Suzanne Steab <suzannesteab@utah.gov>

Coal Hollow Mine, Lower Robinson Creek, Stream Alteration Permit #15-85-02SA, issued June 16 2015

Priscilla Burton <priscillaburton@utah.gov> Mon, Jul 20, 2015 at 11:10 AM
To: OGMCOAL DNR <ogmcoal@utah.gov>, Suzanne Steab <suzannesteab@utah.gov>
Cc: Kirk Nichols <knicholes@altoncoal.com>, Joe Helfrich <joehelfrich@utah.gov>, "cherylparker@utah.gov" <cherylparker@utah.gov>, Keenan Storrar <kstorrar@utah.gov>

The Lower Robinson Creek reconstruction design was approved as supporting documentation in the Stream Alteration Permit issued June 16, 2015.
This Stream Alteration Permit expires in two years on June 16, 2017.

There are ten conditions of approval, one of which is that a copy of the Stream Alteration Permit be kept onsite at any time the work authorized under the permit is in progress.

All documents can be viewed at the following link. http://www.waterrights.utah.gov/cgi-bin/strmview.exe?Modinfo=Viewapp&Permit_Number=15850002
The Order of the State Engineer is attached.

Priscilla Burton, MS, CPSSc
Environmental Scientist III
Utah Division of Oil, Gas & Mining
Price Field Office
phone: 435-613-3733

stream alt permit 15-85-02SA Order of State Engineer 6162015.pdf
13611K

GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Water Rights
KENT L. JONES
State Engineer/Division Director

May 26, 2015

RE: Stream Channel Alteration No. 15-85-02SA
Lower Robinson Creek
Alton Coal Development, LLC

Attached is a copy of an application to alter a natural stream, which has been submitted to the Division of Water Rights (Division) for processing.

In processing this application, the Division will work to determine if the project will:

- Unreasonably or unnecessarily affect any recreational use or the natural stream environment;
- Unreasonably or unnecessarily endanger aquatic wildlife;
- Unreasonably or unnecessarily diminish the natural channel's ability to convey high flows; or
- Impair vested water rights.

Any decision made regarding this application will be based exclusively on these four criteria. If you have information regarding these four criteria that will aid the Division in making a determination and subsequent decision, please submit this information, in writing, to this office by **June 15, 2015**. For questions or comments pertaining to all other aspects of the project, please contact the applicant listed on the front page of the application directly.

Sincerely,

Tiffany Gonzales
for Chuck Williamson, P.G.
Stream Alteration Specialist

Pc: Richard Clark - EPA
Corps of Engineers
Supervisor - U. S. Fish & Wildlife
Kurt Vest - Regional Engineer
Gary Bezzant - Regional Wildlife Habitat Biologist
Bill James - Wildlife Resources
Bill Damery - DEQ, Water Quality Division
Laura Ault - Forestry Fire & State Lands
RDCC Coordinator
State Parks & Recreation
Lori Hunsaker - State History
W. D. Robinson - Department of Agriculture
Judy Watanabe - CEM

Rec. by 16190 DC
Fee Rec. 2000.00
Receipt # 15-01807

JOINT PERMIT APPLICATION FORM

U.S ARMY CORPS OF ENGINEERS – FOR SECTIONS 404 AND 10
UTAH STATE ENGINEER'S OFFICE – FOR NATURAL STREAM CHANNELS

Application Number (assigned by): _____ / 15-85-02SA
Corps / State Engineer

Applicant's Name (Last, First M.I. or entity if not an individual)	Authorized Applicant Representative (if any)	Applicant's Telephone Number and Area Code
Alton Coal Development, LLC	Kirk Nicholes	435-867-5331
		Representative's Telephone Number and Area Code: 435-691-1551

Applicant's Address (Street, RFD, Box, Number, City, State, Zip)
463 North 100 West, Suite 1
Cedar City, Utah, 84721

PROJECT LOCATION X: 371204.09 Y: 4140207.59

Quarter Section(s)	Section	Township	Range	Base & Meridian
SW4SE4	19	39 S	5W	SLB&M

County	Associated Watercourse or Watercourse to be Altered	Check one: ☐ Within City Limits ■ Outside City Limits List town or nearest town:
Kane	Lower Robinson Creek	Alton, Utah

Project location or address:
Coal Hollow Mine, 2060 South Alton, Utah 84710

Brief description of project including methods and equipment to be employed to complete the work:
The applicant has a mining permit with the Division of Oil, Gas and Mining to surface mine coal in the Sink Valley area. At the present time Lower Robinson Creek is temporarily diverted, mining has been completed to remove coal from beneath and to the NW of Lower Robinson Creek. This application will extend the time to complete the reconstruction of Lower Robinson Creek. Backfill of the open pits has been completed and Lower Robinson Creek has been mostly reconstructed to it's original location (the inlet to the reconstructed channel has been left un-excavated to allow flow to continue in the temporary diversion. This portion will remain until all construction activities and revegetation of the reconstructed channel has been completed. The attached drawings add definition to the project. The design of the rock lined channel and the size of the rip rap meet the requirements of a 100 year 24 hour storm event will help minimize erosion of the reconstructed Lower Robinson Creek.

Purpose (justification) of project:
The creek was re-aligned to allow mining of approximately 240,000 tons of coal.

Is this a single and complete project or is part of a larger project, continuing project, or other related activities? If so, please describe the larger project or other related activities.
Single project

If project included the discharge of dredged or fill material into a watercourse or wetland:

Cubic yards of material:	130 cuyds
Acreage or square footage of waters of the United States affected by the project:	
Source and type of fill material:	Clean rock rip rap
Length of stream that will be impacted below ordinary high water elevation:	

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MAY 21 2015
WATER RIGHTS
SALT LAKE
DC

Alternatives (other ways to accomplish project purpose):

Project is complete and is in the final stages of reclamation.

Describe any proposed mitigation to offset impacts to the stream channel.

Straw bales were used for sediment control during construction.

Cultural resource impacts:

Are you aware of any cultural resources or any historic properties that will be impacted by the proposed project? ☐ Yes ☒ No
If Yes, please explain:

Has a cultural resource survey been conducted on the property where the proposed project is to occur? ☒ Yes ☐ No
If Yes, please briefly explain the survey results:

A cultural resource inventory was conducted by Montgomery Archaeological Consultants Inc. (MOAC) in June 2005 for Alton Coal Development, LLC. The project area is located in the Sink Valley area in the Alton Amphitheater. This survey covers the entire permit area, approximately 433 acres, all of which are on private property. There were no cultural resource sites associated with the Lower Robinson Creek area.

List other authorizations required by Federal, state, or local governments (i.e.: National Flood Insurance Program), and the status of those authorizations.

Utah State Division of Oil, Gas & Mining must has also approved of this project as it pertains to the mining permit.

Estimated starting date of project:	Estimated completion date:
Nov. 2010	Dec. 2017

Please complete the following checklist

Failure to indicate that all pertinent information has been submitted will result in your application being returned.

- ☐ Appropriate application processing fee payment (see fee schedule below).
- ☐ A clear site location map with enough detail to easily find the site, a recent aerial/satellite image of the site, and a USGS topography map (7.5 minute quadrangle map is recommended).
- ☐ Plan view and cross-sectional drawings showing all work requiring a permit, including fills, structures, borrow sites, staging areas and storage areas. The drawings must clearly demarcate the ordinary high water mark of the waters of the U.S. to be impacted. Professional drawings are not required; however, drawings must be scaled or indicate dimensions of the work to be completed.
- ☐ A restoration plan for any areas temporarily disturbed during work, including re-contouring, revegetation with appropriate native plants and maintenance and monitoring to ensure success for the restored area.
- ☐ Ground photographs taken from various locations of the proposed disturbance area.
- ☐ Please check the box if the proposed project involves bank stabilization or protection. If so, please complete the following:
  - ☐ A narrative demonstrating the proposed activity incorporates the least damaging bank protection methods. These methods include, but are not limited to, the use of bioengineering, biotechnical design, root wads, large woody debris, native plantings, and beach nourishment in certain circumstances. If rock must be used due to site erosion conditions, explain how the bank stabilization structure incorporates elements beneficial to aquatic organisms.

- ❑ A description of current and expected post-activity sediment movement and deposition patterns in and near the activity area.
- ❑ A description of current and expected post-activity habitat conditions, including the presence of fish, wildlife and plant species in the activity area.
- ❑ An assessment of the likely impact the work would have on upstream, downstream and cross-stream properties (at a minimum the area assessed should extend from the nearest upstream bend to the nearest downstream bend of the watercourse). Specifically, discuss how the project will impact the following:
  - Will the activity accelerate deposition or erosion?
  - Will impacts to sensitive species or habitats result from a change in suspended sediment load or turbidity?
  - Will the activity affect the diversity of the channel by eliminating in-stream habitat, meanders, or gravel bars?
  - Will the activity result in a shift in the main flow patterns?
- ❑ A planting plan which involves the use of native riparian plants, unless the applicant demonstrates it is not appropriate or not practicable.

Application is hereby made for a permit or permits to authorize the activities described herein. I certify that I am familiar with the information contained in the application, and that to the best of my knowledge and belief, such information is true, complete and accurate. I further certify that I possess the authority to undertake the proposed activities or am acting as the duly authorized agent of the applicant which is a **(check one of the following) commercial ☒, non-commercial ☐, or governmental ☐ entity.**

Signature of Applicant B. Kitt [signature] Date: 5/20/15

I hereby certify that _____ is acting as my agent on this project.

Agent's address and telephone number: _____

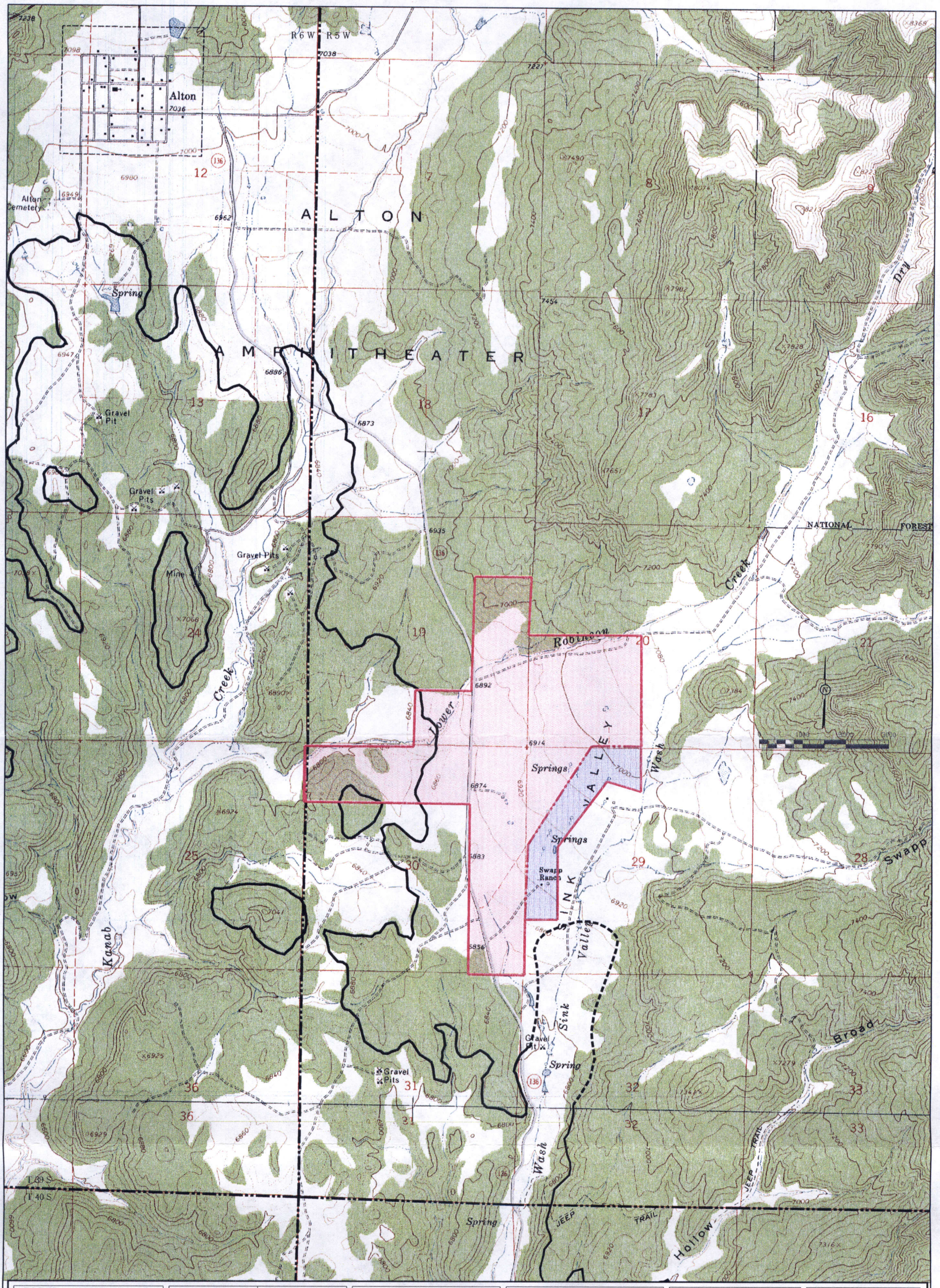
Filing Instructions

Application supplements should be submitted on paper no larger than 11 x 17 inches or alternatively as PDF format electronic files. If more than one watercourse is to be altered as a result of the project, a separate application must be submitted for each watercourse. Application fees must be received by the Division of Water Rights at the time of application submission and must be either hand delivered or submitted through standard mail. Checks should be made out to the Utah Division of Water Rights.

Application Processing Fees

Application fees are based on the type of entity applying for the proposed stream alteration project.

Commercial Entities:	$2000.00	per application processed.
Non-Commercial Entities:	$100.00	per application processed.
Governmental Entities:	$500.00	per application processed.



LEGEND:

- PERMIT AREA
- INCIDENTAL BOUNDRY CHANGE
- COAL LINE BOUNDARY
- COUNTY ROAD

DRAWN BY:	CHECKED BY:
N. BUTKOVICH	APC
DRAWING: 1 – 1	DATE: 8/16/04
	SCALE: 1" = 1000'
JOB NUMBER: 1400	SHEET

REVISIONS

DATE:	BY:
8/25/08	CRM
10/18/13	KN

PERMIT AREA

COAL HOLLOW PROJECT
ALTON, UTAH

DRAWING: 1-1

UTAH REGISTERED #154168 DAN W. GUY PROFESSIONAL ENGINEER

Alton Coal Development
Coal Hollow Project

463 North 100 West, Suite 1
Cedar City, Utah 84721
Phone (435)867-5331
Fax (435)867-1192

Appendix 5-10

EVALUATION AND EROSION CONTROL DESIGN

OF THE RECLAIMED

LOWER ROBINSON CREEK CHANNEL

COAL HOLLOW PROJECT

EVALUATION AND EROSION CONTROL DESIGN
OF THE RECLAIMED
LOWER ROBINSON CREEK CHANNEL
COAL HOLLOW PROJECT

BY

DAN W. GUY

REGISTERED PROFESSIONAL ENGINEER

STATE OF UTAH

EVALUATION AND EROSION CONTROL DESIGN

OF THE RECLAIMED

LOWER ROBINSON CREEK CHANNEL

COAL HOLLOW PROJECT

General

This report was completed by Dan W. Guy, a registered professional engineer, State of Utah, DBA Dan W. Guy, P.E., 1926 Wide River Drive, St. George, Utah 84790.

Evaluation

The Lower Robinson Creek channel has been reclaimed and reseeded; however, it will not be connected to the original drainage for at least 3 growing seasons. Diversion Ditch 4 has been extended along the channel and will continue to divert runoff to Sediment Pond 3. This means the reclaimed channel will only see direct precipitation until vegetation is firmly established. The original design of the reclaimed channel is shown on drawings 5-20A and 5-21A of the MRP. These designs show a channel with 12" minimum rip-rap in the bottom 10' of the channel. The channel side slopes were to be 2H:1V in the rip-rap section, 10H:1V in the floodplain and 3H:1V to the top of the channel. The actual reclaimed channel has an average bottom width of 3.2', with average 2.36H:1V side slopes and an average depth of approximately 8.5'. No rip-rap was placed in the restored channel; however, the entire channel was seeded with the approved seed mix for the Coal Hollow Project (Table 3-37 of the MRP).

This evaluation was performed to assess the adequacy of the restored channel. It was based on an erodible soil with stable vegetation, using the 100 year – 6 hour design flow of 347 cfs, taken from MRP Appendix 5-3, "Lower Robinson Creek Culvert and Diversion Analysis", by Dr. James E. Nelson.

Calculations were performed using the Office of Surface Mining Storm Program 6.20, by Gary E. McIntosh. A conservative value of 5.0 fps was used as the allowable velocity in this channel to prevent erosion. This value was selected from Table 3.4, Permissible Velocities for Vegetated Channels, "Applied Hydrology and Sedimentology for Disturbed Areas", by Barfield, Warner and Haan. Based on a review of numerous websites and Table 3.1, Typical Values for Manning's n, in the above referenced "Applied Hydrology and Sedimentology for Disturbed Areas", by Barfield, Warner and Haan, a Manning's number (n) of 0.030 was considered reasonable for the vegetated channel.

The flow calculations were performed on the average channel configuration, based on 6 cross-sections taken along the length of the reclaimed channel. The following is a list of parameters used in the calculations:

- Design Flow - 347 cfs
- Bottom Width - 3.2 ft.
- Side Slopes - 2.36H:1V
- Channel Slope - 1.83%
- Manning's n - 0.030

Using the above criteria, the calculated flow velocity would be 9.85 fps at a depth of 3.24 feet. Since this velocity is above the estimated allowable velocity of 5.0 fps for vegetated channels, a further evaluation was performed using adequately sized rip-rap along the existing length of the channel. The following criteria were used to evaluate the channel with rip-rap down to the point of transition to the main channel below. The reclaimed channel is shown on Figure 1 "Robinson Creek Reconstruction Plan View".

- Design Flow - 347 cfs
- Bottom Width - 3.2 ft.
- Side Slopes - 2.36H:1V
- Channel Slope - 1.83 %
- Manning's n - 0.035

Using the above criteria, the calculated flow velocity would be 8.78 fps at a depth of 3.47 feet. Based on the calculations, it is proposed to place 12" D50 rip-rap to a minimum depth of 24" along the length of this channel section. The rip-rap will be extended up the side slopes to provide protection for a minimum of 4 feet up from the channel bottom. The 12" D50 sizing is shown to be adequate for the calculated velocity and side slopes based on the Rip-Rap Chart in Figure 3.

Transition to Main Channel

At approximately location 1500' of the reclaimed channel, the configuration and slope change to blend into the main rip-rapped channel below. At this point, the reclaimed channel becomes more "U"-shaped with an approximate 4' bottom width, 1H:1V to 1.8H:1V side slopes and an average slope of 8.0%. When the design runoff of 347 cfs is routed through this section, calculations show a velocity of 18.24 fps at a depth of 2.50 feet. Since this is a steep slope and potentially very erosive section, it is proposed to provide additional protection through this transition area.

It is proposed to widen the channel throughout the transition area to at least a 15 foot bottom width with maximum 2H:1V side slopes. In addition, the channel gradient will be reduced by grading from Station 13+50 to Station 15+50. This section of channel will be lined with 18" D50 rip-rap to a minimum depth of 36" and extended up the side slopes to a depth of at least 3 feet above the channel bottom. The rip-rap will also be grouted for further protection. At the base of the regraded slope (Station 15+50) the transition area from Station 15+50 to Station 16+50 will be widened and deepened to provide an energy control basin at least 2 feet deep and approximately 50 feet wide by 100 feet long. The inlet to this basin will be fitted with at least 30" rocks spaced on approximately 4 foot centers across the channel. The entire basin will be lined with 18" D50 rip-rap and grouted.

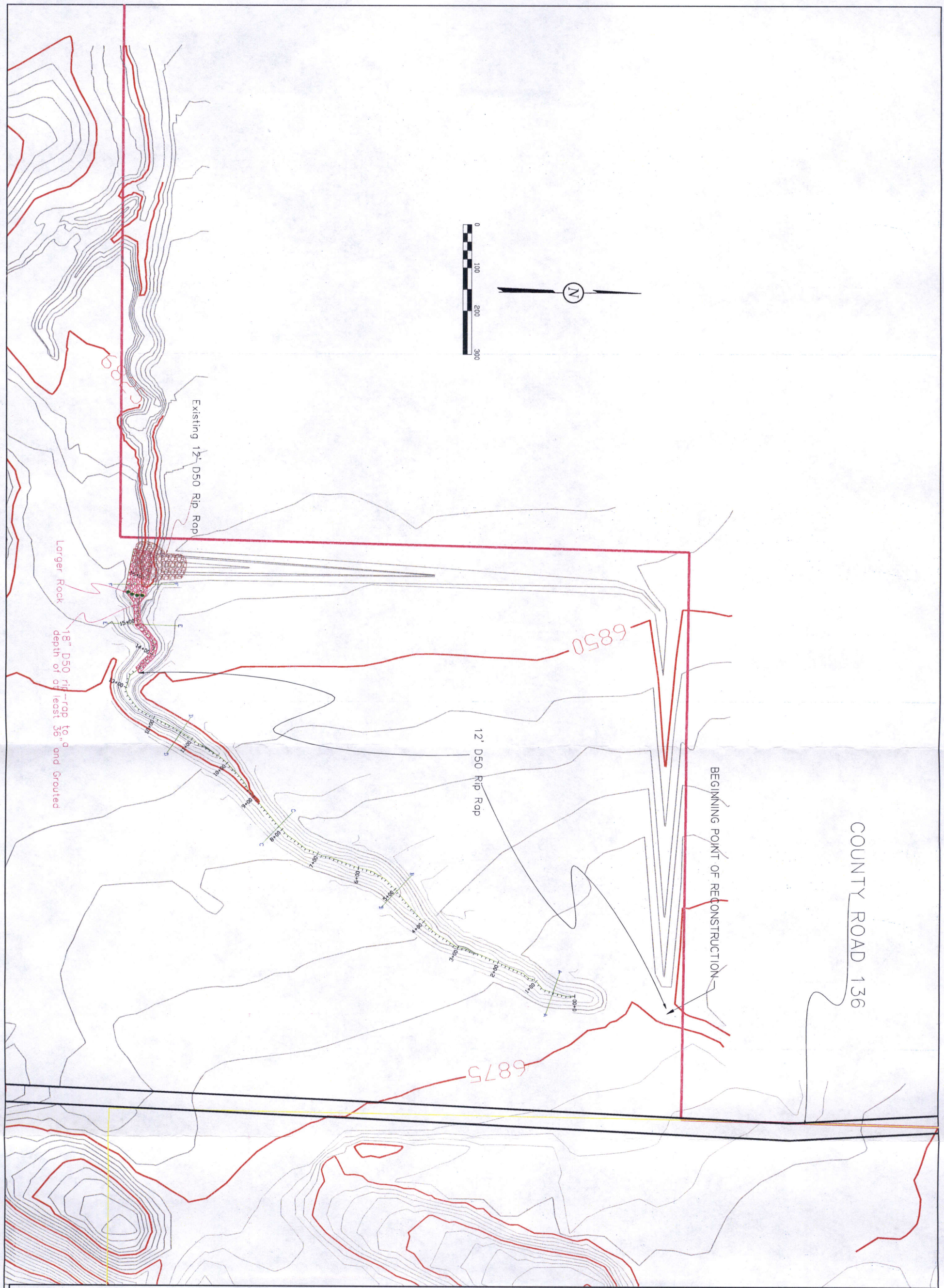
The flow characteristics through the transition zone were evaluated using the criteria after placement of the rip-rap with the above channel dimensions. The following are the parameters used:

- Design Flow - 347 cfs
- Bottom Width - 15.0 ft.
- Side Slopes - 2H:1V
- Channel Slope - 8.0%
- Manning's n - 0.038 (Considered conservative for large rock lining).

Using the above criteria, the calculated flow velocity would be 12.83 fps at a depth of 1.50 feet. The attached Rip-Rap Chart in Figure 3 shows that 18" D50 rock is considered adequate to resist displacement at the projected velocity in the transition area. This rip-rap and catchment basin will also tie into the existing, repaired outfall of the Robinson Creek diversion.

It should be noted that an additional erosion control method was evaluated for the transition zone utilizing multiple rock chutes to convey the runoff down the slope from Station 14+50 to Station 15+50, with a similar control basin at the bottom from Station 15+50 to Station 16+50. This method would also provide adequate erosion protection for the transition area; however, the above single rip-rapped slope was proposed because it provides a less complicated design and a more natural transition to the undisturbed drainage below.

The channel side slopes will be reseeded with the approved seed mix for the Coal Hollow Project after placement of the rip-rap and every year thereafter until vegetation cover is adequately established.



LEGEND:

PERMIT BOUNDARY

FEDERAL COAL OWNERSHIP

FOUND SECTION CORNER

DRAWN BY: K. NICHOLES	CHECKED BY: DWG
DRAWING: Figure 1	DATE: 03/16/15
	SCALE: 1" = 100' Printed on 24'x 36"
JOB NUMBER: 1400	SHEET

REVISIONS	
DATE:	BY:

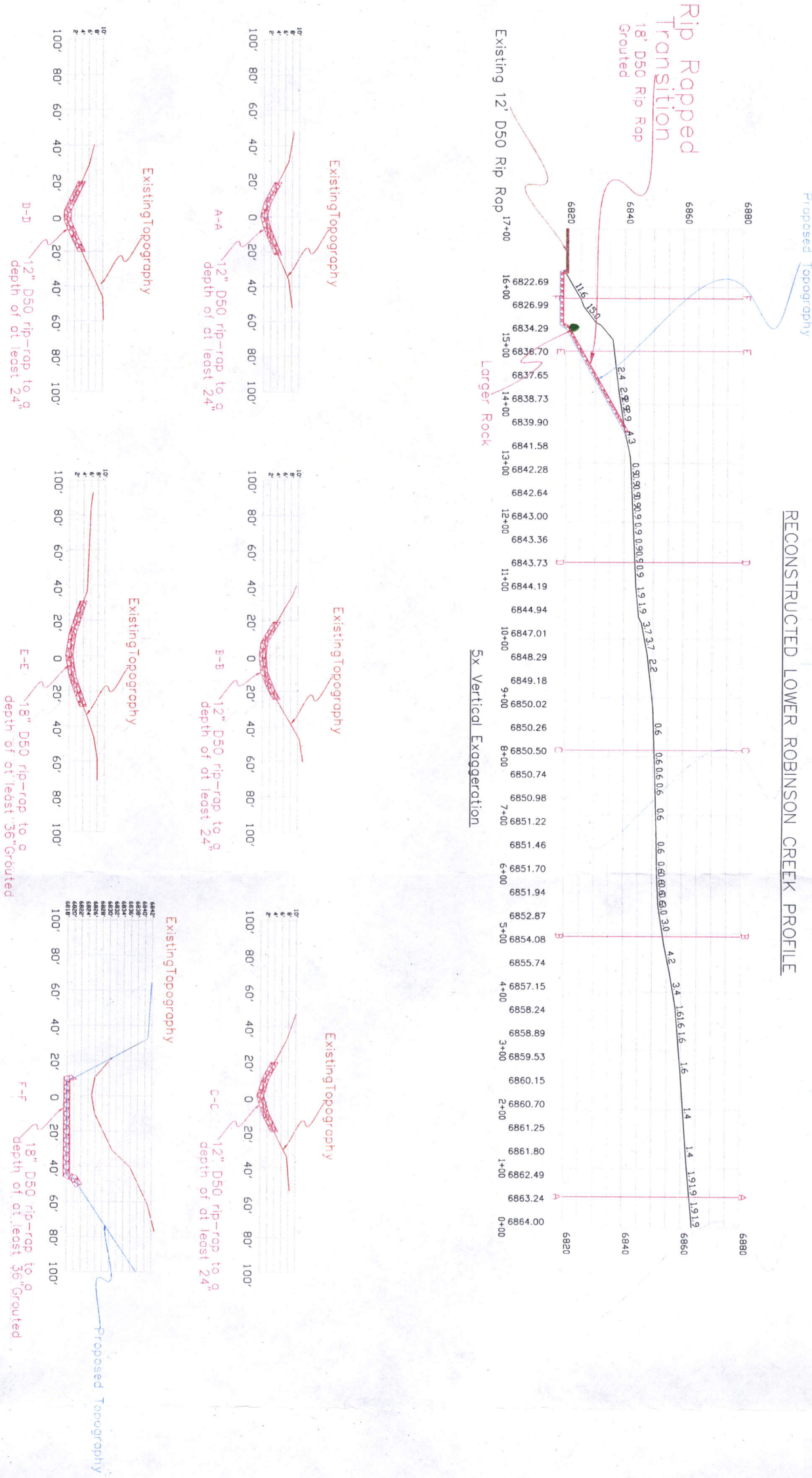
ROBINSON CREEK RECONSTRUCTION PLAN VIEW

COAL HOLLOW PROJECT
ALTON, UTAH

FIGURE 1

UTAH REGISTERED PROFESSIONAL ENGINEER #154168 DAN W. GUY

Alton Coal Development
Coal Hollow Project
463 North 100 West, Suite 1
Cedar City, Utah 84720
Phone (435)867-5331
Fax (435)867-1192



DRAWN BY: K. NICHOLES	CHECKED BY: DWG
DRAWING: Figure 1	DATE: 03/16/15
	SCALE: AS SPECIFIED
JOB NUMBER: 1400	SHEET

REVISIONS	
DATE:	BY:

ROBINSON CREEK RECONSTRUCTION DESIGN & DETAILS

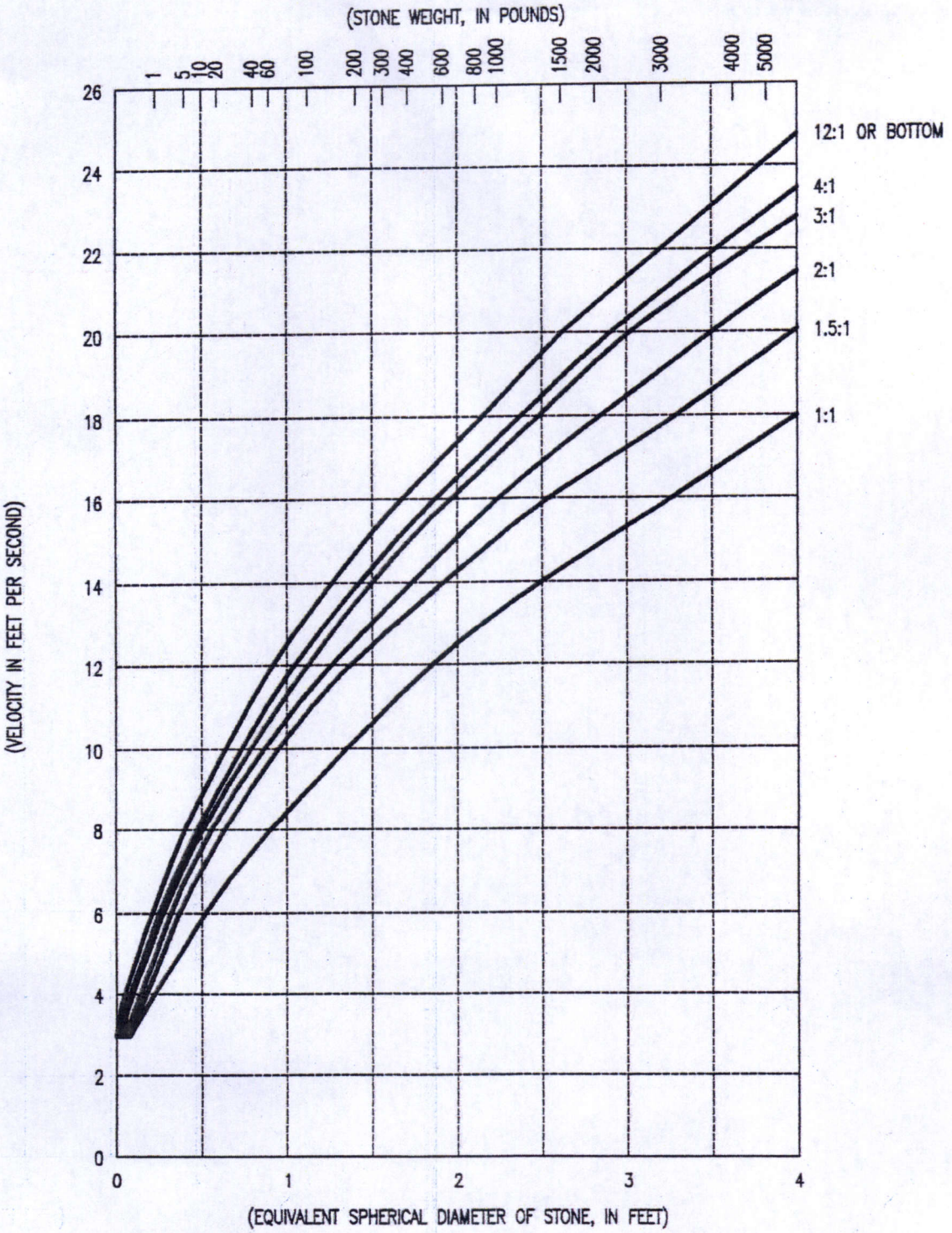
COAL HOLLOW PROJECT
ALTON, UTAH

FIGURE 2

UTAH REGISTERED #154168 DAN W. GUY PROFESSIONAL ENGINEER

Alton Coal Development
Coal Hollow Project
463 North 100 West, Suite 1
Cedar City, Utah 84720
Phone (435)867-5331
Fax (435)867-1192

RIP-RAP CHART

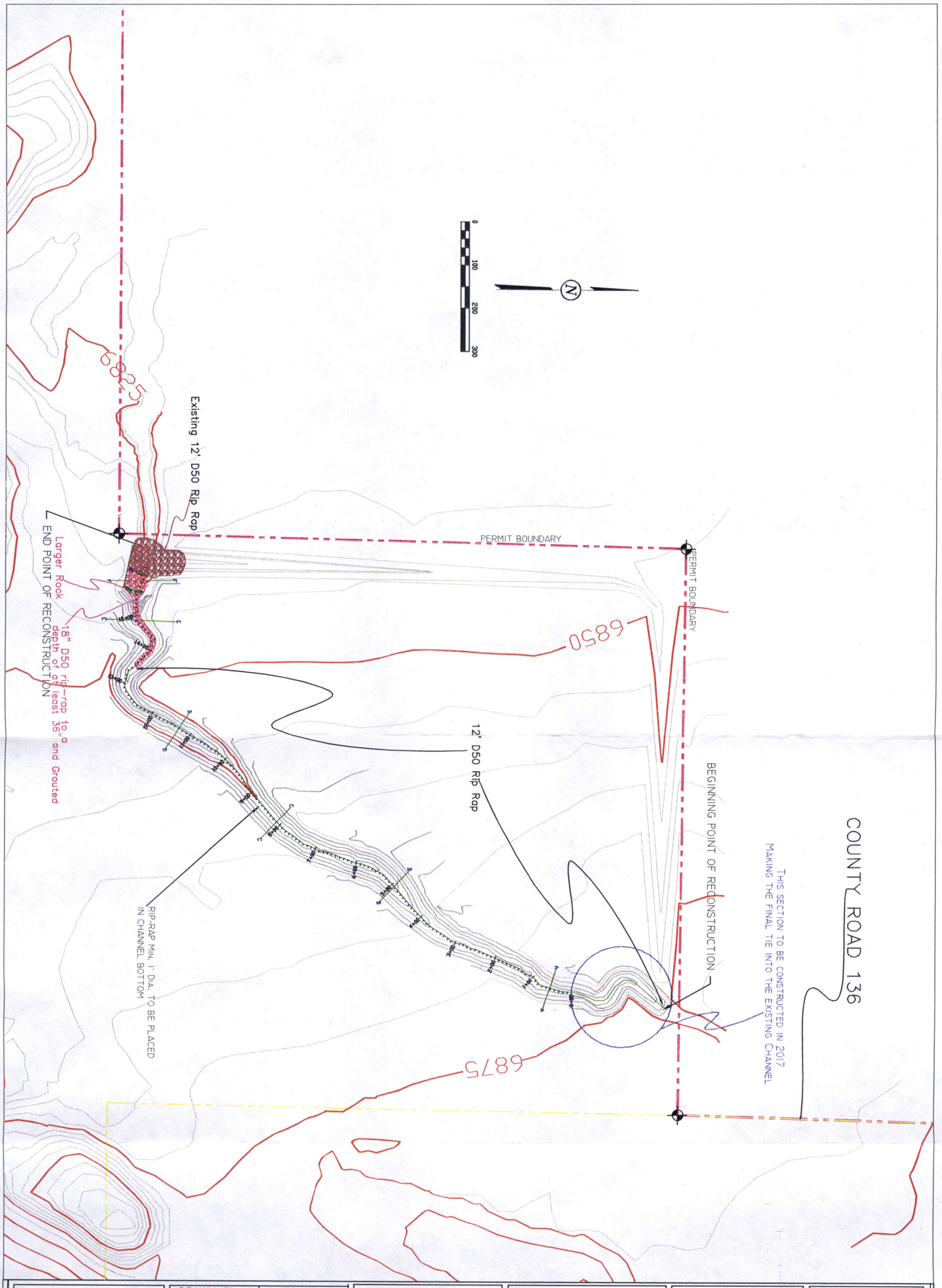


SIZE OF STONE THAT WILL RESIST DISPLACEMENT FOR VARIOUS VELOCITIES AND SIDE SLOPES

NOTE:

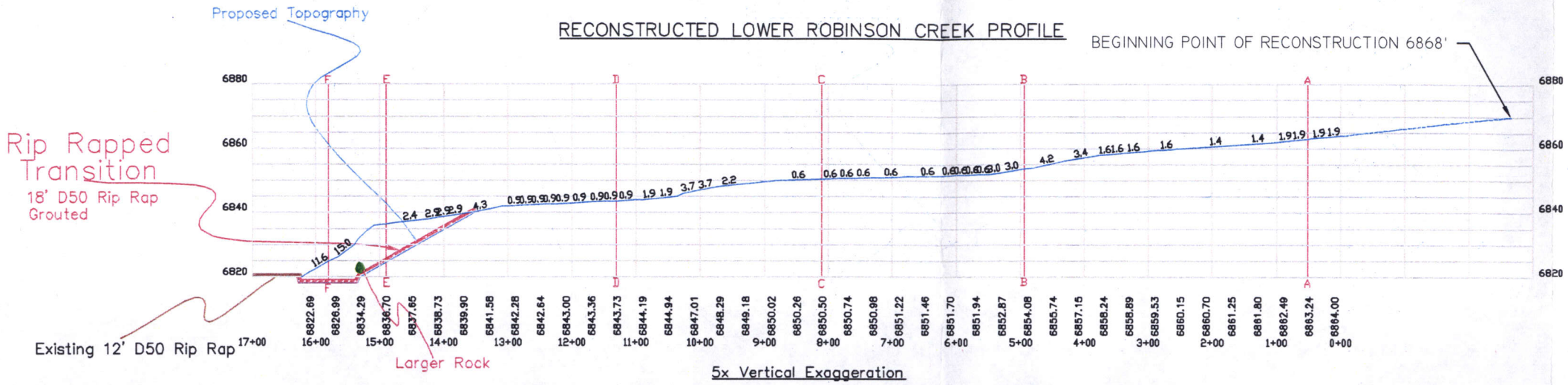
ADAPTED FROM REPORT OF SUBCOMMITTE ON SLOPE PROTECTION, AM. SOC. CIVIL ENGINEERS PROC. JUNE 1948.
FOR STONE WEIGHING 165 LBS. PER CUBIC FEET.

Figure 3

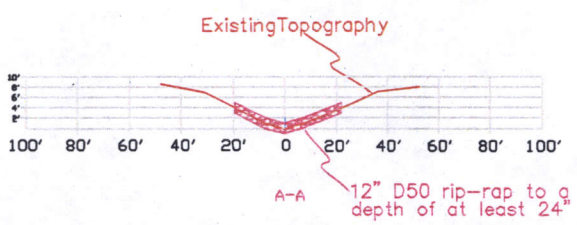


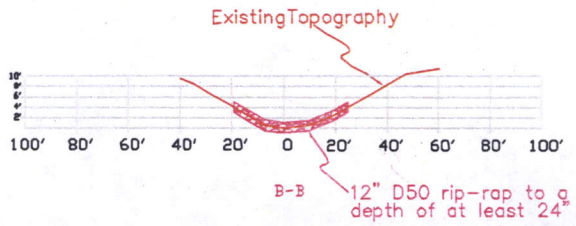
LEGEND:	DRAWN BY: C. McCOURT	CHECKED BY: GG	REVISIONS		ROBINSON CREEK RECONSTRUCTION PLAN VIEW	UTAH REGISTERED PROFESSIONAL ENGINEER #154168 DAN W. GUY	Coal Hollow Project
PERMIT BOUNDARY	DRAWING: 5-20A	DATE: 11/12/08	DATE: 4/10/2015	BY: KN	COAL HOLLOW PROJECT ALTON, UTAH		463 North 100 West, Suite 1 Cedar City, Utah 84720 Phone (435)867-5331 Fax (435)867-1192
FEDERAL COAL OWNERSHIP		SCALE: 1" = 100'			DRAWING: 5-20A		
FOUND SECTION CORNER	JOB NUMBER: 1400	SHEET					

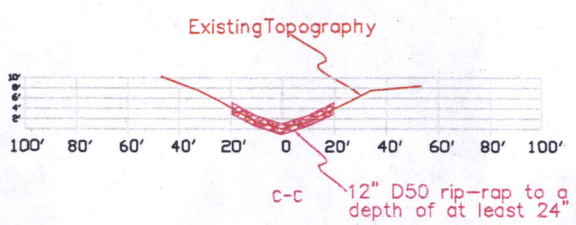
RECONSTRUCTED LOWER ROBINSON CREEK PROFILE

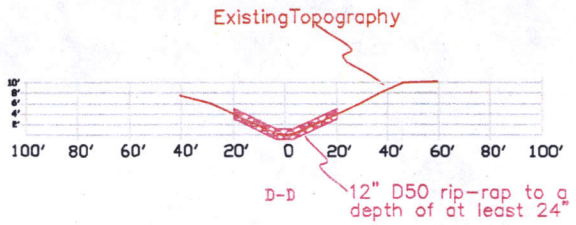


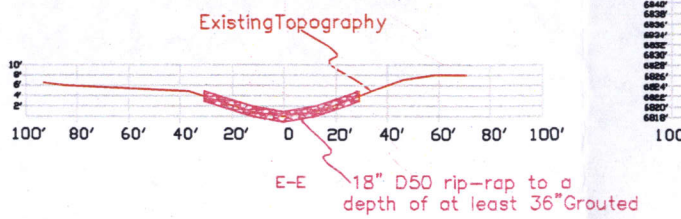
5x Vertical Exaggeration

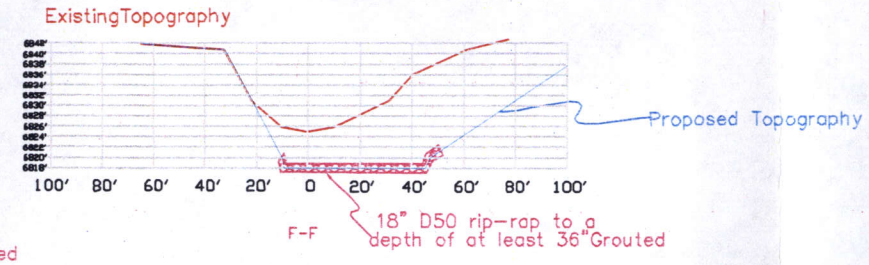












Coal Hollow Project
463 North 100 West, Suite 1
Cedar City, Utah 84720
Phone (435)867-5331
Fax (435)867-1192

UTAH REGISTERED PROFESSIONAL ENGINEER #154168 DAN W. GUY

ROBINSON CREEK RECONSTRUCTION DESIGN & DETAILS

COAL HOLLOW PROJECT ALTON, UTAH

DRAWING: 5-21A

REVISIONS	
DATE:	BY:
4/10/2015	KN

DRAWN BY: C. MCCOURT	CHECKED BY: GG
DRAWING: 5-21A	DATE: 11/13/08
	SCALE: AS SPECIFIED
JOB NUMBER: 1400	SHEET

Table 3-37: Revegetation Seed Mixture for the Sagebrush/Grass Community at the Coal Hollow Project

	Rate** (# PLS/Ac)	Seeds/ft2
SHRUBS		
*Artemisia nova**	0.20	4.16
*Artemisia tridentata**	0.10	5.74
Ceratoides lanata	1.00	1.26
Purshia tridentata	2.00	0.69
Symphoricarpos oreophilus	1.00	1.72
FORBS* **		
Achillea millefolium	0.03	1.91
Hedysarum boreale	1.00	0.77
Linum lewisii	0.70	4.47
Lupinus argenteus	1.00	0.29
Penstemon palmeri	0.30	4.20
Sphaeralcea grossulariifolia	0.40	4.59
Viguiera multiflora	0.20	4.84
GRASSES		
Elymus smithii	1.50	4.34
Elymus trachycaulus	1.50	5.51
Poa pratensis	0.10	5.00
Poa secunda	0.20	4.25
Stipa hymenoides	1.00	4.32
Sterile Triticale - Quick Guard	10.00	4.59
TOTALS	22.23	62.66

* This species could also to be planted by containerized seedlings at a rate of 200 plants per acre to enhance sage-grouse habitat.

** Based on drill seeding methods. The number reflects the pounds of pure live seed (PLS) per acre.

*** Seeds used may be based on commercial availability. Other forb species that would be beneficial for sage-grouse enhancement include: Achillea millefolium, Agoseris glauca, Crepis acuminata, Gayophytum spp., Lomatium spp., Tragopogon dubius, Trifolium spp.

Alton Coal Development, LLC
463 North 100 West, Suite 1
Cedar City, Utah 84720
Phone (435) 867-5331 • Fax (435) 867-1192

May 20, 2015

Charles Williamson
Utah Division of Water Rights
PO Box 146300
Salt Lake City, UT 84114-6300

RE: Stream Alteration Permit Number 07-85-02SA for Realignment of Lower Robinson Creek in Kane County

Dear Mr. Williamson,

Alton Coal Development, LLC (ACD) received approval to Alter a Natural Stream Channel, Permit Number 07-85-02SA in June of 2007. A time extension was also provided on April 30, 2008. An additional extension was granted in 2009 to June of 2011. This stream alteration was proposed as part of a mining project with the Utah Division of Oil, Gas and Mining (DOGM) as permit number C/025/0005. Final approval of the permit allowing mining was granted November 8, 2010.

ACD completed the realignment of the channel to the temporary diversion in early 2011 where it has continued to flow while the coal was recovered beneath the original Lower Robinson Creek location. The open pits have been backfilled and are in the process of being reclaimed. Lower Robinson Creek has been excavated to its approximate original alignment with the exception of a plug at the beginning of the temporary diversion and some additional work that will be required to tie back into the undisturbed channel.

Remaining work to be completed to the channel is presented in Appendix 5-10 (Appendix to Mine Reclamation Permit C/025/0005). Also included in this application is the approved reclamation seed mix (Table 3-37, page 3-58 of approved MRP) that will be established in the area surrounding the reconstructed channel. This work is expected to be completed by July 30, 2015. The surrounding reclamation will be allowed to become established until 2017 when the plug at the beginning of the temporary diversion will be removed allowing flow to be reintroduced to the reconstructed Lower Robinson Creek and the temporary diversion will be reclaimed.

Therefore, ACD formally requests approval of the revised designs and a an extension of this stream alteration permit to December 2017. This extension will provide

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the necessary time frame for ACD to restore the stream channel to the approximate original location as shown on the attached designs.

If you have any questions or concerns please do not hesitate to contact me at (435) 867-5331.

Sincerely,

B. Kirk Nicholes
Environmental Specialist

Enclosures:
Joint Permit Application
Check # 6190
Location Map (Drawing 1-1)
MRP C/025/0005, Appendix 5-10
MRP C/025/0005, Drawing 5-20A
MRP C/025/0005, Drawing 5-21A
MRP C/025/0005, Chapter 3 Page 3-58, Table 3-37