

DEPARTMENT OF TRANSPORTATION  
STATE OF COLORADO

HIGHWAY CONSTRUCTION BID PLANS OF PROPOSED  
FEDERAL AID PROJECT NO. NHPP 5502-103  
STATE HIGHWAY NO. US 550  
OURAY COUNTY  
CONSTRUCTION PROJECT CODE NO. 22182

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|                                                                   |                                        |             |                 |          |       |                                                                                                                                                                                                                                      |                |               |                                                   |                                                            |
|-------------------------------------------------------------------|----------------------------------------|-------------|-----------------|----------|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|---------------|---------------------------------------------------|------------------------------------------------------------|
| All seals for this set of drawings are applied to this cover page | Print Date: 2/7/2026                   | <div></div> | Sheet Revisions |          |       | Colorado Department of Transportation<br><br>3803 N. MAIN AVE.<br>DURANGO, CO 81301<br>Phone: 970-385-3629<br>Fax: 970-385-8365<br><br>Region 5 | As Constructed | Cover Page    |                                                   | Project No./Code<br>NHPP 5502-103<br>22182<br>Cover Page 1 |
|                                                                   | File Name: TitleSheet.dgn              |             | Date:           | Comments | Init. |                                                                                                                                                                                                                                      |                | No Revisions: | Contractor:                                       |                                                            |
|                                                                   | Horiz. Scale: As Noted Vert. Scale: NA |             |                 |          |       |                                                                                                                                                                                                                                      |                | Revised:      | Construction Resident Engineer:                   |                                                            |
|                                                                   | Unit Information                       |             |                 |          |       |                                                                                                                                                                                                                                      |                | Void:         | Project Engineer:                                 |                                                            |
|                                                                   |                                        |             |                 |          |       |                                                                                                                                                                                                                                      |                |               | PROJECT STARTED:    /    /    ACCEPTED:    /    / |                                                            |
|                                                                   |                                        |             |                 |          |       |                                                                                                                                                                                                                                      | Comments:      |               |                                                   |                                                            |

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|                                           |                                                                     |
|-------------------------------------------|---------------------------------------------------------------------|
| PoDI / NHS                                |                                                                     |
| FHWA PROJECT OF DIVISION INTEREST (PoDI)? | <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES |
| NATIONAL HIGHWAY SYSTEM?                  | <input type="checkbox"/> NO <input checked="" type="checkbox"/> YES |

DEPARTMENT OF TRANSPORTATION

STATE OF COLORADO

HIGHWAY CONSTRUCTION BID PLANS OF PROPOSED

FEDERAL AID PROJECT NO. NHPP 5502-103

STATE HIGHWAY NO. US 550

OURAY COUNTY

CONSTRUCTION PROJECT CODE NO. 22182

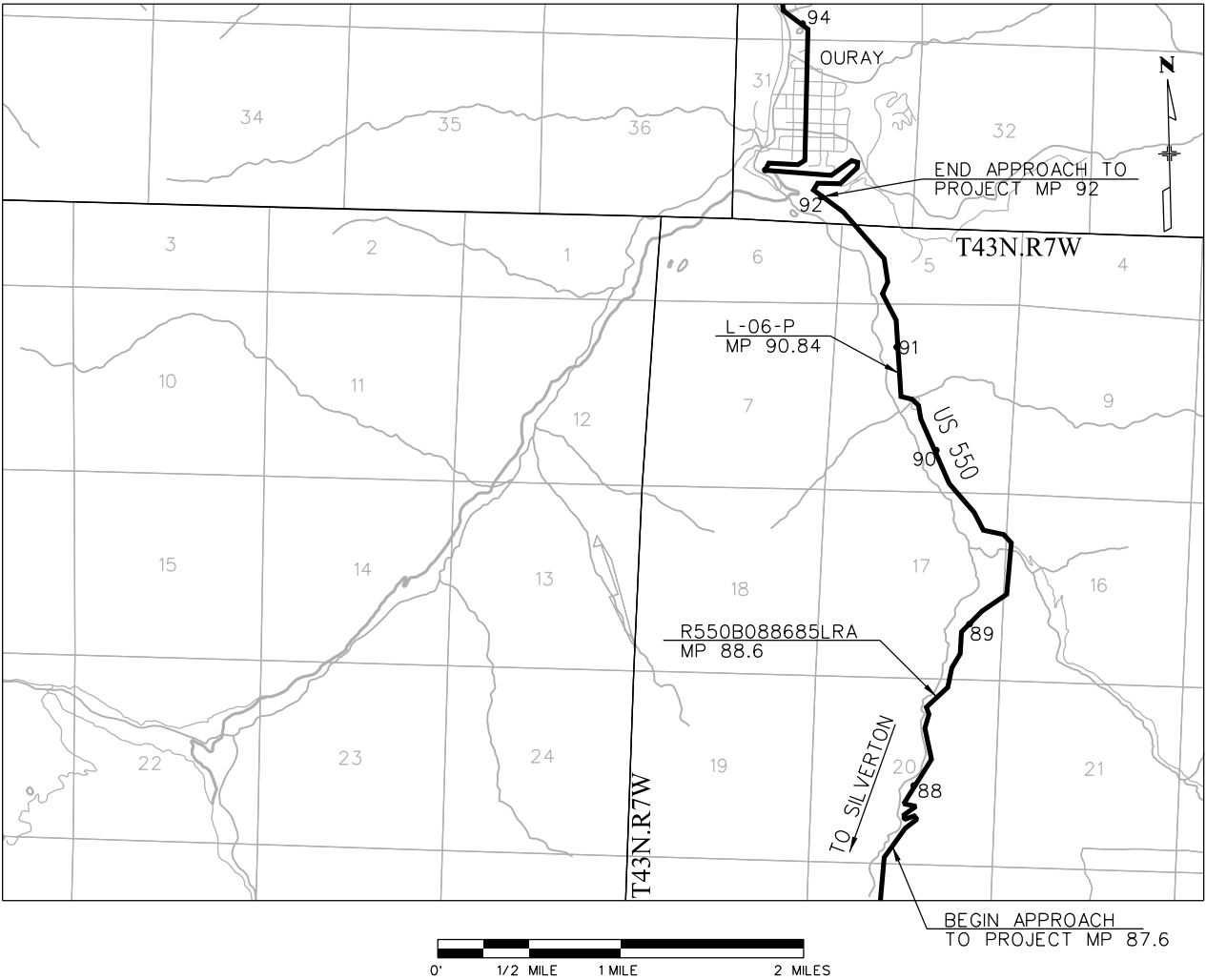
|                             |
|-----------------------------|
| Related Projects:           |
| P. E. UNDER PROJECT:        |
| Project Number: NH-5502-032 |
| Project Code: 12597         |
| R.O.W. Projects:            |
| R.O.W. Project Description  |
| NA                          |

TABULATION OF LENGTH & DESIGN DATA

| LOCATION                               | MILES  |
|----------------------------------------|--------|
|                                        | US 550 |
| APPROACH TO PROJECT<br>MP 87.6         | 1      |
| WALL PROJECT MP 88.6<br>R550B088685LRA | 2.3    |
| TUNNEL PROJECT MP 90.84<br>L-06-P      | 1.1    |
| END APPROACH TO PROJECT<br>MP 92       |        |
| PROJECT LENGTH MILES                   | 4.4    |

| DESIGN DATA                | US 550   |
|----------------------------|----------|
| MINIMUM RADIUS OF CURVE    | EXISTING |
| MAXIMUM GRADE              | EXISTING |
| MINIMUM S.S.D. HORIZONTAL  | EXISTING |
| MINIMUM S.S.D. VERTICAL    | EXISTING |
| POSTED SPEED LIMIT AT WALL | EXISTING |
| 2026 TRAFFIC               |          |
| ADT                        | 2500     |
| DHV                        | 15       |
| TRUCK %                    | 10       |
| 2046 FUTURE TRAFFIC        |          |
| ADT                        | 2693     |
| DHV                        | 15       |
| TRUCK %                    | 10       |
| CLEAR ZONE DISTANCE        | EXISTING |

Section, Township, Range Based  
on the New Mexico Principal Meridian



| All seals for this set of drawings are applied to the cover page(s) | Print Date: 2/7/2026 | <div>Sheet Revisions</div> <table><tr><th>Date:</th><th>Comments</th><th>Init.</th></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr></table> | Date:         | Comments | Init.     |  |                 |  |  |  |  |  |  |  |  |  |  | <div>Colorado Department of Transportation</div> <div><div></div><div>3803 N. MAIN AVE.<br/>DURANGO, CO 81301<br/>Phone: 970-385-3629<br/>Fax: 970-385-8365</div></div> <div>Region 5</div> <div>BMK</div> | As Constructed | Contract Information |  | Project No./Code |
|---------------------------------------------------------------------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|----------|-----------|--|-----------------|--|--|--|--|--|--|--|--|--|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------------|--|------------------|
| Date:                                                               | Comments             | Init.                                                                                                                                                                                                                                            |               |          |           |  |                 |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                            |                |                      |  |                  |
|                                                                     |                      |                                                                                                                                                                                                                                                  |               |          |           |  |                 |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                            |                |                      |  |                  |
|                                                                     |                      |                                                                                                                                                                                                                                                  |               |          |           |  |                 |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                            |                |                      |  |                  |
|                                                                     |                      |                                                                                                                                                                                                                                                  |               |          |           |  |                 |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                            |                |                      |  |                  |
|                                                                     |                      |                                                                                                                                                                                                                                                  |               |          |           |  |                 |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                            |                |                      |  |                  |
| File Name: TitleSheet.dgn                                           | Contractor:          | Construction Resident Engineer:                                                                                                                                                                                                                  | NHPP 5502-103 |          |           |  |                 |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                            |                |                      |  |                  |
| Horiz. Scale: As Noted Vert. Scale: NA                              |                      |                                                                                                                                                                                                                                                  |               |          |           |  |                 |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                            |                |                      |  |                  |
| Unit Information                                                    | Project Engineer:    | PROJECT STARTED: / / ACCEPTED: / /                                                                                                                                                                                                               | 22182         |          |           |  |                 |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                            |                |                      |  |                  |
|                                                                     |                      |                                                                                                                                                                                                                                                  |               |          |           |  |                 |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                            |                |                      |  |                  |
|                                                                     |                      |                                                                                                                                                                                                                                                  |               | Void:    | Comments: |  | Sheet Number: 2 |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                            |                |                      |  |                  |



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1. IT IS ESTIMATED THAT THE FOLLOWING ITEMS WILL BE REQUIRED ON THIS PROJECT AS DIRECTED BY THE ENGINEER:  
  
1 EA OF ITEM 620 FIELD OFFICE (CLASS 2)  
1 EA OF ITEM 620 SANITARY FACILITY  
1 LS OF ITEM 626 MOBILIZATION  
1 LS OF ITEM 626 PUBLIC INFORMATION SERVICES (TIER III)
2. STRUCTURE IDENTIFICATION PANELS SHALL BE REPLACED/INSTALLED PER S-614-12. THE STRUCTURE NUMBER IDENTIFICATION SIGN AND NECESSARY FASTENERS AND POSTS WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE WORK.
3. 50 LF OF ITEM 211 DRILLING HOLE IS INCLUDED TO BE USED AT THE DISCRETION AND DIRECTION OF THE PROJECT ENGINEER IN SITUATIONS WHERE SOIL NAIL DRILLING NEEDS TO BE ADJUSTED FOR UNEXPECTED SITUATIONS.
4. 1 LS OF ITEM 632 NIGHT WORK LIGHTING IS INCLUDED TO BE USED AT THE DIRECTION OF THE PROJECT ENGINEER IF NEEDED FOR WORK TO BE COMPLETED. THIS LUMP SUM ITEM REPRESENTS THE TOTAL COMPENSATION FOR THE COMPLETE PERFORMANCE OF THE WORK. NO ADDITIONAL COMPENSATION WILL BE GIVEN FOR RESETS. IF THE PROJECT ENGINEER APPROVES CONCURRENT SITE WORK, NO ADDITIONAL COMPENSATION WILL BE GIVEN.
5. DELINEATORS ARE TO REMAIN IN PLACE, BUT MAY BE REMOVED AND RESET FOR THE CONVENIENCE OF THE CONTRACTOR AT NO COST TO THE PROJECT.
6. THE CONTRACTOR SHALL WORK WITHIN THE EXISTING RIGHT OF WAY LIMITS AS DIRECTED BY THE PROJECT ENGINEER.
7. THE CONTRACTOR SHALL COMPLY WITH ARTICLE 1.5 OF TITLE 9, C.R.S. "EXCAVATION REQUIREMENTS" WHEN EXCAVATING OR GRADING IS PLANNED IN THE AREA OF UNDERGROUND UTILITY FACILITIES. THE CONTRACTOR SHALL NOTIFY ALL AFFECTED UTILITIES AT LEAST TWO (2) BUSINESS DAYS, NOT INCLUDING THE ACTUAL DAY OF NOTICE, PRIOR TO COMMENCING SUCH OPERATIONS. THE CONTRACTOR SHALL CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC) AT 811 OR 1-800-922-1987, TO HAVE LOCATION OF UNCC REGISTERED LINES MARKED. ALL OTHER UNDERGROUND FACILITIES SHALL BE LOCATED BY CONTACTING THE RESPECTIVE OWNER. UTILITY SERVICE LATERALS SHALL ALSO BE LOCATED PRIOR TO BEGINNING EXCAVATION OR GRADING.
8. IN ACCORDANCE WITH ARTICLE 1.5 OF TITLE 9, SECTION 103, C.R.S., EXISTING UTILITY FACILITIES ARE DEPICTED IN THE PLANS SHEETS AS REFERENCED BY THE QUALITY LEVEL NOTED THEREIN PURSUANT TO THE ASCE STANDARD GUIDELINE FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA (CI/ASCE 38) THE CONTRACTOR SHALL NOT BE RELIEVED OF ITS RESPONSIBILITY TO COMPLY WITH THE REQUIREMENTS SET FORTH THEREIN AND SHALL NOT RELY SOLELY ON THE PLANS AND SPECIFICATIONS WHEN COMPLETING ITS WORK WITH RESPECT TO EXITING BURIED UTILITIES.
9. THE CONTRACTOR SHALL CONSULT THE UTILITY PROJECT SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION RELATED TO UTILITIES AND WORK TO BE PERFORMED AS PART OF THE PROJECT.
10. THE CONTRACTOR WILL BE REQUIRED TO MAINTAIN ACCESS AT ALL TIMES TO PUBLIC TRAILS AND RECREATIONAL FACILITIES. SPECIFICALLY, WORK AT THE BEAR CREEK TUNNEL WILL NOT PREVENT ACCESS TO THE BEAR CREEK TRAIL. ANY COST ASSOCIATED WITH MAINTAINING ACCESS TO PUBLIC RECREATION FACILITIES SHALL BE INCLUDED IN THE COST OF THE WORK.

11. IT IS ESTIMATED THAT THE PROJECT WILL REQUIRE 15 HOURS OF PAY ITEM 240 WILDLIFE BIOLOGIST TO PERFORM BIOLOGICAL SURVEY WORK AS DIRECTED BY THE PROJECT ENGINEER.
12. TEMPORARY STAGING AREAS FOR CONSTRUCTION EQUIPMENT AND STORAGE OF MATERIALS AS WELL AS REPAIRS AND OVERNIGHT PARKING WILL UTILIZE PREVIOUSLY DISTURBED AREAS SUCH AS ROADS, GRAVELED PARKING AREAS, AND SHOULDER PULL OUTS AND SHALL BE PRE-APPROVED BY THE PROJECT ENGINEER FOLLOWING COORDINATION WITH REGIONAL ENVIRONMENTAL STAFF. COORDINATION FOR TEMPORARY USE AREAS WILL NOT BE MEASURED AND PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE WORK.
13. EQUIPMENT OPERATION OFF THE HIGHWAY PRISM SHALL BE MINIMIZED TO THE EXTENT PRACTICABLE TO PREVENT IMPACTS TO BIOLOGICAL RESOURCES.
14. PRECAUTIONS SHALL BE TAKEN TO PREVENT SPILLED OR RELEASED GROUT OFF SITE. CONTINGENCIES FOR GROUT RELEASES AND CLEAN UP SHALL BE DEVELOPED FOR APPROVAL BY THE PROJECT ENGINEER PRIOR TO CONSTRUCTION PER STANDARD SPECIFICATION SECTION 208.
15. FOR THE TUNNEL AT MP 90.84, IN ACCORDANCE WITH THE FEDERAL LANDS MOU (CDOT 2022), SHOTCRETE REPAIRS SHALL MATCH THE EXISTING SHOTCRETE LINER. THE PROJECT ENGINEER WITH INPUT FROM REGIONAL ENVIRONMENTAL STAFF WILL DETERMINE IF STAIN IS REQUIRED TO MATCH THE EXISTING LINER AFTER THE REPAIRS ARE COMPLETE. IF NEEDED, THIS WORK WILL BE PAID AS 601 STRUCTURAL CONCRETE STAIN.
16. DURING CONSTRUCTION, ENSURE ROADSIDE AND STAGING AREAS ARE TIDY AND CLEARED OF TRASH AND DEBRIS.

|                                                                     |                                         |             |                 |          |       |                                                                                                                                    |  |                |                     |                       |  |                  |
|---------------------------------------------------------------------|-----------------------------------------|-------------|-----------------|----------|-------|------------------------------------------------------------------------------------------------------------------------------------|--|----------------|---------------------|-----------------------|--|------------------|
| All seals for this set of drawings are applied to the cover page(s) | Print Date: 2/27/2026                   | <div></div> | Sheet Revisions |          |       | Colorado Department of Transportation                                                                                              |  | As Constructed | GENERAL NOTES       |                       |  | Project No./Code |
|                                                                     | File Name: 22182_Sheets_NotesSAQMnS.dgn |             | Date:           | Comments | Init. | <div><div></div><div></div></div> <div>3803 N. MAIN AVE.<br/>DURANGO, CO 81301<br/>Phone: 970-385-3629<br/>Fax: 970-385-8365</div> |  | No Revisions:  |                     |                       |  | NHPP 5502-103    |
|                                                                     | Horiz. Scale: NA      Vert. Scale: NA   |             |                 |          |       |                                                                                                                                    |  | Revised:       | Designer: CAK       | Structure Numbers     |  | 22182            |
|                                                                     | Unit Information                        |             |                 |          |       |                                                                                                                                    |  |                | Detailer: CAK       |                       |  |                  |
|                                                                     |                                         |             |                 |          |       |                                                                                                                                    |  | Void:          | Sheet Subset: NOTES | Subset Sheets: 1 OF 1 |  | Sheet Number 4   |

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| INDEX |      |       | CONTRACT<br>ITEM NO. | CONTRACT ITEM                                      | UNIT | ROADWAY |           |  |  | R550B088685LRA |  |      |           |  |  | L-06-P |  |      |           | PROJECT<br>TOTALS |  |
|-------|------|-------|----------------------|----------------------------------------------------|------|---------|-----------|--|--|----------------|--|------|-----------|--|--|--------|--|------|-----------|-------------------|--|
| BOOK  | PAGE | SHEET |                      |                                                    |      | PLAN    | AS CONST. |  |  |                |  | PLAN | AS CONST. |  |  |        |  | PLAN | AS CONST. |                   |  |
|       |      |       | 202-00502            | Removal of Portions of Present Structure           | CY   |         |           |  |  | 5              |  |      |           |  |  |        |  |      |           | 5                 |  |
|       |      |       | 202-00505            | Removal of Portions of Present Structure           | SF   |         |           |  |  |                |  |      |           |  |  | 284    |  |      |           | 284               |  |
|       |      |       | 202-04003            | Clean Culvert (Special)                            | EACH |         |           |  |  |                |  |      |           |  |  | 3      |  |      |           | 3                 |  |
|       |      |       | 208-00035            | Aggregate Bag                                      | LF   | 200     |           |  |  |                |  |      |           |  |  |        |  |      |           | 200               |  |
|       |      |       | 208-00103            | Removal and Disposal of Sediment (Labor)           | HOUR | 10      |           |  |  |                |  |      |           |  |  |        |  |      |           | 10                |  |
|       |      |       | 208-00106            | Sweeping (Sediment Removal)                        | HOUR | 10      |           |  |  |                |  |      |           |  |  |        |  |      |           | 10                |  |
|       |      |       | 208-00146            | Pre-fabricated Concrete Washout Structure (Type 2) | EACH | 4       |           |  |  |                |  |      |           |  |  |        |  |      |           | 4                 |  |
|       |      |       | 211-00100            | Drilling Hole                                      | LF   |         |           |  |  | 50             |  |      |           |  |  |        |  |      |           | 50                |  |
|       |      |       | 240-00000            | Wildlife Biologist                                 | HOUR | 15      |           |  |  |                |  |      |           |  |  |        |  |      |           | 15                |  |
|       |      |       | 504-06406            | Soil Nail                                          | LF   |         |           |  |  | 2,208          |  |      |           |  |  |        |  |      |           | 2,208             |  |
|       |      |       | 504-06410            | Verification Testing                               | EACH |         |           |  |  | 2              |  |      |           |  |  |        |  |      |           | 2                 |  |
|       |      |       | 519-01000            | Epoxy Resin (Injection)                            | LF   |         |           |  |  |                |  |      |           |  |  | 117    |  |      |           | 117               |  |
|       |      |       | 601-03000            | Concrete Class D                                   | CY   |         |           |  |  | 5              |  |      |           |  |  |        |  |      |           | 5                 |  |
|       |      |       | 601-40400            | Structural Concrete Stain                          | SY   |         |           |  |  |                |  |      |           |  |  | 32     |  |      |           | 32                |  |
|       |      |       | 602-00020            | Reinforcing Steel (Epoxy Coated)                   | LB   |         |           |  |  | 174            |  |      |           |  |  |        |  |      |           | 174               |  |
|       |      |       | 602-00210            | Welded Wire Fabric                                 | SY   |         |           |  |  |                |  |      |           |  |  | 32     |  |      |           | 32                |  |
|       |      |       | 602-51010            | Galvanic Anodes                                    | EACH |         |           |  |  |                |  |      |           |  |  | 64     |  |      |           | 64                |  |
|       |      |       | 620-00002            | Field Office (Class 2)                             | EACH | 1       |           |  |  |                |  |      |           |  |  |        |  |      |           | 1                 |  |
|       |      |       | 620-00020            | Sanitary Facility                                  | EACH | 1       |           |  |  |                |  |      |           |  |  |        |  |      |           | 1                 |  |
|       |      |       | 626-00000            | Mobilization                                       | L S  | 1       |           |  |  |                |  |      |           |  |  |        |  |      |           | 1                 |  |
|       |      |       | 626-01103            | Public Information Services (Tier III)             | L S  | 1       |           |  |  |                |  |      |           |  |  |        |  |      |           | 1                 |  |
|       |      |       | 630-00000            | Flagging                                           | HOUR | 900     |           |  |  |                |  |      |           |  |  |        |  |      |           | 900               |  |
|       |      |       | 630-00007            | Traffic Control Inspection                         | DAY  | 24      |           |  |  |                |  |      |           |  |  |        |  |      |           | 24                |  |
|       |      |       | 630-00012            | Traffic Control Management                         | DAY  | 47      |           |  |  |                |  |      |           |  |  |        |  |      |           | 47                |  |
|       |      |       | 630-80335            | Barricade (Type 3 M-A) (Temporary)                 | EACH | 6       |           |  |  |                |  |      |           |  |  |        |  |      |           | 6                 |  |
|       |      |       | 630-80341            | Construction Traffic Sign (Panel Size A)           | EACH | 26      |           |  |  |                |  |      |           |  |  |        |  |      |           | 26                |  |
|       |      |       | 630-80342            | Construction Traffic Sign (Panel Size B)           | EACH | 14      |           |  |  |                |  |      |           |  |  |        |  |      |           | 14                |  |
|       |      |       | 630-80350            | Vertical Panel                                     | EACH | 10      |           |  |  |                |  |      |           |  |  |        |  |      |           | 10                |  |
|       |      |       | 630-80355            | Portable Message Sign Panel                        | EACH | 2       |           |  |  |                |  |      |           |  |  |        |  |      |           | 2                 |  |
|       |      |       | 630-80360            | Drum Channelizing Device                           | EACH | 20      |           |  |  |                |  |      |           |  |  |        |  |      |           | 20                |  |
|       |      |       | 630-80370            | Barrier (Temporary) (Concrete)                     | LF   | 250     |           |  |  |                |  |      |           |  |  |        |  |      |           | 250               |  |
|       |      |       | 630-85010            | Impact Attenuator (Temporary)                      | EACH | 2       |           |  |  |                |  |      |           |  |  |        |  |      |           | 2                 |  |
|       |      |       | 630-86822            | Portable Traffic Signal (CWZ)                      | MON  | 4       |           |  |  |                |  |      |           |  |  |        |  |      |           | 4                 |  |

|                                                                     |                                         |  |                                                             |                 |          |       |                                                                                                                                                        |  |  |  |                   |  |                                   |  |                |  |                  |  |
|---------------------------------------------------------------------|-----------------------------------------|--|-------------------------------------------------------------|-----------------|----------|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|-------------------|--|-----------------------------------|--|----------------|--|------------------|--|
| All seals for this set of drawings are applied to the cover page(s) | Print Date: 3/18/2026                   |  | <div></div> <div></div> <div></div> <div></div> <div></div> | Sheet Revisions |          |       | Colorado Department of Transportation                                                                                                                  |  |  |  | As Constructed    |  | SUMMARY OF APPROXIMATE QUANTITIES |  |                |  | Project No./Code |  |
|                                                                     | File Name: 22182_Sheets_NotesSAQMnS.dgn |  |                                                             | Date:           | Comments | Init. | <div><div></div><div></div></div> <div>3803 N. MAIN AVE.<br/>DURANGO, CO 81301<br/>Phone: 970-385-3629<br/>Fax: 970-385-8365</div> <div>Region 5</div> |  |  |  | No Revisions:     |  | Designer: CK                      |  | Structure      |  | NHPP 5502-103    |  |
|                                                                     | Horiz. Scale: NA      Vert. Scale: NA   |  |                                                             |                 |          |       |                                                                                                                                                        |  |  |  | 22182             |  |                                   |  |                |  |                  |  |
|                                                                     | Unit Information                        |  |                                                             |                 |          |       |                                                                                                                                                        |  |  |  | Detailer: CK      |  | Numbers                           |  | Sheet Number 5 |  |                  |  |
|                                                                     |                                         |  |                                                             |                 |          |       |                                                                                                                                                        |  |  |  | Sheet Subset: SAQ |  | Subset Sheets: 1 OF 2             |  |                |  |                  |  |
|                                                                     |                                         |  |                                                             |                 |          |       | Void:                                                                                                                                                  |  |  |  |                   |  |                                   |  |                |  |                  |  |



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| TABULATION OF GEOTECHNICAL ITEMS |    |          |      |                                          |           |           |           |                      |           |                  |           |                                  |           |                  |           |                       |           |
|----------------------------------|----|----------|------|------------------------------------------|-----------|-----------|-----------|----------------------|-----------|------------------|-----------|----------------------------------|-----------|------------------|-----------|-----------------------|-----------|
| MILEPOST                         |    | LOCATION | SIDE | 202-00502                                |           | 504-06406 |           | 504-06410            |           | 601-03000        |           | 602-00020                        |           | 641-10000        |           | FOR INFORMATION ONLY  |           |
|                                  |    |          |      | Removal of Portions of Present Structure |           | Soil Nail |           | Verification Testing |           | Concrete Class D |           | Reinforcing Steel (Epoxy Coated) |           | Shotcrete (Wall) |           | Shotcrete (Flashcoat) |           |
|                                  |    |          |      | CY                                       |           | LF        |           | EACH                 |           | CY               |           | LB                               |           | SY               |           | SY                    |           |
| FROM                             | TO |          |      | PLAN                                     | AS CONST. | PLAN      | AS CONST. | PLAN                 | AS CONST. | PLAN             | AS CONST. | PLAN                             | AS CONST. | PLAN             | AS CONST. | PLAN                  | AS CONST. |
|                                  |    | MP 88.68 |      | 5                                        |           | 2,208     |           | 2                    |           | 5                |           | 174                              |           | 267              |           | 267                   |           |
|                                  |    |          |      |                                          |           |           |           |                      |           |                  |           |                                  |           |                  |           |                       |           |
|                                  |    |          |      |                                          |           |           |           |                      |           |                  |           |                                  |           |                  |           |                       |           |
|                                  |    |          |      |                                          |           |           |           |                      |           |                  |           |                                  |           |                  |           |                       |           |
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|                                  |    |          |      |                                          |           |           |           |                      |           |                  |           |                                  |           |                  |           |                       |           |
| Project Totals                   |    |          |      | 5                                        |           | 2,208     |           | 2                    |           | 5                |           | 174                              |           | 267              |           | 267                   |           |

Notes: 504-06406 Soil Nail quantity includes an added 15% contingency for various lengths within the unbonded length  
Shotcrete (Flashcoat) quantity is incidental to 641-10000 Shotcrete (Wall)

All seals for this set of drawings are applied to the cover page(s)

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| Print Date: 3/5/2026                                                                                                                                                     |
| File Name: 019-US 550_MM 88-6_Quantities.dgn                                                                                                                             |
| Horiz. Scale: NTS      Vert. Scale: As Noted                                                                                                                             |
| Unit Information                                                                                                                                                         |
|  <b>Yeh and Associates, Inc.</b><br>Geotechnical • Geological • Construction Services |

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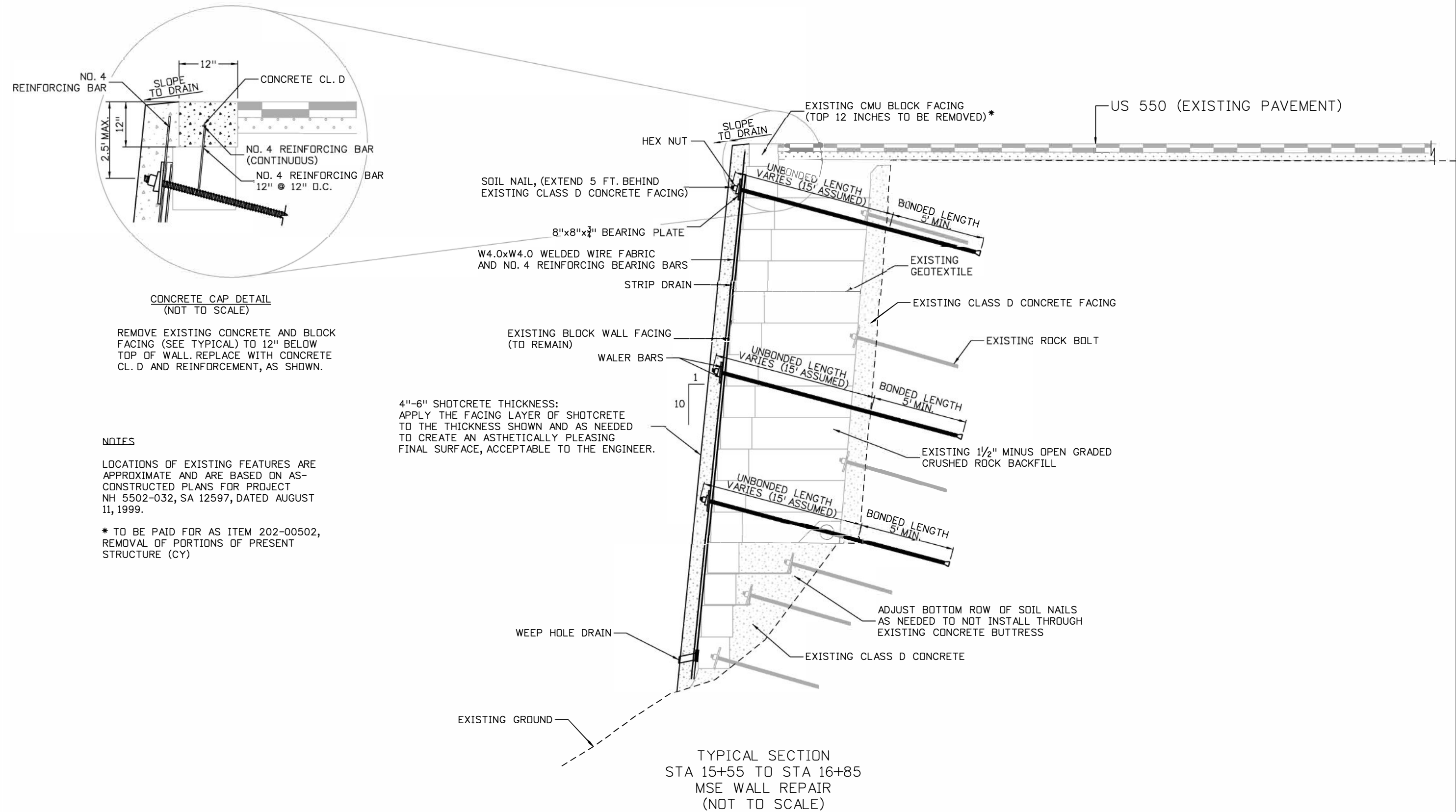
3803 N. Main Ave.  
Durango, CO 81301  
Phone: 970-385-3629  
Fax: 970-385-8365

Region 5

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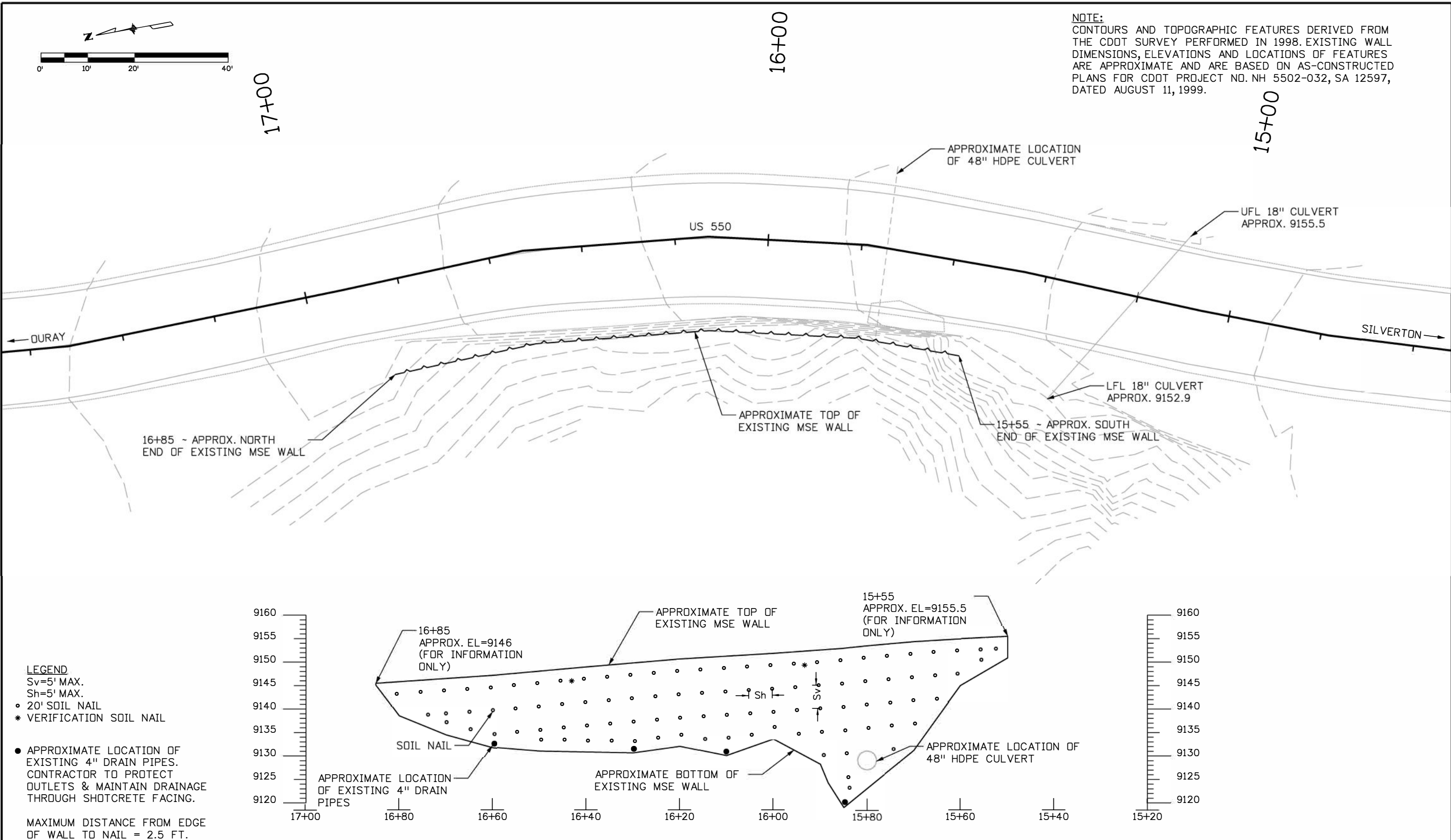
| As Constructed |  | US 550-MM 88.6<br>QUANTITY TABULATIONS |                        |                       | Project No./Code |
|----------------|--|----------------------------------------|------------------------|-----------------------|------------------|
| No Revisions:  |  |                                        |                        |                       | NHPP 5502-103    |
| Revised:       |  | Designer: T. Schlittenhart             | Structure Numbers      | R550B088685LRA        | 22182            |
| Void:          |  | Detailer: M. Walz                      | Sheet Subset: Wall Tab | Subset Sheets: 1 OF 1 | Sheet Number 7   |

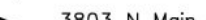
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|                                                                     |                                                                                                                                                                   |                 |          |       |                                                                                       |                                                                                    |                |                                                  |                       |                  |
|---------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|----------|-------|---------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|----------------|--------------------------------------------------|-----------------------|------------------|
| All seals for this set of drawings are applied to the cover page(s) | Print Date: 2/27/2026                                                                                                                                             | Sheet Revisions |          |       | Colorado Department of Transportation                                                 |                                                                                    | As Constructed | US 550-MM 88.6<br>TYPICAL SECTION<br>WALL REPAIR |                       | Project No./Code |
|                                                                     | File Name: 018-US 550_MM 88-6_TypicalSection.dgn                                                                                                                  | Date:           | Comments | Init. |  | 3803 N. Main Ave.<br>Durango, CO 81301<br>Phone: 970-385-3629<br>Fax: 970-385-8365 | No Revisions:  | Designer: T. Schlittenhart                       | Structure Numbers     | NHPP 5502-103    |
|                                                                     | Horiz. Scale: NTS Vert. Scale: As Noted                                                                                                                           |                 |          |       |                                                                                       |                                                                                    | Revised:       | Detailer: M. Walz                                |                       | 22182            |
|                                                                     | Unit Information                                                                                                                                                  |                 |          |       |                                                                                       |                                                                                    | Void:          | Sheet Subset: TYPWALL                            | Subset Sheets: 1 OF 1 | Sheet Number 8   |
|                                                                     |  Yeh and Associates, Inc.<br>Geotechnical • Geological • Construction Services |                 |          |       |                                                                                       |                                                                                    |                |                                                  |                       |                  |

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| All seals for this set of drawings are applied to the cover page(s) | Print Date: 2/27/2026 | <div>Sheet Revisions</div> <table><thead><tr><th>Date:</th><th>Comments</th><th>Init.</th></tr></thead><tbody><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr></tbody></table> | Date:             | Comments       | Init.          |  |  |  |  |  |  |  |  |  |  |  |  | <div>Colorado Department of Transportation</div> <div><div></div><div>3803 N. Main Ave.<br/>Durango, CO 81301<br/>Phone: 970-385-3629<br/>Fax: 970-385-8365</div></div> <div>Region 5<div>BMK</div></div> | As Constructed | US 550-MM 88.6<br>PLAN SHEET |  |  | Project No./Code |
|---------------------------------------------------------------------|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|----------------|----------------|--|--|--|--|--|--|--|--|--|--|--|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|------------------------------|--|--|------------------|
|                                                                     | Date:                 |                                                                                                                                                                                                                                                                                | Comments          | Init.          |                |  |  |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                |                |                              |  |  |                  |
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|                                                                     |                       |                                                                                                                                                                                                                                                                                |                   |                |                |  |  |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                |                |                              |  |  |                  |
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|                                                                     | No Revisions:         |                                                                                                                                                                                                                                                                                |                   |                | NHPP 5502-103  |  |  |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                |                |                              |  |  |                  |
|                                                                     | Revised:              | Designer: T. Schlittenhart                                                                                                                                                                                                                                                     | Structure Numbers | R550B088685LRA | 22182          |  |  |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                |                |                              |  |  |                  |
|                                                                     |                       | Detailer: M. Walz                                                                                                                                                                                                                                                              |                   |                |                |  |  |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                |                |                              |  |  |                  |
|                                                                     | Void:                 | Sheet Subset: P&P                                                                                                                                                                                                                                                              | Subset Sheets:    | 1 OF 1         | Sheet Number 9 |  |  |  |  |  |  |  |  |  |  |  |  |                                                                                                                                                                                                                                                                                                |                |                              |  |  |                  |

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SOIL NAIL WALL GENERAL NOTES



Know what's below.  
Call before you dig.

1.0 GENERAL NOTES

- 1.1 THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STABILITY OF STRUCTURES AND ROADWAY, INCLUDING EXCAVATIONS, DURING CONSTRUCTION. THE EXISTING STRUCTURE IS DESIGNED TO SUPPORT A DISTRIBUTED LOAD OF 250 PSF.
- 1.2 ALL REINFORCING STEEL SHALL BE EPOXY COATED UNLESS OTHERWISE NOTED. N DENOTES NON-COATED REINFORCING STEEL.
- 1.3 THE MINIMUM LAP SPLICE LENGTH FOR EPOXY COATED #4 REINFORCING BAR SHALL BE 2'-3" AND PLACED IN ACCORDANCE WITH SUBSECTION 602.06.
- 1.4 SOIL NAILS - SOLID-THREADED BARS OR HOLLOW BARS MAY BE USED. SOLID-THREADED SOIL NAILS SHALL BE GRADE 75 THREAD BAR OR EQUIVALENT IN ACCORDANCE WITH ASTM A615 AND EPOXY COATED IN ACCORDANCE WITH ASTM A775 AS SHOWN ON THE PLANS AND IN THE SPECIFICATIONS. FY=75,000 PSI  
HOLLOW BAR SOIL NAILS SHALL BE FULLY THREADED, HOLLOW STEEL TUBING WITH A MINIMUM YIELD TENSILE STRENGTH (FY) OF 75,000 PSI. TENDONS SHALL BE NEW, STRAIGHT, UNDAMAGED AS SHOWN ON THE PLANS AND IN THE SPECIFICATIONS. COUPLERS SHALL PROVIDE 100% OF THE ULTIMATE TENSILE STRENGTH OF THE TENDON.  
1-1/4" HOLLOW INJECTION BAR SOIL NAILS SHALL HAVE A MAXIMUM AVERAGE INNER DIAMETER OF 0.70 INCHES.
- 1.5 GROUT - GROUT SHALL BE NEAT-CEMENT OR WITH SAND, WITH TYPE 1L CEMENT IN ACCORDANCE WITH ASTM C150. GROUT SPECIFIC GRAVITY SHALL BE BETWEEN 1.8 AND 1.9 AND SHALL DEVELOP THE FOLLOWING STRENGTHS AT THE SPECIFIED CURE PERIODS.  
F'C=1,500 PSI MINIMUM (3-DAY STRENGTH)  
F'C=3,000 PSI MINIMUM (28-DAY STRENGTH)
- 1.6 END HARDWARE - NUTS AND WASHERS SHALL BE IN ACCORDANCE WITH SOIL NAIL MANUFACTURER'S RECOMMENDATIONS. BEARING PLATES SHALL BE IN ACCORDANCE WITH ASTM A36, GRADE 36. BEARING PLATE, NUTS AND WASHERS SHALL BE EPOXY COATED OR GALVANIZED.
- 1.7 SHOTCRETE - PER CDOT STANDARD SPECIFICATIONS SECTION 641 SHOTCRETE.
- 1.8 UNLESS OTHERWISE NOTED ON THE PLANS, MINIMUM COVER OF SHOTCRETE REINFORCEMENT AND NAIL END HARDWARE SHOULD BE AS FOLLOWS:  
FACE EXPOSED TO WEATHER - 2" MIN.  
FACE EXPOSED TO EXISTING BLOCK FACING - 2" MIN.
- 1.9 WELDED WIRE FABRIC SHALL BE IN ACCORDANCE WITH ASTM A1064. FY=65,000 PSI. WELDED WIRE FABRIC SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM A123 WITH A MINIMUM COATING OF 2.0 OZ./SQ FT.
- 1.10 WALERS AND VERTICAL BEARING BARS SHALL BE IN ACCORDANCE WITH ASTM A615. FY=60,000 PSI. WALERS AND VERTICAL BEARING BARS SHALL BE EPOXY COATED OR GALVANIZED.
- 1.11 STRIP DRAINS CONSIST OF 12" WIDE DIMPLED CORES WRAPPED IN GEOTEXTILE IN CONFORMANCE WITH SUBSECTION 712.12 GEOTEXTILE DRAINS.
- 1.12 SEVERAL SOURCES OF DATA WERE USED FOR EXISTING GROUND TOPOGRAPHIC INFORMATION. THE FOLLOWING WAS USED IN ORDER OF PRIORITY:  
A. NH 5502-032, SA 12597, AS-CONSTRUCTED PLANS BY YENTER COMPANIES.  
B. NH 5502-032, SA 12597, DESIGN PLANS BY CDOT  
  
LOCATIONS WHERE EXISTING CONTOURS IN PLAN VIEW OR EXISTING GROUND LINES IN PROFILE AND CROSS SECTION VIEW DO NOT MATCH ARE A RESULT OF USING SEVERAL SOURCES OF DATA FOR EXISTING GROUND TOPOGRAPHIC INFORMATION. THE CONTRACTOR SHALL INFORM THE ENGINEER DURING CONSTRUCTION IF THERE ARE DISCREPANCIES BETWEEN THE EXISTING GROUND DATA IN THE PLAN SET AND EXISTING FEATURES. THE ENGINEER WILL DETERMINE IF THE DESIGN REQUIRES MODIFICATION AS A RESULT OF DISCREPANCIES.

2.0 SOIL NAIL WALL CONSTRUCTION SEQUENCE

- 2.1 INSTALL SHOTCRETE FLASHCOAT OVER EXISTING BLOCK WALL FACING PRIOR TO INSTALLING SOIL NAILS. PREPARE THE EXISTING BLOCK WALL FACING PER SECTION 641. GIVE SPECIAL ATTENTION TO FILLING THE VOIDS IN THE EXISTING BLOCK FACING. SHOTCRETE (FLASHCOAT) IN INCIDENTAL TO THE SHOTCRETE (WALL) ITEM.
- 2.2 INSTALL SOIL NAILS AT THE SPACINGS AND TO THE LENGTHS SHOWN ON THE PLANS. THE TOP ROW OF SOIL NAILS SHALL BE WITHIN 2.5 FEET OF THE TOP OF THE WALL. THE BOTTOM ROW OF NAILS SHALL BE WITHIN 2.5 FEET OF THE BOTTOM OF THE WALL. ADJUST THE BOTTOM ROW OF SOIL NAILS AS NEEDED TO NOT DRILL THROUGH THE EXISTING CONCRETE BUTTRESS. THE TOLERANCE FOR SOIL NAIL LOCATIONS SHALL BE 6 INCHES.

2.0 SOIL NAIL WALL CONSTRUCTION SEQUENCE con't

- 2.3 MARK LOCATIONS OF SOIL NAILS PER THE PLANS AND WORKING DRAWINGS. DRILL THROUGH THE EXISTING BLOCK FACING TAKING CARE TO MINIMIZE DAMAGE TO GEOTEXTILE REINFORCING. INJECT AIR DURING DRILLING TO FLUSH CUTTINGS FROM THE DRILL HOLE. INJECT GROUT SUCH THAT A MINIMUM OF 5 FEET OF THE SOIL NAIL IS BONDED BEHIND THE CLASS D CONCRETE FACING. AVOID GROUTING THE CRUSHED ROCK BACKFILL BETWEEN THE BLOCK FACING AND CLASS D CONCRETE FACING. GROUNDWATER, BOULDERS, COBBLES, WOOD, CONCRETE, EXISTING ROCK ANCHORS, EXISTING MICROPILES, AND/OR BEDROCK MAY BE ENCOUNTERED AT ANY DEPTH OF DRILLING.
- 2.4 INSTALL STRIP DRAINS AGAINST THE EXISTING BLOCK WALL FACING OR PERFORATE SHOTCRETE FLASHCOAT WHERE STRIP DRAINS WILL BE INSTALLED. INSTALL STRIP DRAINS, WELDED WIRE FABRIC, WALERS AND VERTICAL BEARING BARS AS SHOWN ON THE PLANS. USE PLASTIC CHAIRS TO HOLD THE REINFORCEMENT AWAY FROM THE EXISTING BLOCK FACING AS NECESSARY.
- 2.5 INSTALL SHOTCRETE TO THE THICKNESS SHOWN ON THE PLANS AND TO ATTAIN THE MINIMUM COVERAGES SPECIFIED HEREIN. PREPARE THE SHOTCRETE FLASHCOAT PER SECTION 641. COLD WEATHER PROTECTION MEASURES MAY BE NECESSARY.
- 2.6 INSTALL THE SOIL NAIL END HARDWARE AFTER THE SHOTCRETE HAS BEEN INSTALLED. WHILE THE SHOTCRETE IS STILL WET, EMBED THE PLATE INTO THE SHOTCRETE SURFACE UNTIL THERE IS NO VOID BEHIND THE PLATE. HAND TIGHTEN THE NUT SNUG. APPLY ADDITIONAL SHOTCRETE TO ATTAIN MINIMUM COVERAGE FOR THE SOIL NAIL AND END HARDWARE.

3.0 SOIL NAIL WALL DESIGN PARAMETERS,

- 3.1 THE SOIL NAIL WALL HAS BEEN DESIGNED IN GENERAL ACCORDANCE WITH PROCEDURES CONTAINED IN THE FHWA-NHI-14-007 "SOIL NAIL WALLS REFERENCE MANUAL" AND AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 10TH EDITION (2024) AND CDOT SOIL NAIL WORKSHEETS.
- 3.2 THE FOLLOWING VALUES HAVE BEEN USED FOR DESIGN PARAMETERS:

|                        | $\phi$ | C'    | $\delta$ | qu    | $\phi$                     | C'       | $\delta$    | qu                      |
|------------------------|--------|-------|----------|-------|----------------------------|----------|-------------|-------------------------|
|                        | (DEG)  | (PSF) | (PCF)    | (PSI) | ANGLE OF INTERNAL FRICTION | COHESION | UNIT WEIGHT | BOND STRENGTH (NOMINAL) |
| GRANULAR SOIL BACKFILL | 30     | 0     | 135      | 20    |                            |          |             |                         |

3.3 RESISTANCE FACTORS AND FACTORS OF SAFETY:

STRENGTH AND EXTREME EVENT LIMIT STATES:  
PULLOUT RESISTANCE FACTOR: 0.65  
TENSILE RESISTANCE FACTOR: 0.75  
PUNCHING - SHEAR RESISTANCE FACTOR: 0.90  
FLEXURAL LIMIT STATE FACTOR: 0.90

4.0 SOIL NAIL WALL SPECIAL NOTES

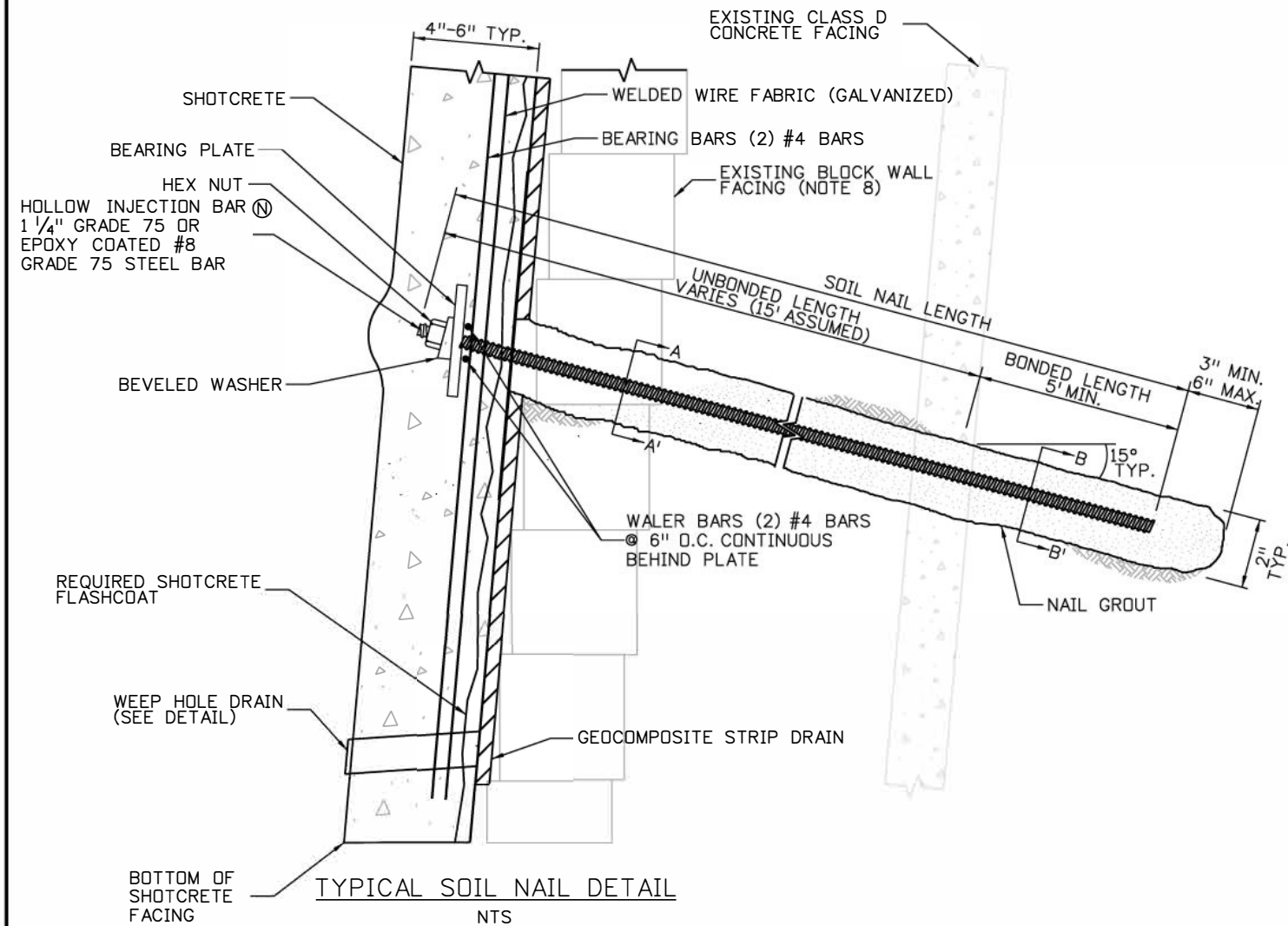
- 4.1 THE CONTRACTOR IS RESPONSIBLE FOR FIELD LOCATING ALL NEARBY UTILITIES.
- 4.2 THE BOND STRENGTHS (QU) SHOWN ON THE PLANS ARE THE MINIMUM ASSUMED FOR DESIGN.
- 4.3 SOIL NAIL LENGTHS SHOWN ON THE PLANS ARE THE MINIMUM LENGTHS REQUIRED.
- 4.4 PRIOR TO BEGINNING CONSTRUCTION OF THE SHOTCRETE FACING, THE CONTRACTOR SHALL:

4.4.1 CONFIRM THE LINES, GRADES, AND EXCAVATION LIMITS SHOWN ON THE PLANS.

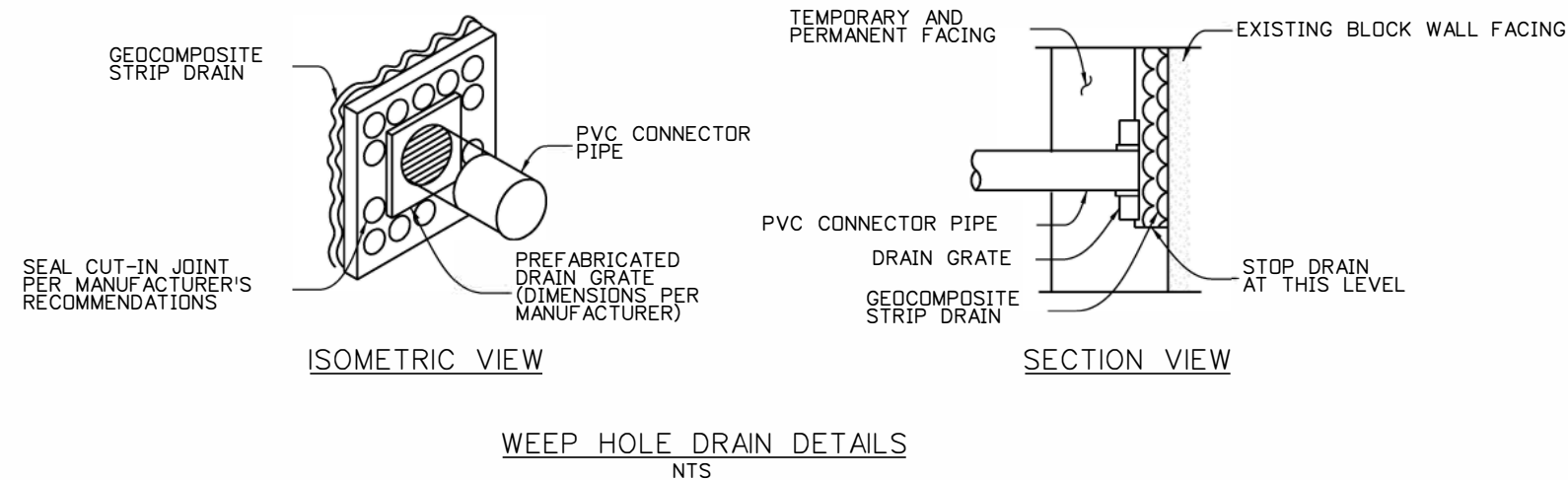
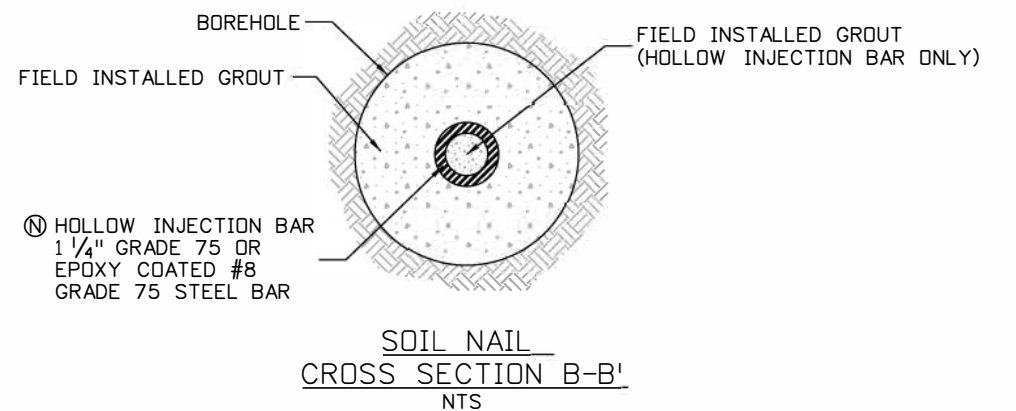
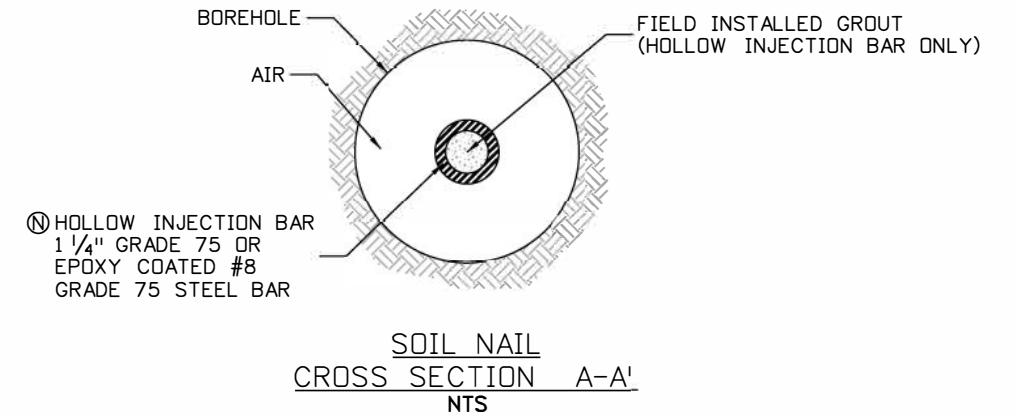
4.4.2 MODIFY THE PLAN WALL PROFILE USING THE FIELD SURVEY INFORMATION AND SUBMIT TO THE ENGINEER FOR REVIEW AND APPROVAL.

|                                                                     |                                                                               |                 |          |       |                                       |                                                                                    |                |                              |                       |                |                  |
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| All seals for this set of drawings are applied to the cover page(s) | Print Date: 3/11/2026                                                         | Sheet Revisions |          |       | Colorado Department of Transportation |                                                                                    | As Constructed | US 550-MM 88.6               |                       |                | Project No./Code |
|                                                                     | File Name: 019-US 550-MM 88-6-SN GeneralNotes.dgn                             | Date:           | Comments | Init. |                                       | 3803 N. Main Ave.<br>Durango, CO 81301<br>Phone: 970-385-3629<br>Fax: 970-385-8365 | No Revisions:  | SOIL NAIL WALL GENERAL NOTES |                       |                | NHPP 5502-103    |
|                                                                     | Horiz. Scale: NTS Vert. Scale: As Noted                                       |                 |          |       |                                       |                                                                                    | Revised:       | Designer: T. Schlittenhart   | Structure Numbers     | R550B088685LRA | 22182            |
|                                                                     | Unit Information                                                              |                 |          |       |                                       |                                                                                    | Void:          | Detailer: M. Walz            |                       |                |                  |
|                                                                     | Yeh and Associates, Inc.<br>Geotechnical • Geological • Construction Services |                 |          |       |                                       |                                                                                    |                | Sheet Subset: SNW            | Subset Sheets: 1 OF 4 |                | Sheet Number 10  |

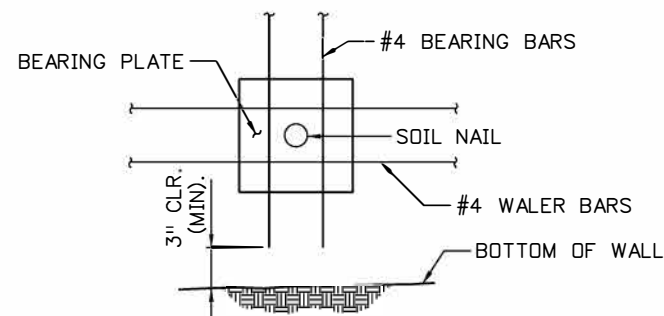
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1. REINFORCEMENT OF THE SHOTCRETE FACING SHALL BE INSTALLED THROUGHOUT THE ENTIRE SHOTCRETE FACING, INCLUDING THE FACING BEYOND THE SOIL NAILS.
2. MAXIMUM EDGE DISTANCE OF 2.5 FT FOR EACH ROW OF SOIL NAILS AT END OF WALL.
3. THE MINIMUM SHOTCRETE THICKNESS IS 4 IN. AND THE MAXIMUM THICKNESS IS 6" FOR WALL FACE WITH 2 IN. MIN. BEHIND BEARING PLATE.
4. (N) DENOTES NON-COATED REINFORCING STEEL.
5. 2" MIN. COVER OVER NAIL END AND HARDWARE
6. 2" MIN. COVER ON ALL REINFORCING EXPOSED TO AIR.
7. 2" MIN. COVER ON ALL REINFORCING PLACED ON THE EXISTING BLOCK FACING.
8. PREPARE THE EXISTING BLOCK WALL FACING PER SECTION 641.

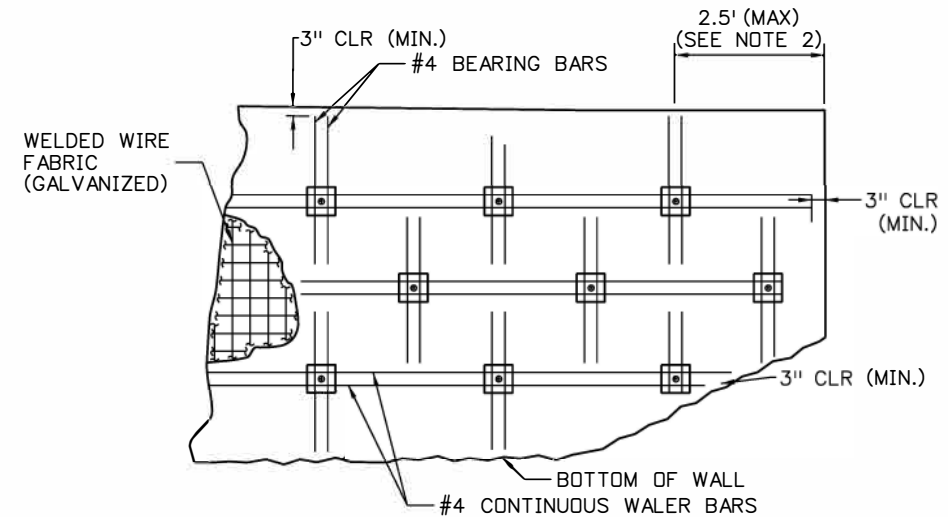


|                                                                     |                                                                                                                       |                                                                    |                 |          |       |                                                                                                                                                                                                                                                                           |                   |  |                                          |                   |                |                  |  |
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| All seals for this set of drawings are applied to the cover page(s) | Print Date: 3/11/2026                                                                                                 | <div><div></div><div></div><div></div><div></div><div></div></div> | Sheet Revisions |          |       | <div><div><div></div><div></div></div><div>Colorado Department of Transportation</div><div><div><div></div><div></div></div><div>3803 N. Main Ave.<br/>Durango, CO 81301<br/>Phone: 970-385-3629<br/>Fax: 970-385-8365</div></div><div>Region 5<div>BMK</div></div></div> | As Constructed    |  | US 550-MM 88.6<br>SOIL NAIL WALL DETAILS |                   |                | Project No./Code |  |
|                                                                     | File Name: 020-US 550_MM 88-6_SN Details.dgn                                                                          |                                                                    | Date:           | Comments | Init. |                                                                                                                                                                                                                                                                           | No Revisions:     |  | NHPP 5502-103                            |                   |                |                  |  |
|                                                                     | Horiz. Scale: NTS      Vert. Scale: As Noted                                                                          |                                                                    |                 |          |       |                                                                                                                                                                                                                                                                           | Revised:          |  | Designer: T. Schlittenhart               | Structure Numbers | R550B088685LRA | 22182            |  |
|                                                                     | Unit Information                                                                                                      |                                                                    |                 |          |       |                                                                                                                                                                                                                                                                           | Void:             |  | Detailer: M. Walz                        |                   |                | Sheet Number 11  |  |
|                                                                     | <div><div></div><div>Yeh and Associates, Inc.</div><div>Geotechnical • Geological • Construction Services</div></div> |                                                                    |                 |          |       |                                                                                                                                                                                                                                                                           | Sheet Subset: SNW |  | Subset Sheets: 2 OF 4                    |                   |                |                  |  |

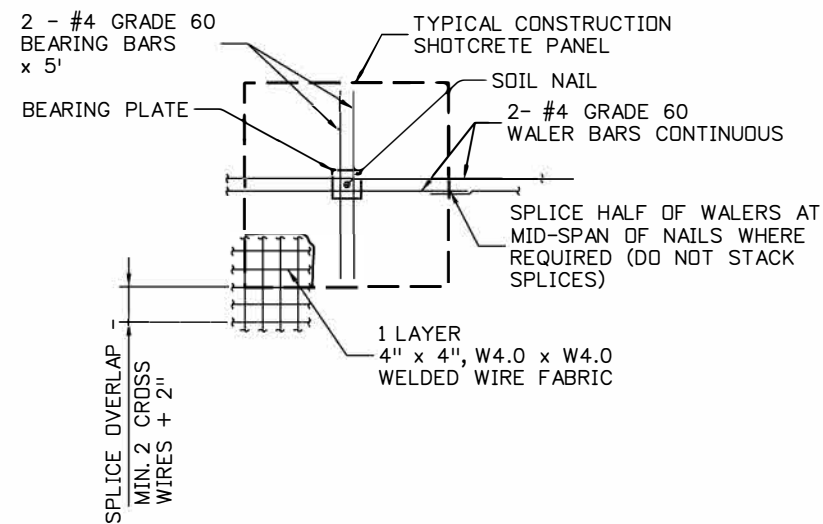


TYPICAL REINFORCEMENT  
BOTTOM ROW OF SOIL NAILS  
NTS

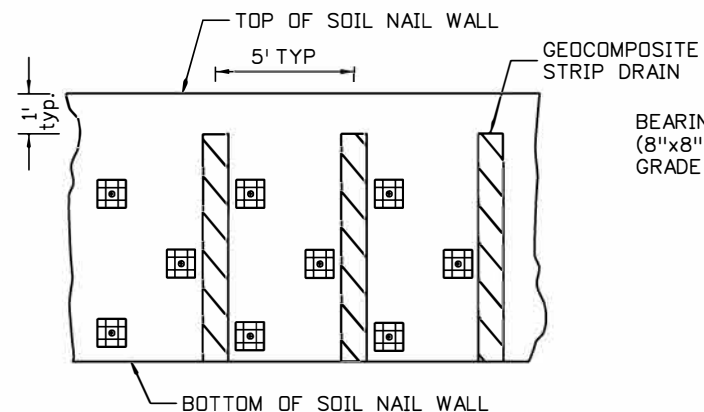
1. REINFORCEMENT OF THE SHOTCRETE FACING SHALL BE INSTALLED THROUGHOUT THE ENTIRE SHOTCRETE FACING, INCLUDING THE FACING BEYOND THE SOIL NAILS.
2. MAXIMUM EDGE DISTANCE OF 2.5 FT FOR EACH ROW OF SOIL NAILS AT END OF WALL.
3. THE MINIMUM SHOTCRETE THICKNESS IS 4 IN. AND THE MAXIMUM THICKNESS IS 6" FOR WALL FACE WITH 2 IN. MIN. BEHIND BEARING PLATE.
4. Ⓝ DENOTES NON-COATED REINFORCING STEEL.
5. 2" MIN. COVER OVER NAIL END AND HARDWARE
6. 2" MIN. COVER ON ALL REINFORCING EXPOSED TO AIR.
7. 2" MIN. COVER ON ALL REINFORCING PLACED ON THE EXISTING BLOCK FACING.
8. PREPARE THE EXISTING BLOCK WALL FACING PER SECTION 641.



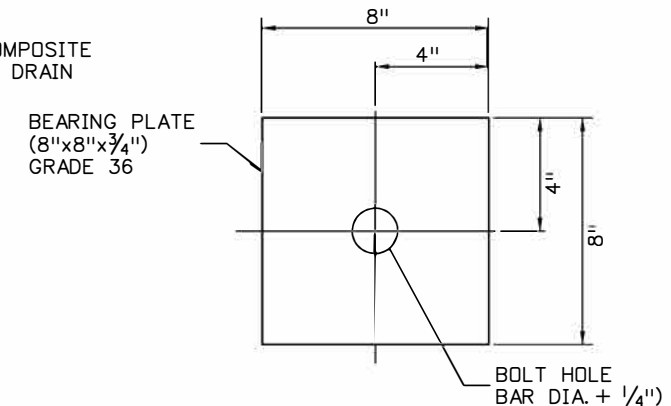
TYPICAL SHOTCRETE FACING  
REINFORCEMENT - END OF WALL (NOTE 1)  
NTS



TYPICAL SHOTCRETE  
FACING PANEL REINFORCEMENT  
NTS



TYPICAL STRIP DRAIN DETAIL  
NTS



BEARING PLATE DETAIL  
NTS

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| Print Date: 3/11/2026                                                                |
| File Name: 020-US 550-MM 88-6_SN Details02.dgn                                       |
| Horiz. Scale: NTS Vert. Scale: As Noted                                              |
| Unit Information                                                                     |
| <b>Yeh and Associates, Inc.</b><br>Geotechnical • Geological • Construction Services |

#### Sheet Revisions

| Date: | Comments | Init. |
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Colorado Department of Transportation



3803 N. Main Ave.  
Durango, CO 81301  
Phone: 970-385-3629  
Fax: 970-385-8365

Region 5

BMK

As Constructed

No Revisions:

Revised:

Void:

**US 550-MM 88.6  
SOIL NAIL WALL DETAILS**

Designer: T. Schlittenhart

Detailer: M. Walz

Sheet Subset: SNW

Structure R550B088685LRA

Numbers

Subset Sheets: 3 OF 4

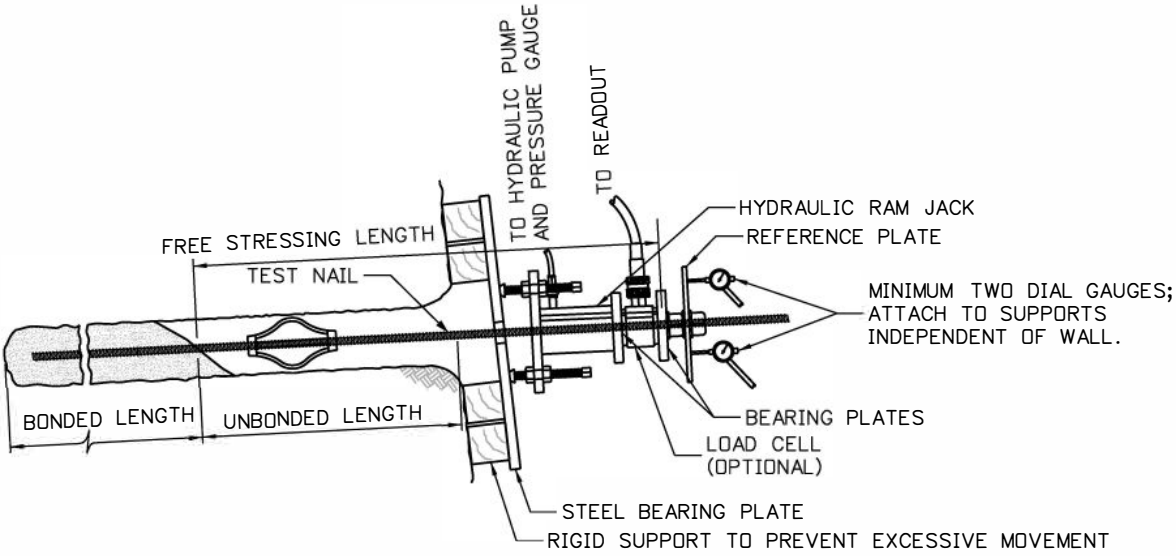
Project No./Code

NHPP 5502-103

22182

Sheet Number 12

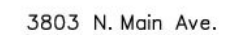
mwalz 11:28:02 AM W:\2017 Projects\217-200 ES US 550 CoalBank to Duray\07 Drawings\MM 88.66\021-US 550\_MM 88-6\_SN Testing and Const.dgn



TYPICAL SOIL NAIL TEST SETUP

SOIL NAIL TESTING NOTES:

1. SEE SPECIFICATIONS FOR VERIFICATION AND PROOF TEST NAIL REQUIREMENTS.
2. REQUIRED SOIL NAIL NOMINAL PULLOUT RESISTANCE:  $r_{PD} = 4.0 \text{ KIP/FT}$  GRANULAR SOIL BACKFILL.
3. THE TEST SUPPORT SYSTEM (EG. CRIBBING, CHAIRS, BEARING PLATES, ETC.) SHALL BE SUFFICIENT TO COMPLETE THE TEST WITHOUT DEFLECTION OR BEARING FAILURE.
4. A MINIMUM OF 5% OF THE SOIL NAILS SHALL BE PROOF TESTED. PROOF TESTING SHALL BE INCLUDED IN THE COST OF THE WORK.

|                                                                     |                                                                                                                                                                          |  |                 |          |       |                                                                                                                                                                             |               |                |                                                                |                                                                 |                   |  |                  |  |
|---------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------|----------|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|----------------|----------------------------------------------------------------|-----------------------------------------------------------------|-------------------|--|------------------|--|
| All seals for this set of drawings are applied to the cover page(s) | Print Date: 2/27/2026                                                                                                                                                    |  | Sheet Revisions |          |       | Colorado Department of Transportation                                                                                                                                       |               | As Constructed |                                                                | US 550-MM 88.6<br>SOIL NAIL TESTING<br>AND CONSTRUCTION DETAILS |                   |  | Project No./Code |  |
|                                                                     | File Name: 021-US 550_MM 88-6_SN Testing and Const.dgn                                                                                                                   |  | Date:           | Comments | Init. | <br>3803 N. Main Ave.<br>Durango, CO 81301<br>Phone: 970-385-3629<br>Fax: 970-385-8365 | No Revisions: |                | Designer: T. Schlittenhart<br>Structure Numbers R550B088685LRA |                                                                 | NHPP 5502-103     |  |                  |  |
|                                                                     | Horiz. Scale: NTS      Vert. Scale: As Noted                                                                                                                             |  |                 |          |       |                                                                                                                                                                             | Revised:      |                |                                                                |                                                                 | Detailer: M. Walz |  |                  |  |
|                                                                     | Unit Information                                                                                                                                                         |  |                 |          |       |                                                                                                                                                                             | Void:         |                | Sheet Subset: SNW      Subset Sheets: 4 OF 4                   |                                                                 | 22182             |  |                  |  |
|                                                                     |  <b>Yeh and Associates, Inc.</b><br>Geotechnical • Geological • Construction Services |  |                 |          |       |                                                                                                                                                                             | Region 5      |                | BMK                                                            |                                                                 | Sheet Number 13   |  |                  |  |
|                                                                     |                                                                                                                                                                          |  |                 |          |       |                                                                                                                                                                             |               |                |                                                                |                                                                 |                   |  |                  |  |
|                                                                     |                                                                                                                                                                          |  |                 |          |       |                                                                                                                                                                             |               |                |                                                                |                                                                 |                   |  |                  |  |

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| INITIALS   | DESIGN | DATE  | DETAIL | DATE  | QUANTITY | DATE  |
|------------|--------|-------|--------|-------|----------|-------|
| By         | BM     | 11/25 | BM     | 11/25 | BM       | 11/25 |
| Checked By | SNH    | 12/25 | SNH    | 12/25 | SNH      | 12/25 |

GENERAL NOTES

All work shall be done in accordance with the latest edition of the Colorado Department of Transportation Standard Specifications for Road and Bridge Construction and as noted in the drawings.

All reinforcing steel shall be ASTM A1064 Grade 65 non-epoxy coated welded wire fabric unless noted otherwise.

The minimum lap splice overlap for smooth non-coated welded wire fabric shall be 8".

Expansion joint material shall meet AASHTO Specification M213.

Proposed shotcrete repair areas shall receive a colored structural concrete stain. These areas shall be stained a color to match the existing color of the surrounding tunnel shotcrete facing. The stain color shall be approved by Region 5 Environmental and the Engineer prior to application on the structure.

The Contractor shall be responsible for the stability of the structure during all phases of construction.

All falsework, if applicable, shall conform to the requirements of Subsection 601.11 of the latest edition of the CDDT Standard Specifications for Road and Bridge Construction.

Unless otherwise noted, dimensions contained in these plans are calculated from the "As Constructed Plans". These dimensions may be adjusted to meet the existing structure. The Contractor shall verify all dependent dimensions in the field before ordering or fabricating any material.

All longitudinal and transverse dimensions are measured horizontally and include no correction for grade.

Tunnel liner rehabilitation quantities are approximate. Final location and quantity shall be determined by the Engineer. Payment will be for the actual area repaired and material used as approved by the Engineer.

The Contractor may stockpile repair material at own risk. All unused material shall remain property of the Contractor. CDDT will not purchase leftover materials or pay any restocking fees.

After removal of concrete, all exposed reinforcing steel shall be cleaned of all loose shotcrete by chipping and sandblasting and this shall be included in the cost of the work.

All saw water, coring waste, concrete washout and any other construction debris shall be collected and disposed of off site in accordance with all applicable Federal, State, and Local Regulations at no additional cost to the project. Under no circumstances shall such material be allowed to enter any natural or manmade water way or storm drain. The Contractor shall take all steps to avoid contaminating state waters, in accordance with subsection 107.25.

The Contractor shall protect pedestrians and traveling public from any errant or falling debris during the construction work. Any debris which falls on paths or roadways with live traffic shall be removed immediately. This work will not be measured and paid for separately, but shall be included in the cost of the work.

The Contractor shall ensure the roadway and shoulders within the work zone are clean and clear of all construction material and construction debris including shotcrete and welded wire fabric before lanes are opened up to live traffic. This work will not be measured and paid for separately, but shall be included in the cost of the work.

The information shown on these plans concerning the type and location of utilities is not guaranteed to be accurate or all inclusive. The Contractor shall contact the Utility Notification Center of Colorado at 811 (1-800-922-1987) at least 3 business days (2 days including the day of notification) prior to any excavation or other work.

ABBREVIATIONS

Per M-100-2 or as shown below

Crk = Creek  
BF = Back Face  
Ea = Each  
IF = Inside Face  
RC = Reinforced Concrete  
Rem = Removal  
RPPS = Removal of Portions of Present Structure

DESIGN DATA

AASHTO Standard Specification for Highway Bridges 1996 16th Ed with 1997 interims for bar splice table.

Tunnel reinforcement:  
Rock reinforcement (epoxy coated): fy = 60 ksi  
Shotcrete Class 1: f'c = 4.5 ksi  
Welded wire fabric 4x4-W2.9xW2.9 fy = 65 ksi

SUMMARY OF QUANTITIES

| Item No. | Description                                        | Unit | L-06-P | As-Constructed |
|----------|----------------------------------------------------|------|--------|----------------|
| ①        | 202-00505 Removal of Portions of Present Structure | SF   | 284    |                |
| ②        | 202-04003 Clean Culvert (Special)                  | EA   | 3      |                |
| ③        | 519-01000 Epoxy Resin (Injection)                  | LF   | 117    |                |
| ④        | 601-40400 Structural Concrete Stain                | SY   | 32     |                |
| ⑤        | 602-00210 Welded Wire Fabric                       | SY   | 32     |                |
| ⑥        | 602-51010 Galvanic Anodes                          | EA   | 64     |                |
| ⑦        | 641-10000 Shotcrete                                | SY   | 32     |                |

NOTE KEY

- ① Removal area is taken as the plan-view projected area on the inside face of tunnel facing. Quantity is for delaminated areas or areas with severe efflorescence. These areas are assumed to be 100% of CS4 areas and 10% of CS3 areas identified in the Structure Inventory and Appraisal inspection report dated 9/11/2024. These quantities are approximate and payment will be made for actual areas removed as approved and directed by the Engineer.
- ② Quantity is for cleaning the 6" diameter perforated parallel and cross drainage pipes and video inspecting the pipes pre and post cleaning.
- ③ Quantity is based on cracks with widths greater than or equal to 0.06 inches, cracks with active water infiltration leaks, or as directed by the Engineer.
- ④ Quantity is taken to be equivalent to the estimated removal of portions of present structure area and shall include sample preparation, test panels, high pressure water surface cleaning, material and application, and furnishing touch up stain.
- ⑤ Quantity is taken to be equivalent to the estimated removal of portions of present structure area. Reinforcing damaged by the Contractor's removal operations shall be repaired or replaced at the Contractor's expense. The replacement reinforcing steel shall be the same type as the existing reinforcing steel. Work can be performed using 602 Reinforcing Steel as an alternative at no additional cost to the project.
- ⑥ Quantities for galvanic anodes are based on 2 anodes per square yard of removal areas.
- ⑦ Quantity is taken as the estimated area of delaminated shotcrete projected on the inside face of tunnel liner. Quantity is for delaminated areas or areas with severe cracking and efflorescence. These quantities are approximate and payment will be for the actual area repaired and materials used as approved and directed by the Engineer. Formwork for vertical and overhead repair areas is not anticipated. Work can be performed using 601 Concrete (Patching) with a polymer modified repair mortar as an alternative at no additional cost to the project.

INDEX OF DRAWINGS

T01 GENERAL INFORMATION / SUMMARY OF QUANTITIES  
T02 L-06-P GENERAL LAYOUT  
T03 CONCRETE REPAIR DETAILS (1 OF 2)  
T04 CONCRETE REPAIR DETAILS (2 OF 2)

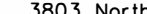
LEGEND

- View/photo identification
- XX Section, detail, or view identification  
BXX
- Cross reference drawing number  
If blank, reference is to same sheet

WORK DESCRIPTION

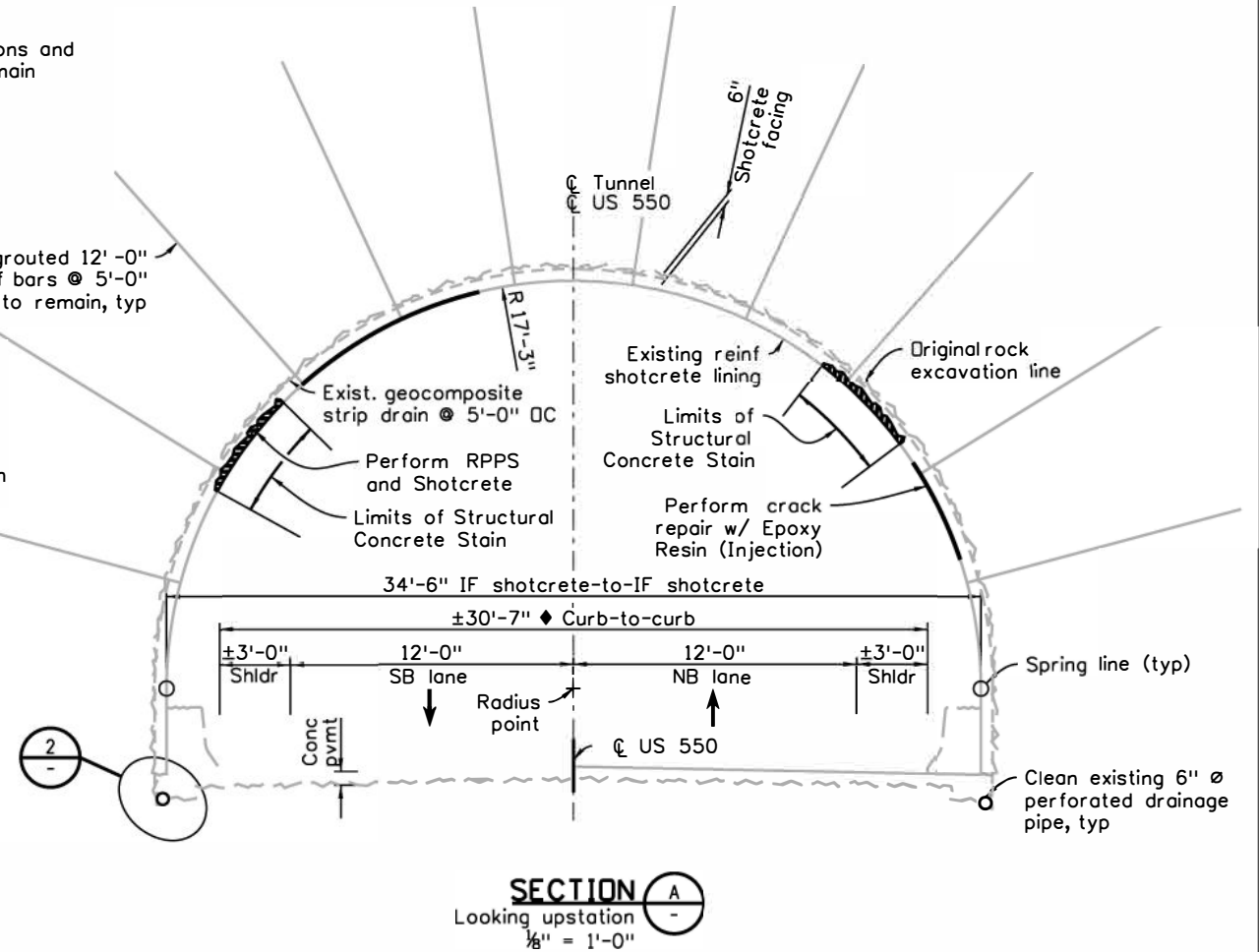
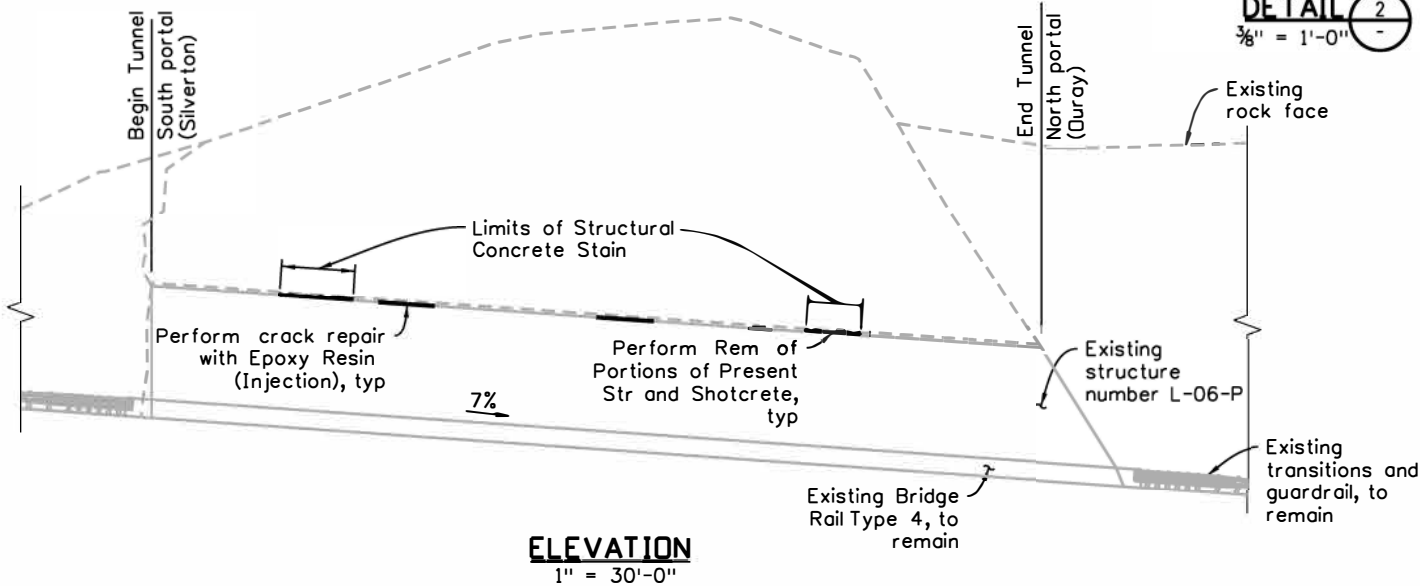
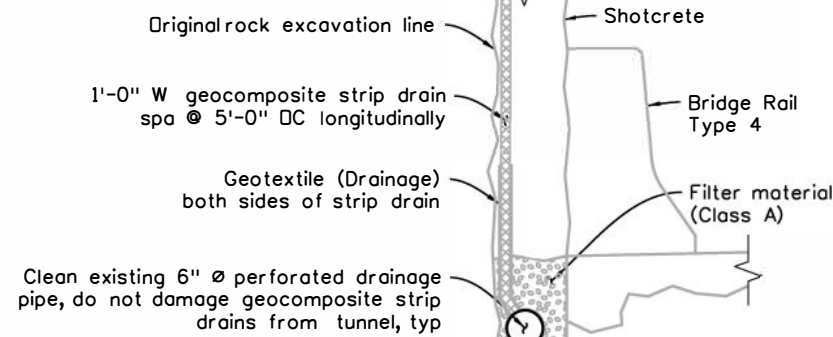
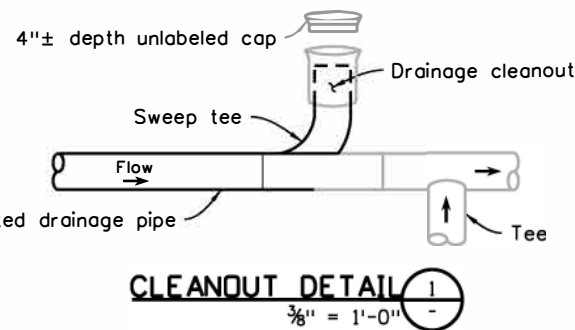
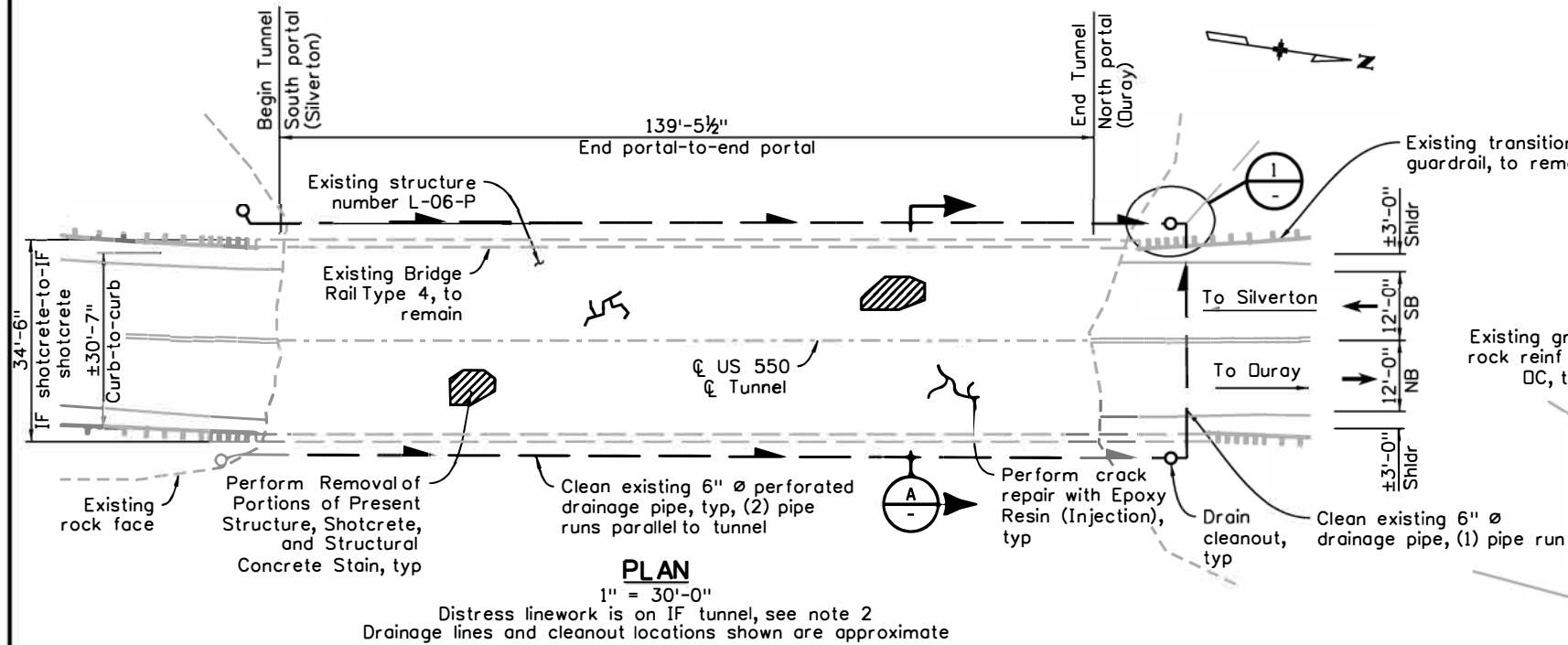
1. Sound for delamination and mark the limits of the removal areas on inside face of tunnel liner
2. Saw cut limits of removal areas and perform Removal of Portions of Present structure on delaminated areas and areas with heavy efflorescence
3. Remove excessively corroded reinforcing steel, install new reinforcing steel, and install galvanic anodes. Place shotcrete on removed areas
4. Clean crack areas and install epoxy injection ports. Seal cracks with paste then inject epoxy resin. After epoxy cures, remove injection ports



|                                                                     |                                                          |                                                                    |                 |          |       |                                                                                                                                                                                                                                                                                                  |                |                                                                                |                |        |                  |
|---------------------------------------------------------------------|----------------------------------------------------------|--------------------------------------------------------------------|-----------------|----------|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|--------------------------------------------------------------------------------|----------------|--------|------------------|
| All seals for this set of drawings are applied to the cover page(s) | Print Date: 1/16/2026                                    | <div><div></div><div></div><div></div><div></div><div></div></div> | Sheet Revisions |          |       | Colorado Department of Transportation<br><div></div> <div>3803 North Main Avenue<br/>Suite 200<br/>Durango, CO 81301<br/>Phone: 970-385-3629<br/>Fax: 970-385-8365</div> <div>Region 5</div> <div>BMK</div> | As Constructed | US550 MP 90.84 TUNNEL REPAIR<br>GENERAL INFORMATION /<br>SUMMARY OF QUANTITIES |                |        | Project No./Code |
|                                                                     | File Name: 22182_T01 General Info_SQ0.dgn                |                                                                    | Date:           | Comments | Init. |                                                                                                                                                                                                                                                                                                  | No Revisions:  |                                                                                |                |        | NHPP 5502-103    |
|                                                                     | Horiz. Scale:                      Vert. Scale:          |                                                                    |                 |          |       |                                                                                                                                                                                                                                                                                                  | Revised:       | Designer: B. McGuire                                                           | Structure      | L-06-P | 22182            |
|                                                                     | Staff Bridge Branch - Unit 0221                      SNH |                                                                    |                 |          |       |                                                                                                                                                                                                                                                                                                  |                | Detailer: B. McGuire                                                           | Numbers        |        |                  |
|                                                                     |                                                          |                                                                    |                 |          |       |                                                                                                                                                                                                                                                                                                  | Void:          | Sheet Subset: Tunnel                                                           | Subset Sheets: | T01    | Sheet Number 14  |

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| INITIALS   | DESIGN | DATE  | DETAIL | DATE  | QUANTITY | DATE  |
|------------|--------|-------|--------|-------|----------|-------|
| By         | BMM    | 11/25 | BMM    | 11/25 | BMM      | 11/25 |
| Checked By | SNH    | 12/25 | SNH    | 12/25 | SNH      | 12/25 |



### TUNNEL DESCRIPTION

US 550 Bear Creek Tunnel, 30'-7" ♦ curb-to-curb width, 139'-5 1/2"\*\*\* portal-to-portal length, tunnel stabilized with 6" reinforced shotcrete facing and radial grouted rock reinforcement.

♦ Dimension based on Structure Inventory and Appraisal inspection report dated 9/11/2024

\*\*\* Dimension based on 1999 tunnel repair plans from project C 5502-028

### NOTES

- Plan and elevation view linework is approximate.
- Limits of Removal of Portions of Present Structure, Shotcrete, and Crack Repair Epoxy Resin (Injection) are not representative of actual structure but are shown for illustrative purposes only.

All seals for this set of drawings are applied to the cover page(s)

Print Date: 1/15/2026  
File Name: 22182\_T02 L-06-P GeneralLayout.dg  
Horiz. Scale: Varies Vert. Scale: Varies  
Staff Bridge Branch - Unit 0221 SNH

### Sheet Revisions

| Date: | Comments | Init. |
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Colorado Department of Transportation



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BMK

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No Revisions:

Revised:

Void:

### US550 MP 90.84 TUNNEL REPAIR L-06-P GENERAL LAYOUT

Designer: B. McGuire

Detailer: B. McGuire

Sheet Subset: Tunnel

Structure Numbers

Subset Sheets: T02

Project No./Code

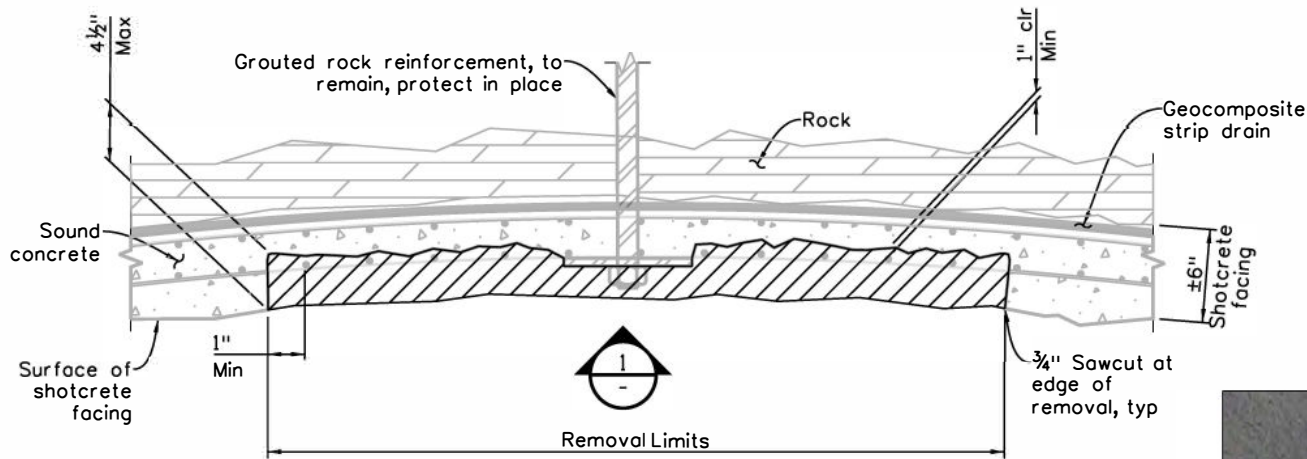
NHPP 5502-103

22182

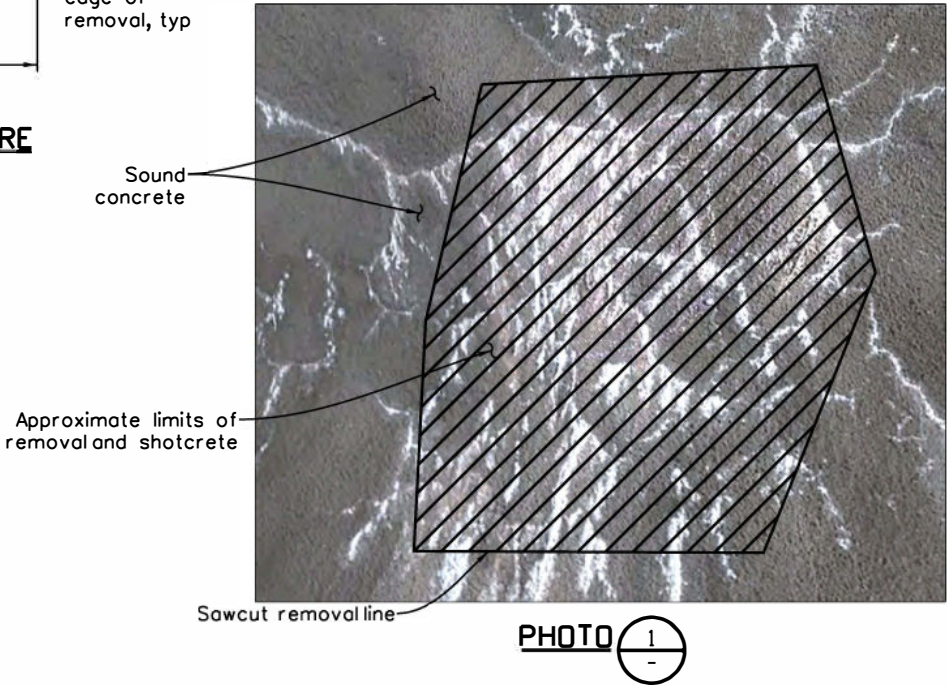
Sheet Number 15

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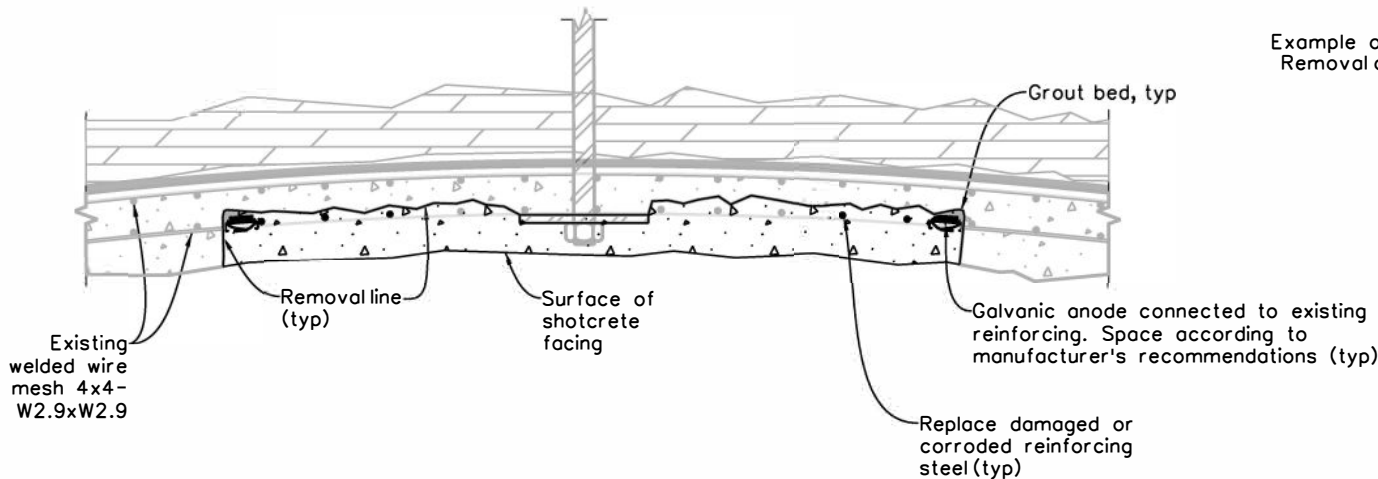
| INITIALS   | DESIGN | DATE  | DETAIL | DATE  | QUANTITY | DATE  |
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| By         | BMM    | 11/25 | BMM    | 11/25 | BMM      | 11/25 |
| Checked By | SNH    | 12/25 | SNH    | 12/25 | SNH      | 12/25 |



**REMOVAL OF PORTIONS OF PRESENT STRUCTURE**



Example of overhead delaminated area showing Removal of Portions of Present Structure and Shotcrete



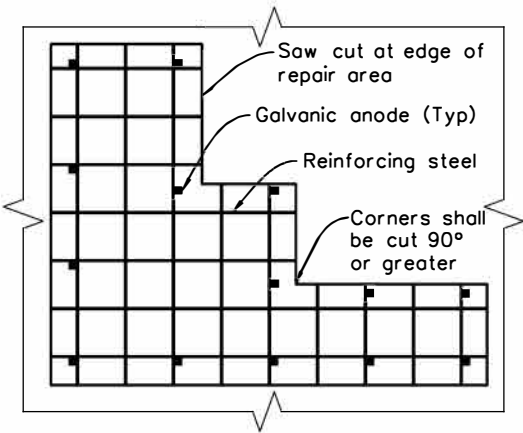
**SHOTCRETE**

**LEGEND**

- Removal of Portions of Present Structure:  
From surface of shotcrete facing to sound concrete, but not less than 1" clear beyond the top mat of reinforcing steel.
- Grout Beds:  
Required if the clear distance between anodes and existing concrete substrate is less than 1". Grout encapsulation of anodes may be required for certain patching materials. See Section 602 Galvanic Anodes.
- Shotcrete

**NOTES**

- Plan quantities are estimates. Actual concrete removal and replacement shall be as needed to reach sound concrete or as directed by the Engineer.
- Removal operations shall be coordinated with the Engineer and performed in a manner as required to ensure the structural integrity of the tunnel lining.
- Care shall be taken in removing concrete from around structural steel elements including rock reinforcement, bearing plates, and reinforcing steel to prevent damage to the steel. Concrete removal shall extend to where reinforcing steel is well bonded to surrounding concrete.
- All damaged or corroded non-epoxy coated reinforcing steel requires new non-epoxy coated reinforcing steel to be added per Revision of Section 202 Removal of Portions of Present Structure. All exposed non-epoxy coated reinforcing steel shall be cleaned with hand tools, straightened and sandblasted prior to placing concrete.
- Galvanic anode corrosion protection is required on all areas of exposed non-epoxy or corroded epoxy coated reinforcing prior to placing concrete. Galvanic anodes shall be installed per manufacturer's recommendations in accordance with Revision of Section 602 Galvanic Anodes.
- Just prior to patching, clean surfaces to be patched of all material that is not sound concrete or rebar and saturate with water to produce a saturated-surface-dry condition during application.
- If falsework or a forming system is required, the load capacity to support the patching work shall be determined by the Contractor.



**CORROSION PROTECTION**

All seals for this set of drawings are applied to the cover page(s)

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| Print Date: 1/15/2026                                     |
| File Name: 22182_T03 Concrete Repair Details (1 of 2).dgn |
| Horiz. Scale: NTS Vert. Scale: NTS                        |
| Staff Bridge Branch - Unit 0221 SNH                       |

**Sheet Revisions**

| Date: | Comments | Init. |
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Region 5

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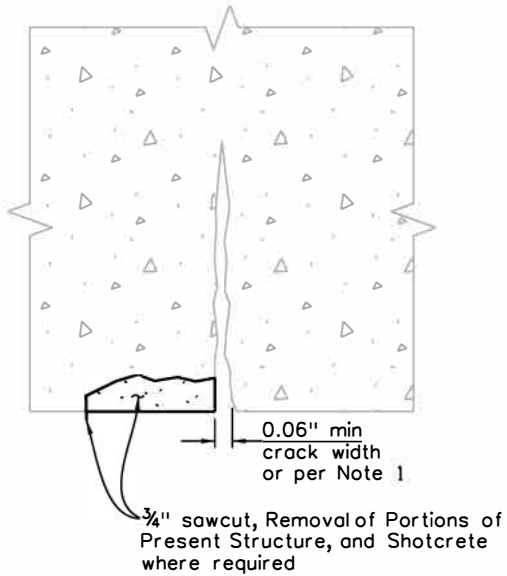
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| As Constructed |
| No Revisions:  |
| Revised:       |
| Void:          |

|                                                                              |                           |  |  |
|------------------------------------------------------------------------------|---------------------------|--|--|
| <b>US550 MP 90.84 TUNNEL REPAIR<br/>CONCRETE REPAIR DETAILS<br/>(1 OF 2)</b> |                           |  |  |
| Designer: B. McGuire                                                         | Structure Numbers: L-06-P |  |  |
| Detailer: B. McGuire                                                         | Subset Sheets: T03        |  |  |
| Sheet Subset: Tunnel                                                         |                           |  |  |

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|------------------|
| Project No./Code |
| NHPP 5502-103    |
| 22182            |
| Sheet Number 16  |

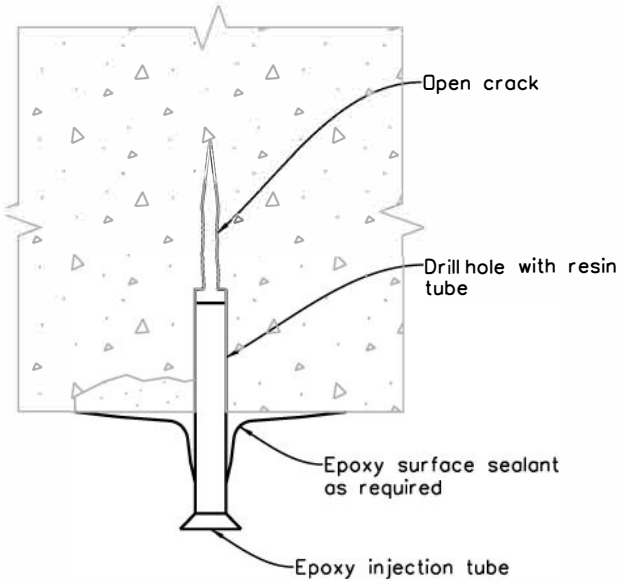
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| INITIALS   | DESIGN | DATE  | DETAIL | DATE  | QUANTITY | DATE  |
|------------|--------|-------|--------|-------|----------|-------|
| By         | BMM    | 11/25 | BMM    | 11/25 | BMM      | 11/25 |
| Checked By | SNH    | 12/25 | SNH    | 12/25 | SNH      | 12/25 |



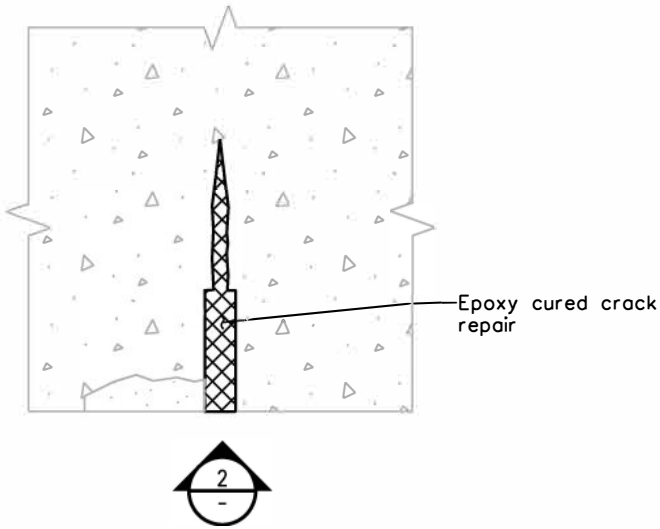
Step A

1. Clean out crack with hand tools and high pressure air and vacuum clean the crack and surrounding surface. See note 3.
2. Where defects such as delamination and spalls exist near the crack, remove damaged concrete per the Removal of Portions of Present Structure details and repair with Shotcrete.



Step B

1. Drill holes and insert injection ports to a diameter and depth sufficient to assure a snug fit of the resin port.
2. Seal surface of the crack with epoxy surface sealant. Seal shall completely bridge and seal the surrounding shotcrete face.



Step C

1. Inject epoxy as directed in the specifications. Follow manufacturer instructions for curing time. Remove epoxy surface sealant.
2. Cut off injection tube flush with the concrete face.
3. Patch over injection tube and grind epoxy surface sealant flush with the original shotcrete surface.

EPOXY RESIN (INJECTION) CRACK REPAIR



PHOTO 2

Example of Epoxy Resin (Injection)

NOTES

1. Epoxy Resin (Injection) shall be used to repair crack widths greater than or equal to 0.06" or as directed by the Engineer. See Project Special Provision.
2. Crack must not have active groundwater infiltration during time of crack repair to allow for the surface sealant to adhere and the epoxy to adequately cure. If active infiltration is present, Contractor shall submit an alternate method of crack repair to the Engineer for review.
3. Cleaning of the cracks and surface preparation prior to the repair shall not be measured and paid for separately but shall be incidental to item 519 Epoxy Resin (Injection).

All seals for this set of drawings are applied to the cover page(s)

Print Date: 1/16/2026  
File Name: 22182\_T04 Concrete Repair Details (2 of 2).dgn  
Horiz. Scale: As noted Vert. Scale: As noted  
Staff Bridge Branch - Unit 0221 SNH

Sheet Revisions

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No Revisions:

Revised:

Void:

US550 MP 90.84 TUNNEL REPAIR  
CONCRETE REPAIR DETAILS  
(2 OF 2)

Designer: B. McGuire

Detailer: B. McGuire

Sheet Subset: Tunnel

Structure

Numbers

Subset Sheets: T04

Project No./Code

NHPP 5502-103

22182

Sheet Number 17

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STORMWATER MANAGEMENT PLAN (SWMP) TEMPLATE LESS THAN 1 ACRE OF DISTURBANCE (6/20/2024)

1. Site Description

The Contractor shall comply with all CDOT contractual requirements, and all requirements associated with the CDPS-SCP on this project. The SWMP Administrator for Construction shall update the SWMP to reflect current project site conditions.

A. Project Site Location:

Location or address of construction office:  
The location of the construction office will be determined by the Contractor.  
The project will take place on US 550 as shown in the plan sheets.

B. Project Site Description:

Existing wall repair at US 550 MP 88.6 and Existing tunnel repair at US 550 MP 90.85.  
See plan sheets for detailed scope of work.

C. Proposed Schedule for Sequence for Major Construction Activities:

Stabilize all areas that are not paved or landscaped through establishment of vegetation cover.  
There is no planned clearing or grubbing or grading or drainage or excavation or ground disturbance.  
The existing face of the wall and the existing interior of the tunnel will be repaired.

D. Acres of Disturbance:

1. Total area of construction site (LOC (PERMITTED AREA)): 0.2 acres of existing paved surface: Work will take place from the existing roadway surface. There is no ground disturbance.
2. Total area of proposed disturbance (LDA): 0 acres: There is no ground disturbance on this project.
3. Total area of seeding: 0 acres: There is no ground disturbance on this project.
4. Total area of pre-project impervious surface: 8650 sq. ft. of existing paved surface
5. Total area of final impervious surface: 8650 sq. ft. of existing paved surface

E. Existing Soil Data:

There is no ground disturbance on this project.  
Data Source(s): N/A: There is no ground disturbance on this project.

F. Existing Vegetation, Including Percent of Vegetative Cover:

During design, the SWMP Administrator for Design in consultation with the Engineer will determine if the SWMP Administrator for Design or the SWMP Administrator for Construction will conduct the Vegetation Transects. If the site is disturbed, an Adequate Reference Site(s) may be utilized, refer to the CDPS-SCP.  
N/A: There is no ground disturbance on this project.

Pre-Construction Date of survey: December 30, 2025      Percent Existing Vegetative Cover: 0

Description of existing vegetation: N/A

Method for determining percent vegetative cover: N/A

Include a map or table showing transect locations, photos documenting pre-Construction vegetative cover, and methodology used to determine existing vegetative cover to SWMP Tab 17:  
N/A

Post-Construction Date of survey: N/A      Percent Vegetative Cover: N/A

Description of vegetation:  
The method used to determine pre-construction percent cover shall be used to determine post construction percent cover.  
Include map or table showing transect locations, photos documenting post-Construction vegetative cover, and methodology used to determine existing vegetative cover to SWMP Tab 17:  
N/A

2. Stormwater Management Controls for First Construction Activities

The Contractor shall perform the following

A. Potential Pollutants Sources:

Refer to Potential Pollutant Sources in SWMP Section 4A. The SWMP Administrator for Construction shall prepare a list of all potential pollutants and their locations in accordance with subsection 107.25.

B. Offsite Drainage (Run on Water):

Place Control Measures to address run-on water in accordance with subsection 208.03.

C. Construction Dewatering:

Obtain a CDPS Dewatering Permit from CDPHE if conditions of their Low Risk Guidance for Discharges of Uncontaminated Groundwater to Land are not met; see subsections 107.02 and 107.25.

Refer to CDPHE Low Risk Discharge Guidance Document of Uncontaminated Groundwater to Land.  
<https://www.colorado.gov/pacific/sites/default/files/WQ%20LOW%20RISK%20GW.pdf>

D. Vehicle Tracking Control:

Control Measures shall be implemented in accordance with subsection 208.04.

E. Perimeter Control:

Perimeter control shall be established as the first item on the SWMP to prevent the potential for pollutants leaving the construction site boundaries, entering the stormwater drainage system, or discharging to state waters. With subsection Perimeter control may consist of berms, silt fence, erosion logs, existing landforms, or other Control Measures as approved.

3. Qualified Stormwater Managers:

A. SWMP Administrator for Design:

CDOT Certified Individual responsible for developing SWMP Plan Sheets and SWMP Site Maps during the design phase.

| Name/Title         | Contact Information [phone & email]         | Certification # |
|--------------------|---------------------------------------------|-----------------|
| Danielle Wilkerson | 970.903.0752 danielle.wilkinson@state.co.us | 3EEAC060        |

B. SWMP Administrator for Construction: (As defined in Section 208) The Contractor shall designate a SWMP Administrator for Construction upon accepting co-permittee of the permit. The SWMP Administrator for Construction shall become the operator for the SWMP and assume responsibility for all design changes to the SWMP implementation and maintenance in accordance with subsection 208.03, the SWMP shall remain the property of CDOT. The SWMP Administrator for Construction shall be responsible for implementing, maintaining, and revising SWMP, including the title and contact information. The activities and responsibilities of the SWMP Administrator for Construction shall address all aspects of the project's SWMP. (Update the information below for each new SWMP Administrator for Construction) (A copy of current TECS Certification must be included in the SWMP).

| Name/Title | Contact Information (phone & email) | Certification # | Certification Expiration Date | Start Date |
|------------|-------------------------------------|-----------------|-------------------------------|------------|
|            |                                     |                 |                               |            |
|            |                                     |                 |                               |            |

C. Permanent Stabilization Subject Matter Expert: This qualified individual will be either a Regional Environmental Staff member, or an Independent Contractor Controller (Independent Assurance Program). This expert is a project team leader responsible for ensuring project adherence to requirements of the 207 and 212 Project Special Provisions as follows and will be available for questions regarding permanent stabilization requirements.

N/A: There is no ground disturbance on this project.  
<https://www.codot.gov/programs/environmental/landscape-architecture/assets/inspection-and-verification-checklist-for-roadside-revegetation.pdf>

1. Review the Topsoil Management Plan and the Permanent Stabilization Site Maps.
2. Attend the Environmental Pre-Construction Conference.
3. Coordinate the Site Pre-Vegetation Conference.
4. Review and recommend approval of products.
5. Attend the Partial Landscape Completion Walkthrough.
6. Attend the Final Landscape Completion Walkthrough.

| Name/Title | Contact Information [phone & email] |
|------------|-------------------------------------|
|            |                                     |

|                                                                     |                                         |                                                             |                 |          |       |                                                                                       |                                                                                    |                |                            |               |               |           |                  |        |
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| All seals for this set of drawings are applied to the cover page(s) | Print Date: 1/7/2026                    | <div></div> <div></div> <div></div> <div></div> <div></div> | Sheet Revisions |          |       | Colorado Department of Transportation                                                 |                                                                                    | As Constructed | STORMWATER MANAGEMENT PLAN |               |               |           | Project No./Code |        |
|                                                                     | File Name: 22182_Sheets_NotesSAQMnS.dgn |                                                             | Date:           | Comments | Init. |  | 3803 N. MAIN AVE.<br>DURANGO, CO 81301<br>Phone: 970-385-3629<br>Fax: 970-385-8365 |                | No Revisions:              | NHPP 5502-103 |               |           |                  |        |
|                                                                     | Horiz. Scale: NA      Vert. Scale: NA   |                                                             |                 |          |       |                                                                                       |                                                                                    |                | Revised:                   | Designer:     | DW            | Structure | 22182            |        |
|                                                                     | Unit Information                        |                                                             |                 |          |       |                                                                                       |                                                                                    |                |                            | Detailer:     | CK            | Numbers   |                  |        |
|                                                                     |                                         |                                                             |                 |          |       |                                                                                       |                                                                                    |                |                            | Void:         | Sheet Subset: | SWMP      | Subset Sheets:   | 1 OF 4 |
|                                                                     |                                         |                                                             |                 |          |       | Region 5                                                                              | BMK                                                                                |                |                            |               |               |           |                  |        |

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4. **During Construction**

Responsibilities of the SWMP Administrator for Construction: Considered a "living document", the SWMP is continuously reviewed and modified throughout the construction phases. During construction, the SWMP Administrator for Construction shall have full responsibility to maintain and update the SWMP in accordance with subsection 208.03(c).

During construction, indicate how items that were not addressed during design are being handled in construction. If items are covered in other sections of the SWMP, indicate below what section the discussion takes place.

- A. **Materials Handling and Spill Prevention and Response Plan:** Prior to commencing Construction Activities Associated with Water Quality, the Contractor shall submit a Spill Response Plan. Materials handling and Spill Response Plan shall be in accordance with subsection 208.06.
- B. **Other CDPS Permits or Guidance Documents:** List applicable CDPS permits or guidance documents associated with the permitted site and activities.
- C. **Stockpile Management:** Shall be done in accordance with subsections 107.25 and 208.07.
- D. **Concrete Washout:** Concrete and masonry washout water or waste from field laboratories and paving equipment shall be contained in accordance with subsection 208.05.
- E. **Saw Cutting:** Shall be done in accordance with subsections 107.25, 208.02, 208.04, 208.05.
- F. **Street Sweeping:** Shall be done in accordance with subsection 208.04.

5. **Control Measure Maintenance**

Maintenance shall be in accordance with subsection 208.04(f).

6. **Temporary, Permanent Stabilization and Long-Term Stormwater Management**

The Contractor shall comply with all temporary stabilization and permanent stabilization requirements in accordance with subsection 208.04(e).

- A. **Seeding Plan:**  
N/A: There is no ground disturbance on this project. If ground disturbance does occur reach out to Danielle Wilkinson at Danielle.wilkinson@state.co.us for an approved seed mix for this location.
- B. **Seeding Application Method:**  
The following seeding methods shall be used for all areas shown on the Permanent Stabilization Site Maps. Soil compaction shall be minimized for areas where permanent/landscape stabilization will be achieved through vegetative cover.  
N/A: There is no ground disturbance on this project. If ground disturbance does occur reach out to Danielle Wilkinson at Danielle.wilkinson@state.co.us for an approved seeding method for this location
- C. **Mulching Application:**  
Apply a minimum of 2 tons/ac of certified weed free hay or 2 1/2 tons/ac of certified weed free straw per acre and in accordance with Section 213, and mechanically crimp it into the soil in combination with an organic mulch tackifier.  
Prior to winter shutdown or the summer seeding window closure: Uncompleted slopes shall be mulched with 2 tons of mulching (weed free) per acre, mechanically crimped into the topsoil in combination with an organic mulch tackifier in accordance with Sections 208 and 213.
- D. **Special Requirements:**  
1. Soil amendments, seedbed preparation, and permanent stabilization mulching shall be accomplished within four working days of placing the topsoil on the de-compacted civil subgrades. If placed topsoil is not mulched with permanent stabilization mulch within four working days, the Contractor shall complete temporary stabilization methods in accordance with subsection 208.04(e) at no additional cost to the Department.  
2. Complete permanent stabilization mulching within 24 hours of hydraulic application of native seed.  
3. The Contractor shall submit a proposed Permanent Stabilization Phasing Plan to the Engineer for approval showing how implementation of SWMP Permanent Stabilization Plans will minimize damage to seeded areas.

- E. **Soil Amendment Requirements:** Minimum amendment material requirements for all disturbances to receive seeding.  
N/A: There is no ground disturbance on this project. If ground disturbance does occur reach out to Danielle Wilkinson at Danielle.wilkinson@state.co.us for approved soil amendments and quantities for this location

- F. **Soil Retention Covering:**  
On slopes and ditches requiring a blanket or turf reinforcement mat (TRM), the blanket/TRM shall be placed in lieu of mulch and mulch tackifier and placed after seeding. See SWMP Site Map for blanket/TRM locations.

- G. **Permanent Stabilization Application Under Structures:**  
Under structures, shade patterns should be considered and the use of Median Cover Material (Stone) or other stabilized options with an approved Project Special Provision should be used. See SWMP Site Map for locations.  
N/A

- H. **Reseeding Operations/Corrective Stabilization:**  
Prior to stormwater construction work partial acceptance.  
1. All seeded areas shall be reviewed by the SWMP Administrator for Construction and or Erosion Control Inspector for bare soils caused by surface or wind erosion. Bare areas caused by surface or gully erosion, blown away mulch, etc. shall be re-graded, seeded, and have the designated mulching applied as necessary, at no additional cost to the project.  
2. The Contractor shall maintain seeding/mulch/tackifier/blanket/TRM, mow to control weeds or apply herbicide to control weeds in the seeded areas, at no additional cost to the project.

7. **Prior to Project Final Acceptance**

- A. When directed by the Engineer, removal and disposal of temporary control measures shall be included in the cost of work.
- B. At the end of the project, all ditch checks shall consist of either temporary erosion logs (sediment control logs) (or equivalent) or permanent riprap.
- C. All storm drains shall be cleaned prior to the Final Acceptance of the project. If required, include work in 202-04002 Clean Culvert. [\*\*Check with Region Water Quality staff to see if Clean Culvert PSP is needed and what Pay Item to use.\*\*]
- D. Refer to subsection 208.10 for Items to be completed prior to requesting partial acceptance of water quality work.

|                                                                     |                                         |             |                 |          |       |                                                                                                  |                                                                                    |                |                            |                       |  |                  |
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|                                                                     | File Name: 22182_Sheets_NotesSAQMnS.dgn |             | Date:           | Comments | Init. |                                                                                                  |                                                                                    | No Revisions:  |                            |                       |  | NHPP 5502-103    |
|                                                                     | Horiz. Scale: NA      Vert. Scale: NA   |             |                 |          |       | <div></div> | 3803 N. MAIN AVE.<br>DURANGO, CO 81301<br>Phone: 970-385-3629<br>Fax: 970-385-8365 | Revised:       | Designer: DW               | Structure Numbers     |  | 22182            |
|                                                                     | Unit Information                        |             |                 |          |       |                                                                                                  |                                                                                    |                | Detailer: CK               |                       |  |                  |
|                                                                     |                                         |             |                 |          |       |                                                                                                  |                                                                                    | Void:          | Sheet Subset: SWMP         | Subset Sheets: 2 OF 4 |  | Sheet Number 19  |

8. Narratives

Control Measure Matrixes During Construction:

1. Control measure narratives have been included for the CDOT Standard Specifications and Standard Plan M-208 and M-216 along with any non-standard control measures approved during the design process. If a Non-Standard Control Measure not included in the SWMP is proposed and approved by the Engineer, the SWMP Administrator for Construction shall: Place an "X" in the column "M-208 Standard or 'X' for Non-Standard" and complete a Non-Standard Control Measure Specification and Narrative. The Narrative shall include drawings, dimensions, installation information, materials, implementation processes, control measure-specific inspection expectations, and maintenance requirements of the control measure. The appropriate "X" shall also be added to the implementation phase(s).
2. The SWMP Administrator for Construction shall place an "X" in the column "In Use On Site" when the control measure has been installed.
3. A "B" in the "Initial Activities" column indicates that the control measure shall be installed **before** construction activities associated with water quality commence. Locations and quantities will be discussed during the Environmental Pre-Construction Conference with the Regional Water Pollution Control Manager.

Structural Control Measures that may be potentially used on the project for erosion and sediment control; practices may include, but are not limited to the following:

| Application, Control measure                                                                                 | Narrative                                                                                                                                                                       | M- 208 Standard or "X" For Non-Standard | In Use on Site | Initial Activities | Interim Activities | Permanent Stabilization |
|--------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|----------------|--------------------|--------------------|-------------------------|
| Type C, Type D And Type 13 Protection<br>Erosion logs (sediment control logs), aggregate bags, erosion bales | Placed around inlet grate or slope and ditch paving to prevent sediment from entering inlet. Place prior to the start of construction activities associated with water quality. | M-208                                   |                | B or X             | X                  | X                       |
| Concrete Washout<br>In-ground or fabricated                                                                  | Construction control, used for waste management of concrete/masonry and concrete/masonry equipment cleaning. Place prior to the start of concrete and masonry activities.       | M-208                                   |                | X                  | X                  |                         |
|                                                                                                              |                                                                                                                                                                                 |                                         |                |                    |                    |                         |
|                                                                                                              |                                                                                                                                                                                 |                                         |                |                    |                    |                         |

Non-Structural Control Measures that may be potentially used on the project for erosion and sediment control; practices may include, but are not limited to:  
Erosion control devices are used to limit the amount of soil loss on site. Sediment control devices are designed to capture sediment on the project site. Construction controls are control measures related to construction access and staging. Control Measure locations are indicated on the SWMP Site Map.

| Application, Control measure | Narrative                                                                                                                                                                                                             | M- 208 Standard Or "X" for Non-Standard | In Use on Site | Initial Activities | Interim Activities | Permanent Stabilization |
|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|----------------|--------------------|--------------------|-------------------------|
| Sweeping                     | Source control, used to remove sediment tracked onto paved surfaces and to prevent sediment from leaving the LOC. Sweep daily and at the end of the construction shift as needed. Kick brooms shall not be permitted. |                                         |                | X                  | X                  | X                       |
| Other                        |                                                                                                                                                                                                                       |                                         |                |                    |                    |                         |

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| As Constructed | STORMWATER MANAGEMENT PLAN |                    |                       | Project No./Code<br>NHPP 5502-103 |
| No Revisions:  |                            |                    |                       |                                   |
| Revised:       | Designer: DW               | Structure Numbers  |                       | 22182                             |
| Void:          | Detailer: CK               | Sheet Subset: SWMP | Subset Sheets: 3 OF 4 | Sheet Number 20                   |

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9. Tabulation of Stormwater Quantities

A. Control Measure sediment removal and disposal shall be paid for as: 208 Removal and Disposal of Sediment (Labor). All other control measure maintenance shall be included in the cost of the control measure.

| PSP Spec. | Pay Item  | Description                                        | Pay Unit | Initial Const. | Interim Const. | Permanent Stabilization | *Total Quantity |
|-----------|-----------|----------------------------------------------------|----------|----------------|----------------|-------------------------|-----------------|
|           | 208-00035 | Aggregate Bag                                      | LF       | 100            | 100            |                         | 200             |
|           | 208-00146 | Pre-fabricated Concrete Washout Structure (Type 2) | Each     |                | 4              |                         | 4               |
|           | 208-00103 | Removal and Disposal of Sediment (Labor)           | Hour     |                | 10             |                         | 10              |
|           | 208-00106 | Sweeping (Sediment Removal)                        | Hour     |                | 10             |                         | 10              |
| X         | 700-70380 | Force Account Erosion Control                      | FA       |                |                |                         | 1               |

\*It is anticipated that additional control measures and control measure quantities not shown on the SWMP Site Maps shall be required on the project for unforeseen conditions and replacement of items that are beyond their useful service life, see subsections 208.03 and 208.04. **Quantities for all control measures shown above are estimated and have been increased for unforeseen conditions and normal control measure life expectancy.** Quantities shall be adjusted according to the conditions encountered in the field as directed and approved by the Engineer. Payment shall be for the actual work completed and material used.

10. Biological Impacts and Dewatering

A. Environmental Impacts:

- 1. Wetland Impacts: No
- 2. Stream Impacts: No
- 3. Threatened and Endangered Species: No

B. Dewatering:

(Not covered under the CDPHE guidance document Low Risk Discharge Guidance Discharges of Uncontaminated Groundwater to Land): [https://drive.google.com/open?id=17ck1ZJoiHSacJ\\_wxp2FfUr4rAxNgVWZy](https://drive.google.com/open?id=17ck1ZJoiHSacJ_wxp2FfUr4rAxNgVWZy)

- 1. Dewatering: Refer to other environmental permits in accordance with subsection 107.02 and the permits contained in Tab 16 of the SWMP.
- 2. If groundwater does not meet water quality standards for receiving water a separate CDPS Dewatering Permit shall be obtained by the Contractor from CDPHE in accordance with subsections 107.02 and 107.25.

11. Notes

- 1. An ECP is not necessary for this project.
- 2. Protect outlet of drains during cleaning.

|                                                                     |                                         |                                                                    |                 |          |       |                                                                                                                                                                                                                 |                |  |                                               |  |                 |                  |  |
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|                                                                     | File Name: 22182_Sheets_NotesSAQMnS.dgn |                                                                    | Date:           | Comments | Init. |                                                                                                                                                                                                                 | No Revisions:  |  |                                               |  |                 | NHPP 5502-103    |  |
|                                                                     | Horiz. Scale: NA      Vert. Scale: NA   |                                                                    |                 |          |       |                                                                                                                                                                                                                 | Revised:       |  | Designer: DW      Structure Numbers           |  | 22182           |                  |  |
|                                                                     | Unit Information                        |                                                                    |                 |          |       |                                                                                                                                                                                                                 | Detailer: CK   |  | Sheet Subset: SWMP      Subset Sheets: 4 OF 4 |  | Sheet Number 21 |                  |  |
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CONSTRUCTION TRAFFIC CONTROL DEVICES

| SIGN CODE                                            | LEGEND                                   | DIMENSION<br>(INCHES) | PANEL SIZE AND QUANTITY |       |       |       |      |       |                 |       |
|------------------------------------------------------|------------------------------------------|-----------------------|-------------------------|-------|-------|-------|------|-------|-----------------|-------|
|                                                      |                                          |                       | (EACH)                  |       |       |       |      |       |                 |       |
|                                                      |                                          |                       | (A)                     |       | (B)   |       | (C)  |       | SPECIAL<br>(SF) |       |
|                                                      |                                          |                       | PLAN                    | FINAL | PLAN  | FINAL | PLAN | FINAL | PLAN            | FINAL |
| R2-1(25)                                             | SPEED LIMIT 25                           | 24X30                 | 2                       |       |       |       |      |       |                 |       |
| R2-1(30)                                             | SPEED LIMIT 30                           | 24X30                 | 2                       |       |       |       |      |       |                 |       |
| R52-6A                                               | BEGIN FINES DOUBLE IN WORK ZONE          | 36X48                 |                         |       | 2     |       |      |       |                 |       |
| R52-6B                                               | END FINES DOUBLE IN WORK ZONE            | 36X48                 |                         |       | 2     |       |      |       |                 |       |
| W20-1                                                | ROAD WORK 1500 FT                        | 36X36                 | 2                       |       |       |       |      |       |                 |       |
| W20-4                                                | ONE LANE ROAD 1000 FT                    | 36X36                 | 2                       |       |       |       |      |       |                 |       |
| W20-7                                                | FLAGGER (SYMBOL)                         | 36X36                 | 4                       |       |       |       |      |       |                 |       |
| W21-5                                                | SHOULDER WORK                            | 36X36                 | 2                       |       |       |       |      |       |                 |       |
| W21-5A                                               | RIGHT SHOULDER CLOSED                    | 36X36                 | 2                       |       |       |       |      |       |                 |       |
| R11-2                                                | ROAD CLOSED                              | 48X30                 |                         |       | 6     |       |      |       |                 |       |
| R10-6                                                | STOP HERE ON RED                         | 30X36                 | 2                       |       |       |       |      |       |                 |       |
| G20-5BP                                              | WORK ZONE (PLAQUE)(CDOT)                 | 24X12                 | 2                       |       |       |       |      |       |                 |       |
| 48W3-3                                               | SIGNAL (SYMBOL)                          | 36X36                 | 2                       |       |       |       |      |       |                 |       |
| W3-4                                                 | BE PREPARED TO STOP                      | 36X36                 | 4                       |       |       |       |      |       |                 |       |
| tbd                                                  | Contingency - As Needed                  | tbd                   |                         |       | 4     |       |      |       |                 |       |
| TOTALS                                               |                                          |                       | 26                      |       | 14    |       | 0    |       |                 |       |
| TABULATION OF CONSTRUCTION TRAFFIC ENGINEERING ITEMS |                                          |                       |                         |       |       |       |      |       |                 |       |
| 630                                                  | FLAGGING                                 |                       |                         |       | HOUR  |       | 900  |       |                 |       |
| 630                                                  | TRAFFIC CONTROL INSPECTION               |                       |                         |       | DAY   |       | 24   |       |                 |       |
| 630                                                  | TRAFFIC CONTROL MANAGEMENT               |                       |                         |       | DAY   |       | 47   |       |                 |       |
| 630                                                  | CONSTRUCTION TRAFFIC SIGN (PANEL SIZE A) |                       |                         |       | EACH  |       | 26   |       |                 |       |
| 630                                                  | CONSTRUCTION TRAFFIC SIGN (PANEL SIZE B) |                       |                         |       | EACH  |       | 14   |       |                 |       |
| 630                                                  | VERTICAL PANEL                           |                       |                         |       | EACH  |       | 10   |       |                 |       |
| 630                                                  | PORTABLE MESSAGE SIGN PANEL              |                       |                         |       | EACH  |       | 2    |       |                 |       |
| 630                                                  | BARRICADE (TYPE 3 M-A)(TEMPORARY)        |                       |                         |       | EACH  |       | 6    |       |                 |       |
| 630                                                  | DRUM CHANNELIZING DEVICE                 |                       |                         |       | EACH  |       | 20   |       |                 |       |
| 630                                                  | BARRIER (TEMPORARY)(CONCRETE)            |                       |                         |       | LF    |       | 250  |       |                 |       |
| 630                                                  | IMPACT ATTENUATOR (TEMPORARY)            |                       |                         |       | EACH  |       | 2    |       |                 |       |
| 630                                                  | PORTABLE TRAFFIC SIGNAL (CWZ)            |                       |                         |       | MONTH |       | 4    |       |                 |       |

1. TOTALS ARE CARRIED TO THE SUMMARY OF APPROXIMATE QUANTITIES.
2. FINAL SIGN LOCATION SUBJECT TO APPROVAL OF ENGINEER.
3. FOR SPECIFIC TRAFFIC CONTROL DEVICES NEEDED TO IMPLEMENT THE CONSTRUCTION PHASING, SEE THE CONTRACTOR'S CONSTRUCTION TRAFFIC CONTROL PLANS. TRAFFIC CONTROL DEVICES SHALL BE PLACED IN ACCORDANCE WITH THE CONSTRUCTION TRAFFIC CONTROL PLANS, CDOT M&S STANDARDS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
4. ANY SIGNS DAMAGED DUE TO THE CONTRACTOR OPERATION SHALL BE REPLACED IN KIND BY THE CONTRACTOR AT NO COST TO THE PROJECT.

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As Constructed

No Revisions:

Revised:

Void:

CONSTRUCTION TRAFFIC  
CONTROL TABULATION

Designer: CK  
Detailer: CK

Structure  
Numbers

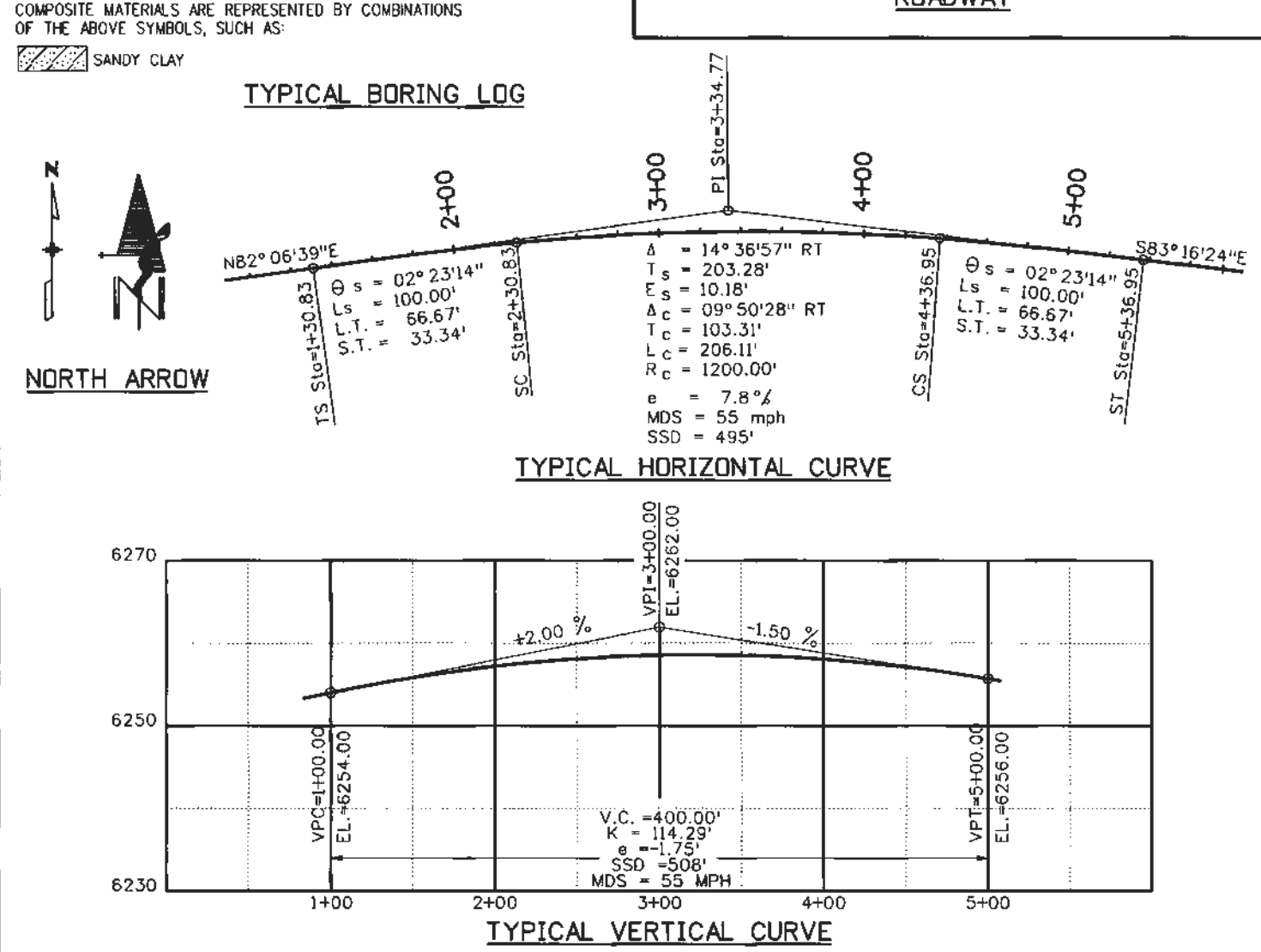
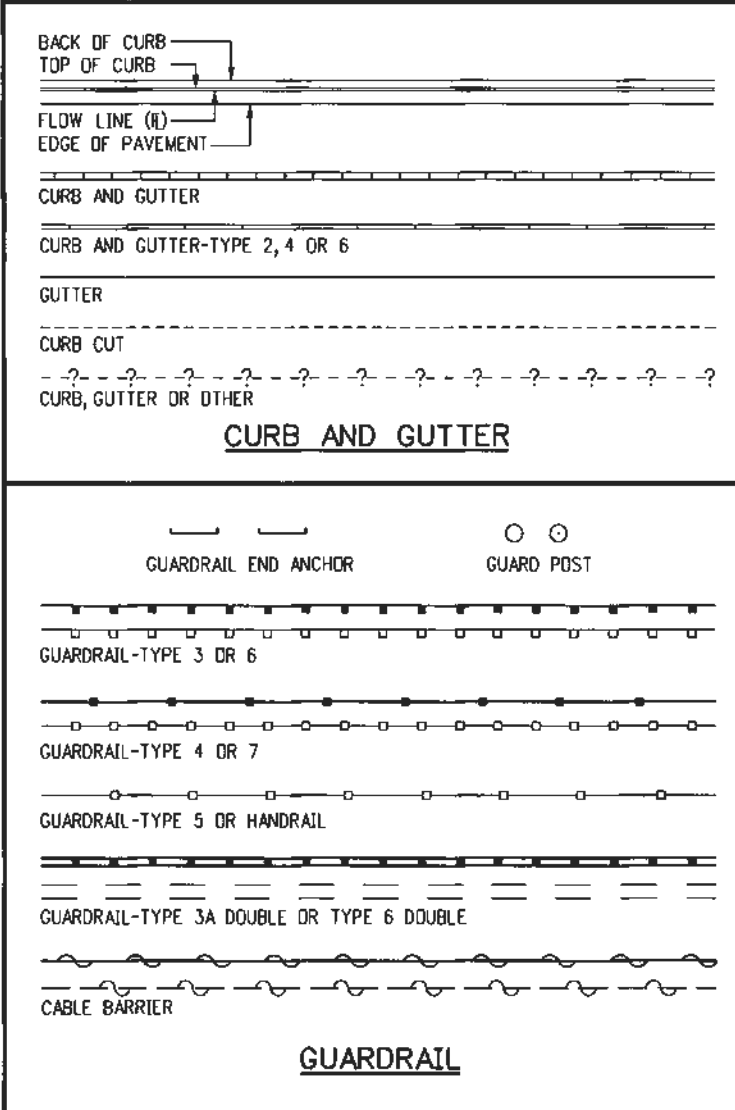
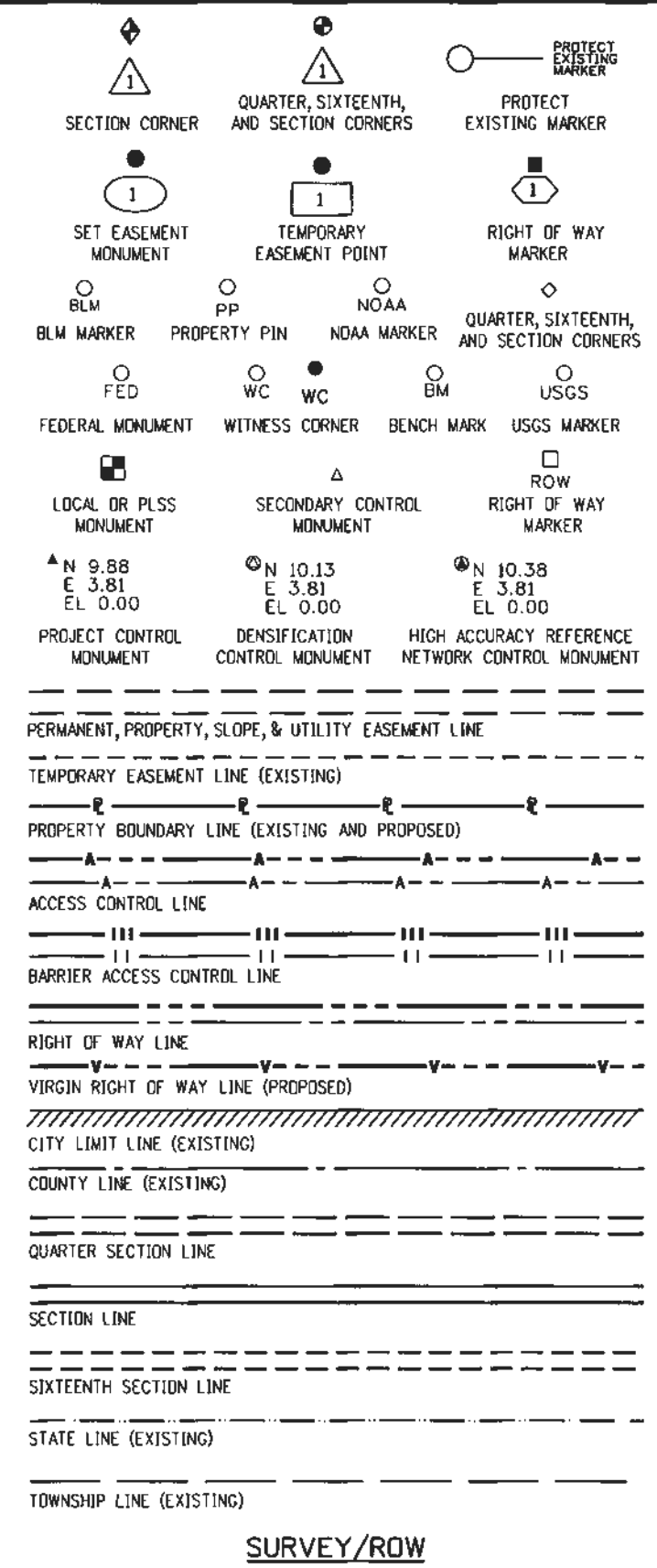
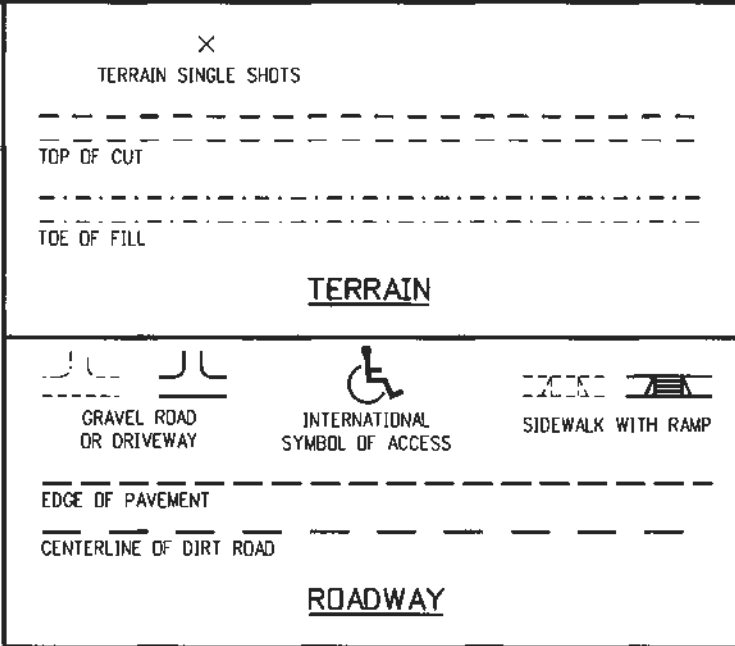
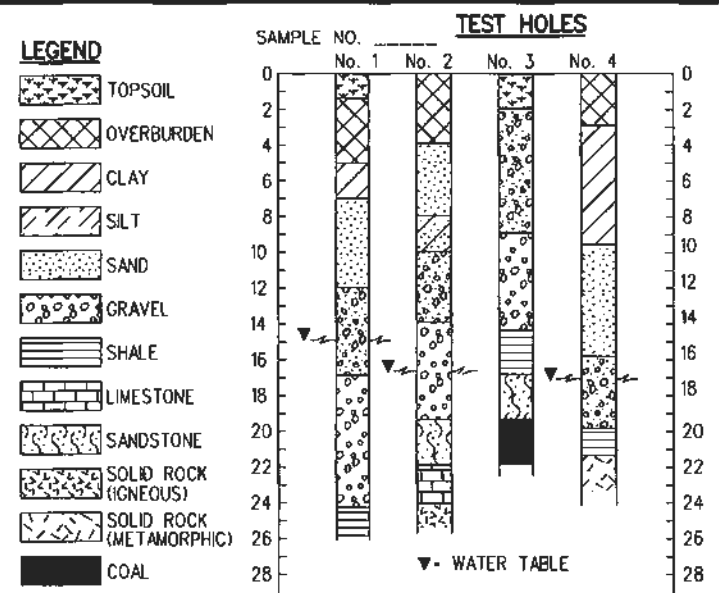
Sheet Subset: TC      Subset Sheets: 1 OF 1

Project No./Code

NHPP 5502-103

22182

Sheet Number 22







## A

|        |                                                                                   |
|--------|-----------------------------------------------------------------------------------|
| AAC    | Aluminum Arch Culvert                                                             |
| AADT   | Annual Average Daily Traffic                                                      |
| ABC    | Aggregate Base Course                                                             |
| Abut   | Abutment                                                                          |
| ACM    | Asbestos Containing Materials                                                     |
| ADA    | Americans with Disabilities Act                                                   |
| ADT    | Average Daily Traffic                                                             |
| AE     | Architect-Engineer, Architecture, Engineering                                     |
| AEC    | Architecture, Engineering and Construction                                        |
| AGA    | American Gas Association                                                          |
| Alt    | Alternate                                                                         |
| API    | American Petroleum Institute                                                      |
| APL    | Approved Products List                                                            |
| Approx | Approximate                                                                       |
| APWA   | American Public Works Association                                                 |
| AQCC   | Air Quality Control Commission                                                    |
| ARE    | Additional Requested Element<br>(Design/Build Terminology)                        |
| AREMA  | American Railway Engineering<br>& Maintenance-of-Way Association                  |
| AHSTA  | Ahead Station                                                                     |
| ARA    | Asphalt Rejuvenating Agent                                                        |
| ASBI   | American Segmental Bridge Institute                                               |
| ASD    | Allowable Stress Design                                                           |
| ASOP   | American Society of Photogrammetry                                                |
| ASR    | Alkali Silica Reactivity                                                          |
| ASSE   | American Society of Sanitary Engineering,<br>American Society of Safety Engineers |
| Asst   | Assistant                                                                         |
| ATB    | Asphalt Treated Base                                                              |
| ATM    | Active Traffic Management                                                         |
| AUTS   | Actual Ultimate Tensile Strength                                                  |

## B

|          |                           |
|----------|---------------------------|
| Bk to Bk | Back to Back              |
| BEI      | By Equal Increments       |
| BM       | Bench mark                |
| BPF      | Blows Per Foot            |
| BAFD     | Best and Final Offer      |
| Bbl      | Barrels                   |
| BC       | Bolt Circle               |
| Beg      | Begin                     |
| Bk       | Back                      |
| Bldg     | Building                  |
| BLM      | Bureau of Land Management |

|        |                                         |
|--------|-----------------------------------------|
| Blvd   | Boulevard                               |
| BMP    | Best Management Practice                |
| BNSF   | Burlington Northern & Santa Fe Railroad |
| Batt   | Bottom                                  |
| BP     | Bearing Pressure                        |
| Brg    | Bearing                                 |
| Bk Sto | Back Station                            |
| BT     | Beginning of Transition                 |
| Blwn   | Between                                 |

## C

|       |                                                                 |
|-------|-----------------------------------------------------------------|
| CL    | Centerline                                                      |
| C&G   | Curb and Gutter                                                 |
| CA    | Concrete Arch                                                   |
| CAC   | Concrete Arch Culvert                                           |
| CAD   | Computer Aided Design, Computer Aided Drafting                  |
| CADD  | Computer Aided Design and Drafting                              |
| CBC   | Concrete Box Culvert                                            |
| CBG   | Concrete Box Girder                                             |
| CBGC  | Concrete Box Girder Continuous                                  |
| CBGCP | Concrete Box Girder Continuous Prestressed                      |
| CBGP  | Concrete Box Girder Prestressed                                 |
| CBGS  | Concrete Box Girder Segmented                                   |
| CBR   | California Bearing Ratio                                        |
| CCR   | Code of Colorado Regulations, as amended                        |
| CDTPG | Concrete Double-Tee Prestressed Girder                          |
| CE    | Construction Engineering                                        |
| CF    | Cubic Feet                                                      |
| CFS   | Cubic Feet per Second                                           |
| CG    | Center of Gravity                                               |
| CHP   | Colorado Highway Patrol                                         |
| CI    | Cast Iron or Concrete on Rolled I-Beam                          |
| CIC   | Concrete on Rolled I-Beam Continuous                            |
| CICK  | Concrete on Rolled I-Beam Continuous<br>& Composite             |
| CICKP | Concrete on Rolled I-Beam Continuous<br>& Composite Prestressed |
| CIK   | Concrete on Rolled I-Beam Composite                             |
| CIKP  | Concrete on Rolled I-Beam Composite<br>Prestressed              |
| CIP   | Cast-in-Place or Cast in Place                                  |
| CIR   | Cold In-Place Recycling                                         |
| Clr   | Clear                                                           |
| cm    | Centimeters                                                     |
| CM    | Corrugated Metal                                                |

|          |                                                                    |
|----------|--------------------------------------------------------------------|
| CMAQ     | Congestion Mitigation Air Quality                                  |
| CMP      | Corrugated Metal Pipe                                              |
| CMU      | Concrete Masonry Unit                                              |
| COC      | Certificate of Compliance                                          |
| Col      | Column                                                             |
| Comp     | Composite                                                          |
| Conc     | Concrete                                                           |
| Conn     | Connection                                                         |
| Const    | Construction                                                       |
| Const Jt | Construction Joint                                                 |
| Cont     | Continuous                                                         |
| Corr     | Corrugated                                                         |
| CPE      | Corrugated Polyethylene Pipe                                       |
| CPG      | Concrete Prestressed Girder (Precast)                              |
| CPGC     | Concrete Prestressed Girder Continuous (Precast)                   |
| CPT      | Corrugated Polyethylene Tubing                                     |
| CR       | County Road                                                        |
| CRF      | Concrete Rigid Frame                                               |
| CS       | Curve to Spiral, Commercial Standard,<br>Concrete Slob             |
| CSC      | Concrete Slab Continuous                                           |
| CSG      | Concrete Slob & Girder (Poured in Place)                           |
| CSGC     | Concrete Slob & Girder Continuous<br>(Poured in Place)             |
| CSGCP    | Concrete Slob & Girder Continuous Prestressed<br>(Poured in Place) |
| CSGP     | Concrete Slob & Girder Prestressed<br>(Poured in Place)            |
| Csk      | Countersunk                                                        |
| CSL      | Cross Hole Sonic Logging                                           |
| CSP      | Corrugated Steel Pipe or Concrete Slob Prestressed                 |
| CSPC     | Concrete Slab Prestressed Continuous                               |
| CTB      | Cement Treated Base                                                |
| CTR      | Certified Test Reports                                             |
| Ctr      | Center                                                             |
| CY       | Cubic Yards                                                        |
| CZ       | Clear Zone                                                         |

## D

|     |                                 |
|-----|---------------------------------|
| D   | Degree of Curvature, or Density |
| DB  | Design Build                    |
| DAS | Deformed Anchor Stud            |
| dB  | decibels                        |
| DBA | Deformed Bar Anchor             |
| DbI | Double                          |

## GENERAL NOTES

- ABBREVIATIONS SHOULD BE UPPER AND LOWER CASE LETTERS EXCEPT WHERE ALL UPPER CASE LETTERS ARE REQUIRED.  
Const Jt = Construction Joint
- ACRONYMS SHALL BE ALL UPPER CASE LETTERS.  
CBC = Concrete Box Culvert
- ABBREVIATIONS SHALL BE USED ONLY WHEN THE WORDS CANNOT BE COMPLETELY SPELLED OUT DUE TO MULTIPLE FACTORS, SUCH AS A LACK OF SPACE ON THE SHEET.

|                |                                                            |
|----------------|------------------------------------------------------------|
| Deg, °F,<br>°C | Degrees (Thermal) - Degrees Fahrenheit,<br>Degrees Celsius |
| Dgn            | Design or Microstation Drawing                             |
| DH             | Design Height<br>or Avg height for qty calculations        |
| DHV            | Design Hour Volume                                         |
| DHW            | Design High Water                                          |
| DI             | Ductile Iron                                               |
| Dia            | Diameter                                                   |
| DNR            | Department of Natural Resources                            |
| DOW            | Division of Wildlife (Colorado)                            |
| DRCOG          | Denver Regional Council of Governments                     |
| DTD            | Division of Transportation Development (CDOT)              |
| DTM            | Digital Terrain Model                                      |
| Dwg            | AutoCAD Drawing                                            |

## E

|        |                                                  |
|--------|--------------------------------------------------|
| e.g.   | Exempli Gratia (For Example)                     |
| EA     | Environmental Assessment                         |
| EATB   | Emulsified Asphalt Treated Base                  |
| EB     | Eastbound                                        |
| EF     | Each Face                                        |
| Elev   | Elevation                                        |
| Engr   | Engineer                                         |
| EPA    | Environmental Protection Agency                  |
| EPDM   | Ethylene Propylene Diene<br>Monomer-class rubber |
| Eq     | Equal                                            |
| ESAL   | Equivalent Single Axle Load                      |
| Est    | Estimate                                         |
| ET     | Ending of Transition                             |
| EVT    | Event Point (InRoads Terminology)                |
| EW     | Each Way                                         |
| E      | Expansion Bearing                                |
| Exc    | Excavation                                       |
| Exp Jt | Expansion Joint                                  |
| Ext    | Exterior                                         |

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|                                                              |
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## Colorado Department of Transportation



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Engineering and Standards Services JBK

## ACRONYMS AND ABBREVIATIONS

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## STANDARD PLAN NO.

M-100-2

## Standard Sheet No. 1 of 4

Project Sheet Number:

## F

|        |                                     |
|--------|-------------------------------------|
| F      | Fixed Bearing                       |
| FL     | Flow Line                           |
| FAA    | Federal Aviation Administration     |
| FASB   | Foamed Asphalt Stabilized Base      |
| FCM    | Fracture Critical Member            |
| FDR    | Full Depth Reclamation              |
| Fed    | Federal                             |
| FEMA   | Federal Emergency Management Agency |
| FES    | Flared End Section                  |
| FF     | For Face or Front Face              |
| Fig    | Figure                              |
| Fin    | Finished                            |
| Fl     | Floor                               |
| Flg    | Flange                              |
| FM     | Factory Mutual                      |
| FMM    | Field Materials Manual              |
| FPM    | Feet Per Minute                     |
| FPS    | Feet Per Second                     |
| FRA    | Federal Railroad Administration     |
| Freq   | Frequency                           |
| FRP    | Fiber Reinforced Polymer            |
| FS     | Planned Finish Surface              |
| Ft     | Feet                                |
| Ft Kip | Foot Kips                           |
| Ft Lb  | Foot Pounds                         |
| FTA    | Federal Transit Administration      |
| Ftg    | Footing                             |
| FWD    | Falling Weight Deflectometer        |

## G

|        |                                 |
|--------|---------------------------------|
| Ga     | Gage or Gauge                   |
| Gal    | Gallons                         |
| Galv   | Galvanized                      |
| Gd     | Guided expansion bearing        |
| Gir, G | Girder                          |
| GIS    | Geographical Information System |
| GL     | Girt Line                       |
| GPM    | Gallons Per Minute              |
| GPS    | Global Positioning System       |
| GRI    | Geosynthetic Research Institute |
| GRS    | Geosynthetic Reinforced Soil    |
| GSI    | Geosynthetic Institute          |

## H

|        |                                  |
|--------|----------------------------------|
| HAS    | Headed Anchor Stud               |
| HAZMAT | Hazardous Materials              |
| HC     | Horizontal Clearance             |
| HCL    | Horizontal Control Line          |
| HCM    | Highway Capacity Manual          |
| Hd     | Head                             |
| HDPE   | High Density Polyethylene        |
| HDPP   | High Density Polypropylene       |
| Hex Hd | Hexagonal Head                   |
| HID    | High Intensity Discharge (Lamps) |
| HIR    | Hot In-Place Recycling           |
| HLMR   | Highload Multi-Rotational        |
| HMA    | Hot Mix Asphalt                  |
| Horiz  | Horizontal                       |
| HOV    | High-Occupancy Vehicle           |
| HP     | Horsepower                       |
| HPC    | High Performance Concrete        |
| HS     | High Strength                    |
| Ht     | Height                           |
| HW     | High Water                       |
| Hwy    | Highway                          |
| Hyd    | Hydraulic                        |

## I

|          |                                               |
|----------|-----------------------------------------------|
| ICEA     | Insulated Cable Engineers Association         |
| ID       | Inside Diameter                               |
| IMP      | Incident Management Plan                      |
| In. Kips | Inch Kips                                     |
| In. Lb.  | Inch Pounds                                   |
| In.      | Inches                                        |
| Incl     | Included                                      |
| Int      | Interior                                      |
| Inv      | Invert                                        |
| IRI      | International Roughness Index                 |
| ISO      | International Organization for Standards      |
| ITAA     | Information Technology Association of America |
| ITS      | Intelligent Transportation System             |
| IVHS     | Intelligent Vehicle Highway System            |

## J

|      |                                 |
|------|---------------------------------|
| JB   | Junction Box                    |
| JPCP | Jointed Plain Concrete Pavement |
| Jt   | Joint                           |

## K

|     |                      |
|-----|----------------------|
| Kip | Thousand Pounds      |
| KSF | kips per square foot |
| KSI | Kips per square inch |
| KW  | Kilowatt             |

## L

|       |                                               |
|-------|-----------------------------------------------|
| L     | Length, Angle(steel)                          |
| Lb    | Pounds                                        |
| Lb/Ft | pound per foot                                |
| Lb/SY | Pounds per square yard                        |
| Lb-Ft | pound foot                                    |
| LCCA  | Life Cycle Cost Analysis                      |
| LED   | Light Emitting Diode                          |
| LEED  | Leadership in Energy and Environmental Design |
| LF    | Linear Feet                                   |
| LFD   | Load Factor Design                            |
| LL    | Liquid Limit                                  |
| LLDPE | Linear Low-Density Polyethylene               |
| LRFD  | Load and Resistance Factor Design             |
| LS    | Lump Sum or Length of Spiral                  |
| Lt    | Left                                          |
| LTB   | Lime Treated Base                             |
| LTDS  | Required Long Term Design Strength            |
| Lum   | Luminaire                                     |

## M

|       |                            |
|-------|----------------------------|
| m     | Meters                     |
| MA    | Mobile Attenuator          |
| Maint | Maintenance                |
| MARV  | Minimum Average Roll Value |
| Matl  | Material                   |
| Max   | Maximum                    |
| MBTA  | Migratory Bird Treaty Act  |

|                |                              |
|----------------|------------------------------|
| MFBM           | Thousand Foot Board Measure  |
| Mfg            | Manufactured or Manufacturer |
| MHT            | Method of Handling Traffic   |
| Mi             | Mile                         |
| Min            | Minimum                      |
| Misc           | Miscellaneous                |
| mm             | Millimeters                  |
| MP             | Milepost                     |
| MPH            | Miles Per Hour               |
| M <sub>R</sub> | Resilient Modulus            |
| MR             | Modulus of Rupture           |

## N

|                  |                                                                  |
|------------------|------------------------------------------------------------------|
| NAD              | North American Datum                                             |
| NAVD             | North American Vertical Datum                                    |
| NB               | Northbound, Total Number of Blocks                               |
| N <sub>DES</sub> | Recommended SuperPave™ Gyrotory Design Revolution                |
| NDT              | Nondestructive Testing                                           |
| NECA             | National Electrical Contractors Association                      |
| NEPA             | National Environmental Policy Act                                |
| NESC             | National Electric Safety Code                                    |
| NF               | Near Face                                                        |
| NFPA             | National Fire Protection Association                             |
| NGS              | National Geodetic Survey                                         |
| NGVD             | National Geodetic Vertical Datum of 1929                         |
| NHS              | National Highway System                                          |
| NICET            | National Institute for Certification of Engineering Technologies |
| NIP              | Nail in Place                                                    |
| NMAS             | Nominal Maximum Aggregate Size                                   |
| No               | Number                                                           |
| Nom              | Nominal                                                          |
| NPDES            | National Pollutant Discharge Elimination System                  |
| NPT              | National Pipe Thread                                             |
| NS               | Near Side                                                        |
| NTCIP            | National Transportation Communications for ITS Protocol          |
| NTP              | Notice to Proceed                                                |
| NTS              | Not to Scale                                                     |

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|                                                              |
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## ACRONYMS AND ABBREVIATIONS

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## STANDARD PLAN NO.

M-100-2

Standard Sheet No. 2 of 4

Project Sheet Number:

## O

|          |                                           |
|----------|-------------------------------------------|
| OC       | On Center                                 |
| OD       | Outside Diameter                          |
| OGFC     | Open Grade Friction Course                |
| OJT      | On-the-Job Trainee or On-the-Job Training |
| Opp Hand | Opposite Hand                             |
| oz       | Ounces                                    |

## P

|        |                                                                               |
|--------|-------------------------------------------------------------------------------|
| PC     | Point of Curve                                                                |
| PCA    | Portland Cement Association                                                   |
| PCBC   | Concrete Box Culvert Precast                                                  |
| PCC    | Point of Compound Curve                                                       |
| PCCP   | Portland Cement Concrete Pavement                                             |
| PDA    | Pile Driving Analyzer                                                         |
| PE     | Preliminary Engineering,<br>or Professional Engineer<br>or Permanent Easement |
| Ped    | Pedestrian                                                                    |
| PG     | Profile Grade or Performance Grade                                            |
| PGL    | Profile Grade Line                                                            |
| PI     | Point of Intersection                                                         |
| PL, PI | Plate                                                                         |
| PLS    | Professional Land Surveyor                                                    |
| PM     | Project Manager                                                               |
| PMBB   | Plant Mix Bituminous Base                                                     |
| PMBP   | Plant Mix Bituminous Pavement                                                 |
| PMSC   | Plant Mix Seal Coat                                                           |
| POC    | Point on Curve                                                                |
| POSS   | Point of Slope Selection                                                      |
| POT    | Point on Tangent                                                              |
| PPE    | Personal Protective Equipment                                                 |
| PRC    | Point of Reverse Curve                                                        |
| Praj   | Project or Projection                                                         |
| psf    | Pounds per square foot                                                        |
| psi    | Pounds per square inch                                                        |
| PT     | Point of Tangent                                                              |
| PTFE   | Polytetrafluoroethylene                                                       |
| PTI    | Post-Tensioning Institute                                                     |
| PUC    | Public Utilities Commission                                                   |
| PVC    | Poly Vinyl Chloride (pipe),<br>Point of Vertical Curve                        |
| PVI    | Point of Vertical Intersection                                                |
| Pvmt   | Pavement                                                                      |
| PVT    | Point of Vertical Tangency                                                    |

## Q

|     |                               |
|-----|-------------------------------|
| Q   | Peak Discharge or Flow Volume |
| QA  | Quality Assurance             |
| QC  | Quality Control               |
| QMP | Quality Management Plan       |
| QML | Qualified Manufacturers List  |

## R

|       |                                                                       |
|-------|-----------------------------------------------------------------------|
| R     | Radius                                                                |
| RA    | Rubble Arch                                                           |
| RAC   | Rubble Arch Culvert                                                   |
| rad   | radians                                                               |
| RAP   | Reclaimed Asphalt Pavement                                            |
| RAS   | Reclaimed Asphalt Shingles                                            |
| RC    | Reverse Crown                                                         |
| RCC   | Roller Compacted Concrete                                             |
| RCP   | Reinforced Concrete Pipe                                              |
| RCPC  | Reinforced Concrete Pipe Culvert                                      |
| Rdwy  | Roadway                                                               |
| RE    | Resident Engineer<br>or Railroad Easement                             |
| Ref   | Reference                                                             |
| Reinf | Reinforcing                                                           |
| Rem   | Remove or Removal                                                     |
| Repl  | Replace                                                               |
| Req   | Required                                                              |
| Rev   | Revised, Revision                                                     |
| RG    | Riveted Plate Girder                                                  |
| RGC   | Riveted Plate Girder Continuous                                       |
| RL    | Reinforcement Length                                                  |
| RME   | Region Materials Engineer                                             |
| rpm   | Revolutions Per Minute                                                |
| RSC   | Rigid Steel Conduit                                                   |
| RSS   | Reinforced Soil Slope                                                 |
| Rt    | Right                                                                 |
| RTD   | Region Transportation Director<br>or Regional Transportation District |
| RWIS  | Road Weather Information System                                       |

## S

|       |                                             |
|-------|---------------------------------------------|
| SA    | Steel Arch                                  |
| SAC   | Steel Arch Culvert                          |
| San   | Sanitary                                    |
| SB    | Southbound                                  |
| SBA   | Small Business Administration               |
| SBC   | Steel Box Girder                            |
| SBGC  | Steel Box Girder Continuous                 |
| SC    | Spiral to Curve                             |
| Sch   | Schedule                                    |
| SCS   | Spiral Curve Spiral                         |
| SDG   | Steel Deck Girder                           |
| SDGC  | Steel Deck Girder with<br>Floor Beam System |
| SDGCK | Steel Deck Girder Continuous<br>& Composite |
| SDI   | Steel Decks Institute                       |
| SDT   | Steel Deck Truss                            |
| Sdwk  | Sidewalk                                    |
| Sect  | Section                                     |
| SF    | Square Feet                                 |
| SH    | State Highway                               |
| Shldr | Shoulder                                    |
| SHPO  | State Historic Preservation Office          |
| SHRP  | Strategic Highway Research Program          |
| Sht   | Sheet                                       |
| SIGN  | Overhead Sign                               |
| SIGNB | Overhead Sign-Butterfly                     |
| SIGNC | Overhead Sign-Cantilever                    |
| SIGND | Overhead Sign + Cantilever                  |
| Sim   | Similar                                     |
| SIP   | Stay in Place                               |
| SJI   | Steel Joists Institute                      |
| SLT   | Steel Low Truss                             |
| SMA   | Stone Matrix Asphalt                        |
| SN    | Structural Number                           |
| Spa   | Spaces or Spaced                            |
| Specs | Specifications                              |
| SpG   | Specific Gravity                            |
| Spl   | Splice                                      |
| Sq In | Square Inches                               |
| Sq Mi | Square Miles                                |
| Sq    | Square                                      |

|      |                                            |
|------|--------------------------------------------|
| SRW  | Segmental Retaining Walls                  |
| SSE  | Steel Stringer-Earth Filled                |
| SSM  | Steel Stringer-Metal Plank Deck            |
| SSMC | Steel Stringer-Metal Plank Deck Continuous |
| SSPC | Society for Protective Coatings            |
| SSS  | Steel Stringer-Timber Deck                 |
| SSSC | Steel Stringer-Timber Deck Continuous      |
| ST   | Spiral to Tangent                          |
| St   | Straight or Street                         |
| Sta  | Station                                    |
| Std  | Standard                                   |
| STG  | Steel Thru Girder                          |
| Str  | Structure, Structural                      |
| STT  | Steel Thru Truss                           |
| SUSP | Suspension Bridge                          |
| SY   | Square Yards                               |
| Sym  | Symmetrical                                |

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## STANDARD PLAN NO.

M-100-2

Standard Sheet No. 3 of 4

Project Sheet Number:

## T

|       |                                                                                   |
|-------|-----------------------------------------------------------------------------------|
| T&B   | Top and Bottom                                                                    |
| T&E   | Threatened & Endangered Species                                                   |
| T     | Tons                                                                              |
| TAS   | Threaded Anchor Stud                                                              |
| TBC   | Timber Box Culvert                                                                |
| TC    | Tangent to Curve                                                                  |
| TCD   | Traffic Control Devices                                                           |
| TCP   | Traffic Control Plan                                                              |
| TD    | Timber Stringer (Untreated) Concrete Deck                                         |
| TDH   | Total Dynamic Head                                                                |
| Temp  | Temporary or Temperature                                                          |
| Thd   | Thread                                                                            |
| THHN  | Thermoplastic High Heat-resistant Nylon coated (Insulation designation for wire)  |
| THWN  | Thermoplastic High Water-resistant Nylon coated (Insulation designation for wire) |
| TIG   | Tungsten Inert Gas (Welding)                                                      |
| TLA   | Timber Laminated Arch (Gluelam)                                                   |
| TLS   | Timber Laminated Stringer (Gluelam)                                               |
| TLT   | Timber Low Truss                                                                  |
| TM    | Timber Stringer (Untreated) Metal Deck                                            |
| TMP   | Transportation Management Plan                                                    |
| Tot   | Total                                                                             |
| TPI   | Threads per Inch                                                                  |
| TS    | Tangent to Spiral, Timber Stringer (Untreated) Timber Deck                        |
| TSLAB | Timber Slab                                                                       |
| TTC   | Timber Culvert                                                                    |
| TTD   | Timber Stringer-Concrete Deck                                                     |
| TTM   | Timber Stringer- Metal Deck                                                       |
| TTS   | Timber Stringer- Timber Deck                                                      |
| TTT   | Timber Thru Truss                                                                 |
| TUNC  | Tunnel-Concrete Lined                                                             |
| TUNR  | Tunnel-Thru Rock-No Lining                                                        |
| Typ   | Typical                                                                           |

## U

|       |                                            |
|-------|--------------------------------------------|
| UG    | Underground                                |
| UNC   | Uniform National Coarse (screw thread)     |
| UNCC  | Utility Notification Center of Colorado    |
| UNF   | Uniform National Fine (screw thread)       |
| UNO   | Unless Noted Otherwise                     |
| UPRR  | Union Pacific Railroad                     |
| UPS   | Uninterruptible Power Supply               |
| USACE | United States Army Corp of Engineers       |
| USCS  | Unified Soil Classification System         |
| USDA  | United States Department of Agriculture    |
| USDOT | United States Department of Transportation |
| USFWS | United States Fish and Wildlife Service    |
| USGS  | US Geological Survey                       |
| Util  | Utility or Utilities                       |
| UV    | Ultraviolet                                |

## V

|      |                                |
|------|--------------------------------|
| VC   | Vertical Curve                 |
| VCP  | Vitrified Clay Pipe            |
| Veh  | Vehicle                        |
| Vert | Vertical                       |
| VFA  | Voids Filled With Asphalt      |
| VMA  | Voids in the Mineral Aggregate |
| VMS  | Variable Message Sign          |
| Vol  | Volume                         |
| VPC  | Vertical Point of Curvature    |
| VPI  | Vertical Point of Intersection |
| VPT  | Vertical Point of Tangency     |

## W

|       |                                                                                       |
|-------|---------------------------------------------------------------------------------------|
| W/C   | Water-Cement Ratio                                                                    |
| WALL  | Retaining Wall                                                                        |
| WB    | Westbound                                                                             |
| WBS   | Work Breakdown Structure                                                              |
| WF    | Wide Flange (Steel section)                                                           |
| WG    | Welded Girder                                                                         |
| WGC   | Welded Girder Continuous                                                              |
| WGCK  | Welded Girder Continuous & Composite                                                  |
| WGCKP | Welded Girder Continuous, Composite Prestressed                                       |
| WGK   | Welded Girder Composite                                                               |
| WGKP  | Welded Girder Composite Prestressed                                                   |
| WIMS  | Weigh-In-Motion Station                                                               |
| WP    | Work Point                                                                            |
| WQCD  | Water Quality Control Division (Colorado Department of Public Health and Environment) |
| WRI   | Wire Reinforcement Institute                                                          |
| WS    | Water Surface                                                                         |
| WSN   | Weighted Structural Number                                                            |
| Wt    | Weight                                                                                |
| WWF   | Welded Wire Fabric, typically referred to very light gauge wire for crack control     |
| WWR   | Welded Wire Reinforcement                                                             |

## Y

|    |      |
|----|------|
| Yd | Yard |
|----|------|

## SYMBOLS

|                                                                                     |                           |
|-------------------------------------------------------------------------------------|---------------------------|
| 400                                                                                 | #4 REBAR BENDING SHAPE    |
| 500                                                                                 | #5 REBAR BENDING SHAPE    |
| 600                                                                                 | #6 REBAR BENDING SHAPE    |
| @                                                                                   | at                        |
| &                                                                                   | and                       |
| φ ∅                                                                                 | Diameter                  |
| °, ', "                                                                             | Degrees, Minutes, Seconds |
| ', "                                                                                | Feet, inches              |
| #                                                                                   | Number or Pound           |
| (E)                                                                                 | Epoxy Coated Rebar        |
| (N)                                                                                 | Non-Epoxy Coated Rebar    |
| (GXX)                                                                               | Girder Label              |
| °F                                                                                  | Fahrenheit                |
| °C                                                                                  | Celsius                   |
| ≈                                                                                   | Approximate               |
|  | Interstate Highway        |
|  | US Highway                |
|  | State Highway             |

## Computer File Information

|                                                              |
|--------------------------------------------------------------|
| Creation Date: 07/31/19                                      |
| Designer Initials: JBK                                       |
| Last Modification Date: 07/31/19                             |
| Detailer Initials: LTA                                       |
| CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English |

## Sheet Revisions

| Date: | Comments |
|-------|----------|
| (R-X) |          |
| (R-X) |          |
| (R-X) |          |
| (R-X) |          |

## Colorado Department of Transportation



2829 West Howard Place  
CDDT HQ, 3rd Floor  
Denver, CO 80204  
Phone: 303-757-9021 FAX: 303-757-9868

Engineering and Standards Services JBK

## ACRONYMS AND ABBREVIATIONS

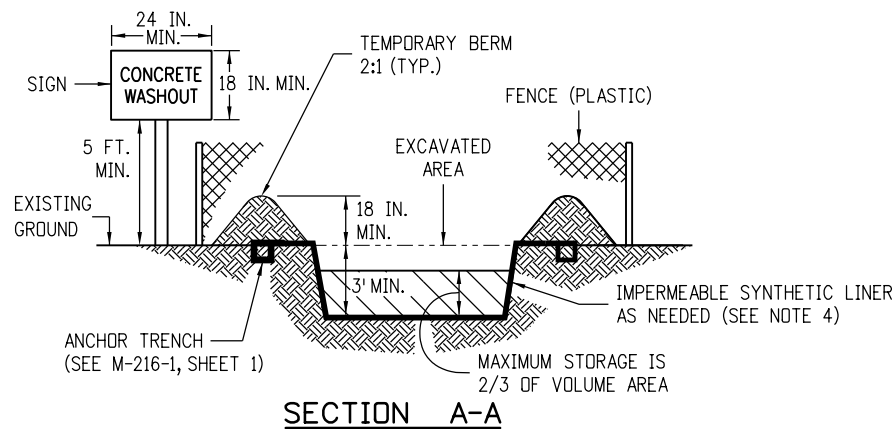
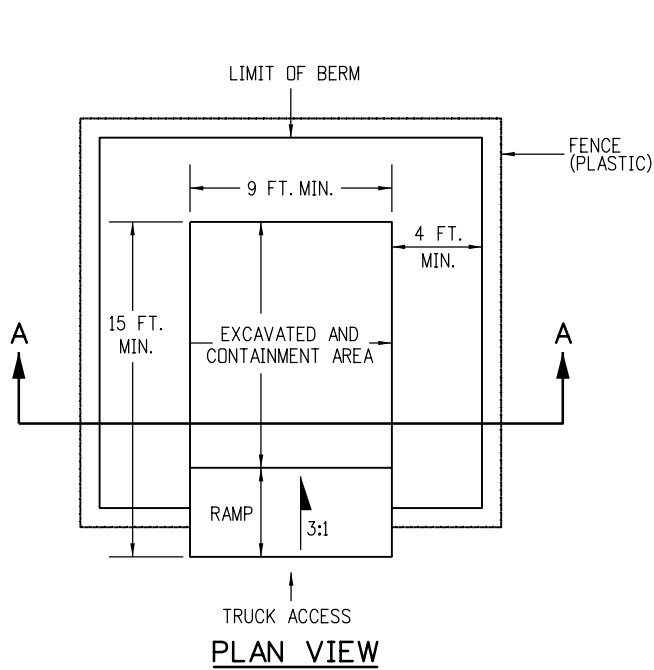
Issued by Engineering and Standards Services: July 31, 2019

## STANDARD PLAN NO.

M-100-2

Standard Sheet No. 4 of 4

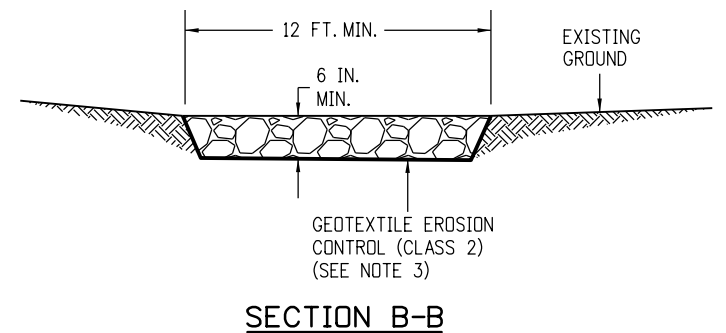
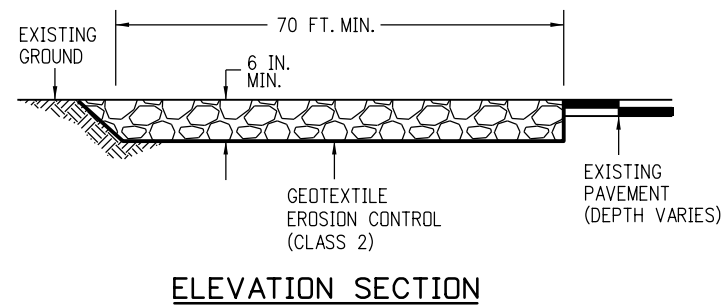
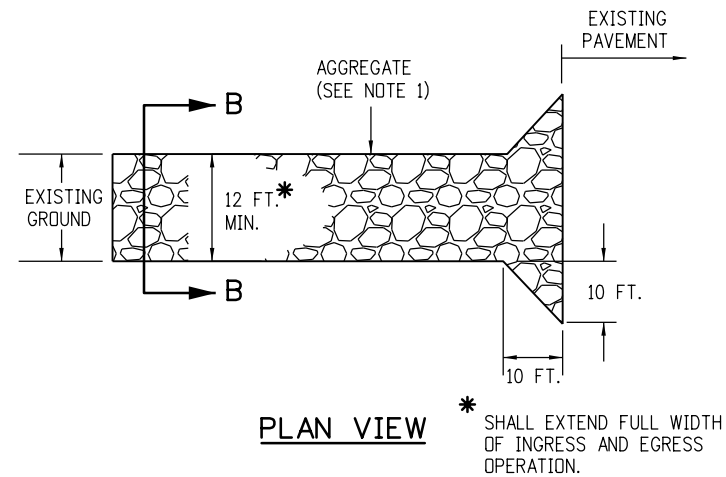
Project Sheet Number:



NOTES:

1. A FENCE (PLASTIC) CONFORMING TO SECTION 607 SHALL BE INSTALLED AROUND THE CONCRETE WASHOUT STRUCTURE, EXCEPT AT THE OPENING.
2. THE CONCRETE WASHOUT SIGN SHALL HAVE LETTERS AT LEAST 3 INCHES HIGH AND CONFORM TO SUBSECTION 630.02.
3. ALL MATERIALS AND LABOR TO COMPLETE THE CONCRETE WASHOUT STRUCTURE SHALL BE INCLUDED IN THE COST OF WORK AND NOT PAID FOR SEPARATELY.
4. THE BOTTOM OF EXCAVATION SHALL BE A MINIMUM OF FIVE FEET ABOVE GROUND WATER. IF NOT, THE BOTTOM OF EXCAVATION SHALL BE IN ACCORDANCE WITH 208.02 (k).
5. THE PAY ITEM NUMBER FOR CONCRETE WASHOUT STRUCTURE (EACH) IS 208-00045.

CONCRETE WASHOUT STRUCTURE

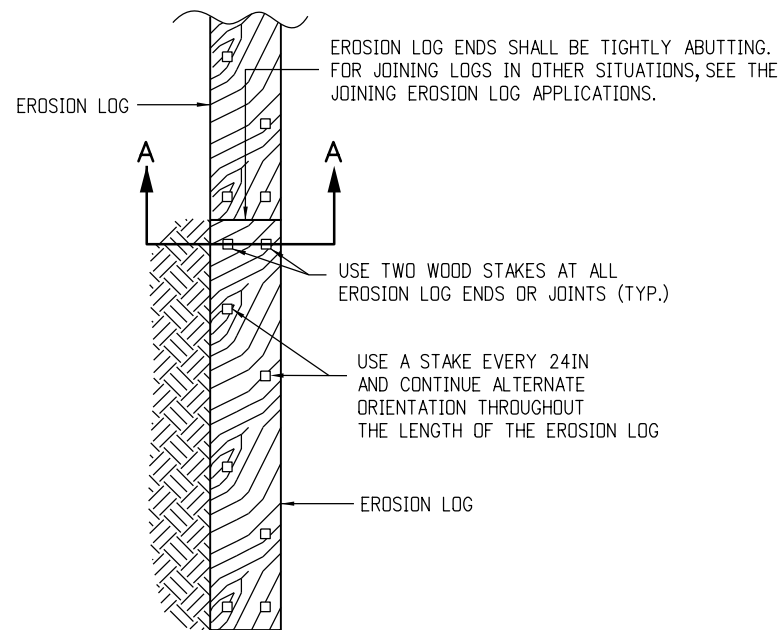


NOTES:

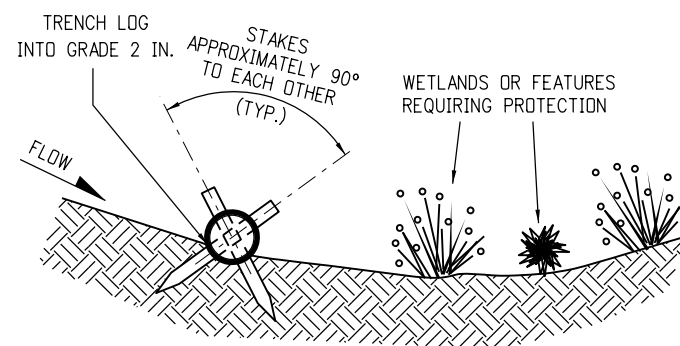
1. AGGREGATE SHALL CONFORM TO SUBSECTION 208.02 (m).
2. THE CONTRACTOR SHALL PROTECT CURB AND GUTTER THAT CROSSES THE ENTRANCE FROM DAMAGE, WHILE NOT BLOCKING FLOW OF WATER THRU STRUCTURE. PROTECTION OF THE CURB AND GUTTER SHALL BE INCLUDED IN THE COST OF WORK AND NOT PAID FOR SEPARATELY.
3. GEOTEXTILE SHALL CONFORM TO SUBSECTION 712.08.
4. ALL MATERIALS AND LABOR TO COMPLETE THE VEHICLE TRACKING PAD SHALL BE INCLUDED IN THE COST OF WORK AND NOT PAID FOR SEPARATELY.
5. THE PAY ITEM NUMBER FOR VEHICLE TRACKING PAD (EACH) IS 208-00070.

VEHICLE TRACKING PAD

| Computer File Information                                    |       | Sheet Revisions |                                                                                    | <div> <div>Colorado Department of Transportation</div> <div>  <div> 2829 West Howard Place<br/> CDOT HQ, 3rd Floor<br/> Denver, CO 80204<br/> Phone: 303-757-9021 FAX: 303-757-9868 </div> </div> <div>Construction Engineering Services DK</div> </div> | <div>TEMPORARY EROSION CONTROL</div> <div>Issued by the Project Development Branch: July 31, 2019</div> |  | STANDARD PLAN NO.          |
|--------------------------------------------------------------|-------|-----------------|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|--|----------------------------|
| Creation Date: 07/31/19                                      |       | Date:           | Comments                                                                           |                                                                                                                                                                                                                                                                                                                                               |                                                                                                         |  | M-208-1                    |
| Designer Initials: DK                                        | (R-X) | 05/16/24        | Revised Concrete Washout Structure Notes 1 and 4, and Vehicle Tracking Pad Note 1. |                                                                                                                                                                                                                                                                                                                                               |                                                                                                         |  | Standard Sheet No. 1 of 11 |
| Last Modification Date: 05/16/24                             | (R-X) |                 |                                                                                    |                                                                                                                                                                                                                                                                                                                                               |                                                                                                         |  |                            |
| Detailer Initials: LTA                                       | (R-X) |                 |                                                                                    |                                                                                                                                                                                                                                                                                                                                               |                                                                                                         |  |                            |
| CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English | (R-X) |                 |                                                                                    |                                                                                                                                                                                                                                                                                                                                               |                                                                                                         |  | Project Sheet Number:      |

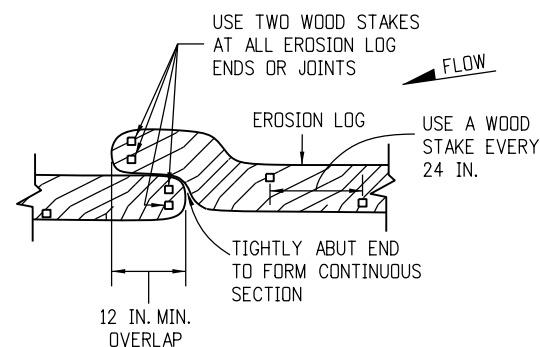


PLAN VIEW

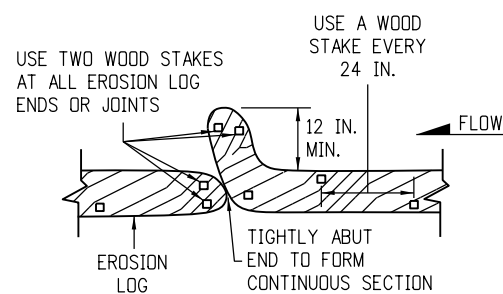


SECTION A-A

TYPICAL STAKE INSTALLATION



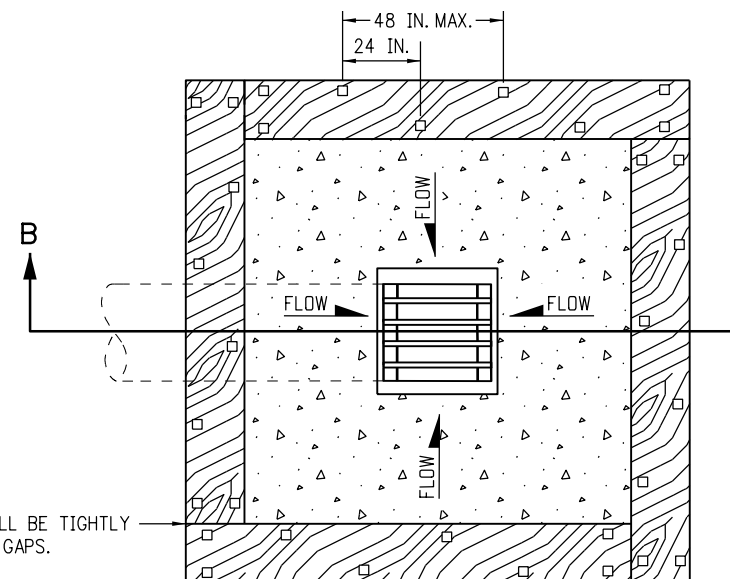
OVERLAP JOINING DETAIL



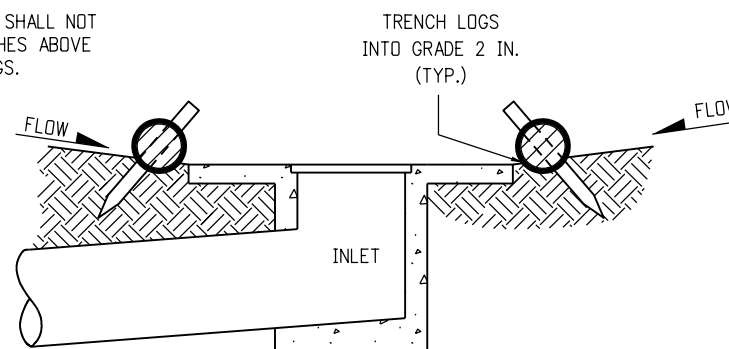
J-HOOK JOINING DETAIL

JOINING EROSION LOG APPLICATIONS

| EROSION LOGS PAY ITEMS |                 |
|------------------------|-----------------|
| NUMBER                 | DESCRIPTION     |
| 208-00012              | TYPE 1 (9 IN.)  |
| 208-00002              | TYPE 1 (12 IN.) |
| 208-00013              | TYPE 1 (20 IN.) |
| 208-00007              | TYPE 2 (8 IN.)  |
| 208-00008              | TYPE 2 (12 IN.) |
| 208-00009              | TYPE 2 (18 IN.) |
| 208-00022              | TYPE 3 (9 IN.)  |
| 208-00023              | TYPE 3 (12 IN.) |
| 208-00024              | TYPE 3 (20 IN.) |



PLAN VIEW

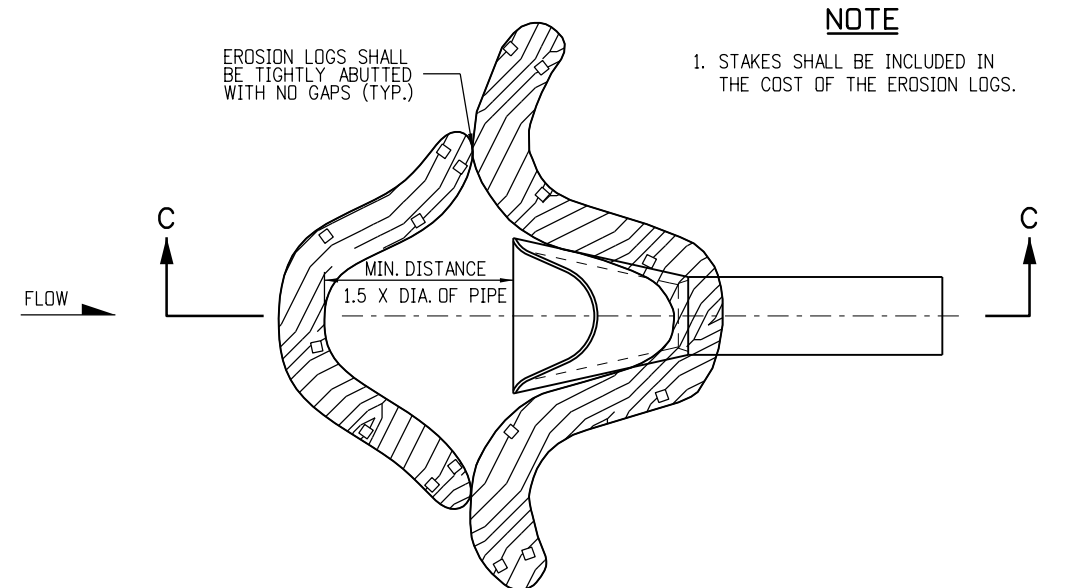


SECTION B-B

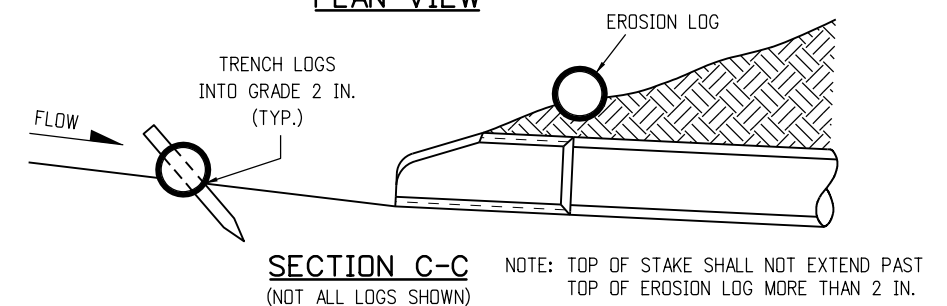
NOTE: LOCATE EROSION LOGS AT THE OUTSIDE EDGE OF THE CONCRETE APRON.

EROSION LOG FILTER AT DROP INLET

## EROSION LOG (SEDIMENT CONTROL LOG) APPLICATIONS

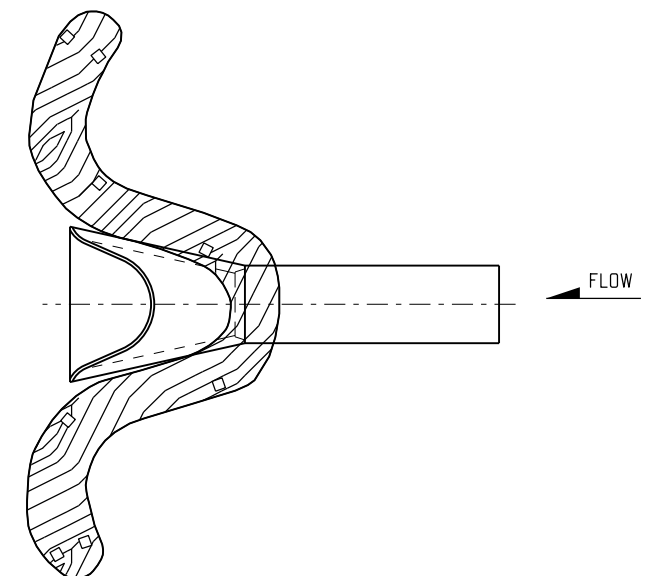


PLAN VIEW



SECTION C-C  
(NOT ALL LOGS SHOWN)

EROSION LOG CULVERT INLET PROTECTION



EROSION LOG CULVERT OUTLET PROTECTION

### Computer File Information

Creation Date: 07/31/19  
Designer Initials: DK  
Last Modification Date: 05/16/24  
Detailer Initials: LTA  
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English

### Sheet Revisions

| Date:    | Comments                                                                                        |
|----------|-------------------------------------------------------------------------------------------------|
| 05/16/24 | Added "Erosion Logs...No Gaps" dimension note to the "... Drop Inlet" plan view. Revised title. |
|          |                                                                                                 |
|          |                                                                                                 |

### Colorado Department of Transportation



2829 West Howard Place  
CDOT HQ, 3rd Floor  
Denver, CO 80204  
Phone: 303-757-9021 FAX: 303-757-9868

Construction Engineering Services DK

## TEMPORARY EROSION CONTROL

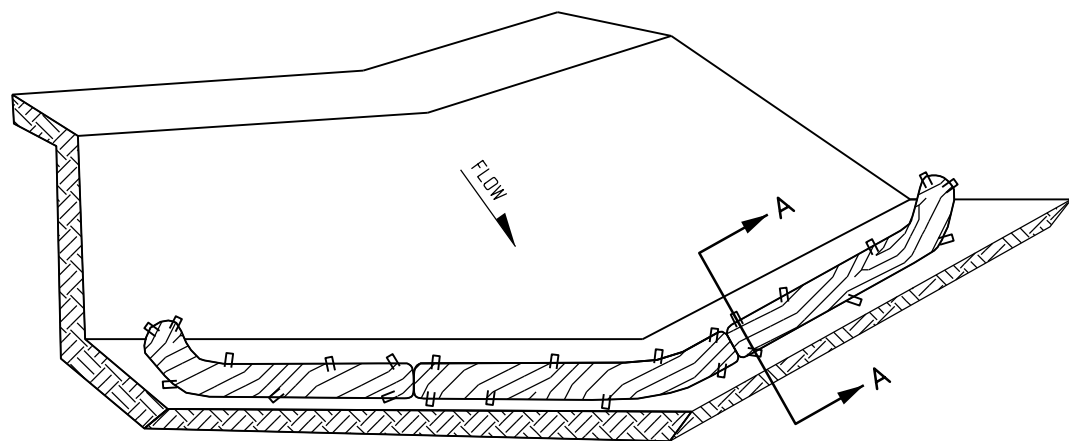
Issued by the Project Development Branch: July 31, 2019

### STANDARD PLAN NO.

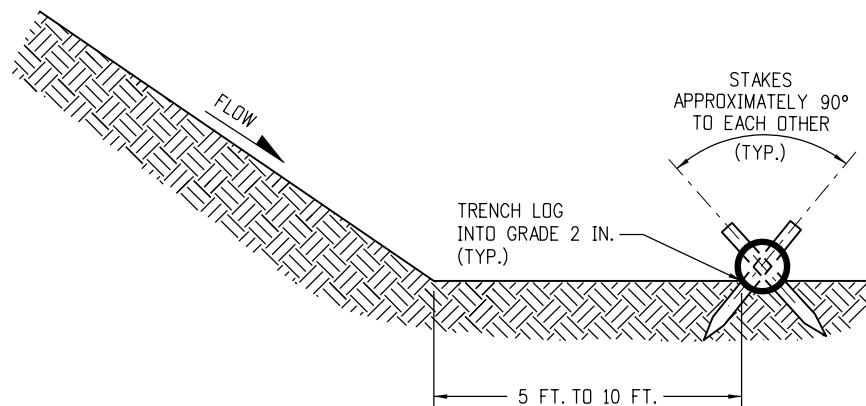
M-208-1

Standard Sheet No. 2 of 11

Project Sheet Number:



ISOMETRIC VIEW



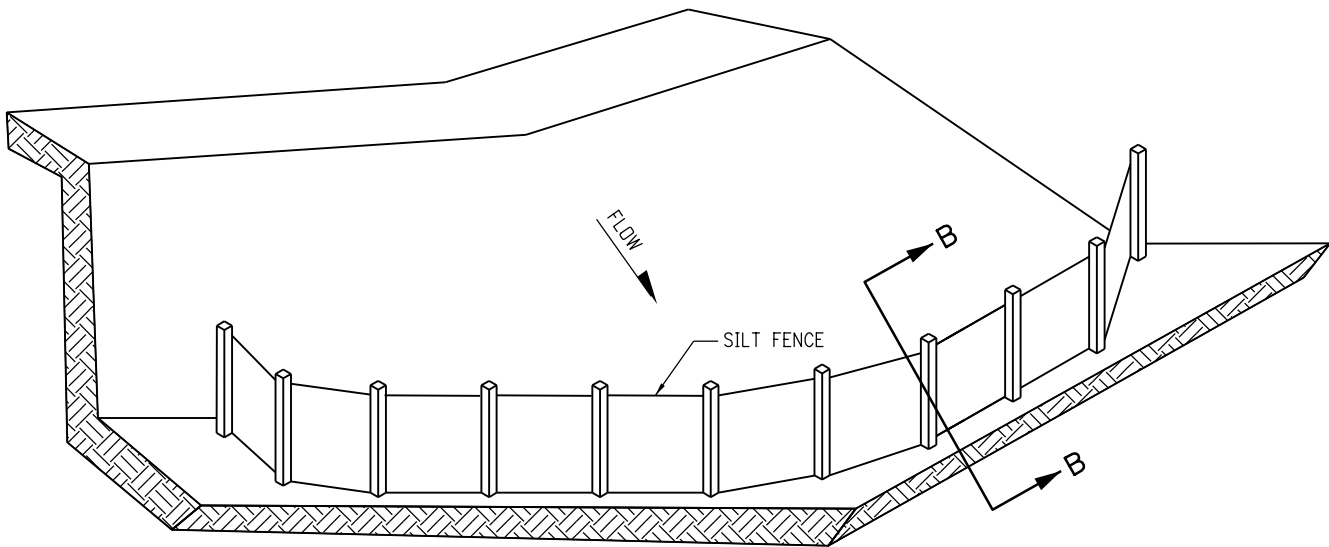
SECTION A-A

NOTE: THE TOPS OF ALL STAKES SHALL NOT EXTEND MORE THAN 2 INCHES ABOVE THE TOPS OF EROSION LOGS.

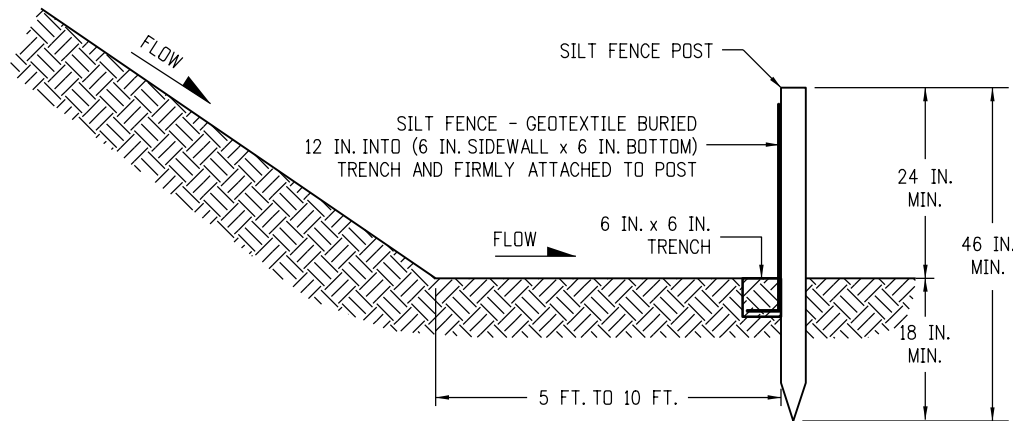
| EROSION LOGS PAY ITEMS |                 |
|------------------------|-----------------|
| NUMBER                 | DESCRIPTION     |
| 208-00012              | TYPE 1 (9 IN.)  |
| 208-00002              | TYPE 1 (12 IN.) |
| 208-00013              | TYPE 1 (20 IN.) |
| 208-00007              | TYPE 2 (8 IN.)  |
| 208-00008              | TYPE 2 (12 IN.) |
| 208-00009              | TYPE 2 (18 IN.) |
| 208-00022              | TYPE 3 (9 IN.)  |
| 208-00023              | TYPE 3 (12 IN.) |
| 208-00024              | TYPE 3 (20 IN.) |

- NOTES:
1. EROSION LOGS USED AT TOE OF SLOPE SHALL BE PLACED 5 TO 10 FEET BEYOND TOE OF SLOPE TO PROVIDE STORAGE CAPACITY.
  2. EROSION LOGS SHALL BE PLACED ON THE CONTOUR WITH ENDS FLARED UP SLOPE.
  3. SEE SHEET 2 OF 11 FOR JOINING LOGS DETAIL.

EROSION LOG TOE OF SLOPE PROTECTION



ISOMETRIC VIEW



SECTION B-B

SILT FENCE TOE OF SLOPE PROTECTION

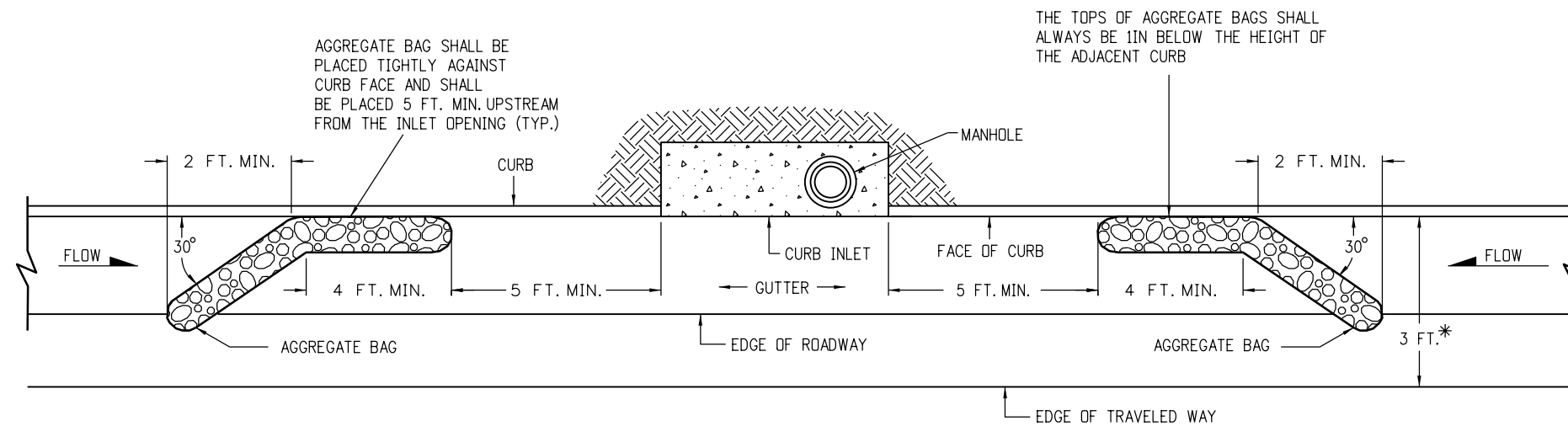
NOTE: THE PAY ITEM NUMBER FOR SILT FENCE (LF) IS 208-00020.

NOTES

1. SILT FENCE SHALL HAVE A MAXIMUM DRAINAGE AREA OF ONE-QUARTER ACRE PER 100 FEET OF SILT FENCE LENGTH; MAXIMUM SLOPE LENGTH BEHIND BARRIER IS 100 FEET.
2. SILT FENCE USED AT TOE OF SLOPE SHALL BE PLACED 5 TO 10 FEET BEYOND TOE OF SLOPE TO PROVIDE STORAGE CAPACITY.
3. SILT FENCE SHALL BE PLACED PARALLEL TO THE CONTOUR WITH ENDS FLARED UP SLOPE.
4. THE MAXIMUM LENGTH OF EROSION LOGS OR SILT FENCES WITHOUT A FLARED END TURNING UPSLOPE IS 150 FEET.

TOE OF SLOPE PROTECTION APPLICATIONS

| Computer File Information                                          |                                                                     | <div><div></div><div></div></div> <div>Colorado Department of Transportation<br/>2829 West Howard Place<br/>CDOT HQ, 3rd Floor<br/>Denver, CO 80204<br/>Phone: 303-757-9021 FAX: 303-757-9868<br/>Construction Engineering Services DK</div> | Sheet Revisions |          | TEMPORARY<br>EROSION CONTROL |  | STANDARD PLAN NO.          |  |
|--------------------------------------------------------------------|---------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|----------|------------------------------|--|----------------------------|--|
| Creation Date: 07/31/19                                            | <div>(R-X)</div> <div>(R-X)</div> <div>(R-X)</div> <div>(R-X)</div> |                                                                                                                                                                                                                                              | Date:           | Comments |                              |  | M-208-1                    |  |
| Designer Initials: DK                                              |                                                                     |                                                                                                                                                                                                                                              |                 |          |                              |  | Standard Sheet No. 3 of 11 |  |
| Last Modification Date: 05/16/24                                   |                                                                     |                                                                                                                                                                                                                                              |                 |          | Project Sheet Number:        |  |                            |  |
| Detailer Initials: LTA                                             |                                                                     |                                                                                                                                                                                                                                              |                 |          |                              |  |                            |  |
| CAD Ver.: MicroStation V8    Scale: Not to Scale    Units: English |                                                                     |                                                                                                                                                                                                                                              |                 |          |                              |  |                            |  |

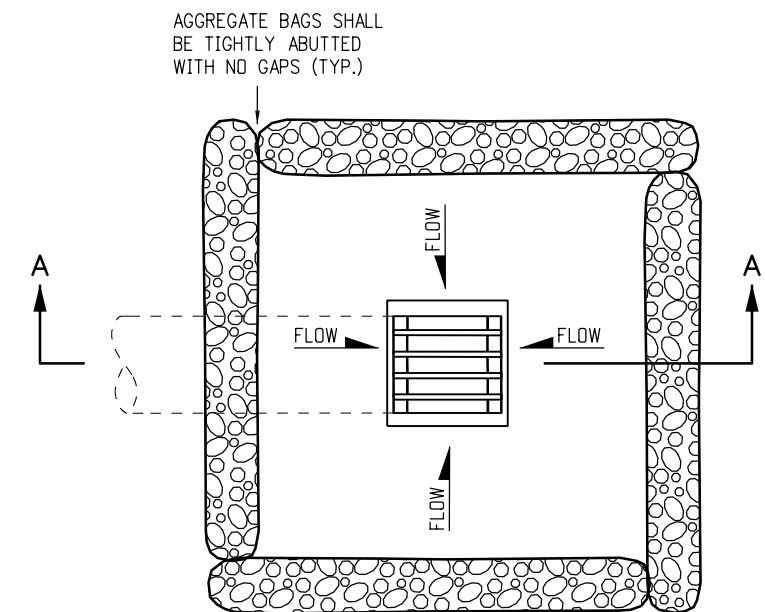


**PLAN VIEW**

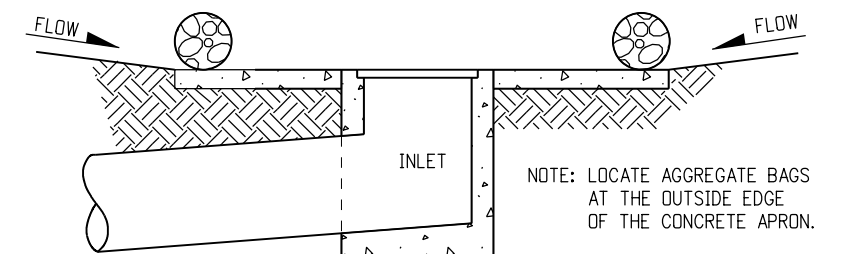
\* NOTE: USE AGGREGATE BAGS ONLY WHEN THERE IS A MINIMUM CLEARANCE OF 3 FEET FROM THE EDGE OF THE TRAVELED WAY (INCLUDING CONDITIONS DURING DETOURS) TO THE FACE OF CURB.

| LENGTH (L) OF INLET FT. | NUMBER OF AGGREGATE BAGS UPSTREAM OF INLET |
|-------------------------|--------------------------------------------|
| 0 - 5                   | 1                                          |
| 6 - 10                  | 2                                          |
| L > 10                  | 3                                          |

**AGGREGATE BAGS AT STORM DRAIN INLET (TYPE I)**



**PLAN VIEW**



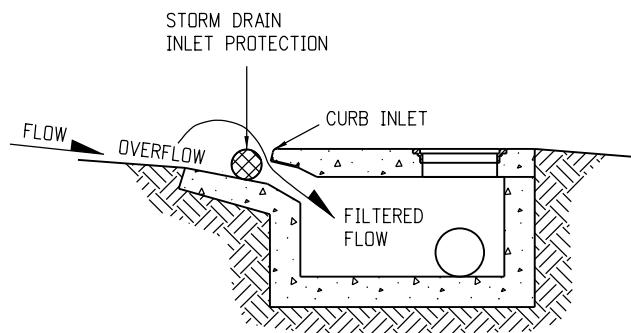
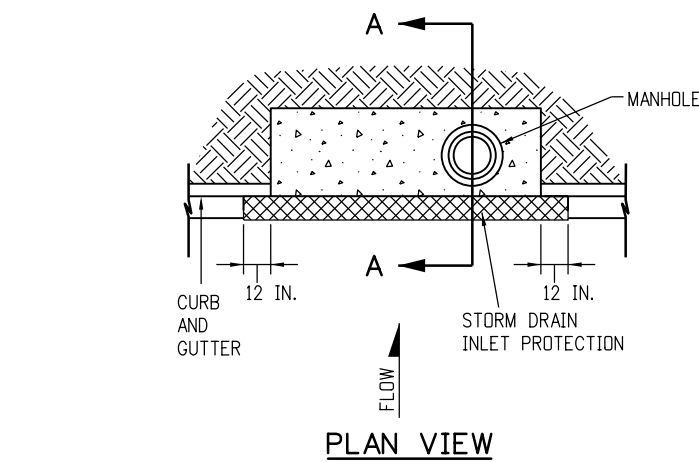
**SECTION A-A**

**AGGREGATE BAGS AT DROP INLET**

## AGGREGATE BAG APPLICATIONS

NOTE: THE PAY ITEM NUMBER FOR AGGREGATE BAG (LF) IS 208-00035

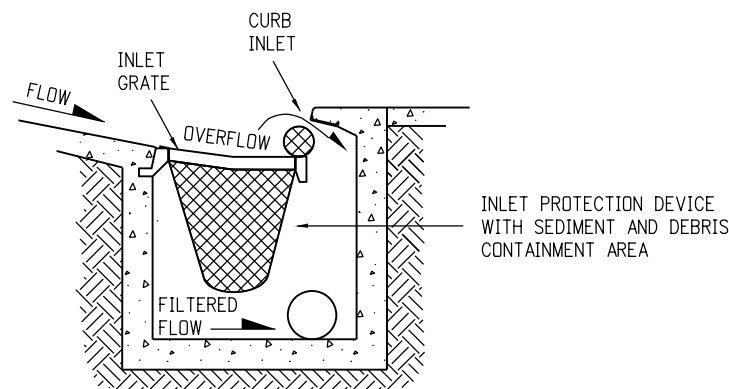
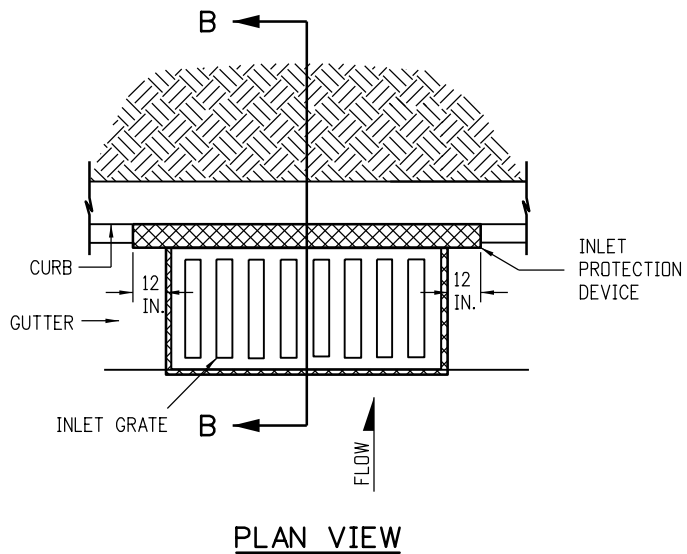
| Computer File Information                                    |       | Sheet Revisions |          | <b>Colorado Department of Transportation</b><br><br>2829 West Howard Place<br>CDDT HQ, 3rd Floor<br>Denver, CO 80204<br>Phone: 303-757-9021 FAX: 303-757-9868<br><b>Construction Engineering Services DK</b> | <b>TEMPORARY<br/>EROSION CONTROL</b>                    | STANDARD PLAN NO.          |  |
|--------------------------------------------------------------|-------|-----------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|----------------------------|--|
| Creation Date: 07/31/19                                      | (R-X) | Date:           | Comments |                                                                                                                                                                                                                                                                                                   |                                                         | M-208-1                    |  |
| Designer Initials: DK                                        | (R-X) |                 |          |                                                                                                                                                                                                                                                                                                   |                                                         | Standard Sheet No. 4 of 11 |  |
| Last Modification Date: 05/16/24                             | (R-X) |                 |          |                                                                                                                                                                                                                                                                                                   |                                                         |                            |  |
| Detailer Initials: LTA                                       | (R-X) |                 |          |                                                                                                                                                                                                                                                                                                   |                                                         | Project Sheet Number:      |  |
| CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English | (R-X) |                 |          |                                                                                                                                                                                                                                                                                                   | Issued by the Project Development Branch: July 31, 2019 |                            |  |



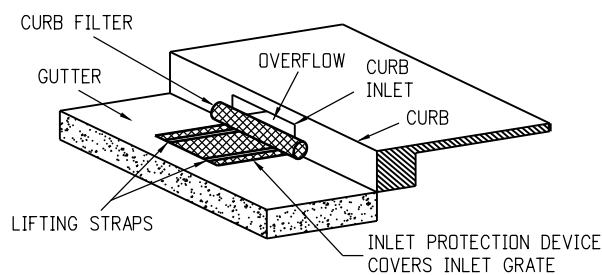
### STORM DRAIN INLET PROTECTION (TYPE I)

#### NOTES:

1. INLET PROTECTION DEVICE SHALL EXTEND 12 INCHES PAST EACH END OF THE INLET.
2. THE PAY ITEM NUMBERS FOR STORM DRAIN INLET PROTECTION (TYPE I) ARE 208-00051 (LF), 208-00053 84 INCHES (EACH), 208-00057 144 INCHES (EACH), AND 208-00058 204 INCHES (EACH).
3. FOR STORM DRAIN INLET TYPES I AND II, IF THERE IS A MINIMUM CLEARANCE OF 3 FEET FROM THE EDGE OF THE TRAVELED WAY TO THE FACE OF CURB, USE THE AGGREGATE BAGS AT STORM DRAIN INLET (TYPE I) DETAIL ON SHEET 4 INSTEAD.

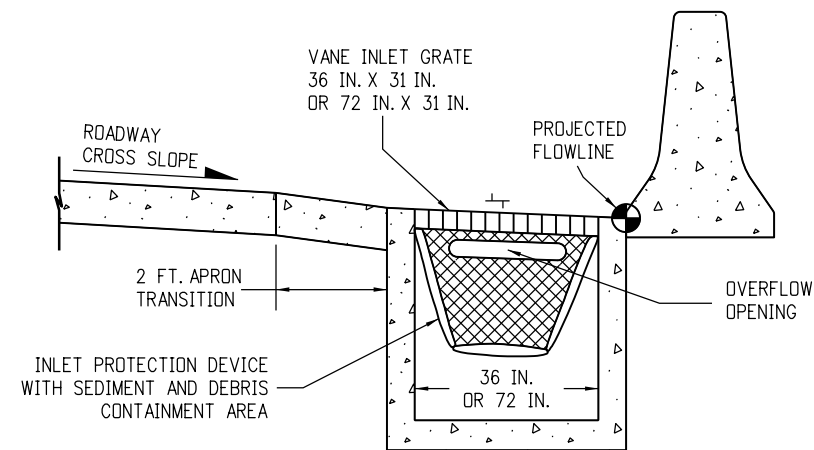


### STORM DRAIN INLET PROTECTION (TYPE II)

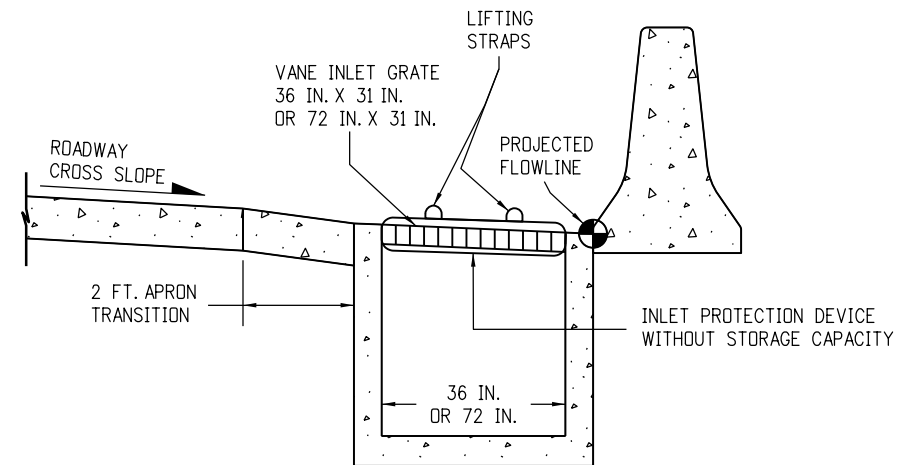


### STORM DRAIN INLET PROTECTION (TYPE II)

NOTE: THE PAY ITEM NUMBERS FOR STORM DRAIN INLET PROTECTION (TYPE II) ARE 208-00054 (EACH).



### STORM DRAIN INLET PROTECTION (TYPE III)

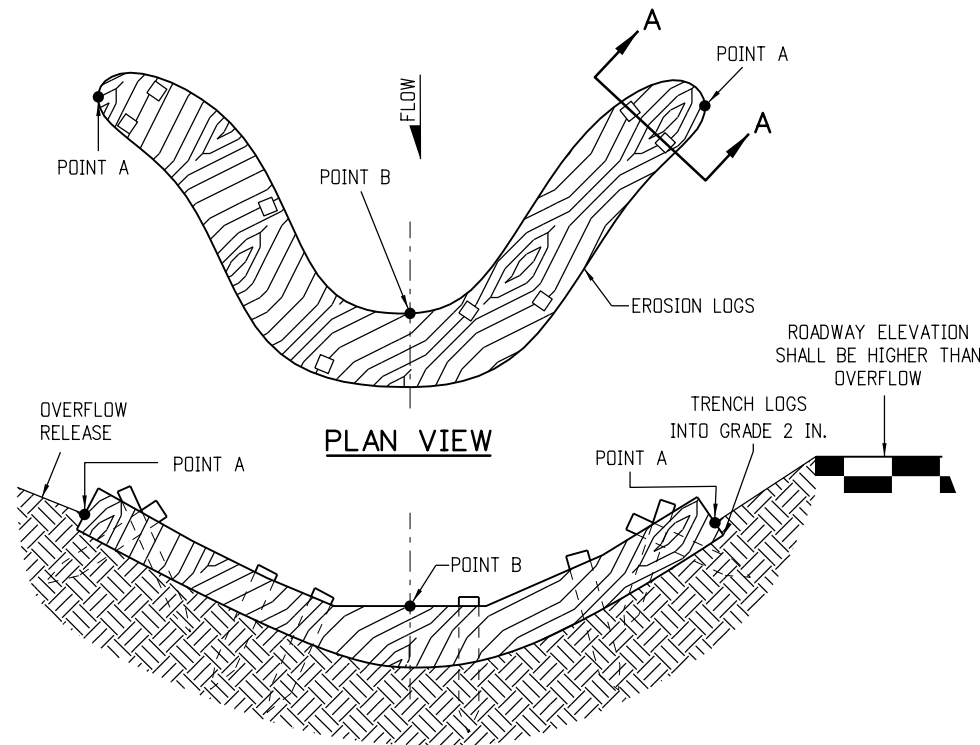


### STORM DRAIN INLET PROTECTION (TYPE III)

NOTE: THE PAY ITEM NUMBER FOR STORM DRAIN INLET PROTECTION (TYPE III) (EACH) IS 208-00056.

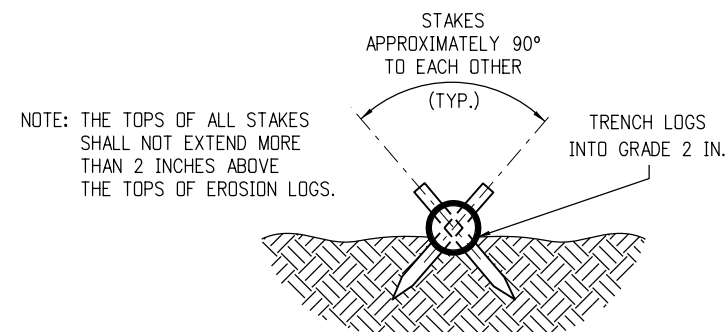
## STORM DRAIN INLET PROTECTION TYPES

| Computer File Information                                    |       | Sheet Revisions |          | <div> Colorado Department of Transportation </div> <div>  2829 West Howard Place<br/> CDOT HQ, 3rd Floor<br/> Denver, CO 80204<br/> Phone: 303-757-9021 FAX: 303-757-9868 </div> <div> Construction Engineering Services </div> <div> DK </div> | <div>TEMPORARY</div> <div>EROSION CONTROL</div> <div>Issued by the Project Development Branch: July 31, 2019</div> | STANDARD PLAN NO.          |  |
|--------------------------------------------------------------|-------|-----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|----------------------------|--|
| Creation Date: 07/31/19                                      | (R-X) | Date:           | Comments |                                                                                                                                                                                                                                                                                                                                      |                                                                                                                    | M-208-1                    |  |
| Designer Initials: DK                                        | (R-X) |                 |          |                                                                                                                                                                                                                                                                                                                                      |                                                                                                                    | Standard Sheet No. 5 of 11 |  |
| Last Modification Date: 05/16/24                             | (R-X) |                 |          |                                                                                                                                                                                                                                                                                                                                      |                                                                                                                    | Project Sheet Number:      |  |
| Detailer Initials: LTA                                       | (R-X) |                 |          |                                                                                                                                                                                                                                                                                                                                      |                                                                                                                    |                            |  |
| CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English | (R-X) |                 |          |                                                                                                                                                                                                                                                                                                                                      |                                                                                                                    |                            |  |



NOTE: POINTS "A" SHALL BE A MINIMUM 4 IN. HIGHER THAN POINT "B".

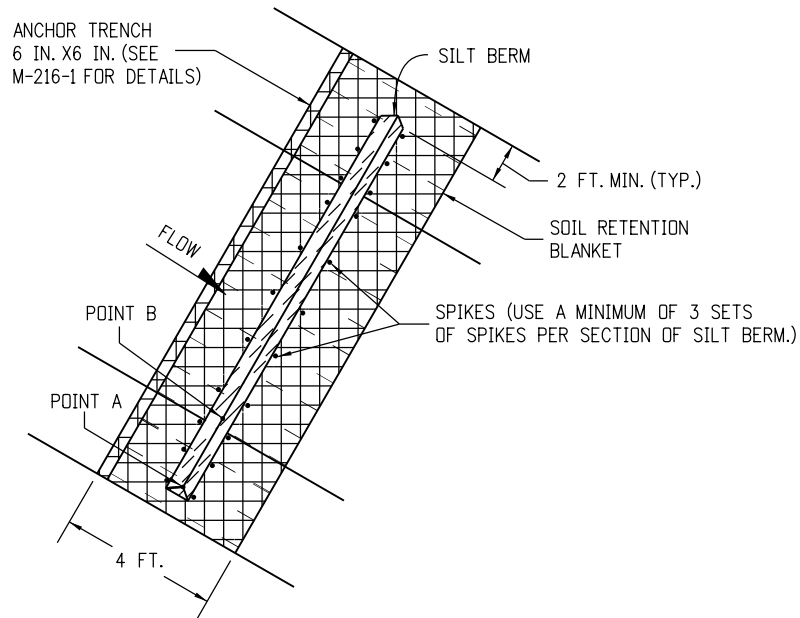
### ELEVATION



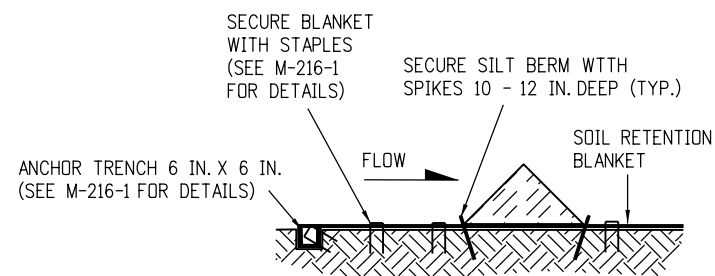
NOTES:

1. EROSION LOGS SHALL BE EMBEDDED 2 INCHES INTO THE SOIL.
2. EROSION LOGS SHALL BE TIGHTLY ABUTTED WITH NO GAPS.
3. V-SHAPED TEMPORARY DITCHES SHALL NOT BE USED. DITCHES SHALL BE GRADED IN A PARABOLIC OR TRAPEZOIDAL SHAPE.

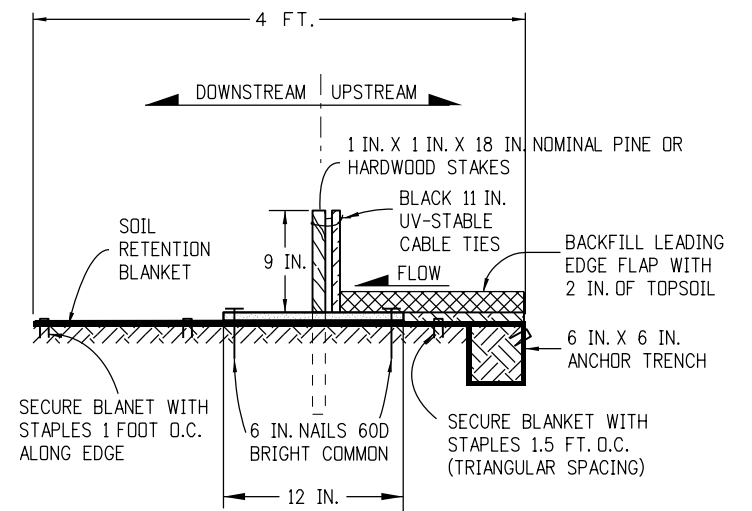
### EROSION LOG INSTALLATION



### PLAN VIEW



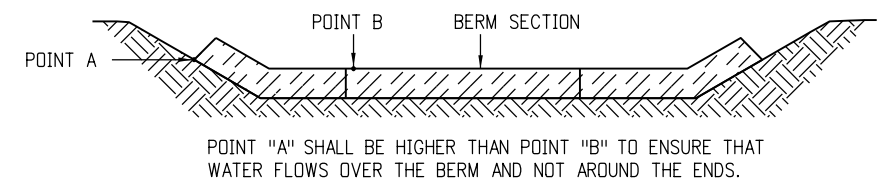
### SILT BERM (1) SECTION VIEW



NOTES:

1. MINIMUM 4 NAILS PER SEGMENT (UPSTREAM).
2. MINIMUM 2 NAILS PER SEGMENT (DOWNSTREAM).
3. MINIMUM 2 WOOD STAKES PER SEGMENT.

### SILT BERM (2) SECTION VIEW



### FRONT VIEW

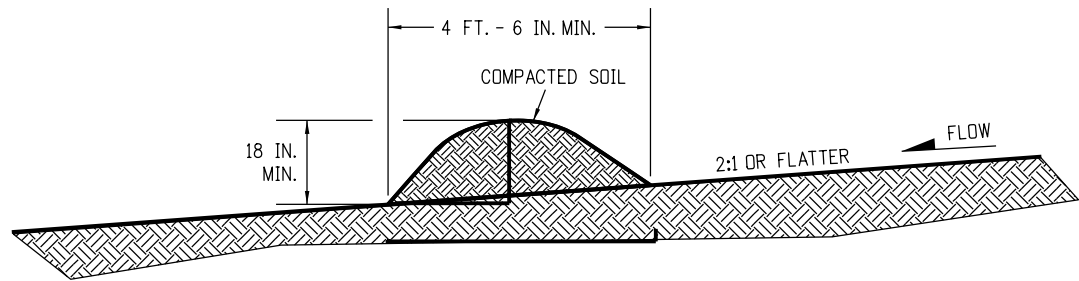
NOTES

1. ANCHOR SOIL RETENTION BLANKET INTO TRENCH WITH 8 INCHES MIN. STAPLES PLACED AT 1 FOOT INTERVALS ALONG EDGE.
2. FILL AND COMPACT TRENCH.
3. SECTIONS OF THE SILT BERM SHALL BE OVERLAPPED WITH NO GAPS.
4. FOR SLOPE AND CHANNEL SPACING SEE THE "SECTION VIEW ALONG DITCH FLOWLINE" DETAIL ON SHEET 11 OF 11.
5. SOIL RETENTION BLANKET SHALL ALWAYS BE REQUIRED.
6. THE PAY ITEM NUMBER FOR SILT BERM (LF) IS 208-00004.

### SILT BERM INSTALLATION

## DRAINAGE DITCH APPLICATIONS

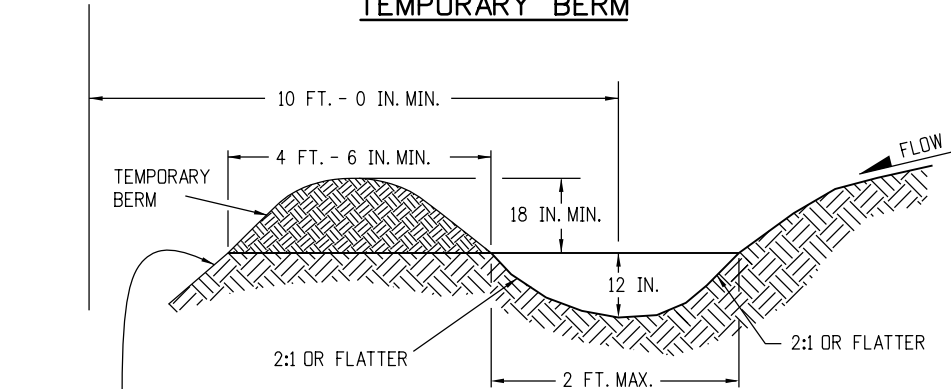
| Computer File Information                                    |       | Sheet Revisions |          | <div> <div>Colorado Department of Transportation</div> <div>  <div> 2829 West Howard Place<br/> CDOT HQ, 3rd Floor<br/> Denver, CO 80204<br/> Phone: 303-757-9021 FAX: 303-757-9868 </div> </div> <div>Construction Engineering Services DK</div> </div> | TEMPORARY EROSION CONTROL                               |  | STANDARD PLAN NO. |
|--------------------------------------------------------------|-------|-----------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|--|-------------------|
| Creation Date: 07/31/19                                      | (R-X) | Date:           | Comments |                                                                                                                                                                                                                                                                                                                                               | M-208-1                                                 |  |                   |
| Designer Initials: DK                                        | (R-X) |                 |          |                                                                                                                                                                                                                                                                                                                                               | Standard Sheet No. 6 of 11                              |  |                   |
| Last Modification Date: 05/16/24                             | (R-X) |                 |          |                                                                                                                                                                                                                                                                                                                                               | Project Sheet Number:                                   |  |                   |
| Detailer Initials: LTA                                       | (R-X) |                 |          |                                                                                                                                                                                                                                                                                                                                               |                                                         |  |                   |
| CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English | (R-X) |                 |          |                                                                                                                                                                                                                                                                                                                                               | Issued by the Project Development Branch: July 31, 2019 |  |                   |



NOTES:

1. BERMS SHALL HAVE A HEIGHT OF 18 INCHES, SIDE SLOPES OF 2:1 OR FLATTER AND A MINIMUM BASE WIDTH OF 4 FT.-6 IN.
2. BERMS SHALL BE USED TO INTERCEPT AND DIVERT DRAINAGE TO A DESIGNATED OUTLET.
3. BERMS SHALL NOT BE USED WHERE DRAINAGE AREA EXCEEDS 10 ACRES.
4. BERMS SHALL BE CONSTRUCTED OUT OF ACCEPTABLE MATERIAL THAT CAN BE COMPACTED AND RECEIVE AT A MINIMUM HEAVY EQUIPMENT WHEEL ROLLED COMPACTION.
5. TEMPORARY BERMS SHALL BE CONSTRUCTED OUT OF EMBANKMENT (SUBSOIL) AND IN NO CIRCUMSTANCE CONSTRUCTED OUT OF SALVAGED TOPSOIL.
6. THE PAY ITEM NUMBER FOR TEMPORARY BERM (LF) IS 208-00300.

TEMPORARY BERM

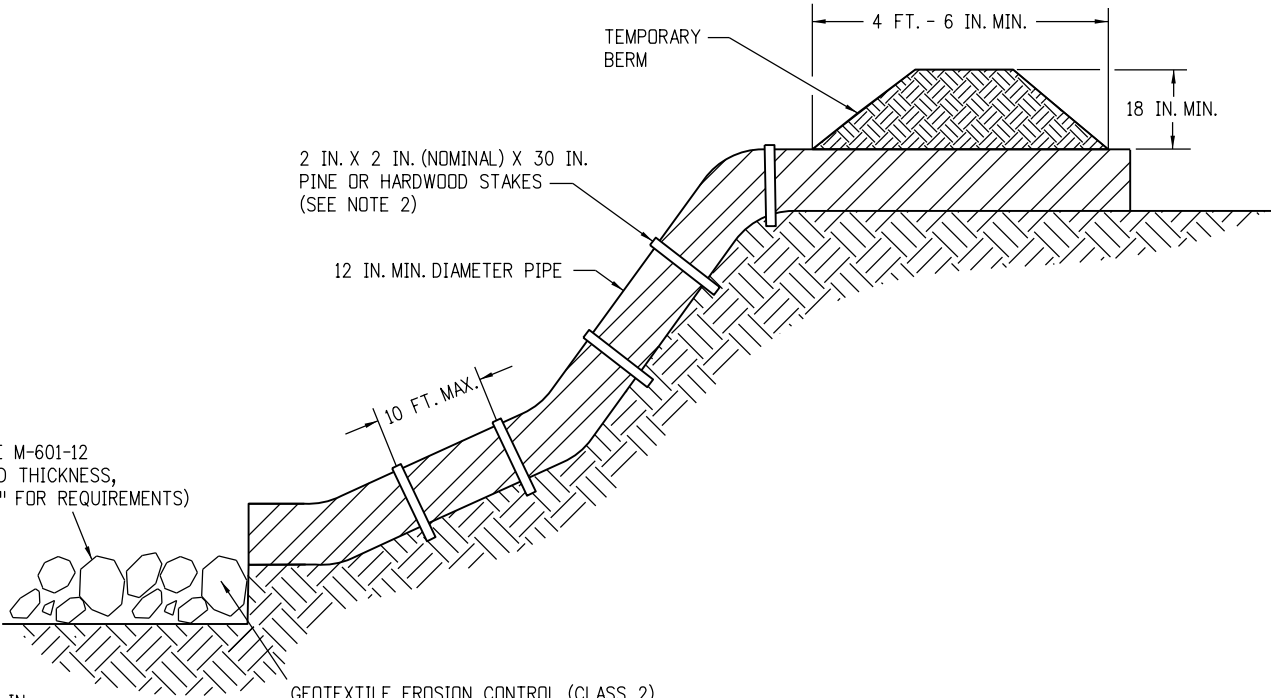


FOR BERMS TALLER THAN 2 FT.,  
INSTALL TOE OF SLOPE CONTROL MEASURES.  
SEE SHEET 3 OF 11 FOR DETAILS.

NOTES:

1. TEMPORARY DIVERSION DITCHES SHALL BE CONSTRUCTED ACROSS THE SLOPE TO INTERCEPT RUNOFF AND DIRECT IT TO A STABLE OUTLET OR SEDIMENT TRAP.
2. USE THE TEMPORARY DIVERSION DITCH IMMEDIATELY ABOVE A NEW CUT, FILL SLOPE, OR AROUND THE PERIMETER OF A DISTURBED AREA.
3. THE GRADIENT ALONG THE FLOW PATH SHALL HAVE A POSITIVE GRADE TO ASSURE DRAINAGE, BUT SHALL NOT BE SO STEEP AS TO RESULT IN EROSION DUE TO HIGH VELOCITY.
4. THE DIVERSION FLOWLINE SHALL ALWAYS BE LOCATED A MINIMUM 10 FEET FROM THE OUTSIDE LIMITS OF DISTURBED AREA BOUNDARY.
6. DIVERSION BERMS SHALL BE CONSTRUCTED OUT OF EMBANKMENT (SUBSOIL) AND IN NO CIRCUMSTANCE CONSTRUCTED OUT OF SALVAGED TOPSOIL.
5. THE PAY ITEM NUMBER FOR TEMPORARY DIVERSION (LF) IS 208-00301.

TEMPORARY DIVERSION



\* RIPRAP OUTLET PROTECTION (SEE M-601-12  
FOR MIN. HORIZONTAL LAYOUT AND THICKNESS,  
AND SPECIFICATION 506 "RIPRAP" FOR REQUIREMENTS)

\* RIPRAP SIZE  $D_{50} = 6$  IN.  
OR AS SHOWN ON THE PLANS.

GEOTEXTILE EROSION CONTROL (CLASS 2)  
SHALL ALWAYS BE REQUIRED

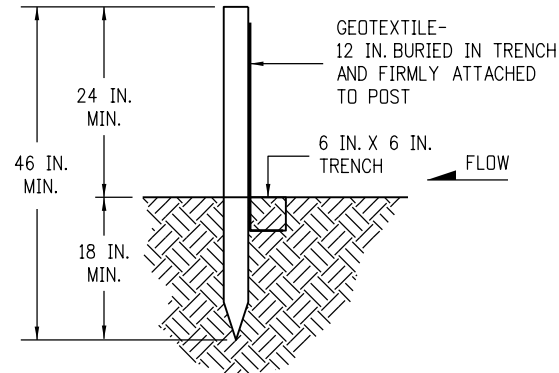
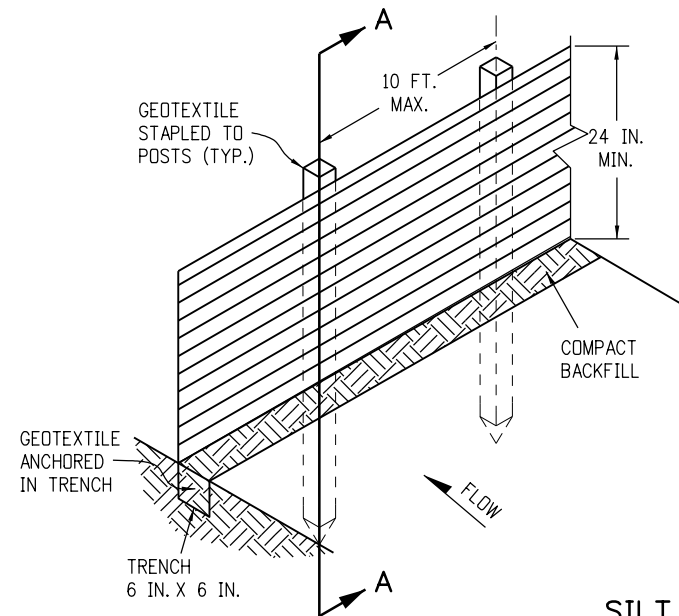
NOTES:

1. ANCHOR SIZE VARIES ACCORDING TO PIPE SIZE
2. TO SECURE THE PIPE, DRIVE STAKES INTO GROUND, THEN TIE A 12 GAUGE WIRE BETWEEN THEM ABOVE AND ACROSS THE PIPE'S WIDTH.
3. THE OUTLET SHALL BE ALIGNED WITH THE FLOW DIRECTION OF THE EXISTING GRADE. PERPENDICULAR DISCHARGE TO A CHANNEL SHALL NOT BE ACCEPTABLE.
4. THE GRADE AROUND THE INLET TO THE PIPE SHALL BE COMPACTED.
5. THE PAY ITEM NUMBER FOR TEMPORARY SLOPE DRAINS (LF) IS 208-00060.

TEMPORARY SLOPE DRAINS

GRADING APPLICATIONS

| Computer File Information                                    |       | Sheet Revisions |          | Colorado Department of Transportation<br>2829 West Howard Place<br>CDOT HQ, 3rd Floor<br>Denver, CO 80204<br>Phone: 303-757-9021 FAX: 303-757-9868<br>Construction Engineering Services DK | TEMPORARY<br>EROSION CONTROL                            | STANDARD PLAN NO.          |
|--------------------------------------------------------------|-------|-----------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|----------------------------|
| Creation Date: 07/31/19                                      | (R-X) | Date:           | Comments |                                                                                                                                                                                            |                                                         | M-208-1                    |
| Designer Initials: DK                                        |       |                 |          |                                                                                                                                                                                            |                                                         | Standard Sheet No. 7 of 11 |
| Last Modification Date: 05/16/24                             |       |                 |          |                                                                                                                                                                                            |                                                         | Project Sheet Number:      |
| Detailer Initials: LTA                                       |       |                 |          |                                                                                                                                                                                            |                                                         |                            |
| CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English | (R-X) |                 |          |                                                                                                                                                                                            | Issued by the Project Development Branch: July 31, 2019 |                            |

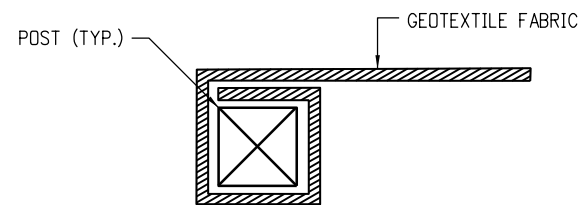


SECTION A-A

SILT FENCE

NOTES:

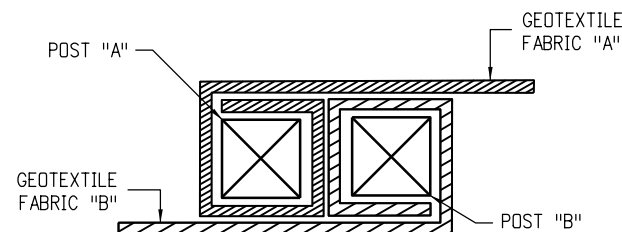
1. GEOTEXTILE SHALL BE ATTACHED TO WOOD POSTS WITH THREE OR MORE STAPLES PER POST. STAPLES SHALL BE HEAVY DUTY WIRE AND AT LEAST 1 INCH LONG.
2. WOOD POST SHALL BE INSTALLED PER 208.02 (b).
3. THE PAY ITEM NUMBER FOR SILT FENCE (LF) IS 208-00020.
4. THE SILT FENCE SHALL BE PLACED ON THE CONTOUR (AT THE SAME ELEVATION  $\pm 6$  IN.). THE ENDS SHALL BE FLARED UP SLOPE (MINIMUM ELEVATION GAIN OF 18 IN.).



END SECTION DETAIL (PLAN VIEW)

NOTE:

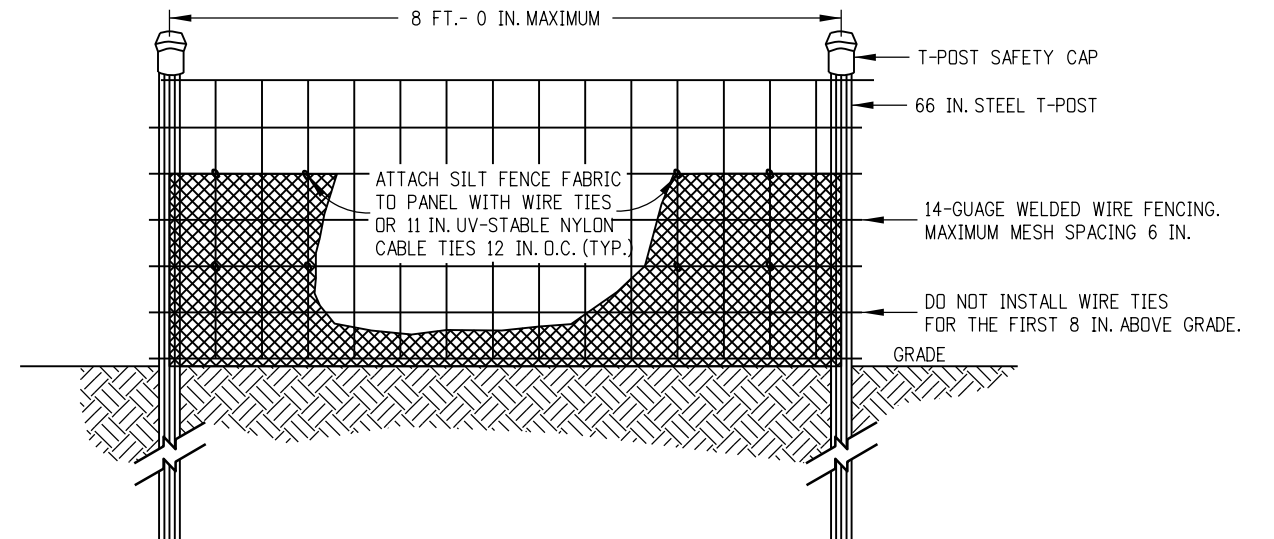
1. THE END OF THE SILT FENCE FABRIC SHALL BE WRAPPED APPROX. 6 INCHES AROUND A WOODEN POST ONE FULL TURN, THEN SECURED ALONG THE POST WITH 6 HEAVY DUTY WIRE STAPLES AT LEAST 1 INCH LONG.



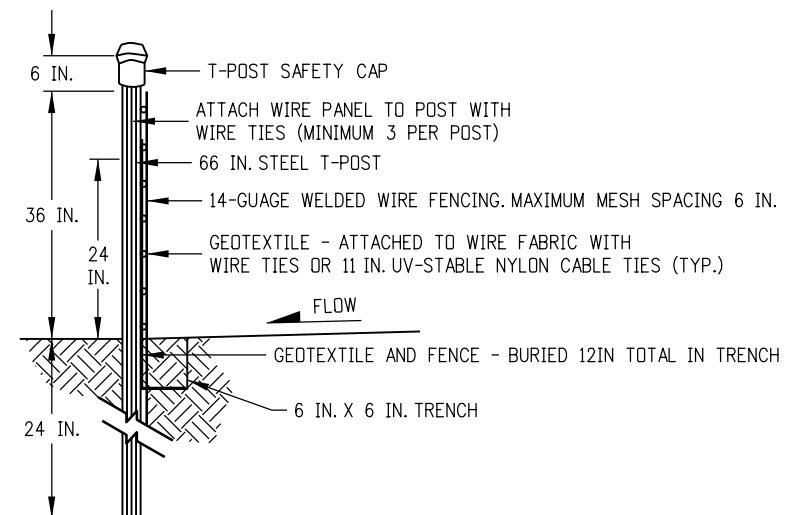
JOINING SECTION DETAIL (PLAN VIEW)

NOTES:

1. THE ENDS OF THE SILT FENCE FABRIC SHALL BE JOINED TOGETHER BY WRAPPING APPROX. 6 INCHES OF EACH END AROUND A WOODEN POST ONE FULL TURN, THEN SECURED ALONG THE POST WITH 6 HEAVY DUTY WIRE STAPLES AT LEAST 1 INCH LONG.
2. POSTS SHALL BE TIGHTLY ABUTTED WITH NO GAPS TO PREVENT POTENTIAL FLOW-THROUGH OF SEDIMENT AT JOINT.



ELEVATION VIEW



SIDE VIEW

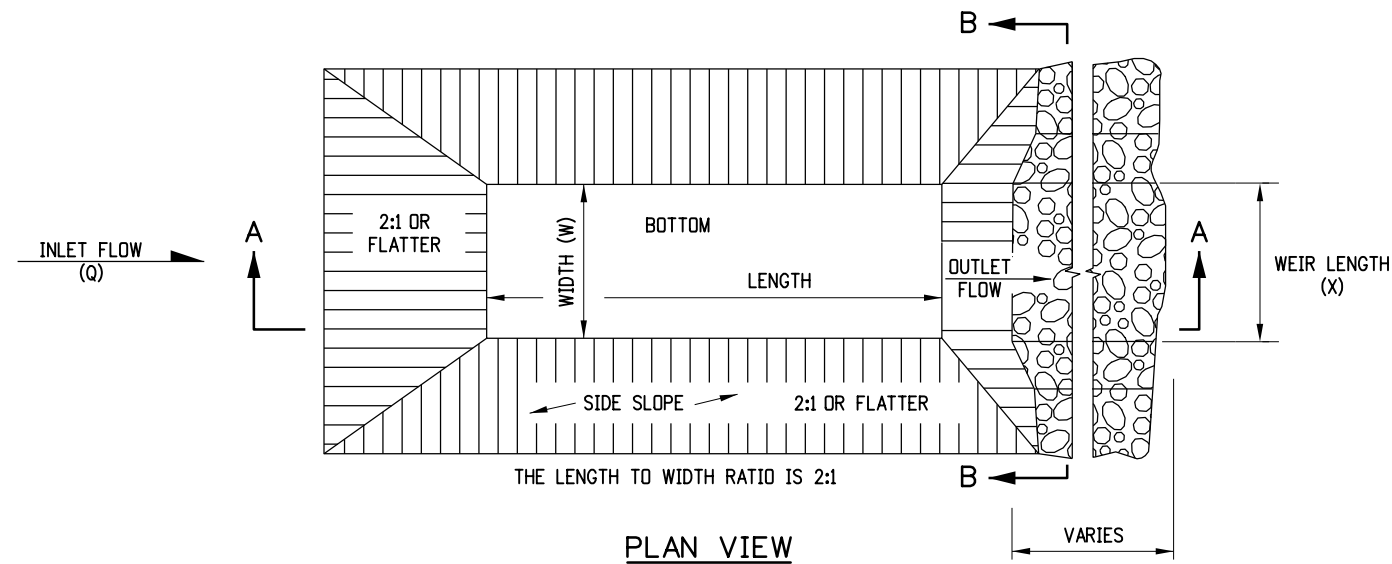
NOTES:

1. THE ENDS OF THE SILT FENCE FABRIC SHALL BE JOINED TOGETHER BY WRAPPING APPROXIMATELY 6 INCHES OF EACH END AROUND A STEEL T-POST, THEN SECURED ALONG THE POST WITH WIRE TIES (MINIMUM 3 PER POST, AT THE TOP, MIDDLE, AND BOTTOM).
2. POSTS SHALL BE TIGHTLY ABUTTED WITH NO GAPS TO PREVENT POTENTIAL FLOW-THROUGH OF SEDIMENT AT JOINT.
3. SILT FENCES SHALL NOT BE USED FOR CHECK DAMS.
4. THE PAY ITEM NUMBER FOR SILT FENCE (REINFORCED) (LF) IS 208-00021.

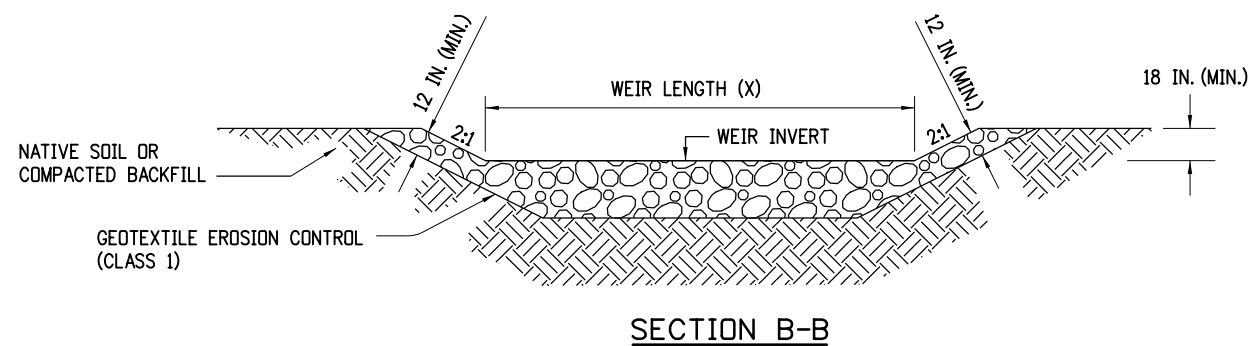
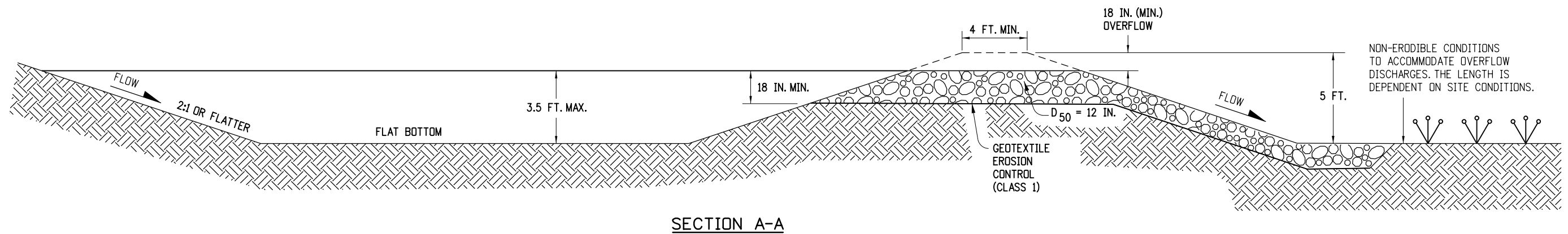
SILT FENCE (REINFORCED)

SILT FENCE APPLICATIONS

| Computer File Information                                          |       | Sheet Revisions |                                                               | <div>Colorado Department of Transportation</div> <div> 2829 West Howard Place<br/>CDOT HQ, 3rd Floor<br/>Denver, CO 80204<br/>Phone: 303-757-9021 FAX: 303-757-9868</div> <div>Construction Engineering Services    DK</div> | TEMPORARY                                               |  | STANDARD PLAN NO. |  |
|--------------------------------------------------------------------|-------|-----------------|---------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|--|-------------------|--|
| Creation Date: 07/31/19                                            | (R-X) | Date:           | Comments                                                      |                                                                                                                                                                                                                                                                                                                   | M-208-1                                                 |  |                   |  |
| Designer Initials: DK                                              |       | 05/16/24        | Revised Silt Fence Note 2 and Silt Fence (Reinforced) Note 1. |                                                                                                                                                                                                                                                                                                                   | Standard Sheet No. 8 of 11                              |  |                   |  |
| Last Modification Date: 05/16/24                                   |       |                 |                                                               |                                                                                                                                                                                                                                                                                                                   | Project Sheet Number:                                   |  |                   |  |
| Detailer Initials: LTA                                             |       |                 |                                                               |                                                                                                                                                                                                                                                                                                                   | Issued by the Project Development Branch: July 31, 2019 |  |                   |  |
| CAD Ver.: MicroStation V8    Scale: Not to Scale    Units: English |       |                 |                                                               |                                                                                                                                                                                                                                                                                                                   |                                                         |  |                   |  |



- ### NOTES
1. THE MAXIMUM DRAINAGE AREA IS 5 ACRES.
  2. THE MAXIMUM STRUCTURE LIFE IS 2 YEARS.
  3. THE STORAGE AREA IS 1800 CUBIC FEET PER ACRE.
  4. THE MAXIMUM EMBANKMENT HEIGHT SHALL BE 5 FT. MEASURED ON THE DOWNSTREAM SIDE.
  5. THE LENGTH/WIDTH RATIO MAY BE ADJUSTED TO MEET SITE CONDITIONS WHEN APPROVED BY THE ENGINEER.
  6. WIDTH (W) OF SEDIMENT TRAP IS APPROXIMATELY EQUAL TO THE WEIR LENGTH (X).
  7. SEDIMENT TRAP DESIGN SHALL BE APPROVED BY THE ENGINEER.
  8. THE DOWN GRADE FROM WEIR SHALL BE STABLE AND NON-ERODIBLE.
  9. THE PAY ITEM NUMBER FOR SEDIMENT TRAP (EACH) IS 208-00033.

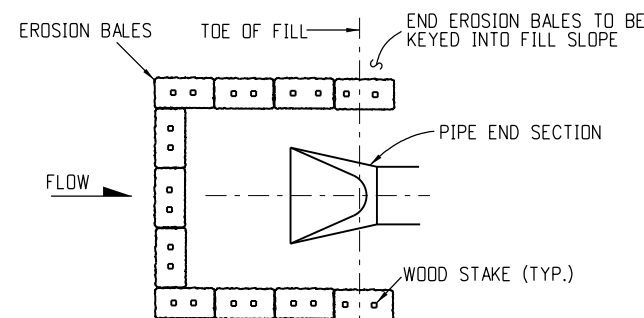
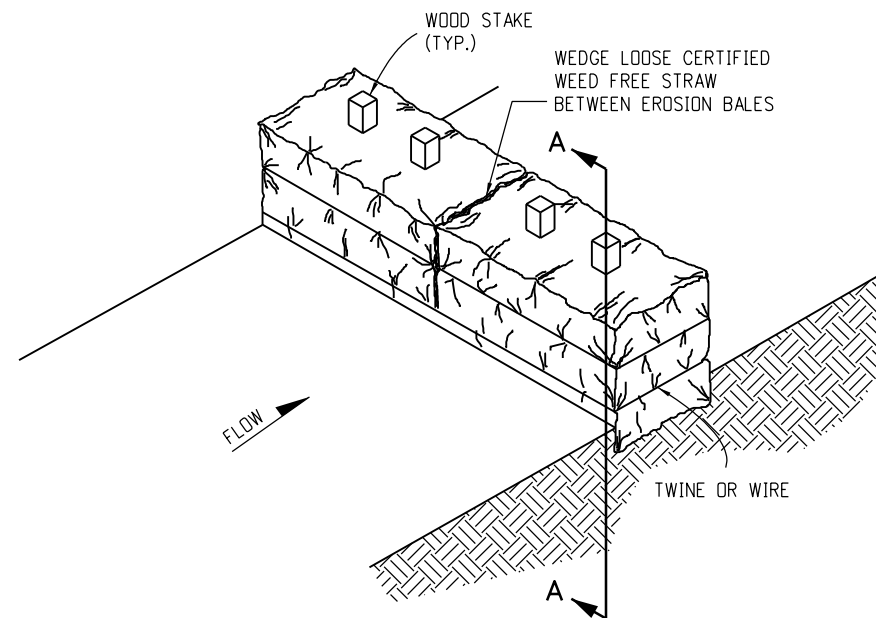
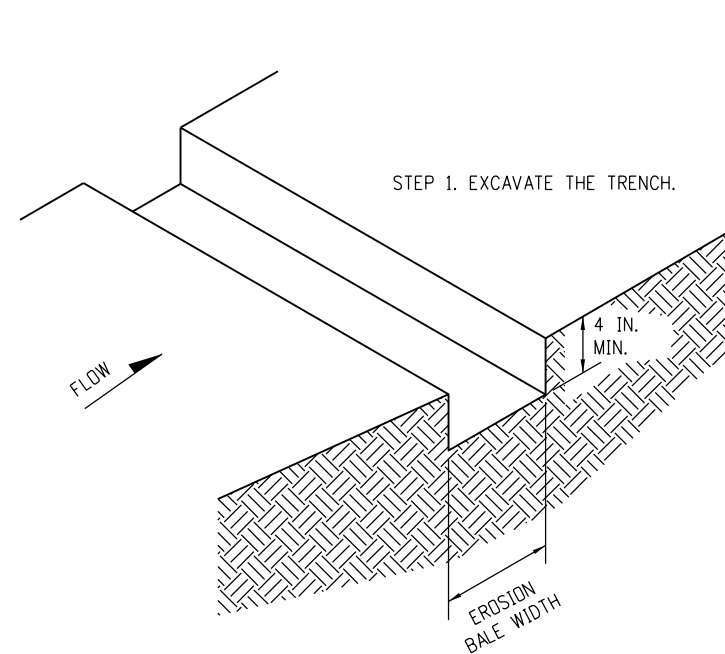


| DRAINAGE AREA (ACRES) | WEIR LENGTH (FEET) |
|-----------------------|--------------------|
| 1                     | 4                  |
| 2                     | 6                  |
| 3                     | 8                  |
| 4                     | 10                 |
| 5                     | 12                 |

WEIR LENGTH TABLE

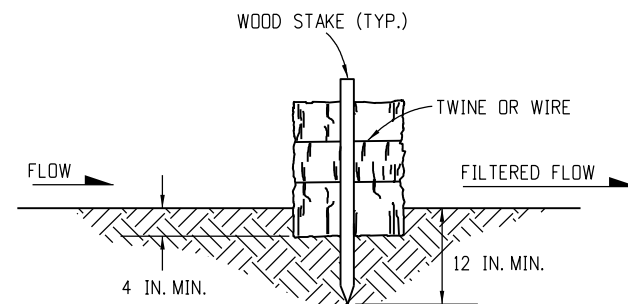
## SEDIMENT TRAP

| Computer File Information                                          |       | Sheet Revisions |                         | <div><div><div>Colorado Department of Transportation</div><div><div>2829 West Howard Place<br/>CDOT HQ, 3rd Floor<br/>Denver, CO 80204<br/>Phone: 303-757-9021 FAX: 303-757-9868</div></div><div>Construction Engineering Services    DK</div></div></div> | TEMPORARY EROSION CONTROL |                       | STANDARD PLAN NO.          |  |
|--------------------------------------------------------------------|-------|-----------------|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-----------------------|----------------------------|--|
| Creation Date: 07/31/19                                            | (R-X) | Date:           | Comments                |                                                                                                                                                                                                                                                                                                                                                 | M-208-1                   |                       | Standard Sheet No. 9 of 11 |  |
| Designer Initials: DK                                              |       | 05/16/24        | Revised General Note 9. |                                                                                                                                                                                                                                                                                                                                                 |                           |                       |                            |  |
| Last Modification Date: 05/16/24                                   |       |                 |                         |                                                                                                                                                                                                                                                                                                                                                 |                           |                       |                            |  |
| Detailer Initials: LTA                                             |       |                 |                         |                                                                                                                                                                                                                                                                                                                                                 |                           |                       |                            |  |
| CAD Ver.: MicroStation V8    Scale: Not to Scale    Units: English | (R-X) |                 |                         | Issued by the Project Development Branch: July 31, 2019                                                                                                                                                                                                                                                                                         |                           | Project Sheet Number: |                            |  |



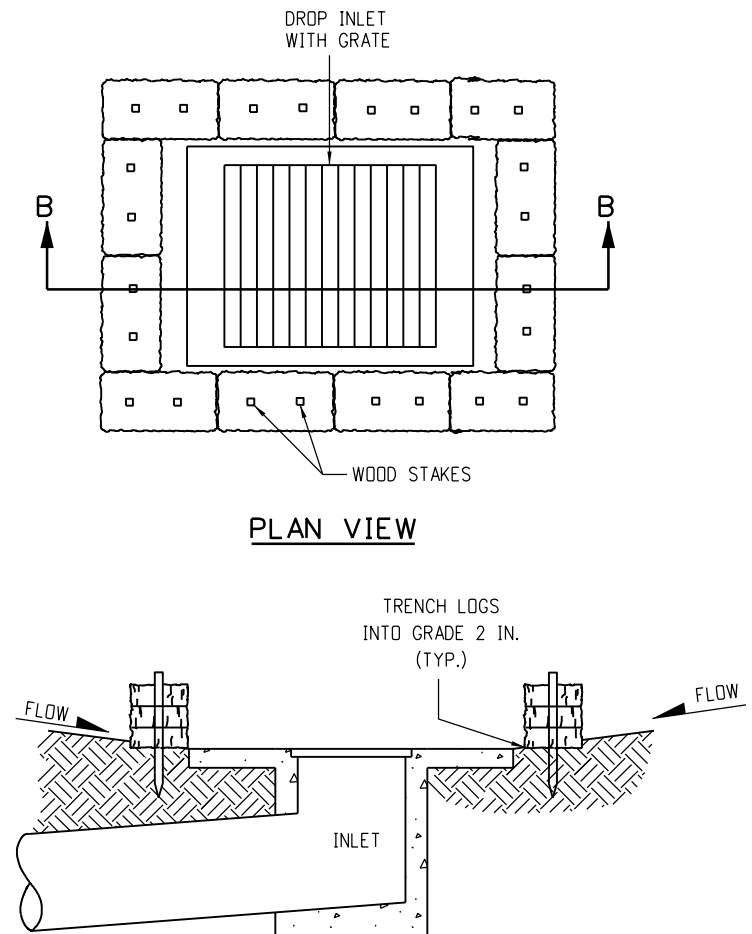
PLAN VIEW

EROSION BALE CULVERT INLET PROTECTION



SECTION A-A

EROSION BALE TRENCHING AND STAKING



SECTION B-B

NOTE: LOCATE EROSION BALES AT THE OUTSIDE EDGE OF THE CONCRETE APRON.

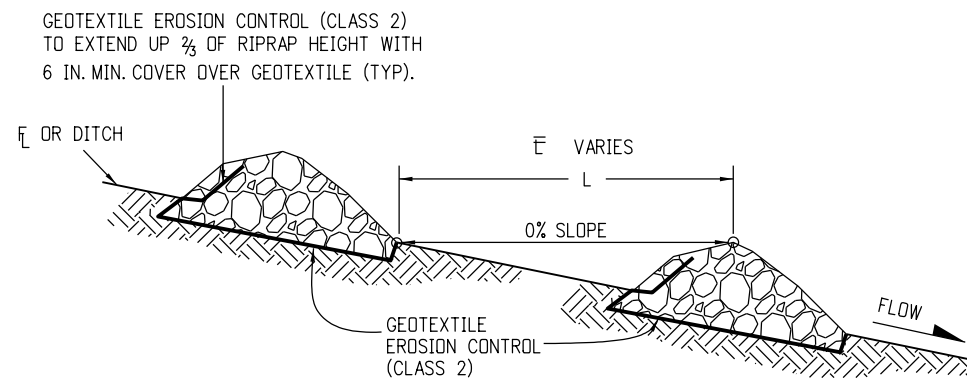
EROSION LOG FILTER AT DROP INLET

## NOTES

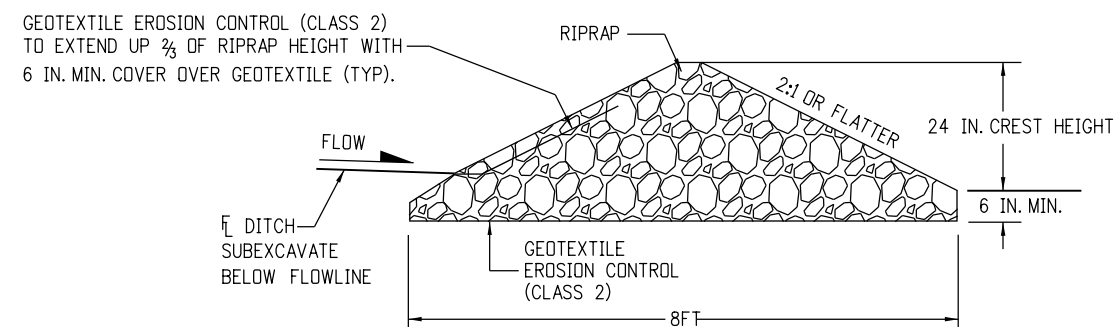
1. STAKES SHALL BE WOOD AND SHALL BE 2 IN. X 2 IN. X 30 IN. NOMINAL.
2. EROSION BALES SHALL BE 18 IN. X 18 IN. X 36 IN.
3. EROSION BALES SHALL BE ENTRENCHED 4 IN. MINIMUM INTO THE SOIL, TIGHTLY ABUTTED WITH NO GAPS, STAKED, AND BACKFILLED AROUND THE ENTIRE OUTSIDE PERIMETER.
4. EROSION BALES CANNOT BE USED FOR CHECK DAMS.
5. EROSION BALE FILTER SHALL BE LOWER THAN BERM ELEVATION OR USED IN A SUMP CONDITION.
6. THE PAY ITEM NUMBER FOR EROSION BALES (WEED FREE) (EA) IS 208-00011.

## EROSION BALE APPLICATIONS

| Computer File Information                                          |       | Sheet Revisions |          | <div><div><div>Colorado Department of Transportation</div><div><div>2829 West Howard Place<br/>CDOT HQ, 3rd Floor<br/>Denver, CO 80204<br/>Phone: 303-757-9021 FAX: 303-757-9868</div></div><div>Construction Engineering Services    DK</div></div></div> | TEMPORARY<br>EROSION CONTROL                            |  | STANDARD PLAN NO.           |  |
|--------------------------------------------------------------------|-------|-----------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|--|-----------------------------|--|
| Creation Date: 07/31/19                                            | (R-X) | Date:           | Comments |                                                                                                                                                                                                                                                                                                                                                 | M-208-1                                                 |  | Standard Sheet No. 10 of 11 |  |
| Designer Initials: DK                                              | (R-X) |                 |          |                                                                                                                                                                                                                                                                                                                                                 |                                                         |  |                             |  |
| Last Modification Date: 05/16/24                                   | (R-X) |                 |          |                                                                                                                                                                                                                                                                                                                                                 |                                                         |  |                             |  |
| Detailer Initials: LTA                                             | (R-X) |                 |          |                                                                                                                                                                                                                                                                                                                                                 | Issued by the Project Development Branch: July 31, 2019 |  | Project Sheet Number:       |  |
| CAD Ver.: MicroStation V8    Scale: Not to Scale    Units: English | (R-X) |                 |          |                                                                                                                                                                                                                                                                                                                                                 |                                                         |  |                             |  |



**SECTION VIEW ALONG DITCH FLOWLINE**



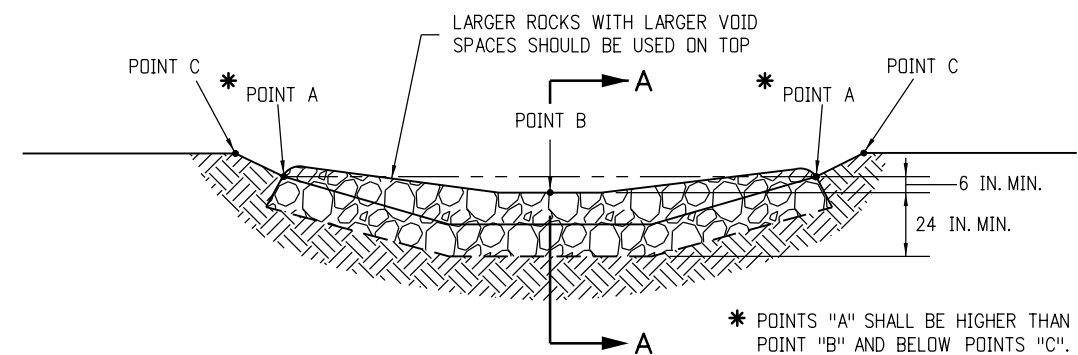
**SECTION A-A**

**NOTES:**

1. RIPRAP SIZE  $D_{50}$  = 6IN OR AS SHOWN ON THE PLANS.
2. THE GEOTEXTILE EROSION CONTROL SHALL BE CLASS 2 AND CONFORM TO THE REQUIREMENTS OF SUBSECTION 712.08.
3. THE ENDS OF RIPRAP CHECK DAM SHALL BE A MINIMUM OF 6 IN. HIGHER THAN CENTER OF CHECK DAM.
4. FOR USE AS TEMPORARY CHECK DAMS ONLY AND NOT FOR PERMANENT INSTALLATIONS.
5. THE PAY ITEM NUMBER FOR ROCK CHECK DAM (EA) IS 208-00041.

NOTE: ALL MATERIALS AND LABOR TO COMPLETE THE ROCK CHECK DAM SHALL BE INCLUDED IN THE COST OF WORK.

**ROCK CHECK DAM**



**TYPICAL SECTION VIEW**

|                                                              |  |                                                                     |                 |          |                                                                                                                                                                                                                                                                                                                  |                                                         |  |                             |  |
|--------------------------------------------------------------|--|---------------------------------------------------------------------|-----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|--|-----------------------------|--|
| Computer File Information                                    |  | <div>(R-X)</div> <div>(R-X)</div> <div>(R-X)</div> <div>(R-X)</div> | Sheet Revisions |          | <div>Colorado Department of Transportation</div> <div><div><div><div></div><div>CDOT</div></div><div>2829 West Howard Place</div><div>CDOT HQ, 3rd Floor</div><div>Denver, CO 80204</div><div>Phone: 303-757-9021 FAX: 303-757-9868</div></div></div> <div>Construction Engineering Services</div> <div>DK</div> | TEMPORARY EROSION CONTROL                               |  | STANDARD PLAN NO.           |  |
| Creation Date: 07/31/19                                      |  |                                                                     | Date:           | Comments |                                                                                                                                                                                                                                                                                                                  | M-208-1                                                 |  | Standard Sheet No. 11 of 11 |  |
| Designer Initials: DK                                        |  |                                                                     |                 |          |                                                                                                                                                                                                                                                                                                                  |                                                         |  |                             |  |
| Last Modification Date: 05/16/24                             |  |                                                                     |                 |          |                                                                                                                                                                                                                                                                                                                  | Issued by the Project Development Branch: July 31, 2019 |  | Project Sheet Number:       |  |
| Detailer Initials: LTA                                       |  |                                                                     |                 |          |                                                                                                                                                                                                                                                                                                                  |                                                         |  |                             |  |
| CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English |  |                                                                     |                 |          |                                                                                                                                                                                                                                                                                                                  |                                                         |  |                             |  |

# GENERAL NOTES

1. CLASS 2 FIELD OFFICES SHALL CONSIST OF A WEATHERPROOF, INSULATED, TEMPORARY OFFICE TYPE TRAILER, BUILT TO THE UNIFORM BUILDING CODE SERIES OF CODES, WITH FLOOR PLAN AND EQUIPMENT LAYOUT SIMILAR TO THE DRAWING ON THIS SHEET. IT SHALL MEET OR EXCEED THE FOLLOWING REQUIREMENTS.

2. DIMENSIONS: 50 FT. LONG x 12 FT. WIDE OUTSIDE, 7 FT.-6 IN. HEIGHT INSIDE.

3. WINDOWS: A MINIMUM OF 6, WITH PROVISION FOR CROSS VENTILATION AND LOCKING.

4. DOORS: TWO INSIDE DOORS, MAY BE LOCATED EITHER TO ONE SIDE OR AT CENTER OF PARTITION. ONE CLOSET DOOR. TWO OUTSIDE DOORS SHALL BE REINFORCED AND HAVE DEADBOLT LOCKS. DECK, STEPS, AND HANDRAILS AT EACH OUTER DOOR. THE STEPS SHALL BE PLACED SO THE DECK CAN BE ACCESSED EITHER FROM THE SIDE OR FROM THE FRONT. THE DECK, RAILS, AND STEPS SHALL MEET OSHA REQUIREMENTS.

5. HEATING & AIR CONDITIONING: THREE TON CAPACITY AIR CONDITIONING AND 80,000 BTU CAPACITY HEATING, CONNECTED TO DUCTING & THERMOSTAT CONTROLLED.

6. ELECTRICAL: WORK SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE FOR 110/220 VOLTS, 60 Hz, APPLICATIONS AND PROVIDE RELIABLE UNIFORM POWER TO PROPERLY OPERATE ALL FIELD OFFICE EQUIPMENT.
7. LIGHTING: ADEQUATE FLUORESCENT LIGHTING OVER ALL DRAFTING TABLES AND DESK AREAS. THERE SHALL BE ONE 110 VOLT EXTERIOR PORCH LIGHT FIXTURE WITHIN 2 FT. OF EACH EXTERIOR DOOR.

8. DESKS: ONE 30 IN. x FULL INSIDE WIDTH x 30 IN. HIGH AT EACH END OF THE TRAILER, SUPPORTED BY A LEGAL SIZE 2 DRAWER METAL FILE CENTER PEDESTAL. EACH DESK TOP SHALL HAVE AN OVERHEAD SHELF AND TWO PEN DRAWERS.

9. DRAFTING TABLE: ONE 38 IN. x 96 IN. TABLE, SLOPED 12:1 TO 37 IN. HEIGHT AT FRONT EDGE OR WITH PROVISION FOR ADJUSTING THE SLOPE.

10. WORK TABLE: ONE 72 IN. x 36 IN. TABLE. THE TOP OF THE TABLE SHALL BE FREE OF ALL SCRATCHES, CHIPS, AND DENTS.

11. OFFICE DESK: ONE 72 IN. x 36 IN. DESK WITH SIX DRAWERS AND ONE CENTER PEN DRAWER. THE TOP OF THE DESK SHALL BE FREE OF ALL SCRATCHES, CHIPS, AND DENTS.

12. FURNITURE: EIGHT CHAIRS WITH ROLLERS AND TWO DRAFTING STOOLS. EACH OF APPROPRIATE HEIGHT. ONE WORK TABLE OR DESK. ALL CHAIRS SHALL BE ERGONOMICALLY BUILT.

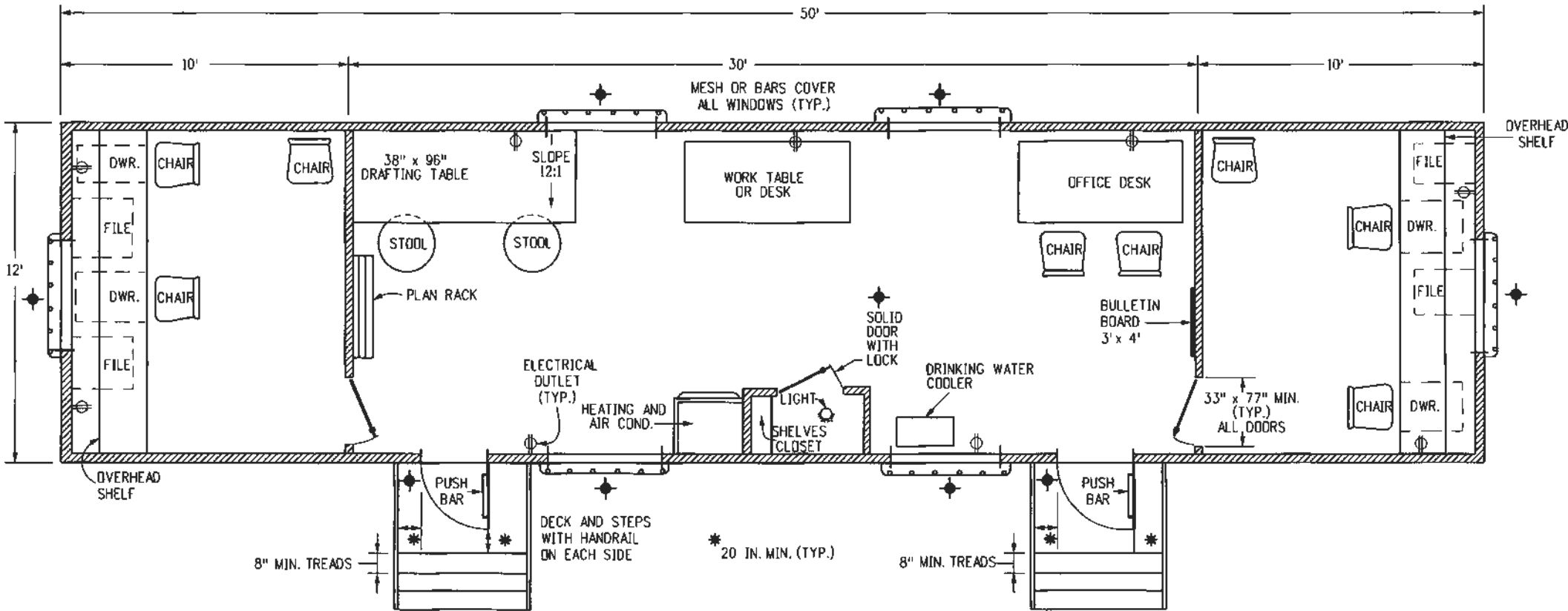
13. PLAN STORAGE: A PLAN RACK OR FILE FOR FULL SIZE PLANS.
14. CLOSET: A LOCKED STORAGE AREA OF 15 SQ. FT.

15. DRINKING WATER SUPPLY: DRINKING WATER DISPENSED FROM AN ACCEPTABLE WATER COOLING DEVICE.

16. TELEPHONES: THREE, 2-LINE TELEPHONES. FOUR PRIVATE LINES (1FB) WITH TOUCH TONE SERVICE. TWO LINES ARE FOR TELEPHONE SERVICES, WITH ROLL-OVER CAPABILITY FOR THE THREE TELEPHONES. ONE LINE SHALL BE USED FOR THE COMPUTER, AND ONE LINE SHALL BE USED FOR THE FACSIMILE MACHINE. TRAILER WIRING SHALL INCLUDE 9 RJ-11 JACKS, ONE JACK EACH FOR A TWO-LINE TELEPHONE, A COMPUTER LINE, AND A FACSIMILE MACHINE LINE AT EACH END OF THE OFFICE, AND IN THE CENTER AREA OF THE OFFICE.

17. FIRE EXTINGUISHER: TWO, DRY CHEMICAL, 10 LBS. CLASS ABC, UNDERWRITERS LABORATORIES, INC. APPROVED.

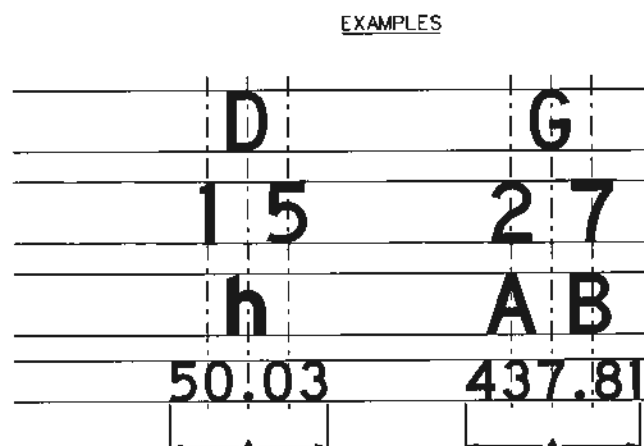
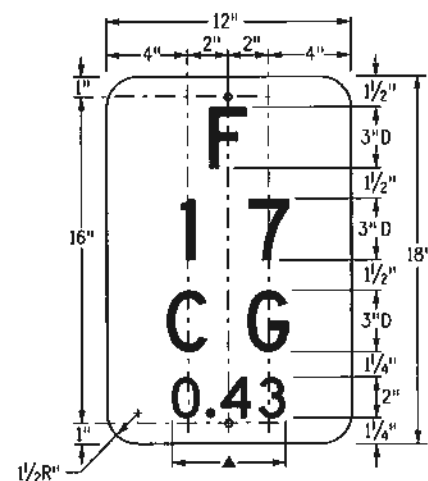
18. SECURITY: THIS SYMBOL ♦ ON THE FLOOR PLAN DENOTES AREAS ON THE TRAILER WHERE ADEQUATE PROTECTION AGAINST ILLEGAL ENTRY, VANDALISM AND THEFT SHALL BE PROVIDED.



FLOOR PLAN



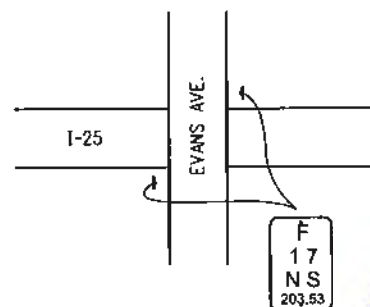
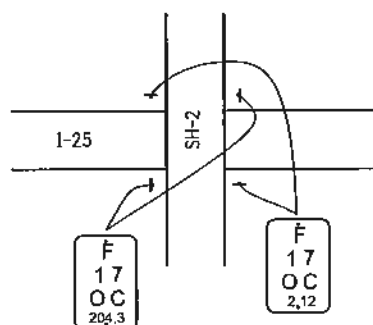
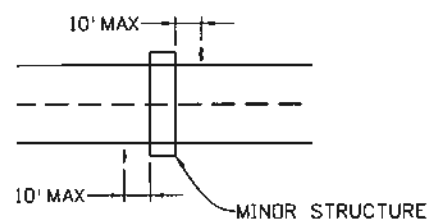
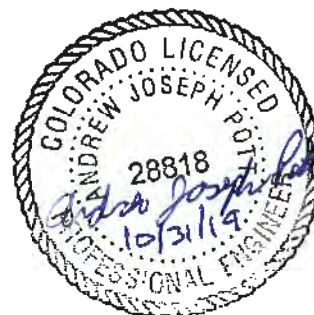
| Computer File Information                                    |       | Sheet Revisions |          | <div>Colorado Department of Transportation</div> <div> 2829 West Howard Place<br/>CDDT HQ, 3rd Floor<br/>Denver, CO 80204<br/>Phone: 303-757-9021 FAX: 303-757-9868</div> <div>Engineering and Standards Services JBK</div> | FIELD OFFICE<br>CLASS 2                                     | STANDARD PLAN NO.         |  |
|--------------------------------------------------------------|-------|-----------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|---------------------------|--|
| Creation Date: 07/31/19                                      |       | Date:           | Comments |                                                                                                                                                                                                                                                                                                                  |                                                             | M-620-12                  |  |
| Designer Initials: JBK                                       | (R-X) |                 |          |                                                                                                                                                                                                                                                                                                                  |                                                             | Standard Sheet No. 1 of 1 |  |
| Last Modification Date: 07/31/19                             | (R-X) |                 |          |                                                                                                                                                                                                                                                                                                                  |                                                             | Project Sheet Number:     |  |
| Detailer Initials: LTA                                       | (R-X) |                 |          |                                                                                                                                                                                                                                                                                                                  |                                                             |                           |  |
| CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English | (R-X) |                 |          |                                                                                                                                                                                                                                                                                                                  | Issued by Engineering and Standards Services: July 31, 2019 |                           |  |



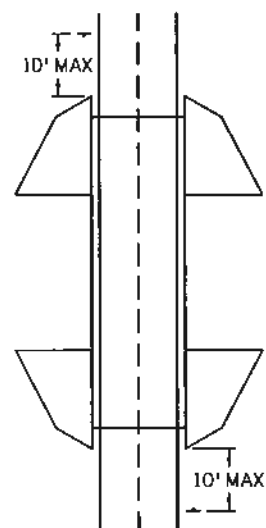
▲ OPTICALLY CENTER

STRUCTURE IDENTIFICATION PANEL

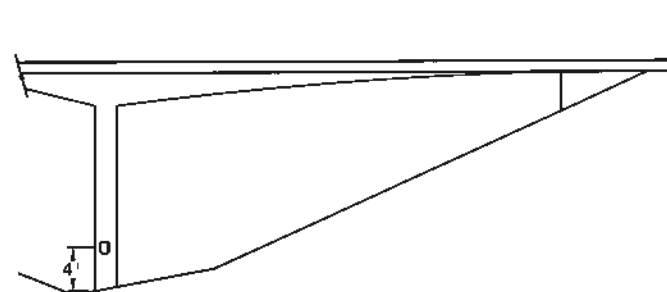
REQUIRED REFERENCE POINT



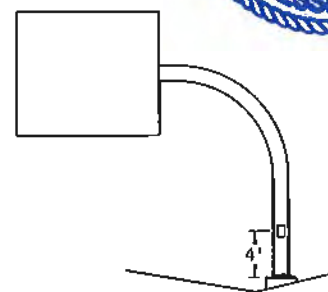
HIGHWAY SYSTEM LOCATION



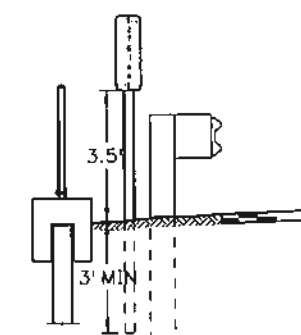
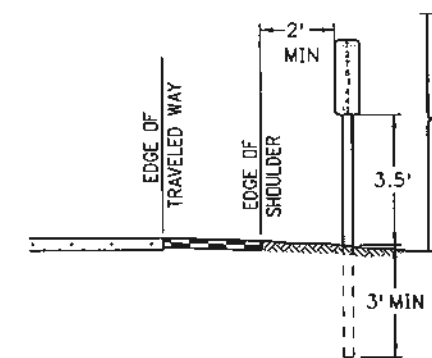
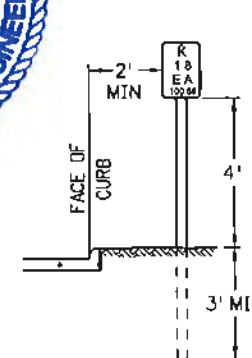
LOCATION DETAILS



LOCATION ON PIERS



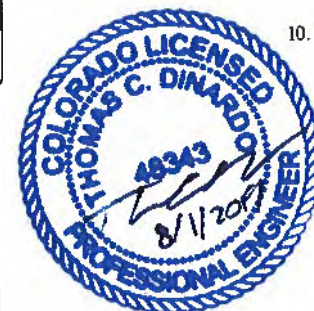
LOCATION ON SIGN STRUCTURE

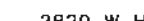


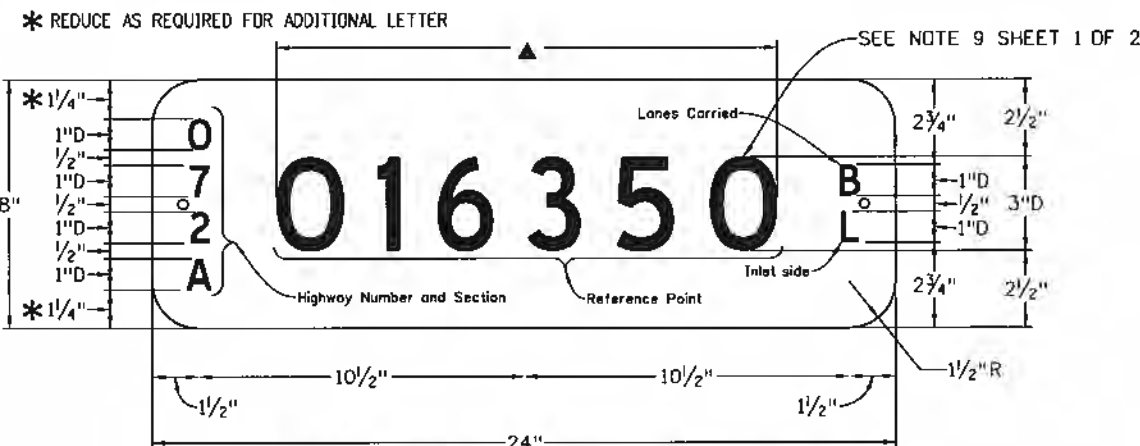
VERTICAL AND LATERAL PLACEMENT DETAILS

## GENERAL NOTES

- SIGN PANEL SHALL BE FABRICATED FROM SINGLE SHEET ALUMINUM 0.080 INCH MINIMUM THICKNESS.
- WHEN SIGN PANELS ARE NOT ATTACHED TO THE STRUCTURE, THEY SHALL BE FASTENED TO U-POSTS OR TO 2-INCH TUBULAR STEEL POSTS (P POSTS) IN ACCORDANCE WITH STANDARDS FOR CLASS I SIGNS. SEE STANDARD PLANS S-614-2 AND S-614-8 FOR DETAILS.
- THE STRUCTURE NUMBER IS SHOWN ON THE PLANS.
- ALL SIGNS SHALL BE FABRICATED USING RETRO-REFLECTIVE SHEETING CONFORMING TO ASTM D4956, TYPE IV (MINIMUM). THE SIGN SHALL HAVE WHITE REFLECTIVE SHEETING BACKGROUND WITH BLACK LETTERS, EXCEPT AS NOTED.
- THE STRUCTURE NUMBER IDENTIFICATION SIGN WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE COST OF THE WORK.
- IN ADDITION TO THE REQUIREMENTS STATED ABOVE, STRUCTURE NUMBERS FOR HIGHWAYS PASSING UNDER CROSSROADS ARE TO BE PLACED AT THE FOLLOWING POINTS USING TWO 1/2" WIDE STAINLESS STEEL BANDS AND STAINLESS STEEL FLARED LEG BRACKETS WITH HEX HEAD BOLTS (BAND-IT D315 OR EQUIVALENT):
  - FOR STRUCTURES OF THREE OR MORE SPANS, THE STRUCTURE NUMBER SHALL BE MOUNTED FACING TRAFFIC, ON THE OUTSIDE FACE OF THE END COLUMN OF THE CENTER PIER.
  - FOR TWO SPAN STRUCTURES, THE STRUCTURE NUMBER SHALL BE MOUNTED FACING TRAFFIC, ON THE OUTSIDE FACE OF EACH END COLUMN OF THE CENTER PIER.
  - FOR OVERHEAD SIGNS, THE STRUCTURE NUMBER SHALL BE MOUNTED DIRECTLY ON THE POST OR THE OUTSIDE POST OF A TWO-POST STRUCTURE VISIBLE FROM THE HIGHWAY. FOR STRUCTURES SUPPORTING SIGNAGE FACING BOTH DIRECTIONS, TWO SIGNS SHALL BE PROVIDED (ONE PER EACH DIRECTION).
- THE STRUCTURE REFERENCE POINTS (MILE POINTS) IN THE FIELD LOG OF STRUCTURES SHOW THREE PLACES AFTER THE DECIMAL POINT. THE LAST DIGIT IS TO BE DROPPED ON THIS PANEL (DO NOT ROUND OFF).
- THE STRUCTURE IDENTIFICATION SHALL BE DISPLAYED ON ALL STATE HIGHWAYS BUT NOT ON OFF-SYSTEM CROSSROADS.
- WALLS SHALL HAVE STRUCTURE NUMBERS LOCATED AT THE BEGINNING AND END OF THE WALLS WITHIN 10 FEET OF THE END OF THE STRUCTURE. FOR WALLS LESS THAN 300 FEET LONG, ONE SIGN AT THE BEGINNING OF THE STRUCTURE IS SUFFICIENT. IF FINAL WALL STRUCTURE REFERENCE POINT IS NOT AVAILABLE AT THE TIME OF FABRICATION, THE LAST TWO DIGITS SHALL BE LEFT BLANK FOR COMPLETION BY OTHERS. THE SIGN SHALL STILL BE INSTALLED BY THE CONTRACTOR. SEPARATE WALL IDENTIFICATION PANELS SHALL BE PLACED AT EACH UNIQUE WALL DESIGN TYPE.
- SIGNS SHALL BE VISIBLE FROM THE HIGHWAY IN THE DIRECTION OF TRAVEL.



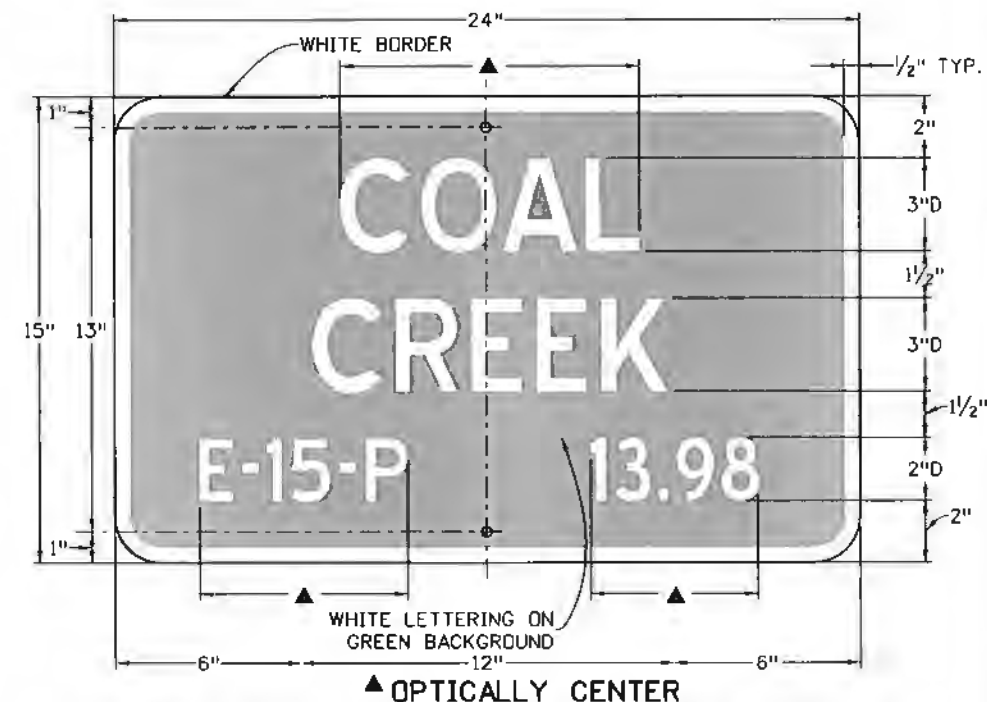
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| Computer File Information                                    |  | 00000000 | Sheet Revisions |          | Colorado Department of Transportation<br> 2829 W. Howard Pl.<br>Denver, CO 80204<br>Phone: 303-757-9436<br>FAX: 303-757-9219<br><br>Traffic & Safety Engineering MKB | STRUCTURE<br>NUMBER<br>INSTALLATION                          | STANDARD PLAN NO.         |
| Creation Date: 07/04/12                                      |  |          | Date:           | Comments |                                                                                                                                                                                                                                                           |                                                              | S-614-12                  |
| Created By: KEN                                              |  |          |                 |          |                                                                                                                                                                                                                                                           |                                                              | Standard Sheet No. 1 of 2 |
| Last Modification Date: 04/30/18                             |  |          |                 |          |                                                                                                                                                                                                                                                           | Issued By: Traffic & Safety Engineering Branch July 31, 2019 | Project Sheet Number:     |
| Last Modified By: DiNardo                                    |  |          |                 |          |                                                                                                                                                                                                                                                           |                                                              |                           |
| CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English |  |          |                 |          |                                                                                                                                                                                                                                                           |                                                              |                           |



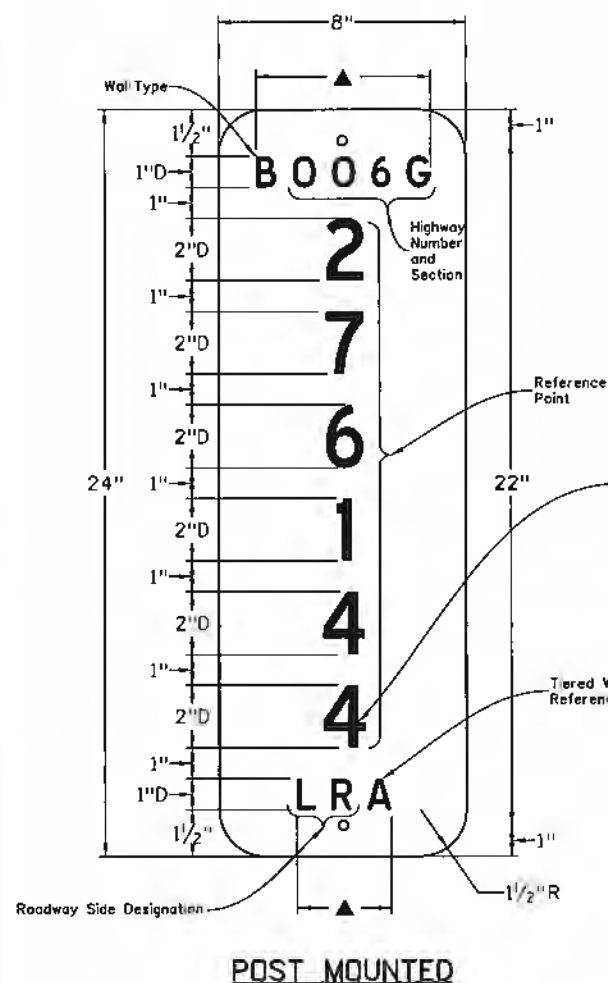
BARRIER, FENCE OR WALL MOUNTED



EXAMPLE OF MINOR STRUCTURE IDENTIFICATION PANEL OVER STREAM



OPTIONAL STRUCTURE NUMBER PANEL OVER STREAMS



POST MOUNTED

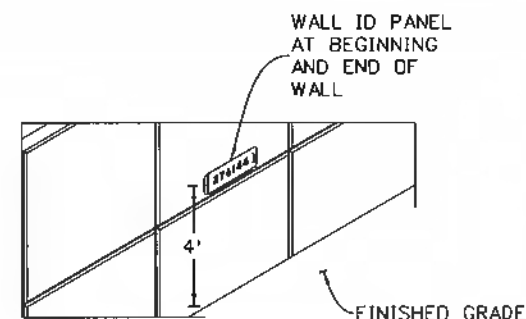
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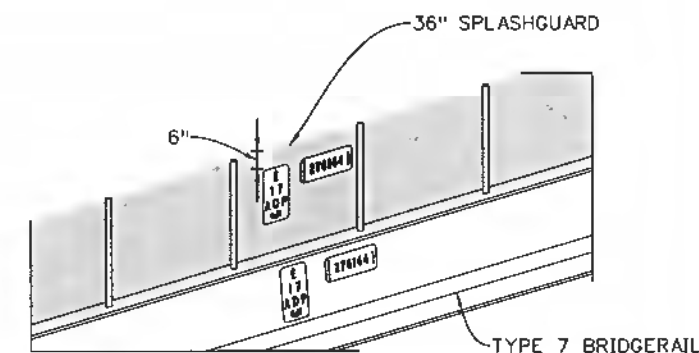
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SEE NOTE 9 SHEET 1 OF 2  
EXAMPLE LAYOUTS

WALL AND MINOR STRUCTURE IDENTIFICATION PANELS



WALL MOUNTED OPTION



BARRIER AND FENCE MOUNTED OPTIONS

|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            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Howard Pl.<br>Denver, CO 80204<br>Phone: 303-757-9436<br>FAX: 303-757-9219<br>Traffic & Safety Engineering MKB/AJP | STRUCTURE<br>NUMBER<br>INSTALLATION | STANDARD PLAN NO. |
| Creation Date: 04/30/18   | 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Last Modified By: NRIVERA

CAD Ver.: MicroStation V8    Scale: Not to Scale    Units: English

01/20/23

Sheet Revisions

Date:Comments

01/20/23ADD CASE NUMBERS 40, 41, AND 42  
MOVED TO SHEET 1 UPDATED TABLE



Colorado Department of Transportation

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Traffic Safety & Engineering

EB

TRAFFIC CONTROLS  
FOR HIGHWAY  
CONSTRUCTION

Issued By: Traffic Safety & Engineering Branch July 31, 2019

STANDARD PLAN NO.  
S-630-1  
Standard Sheet No. 1 of 26

Project Sheet Number:

GENERAL NOTES

1.

ALL CONSTRUCTION ZONE TRAFFIC CONTROL DEVICES, INCLUDING BUT NOT LIMITED TO BARRICADES, SIGNS, ARROW PANELS, FLASHING BEACON (PORTABLE), AND CHANNELIZING DEVICES, SHALL BE FURNISHED, INSTALLED, MAINTAINED (INCLUDING WASHING), REPLACED IF DAMAGED, REMOVED WHEN TEMPORARILY NOT IN USE AND RETURNED WHEN REQUIRED, RESET AS NECESSARY DURING THE PROGRESS OF CONSTRUCTION, AND REMOVED ENTIRELY WHEN THE PROJECT IS COMPLETED. ALL DEVICES SHALL MEET THE REQUIREMENTS OF THE LATEST EDITION OF THE ATSSA "QUALITY GUIDELINES FOR TEMPORARY TRAFFIC CONTROL DEVICES & FEATURES".
2.

WORK ON THE PROJECT SHALL NOT BE STARTED UNTIL ALL REQUIRED TRAFFIC CONTROL DEVICES ARE IN PLACE, AND APPROVED BY THE ENGINEER.
3.

WHEN SPEED LIMIT REDUCTION IS REQUIRED, SUCH REDUCTION SHALL BE IN ACCORDANCE WITH CDDT FORM 568, "CDDT TEMPORARY SPEED LIMIT REDUCTION."

WHEN A CHANGE IN AN EXISTING SPEED LIMIT IS REQUIRED, THE R2-1 SIGNS, SHOWN ON THE SCHEDULE OF CONSTRUCTION TRAFFIC CONTROL DEVICES, SHOULD BE INSTALLED AT THE LOCATIONS SHOWN ON THE TYPICAL CASES BY R2-1 (OPTIONAL) SIGNS.

AN ADVISORY SPEED PLATE (W13-1P) MAY BE USED WITH A WARNING SIGN WHEN THE MAXIMUM RECOMMENDED SPEED FOR CONDITION NAMED IS LOWER THAN THE POSTED SPEED LIMIT.

THE REGULATORY OR ADVISORY SPEED REDUCTION DISPLAYED SHALL NOT EXCEED 15 MPH PER SIGN INSTALLATION.
4.

WORK ZONE (G20-5P) AND FINES DOUBLE (R2-6P) SIGNS SHALL BE PROVIDED EVERY 2640' BETWEEN R2-10 AND R2-11 SIGNS. THE SPACING OF THESE SIGNS MAY BE CHANGED AS DIRECTED BY THE ENGINEER.
5.

ANY TRAFFIC CONTROL DEVICE THAT IS DAMAGED, WEATHERED, WORN, OR OTHERWISE DEEMED UNACCEPTABLE BY THE ENGINEER, SHALL BE REPLACED.
6.

CONTRACTOR AND PERSONAL VEHICLE PARKING IS PROHIBITED WITHIN THE RIGHT-OF-WAY UNLESS DESIGNATED ON THE PLANS, OR APPROVED BY THE ENGINEER.
7.

CONSTRUCTION TRAFFIC SIGNS SHALL BE MEASURED BY THE FOLLOWING SIZES AND DESCRIPTIONS:

PANEL SIZE A

0.01 TO 9.00 SQ. FT. (INCLUDING TYPE 1 AND TYPE 2 BARRICADES).

PANEL SIZE B

9.01 TO 16.00 SQ. FT.

PANEL SIZE C

GREATER THAN 16 SQ. FT.

CONSTRUCTION TRAFFIC SIGN (SPECIAL), SQ. FT., MAY BE USED FOR SOME PROJECT SPECIFIC INFORMATION SIGNS.

FOR DETAILED DIMENSIONS OF SIGNS WITH SIGN CODE NUMBERS, SEE "STANDARD HIGHWAY SIGNS" AND THE "COLORADO SUPPLEMENT" THERETO. SIGN LAYOUTS FOR OTHER SIGNS WILL BE FURNISHED IN THE PLANS, TRANSMITTED TO THE ENGINEER AFTER AWARD, OR MAY BE AVAILABLE UPON REQUEST.

W20-5 WARNING SIGNS SHALL BE FURNISHED WITH EXCHANGEABLE PLAQUES READING "RIGHT", "LEFT", "CENTER", "RIGHT 2", ETC. AT NO ADDITIONAL COST.

8.

ALL WARNING AND REGULATORY SIGNS SHALL BE POSTED ON BOTH SIDES OF THE ROADWAY ON DIVIDED HIGHWAYS, MULTI-LANE RAMPS, ONE-WAY STREETS, AND AS DIRECTED BY THE ENGINEER, EXCEPT WHERE ONLY ONE SHOULDER IS CLOSED (EX: CASE 11 ON SHEET 7).

9.

ADDITIONAL TRAFFIC CONTROL DEVICES ADDRESSING FLAGGING, SPEED REDUCTION, ETC. WILL BE NECESSARY FOR SET-UP AND TAKE-DOWN OF MOST CASE APPLICATIONS; DAILY WORK SITE ACCESS; AND PAVEMENT MARKING REMOVAL AND INSTALLATION OPERATIONS.

10.

BASED ON SIGHT DISTANCE AND OTHER CONSIDERATIONS, THE FINAL LOCATIONS OF SIGNS ARE SUBJECT TO APPROVAL OF THE ENGINEER.
11.

IF CONSTRUCTION RELATED TRAFFIC CONGESTION BACKS UP BEYOND THE INSTALLED ADVANCE SIGN SEQUENCE, ADDITIONAL ADVANCE SIGNING SHALL BE PLACED BEYOND THE CONGESTION.

12.

ALL SIGN MATERIAL SHALL BE SOUND AND DURABLE TO THE DEGREE NECESSARY FOR MAINTAINING EFFECTIVE AND NEAT APPEARING TRAFFIC CONTROLS, AND:

a.

SIGN PANELS MAY BE FABRICATED FROM PLYWOOD, STEEL, ALUMINUM, OR OTHER SUITABLE MATERIAL.

b.

REFLECTIVE SHEETING SHALL CONFORM TO ASTM D4956. THE TYPE SHALL BE AS DESCRIBED IN THE STANDARD SPECIFICATIONS AND/OR AS SHOWN ON THE PLANS.

c.

SYMBOLS AND LEGEND SHALL BE OF GOOD WORKMANSHIP (UNEVEN OR HAND LETTERING WILL NOT BE ACCEPTED).

d.

PORTABLE OR TEMPORARY MOUNTING SHALL NOT BE CONSTRUCTED OR WEIGHTED BY ANY METHOD OR MATERIAL THAT MAKES THEM HAZARDOUS TO TRAFFIC.

e.

CERTAIN POST SIZES AND SHAPES REQUIRE A "BREAK-AWAY" DEVICE. SEE THE APPLICABLE STANDARD PLAN. OTHER POST DESIGNS OR SYSTEMS REQUIRE THE SUBMITTAL OF AN FHWA LETTER OF ACCEPTANCE TO THE ENGINEER, AND MUST BE APPROVED BY THE ENGINEER PRIOR TO THEIR USE.

13.

ALL CONSTRUCTION SIGN PLACEMENT SHALL BE IN ACCORDANCE WITH STANDARD PLAN "TYPICAL GROUND SIGN PLACEMENT" UNLESS OTHERWISE APPROVED.

SIGNS APPROVED TO BE MOUNTED ON PORTABLE SUPPORTS, OR APPROPRIATE SIGNS MOUNTED ON BARRICADES, MAY BE AT LOWER HEIGHTS, BUT THE BOTTOM OF THE SIGNS SHALL NOT BE LESS THAN ONE FOOT ABOVE THE PAVEMENT ELEVATION.

14.

SIGNS MOUNTED ON THE MEDIAN OF DIVIDED HIGHWAYS WHERE MEDIAN BARRIER IS IN PLACE MAY BE MOUNTED ON THE BARRIER WITH A SADDLE TYPE BRACKET. IF THE BRACKET ALLOWS THE SIGN PANEL TO BE TURNED PARALLEL TO THE ROADWAY, THE SIGN MAY REMAIN IN PLACE WHEN NOT APPLICABLE, BUT LAYING THE SIGN PANEL DOWN IN A HORIZONTAL POSITION IS NOT PERMITTED.

15.

TRAFFIC CONES SHALL BE AT LEAST 28 INCHES IN HEIGHT. HOWEVER, THE MINIMUM SIZE SHALL BE 36 INCHES WHEN THEY ARE USED ON FREEWAYS AND EXPRESSWAYS, OR DURING NIGHT TIME WORKING HOURS. THEY SHOULD ALSO BE 36 INCHES WHEN USED ON OTHER HIGH SPEED ROADWAYS (45 MPH OR MORE) WITH AN ADT OF 6,000 OR MORE.

16.

TYPE 1 BARRICADES SHALL NOT BE USED ON FREEWAYS, EXPRESSWAYS, OR OTHER HIGH SPEED ROADWAYS (55 MPH OR MORE).

17.

WHEN TWO-WAY TRAFFIC IS PLACED ON ONE ROADWAY OF A NORMALLY DIVIDED HIGHWAY, OPPOSING TRAFFIC SHALL BE SEPARATED EITHER WITH CONCRETE BARRIER (TEMPORARY), OR WITH CHANNELIZING DEVICES APPROVED FOR THIS APPLICATION, THROUGHOUT THE LENGTH OF TWO-WAY OPERATION. THE TRANSITION ZONES SHALL HAVE CONCRETE BARRIER (TEMPORARY). THE BARRIER SHALL BE TIED TO AN EXISTING STRUCTURE OR GUARD RAIL, FLARED OR EXTENDED, TO MEET CLEAR ZONE REQUIREMENTS, OR FITTED WITH AN IMPACT ATTENUATION DEVICE.

18.

CHANNELIZING DEVICE SPACING, IN FEET, SHALL BE AS FOLLOWS:

a.

FOR TAPERS AND TRANSITIONS, SPACING EQUALS THE NUMERICAL VALUE OF THE SPEED LIMIT.  
(e.g. 45 MPH = 45 FEET)

b.

FOR TANGENTS ALONG THE BUFFER SPACE OR WORK AREA, SPACING MAY NOT BE GREATER THAN TWO TIMES THE SPEED LIMIT. (e.g. 50 MPH = 50 FEET TO 100 FEET MAXIMUM)
19.

FOR DETAILS ON BARRICADES, CONCRETE BARRIER (TEMPORARY), VERTICAL PANELS, AND FLASHING BEACON (PORTABLE), SEE THE APPLICABLE STANDARD PLANS.

20.

FLAGGER STATION SHALL COMPRISE OF EITHER A FLAGGER OR AN AUTOMATED FLAGGER ASSISTANCE DEVICE (AFAD). SEE THE MOST RECENT CDDT STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION FOR ADDITIONAL GUIDANCE REGARDING AFAD.

21.

FLAGGING OPERATIONS SHALL NOT OVERRIDE VISIBLE REGULATORY SIGNING OR TRAFFIC SIGNALS, EVEN WHEN TRAFFIC SIGNALS HAVE BEEN DISABLED OR SET TO FLASH MODE. ONLY A UNIFORMED POLICE OFFICER MAY DIRECT TRAFFIC IN A SIGNALIZED INTERSECTION. FLAGGING IS NOT PERMITTED ON INTERSTATES UNLESS APPROVED BY THE REGION TRAFFIC ENGINEER.

22.

FLOOD LIGHTS SHALL BE USED TO ILLUMINATE FLAGGER STATIONS DURING THE HOURS OF DARKNESS UNLESS OTHERWISE APPROVED. A TYPICAL LIGHT SHOULD PROVIDE THE FOLLOWING: A FULLY DIRECTIONAL SWIVEL MOUNT QUARTZ LIGHT SOURCE (500 WATT MINIMUM), SELF-SUPPORTING STAND WITH VARIABLE LIGHT HEIGHT FROM A MINIMUM OF EIGHT FEET ABOVE THE ROADWAY, AND A POWER SOURCE. IT SHALL ILLUMINATE THE STATION AREA AND A FLAGGER ESCAPE PATH, BUT SHALL NOT PRESENT ANY GLARE TO TRAFFIC.

23.

FOR TEMPORARY PAVEMENT MARKINGS AND CONTROL POINTS FOR INSTALLING THOSE PAVEMENT MARKINGS FOR UNDIVIDED ROADWAYS THAT ARE BEING CONSTRUCTED UNDER TRAFFIC, FULL COMPLIANCE CENTER LINE, LANE LINE, AND EDGE LINE TEMPORARY MARKINGS SHALL BE IN PLACE AT THE END OF EACH WORK DAY IN ACCORDANCE WITH THE MOST RECENT CDDT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

FOR ADDITIONAL PAVEMENT MARKING DETAILS, SEE STANDARD PLAN S-627-1 "PAVEMENT MARKINGS".

24.

BUFFER SPACE IS OPTIONAL. NEED MUST BE DETERMINED ON A PROJECT OR SITE SPECIFIC BASIS AS DIRECTED BY THE ENGINEER. WHEN A BUFFER SPACE IS USED, DIMENSIONS AND/OR DEVICES USED ARE TO BE INCORPORATED IN THE TRAFFIC CONTROL PLAN (TCP) OR THE CONTRACTOR'S METHOD OF HANDLING TRAFFIC (MHT).

25.

ADDITIONAL VMS SIGNAGE SHOULD BE CONSIDERED AT LEAST A MILE IN ADVANCE OF THE SIGNING SHOWN IN THE DETAIL FOR ANY LANE CLOSURES ON INTERSTATE AND OTHER HIGH SPEED FACILITIES ESPECIALLY WHEN THE LEVEL OF SERVICE IS SIGNIFICANTLY REDUCED AS A RESULT OF CONSTRUCTION. THE LEGENDS SHOULD BE CHANGED TO ADVISE MOTORISTS OF UPCOMING TRAFFIC CONDITIONS AND TO ALERT THEM OF UPCOMING LANE USAGE.

ADDITIONAL ADVANCE WARNING SIGNAGE IS ENCOURAGED IN ALL CASES WHERE TRAFFIC VOLUMES AND SPEEDS ARE HIGH AND/OR WHERE THERE ARE INFREQUENT EXITS. ADDITIONAL SIGNAGE IS ALSO ENCOURAGED IN LOCATIONS WHERE DRIVERS' LINE OF SIGHT TO ADVANCE WARNING SIGNS IS OBSTRUCTED.

26.

WHEN ARROW BOARDS ARE USED TO CLOSE MULTIPLE LANES, A SEPARATE ARROW BOARD SHALL BE USED FOR EACH CLOSED LANE.

IF ARROW BOARDS ARE USED FOR SHOULDER WORK, BLOCKING THE SHOULDER, FOR ROADSIDE WORK NEAR THE SHOULDER, OR FOR TEMPORARILY CLOSING ONE LANE ON A TWO-LANE, TWO-WAY ROADWAY, USE THE ARROW BOARDS ONLY IN THE CAUTION MODE.

27.

RAISED PAVEMENT MARKERS MAY BE USED TO SUPPLEMENT TEMPORARY STRIPING DURING NON-SNOW PERIODS. THEIR USE IS ENCOURAGED ON HIGHER SPEED FACILITIES WHEN TRAFFIC IS BEING DIVERTED FROM ITS USUAL COURSE.

28.

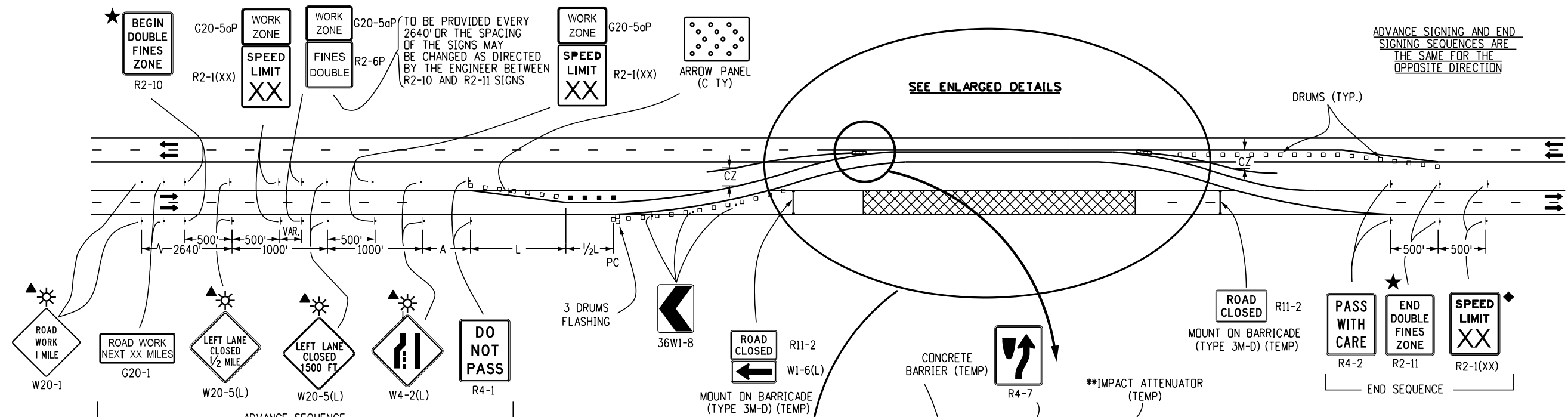
THE TYPICAL CASES DEPICTED IN THIS STANDARD REFLECT THE MINIMUM REQUIREMENTS, UNLESS AS OTHERWISE DIRECTED BY THE PROJECT PLANS AND SPECIFICATIONS, AND/OR THE PROJECT ENGINEER.

29.

A SIGNIFICANT PROJECT IS DEFINED AS ONE THAT, ALONE OR IN COMBINATION WITH OTHER CONCURRENT PROJECTS NEARBY, IS ANTICIPATED TO CAUSE SUSTAINED WORK ZONE IMPACTS AT A LOCATION FOR THREE OR MORE CONSECUTIVE DAYS WITH EITHER INTERMITTENT OR CONTINUOUS LANE CLOSURES.

30.

PROJECT INFORMATION SIGNAGE MAY BE INSTALLED IF SPECIFIED IN PROJECT SPECIAL PROVISION 626 - PUBLIC INFORMATION SERVICES.
- | Computer File Information                                          |                | Sheet Revisions |                                         | <div>Colorado Department of Transportation</div> <div><div><div><div></div><div>2829 W. Howard Pl.<br/>Denver, CO 80204<br/>Phone: 303-757-9654<br/>FAX: 303-757-9219</div></div></div><div>Traffic Safety &amp; Engineering</div><div>EB</div></div> | TRAFFIC CONTROLS<br>FOR HIGHWAY<br>CONSTRUCTION | STANDARD PLAN NO.     |  |
|--------------------------------------------------------------------|----------------|-----------------|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|-----------------------|--|
| Creation Date: 07/04/12                                            | <div>R-3</div> | Date:           | Comments                                |                                                                                                                                                                                                                                                                                                                                            | Standard Sheet No. 2 of 26                      | Project Sheet Number: |  |
| Created By: Nakao                                                  |                | 01/14/26        | ADDED NOTE 30                           |                                                                                                                                                                                                                                                                                                                                            |                                                 |                       |  |
| Last Modification Date: 01/14/26                                   |                | 07/20/23        | ADDED NOTE 21.<br>UPDATED NOTES LAYOUT. |                                                                                                                                                                                                                                                                                                                                            |                                                 |                       |  |
| Last Modified By: NRIVERA                                          | <div>R-2</div> |                 |                                         | Issued By: Traffic Safety & Engineering Branch July 31, 2019                                                                                                                                                                                                                                                                               |                                                 |                       |  |
| CAD Ver.: MicroStation V8    Scale: Not to Scale    Units: English |                |                 |                                         |                                                                                                                                                                                                                                                                                                                                            |                                                 |                       |  |



### LEGEND

■ CHANNELIZING DEVICE: FOR TYPE OF DEVICE TO BE USED, SEE SCHEDULE OF TRAFFIC CONTROL DEVICES INCLUDED IN THE PLANS.

□ DRUMS OR VERTICAL PANELS SHALL BE USED TO DELINEATE MERGING TAPERS, SHIFTING TAPERS, AND ONE LANE, TWO-WAY TRAFFIC TAPERS.

— TYPE III BARRICADE  
 — CONCRETE BARRIER (TEMPORARY)  
 ■ FLAGGER STATION  
 ← DIRECTION OF TRAVEL

▨ WORK AREA

L **TRANSITION TAPER LENGTH:**  
 L = MINIMUM LENGTH OF TAPER  
 SPEED 45 MPH OR MORE:  $L = S \times W$   
 SPEED 40 MPH OR LESS:  $L = \frac{WS^2}{60}$   
 S = NUMERICAL VALUE OF SPEED LIMIT  
 OR 85 PERCENTILE SPEED  
 W = WIDTH OF OFFSET

▨ ADVANCE WARNING FLASHING OR SEQUENCING ARROW PANEL

A = 100' (URBAN LOW SPEED)  
 350' (URBAN HIGH SPEED)  
 500' (RURAL)  
 1,000' (EXPRESSWAY / FREEWAY)

CZ CLEAR ZONE (SEE GENERAL NOTE 17 ON SHEET 2).

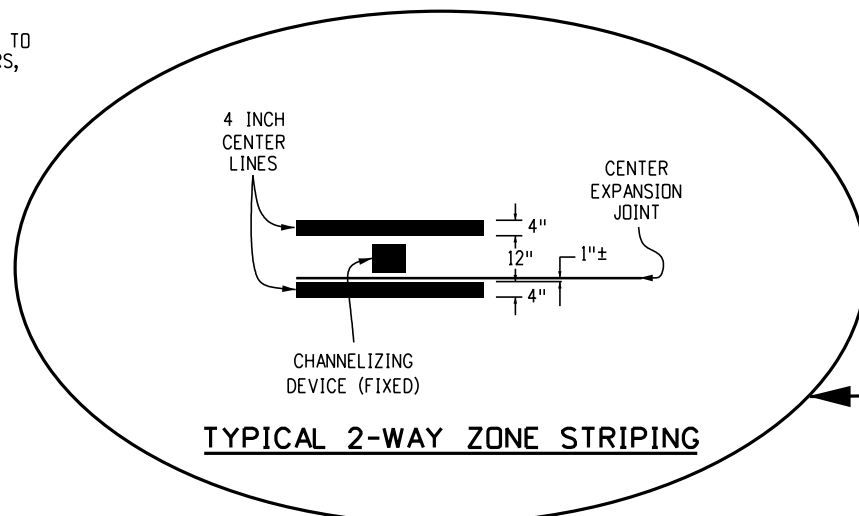
▲ THESE DEVICES ARE OPTIONAL. THEIR NEED SHALL BE DETERMINED BY DETOUR DESIGN AND/OR SCOPE OF CONSTRUCTION ACTIVITY, AND ARE REQUIRED WHEN THEY ARE INCLUDED IN THE SCHEDULE OF CONSTRUCTION CONTROL DEVICES.

VAR. BUFFER SPACE (SEE GENERAL NOTE 23 ON SHEET 2).

▨ IMPACT ATTENUATOR AS DETAILED ON THE PLANS

☼ FLASHING BEACON

### TYPICAL 2-WAY ZONE STRIPING

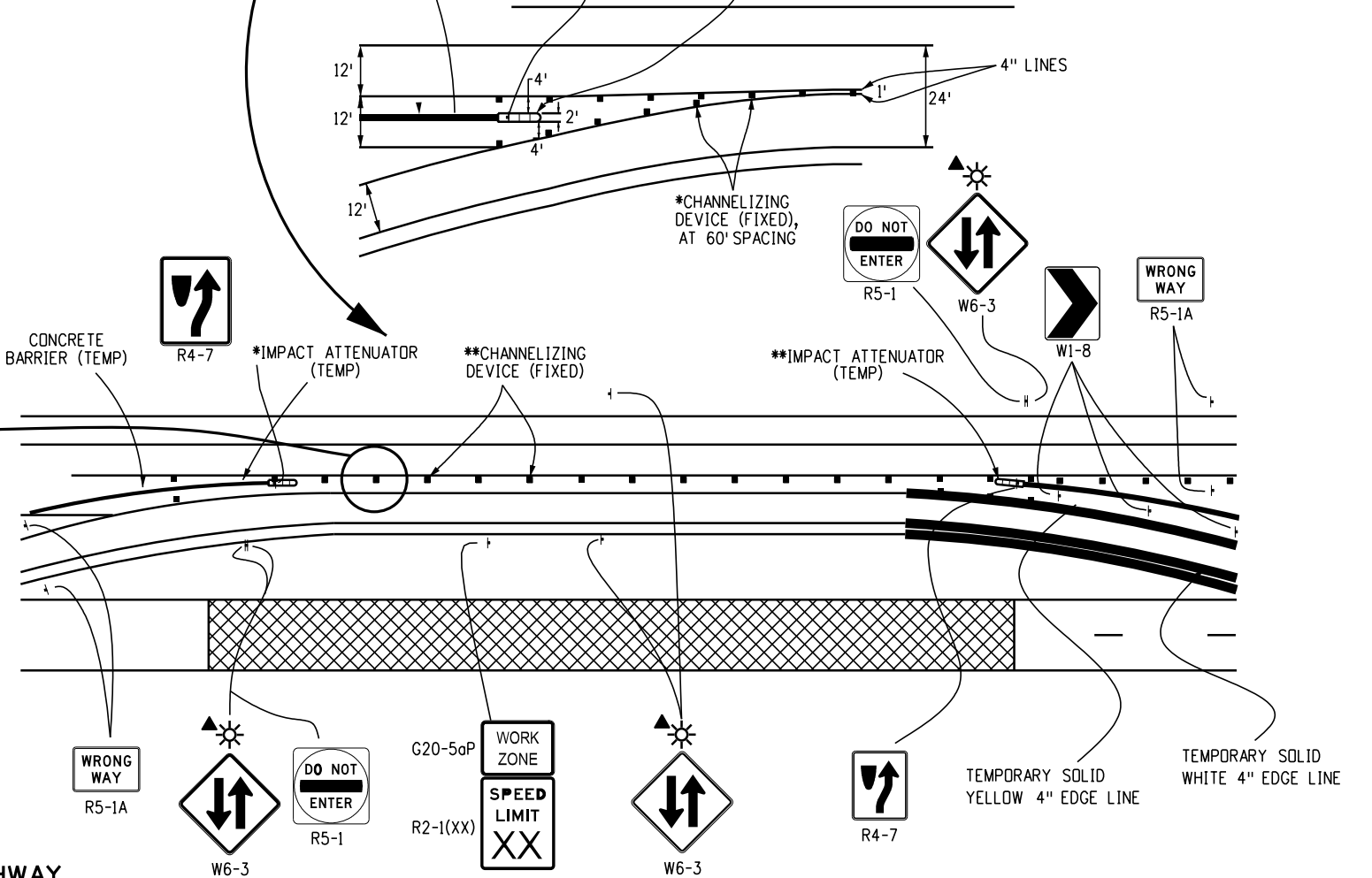


- ◆ THESE DEVICES ARE NOT OPTIONAL IF THE POSTED SPEED LIMIT IN THE WORK ZONE IS REDUCED.
- \* THESE ITEMS ARE NOT REQUIRED WHEN CONTINUOUS CONCRETE BARRIER IS USED FOR CHANNELIZATION.
- \*\* SEE GENERAL NOTE 17 ON SHEET 2.
- ★ SEE FINES DOUBLE SIGNING NOTES ON SHEET 12.

### CASE NO. 1

### TYPICAL APPLICATION

### CLOSURE OF ONE ROADWAY 4-LANE DIVIDED HIGHWAY



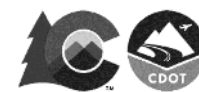
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### Sheet Revisions

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| 01/14/26 | REMOVED G20-11                                                                         |
| 01/20/23 | Replaced R52-a(b) with R2-10(11)<br>Updated G20-11<br>Added Drum/Vertical Panel Symbol |

### Colorado Department of Transportation



2829 W. Howard Pl.  
 Denver, CO 80204  
 Phone: 303-757-9654  
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Traffic Safety & Engineering

EB

### TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

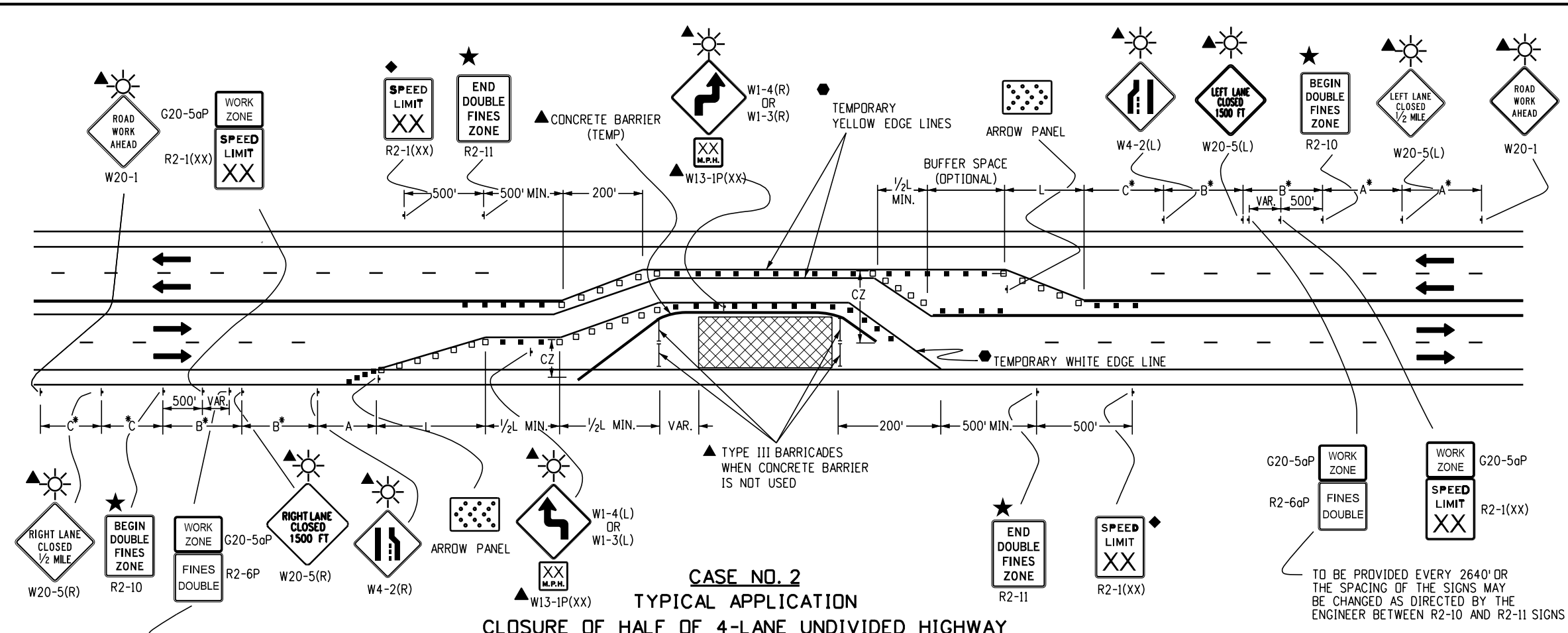
Issued By: Traffic Safety & Engineering Branch July 31, 2019

### STANDARD PLAN NO.

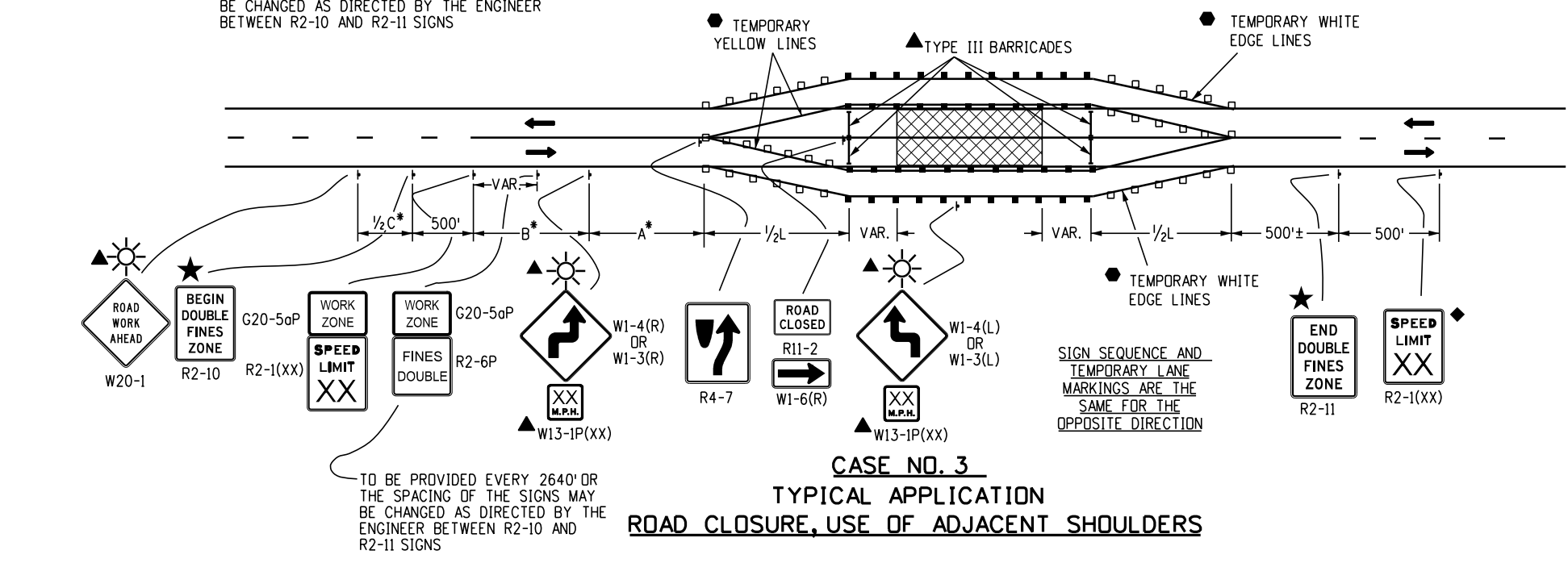
S-630-1

Standard Sheet No. 3 of 26

Project Sheet Number:



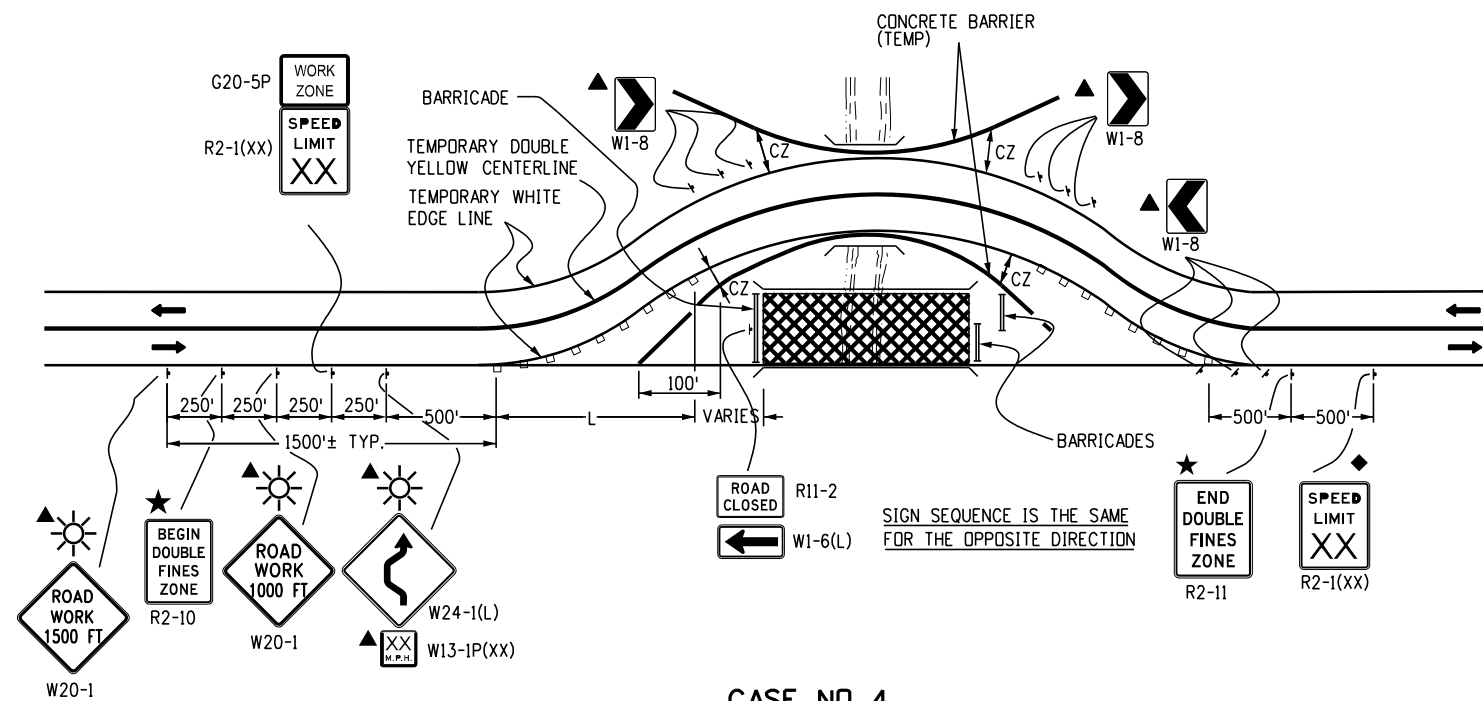
- ### LEGEND
- CHANNELIZING DEVICE; FOR TYPE OF DEVICE TO BE USED, SEE SCHEDULE OF TRAFFIC CONTROL DEVICES INCLUDED IN THE PLANS.
  - DRUMS OR VERTICAL PANELS SHALL BE USED TO DELINEATE MERGING TAPERS, SHIFTING TAPERS, AND ONE WAY, TWO-WAY TRAFFIC TAPERS.
  - TYPE III BARRICADE
  - FLAGGER STATION
  - DIRECTION OF TRAVEL
  - ▨ WORK AREA
  - L TRANSITION TAPER LENGTH:  
 $L = \text{MINIMUM LENGTH OF TAPER}$   
 SPEED 45 MPH OR MORE:  $L = S \times W$   
 SPEED 40 MPH OR LESS:  $L = \frac{WS^2}{60}$   
 $S = \text{NUMERICAL VALUE OF SPEED LIMIT OR 85 PERCENTILE SPEED}$   
 $W = \text{WIDTH OF OFFSET SHOULDER TAPER} = 1/3 L$
  - ▨ ADVANCE WARNING FLASHING OR SEQUENCING ARROW PANEL.
  - A = 100' (URBAN LOW SPEED)  
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  - CZ CLEAR ZONE (SEE GENERAL NOTE 17 ON SHEET 2).
  - ▲ THESE DEVICES ARE OPTIONAL. THEIR NEED SHALL BE DETERMINED BY DETOUR DESIGN AND/OR SCOPE OF CONSTRUCTION ACTIVITY, AND ARE REQUIRED WHEN THEY ARE INCLUDED IN THE SCHEDULE OF CONSTRUCTION CONTROL DEVICES.
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  - VAR. BUFFER SPACE (SEE GENERAL NOTE 23 ON SHEET 2).
  - REQUIRED WHEN WORK OCCUPIES THE LOCATION FOR MORE THAN 3 DAYS.
  - ☀ FLASHING BEACON
  - ★ SEE FINES DOUBLE SIGNING NOTES ON SHEET 12.



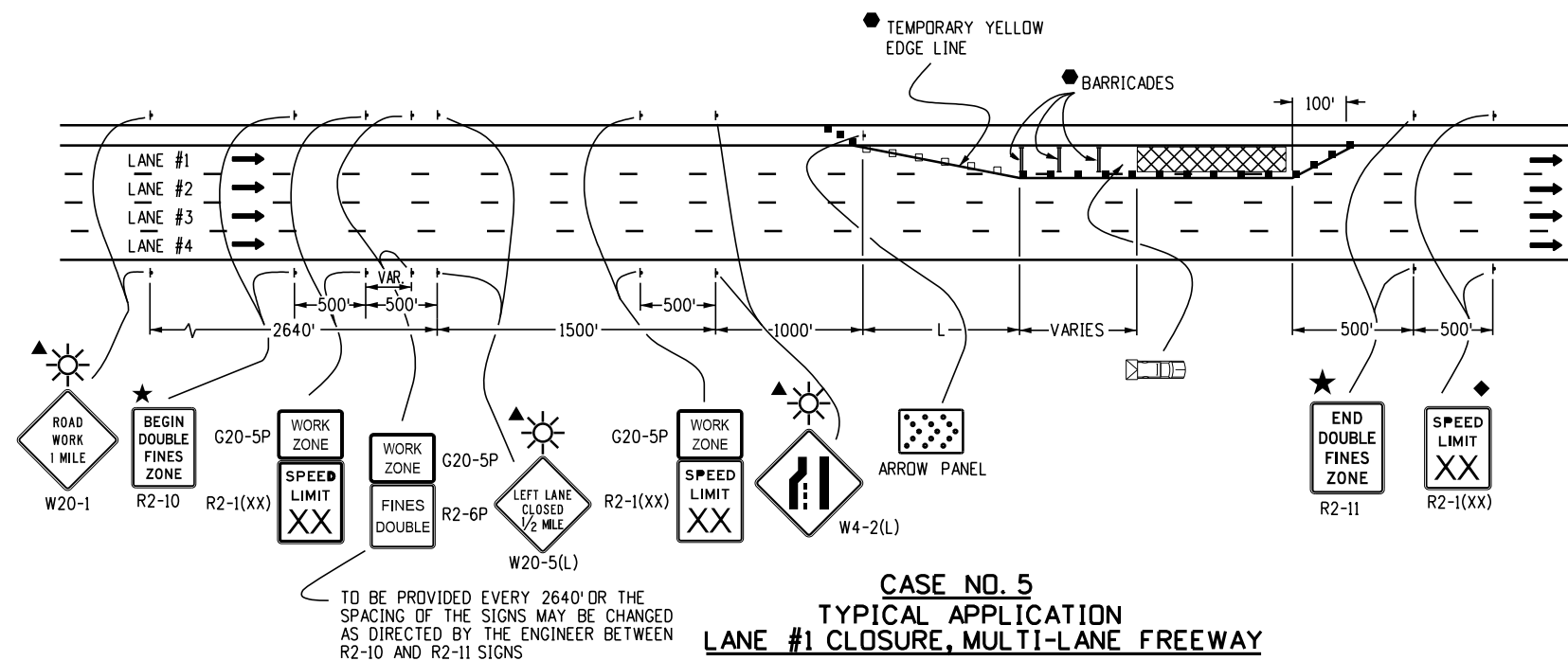
### \* KEY TO ADVANCE SIGNING DISTANCES

| ROAD TYPE          | DISTANCE BETWEEN SIGNS |      |      |
|--------------------|------------------------|------|------|
|                    | A                      | B    | C    |
| URBAN (<=40 MPH)   | 100                    | 100  | 100  |
| URBAN (>=45 MPH)   | 350                    | 350  | 350  |
| RURAL              | 500                    | 500  | 500  |
| EXPRESSWAY/FREEWAY | 1000                   | 1500 | 2640 |

| <b>Computer File Information</b><br>Creation Date: 07/04/12<br>Created By: Nakao<br>Last Modification Date: 01/14/26<br>Last Modified By: NRIVERA<br>CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English | <b>Sheet Revisions</b><br><table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Date:</th> <th>Comments</th> </tr> <tr> <td>01/14/26</td> <td>REMOVED G20-10/11</td> </tr> <tr> <td>01/20/23</td> <td>Replaced R52-a(b) with R2-10(11)<br/>Updated G20-11<br/>Added Drum/Vertical Panel Symbol<br/>Updated Case 3 Lane Lines</td> </tr> </table> | Date: | Comments | 01/14/26 | REMOVED G20-10/11 | 01/20/23 | Replaced R52-a(b) with R2-10(11)<br>Updated G20-11<br>Added Drum/Vertical Panel Symbol<br>Updated Case 3 Lane Lines | <b>Colorado Department of Transportation</b><br><br>2829 W. Howard Pl.<br>Denver, CO 80204<br>Phone: 303-757-9654<br>FAX: 303-757-9219<br><b>Traffic Safety &amp; Engineering</b> | <b>TRAFFIC CONTROLS<br/>FOR HIGHWAY<br/>CONSTRUCTION</b><br>Issued By: Traffic Safety & Engineering Branch July 31, 2019 | <b>STANDARD PLAN NO.</b><br><b>S-630-1</b><br><b>Standard Sheet No. 4 of 26</b><br>Project Sheet Number: |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|----------|----------|-------------------|----------|---------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| Date:                                                                                                                                                                                                             | Comments                                                                                                                                                                                                                                                                                                                                                               |       |          |          |                   |          |                                                                                                                     |                                                                                                                                                                                   |                                                                                                                          |                                                                                                          |
| 01/14/26                                                                                                                                                                                                          | REMOVED G20-10/11                                                                                                                                                                                                                                                                                                                                                      |       |          |          |                   |          |                                                                                                                     |                                                                                                                                                                                   |                                                                                                                          |                                                                                                          |
| 01/20/23                                                                                                                                                                                                          | Replaced R52-a(b) with R2-10(11)<br>Updated G20-11<br>Added Drum/Vertical Panel Symbol<br>Updated Case 3 Lane Lines                                                                                                                                                                                                                                                    |       |          |          |                   |          |                                                                                                                     |                                                                                                                                                                                   |                                                                                                                          |                                                                                                          |



**CASE NO. 4**  
**TYPICAL APPLICATION**  
**ROAD CLOSURE, BYPASS DETOUR PROVIDED**



**CASE NO. 5**  
**TYPICAL APPLICATION**  
**LANE #1 CLOSURE, MULTI-LANE FREEWAY**

### LEGEND

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- FLAGGER STATION
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- L TRANSITION TAPER LENGTH:  
 $L = \text{MINIMUM LENGTH OF TAPER}$   
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 S = NUMERICAL VALUE OF SPEED LIMIT OR 85 PERCENTILE SPEED  
 W = WIDTH OF OFFSET  
 SHOULDER TAPER = 1/3 L
- ▨ ADVANCE WARNING FLASHING OR SEQUENCING ARROW PANEL
- CZ CLEAR ZONE (SEE GENERAL NOTE 17 ON SHEET 2).
- ▲ THESE DEVICES ARE OPTIONAL. THEIR NEED SHALL BE DETERMINED BY DETOUR DESIGN AND/OR SCOPE OF CONSTRUCTION ACTIVITY, AND ARE REQUIRED WHEN THEY ARE INCLUDED IN THE SCHEDULE OF CONSTRUCTION CONTROL DEVICES.
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- VARIES BUFFER SPACE (SEE GENERAL NOTE 23 ON SHEET 2).
- REQUIRED WHEN WORK OCCUPIES THE LOCATION FOR MORE THAN 3 DAYS.
- ▨ MOBILE ATTENUATOR
- ☀ FLASHING BEACON
- ★ SEE FINES DOUBLE SIGNING NOTES ON SHEET 12.

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#### Sheet Revisions

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#### TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

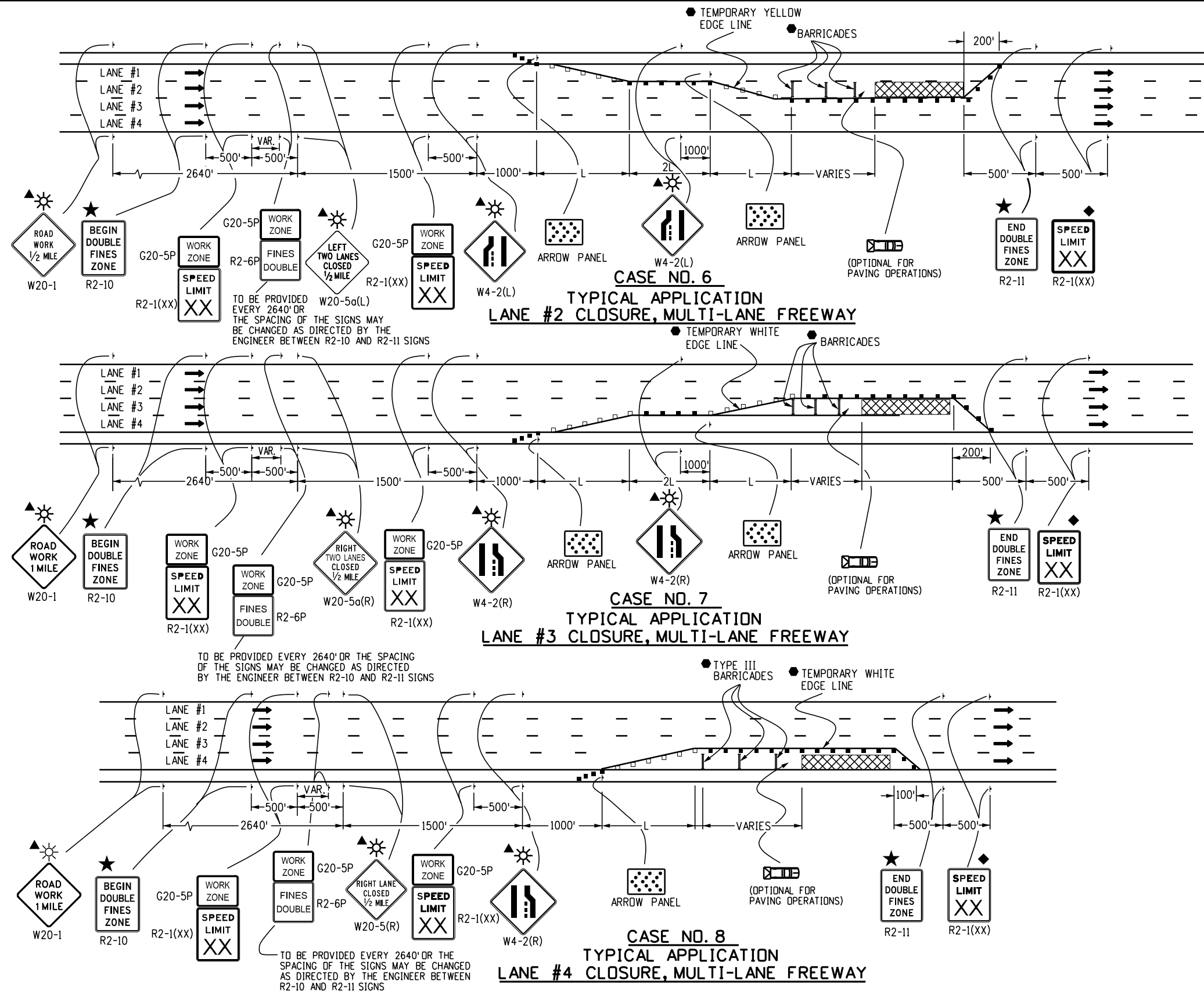
Issued By: Traffic Safety & Engineering Branch July 31, 2019

#### STANDARD PLAN NO.

S-630-1

Standard Sheet No. 5 of 26

Project Sheet Number:



- LEGEND**
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  - ▨ MOBILE ATTENUATOR
  - ☀ FLASHING BEACON
  - ★ SEE FINES DOUBLE SIGNING NOTES ON SHEET 12.

| Computer File Information                                    |  | Sheet Revisions |                                                                                        | Colorado Department of Transportation                                              | TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION                    | STANDARD PLAN NO.          |  |
|--------------------------------------------------------------|--|-----------------|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------------------------------------------------------------|----------------------------|--|
| Creation Date: 07/04/12                                      |  | Date:           | Comments                                                                               |                                                                                    |                                                              | S-630-1                    |  |
| Created By: Roybal                                           |  | 01/14/26        | REMOVED G20-10/11                                                                      | 2829 W. Howard Pl.<br>Denver, CO 80204<br>Phone: 303-757-9654<br>FAX: 303-757-9219 | <b>Traffic Safety &amp; Engineering</b>                      | Standard Sheet No. 6 of 26 |  |
| Last Modification Date: 01/14/26                             |  | 01/20/23        | Replaced R52-a(b) with R2-10(11)<br>Updated G20-11<br>Added Drum/Vertical Panel Symbol |                                                                                    |                                                              |                            |  |
| Last Modified By: NRIVERA                                    |  |                 |                                                                                        |                                                                                    |                                                              | Project Sheet Number:      |  |
| CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English |  |                 |                                                                                        |                                                                                    | Issued By: Traffic Safety & Engineering Branch July 31, 2019 |                            |  |

LEGEND

- CHANNELIZING DEVICE: FOR TYPE OF DEVICE TO BE USED, SEE SCHEDULE OF TRAFFIC CONTROL DEVICES INCLUDED IN THE PLANS.
- DRUMS OR VERTICAL PANELS SHALL BE USED TO DELINEATE MERGING TAPERS, SHIFTING TAPERS, AND ONE LANE, TWO-WAY TRAFFIC TAPERS.

TYPE III BARRICADE

CONCRETE BARRIER (TEMPORARY)

FLAGGER STATION

DIRECTION OF TRAVEL

WORK AREA

L TRANSITION TAPER LENGTH:

L = MINIMUM LENGTH OF TAPER

SPEED 45 MPH OR MORE:  $L = S \times W$

SPEED 40 MPH OR LESS:  $L = \frac{WS^2}{60}$

S = NUMERICAL VALUE OF SPEED LIMIT OR 85 PERCENTILE SPEED

W = WIDTH OF OFFSET

SHOULDER TAPER = 1/3 L

ADVANCE WARNING FLASHING OR SEQUENCING ARROW PANEL

CZ CLEAR ZONE (SEE GENERAL NOTE 17 ON SHEET 2).

THESE DEVICES ARE OPTIONAL. THEIR NEED SHALL BE DETERMINED BY DETOUR DESIGN AND/OR SCOPE OF CONSTRUCTION ACTIVITY, AND ARE REQUIRED WHEN THEY ARE INCLUDED IN THE SCHEDULE OF CONSTRUCTION CONTROL DEVICES.

THESE DEVICES ARE NOT OPTIONAL IF THE POSTED SPEED LIMIT IN THE WORK ZONE IS REDUCED.

FLASHING BEACON

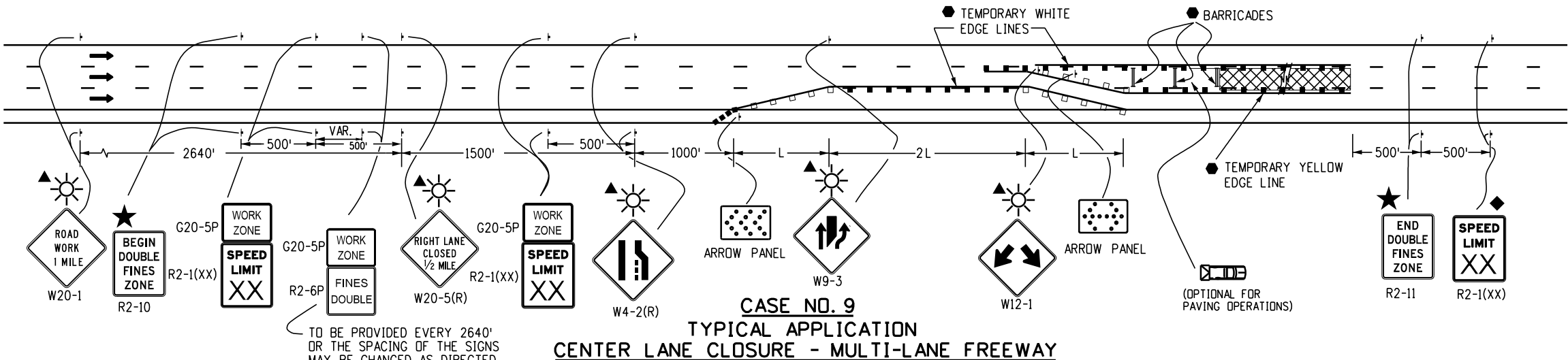
VARIES BUFFER SPACE (SEE GENERAL NOTE 23 ON SHEET 2).

REQUIRED WHEN WORK OCCUPIES THE LOCATION FOR MORE THAN 3 DAYS.

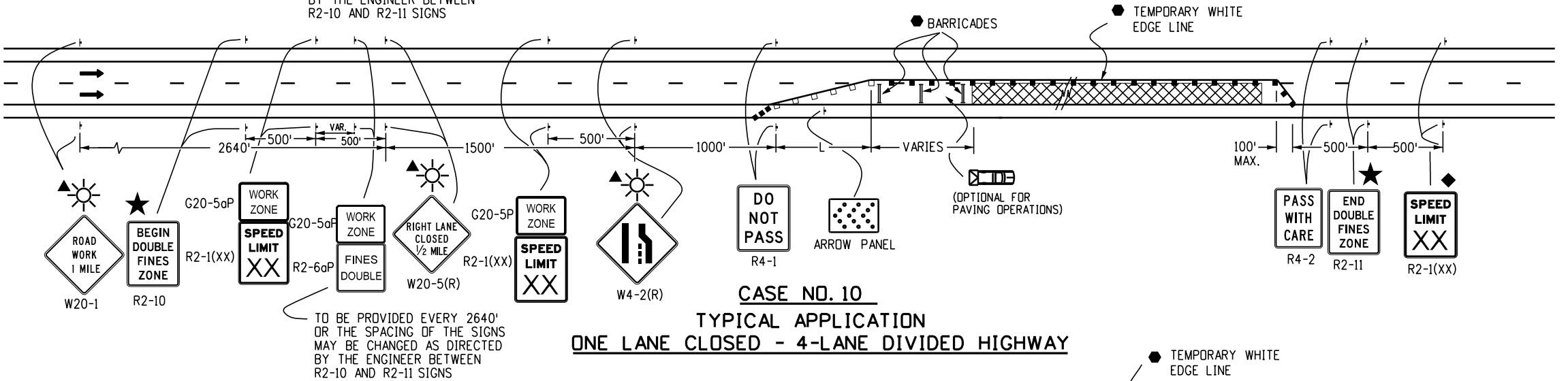
MOBILE ATTENUATOR

CONCRETE BARRIER (TEMPORARY) WITH LIGHTS

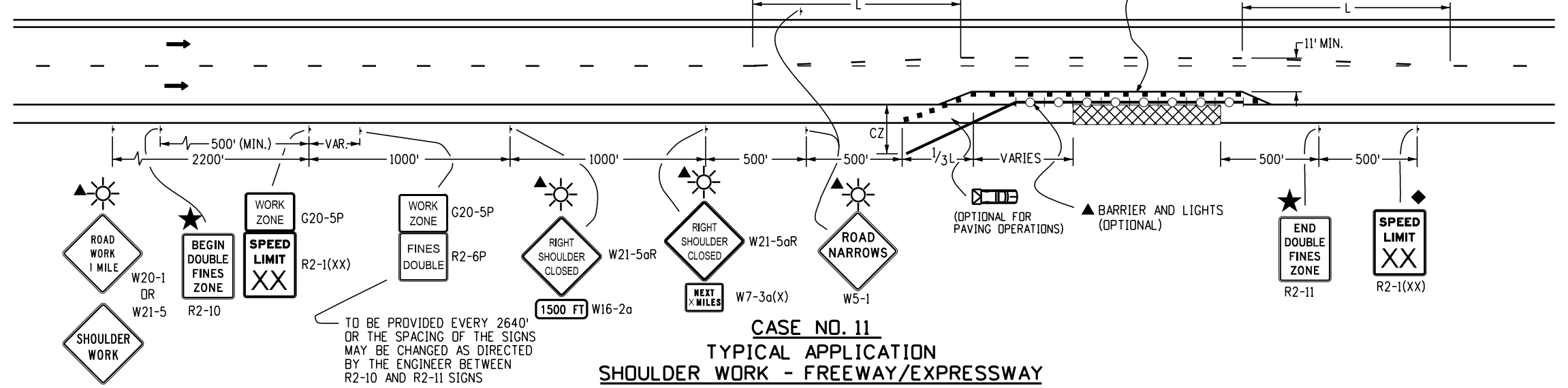
SEE FINES DOUBLE SIGNING NOTES ON SHEET 12.



CASE NO. 9  
TYPICAL APPLICATION  
CENTER LANE CLOSURE - MULTI-LANE FREEWAY



CASE NO. 10  
TYPICAL APPLICATION  
ONE LANE CLOSED - 4-LANE DIVIDED HIGHWAY



CASE NO. 11  
TYPICAL APPLICATION  
SHOULDER WORK - FREEWAY/EXPRESSWAY

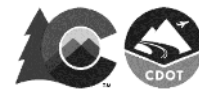
Computer File Information

Creation Date: 07/04/12  
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Last Modification Date: 01/14/26  
Last Modified By: NRIVERA  
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English

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| Date:    | Comments                                                                               |
|----------|----------------------------------------------------------------------------------------|
| 01/14/26 | REMOVED G20-10/11 W9-3a                                                                |
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Colorado Department of Transportation



Traffic Safety & Engineering

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2829 W. Howard Pl.  
Denver, CO 80204  
Phone: 303-757-9654  
FAX: 303-757-9219

TRAFFIC CONTROLS  
FOR HIGHWAY  
CONSTRUCTION

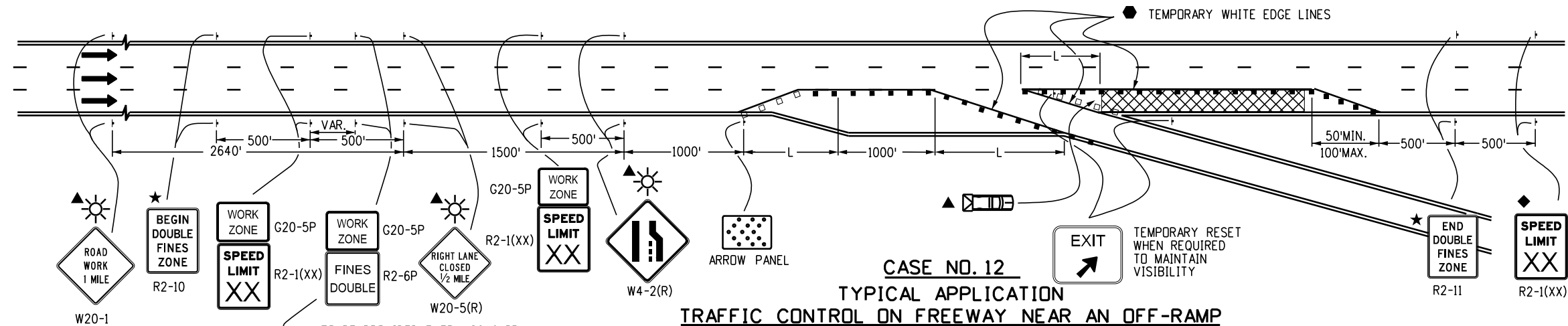
Issued By: Traffic Safety & Engineering Branch July 31, 2019

STANDARD PLAN NO.

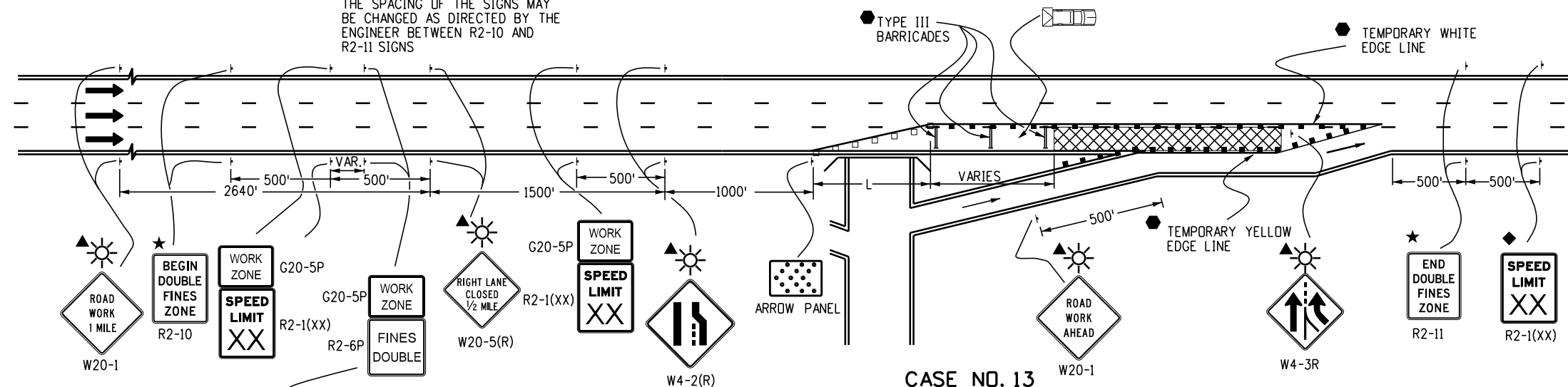
S-630-1

Standard Sheet No. 7 of 26

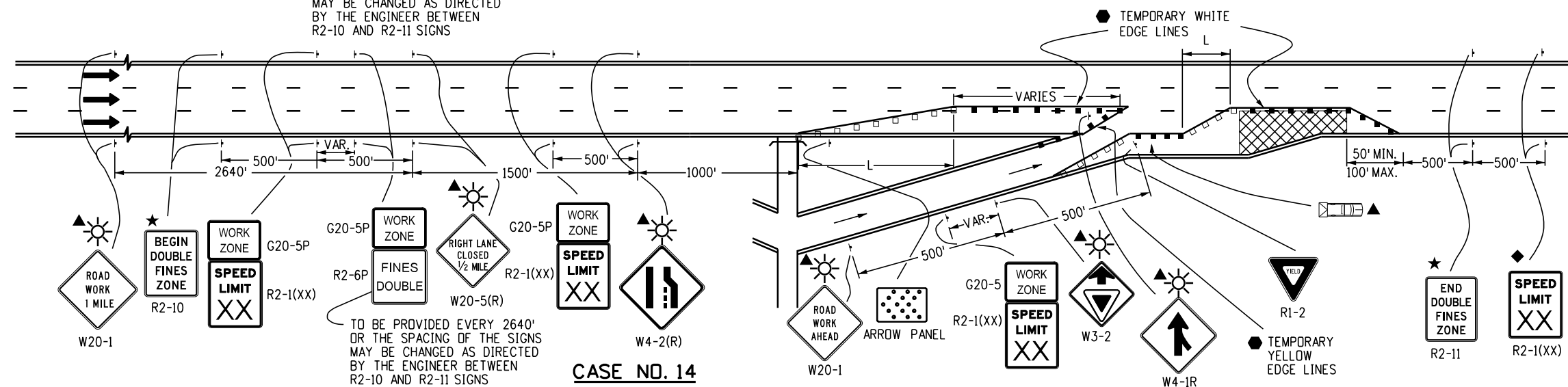
Project Sheet Number:



**CASE NO. 12**  
TYPICAL APPLICATION  
TRAFFIC CONTROL ON FREEWAY NEAR AN OFF-RAMP



**CASE NO. 13**  
TYPICAL APPLICATION - TRAFFIC CONTROL ON FREEWAY BEFORE AN ON-RAMP



**CASE NO. 14**  
TYPICAL APPLICATION - TRAFFIC CONTROL ON FREEWAY ALLOWING ACCESS FROM ON-RAMP

## LEGEND

- CHANNELIZING DEVICE: FOR TYPE OF DEVICE TO BE USED, SEE SCHEDULE OF TRAFFIC CONTROL DEVICES INCLUDED IN THE PLANS.
- DRUMS OR VERTICAL PANELS SHALL BE USED TO DELINEATE MERGING TAPERS, SHIFTING TAPERS, AND ONE LANE, TWO-WAY TRAFFIC TAPERS.

TYPE III BARRICADE

CONCRETE BARRIER (TEMPORARY)

FLAGGER STATION

DIRECTION OF TRAVEL

WORK AREA

### L TRANSITION TAPER LENGTH:

L = MINIMUM LENGTH OF TAPER  
SPEED 45 MPH OR MORE:  $L = S \times W$

SPEED 40 MPH OR LESS:  $L = \frac{WS^2}{60}$   
S = NUMERICAL VALUE OF SPEED LIMIT OR 85 PERCENTILE SPEED

W = WIDTH OF OFFSET

SHOULDER TAPER =  $1/3 L$

ADVANCE WARNING FLASHING OR SEQUENCING ARROW PANEL

CZ CLEAR ZONE (SEE GENERAL NOTE 17 ON SHEET 2).

THESE DEVICES ARE OPTIONAL. THEIR NEED SHALL BE DETERMINED BY DETOUR DESIGN AND/OR SCOPE OF CONSTRUCTION ACTIVITY, AND ARE REQUIRED WHEN THEY ARE INCLUDED IN THE SCHEDULE OF CONSTRUCTION CONTROL DEVICES.

THESE DEVICES ARE NOT OPTIONAL IF THE POSTED SPEED LIMIT IN THE WORK ZONE IS REDUCED.

VARIES BUFFER SPACE (SEE GENERAL NOTE 23).

REQUIRED WHEN WORK OCCUPIES THE LOCATION FOR MORE THAN 3 DAYS.

MOBILE ATTENUATOR

FLASHING BEACON

SEE FINES DOUBLE SIGNING NOTES ON SHEET 12.

## Computer File Information

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Last Modification Date: 01/14/26  
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| 01/14/26 | REMOVED G20-10/11                                                                      |
| 01/20/23 | Replaced R52-a(b) with R2-10(11)<br>Updated G20-11<br>Added Drum/Vertical Panel Symbol |

## Colorado Department of Transportation



2829 W. Howard Pl.  
Denver, CO 80204  
Phone: 303-757-9654  
FAX: 303-757-9219

Traffic Safety & Engineering

EB

## TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

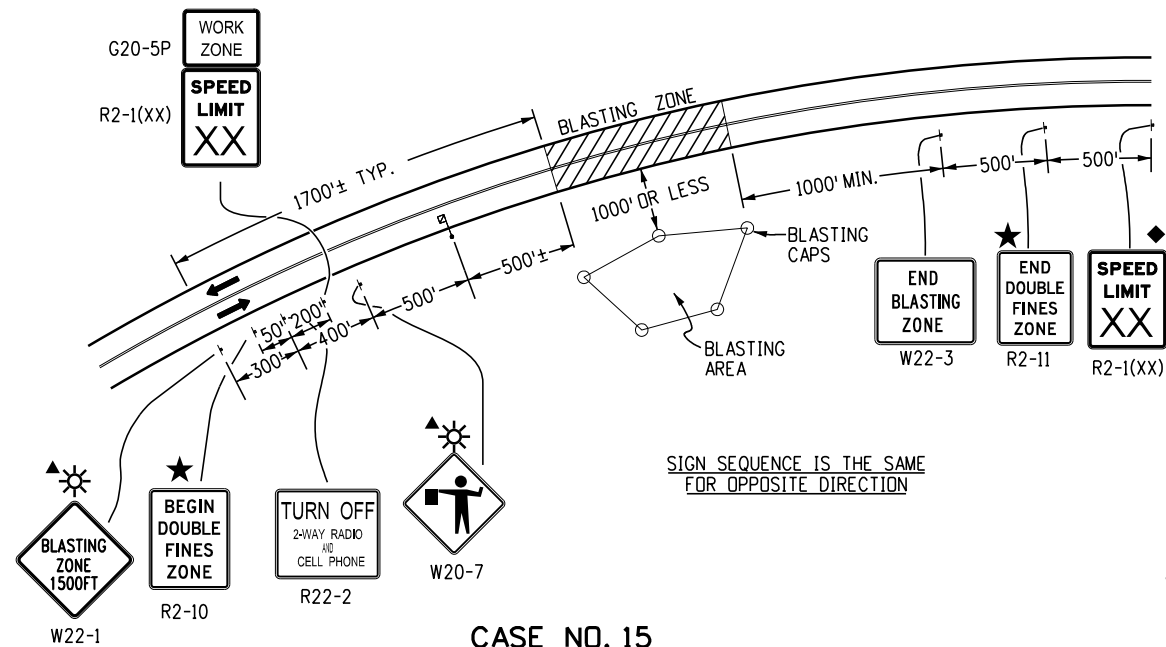
Issued By: Traffic Safety & Engineering Branch July 31, 2019

## STANDARD PLAN NO.

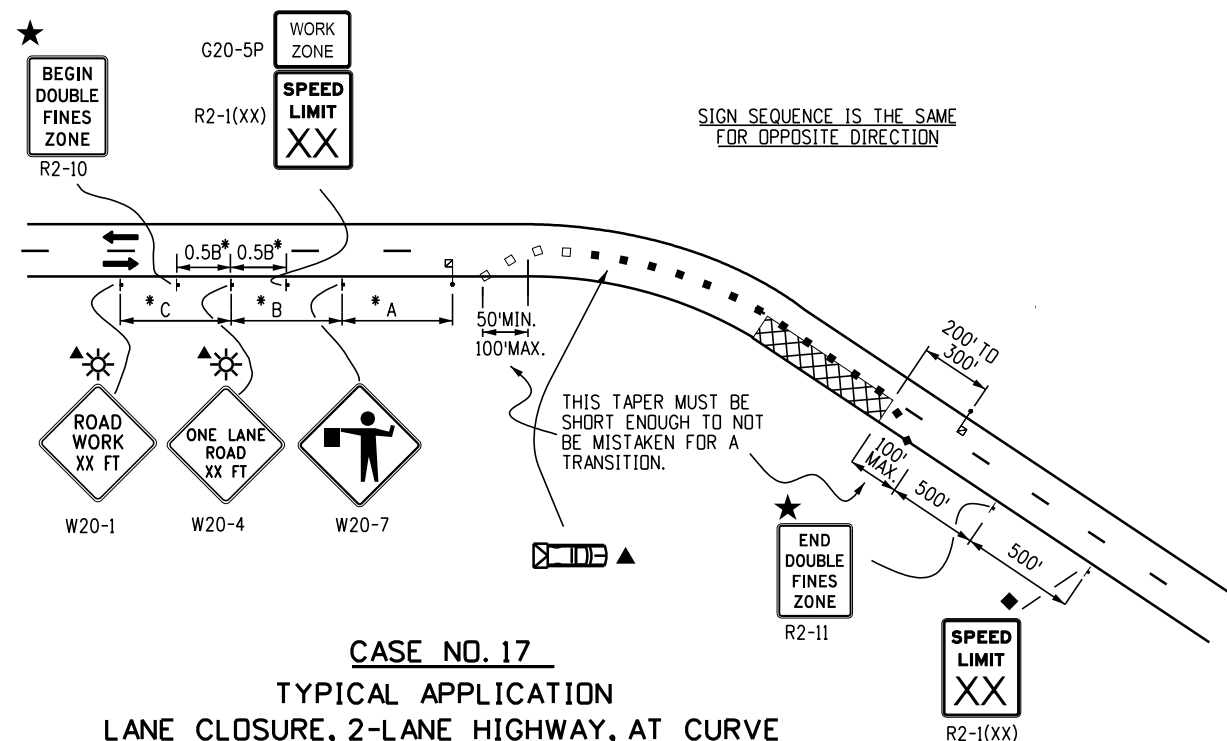
S-630-1

Standard Sheet No. 8 of 26

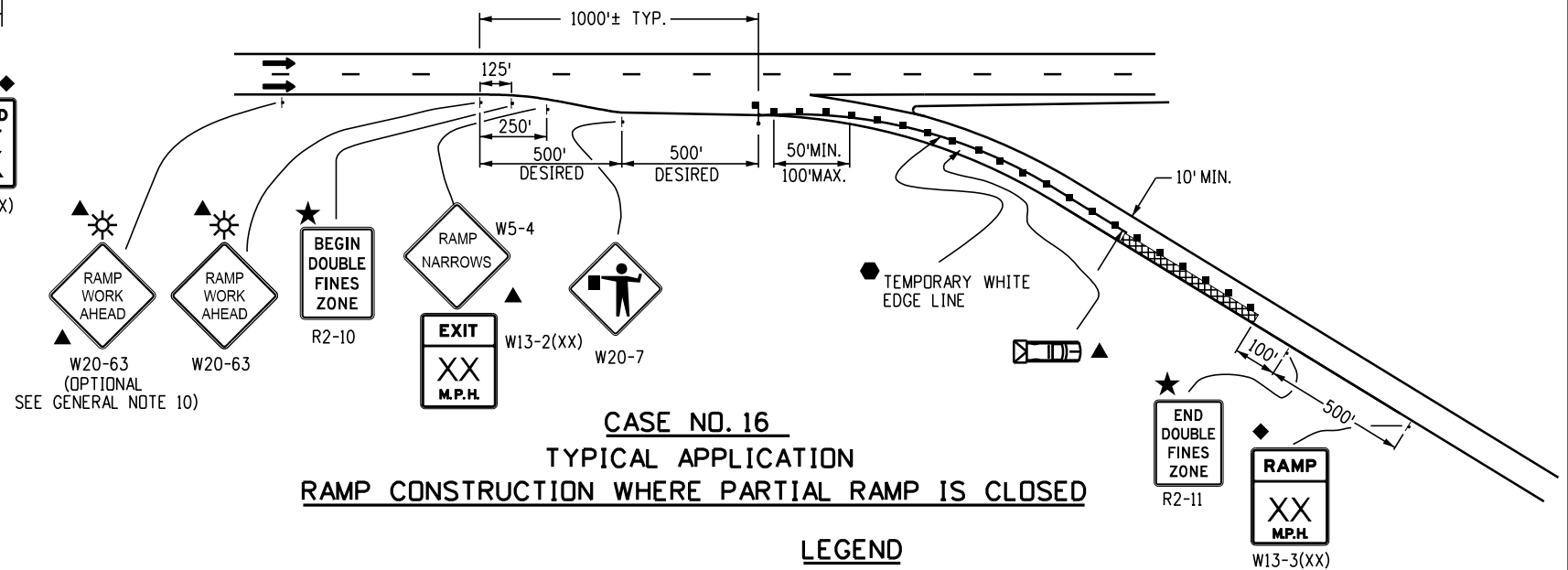
Project Sheet Number:



**CASE NO. 15**  
TYPICAL APPLICATION  
BLASTING ZONE



**CASE NO. 17**  
TYPICAL APPLICATION  
LANE CLOSURE, 2-LANE HIGHWAY, AT CURVE



**CASE NO. 16**  
TYPICAL APPLICATION  
RAMP CONSTRUCTION WHERE PARTIAL RAMP IS CLOSED

#### LEGEND

- CHANNELIZING DEVICE: FOR TYPE OF DEVICE TO BE USED, SEE SCHEDULE OF TRAFFIC CONTROL DEVICES INCLUDED IN THE PLANS.
- DRUMS OR VERTICAL PANELS SHALL BE USED TO DELINEATE MERGING TAPERS, SHIFTING TAPERS, AND ONE LANE, TWO-WAY TRAFFIC TAPERS.
- TYPE III BARRICADE
- CONCRETE BARRIER (TEMPORARY)
- FLAGGER STATION
- ← DIRECTION OF TRAVEL
- ▨ WORK AREA
- ADVANCE WARNING FLASHING OR SEQUENCING ARROW PANEL
- CZ CLEAR ZONE (SEE GENERAL NOTE 17 ON SHEET 2).
- ▲ THESE DEVICES ARE OPTIONAL. THEIR NEED SHALL BE DETERMINED BY DETOUR DESIGN AND/OR SCOPE OF CONSTRUCTION ACTIVITY, AND ARE REQUIRED WHEN THEY ARE INCLUDED IN THE SCHEDULE OF CONSTRUCTION CONTROL DEVICES.
- ◆ THESE DEVICES ARE NOT OPTIONAL IF THE POSTED SPEED LIMIT IN THE WORK ZONE IS REDUCED.
- ☀ FLASHING BEACON
- REQUIRED WHEN WORK OCCUPIES THE LOCATION FOR MORE THAN 3 DAYS.

**L** TRANSITION TAPER LENGTH:  
 L = MINIMUM LENGTH OF TAPER  
 SPEED 45 MPH OR MORE:  $L = S \times W$   
 SPEED 40 MPH OR LESS:  $L = \frac{WS^2}{60}$   
 S = NUMERICAL VALUE OF SPEED LIMIT OR 85 PERCENTILE SPEED  
 W = WIDTH OF OFFSET  
 SHOULDER TAPER = 1/3 L

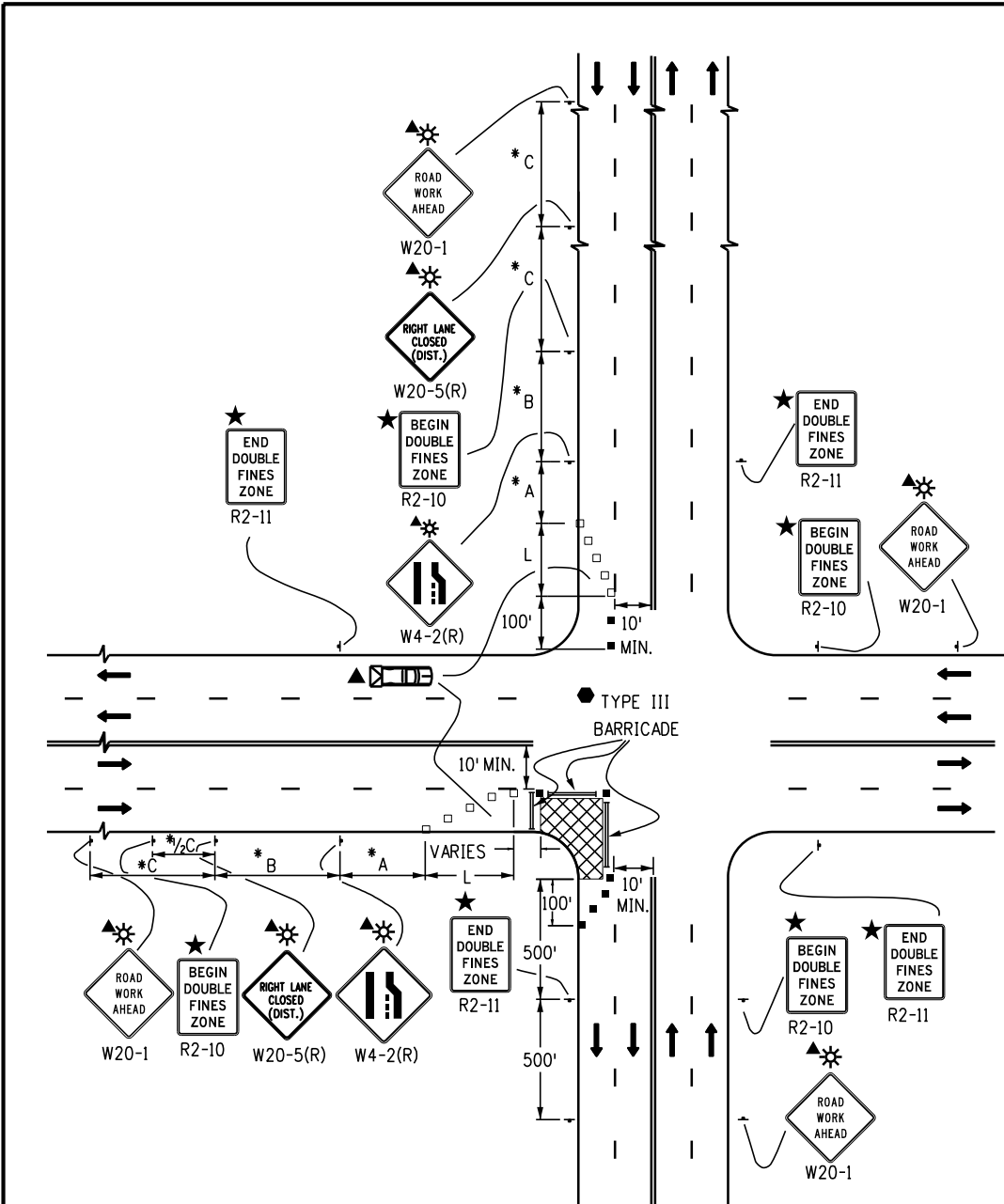
☐ MOBILE ATTENUATOR

★ SEE FINES DOUBLE SIGNING NOTES ON SHEET 12.

#### \*KEY TO ADVANCE SIGNING DISTANCES

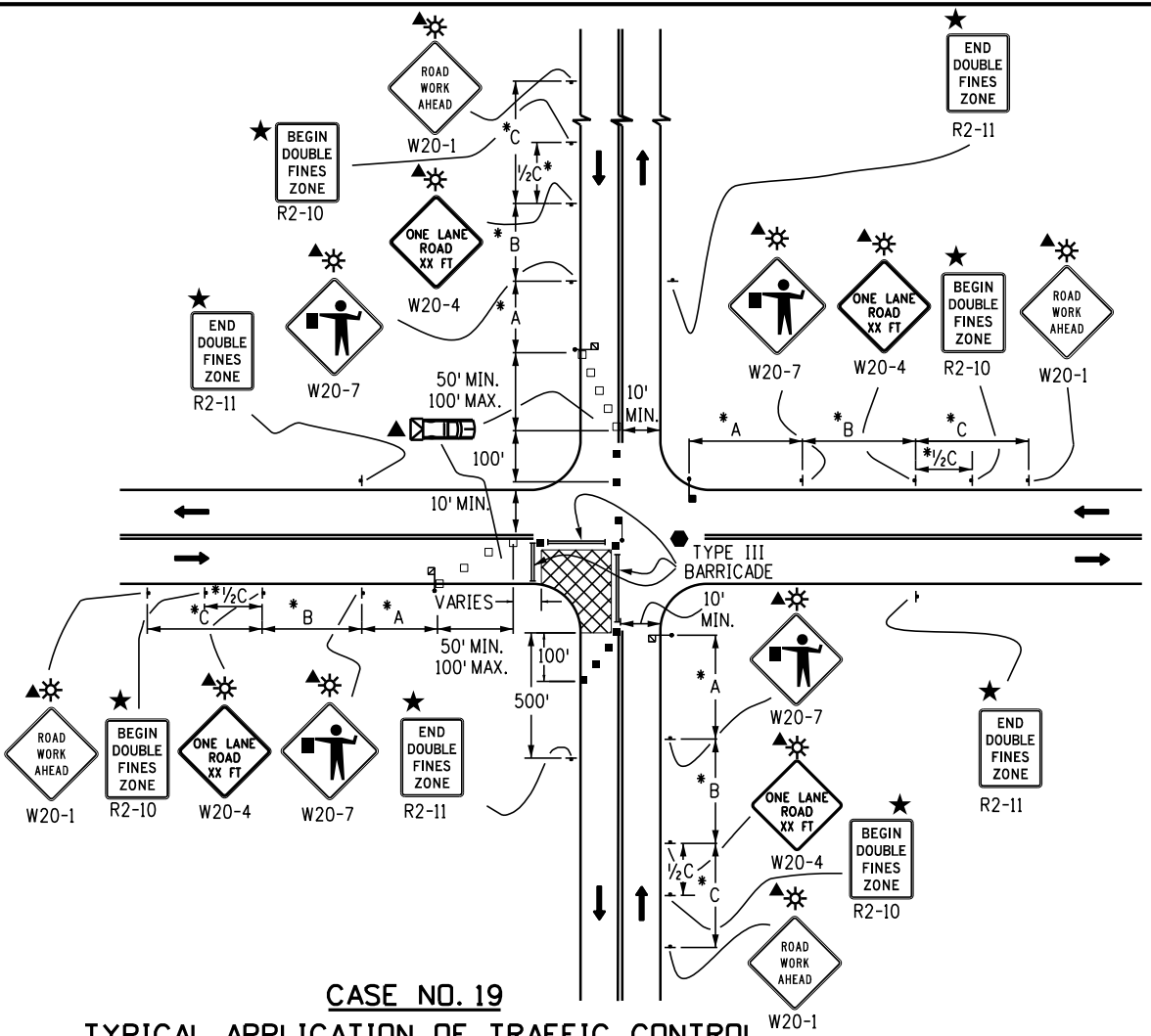
| ROAD TYPE          | DISTANCE BETWEEN SIGNS |      |      |
|--------------------|------------------------|------|------|
|                    | A                      | B    | C    |
| URBAN (<= 40 MPH)  | 100                    | 100  | 100  |
| URBAN (>= 45 MPH)  | 350                    | 350  | 350  |
| RURAL              | 500                    | 500  | 500  |
| EXPRESSWAY/FREEWAY | 1000                   | 1500 | 2640 |

| Computer File Information                                          |                                                                   | Sheet Revisions |                                                                                        | <div>Colorado Department of Transportation</div> <div><div>2829 W. Howard Pl.<br/>Denver, CO 80204<br/>Phone: 303-757-9654<br/>FAX: 303-757-9219</div></div> <div>Traffic Safety &amp; Engineering</div> <div>EB</div> | TRAFFIC CONTROLS<br>FOR HIGHWAY<br>CONSTRUCTION              |  | STANDARD PLAN NO.          |  |
|--------------------------------------------------------------------|-------------------------------------------------------------------|-----------------|----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|--|----------------------------|--|
| Creation Date: 07/04/12                                            | <div>R-2</div> <div>R-1</div> <div></div> <div></div> <div></div> | Date:           | Comments                                                                               |                                                                                                                                                                                                                                                                                                             | S-630-1                                                      |  | Standard Sheet No. 9 of 26 |  |
| Created By: Roybal                                                 |                                                                   | 01/14/26        | REMOVED G20-10/11                                                                      |                                                                                                                                                                                                                                                                                                             | Issued By: Traffic Safety & Engineering Branch July 31, 2019 |  | Project Sheet Number:      |  |
| Last Modification Date: 01/14/26                                   |                                                                   | 01/20/23        | Replaced R52-a(b) with R2-10(11)<br>Updated G20-11<br>Added Drum/Vertical Panel Symbol |                                                                                                                                                                                                                                                                                                             |                                                              |  |                            |  |
| Last Modified By: NRIVERA                                          |                                                                   |                 |                                                                                        |                                                                                                                                                                                                                                                                                                             |                                                              |  |                            |  |
| CAD Ver.: MicroStation V8    Scale: Not to Scale    Units: English |                                                                   |                 |                                                                                        |                                                                                                                                                                                                                                                                                                             |                                                              |  |                            |  |

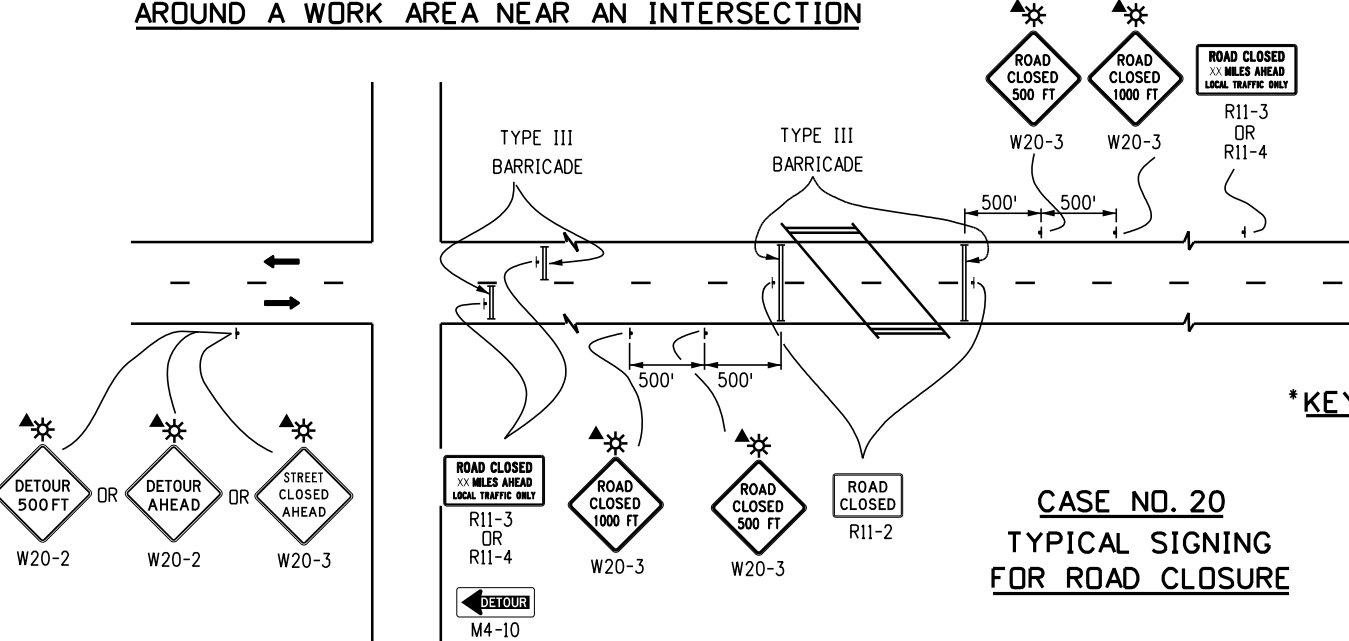


**CASE NO. 18**  
TYPICAL APPLICATION  
TRAFFIC CONTROL AROUND A WORK AREA  
NEAR AN INTERSECTION, ONE LANE CLOSED

- NOTES:**
- SIGN PLACEMENT SHOWN ON CASES 18 AND 19 TYPIFIES RURAL APPLICATIONS. URBAN APPLICATIONS REQUIRE THE SIGNS TO BE PLACED WITHIN ONE, OR PERHAPS TWO, BLOCKS.
  - TRUCK-MOUNTED ATTENUATORS (TMA) OPTIONAL FOR ALL CASES AS DETERMINED BY THE ENGINEER.



**CASE NO. 19**  
TYPICAL APPLICATION OF TRAFFIC CONTROL  
AROUND A WORK AREA NEAR AN INTERSECTION



**CASE NO. 20**  
TYPICAL SIGNING  
FOR ROAD CLOSURE

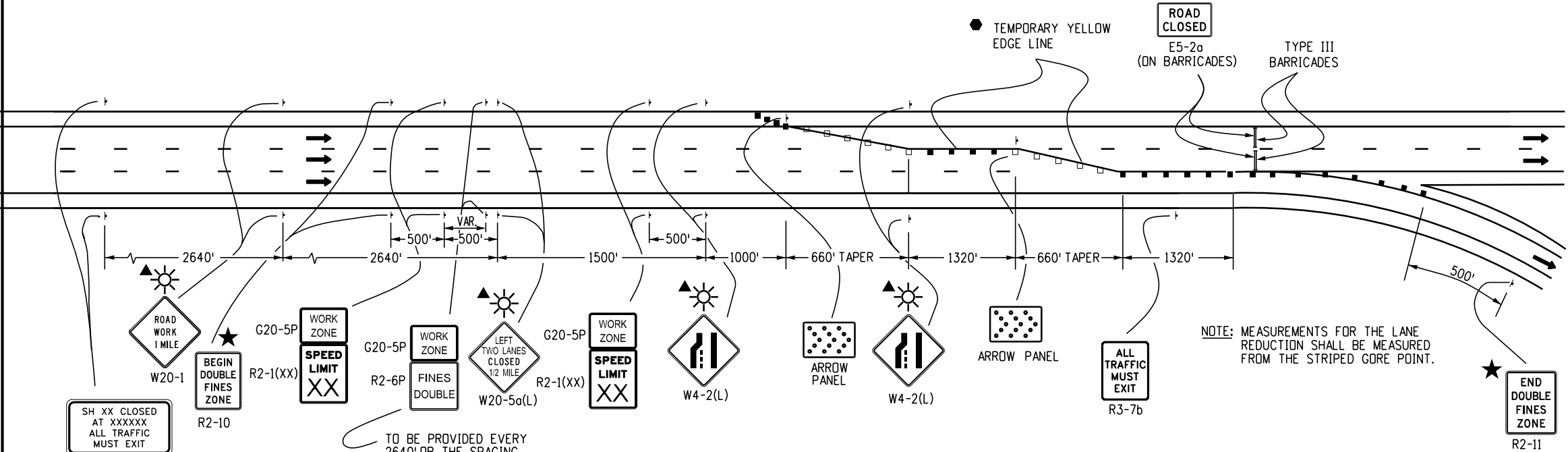
- LEGEND**
- CHANNELIZING DEVICE: FOR TYPE OF DEVICE TO BE USED, SEE SCHEDULE OF TRAFFIC CONTROL DEVICES INCLUDED IN THE PLANS.
  - DRUMS OR VERTICAL PANELS SHALL BE USED TO DELINEATE MERGING TAPERS, SHIFTING TAPERS, AND ONE LANE, TWO-WAY TRAFFIC TAPERS.
  - TYPE III BARRICADE
  - CONCRETE BARRIER (TEMPORARY)
  - FLAGGER STATION
  - DIRECTION OF TRAVEL
  - WORK AREA
- TRANSITION TAPER LENGTH:**  
 $L = \text{MINIMUM LENGTH OF TAPER}$   
 SPEED 45 MPH OR MORE:  $L = S \times W$   
 SPEED 40 MPH OR LESS:  $L = \frac{WS^2}{60}$   
 $S = \text{NUMERICAL VALUE OF SPEED LIMIT OR 85 PERCENTILE SPEED}$   
 $W = \text{WIDTH OF OFFSET}$   
 SHOULDER TAPER =  $1/3 L$
- MOBILE ATTENUATOR
- CZ CLEAR ZONE (SEE GENERAL NOTE 17 ON SHEET 2).
- FLASHING BEACON
- THESE DEVICES ARE OPTIONAL. THEIR NEED SHALL BE DETERMINED BY DETOUR DESIGN AND/OR SCOPE OF CONSTRUCTION ACTIVITY, AND ARE REQUIRED WHEN THEY ARE INCLUDED IN THE SCHEDULE OF CONSTRUCTION CONTROL DEVICES.
- VARIES BUFFER SPACE (SEE GENERAL NOTE 23 ON SHEET 2).
- REQUIRED WHEN WORK OCCUPIES THE LOCATION FOR MORE THAN 3 DAYS.
- SEE FINES DOUBLE SIGNING NOTES ON SHEET 12.

**\*KEY TO ADVANCE SIGNING DISTANCES**

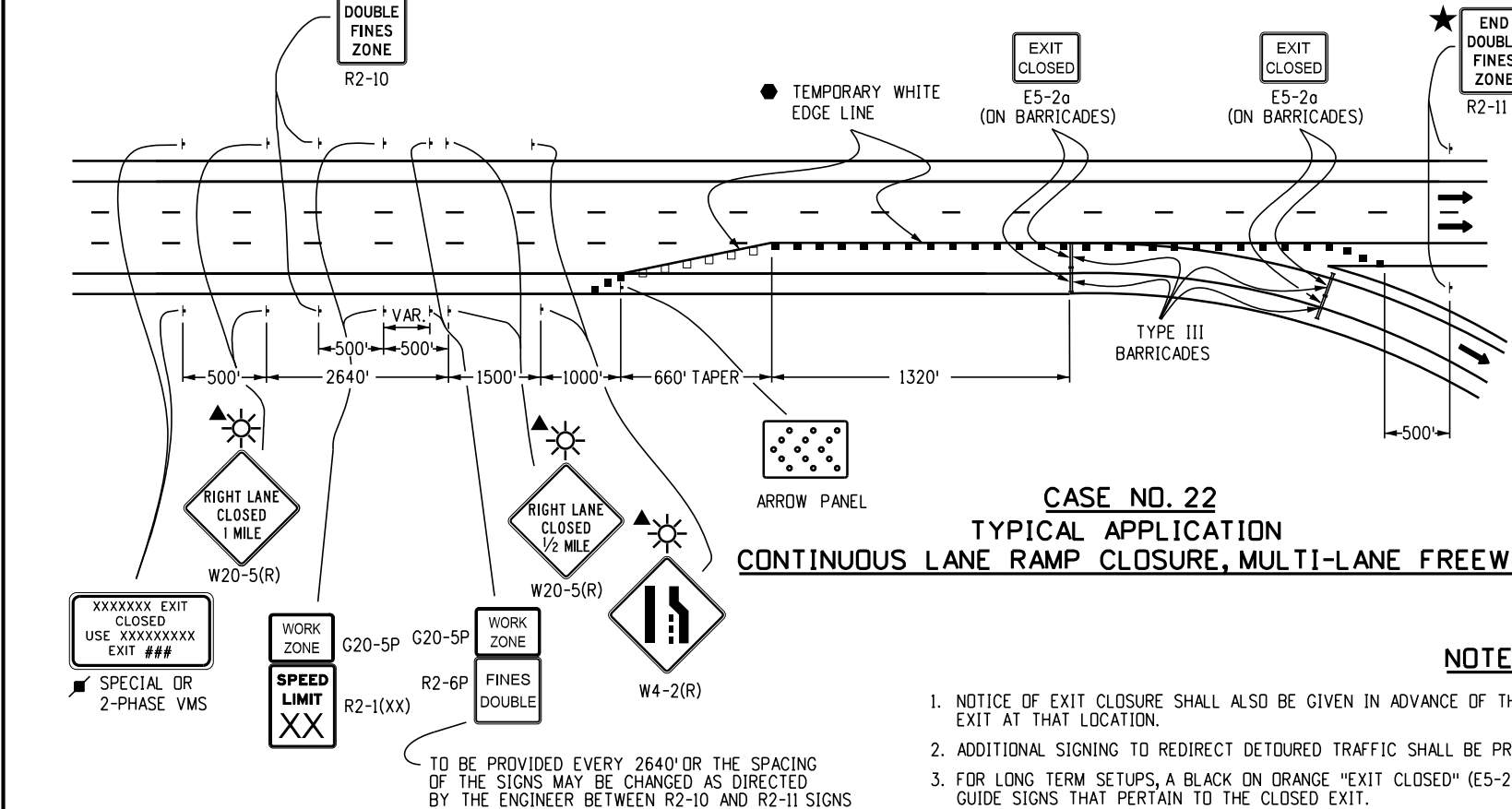
| ROAD TYPE          | DISTANCE BETWEEN SIGNS |      |      |
|--------------------|------------------------|------|------|
|                    | A                      | B    | C    |
| URBAN (<= 40 MPH)  | 100                    | 100  | 100  |
| URBAN (>= 45 MPH)  | 350                    | 350  | 350  |
| RURAL              | 500                    | 500  | 500  |
| EXPRESSWAY/FREEWAY | 1000                   | 1500 | 2640 |

LEGEND

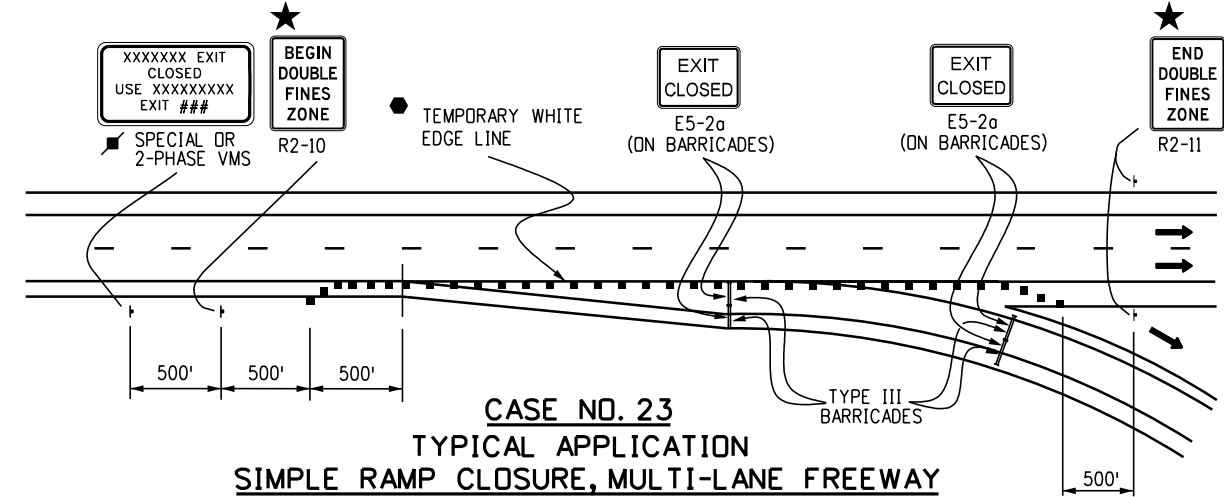
- ADVANCE WARNING FLASHING OR SEQUENCING ARROW PANEL
- THESE DEVICES ARE OPTIONAL. THEIR NEED WILL BE DETERMINED BY THE DESIGNER BASED ON DETOUR DESIGN AND/OR SCOPE OF THE CONSTRUCTION ACTIVITY, AND ARE REQUIRED WHEN THEY ARE INCLUDED IN THE PLANS.
- REQUIRED WHEN WORK OCCUPIES THE LOCATION FOR MORE THAN 3 DAYS.
- CHANNELIZING DEVICE: FOR TYPE OF DEVICE TO BE USED, SEE SCHEDULE OF TRAFFIC CONTROL DEVICES INCLUDED IN THE PLANS.
- DRUMS OR VERTICAL PANELS SHALL BE USED TO DELINEATE MERGING TAPERS, SHIFTING TAPERS, AND ONE LANE, TWO-WAY TRAFFIC TAPERS.
- TYPE III BARRICADE
- DIRECTION OF TRAVEL
- TRANSITION TAPER LENGTH:  
 $L = \text{MINIMUM LENGTH OF TAPER}$   
SPEED 45 MPH OR MORE:  $L = S \times W$   
SPEED 40 MPH OR LESS:  $L = \frac{WS^2}{60}$   
S = NUMERICAL VALUE OF SPEED LIMIT OR 85 PERCENTILE SPEED  
W = WIDTH OF OFFSET  
SHOULDER TAPER =  $\frac{1}{3} L$
- CLOSURE AND EXIT MESSAGES ON SIGN LEGEND(S) SHOULD BE MODIFIED TO FIT THE SITUATION.
- FLASHING BEACON
- SEE FINES DOUBLE SIGNING NOTES ON SHEET 12.



CASE NO. 21  
TYPICAL APPLICATION  
FULL CLOSURE, MULTI-LANE FREEWAY



CASE NO. 22  
TYPICAL APPLICATION  
CONTINUOUS LANE RAMP CLOSURE, MULTI-LANE FREEWAY



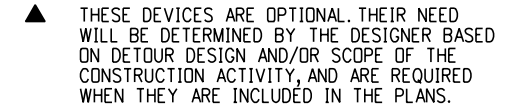
CASE NO. 23  
TYPICAL APPLICATION  
SIMPLE RAMP CLOSURE, MULTI-LANE FREEWAY

NOTES

- NOTICE OF EXIT CLOSURE SHALL ALSO BE GIVEN IN ADVANCE OF THE PREVIOUS EXIT TO PROVIDE MOTORISTS WITH THE OPTION TO EXIT AT THAT LOCATION.
- ADDITIONAL SIGNING TO REDIRECT DETOURED TRAFFIC SHALL BE PROVIDED FOR IN THE PROJECT'S METHOD OF HANDLING TRAFFIC.
- FOR LONG TERM SETUPS, A BLACK ON ORANGE "EXIT CLOSED" (E5-2a) PANEL SHALL BE MOUNTED DIAGONALLY ACROSS ALL EXISTING GUIDE SIGNS THAT PERTAIN TO THE CLOSED EXIT.

| Computer File Information                                    |  |  | Sheet Revisions |                                                                                        | Colorado Department of Transportation                                                                                                                                    | TRAFFIC CONTROLS<br>FOR HIGHWAY<br>CONSTRUCTION | STANDARD PLAN NO.           |  |
|--------------------------------------------------------------|--|--|-----------------|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|-----------------------------|--|
| Creation Date: 07/04/12                                      |  |  | Date:           | Comments                                                                               |                                                                                                                                                                          |                                                 | S-630-1                     |  |
| Created By: Nakao                                            |  |  | 01/14/26        | REMOVED G20-10/11                                                                      |  2829 W. Howard Pl.<br>Denver, CO 80204<br>Phone: 303-757-9654<br>FAX: 303-757-9219 |                                                 | Standard Sheet No. 11 of 26 |  |
| Last Modification Date: 01/14/26                             |  |  | 01/20/23        | Replaced R52-a(b) with R2-10(11)<br>Updated G20-11<br>Added Drum/Vertical Panel Symbol |                                                                                                                                                                          |                                                 |                             |  |
| Last Modified By: NRIVERA                                    |  |  |                 |                                                                                        | Traffic Safety & Engineering                                                                                                                                             | EB                                              | Project Sheet Number:       |  |
| CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English |  |  |                 |                                                                                        |                                                                                                                                                                          |                                                 |                             |  |

## LEGEND



**FINES DOUBLE SIGNING NOTES:**

1. SIGNS SHALL NOT BE PLACED SOONER THAN FOUR HOURS BEFORE WORK IS TO BEGIN AND SHALL BE REMOVED AS SOON AS WORK ACTIVITIES ARE CONCLUDED, UNLESS POTENTIAL HAZARDS INTRODUCED AS A RESULT OF THE WORK ARE STILL PRESENT AT THE END OF THE WORK DAY. IF SIGNS ARE LEFT IN PLACE AFTER WORK ACTIVITIES, THE TRAFFIC CONTROL SUPERVISOR SHALL MAKE AN ENTRY IN THEIR DAILY DIARY THAT JUSTIFIES THEIR USE.

"HAZARDS" INCLUDE BUT ARE NOT LIMITED TO:

EDGE DROP OFFS  
EQUIPMENT, WORKERS OR NON-SHIELDED OBJECTS IN THE CLEAR ZONE  
ROUGH PAVEMENT  
MAJOR CHANGE IN ALIGNMENT  
REDUCED SHOULDER WIDTH  
TEMPORARY GUARD RAIL OR BARRIER  
LANE CLOSURE

2. SIGNS SHALL ONLY BE PLACED WHERE WORKERS ARE PRESENT IN THE ROADWAY OR CLEAR ZONE OR ARE AT RISK, OR WHERE THERE ARE HAZARDS IN THE TRAVELWAY, SHOULDERS OR CLEAR ZONE.

3. SIGNS SHOULD BE PLACED SO THAT MOTORISTS IMMEDIATELY ASSOCIATE THE SIGNS WITH PRESENT WORK ACTIVITIES. IF THE ZONE OF WORK ACTIVITY MOVES, THE SIGNS SHOULD BE MOVED ACCORDINGLY.

4. SIGNING SHOWN IS REQUIRED TO ENFORCE DOUBLE FINES IN A WORK ZONE. ADDITIONAL SIGNING SHALL BE IN ACCORDANCE WITH THAT NORMALLY REQUIRED FOR THE PARTICULAR WORK ZONE. PLACEMENT OF "FINES DOUBLE" SIGNING MAY BE ADJUSTED AS NEEDED TO PROVIDE A MINIMUM 250' SPACING BETWEEN OTHER SIGNING REQUIRED FOR THE SPECIFIC WORK ZONE SETUP.



TO BE PROVIDED EVERY  
2640' OR THE SPACING  
OF THE SIGNS MAY  
BE CHANGED AS DIRECTED  
BY THE ENGINEER BETWEEN  
R2-10 AND R2-11 SIGNS

ADDITIONAL SIGNS SHOULD BE  
ADDED AFTER ALL ACCESSES  
THAT FEED SIGNIFICANT TRAFFIC  
TO THE HIGHWAY.

TO BE PROVIDED EVERY  
2640' OR THE SPACING  
OF THE SIGNS MAY  
— BE CHANGED AS DIRECTED  
BY THE ENGINEER BETWEEN  
R2-10 AND R2-11 SIGNS

# CASE NO. 24

## TYPICAL APPLICATION

"FINES DOUBLE IN WORK ZONE" SIGNING  
(WITH SPEED REDUCTION)

|                                                                    |  |                                                                          |                 |                                                    |                                                                                                                                                                                                                                                                                                                                       |                                                 |  |                                                              |  |
|--------------------------------------------------------------------|--|--------------------------------------------------------------------------|-----------------|----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|--|--------------------------------------------------------------|--|
| Computer File Information                                          |  | <div><div><div>R-2</div><div>R-1</div><div></div><div></div></div></div> | Sheet Revisions |                                                    | <div><div><div><div>Colorado Department of Transportation</div><div><div><div><div></div><div></div></div><div><div>CDOT</div></div></div><div><div>2829 W. Howard Pl.<br/>Denver, CO 80204<br/>Phone: 303-757-9654<br/>FAX: 303-757-9219</div><div>Traffic Safety &amp; Engineering</div></div><div>EB</div></div></div></div></div> | TRAFFIC CONTROLS<br>FOR HIGHWAY<br>CONSTRUCTION |  | STANDARD PLAN NO.                                            |  |
| Creation Date: 07/04/12                                            |  |                                                                          | Date:           | Comments                                           |                                                                                                                                                                                                                                                                                                                                       | S-630-1                                         |  |                                                              |  |
| Created By: Roybal                                                 |  |                                                                          | 01/14/26        | REMOVED G20-10/11                                  |                                                                                                                                                                                                                                                                                                                                       |                                                 |  |                                                              |  |
| Last Modification Date: 01/14/26                                   |  |                                                                          | 01/20/23        | Replaced R52-a(b) with R2-10(11)<br>Updated G20-11 |                                                                                                                                                                                                                                                                                                                                       |                                                 |  | Standard Sheet No. 12 of 26                                  |  |
| Last Modified By: NRIVERA                                          |  |                                                                          |                 |                                                    |                                                                                                                                                                                                                                                                                                                                       |                                                 |  |                                                              |  |
| CAD Ver.: MicroStation V8    Scale: Not to Scale    Units: English |  |                                                                          |                 |                                                    |                                                                                                                                                                                                                                                                                                                                       |                                                 |  | Issued By: Traffic Safety & Engineering Branch July 31, 2019 |  |
|                                                                    |  |                                                                          |                 |                                                    |                                                                                                                                                                                                                                                                                                                                       | Project Sheet Number:                           |  |                                                              |  |



## LEGEND

- CHANNELIZING DEVICE; FOR TYPE OF DEVICE TO BE USED, SEE SCHEDULE OF TRAFFIC CONTROL DEVICES INCLUDED IN THE PLANS. DRUMS OR VERTICAL PANELS SHALL BE USED TO DELINEATE THE LANE CLOSURE TAPER.

TYPE III BARRICADE

CONCRETE BARRIER (TEMPORARY)

FLAGGER STATION

DIRECTION OF TRAVEL

WORK AREA

L TRANSITION TAPER LENGTH:

L = MINIMUM LENGTH OF TAPER

SPEED 45 MPH OR MORE:  $L = S \times W$

S = NUMERICAL VALUE OF SPEED LIMIT OR 85 PERCENTILE SPEED

W = WIDTH OF OFFSET

SHOULDER TAPER =  $1/3 L$

ADVANCE WARNING FLASHING OR SEQUENCING ARROW PANEL

CZ CLEAR ZONE (SEE GENERAL NOTE 17 ON SHEET 2).

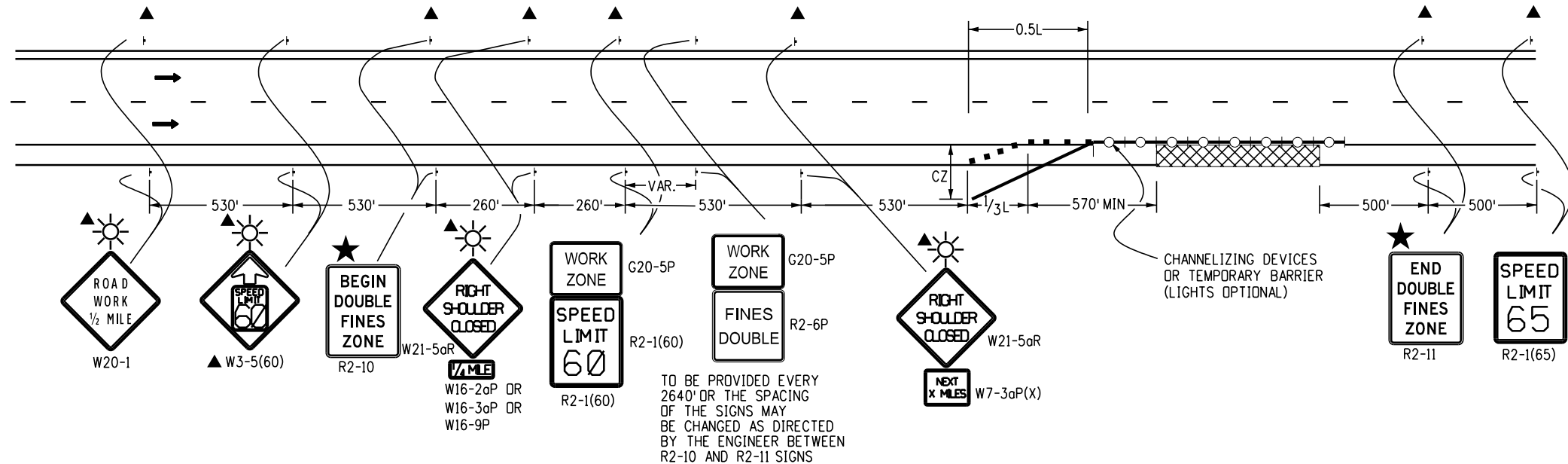
THESE DEVICES ARE OPTIONAL. THEIR NEED SHALL BE DETERMINED BY TRAFFIC VOLUMES AND/OR SCOPE OF CONSTRUCTION ACTIVITY, AND ARE REQUIRED WHEN THEY ARE INCLUDED IN THE SCHEDULE OF CONSTRUCTION CONTROL DEVICES.

REQUIRED WHEN WORK OCCUPIES THE LOCATION FOR MORE THAN 3 DAYS.

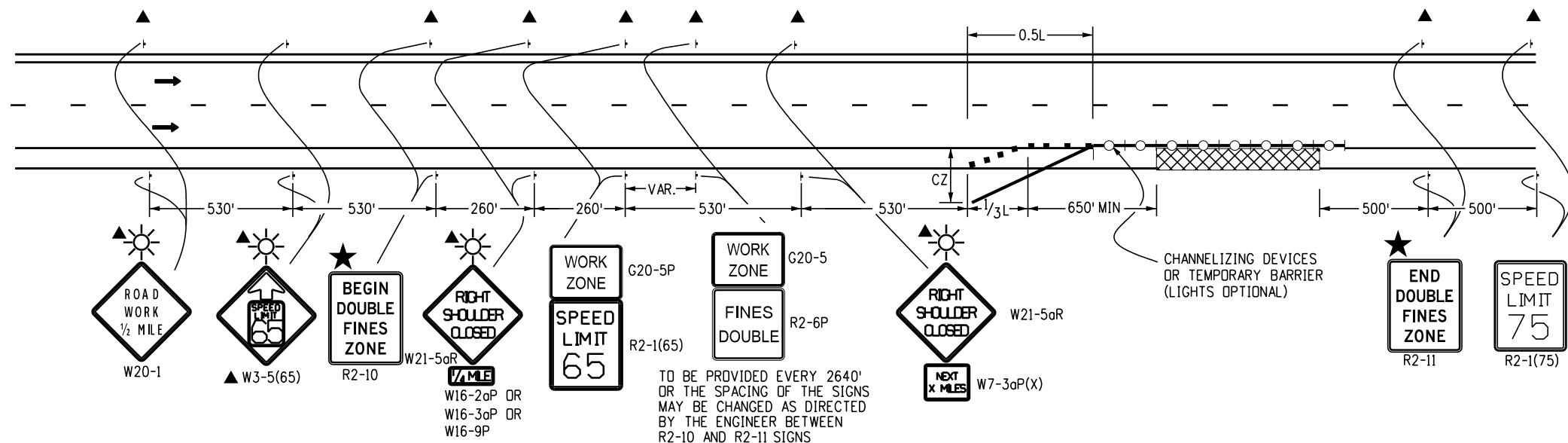
MOBILE ATTENUATOR

FLASHING BEACON

SEE FINES DOUBLE SIGNING NOTES ON SHEET 12.



**CASE NO. 26**  
**TYPICAL APPLICATION**  
**SHOULDER WORK - FREEWAY/EXPRESSWAY w/ 65 MPH SPEED LIMIT**  
 WHEN HAZARDS (WORKERS, EQUIPMENT, OR TEMPORARY BARRIER) ARE WITHIN 8 FT OF TRAVEL WAY



**CASE NO. 27**  
**TYPICAL APPLICATION**  
**SHOULDER WORK - FREEWAY/EXPRESSWAY w/ 75 MPH SPEED LIMIT**  
 WHEN HAZARDS (WORKERS, EQUIPMENT, OR TEMPORARY BARRIER) ARE WITHIN 10 FT OF TRAVEL WAY

### Computer File Information

Creation Date: 07/04/12  
 Created By: Roybal  
 Last Modification Date: 01/14/26  
 Last Modified By: NRIVERA  
 CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English

### Sheet Revisions

| Date:    | Comments                                           |
|----------|----------------------------------------------------|
| 01/14/26 | REMOVED G20-11                                     |
| 01/20/23 | Replaced R52-a(b) with R2-10(11)<br>Updated G20-11 |

### Colorado Department of Transportation



2829 W. Howard Pl.  
 Denver, CO 80204  
 Phone: 303-757-9654  
 FAX: 303-757-9219

Traffic Safety & Engineering

EB

## TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

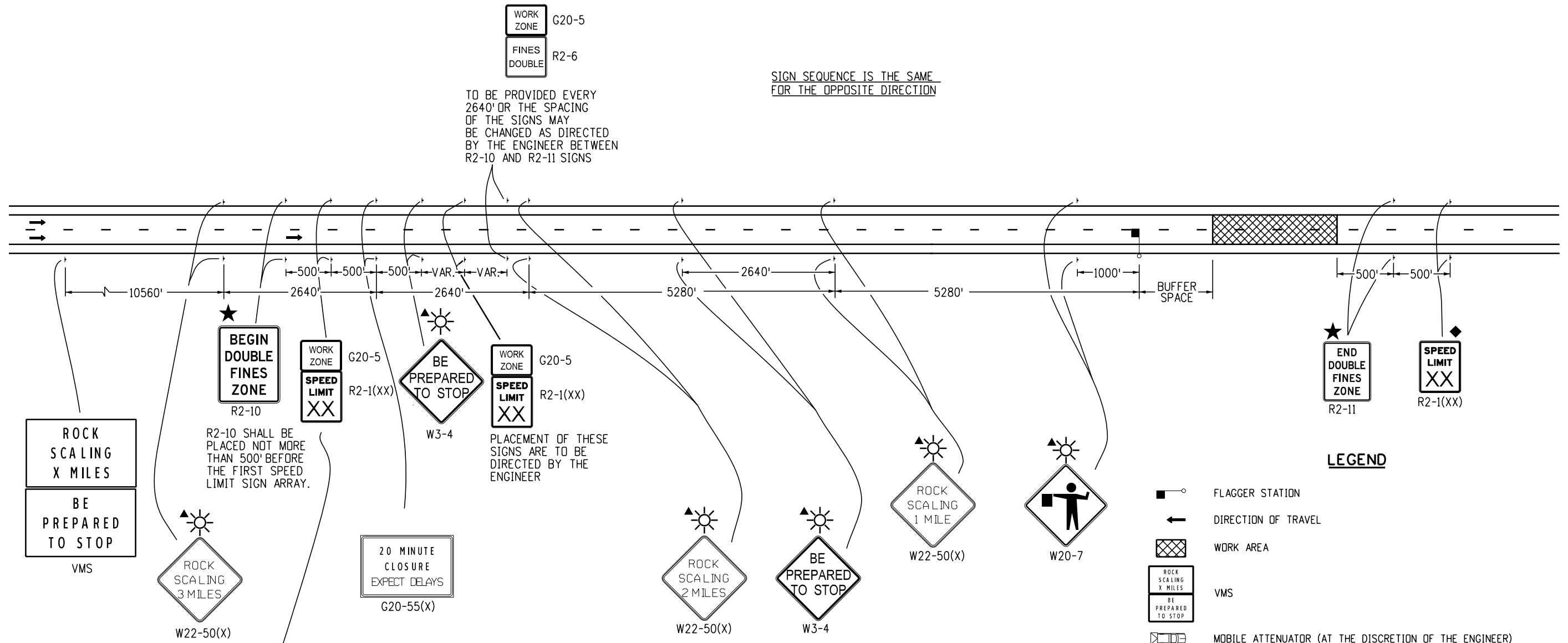
Issued By: Traffic Safety & Engineering Branch July 31, 2019

### STANDARD PLAN NO.

S-630-1

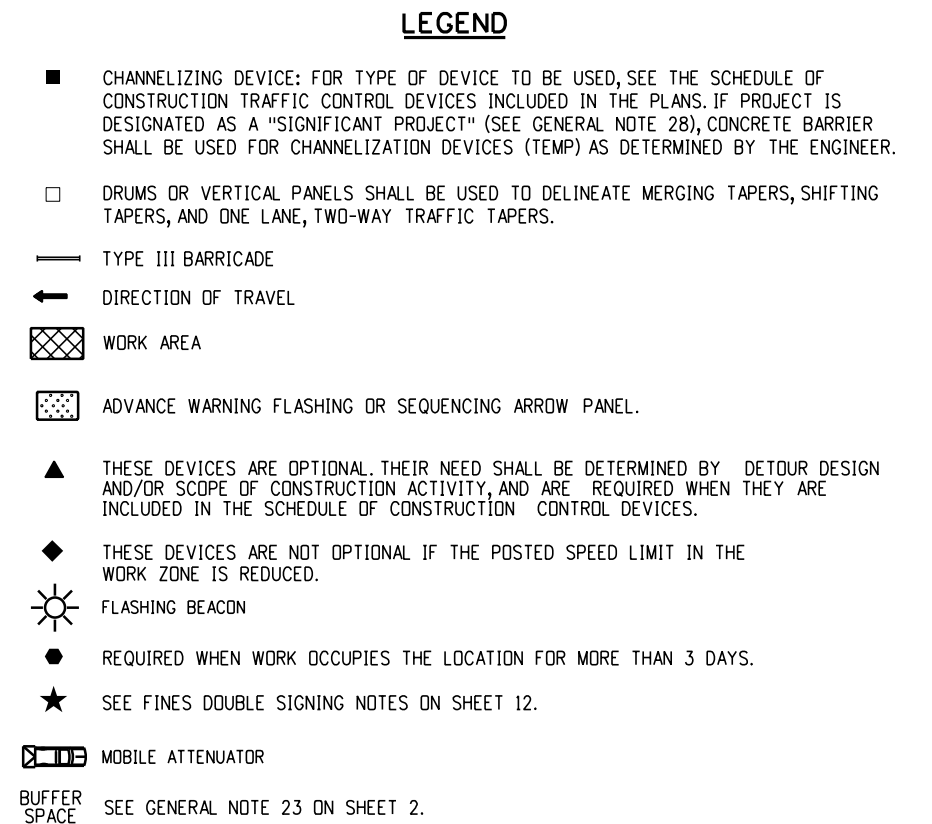
Standard Sheet No. 14 of 26

Project Sheet Number:



**CASE NO. 28**  
**TYPICAL APPLICATION**  
**ROCK SCALING - ROAD CLOSURE, 4-LANE DIVIDED HIGHWAY**

| Computer File Information                                          |  | <div>R-2</div> <div>R-1</div> <div></div> <div></div> | Sheet Revisions |                                                              | <div>Colorado Department of Transportation</div> <div><div></div><div>2829 W. Howard Pl.<br/>Denver, CO 80204<br/>Phone: 303-757-9654<br/>FAX: 303-757-9219</div></div> <div>Traffic Safety &amp; Engineering</div> <div>EB</div> | TRAFFIC CONTROLS<br>FOR HIGHWAY<br>CONSTRUCTION |  | STANDARD PLAN NO.           |  |
|--------------------------------------------------------------------|--|-------------------------------------------------------|-----------------|--------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|--|-----------------------------|--|
| Creation Date: 07/04/12                                            |  |                                                       | Date:           | Comments                                                     |                                                                                                                                                                                                                                                                                                                        | S-630-1                                         |  |                             |  |
| Created By: Roybal                                                 |  |                                                       | 01/14/26        | REMOVED G20-10/11                                            |                                                                                                                                                                                                                                                                                                                        |                                                 |  |                             |  |
| Last Modification Date: 01/14/26                                   |  |                                                       | 01/20/23        | Replaced R52-a(b) with R2-10(11)<br>Updated G20-11           |                                                                                                                                                                                                                                                                                                                        |                                                 |  | Standard Sheet No. 15 of 26 |  |
| Last Modified By: NRIVERA                                          |  |                                                       |                 |                                                              |                                                                                                                                                                                                                                                                                                                        |                                                 |  |                             |  |
| CAD Ver.: MicroStation V8    Scale: Not to Scale    Units: English |  |                                                       |                 |                                                              |                                                                                                                                                                                                                                                                                                                        |                                                 |  | Project Sheet Number:       |  |
|                                                                    |  |                                                       |                 | Issued By: Traffic Safety & Engineering Branch July 31, 2019 |                                                                                                                                                                                                                                                                                                                        |                                                 |  |                             |  |



**L**      TRANSITION TAPER LENGTH:

L = MINIMUM LENGTH OF TAPER

SPEED 45 MPH OR MORE:  $L = S \times W$

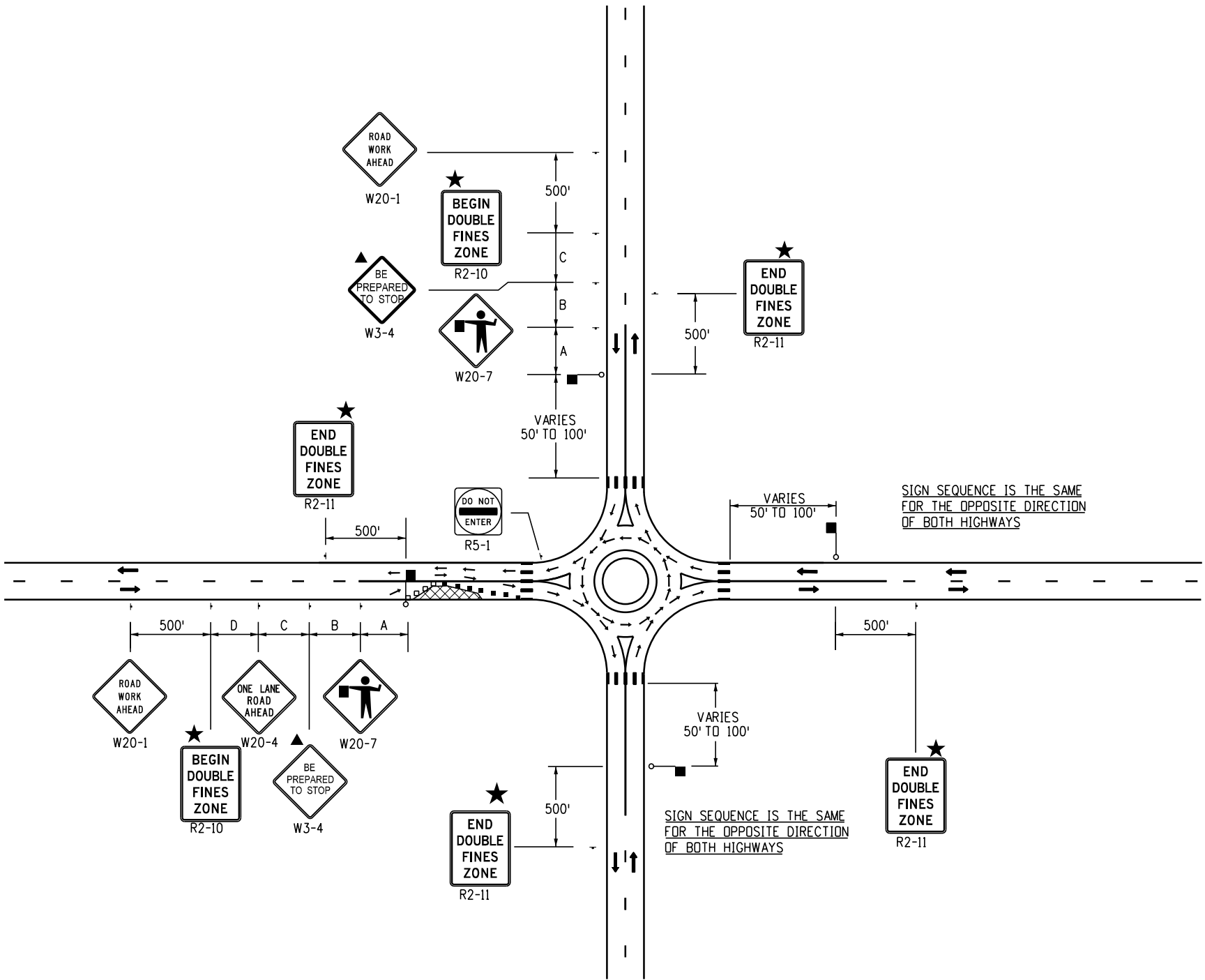
SPEED 40 MPH OR LESS:  $L = \frac{WS^2}{60}$

S = NUMERICAL VALUE OF SPEED LIMIT  
OR 85 PERCENTILE SPEED

W = WIDTH OF OFFSET

SHOULDER TAPER =  $1/3 L$

|                                                                    |       |                 |                                  |                                                                                                                                                                                                                                                                                                             |                                                 |                                                              |                   |                       |  |
|--------------------------------------------------------------------|-------|-----------------|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|--------------------------------------------------------------|-------------------|-----------------------|--|
| Computer File Information                                          |       | Sheet Revisions |                                  | <div>Colorado Department of Transportation</div> <div><div>2829 W. Howard Pl.<br/>Denver, CO 80204<br/>Phone: 303-757-9654<br/>FAX: 303-757-9219</div></div> <div>Traffic Safety &amp; Engineering</div> <div>EB</div> | TRAFFIC CONTROLS<br>FOR HIGHWAY<br>CONSTRUCTION |                                                              | STANDARD PLAN NO. |                       |  |
| Creation Date: 07/04/12                                            |       | Date:           | Comments                         |                                                                                                                                                                                                                                                                                                             | S-630-1                                         |                                                              |                   |                       |  |
| Created By: Roybal                                                 | (R-4) | 01/14/26        | REMOVED G20-10/11                |                                                                                                                                                                                                                                                                                                             |                                                 |                                                              |                   |                       |  |
| Last Modification Date: 01/14/26                                   | (R-3) | 09/22/25        | Revised sign sequence.           |                                                                                                                                                                                                                                                                                                             |                                                 |                                                              |                   |                       |  |
| Last Modified By: NRIVERA                                          | (R-2) | 04/30/24        | REVISED G20-11 LEGEND            |                                                                                                                                                                                                                                                                                                             |                                                 |                                                              |                   |                       |  |
| CAD Ver.: MicroStation V8    Scale: Not to Scale    Units: English | (R-1) | 01/20/23        | Replaced R52-a(b) with R2-10(11) |                                                                                                                                                                                                                                                                                                             |                                                 | Issued By: Traffic Safety & Engineering Branch July 31, 2019 |                   | Project Sheet Number: |  |

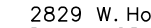


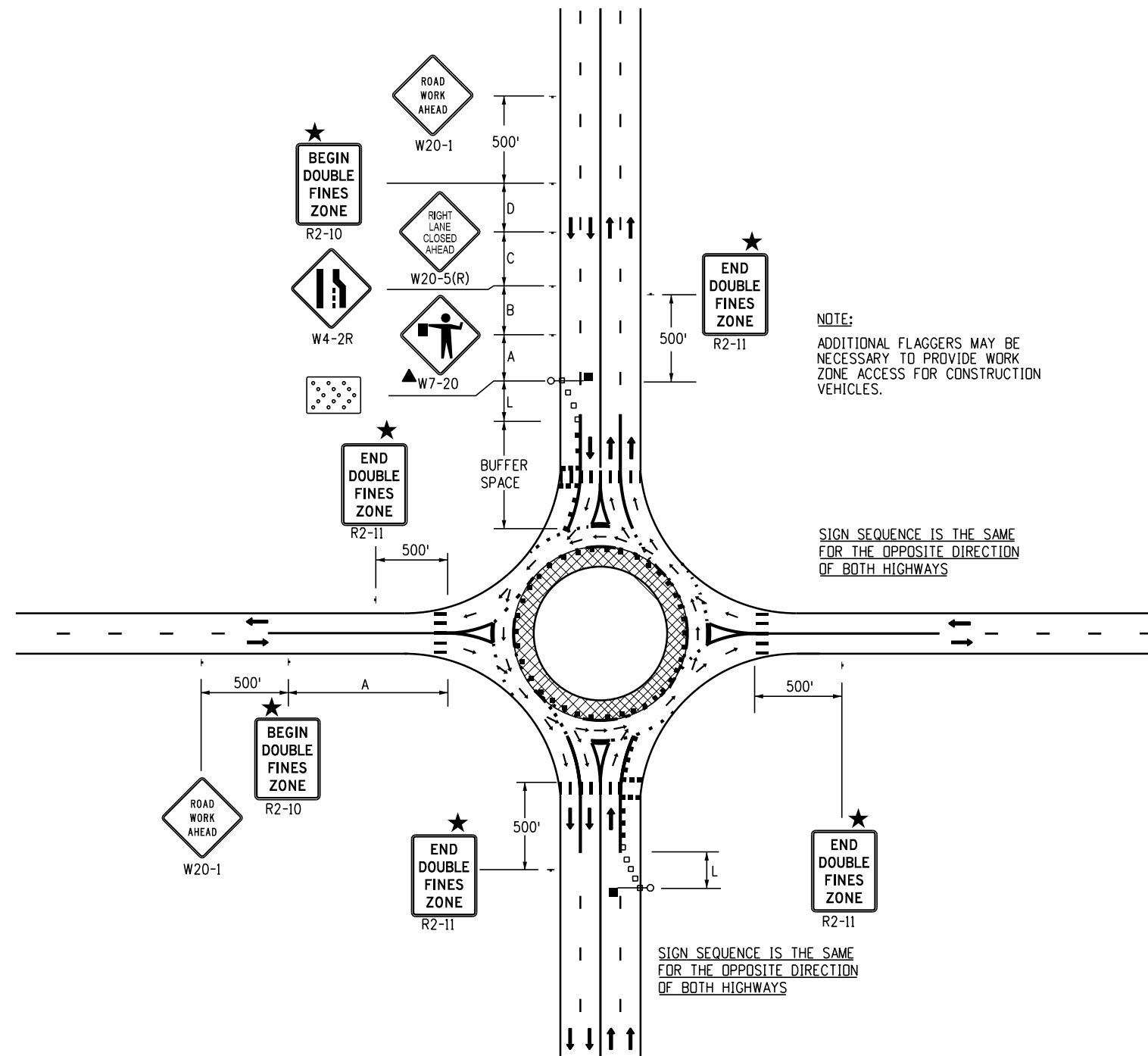
LEGEND

- CHANNELIZING DEVICE: FOR TYPE OF DEVICE TO BE USED, SEE THE SCHEDULE OF CONSTRUCTION TRAFFIC CONTROL DEVICES INCLUDED IN THE PLANS. IF PROJECT IS DESIGNATED AS A "SIGNIFICANT PROJECT" (SEE GENERAL NOTE 28), CONCRETE BARRIER SHALL BE USED FOR CHANNELIZATION DEVICES (TEMP) AS DETERMINED BY THE ENGINEER.
- DRUMS OR VERTICAL PANELS SHALL BE USED TO DELINEATE MERGING TAPERS, SHIFTING TAPERS, AND ONE LANE, TWO-WAY TRAFFIC TAPERS.
- TYPE III BARRICADE
- ← DIRECTION OF TRAVEL
- ▨ WORK AREA
- ▤ ADVANCE WARNING FLASHING OR SEQUENCING ARROW PANEL.
- ▲ THESE DEVICES ARE OPTIONAL. THEIR NEED SHALL BE DETERMINED BY DETOUR DESIGN AND/OR SCOPE OF CONSTRUCTION ACTIVITY, AND ARE REQUIRED WHEN THEY ARE INCLUDED IN THE SCHEDULE OF CONSTRUCTION CONTROL DEVICES.
- ◆ THESE DEVICES ARE NOT OPTIONAL IF THE POSTED SPEED LIMIT IN THE WORK ZONE IS REDUCED.
- ☀ FLASHING BEACON
- REQUIRED WHEN WORK OCCUPIES THE LOCATION FOR MORE THAN 3 DAYS.
- ★ SEE FINES DOUBLE SIGNING NOTES ON SHEET 12.
- ▬ MOBILE ATTENUATOR
- L TRANSITION TAPER LENGTH:  
L = MINIMUM LENGTH OF TAPER  
SPEED 45 MPH OR MORE:  $L = S \times W$   
SPEED 40 MPH OR LESS:  $L = \frac{WS^2}{60}$   
S = NUMERICAL VALUE OF SPEED LIMIT OR 85 PERCENTILE SPEED  
W = WIDTH OF OFFSET  
SHOULDER TAPER =  $\frac{1}{3} L$
- ☐ BUFFER SPACE SEE GENERAL NOTE 23 ON SHEET 2.
- FLAGGER STATION

CASE NO. 30  
TYPICAL APPLICATION  
ROUNDBOUT - PARTIAL CLOSURE NEAR ONE-LANE ROUNDBOUT

| ROAD TYPE          | DISTANCE BETWEEN SIGNS |      |      |
|--------------------|------------------------|------|------|
|                    | A                      | B    | C    |
| URBAN (<= 40 MPH)  | 100                    | 100  | 100  |
| URBAN (>= 45 MPH)  | 350                    | 350  | 350  |
| RURAL              | 500                    | 500  | 500  |
| EXPRESSWAY/FREEWAY | 1000                   | 1500 | 2640 |

| Computer File Information                                          |          | <div><div></div><div>(R-2)</div><div>(R-1)</div><div></div><div></div></div> | Sheet Revisions                                                                        |                                                              | <div>Colorado Department of Transportation</div> <div><div></div><div>2829 W. Howard Pl.<br/>Denver, CO 80204<br/>Phone: 303-757-9654<br/>FAX: 303-757-9219</div></div> <div>Traffic Safety &amp; Engineering</div> <div>EB</div> | TRAFFIC CONTROLS<br>FOR HIGHWAY<br>CONSTRUCTION | STANDARD PLAN NO. |
|--------------------------------------------------------------------|----------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|--------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|-------------------|
| Creation Date: 07/04/12                                            | Date:    |                                                                              | Comments                                                                               | S-630-1                                                      |                                                                                                                                                                                                                                                                                                                        |                                                 |                   |
| Created By: Nakao                                                  | 01/14/26 |                                                                              | REMOVED G20-10/11                                                                      | Standard Sheet No. 17 of 26                                  |                                                                                                                                                                                                                                                                                                                        |                                                 |                   |
| Last Modification Date: 01/14/26                                   | 01/20/23 |                                                                              | Replaced R52-a(b) with R2-10(11)<br>Updated G20-11<br>Added Drum/Vertical Panel Symbol | Issued By: Traffic Safety & Engineering Branch July 31, 2019 |                                                                                                                                                                                                                                                                                                                        |                                                 |                   |
| Last Modified By: NRIVERA                                          |          |                                                                              |                                                                                        |                                                              |                                                                                                                                                                                                                                                                                                                        | Project Sheet Number:                           |                   |
| CAD Ver.: MicroStation V8    Scale: Not to Scale    Units: English |          |                                                                              |                                                                                        |                                                              |                                                                                                                                                                                                                                                                                                                        |                                                 |                   |

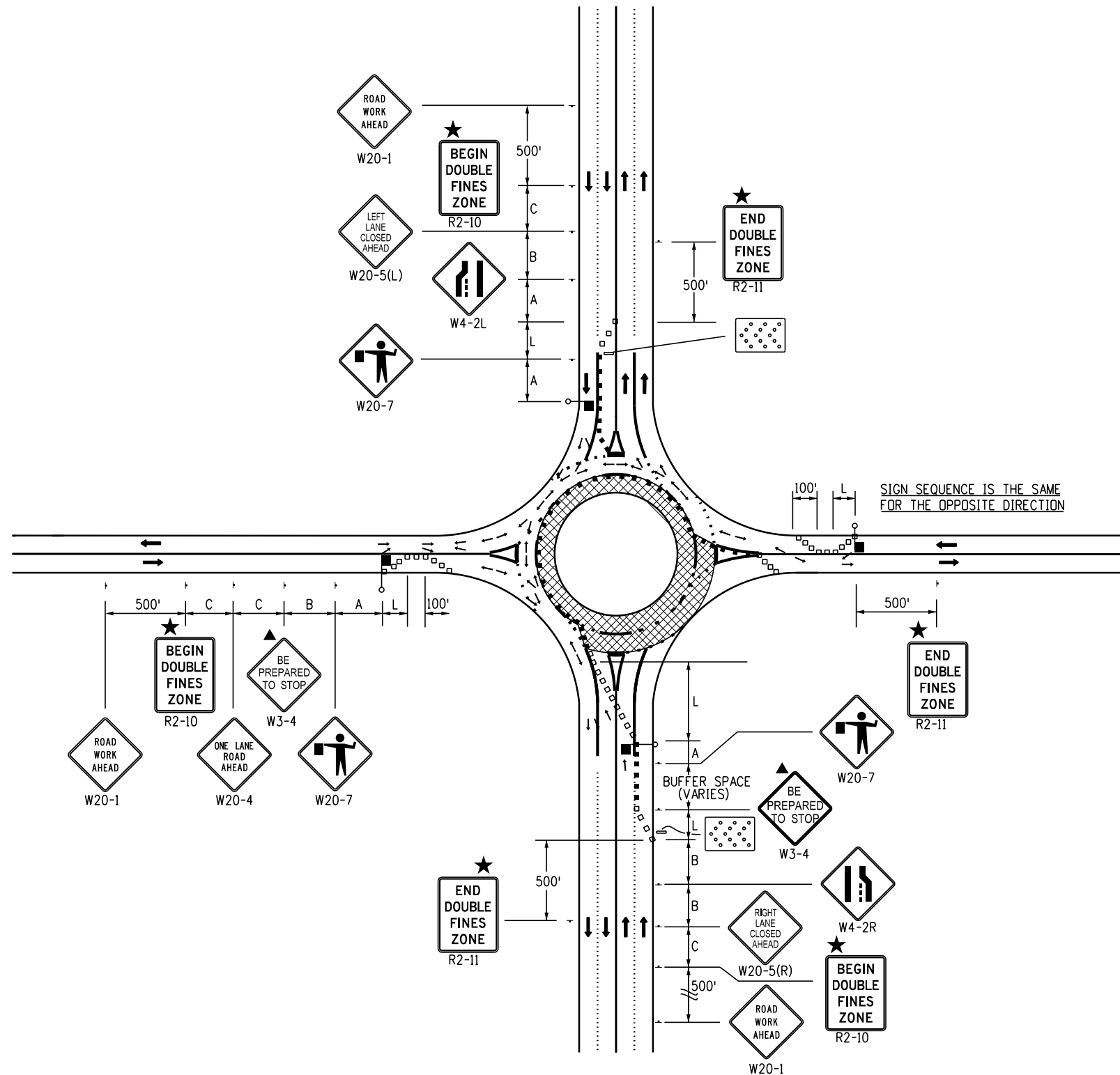


- LEGEND**
- \* A TRUCK DETOUR ROUTE MAY BE NECESSARY TO DIVERT TRUCKS AWAY FROM THE ROUNDABOUT CIRCLE. ALSO NECESSARY IS A STREET NAME AND/OR ROUTE NUMBER SIGN, INFORMING MOTORISTS WHERE THEY NEED TO EXIT THE ROUNDABOUT CIRCLE TO ENTER THE DESIRED STREET AND/OR ROUTE NUMBER.
  - CHANNELIZING DEVICE: FOR TYPE OF DEVICE TO BE USED, SEE THE SCHEDULE OF CONSTRUCTION TRAFFIC CONTROL DEVICES INCLUDED IN THE PLANS. IF PROJECT IS DESIGNATED AS A "SIGNIFICANT PROJECT" (SEE GENERAL NOTE 28), CONCRETE BARRIER SHALL BE USED FOR CHANNELIZATION DEVICES (TEMP) AS DETERMINED BY THE ENGINEER.
  - DRUMS OR VERTICAL PANELS SHALL BE USED TO DELINEATE MERGING TAPERS, SHIFTING TAPERS, AND ONE LANE, TWO-WAY TRAFFIC TAPERS.
  - TYPE III BARRICADE
  - ← DIRECTION OF TRAVEL
  - ▨ WORK AREA
  - ▤ ADVANCE WARNING FLASHING OR SEQUENCING ARROW PANEL.
  - ▲ THESE DEVICES ARE OPTIONAL. THEIR NEED SHALL BE DETERMINED BY DETOUR DESIGN AND/OR SCOPE OF CONSTRUCTION ACTIVITY, AND ARE REQUIRED WHEN THEY ARE INCLUDED IN THE SCHEDULE OF CONSTRUCTION CONTROL DEVICES.
  - ◆ THESE DEVICES ARE NOT OPTIONAL IF THE POSTED SPEED LIMIT IN THE WORK ZONE IS REDUCED.
  - ☀ FLASHING BEACON
  - REQUIRED WHEN WORK OCCUPIES THE LOCATION FOR MORE THAN 3 DAYS.
  - ★ SEE FINES DOUBLE SIGNING NOTES ON SHEET 12.
  - ▬ MOBILE ATTENUATOR
  - L TRANSITION TAPER LENGTH:  
L = MINIMUM LENGTH OF TAPER  
SPEED 45 MPH OR MORE:  $L = S \times W$   
SPEED 40 MPH OR LESS:  $L = \frac{WS^2}{60}$   
S = NUMERICAL VALUE OF SPEED LIMIT OR 85 PERCENTILE SPEED  
W = WIDTH OF OFFSET  
SHOULDER TAPER =  $\frac{1}{3} L$
  - BUFFER SPACE SEE GENERAL NOTE 23 ON SHEET 2.
  - FLAGGER STATION

**CASE NO. 31**  
**TYPICAL APPLICATION \***  
**ROUNDABOUT - INSIDE LANE CLOSURE FOR TWO-LANE ROUNDABOUT**

| ROAD TYPE          | DISTANCE BETWEEN SIGNS |      |      |
|--------------------|------------------------|------|------|
|                    | A                      | B    | C    |
| URBAN (<= 40 MPH)  | 100                    | 100  | 100  |
| URBAN (>= 45 MPH)  | 350                    | 350  | 350  |
| RURAL              | 500                    | 500  | 500  |
| EXPRESSWAY/FREEWAY | 1000                   | 1500 | 2640 |

| Computer File Information                                    |       | Sheet Revisions |                                                    | Colorado Department of Transportation                                                                                                                                                                                            | TRAFFIC CONTROLS<br>FOR HIGHWAY<br>CONSTRUCTION              | STANDARD PLAN NO.           |  |
|--------------------------------------------------------------|-------|-----------------|----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|-----------------------------|--|
| Creation Date: 07/04/12                                      |       | Date:           | Comments                                           |                                                                                                                                                                                                                                  |                                                              | S-630-1                     |  |
| Created By: Nakao                                            | (R-2) | 01/14/26        | REMOVED G20-10/11<br>REVISED G20-5                 | <br>2829 W. Howard Pl.<br>Denver, CO 80204<br>Phone: 303-757-9654<br>FAX: 303-757-9219<br><b>Traffic Safety &amp; Engineering</b> <b>EB</b> | Issued By: Traffic Safety & Engineering Branch July 31, 2019 | Standard Sheet No. 18 of 26 |  |
| Last Modification Date: 01/14/26                             | (R-1) | 01/20/23        | Replaced R52-a(b) with R2-10(11)<br>Updated G20-11 |                                                                                                                                                                                                                                  |                                                              | Project Sheet Number:       |  |
| Last Modified By: NRIVERA                                    | (O)   |                 | Added Drum/Vertical Panel Symbol                   |                                                                                                                                                                                                                                  |                                                              |                             |  |
| CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English |       |                 |                                                    |                                                                                                                                                                                                                                  |                                                              |                             |  |

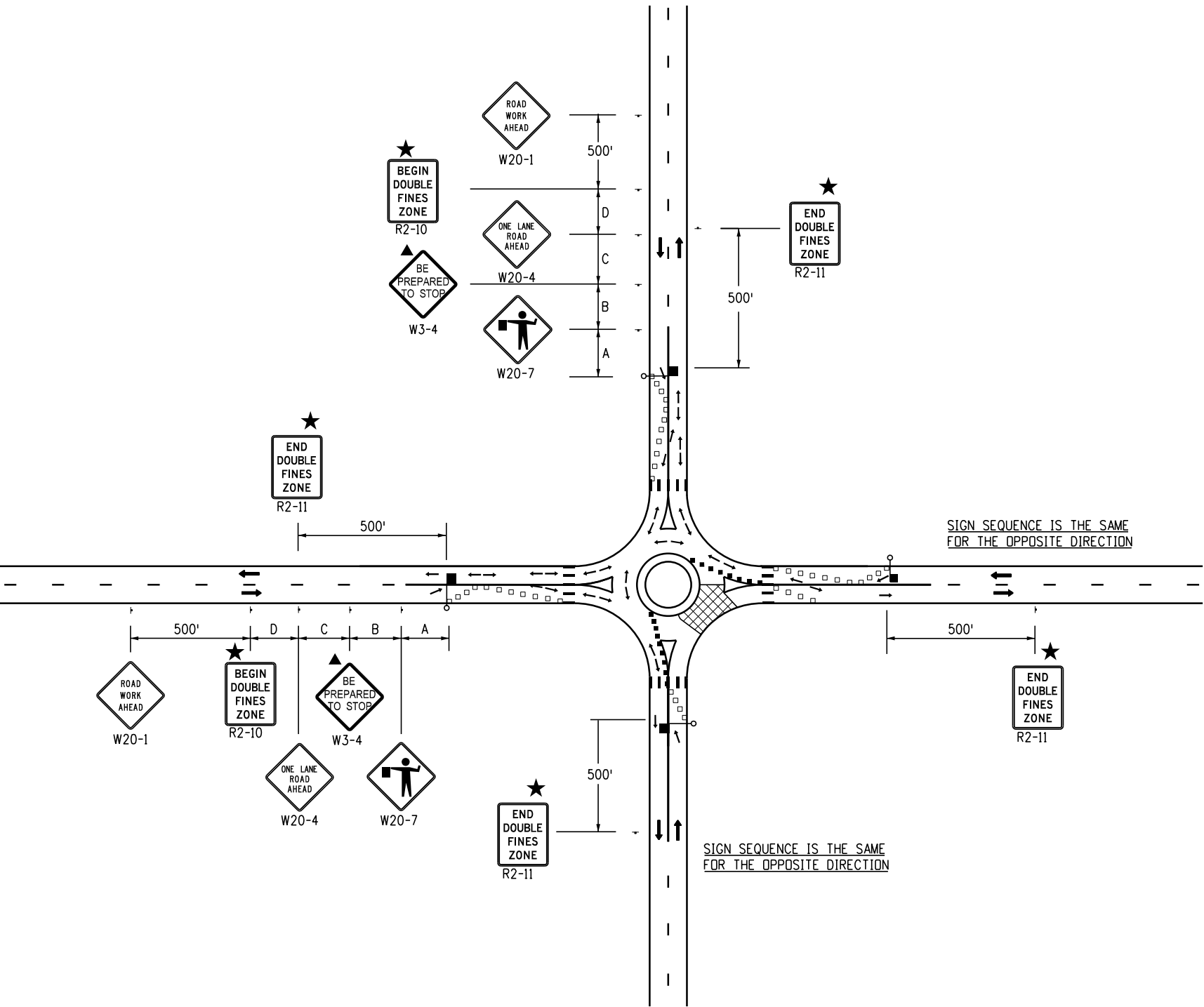


- ### LEGEND
- \* A TRUCK DETOUR ROUTE MAY BE NECESSARY TO DIVERT TRUCKS AWAY FROM THE ROUNDABOUT CIRCLE. ALSO NECESSARY IS A STREET NAME AND/OR ROUTE NUMBER SIGN, INFORMING MOTORISTS WHERE THEY NEED TO EXIT THE ROUNDABOUT CIRCLE TO ENTER THE DESIRED STREET AND/OR ROUTE NUMBER.
  - CHANNELIZING DEVICE: FOR TYPE OF DEVICE TO BE USED, SEE THE SCHEDULE OF CONSTRUCTION TRAFFIC CONTROL DEVICES INCLUDED IN THE PLANS. IF PROJECT IS DESIGNATED AS A "SIGNIFICANT PROJECT" (SEE GENERAL NOTE 28), CONCRETE BARRIER SHALL BE USED FOR CHANNELIZATION DEVICES (TEMP) AS DETERMINED BY THE ENGINEER.
  - DRUMS OR VERTICAL PANELS SHALL BE USED TO DELINEATE MERGING TAPERS, SHIFTING TAPERS, AND ONE LANE, TWO-WAY TRAFFIC TAPERS.
  - TYPE III BARRICADE
  - ← DIRECTION OF TRAVEL
  - ▨ WORK AREA
  - ▤ ADVANCE WARNING FLASHING OR SEQUENCING ARROW PANEL.
  - ▲ THESE DEVICES ARE OPTIONAL. THEIR NEED SHALL BE DETERMINED BY DETOUR DESIGN AND/OR SCOPE OF CONSTRUCTION ACTIVITY, AND ARE REQUIRED WHEN THEY ARE INCLUDED IN THE SCHEDULE OF CONSTRUCTION CONTROL DEVICES.
  - ◆ THESE DEVICES ARE NOT OPTIONAL IF THE POSTED SPEED LIMIT IN THE WORK ZONE IS REDUCED.
  - ☀ FLASHING BEACON
  - REQUIRED WHEN WORK OCCUPIES THE LOCATION FOR MORE THAN 3 DAYS.
  - ★ SEE FINES DOUBLE SIGNING NOTES ON SHEET 12.
  - ☐ MOBILE ATTENUATOR
  - L TRANSITION TAPER LENGTH:  
 L = MINIMUM LENGTH OF TAPER  
 SPEED 45 MPH OR MORE:  $L = S \times W$   
 SPEED 40 MPH OR LESS:  $L = \frac{WS^2}{60}$   
 S = NUMERICAL VALUE OF SPEED LIMIT OR 85 PERCENTILE SPEED  
 W = WIDTH OF OFFSET  
 SHOULDER TAPER = 1/3 L
  - BUFFER SPACE SEE GENERAL NOTE 23 ON SHEET 2.
  - ◻ FLAGGER STATION

| ROAD TYPE          | DISTANCE BETWEEN SIGNS |      |      |
|--------------------|------------------------|------|------|
|                    | A                      | B    | C    |
| URBAN (<= 40 MPH)  | 100                    | 100  | 100  |
| URBAN (>= 45 MPH)  | 350                    | 350  | 350  |
| RURAL              | 500                    | 500  | 500  |
| EXPRESSWAY/FREEWAY | 1000                   | 1500 | 2640 |

**CASE NO. 32**  
**TYPICAL APPLICATION \***  
**ROUNDABOUT - OUTSIDE LANE CLOSURE FOR TWO-LANE ROUNDABOUT**

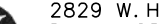
| Computer File Information                                    |  | Sheet Revisions |                                                                                        | <div> <div> </div> <div>           Colorado Department of Transportation<br/>           2829 W. Howard Pl.<br/>           Denver, CO 80204<br/>           Phone: 303-757-9654<br/>           FAX: 303-757-9219         </div> </div> | <div> <div> </div> <div>           Traffic Safety &amp; Engineering         </div> </div> | <div> <div> </div> <div>           EB         </div> </div> | <div> <div> </div> <div>           TRAFFIC CONTROLS<br/>FOR HIGHWAY<br/>CONSTRUCTION         </div> </div> | STANDARD PLAN NO.           |
|--------------------------------------------------------------|--|-----------------|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|-------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|-----------------------------|
| Creation Date: 07/04/12                                      |  | Date:           | Comments                                                                               |                                                                                                                                                                                                                                      |                                                                                           |                                                             |                                                                                                            | S-630-1                     |
| Created By: Nakao                                            |  | 01/14/26        | REMOVED G20-10/11<br>REVISED G20-5                                                     |                                                                                                                                                                                                                                      |                                                                                           |                                                             |                                                                                                            | Standard Sheet No. 19 of 26 |
| Last Modification Date: 01/14/26                             |  | 01/20/23        | Replaced R52-a(b) with R2-10(11)<br>Updated G20-11<br>Added Drum/Vertical Panel Symbol |                                                                                                                                                                                                                                      |                                                                                           |                                                             |                                                                                                            | Project Sheet Number:       |
| Last Modified By: NRIVERA                                    |  |                 |                                                                                        |                                                                                                                                                                                                                                      |                                                                                           |                                                             |                                                                                                            |                             |
| CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English |  |                 |                                                                                        |                                                                                                                                                                                                                                      |                                                                                           |                                                             |                                                                                                            |                             |



- LEGEND**
- \* A TRUCK DETOUR ROUTE MAY BE NECESSARY TO DIVERT TRUCKS AWAY FROM THE ROUNDABOUT CIRCLE. ALSO NECESSARY IS A STREET NAME AND/OR ROUTE NUMBER SIGN, INFORMING MOTORISTS WHERE THEY NEED TO EXIT THE ROUNDABOUT CIRCLE TO ENTER THE DESIRED STREET AND/OR ROUTE NUMBER.
  - CHANNELIZING DEVICE: FOR TYPE OF DEVICE TO BE USED, SEE THE SCHEDULE OF CONSTRUCTION TRAFFIC CONTROL DEVICES INCLUDED IN THE PLANS. IF PROJECT IS DESIGNATED AS A "SIGNIFICANT PROJECT" (SEE GENERAL NOTE 28), CONCRETE BARRIER SHALL BE USED FOR CHANNELIZATION DEVICES (TEMP) AS DETERMINED BY THE ENGINEER.
  - DRUMS OR VERTICAL PANELS SHALL BE USED TO DELINEATE MERGING TAPERS, SHIFTING TAPERS, AND ONE LANE, TWO-WAY TRAFFIC TAPERS.
  - TYPE III BARRICADE
  - ← DIRECTION OF TRAVEL
  - ▨ WORK AREA
  - ▤ ADVANCE WARNING FLASHING OR SEQUENCING ARROW PANEL.
  - ▲ THESE DEVICES ARE OPTIONAL. THEIR NEED SHALL BE DETERMINED BY DETOUR DESIGN AND/OR SCOPE OF CONSTRUCTION ACTIVITY, AND ARE REQUIRED WHEN THEY ARE INCLUDED IN THE SCHEDULE OF CONSTRUCTION CONTROL DEVICES.
  - ◆ THESE DEVICES ARE NOT OPTIONAL IF THE POSTED SPEED LIMIT IN THE WORK ZONE IS REDUCED.
  - ☀ FLASHING BEACON
  - REQUIRED WHEN WORK OCCUPIES THE LOCATION FOR MORE THAN 3 DAYS.
  - ★ SEE FINES DOUBLE SIGNING NOTES ON SHEET 12.
  - ▬ MOBILE ATTENUATOR
  - L TRANSITION TAPER LENGTH:
    - L = MINIMUM LENGTH OF TAPER
    - SPEED 45 MPH OR MORE:  $L = S \times W$
    - SPEED 40 MPH OR LESS:  $L = \frac{WS^2}{60}$
    - S = NUMERICAL VALUE OF SPEED LIMIT OR 85 PERCENTILE SPEED
    - W = WIDTH OF OFFSET
    - SHOULDER TAPER =  $\frac{1}{3} L$
  - BUFFER SPACE SEE GENERAL NOTE 23 ON SHEET 2.
  - FLAGGER STATION

**CASE NO. 33**  
**TYPICAL APPLICATION \***  
**ROUNDABOUT - PARTIAL CLOSURE FOR ONE-LANE ROUNDABOUT**

| ROAD TYPE          | DISTANCE BETWEEN SIGNS |      |      |
|--------------------|------------------------|------|------|
|                    | A                      | B    | C    |
| URBAN (<= 40 MPH)  | 100                    | 100  | 100  |
| URBAN (>= 45 MPH)  | 350                    | 350  | 350  |
| RURAL              | 500                    | 500  | 500  |
| EXPRESSWAY/FREEWAY | 1000                   | 1500 | 2640 |

| Computer File Information                                          |          | <div><div><div></div><div></div><div></div><div></div><div></div></div></div> | Sheet Revisions                                                                        |                                                              | <div><div>Colorado Department of Transportation</div><div><div></div><div>2829 W. Howard Pl.<br/>Denver, CO 80204<br/>Phone: 303-757-9654<br/>FAX: 303-757-9219</div></div><div><div>Traffic Safety &amp; Engineering</div><div>EB</div></div></div> | TRAFFIC CONTROLS<br>FOR HIGHWAY<br>CONSTRUCTION | STANDARD PLAN NO. |
|--------------------------------------------------------------------|----------|-------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|--------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|-------------------|
| Creation Date: 07/04/12                                            | Date:    |                                                                               | Comments                                                                               | S-630-1                                                      |                                                                                                                                                                                                                                                                                                                                           |                                                 |                   |
| Created By: Nakao                                                  | 1/14/26  |                                                                               | REMOVED G20-10/11                                                                      | Standard Sheet No. 20 of 26                                  |                                                                                                                                                                                                                                                                                                                                           |                                                 |                   |
| Last Modification Date: 01/14/26                                   | 01/20/23 |                                                                               | Replaced R52-a(b) with R2-10(11)<br>Updated G20-11<br>Added Drum/Vertical Panel Symbol |                                                              |                                                                                                                                                                                                                                                                                                                                           |                                                 |                   |
| Last Modified By: NRIVERA                                          |          |                                                                               |                                                                                        |                                                              |                                                                                                                                                                                                                                                                                                                                           | Project Sheet Number:                           |                   |
| CAD Ver.: MicroStation V8    Scale: Not to Scale    Units: English |          |                                                                               |                                                                                        | Issued By: Traffic Safety & Engineering Branch July 31, 2019 |                                                                                                                                                                                                                                                                                                                                           |                                                 |                   |

LEGEND

- 

MOBILE ATTENUATOR VEHICLE, TWO 360-DEGREE YELLOW FLASHING BEACONS, AND YELLOW FLASHING VEHICLE LIGHTS OR STROBES.
- 

VARIABLE MESSAGE SIGN (VMS).
- 

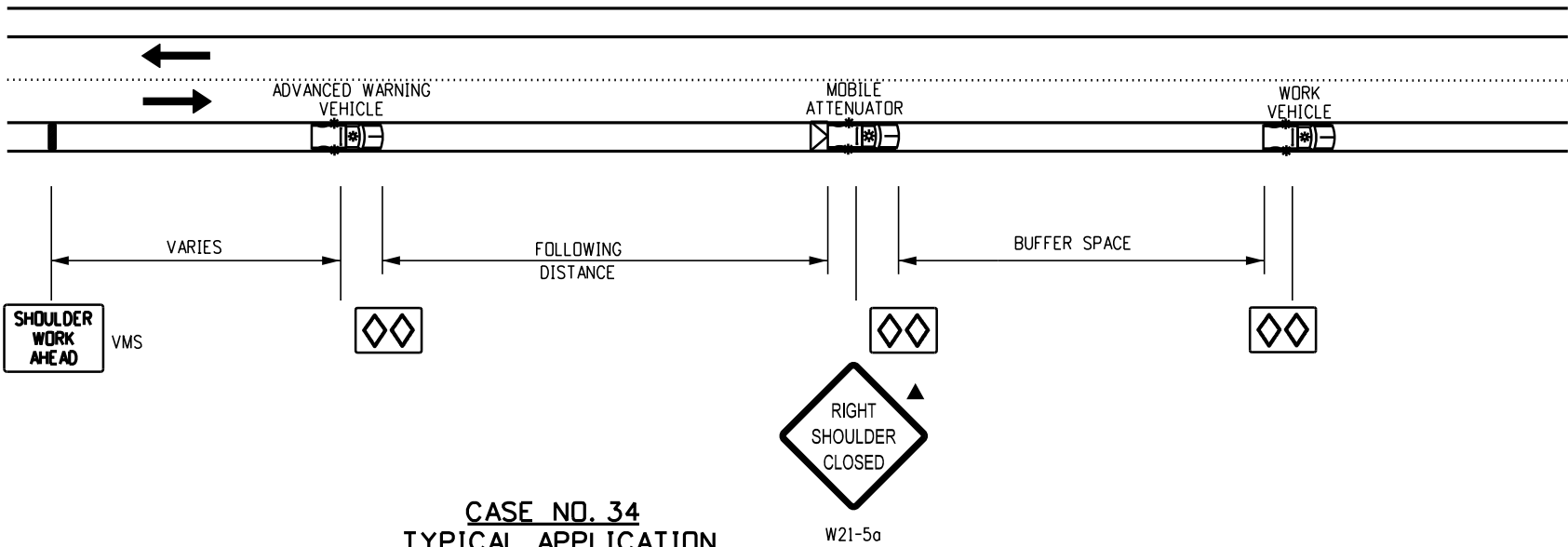
ARROW BOARD
- 

WHEN VMS IS USED, THE "RIGHT SHOULDER CLOSED" (W21-5a) SIGN BECOMES OPTIONAL.
- 

IF TRACKING OF THE WET PAINT IS ANTICIPATED, THE USE OF CONES OR STATIONARY "WET PAINT" SIGNS SHALL BE POSTED.
- 

THE VARIABLE SEPARATION DISTANCE BETWEEN THE "CONE PLACEMENT VEHICLE" AND "CONE PICKUP VEHICLE" SHALL BE DETERMINED BY THE TRACK DRYING TIME OF THE PAVEMENT MARKING MATERIAL.
- 

OPTIONAL

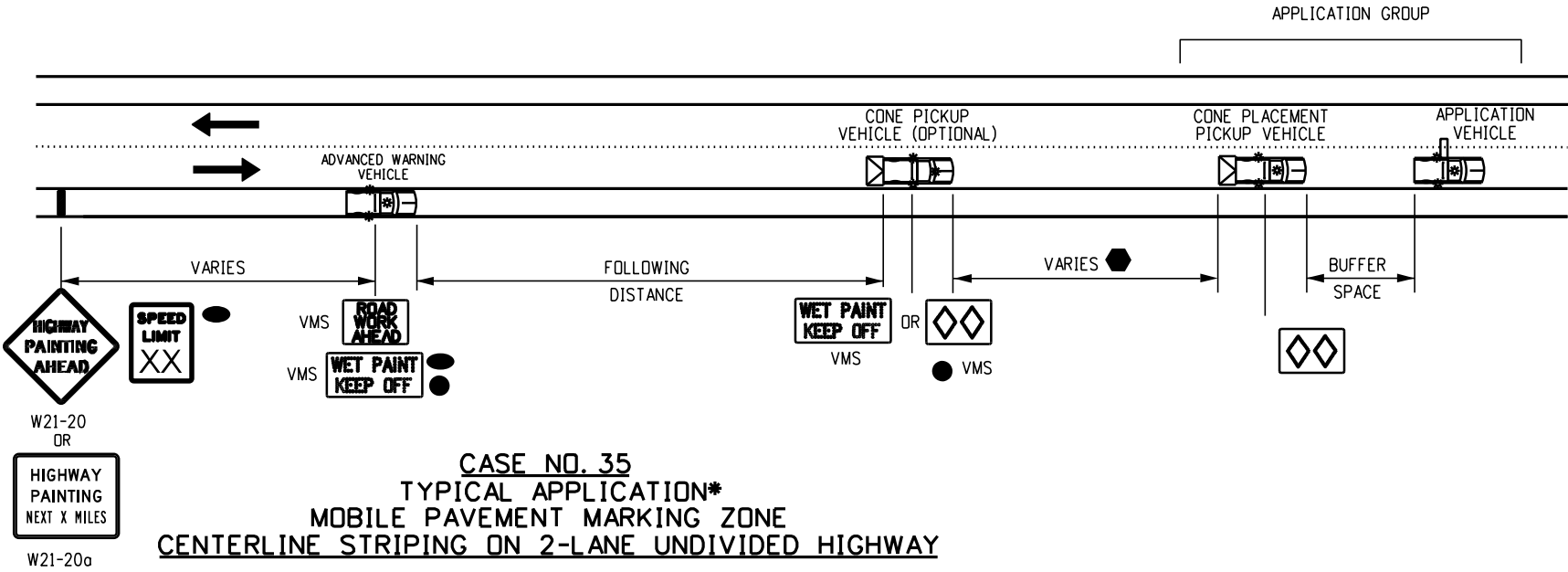


CASE NO. 34  
TYPICAL APPLICATION  
MOBILE WORK ZONE  
MOBILE SHOULDER CLOSURE ON 2-LANE UNDIVIDED HIGHWAY

\* USE CASE 35 IF SHOULDER IN CASE 34 IS TOO NARROW FOR GROUP VEHICLE USE.

FOLLOWING DISTANCE CHART FOR WARNING  
AND MOBILE ATTENUATOR (OR CONE PICKUP) VEHICLE

| POSTED WZ SPEED LIMIT (MPH) | FOLLOWING DISTANCE (FEET) | BUFFER SPACE (FEET) |
|-----------------------------|---------------------------|---------------------|
| 0 - 30                      | 250 - 550                 | 100 - 120           |
| 35 - 40                     | 325 - 700                 | 100 - 120           |
| 45 - 50                     | 600 - 900                 | 120 - 140           |
| 55                          | 750 - 1200                | 120 - 140           |
| 60                          | 1000 - 1400               | 180 - 200           |



CASE NO. 35  
TYPICAL APPLICATION\*  
MOBILE PAVEMENT MARKING ZONE  
CENTERLINE STRIPING ON 2-LANE UNDIVIDED HIGHWAY

| Computer File Information                                          |                                                                                                                                                                                                                          | Sheet Revisions |                                                                                             | Colorado Department of Transportation<br><br>2829 W. Howard Pl.<br>Denver, CO 80204<br>Phone: 303-757-9654<br>FAX: 303-757-9219<br><b>Traffic Safety &amp; Engineering</b> <b>EB</b> | TRAFFIC CONTROLS<br>FOR HIGHWAY<br>CONSTRUCTION              | STANDARD PLAN NO.           |  |
|--------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|-----------------------------|--|
| Creation Date: 07/04/12                                            | <div><div>R-2</div><div><div>R-1</div></div></div> | Date:           | Comments                                                                                    |                                                                                                                                                                                                                                                                           |                                                              | S-630-1                     |  |
| Created By: Nakao                                                  |                                                                                                                                                                                                                          | 01/20/23        | UPDATED LEGEND DELETED NOTE<br>UPDATED FOLLOWING DISTANCE<br>CHART MOVED NOTE UNDER CASE 34 |                                                                                                                                                                                                                                                                           |                                                              | Standard Sheet No. 21 of 26 |  |
| Last Modification Date: 01/20/23                                   |                                                                                                                                                                                                                          | 06/03/21        | UPDATED FOR BUFFER SPACE.                                                                   |                                                                                                                                                                                                                                                                           |                                                              | Project Sheet Number:       |  |
| Last Modified By: NRIVERA                                          |                                                                                                                                                                                                                          |                 |                                                                                             |                                                                                                                                                                                                                                                                           | Issued By: Traffic Safety & Engineering Branch July 31, 2019 |                             |  |
| CAD Ver.: MicroStation V8    Scale: Not to Scale    Units: English |                                                                                                                                                                                                                          |                 |                                                                                             |                                                                                                                                                                                                                                                                           |                                                              |                             |  |

FOR CASE #36, VEHICLE/SIGN SEQUENCE IS THE SAME FOR THE LEFT SIDE OF HIGHWAY, WHILE TAPER IS MIRRORED ABOUT THE CENTER LANE, WHEN MOBILE WORK ZONE IS LOCATED ON THE LEFT SIDE OF HIGHWAY.

LEGEND

- 

MOBILE ATTENUATOR VEHICLE, TWO 360-DEGREE YELLOW FLASHING BEACONS, AND YELLOW FLASHING VEHICLE LIGHTS OR STROBES.
- 

ADVANCE WARNING FLASHING OR SEQUENCING ARROW PANEL.
- 

VARIABLE MESSAGE SIGN (VMS).
- 

ARROW BOARD
- 

WHEN THE VMS IS USED, THE "SHOULDER CLOSED" W21-5a(R/L) AND "RAMP CLOSED AHEAD" W5-40 SIGNS BECOME OPTIONAL.
- 

IF TRACKING OF THE WET PAINT IS ANTICIPATED, THE USE OF CONES OR STATIONARY "WET PAINT" SIGNS SHALL BE POSTED.
- 

THE VARIABLE SEPARATION DISTANCE BETWEEN THE "CONE PLACEMENT VEHICLE" AND "CONE PICKUP VEHICLE" SHALL BE DETERMINED BY THE TRACK DRYING TIME OF THE PAVEMENT MARKING MATERIAL.
- 

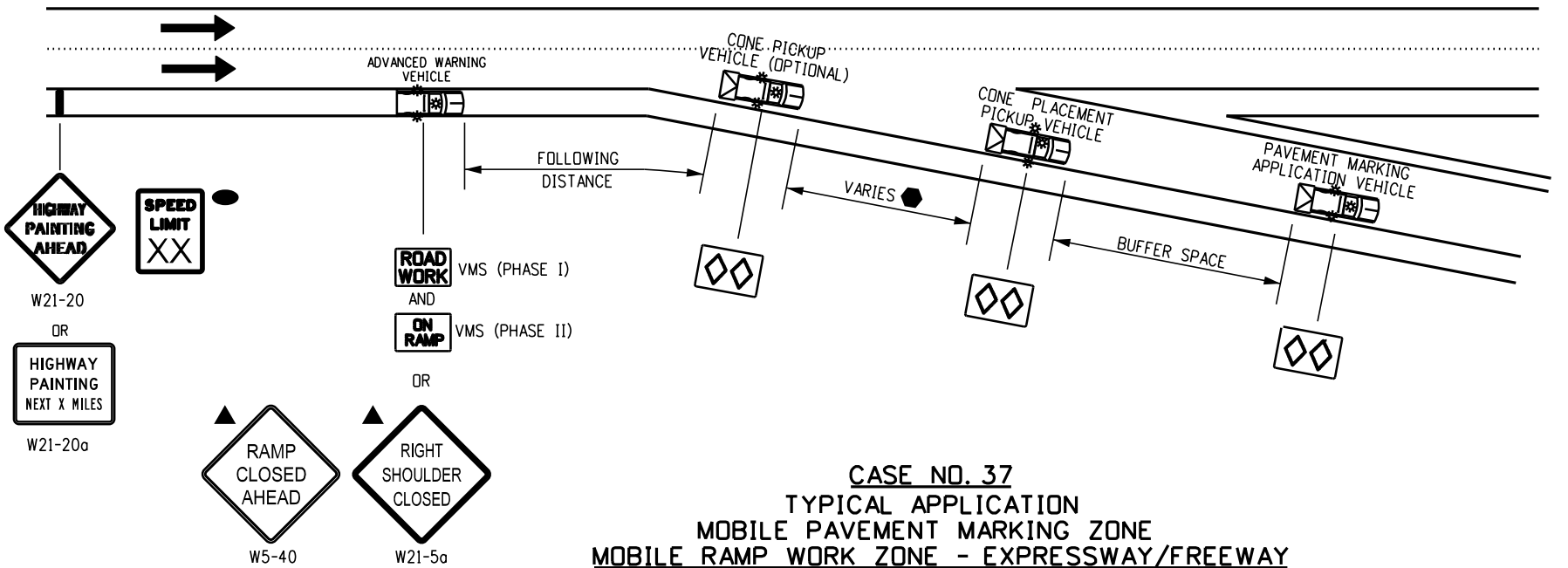
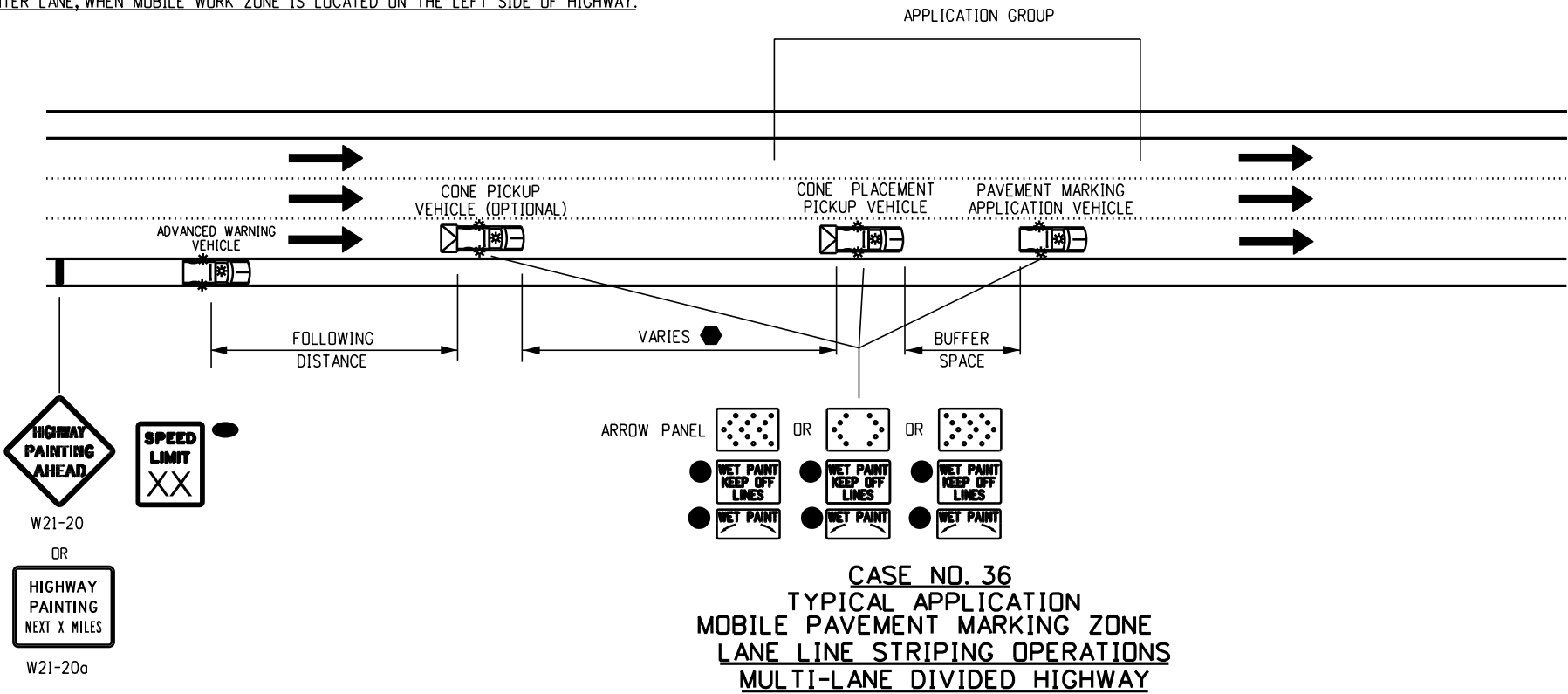
OPTIONAL

NOTES

- THE SIGNING VEHICLES MAY ENCRDACH INTO THE TRAFFIC LANE WHEN THE SHOULDER IS TOO NARROW TO DRIVE ON.
- IF THE RAMP CANNOT BE REOPENED WITHIN 15 MINUTES, USE CASE NO. 22 OF THE S-630-1 STANDARD PLAN.

FOLLOWING DISTANCE CHART FOR WARNING VEHICLE AND CONE PICKUP VEHICLES

| POSTED WZ SPEED LIMIT (MPH) | FOLLOWING DISTANCE (FEET) | BUFFER SPACE (FEET) |
|-----------------------------|---------------------------|---------------------|
| 0 - 30                      | 250 - 550                 | 100 - 120           |
| 35 - 40                     | 325 - 700                 | 100 - 120           |
| 45 - 50                     | 600 - 900                 | 120 - 140           |
| 55                          | 750 - 1200                | 120 - 140           |
| 60                          | 1000 - 1400               | 180 - 200           |



| Computer File Information                                          |  | <div><div>R-1</div><div></div><div></div><div></div><div></div></div> | Sheet Revisions |                                                       | <div>Colorado Department of Transportation</div> <div><div></div><div>2829 W. Howard Pl.<br/>Denver, CO 80204<br/>Phone: 303-757-9654<br/>FAX: 303-757-9219</div></div> <div>Traffic Safety &amp; Engineering</div> <div>EB</div> | TRAFFIC CONTROLS<br>FOR HIGHWAY<br>CONSTRUCTION |  | STANDARD PLAN NO.                                            |  |                       |  |
|--------------------------------------------------------------------|--|-----------------------------------------------------------------------|-----------------|-------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|--|--------------------------------------------------------------|--|-----------------------|--|
| Creation Date: 07/04/12                                            |  |                                                                       | Date:           | Comments                                              |                                                                                                                                                                                                                                                                                                                                                                                                             |                                                 |  | S-630-1                                                      |  |                       |  |
| Created By: Nakao                                                  |  |                                                                       | 01/20/23        | UPDATED LEGEND<br>UPDATED FOLLOWING DISTANCE<br>CHART |                                                                                                                                                                                                                                                                                                                                                                                                             |                                                 |  | Standard Sheet No. 22 of 26                                  |  |                       |  |
| Last Modification Date: 01/20/23                                   |  |                                                                       |                 |                                                       |                                                                                                                                                                                                                                                                                                                                                                                                             |                                                 |  | Issued By: Traffic Safety & Engineering Branch July 31, 2019 |  | Project Sheet Number: |  |
| Last Modified By: NRIVERA                                          |  |                                                                       |                 |                                                       |                                                                                                                                                                                                                                                                                                                                                                                                             |                                                 |  |                                                              |  |                       |  |
| CAD Ver.: MicroStation V8    Scale: Not to Scale    Units: English |  |                                                                       |                 |                                                       |                                                                                                                                                                                                                                                                                                                                                                                                             |                                                 |  |                                                              |  |                       |  |

LEGEND

- 

MOBILE ATTENUATOR TRUCK, TWO 360-DEGREE YELLOW FLASHING BEACONS, AND YELLOW FLASHING VEHICLE LIGHTS OR STROBES.
- 

ADVANCE WARNING FLASHING OR SEQUENCING ARROW PANEL.
- 

WHEN THE VMS IS USED, THE "RIGHT LANE CLOSED AHEAD" W9-3(R/L) SIGN BECOMES OPTIONAL.
- 

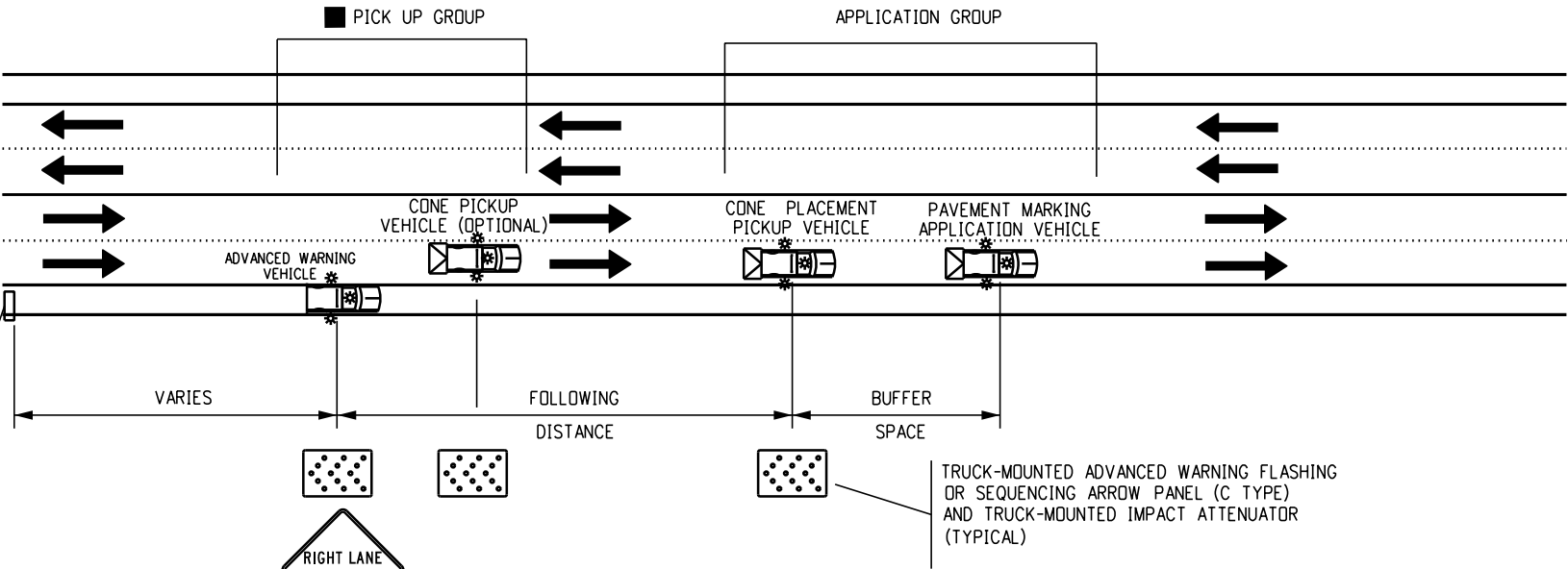
THE "CONE PICK UP VEHICLE" OR "WARNING VEHICLE" MAY ENCRDACH INTO THE TRAFFIC LANE WHEN THE SHOULDER IS TOO NARROW TO DRIVE ON.

NOTES

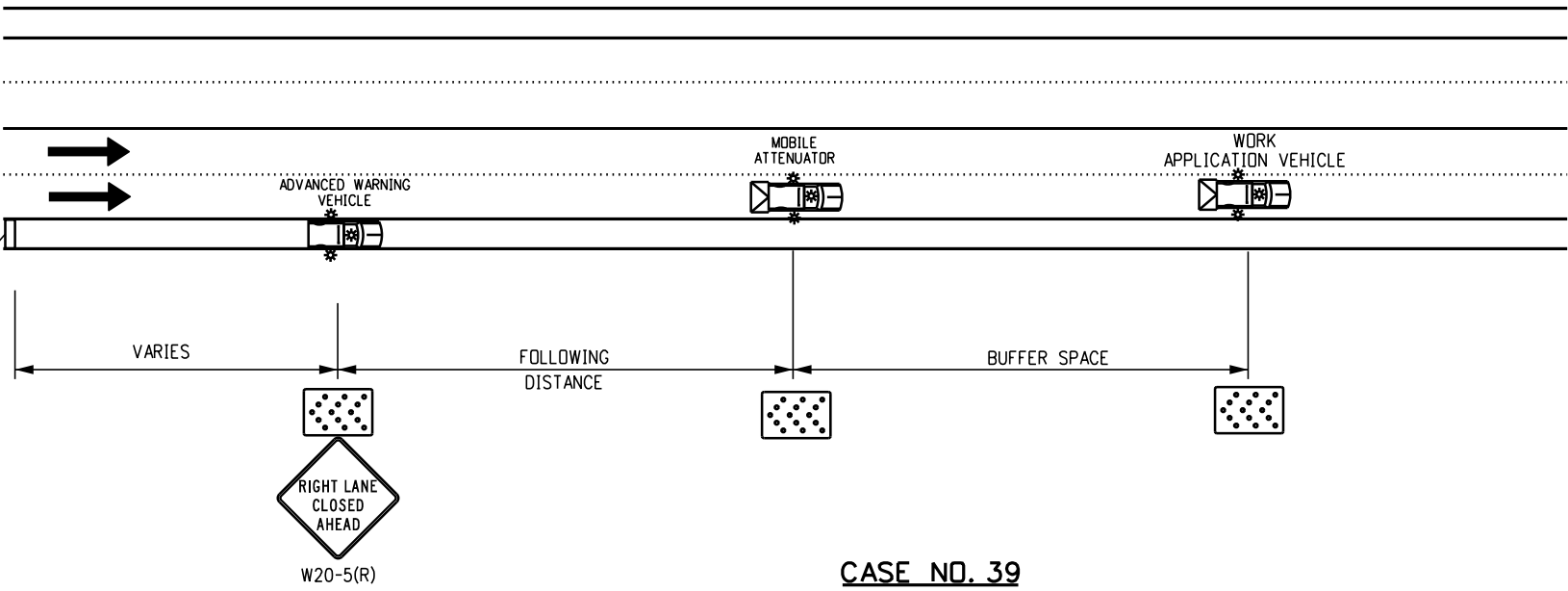
1. IN ROADWAY WHERE THE AADT IS 2,000 OR LESS, A SINGLE WORK VEHICLE WITH APPROPRIATE WARNING DEVICES ON THE VEHICLE MAY BE USED.
2. RADIO COMMUNICATIONS BETWEEN THE WORKCREW AND THE MOVING BLOCKADE ARE REQUIRED TO ADJUST THE BLOCKADE TO INCREASE OR DECREASE THE CLOSURE TIME. RELEASE TRAFFIC ONLY AFTER CONFIRMATION THAT ALL WORKERS AND THEIR VEHICLES ARE CLEAR OF THE ROADWAY.
3. IF APPLICABLE, ALL RAMPS AND ACCESS BETWEEN THE MOVING BLOCKADE AND WORK OPERATION AREA SHALL BE TEMPORARILY CLOSED USING TRAFFIC CONTROL EQUIPMENT AND PERSONNEL. EACH RAMP MUST REMAIN CLOSED UNTIL THE CREW DOING THE WORK GIVES THE "ALL CLEAR" SIGNAL OR UNTIL THE FRONT OF THE MOVING BLOCKADE PASSES THE CLOSED RAMP(S).

FOLLOWING DISTANCE CHART FOR WARNING VEHICLE AND SIGNING VEHICLES

| POSTED WZ SPEED LIMIT (MPH) | FOLLOWING DISTANCE (FEET) | BUFFER SPACE (FEET) |
|-----------------------------|---------------------------|---------------------|
| 0 - 30                      | 250 - 550                 | 100 - 120           |
| 35 - 40                     | 325 - 700                 | 100 - 120           |
| 45 - 50                     | 600 - 900                 | 120 - 140           |
| 55                          | 750 - 1200                | 120 - 140           |
| 60                          | 1000 - 1400               | 180 - 200           |

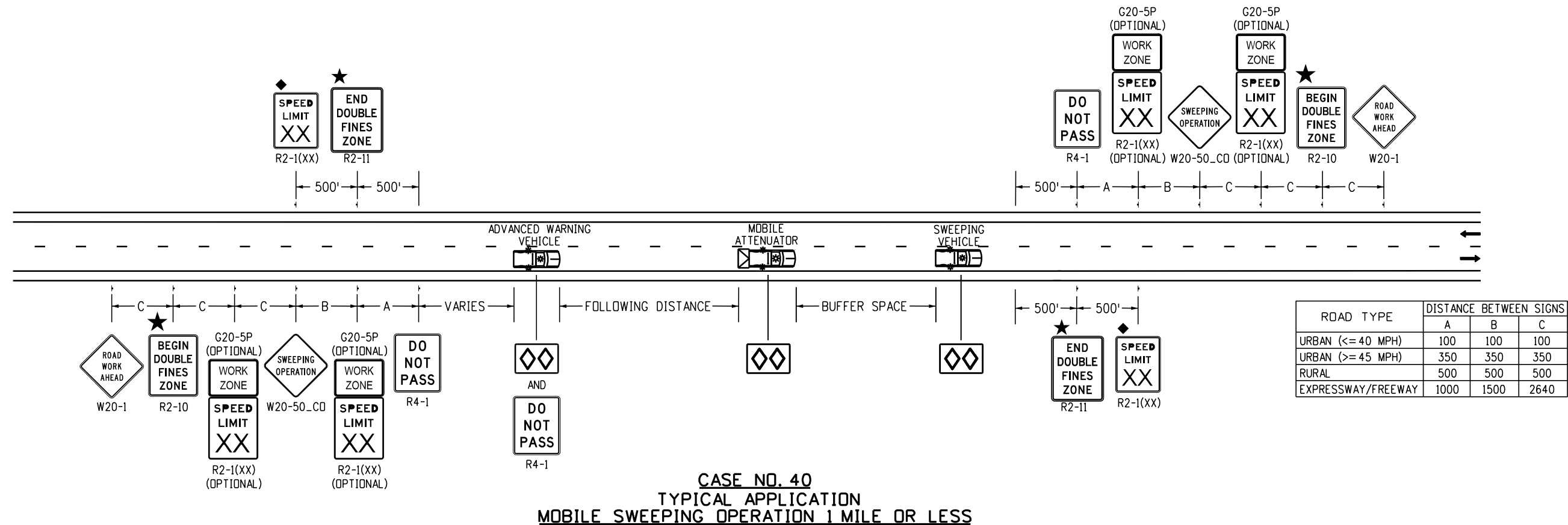


CASE NO. 38  
TYPICAL APPLICATION  
MOBILE STRIPING OPERATION OF LANE CLOSURE OF MULTI-LANE HIGHWAY  
(NOT FOR USE ON FREEWAYS)



CASE NO. 39  
TYPICAL APPLICATION  
MOBILE OPERATION OF LANE CLOSURE OF MULTI-LANE HIGHWAY

| Computer File Information                                    |                                                                                     | Sheet Revisions |                                                       | Colorado Department of Transportation<br><br>2829 W. Howard Pl.<br>Denver, CO 80204<br>Phone: 303-757-9654<br>FAX: 303-757-9219<br><b>Traffic Safety &amp; Engineering</b> <b>EB</b> | TRAFFIC CONTROLS<br>FOR HIGHWAY<br>CONSTRUCTION              | STANDARD PLAN NO.           |  |
|--------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------|-------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|-----------------------------|--|
| Creation Date: 07/04/12                                      |                                                                                     | Date:           | Comments                                              |                                                                                                                                                                                                                                                                           |                                                              | S-630-1                     |  |
| Created By: Nakao                                            |  | 01/14/26        | REVISED G20-5(R)                                      |                                                                                                                                                                                                                                                                           |                                                              | Standard Sheet No. 23 of 26 |  |
| Last Modification Date: 01/14/26                             |  | 01/20/23        | UPDATED LEGEND<br>UPDATED FOLLOWING DISTANCE<br>CHART |                                                                                                                                                                                                                                                                           |                                                              | Project Sheet Number:       |  |
| Last Modified By: NRIVERA                                    |  |                 |                                                       |                                                                                                                                                                                                                                                                           |                                                              |                             |  |
| CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English |  |                 |                                                       |                                                                                                                                                                                                                                                                           | Issued By: Traffic Safety & Engineering Branch July 31, 2019 |                             |  |

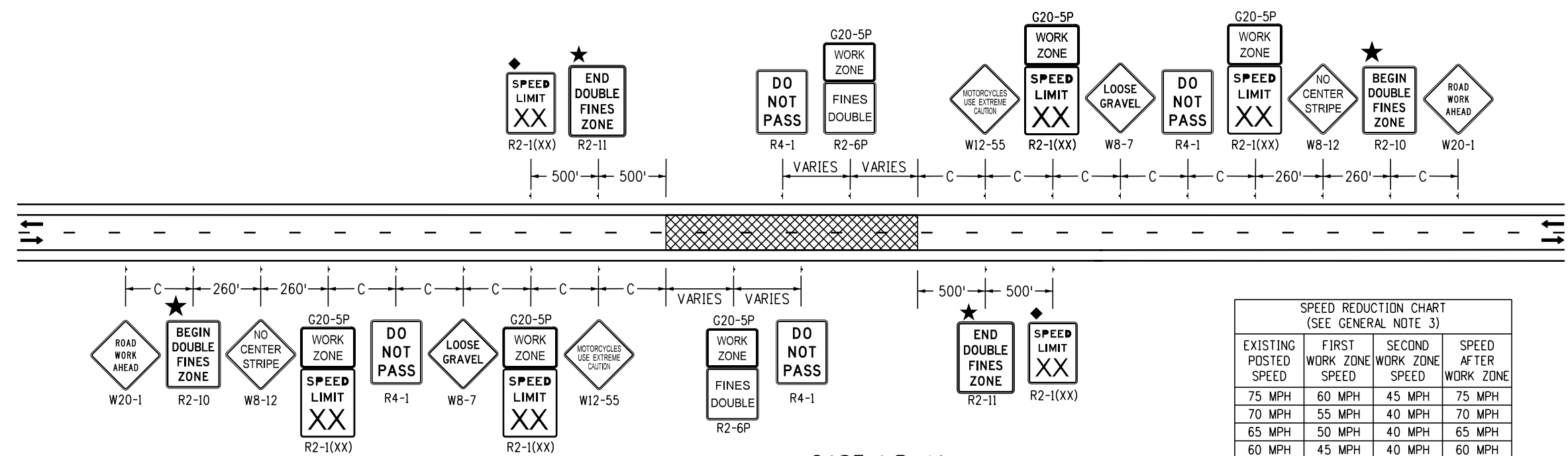


**FOLLOWING DISTANCE CHART FOR WARNING  
AND MOBILE ATTENUATOR (OR SWEEPING) VEHICLE**

| POSTED WZ SPEED LIMIT (MPH) | FOLLOWING DISTANCE (FEET) | BUFFER SPACE (FEET) |
|-----------------------------|---------------------------|---------------------|
| 0 - 30                      | 250 - 550                 | 100 - 120           |
| 35 - 40                     | 325 - 700                 | 100 - 120           |
| 45 - 50                     | 600 - 900                 | 120 - 140           |
| 55                          | 750 - 1200                | 120 - 140           |
| 60                          | 1000 - 1400               | 180 - 200           |

| SPEED REDUCTION CHART<br>(SEE GENERAL NOTE 3) |                             |                              |                             |
|-----------------------------------------------|-----------------------------|------------------------------|-----------------------------|
| EXISTING<br>POSTED<br>SPEED                   | FIRST<br>WORK ZONE<br>SPEED | SECOND<br>WORK ZONE<br>SPEED | SPEED<br>AFTER<br>WORK ZONE |
| 75 MPH                                        | 60 MPH                      | 45 MPH                       | 75 MPH                      |
| 70 MPH                                        | 55 MPH                      | 40 MPH                       | 70 MPH                      |
| 65 MPH                                        | 50 MPH                      | 40 MPH                       | 65 MPH                      |
| 60 MPH                                        | 45 MPH                      | 40 MPH                       | 60 MPH                      |
| 55 MPH                                        | 40 MPH                      | N/A                          | 55 MPH                      |
| 50 MPH                                        | 40 MPH                      | N/A                          | 50 MPH                      |
| 45 MPH                                        | 40 MPH                      | N/A                          | 45 MPH                      |

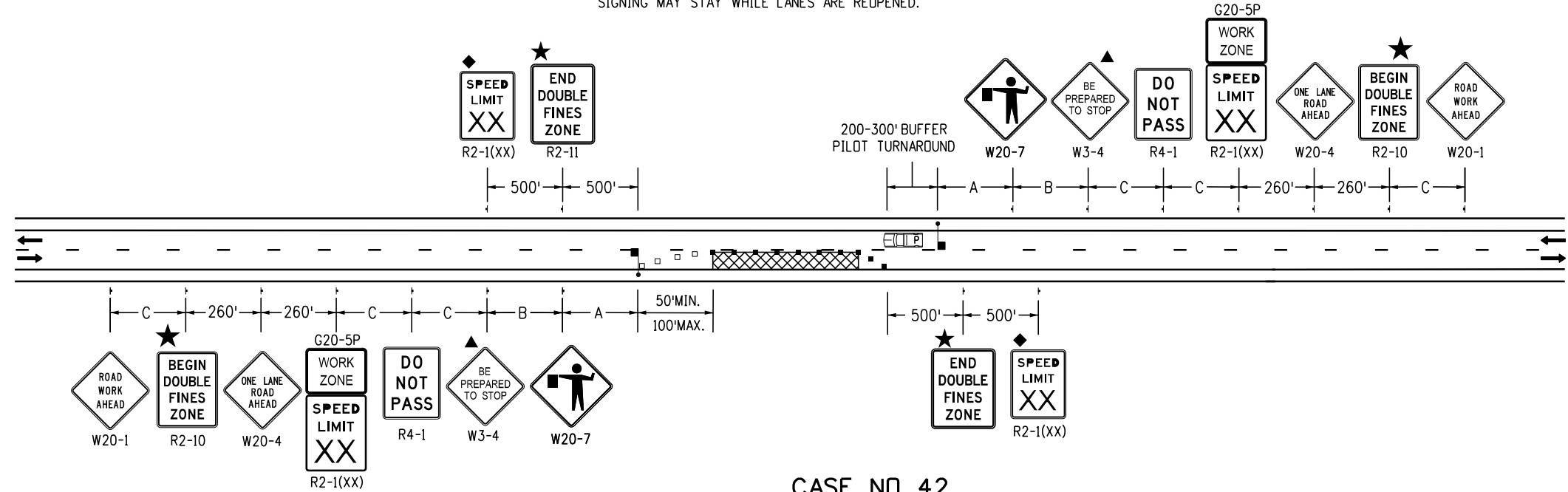
| Computer File Information                                          |  | <div><div>R-1</div><div>0000</div></div> | Sheet Revisions |                           | <div>Colorado Department of Transportation</div> <div><div><div></div><div>2829 W. Howard Pl.<br/>Denver, CO 80204<br/>Phone: 303-757-9654<br/>FAX: 303-757-9219</div></div></div> <div>Traffic Safety &amp; Engineering</div> <div>EB</div> | TRAFFIC CONTROLS<br>FOR HIGHWAY<br>CONSTRUCTION              |  | STANDARD PLAN NO.           |  |
|--------------------------------------------------------------------|--|------------------------------------------|-----------------|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|--|-----------------------------|--|
| Creation Date: 01/20/23                                            |  |                                          | Date:           | Comments                  |                                                                                                                                                                                                                                                                                                                                   | S-630-1                                                      |  | Standard Sheet No. 24 of 26 |  |
| Created By: AVU                                                    |  |                                          | 04/30/24        | REMOVED G20-11 AND G20-10 |                                                                                                                                                                                                                                                                                                                                   |                                                              |  |                             |  |
| Last Modification Date: 04/30/24                                   |  |                                          |                 |                           |                                                                                                                                                                                                                                                                                                                                   |                                                              |  |                             |  |
| Last Modified By: NRIVERA                                          |  |                                          |                 |                           |                                                                                                                                                                                                                                                                                                                                   | Issued By: Traffic Safety & Engineering Branch July 31, 2019 |  | Project Sheet Number:       |  |
| CAD Ver.: MicroStation V8    Scale: Not to Scale    Units: English |  |                                          |                 |                           |                                                                                                                                                                                                                                                                                                                                   |                                                              |  |                             |  |



**CASE NO. 41**  
**TYPICAL APPLICATION**  
**CHIP SEALS - 2-LANE UNDIVIDED HIGHWAY**

NOTE: FOLLOW APPLICABLE STANDARDS AS SHOWN IN CASE NO. 17 ON SHEET 9, CASE NO. 19 ON SHEET 10, AND CHAPTER 6H OF THE 2009 MUTCD FOR LANE CLOSURE IN WORK AREA.  
SIGNING MAY STAY WHILE LANES ARE REOPENED.

| SPEED REDUCTION CHART<br>(SEE GENERAL NOTE 3) |                       |                        |                       |
|-----------------------------------------------|-----------------------|------------------------|-----------------------|
| EXISTING POSTED SPEED                         | FIRST WORK ZONE SPEED | SECOND WORK ZONE SPEED | SPEED AFTER WORK ZONE |
| 75 MPH                                        | 60 MPH                | 45 MPH                 | 75 MPH                |
| 70 MPH                                        | 55 MPH                | 40 MPH                 | 70 MPH                |
| 65 MPH                                        | 50 MPH                | 40 MPH                 | 65 MPH                |
| 60 MPH                                        | 45 MPH                | 40 MPH                 | 60 MPH                |
| 55 MPH                                        | 40 MPH                | N/A                    | 55 MPH                |
| 50 MPH                                        | 40 MPH                | N/A                    | 50 MPH                |
| 45 MPH                                        | 40 MPH                | N/A                    | 45 MPH                |



**CASE NO. 42**  
**TYPICAL APPLICATION**  
**PILOT CAR - LANE CLOSURE, 2-LANE UNDIVIDED HIGHWAY**

**NOTES**

1. ALL NIGHT HAZARDS WILL BE MARKED AND DELINEATED.
2. ALL SPEED LIMIT SIGNS CONFLICTING WITH WORK ZONE SPEED SHALL BE COVERED DURING SPEED REDUCTION.

**LEGEND**

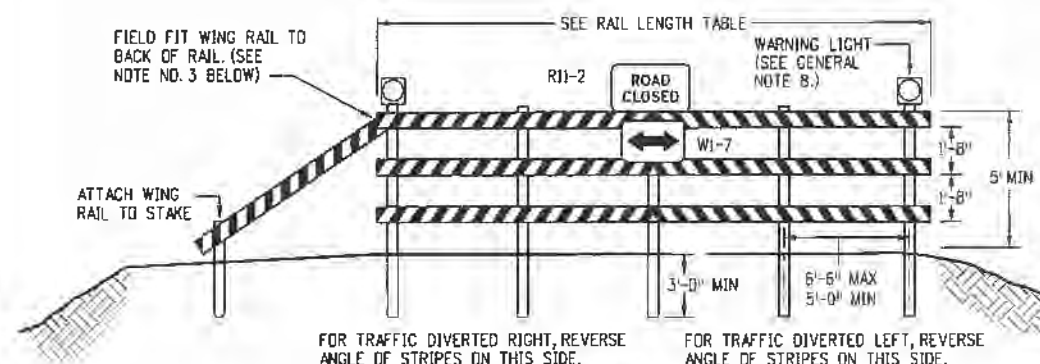
- CHANNELIZING DEVICE: FOR TYPE OF DEVICE TO BE USED, SEE SCHEDULE OF TRAFFIC CONTROL DEVICES INCLUDED IN THE PLANS.
- DRUMS OR VERTICAL PANELS SHALL BE USED TO DELINEATE MERGING TAPERS, SHIFTING TAPERS, AND ONE LANE, TWO-WAY TRAFFIC TAPERS.
- FLAGGER STATION
- ← DIRECTION OF TRAVEL
- ▨ WORK AREA
- L TRANSITION TAPER LENGTH:  
L = MINIMUM LENGTH OF TAPER  
SPEED 45 MPH OR MORE:  $L = S \times W$   
SPEED 40 MPH OR LESS:  $L = \frac{WS^2}{60}$   
S = NUMERICAL VALUE OF SPEED LIMIT OR 85 PERCENTILE SPEED  
W = WIDTH OF OFFSET  
SHOULDER TAPER = 1/3 L
- ▲ THESE DEVICES ARE OPTIONAL. THEIR NEED SHALL BE DETERMINED BY DETOUR DESIGN AND/OR SCOPE OF CONSTRUCTION ACTIVITY, AND ARE REQUIRED WHEN THEY ARE INCLUDED IN THE SCHEDULE OF CONSTRUCTION CONTROL DEVICES.
- ◆ THESE DEVICES ARE NOT OPTIONAL IF THE POSTED SPEED LIMIT IN THE WORK ZONE IS REDUCED.
- VARIES BUFFER SPACE (SEE GENERAL NOTE 23 ON SHEET 2).
- PILOT CAR
- ★ SEE FINES DOUBLE SIGNING NOTES ON SHEET 12.

**KEY TO ADVANCE SIGNING DISTANCES**

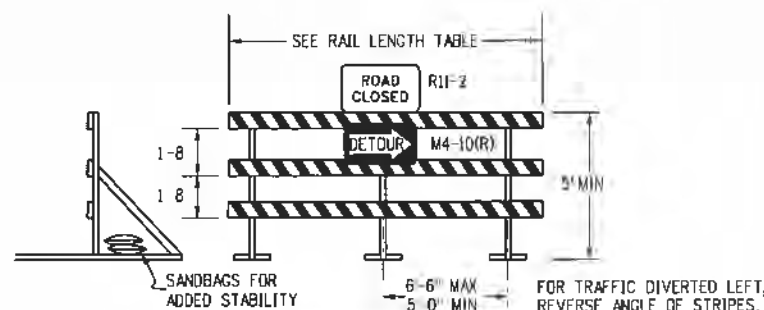
| ROAD TYPE          | DISTANCE BETWEEN SIGNS |      |      |
|--------------------|------------------------|------|------|
|                    | A                      | B    | C    |
| URBAN (<= 40 MPH)  | 100                    | 100  | 100  |
| URBAN (>= 45 MPH)  | 350                    | 350  | 350  |
| RURAL              | 500                    | 500  | 500  |
| EXPRESSWAY/FREEWAY | 1000                   | 1500 | 2640 |

|                                                              |       |                        |                               |                                                                                                                                        |                                                   |                                                  |                                                                                  |  |  |  |
|--------------------------------------------------------------|-------|------------------------|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|--------------------------------------------------|----------------------------------------------------------------------------------|--|--|--|
| <b>Computer File Information</b>                             |       | <b>Sheet Revisions</b> |                               | <b>Colorado Department of Transportation</b><br><br>2829 W. Howard Pl.<br>Denver, CO 80204<br>Phone: 303-757-9654<br>FAX: 303-757-9219 | <b>Traffic Safety &amp; Engineering</b> <b>EB</b> | <b>TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION</b> | <b>STANDARD PLAN NO.</b><br><b>S-630-1</b><br><b>Standard Sheet No. 25 of 26</b> |  |  |  |
| Creation Date: 06/03/21                                      |       | Date:                  | Comments                      |                                                                                                                                        |                                                   |                                                  |                                                                                  |  |  |  |
| Created By: AVU                                              | (R-2) | 01/14/26               | REMOVED G20-10/11             | Issued By: Traffic Safety & Engineering Branch July 31, 2019                                                                           |                                                   |                                                  |                                                                                  |  |  |  |
| Last Modification Date: 01/14/26                             | (R-1) | 07/20/23               | ADDED G20-5P SIGN TO SHEET    |                                                                                                                                        |                                                   |                                                  |                                                                                  |  |  |  |
| Last Modified By: NRIVERA                                    |       |                        | UPDATED NOTE UNDER CASE NO.41 |                                                                                                                                        |                                                   |                                                  |                                                                                  |  |  |  |
| CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English |       |                        | UPDATED SIGN SPACINGS         | Project Sheet Number:                                                                                                                  |                                                   |                                                  |                                                                                  |  |  |  |
|                                                              |       |                        | UPDATED FLAGGER TAPER LENGTH  |                                                                                                                                        |                                                   |                                                  |                                                                                  |  |  |  |

| TYPICAL CONSTRUCTION ZONE SIGNS                                                                                 |                                                                                                                                                                                                                                                                                   |                                                                                   |                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                    |                                                              |                                   |                             |     |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
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| THESE SIGNING NOTES ARE INTENDED AS A QUICK REFERENCE FOR TYPICAL SIGN USE AND PLACEMENT IN CONSTRUCTION ZONES. |                                                                                                                                                                                                                                                                                   |                                                                                   |                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                    |                                                              |                                   |                             |     |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
| G20-1                                                                                                           | "ROAD/WORK/NEXT XX MILES" - THIS SIGN SHALL BE ERECTED AT THE LIMITS OF ANY ROAD CONSTRUCTION OR MAINTENANCE PROJECT OF MORE THAN TWO (2) MILES IN LENGTH WHERE TRAFFIC IS MAINTAINED THROUGH THE PROJECT.                                                                        | W5-2a                                                                             | "NARROW BRIDGE SYMBOL" - THIS SIGN IS INTENDED FOR USE IN ADVANCE OF A BRIDGE OR CULVERT HAVING A CLEAR TWO-WAY ROADWAY WIDTH OF 16 TO 18 FEET OR ANY BRIDGE OR CULVERT HAVING A ROADWAY CLEARANCE LESS THAN THE WIDTH OF THE APPROACH PAVEMENT.*                                                        | W21-2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | "FRESH/OIL" - THIS SIGN IS INTENDED FOR USE WHERE RE-SURFACING OPERATIONS HAVE RENDERED THE SURFACE OF THE PAVEMENT TEMPORARILY WET, AND OBJECTIONABLE SPLASHING ON VEHICLES MAY OCCUR.*                           |                                                              |                                   |                             |     |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
| G20-4                                                                                                           | "PILOT CAR/FOLLOW ME" - THIS SIGN SHALL BE MOUNTED IN A CONSPICUOUS POSITION ON THE REAR OF A VEHICLE USED FOR GUIDING ONE-WAY TRAFFIC THROUGH OR AROUND THE PROJECT.                                                                                                             | W5-3                                                                              | "ONE LANE/BRIDGE" - THIS SIGN SHOULD BE PLACED ON TWO-WAY ROADWAYS IN ADVANCE OF THE BRIDGES OR CULVERTS WHERE THE ROADWAY WIDTH IS LESS THAN 16 FEET (18 FEET FOR COMMERCIAL VEHICLES) OR WHEN THE ALIGNMENT IS POOR ON THE APPROACH TO THE STRUCTURE HAVING A CLEAR ROADWAY WIDTH OF 18 FEET OR LESS.* | W21-3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | "ROAD/MACHINERY/AHEAD" - THIS SIGN IS INTENDED FOR USE IN ADVANCE OF THE AREAS WHERE HEAVY EQUIPMENT IS OPERATING IN OR ADJACENT TO THE ROADWAY.*                                                                  |                                                              |                                   |                             |     |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
| G20-5P                                                                                                          | "WORK ZONE" - THIS PLAQUE SHALL BE MOUNTED JUST ABOVE THE WORK ZONE SPEED LIMIT SIGNS PRIOR TO THE WORK ZONE AREA.                                                                                                                                                                |                                                                                   |                                                                                                                                                                                                                                                                                                          | W21-4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | "ROAD/WORK/(DIST.)" - THIS SIGN IS INTENDED FOR USE IN ADVANCE OF MAINTENANCE FOR MINOR RECONSTRUCTION OPERATIONS IN THE ROADWAY.                                                                                  |                                                              |                                   |                             |     |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
| G20-55(X)                                                                                                       | "X MINUTE CLOSURE, EXPECT DELAYS" - THIS SIGN IS INTENDED FOR USE 500 FEET PAST THE "WORK ZONE"/SPEED LIMIT SIGN.                                                                                                                                                                 | W6-1                                                                              | "DIVIDED HIGHWAY SYMBOL" - THIS SIGN SHOULD BE PLACED ON THE APPROACHES TO THE SECTION OF HIGHWAY WHERE OPPOSING FLOWS OF TRAFFIC ARE SEPARATED BY A PHYSICAL MEDIAN.                                                                                                                                    | W21-5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | "SHOULDER/WORK" - THIS SIGN IS INTENDED FOR USE IN ADVANCE OF THE PROJECT INVOLVING THE SHOULDER, WHERE THE TRAVELED WAY REMAINS UNOBSTRUCTED.                                                                     |                                                              |                                   |                             |     |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
| M4-9( )                                                                                                         | "DETOUR/<<<<" - THIS SIGN IS USED FOR UNNUMBERED ROUTES; FOR USE IN EMERGENCY SITUATIONS; FOR PERIODS OF SHORT DURATION; OR WHERE, OVER RELATIVELY SHORT DISTANCES, IT IS NOT NECESSARY TO SHOW ROUTE MARKERS TO GUIDE TRAFFIC ALONG THE DETOUR AND BACK TO ITS AUTHORIZED ROUTE. | W6-2                                                                              | "DIVIDED HIGHWAY ENDS SYMBOL" - THIS SIGN SHOULD BE PLACED AT THE END OF THE SECTION OF PHYSICALLY DIVIDED HIGHWAY AS A WARNING OF TWO-WAY TRAFFIC AHEAD.                                                                                                                                                | W21-6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | "SURVEY/CREW" - THIS SIGN IS INTENDED FOR USE IN ADVANCE OF A POINT WHERE A SURVEYING CREW IS WORKING IN OR ADJACENT TO THE ROADWAY.*                                                                              |                                                              |                                   |                             |     |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
| M4-10( )                                                                                                        | "DETOUR ARROW" - THIS SIGN SHOULD BE MOUNTED JUST BELOW THE ROAD CLOSED SIGN AT THE POINT WHERE THE DETOUR ROADWAY OR ROUTE HAS BEEN ESTABLISHED DUE TO THE CLOSURE OF THE STREET OR HIGHWAY TO THROUGH TRAFFIC.                                                                  | W6-3                                                                              | "TWO-WAY TRAFFIC SYMBOL" - THIS SIGN IS INTENDED FOR USE TO GIVE WARNING OF TRANSITION FROM A SEPARATED ONE-WAY ROADWAY TO A TWO-WAY ROADWAY.*                                                                                                                                                           | W21-20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | "HIGHWAY PAINTING AHEAD" - THIS SIGN IS INTENDED FOR USE IN ADVANCE OF A POINT WHERE A PAINT CREW IS WORKING IN OR ADJACENT TO THE ROADWAY.                                                                        |                                                              |                                   |                             |     |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
| R2-1( )                                                                                                         | "SPEED/LIMIT/XX" - THESE SIGNS ARE INTENDED TO REDUCE TRAFFIC SPEED IN ADVANCE OF THE DAILY WORK AREA WITHIN THE OVERALL PROJECT LIMITS.                                                                                                                                          | W7-1                                                                              | "HILL SYMBOL" - THIS SIGN SHOULD BE PLACED AT A POINT IN ADVANCE OF THE DOWNGRADE WHERE THE LENGTH, PERCENT OF GRADE, HORIZONTAL CURVATURE, OR OTHER PHYSICAL FEATURES REQUIRE SPECIAL CONSIDERATION ON THE PART OF DRIVERS.*                                                                            | W21-20a                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | "HIGHWAY PAINTING NEXT X MILES" - THIS SIGN IS INTENDED FOR USE IN ADVANCE OF PAINT CREW WORKING IN OR ADJACENT TO THE ROADWAY.                                                                                    |                                                              |                                   |                             |     |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
| R2-1(XX)                                                                                                        | "SPEED/LIMIT/XX" - THIS SIGN IS INTENDED FOR USE 500 FEET PAST THE "THANK YOU" SIGN TO BRING TRAFFIC BACK TO ORIGINAL POSTED SPEED.                                                                                                                                               | W8-1,W8-2                                                                         | "BUMP"/"DIP" - THESE SIGNS ARE INTENDED FOR USE TO GIVE WARNING OF A SHARP RISE OR DEPRESSION IN THE PROFILE OF THE ROAD THAT IS SUFFICIENTLY ABRUPT TO AFFECT VEHICLE OPERATION OR CAUSE CONSIDERABLE DISCOMFORT TO PASSENGERS.*                                                                        | W22-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | "BLASTING/ZONE/(DIST.)" - THIS SIGN IS INTENDED FOR USE IN ADVANCE OF ANY POINT OR WORK SITE WHERE THERE ARE EXPLOSIVES BEING USED. THE R22-2 AND W22-3 SIGNS MUST BE USED IN SEQUENCE WITH THIS SIGN.             |                                                              |                                   |                             |     |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
| R2-6P                                                                                                           | "FINES DOUBLE" - THIS SIGN IS INTENDED FOR USE WITHIN WORK ZONES TO PROVIDE NOTICE OF INCREASED FINES FOR TRAFFIC VIOLATIONS WITHIN WORK ZONES.                                                                                                                                   | W8-3a                                                                             | "PAVEMENT ENDS SYMBOL" - THIS SIGN IS INTENDED FOR USE IN ADVANCE OF A POINT WHERE THE PAVEMENT SURFACE CHANGES FROM A HARD-SURFACED PAVEMENT TO THE LOW-TYPE SURFACE OR EARTH ROAD.*                                                                                                                    | W22-3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | "END/BLASTING/ZONE" - THIS SIGN IS TO BE USED TO DENOTE THE END OF THE RADIO INFLUENCE AREA AND SHALL BE PLACED A MINIMUM OF 1000 FEET FROM THE BLASTING ZONE, EITHER WITH OR PRECEDING THE END CONSTRUCTION SIGN. |                                                              |                                   |                             |     |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
| R4-1                                                                                                            | "DO NOT PASS" - THIS SIGN SHOULD BE PLACED AT TRANSITION TAPER POINT.                                                                                                                                                                                                             |                                                                                   |                                                                                                                                                                                                                                                                                                          | W22-50(X)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | "ROCK SCALING X MILE(S)" - THIS SIGN IS INTENDED TO BE USED IN ADVANCE OF A FLAGGER IN ADVANCED OF THE WORK ZONE AREA.                                                                                             |                                                              |                                   |                             |     |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
| R4-2                                                                                                            | "PASS WITH CARE" - THIS SIGN SHOULD BE PLACED AT TRANSITION TAPER POINT.                                                                                                                                                                                                          | W8-4                                                                              | "SOFT SHOULDER" - THIS SIGN IS INTENDED FOR USE TO WARN OF A SOFT SHOULDER CONDITION THAT COULD PRESENT A PROBLEM TO VEHICLES THAT MAY GET OFF THE PAVEMENT.*                                                                                                                                            | ADVANCE PLACEMENT OF WARNING SIGNS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                    |                                                              |                                   |                             |     |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
| R2-10                                                                                                           | "BEGIN DOUBLE FINES ZONE" SIGN IS PLACED AT THE BEGINNING OF THE ADVANCED WARNING AREA OF THE TRAFFIC CONTROL ZONE.                                                                                                                                                               | W8-5                                                                              | "SLIPPERY WHEN WET SYMBOL" - THIS SIGN SHOULD BE PLACED IN ADVANCE OF THE CONDITION WHERE THE HIGHWAY SURFACE IS SLIPPERY BEYOND WHAT IS ORDINARY WHEN WET.*                                                                                                                                             | <table><tr><th rowspan="3">POSTED OR 85TH PERCENTILE SPEED</th><th colspan="9">ADVANCE PLACEMENT DISTANCE (FEET)</th></tr><tr><th rowspan="2">CONDITION A</th><th colspan="8">++ CONDITION B: DECELERATION TO THE LISTED ADVISORY SPEED (MPH) FOR THE CONDITION</th></tr><tr><th colspan="8">MPH</th></tr><tr><th></th><th>+</th><th>0</th><th>10</th><th>20</th><th>30</th><th>40</th><th>50</th><th>60</th><th>70</th></tr><tr><td>20</td><td>225</td><td>115</td><td>●</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td></tr><tr><td>25</td><td>325</td><td>155</td><td>●</td><td>●</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td></tr><tr><td>30</td><td>460</td><td>200</td><td>●</td><td>●</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td></tr><tr><td>35</td><td>565</td><td>250</td><td>●</td><td>●</td><td>●</td><td>--</td><td>--</td><td>--</td><td>--</td></tr><tr><td>40</td><td>670</td><td>305</td><td>100'</td><td>100'</td><td>●</td><td>--</td><td>--</td><td>--</td><td>--</td></tr><tr><td>45</td><td>775</td><td>360</td><td>125</td><td>100'</td><td>100'</td><td>●</td><td>--</td><td>--</td><td>--</td></tr><tr><td>50</td><td>885</td><td>425</td><td>200</td><td>175</td><td>125</td><td>100'</td><td>--</td><td>--</td><td>--</td></tr><tr><td>55</td><td>990</td><td>495</td><td>275</td><td>225</td><td>200</td><td>125</td><td>●</td><td>--</td><td>--</td></tr><tr><td>60</td><td>1100</td><td>570</td><td>350</td><td>325</td><td>275</td><td>200</td><td>100'</td><td>--</td><td>--</td></tr><tr><td>65</td><td>1200</td><td>645</td><td>450</td><td>400</td><td>350</td><td>275</td><td>200</td><td>100'</td><td>--</td></tr><tr><td>70</td><td>1250</td><td>730</td><td>525</td><td>500</td><td>450</td><td>375</td><td>275</td><td>200</td><td>--</td></tr><tr><td>75</td><td>1350</td><td>820</td><td>625</td><td>600</td><td>550</td><td>475</td><td>375</td><td>300</td><td>150</td></tr></table> |                                                                                                                                                                                                                    | POSTED OR 85TH PERCENTILE SPEED                              | ADVANCE PLACEMENT DISTANCE (FEET) |                             |     |  |  |  |  |  |  | CONDITION A | ++ CONDITION B: DECELERATION TO THE LISTED ADVISORY SPEED (MPH) FOR THE CONDITION |  |  |  |  |  |  |  | MPH |  |  |  |  |  |  |  |  | + | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 20 | 225 | 115 | ● | -- | -- | -- | -- | -- | -- | 25 | 325 | 155 | ● | ● | -- | -- | -- | -- | -- | 30 | 460 | 200 | ● | ● | -- | -- | -- | -- | -- | 35 | 565 | 250 | ● | ● | ● | -- | -- | -- | -- | 40 | 670 | 305 | 100' | 100' | ● | -- | -- | -- | -- | 45 | 775 | 360 | 125 | 100' | 100' | ● | -- | -- | -- | 50 | 885 | 425 | 200 | 175 | 125 | 100' | -- | -- | -- | 55 | 990 | 495 | 275 | 225 | 200 | 125 | ● | -- | -- | 60 | 1100 | 570 | 350 | 325 | 275 | 200 | 100' | -- | -- | 65 | 1200 | 645 | 450 | 400 | 350 | 275 | 200 | 100' | -- | 70 | 1250 | 730 | 525 | 500 | 450 | 375 | 275 | 200 | -- | 75 | 1350 | 820 | 625 | 600 | 550 | 475 | 375 | 300 | 150 |
| POSTED OR 85TH PERCENTILE SPEED                                                                                 | ADVANCE PLACEMENT DISTANCE (FEET)                                                                                                                                                                                                                                                 |                                                                                   |                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                    |                                                              |                                   |                             |     |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
|                                                                                                                 | CONDITION A                                                                                                                                                                                                                                                                       | ++ CONDITION B: DECELERATION TO THE LISTED ADVISORY SPEED (MPH) FOR THE CONDITION |                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                    |                                                              |                                   |                             |     |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
|                                                                                                                 |                                                                                                                                                                                                                                                                                   | MPH                                                                               |                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                    |                                                              |                                   |                             |     |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
|                                                                                                                 | +                                                                                                                                                                                                                                                                                 | 0                                                                                 | 10                                                                                                                                                                                                                                                                                                       | 20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 30                                                                                                                                                                                                                 | 40                                                           | 50                                | 60                          | 70  |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
| 20                                                                                                              | 225                                                                                                                                                                                                                                                                               | 115                                                                               | ●                                                                                                                                                                                                                                                                                                        | --                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | --                                                                                                                                                                                                                 | --                                                           | --                                | --                          | --  |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
| 25                                                                                                              | 325                                                                                                                                                                                                                                                                               | 155                                                                               | ●                                                                                                                                                                                                                                                                                                        | ●                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | --                                                                                                                                                                                                                 | --                                                           | --                                | --                          | --  |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
| 30                                                                                                              | 460                                                                                                                                                                                                                                                                               | 200                                                                               | ●                                                                                                                                                                                                                                                                                                        | ●                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | --                                                                                                                                                                                                                 | --                                                           | --                                | --                          | --  |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
| 35                                                                                                              | 565                                                                                                                                                                                                                                                                               | 250                                                                               | ●                                                                                                                                                                                                                                                                                                        | ●                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | ●                                                                                                                                                                                                                  | --                                                           | --                                | --                          | --  |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
| 40                                                                                                              | 670                                                                                                                                                                                                                                                                               | 305                                                                               | 100'                                                                                                                                                                                                                                                                                                     | 100'                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | ●                                                                                                                                                                                                                  | --                                                           | --                                | --                          | --  |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
| 45                                                                                                              | 775                                                                                                                                                                                                                                                                               | 360                                                                               | 125                                                                                                                                                                                                                                                                                                      | 100'                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 100'                                                                                                                                                                                                               | ●                                                            | --                                | --                          | --  |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
| 50                                                                                                              | 885                                                                                                                                                                                                                                                                               | 425                                                                               | 200                                                                                                                                                                                                                                                                                                      | 175                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 125                                                                                                                                                                                                                | 100'                                                         | --                                | --                          | --  |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
| 55                                                                                                              | 990                                                                                                                                                                                                                                                                               | 495                                                                               | 275                                                                                                                                                                                                                                                                                                      | 225                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 200                                                                                                                                                                                                                | 125                                                          | ●                                 | --                          | --  |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
| 60                                                                                                              | 1100                                                                                                                                                                                                                                                                              | 570                                                                               | 350                                                                                                                                                                                                                                                                                                      | 325                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 275                                                                                                                                                                                                                | 200                                                          | 100'                              | --                          | --  |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
| 65                                                                                                              | 1200                                                                                                                                                                                                                                                                              | 645                                                                               | 450                                                                                                                                                                                                                                                                                                      | 400                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 350                                                                                                                                                                                                                | 275                                                          | 200                               | 100'                        | --  |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
| 70                                                                                                              | 1250                                                                                                                                                                                                                                                                              | 730                                                                               | 525                                                                                                                                                                                                                                                                                                      | 500                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 450                                                                                                                                                                                                                | 375                                                          | 275                               | 200                         | --  |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
| 75                                                                                                              | 1350                                                                                                                                                                                                                                                                              | 820                                                                               | 625                                                                                                                                                                                                                                                                                                      | 600                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 550                                                                                                                                                                                                                | 475                                                          | 375                               | 300                         | 150 |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
| R2-11                                                                                                           | "END DOUBLE FINES ZONE" SIGN IS PLACED AFTER WORK ZONE AREA, PAST DOWNSTREAM TAPER SECTION.                                                                                                                                                                                       | W8-9a                                                                             | "SHOULDER DROP-OFF" - THIS SIGN IS INTENDED FOR USE IN ADVANCE OF A SHOULDER DROP-OFF THAT EXCEEDS THREE INCHES IN HEIGHT.*                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                    |                                                              |                                   |                             |     |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
| R11-2                                                                                                           | "ROAD/CLOSED" - THIS SIGN IS TO BE MOUNTED ON THE BARRICADE THAT IS PLACED BEFORE THE WORK ZONE ENTRANCE TO PROHIBIT TRAFFIC FROM ENTERING THE WORK ZONE.                                                                                                                         | W8-11                                                                             | "UNEVEN LANES" - THIS SIGN IS INTENDED FOR USE IN ADVANCE OF AN UNEVEN ADJACENT LANE SITUATION THAT EXCEEDS ONE INCH IN HEIGHT.*                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                    |                                                              |                                   |                             |     |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
| R11-3                                                                                                           | "ROAD CLOSED/X MILES AHEAD/L.T.O." - THIS SIGN SHOULD BE PLACED WHERE THROUGH TRAFFIC MUST DETOUR TO AVOID THE CLOSURE OF THE ROAD SOME DISTANCE BEYOND, BUT WHERE THE ROAD IS OPEN TO LOCAL TRAFFIC UP TO THE POINT OF CLOSURE.                                                  | W9-1( )                                                                           | "LEFT (RIGHT) LANE ENDS" - THIS SIGN IS INTENDED FOR USE IN ADVANCE OF THE PAVEMENT WIDTH TRANSITION SIGN (W4-2).                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                    |                                                              |                                   |                             |     |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
| R11-4                                                                                                           | "ROAD CLOSED/TO/THRU TRAFFIC" FOR URBAN USE - THIS SIGN SHOULD BE PLACED WHERE THROUGH TRAFFIC MUST DETOUR TO AVOID THE CLOSURE OF THE ROAD SOME DISTANCE BEYOND, BUT WHERE THE ROAD IS OPEN TO LOCAL TRAFFIC UP TO THE POINT OF CLOSURE.                                         | W9-2( )                                                                           | "LANE ENDS/MERGE LEFT (RIGHT)" - THIS SIGN IS INTENDED FOR USE AS A SUPPLEMENT TO THE PAVEMENT WIDTH TRANSITION SIGN (W4-2).                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                    |                                                              |                                   |                             |     |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
| R22-2                                                                                                           | "TURN OFF/2-WAY RADIOS/AND/CELLULAR/PHONES" - THIS SIGN IS TO BE USED IN SEQUENCE WITH THE W22-1 AND W22-3 SIGNS AND PLACED AT LEAST 1000 FEET FROM THE BEGINNING OF THE BLASTING ZONE.                                                                                           | W9-3                                                                              | "CENTER LANE CLOSED AHEAD SYMBOL" - THIS SIGN SHOULD BE USED IN ADVANCE OF THE POINT WHERE WORK OCCUPIES THE CENTER LANE AND TRAFFIC IS DIRECTED TO THE RIGHT OR LEFT OF THE WORK ZONE.*                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                    |                                                              |                                   |                             |     |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
| W1-1( )                                                                                                         | "TURN ARROW" - THIS SIGN IS INTENDED FOR USE WHERE ENGINEERING INVESTIGATIONS OF ROADWAY CONDITIONS SHOW THE RECOMMENDED SPEED ON THE TURN TO BE 30 MPH OR LESS.*                                                                                                                 | W12-1                                                                             | "DOUBLE ARROW SYMBOL" - THIS SIGN SHOULD BE PLACED AT THE POINT OF THE OBSTRUCTION IN THE ROADWAY, WHERE TRAFFIC IS PERMITTED TO PASS ON EITHER SIDE OF THE OBSTRUCTION.                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                    |                                                              |                                   |                             |     |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
| W1-2( )                                                                                                         | "CURVE ARROW" - THIS SIGN IS INTENDED FOR USE WHERE ENGINEERING INVESTIGATIONS OF ROADWAY CONDITIONS SHOW THE RECOMMENDED SPEED ON THE CURVE TO BE IN THE RANGE BETWEEN 30 AND 60 MILES PER HOUR.*                                                                                | W12-2                                                                             | "LOW CLEARANCE SYMBOL" - THIS SIGN IS INTENDED FOR USE IN ADVANCE OF AN OBSTRUCTION TO WARN VEHICLE OPERATORS OF CLEARANCES LESS THAN THE MAXIMUM VEHICLE HEIGHT PERMITTED PLUS 12 INCHES.*                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                    |                                                              |                                   |                             |     |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
| W1-3( )                                                                                                         | "REVERSE TURN ARROW" - THIS SIGN IS INTENDED FOR USE WHERE TWO TURNS OR THE CURVE AND A TURN IN OPPOSITE DIRECTIONS ARE SEPARATED BY A TANGENT OF LESS THAN 600 FEET.*                                                                                                            | W13-1P( )                                                                         | "ADVISORY SPEED PLAQUE" - THIS PLAQUE IS INTENDED TO SUPPLEMENT WARNING SIGNS ONLY AND SHALL NOT BE MOUNTED ALONE. IT IS USED TO INDICATE THE MAXIMUM RECOMMENDED SPEED FOR THE INDICATED CONDITION.                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                    |                                                              |                                   |                             |     |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
| W1-4( )                                                                                                         | "REVERSE CURVE ARROW" - THIS SIGN IS INTENDED FOR USE WHERE TWO CURVES IN OPPOSITE DIRECTIONS ARE SEPARATED BY A TANGENT OF LESS THAN 600 FEET.*                                                                                                                                  | W13-3                                                                             | "ADVISORY RAMP SPEED" - THIS SIGN IS TO BE POSTED TO INFORM MOTORISTS WHAT THE SUGGESTED SPEED LIMIT IS ON A RAMP.                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                    |                                                              |                                   |                             |     |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
| W1-6( )                                                                                                         | "ARROW" - THIS SIGN SHOULD BE MOUNTED JUST BELOW THE ROAD CLOSED SIGN AT THE POINT WHERE THE DIVERSION HAS BEEN ESTABLISHED DUE TO THE LANE CLOSURE.                                                                                                                              | W20-1                                                                             | "ROAD/WORK/AHEAD" - THIS SIGN IS TO BE LOCATED IN ADVANCE OF THE INITIAL ACTIVITY OR DETOUR A DRIVER MAY ENCOUNTER, AND IS INTENDED TO BE USED AS A WARNING OF OBSTRUCTIONS OR RESTRICTIONS.                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                    |                                                              |                                   |                             |     |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
| W3-2                                                                                                            | "YIELD AHEAD" - THIS SIGN IS INTENDED FOR USE AT THE APPROACH TO THE YIELD SIGN THAT IS NOT VISIBLE FOR A SUFFICIENT DISTANCE TO PERMIT THE DRIVER TO BRING HIS VEHICLE TO A STOP AT THE YIELD SIGN.*                                                                             | W20-2                                                                             | "DETOUR/(DIST.)" - THIS SIGN IS INTENDED FOR USE IN ADVANCE OF THE POINT AT WHICH TRAFFIC IS DIVERTED OVER A TEMPORARY ROADWAY OR ROUTE.                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                    |                                                              |                                   |                             |     |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
| W3-4                                                                                                            | "BE PREPARED TO STOP" - THIS SIGN TO BE PLACED IN ADVANCE OF A FLAGGER.                                                                                                                                                                                                           | W20-3                                                                             | "ROAD/CLOSED/(DIST.)" - THIS SIGN IS INTENDED FOR USE IN ADVANCE OF A POINT AT WHICH A ROADWAY IS CLOSED TO ALL TRAFFIC OR TO ALL BUT LOCAL TRAFFIC.                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                    |                                                              |                                   |                             |     |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
| W4-2(X)                                                                                                         | "LEFT (RIGHT) LANE TRANSITION SYMBOL" - THIS SIGN IS INTENDED FOR USE IN ADVANCE OF THE REDUCTION IN THE NUMBER OF TRAFFIC LANES IN THE DIRECTION OF TRAVEL ON THE MULTILANE HIGHWAY.*                                                                                            | W20-4                                                                             | "ONE LANE/ROAD/(DIST.)" - THIS SIGN IS INTENDED FOR USE IN ADVANCE OF A POINT WHERE TRAFFIC IN BOTH DIRECTIONS MUST USE A SINGLE LANE.                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                    |                                                              |                                   |                             |     |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
| W4-50                                                                                                           | "USE BOTH LANES DURING CONGESTION" - THIS SIGN IS INTENDED FOR USE IN ADVANCE OF THE "ROAD WORK X MILE" ADVANCED WARNING SIGN.                                                                                                                                                    | W20-5( )                                                                          | "XXX LANE/CLOSED/(DIST.)" - THIS SIGN IS INTENDED FOR USE IN ADVANCE OF A POINT WHERE ONE LANE OF A MULTIPLE-LANE ROADWAY IS CLOSED. IT SHOULD BE PROVIDED WITH INTERCHANGEABLE PLAQUES READING "RIGHT", "LEFT", AND "CENTER" AT NO ADDITIONAL COST TO THE PROJECT.                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                    |                                                              |                                   |                             |     |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
| W4-51                                                                                                           | "USE BOTH LANES TO MERGE POINT" - THIS SIGN IS INTENDED TO DIRECT MOTORISTS TO USE BOTH TRAVEL LANES UNTIL THE LANES ARE REDUCED TO ONE LANE.                                                                                                                                     | W20-7                                                                             | "FLAGGER SYMBOL" - THIS SIGN IS INTENDED FOR USE IN ADVANCE OF ANY POINT AT WHICH A FLAGGER HAS BEEN STATIONED TO CONTROL TRAFFIC THROUGH OR AROUND THE PROJECT.*                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                    |                                                              |                                   |                             |     |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
| W4-52                                                                                                           | "TAKE TURNS MERGE HERE" - THIS SIGN IS INTENDED TO WARN MOTORISTS IN ADVANCED TO MOVE FROM THE CLOSED TRAVEL LANE TO THE OPEN TRAVEL LANE, USUALLY 500 FEET IN ADVANCED OF THE START OF THE TRANSITION TAPER .                                                                    | W20-52                                                                            | "GROOVED/PAVEMENT/AHEAD" - THIS SIGN IS INTENDED TO BE USED IN ADVANCE OF A ROADWAY THAT HAS BEEN GROOVED AND/OR ROTO MILLED.                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                    |                                                              |                                   |                             |     |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
| W5-1                                                                                                            | "ROAD NARROWS" - THIS SIGN IS INTENDED FOR USE IN ADVANCE OF THE TRANSITION ON THE ROAD WHERE THE PAVEMENT WIDTH IS REDUCED ABRUPTLY TO A WIDTH SUCH THAT TWO CARS CANNOT PASS WITHOUT REDUCING SPEED.*                                                                           | W21-1a                                                                            | "WORKER SYMBOL" - THIS SIGN IS INTENDED FOR USE IN CONJUNCTION WITH MINOR MAINTENANCE AND PUBLIC UTILITY OPERATIONS FOR THE PROTECTION OF MEN WORKING IN OR NEAR THE ROADWAY.                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                    |                                                              |                                   |                             |     |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
| Computer File Information                                                                                       |                                                                                                                                                                                                                                                                                   | Sheet Revisions                                                                   |                                                                                                                                                                                                                                                                                                          | Colorado Department of Transportation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                    | TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION                    |                                   | STANDARD PLAN NO.           |     |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
| Creation Date: 07/04/12                                                                                         |                                                                                                                                                                                                                                                                                   | Date:                                                                             | Comments                                                                                                                                                                                                                                                                                                 | <br>2829 W. Howard Pl.<br>Denver, CO 80204<br>Phone: 303-757-9654<br>FAX: 303-757-9219                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | EB                                                                                                                                                                                                                 | FOR HIGHWAY CONSTRUCTION                                     |                                   | S-630-1                     |     |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
| Created By: Nakao                                                                                               | R-2                                                                                                                                                                                                                                                                               | 01/14/26                                                                          | UPDATED ADVANCE PLACEMENT                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                    |                                                              |                                   | Standard Sheet No. 26 of 26 |     |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
| Last Modification Date: 01/14/26                                                                                | R-1                                                                                                                                                                                                                                                                               | 01/20/23                                                                          | Replaced R52-6a(b) with R2-10(11)<br>Updated W3-4 and R11-3                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                    |                                                              |                                   |                             |     |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
| Last Modified By: NRIVERA                                                                                       |                                                                                                                                                                                                                                                                                   |                                                                                   |                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                    |                                                              |                                   |                             |     |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
| CAD Ver.: MicroStation V8                                                                                       |                                                                                                                                                                                                                                                                                   |                                                                                   |                                                                                                                                                                                                                                                                                                          | Traffic Safety & Engineering                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                    | Issued By: Traffic Safety & Engineering Branch July 31, 2019 |                                   | Project Sheet Number:       |     |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
| Scale: Not to Scale                                                                                             |                                                                                                                                                                                                                                                                                   |                                                                                   |                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                    |                                                              |                                   |                             |     |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |
| Units: English                                                                                                  |                                                                                                                                                                                                                                                                                   |                                                                                   |                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                    |                                                              |                                   |                             |     |  |  |  |  |  |  |             |                                                                                   |  |  |  |  |  |  |  |     |  |  |  |  |  |  |  |  |   |   |    |    |    |    |    |    |    |    |     |     |   |    |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |    |    |    |    |    |    |     |     |   |   |   |    |    |    |    |    |     |     |      |      |   |    |    |    |    |    |     |     |     |      |      |   |    |    |    |    |     |     |     |     |     |      |    |    |    |    |     |     |     |     |     |     |   |    |    |    |      |     |     |     |     |     |      |    |    |    |      |     |     |     |     |     |     |      |    |    |      |     |     |     |     |     |     |     |    |    |      |     |     |     |     |     |     |     |     |



**FIXED**



**MOVABLE-SKIDS**



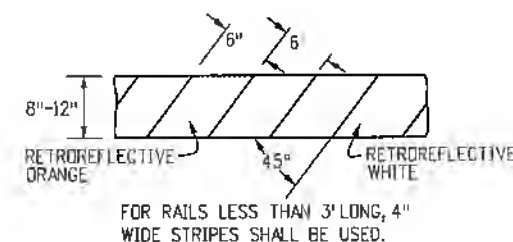
**MOVABLE-HINGED**

### TYPICAL TYPE 3 BARRICADES

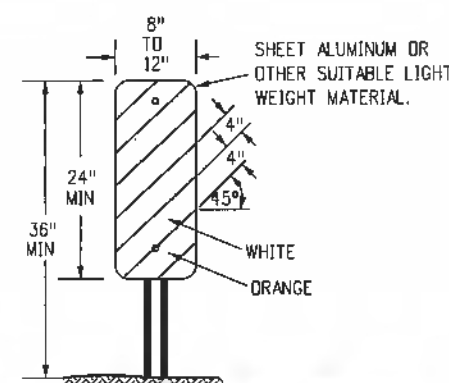
- TYPE 3 BARRICADES HAVE 3 REFLECTORIZED RAIL FACES IF FACING TRAFFIC IN ONE DIRECTION AND 6 IF FACING TRAFFIC IN TWO DIRECTIONS.
- THE PORTION OF THE POST ABOVE THE GROUND LINE SHALL BE PAINTED IN ACCORDANCE WITH THE APPROPRIATE GENERAL NOTE.
- DETACHABLE EXTENSION WING RAILS FOR BYPASSING OF CONSTRUCTION EQUIPMENT ARE PERMITTED, WHEN NECESSARY, ON FIXED OR MOVABLE TYPE 3 BARRICADES. THE LENGTH SHALL BE ADEQUATE TO CLOSE THE BORROW PIT AND/OR SHOULDER AS REQUIRED.

### RAIL LENGTH TABLE

| TYPE 3 BARRICADE |         | LENGTH   |
|------------------|---------|----------|
| FIXED            | MOVABLE |          |
| F - A            | M - A   | 8'- 14'  |
| F - B            | M - B   | 15'- 24' |
| F - C            | M - C   | 25'- 35' |
| F - D            | M - D   | > 35'    |

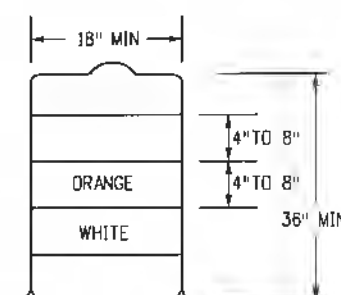


**RAIL STRIPING DETAIL**



**TYPICAL VERTICAL PANEL**

- IF SPECIAL PANELS 3' OR GREATER IN HEIGHT ARE REQUIRED, THEN 6" STRIPES SHALL BE USED.
- IF FIXED PLACEMENT IS REQUIRED, MOUNT ON DELINEATOR POST. SEE COLORADO STANDARD PLAN S-612-1.

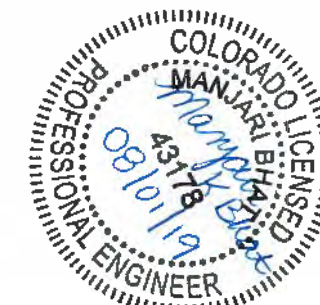


**TYPICAL DRUM**

- THE 18" MINIMUM DIMENSION SHALL APPLY TO THE SMALLEST MEASUREMENT OF OBLONG, RECTANGULAR, OR FLATTENED SIDE DRUMS.
- THERE SHALL BE AT LEAST TWO ORANGE AND TWO WHITE HORIZONTAL, CIRCUMFERENTIAL, RETROREFLECTIVE STRIPES ON EACH DRUM.

### GENERAL NOTES

- THE VARIOUS TYPES, COMBINATIONS AND APPLICATIONS OF SIGNS AND WARNING LIGHTS FOR BARRICADES REQUIRED FOR EACH PROJECT SHALL BE:
  - AS SPECIFIED OR DETAILED IN THE PLANS.
  - AS SHOWN IN APPLICABLE TYPICAL ILLUSTRATIONS.
  - AS CALLED FOR AND SUBJECT TO APPROVAL BY THE ENGINEER.
- TEMPORARY AND PERMANENT TYPE 3 BARRICADES SHALL BE FABRICATED FROM APPROVED CRASH TESTED MATERIALS. SEE SECTION 614 AND 630 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION FOR ADDITIONAL REQUIREMENTS.
- ALL PAINTING SHALL CONFORM WITH THE FOLLOWING:
  - THE ENTIRE AREA OF ORANGE AND WHITE STRIPES SHALL BE FABRICATED AS ONE PIECE.
  - ALL SKIDS, BRACES AND POSTS SHALL BE PAINTED WITH 2 COATS OF EXTERIOR WHITE PAINT.
  - THE BACKSIDES OF RAILS AND VERTICAL PANEL CHANNELIZING DEVICES FACING ONE DIRECTION OF TRAFFIC ONLY SHALL BE PAINTED WITH EXTERIOR WHITE PAINT.
  - ALUMINUM OR GALVANIZED STEEL SKIDS, BRACES AND POSTS SHALL NOT BE PAINTED.
- ALL STRIPED SURFACES SHALL CONFORM WITH THE FOLLOWING:
  - THE ENTIRE AREA OF ORANGE AND WHITE STRIPES SHALL BE FABRICATED AS ONE PIECE.
  - HORIZONTAL RAILS, WING RAILS AND VERTICAL PANEL CHANNELIZING DEVICES SHALL HAVE ORANGE AND WHITE STRIPES ON THE FACE SIDE(S) SLANTING DOWNWARD AT A 45° ANGLE TOWARD THE SIDE(S) TO WHICH TRAFFIC IS TO PASS OR TURN.
  - PERMANENT BARRICADES SHALL HAVE RETROREFLECTIVE RED AND WHITE STRIPES. THEY MAY BE USED AT LOCATIONS TO MARK THE END OF A ROAD, STREET OR HIGHWAY THAT ENDS AT A "T" INTERSECTION, OR WHERE THERE IS NO CROSSROAD OR OUTLET.
  - ALL RETROREFLECTIVE SHEETING SHALL CONFORM TO ASTM D4956:
    - ORANGE AND WHITE SHALL BE TYPE IV MINIMUM.
    - RED AND WHITE SHALL BE TYPE IV MINIMUM.
- FOR ALL WOODEN BARRICADE COMPONENTS NOMINAL LUMBER DIMENSIONS ARE SATISFACTORY.
- ALL SCREWS, BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED OR CADMIUM PLATED.
- STABILITY OF BARRICADES AND CHANNELIZING DEVICES SHALL CONFORM WITH THE FOLLOWING:
  - SKIDS (BASES) OF MOVABLE BARRICADES SHALL BE WEIGHTED WITH SANDBAGS ONLY WHERE NECESSARY TO PROVIDE STABILITY.
  - NO MOVABLE OR PORTABLE DEVICE SHALL BE WEIGHTED BY ANY METHOD OR WITH ANY MATERIAL THAT WOULD MAKE THEM HAZARDOUS TO MOTORISTS.
- WARNING LIGHTS USED WITH BARRICADES, DRUMS AND VERTICAL PANELS SHALL CONFORM WITH THE FOLLOWING:
  - USE FLASHING WARNING LIGHTS WHEN DEVICES ARE USED SINGLY, AND STEADY BURN LIGHTS WHEN THEY ARE USED IN A SERIES FOR CHANNELIZATION.
  - THEY SHALL BE POSITIONED ABOVE THE TOP RAIL OF BARRICADES OR ON TOP OF DRUMS AND VERTICAL PANELS.
- CONCRETE BARRIER (TEMPORARY) SHALL CONFORM WITH:
  - PRECAST CONCRETE BARRIER AS SHOWN ON COLORADO STANDARD PLAN M-605-14.
  - BARRIER REFLECTORS SHALL BE INSTALLED THAT MEET THE REQUIREMENTS OF STANDARD TYPICAL DELINEATOR INSTALLATIONS, EXCEPT THE MAXIMUM SPACING SHALL BE 50', AND THEY WILL NOT BE PAID FOR BUT ARE INCLUDED IN THE COST OF THE BARRIER.
  - CONCRETE BARRIER END TREATMENT SHALL BE IN ACCORDANCE WITH CLEAR ZONE CRITERIA, AND PLACED AS SHOWN ON THE PLANS.
- SIGN PANELS MOUNTED ON BARRICADES WILL BE PAID FOR SEPARATELY.



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### BARRICADES, DRUMS, CONCRETE BARRIERS (TEMP) & VERTICAL PANELS

Issued By: Traffic & Safety Engineering Branch July 31, 2019

### STANDARD PLAN NO.

S-630-2

Standard Sheet No. 1 of 1

Project Sheet Number: