**APPLICATION OF SWING GATES:**

1. **Entry/Exit Swing Gate:**
   - Not used in conjunction with active warning pedestrian gate.
   - Intended to slow pedestrians and to encourage them to stop and look.
   - Signage on detail 4, "PUSH TO OPEN" to be installed on approach side of gate.
   - Signage on detail 2, "PULL TO OPEN" and "LOOK" sign to be installed on approach side of gate.

2. **Emergency Exit Gate:**
   - Used in conjunction with active warning pedestrian gate.
   - Intended as an escape route for pedestrians occupying the crossing when the active warning pedestrian gate is activated.
   - Signage on detail 3, "EXIT ONLY" on approach side of gate.
   - Signage on detail 4, "PUSH TO OPEN" to be installed on track side of gate.

**CONSTRUCTION NOTES:**

1. A duplex system (paint or powder coat over galvanizing) shall be used for the swing gate assembly and hand railing after fabrication and surface preparation.
   - The swing gate assembly and hand railing shall be hot-dip galvanized in accordance with ASTM A653 (products) and A53 (hardware) coating which has been shop or field cut, burned by welding or damaged shall be repaired or recoated in accordance with ASTM A780.
   - After cleaning and profiling galvanized surface in accordance with ASTM D6386, the swing gate assembly and hand railing shall be painted or powder coated with a zinc-rich prime coat, high performance first coat and acrylic top coat. The paint color shall be RAL 6005 unless noted otherwise.
2. Swings gate will be installed after fabrication and surface preparation, the swing gate assembly and hand railing shall be painted or powder coated with a zinc-rich prime coat, high performance first coat and acrylic top coat. The paint color shall be RAL 6005 unless noted otherwise.
3. Swing gate will be installed after fabrication and hand railing shall be painted or powder coated with a zinc-rich prime coat, high performance first coat and acrylic top coat. The paint color shall be RAL 6005 unless noted otherwise.

**NOTES:**

1. For open dimensions and details, see ES3318 and ES3319.
2. Look sign may be mounted on separate post per ES3319.

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**Swing Gate Details**

- **Scale:** 1/8" = 1'-0"

- **Concrete Footing:**
  - 12" x 24" DEEP
  - CONCRETE FOOTING

- **Steel Plate:**
  - 6" x 3" x 3/8"

- **Rubber Gasket:**
  - 2½" x 3½" x 1/4" NEOPRENE RUBBER GASKET

- **Steel Pipe Support:**
  - 2" x 40 STD STEEL PIPE GATE FRAME

- **Steel Pickets:**
  - 1" x 40 STD STEEL PIPE GATE FRAME

- **Concrete Footing:**
  - 3/4" x 24" CONCRETE FOOTING

- **Steel Plate:**
  - 4½" x 3½" x 1/2" STEEL PLATE

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**Engineering Standards**

- **Metrolink, Southern California Regional Rail Authority**
  - 800 Wilshire Blvd., Suite 1500, L.A., CA 90007

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**Notes:**

- **Entry/Exit Gate:**
  - Scale: 1/8" = 1'-0"

- **Approach Side:**
  - SCALE: 3/4" = 1'-0"

- **Track Side Emergency Exit Gate:**
  - SCALE: 3/4" = 1'-0"
NOTES:
1. HINGE SLEEVE GRADE OF STEEL TO BE ASTM A441 HARDENED STEEL.
2. ALL HINGE SLEEVE DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.
3. HINGE SLEEVE MACHINING SHALL BE PRECISION TO THE NEAREST THOUSANDTH OF AN INCH (0.001).
4. ROTATING CURVES CONTACT SURFACES OF HINGE SLEEVE CURVE SURFACES 'A' AND 'B' TO BE POLISHED.
5. CONSTRUCT AND ASSEMBLE ONE GATE FOR TESTING, SCRRA TO WITNESS GATE TESTING AND APPROVE GATE OPENING AND CLOSING OPERATION BEFORE ANY WORK DONE AT ANY STATION PEDESTRIAN CROSSING. IF GATE OPERATION IS NOT APPROVED BY SCRRA, MODIFY GATE AND GATE HINGE AS NECESSARY AND REPEAT TESTING. IF GATE OPERATION IS APPROVED BY SCRRA, FORCE REQUIRED TO OPERATE SHALL BE 22N (5 LBS) MAX.

FORCE REQUIRED TO OPERATE SHALL BE 22N (5 LBS) MAX.
NOTES:


THE DECISION HIERARCHY DIAGRAM ENTERS A POLICY FOR ANY TYPE OF PEDESTRIAN CROSSING AND DETAILS THE SCRRA RECOMMENDED APPROACH TO THE APPLICATION OF PEDESTRIAN TREATMENTS AT CROSSINGS.

DECISION POINT 1

THE EXISTENCE OF PEDESTRIAN ACTIVITY MUST BE DETERMINED. THIS INCLUDES PEDESTRIANS WALKING UP TO THE ROOF-WAY, OR PEDESTRIANS CROSSING AT THE LOCATION. SCRRA'S STANDARDS AND CURRENT CALL FOR THE ASSESSMENT OF PEDESTRIAN TREATMENTS AT PEDESTRIAN CROSSINGS IN THE AREA FOR CROSSING. THE FOLLOWING ACTIONS SHALL BE TAKEN WHEN EXISTENCE OF ACTIVITY EXISTS WITHOUT PEDESTRIAN FACILITIES:

- DETERMINE IF THE PEDESTRIAN ACTIVITY IS LEGAL
- WORK WITH THE LOCAL MUNICIPALITY TO IMPLEMENT PEDESTRIAN FACILITIES
- IF WARRANTED, THE DESIGN MUST PROVIDE PEDESTRIAN FACILITIES OVER THE ROAD-WAY
- IF WARRANTED, TAKE STEPS TO PREVENT POSSIBLE PEDESTRIAN CROSSINGS

DECISION POINT 2

IF THE CROSSING IS TO BE INCLUDED IN A QUIET ZONE, THE CROSSING SHALL RECEIVED FULL TREATMENT FOR SAFETY ENHANCEMENTS AND PEDESTRIAN CROSSING. THE QUIET ZONE SHALL BE DESIGNED TO FIT PEDESTRIAN TREATMENTS.

DECISION POINT 3

THE TYPE OF PEDESTRIAN CROSSING IS ANALYZED AT THIS STEP. A PEDESTRIAN CROSSING WITHIN A STATION - OR A PEDESTRIAN CROSSING ASSOCIATED WITH A VEHICLE CROSSING - IS ADJACENT TO THE STATION - OR FULL PEDESTRIAN TREATMENT IS REQUIRED FOR THE CROSSING LOCATION.

DECISION POINT 4

IF THE CROSSED LOCATION IS LOCATED WITHIN A 10-MINUTE WALKING DISTANCE OF A SCHOOL, HOSPITAL, OR OTHER FACILITY THAT CAN BE EXPECTED TO SUPPORT DISABLED PEOPLE, IF THE ANSWER IS "YES" TO ANY OF THE OPTIONS, THEN THE CROSSING RECEIVES PEDESTRIAN TREATMENT. THE ANSWER IS "NO" TO COMPLIANCE WITH SCRRA'S POLICY FOR PEDESTRIAN CROSSINGS IN THE AREA FOR CROSSING. THE FOLLOWING ACTIONS SHALL BE TAKEN WHEN EXISTENCE OF ACTIVITY EXISTS WITHOUT PEDESTRIAN FACILITIES:

- DETERMINE IF THE PEDESTRIAN ACTIVITY IS LEGAL
- WORK WITH THE LOCAL MUNICIPALITY TO IMPLEMENT PEDESTRIAN FACILITIES
- IF WARRANTED, THE DESIGN MUST PROVIDE PEDESTRIAN FACILITIES OVER THE ROAD-WAY
- IF WARRANTED, TAKE STEPS TO PREVENT POSSIBLE PEDESTRIAN CROSSINGS

DECISION POINT 5

DOES THE CROSSING HAVE THREE OR MORE MAIN OR CONTROLLED SIDING RAILROAD TRACKS?

DECISION POINT 6

IF THE ANSWER IS "YES", DECISION POINT 56 NECESSARILY BE MADE TO DETERMINE WHETHER THE CROSSING WITH 2 OR MORE TRACKS AT STATION IF THE ANSWER TO DECISION POINT 56 IS "YES", A SAFETY ANALYSIS OF THE CROSSING SHALL BE DETERMINED IF THE PEDESTRIAN CROSSING CAN SAFELY ALIGN AT-DOWNS AND WILL BE REQUIRED TO BE GRADE SEPARATED.

DECISION POINT 7

THIS PROCESS SHALL BE SIMILAR FOR ANY TYPE OF PEDESTRIAN CROSSING AND DEFINES THE SCRRA RECOMMENDED APPROACH TO THE APPLICATION OF PEDESTRIAN TREATMENTS AT CROSSINGS.

DECISION POINT 8

IF THE ANSWER IS "YES", DECISION POINT 56 MUST BE ASKED TO WHETHER THE CROSSING WITH 2 OR MORE TRACKS AT STATION. IF THE ANSWER TO DECISION POINT 56 IS "YES", A SAFETY ANALYSIS OF THE CROSSING SHALL BE DETERMINED IF THE PEDESTRIAN CROSSING CAN SAFELY ALIGN AT-DOWNS AND WILL BE REQUIRED TO BE GRADE SEPARATED.

DECISION POINT 9

IF THE ANSWER IS "YES" TO ANY OF THESE QUESTIONS, THEN FULL PEDESTRIAN TREATMENTS ARE REQUIRED. SCRRA STANDARD DRAWINGS INCLUDE VARIATIONS TO THE STANDARD CONFIGURATION AND REQUIREMENTS. IN CASES WHERE THE STANDARD APPLICATIONS ARE IN APPLICABLE, THE USE OF ONE OF THESE APPLICATIONS COULD BE MODIFIED TO ACCOMMODATE SPECIFIC PEDESTRIAN TREATMENTS.

DECISION POINT 10

IF FULL PEDESTRIAN TREATMENTS ARE REQUIRED, SCRRA STANDARD DRAWINGS INCLUDE VARIATIONS TO THE STANDARD CONFIGURATION AND REQUIREMENTS. IN CASES WHERE THE STANDARD APPLICATIONS ARE IN APPLICABLE, THE USE OF ONE OF THESE APPLICATIONS COULD BE MODIFIED TO ACCOMMODATE SPECIFIC PEDESTRIAN TREATMENTS.
Metal Hand Railing Details

**Type A**

- **Sleeve Post for Removeable Metal Hand Railing**

**Section A**

- **Sleeve Post and Sleeve Joint**
- **Staple Safety Hasp**
- **Metal Hand Railing**

**Notes:**
1. Metal hand railing shall be as per APWA standard for type A and as modified herein.
2. Bases, posts and pockets shall be galvanized steel pipe.
3. Maximum spacing of posts shall be 12'-0" on straight alignments and 6'-0" on curved alignments with less than 90° curve, and 6'-6" on alignments between curves in alignments.
4. Bolts shall be 1/4"-20 x 3" long, equal to thickness of pvc in all joints.
5. Install 1" wide high visibility yellow reflective tape, wrap around entire post.
6. Minimal shall be painted or powdercoated with a 2'-0" high full coat of high performance first coat and acrylic top coat. The paint color shall be RAL 6005 unless noted otherwise.
7. Staple Safety Hasp shall be welded to the sleeve post and sleeve joint. The minimal shall be painted or powdercoated to match hand railing as noted.
8. Steel sleeve post shall be constructed with a diameter of 2'-0" large than post wall thickness of sleeve to be same as hand railing post or larger.

PeDESTrian BARRICADE DETAILs

**Type 1**

- **Sleeve Post Detail**
- **Yellow Reflective Tape for Railing Perpendicular to Street**

**Notes:**
1. Pedestrian barricade shall be as per caltrans plan ES-70, detail C, and as modified herein.
2. Pipe post to be set 2'-0" back from face of curb unless otherwise specified.
3. Steel sleeve post to be constructed with a diameter of 2'-0" large than post wall thickness of sleeve to be same as hand railing post or larger.
4. Contractor may submit alternative details for approval by SCRRA.
5. For minimum pipe diameters and wall thickness refer to piping.
6. The location of barricade shall be coordinated with local authority and SCRRA.
7. Additional "No Crossing" sign (R9-3) and "No Pedestrian Crossing" sign as per caltrans shall be located at appropriate location as needed.
8. Barricade shall be painted or powdercoated with a high visibility reflective paint and the joint color shall be RAL 6005 unless noted otherwise.

**Type 2**

- **Sleeve Post Detail**
- **Yellow Reflective Tape for Railing Perpendicular to Street**

**Notes:**
1. Metal hand railing shall be as per APWA standard for type B and as modified herein.
2. Bases, posts and pockets shall be galvanized steel pipe.
3. Maximum spacing of posts shall be 12'-0" on straight alignments and 6'-0" on curved alignments, with less than 90° curve, and 6'-6" on alignments between curves in alignments.
4. Bolts shall be 1/4"-20 x 3" long, equal to thickness of pvc in all joints.
5. Install 1" wide high visibility yellow reflective tape, wrap around entire post.
6. Minimal shall be painted or powdercoated with a 2'-0" high full coat of high performance first coat and acrylic top coat. The paint color shall be RAL 6005 unless noted otherwise.
7. Staple Safety Hasp shall be welded to the sleeve post and sleeve joint. The minimal shall be painted or powdercoated to match hand railing as noted.
8. Steel sleeve post shall be constructed with a diameter of 2'-0" large than post wall thickness of sleeve to be same as hand railing post or larger.

**Engineering Standards**

Southern California Regional Rail Authority
80 Wilshire Blvd., Suite 1500, L.A., CA 90017

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SEE GENERAL NOTE 16 CURB RAMP (TYP)
GENERAL NOTES:

1. THE METHOD OF PAVEMENT MARKING AND MARKER INSTALLATION SHALL CONFORM TO CALTRANS LATEST STANDARD SPECIFICATIONS FOR PAVEMENT MARKINGS OR AS REQUIRED BY LOCAL JURISDICTION.

2. NO MARKING TO BE DONE PRIOR TO FIELD INSPECTION AND APPROVAL OF LAYOUT BY SCRRA IN THE FIELD.

3. PAVEMENT MARKING SHALL BE THERMOPLASTIC MATERIALS AND SHALL CONFORM TO SECTION 84-2.05, "THERMOPLASTIC - 2" OF THE CALTRANS STANDARD SPECIFICATION OR AS REQUIRED BY LOCAL JURISDICTION.

4. THE APPLICATIONS OF THERMOPLASTIC MATERIALS SHALL BE IN ACCORDANCE WITH CALTRANS STANDARD SPECIFICATIONS SECTION 84-2.03, "CONSTRUCTION" OR AS REQUIRED BY LOCAL JURISDICTION.

5. PAVEMENT DELINERATION PATTERNS SHALL CONFORM TO THE DETAILS IN THE CALTRANS STANDARD PLAN A20A, A20B, A20C, A20D AND A24E. ARROW SYMBOLS SHALL BE WHITE UNLESS SPECIFIED IN THE PLANS AND CA MUTCD LATEST EDITION.

6. PAVEMENT ARROW IN FRONT OF A TURN LANE SHALL BE PLACED APPROXIMATELY 5 FEET FROM THE LIMIT LINE AND THE ARROW AT THE BACK OF A TURN LANE SHALL BE PLACED APPROXIMATELY 5 FEET FROM THE END WHERE THE VEHICLE ENTRIES THE LANE.

7. ALL CROSSWALKS SHALL BE PER CA MUTCD AND LOCAL JURISDICTION REQUIREMENTS.

8. BEYOND RESURFACING LIMITS ALL CONFLICTING MARKINGS, PAINTED SYMBOLS, AND RAISED PAVEMENT MARKERS SHALL BE REMOVED. PAVED MARKING SHALL BE REMOVED WITH WET SAND BLASTING OR AS REQUIRED BY LOCAL JURISDICTION.

9. ALL EXISTING SIGNS AND POSTS NOT TO BE REUSED SHALL BE REMOVED.

10. RELOCATED OR NEW SIGNS AS SHOWN ON PLANS SHALL BE INSTALLED ON NEW POST, EXCEPT WHERE STREET LIGHT POLES ARE USED FOR SIGN POSTING. NEW SIGNS POSTS SHALL BE CONSTRUCT BREAT ATRUPT TYPE 2-INCH SQUARE TUBE.

11. ALL TRAFFIC SIGNS SHALL HAVE RETROREFLECTIVE SHEETING AND SHALL CONFORM TO LATEST CALTRANS STANDARD PLANS AND SPECIFICATIONS AND THE LATEST CALIFORNIA SIGN SPECIFICATIONS. ALL SIGNS SHALL BE INSTALLED IN ACCORDANCE WITH CALTRANS STANDARD PLANS AND SPECIFICATIONS OR AS REQUIRED BY LOCAL JURISDICTION.

12. PEDESTRIAN BARRICADE SHALL BE AS PER SCRRA ENGINEERING STANDARD DRAWING ES4005.

13. QUIET ZONE SIGNS SHALL BE INSTALLED PRIOR TO FIELD INSPECTION AND APPROVAL OF LAYOUT BY SCRRA IN THE FIELD. THE SIGNS SHALL NOT BLOCK CLEAR VIEW OF RAILROAD WARNING SIGNAL LIGHTS.

14. QUIET ZONE SIGNS SHALL BE INSTALLED ONLY IN DESIGNATED QUIET ZONES.

15. SIZES FOR WARNING SIGNS SHALL BE AS SHOWN IN CA MUTCD, TABLE 2C-2. THE ADVANCE PLACEMENT DISTANCE OF WARNING SIGNS SHALL BE AS SHOWN IN CA MUTCD, TABLE 2C-4. SIZES FOR GRADE CROSSING SIGNS SHALL BE AS SHOWN IN CA MUTCD, TABLE BB-1.

16. CURB RAMPS AND ISLAND PASSAGEWAY SHALL BE DESIGNED TO MEET ADA REQUIREMENTS.

MARKING NOTES:

1. PAVEMENT MARKING AS PER CALTRANS STD PLAN A24A OR A24D OR A24E OR CA MUTCD LATEST EDITION

2. 8" WHITE CHANNELIZING LINE WITH REFLECTIVE AND RAISED PAVEMENT MARKERS PER CALTRANS STD PLAN A20D, DETAIL 38

3. 4" SOLO YELLOW MARKING AROUND MEDIAN PER CALTRANS STD PLAN A20B, DETAIL 24

4. 24" SOLO WHITE STOP LINE PLACED 8' IN ADVANCE OF GATE ARM

5. TYPE 1 PEDESTRIAN BARRICADE PER ES4005

6. 4" WHITE MARKING AND MARKER PER CALTRANS STD PLAN A20D DETAIL 8

7. 4" SOLO WHITE EDICLINE PER CALTRANS STD PLAN A20B, DETAIL 27B

8. RAILROAD CROSSING SYMBOL PER CALTRANS STD PLAN A24B

9. 4" DOUBLE YELLOW MARKING PER CALTRANS STD PLAN A20A, DETAIL 21

10. 12" WHITE LIMIT / CROSSWALK LINE PER CALTRANS STD PLAN A24E

11. CURB CURB ON HIGHWAY PARALLEL WITH THE TRACK SHALL BE RED WITHIN 150' OF THE CROSSING

12. MEDIUM NOSE YELLOW W/ RPM'S 2.0 C. STD PLAN A20B, TYPE "O"

13. LANE LINE EXTENSIONS PER CALTRANS STD PLAN A20D, DETAIL 40

14. PAVEMENT MARKING AND RAISED PAVEMENT MARKERS PER SCRRA STD. ES4005

15. CENTER LINE EXTENSIONS PER CALTRANS STD PLAN A20D, DETAIL 41

16. CENTER LINE EXTENSIONS TYPE "AY" NON-REFLECTIVE PER CALTRANS STD PLAN A20B, DETAIL 41A

17. LANE LINE EXTENSIONS TYPE "FM" NON-REFLECTIVE PER CALTRANS STD PLAN A20B, DETAIL 40A

18. ROW FENCE 4' W/CURB LINK FENCE WITHIN 150' OF BACK OF SIDEWALK/CROSSING PER SCRRA STD. ES5016

19. BESIDES WILL BE USED WITH SCREW BEYOND 150' OF BACK OF SIDEWALK/CROSSING PER SCRRA STD. ES5015

SIGN NOTES:

☐ ROAD SIDE SIGN AND POST SEE GENERAL NOTE 15

☐ NO TRESPASSING SIGN PER ES5024 (1TYP)
NOTES:

1. THESE STANDARDS ARE NOT INTENDED TO REPLACE EXISTING REGULATORY STANDARDS, WHICH ARE APPLICABLE AT HIGHWAY-RAIL GRADE CROSSINGS. THESE STANDARDS ARE TO BE USED AS A GUIDE TO THE SELECTION AND UTILIZATION OF PEDESTRIAN FACILITIES AND REQUIREMENTS AS NECESSARY IN COLLABORATION WITH SCRRA.

2. FOLLOW CALIFORNIA MUTCD FOR STRIPING, SIGNING, AND OTHER TRAFFIC WARNING DEVICES.

3. REFER TO THE FOLLOWING FOR ADDITIONAL DESIGN INFORMATION:
   - SCRRA ENGINEERING STANDARD ES4206 FOR CONCRETE PANELS AND PAVED END RAMP.
   - SCRRA ENGINEERING STANDARD ES5001 FOR INTER-TRACK FENCE.
   - SCRRA ENGINEERING STANDARD ES5007 FOR SECURITY ACCESS GATE AND BOLLARDS.
   - SCRRA ENGINEERING STANDARD ES5002 FOR INTEGRAL TRACK FENCE.
   - SCRRA ENGINEERING STANDARD ES4007 FOR SECURITY ACCESS GATE.
   - SCRRA ENGINEERING STANDARD ES4002 FOR PEDESTRIAN SWING GATE DETAILS.
   - SCRRA ENGINEERING STANDARD ES4010 FOR PEDESTRIAN SWING GATE DETAILS.
   - SCRRA ENGINEERING STANDARD ES4009 AND ES4008 FOR PEDESTRIAN SWING GATE DETAILS.
   - CALTRANS STANDARD PLANS A20A, A20B, A20C, A20D, A20E, AND A50 FOR PAVEMENT MARKERS AND TRAFFIC LINES.
   - CALTRANS STANDARD PLAN RSP A88A FOR DETECTABLE WARNING PANEL (SURFACE).

4. FENCING AND METAL HAND RAILING LOCATIONS SHALL BE ADJUSTED AS NECESSARY TO PROVIDE SCRRA MAINTENANCE ACCESS TO RIGHT-OF-WAY AND SIGNAL & TRACK FACILITIES.

5. PREVENTION AND TOTAL WARNING PANELS SHALL BE CONSIDERED IN THE PEDESTRIAN WARNING DETAILING AND CLEARANCE TIME AND SHALL MEET THE REQUIREMENTS AND REQUIREMENTS OF THE AMERICAN WITH DISABILITIES ACT (ADA) AND MUTCD.

6. PEDESTRIAN WARNING PANEL LOCATION PER ES8350-02)

7. THE WIDTH OF SIDEWALKS ON THE SIDE OF THE GATES OPPOSITE THE RAIL SHALL BE A MINIMUM OF 5 FEET.

8. PAVEMENT MARKING SHALL BE THERMOPLASTIC MATERIALS AND SHOWN ON THIS DRAWING WILL BE MODIFIED AS NECESSARY TO PROVIDE SCRRA MAINTENANCE ACCESS TO RIGHT-OF-WAY AND SIGNAL & TRACK FACILITIES.

9. A SWING GATE PER CALTRANS STANDARD PLAN A87A SHALL BE PROVIDED FOR MAINTENANCE ACCESS WHERE ROW IS CONSTRAINED.

10. PEDESTRIAN WARNING DEVICES SHALL BE AS PER ES4008, ES4009, ES4100 AND ES4200.

11. PEDESTRIAN WARNING DEVICES SHALL BE AS PER ES4008, ES4009, ES4100, ES4200 AND ES4201.

12. A 6" CURB AND 4' FOR A 8" CURB. DRIVEWAYS USING A 4' wide chain link fence per ES5106.

LEGEND

- WHITE RETRO-REFLECTIVE CURB LINE STRIPE PER CALTRANS DETAIL 27B WITH RAISED PAVEMENT MARKER TYPE G.
- DETECTABLE WARNING PANEL (3' WIDE) PATTERN AS NOTED
- PREEMPTION AND TOTAL WARNING TIME SHALL TAKE INTO CONSIDERATION THE PEDESTRIAN WARNING DETAILING AND CLEARANCE TIME AND SHALL MEET THE REGULATIONS AND REQUIREMENTS OF THE AMERICAN WITH DISABILITIES ACT (ADA) AND MUTCD.
- PEDESTRIAN WARNING DEVICES SHALL BE AS PER ES4008, ES4009, ES4100 AND ES4200.
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- PEDESTRIAN WARNING DEVICES SHALL BE AS PER ES4008, ES4009, ES4100 AND ES4200.
NOTES:
1. For additional notes and legend see ES4010.
2. For pedestrian warning device, flashtubs are required for each pedestrian approach. Flashtubs only shown on one approach for clarity.

See Note 10
NOTES:
1. FOR ADDITIONAL NOTES AND LEGEND SEE ES4010.
2. FOR PEDESTRIAN WARNING DEVICE, FLASHERS ARE REQUIRED FOR EACH PEDESTRIAN APPROACH. FLASHERS ONLY SHOWN ON ONE APPROACH FOR CLARITY.
NOTES:
1. FOR NOTES AND LEGEND, SEE ES4010.
2. FOR PEDESTRIAN WARNING DEVICE, FLASHERS ARE REQUIRED FOR EACH PEDESTRIAN APPROACH.
   FLASHERS NOT SHOWN FOR CLARITY.

SWING GATE ONLY

PED GATE IN-LINE WITH WARNING DEVICES WITH EMERGENCY REFUGE AREA WITH LIMITED RIGHT-OF-WAY

NO PED GATE OR PED SWING GATE

PED GATE WITH EMERGENCY REFUGE AREA

SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY 120 WILSHIRE BLVD, SUITE 1500, L.A, CA 90017

TYPICAL PEDESTRIAN TREATMENT DETAILS

ENGINEERING STANDARDS

METROLINK.
NOTES:
1. FOR ADDITIONAL NOTES AND LEGEND SEE ES4010.
2. FOR PEDESTRIAN WARNING DEVICE, FLASHERS ARE REQUIRED FOR EACH PEDESTRIAN APPROACH.
3. PLACEMENT OF PEDESTRIAN GATE AND EMERGENCY SWING GATE MAY BE SWITCHED DEPENDING ON APPLICATION OF THIS STANDARD. THE PLACEMENT OF THE EMERGENCY SWING GATE SHALL AVOID IMPEDING THE PATH OF TRAVEL WHEN OPEN.
**Material Specifications:**

1. Structure, Steel shall conform to ASTM A-26. Steel shall be hot-rolled with a yield point not less than 33 ksi (226 MPa).
3. Any concrete panels shall be designed and fabricated in accordance with PCI "Manual For Quality Control: Precast Concrete Material Mixing, Placing and Curing" to meet PCI "Manual For Quality Control: Precast Concrete Panels" requirements.
4. Concrete panels shall be designed and fabricated to meet the requirements of PCI "Manual For Quality Control: Precast Concrete Panels." The concrete mix shall be designed to meet PCI "Manual For Quality Control: Precast Concrete Panels" requirements.
5. Concrete panels shall be designed and fabricated to meet the requirements of PCI "Manual For Quality Control: Precast Concrete Panels." The concrete mix shall be designed to meet PCI "Manual For Quality Control: Precast Concrete Panels" requirements.
6. Concrete panels shall be designed and fabricated to meet the requirements of PCI "Manual For Quality Control: Precast Concrete Panels." The concrete mix shall be designed to meet PCI "Manual For Quality Control: Precast Concrete Panels" requirements.

**Special Testing:**

- Pull strength shall be performed in accordance with PCI "Manual For Quality Control: Precast Concrete Panels" requirements.
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**General:**

- The manufacturer shall provide a certificate of quality control for each panel.
- The manufacturer shall provide a certificate of quality control for each panel.
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- The manufacturer shall provide a certificate of quality control for each panel.

**Concrete Compressive Strength:**

Concrete compressive strength shall be as follows:

<table>
<thead>
<tr>
<th>RAIL SIZE</th>
<th>PANEL HEIGHT</th>
<th>GAGE PANEL WEIGHT</th>
<th>FIELD PANEL WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>10'-0&quot;</td>
<td>7&quot;</td>
<td>3400 LBS.</td>
<td>9000 LBS.</td>
</tr>
<tr>
<td>8'-1½&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6'-5½&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Finish:**

- All concrete shall be finished to meet the requirements of PCI "Manual For Quality Control: Precast Concrete Panels." The concrete mix shall be designed to meet PCI "Manual For Quality Control: Precast Concrete Panels" requirements.
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**Special Testing:**

- Pull strength shall be performed in accordance with PCI "Manual For Quality Control: Precast Concrete Panels" requirements.
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**Engineering Standards:**

- Precast Concrete Panels for Highway - Rail Grade Crossing
- Metrolink
- Southern California Regional Rail Authority
- 80 Wilshire Blvd, Suite 1500, L.A., CA 90007

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**NOTES:**

- Concrete compressive strength shall be as follows:
  - 10'-0" 7500 psi
  - 8'-1½" 6000 psi
  - 6'-5½" 4500 psi

**General:**

- The manufacturer shall be ISO 9000 or AAR M-1003 certified.
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- The manufacturer shall be ISO 9000 or AAR M-1003 certified.
- The manufacturer shall be ISO 9000 or AAR M-1003 certified.

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**Technical Specifications:**

1. The technical specifications shall be as follows:
   - 10'-0" 7500 psi
   - 8'-1½" 6000 psi
   - 6'-5½" 4500 psi

2. The technical specifications shall be as follows:
   - 10'-0" 7500 psi
   - 8'-1½" 6000 psi
   - 6'-5½" 4500 psi

---

**Assistance:**

- The assistance shall be as follows:
  - Assistance shall be as follows:
  - Assistance shall be as follows:
  - Assistance shall be as follows:
  - Assistance shall be as follows:

---

**Drawn By:**

- 10'-0" 7500 psi
- 8'-1½" 6000 psi
- 6'-5½" 4500 psi

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**Scale:**

- 10'-0" 7500 psi
- 8'-1½" 6000 psi
- 6'-5½" 4500 psi
**Flow Chart**

1. Temporary traffic control planning and design shall be coordinated with the Southern California Regional Rail Authority (SCRRA) since public agencies and SCRRA are obligated to coordinate all installation, operation, maintenance use, and protection of grade crossings activities under the California Public Utilities Commission. In order to assure no degradation of the safe operation of grade crossings and to promote safe and efficient movements of trains, vehicles, cyclists, and pedestrians, SCRRA must approve any and all temporary traffic control plans and devices.

2. Traffic control plan shall be submitted to SCRRA for all activities located within or in the vicinity of highway-rail grade crossings. Traffic control plan will comply with the current edition of the Manual of Uniform Traffic Control Devices (MUTCD) published by the U.S. Department of Transportation, "Work Zone Traffic Control Manual" (WATCH) published by Southern California Chapter of the American Public Works Association and California editions published by the state of California Department of Transportation (Caltrans).

3. SCRRA reserves the right to close the crossing to vehicle traffic during the temporary part of any agreement or ask the public agency or the contractor to cancel the temporary traffic control if the public agency or contractor activity does not meet the California MUTCD Section 6G requirements. In the opinion of SCRRA, the work interferes with or endangers the movement of road users and rail traffic. If the SCRRA traffic control person (flagger) is not present at the highway-rail grade crossing or the flagger qualifications, clothing, hand-signal devices, signal procedures, and flagger stations does not meet the SCRRA work or on-rails requirements, the traffic control will be terminated. If the work is resumed after approval by SCRRA, the location and duration of temporary traffic control, protection, or lack of protection by a railroad crossing warning system in both directions, type of rail and highway traffic and placing can affect the design and selection of temporary traffic control plan. These variable factors should be considered before designing and implementing temporary traffic control zones refer to the accompanied flow chart that provides a quick reference to the relationship between railroad crossing conditions and temporary traffic control requirements.

4. The location and duration of temporary traffic control, protection, or lack of protection by a railroad crossing warning system in both directions, type of rail and highway traffic and placing can affect the design and selection of temporary traffic control plan. These variable factors should be considered before designing and implementing temporary traffic control zones refer to the accompanied flow chart that provides a quick reference to the relationship between railroad crossing conditions and temporary traffic control requirements.

5. SCRRA Form No. 6 (Temporary Right of Entry Agreement) will be executed and submitted when the construction activity is located within the railroad right-of-way. SCRRA Form No. 6 (Indemnification and Assumption of Liability Agreement) will be executed and submitted when highway-rail grade crossings exist within or in the vicinity of a temporary traffic control zone. Lane restrictions, flagging, or other operations and queuing of vehicles across the tracks cannot be avoided.

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**Chart**

**Minimum Recommended Delimiter and Sign Placement**

| Traffic Speed | Taper Length | Delimiter Spacing | Sign Spacing | Buffer Space
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>25 MPH</td>
<td>150 ft</td>
<td>25 ft</td>
<td>50 ft</td>
<td>150 ft</td>
</tr>
<tr>
<td>30 MPH</td>
<td>200 ft</td>
<td>30 ft</td>
<td>60 ft</td>
<td>200 ft</td>
</tr>
<tr>
<td>35 MPH</td>
<td>250 ft</td>
<td>35 ft</td>
<td>70 ft</td>
<td>250 ft</td>
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<tr>
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<td>300 ft</td>
<td>40 ft</td>
<td>80 ft</td>
<td>300 ft</td>
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<tr>
<td>45 MPH</td>
<td>350 ft</td>
<td>45 ft</td>
<td>90 ft</td>
<td>350 ft</td>
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<tr>
<td>50 MPH</td>
<td>400 ft</td>
<td>50 ft</td>
<td>100 ft</td>
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<tr>
<td>80 MPH</td>
<td>1000 ft</td>
<td>100 ft</td>
<td>200 ft</td>
<td>1000 ft</td>
</tr>
<tr>
<td>85 MPH</td>
<td>1100 ft</td>
<td>100 ft</td>
<td>220 ft</td>
<td>1100 ft</td>
</tr>
</tbody>
</table>

**Notes:**

- Traffic Speed or sign speed as directed by the Planning.
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NOTES:

1. REQUESTS FOR TEMPORARY CONSTRUCTION CROSSINGS WILL BE CONSIDERED BY SCRRA ONLY, WHERE IT IS SHOWN THAT EXTREME HURDLES AND/OR UNUSUAL CONDITIONS EXIST THAT JUSTIFIES THE CROSSING.

2. GEOTEXTILE MUST BE PLACED OVER THE RE PLATES AND OTHER TRACK MATERIALS TO KEEP ASPHALT AND BASE AWAY THE MINIMUM WEIGHT OF GEOTEXTILE SHALL BE 4.5 OZ. PER SQ. YARD AND THICKNESS SHALL BE 40 MILS.


4. THE CHAINLINK FENCE SHALL MEET SCRRA ENGINEERING STANDARD ES506.

5. CHAINLINK FENCE GATES WILL BE LOCKED WITH SCRRA LOCK ONLY PROVIDE KEEPERS TO MAINTAIN GATES OPEN.

6. COLD MIX ASPHALT IS NOT AN SCRRA APPROVED MATERIAL FOR THE PAVEMENT NOT MIX ASPHALT MUST COMPLY WITH CALTRANS SPECIFICATIONS.

7. ENVIRONMENTAL RULES OF THE LOCAL AUTHORITY SHALL BE FOLLOWED WHEN DISPOSING OF THE ASPHALT MATERIALS.

8. WHISTLING POINT SIGNS PER ES506 SHALL BE INSTALLED 1,320 FEET (1/4 MILE) FROM THE CENTERLINE OF THE TEMPORARY CONSTRUCTION CROSSING AND BAGGED SIGNS ARE NOT VISIBLE AT THE BEGINNING OF EVERY SHIFT WHEN THE CROSSING IS TO BE PLACED IN USE THE SIGNS SHALL BE REMOVED BY THE SCRRA AUTHORIZED EIC FROM THE WHISTLE POINT SIGNS AND REPLACED AT THE END OF THE SHIFT BY THE SCRRA AUTHORIZED EIC WHEN THE CROSSING IS CLOSED AND REMOVED FROM SERVICE.

9. DETAIL REQUIREMENTS:

A. LENGTH AND DISTANCE OF DETAIL TO CENTERLINE OF TRACK WILL DEPEND ON SITE CONDITIONS THE CONTRACTOR SHALL WORK WITH SCRRA ON DETERMINING THE LENGTH AND DISTANCE OF DETAIL FROM CENTERLINE OF TRACK TO ACCOMMODATE THE PROJECT'S SITE CONDITION.

B. WHERE SOFT/LOOSE GROUND CONDITIONS EXIT SIZES OF DETAIL SHALL BE ADJUSTED TO STABILIZE THE GROUND AND MAINTAIN DETAIL INTEGRITY. THE DETAIL SHALL ONLY BE OPENED AND USED WHEN AN SCRRA AUTHORIZED EMPLOYEE IN CHARGE IS PRESENT AND SUPERVISING THE USE OF THE CROSSING. THE APPROVAL OF THE EIC MUST FIRST BE OBTAINED EACH TIME WHEN ANY EQUIPMENT MOVEMENT OVER THE CROSSING IS NEEDED.

10. STEEL PLATE REQUIREMENTS:

A. WHEN AUTHORIZED BY THE SCRRA EIC STEEL PLATES SHALL BE PLACED ACROSS DITCHES AT THE BEGINNING OF EVERY SHIFT AND REMOVED AT THE END OF THE SHIFT.

B. STEEL PLATES SHALL BE SECURED TO THE ROADWAY TO PREVENT GROWTH MOVEMENT OF STEEL PLATES WHILE THE CROSSING IS IN SERVICE CONTRACTOR SHALL PROVIDE THE APPROPRIATE STEEL PLATE THICKNESS AND WEIGHT RECOMMENDED FOR THE TYPE OF EQUIPMENT PROPOSED TO TRAVERSE THE CROSSING.

C. STEEL PLATES SHALL BE STORED AND SECURED IN AREAS THAT WILL NOT POUL THE TRACKS OR CAUSE A HAZARD TO PERSONNEL/EQUIPMENT. WHEN NOT IN USE STEEL PLATES SHALL BE ONLY STORED ON THE SIDE OF THE TRACK FOR WHICH IT IS BEEN USED STEEL PLATES SHALL NOT BE CARRIED OVER THE TRACKS DAILY FOR STORAGE.

METROLINK
SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY
800 WILSHIRE BLVD., SUITE 1800, L.A., CA 90017

ENGINEERING STANDARDS
TEMPORARY CONSTRUCTION CROSSING

4922

NTS

DRAWN BY: 1 OF 1
SIGN NOTES:
1. SIGNS SHALL BE ALUMINUM PANEL RETROREFLECTIVE SHEETING, POLYURETHANE PANEL SCREENED GRAPHICS OR FILM, PROTECTION OVERLAY, ANTI-GRAFFITI OVERLAY, POSTS, ANCHORS AND HARDWARE.
2. FONT SHALL BE PER SCRRA ES420, SEE AS INDICATED.
3. PANEL SHELL SHALL BE PAINTED ON ALL SIDES WITH TWO PART ACRYLIC POLYURETHANE PAINT COATING.
4. RETROREFLECTIVE SHEETING SHALL BEotope TO THE REQUIREMENTS OF ASTM D 3943 CLASS C OR GREATER RETROREFLECTIVE SHEETING.
5. SCREENED-PROCESS COLORS AND NONREFLECTIVE, OPAQUE BLACK FILM SHALL HAVE EQUIVALENT OUTDOOR WEATHERABILITY CHARACTERISTICS AS THE RETROREFLECTIVE SHEETING.

INSTALLATION NOTES:
1. SIGN NO. R15-1 SHALL BE USED ON NEW INSTALLATIONS AND FOR THE REPLACEMENT OF EXISTING RAILROAD HIGHWAY CROSSING SIGNS. ON AN ATTENTION BASIS, AS RENEWALS ARE REQUIRED. EXISTING WOODEN CROSSBUCK BLADES SHALL BE REPLACED WITH EXTRUDED ALUMINUM BLADES PER THIS DRAWING. WHEN RENEWAL OF SIGN MESSAGE IS REQUIRED.
2. TWO DOUBLE-FACED HIGHWAY CROSSING SIGNS SHALL BE PROVIDED AT EACH RAILROAD CROSSING OR A TRACK OR TRACKS, ONE ON EACH SIDE OF THE ROADWAY OR ON THE OUTSIDE OF MULTIPLE TRACK CROSSINGS EXCEPT AS OTHERWISE PROVIDED.
3. NUMBER OF TRACKS SIGN NO. R15-2 SHALL BE USED IN CONJUNCTION WITH SIGN NO. R15-1 WHEN REQUIRED.
4. THE SIGN SH ALL BE ERECTED ON THE RIGHT SIDE OR THE ROADWAY OR ROADWAY APPROACH TO THE CROSSING. THE SIGN SHALL BE NO CLOSER THAN 4'-0" FROM THE FACE OF THE CURB TO THE CENTER LINE OF POST OR WHERE THERE IS NO CURB NO CLOSER THAN 4'-0" FROM EDGE OF TRAVELLED PATH TO CENTER OR EDGE OF TRACK. ADDITIONALLY THE SIGN SHALL BE PlACED NO CLOSER THAN 12'-0" FROM THE CENTER LINE OF TRACK TO THE EDGE OF POST.
5. HEIGHT MAY BE VARY AS REQUIRED BY LOCAL CONDITIONS AND MAY BE INCREASED TO ACCOMMODATE SIGNS MOUNTED BELOW THE R15-1 SIGN.
6. YIELD SIGN (R1-1) SHALL BE INSTALLED AT ALL PUBLIC PASSIVE HIGHWAY-RAIL GAME CROSSINGS, EXCEPT AT CROSSINGS WITH OTHER TRAFFIC CONTROL DEVICES. A STOP SIGN (R1-2) SHALL BE INSTALLED INSTEAD. INSTALLATION OF A STOP SIGN (R1-1) WILL REQUIRE CPUC AUTHORIZATION VIA A GO88-B APPLICATION.
**NOTICE**

This private crossing is subject to closure. Please call:

If you believe you are legally entitled to this crossing, refer to the following information when calling:

**SIGN ELEVATION**

**LOCATION OF SIGN**

**MATERIAL SPECIFICATIONS**

<table>
<thead>
<tr>
<th>PRODUCT SYSTEM</th>
<th>MANUFACTURER AND PRODUCT</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIGH INTENSITY SHEETING WHITE</td>
<td>1. 3M SCOTCHLITE HIGH INTENSITY PRISMATIC WHITE GRADE 3930 SHEETING</td>
</tr>
<tr>
<td>GRAPHICS (BLACK)</td>
<td>2. NIPPON CARBIDE RETRO-REFLECTIVE SHEETING TYPE VIII CRYSTAL GRADE</td>
</tr>
<tr>
<td>PANEL</td>
<td>3. AVERY DENNISON OMNI VIEW T-9500 PRISMATIC HIGH INTENSITY SHEETING</td>
</tr>
<tr>
<td>ANTI-GRAFFITI OVERLAY</td>
<td>4. 3M PROCESS COLOR SERIES 885J INK</td>
</tr>
<tr>
<td>PANEL</td>
<td>5. NIPPON CARBIDE RETRO-REFLECTIVE RESISTANT 3803 INK</td>
</tr>
<tr>
<td>PANEL</td>
<td>5. AVERY DENNISON 4920 INK</td>
</tr>
<tr>
<td>PANEL</td>
<td>5. AVERY DENNISON OL - 1000 PREMIUM ANTI-GRAFFITI FILM</td>
</tr>
<tr>
<td>PANEL</td>
<td>5. AVERY DENNISON ES55210</td>
</tr>
</tbody>
</table>

**SIGN NOTES:**

1. Signs shall include aluminum panel retroreflective sheeting, polyurethane paint, screen-printed colors or film, UV protection overlay, anti-graffiti overlay, posts, anchors and hardware.
2. Font shall be per SCRRA ES5212, size as indicated.
3. Panel shall be painted on all sides with two part polyurethane paint coating.
4. Retroreflective sheeting shall conform to the requirements of ASTM D3945, CLASS IV or greater. Retroreflective sheeting shall have class 1, 3, or 4 adhesive backing which shall be pressure sensitive and fungus resistant.
5. Screened-process colors and nonreflective, opaque black film shall have equivalent outdoor weatherability characteristics as the retroreflective sheeting.

**INSTALLATION AND REMOVAL INSTRUCTIONS:**

1. ONE SIGN TO BE PLACED TO REAR OF EACH ROADWAY MOUNTED ON 12'-0" GALVANIZED POST AND PER ES5210. SIGN TO BE MOUNTED 7'-0" ABOVE GROUND.
2. SIGN TO BE LOCATED 20'-0" FROM CENTERLINE OF NEAREST TRACK WITH THE CENTER OF THE POST NO LESS THAN 10'-0" FROM THE EDGE OF THE TRAVELED ROADWAY.
3. POSITION THE SIGN TO PROVIDE THE BEST POSSIBLE VIEW FROM A ROADWAY APPROACH.
5. LEAVE SIGN UP FOR MINIMUM OF 90 DAYS. IF THERE HAVE BEEN NO CALLS OR INQUIRIES AFTER THE 90 DAYS, REMOVE CROSSING. DOCUMENT DATE OF CROSSING REMOVAL, INCLUDING PICTURE AND ANY OTHER MEANS FOR PURPOSE OF DOCUMENTING RECORDS. IF CALLED IS RECEIVED AND THE CROSSING IS BEING USED AND CAN BE JUSTIFIED, HANDLE WITH REAL ESTATE OR APPROPRIATE AGREEMENT.

**NOTE:**

TO BE USED ONLY AT PRIVATE CROSSINGS WHEN THE FOLLOWING CONDITIONS EXIST:

- AN AGREEMENT FOR THE CROSSING DOES NOT EXIST.
- UNABLE TO DETERMINE USE OR OWNER OF THE CROSSING.