

1. Site Description

To fulfill the CDPS-SCP (Colorado Discharge Permit System - Stormwater Construction Permit). The ECS shall update to reflect current project site conditions.

A. Project Site Description: Boulder County is conducting permanent repairs and improvements for flood damaged areas in response to the September 2013 flood event. Gold Run Road will be reconstructed from approximately 100 feet above the Cash Gulch crossing to approximately 600 feet above Salina Junction. Prior to the flood event, the roadway was paved from Salina Junction to about 100 feet upstream from property address 864 Gold Run Road (near Ingram Gulch), with the remainder of the road predominately non-paved, gravel surface with some small stretches of paved surface. It was approximately 18 to 20 feet wide with a varying channel width adjacent to the roadway. The flooding eroded and washed away most of the existing Gold Run Road as well as existing embankment slopes and culverts. The flooding also resulted in substantial alteration to the channel alignment and dimensions. Emergency roadway repairs were initiated in November 2013 to establish temporary access to Gold Run Road. These repairs became known as the winter road construction. The improvements on Gold Run Road include a 20-foot wide typical roadway section consisting of paved roadway with two 9-foot lanes and two 1-foot shoulders. The paved section of Gold Run Road extends from Ingram Gulch to connect with the Salina Junction Project (T05). The improvement on the unpaved section of Gold Run Road include an 18 foot wide typical roadway section. The unpaved section of Gold Run Road extends from approximately 100 feet above the Cash Gulch crossing to Ingram Gulch. Sections of the roadway on curves in the unpaved roadway will be paved to provide protection against erosion. Roadside drainage is incorporated in order to convey runoff in ditches to culverts that outfall to Gold Run. The goal of this project is to develop a roadway/roadside drainage/drainage channel system to best fit the existing roadway system within the general right-of-way limits. The project includes the design and replacement of five public culvert crossings and nine private culvert crossings in the Gold Run drainageway. Channel improvements will be made, where possible, to improve capacity and in-stream habitat. All improvements will be designed to eliminate any adverse impacts in insurable structures. Design consideration will include careful evaluation of residential impacts, environmental impacts and aesthetic impacts to keep the natural beauty of the canyon intact as much as possible, within reason.

B. Proposed Sequencing For Major Activities: Construction of the project will come in phases, as laid out by the contractor. There is currently a staging area downstream of Salina Junction for this project. Sequencing for the construction of the project shall include the following steps: clearing and grubbing, retaining walls, culverts, roadway, grading and stabilization with seeding and planting native plants. All traffic phasing and planning before, during and after the completion of the project shall be coordinated with Boulder County and managed by the contractor. Activities throughout construction will be determined by the contractor and are subject to change.

C. Acres Of Disturbance: The total area of disturbance includes areas of grading and stabilization, stockpiling of fill material, demolition, excavation, areas with heavy equipment vehicle traffic and staging area. The sum of the areas are as follow;

- 1. Total area of construction site: 12.7 acres
- 2. Total area of disturbance: X.X acres
- 3. Acreage of seeding: X.X acres

D. Existing Soil Data: According to the Soil Survey of Boulder County, Colorado the site consists of 2 soil types. The information was collected from the USDA (<http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>). The soil types are:

- 1. FcF, Fern Cliff - Allens Park - rock outcrop complex, 15 to 60 percent slopes
- 2. JrF, Juget - Rock outcrop complex, 9 to 55 percent slopes

E. Existing Vegetation, Including Percent Cover:

Date of survey: October, 2014 %Density: 55

Description of existing vegetation: The vegetation present is typical for mountain terrain habitat. Elevations within the project area range from 6,639 feet to 7,384 feet. Vegetation within and surrounding the project area consists of mature trees with herbaceous understory with riparian vegetation located adjacent to Gold Run. Dominant trees within the project include Ponderosa pine (*Pinus ponderosa*) and Douglas fir (*Pseudotsuga menziesii*) with some aspen (*Populus tremuloides*), narrowleaf cottonwood (*Populus angustifolia*), and willow species (*Salix Sp.*). Existing vegetation makes up approximately 55% of the existing ground cover within the project area.

Map or Table showing transect locations in tab 19

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.

G. Receiving Water:

- 1. Outfall locations: See Drainage Plans for size, type and location of pipes throughout the project.
- 2. Names of receiving water(s) on site and the ultimate receiving water: Roadside ditch, Gold Run, Blackhawk Gulch, Ingram Gulch, Cash Gulch, and Fourmile Creek.
- 3. Distance ultimate receiving water is from project: Gold Run is adjacent to all outfalls along the project corridor. Fourmile creek is approximately 700 feet downstream of the end of the project.

H. Allowable Non-Stormwater Discharges: Potential non-stormwater discharges for this site include potable water used for grading, dust suppression and erosion control seeding (permanent and temporary) within the entire site.

- 1. Groundwater and stormwater dewatering: Discharges to the ground of water from construction dewatering activities may be authorized provided that:
 - A. The source is groundwater and/or groundwater combined with stormwater that does not contain pollutants.
 - B. The source and BMPs are identified in the SWMP.
 - C. Discharges do not leave the site as surface runoff or to surface waters.
 - D. The contractor shall protect all work areas and facilities from water at all times. Areas and facilities subject to flooding, regardless of the source of water, shall be promptly dewatered and restored at no cost to the owner. This shall include removal of any debris caused by flooding. Any dewatering shall be done in accordance with Subsection 107.25
- 2. If discharges do not meet the above criteria a separate CDPS permit shall be obtained by the contractor from the CDPHE. See standard special provision 250 Hazardous Waste and Contaminated Water.

I. Environmental Impacts:

- 1. Wetland Impacts: NO
- 2. Stream Impacts: YES
- 3. Threatened and Endangered Species: YES
 - A. Colorado Butterfly Plant
 - B. Preble's Meadow Jumping Mouse
 - C. Ute Ladie's Tresses

2. Site Map Components:

Pre-construction

- A. Project Construction Potential Site Boundaries: See Stormwater Management Plan
- B. All Areas of Ground Surface Disturbance: See Stormwater Management Plan
- C. Areas of Cut and Fill: See Stormwater Management Plan
- D. Location of All Structural BMPs Identified in the SWMP: See Stormwater Management Plan
- E. Location of Non-Structural BMPs as Applicable in the SWMP: See Stormwater Management Plan
- F. Springs, Streams, Wetlands and Other Surface Water: See Stormwater Management Plan
- G. Protection of Trees, Shrubs, Cultural Resources and Mature Vegetation: See Stormwater Management Plan
- H. Areas Used for Storing and Stockpiling of Materials, Staging Areas: (field trailer, fueling, etc.), and Batch Plants See Stormwater Management Plan

3. SWMP Administrator For Design:

A. SWMP Administrator For Design:

Name/Title: Justin Shintaku, P.E. Contact Information: JShintaku@mbakerintl.com; 720-479-3156

4. Stormwater Management Controls First Construction Activities

The contractor shall perform the following:

A. 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. All BMPs related to potential pollutants shall be shown on the SWMP site map by the contractor's ECS.

B. Best Management Practices (BMPs) For Stormwater Pollution Prevention

PHASED BMP IMPLEMENTATION

During design: "BMP as Designed" boxes are marked when used in the SWMP. During construction. The ECS shall update the "In use on site" boxes to match which BMPs are currently in use on site. Clearly describe the relationship between the phases of construction and the implementation of BMP controls.

STRUCTURAL BMP's that may be potentially used on the project for erosion and sediment control; practices may include, but are not limited to:

Application, BMP	Narrative	BMP As Designed	In Use On Site	BMP Phasing		
				First/Initial Construction Activities	Interim Construction Activities	Final Stabilization
<u>Protection of Existing Wetlands</u> Fence (plastic) and erosion logs	Fence (plastic) shall be placed in combination with erosion logs to prevent encroachment of construction traffic and sediment into state waters prior to start of construction disturbances. Fence (plastic) shall be placed adjacent to the wetlands; erosion logs shall be placed between the plastic fence and disturbance area. Logs shall be placed to direct flows away from filter water running into wetlands from disturbance areas.					
<u>Protection of Existing Trees/Landscaping</u> fence (plastic)	Fence (plastic) shall be used in areas indicated in the plans to protect mature trees and/or existing landscaping prior to start of construction disturbances.	X		X	X	
<u>Check Dam/Ditch Check</u> Erosion log, silt berm, silt dike, rock check dam	Placed in ditches immediately upon completion of ditch grading to reduce velocity of runoff in ditch. For existing ditches, place prior to start construction disturbances.					

60% SET	 CALL UTILITY NOTIFICATION CENTER OF COLORADO CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES	NO.	DATE	REVISION DESCRIPTION:	 BOULDER COUNTY TRANSPORTATION DEPARTMENT ENGINEERING DIVISION Michael Baker INTERNATIONAL	DESIGNED: JRS	CAD: EMR	CHECKED: JRS	DATE: 02/05/16	GOLD RUN ROAD SWMP PLANS - GENERAL (SHEET 1 OF 5)
		REVISIONS:					PROJECT NO: 4043.SEPT12C38		SHEET NO: 121	

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Application, BMP	Narrative	BMP As Designed	In Use On Site	BMP Phasing		
				First/Initial Construction Activities	Interim Construction Activities	Final Stabilization
<u>Type R and Type 16 Inlet Protection</u> Storm drain inlet protection (Type 1, 2 and 3)	Placed prior to construction disturbances to protect existing inlets or immediately upon completion of new inlets to prevent sediment from entering the inlet throughout construction.					
<u>Culvert Inlet/Outlet Protection</u> Erosion logs, aggregate bags	Placed at mouth of culvert inlets and over top of culvert at inlet and outlet where disturbance may be occurring adjacent to pipe to prevent sediment laden water from entering pipe or drainage. Placed prior to start of construction disturbances.	X		X	X	X
<u>Type C, Type D and Type 13 Protection</u> Erosion logs, aggregate bags, erosion bales	Placed around inlet grate or slope and ditch paving to prevent sediment from entering inlet. Placed prior to start of construction disturbances.					
<u>Stockpile Protection</u> Temporary berm, erosion logs, aggregate bags*	Placed within specified distance from toe to constrain sediment around stockpile. *Aggregate bags are easily moved and replaced for access during the work day. Place prior to start of stockpile, increase control as stock pile increases size.	X			X	
<u>Toe Of Fill Protection</u> Erosion logs, Silt Fence, temporary berms, topsoil windrow*	Place prior to slope/embankment work to capture sediment and protect and delineate undisturbed areas. *Can be used to stockpile topsoil for salvage.	X			X	
<u>Perimeter Control</u> Erosion logs, silt fence, temporary berm, topsoil windrow	Placed prior to slope/embankment work to capture sediment and protect and delineate undisturbed areas. *Can be used to stockpile topsoil for salvage	X		X	X	X
<u>Sediment Control/Slope Control</u> Silt fence, erosion logs	Placed on the contour on a slope to contain and slow down construction runoff. Place prior to start of construction disturbances.	X		X	X	X
<u>Temporary Sediment Trap</u> (ECS shall add locations to SWMP site maps)	Used to capture sediment laden runoff from disturbed areas < 5 acres during construction. Place prior to start of construction disturbances.					
<u>Permanent Sediment Basin</u> Extended detention basin	Constructed early in project, prior to storm sewer/ ditches to capture storm flow as a temporary sediment trap. Outlet structure shall be modified for construction runoff.					
<u>Embankment Protection Or Temporary Slope Drain</u>	Placed as conduit or chute to drain runoff down slope and to prevent erosion of slope.					
<u>Outlet Protection</u> Riprap, or approved other	Material placed as energy dissipater to prevent erosion at outlet structure.					
<u>Concrete Washout</u> In-ground or fabricated	Construction control, used for waste management of concrete and concrete equipment cleaning. Placed prior to start of concrete activities.	X		X	X	
<u>Vehicle Tracking Pad</u>	Source control, placed to prevent tracking of sediment from disturbed area to offsite surface. Place prior to start of construction disturbances.	X		X	X	
<u>Sweeping</u>	Source control, used to remove sediment tracked onto paved surfaces and to prevent from entering drainage system. Sweep daily and at the end of construction shift as needed. Kick brooms shall not be allowed.	X		X	X	X

Application, BMP	Narrative	BMP As Designed	In Use On Site	BMP Phasing		
				First/Initial Construction Activities	Interim Construction Activities	Final Stabilization
<u>Dewatering</u> (Contractor is responsible for obtaining a permit from Colorado Department of Health and Environment.)	Shall be done in such a manner to prevent potential pollutants from entering state waters.					
<u>Temporary Stream Crossing</u>	Constructed over stream or drainage to prevent discharge of pollutants from construction equipment into water.					
<u>Clean Water Diversion</u>	Placed to divert clean surface or ground water around disturbance area to prevent it from mixing with construction runoff.					
<u>Other</u>						

NON-STRUCTURAL BMP's that may be potentially used on the project for erosion and sediment control; practices may include, but are not limited to:

Application, BMP	Narrative	BMP As Designed	In Use On Site	BMP Phasing		
				First/Initial Construction Activities	Interim Construction Activities	Final Stabilization
<u>Vegetative Buffer Strip Fence (plastic)</u>	Filter sediment laden runoff from disturbed area. Area to be identified for preservation prior to construction starting.					
<u>Landform</u> (ECS shall add locations to SWMP site maps)	Existing landforms may be used as a BMP if they prevent sediment from entering or leaving the disturbance area. If a landform directs flow of water to a concentrated outfall point, the outfall point shall be protected to prevent erosion.					
<u>Topsoil Management</u> <u>Stockpile/Salvage</u> Windrow or stockpile	Prior to embankment work commencing, existing topsoil shall be scraped to a depth of 4 inches, and placed in stockpiles or windrows. Upon completion of slope working/final grading (less 4 inches), topsoil shall be evenly distributed over embankment to a depth of 4 inches.	X		X	X	
<u>Surface Roughening/Grading Techniques</u> grading, backhoe, dozing, combination loader	Temporary stabilization of disturbance and to minimize wind and erosion.				X	X
<u>Seeding Temporary</u>	Temporary stabilization used for over wintering of disturbance or used to control erosion for areas scheduled for future construction					
<u>Bonded Fiber Matrix/ Hydraulic Mulch</u> (Not to be used in areas of concentrated flows, i.e. ditch lines.)	To be used in combination with surface roughening for temporary stabilization of disturbed soils, when work is temporarily halted and as approved by the Engineer. May be used as a surface cover for temporary topsoil stockpiles.					

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REVISIONS:	NO.	DATE	REVISION DESCRIPTION:



BOULDER COUNTY TRANSPORTATION DEPARTMENT
ENGINEERING DIVISION
Michael Baker INTERNATIONAL

DESIGNED: JRS	CAD: EMR	CHECKED: JRS	DATE: 02/05/16
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GOLD RUN ROAD
SWMP PLANS - GENERAL
(SHEET 2 OF 5)
PROJECT NO: 4043.SEPT12C38 SHEET NO: 122

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Application, BMP	Narrative	BMP As Designed	In Use On Site	BMP Phasing		
				First/Initial Construction Activities	Interim Construction Activities	Final Stabilization
Mulch/Mulch Tackifier	Temporary or Final Stabilization placed as a surface cover for erosion control and or seeding establishment. To be installed as temporary surface cover when work is temporarily halted and as approved by the Engineer.	X			X	X
Spray-On Mulch Blanket (not to be used in areas of concentrated flows, i.e. ditch lines.)	Temporary or Final Stabilization placed as a surface cover for erosion control and or seeding establishment. To be installed as temporary surface cover when work is temporarily halted and as approved by the Engineer.					
Seeding Permanent	Final Stabilization of disturbance and to reduce runoff and control erosion on disturbed areas.	X			X	X
Soil Retention Blanket (SRB)	Final Stabilization of disturbance and to reduce runoff and control erosion on disturbed areas. Also used for temporary stabilization in roadside ditches.	X			X	X
Turf Reinforcement Mat (TRM)	Final Stabilization of disturbance and to reduce runoff and control erosion on disturbed areas. Placed in channels or on slopes for erosion control, channelliner and seeding establishment.					
Other						

Erosion control devices are used to limit the amount of soil loss on site. Sediment control devices are designed to capture sediment on the project site. Construction controls are BMPs related to construction access and staging. BMP locations are indicated on the SWMP site map.

Narratives:

BMP details and narratives not covered by the SWMP or Standard Plan M-208-1 shall be added to the SWMP notebook by the ECS.

INLET PROTECTION: Inlet protection (in accordance with the details shown in the plans and CDDT M&S Standards) is to be used on inlets to intercept and filter sediment laden runoff from the disturbed construction site. For existing inlets, inlet protection shall be installed prior to any construction activities. For new inlets and culverts, protection shall be placed once culvert is in place to prevent sediment laden water from entering pipe. Measures shall also be taken to prevent sediment laden runoff from entering culverts during construction.

SOIL RETENTION BLANKET: Soil retention blanket shall be placed in areas as shown on the plans or as otherwise directed, within 48 hours of completion of grading. The soil retention blanket will protect the prepared seed bed from the forces of precipitation and wind, reducing erosion and allowing the seed to germinate. Blankets shall be placed immediately after grading operations have established final grade, the soil has been conditioned, and permanent seeding has taken place. If rills, plant material, rocks, etc. are present they shall be removed prior to placing blanket to ensure blanket is placed on the soil with no tenting; see specifications and M&S standards.

OUTLET PROTECTION: Outlet protection seeks to create turbulent flow patterns and reduce the velocity of the storm runoff and to spread the runoff over a greater area such that the potential for erosion downstream of a pipe or culvert is reduced.

CONCRETE WASHOUT STRUCTURE: Concrete washout structures shall be provided in close proximity to all concrete placement locations in accordance with the CDDT M-Standard detail and subsections 208.02(j) and 208.05(n) of the specifications.

VEHICLE TRACKING PAD: Stabilized construction entrances shall be provided in accordance with the CDDT M-Standard details and subsections 208.02(l) and 208.05(o) of the specifications.

DEWATERING: Construction dewatering shall be in accordance with CDDT Standard Specifications Subsection 107.25. Some construction activities may require the pumping of groundwater and the contractor is required to obtain a Construction Dewatering (CDW) permit from CDPHE in accordance with CDDT Standard Specifications Subsection 107.25 (b) 7. The ECS shall add the permit to the corresponding section of the SWMP notebook. The ECS shall add dewatering BMP locations and applicable BMP narrative(s) to the SWMP site maps/SWMP notebook.

SEEDING: Seeding is used to control runoff and erosion on disturbed areas. Drill seeding shall occur within the native seeding areas designated on the plans, along the contour of the slope. Completed areas shall be seeded within 48 hours during seeding seasons. Seeded areas shall be inspected frequently for areas of failure. Seeding in ditch lines shall follow the contour, drill rows running down a ditch line shall not be allowed.

MULCH AND MULCH TACKIFIER: Mulch and mulch tackifier shall be in accordance with subsection 213.03(a). Crimping in ditch lines shall follow the contour, crimp rows running down the ditch line shall not be allowed.

SURFACE ROUGHENING: To be used on all disturbed areas and shall be done at the end of each working day and shall be in accordance with subsection 208.05(r). Surface roughening will minimize loss of sediment due to wind and rain. Surface roughening shall consist of scarify and/or disk to a minimum depth of 2- to 4-inches parallel to the length of the slope. Surface roughening is to be done on all open dirt surfaces and approved by the Engineer.

SWEEPING (SEDIMENT REMOVAL): Whenever sediment is tracked onto public roads, that road shall be cleaned immediately. Sediment shall be removed by shoveling and/or sweeping and transported to a controlled sediment disposal area at no cost to the project. The ECS or Project Engineer shall check the streets regularly through the day to determine the frequency of sweeping.

SILT FENCE: Silt fence shall be placed at the toe of slope or transition areas between cuts and fills, and adjacent streams to act as a perimeter control, intercepting and filtering sediment laden runoff from disturbed areas during construction. It shall be j-hooked at the ends to prevent water from escaping around the ends of the fence. A maximum drainage area of one-quarter acre per 100 feet of silt fence length; maximum slope length behind the barrier is 100 feet; maximum gradient behind the barrier is 2:1. Silt fence shall be placed at locations indicated in the plans, and as directed to prevent sediment from exiting the project site or spilling onto the roadway. Silt fence shall be installed prior to any construction activities for that specific area.

EROSION LOGS: Erosion logs shall be embedded 2" into the soil and may be used for check dams, culvert inlet and outlet protection, and drop inlet protection. Erosion logs shall be installed prior to work commencing and in accordance with CDDT M-208-1.

VEGETATIVE BUFFER STRIPS: Existing vegetation shall be used as a BMP on the project. Existing vegetation aids with erosion and sediment control, and protects water quality. Areas of preserved vegetation shall be marked on the site map; preserved vegetation are those areas outside of the disturbance line to the right of way. The amount of sediment reaching buffer strips shall be kept to a minimum by placing temporary and permanent erosion control features on slopes. If sediment does enter buffer strips and covers existing vegetation it shall be cleaned/re-seeded as directed.

TEMPORARY STABILIZATION: Temporary stabilization of areas where work is temporarily halted shall consist of:

- a) Surface Roughening
- b) Vertical Tracking
- c) Placing 1.5 tons of certified weed free forage hay mulching per acre which shall be mechanically crimped into the soil in combination with an organic mulch tackifier.
- d) A combination thereof, as approved.

During summer and winter when seeding is not allowed, temporary stabilization shall be placed. Temporary stabilization shall consist of the following:

- a) Surface roughening/vertical tracking in combination with 1.5 tons of certified weed free hay mulching per acre which shall be mechanically crimped into the soil in combination with an organic mulch tackifier.

D. Offsite Drainage (Run On Water)

1. Describe and record BMPs on the SWMP site map that have been implemented to address offsite run-on water in accordance with subsection 208.03.

E. Vehicle Tracking Pad

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.

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

- A. **Stackpile Management:** Shall be done in accordance with subsection 101.95 and 208.07.
- B. **Concrete Washout:** Concrete wash out water or waste from field laboratories and paving equipment shall be contained in accordance with subsection 208.05.
- C. **Saw Cutting:** Shall be done in accordance with subsection 101.95, 208.04, and 208.05.
- D. **Street Cleaning:** Shall be done in accordance with subsection 208.04.

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							JRS	EMR	JRS	02/05/16	

11. Tabulation of Stormwater Quantities

Pay Item	Description	Unit	Plan Quantity	Bid Quantity*
203-01500	Blading	Hour	X	XX
203-01501	Bakhoe	Hour	X	XX
203-01510	Dozing	Hour	X	XX
203-01594	Combination Loader	Hour	X	XX
203-02330	Laborer	Hour	X	XX
207-00205	Topsoil	CY	X	XX
207-00210	Stockpile Topsoil	CY	X	XX
208-00001	Silt Dike	LF	X	XX
208-00002	Erosion Log (12 inch)	LF	X	XX
208-00004	Silt Berm	LF	X	XX
208-00008	Erosion Log (9 inch)	LF	X	XX
208-00009	Erosion Log (20 inch)	LF	X	XX
208-00011	Erosion Bales (Weed Free)	Each	X	XX
208-00015	Sand Bags	Each	X	XX
208-00020	Silt Fence	LF	X	XX
208-00021	Silt Fence (Reinforced)	LF	X	XX
208-00030	Sediment Basin	Each	X	XX
208-00033	Sediment Trap	Each	X	XX
208-00035	Aggregate Bag	LF	X	XX
208-00041	Rock Check Dam	Each	X	XX
208-00045	Concrete Washout Structure	Each	X	XX
208-00051	Storm Drain Inlet Protection (Type 1)	LF	X	XX
208-00052	Storm Drain Inlet Protection (Type 2)	LF	X	XX
208-00055	Rigid Inlet Protection Device	Each	X	XX
208-00060	Temporary Slope Drain	LF	X	XX
208-00070	Vehicle Tracking Pad	Each	X	XX
208-00103	Removal and Disposal of Sediment (Labor)	Hour	X	XX
208-00105	Removal and Disposal of Sediment (Equipment)	Hour	X	XX
208-00106	Sweeping (Sediment Removal)	Hour	X	XX
208-00107	Removal of Trash	Hour	X	XX
208-00205	Erosion Control Supervisor	Hour	X	XX
208-00206	Erosion Control Supervisor	Day	X	XX
208-00300	Temporary Berm	LF	X	XX
208-00301	Temporary Diversion	LF	X	XX
212-00006	Seeding (Native)	Acre	X	XX
212-00009	Seeding (Temporary)	Acre	X	XX
212-00032	Soil Conditioning	Acre	X	XX
213-00002	Mulching (Weed Free Hay)	Acre	X	XX
213-00003	Mulching (Weed Free)	Acre	X	XX
213-00004	Mulching (Weed Free Straw)	Acre	X	XX
213-00012	Spray-on Mulch Blanket	Acre	X	XX
213-00013	Spray-on Mulch Blanket	LB	X	XX
213-00061	Mulch Tackifier	LB	X	XX
213-00150	Bonded Fiber Matrix	Acre	X	XX
213-00151	Bonded Fiber Matrix	LB	X	XX
214-00000	Landscape Maintenance	LS	X	XX
214-00005	Landscape Maintenance (24 Month)	LS	X	XX
216-00101	Soil Retention Blanket (Straw/Coconut) (Photodegradable Class 1)	SY	X	XX
216-00111	Soil Retention Blanket (Excelsior) (Photodegradable Class 1)	SY	X	XX
216-00122	Soil Retention Blanket (Coconut) (Photodegradable Class 2)	SY	X	XX
216-00201	Soil Retention Blanket (Staw/Coconut) (Biodegradable Class 1)	SY	X	XX
216-00211	Soil Retention Blanket (Excelsior) (Biodegradable Class 1)	SY	X	XX
216-00222	Soil Retention Blanket (Coconut) (Biodegradable Class 2)	SY	X	XX

Pay Item	Description	Unit	Plan Quantity	Bid Quantity*
216-00301	Turf Reinforcement Mat (Class 1)	SY	X	XX
216-00301	Turf Reinforcement Mat (Class 2)	SY	X	XX
216-00303	Turf Reinforcement Mat (Class 3)	SY	X	XX
217-00000	Herbicide Treatment	SY	X	XX
217-00020	Herbicide Treatment	Hour	X	XX
607-11525	Fence (Plastic)	LF	X	XX
700-70380	Erosion Control	FA	X	XX

* It is anticipated that additional BMPs and BMP quantities not shown on the SWMP Site Maps shall be required on the project for unforeseen conditions and replacement of items that are beyond their useful service life, see subsection 208.03 and 208.04 (e). Quantities for all BMPs shown above under the Bid Quantity are estimated and have been increased by 25% for unforeseen Project conditions. Quantities shall be adjusted according to the conditions encountered in the field as directed and approved by the Engineer. Payment shall be for the actual work completed and material used.

A. BMP sediment removal and disposal shall be paid for as: 208 Removal and Disposal of Sediment (Equipment) and 208 Removal and Disposal of Sediment (Labor). All other BMP maintenance shall be included in the cost of the BMP Device.

B. Work may be required for miscellaneous erosion control work as directed by the Engineer. Work shall be paid for as: included in the price of the work.

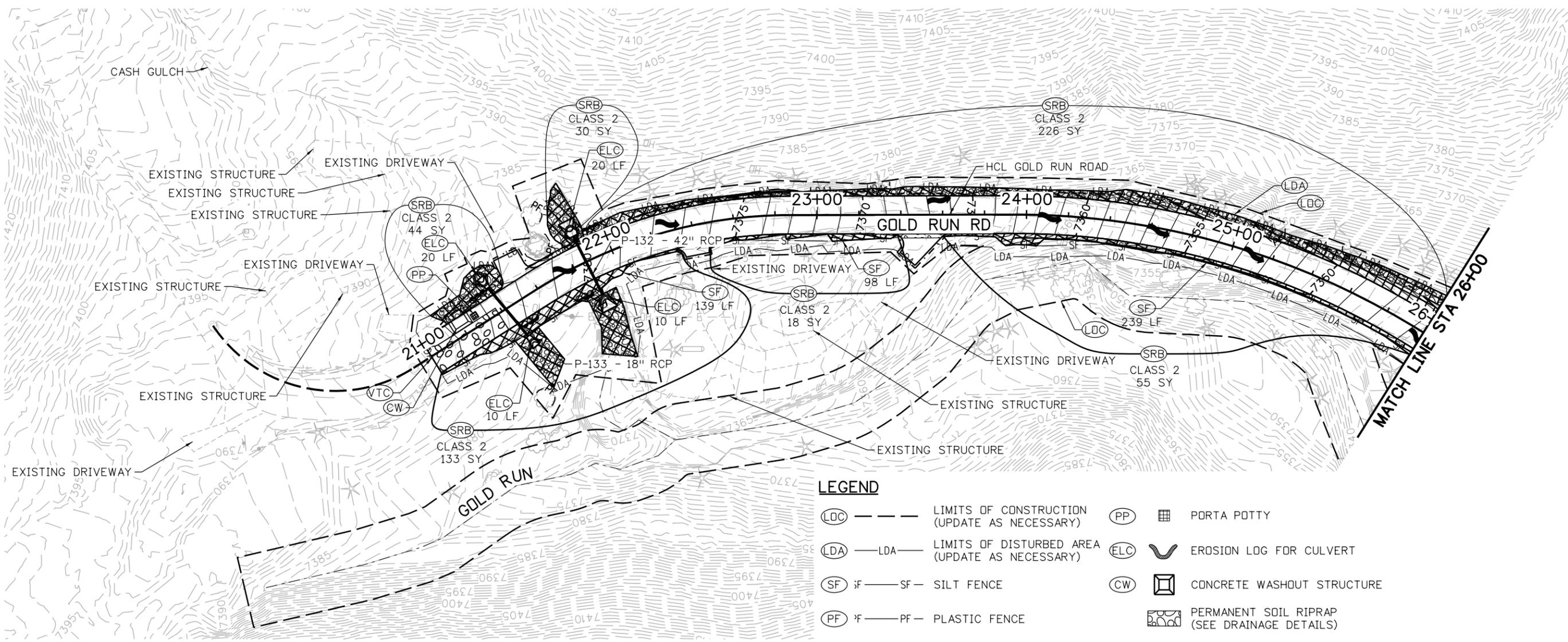
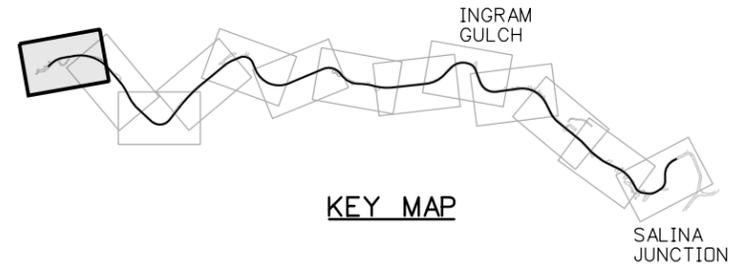
C. Maintenance of seeded areas shall be paid for as: included in the price of the work

12. General Notes

1. See CDDT M-208-1 for all BMP names and details.
2. See drainage plans for details of permanent drainage facilities.
3. All BMP's are during construction unless otherwise noted.
4. Vehicle tracking pad shall be installed at all site access points. Staging area concrete washout structures (CWS) shall be installed at all staging areas.
5. All disturbed areas within the limits of disturbed area shall be surfaced roughened, seeded, and mulched upon completion of final grade.
6. Surface roughening shall be in accordance with CDDT Standard Specification 208.05. Payment for surface roughening shall be included in the cost of the earthwork item and no separate payment shall be made.
7. See SWMP Standard note Sheets for additional information regarding the implementation of all structural and non-structural BMP's.
8. All existing inlets and proposed/newly constructed inlets in project area shall have erosion log (12") inlet protection for the duration of the project or until taken out of service, or as directed by the Project Engineer.
9. All BMP's shall be constructed per M-208-1.
10. Soil Retention Blanket (SRB) shall be at minimum of the type and class noted on the plans.

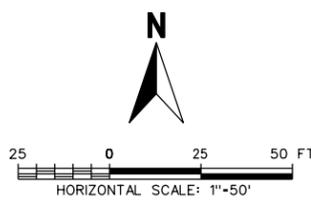
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60% SET	 CALL UTILITY NOTIFICATION CENTER OF COLORADO CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES	REVISIONS:	NO.	DATE	REVISION DESCRIPTION:	 BOULDER COUNTY TRANSPORTATION DEPARTMENT ENGINEERING DIVISION Michael Baker INTERNATIONAL	DESIGNED:	CAD:	CHECKED:	DATE:	GOLD RUN ROAD SWMP PLANS - GENERAL (SHEET 5 OF 5) PROJECT NO: 4043.SEPT12C38 SHEET NO: 125
							JRS	EMR	JRS	02/05/16	



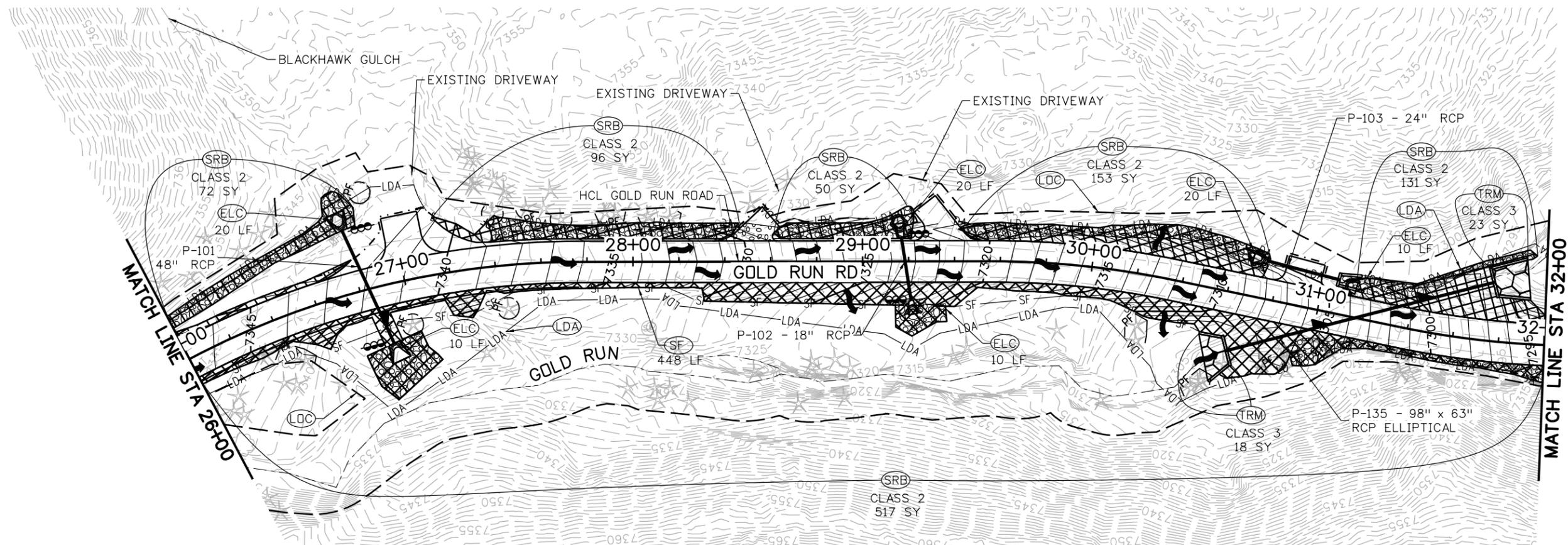
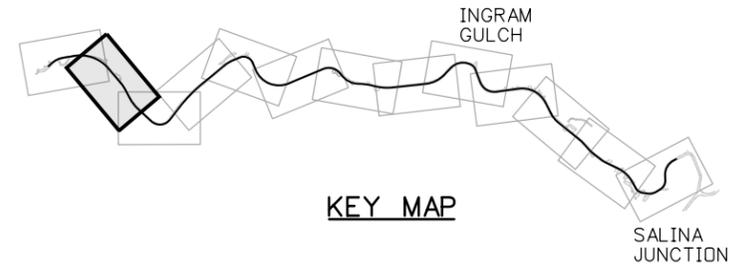
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- (LDC) --- LIMITS OF CONSTRUCTION (UPDATE AS NECESSARY)
- (LDA) --- LDA --- LIMITS OF DISTURBED AREA (UPDATE AS NECESSARY)
- (SF) --- SF --- SILT FENCE
- (PF) --- PF --- PLASTIC FENCE
- (EL) --- EROSION LOG
- (SRB) --- SOIL RETENTION BLANKET
- (TRM) --- TURF REINFORCEMENT MAT
- (VTC) --- VEHICLE TRACKING PAD
- (PP) --- PORTA POTTY
- (ELC) --- EROSION LOG FOR CULVERT
- (CW) --- CONCRETE WASHOUT STRUCTURE
- PERMANENT SOIL RIPRAP (SEE DRAINAGE DETAILS)
- FLOW ARROW
- TOP OF CUT
- TOE OF FILL



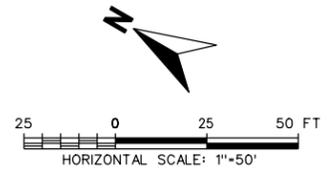
60% SET	<p>CALL UTILITY NOTIFICATION CENTER OF COLORADO CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;">NO.</th> <th style="width: 5%;">DATE</th> <th style="width: 90%;">REVISION DESCRIPTION:</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	NO.	DATE	REVISION DESCRIPTION:										<p>BOULDER COUNTY TRANSPORTATION DEPARTMENT ENGINEERING DIVISION</p> <p>Michael Baker INTERNATIONAL</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>DESIGNED:</td> <td>CAD:</td> <td>CHECKED:</td> <td>DATE:</td> </tr> <tr> <td style="text-align: center;">JRS</td> <td style="text-align: center;">EMR</td> <td style="text-align: center;">JRS</td> <td style="text-align: center;">02/05/16</td> </tr> </table>	DESIGNED:	CAD:	CHECKED:	DATE:	JRS	EMR	JRS	02/05/16	<p>GOLD RUN ROAD SWMP PLAN (1 OF 13)</p> <p>PROJECT NO: 4043.SEPT12C38 SHEET NO: 126</p>
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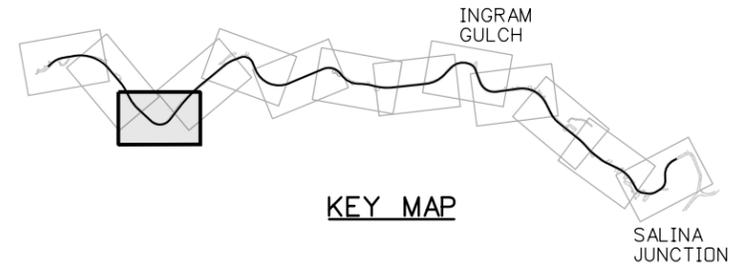
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- (SF) SF --- SF --- SILT FENCE
- (PF) PF --- PF --- PLASTIC FENCE
- (EL) [hatched] EROSION LOG
- (SRB) [cross-hatched] SOIL RETENTION BLANKET
- (TRM) [stippled] TURF REINFORCEMENT MAT
- (VTC) [dotted] VEHICLE TRACKING PAD
- (PP) [grid] PORTA POTTY
- (ELC) [V-shape] EROSION LOG FOR CULVERT
- (CW) [square] CONCRETE WASHOUT STRUCTURE
- [stippled] PERMANENT SOIL RIPRAP (SEE DRAINAGE DETAILS)
- [arrow] FLOW ARROW
- TOP OF CUT
- - - TOE OF FILL



60% SET	<p>CALL UTILITY NOTIFICATION CENTER OF COLORADO CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES</p>	NO.	DATE	REVISION DESCRIPTION:	<p>BOULDER COUNTY TRANSPORTATION DEPARTMENT ENGINEERING DIVISION</p> <p>Michael Baker INTERNATIONAL</p>	DESIGNED:	CAD:	CHECKED:	DATE:	<p>GOLD RUN ROAD SWMP PLAN (2 OF 13)</p> <p>PROJECT NO: 4043.SEPT12C38 SHEET NO: 127</p>
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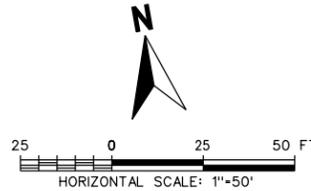
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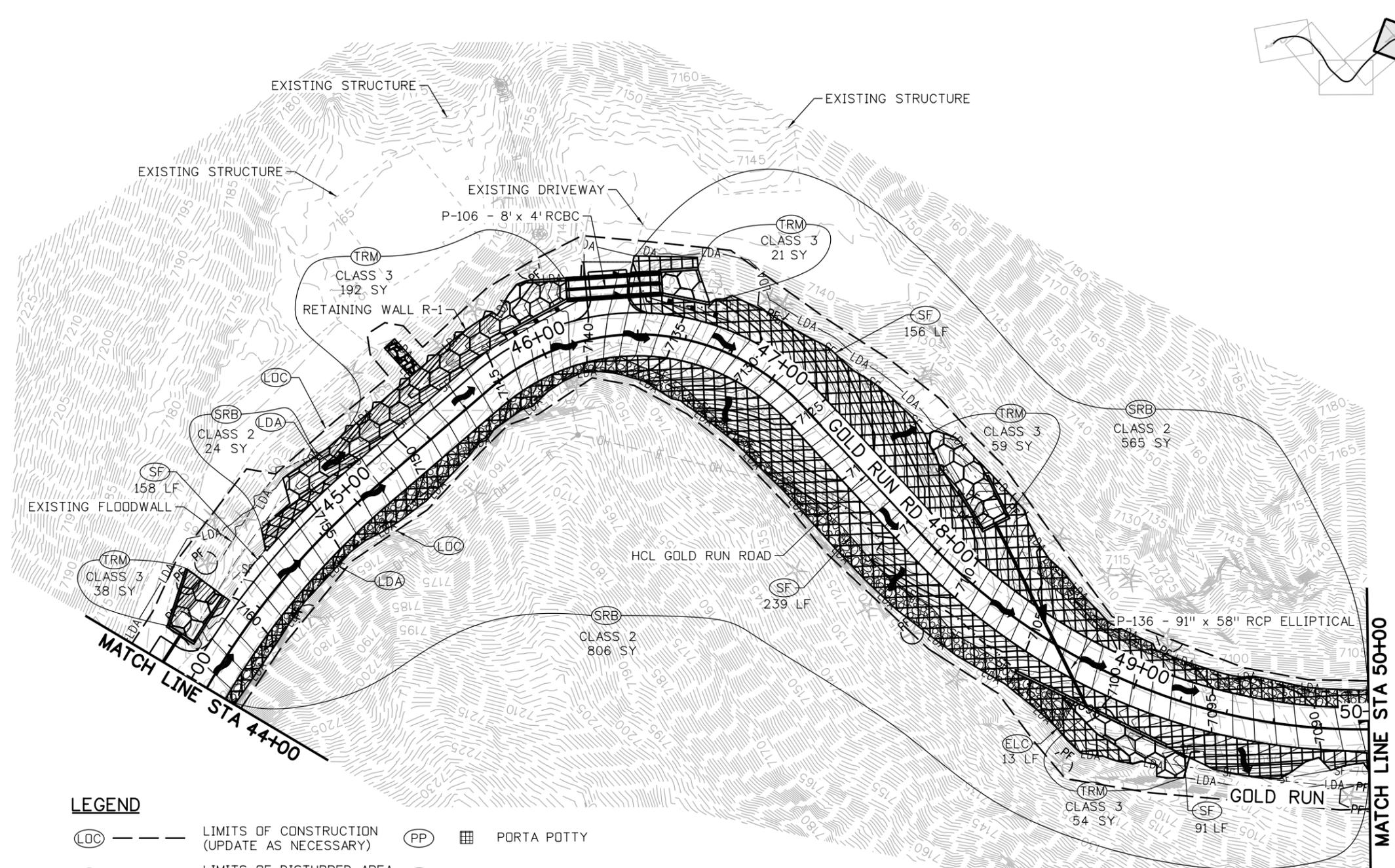
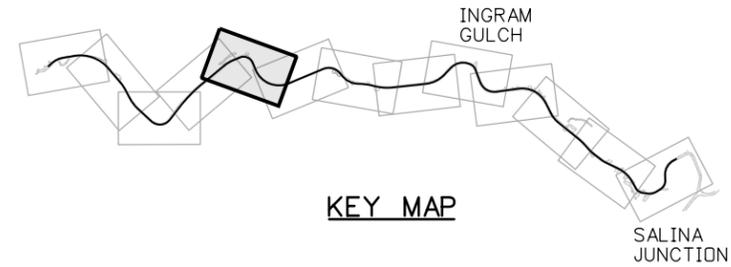
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- (SRB) SOIL RETENTION BLANKET
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- (VTC) VEHICLE TRACKING PAD
- (PP) PORTA POTTY
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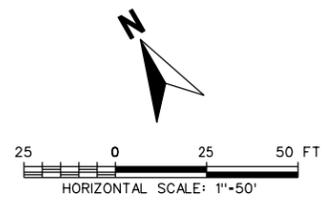
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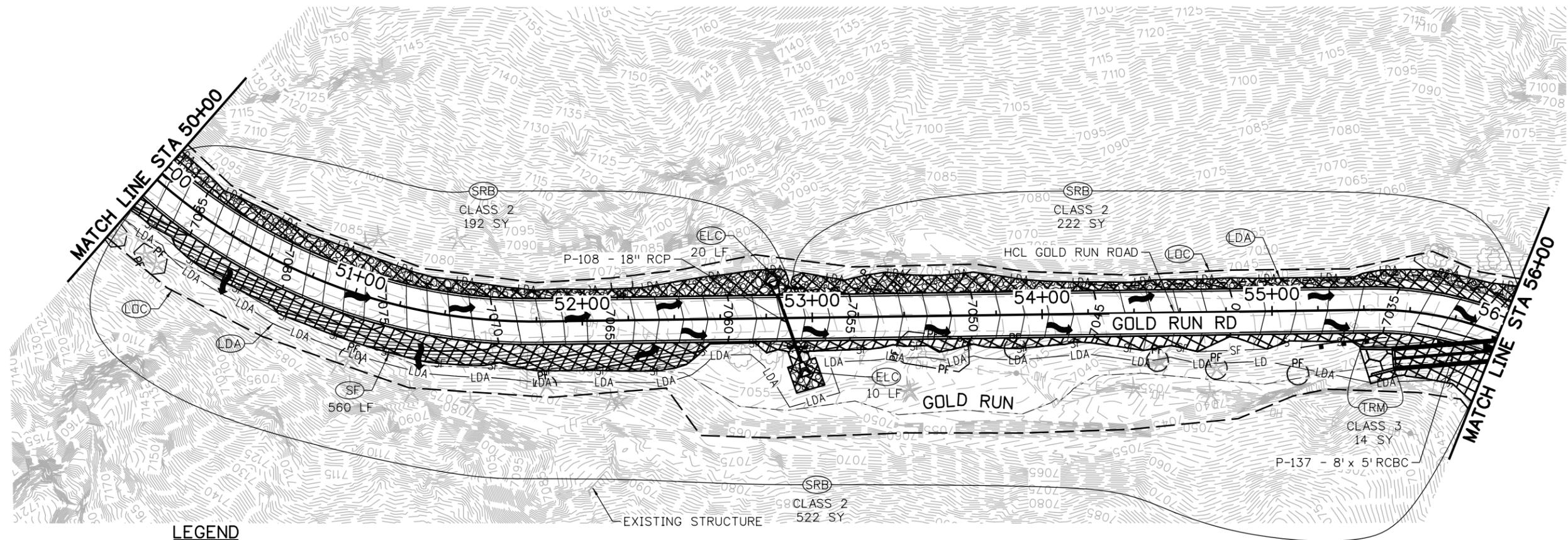
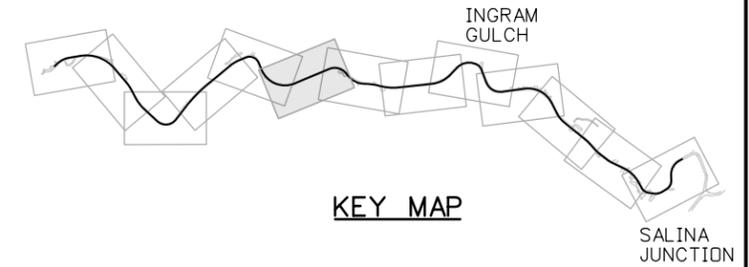
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| (LDA) --- LDA --- | LIMITS OF DISTURBED AREA (UPDATE AS NECESSARY) | (ELC) [V-shape] | ELC | EROSION LOG FOR CULVERT |
| (SF) - SF - SF | SILT FENCE | (CW) [Square] | CW | CONCRETE WASHOUT STRUCTURE |
| (PF) - PF - PF | PLASTIC FENCE | [Riprap Pattern] | | PERMANENT SOIL RIPRAP (SEE DRAINAGE DETAILS) |
| (EL) [Hatched] | EROSION LOG | [Wavy Arrow] | | FLOW ARROW |
| (SRB) [Cross-hatch] | SOIL RETENTION BLANKET | --- | | TOP OF CUT |
| (TRM) [Grid] | TURF REINFORCEMENT MAT | - - - - | | TOE OF FILL |
| (VTC) [Circle with 'x'] | VEHICLE TRACKING PAD | | | |



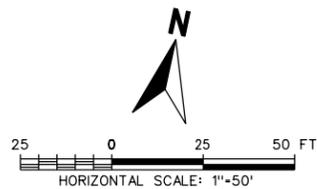
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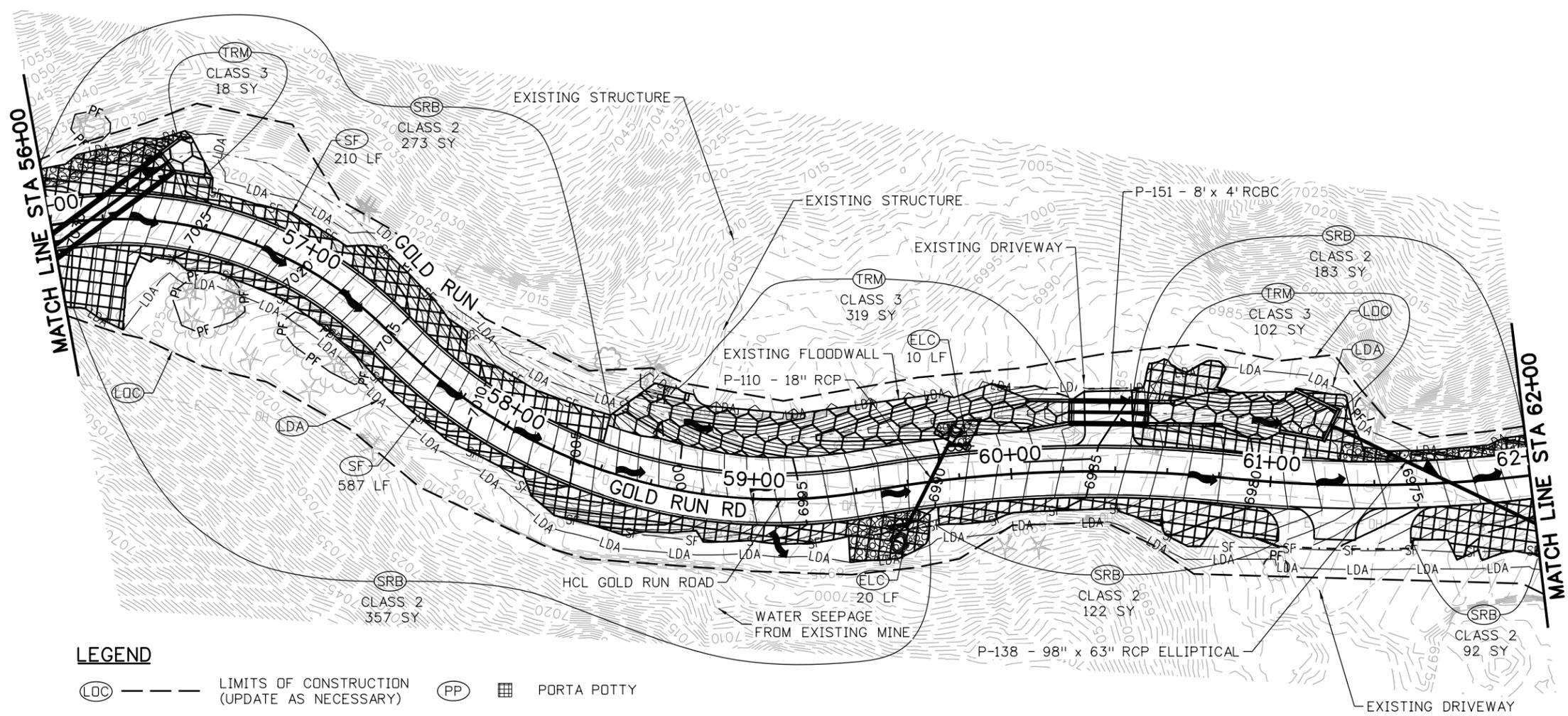
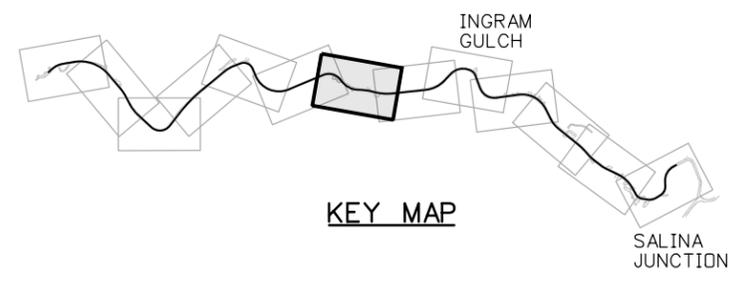
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| (LOC) --- | LIMITS OF CONSTRUCTION (UPDATE AS NECESSARY) | (PP) [grid] | PORTA POTTY |
| (LDA) ---LDA--- | LIMITS OF DISTURBED AREA (UPDATE AS NECESSARY) | (ELC) [wavy] | EROSION LOG FOR CULVERT |
| (SF) SF ---SF--- | SILT FENCE | (CW) [square] | CONCRETE WASHOUT STRUCTURE |
| (PF) PF ---PF--- | PLASTIC FENCE | [hatched] | PERMANENT SOIL RIPRAP (SEE DRAINAGE DETAILS) |
| (EL) [hatched] | EROSION LOG | [arrow] | FLOW ARROW |
| (SRB) [cross-hatched] | SOIL RETENTION BLANKET | --- | TOP OF CUT |
| (TRM) [hexagonal] | TURF REINFORCEMENT MAT | - - - | TOE OF FILL |
| (VTC) [dotted] | VEHICLE TRACKING PAD | | |



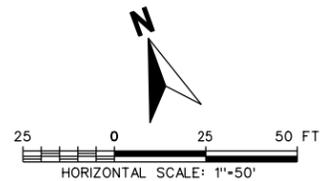
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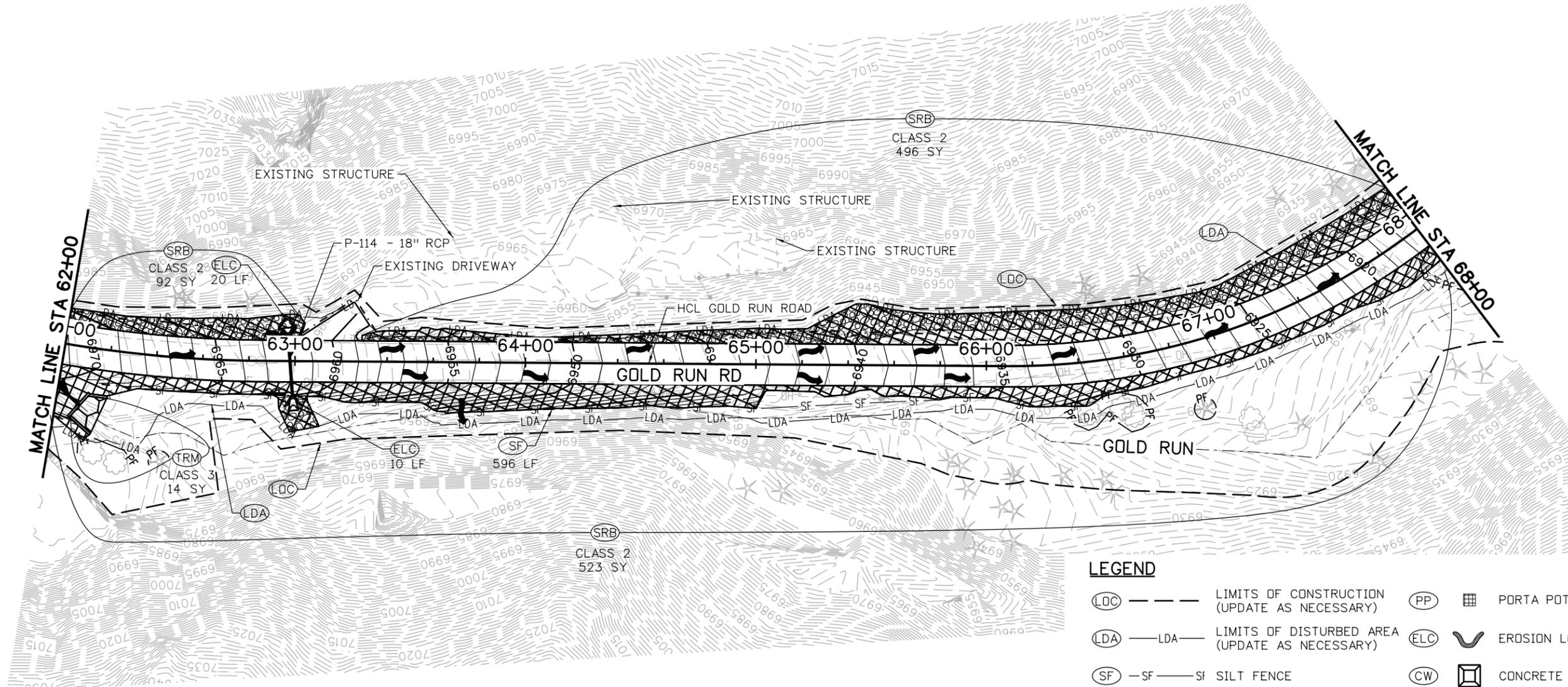
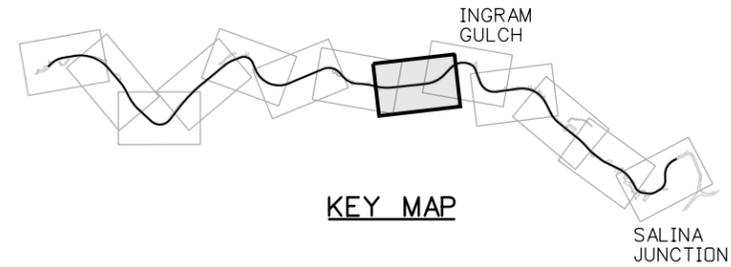
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- (SF) --- SF --- SF SILT FENCE
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- (EL) --- EL --- EROSION LOG
- (SRB) --- SRB --- SOIL RETENTION BLANKET
- (TRM) --- TRM --- TURF REINFORCEMENT MAT
- (VTC) --- VTC --- VEHICLE TRACKING PAD
- (PP) --- PP --- PORTA POTTY
- (ELC) --- ELC --- EROSION LOG FOR CULVERT
- (CW) --- CW --- CONCRETE WASHOUT STRUCTURE
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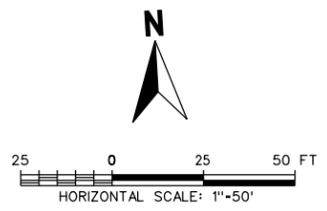
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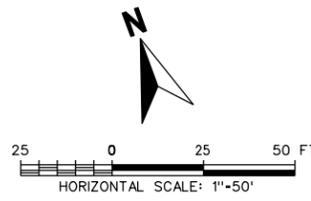
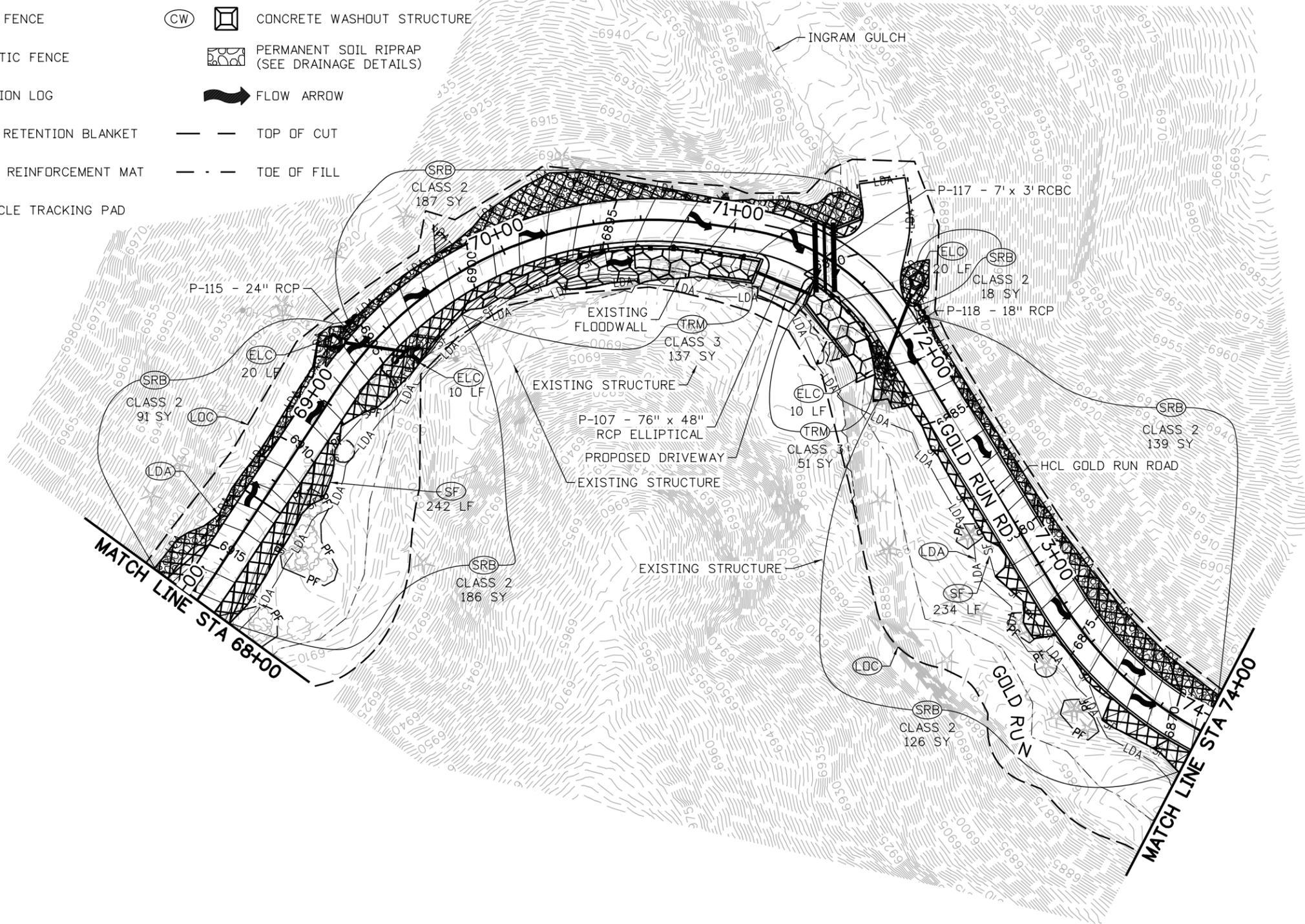
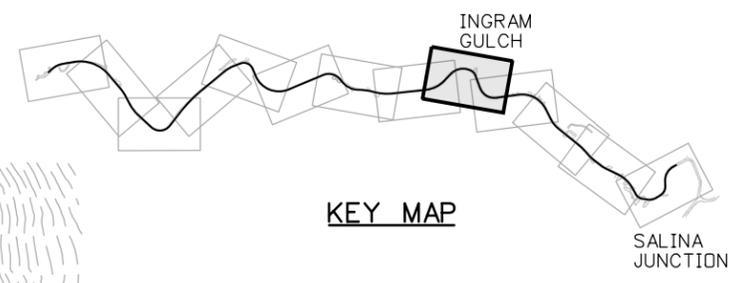
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(LDA) --- LDA ---	LIMITS OF DISTURBED AREA (UPDATE AS NECESSARY)	(ELC) [Wavy]	ELC	EROSION LOG FOR CULVERT
(SF) --- SF --- SF	SILT FENCE	(CW) [Square]	CW	CONCRETE WASHOUT STRUCTURE
(PF) --- PF --- PF	PLASTIC FENCE	[Riprap]		PERMANENT SOIL RIPRAP (SEE DRAINAGE DETAILS)
(EL) [Hatched]	EROSION LOG	[Arrow]		FLOW ARROW
(SRB) [Cross-hatched]	SOIL RETENTION BLANKET	---		TOP OF CUT
(TRM) [Hexagonal]	TURF REINFORCEMENT MAT	- - -		TOE OF FILL
(VTC) [Square]	VEHICLE TRACKING PAD			



60% SET	<p>CALL UTILITY NOTIFICATION CENTER OF COLORADO CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES</p>	REVISIONS:	NO.	DATE	REVISION DESCRIPTION:	<p>BOULDER COUNTY TRANSPORTATION DEPARTMENT ENGINEERING DIVISION Michael Baker INTERNATIONAL</p>	DESIGNED:	CAD:	CHECKED:	DATE:	<p>GOLD RUN ROAD SWMP PLAN (8 OF 13)</p> <p>PROJECT NO: 4043.SEPT12C38 SHEET NO:133</p>
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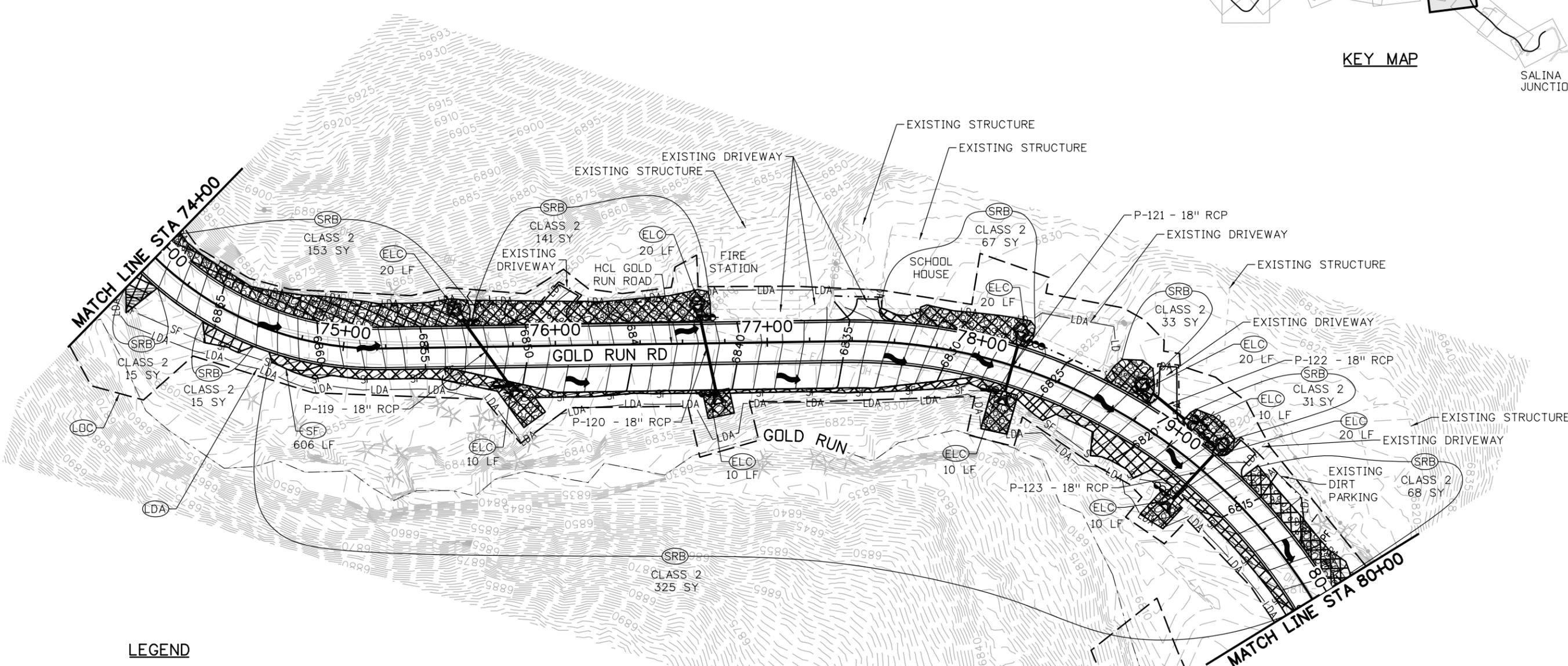
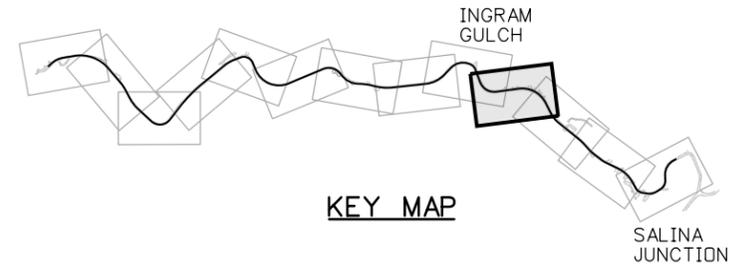
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- (LOC) --- LIMITS OF CONSTRUCTION (UPDATE AS NECESSARY)
- (LDA) --- LDA --- LIMITS OF DISTURBED AREA (UPDATE AS NECESSARY)
- (SF) --- SF --- SILT FENCE
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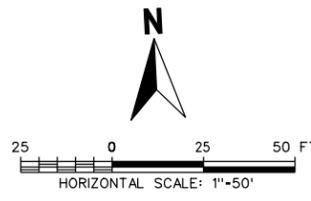
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						JRS	EMR	JRS	02/05/16	

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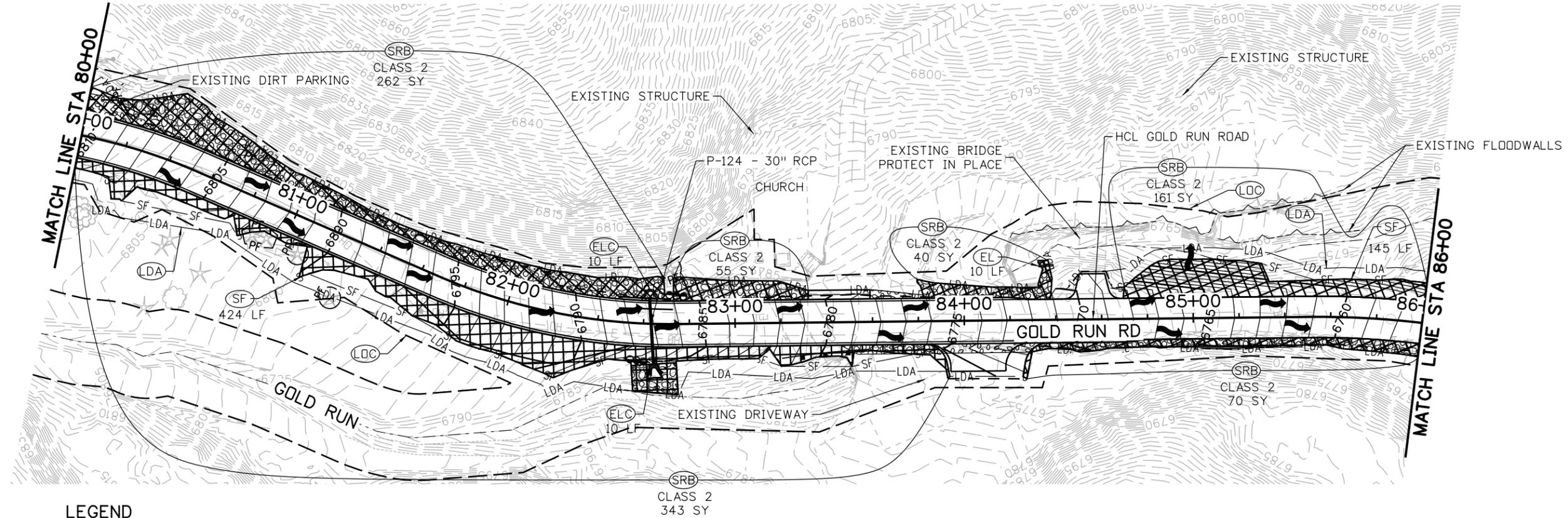
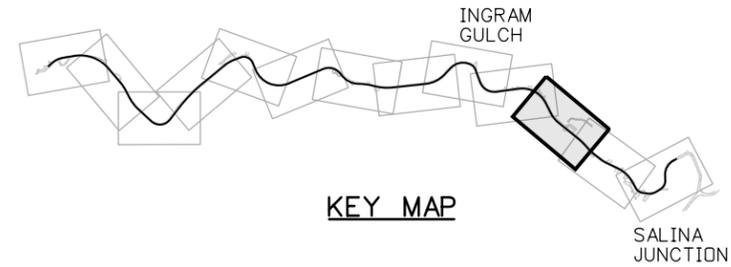
LEGEND

- (LDC) --- LIMITS OF CONSTRUCTION (UPDATE AS NECESSARY)
- (LDA) —LDA— LIMITS OF DISTURBED AREA (UPDATE AS NECESSARY)
- (SF) —SF— SILT FENCE
- (PF) —PF— PLASTIC FENCE
- (EL) EROSION LOG
- (SRB) SOIL RETENTION BLANKET
- (TRM) TURF REINFORCEMENT MAT
- (VTC) VEHICLE TRACKING PAD
- (PP) PORTA POTTY
- (ELC) EROSION LOG FOR CULVERT
- (CW) CONCRETE WASHOUT STRUCTURE
- PERMANENT SOIL RIPRAP (SEE DRAINAGE DETAILS)
- FLOW ARROW
- — — TOP OF CUT
- - - TOE OF FILL



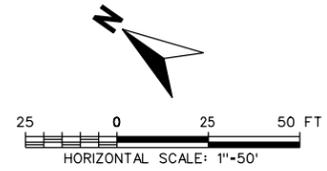
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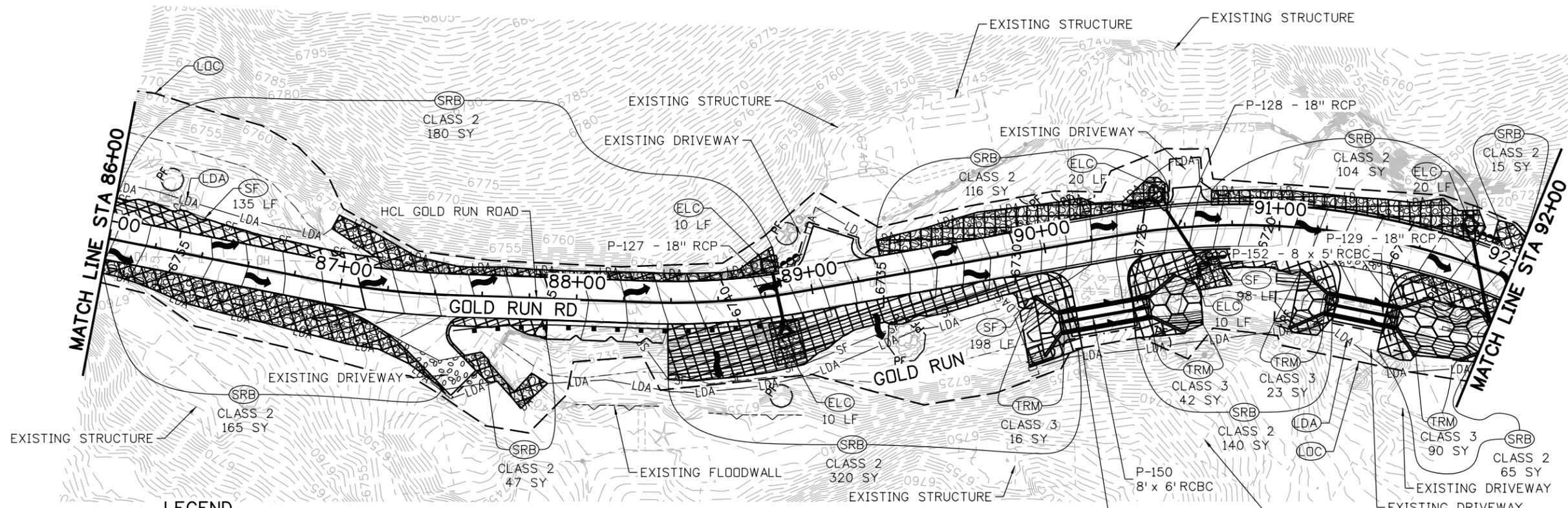
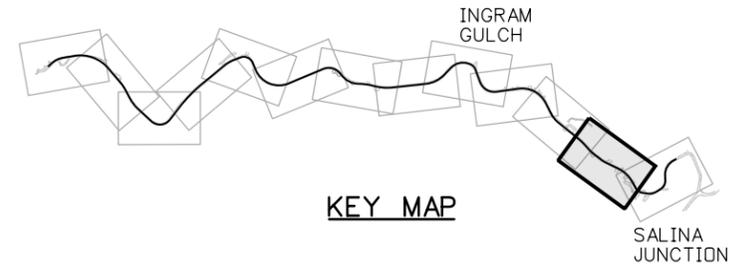
LEGEND

- (LOC) --- LIMITS OF CONSTRUCTION (UPDATE AS NECESSARY)
- (LDA) --- LDA --- LIMITS OF DISTURBED AREA (UPDATE AS NECESSARY)
- (SF) --- SF --- SF SILT FENCE
- (PF) --- PF --- PF PLASTIC FENCE
- (EL) --- EROSION LOG
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- PERMANENT SOIL RIPRAP (SEE DRAINAGE DETAILS)
- FLOW ARROW
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- TOE OF FILL



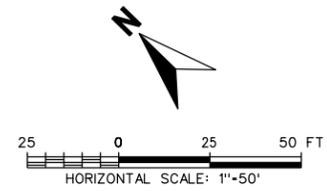
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LEGEND

- (LOC) --- LIMITS OF CONSTRUCTION (UPDATE AS NECESSARY)
- (LDA) --- LDA --- LIMITS OF DISTURBED AREA (UPDATE AS NECESSARY)
- (SF) SF --- SF --- SILT FENCE
- (PF) PF --- PF --- PLASTIC FENCE
- (EL) [Symbol] --- EROSION LOG
- (SRB) [Symbol] --- SOIL RETENTION BLANKET
- (TRM) [Symbol] --- TURF REINFORCEMENT MAT
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						JRS	EMR	JRS	02/05/16	

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