

Oversight / NHS

FHWA FULL OVERSIGHT? NO YES

NATIONAL HIGHWAY SYSTEM? NO YES

DEPARTMENT OF TRANSPORTATION STATE OF COLORADO

ECO REGIONAL TRAIL DOWD JUNCTION TO MINTURN, PHASE 1 EAGLE COUNTY FEDERAL AIDE PROJECT #ES3006A-043 FEDERAL PROJECT CODE 16945

SHEET NO. INDEX OF SHEETS

- 1 COVER SHEET
- 2 STANDARD PLANS LIST
- 3 - 4 GENERAL NOTES
- 5 SUMMARY OF APPROXIMATE QUANTITIES
- 6 GEOMETRIC LAYOUT
- 7 STAGING PLAN
- 8 - 11 PATH PLAN
- 12 - 13 PATH CROSS SECTIONS
- 14 - 15 PATH DETAILS
- 16 - 18 STORM WATER MANAGEMENT PLAN
- 19 - 21 UTILITY PLAN

RETAINING WALL PLANS

- RW-1 COVER SHEET
- RW-2 TECHNICAL SCOPE OF WORK
- RW-3 SITE PLAN
- RW-4 RETAINING WALL PROFILE
- RW-D1 TYPICAL RETAINING WALL CROSS SECTION
- RW-D2 RETAINING WALL CONSTRUCTION DETAILS

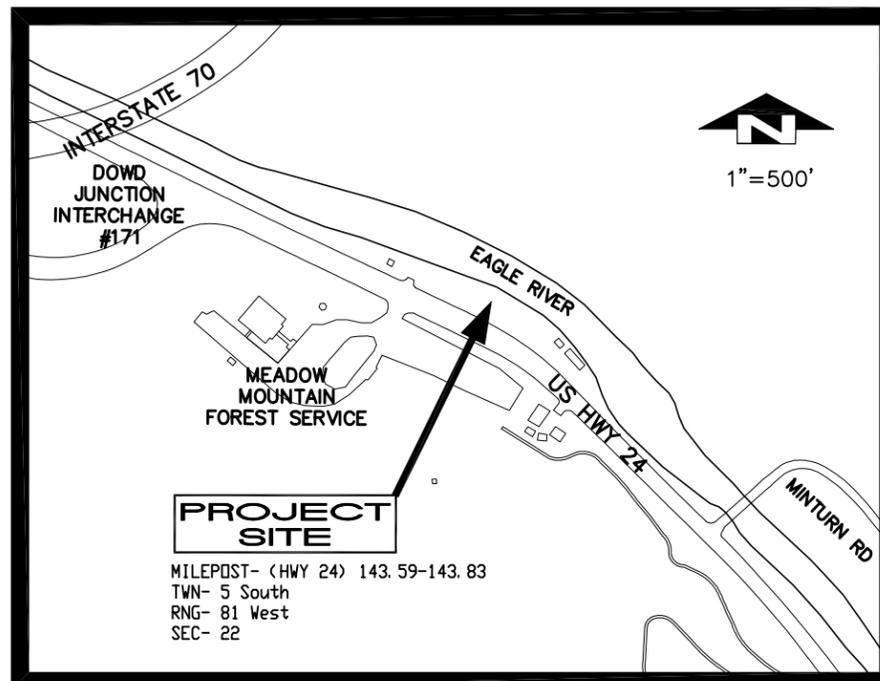
CDOT S STANDARDS

- S-614-8 TUBULAR STEEL SIGN SUPPORT DETAILS (UPDATED 6-18-09)
- S-630-1 TRAFFIC CONTROLS FOR HWY CONSTRUCTION (UPDATED 6-24-09)

TABULATION OF LENGTH & DESIGN DATA

STATION	ROADWAY		MAJOR STRUCTURE
	LIN FT.	MILES	LIN FT.
BEGIN LANE IMPROVEMENTS ON US HWY 24. STA. 13+20	1291	0.24	
END LANE IMPROVEMENTS ON US HWY 24 STA. 26+00			
TOTAL	1291.0	0.24	
PROJECT GROSS LENGTH	1291.0	0.24	

VICINITY MAP



PROJECT CONTACTS

TOWN OF MINTURN (OWNER) _____ CHRIS CERIMELE _____ (970) 827-5645
 ECO TRAILS (PARTNER) _____ ELLIE CARYL _____ (970) 328-3523
 XCEL (GAS-HIGH PRESSURE) _____ RICH SISNEROS _____ (970) 262-4076
 COMCAST (CATV) _____ TONY HILDRETH _____ (970) 619-0752
 EAGLE RIVER WATER AND SANITATION DISTRICT _____ FRED HASLEE _____ (970) 477-5449
 HOLY CROSS ENERGY (ELECTRIC) _____ LIBBY COWLING _____ (970) 947-5428
 QWEST (TELEPHONE) _____ SAM TOOLEY _____ (970) 468-6860
 CIVIL ENGINEER, AEI _____ GARY BROOKS, _____ (970) 926-3373
 _____ MATT WADEY _____
 GEOTECHNICAL ENGINEER, HP GEOTECHNICAL _____ DAVE YOUNG _____ (970) 384-1500
 LAND SURVEYOR, AEI _____ ROB LEE _____ (970) 926-3373
 COLORADO DEPARTMENT OF TRANSPORTATION,
 (R.O.W. COORDINATOR) _____ TIM WOODMANSEE _____ (970) 683-6231
 UTILITY COORDINATOR _____ DWIGHT BURGESS _____ (970) 683-6288
 (PROJECT ENGINEER- EAGLE) _____ PETER LOMBARDI _____ (970) 328-6385
 (MAINTENANCE SUPERVISOR) _____ JIM ACHATZ _____ (970) 524-6525
 ECOLOGICAL RESOURCE CONSULTANTS _____ DAVID BLAUCH _____ (720) 564-0788

811 FOR BURIED UTILITY INFORMATION
THREE (3) BUSINESS DAYS
BEFORE YOU DIG
CALL 811
(or 1-800-922-1967)
UTILITY NOTIFICATION
CENTER OF COLORADO (UNCC)
www.uncc.org

FOR AGENCY REVIEW
NOT FOR CONSTRUCTION
JULY, 2009



Colorado Department of Transportation 222 S. 6th St., Room 100 GRAND JUNCTION, CO., 81501 Phone: 970-248-7230 FAX: 970-248-7294 REGION 3	ALPINE AEI ENGINEERING INC. EDWARDS BUSINESS CENTER • P.O. BOX 97 EDWARDS, COLORADO 81632 • 970 926-3373 • FAX 926-3390 •	Computer File Information Creation Date: 01/15/09 Initials: MCW Last Modification Date: XXXXX Initials: Full Path: P:\ECO8001\DWG\WORK\CDOT Drawing File Name: Cover.dwg Acad Ver. 2006 Scale: n.t.s Units: English		Sheet Revisions <table border="1"> <tr> <th>No.</th> <th>Description</th> <th>Date</th> </tr> <tr> <td>1</td> <td>SUBMITTAL</td> <td>5-7-09</td> </tr> <tr> <td>2</td> <td>CDOT SUBMITTAL</td> <td>5-27-09</td> </tr> <tr> <td>3</td> <td>MINTURN TRAIL AD SET</td> <td>7-17-09</td> </tr> </table>			No.	Description	Date	1	SUBMITTAL	5-7-09	2	CDOT SUBMITTAL	5-27-09	3	MINTURN TRAIL AD SET	7-17-09	As Constructed No Revisions: Revised: Void:		ECO REGIONAL TRAIL DOWD JUNCTION TO MINTURN COVER SHEET Designer: MCW Structure Numbers: Detailer: MCW Sheet Subset: Subst Sheets:		Project No./Code #ES3006A-043 16945 Sheet Number 1
		No.	Description	Date																			
1	SUBMITTAL	5-7-09																					
2	CDOT SUBMITTAL	5-27-09																					
3	MINTURN TRAIL AD SET	7-17-09																					

P:\ECO8001\dwg\WORK\CDOT PLANS\Cover.dwg, 7/17/2009 9:42:20 AM, wadey

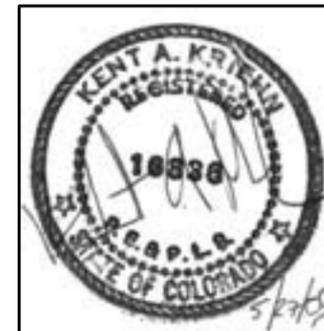
PLAN NUMBER	M STANDARD TITLE	PAGE NUMBER
<input type="checkbox"/> M-100-1	STANDARD SYMBOLS (3 SHEETS)	1-3
<input type="checkbox"/> M-203-1	APPROACH ROADS	4
<input type="checkbox"/> M-203-2	DITCH TYPES	5
<input type="checkbox"/> M-203-11	SUPERELEVATION CROWNED AND DIVIDED HIGHWAYS (3 SHEETS)	6-8
<input type="checkbox"/> M-203-12	SUPERELEVATION STREETS (2 SHEETS)	9-10
<input type="checkbox"/> M-206-1	EXCAVATION AND BACKFILL FOR STRUCTURES (2 SHEETS)	11-12
<input type="checkbox"/> M-206-2	EXCAVATION AND BACKFILL FOR BRIDGES (2 SHEETS)	13-14
<input checked="" type="checkbox"/> M-208-1	TEMPORARY EROSION CONTROL (7 SHEETS)	15-21
<input type="checkbox"/> M-210-1	MAILBOX SUPPORTS (2 SHEETS)	22-23
<input type="checkbox"/> M-214-1	PLANTING DETAILS	24
<input checked="" type="checkbox"/> M-412-1	CONCRETE PAVEMENT JOINTS (5 SHEETS)	25-29
<input type="checkbox"/> M-510-1	STRUCTURAL PLATE CULVERT PIPE H-20 LOADING	30
<input type="checkbox"/> M-601-1	SINGLE CONCRETE BOX CULVERT (2 SHEETS)	31-32
<input type="checkbox"/> M-601-2	DOUBLE CONCRETE BOX CULVERT (2 SHEETS)	33-34
<input type="checkbox"/> M-601-3	TRIPLE CONCRETE BOX CULVERT (2 SHEETS)	35-36
<input checked="" type="checkbox"/> M-601-10	HEADWALL FOR PIPES	37
<input type="checkbox"/> M-601-11	TYPE "S" SADDLE HEADWALLS FOR PIPES	38
<input type="checkbox"/> M-601-12	HEADWALLS AND PIPE OUTLET PAVING	39
<input type="checkbox"/> M-601-20	WINGWALLS FOR PIPE OR BOX CULVERTS	40
<input checked="" type="checkbox"/> M-603-1	METAL AND PLASTIC PIPE (2 SHEETS)	41-42
<input type="checkbox"/> M-603-2	REINFORCED CONCRETE PIPE	43
<input type="checkbox"/> M-603-3	PRECAST CONCRETE BOX CULVERT	44
<input checked="" type="checkbox"/> M-603-10	CONCRETE AND METAL END SECTIONS (2 SHEETS)	45-46
<input type="checkbox"/> M-604-10	INLET, TYPE C	47
<input type="checkbox"/> M-604-11	INLET, TYPE D	48
<input type="checkbox"/> M-604-12	CURB INLET TYPE R (2 SHEETS)	49-50
<input type="checkbox"/> M-604-13	CONCRETE INLET TYPE 13	51
<input type="checkbox"/> M-604-20	MANHOLES (3 SHEETS)	52-54
<input type="checkbox"/> M-604-25	VANE GRATE INLET (5 SHEETS)	55-59
<input type="checkbox"/> M-605-1	SUBSURFACE DRAINS	60
<input checked="" type="checkbox"/> M-606-1	GUARDRAIL TYPE 3 W-BEAM (16 SHEETS)	61-76
<input type="checkbox"/> M-606-13	GUARDRAIL, TYPE 7, F-SHAPE BARRIER (4 SHEETS)	77-80
<input type="checkbox"/> M-606-14	PRECAST TYPE 7 CONCRETE BARRIER (3 SHEETS)	81-83

PLAN NUMBER	M STANDARD TITLE	PAGE NUMBER
<input type="checkbox"/> M-607-1	WIRE FENCES AND GATES (3 SHEETS)	84-86
<input type="checkbox"/> M-607-2	CHAIN LINK FENCE (3 SHEETS)	87-89
<input type="checkbox"/> M-607-3	BARRIER FENCE	90
<input type="checkbox"/> M-607-4	DEER FENCE AND GATES (2 SHEETS)	91-92
<input type="checkbox"/> M-607-10	PICKET SNOW FENCE	93
<input type="checkbox"/> M-607-15	ROAD CLOSURE GATE (9 SHEETS)	94-102
<input type="checkbox"/> M-608-1	CURB RAMPS (4 SHEETS)	103-106
<input type="checkbox"/> M-609-1	CURBS, GUTTERS, AND SIDEWALKS (3 SHEETS)	107-109
<input type="checkbox"/> M-611-1	CATTLE GUARD (2 SHEETS)	110-111
<input type="checkbox"/> M-613-1	ROADWAY LIGHTING (4 SHEETS)	112-115
<input type="checkbox"/> M-614-1	RUMBLE STRIPS (3 SHEETS)	116-118
<input type="checkbox"/> M-614-2	SAND BARREL ARRAYS (2 SHEETS)	119-120
<input type="checkbox"/> M-615-1	EMBANKMENT PROTECTOR TYPE 3	121
<input type="checkbox"/> M-615-2	EMBANKMENT PROTECTOR TYPE 5	122
<input type="checkbox"/> M-616-1	INVERTED SIPHON	123
<input type="checkbox"/> M-620-1	FIELD LABORATORY CLASS 1	124
<input type="checkbox"/> M-620-2	FIELD LABORATORY CLASS 2	125
<input type="checkbox"/> M-620-11	FIELD OFFICE CLASS 1	126
<input type="checkbox"/> M-620-12	FIELD OFFICE CLASS 2	127
<input type="checkbox"/> M-629-1	SURVEY MONUMENTS (2 SHEETS)	128-129

PLAN NUMBER	S STANDARD TITLE	PAGE NUMBER
<input checked="" type="checkbox"/> S-612-1	DELINEATOR INSTALLATIONS (5 SHEETS)	131-135
<input checked="" type="checkbox"/> S-614-1	GROUND SIGN PLACEMENT (2 SHEETS)	136-137
<input type="checkbox"/> S-614-2	CLASS I SIGNS	138
<input type="checkbox"/> S-614-3	CLASS II SIGNS	139
<input type="checkbox"/> S-614-4	CLASS III SIGNS (3 SHEETS)	140-142
<input type="checkbox"/> S-614-5	BREAK-AWAY SIGN SUPPORT DETAILS FOR GROUND SIGNS (2 SHEETS)	143-144
<input type="checkbox"/> S-614-6	CONCRETE FOOTINGS AND SIGN ISLANDS FOR CLASS III SIGNS (2 SHEETS)	145-146
<input checked="" type="checkbox"/> S-614-8	TUBULAR STEEL SIGN SUPPORT DETAILS (5 SHEETS)	147-151
<input type="checkbox"/> S-614-10	MARKER ASSEMBLY INSTALLATIONS	152
<input type="checkbox"/> S-614-12	STRUCTURE NUMBER INSTALLATION	153
<input type="checkbox"/> S-614-14	FLASHING BEACON AND SIGN INSTALLATION (3 SHEETS)	154-156
<input checked="" type="checkbox"/> S-614-20	TYPICAL POLE MOUNT SIGN INSTALLATIONS	157
<input type="checkbox"/> S-614-21	CONCRETE BARRIER SIGN POST INSTALLATIONS	158
<input type="checkbox"/> S-614-22	TYPICAL MULTI-SIGN INSTALLATIONS	159
<input type="checkbox"/> S-614-40	TYPICAL TRAFFIC SIGNAL INSTALLATION DETAILS (7 SHEETS)	160-166
<input type="checkbox"/> S-614-40A	ALTERNATIVE TRAFFIC SIGNAL INSTALLATION DETAILS (5 SHEETS)	167-171
<input type="checkbox"/> S-614-50	MONOTUBE OVERHEAD SIGNS (14 SHEETS)	172-185
<input type="checkbox"/> S-627-1	TYPICAL PAVEMENT MARKINGS (5 SHEETS)	186-190
<input checked="" type="checkbox"/> S-630-1	TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION (19 SHEETS)	191-202
<input type="checkbox"/> S-630-2	BARRICADES, DRUMS, CONCRETE BARRIERS (TEMP) AND VERTICAL PANELS	203
<input type="checkbox"/> S-630-3	FLASHING BEACON (PORTABLE) DETAILS	204

THE STANDARD PLAN SHEETS INDICATED HEREON BY A MARKED BOX ARE TO BE USED TO CONSTRUCT THIS PROJECT.

COLORADO
DEPARTMENT OF TRANSPORTATION
STANDARD PLANS LIST
M & S STANDARDS
JULY 4, 2006




FOR BURIED UTILITY INFORMATION
THREE (3) BUSINESS DAYS
BEFORE YOU DIG
CALL 811
(or 1-800-922-1967)
UTILITY NOTIFICATION
CENTER OF COLORADO (UMCC)
www.umcc.org



Colorado Department of Transportation  222 S. 6th St., Room 100 GRAND JUNCTION, CO., 81501 Phone: 970-248-7230 FAX: 970-248-7294 REGION 3	 EDWARDS BUSINESS CENTER • P.O. BOX 97 EDWARDS, COLORADO 81630 970-926-3373 • FAX 926-3390	Computer File Information Creation Date: 03/01/09 Initials: MCW Last Modification Date: XXXXX Initials: Full Path: P:\ECO08001\DWG\WORK\CDOT\ Drawing File Name: Standard Plans List.dwg Acad Ver. 2006 Scale: n.t.s Units: English			Sheet Revisions <table border="1"> <tr><td>1</td><td>NTP SUBMITTAL</td><td>5-7-09</td></tr> <tr><td>2</td><td>CDOT SUBMITTAL</td><td>5-27-09</td></tr> <tr><td>3</td><td>MINTURN TRAIL AD SET</td><td>7-17-09</td></tr> </table>			1	NTP SUBMITTAL	5-7-09	2	CDOT SUBMITTAL	5-27-09	3	MINTURN TRAIL AD SET	7-17-09	As Constructed No Revisions: Revised: Void:		ECO REGIONAL TRAIL DOWD JUNCTION TO MINTURN STANDARD PLANS LIST Designer: MCW Structure Numbers: Detailer: MCW Sheet Subset: Subset Sheets:		Project No./Code #ES3006A-043 16945 Sheet Number 2
		1	NTP SUBMITTAL	5-7-09																	
2	CDOT SUBMITTAL	5-27-09																			
3	MINTURN TRAIL AD SET	7-17-09																			

GENERAL NOTES

- The Contractor shall submit a memorandum describing construction methods to the Engineer and Owner prior to the issuance of the Notice to Proceed including: size of crew assigned to the job, duties of crew members, type and size of equipment to be use for the work in the retaining wall location and areas near riparian and wetland vegetation, method of wall construction proposed. Methods subject to approval by Engineer and Owner.
- All materials, equipment, installation and construction within the State Highway ROW shall be in accordance with the latest edition of the following standard references as applicable:
 - CDOT field material manual
 - CDOT construction manual
 - CDOT standard specifications for road and bridge construction
 - CDOT standard special provisions, as applicalbe to project
 - CDOT standard plans (M&S standards)
 - FHWA manual on uniform traffic control devices (mutcd) for streets and highways and the colorado supplement thereto
 - AASHTO roadside design guide
- The Contractor shall have one signed copy of the CDOT approved plans and specifications at the job site at all times. In addition, the Contractor shall maintain one set of approved plans on site as an as-built set in which the Contractor records all changes to the approved plans.
- Contractor shall not scale drawings for construction purposes. Missing dimensions or discrepancies in the drawings detected by Contractor shall be brought to the attention of Engineer immediately. Assumptions made by Contractor with regard to missing dimensions or discrepancies in the drawings are at Contractor's own risk.
- Construction safety is the sole responsibility of Contractor. Neither Engineer or Owner will be responsible for monitoring or assuring Contractor's compliance with any applicable safety laws, programs, regulations, or policies.
- Contractor shall attend a preconstruction conference with the Owner and Engineer in attendance. Contractor shall not begin construction activities prior to the preconstruction conference.
- The contractor shall notify the Town of Minturn, Eco Trails and CDOT a minimum of 48 hours and a maximum of 96 hours prior to starting construction.
- Hours of construction shall be limited to Monday through Friday from 6:30 am to 7:00 pm no work will be allowed at night, Saturdays, Sundays or legal holidays without prior authorization from the Owner, in compliance with the conditions of project permits. CDOT may also restrict work within the Highway right-of-way during adverse weather conditions or special events.
- Contractor shall construct and maintain construction entrances acceptable to CDOT, the Owner and the Engineer. Construction entrances shall function to minimize off-site soil tracking. All soil tracked off site shall be immediately cleaned up to the satisfaction of the Owner and Engineer.
- Contractor shall maintain existing drainage channels, culverts, and appurtenances during construction as necessary to protect roads and property.
- Contractor shall limit all construction activities, including equipment and material storage, to within the construction limits shown on the drawings and staging plan. Additional areas required by Contractor for storage, staging, or any other functions shall be obtained by contractor with no additional cost to Owner. Any disturbance beyond these limits shall be restored by the Contractor at his own expense, including regrading, seeding and mulching. construction activity in addition to normal construction procedure shall include the parking of vehicles or equipment, disposal of litter and any other action which would alter the existing conditions.
- Contractor shall take all appropriate precautions to significantly reduce any potential pollution caused by his activities, including vehicle fueling, storage of fertilizers or chemicals, etc. Contractor shall have defined procedures for handling potential pollutants and have identified spill prevention and response procedures prior to any activities on the project site.
- Erosion control measures must be implemented before construction and grading operations begin.
- The Contractor shall remove all sediment, mud and construction debris that may accumulate in the flowlines and public right of ways as a result of this site development. Sediment removal shall be conducted in a timely manner and directed by the Engineer.
- Contractor shall maintain dust control throughout the construction period by application of water and/or an acceptable dust palliative.
- Areas of reseeding/restoration shall be in accordance with section 212 of the CDOT standard specifications and the associated project specifications.
- Place topsoil shall be 6" deep. If the topsoil is not generated within the project limits, it shall be treated with an herbicide application after placement and before native seeding. Herbicide treatment shall be performed be a licensed herbicide applicator and shall be included in the cost of seeding (native).
- All areas of excavation and embankment shall be treated with seeding, mulching and topsoil as indicated on the plans.
- Fine grading of topsoil prior to seeding is incidental to topsoil placement.
- Assume limits for topsoil and revegetation pay item are shown in the plan view.
- Clearing and grubbing for this project will not be paid for separately but shall be included in the cost of the work. Included in this work is the removal of all vegetation and plant material.
- All excess material as a result of of this project shall become property of the Contractor.
- The subgrade shall be proof rolled as directed by the Engineer and soft areas repaired prior to beginning paving operation as specified in the standard specifications.
- Where it is required to cut existing asphalt or existing concrete, the cutting shall be done to a neat work line using saw, cutting wheel or other method approved by the Engineer.
- Waste materials will be disposed of by the Contractor at no additional cost to the Town unless otherwise noted on these drawings. Waste material shall not be disposed of within town or State right-of-way. It shall be the responsibility of the Contractor to obtain a disposal site for all unusable material.
- The Contractor is required to reset, adjust or replace items that are affected by construction and designated to remain. This included landscape, sprinkler system, signs, sidewalk, and other items as may be identified by the Engineer. Unless specifically noted on the plans. the Contractor will not be compensated for work outside the project limits.
- The Contractor shall carefully coordinate all demolition, temporary lighting and permanent lighting with holy cross energy. It is the intent of these plans that all traffic lanes in the vicinity of the project that are currently illuminated (if any) be lit by temporary or permanent luminaries during all phases of construction
- Conflicts with existing underground utilities may exist. Prior to commencement of construction in any area, Contractor shall make arrangements for accurate location, including bury depth, of all existing utilities within the construction limits at his own expense. Where conflicts exist between necessary construction activities and existing utilities in the opinion of Contractor, Engineer, and the respective Utility Owner, affected utilities will be relocated by the Utility Owner. Contractor will not be responsible for the cost of necessary utility relocations.
- Contractor is responsible for protection of all existing utilities. any existing utility damaged, as a result of contractor's activities shall be repaired by Contractor with no additional cost to Owner.
- Where existing surface features related to existing underground utilities are to be adjusted to final grades, including valve boxes, manhole frames, lids and grates, sanitary sewer clean-outs, and storm drain inlets, Contractor shall make such adjustments to the satisfaction of the Engineer and the respective Utility Owner and at Contractor's expense.
- Owner and Engineer assume no responsibility for utility locations. Locations shown may not be adequate for the purposes of construction. Contractor is responsible for verification and accurate location of all existing utilities.
- The Contractor shall call the Utility Notification Center of Colorado (UNCC) at 1-800-922-1987 for utility locations at least three (3) business days, not including the day actual notification, prior to any excavation activities.
- All work and activities in or around the existing utilities shall be coordinated with the appropriate utility company.
- Utility lines as shown on the plans sheets are plotted from the best available information.
- All excavations for utility lines, culverts, trenches, or tunnels shall meet the requirements of the Occupational Safety and Health Administration (OSHA), Colorado Industrial Commission, Colorado Division of Mines, or CDOT, whichever applies.
- If any groundwater is encountered, Contractor shall immediately inform Owner and Engineer. Work shall be halted until Contractor obtains a CDPHE Construction Dewatering Permit.
- Contractor will provide construction staking as follows:
 - Centerline and grade stakes for trail alignment subgrade, base course and asphalt at 75-foot intervals, at 20 foot offsets outside of the construction limits.
 - Location and grade stakes for retaining walls at 25-foot intervals. Reference staking shall be at 10' offsets outside of the construction limits, to the extent practical.
 - Location and grade stakes for storm drainage improvements including pipe and riprap.
 - As-built survey of the centerline of the completed trail, within 30 days of project completion.
 - Contractor must reestablish, at his own cost, staking lost within the construction limits due to Contractor's construction activities.
 - All survey work shall be done in accordance with the latest edition of the CDOT survey manual.
- The Contractor shall conform to the terms, conditions and stipulations of the CDOT right-of-way permit, USFS permit, CDOT Utility Permit and US Army Corps of Engineers Nationwide Wetlands Permit. Owner will provide permit copies
- All materials sampling, testing and inspection shall be performed in accordance with the latest revisions of CDOT Standard Specifications and Field Materials Manual. Sampling, testing and inspection of materials by a qualified independent testing laboratory will be responsibility of the Owner. Subgrade shall be proof rolled with a loaded tandem axle dump truck in the presence of the Engineer. Areas found to be weak or fail shall be ripped, scarified, wetted if necessary, and re-compacted to requirement for density and moisture at Contractor's expense. Inspection Notification: Contractor shall notify the Engineer for the purpose of arranging an on-site inspection no less than forty-eight (48) hours in advance of the advance of the following stages of trail construction:
 - Sub-Grade - Prior to and during construction
 - Aggregate Base Course - Prior to and during construction
 - Asphalt Placement - Prior to and during construction
 - Retaining Walls - Prior to and during construction
 - Railings

The Engineer shall make an on-site visit within forty-eight (48) hours notification period for the purpose of observing proof rolls on items 1) and 2) above and for general observation of construction methods being employed at these stages. Said on-site inspection by the Engineer shall in no way abrogate the duties of the Contractor outlined elsewhere in the plans.
- All concrete shall have Class 2 sulfate exposure



<p>Colorado Department of Transportation 222 S. 6th St., Room 100 GRAND JUNCTION, CO., 81501 Phone: 970-248-7230 FAX: 970-248-7294</p>	<p>ALPINE A&E ENGINEERING INC. EDWARDS BUSINESS CENTER • P.O. BOX 97 • 970-926-3373 • FAX 926-3390 •</p>	Computer File Information			Sheet Revisions			As Constructed		ECO REGIONAL TRAIL DOWD JUNCTION TO MINTURN GENERAL NOTES			Project No./Code	
		Creation Date: 03/01/09	Initials: MCW	1	NTP SUBMITTAL	5-7-09	No Revisions:		Designer: MCW		Structure Numbers		#ES3006A-043	
Last Modification Date: XXXXX	Initials:	2	CDOT SUBMITTAL	5-27-09	Revised:		Detailer: MCW				16945			
Full Path: P:\ECO08001\DWG\WORK\CDOT\		3	MINTURN TRAIL AD SET	7-17-09	Void:		Sheet Subset:		Subset Sheets:		Sheet Number 3			
Drawing File Name: Notes.dwg														
Acad Ver. 2006	Scale: n.t.s	Units: English												

P:\ECO08001\dwg\WORK\CDOT PLANS\Notes.dwg, 7/17/2009 9:50:41 AM, wadey

REVISION OF SECTION 403 HOT MIX ASPHALT

TABLE 403-2

Section 403 of the Standard Specifications is hereby revised for this project as follows:
 Subsection 403.02 shall include the following:
 The design mix for hot mix asphalt shall conform to the following:

Property	Test Method	Value for Grading SX (75)
Air Voids, percent at: N (initial) (for information only) N (design)	CPL 5115	3.5 - 4.5
Lab Compaction (Revolution): N (initial) (for information only) N (design)	CPL 5115	75
Stability, minimum	CPL 5106	28
Aggregate Retained on the 4.75 mm (No. 4) Sieve with at least 2 Mechanically Induced fractured faces, % minimum.	CP 45	70
Accelerated Moisture Susceptibility Tensile Strength Ratio (Lottman), minimum	CPL 5109 Method B	80
Minimum Dry Split Tensile Strength, kPa (psi)	CPL 5109 Method	205 (30)
Grade of Asphalt Cement, Top Layer		PG 58-28
Grade of Asphalt Cement, Layers Below Top		PG 58-28
Voids in the Mineral Aggregate (VMA) % minimum	CP 48	See Table 403-2
Voids Filled with Asphalt (VFA)	AI MS-2	65-80
Dust to Asphalt Ratio Fine Graduation Coarse Graduation	CP 50	0.6 - 1.2 .8 - 1.6

Note: AI MS-2 = Asphalt Institute Manual Series 2
 Note: The current version of CPL 5115 is available from the Region Materials Engineer.
 Note: Mixes with graduations having less than 40% passing the 4.75 mm (No.4) sieve shall be approached with caution because of constructability problems.
 Note: Graduation for mixes with a nominal maximum aggregate size of one-inch or larger are considered a coarse gradation if they pass below the maximum density line at #4 screen. Graduation for mixes with a nominal maximum aggregate size of ¾ inch or smaller are considered a coarse gradation if they pass below the maximum density line at the #8 screen.

All mix designs shall be run with a gyratory compaction angle of 1.25 degrees and properties must satisfy Table 403-1. Form 43 will establish construction targets for Asphalt Cement and all mix properties at Air Voids up to 1.0 percent below the mix design optimum.

Nominal Maximum Size*, Mm (Inches)	Design Air Voids		
	3.5%	4.0%	4.5%
37.5 (1 ½)	11.6	11.7	11.8
25.0 (1)	12.6	12.7	12.8
19.0 (¾)	13.6	13.7	13.8
12.5 (½)	14.6	14.7	14.8
9.5 (¾)	15.6	15.7	15.8

* The Nominal maximum size is defined as one sieve larger than the first sieve to retain more than 10%.
 ** Interpolate specified VMA values for design air voids between those listed.
 *** Extrapolate specified VMA values for production air voids beyond those listed.

The Contractor shall prepare a quality control plan outlining the steps taken to minimize segregation of HMA. This plan shall be submitted to the Engineer and approved prior to beginning the paving operations. When the Engineer determines that segregation is unacceptable, the paving shall stop and the cause of segregation shall be corrected before paving operations will be allowed to resume.

The hot mix asphalt shall not contain any reclaimed asphalt pavement.

Hot mix asphalt for patching shall conform to the gradation requirements for Hot Mix Asphalt (grading SX).

A minimum of 1 percent hydrated lime by weight of the combined aggregate shall be added to the aggregate for all hot mix asphalt.

Acceptance samples shall be taken.

Subsection 403.03 shall include the following:

The Contractor shall construct the work such that all roadway pavement placed prior to the time paving operations end for the year, shall be completed to the full thickness required by the plans. The Contractor's Progress Schedule shall show the methods to be used to comply with this requirement.

Delete subsection 403.05 and replace with the following:

403.05

The accepted quantities of hot mix asphalt will be paid for in accordance with subsection 401.22, at the contract unit price per ton for the bituminous mixture.

Payment will be made under:

Pay Item	Pay Unit
Hot Mix Asphalt (Grading SX) (75) (PG 58-28)	Ton

Aggregate, asphalt recycling agent, additives, hydrated lime, and all other work necessary to complete each hot mix asphalt item will not be paid for separately, but shall be included in the unit price bid. When the pay item includes the PG binder grade, the asphalt cement will not be measured and paid for separately, but shall be included in the work. When the pay item does not include the PG binder grade, asphalt cement will be measured and paid for in accordance with Section 411. Asphalt cement used in Hot Mix Asphalt (Patching) will not be measured and paid for separately, but shall be included in the work.

Excavation, preparation, and tack coat of areas to be patched will not be measured and paid for separately, but shall be included in the work.

TRAFFIC CONTROL

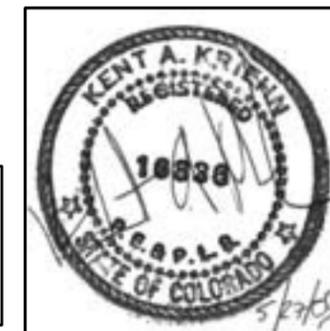
The key elements of the Contractor's Method of Handling Traffic (MHT) are outlined in subsection 630.09.

The components of the Traffic Control Plan (TCP) for this project are included in the following:

- (1) Subsection 104.04 and Section 630 of the specifications.
- (2) Standard Plan S-630-1, Traffic Controls for Highway Construction
- (3) Standard Plan S-630-2
- (4) Schedule of Construction Traffic Control Devices
- (5) Signing and Marking Plans
- (6) Manual of Uniform Traffic Control Devices (MUTCD)

Special Traffic Control requirements for this project are as follows:

1. The Contractor shall be responsible for providing all required traffic control devices necessary to construct the project in accordance with the guidelines set forth within the Manual on Uniform Traffic Control Devices, with latest revisions and the CDOT M & S Standards.
2. Two weeks prior to beginning work on the project, the Contractor will submit a Traffic Control Plan for review and approval by the Engineer and Colorado Department of Transportation Traffic and Maintenance Divisions. The site specific and detailed TCP will cover all phases of construction, day/night signage, detours and MHTs.
3. The Traffic Control Devices itemized in the Project Bid Form are provided as base bid information. Contractor recommendations for revisions to type and quantity will be reviewed upon submittal of the TCP and price adjusted as determined necessary and valid by Engineer and CDOT.
4. The Contractor shall provide traffic control at all times when work is underway on the site between 6:30 a.m. and 7:00 p.m. Monday through Friday.
5. The Contractor will designate a Traffic Control Supervisor (TCS) to manage construction signage and safety of operations during activities within CDOT Right of Way. The TCS shall be available whenever work is in progress.
6. Prior to starting construction adjacent to or in the roadway, the Contractor shall notify the Colorado State Patrol, Department of Transportation, and Eagle County Sheriff of the date the Contractor intends to start construction and advise of the project MHT's during the length of the project work.
 Colorado State Patrol Dispatch: 479-2200
 Colorado Department of Transportation Maintenance: 524-7749 or 845-845-8816
 Eagle County Sheriff Dispatch: 479-2200
7. The Contractor shall not have construction equipment or materials in the lanes or the shoulders of the highway at any time, unless approved or directed.
8. Whenever the Contractor removes, obliterates, or overlays any pavement markings and/or signage, the Contractor shall replace them in accordance with the plans and drawings or as directed by the Engineer.
9. Workers, Contractor, Suppliers, etc. shall not access the work area by crossing the roadways unless proper traffic control or other necessary precautions are provided. Suitable transportation to the work site shall be provided by the Contractor for personnel whose vehicles are parked off site.
10. Employee vehicle parking is prohibited where it conflicts with safety, access or flow of traffic. No employee parking will be allowed within the clear zone unless approved by the Engineer.
11. The Contractor shall organize the work such that there will be no hazards within the Clear Zone at the completion of each day's work.
12. During the guardrail work, only one lane may be closed to traffic at any time. Traffic shall not be delayed for more than 5 minutes or as directed by the Engineer.
13. The Contractor shall coordinate traffic control operations with scheduled special events (e.g. organized regional bicycle rides, etc.)



<p>Colorado Department of Transportation 222 S. 6th St., Room 100 GRAND JUNCTION, CO., 81501 Phone: 970-248-7230 FAX: 970-248-7294</p>	<p>ALPINE AEE ENGINEERING INC. EDWARDS BUSINESS CENTER • P.O. BOX 97 970 926-3373 • FAX 926-3390</p>	Computer File Information Creation Date: 03/01/09 Initials: MCW Last Modification Date: XXXXX Initials: Full Path: P:\ECO08001\DWG\WORK\CDOT\ Drawing File Name: Notes.dwg Acad Ver. 2006 Scale: n.t.s Units: English			Sheet Revisions			As Constructed		ECO REGIONAL TRAIL DOWD JUNCTION TO MINTURN GENERAL NOTES		Project No./Code #ES3006A-043
		1 NTP SUBMITTAL 5-7-09 2 CDOT SUBMITTAL 5-27-09 3 MINTURN TRAIL AD SET 7-17-09	No Revisions: Revised: Void:	Designer: MCW Detailer: MCW Sheet Subset:	Structure Numbers Subset Sheets:	16945 Sheet Number 4						

SUMMARY OF APPROXIMATE QUANTITIES

INDEX BOOK PAGE SHEET	CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	BASE BID		PLAN		AS CONST.		PROJECT TOTALS		DIFF. ±	% PLAN
				PLAN	AS CONST.	PLAN	AS CONST.	PLAN	AS CONST.				
	626-00000	MOBILIZATION	LS	1									
	625-00000	CONSTRUCTION SURVEYING	LS	1									
	207-00210	STOCKPILE TOPSOIL (REMOVE 6")	CY	373									
	207-00205	TOPSOIL	CY	373									
	203-00010	UNCLASSIFIED EXCAVATION (COMPLETE IN PLACE)	CY	615									
	203-00060	EMBANKMENT MATERIAL (COMPLETE IN PLACE)	CY	325									
	304-06000	CLASS 6 BASECOURSE	TN	607									
	403-34721	HOT MIX ASPHALT (PATCHING)	TN	236									
	504-03311	MSE RETAINING WALL W/ GEOGRID	SF	2354									
	206-00100	STRUCTURAL BACKFILL (CLASS 1)	CY	872									
	606-00301	GUARDRAIL TYPE 3 (6-3 SPACING)	LF	169									
	606-02003	END ANCHORAGE (NONFLARED)	EA	2									
	202-01300	REMOVAL OF END ANCHORAGE	EA	2									
	202-01130	REMOVAL OF GUARDRAIL TYPE 3	LF	72									
	606-00301	REPLACE EXISTING GUARDRAIL TYPE 3 (6-3 SPACING)	LF	48									
	514-01030	TIMBER RUBRAIL ON GUARDRAIL	LF	430									
	514-00201	PEDESTRIAN RAILING (STEEL) (SPECIAL)	LF	555									
	614-00011	SIGN PANEL (CLASS 1) (TRAIL SIGN)	EA	7									
	614-00044	TIMBER SIGN POST 4X4 INCH	LF	56									
	210-00810	RESEST GROUND SIGN	EA	3									
	202-05026	SAWCUT ASPHALT MATERIAL	LF	70									
	212-00006	SEEDING (NATIVE)	AC	0.5									
	603-10240	24 INCH CORRUGATED STEEL PIPE	LF	3									
	603-30024	24 INCH STEEL END SECTION	EA	1									
	506-00209	RIPRAP (9 INCH)	CY	2									
	208-00007	EROSION LOG (8 INCH)	LF	838									
	208-00070	STABILIZED CONSTRUCTION ENTRANCE	EA	2									
	210-04010	ADJUST MANHOLE	EA	1									
	607-11525	FENCE (PLASTIC (CONSTRUCTION AND STAGING FENCING)	LF	850									
	412-00815	CONCRETE PAVEMENT (8 INCH) REINFORCED (BOATRAMP)	SY	33									
	514-01020	PEDESTRIAN RAILING (TIMBER) (SPLIT RAIL FENCE)	LF	50									
	614	BOLLARDS	EA	5									
	210	PLACE BOULDERS, 2'X3' AVERAGE	EA	20									
	630-00012	TRAFFIC CONTROL MANAGEMENT	DAY	35									
	630-00000	FLAGGING	HR	8									
	630-80341	CONSTRUCTION TRAFFIC SIGN (PANEL SIZE A)	EA	10									
	630-80360	DRUM CHANNELIZING DEVICE	EA	30									
	700-70010	F/A MINOR CONTRACT REVISIONS	FA	1									
	700-70011	F/A PARTNERING	FA	1									
	700-70019	F/A ASPHALT CEMENT COST ADJUSTMENT	FA	1									
	700-70016	F/A FUEL COST ADJUSTMENT	FA	1									

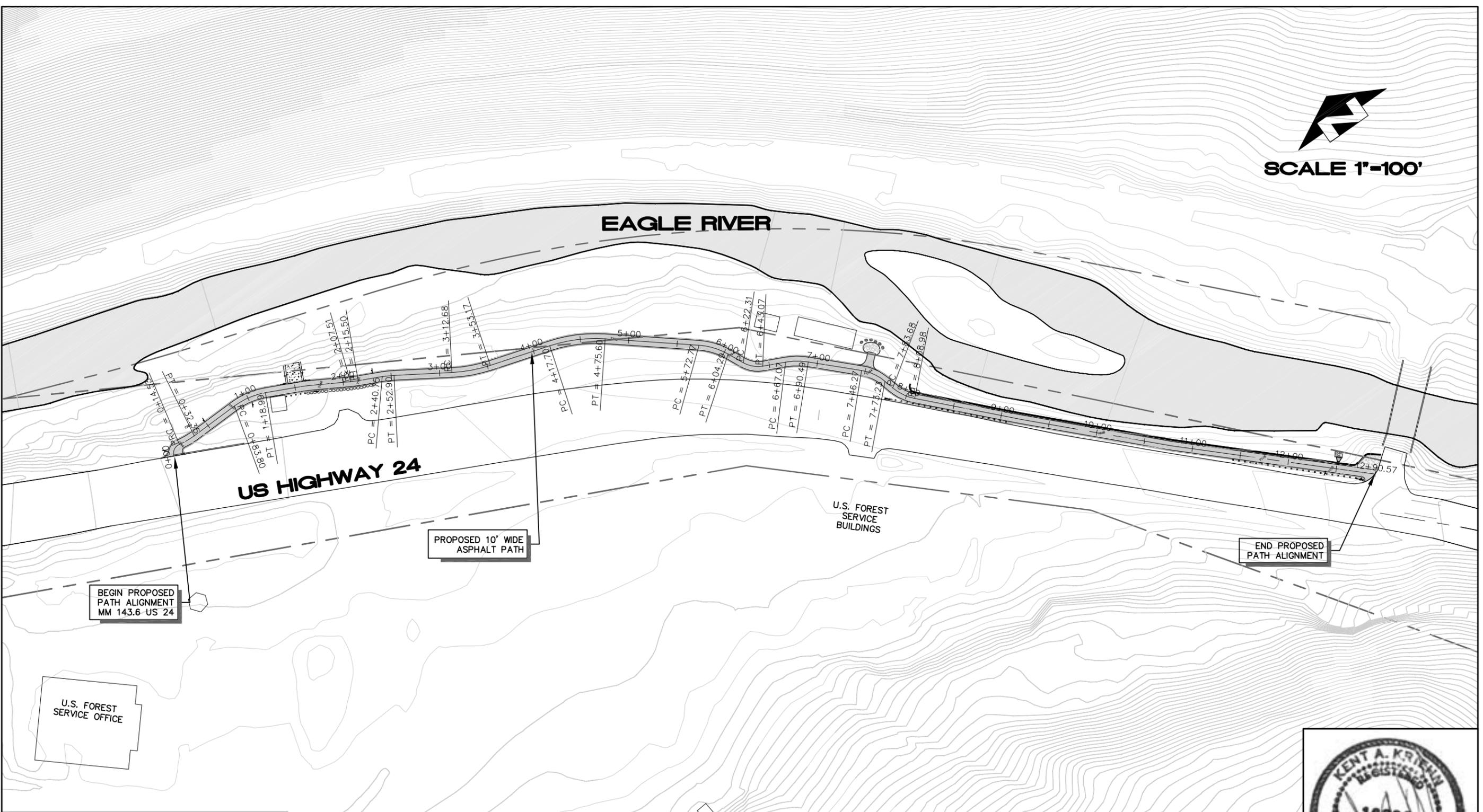
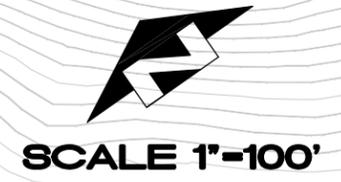


FOR BURIED UTILITY INFORMATION
THREE (3) BUSINESS DAYS
BEFORE YOU DIG
CALL 811
(or 1-800-922-1967)
UTILITY NOTIFICATION
CENTER OF COLORADO (UNCC)
www.uncc.org




 <p>Colorado Department of Transportation 222 S. 6th St., Room 100 GRAND JUNCTION, CO., 81501 Phone: 970-248-7230 FAX: 970-248-7294</p>	 <p>ALPINE ENGINEERING INC. EDWARDS BUSINESS CENTER • P.O. BOX 97 • 970-926-3373 • FAX 926-3390 •</p>	Computer File Information Creation Date: 03/01/09 Initials: MCW Last Modification Date: XXXXX Initials: Full Path: P:\ECO08001\DWG\WORK\CDOT\ Drawing File Name: Approx. Quantities.dwg Acad Ver. 2006 Scale: n.t.s Units: English		Sheet Revisions <table border="1"> <tr> <td>1</td> <td>NTP SUBMITTAL</td> <td>5-7-09</td> </tr> <tr> <td>2</td> <td>CDOT SUBMITTAL</td> <td>5-27-09</td> </tr> <tr> <td>3</td> <td>MINTURN TRAIL AD SET</td> <td>7-17-09</td> </tr> </table>		1	NTP SUBMITTAL	5-7-09	2	CDOT SUBMITTAL	5-27-09	3	MINTURN TRAIL AD SET	7-17-09	As Constructed No Revisions: Revised: Void:		ECO REGIONAL TRAIL DOWD JUNCTION TO MINTURN SUMMARY APPROX. QUANTITIES Designer: MCW Structure Numbers: Detailer: MCW Sheet Subset: Subset Sheets:		Project No./Code #ES3006A-043 16945 Sheet Number 5
		1	NTP SUBMITTAL	5-7-09															
2	CDOT SUBMITTAL	5-27-09																	
3	MINTURN TRAIL AD SET	7-17-09																	
 <p>REGION 3</p>																			

P:\ECO08001\dwg\WORK\CDOT PLANS\Geometric Layout.dwg, 7/17/2009 10:18:36 AM, wadey



BEGIN PROPOSED PATH ALIGNMENT
MM 143.6 US 24

PROPOSED 10' WIDE ASPHALT PATH

U.S. FOREST SERVICE BUILDINGS

END PROPOSED PATH ALIGNMENT

U.S. FOREST SERVICE OFFICE

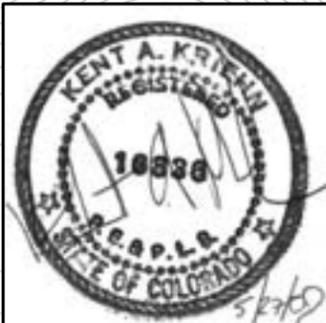
US HIGHWAY 24

EAGLE RIVER

811 FOR BURIED UTILITY INFORMATION
THREE (3) BUSINESS DAYS BEFORE YOU DIG
CALL 811
(or 1-800-922-1967)
UTILITY NOTIFICATION CENTER OF COLORADO (UNCC)
www.uncc.org



CONTACT ALPINE ENGINEERING FOR SURVEY LAYOUT, DRAWING FILE AND CONTROL POINT INFORMATION



Colorado Department of Transportation



222 S. 6th St., Room 100
GRAND JUNCTION, CO., 81501
Phone: 970-248-7230
FAX: 970-248-7294

REGION 3



ALPINE ENGINEERING INC.
EDWARDS BUSINESS CENTER • P.O. BOX 97
EDWARDS, COLORADO 81632
970-926-3373 • FAX 926-3390

Computer File Information	
Creation Date: 03/01/09	Initials: MCW
Last Modification Date: XXXXX	Initials:
Full Path: P:\ECO08001\DWG\WORK\CDOT\	
Drawing File Name: Geometric Layout.dwg	
Acad Ver. 2006	Scale: n.t.s Units: English

Sheet Revisions		
1	NTP SUBMITTAL	5-7-09
2	CDOT SUBMITTAL	5-27-09
3	MINTURN TRAIL AD SET	7-17-09

As Constructed
No Revisions:
Revised:
Void:

ECO REGIONAL TRAIL DOWD JUNCTION TO MINTURN GEOMETRIC LAYOUT		
Designer: MCW	Structure Numbers:	
Detailer: MCW	Subset Sheets:	
Sheet Subset:		

Project No./Code
#ES3006A-043
16945
Sheet Number 6

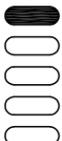
P:\ECO08001\dwg\WORK\CDOT PLANS\Staging.dwg, 7/17/2009 10:29:52 AM, wadey



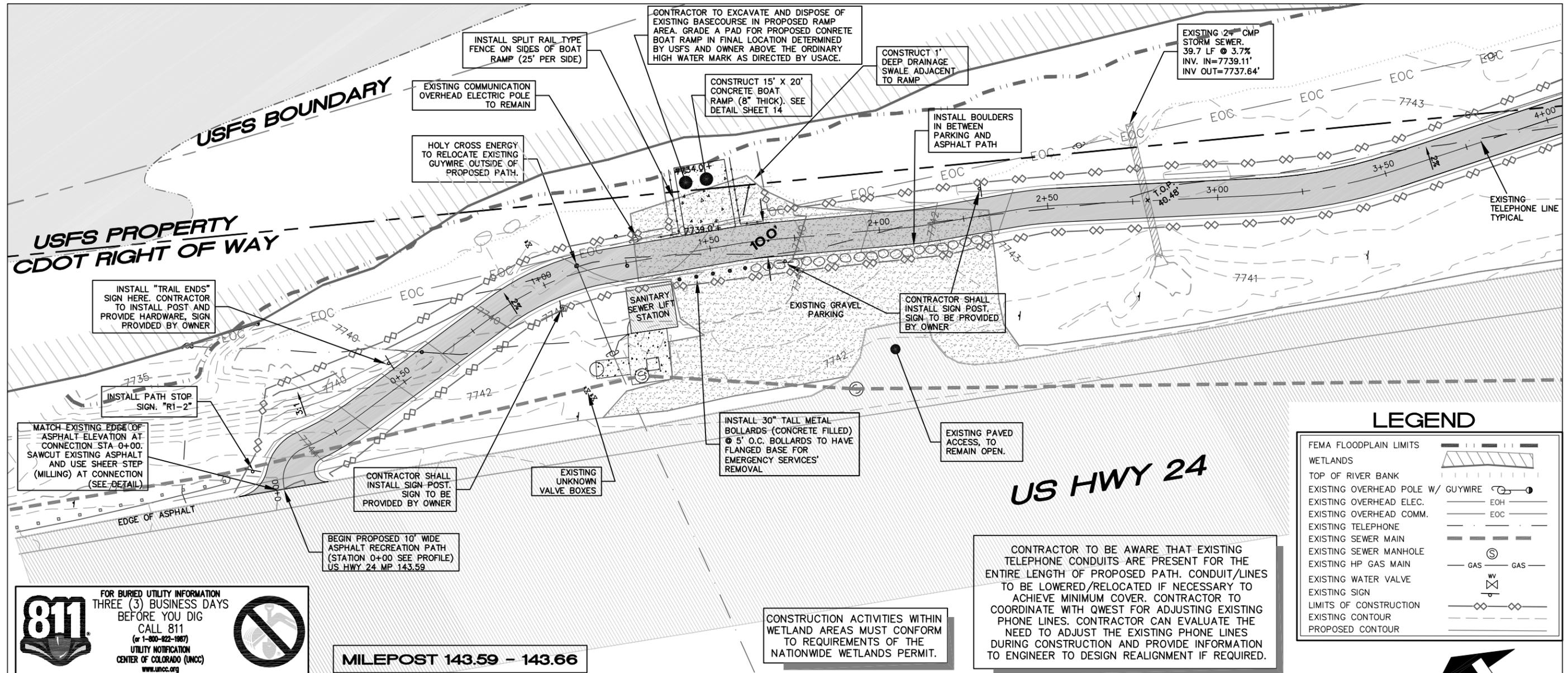
100' X 50' STAGING AREA PERMITTED BY USFS. CONTRACTOR TO INSTALL ORANGE CONSTRUCTION FENCE ON NORTHWEST BOUNDARY OF STAGING AREA TO SEPERATE USE FROM PUBLIC PARKING AREA. RESTORE AREA TO SAME OR BETTER CONDITION UPON COMPLETION OF THE PROJECT. CONSTRUCTION TRAFFIC CONTROL PLAN TO INCLUDE ACCESS TO AND FROM STAGING AREA TO CONSTRUCTION SITE.

811 FOR BURIED UTILITY INFORMATION
 THREE (3) BUSINESS DAYS BEFORE YOU DIG
 CALL 811 (or 1-800-922-1987)
 UTILITY NOTIFICATION CENTER OF COLORADO (UNCC)
 www.uncc.org




Colorado Department of Transportation  222 S. 6th St., Room 100 GRAND JUNCTION, CO., 81501 Phone: 970-248-7230 FAX: 970-248-7294 REGION 3		Computer File Information Creation Date: 03/01/09 Initials: MCW Last Modification Date: XXXXX Initials: Full Path: P:\ECO08001\DWG\WORK\CDOT\ Drawing File Name: STAGING.dwg Acad Ver. 2006 Scale: n.t.s Units: English		Sheet Revisions			As Constructed No Revisions: Revised: Void:	ECO REGIONAL TRAIL DOWD JUNCTION TO MINTURN STAGING PLAN		Project No./Code #ES3006A-043 16945 Sheet Number 7
			1 NTP SUBMITTAL 5-7-09 2 CDOT SUBMITTAL 5-27-09 3 MINTURN TRAIL AD SET 7-17-09	Designer: MCW Detailer: MCW Sheet Subset:	Structure Numbers: Subset Sheets:					

P:\ECO08001\dwg\WORK\CDOT PLANS\Path Plan.dwg, 7/17/2009 10:31:42 AM, wadey



811
 FOR BURIED UTILITY INFORMATION
 THREE (3) BUSINESS DAYS
 BEFORE YOU DIG
 CALL 811
 (or 1-800-922-1967)
 UTILITY NOTIFICATION
 CENTER OF COLORADO (UNCC)
 www.uncc.org

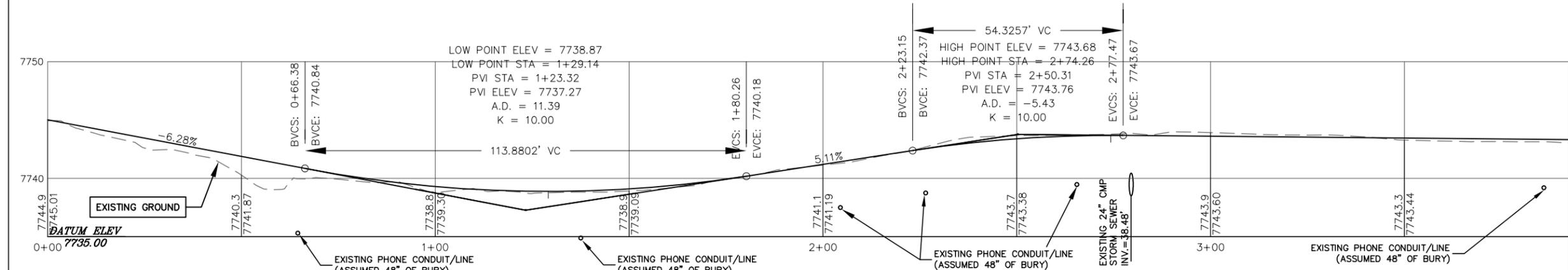
MILEPOST 143.59 - 143.66

CONTRACTOR TO BE AWARE THAT EXISTING TELEPHONE CONDUITS ARE PRESENT FOR THE ENTIRE LENGTH OF PROPOSED PATH. CONDUIT/LINES TO BE LOWERED/RELOCATED IF NECESSARY TO ACHIEVE MINIMUM COVER. CONTRACTOR TO COORDINATE WITH QWEST FOR ADJUSTING EXISTING PHONE LINES. CONTRACTOR CAN EVALUATE THE NEED TO ADJUST THE EXISTING PHONE LINES DURING CONSTRUCTION AND PROVIDE INFORMATION TO ENGINEER TO DESIGN REALIGNMENT IF REQUIRED.

LEGEND

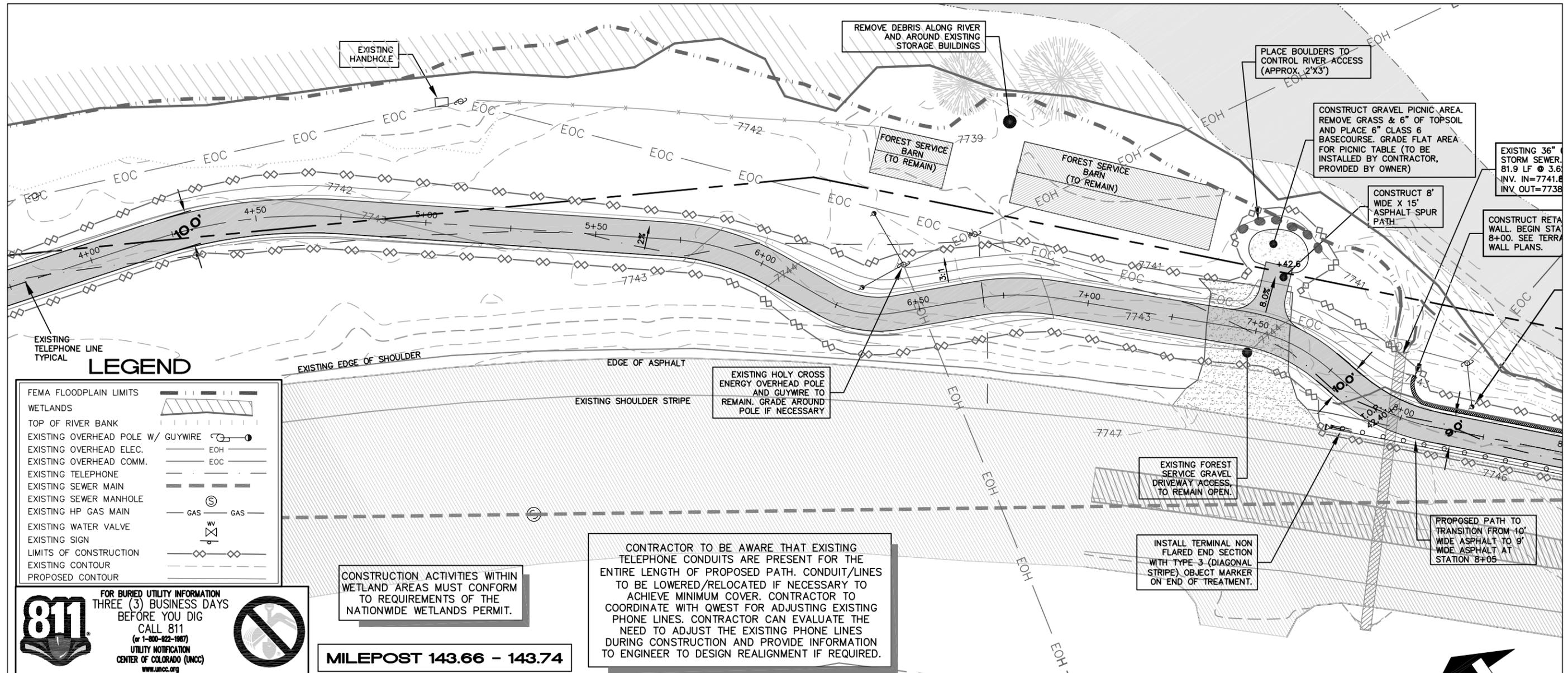
FEMA FLOODPLAIN LIMITS	
WETLANDS	
TOP OF RIVER BANK	
EXISTING OVERHEAD POLE W/ GUYWIRE	
EXISTING OVERHEAD ELEC.	
EXISTING OVERHEAD COMM.	
EXISTING TELEPHONE	
EXISTING SEWER MAIN	
EXISTING SEWER MANHOLE	
EXISTING HP GAS MAIN	
EXISTING WATER VALVE	
EXISTING SIGN	
LIMITS OF CONSTRUCTION	
EXISTING CONTOUR	
PROPOSED CONTOUR	

SCALE 1"=30'



Colorado Department of Transportation REGION 3 222 S. 6th St., Room 100 GRAND JUNCTION, CO., 81501 Phone: 970-248-7230 FAX: 970-248-7294	 ALPINE ENGINEERING INC. EDWARDS BLVD. CENTER, P.O. BOX 97 EDWARDS, COLORADO 81632 970-926-3373 FAX 926-3390	Computer File Information Creation Date: 03/01/09 Initials: MCW Last Modification Date: XXXXX Initials: Full Path: P:\ECO08001\DWG\WORK\CDOT\ Drawing File Name: Path Plan.dwg Acad Ver. 2006 Scale: n.t.s Units: English		Sheet Revisions <table border="1"> <tr> <th>No.</th> <th>Description</th> <th>Date</th> </tr> <tr> <td>1</td> <td>NTP SUBMITTAL</td> <td>5-7-09</td> </tr> <tr> <td>2</td> <td>CDOT SUBMITTAL</td> <td>5-27-09</td> </tr> <tr> <td>3</td> <td>MINTURN TRAIL AD SET</td> <td>7-17-09</td> </tr> </table>		No.	Description	Date	1	NTP SUBMITTAL	5-7-09	2	CDOT SUBMITTAL	5-27-09	3	MINTURN TRAIL AD SET	7-17-09	As Constructed No Revisions: Revised: Void:		ECO REGIONAL TRAIL DOWD JUNCTION TO MINTURN PATH PLAN Designer: MCW Structure Numbers Detailer: MCW Sheet Subset: Subset Sheets:		Project No./Code #ES3006A-043 16945 Sheet Number 8	
		No.	Description	Date																			
1	NTP SUBMITTAL	5-7-09																					
2	CDOT SUBMITTAL	5-27-09																					
3	MINTURN TRAIL AD SET	7-17-09																					

P:\ECO08001\dwg\WORK\CDOT PLANS\Path Plan.dwg, 7/17/2009 10:33:44 AM, wadey



LEGEND

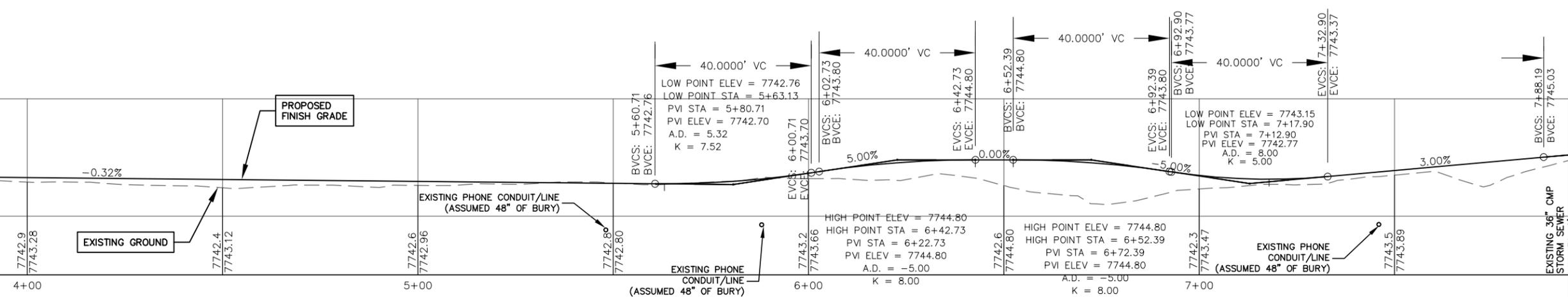
FEMA FLOODPLAIN LIMITS	
WETLANDS	
TOP OF RIVER BANK	
EXISTING OVERHEAD POLE W/ GUYWIRE	
EXISTING OVERHEAD ELEC.	EOH
EXISTING OVERHEAD COMM.	EOC
EXISTING TELEPHONE	
EXISTING SEWER MAIN	
EXISTING SEWER MANHOLE	
EXISTING HP GAS MAIN	GAS
EXISTING WATER VALVE	
EXISTING SIGN	
LIMITS OF CONSTRUCTION	
EXISTING CONTOUR	
PROPOSED CONTOUR	

811 FOR BURIED UTILITY INFORMATION
THREE (3) BUSINESS DAYS BEFORE YOU DIG
CALL 811 (or 1-800-922-1987)
UTILITY NOTIFICATION CENTER OF COLORADO (UNCC)
www.uncc.org

CONSTRUCTION ACTIVITIES WITHIN WETLAND AREAS MUST CONFORM TO REQUIREMENTS OF THE NATIONWIDE WETLANDS PERMIT.

MILEPOST 143.66 - 143.74

CONTRACTOR TO BE AWARE THAT EXISTING TELEPHONE CONDUITS ARE PRESENT FOR THE ENTIRE LENGTH OF PROPOSED PATH. CONDUIT/LINES TO BE LOWERED/RELOCATED IF NECESSARY TO ACHIEVE MINIMUM COVER. CONTRACTOR TO COORDINATE WITH QWEST FOR ADJUSTING EXISTING PHONE LINES. CONTRACTOR CAN EVALUATE THE NEED TO ADJUST THE EXISTING PHONE LINES DURING CONSTRUCTION AND PROVIDE INFORMATION TO ENGINEER TO DESIGN REALIGNMENT IF REQUIRED.



SCALE 1"=30'

Colorado Department of Transportation

222 S. 6th St., Room 100
GRAND JUNCTION, CO., 81501
Phone: 970-248-7230
FAX: 970-248-7294

REGION 3

Computer File Information

Creation Date: 03/01/09	Initials: MCW
Last Modification Date: XXXXX	Initials:
Full Path: P:\ECO08001\DWG\WORK\CDOT\	
Drawing File Name: Path Plan.dwg	
Acad Ver. 2006	Scale: n.t.s
	Units: English

Sheet Revisions

Revision No.	Description	Date
1	NTP SUBMITTAL	5-7-09
2	CDOT SUBMITTAL	5-27-09
3	MINTURN TRAIL AD SET	7-17-09

As Constructed

No Revisions:
Revised:
Void:

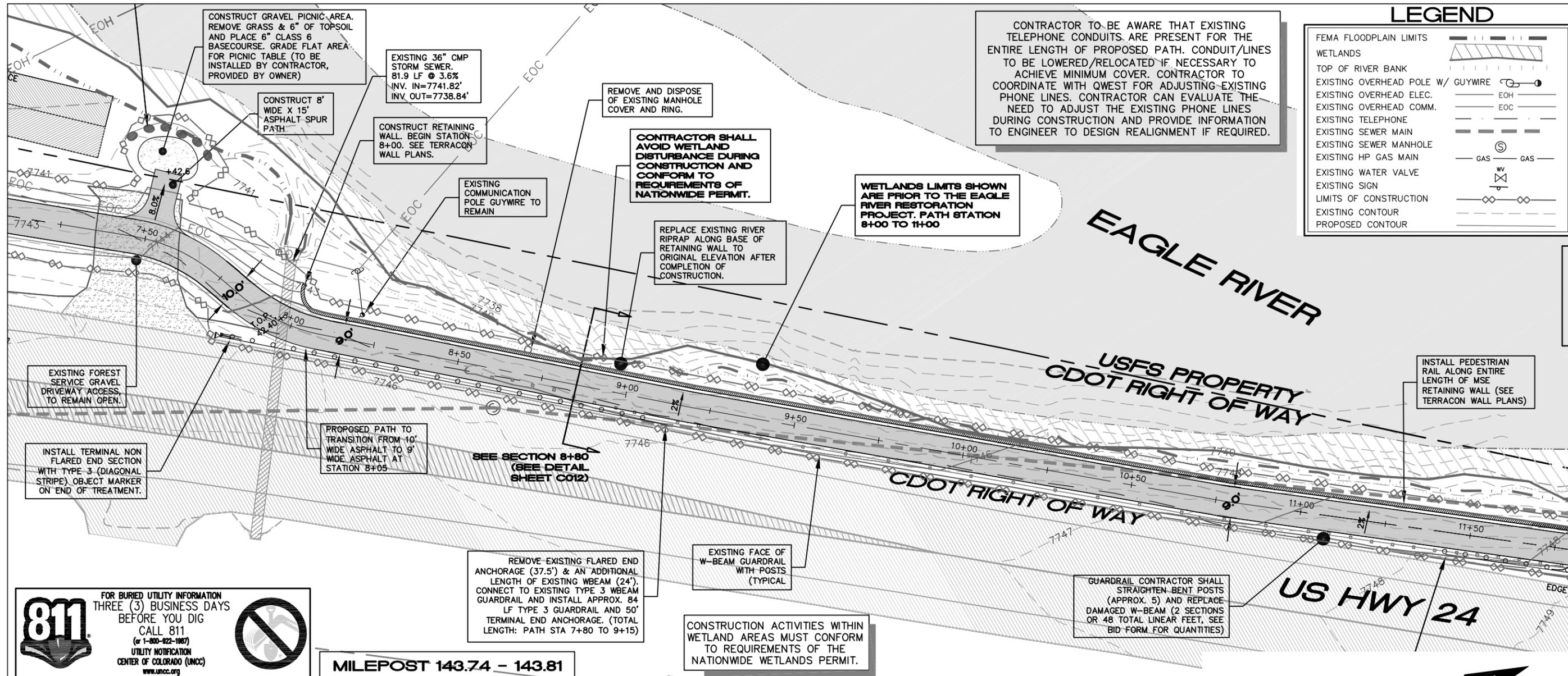
**ECO REGIONAL TRAIL
DOWD JUNCTION TO MINTURN
PATH PLAN**

Designer: MCW	Structure Numbers:
Detailer: MCW	Subset Sheets:
Sheet Subset:	

Project No./Code

#ES3006A-043
16945
Sheet Number 9

P:\ECO08001\dwg\WORK\CDOT PLANS\Path Plan.dwg, 7/17/2009 10:34:10 AM, wadey

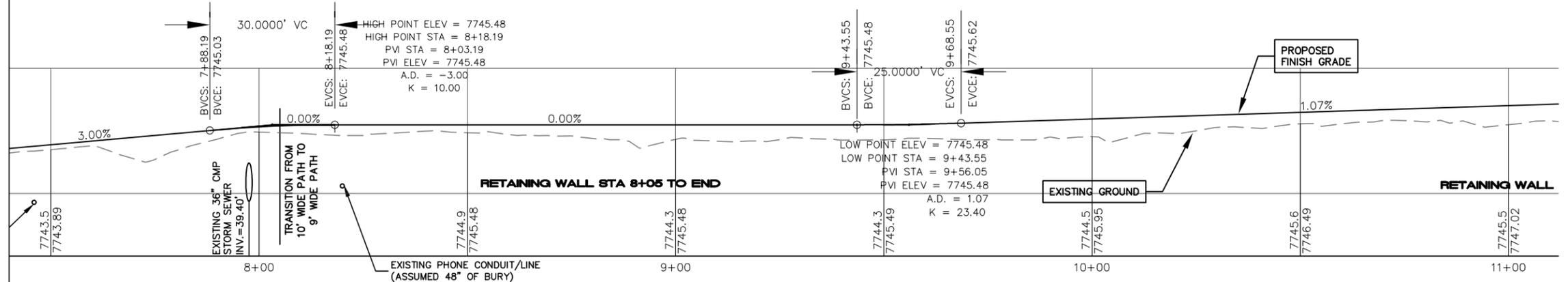


LEGEND	
FEMA FLOODPLAIN LIMITS	
WETLANDS	
TOP OF RIVER BANK	
EXISTING OVERHEAD POLE W/ GUYWIRE	
EXISTING OVERHEAD ELEC.	
EXISTING OVERHEAD COMM.	
EXISTING TELEPHONE	
EXISTING SEWER MAIN	
EXISTING SEWER MANHOLE	
EXISTING HP GAS MAIN	
EXISTING WATER VALVE	
EXISTING SIGN	
LIMITS OF CONSTRUCTION	
EXISTING CONTOUR	
PROPOSED CONTOUR	

811 FOR BURIED UTILITY INFORMATION
THREE (3) BUSINESS DAYS
BEFORE YOU DIG
CALL 811
(or 1-800-422-1967)
UTILITY NOTIFICATION
CENTER OF COLORADO (UNCC)
www.uncc.org



MILEPOST 143.74 - 143.81

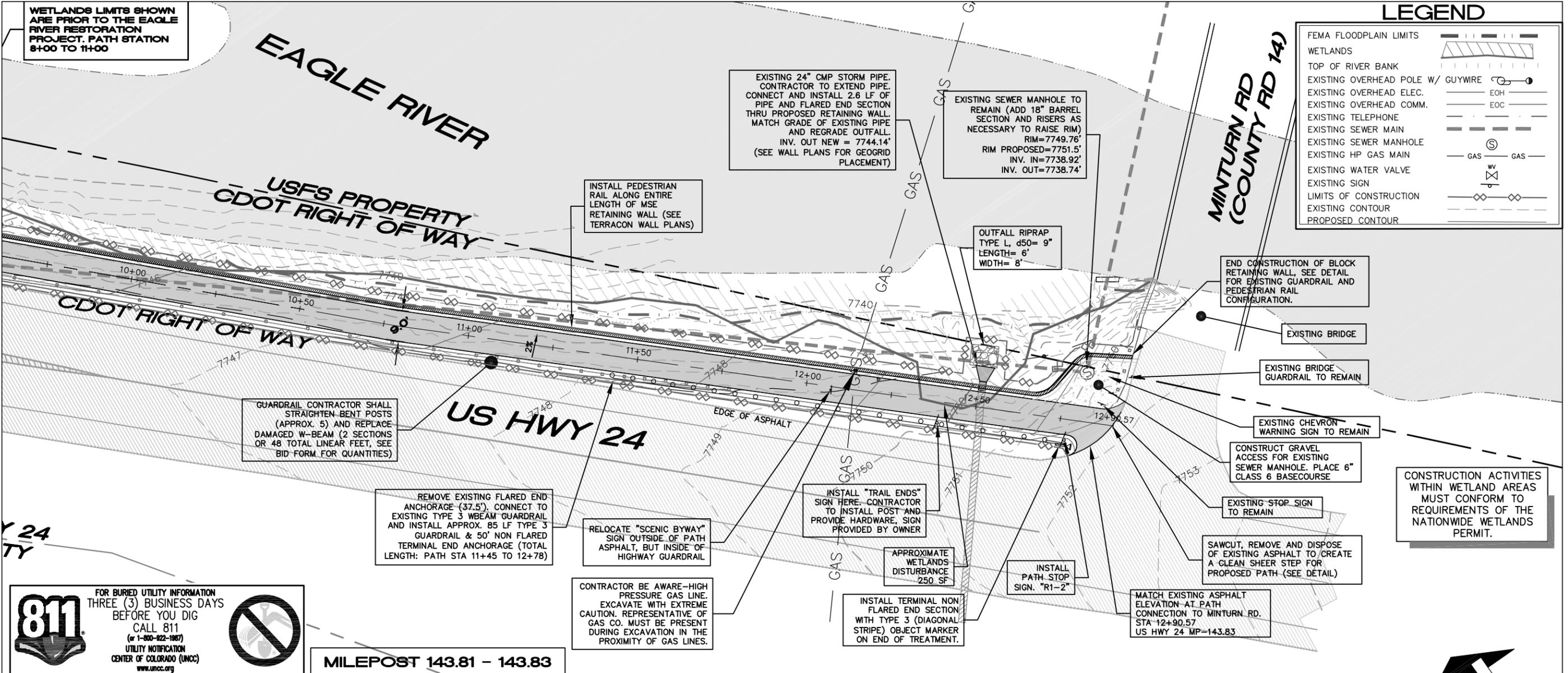


SCALE 1"=30'



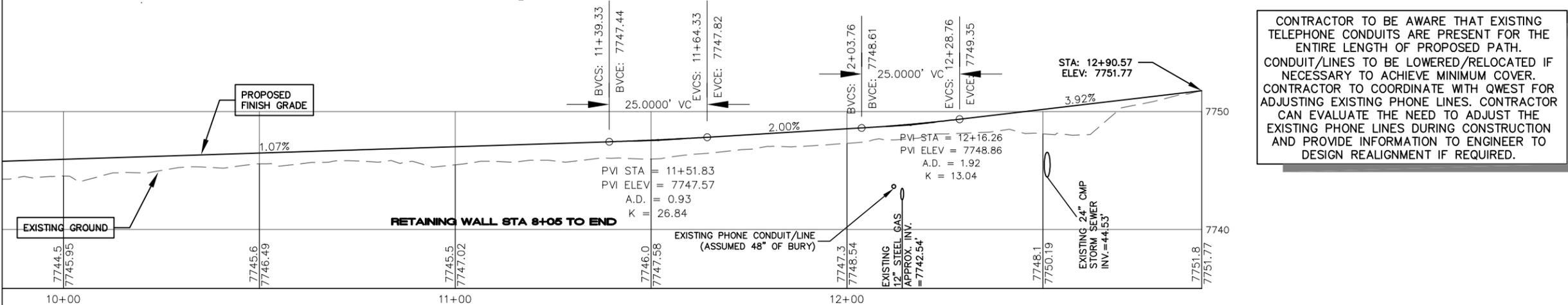
Colorado Department of Transportation  222 S. 6th St., Room 100 GRAND JUNCTION, CO., 81501 Phone: 970-248-7230 FAX: 970-248-7294 REGION 3	 ALPINE A&E ENGINEERING INC. EDWARDS BUSINESS CENTER, P.O. BOX 97 970 926-3373 FAX 926-3390	Computer File Information Creation Date: 03/01/09 Initials: MCW Last Modification Date: XXXXX Initials: Full Path: P:\ECO08001\DWG\WORK\CDOT\ Drawing File Name: Path Plan.dwg Acad Ver. 2006 Scale: n.t.s Units: English		Sheet Revisions <table border="1"> <tr> <th>No.</th> <th>Description</th> <th>Date</th> </tr> <tr> <td>1</td> <td>NTP SUBMITTAL</td> <td>5-7-09</td> </tr> <tr> <td>2</td> <td>CDOT SUBMITTAL</td> <td>5-27-09</td> </tr> <tr> <td>3</td> <td>MINTURN TRAIL AD SET</td> <td>7-17-09</td> </tr> </table>		No.	Description	Date	1	NTP SUBMITTAL	5-7-09	2	CDOT SUBMITTAL	5-27-09	3	MINTURN TRAIL AD SET	7-17-09	As Constructed No Revisions: Revised: Void:	ECO REGIONAL TRAIL DOWD JUNCTION TO MINTURN PATH PLAN Designer: MCW Structure Numbers Detailer: MCW Sheet Subset: Subset Sheets:	Project No./Code #ES3006A-043 16945 Sheet Number 10
		No.	Description	Date																
1	NTP SUBMITTAL	5-7-09																		
2	CDOT SUBMITTAL	5-27-09																		
3	MINTURN TRAIL AD SET	7-17-09																		

P:\ECO08001\dwg\WORK\CDOT PLANS\Path Plan.dwg, 7/17/2009 10:34:39 AM, wadey



811 FOR BURIED UTILITY INFORMATION THREE (3) BUSINESS DAYS BEFORE YOU DIG CALL 811 (or 1-800-422-1867) UTILITY NOTIFICATION CENTER OF COLORADO (UNCC) www.uncc.org

MILEPOST 143.81 - 143.83



CONTRACTOR TO BE AWARE THAT EXISTING TELEPHONE CONDUITS ARE PRESENT FOR THE ENTIRE LENGTH OF PROPOSED PATH. CONDUIT/LINES TO BE LOWERED/RELOCATED IF NECESSARY TO ACHIEVE MINIMUM COVER. CONTRACTOR TO COORDINATE WITH QWEST FOR ADJUNING EXISTING PHONE LINES. CONTRACTOR CAN EVALUATE THE NEED TO ADJUST THE EXISTING PHONE LINES DURING CONSTRUCTION AND PROVIDE INFORMATION TO ENGINEER TO DESIGN REALIGNMENT IF REQUIRED.

SCALE 1"=30'

Colorado Department of Transportation

222 S. 6th St., Room 100 GRAND JUNCTION, CO., 81501 Phone: 970-248-7230 FAX: 970-248-7294

ALPINE ENGINEERING INC.

EDWARDS BUSINESS CENTER • P.O. BOX 97 EDWARDS, COLORADO 81632 • 970-926-3373 • FAX 926-3390

REGION 3

Computer File Information

Creation Date: 03/01/09	Initials: MCW
Last Modification Date: XXXXX	Initials:
Full Path: P:\ECO08001\DWG\WORK\CDOT\	
Drawing File Name: Path Plan.dwg	
Acad Ver. 2006	Scale: n.t.s
	Units: English

Sheet Revisions

No.	Description	Date
1	NTP SUBMITTAL	5-7-09
2	CDOT SUBMITTAL	5-27-09
3	MINTURN TRAIL AD SET	7-17-09

As Constructed

No Revisions:

Revised:

Void:

ECO REGIONAL TRAIL DOWD JUNCTION TO MINTURN PATH PLAN

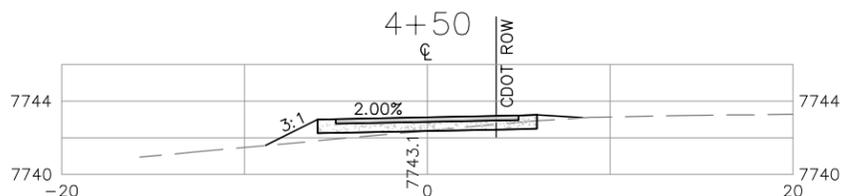
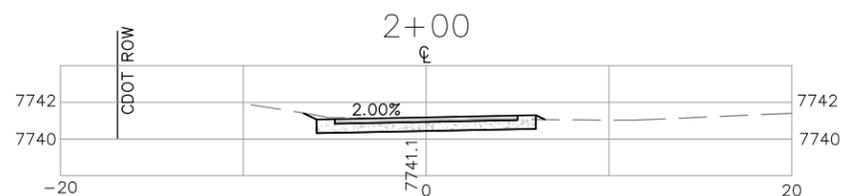
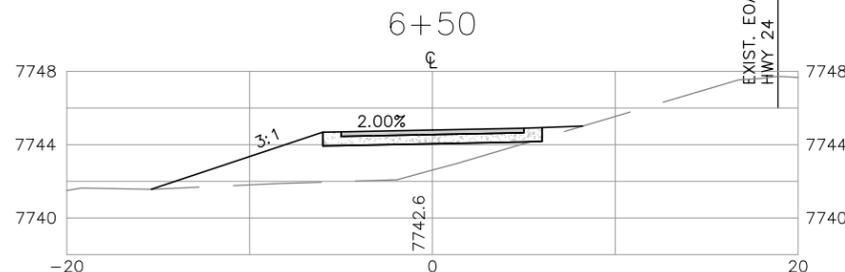
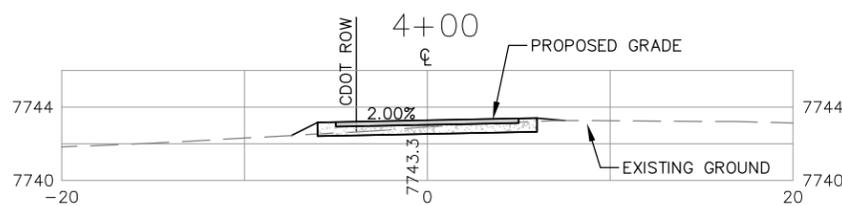
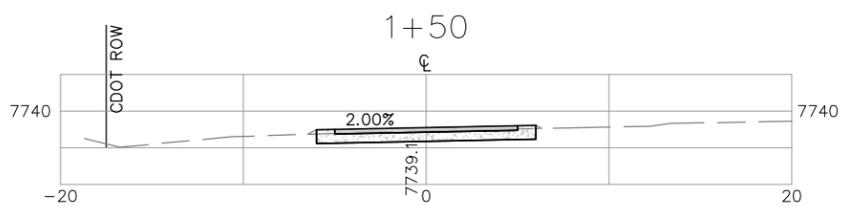
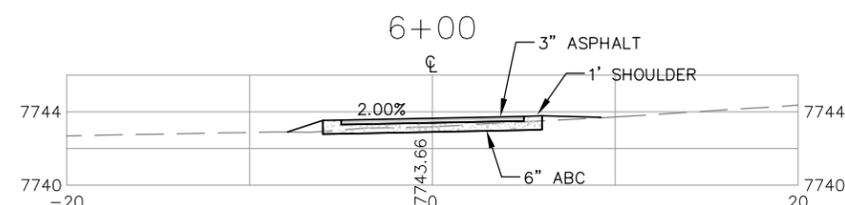
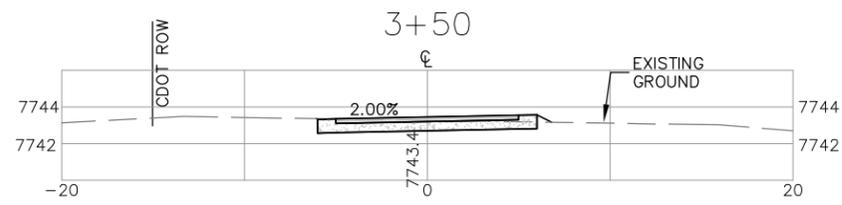
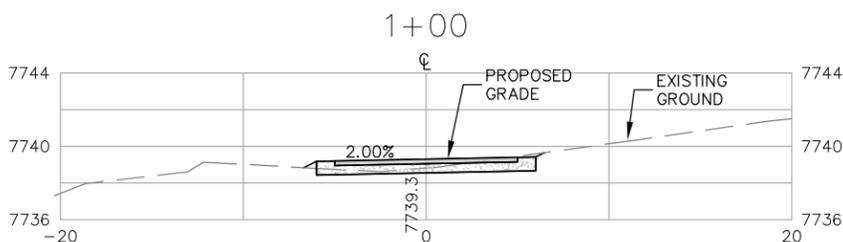
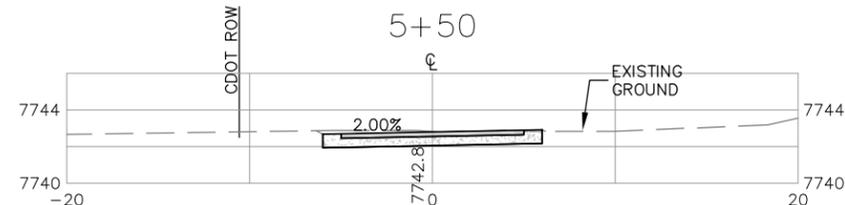
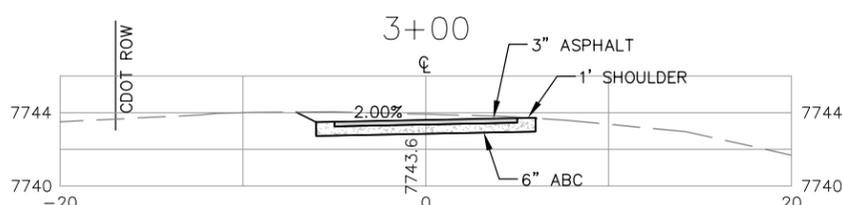
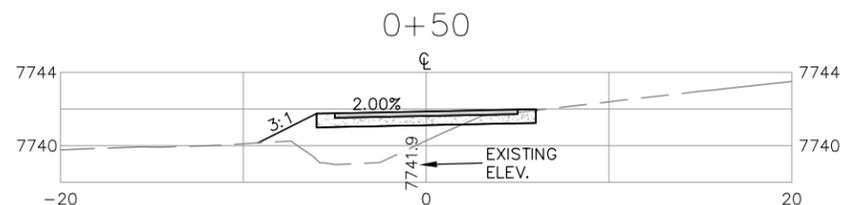
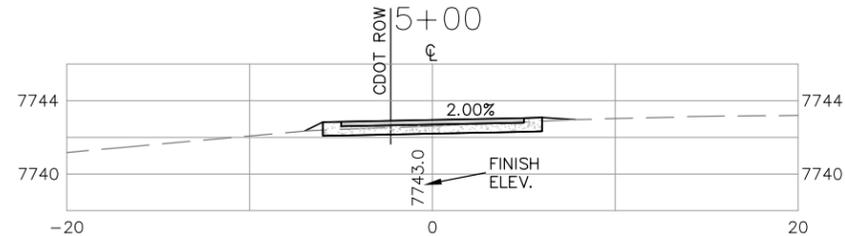
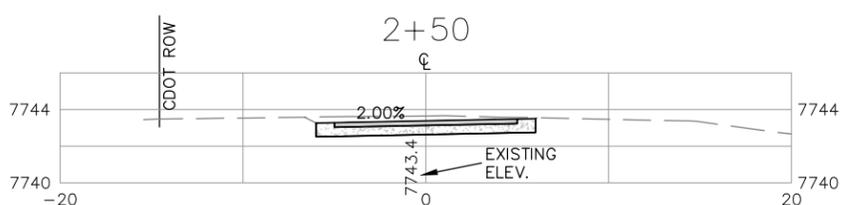
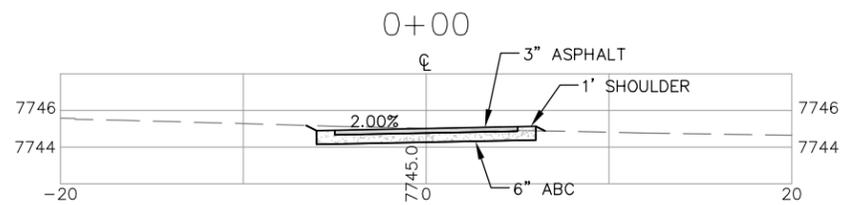
Designer: MCW	Structure Numbers
Detailer: MCW	
Sheet Subset:	Subset Sheets:

Project No./Code

#ES3006A-043

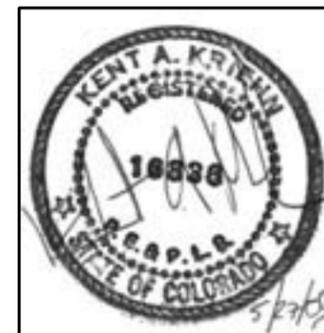
16945

Sheet Number 11



SCALE 1"=30'

SCALE:
HORIZ: 1"=10'
VERT: 1"=10'



811 FOR BURIED UTILITY INFORMATION
THREE (3) BUSINESS DAYS
BEFORE YOU DIG
CALL 811
(or 1-800-822-1987)
UTILITY NOTIFICATION
CENTER OF COLORADO (UNCC)
www.uncc.org



Colorado Department of Transportation



222 S. 6th St., Room 100
GRAND JUNCTION, CO., 81501
Phone: 970-248-7230
FAX: 970-248-7294



EDWARDS BUSINESS CENTER • P.O. BOX 97
EDWARDS, COLORADO 81632 • FAX 926-3390

REGION 3

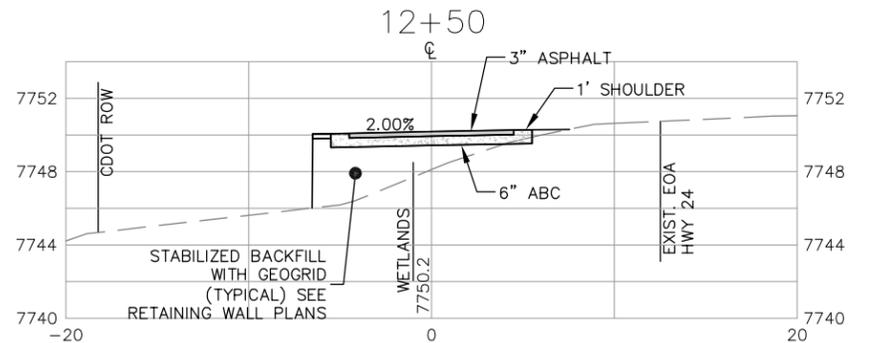
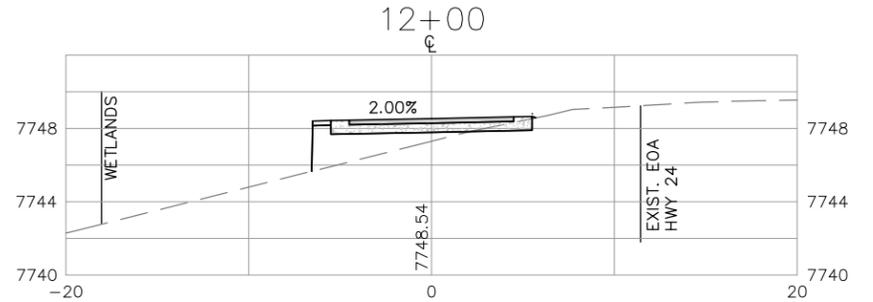
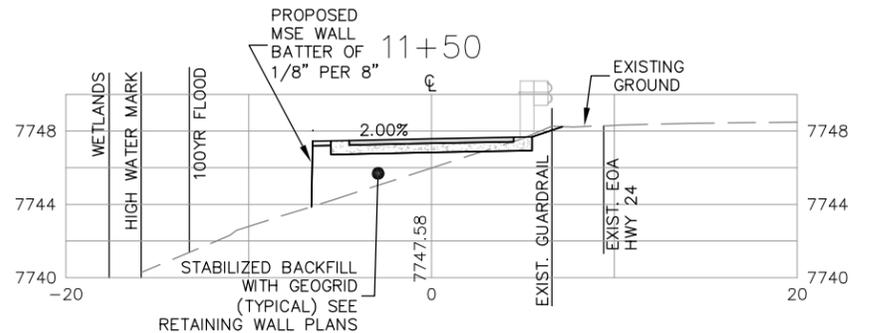
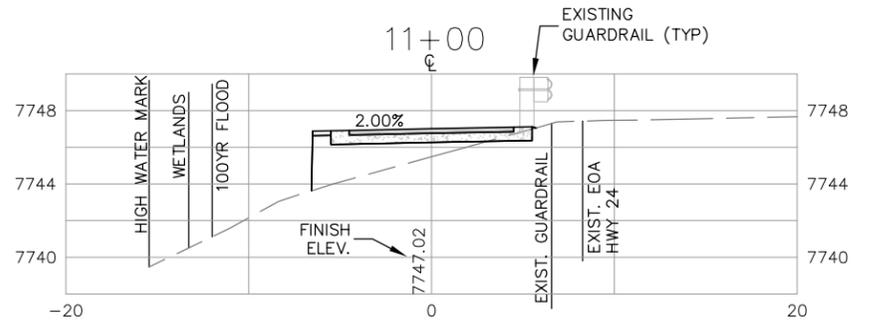
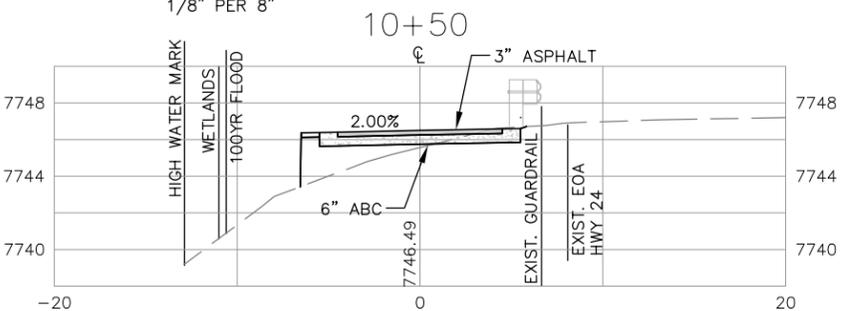
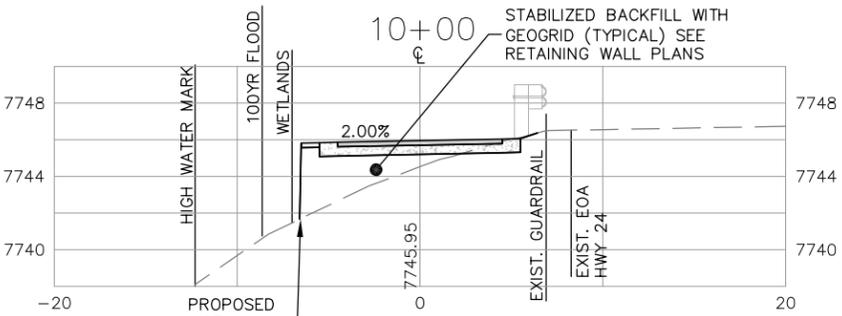
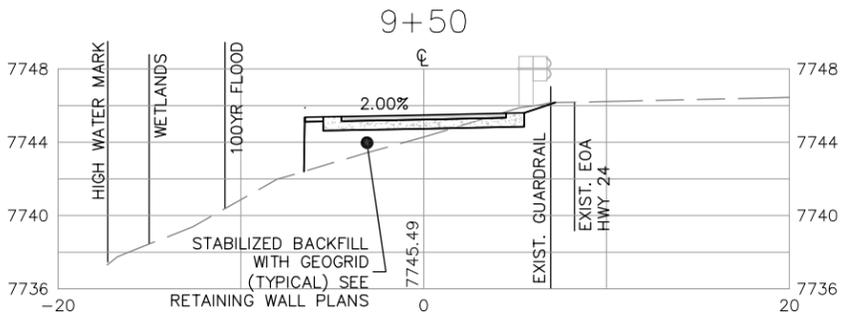
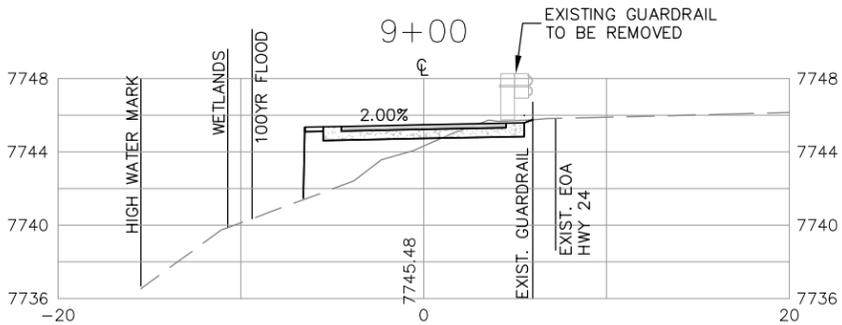
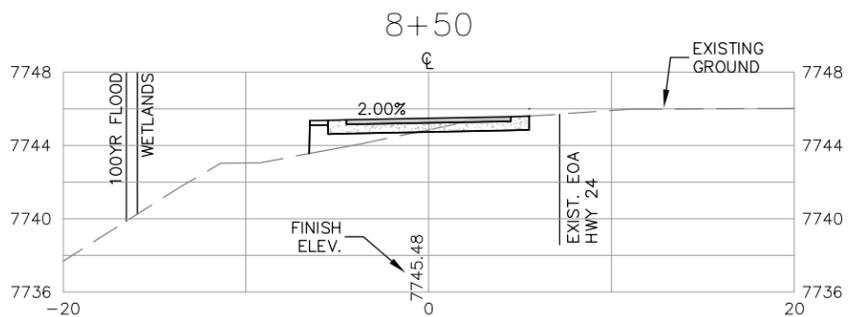
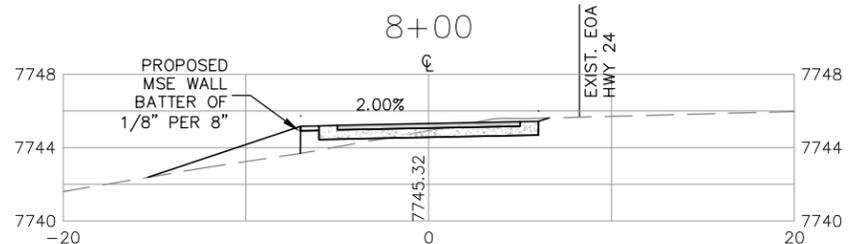
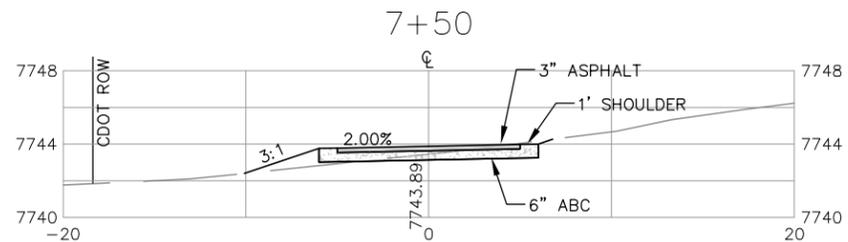
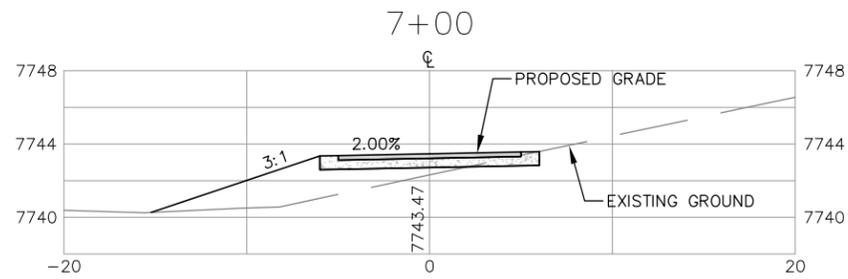
Computer File Information	
Creation Date: 03/01/09	Initials: MCW
Last Modification Date: XXXXX	Initials:
Full Path: P:\ECO08001\DWG\WORK\CDOT\	
Drawing File Name: Path Cross Sections.dwg	
Acad Ver. 2006	Scale: n.t.s Units: English

Sheet Revisions		
1	NTP SUBMITTAL	5-7-09
2	CDOT SUBMITTAL	5-27-09
3	MINTURN TRAIL AD SET	7-17-09

As Constructed
No Revisions:
Revised:
Void:

ECO REGIONAL TRAIL DOWD JUNCTION TO MINTURN PATH CROSS SECTIONS	
Designer: MCW	Structure Numbers
Detailer: MCW	
Sheet Subset:	Subset Sheets:

Project No./Code
#ES3006A-043
16945
Sheet Number 12



SCALE:
HORIZ: 1"=10'
VERT: 1"=10'



811 FOR BURIED UTILITY INFORMATION
 THREE (3) BUSINESS DAYS
 BEFORE YOU DIG
 CALL 811
 (or 1-800-822-1987)
 UTILITY NOTIFICATION
 CENTER OF COLORADO (UNCC)
 www.uncc.org



Colorado Department of Transportation
 222 S. 6th St., Room 100
 GRAND JUNCTION, CO., 81501
 Phone: 970-248-7230
 FAX: 970-248-7294

ALPINE
 ENGINEERING INC.
 EDWARDS BUSINESS CENTER • P.O. BOX 97
 EDWARDS, COLORADO 81632
 970-926-3373 • FAX 926-3390

REGION 3

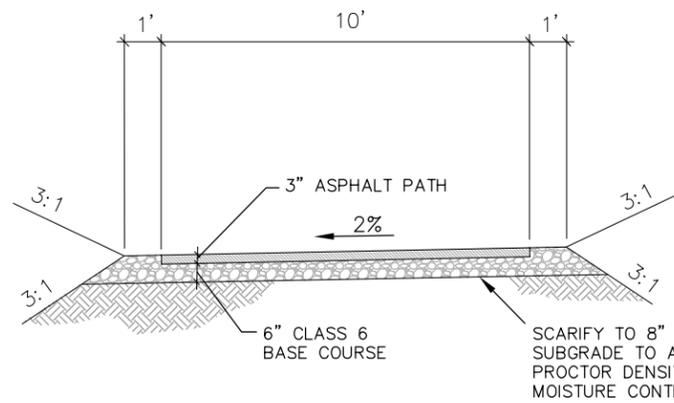
Computer File Information	
Creation Date: 03/01/09	Initials: MCW
Last Modification Date: XXXXX	Initials:
Full Path: P:\ECO08001\DWG\WORK\CDOT\	
Drawing File Name: Path Cross Sections.dwg	
Acad Ver. 2006	Scale: n.t.s Units: English

Sheet Revisions		
1	NTP SUBMITTAL	5-7-09
2	CDOT SUBMITTAL	5-27-09
3	MINTURN TRAIL AD SET	7-17-09

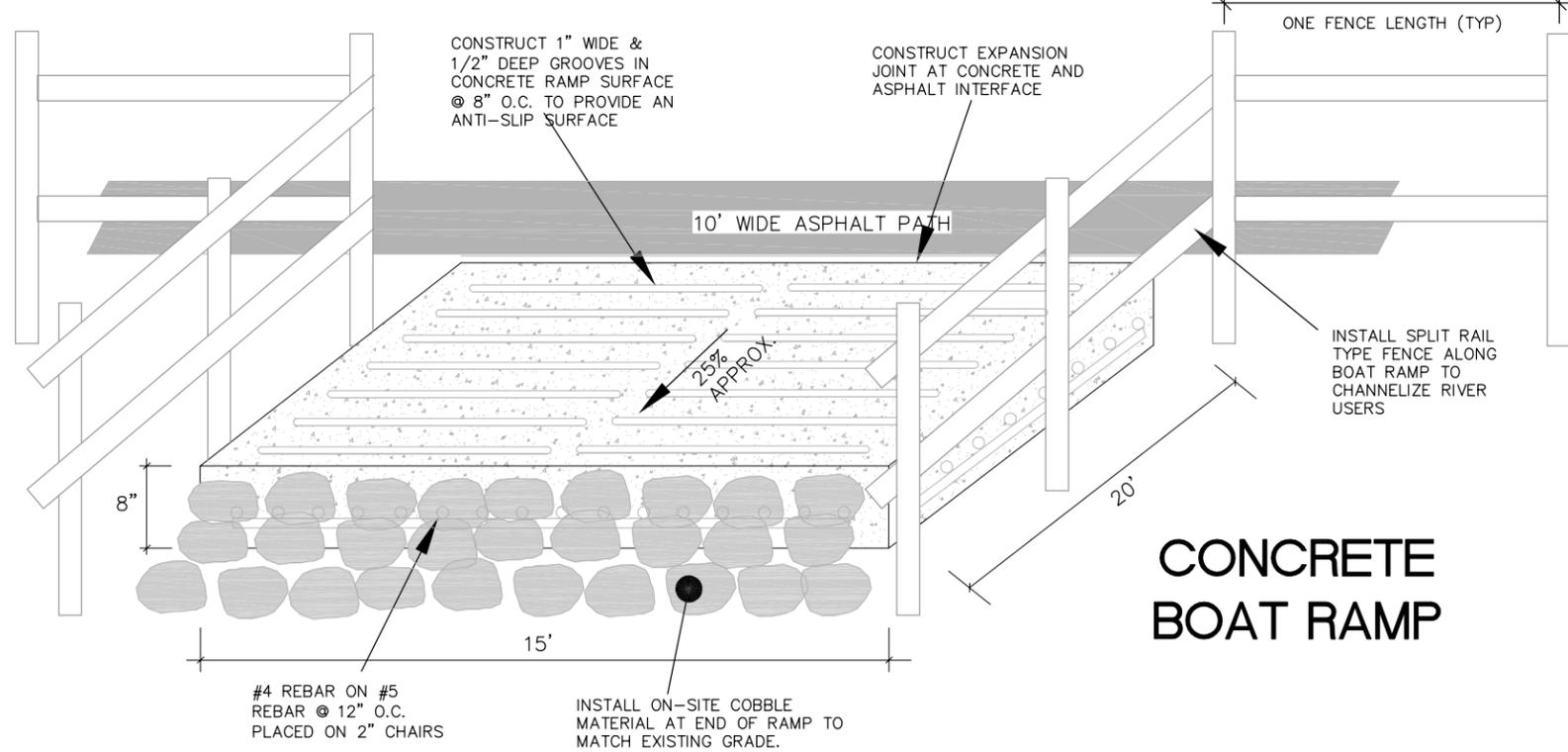
As Constructed
No Revisions:
Revised:
Void:

ECO REGIONAL TRAIL DOWD JUNCTION TO MINTURN PATH CROSS SECTIONS	
Designer: MCW	Structure Numbers
Detailer: MCW	
Sheet Subset:	Subset Sheets:

Project No./Code
#ES3006A-043
16945
Sheet Number 13

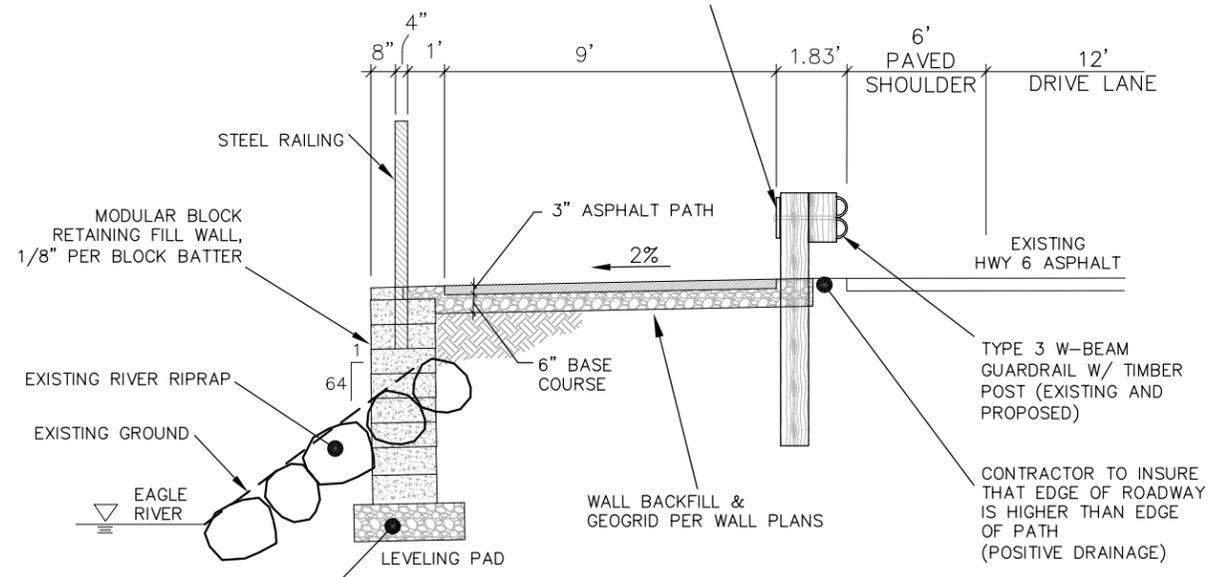


SECTION 0+00 TO 8+05



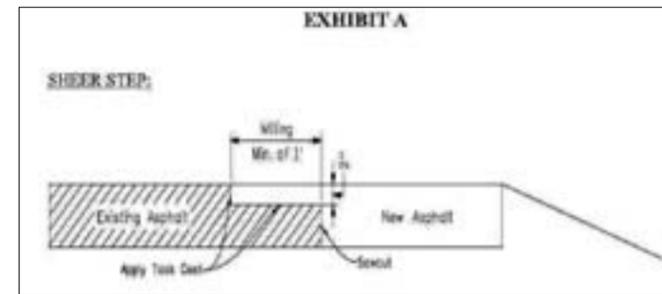
CONCRETE BOAT RAMP

INSTALL 2" X 8" TREATED WOOD "RUB RAIL" ON BACKSIDE OF GUARDRAIL POST. COUNTERSINK HEX NUT AND CUTOFF EXCESS BOLT. ANCHOR RUB RAIL TO GUARDRAIL POSTS. INSTALL RUB RAIL SO THAT BUTT JOINTS ARE AT POST INTERFACES. IN THE EVENT BUTT JOINTS OCCUR ON A SPAN, INSTALL 6"x12" STEEL PLATE CONNECTOR (SEE DETAIL)

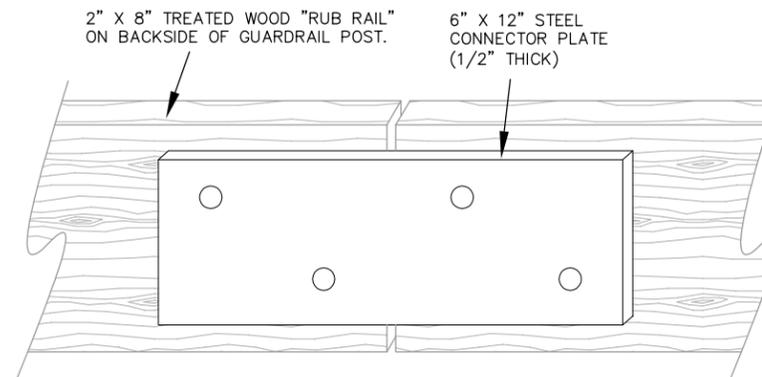


SECTION 8+05 TO END

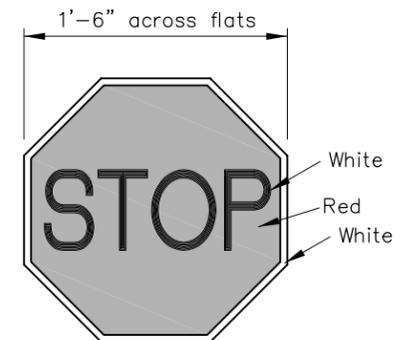
SCALE: 1" = 5'



SHEER STEP



RUB RAIL CONNECTOR PLATE



R1-2 STOP
Red and White

PATH- SIGN



811 FOR BURIED UTILITY INFORMATION
THREE (3) BUSINESS DAYS
BEFORE YOU DIG
CALL 811
(or 1-800-422-1987)
UTILITY NOTIFICATION
CENTER OF COLORADO (UNCC)
www.uncc.org



Colorado Department of Transportation
222 S. 6th St., Room 100
GRAND JUNCTION, CO., 81501
Phone: 970-248-7230
FAX: 970-248-7294

ALPINE A&E ENGINEERING INC.
EDWARD BLUMENSBACH, P.E., P.O. BOX 97
EDWARDS, COLORADO 81632
970-926-3373 FAX 926-3390

REGION 3

Computer File Information	
Creation Date: 03/01/09	Initials: MCW
Last Modification Date: XXXXX	Initials:
Full Path: P:\ECO08001\DWG\WORK\CDOT\	
Drawing File Name: Details.dwg	
Acad Ver. 2006	Scale: n.t.s Units: English

Sheet Revisions		
1	NTP SUBMITTAL	5-7-09
2	CDOT SUBMITTAL	5-27-09
3	MINTURN TRAIL AD SET	7-17-09

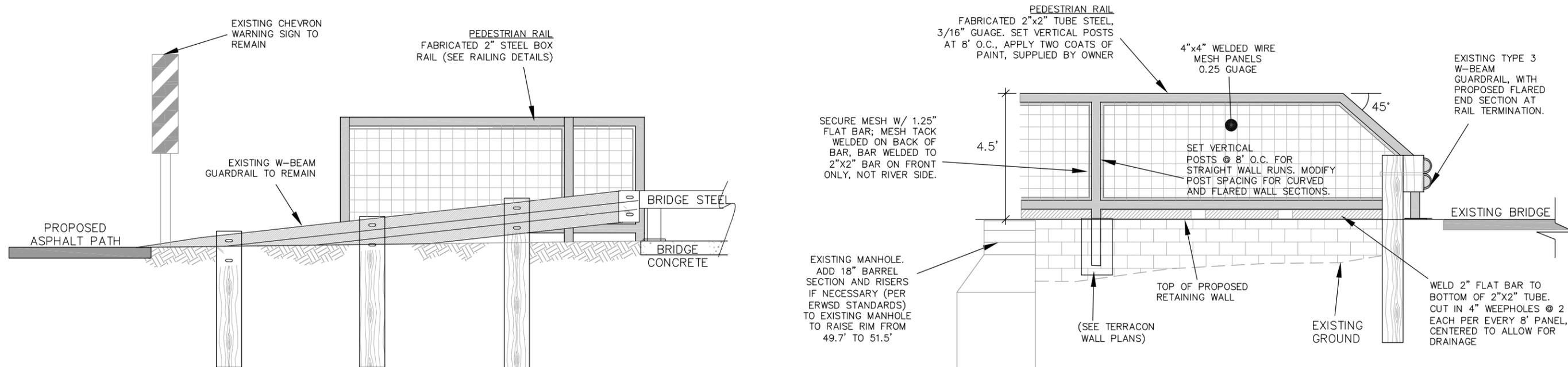
As Constructed
No Revisions:
Revised:
Void:

ECO REGIONAL TRAIL DOWD JUNCTION TO MINTURN DETAILS		
Designer: MCW	Structure Numbers	
Detailer: MCW		
Sheet Subset:	Subset Sheets:	

Project No./Code
#ES3006A-043
16945
Sheet Number 14

P:\ECO08001\dwg\WORK\CDOT PLANS\Details.dwg, 7/17/2009 10:37:16 AM, wadey

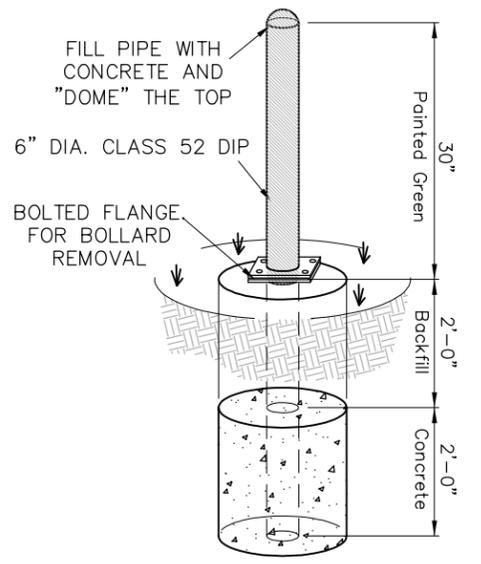
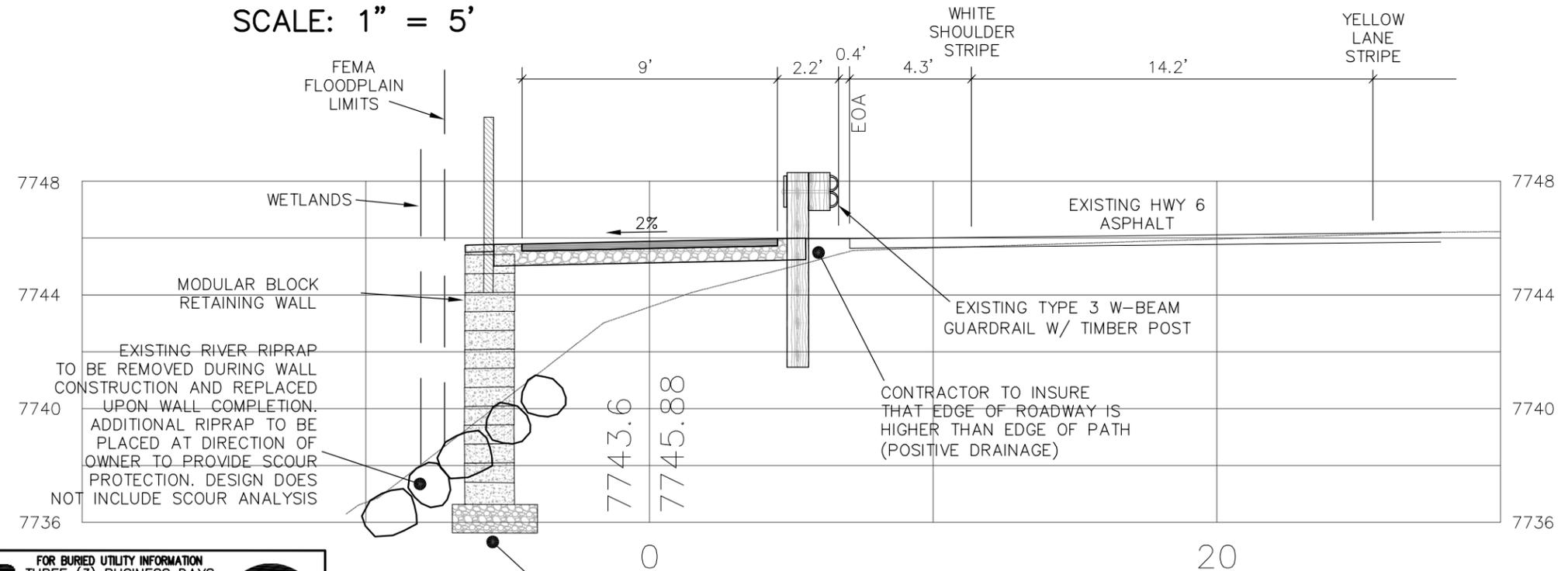
P:\ECO08001\dwg\WORK\CDOT PLANS\Details.dwg, 7/17/2009 10:37:42 AM, wadey



PATH RAIL / GUARDRAIL INTERFACE

SECTION 8+80- EXISTING HWY 6 WITH PATH

SCALE: 1" = 5'



BOLLARD



811 FOR BURIED UTILITY INFORMATION
THREE (3) BUSINESS DAYS
BEFORE YOU DIG
CALL 811
(or 1-800-422-1987)
UTILITY NOTIFICATION
CENTER OF COLORADO (UNCC)
www.uncc.org

Colorado Department of Transportation
222 S. 6th St., Room 100
GRAND JUNCTION, CO., 81501
Phone: 970-248-7230
FAX: 970-248-7294

ALPINE
ENGINEERING INC.
EDWARD BLUENESS CENTER • P.O. BOX 97
• 970-926-3373 • FAX 926-3390

Computer File Information	
Creation Date: 03/01/09	Initials: MCW
Last Modification Date: XXXXX	Initials:
Full Path: P:\ECO08001\DWG\WORK\CDOT\	
Drawing File Name: Details.dwg	
Acad Ver. 2006	Scale: n.t.s Units: English

Sheet Revisions		
1	NTP SUBMITTAL	5-7-09
2	CDOT SUBMITTAL	5-27-09
3	MINTURN TRAIL AD SET	7-17-09

As Constructed
No Revisions:
Revised:
Void:

ECO REGIONAL TRAIL DOWD JUNCTION TO MINTURN DETAILS		
Designer: MCW	Structure Numbers:	
Detailer: MCW	Sheet Subset:	Subset Sheets:

Project No./Code
#ES3006A-043
16945
Sheet Number 15

STORMWATER MANAGEMENT PLAN – ADDITIONAL INFORMATION

Existing data describing soil or quality of discharge: Soils range from deep sands to clayey plains

Existing vegetation: Native Upland grasses

100-year Flood plain boundaries: see Storm Water Management plan view

Site map and construction site boundaries: see SWMP plan view

Areas of cuts and fills and areas of soil disturbance: see plan and profile sheets and path cross sections.

Surface waters: see Cover sheet

Inspection and maintenance: see erosion control specifications

EROSION CONTROL NOTES

1. INSTALL AND MAINTAIN SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH THESE PLANS.
2. ALL PROPOSED SEDIMENT CONTROL MEASURES ARE TEMPORARY MEASURES UNLESS SPECIFIED OTHERWISE ON PLANS.
3. SEDIMENT CONTROL MEASURES MAY REQUIRE MINOR FIELD ADJUSTMENTS AT THE TIME OF CONSTRUCTION TO INSURE THAT THEIR INTENDED PURPOSE IS ACCOMPLISHED. ENGINEER'S APPROVAL WILL BE REQUIRED FOR ANY OTHER DEVIATION FROM THE APPROVED PLAN.
4. PROVIDE CONTINUOUS INSPECTION AND MAINTENANCE OF ALL SEDIMENT CONTROL MEASURES TO INSURE THAT SEDIMENT CONTROL EFFICIENCY IS OBTAINED UNTIL FINAL STABILIZATION OF SITE HAS TAKEN PLACE.
5. INSTALL SEDIMENT CONTROL MEASURES AT THE ONSET OF GRADING OPERATIONS SO THAT EFFECTIVE SEDIMENT CONTROL CAN BE ACHIEVED DURING THE ENTIRE GRADING OPERATION PERIOD.
6. STABILIZE ALL POINTS OF INGRESS AND EGRESS WITH CRUSHED STONE UNTIL JUST PRIOR TO PAVING OPERATIONS TO PREVENT TRACKING OF MUD ONTO PUBLIC WAYS. ALL SOIL TRACKED OFF-SITE SHALL BE IMMEDIATELY CLEANED UP TO THE SATISFACTION OF THE OWNER, THE ENGINEER AND CDOT.
7. THE TERM "REVEGETATION" ON THIS PLAN MEANS THE SUCCESSFUL GERMINATION AND ESTABLISHMENT OF STABLE GRASS COVER FROM A PROPERLY PREPARED SEEDBED CONTAINING THE SPECIFIED AMOUNTS OF FERTILIZER IN ACCORDANCE WITH APPLICABLE "STANDARDS AND SPECIFICATIONS".
8. IF STABILIZATION OF DISTURBED AREAS IS TO BE ACCOMPLISHED DURING THE MONTHS OF OCTOBER THROUGH APRIL, THE STABILIZATION SHALL CONSIST OF MULCHING SEED AND MULCH AS SOON AS THE SEASON PERMITS.
9. APPROVAL SHALL BE REQUESTED UPON FINAL STABILIZATION OF ALL SITES BEFORE REMOVAL OF SEDIMENT CONTROLS.
10. CONTRACTOR SHALL TAKE APPROPRIATE MEASURES TO MINIMIZE THE TRANSPORT OF ANY SEDIMENT OFFSITE.
11. FENCE (PLASTIC) AND EROSION LOGS SHALL BE PLACED PRIOR TO WORK.
12. CONTRACTOR SHALL NOT STAGE IN A WETLAND OR RIPARIAN AREA.
13. WETLAND DISTURBANCE (PATH STA 12+40 – APPROX. 250 SF)
14. BARRIER TO BE INSTALLED AT BASE OF THE SAFETY RAILING LOCATED ON THE RETAINING WALL TO CATCH AND CONTROL GRAVEL AND SEDIMENT RUNOFF FROM HIGHWAY. TRAIL OWNER WILL REMOVE ALL GRAVEL EACH SPRING AND DISPOSE OF OFF-SITE.

NATIVE SEEDING

SOIL PREPARATION, FERTILIZER, SEEDING, MULCHING AND MULCH TACKIFIER WILL BE REQUIRED FOR DISTURBED AREA WITHIN THE RIGHT-OF-WAY LIMITS WHICH ARE NOT SURFACED. THE FOLLOWING IS THE SEED MIX FOR 8,000 – 10,000 SF:

COMMON NAME	BOTANICAL NAME	LBS
GRASSES		
Sheep fescue,	Festuca ovina covar	1.0
Idaho fescue,	Festuca idahoensis var. Joseph	0.5
Slender wheatgrass,	Elymus trachycaulum var. San Luis	3.0
Western wheatgrass,	Pascopyrum smithii var. Arribal	3.0
Alpine bluegrass,	Poa alpina	0.5
Tufted hairgrass,	Deschampsia caespitosa	0.5
WILDFLOWERS		
Blue flax,	Linum lewisii	3.0
Rocky Mountain penstemon,	Penstemon strictus var. Bandera	0.5
TOTAL		12.0

SEEDING APPLICATION: Broadcast seeder on disturbed soil. Approximately 112 seeds/ SF

FERTILIZER

1. USE ENGINEER APPROVED NATURAL FERTILIZER HAVING THE FOLLOWING GUARANTEED CHEMICAL ANALYSIS:

INGREDIENT	ANALYSIS %
NITROGEN	6
PHOSPHORUS	1
POTASSIUM	3

2. FERTILIZER SHALL CONFORM TO THE APPLICABLE STATE FERTILIZER LAWS. IT SHALL BE UNIFORM IN COMPOSITION, DRY, AND FREE FLOWING, AND SHALL BE DELIVERED TO THE SITE IN THE ORIGINAL UNOPENED CONTAINERS, EACH BEARING THE MANUFACTURER'S GUARANTEED ANALYSIS. FERTILIZER WHICH BECOMES CAKED OR DAMAGED WILL NOT BE ACCEPTED.

MULCHING / TACKIFIER

1. STRAW MULCHING: APPLY TO ALL AREAS, AFTER SEEDING AND WATERING HAS BEEN COMPLETED, AT UNIFORM COVERAGE RATE OF 80 BALES/ACRES.

2. HYDRAULIC MULCHING AND APPLYING TACKIFIER: HYDRAULIC MULCH AND TACKIFIER SHALL BE APPLIED TO ALL AREAS AFTER SEEDING. CELLULOSE FIBER MULCH SHALL BE ADDED AFTER THE PROPORTIONATE QUANTITIES OF WATER AND OTHER APPROVED MATERIALS HAVE BEEN PLACED IN THE SLURRY TANK. ALL INGREDIENTS SHALL BE MIXED TO FORM A HOMOGENEOUS SLURRY. THE OPERATOR SHALL SPRAY THE SLURRY MIXTURE UNIFORMLY OVER THE DESIGNATED SEEDED AREA. UNLESS OTHERWISE ORDERED FOR SPECIFIC AREAS, WOOD CELLULOSE FIBER MULCH SHALL BE APPLIED AT A RATE OF 200 POUNDS PER ACRE. HYDRAULIC MULCHING SHALL NOT BE DONE IN THE PRESENCE OF FREE SURFACE WATER. MULCH TACKIFIER SHALL BE APPLIED OVER THE SEEDED AREA AT A RATE OF 200 POUNDS PER ACRE.

EROSION LOG LOCATIONS

EROSION LOGS SHALL BE PLACED AT THE TOE OF SLOPE TO PROTECT THE EXISTING WETLANDS FROM SEDIMENT. SEE 208 EROSION SPECIAL PROVISION AND M-208-TEMPORARY EROSION CONTROL FOR DETAILS.

STATION	SIDE	QUANTITY
0+00 to 1+20	LT	118 LF
6+50 to 12+90	LT	720 LF

FENCE (PLASTIC)

FENCE (PLASTIC) SHALL BE PLACED ON BOUNDARY OF EXISTING WETLANDS AND OTHER VEGETATION TO PROTECT FROM CONSTRUCTION TRAFFIC, AS DIRECTED. STOCKPILING OF MATERIAL AND/OR DISTURBING PROTECTED WETLANDS WILL NOT BE ALLOWED.

STATION	SIDE	QUANTITY
2+40 to 6+00	LT & RT	720 LF



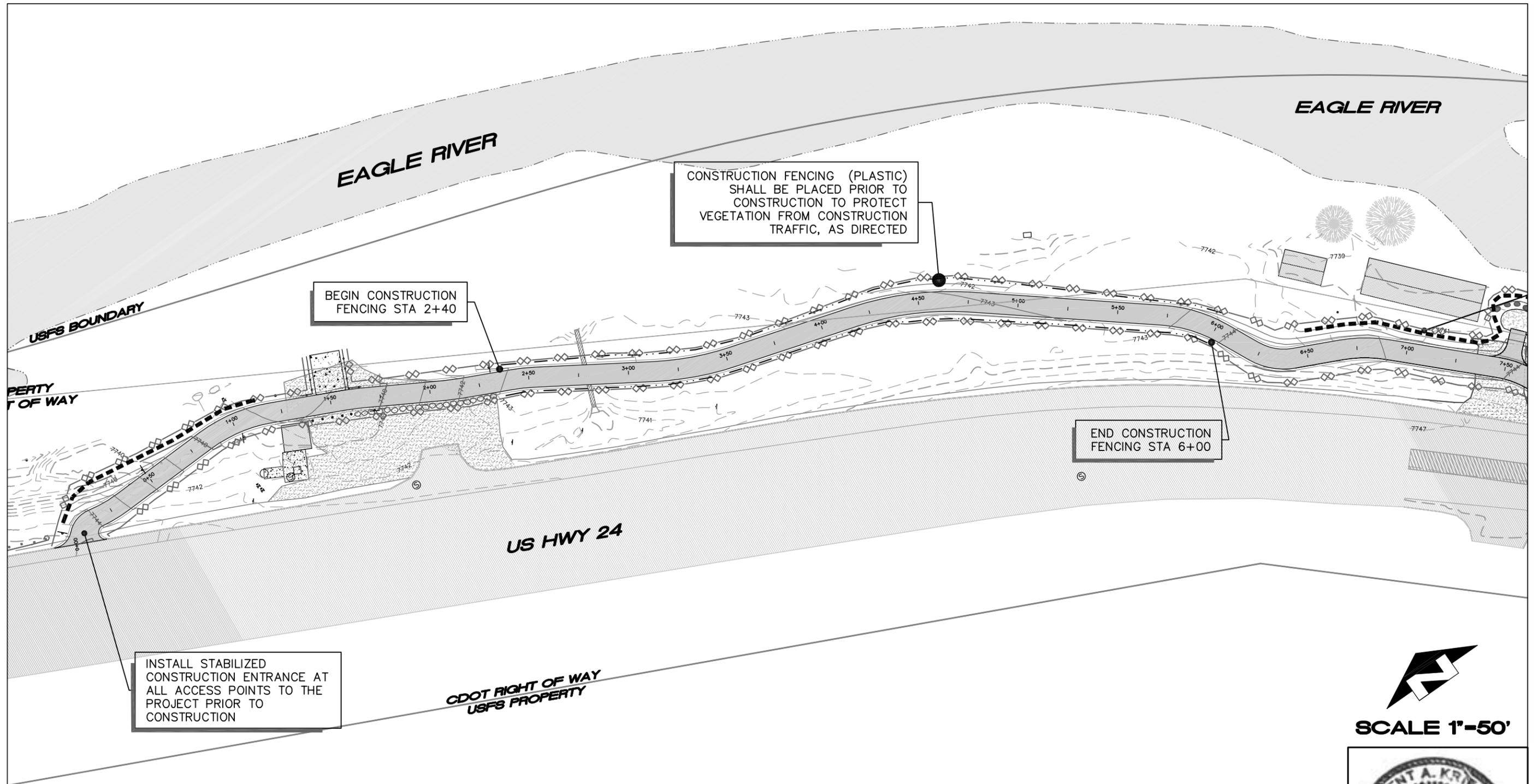
811 FOR BURIED UTILITY INFORMATION
THREE (3) BUSINESS DAYS BEFORE YOU DIG
CALL 811
(or 1-800-922-1967)
UTILITY NOTIFICATION CENTER OF COLORADO (UNCC)
www.uncc.org



 Colorado Department of Transportation 222 S. 6th St., Room 100 GRAND JUNCTION, CO., 81501 Phone: 970-248-7230 FAX: 970-248-7294	 ALPINE ENGINEERING INC. EDWARDS BUSINESS CENTER • P.O. BOX 97 EDWARDS, COLORADO 81632 970-926-3373 • FAX 926-3390	Computer File Information Creation Date: 03/01/09 Initials: MCW Last Modification Date: XXXXX Initials: Full Path: P:\ECO08001\DWG\WORK\CDOT\ Drawing File Name: SWMP.dwg Acad Ver. 2006 Scale: n.t.s Units: English		Sheet Revisions		As Constructed		ECO REGIONAL TRAIL DOWD JUNCTION TO MINTURN STORM WATER MANAGEMENT PLAN		Project No./Code #ES3006A-043
		1 NTP SUBMITTAL 5-7-09 2 CDOT SUBMITTAL 5-27-09 3 MINTURN TRAIL AD SET 7-17-09	No Revisions: Revised: Void:	Designer: MCW Detailer: MCW Sheet Subset:	Structure Numbers: Subset Sheets:	16945 Sheet Number 16				

P:\ECO08001\dwg\WORK\CDOT PLANS\Erosion.dwg, 7/17/2009 10:39:07 AM, wadey

P:\ECO08001\dwg\WORK\CDOT PLANS\Erosion.dwg, 7/17/2009 10:39:32 AM, wadey




SCALE 1"=50'

LEGEND

8" DIA. EROSION LOGS	
LIMITS OF CONSTRUCTION	
CONSTRUCTION FENCING	



811 FOR BURIED UTILITY INFORMATION
THREE (3) BUSINESS DAYS BEFORE YOU DIG
CALL 811
(or 1-800-922-1967)
UTILITY NOTIFICATION CENTER OF COLORADO (UNCC)
www.uncc.org



Colorado Department of Transportation



222 S. 6th St., Room 100
GRAND JUNCTION, CO., 81501
Phone: 970-248-7230
FAX: 970-248-7294



ALPINE ABEI ENGINEERING INC.
EDWARDS BUSINESS CENTER • P.O. BOX 97
EDWARDS, COLORADO 81632
970-926-3373 • FAX 926-3390

REGION 3

Computer File Information

Creation Date: 03/01/09	Initials: MCW
Last Modification Date: XXXXX	Initials:
Full Path: P:\ECO08001\DWG\WORK\CDOT\	
Drawing File Name: SWMP.dwg	
Acad Ver. 2006	Scale: n.t.s Units: English

Sheet Revisions

Rev.	Description	Date
1	NTP SUBMITTAL	5-7-09
2	CDOT SUBMITTAL	5-27-09
3	MINTURN TRAIL AD SET	7-17-09

As Constructed

No Revisions:
Revised:
Void:

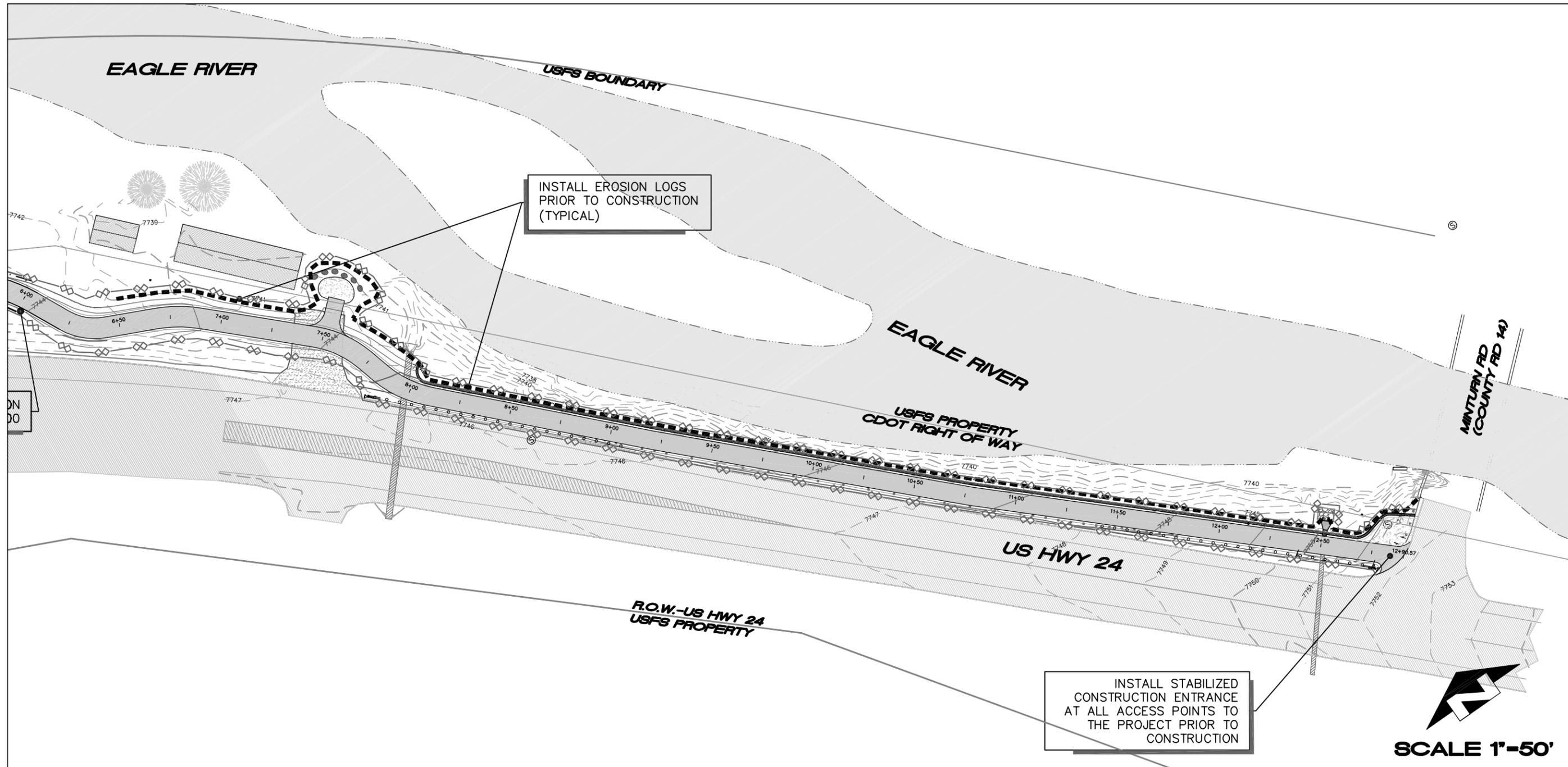
**ECO REGIONAL TRAIL
DOWD JUNCTION TO MINTURN
STORM WATER MANAGEMENT PLAN**

Designer: MCW	Structure Numbers:
Detailer: MCW	
Sheet Subset:	Subset Sheets:

Project No./Code

#ES3006A-043
16945
Sheet Number 17

P:\ECO08001\dwg\WORK\CDOT PLANS\Erosion.dwg, 7/17/2009 10:39:56 AM, wadey



SCALE 1"=50'

INSTALL STABILIZED CONSTRUCTION ENTRANCE AT ALL ACCESS POINTS TO THE PROJECT PRIOR TO CONSTRUCTION

LEGEND

8" DIA. EROSION LOGS	-----
LIMITS OF CONSTRUCTION	---o---o---o---o---
CONSTRUCTION FENCING



811 FOR BURIED UTILITY INFORMATION
THREE (3) BUSINESS DAYS BEFORE YOU DIG
CALL 811
(or 1-800-922-1967)
UTILITY NOTIFICATION CENTER OF COLORADO (UNCC)
www.uncc.org



Colorado Department of Transportation



222 S. 6th St., Room 100
GRAND JUNCTION, CO., 81501
Phone: 970-248-7230
FAX: 970-248-7294

REGION 3



ALPINE ABEI ENGINEERING INC.
EDWARDS BUSINESS CENTER • P.O. BOX 97
EDWARDS, COLORADO 81632
970-926-3373 • FAX 926-3390

Computer File Information

Creation Date: 03/01/09	Initials: MCW
Last Modification Date: XXXXX	Initials:
Full Path: P:\ECO08001\DWG\WORK\CDOT\	
Drawing File Name: SWMP.dwg	
Acad Ver. 2006	Scale: n.t.s Units: English

Sheet Revisions

Revision	Description	Date
1	NTP SUBMITTAL	5-7-09
2	CDOT SUBMITTAL	5-27-09
3	MINTURN TRAIL AD SET	7-17-09

As Constructed

No Revisions:
Revised:
Void:

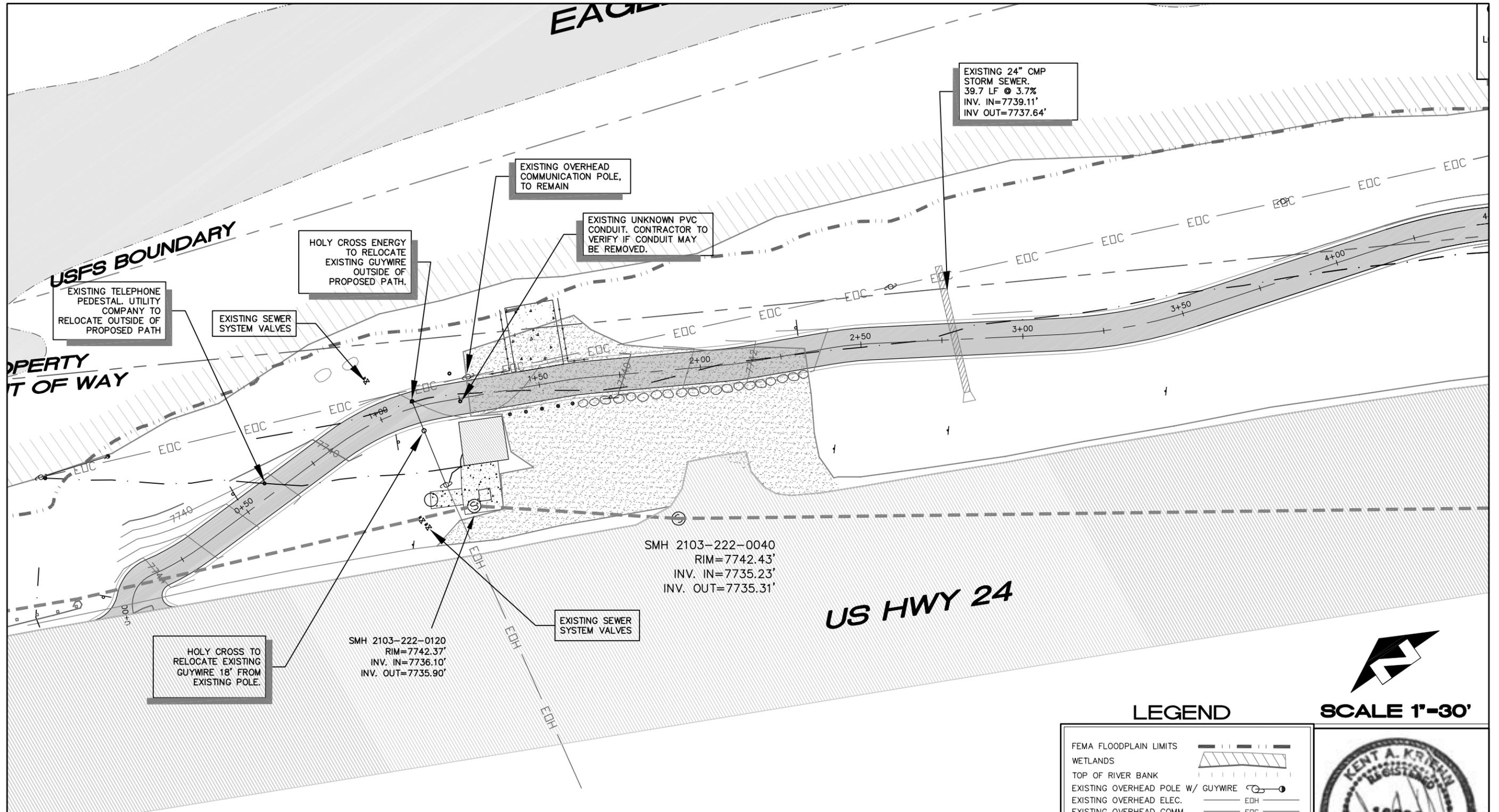
**ECO REGIONAL TRAIL
DOWD JUNCTION TO MINTURN
STORM WATER MANAGEMENT PLAN**

Designer: MCW	Structure Numbers:
Detailer: MCW	
Sheet Subset:	Subset Sheets:

Project No./Code

#ES3006A-043
16945
Sheet Number 18

P:\ECO08001\dwg\WORK\CDOT PLANS\Utility.dwg, 7/17/2009 10:41:06 AM, wadey



SCALE 1"=30'

LEGEND

FEMA FLOODPLAIN LIMITS	
WETLANDS	
TOP OF RIVER BANK	
EXISTING OVERHEAD POLE W/ GUYWIRE	
EXISTING OVERHEAD ELEC.	
EXISTING OVERHEAD COMM.	
EXISTING TELEPHONE	
EXISTING SEWER MAIN	
EXISTING SEWER MANHOLE	
EXISTING HP GAS MAIN	
EXISTING WATER VALVE	
EXISTING SIGN	



CONSTRUCTION ACTIVITIES WITHIN WETLAND AREAS MUST CONFORM TO REQUIREMENTS OF THE NATIONWIDE PERMIT.



811
FOR BURIED UTILITY INFORMATION
THREE (3) BUSINESS DAYS
BEFORE YOU DIG
CALL 811
(or 1-800-422-1987)
UTILITY NOTIFICATION
CENTER OF COLORADO (UNCC)
www.uncc.org



Colorado Department of Transportation

DOT
DEPARTMENT OF TRANSPORTATION
REGION 3

222 S. 6th St., Room 100
GRAND JUNCTION, CO., 81501
Phone: 970-248-7230
FAX: 970-248-7294

ALPINE
ENGINEERING INC.
EDWARDS BUSINESS CENTER • P.O. BOX 97
EDWARDS, COLORADO 81632
970-926-3373 • FAX 926-3390

Computer File Information	
Creation Date: 03/01/09	Initials: MCW
Last Modification Date: XXXXX	Initials:
Full Path: P:\ECO08001\DWG\WORK\CDOT\	
Drawing File Name: Utility.dwg	
Acad Ver. 2006	Scale: n.t.s Units: English

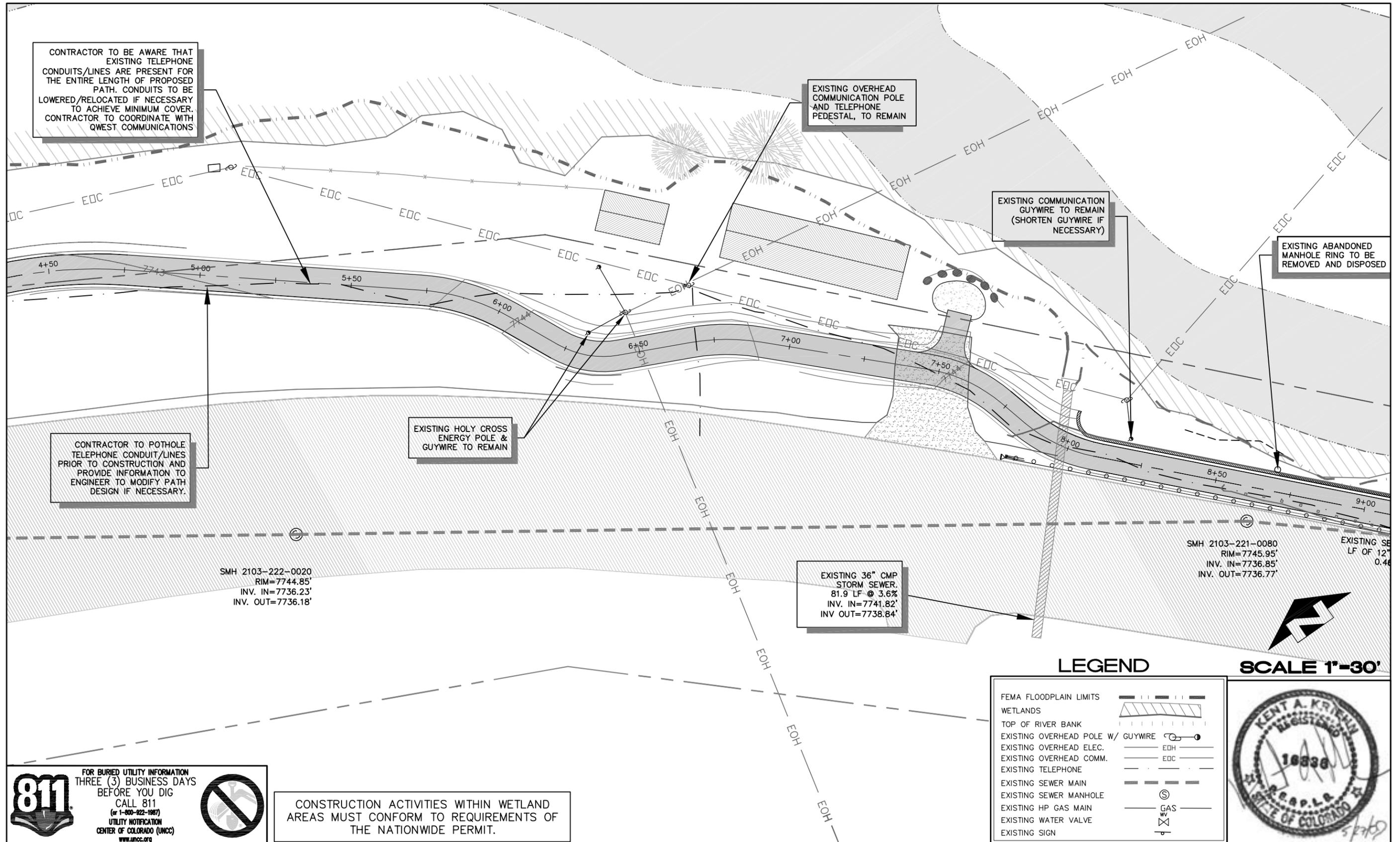
Sheet Revisions		
1	NTP SUBMITTAL	5-7-09
2	CDOT SUBMITTAL	5-27-09
3	MINTURN TRAIL AD SET	7-17-09

As Constructed
No Revisions:
Revised:
Void:

ECO REGIONAL TRAIL DOWD JUNCTION TO MINTURN UTILITY PLAN	
Designer: MCW	Structure Numbers
Detailer: MCW	
Sheet Subset:	Subset Sheets:

Project No./Code	#ES3006A-043
	16945
	Sheet Number 19

P:\ECO08001\dwg\WORK\CDOT PLANS\Utility.dwg, 7/17/2009 10:41:32 AM, wadey



811 FOR BURIED UTILITY INFORMATION
THREE (3) BUSINESS DAYS BEFORE YOU DIG
CALL 811 (or 1-800-422-1987)
UTILITY NOTIFICATION CENTER OF COLORADO (UNCC)
www.uncc.org

CONSTRUCTION ACTIVITIES WITHIN WETLAND AREAS MUST CONFORM TO REQUIREMENTS OF THE NATIONWIDE PERMIT.

Colorado Department of Transportation

222 S. 6th St., Room 100
GRAND JUNCTION, CO., 81501
Phone: 970-248-7230
FAX: 970-248-7294

REGION 3

EDWARD BLUESH'S CENTER • P.O. BOX 97
TOWARDS, COLORADO 81502 • FAX 926-3390

Computer File Information	
Creation Date: 03/01/09	Initials: MCW
Last Modification Date: XXXXX	Initials:
Full Path: P:\ECO08001\DWG\WORK\CDOT\	
Drawing File Name: Utility.dwg	
Acad Ver. 2006	Scale: n.t.s Units: English

Sheet Revisions		
1	NTP SUBMITTAL	5-7-09
2	CDOT SUBMITTAL	5-27-09
3	MINTURN TRAIL AD SET	7-17-09

As Constructed

No Revisions:

Revised:

Void:

**ECO REGIONAL TRAIL
DOWD JUNCTION TO MINTURN
UTILITY PLAN**

Designer: MCW
Detailer: MCW
Sheet Subset:

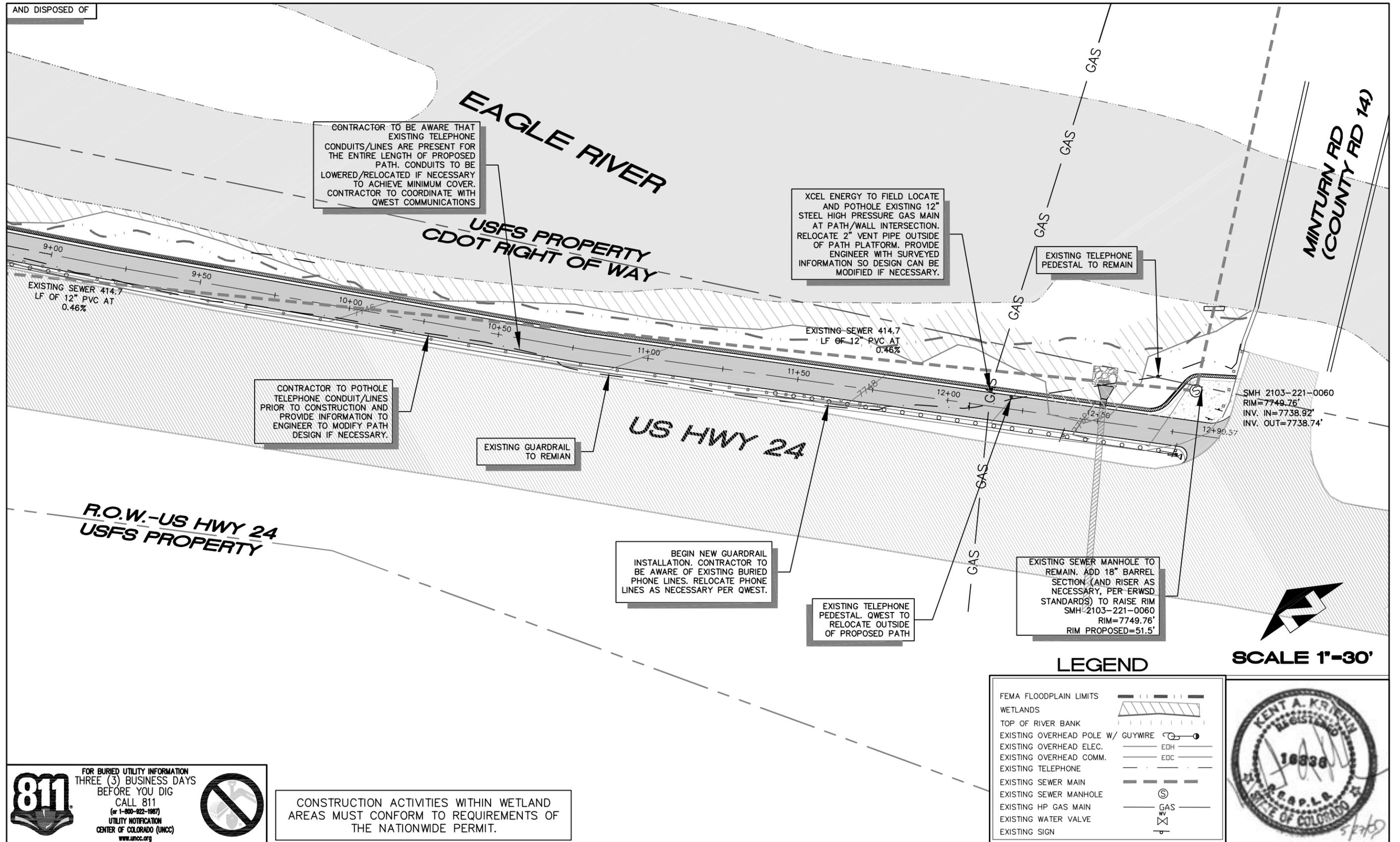
Structure Numbers
Subset Sheets:

Project No./Code
#ES3006A-043

16945
Sheet Number 20



P:\ECO08001\dwg\WORK\CDOT PLANS\Utility.dwg, 7/17/2009 10:42:08 AM, wadey



811 FOR BURIED UTILITY INFORMATION
THREE (3) BUSINESS DAYS
BEFORE YOU DIG
CALL 811
(or 1-800-422-1987)
UTILITY NOTIFICATION
CENTER OF COLORADO (UNCC)
www.uncc.org



CONSTRUCTION ACTIVITIES WITHIN WETLAND AREAS MUST CONFORM TO REQUIREMENTS OF THE NATIONWIDE PERMIT.

Colorado Department of Transportation



222 S. 6th St., Room 100
GRAND JUNCTION, CO., 81501
Phone: 970-248-7230
FAX: 970-248-7294



EDWARD BLUESCH, CENTER, P.O. BOX 97
TOWARDS, COLORADO 81501
970 926-3373 FAX 926-3390

REGION 3

Computer File Information	
Creation Date: 03/01/09	Initials: MCW
Last Modification Date: XXXXX	Initials:
Full Path: P:\ECO08001\DWG\WORK\CDOT\	
Drawing File Name: Utility.dwg	
Acad Ver. 2006	Scale: n.t.s Units: English

Sheet Revisions		
1	NTP SUBMITTAL	5-7-09
2	CDOT SUBMITTAL	5-27-09
3	MINTURN TRAIL AD SET	7-17-09

As Constructed
No Revisions:
Revised:
Void:

**ECO REGIONAL TRAIL
DOWD JUNCTION TO MINTURN
UTILITY PLAN**

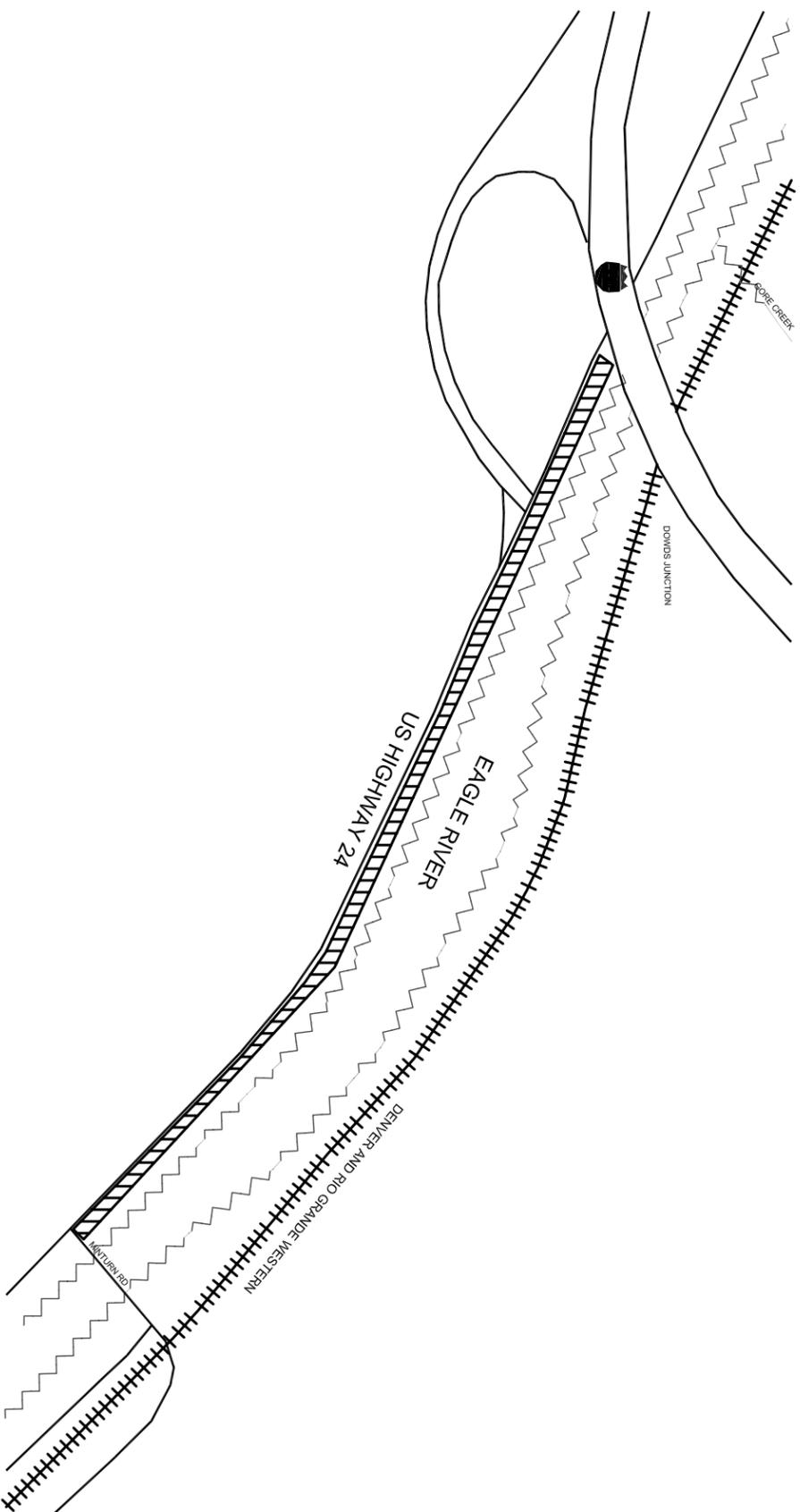
Designer: MCW Structure Numbers
Detailer: MCW
Sheet Subset: Subset Sheets:

Project No./Code
#ES3006A-043

16945
Sheet Number 21



MECHANICALLY STABILIZED EARTH RETAINING WALL FOR PROPOSED ECO REGIONAL TRAIL DOWD JUNCTION TO MINTURN ROAD MINTURN, COLORADO



VICINITY MAP



SHEET INDEX

RW-1	COVER SHEET
RW-2	TECHNICAL SCOPE OF WORK
RW-3	SITE PLAN
RW-4	RETAINING WALL A PROFILE
RW-D1	TYPICAL RETAINING WALL CROSS SECTION
RW-D2	RETAINING WALL CONSTRUCTION DETAILS

REV.	DATE	BY	DESCRIPTION
1	3/27/09	AMV	REVISED TO CHANGE WALL STATION PER CDOT P/ECO TRAIL COMMENTS
2	5/27/2009	TMK	REVISED DRAWING SIZE AND DELETED PROPRIETARY PRODUCTS

Terracon
Consulting Engineers and Scientists

4685 South Ash Avenue, Suite H-4 Tempe, AZ 85282
PH. (480) 897-8200 FAX. (480) 897-1133

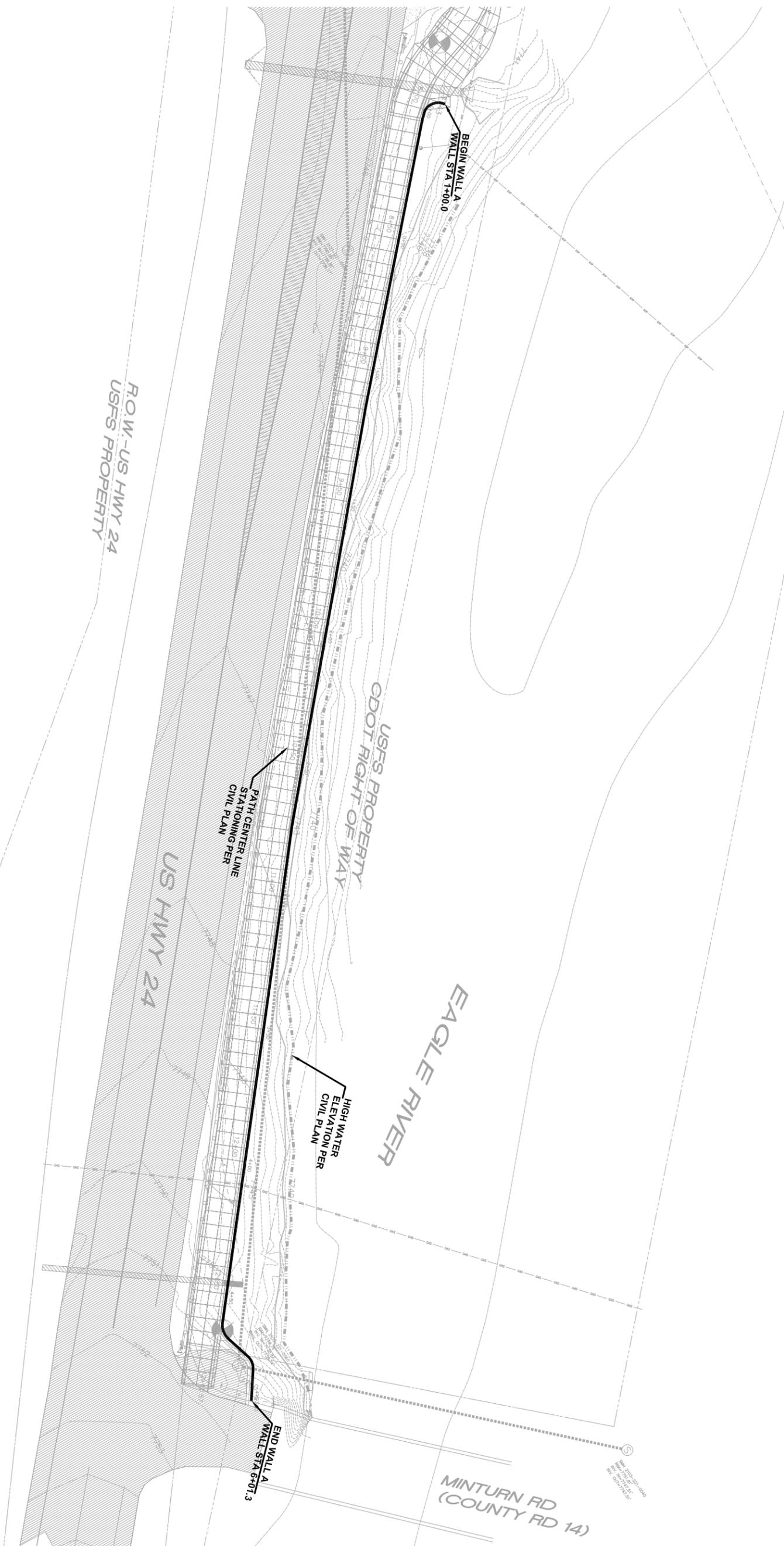
COVER SHEET

**PROPOSED ECO REGIONAL TRAIL
DOWD JUNCTION TO MINTURN ROAD**

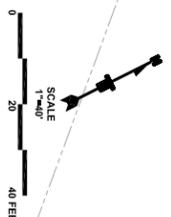
MINTURN COLORADO

RW-1	
PROJECT MNGR.	AMV
DRAWN BY:	JKT
APPVD. BY:	DRC
SCALE:	AS SHOWN
DATE:	2/16/2009
JOB NO.	65095802
ACAD NO.	RW-1 11X17.DWG
SHEET NO.:	1 OF 6

SITE PLAN BASED ON PATH PLAN STA 10+50 TO END FOR ECO REGIONAL TRAIL BY ALPINE ENGINEERING, INC., SHEET NO. C004, C005, AND C010. PROJECT NO. 78510.6, DATED AUGUST 1, 2008.
 THE SITE PLAN IS FOR WALL LOCATION ONLY. REFER TO THE GRADING PLANS BY ALPINE ENGINEERING, INC. ENGINEERS, INC. FOR OTHER GRADING ISSUES.



NOTE:
 THE STATIONING ON THE RETAINING WALL REFERS TO WALL STATIONS. SEE CIVIL LANS FOR CORRESPONDING TRAIL/ROADWAY STATIONING.
 THE WALL STATIONING DOES NOT CORRESPOND TO THE FACE OF THE WALL SYSTEM.



REV.	DATE	BY	DESCRIPTION
1	3/27/09	AMV	REVISED TO CHANGE WALL STATION PER CDOT P/ECO TRAIL COMMENTS
2	5/27/2009	TMK	REVISED DRAWING SIZE AND DELETED PROPRIETARY PRODUCTS

Terracon
 Consulting Engineers and Scientists

4685 South Ash Avenue, Suite H-4 Tempe, AZ 85282
 PH. (480) 897-8200 FAX. (480) 897-1133

SITE PLAN

**PROPOSED ECO REGIONAL TRAIL
 DOWD JUNCTION TO MINTURN ROAD**

MINTURN COLORADO

RW-3	
PROJECT MNGR.	AMV
DRAWN BY:	JKT
APPVD. BY:	DRC
SCALE:	AS SHOWN
DATE:	2/16/2009
JOB NO.	65095802
ACAD NO.	RW-3 11X17.DWG
SHEET NO.:	3 OF 6



- LEGEND:**
- 4"x18" CAP UNITS
 - 8"x18"x12" (HxLxD) BLOCK UNITS
 - 8-INCH GRAVEL LEVELING PAD
 - STRUCTURAL GEOGRID: MIN LTDS = 1678 LB/FT
 - FINISHED GRADE AT TOP OF WALL
 - FINISHED GRADE AT BOTTOM OF WALL (EXISTING GROUND)
 - BOW ELEVATION AT BOTTOM OF BLOCK TOP OF LEVELING PAD
 - TOW ELEVATION AT TOP OF CAP BLOCK
 - STA STATION ALONG RETAINING WALL ALIGNMENT
 - "L" MINIMUM GEOGRID EMBEDMENT LENGTH



PLEASE NOTE: WALL STATIONING DOES NOT CORRESPOND TO THE FACE OF THE SYSTEM.

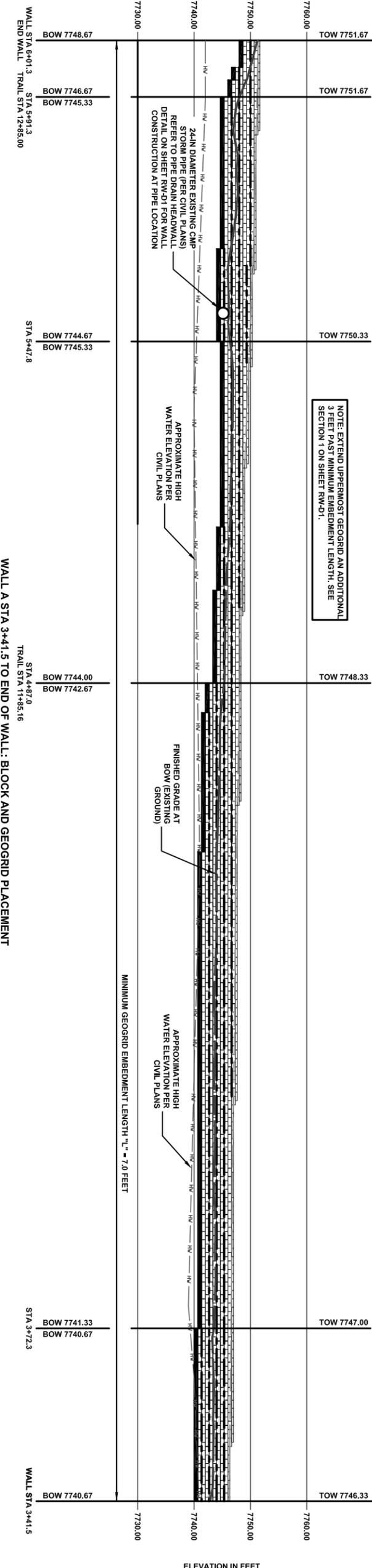
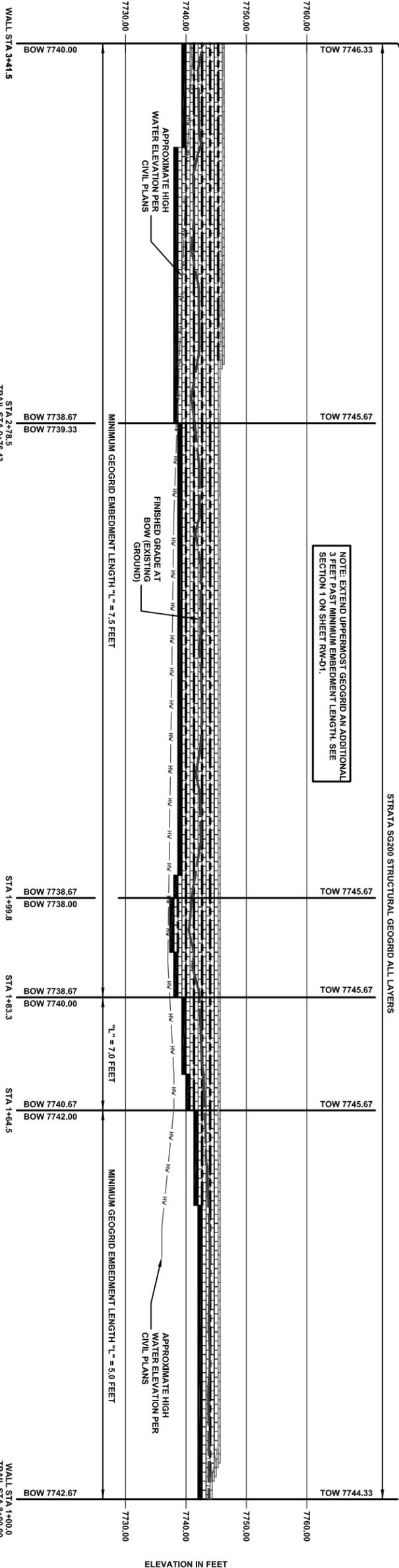
NOTE: EXTEND UPPERMOST GEOGRID AN ADDITIONAL 3 FEET PAST MINIMUM EMBEDMENT LENGTH. SEE SECTION 1 ON SHEET RW-D1.

PLEASE NOTE: WALL STATIONING DOES NOT CORRESPOND TO THE FACE OF THE SYSTEM.

NOTE: EXTEND UPPERMOST GEOGRID AN ADDITIONAL 3 FEET PAST MINIMUM EMBEDMENT LENGTH. SEE SECTION 1 ON SHEET RW-D1.

WALL A STA 1+00 TO 3+41.5: BLOCK AND GEOGRID PLACEMENT

STRATVA SG200 STRUCTURAL GEOGRID ALL LAYERS



REV.	DATE	BY	DESCRIPTION
1	3/27/09	AMV	REVISED TO CHANGE WALL STATION PER CDOT P/ECO TRAIL COMMENTS
2	5/27/2009	TMK	REVISED DRAWING SIZE AND DELETED PROPRIETARY PRODUCTS

Terracon
Consulting Engineers and Scientists

4685 South Ash Avenue, Suite H-4 Tempe, AZ 85282
PH. (480) 897-8200 FAX. (480) 897-1133

RETAINING WALL A PROFILE

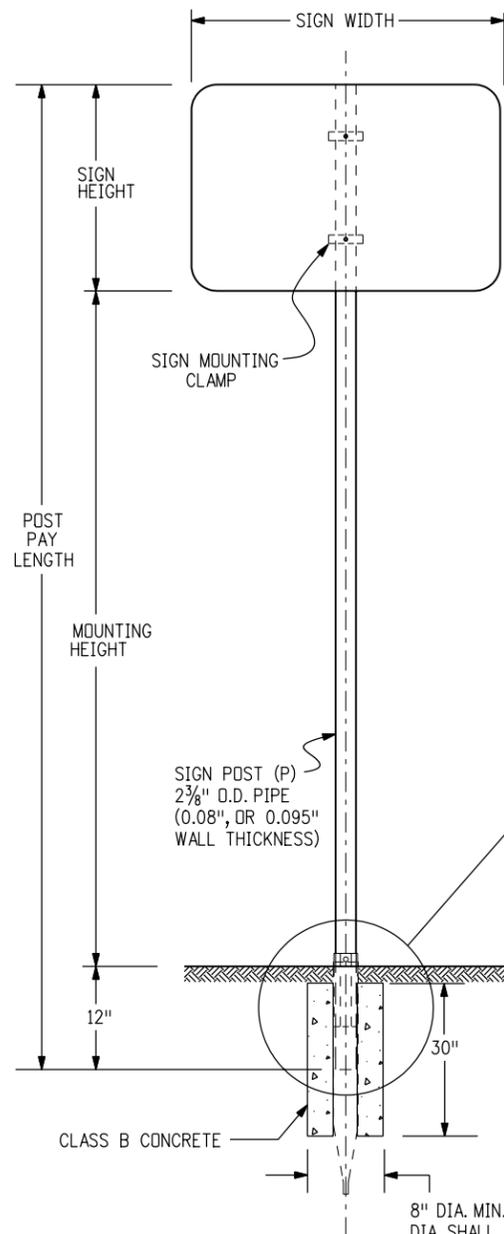
**PROPOSED ECO REGIONAL TRAIL
DOWD JUNCTION TO MINTURN ROAD**

MINTURN COLORADO

RW-4	
PROJECT MNGR:	AMV
DRAWN BY:	JKT
APPVD. BY:	DRC
SCALE:	AS SHOWN
DATE:	2/16/2009
JOB NO.:	65095802
ACAD NO.:	RW-4 11X17.DWG
SHEET NO.:	4 OF 6

**TUBULAR STEEL POSTS
(SOCKET SYSTEM) (SINGLE OR DOUBLE POST)**

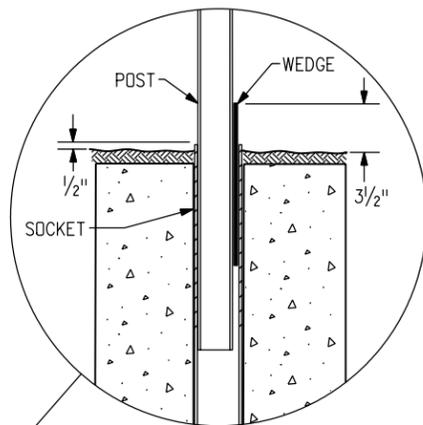
SIGNPOST SELECTION GUIDE (90 MPH WIND LOAD DESIGN)



3/16" DIA. HOLE
(TO REMAIN ABOVE
GROUND FOR REMOVAL)



WEDGE
11 GA. GALVANIZED STEEL
ASTM A-526 G-90

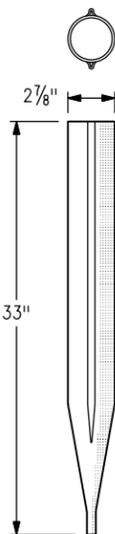


NOTE: WEDGE SHALL BE INSTALLED
ON SIDE OF POST FACING TRAFFIC.

SIGN POST (P)
2 3/8" O.D. PIPE
(0.08", OR 0.095"
WALL THICKNESS)

CLASS B CONCRETE

8" DIA. MIN. (12"
DIA. SHALL BE USED
IN SANDY SOILS)



TUBULAR SOCKET
12 GA. GALVANIZED
STEEL ASTM - 787

SIGN HEIGHT (FT)	7' MOUNTING HEIGHT									8' MOUNTING HEIGHT									9' MOUNTING HEIGHT										
	SIGN WIDTH (FT)									SIGN WIDTH (FT)									SIGN WIDTH (FT)										
	1	2	2.5	3	4	5	6	7	8	9	1	2	2.5	3	4	5	6	7	8	9	1	2	2.5	3	4	5	6	7	8
1	P	P	P	P	P	P1	SIZES NOT USED			SIZES NOT USED									SIZES NOT USED										
2	P	P	P	P	P	P1	SIZES NOT USED			SIZES NOT USED									SIZES NOT USED										
2.5	P	P	P	P	P1	P1	SIZES NOT USED			SIZES NOT USED									SIZES NOT USED										
3	P	P	P	P1	P1	P1	SIZES NOT USED			SIZES NOT USED									SIZES NOT USED										
4	P	P1	P1	P1	P1	P1	SIZES NOT USED			SIZES NOT USED									SIZES NOT USED										
5	SIZES NOT USED		P1	P1	P1	P1	SIZES NOT USED			SIZES NOT USED									SIZES NOT USED										
6	SIZES NOT USED		P1	P1	P1	P2	SIZES NOT USED			SIZES NOT USED									SIZES NOT USED										
7	SIZES NOT USED		P1	P1	P2	TWO P1'S	TWO P2'S	SIZES NOT USED	SIZES NOT USED									SIZES NOT USED											

SEE CHART NOTE 4.

CHART NOTES

1. TYPICAL POST MOUNTING HEIGHTS FROM GROUND TO BOTTOM OF SIGN PANEL ARE 7, 8 OR 9 FEET. OTHER HEIGHTS MAY BE REQUIRED WHEN SIGNS ARE MOUNTED ON STEEPER FILL OR CUT SLOPES.
2. FOR SIGNS MOUNTED ON TWO POSTS, THE MINIMUM DISTANCE BETWEEN POSTS SHALL BE 2 FEET AND THE MAXIMUM DISTANCE SHALL BE 8 FEET. DISTANCE FROM POST TO EDGE OF SIGN PANEL(S) SHALL BE 0 TO 4 INCHES. WHEN BACKING ZEES ARE USED, POSTS SHALL BE INSTALLED WITH A MINIMUM OF 2 INCHES TO THE EDGE OF THE BACKING ZEE.
3. ALL SIGN PANELS GREATER THAN 60 INCHES IN WIDTH MUST BE MOUNTED ON TWO POSTS TO PREVENT TURNING.
4. THE POST SIZES SHOWN ARE THE MINIMUM SIZES REQUIRED. TWO P1 POSTS MAY BE SUBSTITUTED WHERE ONE P2 POST IS INDICATED. P2 POSTS MAY BE SUBSTITUTED FOR P1 POSTS WHEN DIRECTED BY THE ENGINEER.

GENERAL NOTES

1. SIGNS BETWEEN 37 IN. AND 60 IN. WIDTH WITH ONE POST INSTALLATION REQUIRE A T OR U SIGN SUPPORT BRACKET IN ADDITION TO THE BACKING ZEE REQUIREMENTS. WHEN DIRECTED BY THE ENGINEER, SIGN PANELS LESS THAN 48 IN. IN WIDTH MAY ATTACHED DIRECTLY TO T OR U BRACKETS WITHOUT ZEES.
2. U-BRACKETS MAY BE USED FOR MULTIPLE SIGN INSTALLATIONS.
3. FOR BACKING ZEE REQUIREMENTS AND DETAILS, SEE STANDARD PLANS S-614-3 AND S-614-4.

POST SPECIFICATIONS

POST SIZE	OUTSIDE DIAMETER	WALL THICKNESS	MATERIAL	** COATING	MAX ALLOW MOMENT	PAID FOR AS:
P	2.375"	.080"	ASTM-513	ASTM A-653 G-210 WITH 3.0 MIL POLYMER COATING PER ASTM A123 CLEAR COATING	1.47 KIP FT	STEEL SIGN SUPPORT (2 INCH ROUND)
P1	2.875"	.160"	ASTM-513	GC HOT DIPPED PER ASTM-123	4.02 KIP FT	STEEL SIGN SUPPORT (2 1/2 INCH ROUND NP-40)
P2	2.875"	.276"	ASTM-500	GC HOT DIPPED PER ASTM-123	5.13 KIP FT	STEEL SIGN SUPPORT (2 1/2 INCH ROUND SCH 80)

** COLOR POWDER COATING MAY BE ADDED ACCORDING TO MANUFACTURER SPECIFICATIONS FOR SPECIAL LOCATIONS WHEN SHOWN ON THE PLANS.

POST NOTES

THE POST MAY BE PRE-PUNCHED WITH 3/8" DIA. HOLES AND THE SIGN MOUNTED DIRECTLY TO THE POST, OR AN APPROVED MOUNTING CLAMP MAY BE USED TO MOUNT THE SIGN TO THE POST. IF THE POST IS PRE-PUNCHED, THE HOLES SHALL BE SPACED THE FOLLOWING DISTANCES FROM THE TOP:
1", 3", 10", 16", 21", 23", 24", 27", 33", 37", 39", AND 45"

Computer File Information

Creation Date: 07/04/06	Initials: KCM
Last Modification Date: 06/18/09	Initials: KEN
Full Path: www.dot.state.co.us/DesignSupport/	
Drawing File Name: Sheet_S-614-08_1of5.dgn	
CAD Ver.: MicroStation V8	Scale: Not to Scale Units: English

Sheet Revisions

Date:	Comments
06/18/09	REVISE P1 PIPE COATING SPECIFICATION TO MATCH P PIPE'S COATING SPECIFICATION.

Colorado Department of Transportation

4201 East Arkansas Avenue
Denver, Colorado 80222
Phone: (303) 757-9543
Fax: (303) 757-9458

Safety & Traffic Engineering Branch KCM/KEN

**TUBULAR STEEL SIGN
SUPPORT DETAILS**

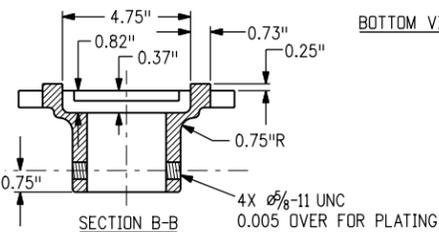
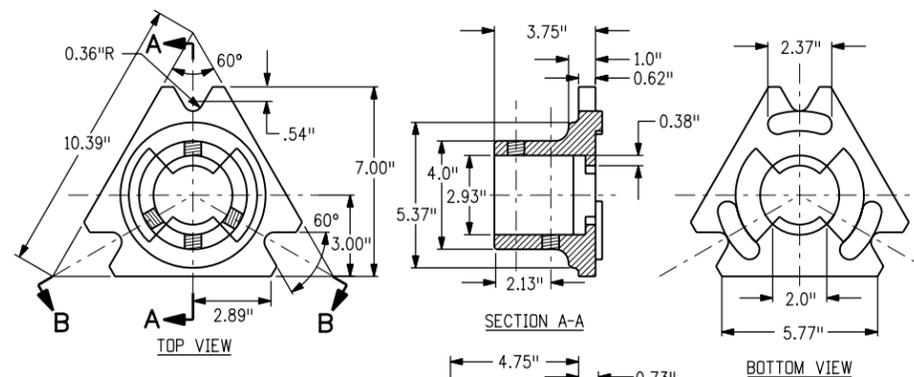
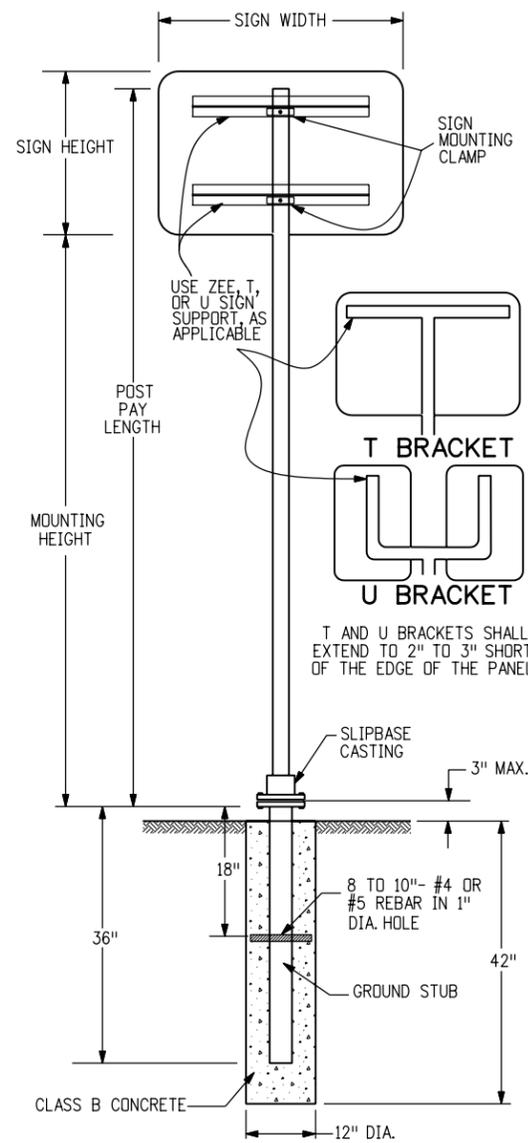
Issued By: Safety & Traffic Engineering Branch June 18, 2009

STANDARD PLAN NO.

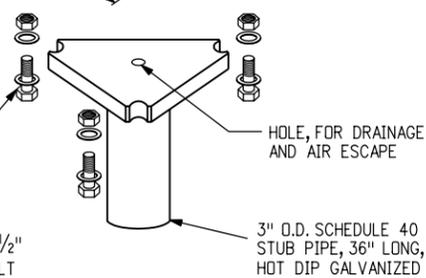
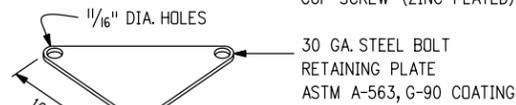
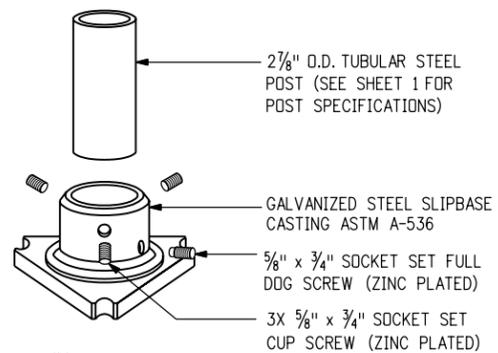
S-614-8

Sheet No. 1 of 5

**TUBULAR STEEL POSTS
(WITH SLIPBASE)
(SINGLE OR DOUBLE POST)**



SLIPBASE CASTING

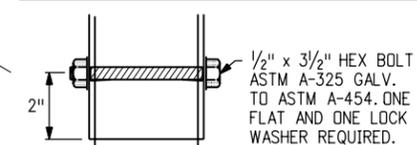


TYPICAL ASSEMBLY

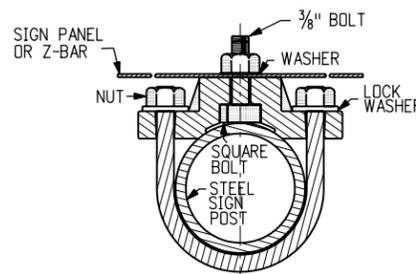
DIMENSIONS FOR MOUNTING CLAMP (ALL DIMENSION ARE IN INCHES)

STANDARD PIPE SIZE	A	B	C	D	E	F	G	K	L	R ₁	R ₂
2	3 3/4	2 3/4	1 1/2	1 1/8	1/2	3/16	1	2 1/16	1 1/32	1 1/4	1 3/16
2 1/2	4 1/4	3 1/4	2	1 1/4	1/2	1/4	1	3 3/16	1 15/32	1 1/2	1 1/16

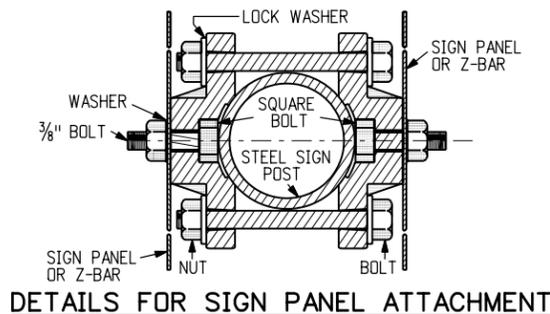
T AND U BRACKET ATTACHMENT



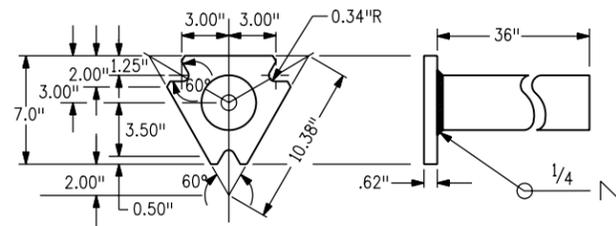
TYPICAL SINGLE BRACKET



TYPICAL BACK TO BACK



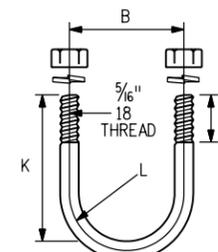
DETAILS FOR SIGN PANEL ATTACHMENT



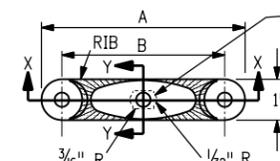
SLIPBASE STUB POST

PIPE CLAMP CASTING

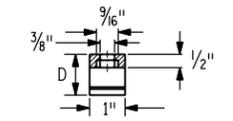
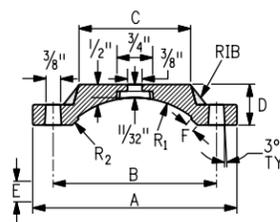
PIPE CLAMP CASTING SHALL BE ASTM B26 OR B108 ALUMINUM ALLOY A444.0-T4 OR 356.0-F. ALL SIGN MOUNTING CLAMP PARTS NOT MADE FROM ALUMINUM SHALL BE GALVANIZED STEEL IN CONFORMANCE WITH ASTM A153 OR STAINLESS STEEL.



U-BOLT TO BE MADE IN ACCORDANCE WITH STANDARD MANUFACTURING PROCEDURE. 1/4" OR 5/18" DIAMETER STOCK IS PERMISSIBLE. AMERICAN STANDARD REGULAR SEMI-FINISHED HEX NUTS AND SPRING LOCKWASHERS.



SLOT TO HOLD HEAD OF 3/8" HEX HEAD BOLT. THE BOLT SHALL BE 1/4" LONG, WITH FULL THREADS, A MEDIUM WASHER, AND GALVANIZED STEEL OR ALUMINUM SELF-LOCKING HEX HEAD NUT. THE BOLT HEAD MUST NOT TURN IN THE SLOT.



MOUNTING CLAMP FOR SOCKET OR SLIPBASE

Computer File Information

Creation Date: 07/04/06	Initials: KCM
Last Modification Date:	Initials:
Full Path: www.dot.state.co.us/DesignSupport/	
Drawing File Name: Sheet_S-614-08_2of5.dgn	
CAD Ver.: MicroStation V8	Scale: Not to Scale Units: English

Sheet Revisions

Date:	Comments

Colorado Department of Transportation

4201 East Arkansas Avenue
Denver, Colorado 80222
Phone: (303) 757-9543
Fax: (303) 757-9458



Safety & Traffic Engineering Branch

KCM/JSW

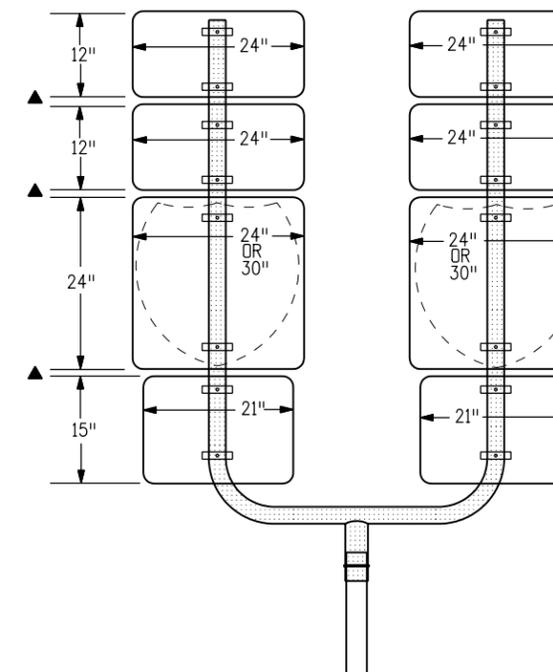
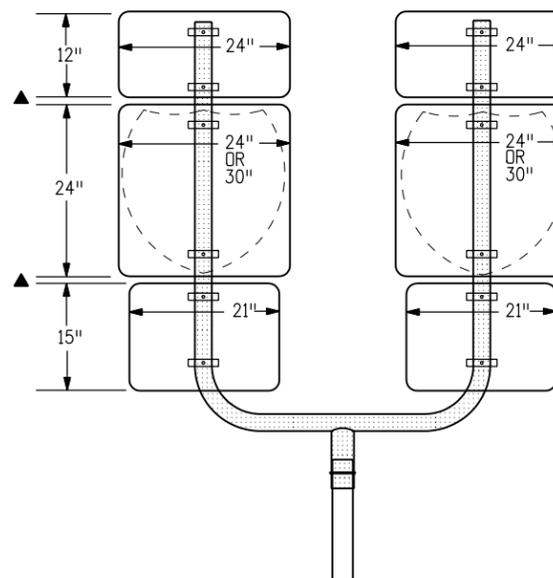
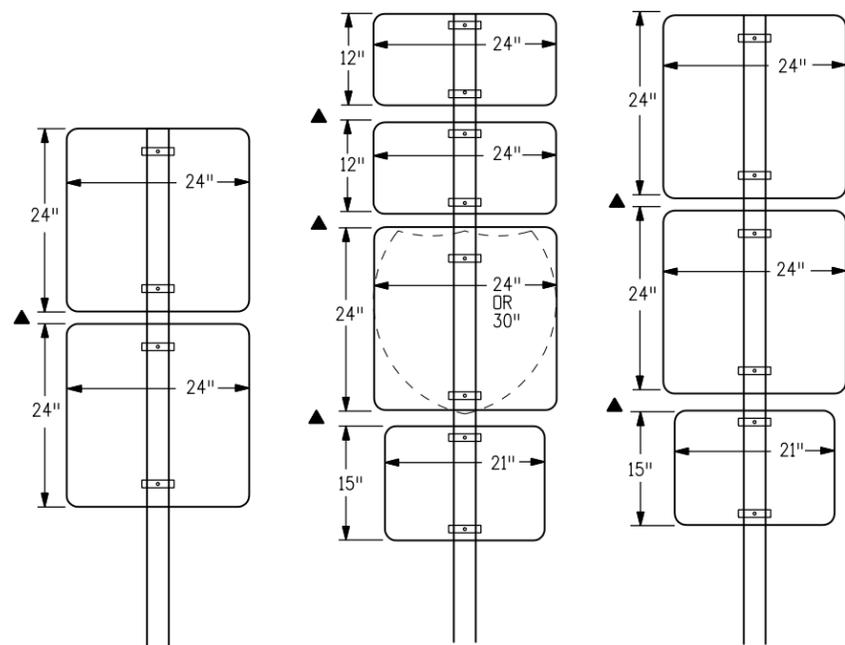
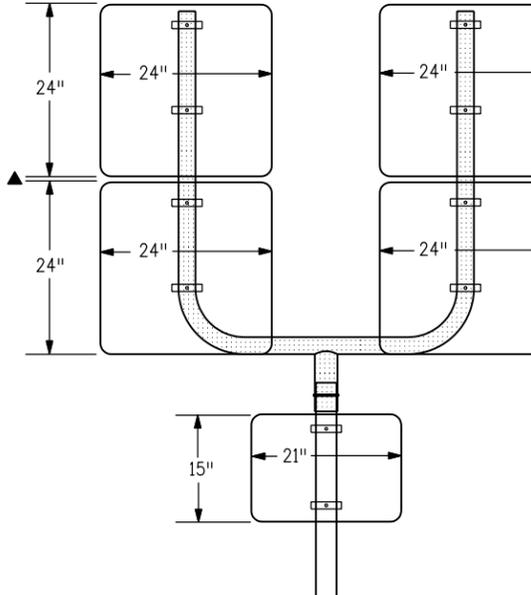
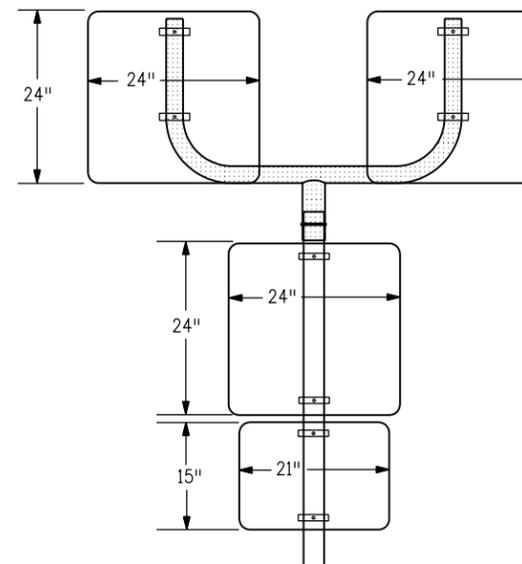
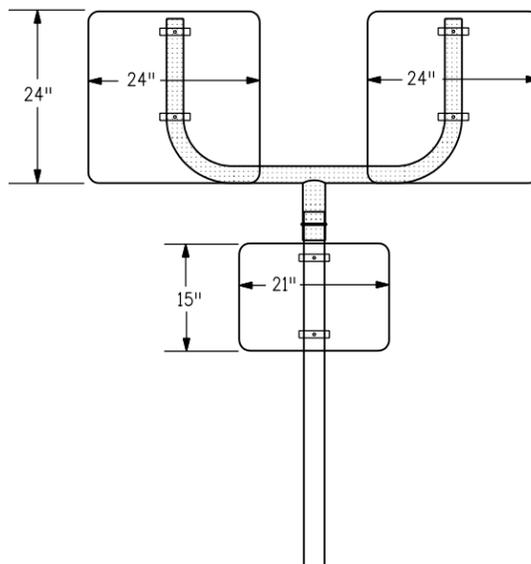
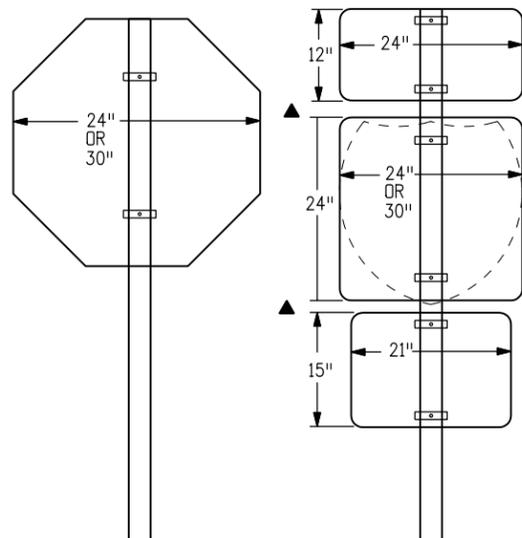
**TUBULAR STEEL SIGN
SUPPORT DETAILS**

Issued By: Safety & Traffic Engineering Branch July 4, 2006

STANDARD PLAN NO.

S-614-8

Sheet No. 2 of 5

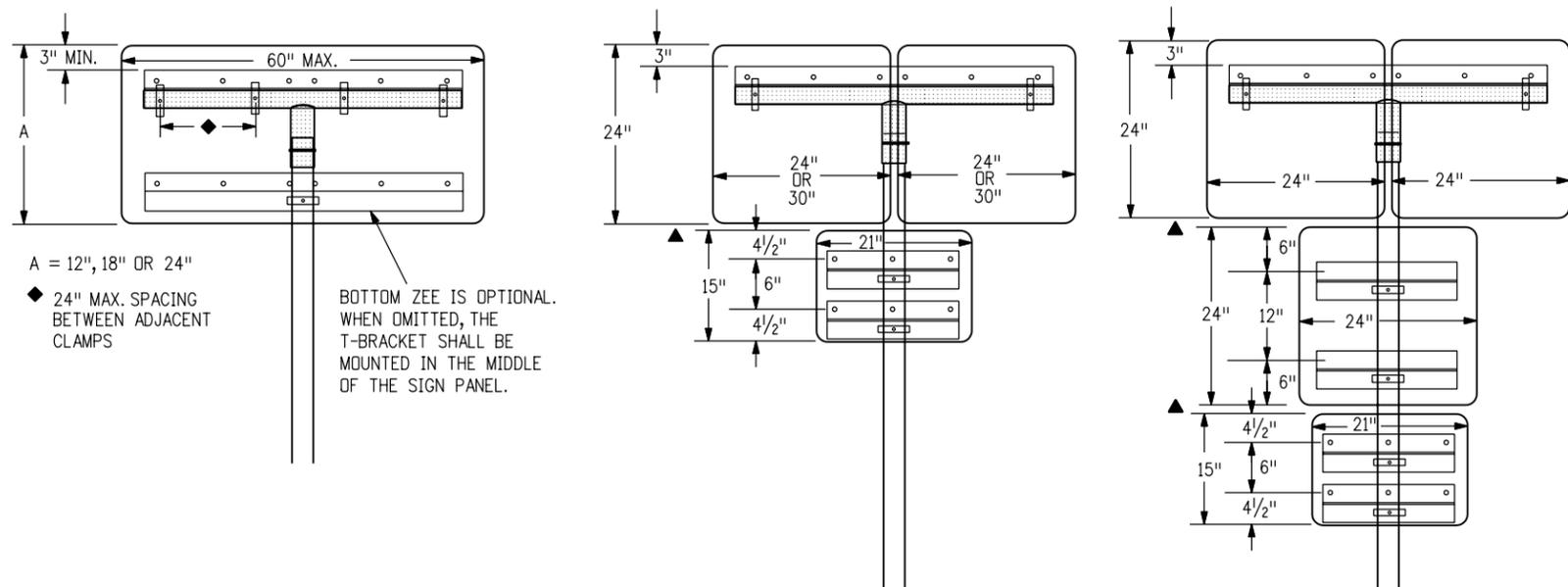


CLASS I SIGN COMBINATIONS (DIRECT ATTACHMENT)

CLASS I SIGN COMBINATIONS USING U-BRACKETS

▲ SEE NOTE 6 ON SHEET 4

Computer File Information Creation Date: 07/04/06 Initials: JSW Last Modification Date: Initials: Full Path: www.dot.state.co.us/DesignSupport/ Drawing File Name: Sheet_S-614-08_3of5.dgn CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English		Sheet Revisions <table border="1"> <thead> <tr> <th>Date:</th> <th>Comments</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </tbody> </table>		Date:	Comments							Colorado Department of Transportation  4201 East Arkansas Avenue Denver, Colorado 80222 Phone: (303) 757-9543 Fax: (303) 757-9458 Safety & Traffic Engineering Branch KCM/JSW		TUBULAR STEEL SIGN SUPPORT DETAILS Issued By: Safety & Traffic Engineering Branch July 4, 2006		STANDARD PLAN NO. S-614-8 Sheet No. 3 of 5	
Date:	Comments																



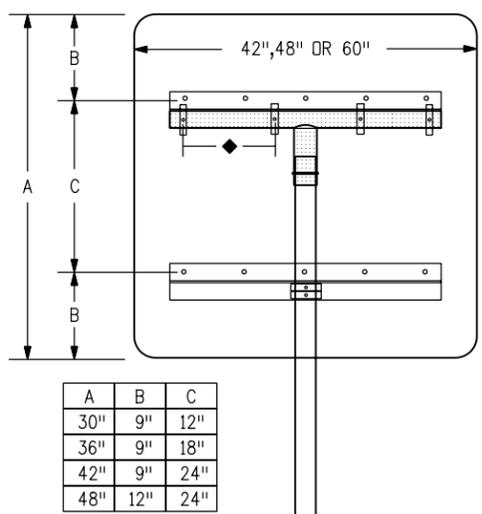
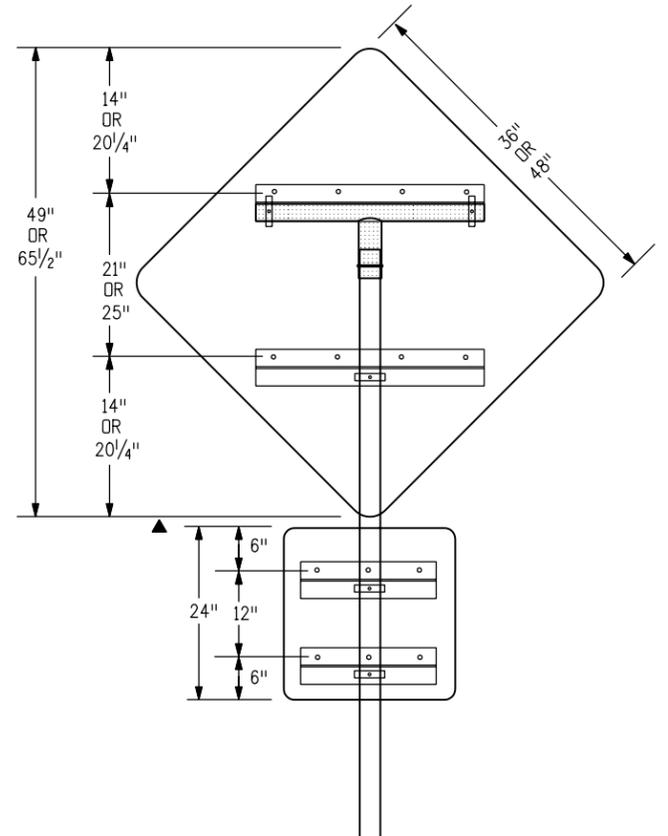
A = 12", 18" OR 24"
 ◆ 24" MAX. SPACING BETWEEN ADJACENT CLAMPS

BOTTOM ZEE IS OPTIONAL. WHEN OMITTED, THE T-BRACKET SHALL BE MOUNTED IN THE MIDDLE OF THE SIGN PANEL.

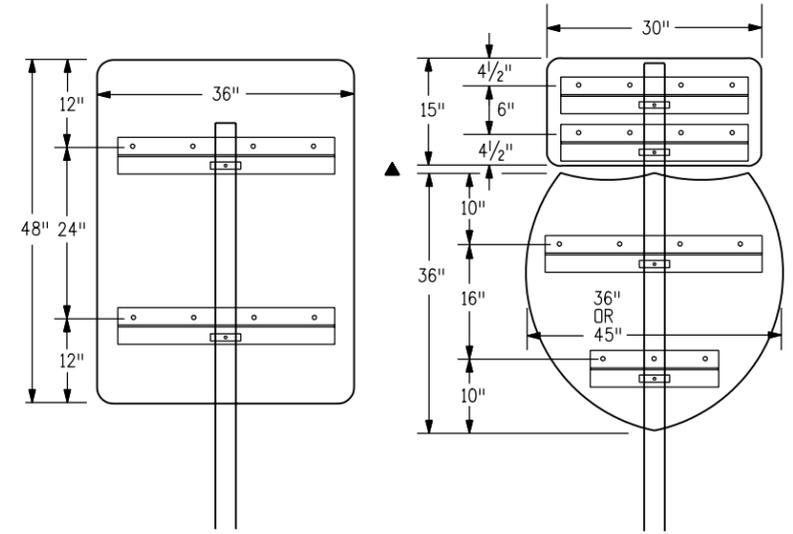
PANEL WIDTHS	ZEE LENGTH
21"	15"
24"	18"
30"	24"
36"	30"
42"	36"
45"	39"
48"	42"
54"	48"
60"	54"
36" DIAMOND	22"
48" DIAMOND	36"
24" & 24"	43"
24" & 30"	49"
30" & 30"	55"
36" & 36"	67"
45" & 36"	76"
24" & 24" & 24"	68"
24" & 24" & 30"	74"
24" & 30" & 24"	74"
30" & 24" & 30"	80"
24" & 30" & 30"	80"
30" & 30" & 30"	86"

GENERAL NOTES

- Z-BAR LENGTH SHALL BE 3 IN. ($\pm 1/2$ IN.) SHORT OF THE EDGE OF THE SIGN OR ROW OF SIGNS ON BOTH SIDES. THE ACCOMPANYING TABLE GIVES THE Z-BAR LENGTH FOR MOST TYPICAL PANEL COMBINATIONS.
- FIRST AND LAST HOLES SHALL BE 2 IN. FROM EDGE OF Z-BAR. THE HOLES IN BETWEEN SHALL BE 6 IN. TO 8 IN. APART.
- T AND U BRACKETS SHALL TERMINATE 2 IN. TO 3 IN. FROM EDGE OF SIGN PANEL. WHEN A ZEE IS CONNECTED TO A T-BRACKET, THEY SHALL BE THE SAME LENGTH EXCEPT WHEN THE ZEE MUST EXTEND BEYOND THE MAXIMUM LENGTH OF A T-BRACKET.
- TWO MOUNTING CLAMPS ARE REQUIRED ON ZEES WHERE THERE IS ONLY ONE ZEE FOR THE PANEL AND THE ZEE IS ATTACHED TO ONLY ONE POST.
- ZEES SHALL BE ATTACHED TO T-BRACKETS AND U-BRACKETS WITH U-BOLTS OR MOUNTING CLAMPS.
- VERTICAL SPACING BETWEEN SIGN PANELS SHALL BE 1IN. TO $1\frac{1}{2}$ IN. TYPICAL.
- IN SPECIAL CASES U-BRACKETS MAY BE USED TO MOUNT SIGNS THAT FACE DIFFERENT DIRECTIONS. THE ENGINEER SHALL DETERMINE THE ORIENTATION OF THE SIGN PANELS AND VERIFY THAT THE MAXIMUM ALLOWABLE WIND LOADS FOR THE POST ARE NOT EXCEEDED.



◆ 24" MAX. SPACING BETWEEN ADJACENT CLAMPS



CLASS II SIGN COMBINATIONS USING T-BRACKETS WITH Z-BAR

SINGLE POST CLASS II SIGNS USING Z-BAR

Computer File Information	
Creation Date: 07/04/06	Initials: JSW
Last Modification Date:	Initials:
Full Path: www.dot.state.co.us/DesignSupport/	
Drawing File Name: Sheet_S-614-08_4of5.dgn	
CAD Ver.: MicroStation V8	Scale: Not to Scale Units: English

Sheet Revisions	
Date:	Comments

Colorado Department of Transportation
 4201 East Arkansas Avenue
 Denver, Colorado 80222
 Phone: (303) 757-9543
 Fax: (303) 757-9458

Safety & Traffic Engineering Branch **KCM/JSW**

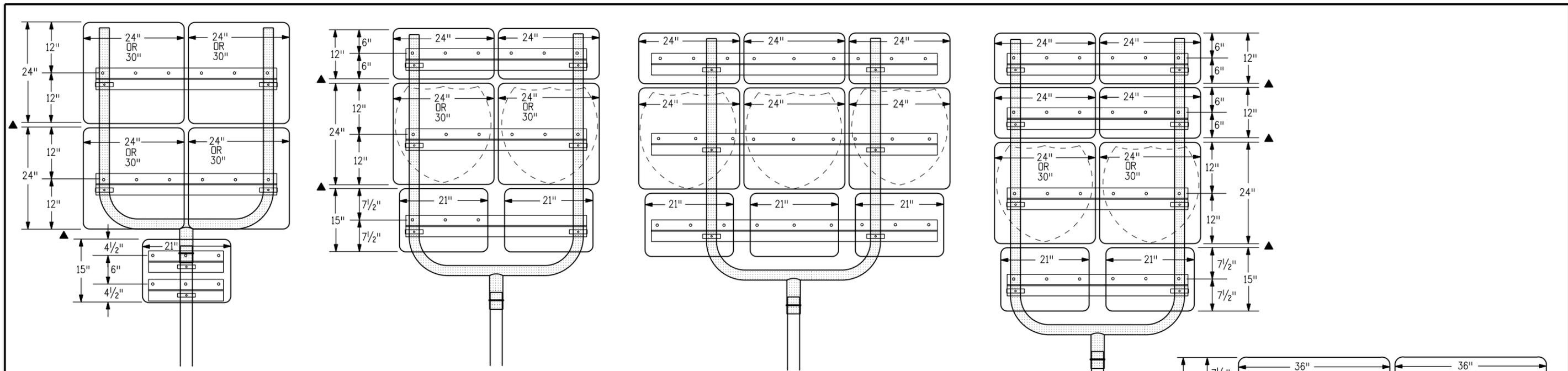
TUBULAR STEEL SIGN SUPPORT DETAILS

Issued By: Safety & Traffic Engineering Branch July 4, 2006

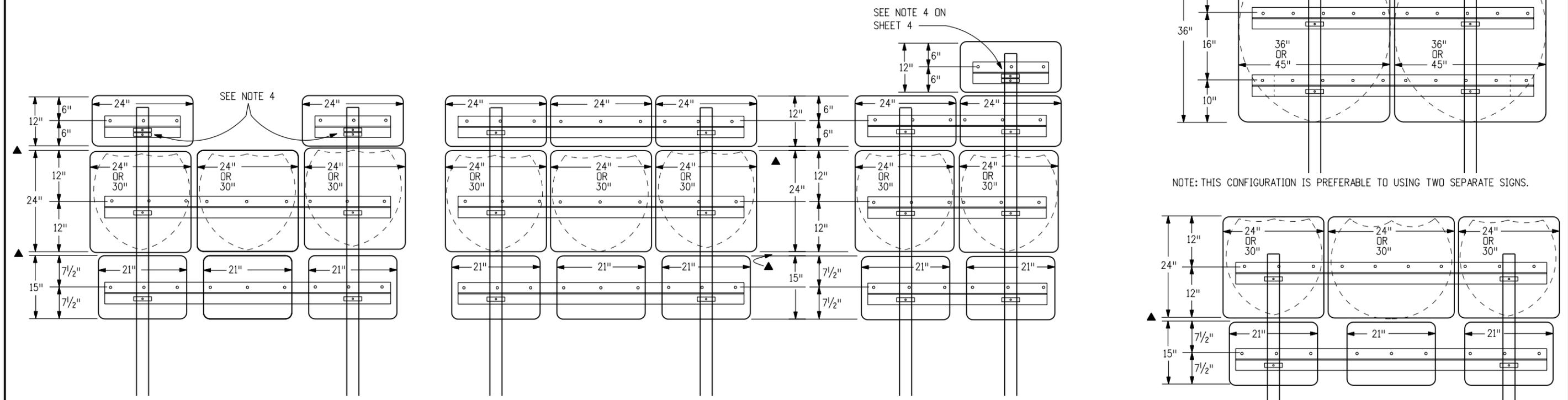
STANDARD PLAN NO.

S-614-8

Sheet No. 4 of 5



CLASS II SIGN COMBINATIONS USING U-BRACKETS



NOTE: THIS CONFIGURATION IS PREFERABLE TO USING TWO SEPARATE SIGNS.

CLASS II SIGN COMBINATIONS USING TWO POSTS

Computer File Information

Creation Date: 07/04/06	Initials: JSW
Last Modification Date:	Initials:
Full Path: www.dot.state.co.us/DesignSupport/	
Drawing File Name: Sheet_S-614-08_5of5.dgn	
CAD Ver.: MicroStation V8	Scale: Not to Scale Units: English

Sheet Revisions

Date:	Comments:

Colorado Department of Transportation
 4201 East Arkansas Avenue
 Denver, Colorado 80222
 Phone: (303) 757-9543
 Fax: (303) 757-9458

Safety & Traffic Engineering Branch **KCM/JSW**

**TUBULAR STEEL SIGN
 SUPPORT DETAILS**

Issued By: Safety & Traffic Engineering Branch July 4, 2006

STANDARD PLAN NO.

S-614-8

Sheet No. 5 of 5

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 STANDARDS FOR WORK ZONE TRAFFIC CONTROL.
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 CDOT FORM 568, "AUTHORIZATION AND DECLARATION OF TEMPORARY SPEED LIMITS."

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 (W13-1) 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. ANY TRAFFIC CONTROL DEVICE THAT IS DAMAGED, WEATHERED, WORN, OR OTHERWISE DEEMED UNACCEPTABLE BY THE ENGINEER, SHALL BE REPLACED.
5. CONTRACTOR AND PERSONAL VEHICLE PARKING IS PROHIBITED WITHIN THE RIGHT-OF-WAY UNLESS DESIGNATED ON THE PLANS, OR APPROVED BY THE ENGINEER.
6. 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.

7. 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 6).
8. 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.

9. BASED ON SIGHT DISTANCE AND OTHER CONSIDERATIONS, THE FINAL LOCATIONS OF SIGNS ARE SUBJECT TO APPROVAL OF THE ENGINEER.
10. IF CONSTRUCTION RELATED TRAFFIC CONGESTION BACKS UP BEYOND THE INSTALLED ADVANCE SIGN SEQUENCE, ADDITIONAL ADVANCE SIGNING SHALL BE PLACED BEYOND THE CONGESTION.
11. 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.
12. ALL CONSTRUCTION SIGN PLACEMENT SHALL BE IN ACCORDANCE WITH STANDARD PLAN "TYPICAL GROUND SIGN PLACEMENT" UNLESS OTHERWISE APPROVED.

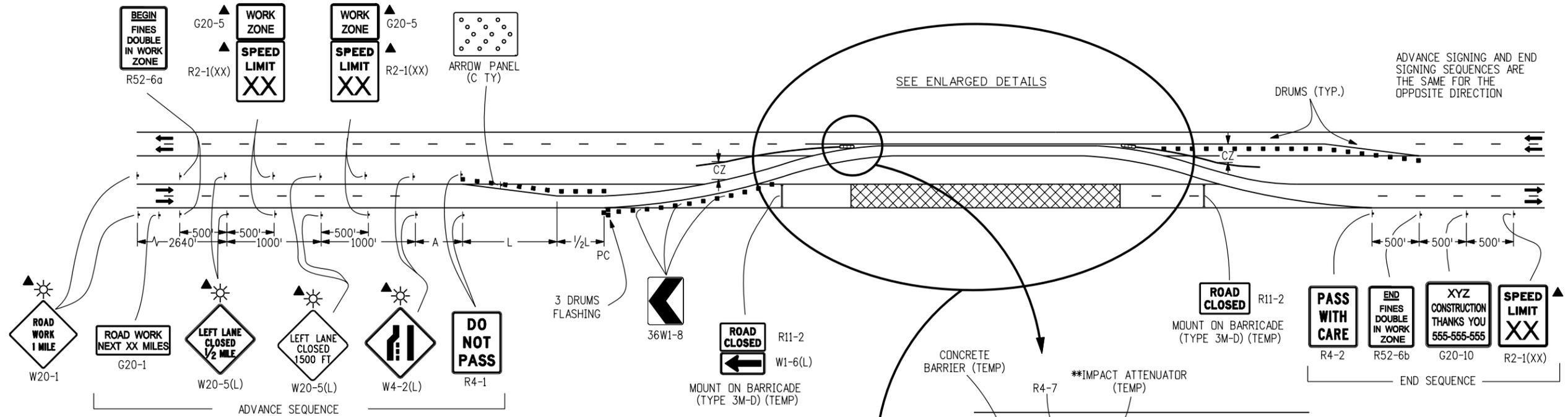
SIGNS APPROVED TO BE MOUNTED ON PORTABLE SUPPORTS, OR APPROPRIATE SIGNS MOUNTED ON BARRICADES, MAY BE AT LOWER HEIGHTS, BUT THE BOTTOM OF THE SIGNS SHALL NOT BE LESS THAN ONE FOOT ABOVE THE PAVEMENT ELEVATION.
13. SIGNS MOUNTED ON THE MEDIAN OF DIVIDED HIGHWAYS WHERE MEDIAN BARRIER IS IN PLACE MAY BE 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.
14. 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.
15. TYPE 1 BARRICADES AND VERTICAL PANELS SHALL NOT BE USED ON FREEWAYS, EXPRESSWAYS, OR OTHER HIGH SPEED ROADWAYS (45 MPH OR MORE).
16. 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.
17. 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)

18. FOR DETAILS ON BARRICADES, CONCRETE BARRIER (TEMPORARY), VERTICAL PANELS, AND FLASHING BEACON (PORTABLE), SEE THE APPLICABLE STANDARD PLANS.
19. 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.
20. IF WORK ON THE ROADWAY IS FOR A LONG-TERM STATIONARY PERIOD, AS DEFINED IN SECTION 6G.02 OF THE MUTCD, INAPPLICABLE PAVEMENT MARKINGS ARE TO BE REMOVED, AND FULL COMPLIANCE PAVEMENT MARKINGS ARE TO BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE SPECIFICATIONS, (PAVEMENT MARKING - GENERAL), AND/OR AS DETAILED ON THE PLANS.

FOR ADDITIONAL PAVEMENT MARKING DETAILS, SEE STANDARD PLAN "TYPICAL PAVEMENT MARKINGS".
21. 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).
22. 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.
23. 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.
24. 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.
25. 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.

Computer File Information		Sheet Revisions		 <p>Colorado Department of Transportation 4201 East Arkansas Avenue Denver, Colorado 80222 Phone: (303) 757-9543 Fax: (303) 757-9458</p> <p>Safety & Traffic Engineering Branch KCM/KEN</p>	<p>TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION</p> <p>Issued By: Safety & Traffic Engineering Branch June 24, 2009</p>	STANDARD PLAN NO.
Creation Date: 07/04/06	Initials: KCM	Date:	Comments			S-630-1
Last Modification Date: 06/24/09	Initials: KEN	06/24/09	REVISED SHEET NUMBER TO 1 OF 19			Sheet No. 1 of 19
Full Path: www.dot.state.co.us/DesignSupport/		06/24/09	REVISED NOTE 20. ADDED NOTE 25.			
Drawing File Name: Sheet_S-630-01_1of19.dgn						
CAD Ver.: MicroStation V8	Scale: Not to Scale	Units: English				



ADVANCE SIGNING AND END SIGNING SEQUENCES ARE THE SAME FOR THE OPPOSITE DIRECTION

LEGEND

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

- TYPE III BARRICADE
- CONCRETE BARRIER (TEMPORARY)
- FLAGGER
- ← 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)

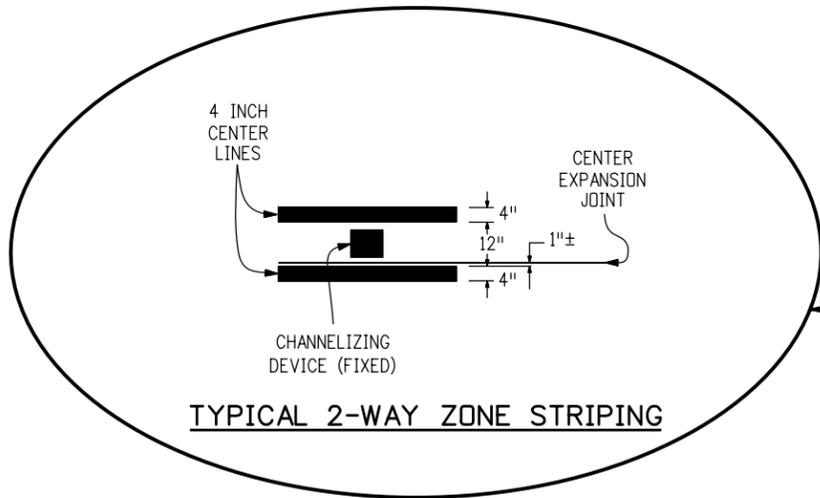
CZ CLEAR ZONE (SEE GENERAL NOTE 16).

▲ 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 21).

▨ IMPACT ATTENUATOR AS DETAILED ON THE PLANS

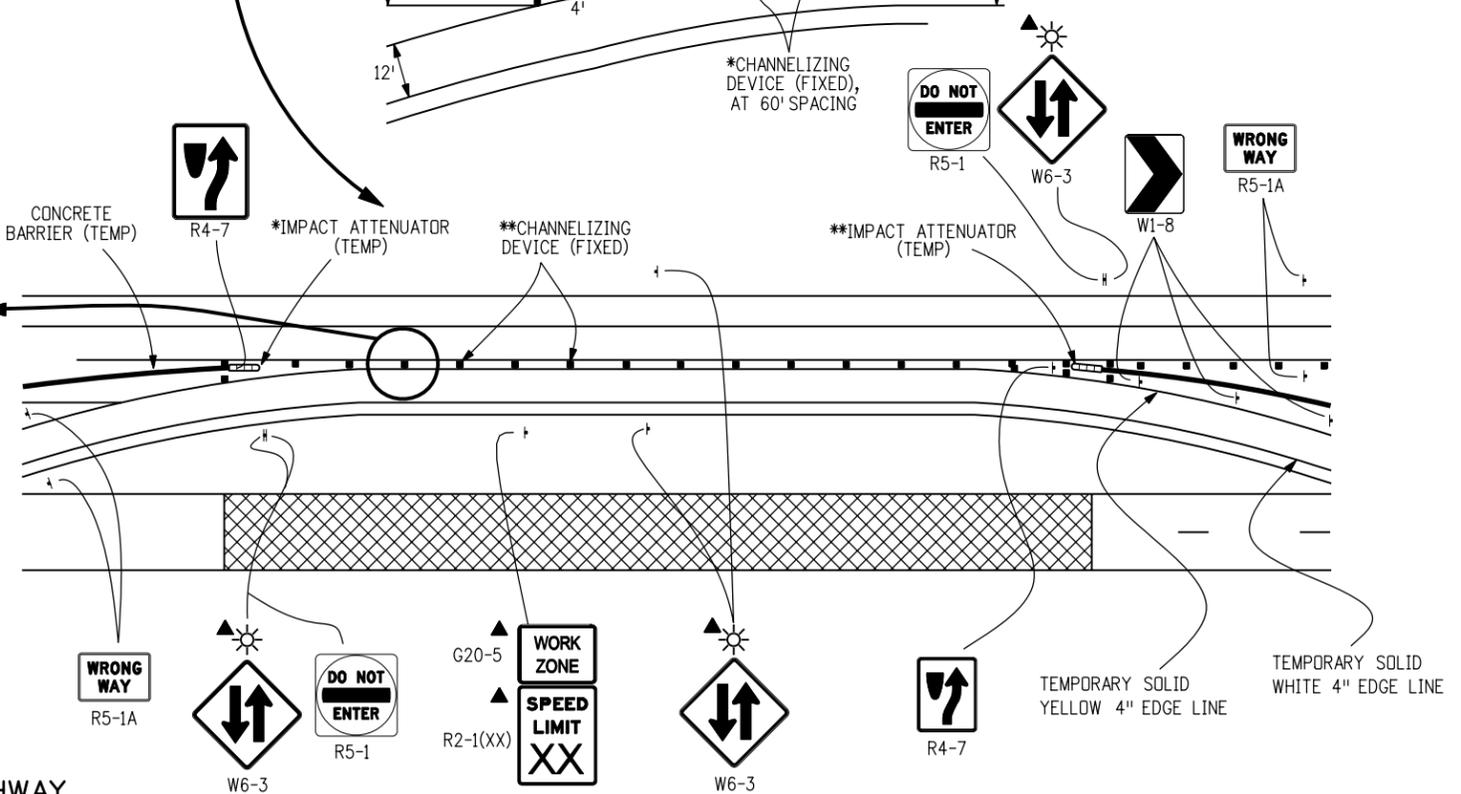
☀ FLASHING BEACON



TYPICAL 2-WAY ZONE STRIPING

* THESE ITEMS ARE NOT REQUIRED WHEN CONTINUOUS CONCRETE BARRIER IS USED FOR CHANNELIZATION.
 ** SEE GENERAL NOTE 16 ON SHEET 1.

**CASE NO. 1
 TYPICAL APPLICATION
 CLOSURE OF ONE ROADWAY 4-LANE DIVIDED HIGHWAY**



Computer File Information	
Creation Date: 07/04/06	Initials: KCM
Last Modification Date: 06/24/09	Initials: KEN
Full Path: www.dot.state.co.us/DesignSupport/	
Drawing File Name: Sheet_S-630-01_2of19.dgn	
CAD Ver.: MicroStation V8	Scale: Not to Scale Units: English

Sheet Revisions	
Date:	Comments
06/24/09	ADDED R52-6a, R52-6b & G20-5 SIGNS REVISED SHEET NUMBER TO 2 OF 19
06/24/09	ADDED * & ** NOTES, EXTENDED FLARED ENDS OF CONCRETE BARRIER
06/24/09	ADDED OPTIONAL FLASHING BEACONS ON ADVANCED WARNING SIGNS.

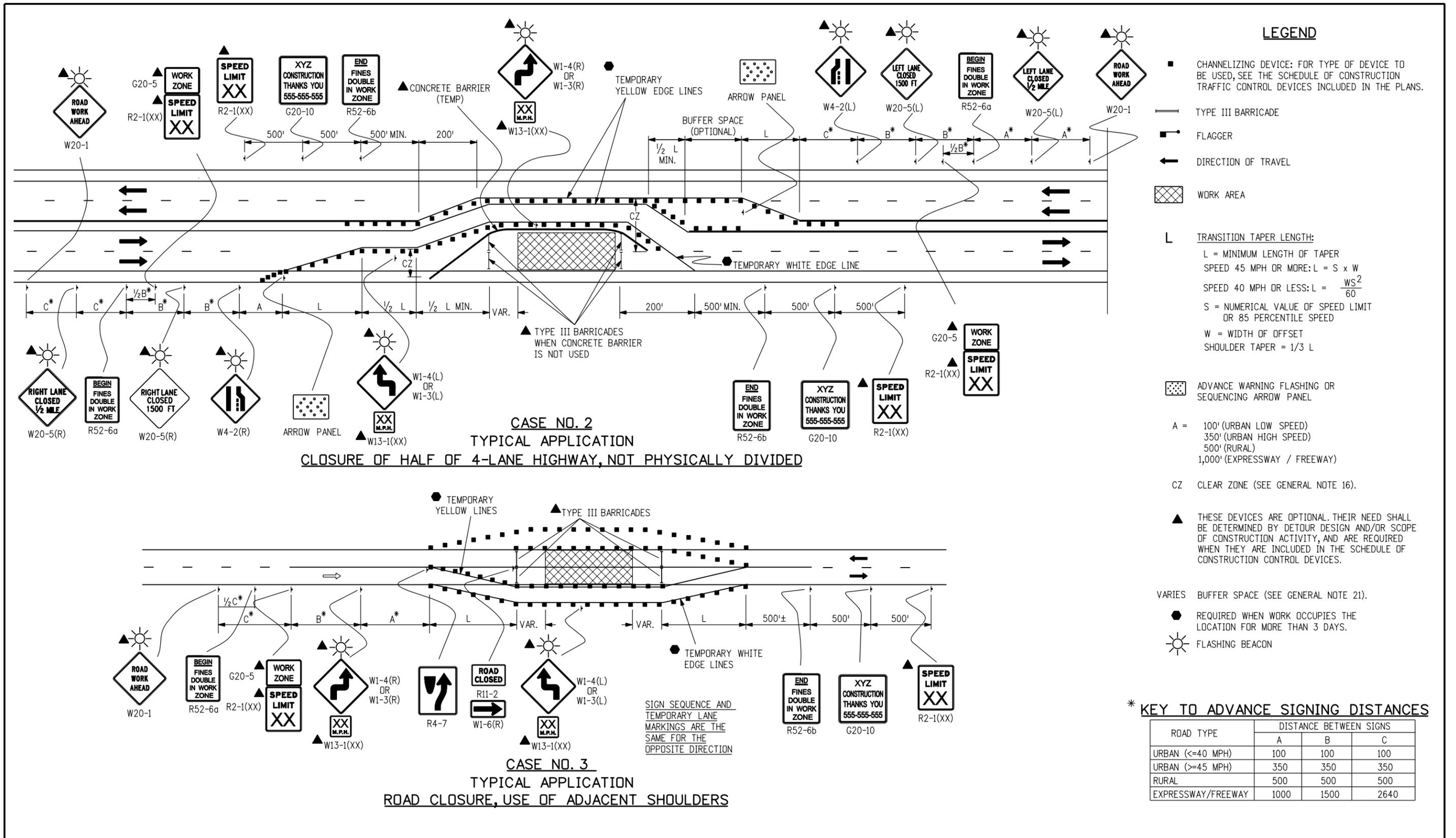
Colorado Department of Transportation
 4201 East Arkansas Avenue
 Denver, Colorado 80222
 Phone: (303) 757-9543
 Fax: (303) 757-9458

Safety & Traffic Engineering Branch **KCM/KEN**

**TRAFFIC CONTROLS
 FOR HIGHWAY
 CONSTRUCTION**

Issued By: Safety & Traffic Engineering Branch June 24, 2009

STANDARD PLAN NO.
S-630-1
Sheet No. 2 of 19



LEGEND

- CHANNELIZING DEVICE: FOR TYPE OF DEVICE TO BE USED, SEE THE SCHEDULE OF CONSTRUCTION TRAFFIC CONTROL DEVICES INCLUDED IN THE PLANS.
- TYPE III BARRICADE
- FLAGGER
- 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
- A = 100' (URBAN LOW SPEED)
350' (URBAN HIGH SPEED)
500' (RURAL)
1,000' (EXPRESSWAY / FREEWAY)
- CZ CLEAR ZONE (SEE GENERAL NOTE 16).
- ▲ 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 21).
- REQUIRED WHEN WORK OCCUPIES THE LOCATION FOR MORE THAN 3 DAYS.
- ☀ FLASHING BEACON

*** 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

Creation Date: 04/15/06	Initials: KCM
Last Modification Date: 06/24/09	Initials: KEN
Full Path: www.dot.state.co.us/DesignSupport/	
Drawing File Name: Sheet_S-630-01_3of19.dgn	
CAD Ver.: MicroStation V8	Scale: Not to Scale Units: English

Sheet Revisions

Date	Comments
06/24/09	ADDED R52-6a, R52-6b & G20-5 SIGNS REVISED SHEET NUMBER TO 3 OF 19
06/24/09	DELETED R4-9 SIGN PER MUTCD SEC 6F-11 ADDED OPTIONAL FLASHING BEACONS TO ADVANCED WARNING SIGNS.

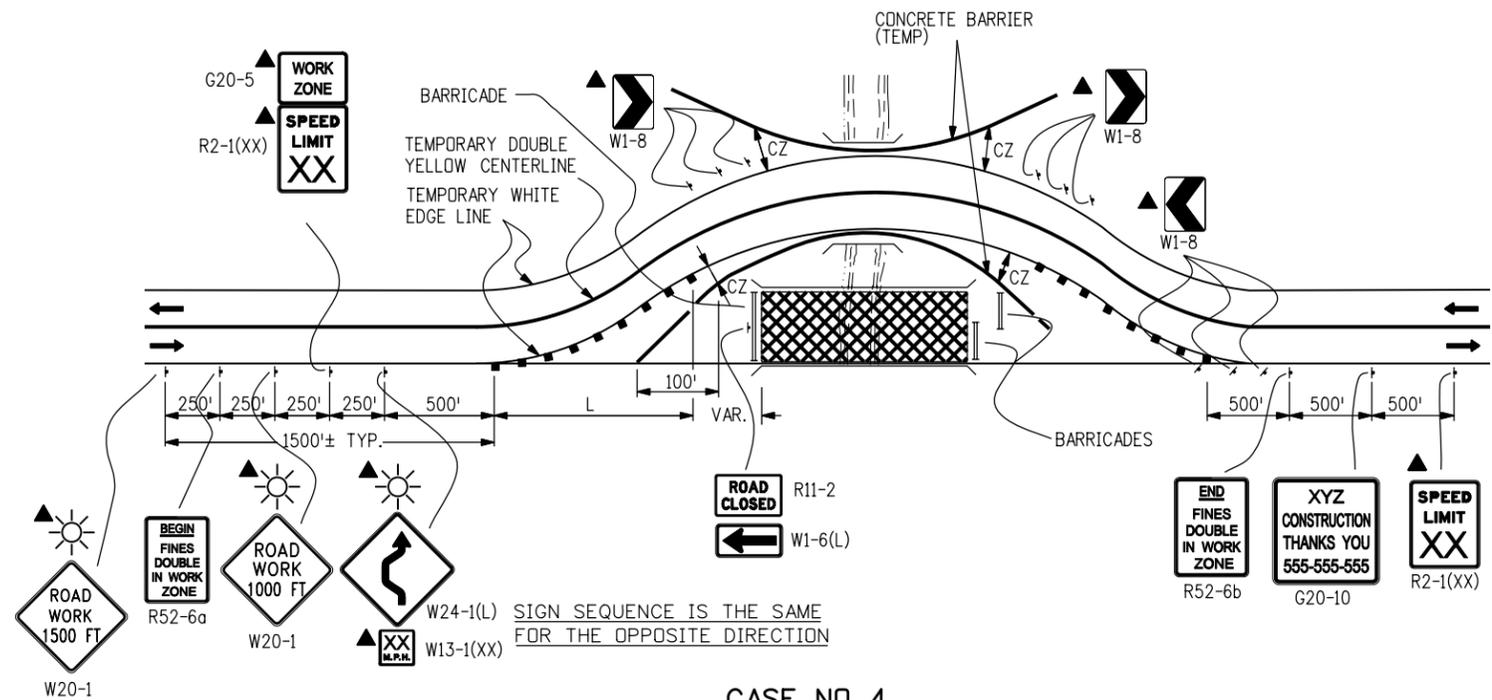
Colorado Department of Transportation
4201 East Arkansas Avenue
Denver, Colorado 80222
Phone: (303) 757-9543
Fax: (303) 757-9458

Safety & Traffic Engineering Branch **KCM/KEN**

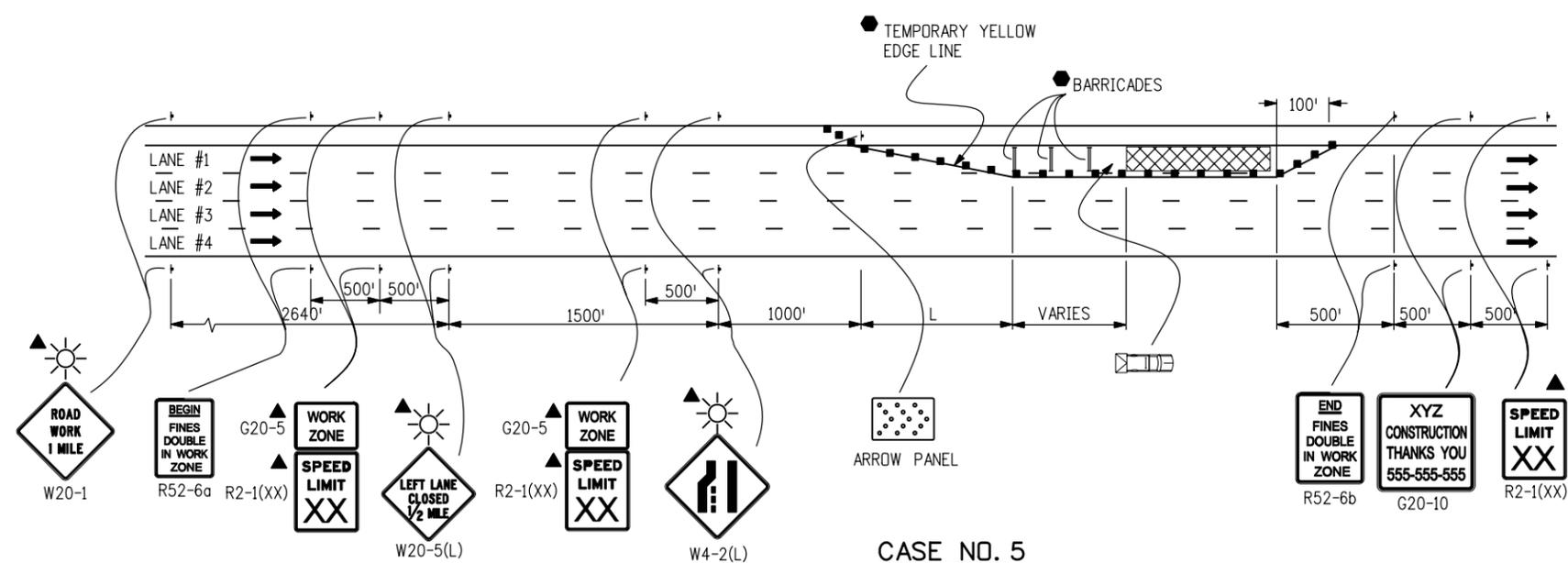
**TRAFFIC CONTROLS
FOR HIGHWAY
CONSTRUCTION**

Issued By: Safety & Traffic Engineering Branch June 24, 2009

STANDARD PLAN NO.
S-630-1
Sheet No. 3 of 19



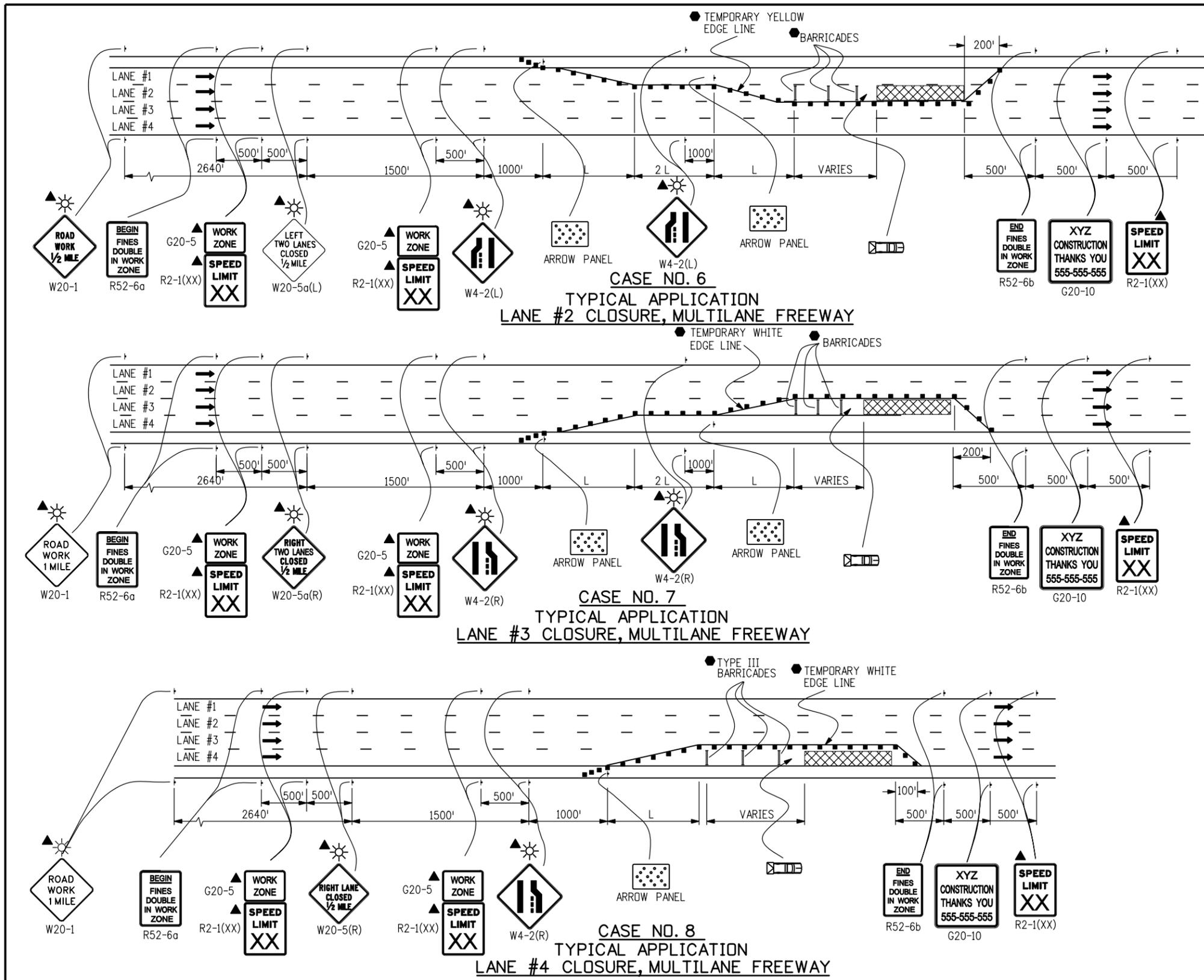
CASE NO. 4
TYPICAL APPLICATION
ROAD CLOSURE, BYPASS DETOUR PROVIDED



CASE NO. 5
TYPICAL APPLICATION
LANE #1 CLOSURE, MULTILANE FREEWAY

- LEGEND**
- CHANNELIZING DEVICE: FOR TYPE OF DEVICE TO BE USED, SEE THE SCHEDULE OF CONSTRUCTION TRAFFIC CONTROL DEVICES INCLUDED IN THE PLANS.
 - TYPE III BARRICADE
 - CONCRETE BARRIER (TEMPORARY)
 - FLAGGER
 - ← 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 16).
 - ▲ 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 21).
 - REQUIRED WHEN WORK OCCUPIES THE LOCATION FOR MORE THAN 3 DAYS.
 - ▨ TRUCK MOUNTED ATTENUATOR (TMA)
 - ☀ FLASHING BEACON

Computer File Information		Sheet Revisions		Colorado Department of Transportation 4201 East Arkansas Avenue Denver, Colorado 80222 Phone: (303) 757-9543 Fax: (303) 757-9458 Safety & Traffic Engineering Branch	TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION Issued By: Safety & Traffic Engineering Branch June 24, 2009	STANDARD PLAN NO. S-630-1 Sheet No. 4 of 19
Creation Date: 07/04/06	Initials: KCM	Date:	Comments			
Last Modification Date: 06/24/09	Initials: KEN	06/24/09	ADDED R-52a, R52-6b & G20-5 SIGNS REVISED SHEET NUMBER TO 4 OF 18	KCM/KEN		
Full Path: www.dot.state.co.us/DesignSupport/		06/24/09	EXTEND CONCRETE BARRIER IN CASE 4. ADDED OPTIONAL FLASHING BEACON TO ADVANCED WARNING SIGNS.			
Drawing File Name: Sheet_S-630-01_4of19.dgn						
CAD Ver.: MicroStation V8	Scale: Not to Scale	Units: English				



LEGEND

- CHANNELIZING DEVICE: FOR TYPE OF DEVICE TO BE USED, SEE THE SCHEDULE OF CONSTRUCTION TRAFFIC CONTROL DEVICES INCLUDED IN THE PLANS.
- TYPE III BARRICADE
- CONCRETE BARRIER (TEMPORARY)
- FLAGGER
- ← 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 16).
- ▲ 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 21).
- REQUIRED WHEN WORK OCCUPIES THE LOCATION FOR MORE THAN 3 DAYS.
- ▨ TRUCK MOUNTED ATTENUATOR (TMA)
- ☀ FLASHING BEACON

Computer File Information	
Creation Date: 07/04/06	Initials: KCM
Last Modification Date: 06/24/09	Initials: KEN
Full Path: www.dot.state.co.us/DesignSupport/	
Drawing File Name: Sheet_S-630-01_5of19.dgn	
CAD Ver.: MicroStation V8	Scale: Not to Scale Units: English

Sheet Revisions	
Date:	Comments
06/24/09	ADDED R52-6a, R52-6b & G20-5 SIGNS REVISED SHEET NUMBER TO 5 OF 19
06/24/09	ADDED OPTIONAL FLASHING BEACONS TO ADVANCED WARNING SIGNS.

Colorado Department of Transportation
 4201 East Arkansas Avenue
 Denver, Colorado 80222
 Phone: (303) 757-9543
 Fax: (303) 757-9458

DOT
 DEPARTMENT OF TRANSPORTATION

Safety & Traffic Engineering Branch KCM/KEN

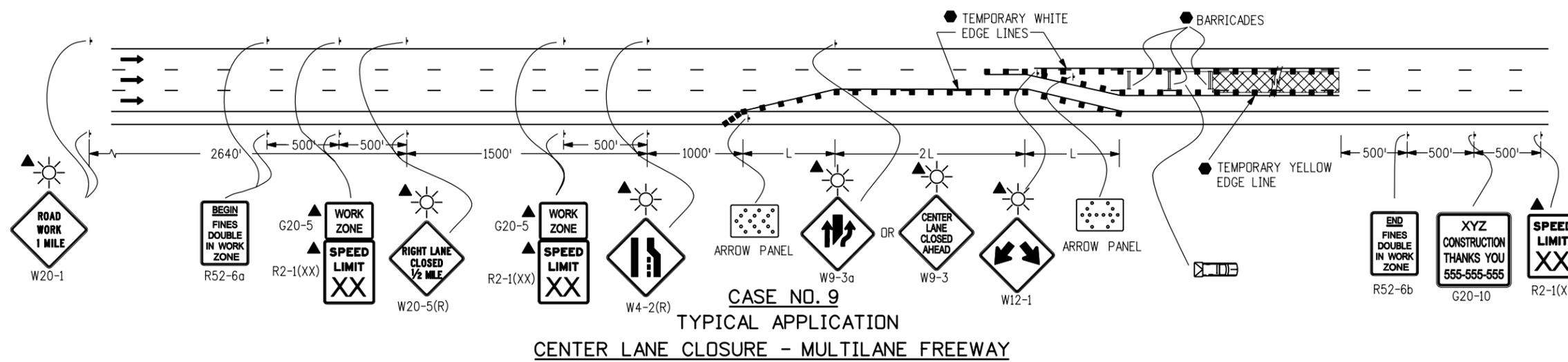
**TRAFFIC CONTROLS
 FOR HIGHWAY
 CONSTRUCTION**

Issued By: Safety & Traffic Engineering Branch June 24, 2009

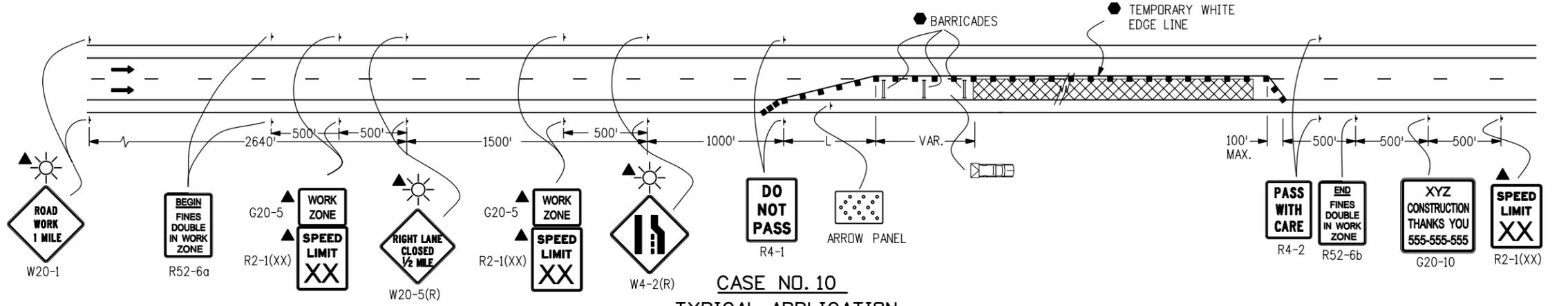
STANDARD PLAN NO.

S-630-1

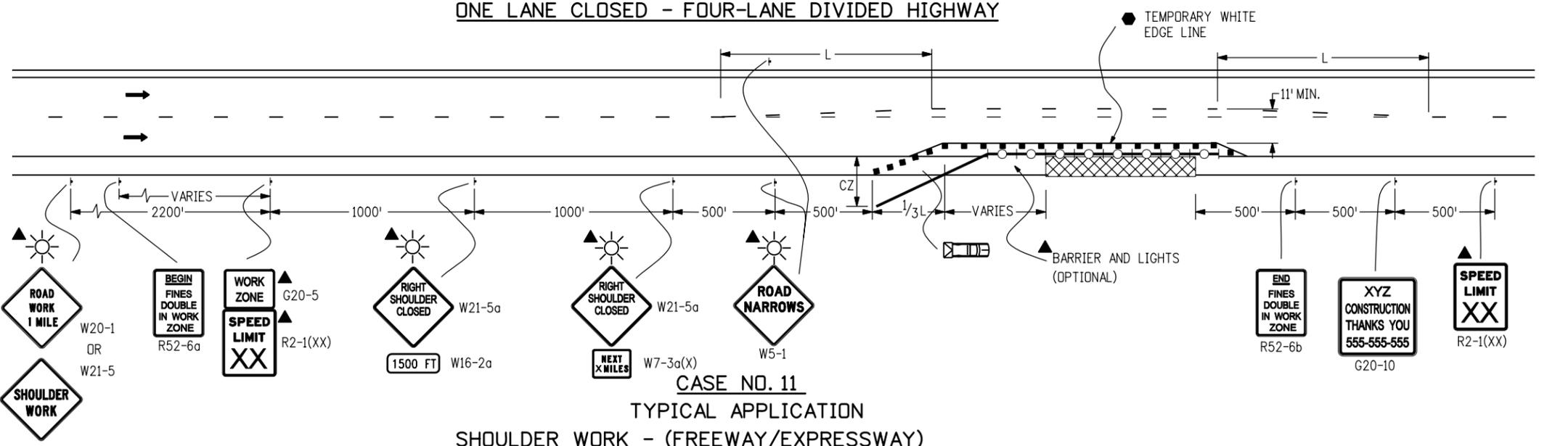
Sheet No. 5 of 19



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



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



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

- LEGEND**
- CHANNELIZING DEVICE: FOR TYPE OF DEVICE TO BE USED, SEE THE SCHEDULE OF CONSTRUCTION TRAFFIC CONTROL DEVICES INCLUDED IN THE PLANS.
 - TYPE III BARRICADE
 - CONCRETE BARRIER (TEMPORARY)
 - FLAGGER
 - ← 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 16).
 - ▲ 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.
 - ☀ FLASHING BEACON
 - VARIES BUFFER SPACE (SEE GENERAL NOTE 21).
 - REQUIRED WHEN WORK OCCUPIES THE LOCATION FOR MORE THAN 3 DAYS.
 - ▤ TRUCK MOUNTED ATTENUATOR (TMA)
 - CONCRETE BARRIER (TEMPORARY) WITH LIGHTS

Computer File Information

Creation Date: 07/04/06	Initials: KCM
Last Modification Date: 06/24/09	Initials: KEN
Full Path: www.dot.state.co.us/DesignSupport/	
Drawing File Name: Sheet_S-630-01_6of19.dgn	
CAD Ver.: MicroStation V8	Scale: Not to Scale Units: English

Sheet Revisions

Date	Comments
06/24/09	ADDED R52-6a, R52-6b & G20-5 SIGNS
06/24/09	REVISED SHEET NUMBER TO 6 OF 18
06/24/09	ADDED OPTIONAL FLASHING BEACON TO ADVANCED WARNING SIGNS.
06/24/09	MINIMUM LANE WIDTH TO 11' AT WORK ZONE.

Colorado Department of Transportation

4201 East Arkansas Avenue
Denver, Colorado 80222
Phone: (303) 757-9543
Fax: (303) 757-9458

DOT
DEPARTMENT OF TRANSPORTATION

Safety & Traffic Engineering Branch KCM/KEN

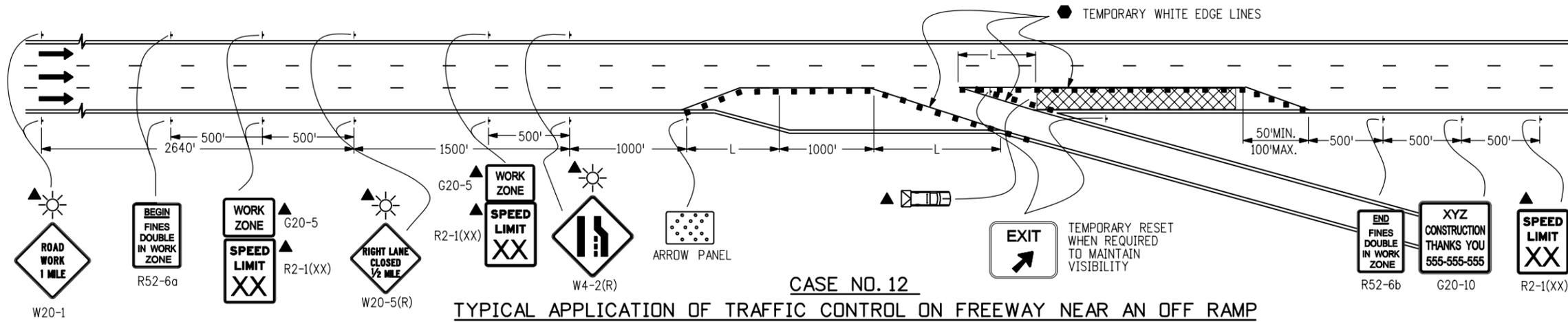
TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

Issued By: Safety & Traffic Engineering Branch June 24, 2009

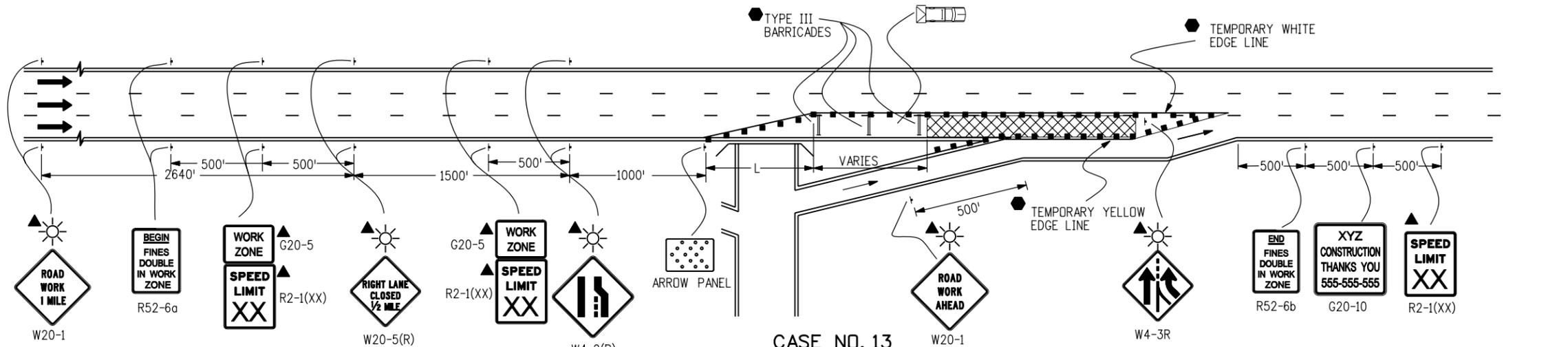
STANDARD PLAN NO.

S-630-1

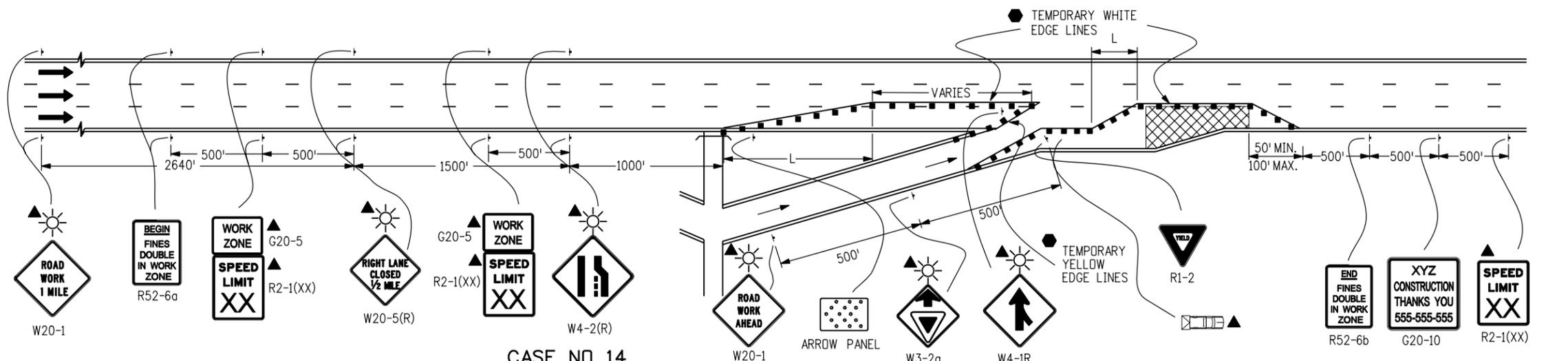
Sheet No. 6 of 19



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



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



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

LEGEND

- CHANNELIZING DEVICE: FOR TYPE OF DEVICE TO BE USED, SEE THE SCHEDULE OF CONSTRUCTION TRAFFIC CONTROL DEVICES INCLUDED IN THE PLANS.
- TYPE III BARRICADE
- CONCRETE BARRIER (TEMPORARY)
- FLAGGER
- ← 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 16).
- ▲ 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 21).
- REQUIRED WHEN WORK OCCUPIES THE LOCATION FOR MORE THAN 3 DAYS.
- ▨ TRUCK MOUNTED ATTENUATOR (TMA)
- ☀ FLASHING BEACON

Computer File Information	
Creation Date: 07/04/06	Initials: KCM
Last Modification Date: 06/24/09	Initials: KEN
Full Path: www.dot.state.co.us/DesignSupport/	
Drawing File Name: Sheet_S-630-01_7of19.dgn	
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	

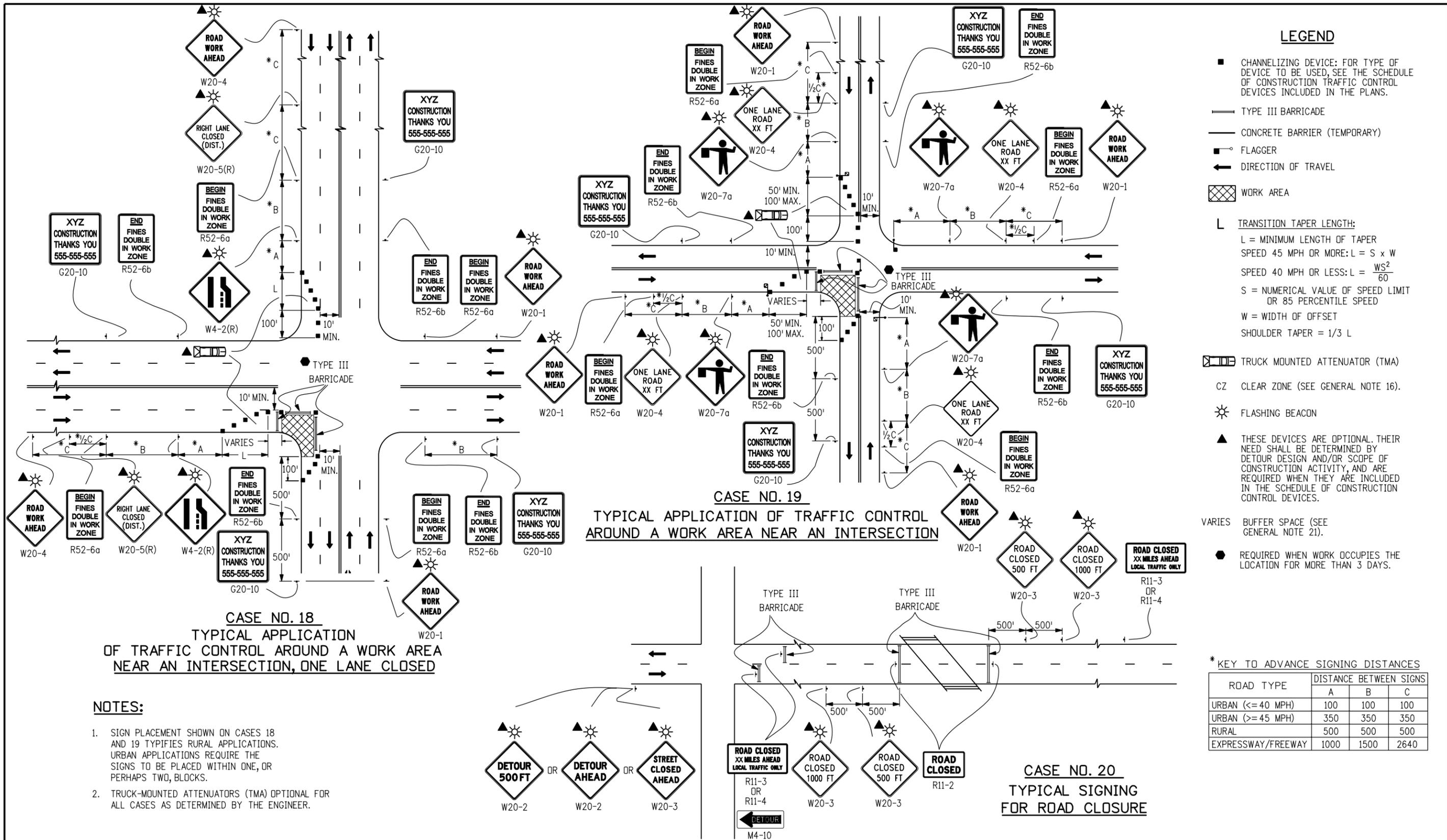
Sheet Revisions	
Date:	Comments
06/24/09	ADDED R52-6a, R52-6b & G20-5 SIGNS REVISED SHEET NUMBER TO 7 OF 19
06/24/09	ADDED OPTIONAL FLASHING BEACONS TO ADVANCE WARNING SIGNS.

Colorado Department of Transportation

 4201 East Arkansas Avenue
 Denver, Colorado 80222
 Phone: (303) 757-9543
 Fax: (303) 757-9458
 Safety & Traffic Engineering Branch KCM/KEN

**TRAFFIC CONTROLS
FOR HIGHWAY
CONSTRUCTION**
 Issued By: Safety & Traffic Engineering Branch June 24, 2009

STANDARD PLAN NO.
S-630-1
Sheet No. 7 of 19



LEGEND

- CHANNELIZING DEVICE: FOR TYPE OF DEVICE TO BE USED, SEE THE SCHEDULE OF CONSTRUCTION TRAFFIC CONTROL DEVICES INCLUDED IN THE PLANS.
- TYPE III BARRICADE
- CONCRETE BARRIER (TEMPORARY)
- FLAGGER
- ← 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
- ☐ TRUCK MOUNTED ATTENUATOR (TMA)
- CZ CLEAR ZONE (SEE GENERAL NOTE 16).
- ☀ 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 21).
- REQUIRED WHEN WORK OCCUPIES THE LOCATION FOR MORE THAN 3 DAYS.

* 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

- 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.

Computer File Information

Creation Date: 07/04/06	Initials: KCM
Last Modification Date: 06/24/09	Initials: KEN
Full Path: www.dot.state.co.us/DesignSupport/	
Drawing File Name: Sheet_S-630-01_9of19.dgn	
CAD Ver.: MicroStation V8	Scale: Not to Scale Units: English

Sheet Revisions

Date:	Comments
06/24/09	ADDED R52-6a, R52-6b & G20-5 SIGNS REVISED SHEET NUMBER TO 9 OF 19
06/24/09	ADDED NOTE 2 IN LEGEND, ADDED OPTIONAL FLASHING BEACON TO ADVANCED WARNING SIGNS.

Colorado Department of Transportation
 4201 East Arkansas Avenue
 Denver, Colorado 80222
 Phone: (303) 757-9543
 Fax: (303) 757-9458

Safety & Traffic Engineering Branch **KCM/KEN**

TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

Issued By: Safety & Traffic Engineering Branch June 24, 2009

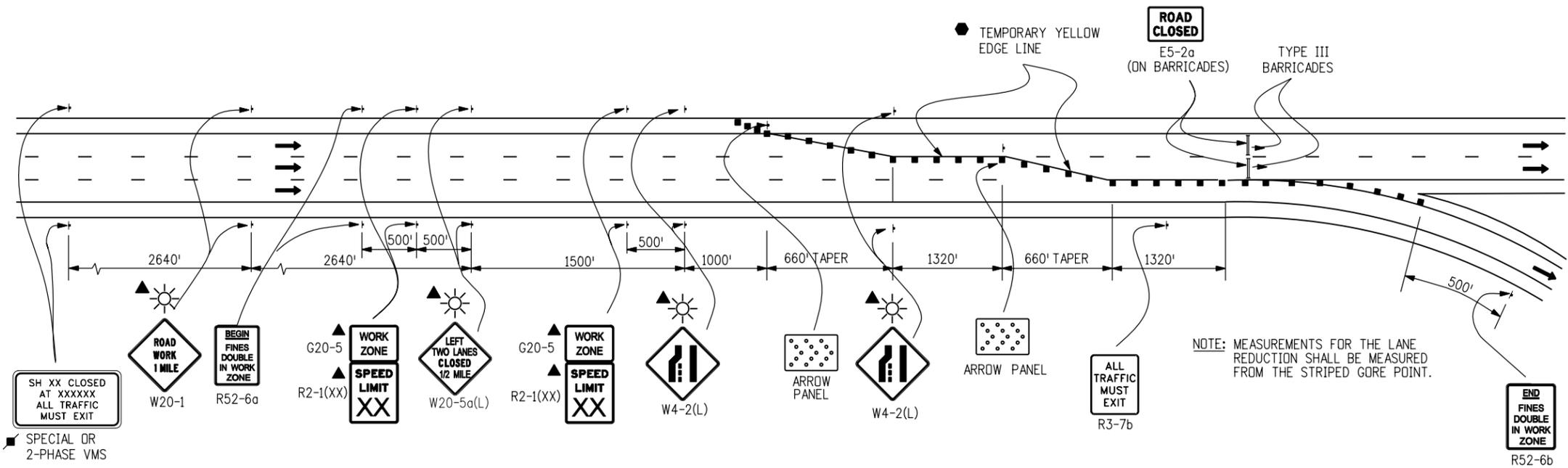
STANDARD PLAN NO.

S-630-1

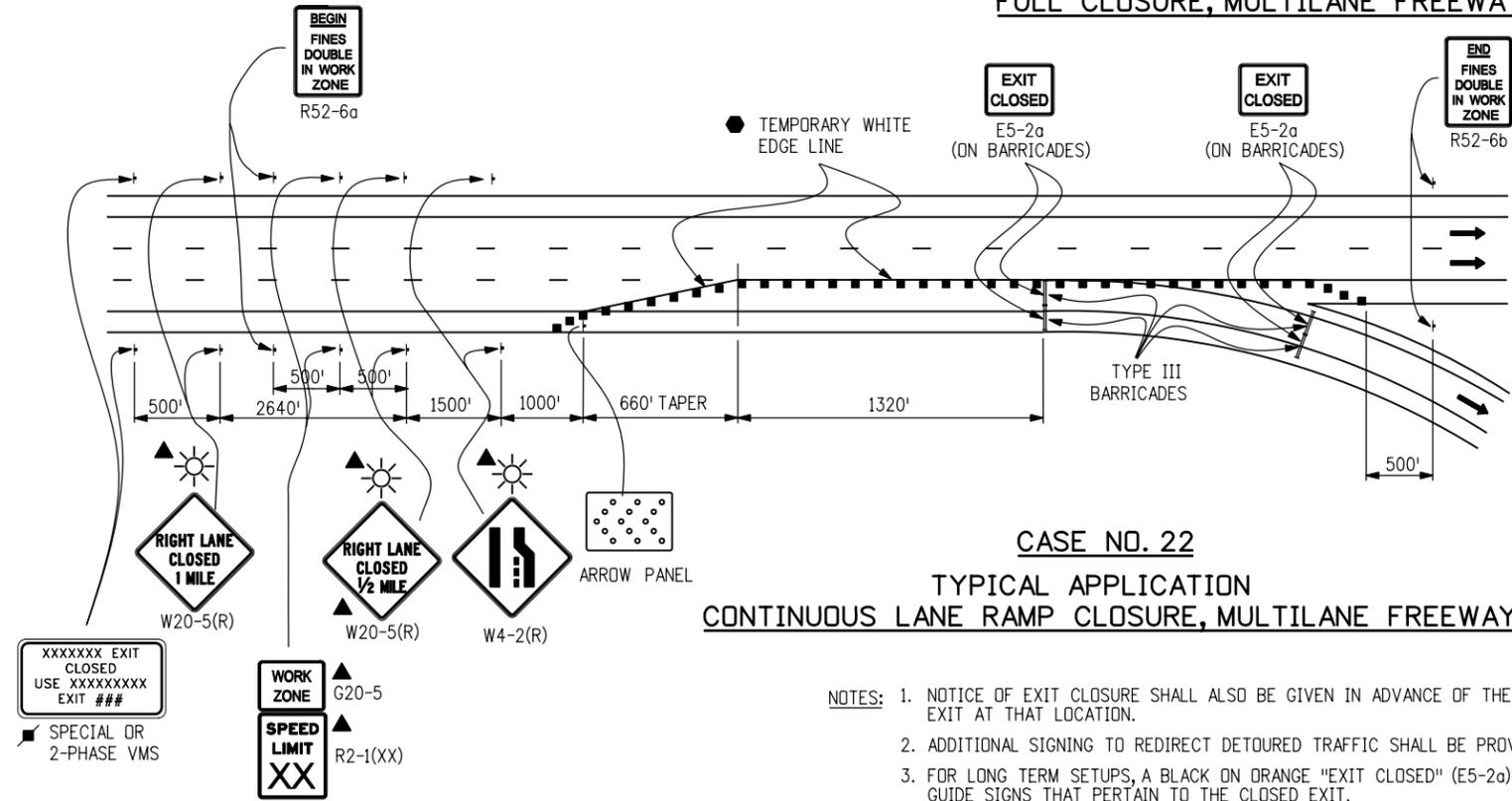
Sheet No. 9 of 19

LEGEND

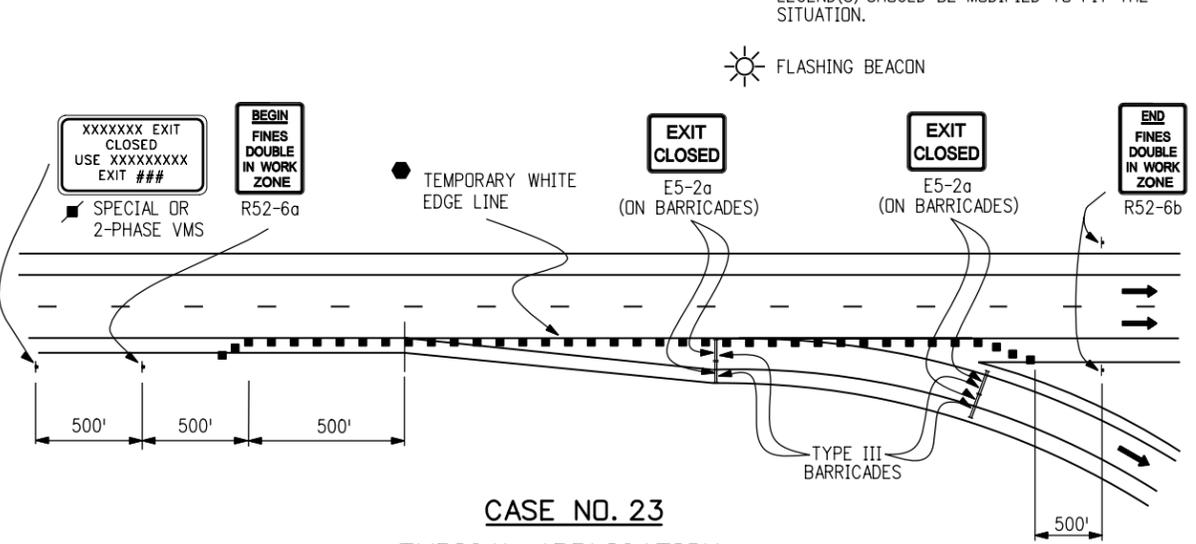
- 
 ADVANCE WARNING FLASHING OR SEQUENCING ARROW PANEL
- 
 THESE DEVICES ARE OPTIONAL. THEIR NEED WILL BE DETERMINED BY THE DESIGNER BASED ON DETOUR DESIGN AND/OR SCOPE OF THE CONSTRUCTION ACTIVITY, AND ARE REQUIRED WHEN THEY ARE INCLUDED IN THE PLANS.
- 
 REQUIRED WHEN WORK OCCUPIES THE LOCATION FOR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



CASE NO. 21
 TYPICAL APPLICATION
 FULL CLOSURE, MULTILANE FREEWAY



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



CASE NO. 23
 TYPICAL APPLICATION
 SIMPLE RAMP CLOSURE, MULTILANE FREEWAY

- NOTES:
1. 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.
 2. ADDITIONAL SIGNING TO REDIRECT DETOURED TRAFFIC SHALL BE PROVIDED FOR IN THE PROJECT'S METHOD OF HANDLING TRAFFIC.
 3. 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	
Creation Date: 07/04/06	Initials: KCM
Last Modification Date: 06/24/09	Initials: KEN
Full Path: www.dot.state.co.us/DesignSupport/	
Drawing File Name: Sheet_S-630-01_10of19.dgn	
CAD Ver.: MicroStation V8	Scale: Not to Scale Units: English

Sheet Revisions	
Date	Comments
06/24/09	ADD R52-6a, R52-6b & G20-5 SIGNS. REVISED SHEET NUMBER TO 10 OF 19 EXTENDED CHANNELIZING DEVICES TO GORE PT. IN CASE 21. ADDED OPTIONAL FLASHING BEACON ON ADVANCED WARNING SIGNS.
06/24/09	

Colorado Department of Transportation
 4201 East Arkansas Avenue
 Denver, Colorado 80222
 Phone: (303) 757-9543
 Fax: (303) 757-9458

Safety & Traffic Engineering Branch **KCM/KEN**

TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

Issued By: Safety & Traffic Engineering Branch June 24, 2009

STANDARD PLAN NO.

S-630-1

Sheet No. 10 of 19

LEGEND

- ← DIRECTION OF TRAVEL
- ▲ 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.
- ☀ FLASHING BEACON

DOUBLE FINES NOTES:

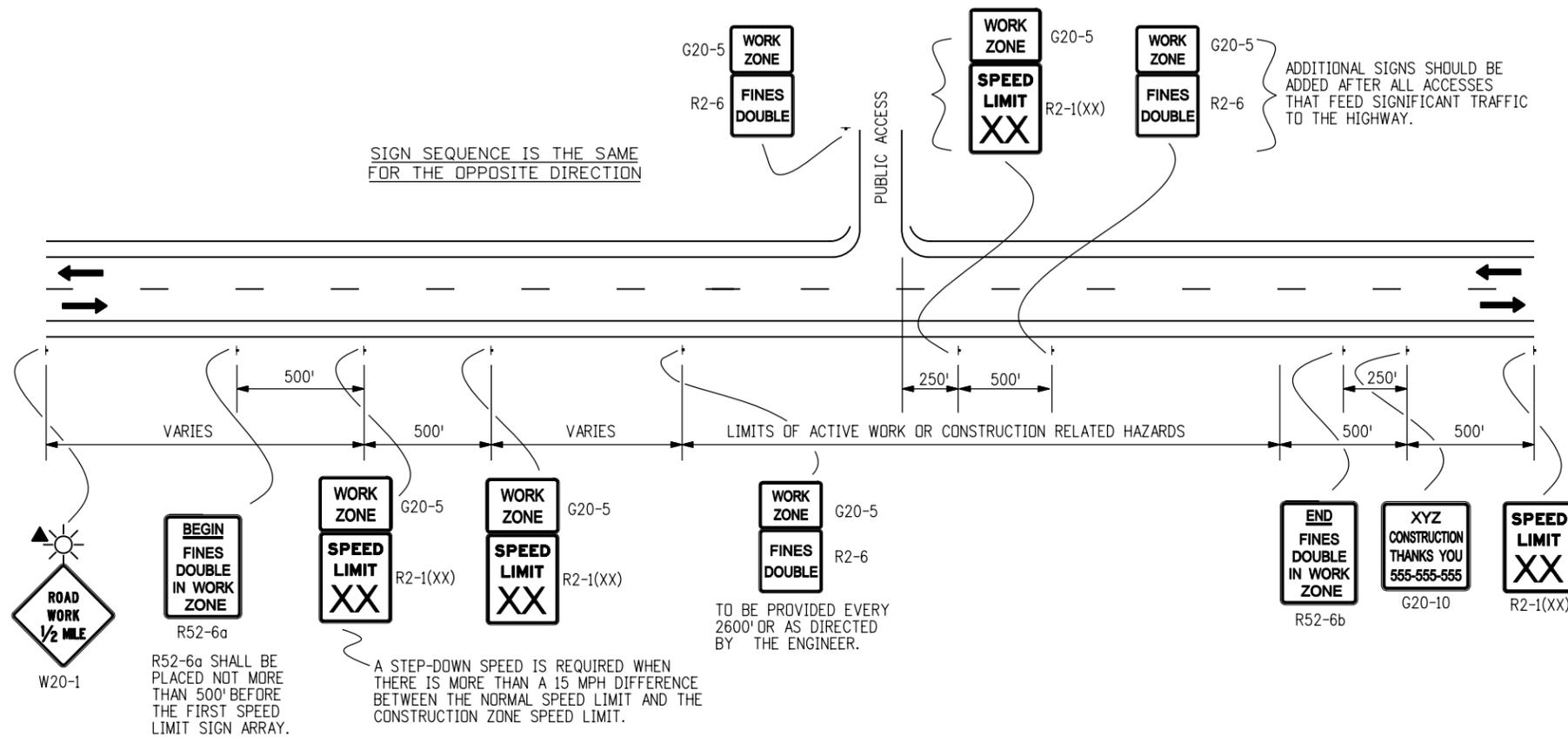
1. SIGNS SHALL NOT BE PLACED SOONER THAN FOUR HOURS BEFORE WORK IS TO BEGIN AND SHALL BE REMOVED AS SOON AS WORK ACTIVITIES ARE CONCLUDED, UNLESS POTENTIAL HAZARDS INTRODUCED AS A RESULT OF THE WORK ARE STILL PRESENT AT THE END OF THE WORK DAY. IF SIGNS ARE LEFT IN PLACE AFTER WORK ACTIVITIES, THE TRAFFIC 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. "FINES DOUBLE" 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. "FINES DOUBLE" 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.

SIGN SEQUENCE IS THE SAME FOR THE OPPOSITE DIRECTION

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



**CASE NO. 24
 TYPICAL APPLICATION
 "FINES DOUBLE IN WORK ZONE" SIGNING
 (WITH SPEED REDUCTION)**

Computer File Information	
Creation Date: 07/04/06	Initials: KCM
Last Modification Date: 06/24/09	Initials: KEN
Full Path: www.dot.state.co.us/DesignSupport/	
Drawing File Name: Sheet_S-630-01_11of19.dgn	
CAD Ver.: MicroStation V8	Scale: Not to Scale Units: English

Sheet Revisions	
Date:	Comments
06/24/09	DELETE CASE NO. 25 TYPICAL APPLICATION CHANGE SIZE OF G20-5 "WORK ZONE" PLAQUES
06/24/09	REVISED SHEET NUMBER TO 11 OF 19. ADDED OPTIONAL FLASHING BEACON TO ADVANCED WARNING SIGN.

Colorado Department of Transportation
 4201 East Arkansas Avenue
 Denver, Colorado 80222
 Phone: (303) 757-9543
 Fax: (303) 757-9458

Safety & Traffic Engineering Branch **KCM/KEN**

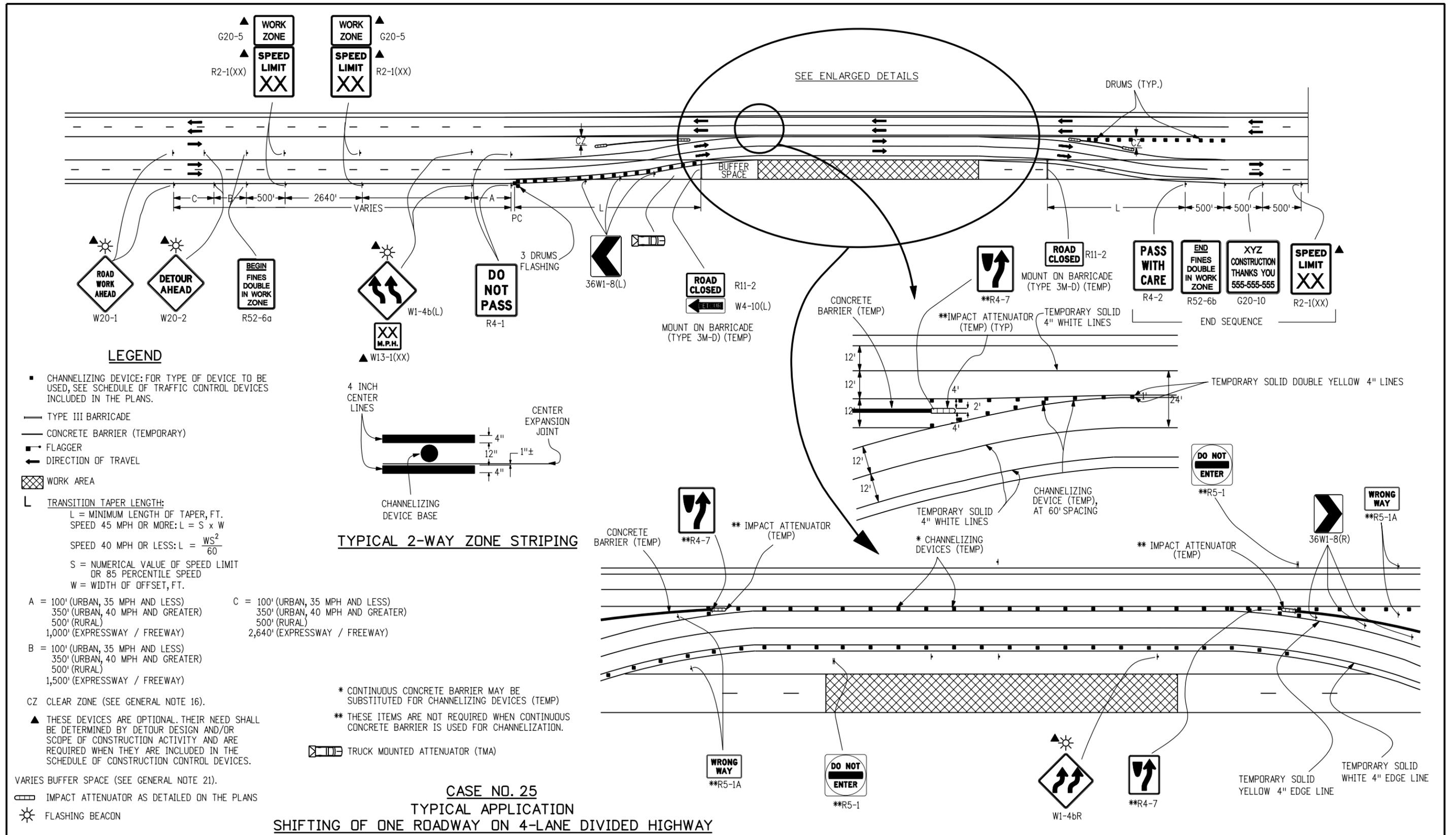
**TRAFFIC CONTROLS
 FOR HIGHWAY
 CONSTRUCTION**

Issued By: Safety & Traffic Engineering Branch June 24, 2009

STANDARD PLAN NO.

S-630-1

Sheet No. 11 of 19



Computer File Information	
Creation Date: 06/24/09	Initials: KEN
Last Modification Date:	
Full Path: www.dot.state.co.us/DesignSupport/	
Drawing File Name: Sheet_S-630-01_12of19.dgn	
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	

Sheet Revisions	
Date:	Comments

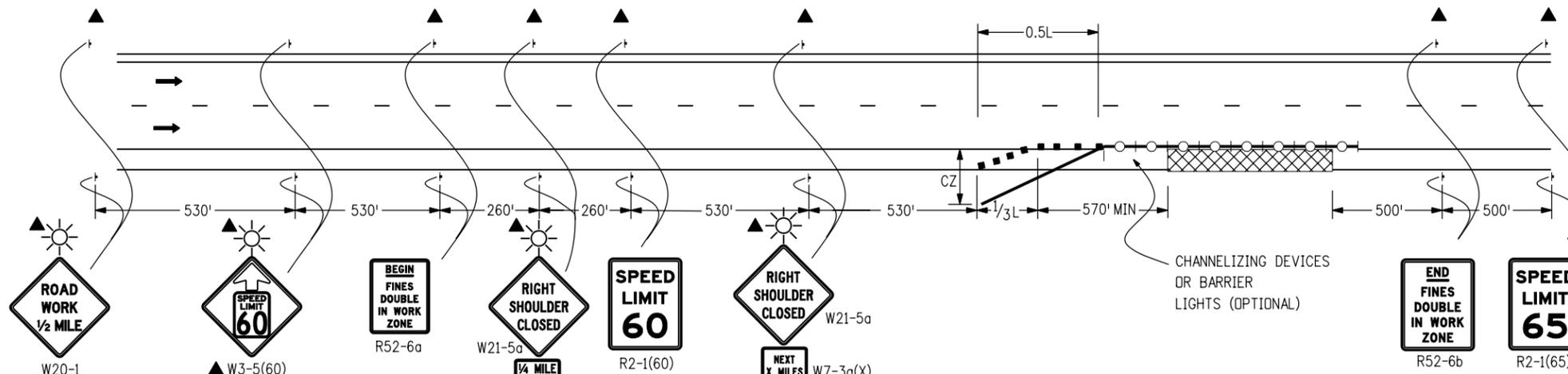
Colorado Department of Transportation
 4201 East Arkansas Avenue
 Denver, Colorado 80222
 Phone: (303) 757-9543
 Fax: (303) 757-9219

Safety & Traffic Engineering Branch KCM/KEN

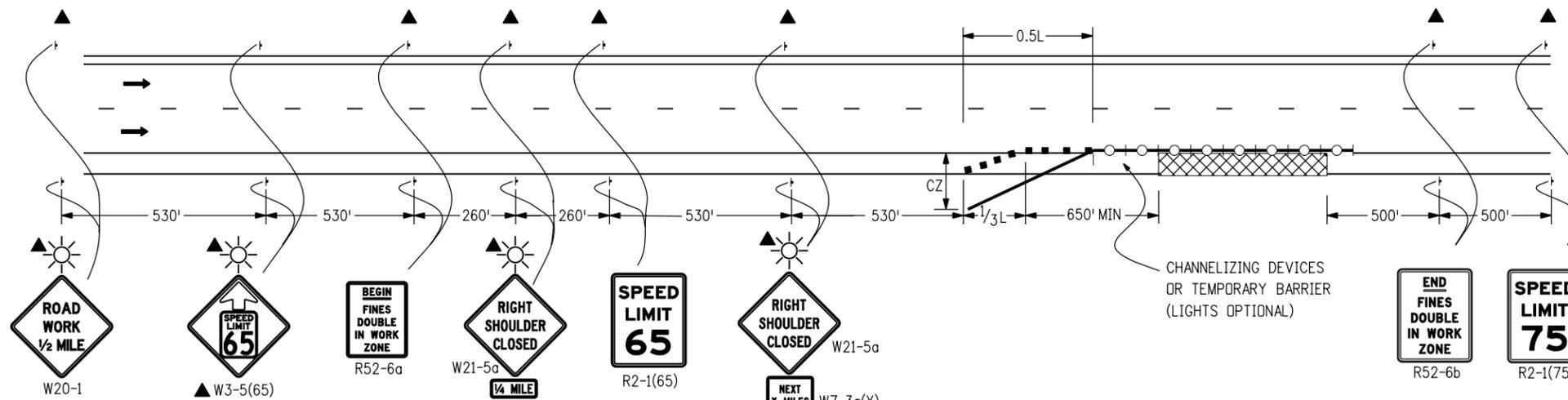
TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

Issued By: Safety & Traffic Engineering Branch June 24, 2009

STANDARD PLAN NO.
S-630-1
Sheet No. 12 of 19



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

- LEGEND**
- CHANNELIZING DEVICE: FOR TYPE OF DEVICE TO BE USED, SEE THE SCHEDULE OF CONSTRUCTION TRAFFIC CONTROL DEVICES INCLUDED IN THE PLANS.
 - TYPE III BARRICADE
 - CONCRETE BARRIER (TEMPORARY)
 - FLAGGER
 - ← DIRECTION OF TRAVEL
 - ▨ WORK AREA
 - L TRANSITION TAPER LENGTH:
 L = MINIMUM LENGTH OF TAPER
 SPEED 45 MPH OR MORE: L = S x 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
 - ▲ 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.
 - BUFFER SPACE (SEE S-630-1 GENERAL NOTE 21).
 - REQUIRED WHEN WORK OCCUPIES THE LOCATION FOR MORE THAN 3 DAYS.
 - ▨ TRUCK MOUNTED ATTENUATOR
 - ☀ FLASHING BEACON

Computer File Information	
Creation Date: 06/24/09	Initials: KEN
Last Modification Date:	Initials:
Full Path: www.dot.state.co.us/DesignSupport/	
Drawing File Name: Sheet_S-630-01_13of19.dgn	
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	

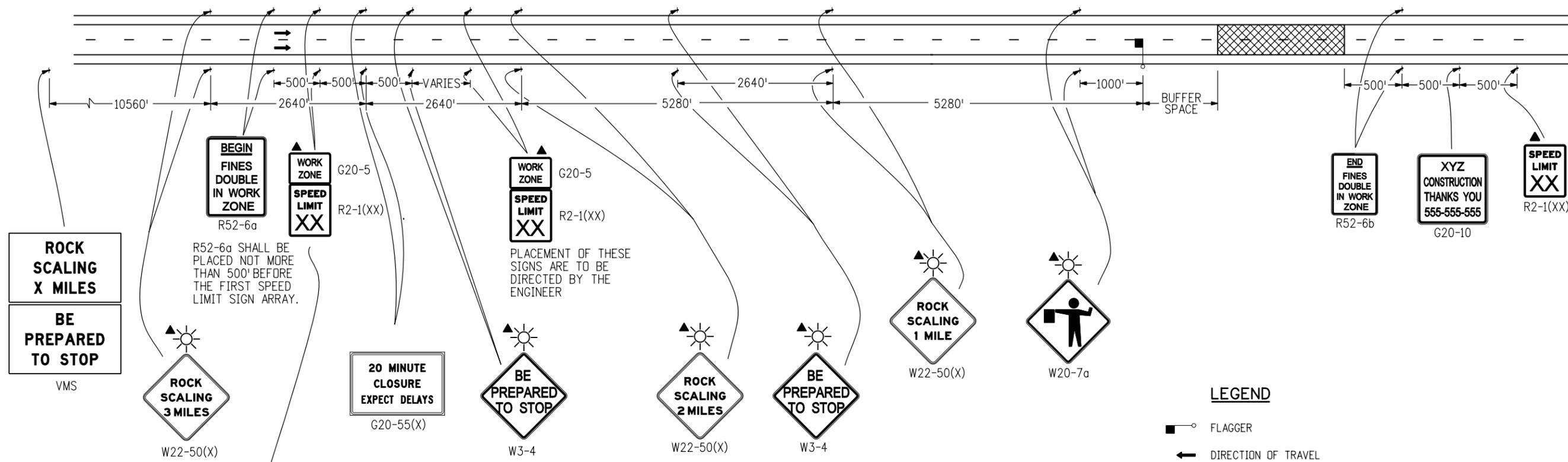
Sheet Revisions	
Date:	Comments

Colorado Department of Transportation
 4201 East Arkansas Avenue
 Denver, Colorado 80222
 Phone: (303) 757-9543
 Fax: (303) 757-9458
 Safety & Traffic Engineering Branch KCM/KEN

**TRAFFIC CONTROLS
 FOR HIGHWAY
 CONSTRUCTION**
 Issued By: Safety & Traffic Engineering Branch June 24, 2009

STANDARD PLAN NO.
S-630-1
Sheet No. 13 of 19

SIGN SEQUENCE IS THE SAME
FOR OPPOSITE DIRECTION



R52-6a SHALL BE PLACED NOT MORE THAN 500' BEFORE THE FIRST SPEED LIMIT SIGN ARRAY.

PLACEMENT OF THESE SIGNS ARE TO BE DIRECTED BY THE ENGINEER

A STEP-DOWN SPEED IS REQUIRED WHEN THERE IS MORE THAN A 15 MPH DIFFERENCE BETWEEN THE NORMAL SPEED LIMIT AND THE CONSTRUCTION ZONE SPEED LIMIT.

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

LEGEND

- FLAGGER
- DIRECTION OF TRAVEL
- WORK AREA
- VMS
- TRUCK MOUNTED ATTENUATOR (TMA) AT THE DISCRETION OF THE ENGINEER
- 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.
- BUFFER SPACE (SEE GENERAL NOTE 21 OF S-630-1).
- FLASHING BEACON

Computer File Information	
Creation Date: 06/24/09	Initials: KEN
Last Modification Date:	Initials:
Full Path: www.dot.state.co.us/DesignSupport/	
Drawing File Name: Sheet_S-630-01_14of19.dgn	
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	

Sheet Revisions	
Date:	Comments
(R-X)	

Colorado Department of Transportation
4201 East Arkansas Avenue
Denver, Colorado 80222
Phone: (303) 757-9543
Fax: (303) 757-9458

DEPARTMENT OF TRANSPORTATION

Safety & Traffic Engineering Branch KCM/KEN

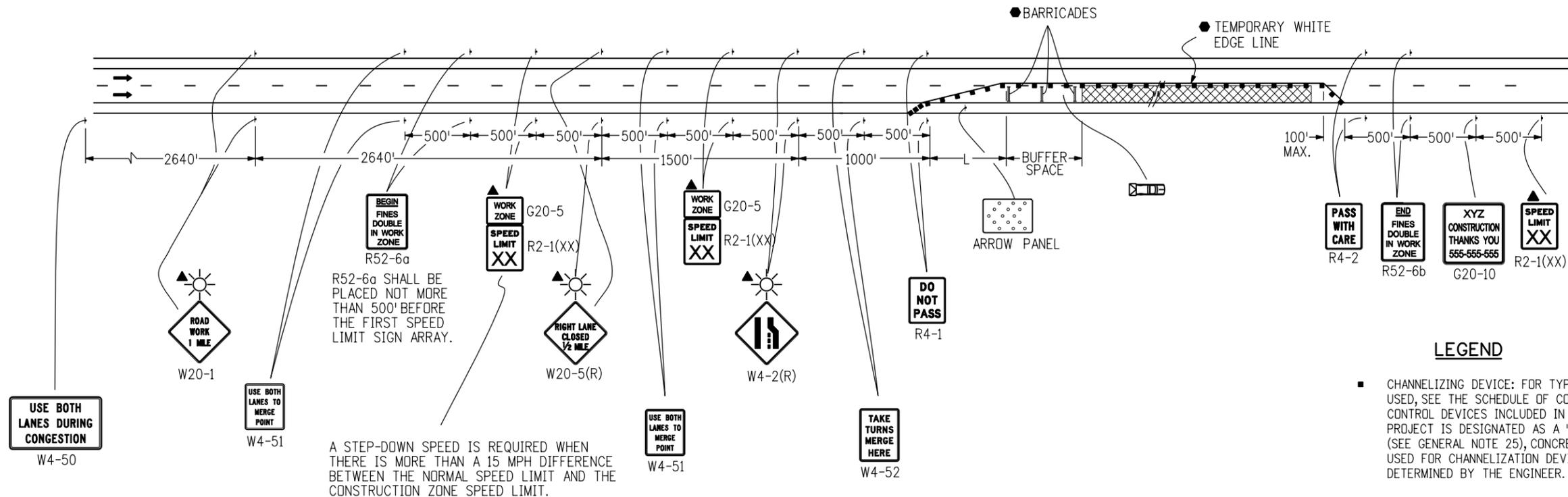
**TRAFFIC CONTROLS
FOR HIGHWAY
CONSTRUCTION**

Issued By: Safety & Traffic Engineering Branch June 24, 2009

STANDARD PLAN NO.

S-630-1

Sheet No. 14 of 19



R52-6a SHALL BE PLACED NOT MORE THAN 500' BEFORE THE FIRST SPEED LIMIT SIGN ARRAY.

A STEP-DOWN SPEED IS REQUIRED WHEN THERE IS MORE THAN A 15 MPH DIFFERENCE BETWEEN THE NORMAL SPEED LIMIT AND THE CONSTRUCTION ZONE SPEED LIMIT.

CASE NO. 29
TYPICAL APPLICATION (LATE MERGING)
ONE LANE CLOSED, 4-LANE DIVIDED HIGHWAY

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 25), CONCRETE BARRIER SHALL BE USED FOR CHANNELIZATION DEVICES (TEMP) AS DETERMINED BY THE ENGINEER.
 - 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.
 - ☀ FLASHING BEACON
 - REQUIRED WHEN WORK OCCUPIES THE LOCATION FOR MORE THAN 3 DAYS.
 - ▧ TRUCK MOUNTED ATTENUATOR (TMA)
 - 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 21 OF S-630-1).

Computer File Information	
Creation Date: 06/24/09	Initials: KEN
Last Modification Date:	Initials:
Full Path: www.dot.state.co.us/DesignSupport/	
Drawing File Name: Sheet_S-630-01_15of19.dgn	
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	

Sheet Revisions	
Date:	Comments
(R-X)	

Colorado Department of Transportation
 4201 East Arkansas Avenue
 Denver, Colorado 80222
 Phone: (303) 757-9543
 Fax: (303) 757-9458

Safety & Traffic Engineering Branch **KCM/KEN**

TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

Issued By: Safety & Traffic Engineering Branch June 24, 2009

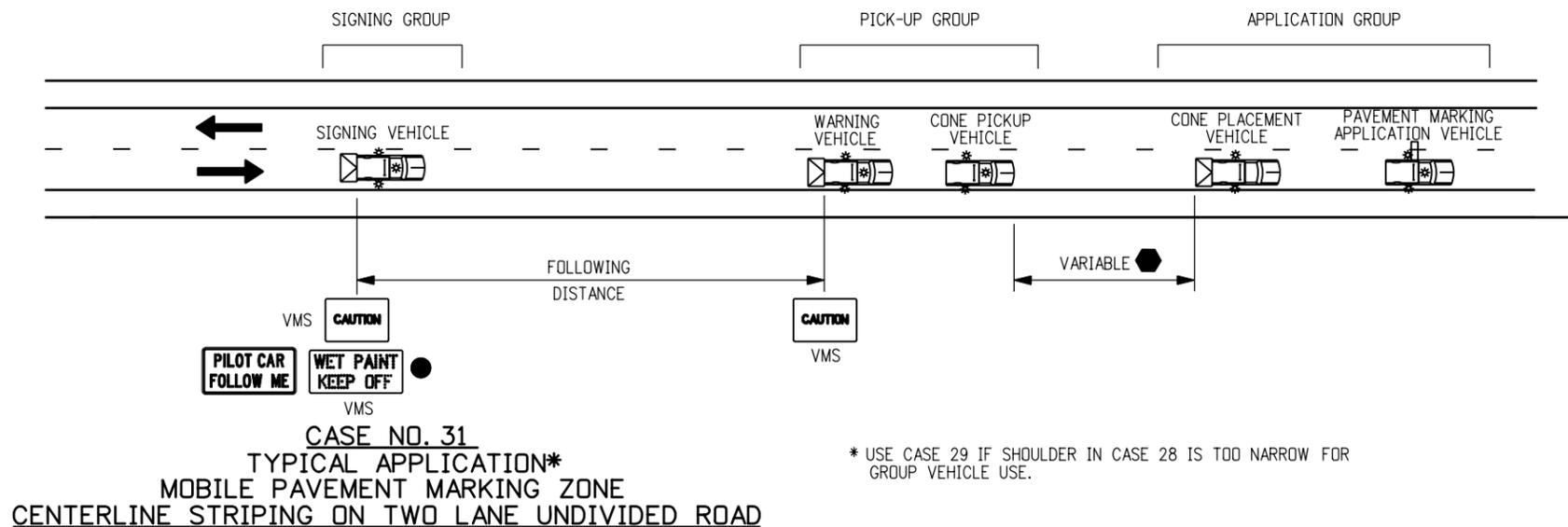
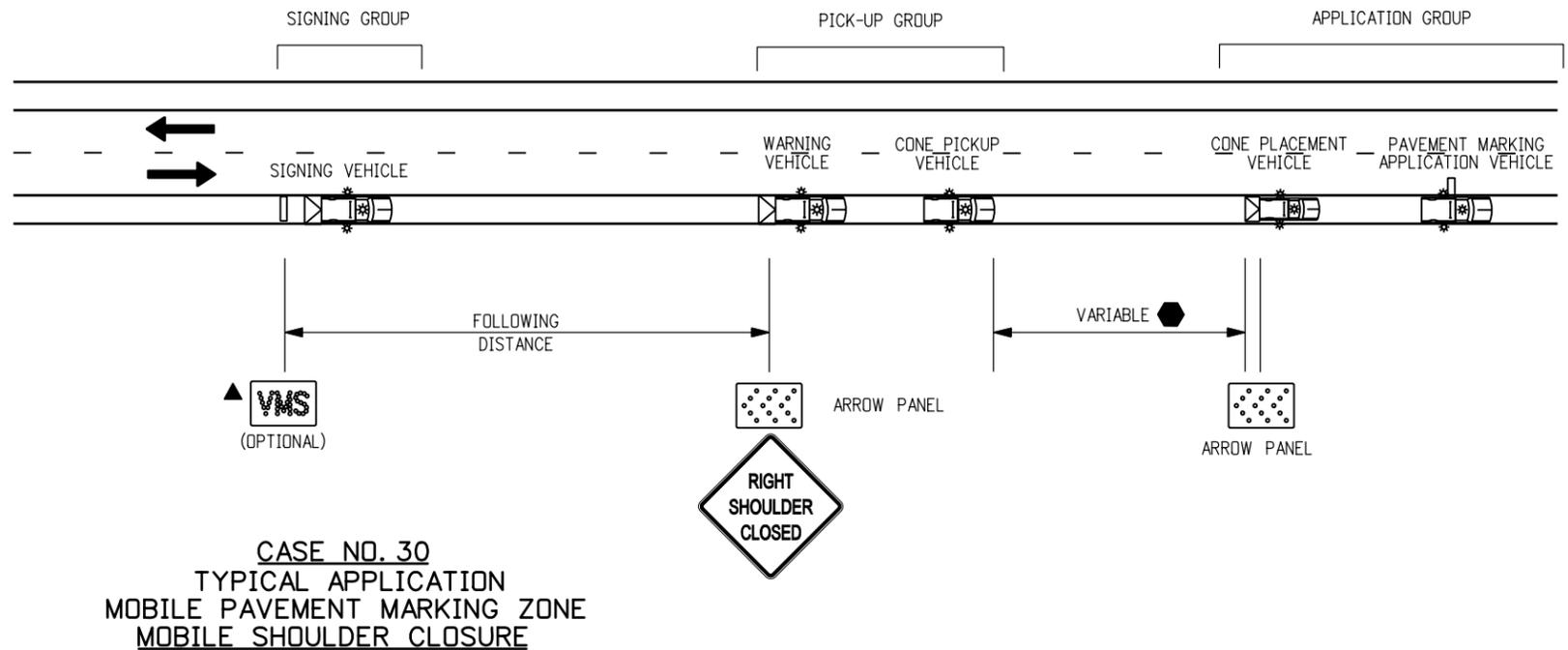
STANDARD PLAN NO.
S-630-1
Sheet No. 15 of 19

LEGEND

-  VEHICLE WITH TRUCK-MOUNTED ATTENUATORS (TMA), TWO 360-DEGREE YELLOW FLASHING BEACONS, AND YELLOW FLASHING VEHICLE LIGHTS OR STROBES.
-  ADVANCE WARNING FLASHING OR SEQUENCING ARROW PANEL.
-  VARIABLE MESSAGE SIGN (VMS).
-  WHEN VMS IS USED, THE "SHOULDER CLOSED" SIGN BECOMES OPTIONAL.
-  THE "PICK-UP VEHICLES" OR "WARNING VEHICLE" MAY ENCRDACH INTO THE TRAFFIC LANE WHEN THE SHOULDER IS TOO NARROW TO DRIVE ON.
-  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.

FOLLOWING DISTANCE CHART FOR WARNING AND SIGNING VEHICLES

POSTED WZ SPEED LIMIT (MPH)	FOLLOWING DISTANCE (FEET)
0 - 30	250 - 550
35 - 40	325 - 700
45 - 50	600 - 900
55	750 - 1200
60 - 65	1000 - 1400
70 - 75	1200 - 1600



Computer File Information	
Creation Date: 06/24/09	Initials: KEN
Last Modification Date:	Initials:
Full Path: www.dot.state.co.us/DesignSupport/	
Drawing File Name: Sheet_S-630-1_16of19.dgn	
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	

Sheet Revisions	
Date:	Comments

Colorado Department of Transportation
 4201 East Arkansas Avenue
 Denver, Colorado 80222
 Phone: (303) 757-9543
 Fax: (303) 757-9219
 Safety & Traffic Engineering Branch KCM/KEN

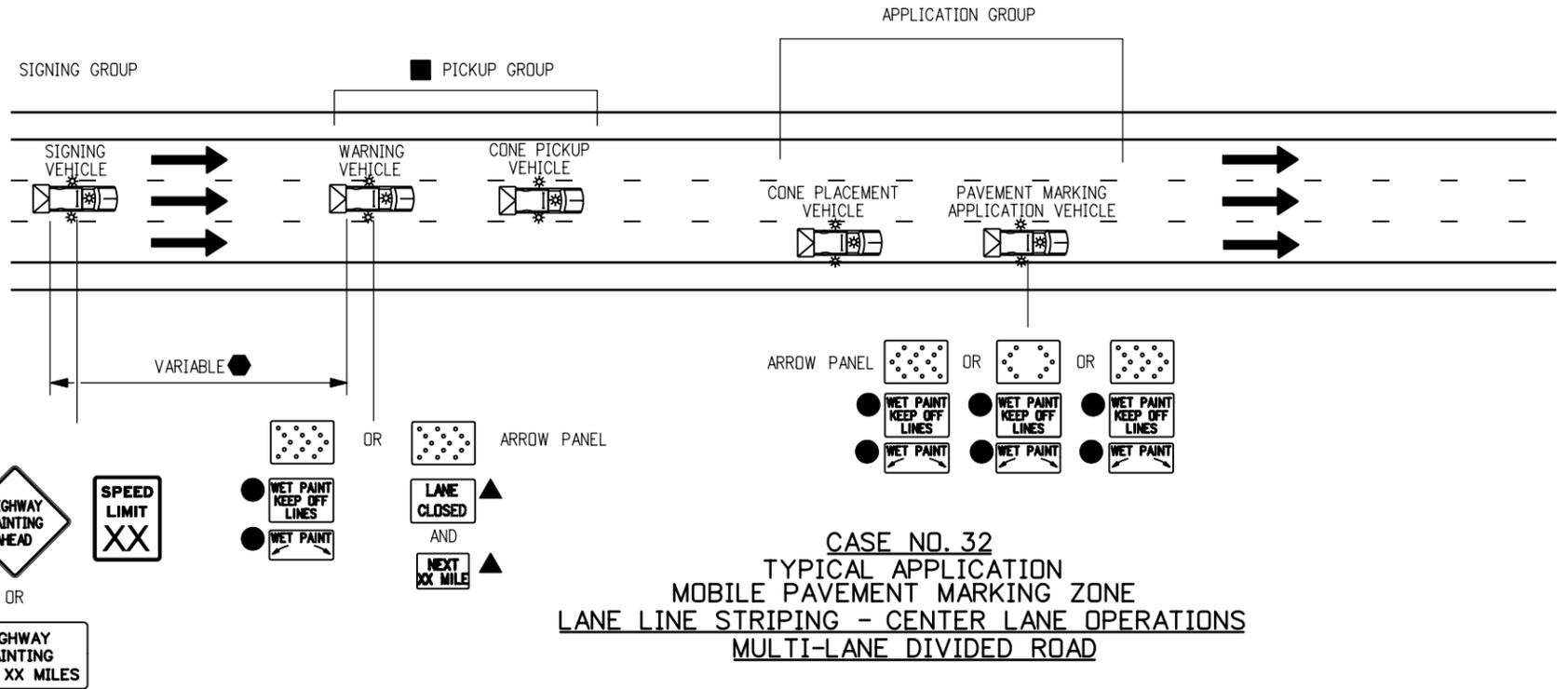
**TRAFFIC CONTROLS
FOR HIGHWAY
CONSTRUCTION**

Issued By: Safety & Traffic Engineering Branch June 24, 2009

STANDARD PLAN NO.
S-630-1
Sheet No. 16 of 19

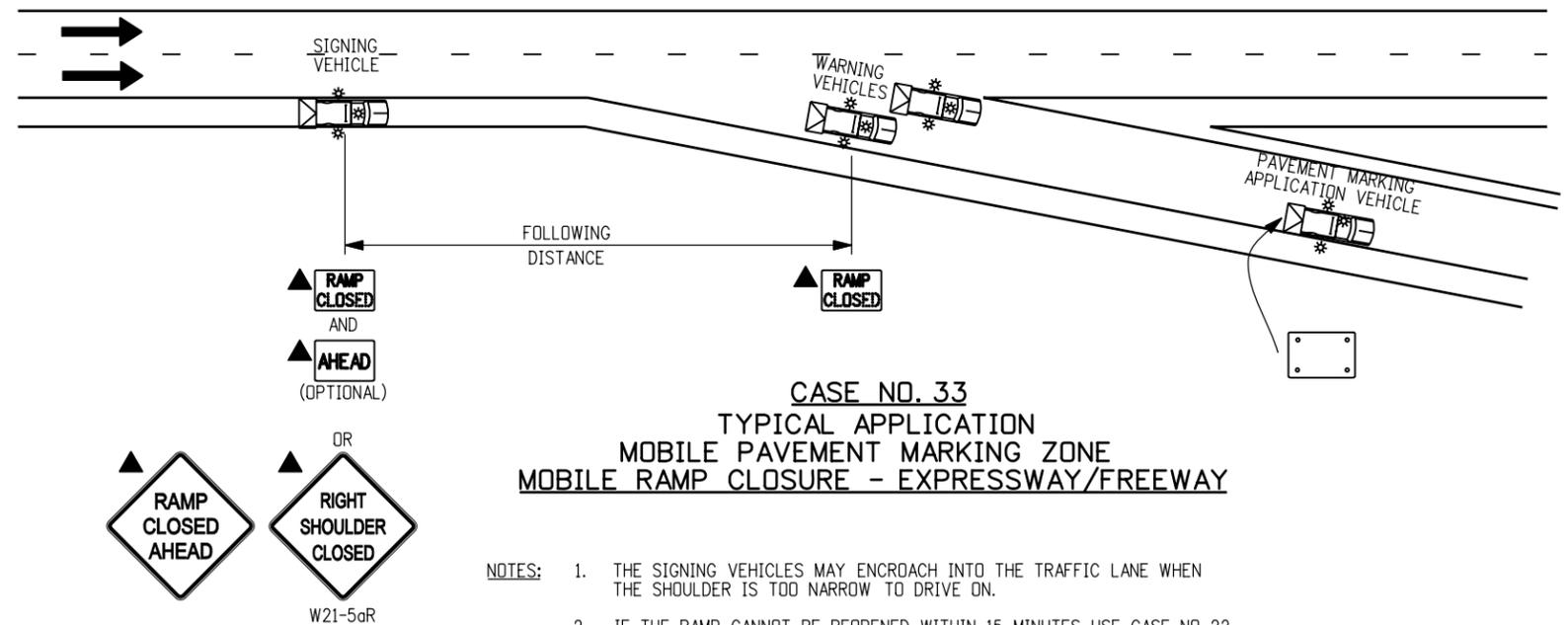
LEGEND

-  VEHICLE WITH TRUCK-MOUNTED ATTENUATORS (TMA), TWO 360-DEGREE YELLOW FLASHING BEACONS, AND YELLOW FLASHING VEHICLE LIGHTS OR STROBES.
-  ADVANCE WARNING FLASHING OR SEQUENCING ARROW PANEL.
-  PORTABLE VARIABLE MESSAGE SIGN (VMS).
-  WHEN THE VMS IS USED, THE "SHOULDER CLOSED" (W21-5aX) OR W21-5bX), AND "RAMP CLOSED AHEAD" SIGNS BECOME OPTIONAL.
-  THE "CONE PICK-UP VEHICLE" OR "WARNING VEHICLE" MAY ENCRDACH INTO THE TRAFFIC LANE WHEN THE SHOULDER IS TOO NARROW TO DRIVE ON.
-  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 "WARNING VEHICLE" AND "SIGNING VEHICLE" SHALL BE DETERMINED BY THE TRACK DRYING TIME OF THE PAVEMENT MARKING MATERIAL.



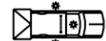
FOLLOWING DISTANCE CHART FOR WARNING VEHICLE AND SIGNING VEHICLES

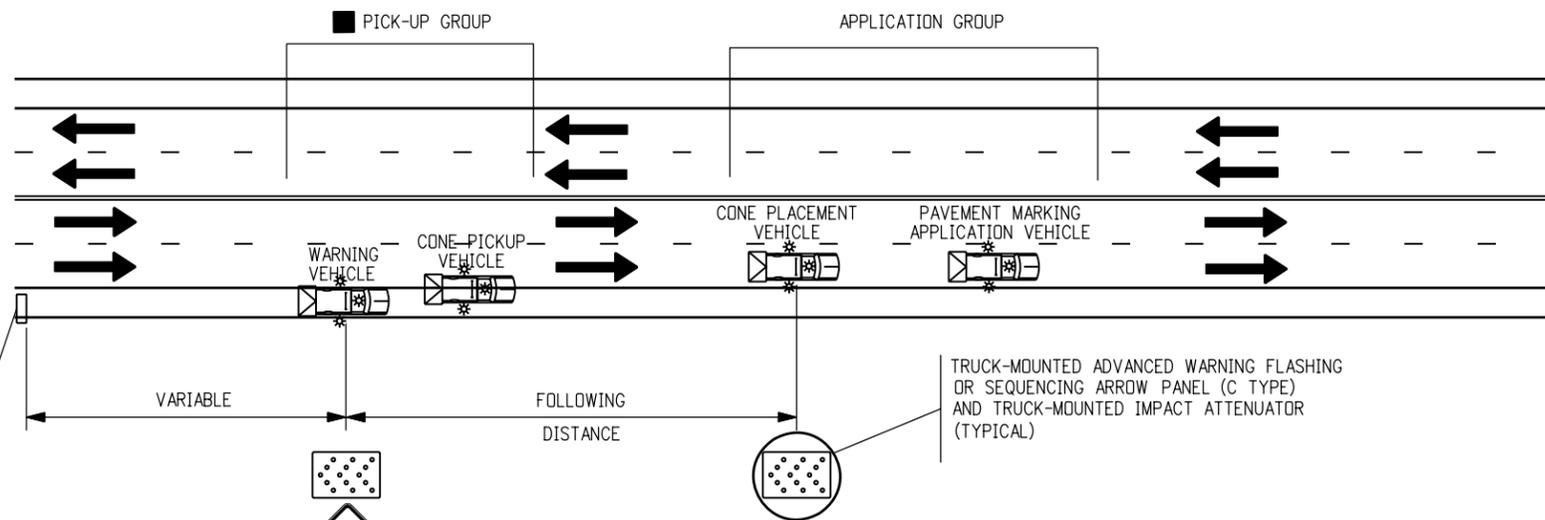
POSTED WZ SPEED LIMIT (MPH)	FOLLOWING DISTANCE (FEET)
0 - 30	250 - 550
35 - 40	325 - 700
45 - 50	600 - 900
55	750 - 1200
60 - 65	1000 - 1400
70 - 75	1200 - 1600



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

LEGEND

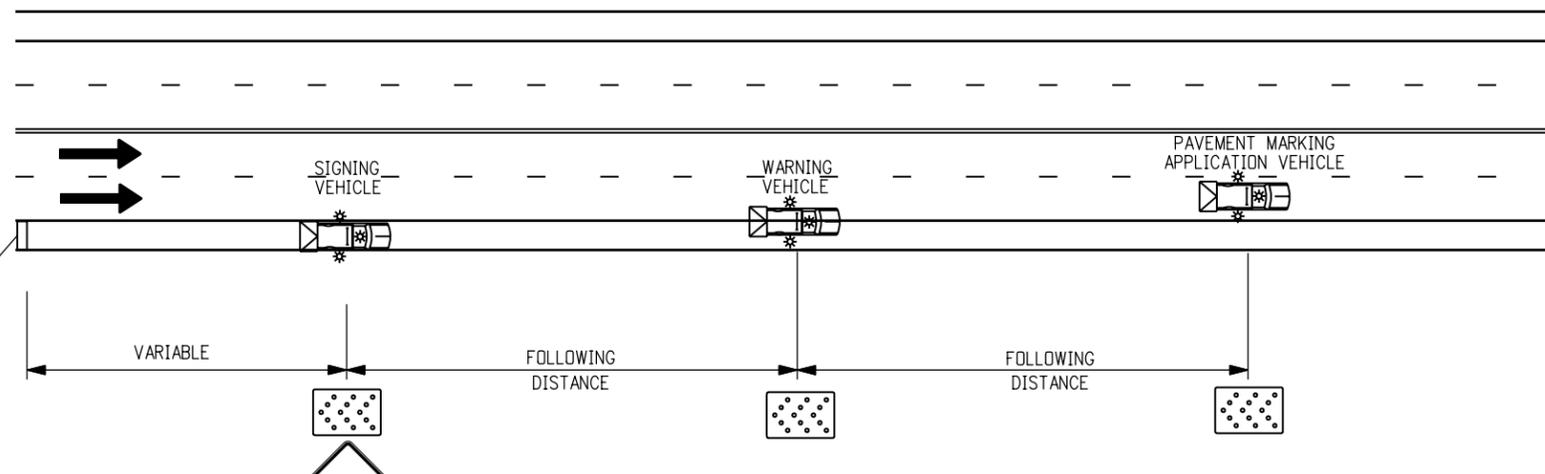
-  VEHICLE WITH TRUCK-MOUNTED ATTENUATORS (TMA), TWO 360-DEGREE YELLOW FLASHING BEACONS, AND YELLOW FLASHING VEHICLE LIGHTS OR STROBES.
-  ADVANCE WARNING FLASHING OR SEQUENCING ARROW PANEL.
-  PORTABLE VARIABLE MESSAGE SIGN (VMS).
-  WHEN THE VMS IS USED, THE "RIGHT LANE CLOSED AHEAD" (W9-3X) SIGN BECOMES OPTIONAL.
-  THE "CONE PICK-UP VEHICLE" OR "WARNING VEHICLE" MAY ENCRDACH INTO THE TRAFFIC LANE WHEN THE SHOULDER IS TOO NARROW TO DRIVE ON.



CASE NO. 34
TYPICAL APPLICATION
MOBILE OPERATION OF LANE CLOSURE OF MULTI-LANE ROAD
(NOT FOR USE ON FREEWAYS)

FOLLOWING DISTANCE CHART FOR WARNING VEHICLE AND SIGNING VEHICLES

POSTED WZ SPEED LIMIT (MPH)	FOLLOWING DISTANCE (FEET)
0 - 30	250 - 550
35 - 40	325 - 700
45 - 50	600 - 900
55	750 - 1200
60 - 65	1000 - 1400
70 - 75	1200 - 1600



CASE NO. 35
TYPICAL APPLICATION
MOBILE OPERATION OF LANE CLOSURE OF MULTI-LANE ROAD

- 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 RAMP 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).

Computer File Information		Sheet Revisions	Colorado Department of Transportation	TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	STANDARD PLAN NO.
Creation Date: 06/24/09	Initials: KEN	Date:	 4201 East Arkansas Avenue Denver, Colorado 80222 Phone: (303) 757-9543 Fax: (303) 757-9219	Issued By: Safety & Traffic Engineering Branch June 24, 2009	S-630-1
Last Modification Date:	Initials:	Comments:			Sheet No. 18 of 19
Full Path: www.dot.state.co.us/DesignSupport/					
Drawing File Name: Sheet_S-630-1_18of19.dgn					
CAD Ver.: MicroStation V8	Scale: Not to Scale	Units: English			

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.
- 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.
- G20-5 "WORK ZONE" - THIS SIGN SHALL BE MOUNTED JUST ABOVE THE WORK ZONE SPEED LIMIT SIGNS PRIOR TO THE WORK ZONE AREA.
- G20-10 THANK YOU SIGN - THIS SIGN SHOULD BE ERECTED APPROXIMATELY 500 FEET BEYOND THE END OF THE PROJECT.
- G20-55(X) "X MINUTE CLOSURE, EXPECT DELAYS" - THIS SIGN IS INTENDED FOR USE 500 FEET PAST THE "WORK ZONE"/SPEED LIMIT SIGN.
- 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.
- 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.
- 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.
- 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.
- R4-1 "DO NOT PASS" - THIS SIGN SHOULD BE PLACED AT TRANSITION TAPER POINT.
- R4-2 "PASS WITH CARE" - THIS SIGN SHOULD BE PLACED AT TRANSITION TAPER POINT.
- 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.
- 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.
- 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.
- R52-6a "BEGIN FINES DOUBLE IN WORK ZONE" SIGN IS PLACED AT THE BEGINNING OF THE ADVANCED WARNING AREA OF THE TRAFFIC CONTROL ZONE.
- R52-6b "END FINES DOUBLE IN WORK ZONE" SIGN IS PLACED AFTER WORK ZONE AREA, PAST DOWNSTREAM TAPER SECTION.
- 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. *
- 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. *
- 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. *
- 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. *
- 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.
- 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. *
- W3-4 "BE PREPARED TO STOP" - THIS SIGN TO BE PLACED 1.5 MILES IN ADVANCED OF A FLAGGER.
- 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. *
- W4-50 "USE BOTH LANES DURING CONGESTION" - THIS SIGN IS INTENDED FOR USE IN ADVANCE OF THE "ROAD WORK X MILE" ADVANCED WARNING SIGN.
- 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.
- 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 .
- 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. *
- 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. *
- 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. *

TYPICAL CONSTRUCTION ZONE SIGNS

- 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.
- 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.
- 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. *
- 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. *
- 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. *
- 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. *
- 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. *
- 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. *
- W8-9a "SHOULDER DROP-OFF" - THIS SIGN IS INTENDED FOR USE IN ADVANCE OF A SHOULDER DROP-OFF THAT EXCEEDS THREE INCHES IN HEIGHT. *
- W8-11 "UNEVEN LANES" - THIS SIGN IS INTENDED FOR USE IN ADVANCE OF AN UNEVEN ADJACENT LANE SITUATION THAT EXCEEDS ONE INCH IN HEIGHT. *
- W9-1() "LEFT (RIGHT) LANE ENDS" - THIS SIGN IS INTENDED FOR USE IN ADVANCE OF THE PAVEMENT WIDTH TRANSITION SIGN (W4-2).
- W9-2() "LANE ENDS/MERGE LEFT (RIGHT)" - THIS SIGN IS INTENDED FOR USE AS A SUPPLEMENT TO THE PAVEMENT WIDTH TRANSITION SIGN (W4-2).
- W9-3 OR W9-3a() "CENTER LANE CLOSED AHEAD" - 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. *
- 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.
- 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. *
- W13-1() "ADVISORY SPEED PLAQUE" - THIS SIGN 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.
- W13-3 "ADVISORY RAMP SPEED" - THIS SIGN IS TO BE POSTED TO INFORM MOTORISTS WHAT THE SUGGESTED SPEED LIMIT IS ON A RAMP.
- 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.
- 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.
- 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.
- 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.
- 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.
- W20-7a "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. *
- 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.
- 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.
- 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. *
- 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. *

- W21-4 "ROAD/WORK/(DIST.)" - THIS SIGN IS INTENDED FOR USE IN ADVANCE OF MAINTENANCE FOR MINOR RECONSTRUCTION OPERATIONS IN THE ROADWAY.
- W21-5 "SHOULDER/WORK" - THIS SIGN IS INTENDED FOR USE IN ADVANCE OF THE PROJECT INVOLVING THE SHOULDER, WHERE THE TRAVELED WAY REMAINS UNOBSTRUCTED.
- 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. *
- 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 W22-2 AND W22-3 SIGNS MUST BE USED IN SEQUENCE WITH THIS SIGN.
- W22-2 "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.
- 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.
- 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.

ADVANCE PLACEMENT OF WARNING SIGNS

POSTED OR 85TH PERCENTILE SPEED	ADVANCE PLACEMENT DISTANCE (FEET)								
	CONDITION A	CONDITION B: DECLARATION TO THE LISTED ADVISORY SPEED (MPH) FOR THE CONDITION							
		MPH							
	+	0	10	20	30	40	50	60	70
20	225	●	●	--	--	--	--	--	--
25	325	●	●	●	--	--	--	--	--
30	450	●	●	●	●	--	--	--	--
35	550	●	●	●	●	--	--	--	--
40	650	125	●	●	●	--	--	--	--
45	750	175	125	●	●	●	--	--	--
50	850	250	200	150	100	●	--	--	--
55	950	325	275	225	175	100	●	--	--
60	1100	400	350	300	250	175	●	--	--
65	1200	475	425	400	350	275	175	●	--
70	1250	550	525	500	425	350	250	150	--
75	1350	650	625	600	525	450	350	250	100

- + CONDITION A: SPEED REDUCTION AND LANE CHANGING IN HEAVY TRAFFIC. TYPICAL SIGNS ARE "MERGE" AND "RIGHT LANE ENDS".
- + + CONDITION B: TYPICAL CONDITIONS ARE THE WARNING OF A POTENTIAL STOP SITUATION AND LOCATIONS WHERE THE ROAD USER MUST DECREASE SPEED TO MANEUVER THROUGH THE WARNED CONDITION. TYPICAL SIGNS ARE "STOP AHEAD", "SIGNAL AHEAD", "YIELD AHEAD", "CURVE", "REVERSE CURVE", "TURN".
- NO SUGGESTED DISTANCES ARE PROVIDED AT THESE SPEEDS, AS THE PLACEMENT IS DEPENDENT ON SITE CONDITIONS AND OTHER SIGNING.

A SUPPLEMENTAL PLAQUE MAY BE USED WITH WARNING SIGNS SPECIFYING THE DISTANCE TO THE CONDITION IF THERE IS AN IN-BETWEEN INTERSECTION THAT MIGHT CONFUSE THE MOTORIST.

* PLACEMENT SHOULD BE IN ACCORDANCE WITH WARNING SIGN PLACEMENT TABLE.

Computer File Information		Sheet Revisions		 <p>Colorado Department of Transportation 4201 East Arkansas Avenue Denver, Colorado 80222 Phone: (303) 757-9543 Fax: (303) 757-9458</p>	<p>TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION</p>	<p>STANDARD PLAN NO. S-630-1</p>
Creation Date: 07/04/06	Initials: KCM	Date:	Comments			
Last Modification Date: 06/24/09	Initials: KEN	06/24/09	SHEET NO. CHANGED FROM 12 TO 19. ADDED NOTES FOR R52-6a, R52-6b, G20-5, R4-1, R4-2, W3-4, W4-50, W4-51, W4-52, W13-3, & W22-50(X) SIGNS.			
Full Path: www.dot.state.co.us/DesignSupport/						
Drawing File Name: Sheet_S-630-01_19of19.dgn						
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English				<p>Safety & Traffic Engineering Branch KCM/KEN</p>	<p>Issued By: Safety & Traffic Engineering Branch June 9, 2009</p>	<p>Sheet No. 19 of 19</p>