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1. Panel lifting hook embedments and related hardware shall be furnished, sized, and placed by fabricator (per Contractor's design) for each individual panel.

2. Contractor may submit alternate panel width with approval of the Engineer at no cost to

3. Alternate bolt and angle system at the bottom of the panel is to be designed by the Contractor with approval of the Engineer at no cost to the project.

4. The acceptable panel joint material between panels shall be proposed by the contractor with approval of the Engineer, and shall be included in the cost of Item 504 Precast Panel

5. Provide a minimum of two panel connectors per panel. Each panel connection system includes bolt and angle systems at the bottom of the panel. Work ta be included in Item 504 Precast Panel Facing. Contractor may submit an alternative method for

6. Test panel as specified in specification shall be included in cost of item 504 Precast Panel

7. Entire concrete coping (front and back) shall have three layers of water resistant or repellant concrete sealer before the wall is opened to traffic. Concrete coating shall be applied

8. Facing Connection System shall be in accordance with ASTM A36, Grade 36. All hardware

10. Sawing of panels is acceptable in areas to meet existing ground if needed with approval of

12. Total service loads applied to any panel during construction shall not exceed 117 psf.

13. Any flexural cracks, sags, or cambers greater than 0.5" will be considered evidence of mishondling, overloading, or exceeding allowable tolerances, and may be cause for rejecting

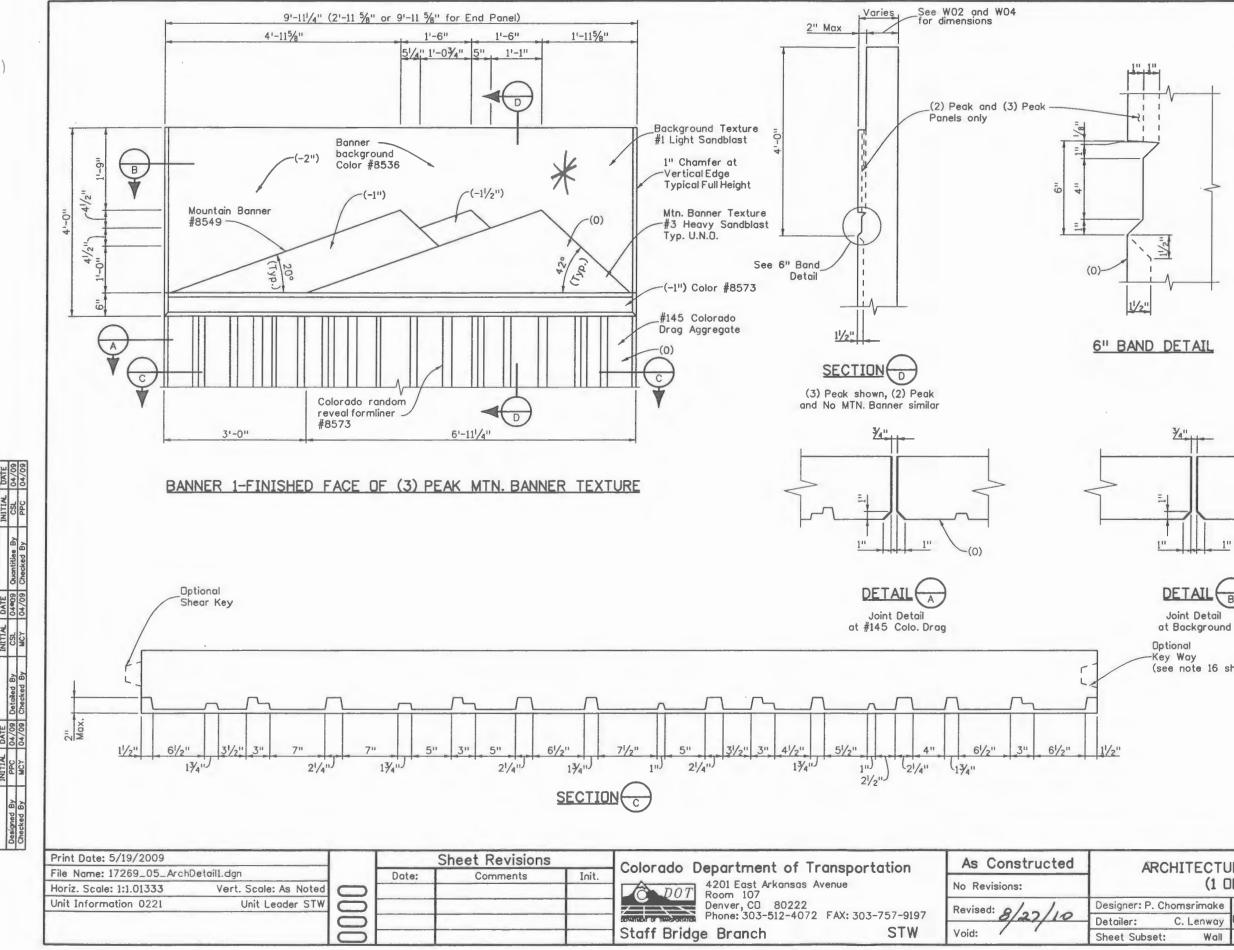
14. Care must be taken to ensure proper cleaning of construction debris off the tops of the panels and consolidation of concrete mortar under the edges of the panels. Water, dirt or other debris on top of the panels will inhibit the bond of the cast-in-place concrete. It is also important that adequate space (min. 1" x 2") is provided for the concrete to fill the space under the panel as the slab concrete is placed. Panel lengths and width shall be determined by

inspection, and anytime during construction. Erected ponels shall be uniformly supported along the length of the panel. The contractor shall provide geogrid installation, lifting and erection plan

16. Geogrid shall be installed full ponel width. When the partial width geogrid is used on precast panels, shear key and key way are required at ends of panels, and they shall be designed and provided by the contractor with no additional cost to the contract.

IE COPEN'S CHANGED TO MATCH PROJECT # 16042 PGA MEMO 105-01

	MSE	WALL		Project No./Code
CAST	PANEL	FACING	G DETAILS	ES5 160A-010
r:	M. Yip	Structure	Wall P-05-AT	17269
	C.Lenway	Numbers	Wall P-05-AV	
ubset:	Wall	Subset She	eets: W04 of 6	Sheet Number 46



INITIAL DATE Quantities By CSL 04*09 Quantities By MCY 04.09 Quantities By Detailed By INITIAL DATE PPC 04/09 0 MCY 04/09 0

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NOTES:

1. For (2) Peak mountain Banner texture, see Architectural Details Sheet (2 of 2).

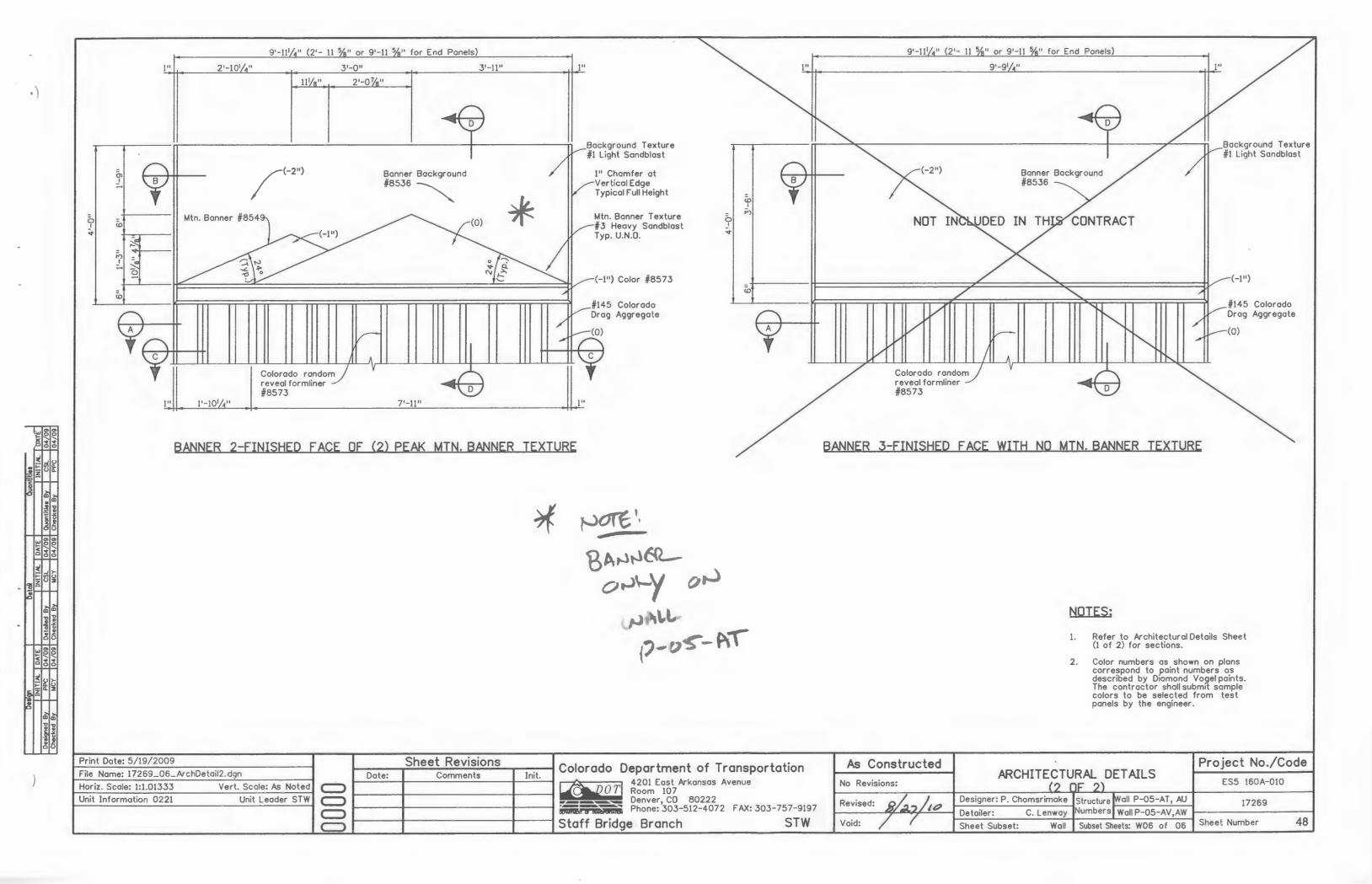
2. For top of panel slope, refer to Wall Plan and Elevations.

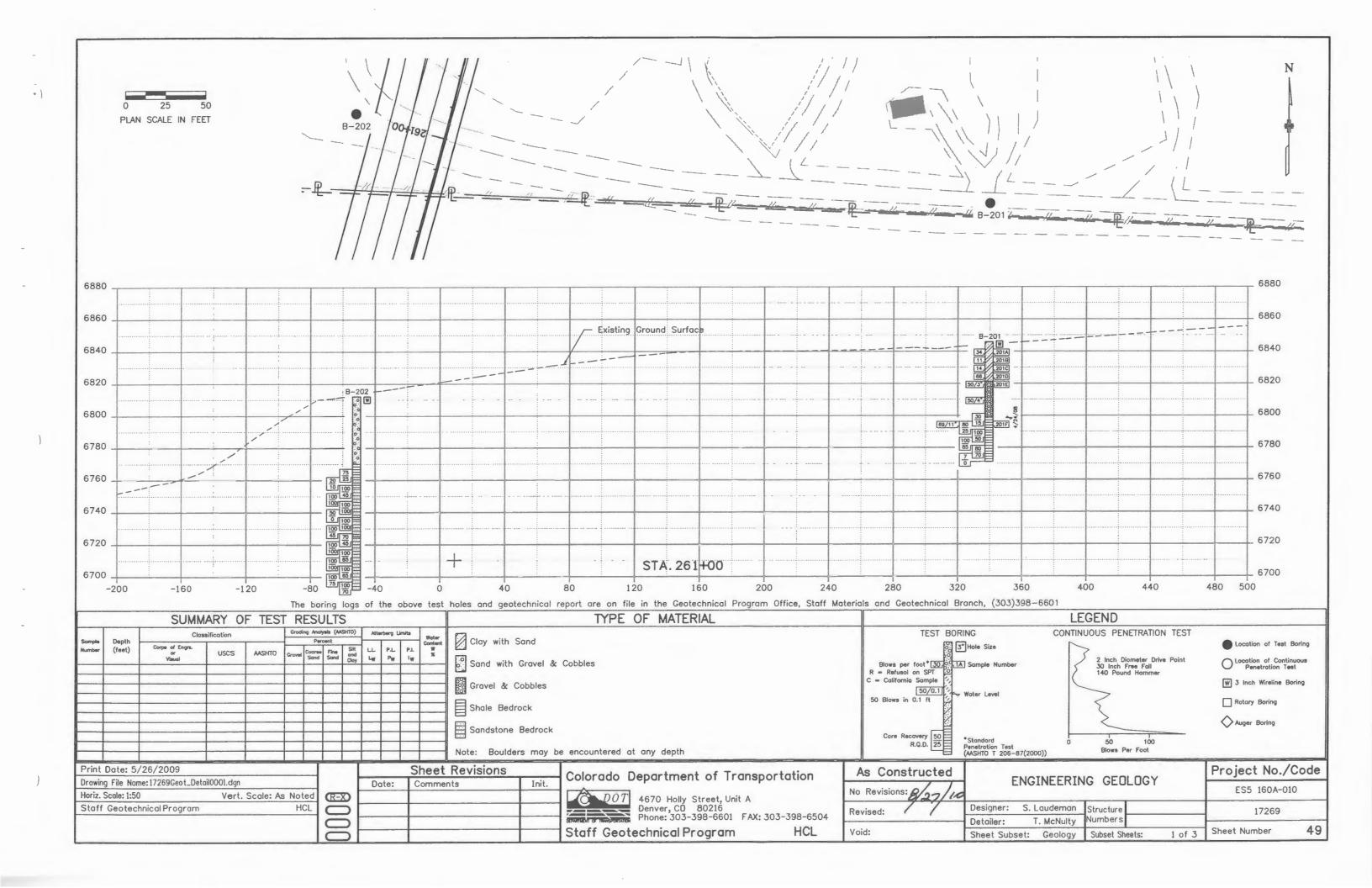
3. Color numbers as shown on plans correspond to paint numbers as described by Diamond Vogel Paints. The contractor shall submit sample colors to be selected from test panels by the engineer.

NOTE: BANNER ONLY ON WALL P-05-AT NOT ON WALLS P-05-AV OR P-05-BB (-2") DETAIL

(see note 16 sheet WO4)

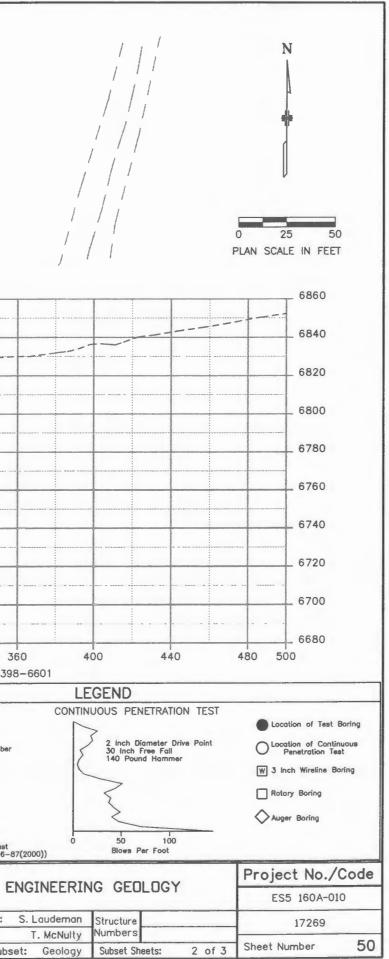
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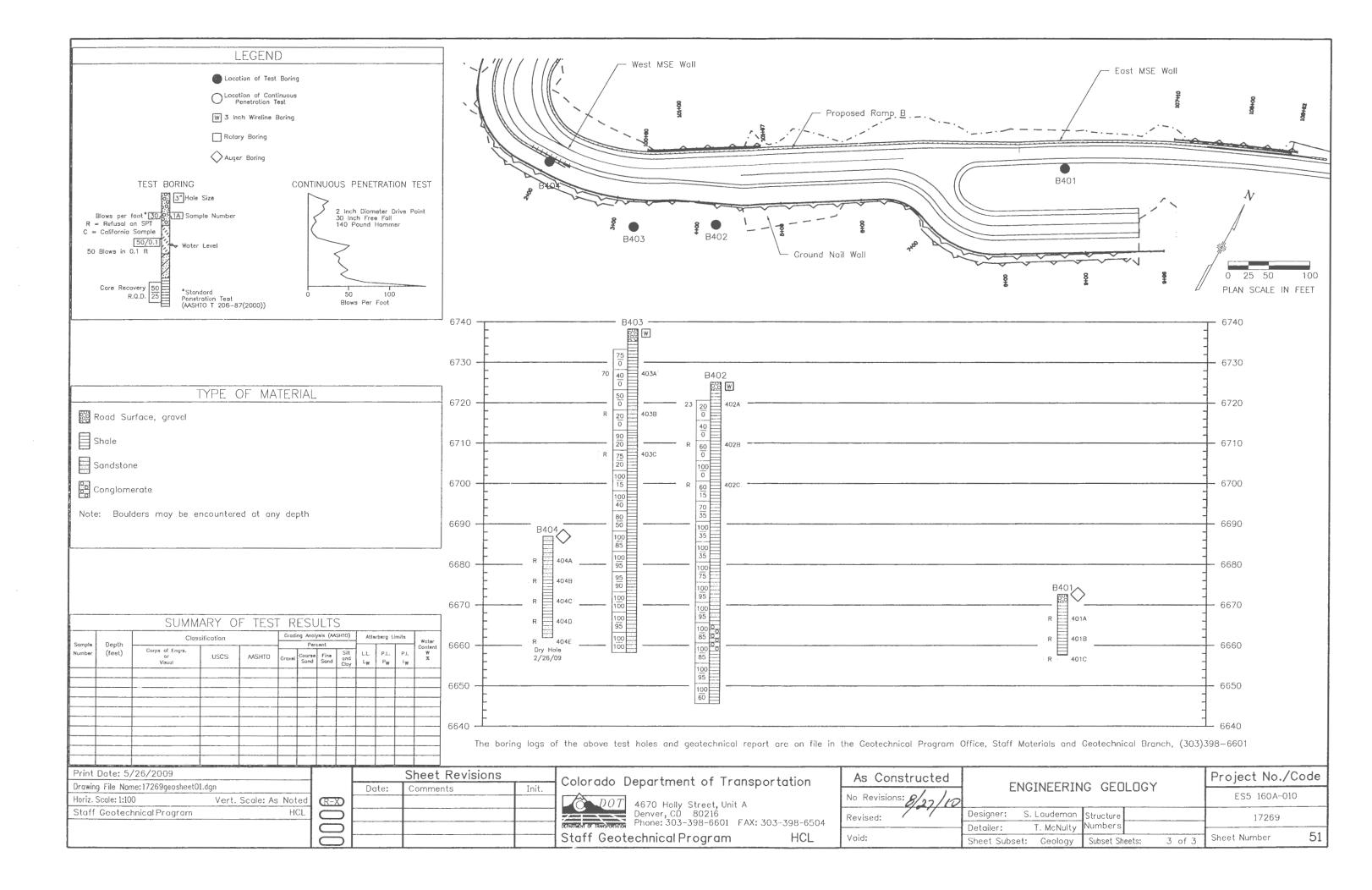


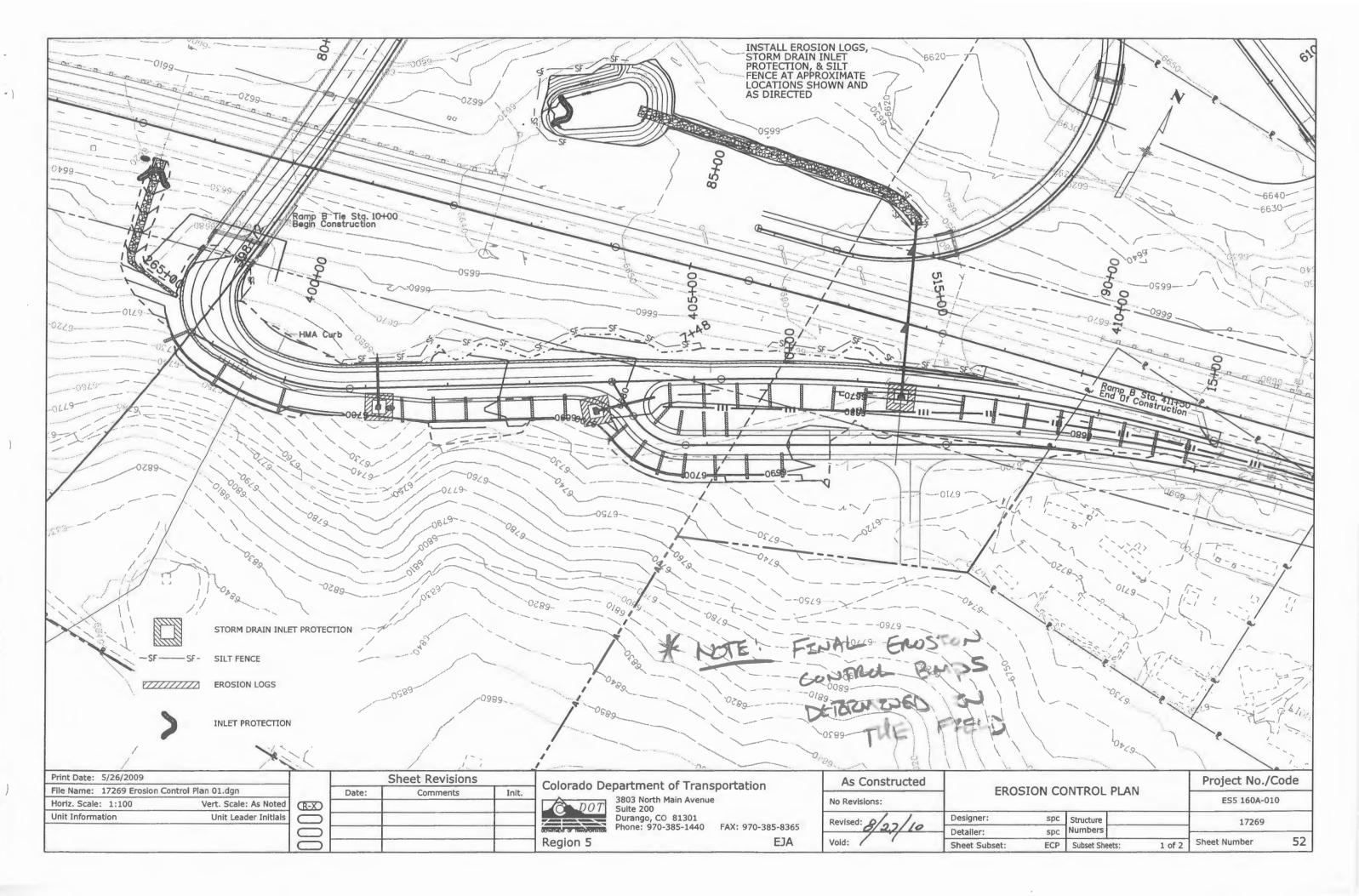


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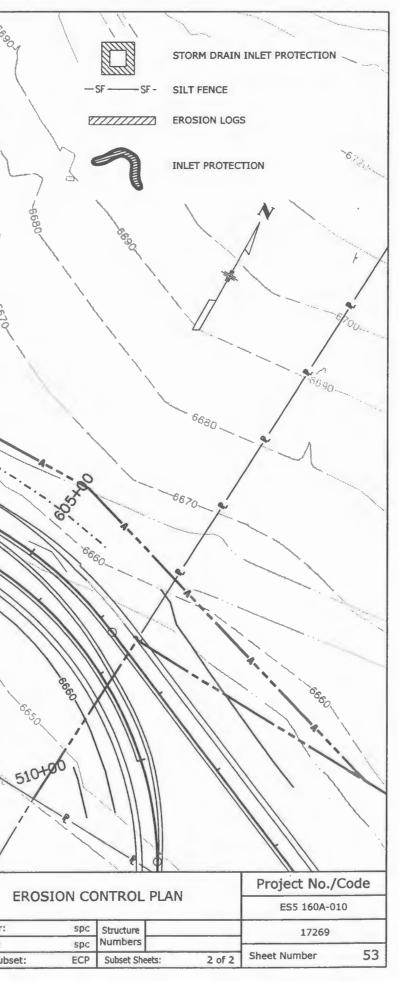
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INSTALL EROSION LOGS, STORM DRAIN INLET PROTECTION, & SILT FENCE AT APPROXIMATE LOCATIONS SHOWN AND AS DIRECTED 16680 6670-17 -6650 OOHS SE 0 1 300 4 560 ja, -6650 040 270400 6830 -00 6620 1-2 500+00 6600----6600-.0199 0 Print Date: 5/26/2009 Sheet Revisions As Constructed Colorado Department of Transportation File Name: 17269 Erosion Control Plan 02.dgn Date: Comments Init. No Revisions: 8/27/10 3803 North Main Avenue Ô DOT Horiz. Scale: 1:100 Vert. Scale: As Noted (R-X) Suite 200 Durango, CO 81301 Phone: 970-385-1440 FAX: 970-385-8365 Unit Information Unit Leader Initials Designer: \bigcirc Revised: Castlentian Or Detailer: \bigcirc Region 5 EJA Void: Sheet Subset: \bigcirc



1. Site Description Additional information for permitted projects. For information only to fulfill the CDPS-SCP (Colorado Discharge Permit - Stormwater Construction Permit)	 Distance ultimate receiving water is from project: Wils hundred yards from the project area and the Animas Rive mile west of the site. Does the receiving water have an approved TMDL: No
A. <u>Project Site Description:</u> The project includes the construction of Ramp B and the access road connection for the US 160 Interchange in Grandview. The project includes both uphill and downhill retaining walls, ramp and access road grading paving, and guardrail installation. Excavated material for Ramp B will be hauled for placement of the round-about embankment on the north side of US 160.	 H. <u>Allowable Non-Stormwater Discharges</u>: To be added by the Conon-stormwater discharges are proposed. 1. Groundwater and stormwater dewatering: Discharge to the from construction dewatering activities may be authoriz a. The source is groundwater and/or groundwater combine that does not contain pollutants.
B. <u>Proposed Sequencing For Major Activities</u> : Excavation and grading of Ramp B and access road connection, hauling and placement of embankment material, mechanical reinforcement of soil, ground nail drilling and install, installation of precast panel facing, construction of concrete wall with rebar.	 b. The source and BMPs are identified in the SWMP. c. Discharges do not leave the site as surface runoff of 2. If discharges do not meet the above criteria a separate Department of Health will be required. Contaminated gr coverage under a separate permit may include groundwate
C. <u>Acres Of Disturbance:</u> Total area of construction site: 53.8 acres Total area of disturbance: 6.3 acres Acreage of seeding: 5.0 acres	pollutants from a landfill, mining activities, industri- underground storage tank, etc.
D. <u>Existing Soil Data:</u> The US 160 Ramp B soils consist of three main soil types including the Zyme Clay Loam 3 to 25% slopes, the Zyme-Rock outcrop complex 12 to 65% slopes and the Arboles Clay 3-12 percent slopes.	<pre>I. Environmental_Impacts: 1. Wetland Impacts: no 2. Stream Impacts: no 3. Threatened and Endangered Species:</pre>
Zyme Clay Loam 3 to 25% slopes - This shallow well drained soil is on ridges and hills. It is formed in residuum derived from shale. Average annual precipitation is 14 to 18 inches. The soil profile in general is composed of 4 inches of grayish brown clay loam. The underlying material is grayish brown clay loam over soft shale at a depth of 10 inches. Bedrock depth ranges from 6 to 20 inches. Permeability is slow, runoff is rapid and erosion hazard is high. Rangeland vegetation is mainly Indian ricegrass, western wheatgrass, Big sage, Gamble oak, RM Juniper, Pinyon pine, and bitterbrush.	Southwestern willow flycatcher, NM Jumping Mouse, <u>2. Site Map Components</u> Pre-construction The Project ECS shall update the project area to label and reflect the locations of these features. A. <u>Construction Site Boundaries</u> The ECS shall label the con-
Zyme-Rock outcrop complex 12 to 65% - This map unit is on ridges and hills. It is formed in residual material derived from shale. Average annual precipitation is 14 to 18 inches. The soil profile in general is composed of 4 inches of gravish brown clay loam. The underlying material is gravish brown clay loam over soft shale at a depth of 10 inches. Bedrock depth ranges from 6 to 20 inches. Runoff is rapid and erosion hazard is high. Rangeland vegetation is mainly Indian ricegrass, western wheatgrass, Big sage, Gamble oak, RM Juniper, Pinyon pine, and bitterbrush.	 boundaries for the work within CDOT ROW. B. <u>All Areas Of Ground Surface Disturbance</u> The ECS shall lad disturbance as they occur including staging, stockpiling, etc. C. <u>Areas Of Cut And Fill</u> The ECS shall label all areas of cuproject plans. D. Location Of All Structural BMPs Identified In The SWMP The State of Cuprose of the Structural BMPs Identified In The SWMP The State of Cuprose of
Arboles Clay 3 to 12% slopes - This deep well drained soil is on side slopes and in upland valleys. It is formed in fine textured alluvium derived from shale. Average annual precipitation is 14 to 18 inches. The soil profile in general is composed of 6 inches of brown clay, subsoil is also brown clay to 24 inches. Permeability is slow, runoff is medium and erosion hazard is moderate. When dry the soil has deep cracks that extend to the surface. Rangeland vegetation is mainly Indian ricegrass, junegrass, western wheatgrass, Big sage, Gamble oak, RM Juniper, Pinyon pine, and bitterbrush.	 BMPs installed as part of the project including perimeter protection, and sensitive area protections. E. Location Of Non-Structural BMPs As Applicable In The SWMP all BMPs utilized during the project including surface roumulching, erosion control blankets, etc. F. Springs, Stream, Wetlands And Other Surface Water The ECC Wilson Gulch wetlands and other drainage areas in the project. G. Protection Of Trees, Shrubs, Cultural Resources And Mature
E. Existing Vegetation, Including Percent_Cover: The Project Area is located within the Pinyon pine/Rocky Mountain juniper woodland community. Much of the native vegetation and surrounding hillside has been previously disturbed during the Grandview 4 th Lane project.	shall label features not disturbed by construction for pro historic RR grade where applicable. <u>3. SWMP Administrator For Design:</u> Steven Cross - Designer. Paul Jankowski - Environmental
Date of vegetation survey: Plant count per chapter 4 of the CDOT Erosion Control and Stormwater Quality Guide to be provided by the ECS Contractor prior to first construction and shall be included in the Item 208 ECS hourly costs estimated at 2 hours	Specialist <u>4. Stormwater Management Controls First</u>

construction and shall be included in the Item 208 ECS hourly costs estimated at 2 $\,$ hours. Date of Survey:

- F. Potential Pollutants Sources: See First Construction Activities under Potential Pollutant Sources. The ECS shall prepare a list of all potential
- pollutants and their locations in accordance with subsection 107.25. The ECS's submittal shall be included in the "Potential Pollutants" tab of the SWMP Notebook.
- G. Receiving Water:
 - 1. Outfall locations: Several culverts are located within the project area that discharge beneath US 160 to Wilson Gulch.
 - 2. Names of receiving water(s) on site and the ultimate receiving water: Wilson Gulch a tributary to the Animas River.

- Construction Activities The Contractor Shall Perform The Following: A. Designate A SWMP Administrator/Erosion Control Supervisor (To be filled out at time
- of construction; designate the individual(s) responsible for implementing, maintaining and revising SWMP, including the title and contact information. The activities and responsibilities of the administrator shall address all aspects of the projects SWMP.)

Erosion Control Supervisor: Title: Telephone and Cell Phone #s:

Print Date: 5/26/2009			Sheet Revisions		Colorado Dopartment of Transp	artation	As Constructed	12
File Name: 17269 SWMP Sheet 1.dgn		Date:	Comments	Init.	Colorado Department of Transpo	ortation	1 1	- 51
Horiz. Scale: 1:1 Vert. Scale: As Noted	R-X				3803 North Main Avenue Suite 200		No Revisions: 8/27/4	2
Unit Information Unit Leader Initials					Durango, CO 81301		Revised:	Designer:
	\square				DEPARTMENT OF TRANSPORTATION Phone: 970-385-1440 F			Detailer:
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lson Gulch is several ver is approximately 1 Contractor ECS if any he ground of water ized provided that: ined with stormwater f or to surface waters. te permit from the groundwater requiring ter contaminated with rial pollutant plumes, ea maps on a daily basis onstruction site label areas of ground g, storage, parking, cut and fill on the The ECS shall label all er fencing, inlet MP The ECS shall label roughening, seeding, ECS shall label the roject area. ure Vegetation The ECS protection including the

TORMWATER	MANAGEMEN	Т	Project No./	Code
PL	AN		ES5 160A-01	.0
spc	Structure Numbers		17269	
spc set: SWMP	Subset Sheets:	1 of 3	Sheet Number	54

B. Potential Pollutant Sources Evaluate, identify and describe all potential sources of pollutants at the site in accordance with subsection 107.25 and place in the SWMP notebook under the appropriate tab. All BMPs related to potential pollutants shall be shown on the SWMP site map by the contractor's ECS.

C. Best Management Practices (BMPs) For Stormwater Pollution Prevention Phased BMP Implementation

During design: Fields are marked when used in the SWMP. During construction, the ECS shall update the checked boxes to match site conditions. Clearly describe the relationship between the phases of construction and the implementation of BMP controls. Add a narrative to the table or to the site map describing why the BMPs are being used in specific locations

Structural BMP practices	for	erosion	and	sediment	control;	practices	may	include,
but are not limited to:								

вмр	TYPE OF CONTROL	BMP as Designed	In use on site	FIRST CONSTRUCTION ACTIVITIES	DURING CONSTRUCTION	INTERIM/FINAL STABILIZATION
Earth Berm/Diversion	erosion	x		×	x	
Check Dams	sediment	X		X	X	X
Silt Fence	sediment	X		X	X	
Erosion Logs	sediment	X		X	X	X
Temporary Sediment Trap/Basin	sediment	x		x	x	
Permanent Sediment Trap/Basin	sediment	x				x
Embankment Protector	erosion	X			Х	X
Inlet Protection	erosion	X		X	Х	X
Outlet Protection	erosion	X		1	Х.	X
Concrete Washouts	construction	X		X	Х	
Stabilized Construction Entrance	construction	x		x	X	
Dewatering	sediment					
Temporary Stream Crossing	erosion					
Other						

NON-STRUCTURAL BMP practices for erosion and sediment control; practices may include, but are not limited to:

BMP	Type Of Control	BMP As Designed	In Use On Site	First Construction Activities	During Construction	Interim/Final Stabilization
Surface Roughening/Grading Techniques	Erosion	x			x	
Seeding Permanent	Erosion	X				x
Seeding Temporary	Erosion	X				
Mulch/Mulch Tackifier	Erosion	x			X	x
Soil Binder	Erosion	X			Х	
Soil Retention Blanket	Erosion	x				x
Vegetative Buffer Strips	Erosion	x		Х	Х	х
Protection Of Trees	Erosion	x		Х	Х	X
Preservation Of Mature Vegetation	Erosion	x		X	X	X
Other						

- Erosion control devices are used to limit the amount of erosion on site where bare slopes are exposed.
- Sediment control devices are designed to capture sediment on the project site that escapes erosion control devices.
- Construction control are BMPs related to construction access and staging.
- BMP locations are indicated on the site map. •
- .
- D. Offsite Drainage (Run On Water)
 - implemented to address run-on water in accordance with subsection 208.03.
- E. Stabilized Construction Entrance/Vehicle Tracking Control 1. BMPs shall be implemented in accordance with subsection 208.04.
- F. Perimeter Control
 - 1. Perimeter control shall be established as the first item on the SWMP to prevent the potential for pollutants leaving the construction site boundaries, entering the stormwater drainage system, or discharging to state waters.
 - 2. Perimeter control may consist of vegetation buffers, berms, silt fence, erosion logs, existing landforms, or other BMPs as approved.
 - 3. Perimeter control shall be in accordance with subsection 208.04.

Note: IT IS THE CONTRACTOR'S ECS RESPONSIBILITY TO KEEP THE SWMP AND SITE MAP UP TO DATE AND ACCURATE AT ALL TIMES. ANY ADDITIONS TO OR DELETIONS FROM THE INITIAL PLANS SHALL BE DOCUMENTED BY THE ECS. THIS SWMP DOES NOT CONTAIN REQUIRED INFORMATION FOR THE SEQUENCE OF CONSTRUCTION AND SCHEDULING OF TEMPORARY AND PERMANENT BMPs, DEWATERING, SOURCES OF POTENTIAL POLLUTANTS, SPILL PREVENTION, CONCRETE WASHOUT, AND STOCKPILE MANAGEMENT. THE CONTRACTOR IS REQUIRED TO PREPARE AND SUBMIT INFORMATION ON THESE ITEMS PER SPECIFICATION 107.25 AND 208.03(b) AND 208.05(N). THESE SUBMITTALS SHALL BE ATTACHED TO THE SWMP UPON ACCEPTANCE BY CDOT ENVIRONMENTAL AND THE PROJECT ENGINEER.

5. During Construction

Responsibilities of the SWMP administrator/erosion control supervisor during construction.

The SWMP should be considered a "living document" that is continuously reviewed and modified. During construction, the following items shall be added, updated, or amended as needed by the SWMP Administrator/Erosion Control Supervisor (ECS) in accordance with section 208. [When adding BMPs to the SWMP, the Designer shall add a narrative explaining where and why the BMP is being used, description of BMP application, and a detail]

- A. Materials Handling And Spill Prevention
- B. Stockpile Management
- C. Grading And Slope Stabilization
- D. Surface Roughening
- Vehicle Tracking Ε.
- F. Temporary Stabilization
- G. <u>Concrete Washout</u>
 - Concrete washout water or waste from field laboratories and paving equipment shall be contained in accordance with subsection 208.05.
- H. Saw Cutting
- I. New Inlet/Culvert Protection
- J. Street Cleaning

6. Inspections

Inspections shall be in accordance with subsection 208.03 (c). The SWMP notebook BMP narratives section describe inspection methods for respective BMP practices. The ECS shall prepare an inspection statement that describes inspection and maintenance methods implemented at the site to maintain all erosion and sediment control practices identified in the SWMP including who is responsible for the maintenance of all erosion control measures, how the ECS can make available labor, material and equipment to aintain suitable erosion and sediment control features, and how and when BMP's are inspected and action items are dispatched to crew for repair or maintenance.

Print Date: 5/26/2009				Sheet Revisions		Colorado Department of Transportation	As Constructed	
File Name: 17269 SWMP S	heet 2.dgn]	Date:	Comments	Init.	Colorado Department of Transportation	1 1	-
Horiz. Scale: 1:1	Vert. Scale: As Noted	(R-X)				3803 North Main Avenue Suite 200	No Revisions: 8/27/10	
Unit Information	Unit Leader Initials					Durango, CO 81301	Revised:	Designer
		\bigcirc				DEPARTMENT OF THURSDOMATION Phone: 970-385-1440 FAX: 970-385-8365		Detailer:
		\bigcirc				Region 5 EJA	Vold:	Sheet Su

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BMP installation details and general narratives are in the SWMP notebook.

1. The ECS shall describe and record BMPs on the SWMP site map that have been

STORM	WATER	MANAGEN	IENT	Project No./	Code
	PL	AN		ES5 160A-01	10
•	spc	Structure	X-XX-XX	17269	
	spc	Numbers	X-XX-XX		
bset:	SWMP	Subset Sheets:	2 of 3	Sheet Number	55

7. BMP Maintenance

Maintenance shall be in accordance with subsection 208.04 (e). The SWMP Α. Notebook BMP Narrative section describes maintenance methods for respective BMP practices anticipated on the project.

8. Record Keeping

A. Records shall be in accordance with subsection 208.03 (c).

9. Interim And Final Stabilization

A. Seeding Plan

Soil preparation, soil conditioning or topsoil, seeding (native), mulching (weed free), and mulch tackifier will be required for an estimated 5 acres of disturbed area within the right-of-way limits which are not surfaced. The following types and rates shall be used:

Common Name	Botanical Name	Pounds PLS/Acre
SLENDER WHEATGRASS V. SAN LUIS	ELYMUS TRACHYCAULUS	5.0
ARIZONA FESCUE	FESTUCA ARIZONICA V REDONDO	3.0
WESTERN WHEATGRASS V. ARRIBA	PASCOPYRUM SMITHII	6.0
SANDBERG BLUEGRASS	POA SANDBERGII	2.0
STEAMBANK WHEATGRASS	ELYMUS LAMCEOLATUS V SODAR	2.0
INDIAN RICEGRASS	Achnatherum hymeroides v. Nezpar	4.0
YARROW	ACHILLEA MILLEFOLIUM	0.5
То	tal	22.5

B. Seeding Application: Drill seed 0.25 inch to 0.5 inch into the soil. In small areas not accessible to a drill, hand broadcast at double the rate and rake 0.25 inch to 0.5 inch into soil.

- C. Mulching Application: Apply 1 % tons of certified weed free hay per acre mechanically crimped into the soil in combination with an organic mulch tackifier
- D. Special Requirements: Due to high failure rates, hydromulching and/or hydroseeding will not be allowed.
- E. Soil Conditioning And Fertilizer Requirements:
- Soil conditioner, organic amendment (i.e. compost) shall be applied to all seeded areas at 43 cy/acre.
- Humate shall be applied at 600 lbs./acre. 3
- Fertilizer shall consist of 90% fungal biomass (mycelium) and 10% 4 potassium-magnesia with a grade of $\hat{6}$ -1-3 or approved equal. Fertilizer shall be applied at 800 lbs/acre.
- F. Blanket Application: On slopes and ditches requiring a blanket, the blanket shall be placed in lieu of mulch and mulch tackifier. All slopes steeper than a 3:1 require coconut soil retention blankets.

G. <u>Reseeding Operations/Corrective Stabilization</u>

Prior To Final Acceptance

- 1. Seeded areas shall be reviewed during the 14 day inspections by the Erosion Control Supervisor for bare soils caused by surface or wind erosion. Bare areas caused by surface or gully erosion, blown away mulch, etc., shall be regraded, seeded, mulched and have mulch tackifier (or blanket) applied as necessary.
- 2. Areas where seed has not germinated after one season shall be evaluated by the Engineer and CDOT Landscape Architect. Areas that have not germinated shall have seed, mulch and mulch tackifier (or blanket) applied. Work shall be paid for by the appropriate bid item.
- The Contractor shall maintain seeding/mulch/tackifier, mow to control 3 weeds or apply herbicide to control weeds in the seeded areas until final acceptance.

10.Prior To Final Acceptance

A. Final acceptance shall be in accordance with subsection 208.061.

11. Tabulation Of Stormwater Quantities

Pay Item	Description	Unit	Quantity
203	Combination Loader	Hour	20 *
203	Sweeping (Pick-Up-Broom)	Hour	
208	Erosion Log (12 Inch)	Lf	1,000
208	Erosion Bales (Weed Free)	Each	
208	Silt Fence	Lf	1600
208	Silt Fence (Reinforced)	Lf	
208	Sediment Basin	Each	
208	Concrete Washout Structure	Each	2
208	Storm Drain Inlet Protection	Each	3
208	Temporary Slope Drain	Lf	
208	Stabilized Construction Entrance	Each	1
208	Sediment Removal And Disposal (labor)	Hour	_
208	Sediment Removal And Disposal (equipment)	Hour	
208	Erosion Control Supervisor	Day	
208	Erosion Control Supervisor	Hour	
208	Temporary Berms	Lf	
212	Seeding (Native)	Acre	5
212	Seeding (Temporary)	Acre	
212	Soil Conditioning	Acre	
213	Mulching (Weed Free)	Acre	5
213	Mulch Tackifier	Lb	500
216	Soil Reten Blanket (S/C)	Sy	3,113
700	Erosion Control	Fa	

- BMP maintenance shall be paid for as: 208 Sediment Removal and Disposal (Labor plus Equipment.)
- It is estimated that one concrete washout structures will be required on the project. One concrete washout structure shall be used for the field laboratories.
- It is estimated that 20 hours of combination loader and/or backhoe may be required for miscellaneous erosion control work as directed by the Engineer. Work shall be paid for as: 203 Combination Loader or 203 Backhoe.
- It is estimated that one stabilized construction entrance will be required as directed to minimize vehicle tracking control. The ECS shall locate BMP on the SWMP map.
- Maintenance of seeded areas shall be paid for as: 212 Seeding (native), 213 Mulching, 213 Mulch Tackifier, Erosion and sediment control items not identified as pay items shall be paid by Force Account.
- Silt fence shall be removed once final stabilization on the project is complete. Removal of silt fence shall not be paid for separately, but shall be included in the contract unit price for the item.
- It is the Project ECSs responsibility to walk or drive the project site and identify all culverts, streams, or other sensitive areas, and record these on the Erosion Control Plans provided in the SWMP Notebook prior to project construction activities. The ECS shall be responsible for determining the appropriate BMPs to protect all features identified from this effort, and record the date the selected BMPs are installed, maintained, removed, or otherwise adjusted, as directed in the SWMP. In addition, the ECS is responsible for labeling the "project limits", "construction boundaries", "project disturbance limits" on the Erosion Control Plans. It is the ECS's responsibility to know what items are required on the SWMP and Erosion Control Plans, and ensure that these plans are accurate, meet the minimum requirements of the CDOT Specifications, comply with the CDPS Permit, and are kept up to date.

Print Date: 5/26/2009			Sheet Revisions		Colorado Department of Transportation	As Constructed	
File Name: 17269 SWMP Sheet 3.dgn		Date:	Comments	Init.			1 `
Horiz. Scale: 1:1 Vert. Scale: As Noted	R-X				3803 North Main Avenue Suite 200	No Revisions: 8/27/10	•
Unit Information Unit Leader Initials					Durango, CO 81301	Revised:	Designer
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STORMWATE	R MANAC	Project No./(Code	
F	IAN	ES5 160A-01	0	
r: sp	Structure	X-XX-XX	17269	
sp	Numbers	X-XX-XX		
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* These hours are included in the 40 hours shown in the General Notes.

TD ESTABLISH GEOMETRIC CONTROL FOR THE CONSTRUCTION OF THIS PROJECT, THE DEPARTMENT HAS PROVIDED THE FOLLOWING INFORMATION: Format * Plan Sheets Other: Other: Specify the information marked is either contained on the plans or is available from the Engineer. TYPE OF PROJECT Landscoping Major Reconstruction Stafety Improvement Bridge Replacement Bridge Replacement Bridge Replacement Bridge Widening Duther: Minor Widening Duther: SURVEY WORK TO BE PERFORMED BY OTHERS: N/A	(Y/N) II - - - Tangent Interval II	- - - - Intervol D - Center R	pecial - - - - - - - - - - - - -	■ Poveme □ □ Tempor □ □ All Eas ■ Right o WORK PERFORMED
WORK PERFORMED BY THE CONTRACTOR'S SURVEYOR UNDER SECTION 625: Statistic and Marina's Project Centerion or Enginer Agroved Uttest Line(s) Verify or Determine existing grades and supments Verify or Determine existing grades and supments Convert Line(section 200) Centre of Carboning System/Robotic Ted Station Construction Machine Central Charter of Carboning System/Robotic Ted Station Construction Machine Central Charter of Carboning System/Robotic Ted Station Construction Machine Central Charter of Carboning System/Robotic Ted Station Construction Machine Central Charter of Carboning System/Robotic Ted Station Construction Machine Central Charter of Carboning	Box Culverts cture number s and Wingwo)2) nd Overhead gitudinal and jons and elev nt) (Section	er ralls (Section signs (S-61 transverse) vations 614)	, 601) 5 (4-50) 7. 8. 9	NDTE: A NDTE: A ENERAL NDTES: Unless indicated otherwin be done in accardance Adequate information fo on the plans. Any additi the Contractor's survey items indicated an this blank line to the left of Engineer days pl Stakes and Monuments replaced by the Controi The Contractor shall four to the Engineer prior to CDDT Survey Manual. A data report and a comp Engineer. The Contractor Prior to beginning work Contractor shall cont Prior to beginning work Contractor shall contain shall contain: date, crew information is collected capy format that is intu lineor surveys, such as measured information. N information, such as pai D. The Contractor's survey Harizontal Control Vertical Control Vertical Control Vertical Control Vertical Control Vertical Control Goding Slope Staking Minor Structures Dane fieldbook for Dther Fieldbook(s):
Print Date: 5/26/2009 Sheet Revisions Colorado Department of Transportati File Name: 17269 HS Survey Tabulation Sheet.dgn Date: Comments Init. Horiz. Scale: 1:1 Vert. Scale: As Noted Date: Comments Init. Unit Information Unit Leader Initials Date: Comments Init. 3803 North Main Avenue Suite 200 Durango, CD 81301 Phone: 970-385-1440 FAX: 970-385 Region 5 E			ionstruc	ted s

ent Marking (Section 627) ➡ Striping (Temp)
■ Striping (Perm) ⊐ Symbols 🗆 Other: rary Lighting and Construction Traffic Control Devices (Section 630) □ Signal pole locations and elevations (Temp) □ Light pole locations and elevations (Temp) □ Sign Locations (Temp) 🗆 Other: ements (Temp Staking by P.L.S. Only) of Way (Temp Staking by P.L.S. Only) BY THE CONTRACTOR'S SURVEYOR UNDER SECTION 629: entation (Section 629) ⊐ Control ⊐ Right of Way □ Land corners, Aliquot corners ⊐ Easements □ Reference the specified existing monuments:** _ ■ Replace the specified existing monuments: ****** US 160 CM-MP 89.20 □ Locate monuments. It is estimated hours are required. All 629 items shall include adequate research, calculations, and evaluations of evidence for monuments to be set, Tabulation of Survey Monuments may be provided on the plans. ise an this Survey Tabulatian Sheet, all survey work ond staking intervals shall with the latest edition of the CDDT Survey Manual. or establishing lines, grades, ond locations for all work items have been specified ionolinformation required to stake the item or element shall be generated by yor shall provide on estimate of the mon-hours necessary to camplete the work sheet. A copy of this sheet, with the estimated mon-hours written on the the specified items, shall be submitted with the Survey Schedule to the rior to the Presurvey Conference - Construction Survey. which are damaged or destroyed by the progress of construction shall be actor at no additional cost to the Department. nish an As Staked (ar GPS/RTS Construction Machine Control) Earthwork Quantity report campletion of twenty percent (20%) of the planned earthwork in any phase as per the printed copy of the As Stoked (or GPS/RTS Construction Machine Control) Earthwork puter disk with that information on it, in the specified format shall be submitted to the sholl field verify original ground cross sections ot a maximum 500 feet intervals. on any subsequent operation, such as placing base course or paving, the in writing ta the Engineer that the final grade is within specified tolerance. var shall perform all field surveying and calculations necessory to tie plan grodes ordinate construction staking on the project with any utility work. daily records of points set and ar measurements observed. The information recorded members' names, point no., description, staking information, and sketches. If the survey electronically, information recorded shall be provided to the Project Engineer in a hard uitive, clear and related to the supplemental information recorded in the field backs. All slope stakes and blue tops, shall have the station and offset information related to the Non-linear surveys such as structures staking shall have sketches relating electronic int numbers, to the sketch. yor shall submit the following fieldbooks to the Engineer: (Primory & Secondory) i.e. Benchmarks) nt each work category shawn on this sheet Project No./Code SURVEY TABULATION SHEET ES5 160A-010 SPC Structure 17269 Numbers JND 57 Sheet Number Sheet Subset: Tabulation Subset Sheets: 1 of 1

CONSTRUCTION TRAFFIC CONTROL DEVICES

SIGN SIGN CODE	SIGN PANEL SIZE (INCH)		LEGEND	SIGN PANEL (EA)		
WDTH HEIGHT		HEIGHT		A	В	
				2 YIELD SIGNS and 2 RIGHT LANE CLOSED A HEAD		
1	G20-10	48	48	XYZ / CONSTRUCTION / THANK YOU / 555-5555		2
2	G20-5	18	24	WORK ZONE	2	
3	R2-1(25)	36	48	SPEED / LIMIT / 40		2
4	R2-6	24	24	FINES / DOUBLE		2
5	R52-6a	36	48	BEGIN / FINES / DOUBLE / IN WORK / ZONE		2
6	R52-6b	36	48	END / FINES / DOUBLE / IN WORK / ZONE		2
7	R3-2	24	24	NO LEFT TURN or NO RIGHT TURN		
8	W1-4L	48	48	REVERSE CURVE, LEFT (SYMBOL)		1
9	W1-4R	48	48	REVERSE CURVE, RIGHT (SYMBOL)		
10	W20-1	48	48	ROAD / WORK / AHEAD		2
11	W20-5L	48	48	LEFT / LANE / CLOSED /AHEAD		
12	W20-5R	48	48	RIGHT / LANE / CLOSED / AHEAD		1
13	W20-7a	48	48	FLAGGER (SYMBOL)		2
14	W4-2L	48	48	LEFT LA NE ENDS (SYMBOL)		
15	W4-2R	48	48	RIGHT LANE ENDS (SYMBOL)		1
				CENTER LANE CLOSED A HEAD		2
				PROJECT TOTAL	2	19

NOTES:

IT IS ESTIMATED THAT 160 DAYS OF TRAFFIC CONTROL MANAGEMENT, 64 DAYS OF TRAFFIC CONTROL INSPECTION, AND 3,200 HOURS OF FLAGGING WILL BE REQUIRED.

FOR PLACEMENT OF TRAFFIC CONTROL DEVICES SEE STANDARD PLAN S-630-1. SEE PART VI OF THE M.U.T.C.D. FOR CONSTRUCTION TRAFFIC CONTROL DETAILS. CONE AND DRUM SPACING SHALL BE 10'UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL DESIGNATE AN INDIVIDUAL, OTHER THAN THE SUPERINTENDENT, TO BE THE TRAFFIC CONTROL SUPERVISOR FOR THE DURATION OF THE PROJECT. ONLY ONE DESIGNATED ALTERNATE WILL BE ALLOWED FOR THIS DURATION. MULTIPLE TCS WILL NOT BE ALLOWED FOR THIS PROJECT.

OTHER TRAFFIC CONTROL DEVIC	CES
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ITEM NO.	ITEM	UNIT	QUANTITY
630	CONSTRUCTION TRAFFIC SIGN (PANEL SIZE A)	EA	2
630	CONSTRUCTION TRAFFIC SIGN (PANEL SIZE B)	EA	19
630	CONSTRUCTION TRAFFIC SIGN (SPECIAL)	SF	94.5
630	FLAGGING	HR	3,200
630	TRAFFIC CONTROL INSPECTION	DAY	64
630	TRAFFIC CONTROL MANAGEMENT	DAY	160
630	ADVANCE WARNING FLASHING OR SEQUENCING ARROW PANEL (A TYPE)	EA	2
630	DRUM CHANNELIZING DEVICE	EA	50
630	DRUM CHANNELIZING DEVICE (WITH LIGHT) (STEADY BURN)	EA	0
630	CONCRETE BARRIER (TEMPORARY)(INSTALL ONLY)	LF	0
630	TRAFFIC CONE	EA	100
630	IMPACT ATTENUATOR (TEMPORARY)	ÉA	0

Print Date: 5/27/2009			Sheet Revisions		Colorado Department of Transportation	As Constructed						
File Name: 17269 TrafficCantrolTab.dgn Horiz. Scale: 1:1 Vert. Scale: N/A	\square	Date:	Comments	Init.	3803 North Main Avenue Suite 200	No Revisions: 8/22/11	-					
Unit Information STW				O	Ö					Durango, CO 81301 Durango, CO 81301 Phone: 970-385-1440 FAX: 970-385-8365	Revised:	Designer:
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TRAFFIC	CONTROL	Project No./Code			
DEVICE TA	BULATIONS	ES5 160A-010			
: SPC	Structure Numbers		17269		
	Subset Sheets:	1 of 1	Sheet Number	58	

GENERAL NOTE: 1. The contractor shall pothole for potential utility conflicts with wall P-05-BB. If utilities are in conflict with the construction of the wall, the relocates shall be approved by the engineer and paid for by force account.

SUMMARY OF WALL QUANTITIES

BID Item	Description	Unit	P-05-BB
203	Embankment Material	CY	254
206	Structure Excavation	CY	646
206	Structure Backfill (Class I)	CY	1068
206	Mechanical Reinforcement of Soil	CY	938
504	Precast Panel Facing	SF	2611
601	Concrete Class B (wall)	CY	10
601	Structural Concrete Stain	SF	2094
602	Reinforcing Steel (Epoxy Coated)	LB	52

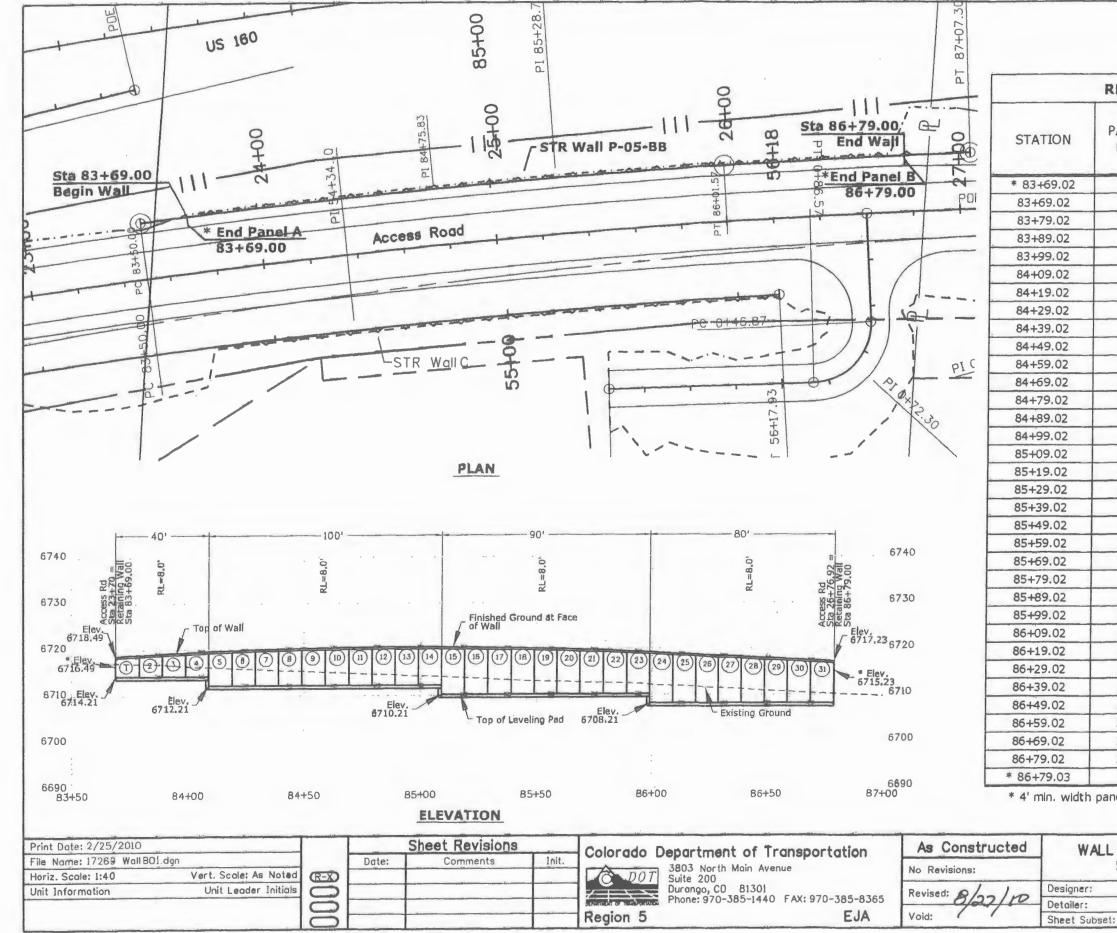
Print Date: 3/19/2010			Sheet Revisions			Colorado Department of Transportation	As Constructed	
File Name: 17269 Wall B	Quantities.dgn Vert. Scale: As Noted	-	Date:	Comments	Init.	3803 North Main Avenue Suite 200	No Revisions:	1
Horiz. Scale: 1:20 Unit Information	Unit Leader Initials					Durango, CD BI301	65 Revised: 8/27/12	Designer:
		00				Region 5 EJA	Void:	Detailer: Sheet Su

Sheet No W1

W2 W3-W6 **Index of Sheets** Quantities Wall Plan and Elevation Wall Cross Sections

Added	by	105-2	3
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	STR Wal	P-05-E	BB	Project No./	Code	
QUANTITIES				ES5 160A-010		
r:	SPC	C Structure P-05-BB 17		17269	269	
:	mñ	Numbers			50	
ubset:	Wall_Xsec Subset Sheets: W1 of 1		ets: W1 of W6	Sheet Number	59	



PANEL NO.	ELEVATION AT TOP OF LEVELING PAD (FEET)	ELEVATION AT PROPO S ED GRADE (FEET)	HEIGHT (FEET)
A	6714.21	6716.21	2.00
1	6714.21	6718.49	4.28
2	6714.21	6718.89	4.68
3	6714.21	6719.15	4.94
4	6714.21	6719.39	5.18
5	6712.21	6719.59	7.38
6	6712.21	6719.79	7,58
7	6712.21	6719.96	7.75
8	6712.21	6720.11	7.90
9	6712.21	6720.23	8.02
10	6712.21	6720.32	8,11
11	6712.21	6720.39	8.18
12	6712.21	6720.45	8.24
13	6712.21	6720.48	8.27
14	6712.21	6720.48	8.27
15	6710.21	6720.46	10.25
16	6710.21	6720.41	10.20
17	6710.21	6720.34	10.13
18	6710.21	6720.26	10.05
19	6710.21	6720.15	9.94
20	6710.21	6720.01	9.80
21	6710.21	6719.85	9.64
22	6710.21	6719.66	9.45
23	6710.21	6719.45	9,24
24	6708.21	6719.23	11.02
25	6708.21	6718.98	10.77
26	6708.21	6718.74	10.53
27	6708.21	6718.49	10.28
28	6708.21	6718.23	10.02
29	6708.21	6717.98	9.77
30	6708.21	6717.74	9.53
31	6708.21	6717.49	9.28
31	6708.21	6717.23	9.02
в	6708.21	6715.23	7.02

h- 105-23 Project No./Code WALL PLAN AND ELEVATION STR Wall P-05-BB ES5 160A-010 SPC Structure P-05-BB 17269 mn Numbers 60 Sheet Number Subset Sheets: W2 of W6 Woll