH FLAT BAR SCROLLS AND 1-1/2" X 1/2" FLAT BAR CLAMP-ON BRACE. A SLEEVE GASKET SHALL BE INSTALLED TO PREVENT ARM MOVEMENT. ARMS SHALL HAVE A 2" PIPE SLEEVE FOR LUMINAIRE MOUNTING. THE CROSSARM MEASURES 52" FROM POST TO LUMINAIRE CENTERS. A LUMINAIRE LEVELING FITTER SHALL BE MOUNTED TO THE END OF THE PIPE ARM FOR LUMINAIRE MOUNTING.

FINISH
THE POST SHALL BE SHIPPED FINISHED WITH A STANDARD BLACK POWDER COAT FINISH.

NOTES:
1. ALL HARDWARE STAINLESS STEEL. ALL EXTERIOR HARDWARE TAMPER RESISTANT. BASE AND SHAFT TO BE SHIPPED AS A ONE-PIECE UNIT.
2. POLES AND LIGHTING EQUIPMENT SHALL BE LISTED ON THE AUTHORIZED MATERIALS LIST.
3. ANCHOR BOLT SIZES SHALL BE PURSUANT TO THE POLE MANUFACTURER'S DESIGN REQUIREMENTS. WHICH SHALL BE IN ACCORDANCE WITH AASHTO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS."

NOT TO SCALE
APPLICATION:
PEDESTRIAN TRAILS AND RESIDENTIAL STREETS

SPECIFICATIONS:

POST DESCRIPTION
THE LIGHTING POST SHALL BE ALL ALUMINUM, ONE-PIECE CONSTRUCTION, WITH A CLASSIC FLUTED BASE DESIGN. THE SHAFT SHALL BE Ø4" SMOOTH. THE POST SHALL BE SHIPPED WITH BLACK POWDER COAT FINISH.

MATERIALS
THE BASE SHALL BE HEAVY WALL, CAST ALUMINUM PRODUCED FROM CERTIFIED ASTM 356.1 INGOT PER ASTM B-179-95A OR ASTM B26-95. THE STRAIGHT SHAFTS SHALL BE EXTRUDED FROM ALUMINUM, ASTM 6061 ALLOY, HEAT TREATED TO A T6 TEMPER. ALL HARDWARE SHALL BE TAMPER RESISTANT STAINLESS STEEL. ANCHOR BOLTS TO BE COMPLETELY HOT DIP GALVANIZED.

CONSTRUCTION

DIMENSIONS
THE POST SHALL BE 14' IN HEIGHT WITH AN 11-1/2" DIAMETER BASE. THE SHAFT DIAMETER SHALL BE 4". AT THE TOP OF THE POST, AN INTEGRAL 3" O.D. TENON WITH A TRANSITIONAL DONUT SHALL BE PROVIDED FOR LUMINAIRE MOUNTING.

INSTALLATION
THE POST SHALL BE PROVIDED WITH FOUR, HOT DIP GALVANIZED L-TYPE ANCHOR BOLTS TO BE INSTALLED ON AN 7" DIAMETER BOLT CIRCLE. A DOOR SHALL BE PROVIDED IN THE BASE FOR ANCHORAGE AND WIRING ACCESS. A GROUNDING SCREW (5/8") SHALL BE PROVIDED INSIDE THE BASE OPPOSITE THE DOOR.

NOTES:
1. POLES AND LIGHTING EQUIPMENT SHALL BE LISTED ON THE AUTHORIZED MATERIALS LIST.

SEE DRAWING NUMBER SL-3 FOR FOUNDATION DETAIL
### Notes:
1. Wattage and model number for light emitting diode (LED) lamp shall be specified on the plans. Equipment shall conform to City of Elk Grove approved equipment list.
2. Illumination shall conform to standard drawing SL-2.
* Both sides of street, no alternating (2 per location). Not for use on streets longer than 800 feet.
** Single side of street, alternating spacing.
*** Match street spacing. Locate halfway between street light locations.

<table>
<thead>
<tr>
<th>STREET CLASSIFICATION</th>
<th>NUMBER OF LANE</th>
<th>STREET LIGHT SUB-TYPE (SERIES)</th>
<th>STANDARD POLE HEIGHT</th>
<th>MEDIAN</th>
<th>NO MEDIAN (SERIES 'A') (BOOTH SIDES)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECIAL THOROUGHFARE</td>
<td>8</td>
<td>DUAL ARM</td>
<td>28'</td>
<td>160</td>
<td>160</td>
</tr>
<tr>
<td>THOROUGHFARE</td>
<td>6</td>
<td>DUAL ARM</td>
<td>28'</td>
<td>160</td>
<td>160</td>
</tr>
<tr>
<td>ARTERIAL</td>
<td>2 - 4</td>
<td>DUAL ARM</td>
<td>28'</td>
<td>180</td>
<td>180</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NOTES:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Wattage and model number for light</td>
</tr>
<tr>
<td>emitting diode (LED) lamp shall be</td>
</tr>
<tr>
<td>specified on the plans. Equipment</td>
</tr>
<tr>
<td>shall conform to City of Elk Grove</td>
</tr>
<tr>
<td>approved equipment list.</td>
</tr>
<tr>
<td>2. Illumination shall conform to</td>
</tr>
<tr>
<td>standard drawing SL-2.</td>
</tr>
<tr>
<td>* Both sides of street, no alternating</td>
</tr>
<tr>
<td>(2 per location). Not for use on streets</td>
</tr>
<tr>
<td>longer than 800 feet.</td>
</tr>
<tr>
<td>** Single side of street, alternating</td>
</tr>
<tr>
<td>spacing.</td>
</tr>
<tr>
<td>*** Match street spacing. Locate</td>
</tr>
<tr>
<td>halfway between street light locations.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>COLLECTOR</th>
<th>NUMBER OF LANE</th>
<th>STREET LIGHT SUB-TYPE (SERIES)</th>
<th>STANDARD POLE HEIGHT</th>
<th>SPACING (BOTH SIDES) (FEET)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2, 3</td>
<td>SERIES 'A''</td>
<td>28'</td>
<td>180</td>
<td></td>
</tr>
<tr>
<td>2, 3</td>
<td>SERIES 'B''</td>
<td>14'</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>SERIES 'A''</td>
<td>28'</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>SERIES 'B''</td>
<td>14'</td>
<td>80</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LOCAL RESIDENTIAL</th>
<th>NUMBER OF LANE</th>
<th>STREET LIGHT SUB-TYPE (SERIES)</th>
<th>STANDARD POLE HEIGHT</th>
<th>SPACING (BOTH SIDES) (FEET)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>SERIES 'B'</td>
<td>14'</td>
<td>180</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>SERIES 'A'</td>
<td>28'</td>
<td>180</td>
<td></td>
</tr>
</tbody>
</table>

| PASEO, BIKE TRAILS, AND SEPARATED | NUMBER OF LANE | STREET LIGHT SUB-TYPE (SERIES) | STANDARD POLE HEIGHT | SPACING (BOTH SIDES) (FEET) |
| PEDESTRIAN PATHS                  | -              | SERIES 'B'                      | 14'                  | 120                          |

<table>
<thead>
<tr>
<th>PEDESTRIAN PATHS ON 4 - 8 LANE STREETS</th>
<th>NUMBER OF LANE</th>
<th>STREET LIGHT SUB-TYPE (SERIES)</th>
<th>STANDARD POLE HEIGHT</th>
<th>SPACING (BOTH SIDES) (FEET)</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>SERIES 'B'</td>
<td>14'</td>
<td>160 - 180 ***</td>
<td></td>
</tr>
</tbody>
</table>
STREET LIGHT PLACEMENT ON SPECIAL THOROUGHFARE, THOROUGHFARE, & ARTERIAL STREETS (INCLUDES COLLECTORS WITH MEDIAN)

LOCATE ON TRAFFIC SIGNAL POLE WHEN PRESENT

SPECIAL THOROUGHFARE, THOROUGHFARE, OR ARTERIAL STREET

(ALL TYPE III LIGHTS EXCEPT AS INDICATED)

STREET LIGHT LOCATION AT BUS STOP

WITHOUT MEDIAN ISLAND
(SERIES 'A')

PEDESTRIAN LIGHT (SERIES 'B')
(WHERE REQUIRED)

DOUBLE ARM
(TYP)

WITH MEDIAN ISLAND

"SEE STANDARD DRAWING SL-36 FOR DISTANCE "D"

SERIES 'A' (TYP)

ZONE 2 TYPICAL LOCATIONS ARTERIALS AND COLLECTORS WITH MEDIANS (SERIES 'A' / SERIES 'B' / DUAL ARM)
STREET LIGHT PLACEMENT
ON MAJOR COLLECTOR,
COLLECTOR (NO MEDIAN), & RESIDENTIAL STREETS

SELECT ONE (1) LOCATION ONLY

SELECT TWO (2) LOCATIONS

PLACE ON NEAREST LOT LINE. (D/W TO BE 8' MIN. FROM STREET LIGHT)

*SEE STANDARD DRAWING SL-36 FOR DISTANCE "D"
APPLICATION:
THOROUGHFARE AND ARTERIAL STREETS

SPECIFICATIONS:

POST DESCRIPTION
THE LAGUNA WEST LIGHTING POST SHALL BE ALL STEEL OR CAST IRON CONSTRUCTION WITH A FLUTED BASE DESIGN. THE STEEL SHAFT SHALL BE FLUTED AND TAPERED WITH A 7" BASE DIAMETER. THE POST SHALL BE SHIPPED WITH FINISH NOTED BELOW.

MATERIALS
THE BASE SHALL BE CAST IRON AND SHAFT SHALL BE STEEL. THE BASE AND SHAFT SHALL BE PRIME PAINTED INSIDE AND OUT WITH A ZINC-RICH RUST INHIBITING, EPOXY BASED PAINT.

POLES INSTALLED ON OR NEAR LAGUNA BLVD (NORTH OF THE ELIOT RANCH ROAD ALIGNMENT) SHALL BE PAINTED OUTSIDE WITH URETHANE GLOSS ENAMEL OF FEDERAL COLOR STANDARD 595B, COLOR #14516 "AQUA MARINE".

POLES INSTALLED ON OR NEAR ELK GROVE BLVD (SOUTH OF THE ELIOT RANCH ROAD ALIGNMENT) SHALL BE PAINTED OUTSIDE WITH URETHANE GLOSS ENAMEL OF FEDERAL COLOR STANDARD 595B, COLOR #17083 "GLOSS BLACK". ONE PINT OF TOUCH-UP PAINT SHALL BE SHIPPED WITH EACH POLE ORDER.

All poles shall be finished with a clear coat of urethane gloss finish. Anchor bolts and nuts shall be hot dipped galvanized steel.

CONSTRUCTION
THE POLE SHAFT SHALL BE WELDED TO THE ANCHOR PLATE AND PAINTED AFTER WELDING. WELDS SHALL CONFORM TO THE MOST RECENT EDITION OF AWS D1.1. THE BASE SHALL BE FABRICATED OF ONE OR TWO PIECES AND INSTALLED AFTER THE POLE SHAFT IS BOLTED TO THE FOUNDATION. THE FINISH OF THE POLE SHAFT SHALL BE PROTECTED FROM DAMAGE WHEN THE BASE IS INSTALLED. POLE AND BASE SHALL BE SHIPPED AS TWO PIECES.

DIMENSIONS
THE POST SHALL BE 19' 6" IN HEIGHT WITH A 20" DIAMETER BASE. THE SHAFT SHALL BE TAPERED 0.14" PER FOOT WITH A 7" BASE DIAMETER. AT THE TOP OF THE POST, TWO INTEGRAL 2 7/8" X 5" TENONS SHALL BE PROVIDED FOR LUMINAIRE MOUNTING.

INSTALLATION
THE POST SHALL BE PROVIDED WITH FOUR, HOT DIP GALVANIZED L-TYPE ANCHOR BOLTS TO BE INSTALLED AS SHOWN IN THE BASE PLATE DETAIL. AN ACCESS DOOR SHALL BE PROVIDED IN THE BASE FOR ANCHORAGE AND WIRING ACCESS. A GROUNDING SCREW (5/8") SHALL BE PROVIDED INSIDE THE BASE OPPOSITE THE DOOR.

PRODUCT
VISCO V1-A7-A2-F/19’ 6", ELK GROVE

NOTES:
1. ANCHOR BOLT SIZES SHALL BE PURSUANT TO THE POLE MANUFACTURER'S DESIGN REQUIREMENTS, WHICH SHALL BE IN ACCORDANCE WITH AASHTO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS."
APPLICATION:
RESIDENTIAL STREETS AND PEDESTRIAN TRAILS

SPECIFICATIONS:

POST DESCRIPTION
THE LAGUNA WEST LIGHTING POST SHALL BE ALL STEEL OR CAST IRON CONSTRUCTION WITH A FLUTED BASE DESIGN. THE SHAFT SHALL BE FLUTED AND TAPERED WITH A 5 ¾" BASE DIAMETER. THE POST SHALL BE SHIPPED WITH FINISH NOTED BELOW.

MATERIALS
THE BASE SHALL BE CAST IRON AND SHAFT SHALL BE STEEL. THE BASE AND SHAFT SHALL BE PRIME PAINTED INSIDE AND OUT WITH RUST INHIBITING, EPOXY BASED PAINT.
POLES INSTALLED ON OR NEAR LAGUNA BLVD (NORTH OF THE ELLIOT RANCH ROAD ALIGNMENT) SHALL BE PAINTED OUTSIDE WITH URETHANE GLOSS ENAMEL OF FEDERAL COLOR STANDARD 595B, COLOR #14516 "AQUA MARINE". POLES INSTALLED ON OR NEAR ELK GROVE BLVD (SOUTH OF THE ELLIOT RANCH ROAD ALIGNMENT) SHALL BE PAINTED OUTSIDE WITH URETHANE GLOSS ENAMEL OF FEDERAL COLOR STANDARD 595B, COLOR #17083 "GLOSS BLACK". ONE PINT OF TOUCH-UP PAINT SHALL BE SHIPPED WITH EACH POLE ORDER.
ALL POLES SHALL BE FINISHED WITH A CLEAR COAT OF URETHANE GLOSS FINISH. ANCHOR BOLTS AND NUTS SHALL BE HOT DIPPED GALVANIZED STEEL.

CONSTRUCTION
THE POLE SHAFT SHALL BE WELDED TO THE ANCHOR PLATE AND PAINTED AFTER WELDING. WELDS SHALL CONFORM TO THE MOST RECENT EDITION OF AWS D1.1. THE BASE SHALL BE FABRICATED OF ONE OR TWO PIECES AND INSTALLED AFTER THE POLE SHAFT IS BOLTED TO THE FOUNDATION. THE FINISH OF THE POLE SHAFT SHALL BE PROTECTED FROM DAMAGE WHEN THE BASE IS INSTALLED.
POLL AND BASE SHALL BE SHIPPED AS TWO PIECES.

DIMENSIONS
THE POST SHALL BE 12' 0" IN HEIGHT WITH A 16" DIAMETER BASE. THE SHAFT SHALL BE TAPERED 0.14" PER FOOT WITH A 5 ¾" BASE DIAMETER. AT THE TOP OF THE POST, AN INTEGRAL 2 7/8" X 3" TENON SHALL BE PROVIDED FOR LUMINAIRE MOUNTING.

INSTALLATION
THE POST SHALL BE PROVIDED WITH FOUR, HOT DIP GALVANIZED L-TYPE ANCHOR BOLTS TO BE INSTALLED AS SHOWN IN THE BASE PLATE DETAIL. AN ACCESS DOOR SHALL BE PROVIDED IN THE BASE FOR ANCHORAGE AND WIRING ACCESS. A GROUNDING SCREW (5/8") SHALL BE PROVIDED INSIDE THE BASE OPPOSITE THE DOOR.

PRODUCT
VISCO V1-B16-1-F/12", ELK GROVE
APPLICATION:
BUSINESS DISTRICT OLD TOWN

SPECIFICATIONS:

POST DESCRIPTION
THE OLD TOWN LIGHTING POST SHALL BE ALL STEEL CONSTRUCTION WITH A FLUTED BASE DESIGN. THE SHAFT SHALL BE FLUTED AND TAPERED WITH A 5 ¾" BASE DIAMETER. THE POST SHALL BE SHIPPED WITH FINISH NOTED BELOW.

MATERIALS
THE BASE AND POLE SHALL BE CAST STEEL. THE BASE AND POLE SHALL BE PRIME PAINTED INSIDE AND OUT WITH RUST INHIBITING, EPOXY BASED PAINT, PAINTED OUTSIDE WITH URETHANE GLOSS ENAMEL OF FEDERAL COLOR STANDARD 595B, COLOR #17083 "GLOSS BLACK", AND FINISHED WITH A CLEAR COST OF URETHANE GLOSS FINISH. ANCHOR BOLTS AND NUTS SHALL BE HOT DIPPED GALVANIZED STEEL.

CONSTRUCTION
THE SHAFT AND BASE SHALL BE CAST IN ONE PIECE OR SHALL BE DOUBLE WELDED (TOP AND BOTTOM OF BASE). WELDS SHALL BE GROUND SMOOTH. WELDS SHALL CONFORM TO AWS D1.1. POLE AND BASE SHALL BE SHIPPED AS ONE PIECE.

DIMENSIONS
THE POST SHALL BE 10' 6" IN HEIGHT WITH AN 11.5" DIAMETER BASE. THE SHAFT SHALL BE TAPERED WITH A 5 ¾" BASE DIAMETER. AT THE TOP OF THE POST, AN INTEGRAL 2 7/8" X 3" TENON SHALL BE PROVIDED FOR LUMINAIRE MOUNTING.

INSTALLATION
THE POST SHALL BE PROVIDED WITH FOUR, HOT DIP GALVANIZED L-TYPE ANCHOR BOLTS TO BE INSTALLED AS SHOWN IN THE BASE DETAIL. AN ACCESS DOOR SHALL BE PROVIDED IN THE BASE FOR ANCHORAGE AND WIRING ACCESS. A GROUNDING SCREW (5/8") SHALL BE PROVIDED INSIDE THE BASE OPPOSITE THE DOOR.

PRODUCT
VISCO V1-D42-F, ELK GROVE 3A
CONSTRUCTION SITE

RIGHT OF WAY

EXISTING GROUND

50 FT MINIMUM OR AS
APPROVED BY THE ADMINISTRATOR

6 - 8 INCH WASHED, WELL
GRADED GRAVEL OR CRUSHED ROCK

GEOTEXTILE MATERIAL

8 INCHES MIN.

SECTION A-A

NOTES:

1. STABILIZED CONSTRUCTION SITE ACCESS SHALL
BE CONSTRUCTED OF 6 - 8 INCH WASHED, WELL
GRADED GRAVEL OR CRUSHED ROCK. MATERIAL
SHALL BE PLACED TO A MINIMUM THICKNESS OF
8 INCHES. ROUND ROCK (RIVER ROCK) NOT
ALLOWED.

2. LENGTH OF ENTRANCE SHALL BE A MINIMUM OF 50
FEET. WIDTH SHALL BE A MINIMUM OF 15 FEET OR
GREATER IF NECESSARY TO COVER ALL
VEHICULAR INGRESS AND EGRESS. PROVIDE
AMPLE TURNING RADII.

3. THE ENTRANCE SHALL BE KEPT IN GOOD
CONDITION BY OCCASIONAL TOP DRESSING WITH
MATERIAL AS SPECIFIED IN NOTE 1.

4. ACCESS SHALL BE INSPECTED WEEKLY DURING
PERIODS OF HEAVY USAGE, MONTHLY DURING
NORMAL USAGE, AND AFTER EACH RAINFALL, WITH
MAINTENANCE PROVIDED AS NECESSARY.
PERIODIC TOP DRESSING SHALL BE DONE AS
NEEDED.
NOTES:

1. DIMENSIONS OF SEDIMENT TRAPS, DIKES, AND SWALES SHALL BE APPROVED BY THE ADMINISTRATOR.

2. INTERCEPTION DIKES AND SWALES SHALL BE CONSTRUCTED TO DRAIN SURFACE RUNOFF INTO SEDIMENT TRAPS.

3. TRAPS SHALL BE EXCAVATED WITH APPROPRIATE EQUIPMENT, TAKING CARE NOT TO DISTURB VEGETATION OR SOIL AT OUTLET CREST. SIDE SLOPES SHALL BE 1:3 OR FLATTER. MAXIMUM TRAP DEPTH SHALL BE 1.1 METERS (3.5 FEET).

4. COBBLES CONFORMING TO CITY OF ELK GROVE SPECIFICATIONS SHALL BE PLACED ON THE TOPS, SLOPES, AND BOTTOMS OF THE INLET SIDES. COBBLES SHALL EXTEND A MINIMUM OF 600 MM (2 FEET) BEYOND THE TOP AND TOE OF SLOPES.

5. PERIMETER OF SEDIMENT TRAPS SHALL BE STABILIZED WITH GABIONS OR COBBLES AND HYDROSEEDED 3 METERS (10 FEET) BEYOND EDGE OF EXCAVATION IF EXISTING VEGETATION IS THIN, DISTURBED OR NONEXISTENT.

6. THE CONTRACTOR SHALL INSPECT SEDIMENT TRAPS WEEKLY AND AFTER EACH RAINFALL AND CLEAN AND REPAIR AS NECESSARY. SEDIMENT SHALL BE REMOVED FROM THE BOTTOM OF THE TRAP WHEN 300 MM (1 FOOT) DEEP OR LESS.
VERTICAL SPACING MEASURED ALONG THE FACE OF THE SLOPE VARIES BETWEEN 2.4 M - 6.0 M (8 FT - 20 FT)

1.2 M (4 FT) MAX

1.2 M (4 FT) MAX

300 MM (4 FT) MIN

FIBER ROLL 200 MM (8 IN) MIN

INSTALL A FIBER ROLL NEAR SLOPE WHERE IT TRANSITION INTO A STEEPER SLOPE

100 MM (4 IN) MAX

50 MM (2 IN) MIN

SLOPE VARIES

19 MM x 1M MM (3/4 IN x 3/4 IN) WOOD STAKES

1.2 M (4 FT) MAX SPACING

TYPICAL FIBER ROLL INSTALLATION

NOTES:
1. INSTALL FIBER ROLL IN A ROW ALONG A LEVEL CONTOUR.

2. AT ENDS OF A ROW TURN THE LAST TWO FET UP SLOPE SLIGHTLY.

3. FIBER ROLLS SHALL BE BUTTED TIGHTLY AT THE JOINTS.

4. DO NOT OVERLAP JOINTS.
NOTES:

1. CONSTRUCT THE LENGTH OF EACH REACH SO THAT THE CHANGE IN BASE ELEVATION ALONG THE REACH DOES NOT EXCEED 1/3 THE HEIGHT OF THE LINEAR BARRIER. IN NO CASE SHALL THE REACH LENGTH EXCEED 150 MM (6 IN).

2. THE LAST 2.4 M (8 FT) OF FENCE SHALL BE TURNED UP SLOPE.

3. STAKE DIMENSIONS ARE NOMINAL.

4. DIMENSIONS MAY VARY TO FIT FIELD CONDITION.

5. STAKES SHALL BE SPACED AT 2.4 M (8 FT) MAXIMUM AND SHALL BE POSITIONED ON THE DOWNSTREAM SIDE OF THE FENCE.

6. OVERLAP STAKES, AND FOLD FENCE FABRIC TO ROUND EACH STAKE ONE FULL TURN.

7. STAKES SHALL BE DRIVEN TIGHTLY TOGETHER TO PREVENT POTENTIAL FLOW THROUGH OF SEDIMENT AT THE JOINT.

8. FOR END STAKE CONDITION FOLD FENCE FABRIC AROUND (2) STAKES (1) FULL TURN AND SECURE WITH (4) STAPLES.

9. MINIMUM (4) STAPLES PER STAKE.

10. CROSS BARRIERS SHALL BE MINIMUM OF 1/3 AND MAXIMUM OF 1/2 THE HEIGHT OF THE LINEAR BARRIER.
CONCRETE WASHOUT AREA

36 CM (14 IN) MIN

3 M (10 FT) MIN

TYP OF 4 SIDES

STRAW BALES

SECTION A-A

25 MM (1 IN)

STRAW BALES

450 MM (18 IN) MIN

450 MM (18 IN) MIN

900 MM (36 IN) MIN

600 MM (24 IN) MIN

SIGN

BALE CONFIGURATION

CONCRETE WASHOUT AREA

NOTES:

1. FACE SIGN TOWARD NEAREST STREET OR ACCESS POINT.

2. CONCRETE WASHOUT SHALL BE LOCATED BEHIND THE CURB AND 15 M (50 FT) MINIMUM FROM DRAINAGE INLETS OR WATERCOURSES.

THIS SECTION REMOVED FOR GRAPHICAL REPRESENTATION ONLY. STRAW BALE PERIMETER SHALL BE CONTINUOUS.
45° FLOW

GRAVEL BAG(S) OR OTHER ACCEPTED SEDIMENT CONTROL BMP. PLACE BAGS TIGHT AGAINST FACE OF CURB. (STRAW BALES MAY NOT BE USED.)

FACE OF CURB
BACK OF CURB
SEE NOTE 2
LIP OF GUTTER
DRAIN INLET WITH FILTER BAG

NOTES:

1. SEDIMENT TRAP UPSTREAM OF SEDIMENT CONTROL BMP SHALL BE CLEANED WEEKLY AND PRIOR TO A RAINFALL EVENT.

2. PLACE BAGS TIGHTLY TOGETHER AT JOINTS TO PREVENT OR MINIMIZE SEEPAGE AT JOINTS.
**EXISTING OPEN BACK HOOD**

- **MINIMUM:** 5 CM (2 IN)
- **MAXIMUM:** 46 CM (18 IN)
- **MINIMUM AT BACK (FLOOD RELEASE):** 5 CM (2 IN)
- **MINIMUM BAG WIDTH (BACK OF GRATE):** 46 CM (18 IN)
- **MAXIMUM BAG DEPTH:** 1.3 CM (0.5 IN)

**CONTACT AT FRONT AND SIDES**

**CONTACT ALL SIDES**

**OUTLET PIPE**

**PLACEMENT AT TYPE B AND E DROP INLETS**

**EXISTING DROP INLET GRATE**

**FILTER BAG FRAME (OPTIONAL)**

**PLACEMENT AT TYPE A, C, D, & F DROP INLETS AND PARKING LOTS**

**EXISTING DROP INLET FRAME**

**NOTES:**

1. THE MAXIMUM DRAINAGE AREA PER FILTER SHALL BE NO MORE THAN 0.8 HECTARES (2 ACRES).

2. THE FILTER BAG SHALL BE MANUFACTURED FROM UV RESISTANT POLYPROPYLENE, NYLON, POLYESTER, OR ETHYLENE FABRIC WITH A MINIMUM TENSILE STRENGTH OF 50 LBS PER LINEAL FOOT, AN EQUIVALENT OPENING SIZE NOT GREATER THAN 20 SIEVE AND WITH GALLONS/ MINUTE/SQ FT.

3. THE FILTER BAG MAY BE SUSPENDED FROM OR HELD IN PLACE ON EXISTING INLET GRATE (OR OTHER APPROVED METHOD), PROVIDING NO MODIFICATION OR DAMAGE SHALL BE DONE TO THE INLET GRATE OR FRAME. THE INLET GRATE SHALL NOT BE CAUSED TO REST MORE THAN 13 MM (0.5 IN) ABOVE THE INLET FRAME (SEE DETAIL A).

4. THE FILTER BAG MAY EXTEND TO THE BOTTOM OF THE INLET BOX PROVIDED THE OUTLET PIPE IS UNOBSCTRACTED.

5. FLOWS SHALL NOT BE ALLOWED TO BYPASS THE BAG. THE BAG OR ITS FRAME SHALL CATCH FLOWS AT ALL SIDES OF THE INLET, EXCEPT AS SHOWN FOR FLOOD RELEASE.

6. INLET FILTER BAGS SHALL BE INSPECTED WEEKLY AND AFTER EACH RAINFALL DURING THE WET SEASON AND MONTHLY DURING THE DRY SEASON. SEDIMENT AND DEBRIS SHALL BE REMOVED BEFORE ACCUMULATIONS HAVE REACHED ONE THIRD THE DEPTH OF THE BAG. BAGS SHALL BE REPAIRED OR REPLACED AS SOON AS DAMAGE OCCURS.
STAKE AT 1.0 - 1.5 M (3 - 5 FT) INTERVALS

STAPLE SPACING IN SLOT 300 MM (1 FT)

CHECK SLOT

150 MM (6 IN)

150 MM (6 IN)

300 MM (12 IN)

CHECK SLOT AT 8 M (26 FT) INTERVALS

75 MM (3 IN) OVERLAP CHANNEL BOTTOM

100 MM (4 IN)

50 MM (2 IN)

200 MM (8 IN)

TYPICAL CHANNEL SOIL STABILIZATION

NOTE:
1. CONSTRUCTION OF CHECK SLOTS, STAKING, STAPLING LAYOUT, AND MAT INSTALLATION ALL TO BE DONE PER MANUFACTURER'S SPECIFICATIONS.
1. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS. MATS/BLANKETS SHALL HAVE GOOD SOIL CONTACT.

2. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.

3. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
NOTES:

1. MESSAGE AND SYMBOL SHALL BE AS SHOWN ON SQ-10.2 OR AS APPROVED BY THE DIRECTOR.

2. LETTERS SHALL BE 1.5 INCHES (38 MM) IN HEIGHT. THE MESSAGE SHALL BE CENTERED ON THE BACK OF THE INLET.

3. CONCRETE SHALL BE STAMPED IN SUCH A WAY AS TO PROVIDE FOR A CLEAR AND LEGIBLE IMAGE. (APPROXIMATE DEPTH OF 0.25 INCH OR 6 MM).
STAMP MESSAGES AND SYMBOLS

DIMENSIONS MAY VARY AMONG THE STAMP DESIGNS SHOWN BELOW, BUT SHALL NOT EXCEED THE MAXIMUM DIMENSIONS.

NO DUMPING!
FLOWS TO CREEK

NO DUMPING!
DRAINS TO CREEK
NOTES:

1. GRINDING/PAVEMENT JOINT SHALL BE LOCATED ALONG GUTTER LINES, LANE LINES, OR CENTER OF LANES AND SHALL NOT BE PLACED IN WHEEL LINES.

2. ENTIRE BIKE LANE SHALL BE REPaved WHEN TRENCHING OCCURS IN BIKE LANE AREA.

3. INTERMEDIATE BACKFILL MATERIALS SHALL BE PER STD DWG SD-6.0.

---

**GRIND LIMITS DETAILS**

<table>
<thead>
<tr>
<th>PAVEMENT CONDITION PCI</th>
<th>W</th>
<th>ACROSS TRAFFIC (PERPENDICULAR)</th>
<th>ALONG TRAFFIC (LONGITUDINAL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>85-100</td>
<td></td>
<td>TRENCH + 2' EACH SIDE (10' MIN)</td>
<td>TRENCH + 2' EACH SIDE</td>
</tr>
<tr>
<td>70&lt;85</td>
<td></td>
<td>TRENCH + 2' EACH SIDE (5' MIN)</td>
<td>TRENCH + 2' EACH SIDE (8' MIN)</td>
</tr>
<tr>
<td>50&lt;70</td>
<td></td>
<td>TRENCH + 2' EACH SIDE (5' MIN)</td>
<td>TRENCH + 2' EACH SIDE (5' MIN)</td>
</tr>
<tr>
<td>&lt;50</td>
<td></td>
<td>TRENCH + 1' EACH SIDE (5' MIN)</td>
<td>TRENCH + 1' EACH SIDE (4' MIN)</td>
</tr>
</tbody>
</table>

---

NOTES:

1. GRINDING/PAVEMENT JOINT SHALL BE LOCATED ALONG GUTTER LINES, LANE LINES, OR CENTER OF LANES AND SHALL NOT BE PLACED IN WHEEL LINES.

2. ENTIRE BIKE LANE SHALL BE REPaved WHEN TRENCHING OCCURS IN BIKE LANE AREA.

3. INTERMEDIATE BACKFILL MATERIALS SHALL BE PER STD DWG SD-6.0.
NOTES:

1. NO NATIVE MATERIAL WITHIN 24" OF AC COURSE. USE 3/4" CLASS II A.B. WHERE PIPE ZONE IS WITHIN 48" OF AC COURSE. 3/4" CLASS II A.B. OR CDF BACKFILL (PER CDF MIX STANDARDS) MAY BE USED.

2. ADDITIONAL GRINDING AND PAVING MAY BE REQUIRED IF WITHIN TWO (2) FEET OF A SURFACE CRACK OR A LOCATION UNSUITABLE TO PAVE AGAINST AT THE INSPECTORS DISCRETION. AT THE CONTRACTORS EXPENSE.
REFERENCE STANDARD DETAILS:
ST - 1A, ST - 7, ST - 9

NOTES:
1. EDGES OF POTHOLE REPAIRS SHALL BE ALIGNED WHEN DISTANCE BETWEEN 3 CONSECUTIVE POTHOLES IS 100' OR LESS

2. EDGES OF POTHOLE REPAIRS SHALL BE PLACED ALONG PAVEMENT STRIPES, GUTTER LINES, OR MID-LANE, AND SHALL NOT BE PLACED IN WHEEL PATH.

3. POTHOLE REPAIRS SHALL BE JOINED IF SPACING BETWEEN HOLES IS 15' OR LESS UNLESS APPROVED BY THE CITY.

4. REPAIR OF CORED POTHOLES SHALL INCLUDE A FULL DEPTH BASE CDF BACKFILL. AFTER MINIMUM OF 48 HOURS OF CURE, THE CDF BACKFILL AND SURROUNDING PAVEMENT SHALL BE GROUND A MINIMUM OF 3" DEEP.

* OR LARGER AS NEEDED TO KEEP ALL PATCHES ALIGNED
GENERAL NOTES:

1. PLANE EXISTING ASPHALT TO A 1 1/2" MIN. DEPTH.

2. A TACK COAT SHALL BE APPLIED TO THE AREA PRIOR TO PLACING NEW ASPHALT CONCRETE.

3. ASPHALT CONCRETE MIX SHALL BE APPROVED BY THE CITY PRIOR TO PLACEMENT.

4. ASPHALT CONCRETE SHALL BE SAND SEALED WITHIN 24 HOURS OF TRENCH RESURFACING.

5. TRAFFIC CONTROL PLAN SHALL BE REQUIRED. ALL TRENCH WORK IN RIGHT-OF-WAY WILL REQUIRE TRAFFIC CONTROL PLAN.

6. VIBRATORY ROLLERS SHALL BE USED ON ALL TRENCH REPAIRS IF CLASS II AGGREGATE BASE IS USED. VIBRATORY PLATES MAY ONLY BE USED WHERE APPROVED IN ADVANCE BY CITY ENGINEER.

NOTES: (FOR FABRIC)

1. AN APPROVED TACK COAT IS REQUIRED PRIOR TO PLACING NEW FABRIC.

2. NEW FABRIC IS TO OVERLAP EXISTING FABRIC A MINIMUM OF 3' ON EACH SIDE OF THE TRENCH.

NOTES: (FOR NARROW TRENCH / CDF BACKFILL)

1. CDF BACKFILL SHALL HAVE A MINIMUM 8" SLUMP

2. CDF BACKFILL SHALL BE THOROUGHLY CONSOLIDATED TO ENCASE CONDUITS. CONCRETE VIBRATORS SHALL BE USED DURING PLACEMENT OF SAND CEMENT.

3. CDF SHALL BE SCREENED OFF TO MATCH PLANED PAVEMENT GRADE.

4. ALLOW CDF BACKFILL 48 HOURS MINIMUM CURE AND DRY TIME BEFORE APPLYING ASPHALT CONCRETE.

5. IN SECONDARY, MAJOR OR PRIME ARTERIAL STREETS, TO ACCELERATE CURING TIMES PER NOTE 4, AN APPROVED SET ACCELERATING ADMIXTURE MAY BE USED WITH CITY ENGINEER'S APPROVAL.
INTERMEDIATE BACKFILL PER STD DWG SD - 6

GEOTEXTILE PLACEMENT PER STD DWG SD-6.1 & SD-6.2

IF ROADWAY IS UNDERCUT TO ACCOUNT FOR TRENCH SPOILS ALL UNDERCUT SHALL BE COMPACTED TO 93% RELATIVE COMPACTION

ASPHALT CONCRETE

MIN. 95% RELATIVE COMPACTION

AGGREGATE BASE

SUBGRADE 12"
TOP OF CDF

CDF EXTENDS TO EDGE OF EXCAVATION (VARIES)

4' MIN.

FABRIC ENVELOPE

CRUSHED ROCK BASE

1' MIN. PIPE ZONE MATERIAL AROUND PIPE

4' MIN.

FABRIC ENVELOPE

1' MIN. PIPE ZONE MATERIAL

PIPE

*OR THE BASE OF CONE, WHICHERVER IS LESS. FLATTOP MANHOLES, CDF TO BE PLACED NO HIGHER THAN SUBGRADE.

NOTES:

1. SEE SECTION 50-15 FOR CDF MATERIAL SPECIFICATIONS.
TEMPORARY RESURFACING

A. 30 DAYS MAXIMUM ON NON-OCCUPIED RESIDENTIAL STREETS.

B. 72 HOURS MAXIMUM ON OCCUPIED RESIDENTIAL STREETS.

C. 48 HOURS MAXIMUM ON LOCAL COLLECTORS, MAJOR ROADS, AND PRIME ARTERIALS (HOT MIX ONLY 3/4" PG 64-16).

D. TRAFFIC CONTROL PLAN REQUIRED.

NOTES:

1. "COLD MIX" WILL BE ALLOWED TO REMAIN AS SURFACING FOR A MAXIMUM OF 24 HOURS. EARLIER REPLACEMENT WILL BE REQUIRED IF MAINTENANCE OF THE SURFACE IS UNSATISFACTORY, SOLELY AT THE DISCRETION OF THE CITY ENGINEER OR HIS DESIGNATED REPRESENTATIVE.
NOTES:

1. SEE STANDARD DRAWING SD-6.1 AND SD-6.2 FOR GEOTEXTILE REQUIREMENTS.
NOTES:
1. RADIUS AT CORNERS IS 25'.
2. FOR BUS TURNOUT DIMENSIONS, SEE STANDARD DRAWING ST-27
3. PEDESTRIAN EASEMENTS PER STANDARD DRAWINGS ST-27 AND ST-28 ARE REQUIRED.
5. HALF WIDTH OF 56' COLLECTOR STREETS AT APPROACH TO MAJOR STREETS SHALL BE 31' IF STREET DOES NOT HAVE BICYCLE LANES AND 35' IF IT DOES. HALF WIDTH OF 60' COLLECTOR STREETS AT APPROACH TO MAJOR STREETS SHALL BE 33' IF STREET DOES NOT HAVE BICYCLE LANES AND 37' IF IT DOES.
NOTES:
1. RADIUS AT CORNERS IS 25'.
2. FOR BUS TURNOUT DIMENSIONS, SEE STANDARD DRAWING ST-27.
3. PEDESTRIAN EASEMENTS PER STANDARD DRAWINGS ST-27 AND ST-28 ARE REQUIRED.
5. SIDEWALK SHALL BE INCLUDED AS PART OF THE RIGHT-OF-WAY WHEN ADJACENT TO THE BACK OF CURB SUCH AS AT INTERSECTIONS AND DRIVEWAYS.
NOTES:

1. RADIUS AT CORNERS IS 25'.

2. FOR BUS TURNOUT DIMENSIONS, SEE STANDARD DRAWING ST-27.

3. PEDESTRIAN EASEMENTS PER STANDARD DRAWINGS ST-27 AND ST-28 ARE REQUIRED.


5. HALF WIDTH OF 56' COLLECTOR STREETS AT APPROACH TO MAJOR STREETS SHALL BE 31' IF STREET DOES NOT HAVE BICYCLE LANES AND 35' IF IT DOES. HALF WIDTH OF 60' COLLECTOR STREETS AT APPROACH TO MAJOR STREETS SHALL BE 33' IF STREET DOES NOT HAVE BICYCLE LANES AND 37' IF IT DOES.

6. SIDEWALK SHALL BE INCLUDED AS PART OF THE RIGHT-OF-WAY WHEN ADJACENT TO THE BACK OF CURB SUCH AS AT INTERSECTIONS AND DRIVEWAYS.

WITH BUS TURNOUT

WITHOUT BUS TURNOUT

ST - 12B
NOTES:

A. INSTALL BICYCLE SYMBOL OVER DETECTOR LOCATIONS.

B. INSTALL "BIKE", "LANE" AND "               " PAVEMENT LEGENDS AT THE FOLLOWING LOCATIONS:
   - APPROXIMATELY 10' PAST CROSSWALKS.
   - AT THE BEGINNING OF BICYCLE LANE ADJOINING RIGHT-TURN LANES.

C. FOR COLLECTORS WITH 6' SIDEWALKS, THE RIGHT-OF-WAY WIDTH IS 37'.

D. DIMENSIONS ARE TO CENTERLINE OF STRIPES.

E. SIDEWALK SHALL BE INCLUDED AS PART OF THE RIGHT-OF-WAY WHEN ADJACENT TO THE BACK OF CURB
   SUCH AS AT INTERSECTIONS AND DRIVeways.

F. BIKE LANE MARKINGS SHALL BE IN ACCORDANCE WITH THE CURRENT VERSION OF THE CALIFORNIA MUTCD.
NOTES:
A. END OF RAISED MEDIAN MAY BE MOVED AS NECESSARY FOR DRIVEWAY LOCATIONS. SEE IMPROVEMENT STANDARD SECTION 4-10 (J)
B. BIKE LANE STRIPE TO BE DISCONTINUED APPROX. 100' FROM START OF RIGHT-TURN LANE AND RESUMED AT BEGINNING OF RIGHT-TURN-ONLY LANE.
C. INSTALL BICYCLE SYMBOL OVER DETECTOR LOCATIONS.
D. INSTALL "BIKE", "LANE" AND "               " PAVEMENT LEGENDS AS PER THE CURRENT VERSION OF THE CALIFORNIA MUTCD AT THE FOLLOWING LOCATIONS:
   - APPROXIMATELY 10' PAST CROSSTRACTIONS.
   - AT BEGINNING OF BICYCLE LANE ADJOINING RIGHT-TURN LANES.
E. DIMENSIONS ARE TO CENTERLINE OF STRIPES.
F. LENGTH OF APPROACH ADJACENT TO RIGHT TURN LANE SHALL BE: 200' APPROACHING A THOROUGHFARE / SPECIAL THOROUGHFARE 190' APPROACHING AN ARTERIAL.
G. DIRECTIONAL ARROWS ARE PROVIDED AT THE BEGINNING OF ALL TURN POCKETS. INSTALL ADDITIONAL ARROWS IF LENGTH OF TURN POCKET EXCEEDS 250 FT.
H. ALL PAVEMENT MARKINGS AND STRIPING AS PER THE CURRENT VERSION OF THE CALIFORNIA MUTCD.
I. 90° BAY TAPER AS PER THE CURRENT CALTRANS HDM.
J. SIDEWALK SHALL BE INCLUDED AS PART OF THE RIGHT-OF-WAY WHEN ADJACENT TO THE BACK OF CURB SUCH AS AT INTERSECTIONS AND DRIVEWAYS.
K. IF THE DRIVEWAY, APPROVED BY PUBLIC WORKS, IS WITHIN THE EXPANDED INTERSECTION, ADDITIONAL 2 FEET RIGHT-OF-WAY WILL BE REQUIRED. 
   SEE DETAIL "B".
L. BIKE LANE MARKINGS SHALL BE IN ACCORDANCE WITH THE CURRENT VERSION OF THE CALIFORNIA MUTCD.
NOTES:

A. END OF RAISED MEDIAN MAY BE MOVED AS NECESSARY FOR DRIVEWAY LOCATIONS. SEE IMPROVEMENT STANDARD SECTION 4-10 (J).

B. BIKE LANE STRIPING TO BE DASHED BEGINNING 120' FROM INTERSECTION.

C. INSTALL "BIKE", "LANE", AND " " PAVEMENT LEGENDS AS PER THE CURRENT VERSION OF THE CALIFORNIA MUTCD, AT THE FOLLOWING LOCATIONS:
- APPROXIMATELY 10' PAST CROSSWALKS;
- BEFORE START OF DASHED BICYCLE LANE STRIPING.

D. DIRECTIONAL ARROWS ARE PROVIDED AT THE BEGINNING OF ALL TURN POCKETS. INSTALL ADDITIONAL LEFT-TURN ARROW MIDWAY IN THE LENGTH OF THE TURN LANE IF IT EXCEEDS 250'..

E. CONSULT WITH PUBLIC WORKS TO DETERMINE POCKET LENGTH.

F. DIMENSIONS ARE TO CENTERLINE OF STRIPES.

G. SHOULD DESIGN OF ROADWAY NOT INCLUDE BUS TURNOUTS, DESIGN OF INTERSECTIONS OF ARTERIAL & COLLECTOR STREETS SHALL CONFORM TO THE DETAIL ON DRAWING ST-12B.

H. ALL PAVEMENT MARKINGS AND STRIPING AS PER THE CURRENT VERSION OF THE CALIFORNIA MUTCD.

I. SIDEWALK SHALL BE INCLUDED AS PART OF THE RIGHT-OF-WAY WHEN ADJACENT TO THE BACK OF CURB SUCH AS AT INTERSECTIONS AND DRIVEWAYS.

J. IF THE DRIVEWAY, APPROVED BY PUBLIC WORKS, IS WITHIN THE EXPANDED INTERSECTION, ADDITIONAL 2 FEET RIGHT OF WAY WILL BE REQUIRED. SEE DETAIL "A".

K. 90' BAY TAPER AS PER THE CURRENT CALTRANS HDM.

L. BIKE LANE MARKINGS SHALL BE IN ACCORDANCE WITH THE CURRENT VERSION OF THE CALIFORNIA MUTCD.
NOTES:

A. BIKE LANE STRIPE TO BE DISCONTINUED APPROXIMATELY 100' FROM RIGHT-TURN LANE AND RESUMED AT BEGINNING OF RIGHT-TURN ONLY LANE.

B. INSTALL BICYCLE SYMBOL OVER DETECTOR LOCATIONS.

C. INSTALL "BIKE", "LANE" AND "             " PAVEMENT LEGENDS AT THE FOLLOWING LOCATIONS:
   - APPROXIMATELY 10' PAST CROSSWALKS,
   - AT THE BEGINNING OF BICYCLE LANE ADJOINING RIGHT-TURN LANES.

D. DIMENSIONS ARE TO CENTERLINE OF STRIPES.

E. LENGTH OF APPROACH ADJACENT TO RIGHT TURN LANE SHALL BE: 200' APPROACHING A THOROUGHFARE / SPECIAL THOROUGHFARE.
   190' APPROACHING AN ARTERIAL / PRIMARY ARTERIAL.

F. SIDEWALK SHALL BE INCLUDED AS PART OF THE RIGHT-OFF-WAY WHEN ADJACENT TO THE BACK OF CURB SUCH AS AT INTERSECTIONS AND DRIVEWAYS.

G. IF THE DRIVEWAY, APPROVED BY PUBLIC WORKS, IS WITHIN THE EXPANDED INTERSECTION, ADDITIONAL 2 FEET RIGHT-OFF-WAY BILL BE REQUIRED. SEE DETAIL "A".

H. 90' BAY TAPER AS PER THE CURRENT CALTRANS HDM.

I. BIKE LANE MARKINGS SHALL BE IN ACCORDANCE WITH THE CURRENT VERSION OF THE CALIFORNIA MUTCD.
NOTES:

A. BIKE LANE STRIPE TO BE DASHED BEGINNING 120' FROM INTERSECTION.

B. INSTALL ADDITIONAL LEFT TURN ARROW MIDWAY IN THE LENGTH OF THE TURN LANE IF IT EXCEEDS 250'.

C. INSTALL "BIKE", "LANE" AND "..." PAVEMENT LEGENDS AS PER THE CURRENT VERSION OF CALIFORNIA MUTCD AT THE FOLLOWING LOCATIONS:
   - APPROXIMATELY 10' PAST CROSSWALKS;
   - BEFORE START OF DASHED BICYCLE LANE STRIPING.

D. LENGTH OF TURN POCKET IS TO BE SIZED ACCORDING TO TRAFFIC NEEDS.
   180' MIN. SEE 3-10 H OF TRANSPORTATION DIVISION DESIGN PRACTICE GUIDE. AND DIRECTIONAL ARROWS ARE PROVIDED AT THE BEGINNING OF ALL TURN POCKETS. IF POCKET IS LONGER THAN 100 FT. ADDITIONAL ARROWS SHALL BE PLACED AT THE END.

E. DIMENSIONS ARE TO CENTERLINE OF STRIPES.

F. ALL PAVEMENT MARKINGS AND STRIPING AS PER THE CURRENT VERSION OF THE CALIFORNIA MUTCD.

G. SIDEWALK SHALL BE INCLUDED AS PART OF THE RIGHT-OF-WAY WHEN ADJACENT TO THE BACK OF CURB SUCH AS AT INTERSECTIONS AND DRIVEWAYS.

H. IF THE DRIVEWAY, APPROVED BY PUBLIC WORKS, IS WITHIN THE EXPANDED INTERSECTION, ADDITIONAL 2 FEET RIGHT OF WAY WILL BE REQUIRED. SEE DETAIL "A".

I. 90' BAY TAPER AS PER THE CURRENT CALTRANS HDM.

J. BIKE LANE MARKINGS SHALL BE IN ACCORDANCE WITH THE CURRENT VERSION OF THE CALIFORNIA MUTCD.
CLASS A
CLASS B (SAME AS CLASS A EXCEPT SIDEWALKS MAY BE OMITTED)

CLASS C

5' MIN.
3'
VARIABLE

8' MIN
AT PARKS
AND SCHOOLS

TYPE 2 VERTICAL CURB

3'
VARIABLE

3'
MIN 13' RESIDENTIAL - MIN 22' COLLECTOR

DITCH SLOPE
4:1 MAX.
4:1 MAX.

FILL SLOPE

MIN 13' RESIDENTIAL - MIN 22' COLLECTOR

3:1 MAX.
5%
NOTES:

1. RUMBLE STRIP SHALL STOP 120' FROM THE C.R. ON THE MAJOR ROAD APPROACHING ENTERING SIDE STREETS, AND BEGIN AT C.R. ON THE MAJOR ROAD DEPARTING ENTERING SIDE STREETS.

2. POSITION BIKE LANE LEGENDS BETWEEN RUMBLE STRIP AND EDGE LINE STRIPE.

3. EARTHEN SHOULDER MAY BE ELIMINATED IF SHOULDER CONFLICTS WITH TREES OR RIGHT-OF-WAY LIMITS AND FULL DEPTH ASPHALT SECTION IS USED.
NOTES:

1. ROLLED-IN RUMBLE STRIPS SHALL BE USED WHERE REQUIRED BY THE DIRECTOR OF THE DEPARTMENT OF TRANSPORTATION.

2. ROLLED-IN RUMBLE STRIPS MAY BE USED ON ROADWAYS THAT ARE DESIGNATED FOR 80’ OR MORE OF RIGHT-OF-WAY AND ARE CONSTRUCTED WITH INTERIM IMPROVEMENTS (WITHOUT CURB & GUTTER).

3. RUMBLE STRIP SHALL STOP 120’ FROM THE C.R. ON THE MAJOR ROAD APPROACHING ENTERING SIDE STREETS, AND BEGIN AT C.R. ON THE MAJOR ROAD DEPARTING ENTERING SIDE STREETS.

4. POSITION BIKE LANE LEGENDS BETWEEN RUMBLE STRIP AND EDGE LINE STRIPE.

5. EARTHEN SHOULDER MAY BE ELIMINATED IF SHOULDER CONFLICTS WITH TREES OR RIGHT-OF-WAY LIMITS AND FULL DEPTH ASPHALT SECTION IS USED.

6. TYPE "E" MOUNTABLE DIKE PER CALTRANS STD. PLANS DRAWING A-87B.
NOTES:

1. ROLLED-IN RUMBLE STRIPS SHALL BE USED WHERE REQUIRED BY THE DIRECTOR OF THE DEPARTMENT OF TRANSPORTATION.

2. ROLLED-IN RUMBLE STRIPS MAY BE USED ON ROADWAYS THAT ARE DESIGNATED FOR 80' OR MORE OF RIGHT-OF-WAY AND ARE CONSTRUCTED WITH INTERIM IMPROVEMENTS (WITHOUT CURB & GUTTER).

3. RUMBLE STRIP SHALL STOP 120' FROM THE C.R. ON THE MAJOR ROAD APPROACHING ENTERING SIDE STREETS, AND BEGIN AT C.R. ON THE MAJOR ROAD DEPARTING ENTERING SIDE STREETS.

4. POSITION BIKE LANE LEGENDS BETWEEN RUMBLE STRIP AND EDGE LINE STRIPE.

5. EARTHEN SHOULDER MAY BE ELIMINATED IF SHOULDER CONFLICTS WITH TREES OR RIGHT-OF-WAY LIMITS AND FULL DEPTH ASPHALT SECTION IS USED.
NOTES:

1. RUMBLE STRIP SHALL STOP 120’ FROM THE C.R. ON THE MAJOR ROAD APPROACHING ENTERING SIDE STREETS, AND BEGIN AT C.R. ON THE MAJOR ROAD DEPARTING ENTERING SIDE STREETS.

2. POSITION BIKE LANE LEGENDS BETWEEN RUMBLE STRIP AND EDGE LINE STRIPE.

3. EARTHEN SHOULDER MAY BE ELIMINATED IF SHOULDER CONFLICTS WITH TREES OR RIGHT-OF-WAY LIMITS AND FULL DEPTH ASPHALT SECTION IS USED.
NOTES:

1. USE 100' PAVEMENT TAPER SECTION WHEN MAJOR STREET SHOULDER IS UNPAVED OR SEAL COATED, OR WHERE PAVED SHOULDER IS LESS THAN 4' WIDE.

2. USE 67' PAVEMENT TAPER SECTION WHEN MAJOR STREET SHOULDER IS FULLY PAVED, AND A MINIMUM OF 4' WIDE.

3. FULL ROADBED STRUCTURAL SECTION TO BE PLACED IN ACCORDANCE WITH CITY STANDARDS FOR AREA TO BE PAVED.

4. PAVEMENT TAPER SECTION MAY BE DELETED WHERE NEW STREET INTERSECTS WITH MINOR OR COLLECTOR STREETS.

84 FOOT TO 130 FOOT STREETS

(FOR STREETS LESS THAN 84', SEE NOTE 4)
CLASS A
(CURB, GUTTER & SIDEWALK)

PRIVATE DRIVEWAY CONSTRUCTED TO BACK OF SIDEWALK.

CLASS B
(CURB & GUTTER)

DRIVEWAY AREA WITHIN STREET R/W MAY BE CONCRETE, ASPHALT CONCRETE (A.C.) OR OTHER DUST FREE SURFACE.

CLASS C
(DITCH OR SHOULDER)

DRIVEWAY AREA WITHIN STREET R/W MUST BE 3" A.C. ON 4" A.B. OR 5" A.C.

NOTE:
1. SEE CITY OF ELK GROVE IMPROVEMENT STANDARDS SECTION 4-7 FOR DRIVEWAY REQUIREMENTS.
NOTES:

1. TYPE 3 CURBING ON SITE SHALL EXTEND TO WHERE THE DRIVEWAY APPROACH IS A MINIMUM OF FOUR INCHES ABOVE THE BACK OF SIDEWALK ELEVATION AT THE DRIVEWAY.

2. LENGTH OF DRIVEWAY FLAIR ON STREETS STEEPER THAN 3.70% SHALL REQUIRE SPECIAL APPROVAL BY THE CITY ENGINEER.

3. A 1/2-INCH CONCRETE BATTER SHALL BE PLACED ON ALL CURB LIPS.

4. SEE STD. DWG. AR-4.7 FOR ELEMENTS NOT SHOWN HEREON. ‘ ‘ DRIVEWAY APRON MATCHES SIDEWALK WIDTH

- DRAWING NUMBER: ST - 20

- CITY OF ELK GROVE - PUBLIC WORKS

- COMMERCIAL DRIVEWAYS

- TYPE A-6

- DATE: 09/22/2007

- NOT TO SCALE

- APPROVED BY: 05/28/2024

- CITY ENGINEER DATE

- DRAWING NUMBER

- REVISON

- DATE

<table>
<thead>
<tr>
<th>REVISION</th>
<th>BY</th>
<th>APPROVED</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>LM</td>
<td>TW</td>
<td>07/18/2019</td>
</tr>
<tr>
<td>02</td>
<td>STN</td>
<td>JRW</td>
<td>02/18/2021</td>
</tr>
<tr>
<td>03</td>
<td>SJB</td>
<td>SMA</td>
<td>03/27/2024</td>
</tr>
</tbody>
</table>
NOTEs:

1. IT MAY BE USED FOR RECONSTRUCTION OF TYPE A-7 DRIVEWAYS IN AREAS WITHOUT SUFFICIENT RIGHT-OF-WAY FOR STANDARD TYPE A-7 DRIVEWAY CONSTRUCTION AND WITHOUT WALKWAY EXTENSION ON TO ABUTTING PROPERTY.

2. NO PULL BOX, UTILITY VAULT, UTILITY POLE, MANHOLE OR SIMILAR APPURTENANCE SHALL BE LOCATED WITHIN SIDEWALK RAMP AREA.

3. IT IS DESIRABLE TO LOCATE ALL DRAIN INLETS OUT OF SIDEWALK RAMP AREA. USE OF DRAIN INLET WITHIN RAMP AREA REQUIRES SPECIAL DESIGN OF INLETS.
NOTES:
1. DRIVEWAYS ON 72', 96', AND 118' STREETS SHALL HAVE A MINIMUM CLEAR SPACING OF 200' BETWEEN DRIVEWAYS. LESSER SPACING MAY BE APPROVED BY THE DIRECTOR FOR SMALL LOTS WHERE A MINIMUM OF ONE DRIVEWAY PER STREET FRONTAGE WILL BE APPROVED.

2. FOR ADDITIONAL DRIVEWAY REQUIREMENTS SEE SECTION 4-7 OF THE CITY IMPROVEMENT STANDARDS.
BULB RADIUS REQUIREMENTS

<table>
<thead>
<tr>
<th>STREET R/W WIDTH</th>
<th>B/C RADIUS @ BULB</th>
</tr>
</thead>
<tbody>
<tr>
<td>40', 44'</td>
<td>41'</td>
</tr>
</tbody>
</table>

NOTES:

1. A STANDARD W14-1 ("DEAD END") SIGN MAY BE REQUIRED AT THE ENTRANCE TO THE CUL-DE-SAC (SEE SECTION 4-27).

2. NO CUL-DE-SAC SHALL EXCEED 600 FEET IN LENGTH, MEASURED AS THE DISTANCE FROM THE CENTERLINE OF THE INTERSECTING STREET TO THE CENTER OF THE CUL-DE-SAC BULB.
NOTES:
VARIABLE DIMENSIONS:

<table>
<thead>
<tr>
<th>STREET TYPE</th>
<th>*</th>
<th>**</th>
<th>***</th>
</tr>
</thead>
<tbody>
<tr>
<td>44&quot; MINOR RESIDENTIAL STREET</td>
<td>14’</td>
<td>17’</td>
<td>22’</td>
</tr>
<tr>
<td>40&quot; PRIMARY RESIDENTIAL STREET</td>
<td>16’</td>
<td>19’</td>
<td>NA</td>
</tr>
</tbody>
</table>
NOTES:
1. ALL RADII SHOWN PERTAIN TO BACK OF CURB.
2. RADIUS = 46.5' ON 44' STREET
   52.5' ON 40' STREET
   56' ON 50' STREET
3. INTERSECTION ANGLE SHALL BE 90° ± 5°.
4. SHADED AREA SHALL HAVE VISIBILITY CONTROL EASEMENT IN ACCORDANCE
   WITH THE IMPROVEMENT STANDARDS SECTION 4-8 AND STANDARD DRAWING
   ST-26.1 AND ST-26.2 (PERMANENT BUILDINGS EXCEPTED WITHIN SETBACK LINE.)
1. SHOW LINE OF SIGHT AND SIGHT DISTANCE FOR ALL APPROACHES OF EACH INTERSECTION.

2. SIGHT DISTANCE SHALL COMPLY WITH THE CITY OF ELK GROVE IMPROVEMENT STANDARDS SECTION 4-8.

* FOR STREETS 48 FEET OR WIDER MEASURED FROM BACK OF CURB TO BACK OF CURB, OR AS REQUIRED BY THE DIRECTOR.
NOTES:

1. FOR STREETS LESS THAN 48 FEET MEASURED FROM BACK OF CURB TO BACK OF CURB.

2. VISIBILITY CONTROL AREAS MAY BE REDUCED TO A 20' X 20' TRIANGLE AT STOP OR SIGNAL CONTROLLED INTERSECTIONS.

CLEARANCE REQUIRED WITHIN CONTROLLED AREA

SIGN

FENCE/WALL
PLANTINGS

SIGN MUST HAVE CLEARANCE OF 7 FEET

EXISTING GRADE

NEAREST ROADWAY SURFACE

KEEP CLEAR ABOVE

36" MAXIMUM HEIGHT

PUBLIC STREET

CENTERLINE OF STREET

SIDEWALK

STREET RIGHT-OF-WAY LINE

CONTROL AREA

PVT. DRIVEWAY

30'

10'

30'

10'

10'

NOTES:

FOR STREETS LESS THAN 48 FEET MEASURED FROM BACK OF CURB TO BACK OF CURB.

VISIBILITY CONTROL AREAS MAY BE REDUCED TO A 20' X 20' TRIANGLE AT STOP OR SIGNAL CONTROLLED INTERSECTIONS.

SIGN

FENCE/WALL
PLANTINGS

SIGN MUST HAVE CLEARANCE OF 7 FEET

EXISTING GRADE

NEAREST ROADWAY SURFACE

KEEP CLEAR ABOVE

36" MAXIMUM HEIGHT

PUBLIC STREET

CENTERLINE OF STREET

SIDEWALK

STREET RIGHT-OF-WAY LINE

CONTROL AREA

PVT. DRIVEWAY

30'

10'

30'

10'

10'

36" FOLIAGE CLEARANCE

7 FEET

7 FEET

NOT TO SCALE
BUS TURNOUT ON THOROUGHFARE STREETS

BUS TURNOUT ON ARTERIAL STREETS

TYPICAL MID-BLOCK BUS TURNOUT
NOTES:
1. DETAIL 'A' SECTION SHALL BE USED FOR 100 FEET EACH SIDE OF BUS STOPS WITHOUT TURNOUTS. THE REINFORCING STEEL SHALL BE CONTINUED ACROSS ANY DRIVEWAYS WITHIN THE 100 FOOT DISTANCE FROM THE BUS STOP.

2. SEE STANDARD DRAWING ST-27 FOR APPLICATIONS OF DETAIL 'A' AT BUS STOP TURNOUTS.

3. TRANSITION FROM REINFORCED TYPE 2 CURB TO ABUTTING CURB AND GUTTER SECTION IN 5' BEYOND LIMITS OF BUS STOP AREA AS SHOWN ON DWG. ST-27.

4. PAD LENGTH MAY BE 14' AT MINOR STREET INTERSECTIONS & MID. BLOCK LOCATIONS.
CONSTRUCTION OF NEW SIDEWALK RAMP
IN EXISTING PAVED AREA
PLAN VIEW

CONSTRUCTION OF NEW SIDEWALK RAMP
WITH PAVEMENT WIDENING
SECTION A - A

SEE APPLICABLE "AR" STANDARD DRAWING

EXISTING SCORE MARK OR EXPANSION JOINT (TYPICAL)
SEE STD. DWG. ST-39

NEW SIDEWALK RAMP (SEE APPLICABLE "AR" STANDARD DRAWING)

AREA OF A.C. PAVEMENT REMOVAL & REPLACEMENT TO CONFORM TO RAMP GUTTER GRADES. SEE SECTION 27-9 OF CITY STD. CONSTRUCTION SPECIFICATIONS.

SCORE MARK

4' 4.5% MAX SLOPE

NEW SIDEWALK RAMP VARIES GRADE BREAK

SLOPE TO MATCH ROADWAY WIDENING PLANS (TYP. 1%-3%)

SLOPE TO MATCH PLANS OR EXISTING ROADWAY SLOPE.

REDUCE AB THICKNESS AS NEEDED

6" PCC

6" A.B.

95% COMPACTED

03-27-2024

05-28-2024

CITY OF ELK GROVE - PUBLIC WORKS

A.C. CONFORMS TO NEW SIDEWALK RAMP RE-CONSTRUCTION

ST - 30
INSTALL TYPE 3 OR TYPE 4 CURB IF ABUTTING PARKING AREA OR LANDSCAPING (EXCEPT LAWN AREA).

TYPE 1A & TYPICAL SIDEWALK

NOTES:

1. SEE SECTION 27-3.01 FOR REQUIREMENT FOR EXPANSION JOINTS, WEAKENED PLANE JOINTS AND SCORE MARKS.

2. 1/2" RADIUS ON EXPOSED EDGES UNLESS NOTED OTHERWISE.

3. SEE ST-28 FOR BUS STOP DETAIL. A 1/2-INCH CONCRETE BATTER SHALL BE PLACED ON ALL CURB LIPS.

DATE: 09/22/2007  NOT TO SCALE  CITY OF ELK GROVE - PUBLIC WORKS

APPROVED BY:  Robert Madick  10/24/2018  DRAWING NUMBER  ST - 31
REINFORCING STEEL TO BE EXTENDED 12" MIN. & SPLICED ACCORDING TO STATE SPECIFICATION.

6" MIN. AGGREGATE BASE @ 95% COMPACTION

#4 Ø REINFORCING BARS

SECTION A-A

CONTACT JOINT DETAIL

STANDARD CURB & GUTTER

CONTACT JOINT (SEE DETAILS)

STANDARD CURB & GUTTER

MINIMUM GUTTER SLOPE 0.5%

NOTE:

1. 6" MIN AGGREGATE BASE (95% RELATIVE COMPACTION) TO BE PLACED WITHIN LIMITS OF CROSS GUTTER.
NOTES:

1. FOR 74', 96', & 118' STREET WIDTHS AND COMMERCIAL DEVELOPMENT.

2. SEE SECTION 4-16 OF THE CITY IMPROVEMENT STANDARDS FOR REQUIREMENTS.

3. TYPE 3 CURB AT THE BACK OF SIDEWALK MAY BE OMITTED IF LAWN IS PLANTED TO THE BACK OF SIDEWALK.

4. SIDEWALKS SHALL BE SEPARATED ON ALL 74', 96', & 118' STREETS
4"x3"x1/4" STEEL TUBE
1/8" CHAMFER BOTH ENDS

1/4" x 0'-5" CHECKER PLATE

1/2"x 0'-2" WELDED
STEEL STUD, 2 REQUIRED EACH SIDE

SECTION A-A

CONFORM TO EXISTING GUTTER SECTION.

WELDED STEEL STUD
(TYPICAL)

SECTION B-B

12" 12"

NOTE:
1. GALVANIZE AFTER FABRICATION

PLAN VIEW OF CURB, GUTTER & SIDEWALK

NOTE:
1. CONFORM TO EXISTING GUTTER SECTION.

NOTE:
1. DETAIL OF END OF CURB DRAIN FOR TYPE 2 CURB

NOTE:
1. SAW CUT IF PLACING IN EXISTING SIDEWALK

NOTE:
1. CURB & GUTTER

NOTE:
1. BACK OF CURB

NOTE:
1. SIDEWALK

NOTE:
1. FACE OF CURB

NOTE:
1. 3/16" 1" @ 6"

NOTE:
1. GUTTER INVERT

NOTE:
1. 1.5%
NOTES:
1. ON THOROUGHFARES, ARTERYALS, AND WHERE 6 FOOT SIDEWALKS ARE REQUIRED BY THE IMPROVEMENT STANDARDS. 5 FOOT MINIMUM ALL OTHER LOCATIONS.

2. CROSS SLOPE OF SEPARATED SIDEWALK TO BE 1.5% (1.0% TO 2.0% ALLOWABLE). LONGITUDINAL GRADE NOT TO EXCEED 5%.

3. USE OF SEPARATED SIDEWALKS WILL REQUIRE STREET LIGHTING REVIEW IN RELATION TO LANDSCAPE PLAN, AND MAY REQUIRE ADDITIONAL SIDEWALK LIGHTING.

4. COMPACTION UNDER SEPARATED SIDEWALK AREA AT 90%, UNDER ATTACHED AREA AT 95%.
NOTE:

1. A SIDEWALK BARRICADE SHALL BE REQUIRED IF THE END OF THE A.C. SIDEWALK CONFORM ABUTS A DRAINAGE DITCH OR ANY OTHER SURFACE THAT WOULD POSE A HAZARD TO PEDESTRIANS.
RESIDENTIAL OR COLLECTOR STREET

FACE OF CURB

RELINQUISHMENT OF ACCESS RIGHTS (TYP)

CURB RETURN

PER PLAN

15' MIN*

5' MIN

DRAIN INLET

RESIDENTIAL DRIVeway

GUTTER LIP

SIDWALK

*THE 15' DIMENSION MAY BE REDUCED AS DETERMINED BY THE DIRECTOR WHERE LOTS ARE LESS THAN 56' WIDE.
1' MINIMUM WIDTH, 1 1/2" DEEP
GRINDING AND PAVING. (SEE NOTES 3 & 4)

1' MINIMUM PAVEMENT REMOVAL AND REPLACEMENT. SAW CUT REQUIRED.

EXISTING PAVEMENT SECTION
NEW/PROPOSED PAVEMENT SECTION
CURB
SIDEWALK

NOTES:

1. THIS DETAIL IS APPLICABLE TO PAVEMENT WIDENING PROJECTS AND TO PAVEMENT EXTENSION PROJECTS (WHERE NEW ROAD CONNECTS TO EXISTING PAVEMENT).

2. 2' MINIMUM DISTANCE EXCEPT WHEN INSIDE A BIKE LANE. DISTANCE SHALL BE FROM LIP OF CURB TO FULL EXTENT OF THE BIKE LANE.

3. GRINDING AND PAVING JOINT SHALL BE LOCATED ALONG GUTTER PATH, LANE PATH, OR CENTER OF LANES AND SHALL NOT BE PLACED IN WHEEL PATH.

4. ADDITIONAL GRINDING AND PAVING MAY BE REQUIRED IF WITHIN TWO (2) FEET OF A SURFACE CRACK OR A LOCATION UNSUITABLE TO PAVE AGAINST AT THE INSPECTOR'S DISCRETION, AT THE CONTRACTOR'S EXPENSE.
NOTE:

1. JOINT SPACING PER SECTION 27-3.01 OF THE CITY STANDARD CONSTRUCTION SPECIFICATIONS.
NOTES:

1. MONUMENT BOX AND COVER SHALL BE SOUTH BAY FOUNDRY B1201-R2 OR APPROVED EQUAL.
2. ALL MATERIALS USED IN MANUFACTURING SHALL CONFORM TO ASTM 48, CLASS 35B.
3. FRAME AND COVER BEARING SURFACES SHALL BE MACHINED TO ASSURE CLOSE, QUIET FIT.
4. FRAME AND COVER SHALL EXCEED H-20 WHEEL LOADING.
5. CASTINGS SHALL BE DIPPED IN BLACK BITUMINOUS PAINT.
6. (*) MONUMENT MARKER SHALL BE SOLID BRASS WITH 2 1/2" DIAM TOP AND 3/4" x 2 1/2" LTZ 813-403 OR APPROVED EQUAL SET IN FRESH P.C.C. TOP OF MONUMENT SHALL BE APPROXIMATELY 3.5" BELOW STREET GRADE.
7. MONUMENT MAY BE FORMED BY METAL SLEEVE, WAXED CARDBOARD OR BY DRILLING THRU HOLE MADE FOR MONUMENT BOX. IF THERE IS AN OVERCUT THEN THE OVERCUT SHALL BE FILLED WITH CONCRETE TO THE SAND LEVEL.
NOTES:
1. WHERE PERMISSION HAS BEEN GRANTED TO CLOSE AN EXISTING PUBLIC STREET, A R11-2 "ROAD CLOSED" SIGN WILL BE REQUIRED ON THE CENTERLINE OF THE ROAD IN ADDITION TO THE W31(CA) "END" SIGN.
2. 24" x 24" W31(CA) SIGN AND 18" x 18" OM4-3 MARKER. BLOCK OUT AS NECESSARY FOR OM4-3 MARKER TOP MOUNTING BOLT (BOTTOM MOUNTING BOLT NORMALLY THROUGH BARRIER RAIL). OM4-3 MARKER TO HAVE SOLID RED REFLECTIVE BACKGROUND WITHOUT ADDED REFLECTORS.
3. ALL EXPOSED SURFACES OF BARRICADE SHALL BE PAINTED WITH TWO (2) COATS OF WHITE PAINT CONFORMING TO STATE OF CALIFORNIA STANDARD SPECIFICATIONS SECTION 91-3.
4. POST AT CENTER OR NEAREST TO CENTER ON RIGHT HAND SIDE TO BE EXTENDED TO PROVIDE MOUNTING FOR SIGNS.
5. POST SHALL BE PRESSURE TREATED PER STATE OF CALIFORNIA STANDARD SPECIFICATIONS SECTION 57-2.01.
NOTE:
1. ALL EXPOSED SURFACES OF BARRICADE SHALL BE PAINTED WITH TWO (2) COATS OF WHITE PAINT CONFORMING TO STATE OF CALIFORNIA STANDARD SPECIFICATIONS SECTION 91-3.

SPECIAL APPLICATION AT DIRECTION OF ENGINEER

ST - 42
NOTES:

1. SIDEWALK BARRICADES TO BE ERECTED AT EACH LOCATION WHERE SATISFACTORY PROVISION CAN NOT BE MADE FOR PEDESTRIAN TO CONTINUE BEYOND THE TERMINUS OF A SIDEWALK AND A HAZARD IS PRESENT.

2. ALL EXPOSED SURFACES OF BARRICADES SHALL BE PAINTED WITH TWO (2) COATS OF WHITE PAINT CONFORMING TO STATE OF CALIFORNIA STANDARD SPECIFICATIONS SECTION 91-3.
SEE TRAILS MASTER PLAN FOR TYPICAL SEPARATIONS.

MULTI-USE TRAIL AT DRIVEWAY

MULTI-USE TRAIL AT INTERSECTION

*SEE TRAILS MASTER PLAN FOR TYPICAL SEPARATIONS.

**TYPICAL WIDTH

MULTI-USE TRAIL CONNECTIONS AT DRIVEWAYS AND INTERSECTIONS

CITY OF ELK GROVE - PUBLIC WORKS

DATE: 09/22/2007
NOT TO SCALE

APPROVED BY:

DATE: 05-28-2024
NOTES:
1. TRAIL CONNECTION MUST BE AT A CROSSWALK.
2. MID-BLOCK CROSSWALK SIGNAGE, STRIPING AND/OR SIGNAL TO BE INSTALLED AS DETERMINED BY THE CITY.
NOTES:

1. MINIMUM COVER
   STREET TYPE DEPTH
   RESIDENTIAL AND COLLECTOR 1’ - 3”
   ARTIFICIAL AND THOROUGHFARE 1’ - 6”

2. ALL CONDUITS MUST BE ANCHORED OR SECURED TO THE BOTTOM OF THE TRENCH TO MAINTAIN MINIMUM COVER.

3. SAND BACKFILL SHALL NOT BE ALLOWED WITHIN THE MINIMUM COVER LIMITS.

GENERAL:

1. MICRO-TRENCHING SHALL ONLY BE USED TO INSTALL FIBER OPTIC CABLE.

2. MICRO-TRENCHING SHALL NOT BE ALLOWED IN CONCRETE PAVED AREAS.

3. MICRO-TRENCH SHALL BE CONSTRUCTED WITH CONTINUOUS STRAIGHT AND NEAT EDGES.

4. MICRO-TRENCH ALIGNMENTS SHALL CONSIST OF RUNS PARALLEL TO THE CENTERLINE OF THE STREET.

5. STREET CROSSINGS SHALL BE PERPENDICULAR TO THE STREET CENTERLINE. THE CAPPING LIMITS ON TRENCHES PERPENDICULAR TO THE STREET CENTERLINE SHALL BE A MINIMUM OF 3 FEET IN WIDTH.

6. ALL MICRO-TRENCHES SHALL BE COMPLETELY BACKFILLED TO FINISH GRADE BY THE END OF THE WORK DAY.

7. COMMENCEMENT OF SURFACE PREPARATION SUCH AS GRINDING FOR ASPHALT CONCRETE PAVING REPLACEMENT WILL OCCUR NO SOONER THAN 48 HOURS AFTER BACKFILL OF TRENCH. FIELD CONDITIONS MAY NECESSITATE A LONGER WAIT AS DETERMINED BY THE ENGINEER.

8. AS SOON AS BACKFILL HAS CURED, NOT TO EXCEED 30 CALENDAR DAYS, ASPHALT CONCRETE SHALL BE GROUND AND CAPPED AS FOLLOWS:
   A. WHERE ANGULAR CROSSING OR ANY LENGTH-WISE CUTS OF A BIKE LANE OCCUR BY MICRO-TRENCHING, THE CAPPING LIMITS SHALL EXTEND THE FULL WIDTH OF THE BIKE LANE. PERPENDICULAR CROSSINGS MAY RECEIVE TYPICAL CAPPING WIDTH PER NOTE ABOVE. PAVEMENT MARKINGS SHALL BE RESTORED IN KIND.
   B. EXISTING AC AND BACKFILL SHALL BE GROUND DOWN 1-1/2-INCHES, FOR A WIDTH OF 18-INCHES BUT NO LESS THAN 6-INCHES FROM BOTH EDGES OF THE MICRO-TRENCH AND RESURFACED WITH CONCRETE ASPHALT. WHEN THE CAP LIMIT IS WITHIN 2-FEET OR LESS FROM THE GUTTER FACE, CURB, SLAB OR STRUCTURE, THE CAP LIMIT SHALL EXTEND TO THAT ITEM.
   C. TACK COAT ALL EDGES WITH SS-1H EMULSIFIED.

9. CONNECTION TO SERVICE LATERALS, JUNCTION BOXES, ETC., SHALL BE DONE SUCH THAT CURB AND GUTTER IS NOT DISTURBED, SETTLED OR DAMAGED. REMOVAL LIMITS OF SIDEWALK SHALL FOLLOW APPLICABLE STANDARDS AND REQUIREMENTS AS APPROVED BY THE ENGINEER.

10. THE USE OF HYDRO-JETTING IS NOT PERMITTED. TRENCHLESS METHODS SHALL NOT CREATE A VOID TWO TIMES GREATER THAN CONDUIT. VOID SHALL BE COMPACTED AND BACKFILLED WITH CONTROLLED DENSITY FILL PER SECTION 50 OF THE CITY OF ELK GROVE STANDARD CONSTRUCTION SPECIFICATIONS.
NOTES:
1. STOP SIGN SHALL BE 30" FOR STREET WITH POSTED SPEED LIMIT OF 35 M.P.H. OR LESS AND 36" IF THE POSTED SPEED LIMIT IS 40 M.P.H. OR GREATER.
2. STOP SIGN SHALL BE SUPPLEMENTED WITH R1-3 (3-WAY OR 4-WAY) SIGNS WHERE APPROPRIATE.
3. STRIPOING DETAILS SHALL BE PER STATE PLANS.

TYPICAL SIDEWALK RAMPS WITH CROSSWALK
NOTE:

1. INSTALL GALVANIZED STEEL BOLLARD AS NEEDED PER ENGINEER'S DIRECTION OR AS SPECIFIED ON THE PLANS.
SPEED HUMP (SEE DETAIL BELOW)
BACK OF SIDEWALK
CURB AND GUTTER
EDGE OF PAVEMENT

INSTALL ADVANCE SIGNING. SEE DETAIL BELOW.
INSTALL 8" THERMOPLASTIC WHITE "HUMP" LEGEND (TYP). SEE DETAIL BELOW.
APPLY TEMPORARY REFLECTIVE WHITE FLEXIBLE ROAD TAB @ 3' O.C. AFTER SPEED HUMP IS INSTALLED (TYP).

SIGNING AND STRIPING DETAIL
NOT TO SCALE

PARABOLIC CURVE
3 1/4" - 3 3/4" C

SECTION A-A
NOT TO SCALE

NOTES:
1. INSTALL GALVANIZED STEEL BOLLARD AS NEEDED PER ENGINEER'S DIRECTION OR AS SPECIFIED ON THE PLANS. SEE STANDARD DRAWING NO. T-2A FOR DETAILS.
2. NO UTILITY APPURTENANCES ALLOWED WITHIN FOOTPRINT OF THE SPEED HUMP

SPEED HUMP PLAN VIEW
NOT TO SCALE

STEEL BOLLARD. SEE NOTE 1. (ON ROLLED CURBS ONLY).
CURB AND GUTTER
EDGE OF PAVEMENT

SECTION B-B
NOT TO SCALE

"CHEVRON" PAVEMENT MARKING DETAIL
NOT TO SCALE
"HUMP" PAVEMENT MARKING DETAIL
NOT TO SCALE

APPROVED BY:
CITY ENGINEER
DATE

REVISION BY APPROVED DATE
1 SJB SMA 03-28-2024

CITY OF ELK GROVE - PUBLIC WORKS
APPROVED DATE
DRAWING NUMBER
T - 2B

DATE:
09/22/2017
NOT TO SCALE

APPLY TEMPORARY REFLECTIVE WHITE FLEXIBLE ROAD TAB @ 3' O.C. AFTER SPEED HUMP IS INSTALLED (TYP).
SPEED HUMP
(SEE DETAIL BELOW)
INSTALL "DIAMOND" PAVEMENT
MARKING (TYP). SEE DETAIL BELOW.
BACK OF SIDEWALK
CURB AND GUTTER
EDGE OF PAVEMENT

INSTALL "CHEVRON" PAVEMENT
MARKING (TYP). SEE DETAIL BELOW.
INSTALL ADVANCE SIGNING.
SEE DETAIL BELOW.

100' - 150' ± (TYP)
50' ± (TYP)

APPLY TEMPORARY REFLECTIVE WHITE
FLEXIBLE ROAD TAB @ 3' O.C. AFTER SPEED
HUMP IS INSTALLED (TYP).

INSTALL 8" THERMOPLASTIC
WHITE "HUMP" LEGEND (TYP).
SEE DETAIL BELOW.

DETAIL 22 STRIPE
(26' BOTH SIDES)

DETAIL A-A
NOT TO SCALE

SECTION B-B
NOT TO SCALE

CURB AND GUTTER
12" WHITE
MARKING (TYP)
12" CLEARANCE

"CHEVRON" PAVEMENT
MARKING DETAIL
NOT TO SCALE

"DIAMOND" PAVEMENT
MARKING DETAIL
NOT TO SCALE

CURB AND GUTTER
12' WIDTH

EDGE OF PAVEMENT
VARIES
5'-6"

W (PAVEMENT WIDTH)

PARABOLIC CURVE
3 ¼' - 3 ¾' 

SECTION A-A
NOT TO SCALE

"HUMP" PAVEMENT
MARKING
NOT TO SCALE

NOTES:
1. INSTALL GALVANIZED STEEL BOLLARD AS NEEDED
   PER ENGINEER'S DIRECTION OR AS SPECIFIED ON
   THE PLANS. SEE STANDARD DRAWING NO. T-2A
   FOR DETAILS.
2. NO UTILITY APPURTENANCES ALLOWED WITHIN
   FOOTPRINT OF THE SPEED HUMP

NOT TO SCALE

DATE: 09/22/2017
CITY OF ELK GROVE - PUBLIC WORKS
APPROVED BY: CITY ENGINEER
APPROVED DATE: 05-28-2024
DRAWING NUMBER: T - 2C

ASPHALT SPEED HUMP DETAIL (1)
(W = 26' - 34')

12" WHITE MARKING (TYP)
12" CLEARANCE

10'

8'

15 MPH
W17-1 (MOD)
(30 x 30)

W13-1 (15)
(18 x 18)

SPEED HUMP

EXISTING GROUND

CURB AND GUTTER

EXISTING
GROUND

SIDEWALK

18"

16'

EDGE OF PAVEMENT
CURB AND GUTTER
03-28-2024
INSTALL "DIAMOND" PAVEMENT MARKING (TYP). SEE DETAIL BELOW.

BACK OF SIDEWALK

CURB AND GUTTER

EDGE OF PAVEMENT

INSTALL "CHEVRON" PAVEMENT MARKING (TYP). SEE DETAIL BELOW.

INSTALL ADVANCE SIGNING. SEE DETAIL BELOW.

APPLY TEMPORARY REFLECTIVE WHITE FLEXIBLE ROAD TAB @ 3' O.C. AFTER SPEED HUMP IS INSTALLED (TYP).

SIGNING AND STRIPING DETAIL

NOT TO SCALE

SECTION A-A

NOT TO SCALE

"HUMP" PAVEMENT MARKING

NOT TO SCALE

NOTES:
1. INSTALL GALVANIZED STEEL BOLLARD AS NEEDED PER ENGINEER'S DIRECTION OR AS SPECIFIED ON THE PLANS. SEE STANDARD DRAWING NO. T-2A FOR DETAILS.
2. NO UTILITY APPURTENANCES ALLOWED WITHIN FOOTPRINT OF THE SPEED HUMP.

DATE:  09/22/2017

APPROVED BY:

CITY ENGINEER

DATE:  05-28-2024

APPROVED DATE

REVISION BY APPROVED DATE

1 SJB SMA 03-28-2024

CITY OF ELK GROVE - PUBLIC WORKS

APPROVED DRAWING NUMBER

T - 2D

ASPHALT SPEED HUMP DETAIL (2)
(W = 36' - 44')
INSTALL "CHEVRON" PAVEMENT MARKING. SEE DETAIL BELOW.

APPLY TEMPORARY REFLECTIVE WHITE FLEXIBLE ROAD TAB @ 3' O.C. AFTER SPEED TABLE IS INSTALLED (TYP).

SPEED TABLE PLAN VIEW

STEEL BOLLARD. SEE NOTE 1.
(ON ROLLED CURBS ONLY).

CURB AND GUTTER

EDGE OF PAVEMENT

NOTES:
1. INSTALL GALVANIZED STEEL BOLLARD AS NEEDED PER ENGINEER'S DIRECTION OR AS SPECIFIED ON THE PLANS. SEE STANDARD DRAWING NO. T-2A FOR DETAILS.
2. NO UTILITY APPURTEINANCES ALLOWED WITHIN FOOTPRINT OF THE SPEED TABLE.

APPROVED BY:
CITY ENGINEER
05-28-2024

DATE:
09/22/2017

NOT TO SCALE

CITY OF ELK GROVE - PUBLIC WORKS

ASPHALT SPEED TABLE DETAIL
(W = 26' - 44')

T - 2E

DRAWING NUMBER
SIGN BLANKS: ALL STREET NAME SIGNS SHALL BE 10 INCHES IN HEIGHT, A MINIMUM OF 30 INCHES IN LENGTH AND A MAXIMUM OF 48 INCHES IN LENGTH. SIGN SHALL BE 0.125 INCH THICK, ASTM ALLOY 6061-T6, FLAT ALUMINUM FOR CENTER MOUNTED SIGNS.

SHEETING: REFLECTIVE SHEETING SHALL BE 3M DIAMOND GRADE OR EQUIVALENT (WHITE), OVERLAYED WITH ELECTROCUT (EC) TRANSPARENT OVERLAY FILM (GREEN), NO PRINTED SIGNS ALLOWED.

STREET NAMES: STREET NAMES SHALL BE NO LONGER THAN 14 LETTERS LONG, INCLUDING SPACES AND SHALL BE USED TO DETERMINE SIGN LENGTH AS SPECIFIED ABOVE.

FONTS: ALL LETTERS AND NUMBERS SHALL BE HIGHWAY GOTHIC FONT "D". MINIMUM LETTER DIMENSIONS AS LISTED BELOW ARE TO BE USED WITH LONG STREET NAMES IN ORDER TO FIT NAMES ON SIGN BLANKS.

- UPPER CASE LETTERS FOR STREET NAMES: 4 INCHES
- LOWER CASE LETTERS FOR STREET NAMES: 3 INCHES
- UPPER CASE LETTERS FOR STREET TYPES (I.E. BLVD, WAY, RD, ST): 2 INCHES

CITY LOGO: CITY LOGO SHALL BE 5 INCHES IN DIAMETER ELECTROCUT (EC) FILM. A COPY OF THE LOGO CAN BE OBTAINED FROM THE ASSISTANT CITY CLERK.

COLORS: STREET NAME SIGN COLORS SHALL BE AS FOLLOWS:
- BACKGROUND: GREEN
- TEXT: WHITE
- BORDER: WHITE
- CITY LOGO: WHITE

LAYOUT: SIGNS SHALL BE DOUBLE FACED (FRONT AND REAR). LAYOUT SHALL BE AS SHOWN ABOVE.
SIGN BLANKS: ALL STREET NAME SIGNS SHALL BE 10 INCHES IN HEIGHT, A MINIMUM OF 30 INCHES IN LENGTH AND A MAXIMUM OF 48 INCHES IN LENGTH. SIGN SHALL BE 0.125 INCH THICK, ASTM ALLOY 6061-T6, FLAT ALUMINUM FOR CENTER MOUNTED SIGNS.

SHEETING: REFLECTIVE SHEETING SHALL BE 3M DIAMOND GRADE OR EQUIVALENT (WHITE), OVERLAYERED WITH ELECTROCUT (EC) TRANSPARENT OVERLAY FILM (GREEN). NO PRINTED SIGNS ALLOWED.

STREET NAMES: STREET NAMES SHALL BE NO LONGER THAN 14 LETTERS LONG, INCLUDING SPACES AND SHALL BE USED TO DETERMINE SIGN LENGTH AS SPECIFIED ABOVE.

FONTS: ALL LETTERS AND NUMBERS SHALL BE HIGHWAY GOTHIC FONT "D". MINIMUM LETTER DIMENSIONS AS LISTED BELOW ARE TO BE USED WITH LONG STREET NAMES IN ORDER TO FIT NAMES ON SIGN BLANKS.

- UPPER CASE LETTERS FOR STREET NAMES: 4 INCHES
- LOWER CASE LETTERS FOR STREET NAMES: 3 INCHES
- UPPER CASE LETTERS FOR STREET TYPES (I.E. BLVD, WAY, RD, ST): 2 INCHES
- UPPER CASE LETTERS FOR "VETERAN", "POLICE", "FIRE FIGHTER": 3/4 INCHES
- UPPER CASE LETTERS FOR "HONORING THOSE ...........SERVED": 3/8 INCHES

VETERAN/POLICE/FIRE FIGHTER STREET NAME SIGN: NAMING STREET NAME SIGN AND INSTALLATION EFFORTS MUST BE COORDINATED WITH THE CITY PUBLIC WORKS. FOR MORE INFORMATION, CALL 916.887.3005

COLORS: STREET NAME SIGN COLORS SHALL BE AS FOLLOWS:
- BACKGROUND: GREEN
- TEXT: WHITE
- BORDER: WHITE
- FLAG: WHITE BACKGROUND

LAYOUT: SIGNS SHALL BE DOUBLE FACED (FRONT AND REAR). LAYOUT SHALL BE AS SHOWN ABOVE.
SIGN BLANKS: ALL STREET NAME SIGNS SHALL BE 10 INCHES IN HEIGHT, A MINIMUM OF 30 INCHES IN LENGTH AND A MAXIMUM OF 48 INCHES IN LENGTH. SIGN SHALL BE 0.125 INCH THICK, ASTM ALLOY 6061-T6, FLAT ALUMINUM FOR CENTER MOUNTED SIGNS.

SHEETING: REFLECTIVE SHEETING SHALL BE 3M DIAMOND GRADE OR EQUIVALENT (WHITE), OVERLAYED WITH ELECTROCUT (EC) TRANSPARENT OVERLAY FILM (GREEN). NO PRINTED SIGNS ALLOWED.

STREET NAMES: STREET NAMES SHALL BE NO LONGER THAN 14 LETTERS LONG, INCLUDING SPACES AND SHALL BE USED TO DETERMINE SIGN LENGTH AS SPECIFIED ABOVE.

FONTS: ALL LETTERS AND NUMBERS SHALL BE HIGHWAY GOTHIC FONT "D". MINIMUM LETTER DIMENSIONS AS LISTED BELOW ARE TO BE USED WITH LONG STREET NAMES IN ORDER TO FIT NAMES ON SIGN BLANKS.

- UPPER CASE LETTERS FOR STREET NAMES: 4 INCHES
- LOWER CASE LETTERS FOR STREET NAMES: 3 INCHES
- UPPER CASE LETTERS FOR STREET TYPES (I.E. BLVD, WAY, RD, ST): 2 INCHES

CITY LOGO: CITY LOGO SHALL BE 5 INCHES IN DIAMETER ELECTROCUT (EC) FILM. A COPY OF THE LOGO CAN BE OBTAINED FROM THE ASSISTANT CITY CLERK.

COLORS: STREET NAME SIGN COLORS SHALL BE AS FOLLOWS:
- BACKGROUND: GREEN
- TEXT: WHITE
- BORDER: WHITE
- CITY LOGO: WHITE

LAYOUT: SIGNS SHALL BE DOUBLE FACED (FRONT AND REAR). LAYOUT SHALL BE AS SHOWN ABOVE.
NOTES:

1. STREET NAME SIGNS SHALL BE INSTALLED ON STREET LIGHT POLES WHEN THEY ARE LOCATED WITHIN THE LOCATION LIMITS DEFINED ON THIS DETAIL.

2. THE LOCATION FOR SECOND SIGN SHALL BE USED ONLY WHEN 2 (TWO) SETS OF STREET NAME SIGNS ARE REQUIRED AS SHOWN IN STANDARD DRAWING NUMBER T-6A.

3. ALL OTHER STREET NAME SIGN REQUIREMENTS IN SECTIONS 4-21 AND 4-22 OF THE CITY IMPROVEMENT STANDARDS AND CITY STANDARD DRAWINGS T-3, T-3.1, T-4, T-5B, T-6A AND T-6B SHALL APPLY.
CANTILEVER TWO-SIDED SIGNS SHALL BE MOUNTED ON SIGNAL POLES AND LUMINAIRE POLES AWAY FROM THE CROSS STREET WITH 30-INCH BRACKETS, TOP AND BOTTOM, (SEE NOTE). BRACKETS SHALL BE FASTENED TO POLES WITH TWO (2) 0.750 INCH WIDE BY 0.30 INCH THICK TYPE 201 STAINLESS STEEL BANDS WITH HEAVY DUTY BUCKLE AND A MINIMUM OF TWO (2) VANDAL PROOF SCREWS SHALL AFFIX THE STREET SIGN TO THE BRACKET. THE SCREWS SHALL PASS THROUGH THE BRACKET AND SIGN. AT LOCATIONS WITH TWO (2) SIGNS, ONE PERPENDICULAR TO THE CENTERLINE OF EACH ROADWAY, THE SIGNS SHALL EACH HAVE TWO (2) BANDS AFFIXING THE BRACKET TO THE POLE. ONE SIGN WILL BE BELOW THE OTHER SIGN.

NOTE:
1. BRACKETS SHALL BE 30-INCH IN LENGTH, TOP AND BOTTOM OF SIGN, AND SHALL BE ASSEMBLED BY ATTACHING AN EXTRUDED ALUMINUM HEAD TO AN EXTENDED ALUMINUM "T" CHANNEL. THE BRACKET SHALL BE MADE FROM 6082-T6 ALUMINUM WITH "T" SECTION SHALL BE MADE FROM 6062-T6 ALUMINUM. THESE CANTILEVER ASSEMBLIES SHALL ACCOMMODATE UP TO 3/4" INCH STAINLESS STEEL BANDING THAT CAN BE DOUBLE WRAPPED FOR MOUNTING. THE CANTILEVER ARM SYSTEM SHALL ACCEPT SIGNS UP TO 0.125-INCH THICK. CANTILEVER ARMS SHALL BE ATTACHED TO BOTH THE TOP AND BOTTOM OF SIGN. CANTILEVER ARMS SHALL BE DESIGNED TO SUPPORT UP TO A SIGN AREA OF 6-SQ. FT. COLOR OF CANTILEVER ASSEMBLY AND BANDS SHALL MATCH POLE COLOR.
LEGEND:

STREETS HAVING 80' OR GREATER R/W WIDTH

STREETS HAVING LESS THAN 80' R/W WIDTH

NOTE:

1. SIDE STREETS INDICATED ARE STREETS WITH R/W WIDTHS EQUAL TO OR LESS THAN R/W WIDTH FOR THROUGH STREET

2. STREET SIGNS ARE TO BE LOCATED AT MID-RETURN APPROXIMATELY 30 INCHES BEHIND THE FACE OF CURB OR 6" BEHIND ATTACHED SIDEWALKS. SEE STANDARD DRAWING T-1 WHEN COMBINED WITH A STOP SIGN.

3. SIGNS SHALL BE INSTALLED ON NORTHEAST AND SOUTHWEST CORNERS OF INTERSECTIONS. SIGNS SHALL BE INSTALLED ON STREET LIGHTING STANDARD WHEN APPROPRIATE AND AS APPROVED BY CITY.

4. CITY TO REVIEW AND APPROVE SIGN LOCATIONS PRIOR TO INSTALLATION.

5. SEE STANDARD DRAWINGS T-1, T-3, T-4, T-5A, T-5B, AND T-6B.

STANDARD STREET NAME SIGN INSTALLATION. FOUR (4) SIGN PLATES ON POST OR ON STREET LIGHT POLE.

THREE (3) SIGN PLATES ON POST OR ON STREET LIGHT POLE.
1. BOTTOM OF LOWEST STREET SIGN TO BE MOUNTED EIGHT (8) FEET ABOVE THE GROUND OR SIDEWALK PER DETAIL "A" SHOWN ON THIS SHEET EXCEPT, WHEN STOP SIGN IS MOUNTED ON SAME POST AS A STREET SIGN, BOTTOM OF STOP SIGN SHALL BE MOUNTED SEVEN (7) FEET ABOVE THE GROUND OR SIDEWALK AND STREET NAME SIGN TO BE MOUNTED DIRECTLY ABOVE THE STOP SIGN. IN NO CASE SHALL THE BOTTOM OF THE LOWEST SIGN BE LESS THAN SEVEN (7) FEET ABOVE THE GROUND OR SIDEWALK LEVEL.

2. USE TWO DRIVE RIVETS TO FASTEN ASSEMBLED SIGN AND SIGN POST INTO ANCHOR SLEEVE. INSTALL DRIVE RIVETS OR FASTENER ALTERNATIVE INTO THE SIDES FACING TRAFFIC.

3. PSST SIGN POST, ANCHOR POST, AND SLEEVE SHALL BE GALVANIZED AND OF THE SAME GAUGE.

4. PSST SIGN POST PER STANDARD SPECIFICATIONS.

5. SLEEVE PLACE IN CONCRETE SHALL BE SOLID WITH ONLY ONE HOLE AT THE TOP FOR DRIVE RIVET OR FASTENER.

6. SHALL BE 90°, HAWKINS PART NUMBER V14F-(HD)SL-105(90)-0.125 (OR EQUAL). STREET LIGHT STANDARD BRACKET SHALL BE HAWKINS, WING BRACKET, PART NO. V14F-(HD)SL-AB-0.125 OR EQUAL.
NOTES:
1. BALANCED PSST POST INSTALLATIONS OF SIGN PANEL REQUIRE BACK BRACES WHEN 3' - 0" OR MORE IN LENGTH.
2. WOOD BLOCK SPACERS ARE NOT REQUIRED FOR SIGNS MOUNTED ON PSST POST.
3. ATTACH RECTANGULAR SIGN PANEL TO PSST POST AT THE TOP, BOTTOM, AND CENTER.
4. ATTACH DIAMOND SIGN PANEL TO PSST POST AT TOP, BOTTOM, AND CENTER.

PERFORATED SQUARE STEEL TUBE (PSST)

MAX DIAMOND SIGN PANEL = 42" x 42"

MAX LENGTH, RECTANGULAR SIGN PANEL = 48"

SINGLE POST INSTALLATION

BALANCED SEE NOTE 3

SEE NOTE 4

BALANCED

PLAN

WITH FLAT WASHERS, FIBER WASHER, 3/8" Ø HOLE FOR 5/16" Ø HEX HEAD BOLT LOCK WASHERS AND NUTS OR 3/8" DRIVE RIVET

ELEVATION

BACK BRACE DETAIL

SEE NOTE 1

BACK BRACE MOUNTING DETAIL

SEE NOTE 1

FLAT WASHER, LOCK WASHER, AND NUT

SIGN PANEL

FLAT WASHER, LOCK WASHER, AND NUT

BACK BRACE

FLAT WASHER, LOCK WASHER, AND NUT

FLAT WASHER, LOCK WASHER, AND NUT

FLAT WASHER, LOCK WASHER, AND NUT

FLAT WASHER, LOCK WASHER, AND NUT

5/16" Ø HEX HEAD BOLT, OR 3/8" DRIVE RIVET

1/4" Ø HEX HEAD BOLT

FIBER WASHER

FIBER WASHER

FIBER WASHER

FIBER WASHER

FIBER WASHER

FIBER WASHER

CITY OF ELK GROVE - PUBLIC WORKS

SIGN BACK BRACING

T - 6C

APPROVED BY:

CITY ENGINEER

DATE

05-08-2024

DRAWING NUMBER

04/23/2024

NOT TO SCALE

DATE

05-08-2024

APPROVED

CITY ENGINEER

DATE

T - 6C
BIKE LOOP INSTALLATION AT MAJOR INTERSECTION WITH RIGHT TURN LANE

SUPPLEMENTAL LIMIT LINE

BIKE LOOP DETECTOR DETAIL
NOT TO SCALE

NOTES:

1. BIKE LOOP SHALL BE INSTALLED WITH CONDUIT, DETECTOR HANDHOLE (DH) AND DETECTOR LEAD IN CABLE (DLC) AND CONNECTED IN CONTROLLER WITH SEPARATE CHANNEL FOR OPERATION, UNLESS OTHERWISE NOTED ON THE PLANS.

2. FOR BIKE LANE WITH LESS THAN 3 FEET IN WIDTH, MEASURING FROM BIKE LANE STRIPE AND LIP OF GUTTER, USE 3/4 SIZE OF BIKE LANE LEGEND.

3. BIKE LANE LEGENDS, ARROWS AND BIKE DETECTION SYMBOLS SHALL BE 2 COATS WATER BASED WHITE PAINT PER SECTION 84-2.02 OF THE STATE STANDARD SPECIFICATIONS.

4. BIKE DETECTION SYMBOL SHALL BE INSTALLED ON LOOP DETECTOR FOR LEFT TURN LANE, BIKE LANE AND OUTSIDE THROUGH LANE WHERE NO BIKE LANE IS PROPOSED. FOR DUAL LEFT TURN LINES, ONLY THE OUTSIDE LEFT TURN LANE SHALL BE INSTALLED WITH BIKE DETECTION SYMBOL. COORDINATE WITH SIGNAL CONTRACTOR AND CITY INSPECTOR FOR EXACT LOCATION OF DETECTION.

BIKE LOOP INSTALLATION ADJACENT TO CURB AND GUTTER

SUPPLEMENTAL LIMIT LINE

BIKE DETECTION SYMBOL DETAIL
NOT TO SCALE

BIKE LANE LEGEND DETAIL
NOT TO SCALE

SEE THE CURRENT VERSION OF THE CALIFORNIA MUTCD FOR PAVEMENT MARKING, ARROW, AND LEGEND
1. SELF CONTAINED SOLAR ENGINE THAT HOUSES THE ENERGY MANAGEMENT SYSTEM, ON BOARD USER INTERFACE, WIRELESS COMMUNICATIONS BETWEEN UNITS, BATTERIES AND SOLAR PANEL.

2. RECTANGULAR RAPID FLASHING BEACON (RRFB) INDICATIONS SHALL FLASH IN A RAPID ALTERNATING "WIG-WAG" FLASHING SEQUENCE. RRFB SHALL BE EITHER MODEL 2180-RRFB-XL BY TAPCO TRAFFIC AND PARKING CONTROL CO. INC, MODEL R920 BY CARMANAH TECHNOLOGIES CORP., OR MODEL TS60-RRFB BY TRAFFIC SAFETY CORP., OR APPROVED EQUAL.

3. PEDESTRIAN PUSH BUTTON (PPB) SHALL BE TYPE B, LARGE A.D.A. TYPE WITH TWO-INCH DIA. BUTTON. PPB HOUSING SHALL BE EITHER DIE-CAST OR PERMANENT MOLD CAST ALUMINUM. PEDESTRIAN SIGN SHALL CONFORM TO STANDARD SIGN R10-25 OF THE CALIFORNIA MUTCD.

4. INSTALL RRFB IN THE MEDIAN ISLAND WHEN APPLICABLE (EXCLUDING W16-7P SIGN PLATE).

5. CROSSWALK STRIPE SHALL BE EITHER YELLOW OR WHITE AS DIRECTED BY THE ENGINEER OR DETAILED ON THE PLANS.
AT THE DISCRETION OF PUBLIC WORKS

1. ADJACENT TO SCHOOLS OR PARKS WIDEN THE SIDEWALK TO 8'. IF PARKING IS NOT NEEDED, PARKING CAN BE CHANGED TO 6' BIKE LANE. IF BIKE LANES ARE NEEDED, ADD 12'.

2. 8' OF LANDSCAPING SEPARATING THE STREET FROM THE SIDEWALK MAY BE ADDED.

3. IF PARKING IS NOT NEEDED, IT MAY BE REMOVED. MINIMUM RIGHT-OF-WAY SHALL BE 40 FEET. ADJACENT TO SCHOOLS OR PARKS WIDEN THE SIDEWALK TO 8'. IF PARKING IS NOT NEEDED, PARKING CAN BE CHANGED TO 6' BIKE LANE.

4. IF BIKE LANES ARE NOT NEEDED, REDUCE BY 11'.

5. LANDSCAPING AND SIDEWALK SHALL BE DEDICATED BY FEE TITLE OR LANDSCAPE/PEDESTRIAN EASEMENT AS APPROVED BY THE DIRECTOR.

MINOR DEVIATION MAY BE APPROVED BY THE DIRECTOR.
AT THE DISCRETION OF PUBLIC WORKS

1. ADJACENT TO SCHOOLS OR PARKS WIDEN THE SIDEWALK TO 8'.
2. LANDSCAPING AND SIDEWALK SHALL BE DEDICATED BY FEE TITLE OR LANDSCAPE/PEDESTRIAN EASEMENT AS APPROVED BY THE DIRECTOR.

MINOR DEVIATION MAY BE APPROVED BY THE DIRECTOR.
NOTE:

1. OTHER STRUCTURAL SECTIONS MAY BE USED WITH SPECIFIC APPROVAL OF THE DIRECTOR (SEE SECTION 4-5 OF THE IMPROVEMENT STANDARDS).
1. Chain link fencing shall be 3 ft. high with a 1-1/4" diameter top rail within the building setback line and 6 ft. high outside of the building setback line. Chain link fencing shall be in accordance with Section 45 of the standard specifications. Street lights shall be placed at both ends of the pedestrian lane.
NOTES:

1. SEE STATE STANDARD PLAN ES-2D AND ES-3C FOR STANDARD ANCHOR BOLT PATTERNS AND SIZES.

2. IN UNPAVED AREAS, A RAISED PORTLAND CEMENT PAD SHALL BE CONSTRUCTED IN FRONT OF THE FRONT DOOR OF THE CONTROLLER CABINET (50" W x 48" D x 4" THICK).

3. FRONT DOOR OF THE CONTROLLER CABINET SHALL FACE NORTH OR EAST, WHENEVER FEASIBLE. THE FINAL LOCATION OF THE CONTROLLER CABINET AND SERVICE CABINET SHALL BE APPROVED BY THE CITY ENGINEER.
SIGNAL POLE

IISNS SUPPORT ARM
SEE DETAIL T-14

ALIGN IISNS BRACKET 2" FROM END OF ARM

END CAP

INTERNALLY ILLUMINATED STREET NAME SIGN (IISNS) (EDGE-LIT LED)
SEE SECTION 49-6.03 OF THE CITY STANDARD CONSTRUCTION SPECIFICATIONS

VEHICLE SIGNAL HEAD (TYP)

SIGNAL MAST ARM

Main St

MOUNTING HEIGHT:
25' TO BASE PLATE OR AS DIRECTED BY THE ENGINEER IN THE FIELD
IISNS SUPPORT ARM
(N.T.S.)

3-1/2" O.D.
(NON-TAPERED)

2-PIECE CLAMP
SEE DETAIL "A"

2'-8" (8' IISNS)
4'-2" (6' IISNS)

WELD ARM TO CLAMP
AT ANGLE THAT WILL
PROVIDE HORIZONTAL
ORIENTATION

REMOVABLE
CAP

1/2" COUPLING ON BOTTOM
(FOR SIGN WIRING)

MOUNTING HEIGHT:
25' TO BASE PLATE OR
AS DIRECTED BY THE
ENGINEER IN THE FIELD

SAME AS OUTSIDE
DIAM OF POLE USED

13/16" DIAM HOLES
(TYP 4-PLACES)

3/8" THICK

1/4" P CLAMP

DETAIL B

CLAMP DETAILS
(N.T.S.)

DETAIL A

BASE CLAMP

EXISTING POLE

5/8" DIAM WITH 2 TO 3
THREADS SHOWING
A325 BOLTS
(TYP 4-PLACES)

7/8" ± 1/4"

1/4" R CLAMP

1/4" R

2" DIAM
DEBURRED
HOLE IN
CLAMP

1" DIAM HOLE WITH
CHASE NIPPLE IN
POLE (TO BE DRILLED
ON SITE)

3/8" DRILL
FOR GALV
DRAIN

3/8" THICK

3/4" R

1-1/8"

14-3/4"

12-1/2"

12"

8"

6"

2"

2"

DEBURRED
HOLE IN
CLAMP

SEE DETAIL "B"

TYPICAL CLAMP DETAIL

GENERAL NOTES

MATERIAL SPECIFICATIONS

SHAFT
STEEL OF 40,000 PSI MINIMUM
YIELD AFTER FABRICATION

CLAMP PLATE
ASTM A-572 GR. 50 STEEL

MANUFACTURING PROCESS

LONGITUDINAL WELDS
ALL WELDS SHALL CONFORM TO
AWS D1.1 WELD SPECIFICATION

FINISH COATING

STRUCTURE
HOT DIP GALVANIZED PER
ASTM A-123

HARDWARE
HOT DIP GALVANIZED PER
ASTM A-153

DESIGN CRITERIA

STRUCTURE, HARDWARE, AND
WELDING
IN ACCORDANCE WITH THE
"SPECIFICATIONS FOR
STRUCTURAL SUPPORTS OF
HIGHWAY SIGNS, LUMINAIRES
AND TRAFFIC SIGNALS",
AASHTO 1994

CITY OF ELK GROVE - PUBLIC WORKS

T - 14

APPROVED BY:

10/24/2018

CITY ENGINEER

DRAWING NUMBER

09/22/2007

NOT TO SCALE

TYPICAL CLAMP DETAIL

09/22/2007

REVISION
BY
APPROVED
DATE

CITY ENGINEER

REVISION

DATE

APPROVED

TYPICAL CLAMP DETAIL
## Conduit Sizing

<table>
<thead>
<tr>
<th>Conductor</th>
<th>Equivalent Number of #14 A.W.G. Conductors for Use in Conduit Sizing</th>
</tr>
</thead>
<tbody>
<tr>
<td>#12 Conductor</td>
<td>1.2</td>
</tr>
<tr>
<td>#10 Conductor</td>
<td>1.5</td>
</tr>
<tr>
<td>#8 Conductor</td>
<td>2.3</td>
</tr>
<tr>
<td>#6 Conductor</td>
<td>3</td>
</tr>
<tr>
<td>#4 Conductor</td>
<td>4</td>
</tr>
<tr>
<td>#2 Conductor</td>
<td>5.3</td>
</tr>
<tr>
<td>#0 Conductor</td>
<td>11.5</td>
</tr>
<tr>
<td>Interconnect Cable</td>
<td>18</td>
</tr>
<tr>
<td>Detector Lead-In Cable</td>
<td>2.5</td>
</tr>
<tr>
<td>Emergency Vehicle Detector Cable</td>
<td>2</td>
</tr>
</tbody>
</table>

### Conduit Size and Maximum Number of #14 A.W.G. Conductors

<table>
<thead>
<tr>
<th>Conduit Size</th>
<th>2&quot;</th>
<th>2.5&quot;</th>
<th>3&quot;</th>
<th>3.5&quot;</th>
<th>4&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Number of #14 A.W.G. Conductors</td>
<td>31</td>
<td>44</td>
<td>69</td>
<td>91</td>
<td>113</td>
</tr>
</tbody>
</table>

*Note: Minimum size for new conduits is 2".*

## Service Wire Maximum Lengths for Traffic Signals

<table>
<thead>
<tr>
<th>Wire Size</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>#0</td>
<td>576'</td>
</tr>
<tr>
<td>#2</td>
<td>360'</td>
</tr>
<tr>
<td>#4</td>
<td>224'</td>
</tr>
</tbody>
</table>

## Circuit Breaker Sizing

<table>
<thead>
<tr>
<th>Conductor Size A.W.G.</th>
<th>Maximum Circuit Breaker Amperage</th>
</tr>
</thead>
<tbody>
<tr>
<td>#2</td>
<td>100</td>
</tr>
<tr>
<td>#4</td>
<td>80</td>
</tr>
<tr>
<td>#6</td>
<td>50</td>
</tr>
<tr>
<td>#8</td>
<td>40</td>
</tr>
<tr>
<td>#10</td>
<td>30</td>
</tr>
</tbody>
</table>

*Note: The breaker size shall be determined by the load requirements. Minimum breaker size is 30 amps.*
TYPICAL LOOP INSTALLATION

1. **ALL LOOP WORK SHALL CONFORM TO THE LATEST VERSION OF SECTION 49-5 "DETECTOR" OF THE CITY OF ELK GROVE STANDARD CONSTRUCTION SPECIFICATIONS AND STANDARD DRAWINGS.**
2. **SEE CURRENT STATE STANDARD PLANS E5-5 SERIES FOR ADDITIONAL DETAILS.**
4. **NEW OR REPLACEMENT LOOP SHALL BE MARKED ON PAVEMENT AND THEIR LOCATION APPROVED BY THE ENGINEER, PRIOR TO PAVEMENT CUTTING.**
5. **LOOP INSTALLATION SHALL INCLUDE NEW CONDUIT, DETECTOR HANDHOLE (DH) AND DETECTOR LEAD IN CABLE (DLC), UNLESS OTHERWISE NOTED ON THE PLANS.**
6. **EACH DETECTOR LOOP IN EACH TRAVEL LANE SHALL BE INSTALLED WITH ITS OWN DETECTOR LEAD IN CABLE AND CONNECTED IN CONTROLLER WITH SEPARATE DETECTOR CHANNEL FOR OPERATION, UNLESS OTHERWISE NOTED ON THE PLANS;**
7. **DETECTOR LEAD IN CABLES SHALL BE CONTINUOUS WITHOUT SPLICES BETWEEN LOOP TERMINATION PULL BOX AND CONTROLLER.**
8. **LOOP INSTALLATION 250' OR MORE FROM STOP BAR SHALL HAVE 4 Turns.**
9. **DETECTOR LOOP CONDUCTOR SHALL BE TYPE RHW-USE NEOPRENE-JACKETED OR TYPE USE CROSSLINKED POLYPROPYLENE INSULATED NO. 12 STRANDED COPPER WIRE. CONDUCTOR INSULATION THICKNESS SHALL BE FORTY (40) MILS MINIMUM.**
10. **DISTANCE BETWEEN SIDE OF LOOP AND LEAD-IN SAW CUT SHALL BE 1'-0" MINIMUM.**
11. **LOOPS AND LEAD-IN CUTS SHALL BE LOCATED A MINIMUM OF 2 FEET FROM THE NEAREST EDGE OF MANHOLE COVER OR VALVE BOX.**
12. **WIDTH OF SAW CUTS SHALL BE 1/4" WIDER THAN THICKNESS OF THE CONDUCTOR.**
13. **DEPTH OF SAW CUTS SHALL BE SUCH THAT THE MINIMUM SEALANT COVER SHALL BE 1/2" WITH AN ADDITIONAL 1/8" TO 1/4" GAP BETWEEN TOP OF SEALANT AND SURFACE OF PAVEMENT.**
14. **TEST EACH LOOP CIRCUIT AT CONTROLLER CABINET (OR, IF THESE ARE NOT INSTALLED, TEST AT TERMINATION PULL BOX) BEFORE FILLING SLOTS. PERFORM A RESISTANCE TEST BETWEEN EACH CIRCUIT AND GROUND. INSULATION RESISTANCE SHALL NOT BE LESS THAN 100 MEGOHMS.**
15. **LOOP CIRCUIT RESISTANCE SHALL NOT EXCEED 0.5 OHMS PLUS 0.35 OHMS PER 100 FEET OF LEAD-IN CABLE.**
16. **SEALANT FOR LOOP DETECTORS SHALL BE 3M 5000 OR APPROVED EQUAL ELASTOMERIC SEALANT.**
17. **CONDUIT BETWEEN DETECTOR HANDHOLE AND PULL BOX SHALL BE INSTALLED 30" MINIMUM BELOW ROADSIDE DITCH OR SWALE.**
18. **ANY DAMAGE TO EXISTING LOOPS, DETECTOR HANDHOLE, CONDUIT AND DETECTOR LEAD IN CABLE SHALL BE REPLACED PER THE REQUIREMENTS SET FORTH IN THIS DETAIL.**
INSTALLATION REQUIREMENTS:

1. 18" SQ.± P.C.C. ENCASEMENT OUTLINE SHALL BE SAW CUT TO A MINIMUM DEPTH OF 3", EXCEPT WHERE AC OVERLAY IS TO BE PLACED.

2. THE PRECAST VALVE BOX WITH CAST IRON LID SHALL BE FABRICATED OF CALCIUM CARBONATE AND POLYESTER RESINS WITH FIBERGLASS REINFORCING AND DESIGNED FOR HEAVY TRAFFIC LOADS.

3. CAST IRON LID SHALL BE MARKED "DETECTOR" AND SHALL BE SECURED IN PLACE BY APPLYING SILICONE SEALANT. VALVE BOX LOCATION SHALL BE AS SHOWN ON THE PLANS.

4. THE EXCAVATION AROUND THE HANDHOLE SHALL BE BACKFILLED WITH 5 SACK P.C.C.

5. THE HANDHOLE SHALL BE PROTECTED WITH COLD PATCH OR OTHER SUITABLE PROTECTION UNTIL PERMANENT A.C. BACKFILL IS PLACED.

6. THE CEMENT USED TO JOIN THE ABS SWEEP "Y" TO THE PVC CONDUIT SHALL BE CAPABLE OF PROVIDING SOLVENT TYPE WELD BETWEEN THE TWO MATERIALS.
GENERAL INSTALLATION NOTES - ALL CABINETS

1. ALL CABINET DIMENSIONS ARE NOMINAL.
2. FOUNDATION SHALL BE LOCATED AS SHOWN ON PLANS. WHERE INSTALLED IN SIDEWALK PLACE AT BACK OF WALK AND PROVIDE 48" MINIMUM CLEARANCE BETWEEN FACE OF CURB AND FRONT OF CABINET.
3. ONE ANCHOR BOLT SHALL BE BONDED TO CONDUIT OR GROUND WIRE.
4. SERVICE CAN, CONTROLLER CABINET, AND TERMINAL CABINET (IF NECESSARY) SHALL BE ON A COMMON FOUNDATION WITH 6" SPACING, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. THE SERVICE CAN SHALL BE TO THE LEFT OF THE CONTROLLER CABINET SO AS TO NOT BE BLOCKED BY CONTROLLER CABINET DOOR WHEN FULLY OPEN.
5. APPROVED WATERPROOF SEAL TO BE APPLIED TO BASE OF CABINETS AND CONCRETE FOUNDATION.
6. IN UNIMPROVED AREAS A RAISED P.C.C. PAD OF 36" X 30" X 4" SHALL BE PLACED IN FRONT OF EACH CABINET.
7. IN ALL UNPAVED AREAS TOP OF FOUNDATION FOR CABINETS SHALL BE 6" ABOVE SURROUNDING GRADE. IN PAVED AREAS TOP OF FOUNDATION SHALL BE 3" ABOVE PAVED AREA.
8. ANCHOR BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED.
9. ALL CONDUITS SHALL BE BOUNDED TOGETHER IN THE CABINET.
10. LOCATIONS SHOWN FOR EQUIPMENT ARE TYPICAL ONLY.
11. A 1/2" DIAMETER DRAIN HOLE SHALL BE FORMED IN THE CABINET BASE. ALL CABINETS SHALL BE LEVELED SO THAT THE CABINET DOOR WILL OPEN AND CLOSE EASILY.

CONCRETE FOUNDATION 20" W X 12" D X 24" W (TOP 3" ABOVE FINISHED GRADE)

1/2" X 18" GALVANIZED ANCHOR ROD (4 REQUIRED. DOES NOT INCLUDE 4" 90° BEND)

1/2" X 8' COPPERWALD OR EQUAL GROUND ROD WITH GROUND CLAMP

FILL WITH P.C.C.

TOP OF PEDESTAL SHALL BE LARGE ENOUGH TO PROVIDE 3/8" CLEARANCE ALL AROUND CABINET BASE. CHAMFER EDGE 3/8" X 3/8"

ANCHOR BOLTS AND INSTALLATION PER MANUFACTURER'S TEMPLATE

8" MIN. CLEARANCE BETWEEN CONDUIT FITTINGS AND BACK OF CABINET

SECTION A-A

PANO HINGE LOCATION DEAD FRONT PANEL (PANEL TO BE OPEN AT LEAST 90° FROM CLOSE POSITION)

SECTION B-B

3/4" X 3/4" ANGLE ON TWO (2) SIDES

SECTION C-C

TOP OF PEDESTAL SHALL BE LARGE ENOUGH TO PROVIDE 3/8" CLEARANCE ALL AROUND CABINET BASE. CHAMFER EDGE 3/8" X 3/8"

ANCHOR BOLTS AND INSTALLATION PER MANUFACTURER'S TEMPLATE

8" MIN. CLEARANCE BETWEEN CONDUIT FITTINGS AND BACK OF CABINET

DATE: 09/22/2007  NOT TO SCALE

REVISION BY APPROVED DATE
1 SJB SMA 03-28-2024

INTERCONNECT TERMINAL CABINET AND PEDESTRIAN SIGNAL CONTROLLER CABINET DETAILS

CITY OF ELK GROVE - PUBLIC WORKS

APPROVED BY: 05-28-2024

CITY ENGINEER

DRAWING NUMBER T - 18
ACCESSIBLE PEDESTRIAN SIGNAL SYSTEM

NOTES:

1. ACCESSIBLE PEDESTRIAN SIGNAL SYSTEM SHALL BE POLARA'S NAVIGATOR 2-WIRE SYSTEM OR APPROVED EQUIVALENT.

2. PEDESTRIAN SIGNS SHALL BE METAL AND SHALL CONFORM TO STANDARD SIGN NO. R10-4b (9" x 12") OF THE CALIFORNIA MUTCD.

3. PEDESTRIAN PUSH BUTTON HOUSING SHALL BE EITHER DIE-CAST OR PERMANENT MOLD CAST ALUMINUM.

4. ALL PEDESTRIAN SIGNAL HEADS SHALL BE THE "COUNTDOWN" VARIETY.

5. PEDESTRIAN HEADS SIGNAL DISPLAY SHALL BE LISTED ON THE AUTHORIZED MATERIALS LIST FOR TRAFFIC SIGNAL CABINETS AND COMPONENTS.
NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MOUNTING THE CAMERA ENCLOSURE ASSEMBLY AND POSITIONING IT AS DIRECTED BY THE ENGINEER. ALL MOUNTING EQUIPMENT AND MOUNTING METHODS SHALL BE AS SPECIFIED BY THE CAMERA MANUFACTURER.

2. WHERE CAMERAS ARE INSTALLED NEAR SIGNALIZED INTERSECTIONS, CAMERA CABLES/CONDUCTORS SHALL BE INSTALLED AND TERMINATED IN THE CONTROLLER CABINET WHERE ACTELIS SWITCH IS LOCATED.

CCTV IP DOME CAMERA (SIGNAL POLE MOUNTED)
NOT TO SCALE

**IN THE EVENT THE STREET NAME INCLUDES A LOWER CASE LETTER g, j, p, q, or y, THE TOP AND BOTTOM BUFFER DISTANCES SHALL BE ADJUSTED TO 2.25" and 5.75", RESPECTIVELY.**

**IN THE EVENT THE STREET NAME INCLUDES A LOWER CASE LETTER g, j, p, q, or y, THE SPECIAL DOUBLE-NAME SIGN LAYOUT SHALL BE RECONFIGURED AS FOLLOWS: USE AN EIGHT INCH LETTER FOR UPPER CASE LETTERS AND SIX INCH LETTER FOR LOWER CASE LETTERS, REDUCE THE SPACING BETWEEN THE 1" BORDER AND THE WORD TO 1.25", AND CENTER THE WORD VERTICALLY.
NOTES FOR TRAFFIC-SIGNAL-ARM SIGN MOUNTING:

1. ALL MATERIAL FURNISHED SHALL BE RUST RESISTANT. ALL SIGN HARDWARE SHALL BE ALUMINUM AND ANY MOVING PARTS MUST BE MADE OF STAINLESS STEEL TO PREVENT RUSTING.

2. THE SIGN MOUNTING EXTRUDED ALUMINUM MOUNTING BRACKETS SHALL BE EITHER MEDIUM ALUMINUM EXTRUSIONS (SIGNFIX PART NO. SX-073) OR LARGER ALUMINUM EXTRUSIONS (SIGNFIX PART NO. SX-0130). EXTRUDED ALUMINUM MOUNTING BRACKETS MUST BE BY SIGNFIX OR MUST BE DIRECTLY ADAPTABLE TO UNIVERSAL SIGNFIX CHANNEL CLAMPS E.P. (PART NO. SX-0220) OR EQUAL. FLARED LEG MOUNTING BRACKET FOR MOUNTING TO POLE OR MAST ARM SHALL BE HAWKINS PART NO. M2G-FUB OR APPROVED EQUAL. THREADED PORTION OF BRACKET SHALL ACCEPT COURSE THREAD 5/16 INCH ALL-THREAD BOLT.

3. SINGLE STREET NAME SIGN SHALL HAVE NAME AND SUFFIX CENTERED IN SIGN. SIGNS SHALL BE SINGLE FACE AND FABRICATED ON ALUMINUM BLANKS 0.063-INCH THICKNESS. BLANK SHALL BE 18-INCHES IN WIDTH AND VARY IN LENGTH DEPENDING ON THE NUMBER OF LETTERS OF THE STREET (MIN. OF 6- FEET IN LENGTH). SIGN BLANK SHALL HAVE GREEN ELECTROCUT FILM (EC) OVER 3M DIAMOND GRADE. REFLECTIVE VINYL SHEETING. UPPER CASE LETTERS SHALL BE 10-INCHES AND LOWER CASE LETTERS SHALL BE 7.5-INCHES. ALL LETTERS SHALL BE HIGHWAY FRONT "D". SIGN SHALL HAVE 1-INCH WHITE BORDER COVERING THE ENTIRE EDGE OF SIGN BLANK. CORNERS SHALL BE NEATLY ROUNDED TO A 3-INCH RADIUS. THERE SHALL BE 10-INCHES SPACING BETWEEN BOARDER AND SIDES OF STREET NAME. LETTERS SHALL BE SPACED A MIN. OF 1.5 INCHES.


5. ALL SIGNS SHALL BE APPROVED FOR CONFORMANCE BY THE CITY OPERATION AND MAINTENANCE STAFF PRIOR TO INSTALLATION. TO SCHEDULE AN INSPECTION PLEASE CALL (916) 687-3005.