CONSTRUCTION SPECIFICATIONS

Eccles Creek Pad and Culvert Removal

Reclamation Construction

Carbon County, Utah

Fall, 2015

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
Division of Oil, Gas & Mining
Coal Program
Salt Lake City, Utah

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DOGM Project Name: Eccles Creek Pad and Culvert Removal Project
DOGM Project Number: C/007/0001

Date Specifications Completed: June 23, 2015

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Chapter 1: INSTRUCTIONS TO BIDDERS

1. Request for Bids

The Utah Division of Purchasing is accepting bids for the Eccles Creek Pad and Culvert Removal project 4 miles south of Scofield in Carbon County, Utah. The WORK consists of removal of a pad in Eccles Creek, and on site placement of the fill, CMP demolition and removal, earthwork including surface roughening of the fill and creation of channel banks. Details of the WORK are contained in Chapter 5 of these Specifications. "OWNER" in these Specifications is defined as the Utah Division of Oil, Gas and Mining.

Bidders should refer to the materials posted online at the BidSync website (www.bidsync.com) and the Division of Purchasing's instructions contained in this solicitation packet for relevant dates and deadlines, instructions on how to submit a bid, and other bidding requirements.

Please note that electronic specifications may be organized into more than one file. Bidders should make sure that they have the entire bid package and all necessary documents before bidding.

2. Drawings and Specifications

Specifications are only available online through the BidSync website (www.bidsync.com).

3. Pre-bid Meeting

Date: Thursday July 30, 2015, two sessions will be held. Bidders need attend only one session.

Location/Time: Meet at the Scofield store at 9:00 a.m. for the first session OR at 1 p.m. for the second session. Bidders will then caravan to the Eccles Creek pad site. Each session of the pre-bid meeting is expected to be two and a half hours long.

Attendance at the pre-bid meeting should result in a more thoughtful bid. Therefore bidders are required to attend one session of the pre-bid meeting. Bid applications will be rejected if the bidder's representative did not attend one of the pre-bid meeting sessions.

4. Contract and Bond

The contract agreement will be in the form of a Purchase Order referencing this bid solicitation. The completion date for construction will be September 30, 2015, as indicated in the Supplemental Bid Information form. The successful bidder, within 14 days after the bid opening, will be required to furnish a performance bond and a payment bond in an amount equal to one hundred percent (100%) of the contract price. Said bonds shall be secured from a company satisfactory to OWNER. **The surety company must be a U.S. Department of Treasury (Circular 570) listed company.**

5. Qualifications of Bidders

All CONTRACTORS must be currently licensed in Utah for the type of work to be done. This means the CONTRACTOR must hold an E100 license unless other licensing is specified in Chapter 5 Scope of Work

The CONTRACTOR's past performance, organization, equipment, and ability to perform and complete their contracts in the manner and within the time limit specified will be elements that are considered as a matter of CONTRACTOR responsibility. All CONTRACTORS who have previously performed WORK on a Utah Abandoned Mine Reclamation Program (UAMRP) project

have been evaluated using the Contractor Performance Rating Form (Chapter 4). Performance ratings may be used in determining responsibility.

6. Qualifications of Subcontractors

The experience and responsibility of Subcontractors may have bearing on the selection of a CONTRACTOR by the OWNER. The CONTRACTOR shall require all of his or her Subcontractors to comply with the license laws as required by the State of Utah.

The Subcontractor's past performance, organization, equipment, and ability to perform and complete their contracts in the manner and within the time limit specified will be elements that may also be considered in determining contractor responsibility.

OWNER may withhold award of CONTRACT to any particular bidder if one or more of his or her proposed Subcontractors are considered by the OWNER to be non-responsible.

7. Listing of Subcontractors

Bidders shall submit with the bid a list of the names of Subcontractors to be furnished for each of the principal parts of the work and the corresponding dollar amounts. Each principal part shall mean a subcontract dollar value in excess of $5,000. Such list shall be binding upon the CONTRACTOR; however, OWNER has a right to reject any or all Subcontractors listed or unlisted which OWNER feels are unqualified to do the work.

8. Interpretation of Plans and Specifications

ALL questions concerning this bid or the meaning of any part of the drawings, specifications or other proposed CONTRACT documents must be submitted through the BidSync system. The OWNER will not be responsible for any other explanations or interpretations of the proposed documents. Please do not contact the DOGM project manager or Purchasing by phone or e-mail to ask questions.

9. Addenda or Bulletins

Any addenda or bulletins issued during the time of bidding shall become part of the documents issued to the bidders for the preparation of the bid, shall be covered in the bid, and shall be made a part of the CONTRACT.

10. Bid Schedule

Bidding CONTRACTORS shall examine the specifications and the Bid Schedule and fill in all blanks of the CONTRACTOR's Bid and Bid Schedule and submit all required information contained in the bid, including required submittals, or have the bid subject to disqualification.

11. Bid Security

Bid Security in the form of a bid bond in the amount of five percent (5%) of the bid, made payable to the Division of Purchasing, shall accompany bid. A bid bond is the only acceptable form of bid security. Letters of credit, checks, money orders, and other items of cash value are not acceptable.

12. Award of CONTRACT

The CONTRACT will be awarded as soon as possible to the lowest responsible bidder, provided the bid is reasonable and is in the interests of the OWNER to accept. For bidders who have previously performed WORK on a Utah Abanoned Mine Reclamation Program project, evaluation of the responsibility of the bidder will also include consideration of past performance on contracts for OWNER. Both the Lump Sum Amount and the Unit Price for all work items will be considered in awarding the CONTRACT. Lump Sum Amounts do not have to equal the product of the

estimated quantity times the Unit Price, but OWNER may reject a bid if unit prices are substantially out of line with the Lump Sum Amount. The OWNER reserves the right to waive any technicalities or formalities in any bid or in the bidding.

13. Cost Breakdown

The CONTRACTOR shall, before starting WORK, submit to OWNER a cost breakdown showing the cost of various segments of the WORK according to a specification heading, the total amount equaling the CONTRACT price. This breakdown shall be used as the basis for the payment of estimates as stated in the contract documents.

14. Right to Reject Bids

The OWNER reserves the right to reject any or all bids.

15. Time is Essence and Award of CONTRACT

Time is of the essence in award of the CONTRACT.

16. Withdrawal of Bids

Bids may be withdrawn upon written or electronic request received from bidders prior to the time fixed for opening. Electronic request via fax or e-mail must be received by OWNER in written form before bid opening. Negligence on the part of the bidder in preparing the bid confers no right for the withdrawal of the bid after it has been opened.

17. Applicant Violator System (AVS) Eligibility Check

Federal regulations require all successful bidders on contracts funded through the Surface Mining Control and Reclamation Act (SMCRA) of 1977 to be eligible to receive a permit to conduct surface coal mining operations. In general, this means that the OWNER may not hire a contractor who is or whose company is associated with a coal mine operator with outstanding unpaid fines under SMCRA. The regulations further require that contractor eligibility be confirmed by the Applicant/Violator System (AVS) at the U.S. Office of Surface Mining (OSM). Compliance checks are also required for all subcontractors receiving 10% or more of the total contract amount.

To comply with this rule, the apparent low bidder shall submit to DOGM within 24 hours (excluding weekends and holidays) of the bid opening their company ownership and control information. See “Applicant/Violator System Eligibility Check” on page 11 for more information.

18. Buy American Act

Compliance with the Buy American Act is required for this project. The Buy American Act requires the use of domestically produced materials.

Chapter 2: BID DOCUMENTS

Supplemental Bid Information
Bidder's Proposed Subcontractors, Suppliers & Vendors List
Minority and Woman Business Enterprise Representation
Applicant Violator System Eligibility Check
Summary Bid Schedule
Required Submittals

Supplemental Bid Information
Eccles Creek Pad and Culvert Removal project

COMPLETION TIME:

I/We guarantee to complete the WORK within 45 calendar days after receipt of Notice to Proceed, should I/we be the successful bidder.

SUBSTITUTIONS AND ALTERNATIVES:

For your consideration, I/we propose the following alternative WORK plan, substitutions and/or alternatives of materials and/or equipment with the resulting indicated total amounts to be added to or deducted from the bid amount, should I/we be the successful bidder:

Item	Manufacturer and Description	Addition	Deduction
_____	_____	$_____	$_____
_____	_____	$_____	$_____
_____	_____	$_____	$_____
_____	_____	$_____	$_____

Bidder shall attach or upload explanatory comments as needed.

LICENSING:

CONTRACTOR's License Number for Utah: _____

License Classification(s): _____

Expiration Date: _____

Copy of license must be enclosed with hard copy bid or uploaded on BidSync with electronic bid.

Type of Organization: _____
(Corporation, Co-Partnership, Individual, etc.)

Bidder's Proposed Subcontractors, Suppliers & Vendors List
Eccles Creek Pad and Culvert Removal project

We submit the following list of first-tier subcontractors, suppliers and vendors for OWNER approval. We recognize this list as binding on us, and acknowledge OWNER'S right to reject any or all subcontractors, suppliers or vendors listed or unlisted which the OWNER feels are unqualified to do the work.

SUBCONTRACTOR	CONTRACT AMOUNT	STATE CONTRACTOR'S LICENSE NO	LICENSE LIMIT
Earthwork/Excavation:			
Haul to Scofield Waste Rock Site:			
Disposal of asphalt/geotextile & culvert off site:			
Revegetation:			
Mulch:			
Seed:			
Other:			
Other:			

By submitting a bid under this solicitation, we certify that:

1. This list includes all subcontractors, suppliers and vendors whose bids exceed $1,000 (for prime contractor bids less than $50,000) or $5,000 (for prime contractor bids of $50,000 or more).
2. Where we have listed "Self" it is our intent to perform said work and that we generally and regularly perform that type of work, and are appropriately licensed.
3. Any approved change in sub-bidders, suppliers or vendors which results in a lower contract price for sub-bid work shall accordingly reduce the total sum of the prime contract.

Note: *Failure to submit this form properly completed and signed may be grounds for OWNER'S refusal to enter into a written CONTRACT with BIDDER. Action will be taken against BIDDER'S bid bond or cashier's check as deemed appropriate by OWNER. Timely notice of unacceptable subcontractors, suppliers or vendors will be given to the BIDDER. Reporting of subcontractors may be required for conformance with 63A-5-208 UCA.*

Minority and Woman Business Enterprise Representation
Eccles Creek Pad and Culvert Removal project

The offeror represents that it [_]is [_]is not a minority business enterprise.

A minority business enterprise is defined as a concern that:

1) is at least 51 percent owned by one or more individuals who are socially and economically disadvantaged, or a publicly owned business having at least 51 percent of its stock owned by one or more individuals who are socially and economically disadvantaged individuals; and
2) has its management and daily business controlled by one or more such individuals.

Qualified groups. The offeror shall presume that socially and economically disadvantaged individuals include Black Americans, Hispanic American, Native Americans, Asian-Pacific American, Asian-Indian Americans, and other individuals found to be qualified by the Small Business Administration under 13 CFR 124.l.

The offeror represents that it [_]is [_]is not a woman business enterprise.

A woman business enterprise is defined as a concern that:

1) is at least 51 percent owned by one or more women, or a publicly owned business having at least 51 percent of its stock owned by one or more women; and
2) has its management and daily business controlled by one or more of the women owners.

Business firms that are 51 percent owned by minorities or women, but are in fact managed and operated by non-minority individuals do not qualify as minority or woman business enterprises.

The offeror represents that the following proposed subcontractor(s) is (are) a minority or woman business enterprise:

_____

_____

This information is requested for Federal reporting purposes only.
Minority/woman status has no bearing on the selection of a contractor.

Applicant/Violator System Eligibility Check
Eccles Creek Pad and Culvert Removal Project

(Data to be submitted after Bid Opening)

Federal regulations (30 CFR 874.16) effective July 1, 1994, require all successful bidders on contracts funded through the Surface Mining Control and Reclamation Act (SMCRA) of 1977 to be eligible under 30 CFR 773.15(b)(1) to receive a permit to conduct surface coal mining operations. In general, this means that the Utah Coal Program Program may not hire a contractor who is or whose company is associated with a coal mine operator with outstanding unabated violations under SMCRA. The regulations further require that contractor eligibility be confirmed by the Applicant/Violator System (AVS) at the U.S. Office of Surface Mining (OSM). Compliance checks are also required for all subcontractors receiving 10% or more of the total contract amount.

To comply with these rules, the apparent low bidder must provide the Division of Oil, Gas and Mining with information on the ownership and control of the firm for AVS review. A bidder must receive a recommendation of "Issue" or "Conditional Issue" from the OSM AVS office to be awarded the contract.

The apparent low bidder shall submit to DOGM within 24 hours (excluding weekends and holidays) of the bid opening a completed copy of the " Contractor Information Form." This form is used to provide, correct, or update your company's ownership and control information in OSM's AVS database. DOGM will provide forms for these submissions. DOGM will submit the ownership and control information to OSM for AVS review. OSM's review will be completed within 72 hours if the ownership and control data entry is complete.

The following information is required for the "Contractor Information Form":

- Contractor's identity (name, address,telephone, fax, e-mail address, tax payer ID number).
- Contractor's legal structure (sole proprietorship, partnership, corporation).
- Identities (name, address, telephone, title, % ownership, dates with the company) of every officer, general partner, shareholder (≥10% voting stock), director, or other controlling entity.
- All of the above information for any subcontractor with ≥10% of the contract amount.

Summary Bid Schedule
Eccles Creek Pad and Culvert Removal project

Bid Item	Units	Cost per Unit	Lump Sum Amount	Line item Total
Sediment control on the work perimeter Section 5.1	Linear foot			
Asphalt & Concrete Barrier Removal Section 5.2	CY			
Excavation Earthwork Section 5.3 and Section 5.4	CY			
Haul 1,300 CY fill to Scofield site Section 5.4	CY			
Fill Placement and Grading Earthwork Section 5.2 and Section 5.9	CY			
Temporary 36” CMP installation (225 ft.) Section 5.5	Linear foot			
48” CMP removal (175 – 225 ft.) Section 5.6	Linear foot			
Channel granular rip rap filter Section 5.7	CY			
Armored Channel Construction Section 5.8	CY			
4 Rip-Rap Drop Structures Section 5.8	each			
Revegetation (mulch and seed) Section 6.0 and Section 6.1	acre			
Reclamation Construction Sub Total (add totals above)	acre			
Mobilization/Demobilization				
Insurance				
Bonds (see note below)				

Percent Variation in Contract Bond Rate: %				
Total Contract Bid Price				

TOTAL CONTRACT BID PRICE WRITTEN:

_____

_____

By submitting a bid under this solicitation, I/we acknowledge that I/we have examined the site conditions and have made the measurements and evaluations necessary to plan and bid the WORK.

Notes:
The total contract bid price entered here MUST match the total bid price entered in the item section on BidSync. If the amounts are different, the bid price entered in the item section of BidSync will be considered the correct bid and will be considered the official bid to be evaluated with other bids received.

The "Cost Per Unit Price" on the Bid Schedule will be used for adjustments to the CONTRACT amount where the actual WORK quantity varies by more than 15% from the estimated quantity listed in the Bid Schedule (see Supplemental General Condition No. 26: Variation in Estimated Quantities). The " Cost Per Unit Price will also be used as the basis for determining costs for tasks not currently specified in the WORK that may be added in the future by change order.

Award of CONTRACT will be based on the base "Bid Price." Contractors are cautioned to submit accurate unit prices for any variations in quantities. Verified quantities can go either up or down from the original estimated quantities. If a unit price appears high at the time of any change order, the OWNER reserves the right to negotiate that unit price down to a reasonable amount regardless of the unit prices quoted in this section.

If the CONTRACT amount changes, the lump sum line item for bonds in the Cost Schedule shall be adjusted accordingly at a fixed percentage rate. CONTRACTOR shall indicate in the place provided on the Bid Schedule the percentage rate to be used for calculating adjustments to the Cost Schedule lump sum item for bonds (Variation in Contract Bond Rate).

The "Variation in Contract Bond Rate" will be used to adjust the Lump Sum Amount for bonds when the CONTRACT amount changes.

Required Submittals
Eccles Creek Pad and Culvert Removal Project

Provide the requested information in the space provided. Enter the data electronically on Attachment D on BidSync. For written paper bids, attach additional sheets if more space is needed.

Contractor's License
Enter the license number, class, and expiration date in the spaces provided on the Supplemental Bid Information form. Also attach a copy of the license as instructed elsewhere in this document.

Mobilization/Demobilization
CONTRACTOR shall submit *with the Bid* a list of equipment to be used for mob/demob.

Asphalt, Filter Fabric & Culvert Removal
CONTRACTOR shall submit *with the Bid* a list of equipment to be used for asphalt, filter fabric & concrete barrier removal.

Haul Fill to Scofield
The CONTRACTOR shall submit *with the Bid* a list of equipment to be used to haul 1,300 CY of fill to Scofield (8 miles round trip).

Channel Reconstruction
The CONTRACTOR shall submit *with the Bid* a list of equipment to be used to complete the armored channel design.

Site Grading/Earthwork

The CONTRACTOR shall submit *with the Bid* a list of equipment to be used to place 2,300 CY fill on the south slope and grade and roughen the north and south slopes.

Sediment Control & Stream Protection

CONTRACTOR shall submit *with the Bid* the schedule and plan for implementing sediment control measures during construction, including prevention of sediment from entering Eccles Creek from the work area and directing Eccles Creek flow into a temporary pipe during construction.

Revegetation

A. CONTRACTOR shall submit *with the Bid* the names of the seed supplier, and mulch supplier for the straw and seed required by these specifications.

B. CONTRACTOR shall submit *with the Bid* a written description indicating equipment to be used to perform the mulching and seeding work specified.

Chapter 3: CONTRACT TERMS & CONDITIONS

Terms of Contract
Construction Terms and Conditions
General Conditions for Division of Oil, Gas & Mining Contracts

Terms of Contract

SCOPE OF WORK, hereinafter the WORK, to be performed is that contained in Chapter 4 prepared by: the Division of Oil, Gas & Mining and entitled *Eccles Creek pad and Culvert Removal Project.*

The CONTRACTOR agrees to furnish all labor, materials and equipment to complete the WORK as described in Section 5 Scope of Work. It is understood and agreed by the parties hereto that all WORK will be performed as required by the Scope of Work and under the Terms and Conditions and General Conditions for Coal Projects outlined in Chapter 3. The WORK will be subject to inspection and approval prior to final acceptance by the OWNER. The relationship of the CONTRACTOR to the OWNER hereunder is that of an independent CONTRACTOR.

DIVISION OF OIL, GAS AND MINING

Construction Terms and Conditions

ARTICLE 1. TIME OF COMPLETION: The WORK under this CONTRACT shall be commenced upon notice to proceed and shall be completed within 60 calendar days after date marked on registered receipt of said Notice to Proceed and no later than September 15, 2014. WORK delays caused by weather may, at the discretion of the OWNER, extend the completion date. CONTRACTOR also agrees to the liquidated damages provisions of Article 12.

ARTICLE 2. PAYMENT: OWNER will promptly pay for services performed by the CONTRACTOR. Vouchers for reimbursement of expenditures under this Agreement must be filed promptly with OWNER's Representative by the tenth day of the month following the month in which WORK has been performed. OWNER will withhold from payment an amount not to exceed 5% of the total CONTRACT cost, except for Mobilization, which will have 40% withheld, until all WORK has been performed by the CONTRACTOR and is approved and accepted by OWNER.

ARTICLE 3. INDEBTEDNESS: Before final payment is made, the CONTRACTOR must submit evidence including lien waivers, satisfactory to the OWNER that all payrolls, materials bills, subcontracts and outstanding indebtedness in connection with the WORK have been paid or that arrangements have been made for their payment. Payment will be made without unnecessary delay after receipt of such evidence as mentioned above and Final Acceptance of the WORK by the OWNER.

ARTICLE 4. ADDITIONAL WORK: It is understood and agreed by the parties hereto that no money will be paid to the CONTRACTOR for any additional WORK, labor or materials furnished unless a new CONTRACT in the form of a Change Order or a modification hereof for such additional materials or labor has been executed by OWNER and CONTRACTOR. The OWNER specifically reserves the right to modify or amend this CONTRACT and the total sum due hereunder either by enlarging or restricting the WORK through a change order.

ARTICLE 5. ACCEPTANCE: The WORK will be inspected for acceptance by the OWNER promptly upon receipt of notice from the CONTRACTOR that the WORK is complete and ready for inspection.

ARTICLE 6. DISPUTES PERTAINING TO PAYMENT FOR WORK: Any disputes which may arise respecting the value of any WORK done, or any WORK omitted, or of any ADDITIONAL WORK which CONTRACTOR may be required to perform, or respecting any other elements involved in this CONTRACT, will be decided by the Director of the Division of Oil, Gas & Mining, acting as the OWNER.

ARTICLE 7. TERMINATION OF CONTRACT:

a. If the CONTRACTOR is adjudged bankrupt or if the CONTRACTOR makes a general assignment for the benefit of CONTRACTOR'S creditors or if a receiver is appointed on account of CONTRACTOR'S insolvency, or if CONTRACTOR or any of his/her Subcontractors violates any of the provisions of this CONTRACT, or if the CONTRACTOR does not perform the WORK according to the Specifications, the OWNER may serve written notice upon CONTRACTOR of its intention to terminate the CONTRACT; and unless within ten (10) days after the serving of the notice, the violation ceases, the OWNER then may take over the WORK and at the expense of the CONTRACTOR, complete it by contract or by any other method it may deem advisable. The CONTRACTOR will be liable to the OWNER for any excess

cost incurred by the OWNER and the OWNER may, without liability for so doing, take possession of and utilize in completing the WORK, such materials, appliances, paint, and any other property belonging to the CONTRACTOR as may be on the site of the WORK.

ARTICLE 8: OWNER'S RIGHT TO WITHHOLD CERTAIN AMOUNT AND MAKE APPLICATION THEREOF: The OWNER may withhold from payment to the CONTRACTOR an amount or amounts as, in the OWNER'S judgment, may be necessary to pay just claims against the CONTRACTOR or any Subcontractor for labor and services rendered and materials furnished in and about the WORK. The OWNER in its discretion may apply the withheld amounts on the payment of such claims. In so doing the OWNER will be deemed the agent of the CONTRACTOR and payments so made by the OWNER will be considered as a payment made under the CONTRACT by the OWNER to the CONTRACTOR and the OWNER will not be liable to the CONTRACTOR for any such payments made in good faith. Such payments may be made without prior determination of the claim or claims.

ARTICLE 9: INDEPENDENT CONTRACTOR: The CONTRACTOR will be considered an independent contractor, and, as such, has no authorization, expressed or implied, to bind the State of Utah or the OWNER to any agreement, settlement, liability or understanding whatsoever, nor to perform any acts as agent for the State of Utah, except as herein expressly set forth. The compensation provided for herein will be the total compensation payable hereunder by the State of Utah or the OWNER.

ARTICLE 10: LIABILITY AND INDEMNIFICATION: It is agreed that the CONTRACTOR will at all times protect and indemnify and save harmless, the State of Utah and all institutions, agencies, departments, authorities and instrumentalities of the State of Utah and any member of their governing bodies or of their boards or commissions or any of their elected or appointed officers or any of their employees or authorized volunteers, or the private landowners who have consented to reclamation construction and/or have consented to allow ingress or egress to a reclamation site, as described in the general conditions of the project specifications which are included herein by reference, from any and all claims, damages of every kind and nature made, rendered or incurred by or in behalf of any person or corporation whatsoever, including the parties hereto and their employees that may arise, occur or grow out of any acts, actions, work or other activity done by the CONTRACTOR in the performance and execution of this CONTRACT.

ARTICLE 11. SUBCONTRACTOR: No part of this CONTRACT may be sublet by the CONTRACTOR without the prior written approval of the OWNER. The CONTRACTOR and the OWNER for themselves, their heirs, successors, executors, and administrators, hereby agree to the full performance of the covenants herein contained.

ARTICLE 12. LIQUIDATED DAMAGES: In the event the CONTRACTOR fails to complete the WORK within the time agreed upon in CONTRACTOR's schedule as set forth in Article 1, or within such additional time as may have been allowed by the OWNER, there will be deducted from any moneys due or that may become due the CONTRACTOR the sum of $781.00 per day for each and every calendar day beyond the agreed or extended completion day that the WORK remains uncompleted. Such sum is fixed and agreed upon by the OWNER and the CONTRACTOR as liquidated damages due the OWNER by reason of the inconvenience and added costs of administration, engineering and supervision resulting from the CONTRACTOR's default, and not as a penalty.

Permitting the CONTRACTOR to continue and finish the WORK or any part of it after the time fixed for its completion, or after the date to which the time for completion may have been extended, in no way operates as a waiver on the part of the OWNER of any of OWNER'S rights under the CONTRACT.

ARTICLE 13. DEFAULT: In the event of default by the CONTRACTOR, termination may be executed as described by the Termination for Default Clause of the DIVISION OF OIL, GAS AND MINING GENERAL CONDITIONS FOR COALPROJECTS.

ARTICLE 14. NONAPPROPRIATION OF FUNDS: Financial obligations of the OWNER payable after the current fiscal year are not contingent upon funds for the purpose being appropriated, budgeted or otherwise made available. Therefore, this section is not applicable

ARTICLE 15. CERTIFICATIONS:
PART A: *Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transactions.* 1) The CONTRACTOR certifies that neither it nor its principals is presently

debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction (contract), by any Federal department or agency. 2) Where the CONTRACTOR is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.
PART B: *Certification Regarding Lobbying.* The undersigned certifies, to the best of his or her knowledge and belief, that: 1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress and officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement. 2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

The CONTRACTOR was selected for this contract in accordance with the State of Utah, Division of Purchasing's Regulations for the Procurement of Construction and Professional Services.

DOGM Construction Terms and Conditions (revised 09/24/03)

General Conditions
for
Division of Oil, Gas & Mining Projects

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63. Cutting, Patching and Digging
64. Cleaning Up
65. Testing of Materials
66. Temporary Enclosing, Drying Out, Etc.
67. Storage and Care of Materials
68. Temporary Appurtenances and Conveniences
69. Scaffolding, Tools, Etc.
70. Sanitary Provisions
71. Refuse
72. Rubbish Disposal

73. Removing Water
74. Safety
75. Emergencies
76. Normal Daylight Hours
77. Normal Working Days
78. Use of Explosives
79. Code Requirements
80. Conflict of Interest
81. Other Prohibited Interests
82. Debarment
83. Citizens Preferred
84. Equal Opportunity
85. Nondiscrimination and Affirmative Action
86. Affirmative Action
87. Compliance with Copeland Regulations
88. Overtime Compensation
89. Clean Air and Water

DIVISION OF OIL, GAS AND MINING
GENERAL CONDITIONS FOR
COALPROJECTS

1. Definitions:

A. The CONTRACT documents consist of the agreement, the general conditions of the CONTRACT, the drawings and specifications, including all modifications thereof incorporated in the documents before their execution. These form the CONTRACT.

B. The OWNER and the CONTRACTOR or pronouns used in place thereof, are those mentioned as such in the agreement. They are treated throughout the CONTRACT documents as if each were in the singular number.

C. The term "Subcontractor," as employed herein, includes anyone having a direct CONTRACT with anyone except the OWNER to provide material and/or labor under this CONTRACT, and it includes one who furnishes material worked to a special design according to the plans and/or specifications of this WORK, but does not include one who merely furnishes material not so worked.

D. The word "state," or pronoun used in place thereof, is to designate the State of Utah, as represented by the Division of Oil, Gas & Mining.

E. The word "OWNER," or pronoun used in place thereof, is to designate the State of Utah, as represented by the Division of Oil, Gas & Mining.

F. The term "WORK" of the CONTRACTOR or subcontractor includes labor or materials or both, and the SCOPE OF WORK.

G. The term "site" shall be used to refer to all areas where the WORK is to be performed.

H. The term "engineer" shall be used to refer to a consultant representing the OWNER or a designated representative of the OWNER.

I. The term "Procurement Officer" shall be used to refer to the procurement officer for the State of Utah [R33-1-1(5)] or a designated representative thereof.

J. The applicable laws and regulations of the State of Utah shall govern the execution of the WORK embodied in the contract documents.

2. Authority:

Provisions of this CONTRACT are pursuant to the authority set forth in Sections 63-56 UCA 1953 as amended, the Utah State Procurement Rules (Utah Administrative Code, Section R33), and related statutes which permit the OWNER to purchase certain specified services and other approved purchases for the State.

3. Correlation and Intent of Documents:

The CONTRACT documents are complementary, and what is called for by any one shall be as binding as if called for by all. The intention of the documents is to include all labor and materials, equipment, and transportation necessary for the proper and complete execution of the WORK, and equal in quality and workmanship to the highest standards. The CONTRACTOR is to abide by and comply with the true intent and meaning of all drawings and specifications taken as a whole and is not to avail himself to the detriment of the WORK, of any manifestly unintentional error or omission, should any exist. All minor details of WORK which are not shown on the plans, as well as such items as are not specifically mentioned in the specifications but are obviously necessary for the proper completion of the WORK, shall be considered as incidental and as being part of the WORK.

4. Separability Clause:

The declaration by any court or any other binding legal source that any provision of this CONTRACT is illegal and void shall not affect the legality and enforceability of any other provision of this CONTRACT unless the provisions are mutually dependent.

5. Conflicting Conditions:

Any provision in any of the CONTRACT documents which may be in conflict or inconsistent with any of the paragraphs in these general conditions shall be void to the extent of such conflict or inconsistency. In the event of conflicts of plans and specifications, the CONTRACTOR shall follow the most stringent requirements as approved by the OWNER.

6. Statement Clarification of Terms:

The Division of Oil, Gas & Mining will assume responsibility for design and engineering on this project and will provide inspection. See General Conditions 51, 52, and 53.

7. Copies Furnished:

Unless otherwise provided in the CONTRACT documents, the OWNER will furnish the CONTRACTOR, free of charge to the CONTRACTOR, copies of drawings and specifications, reasonably necessary for the execution of the WORK.

8. Detail Drawings and Instructions:

The OWNER shall furnish, with reasonable promptness, additional instructions, by means of drawings or otherwise, necessary for the proper execution of the WORK. All such drawings and instructions shall be consistent with the CONTRACT documents, true developments thereof, and reasonably inferable therefrom. The WORK shall be executed in conformity with the drawings and instructions. Any WORK performed by the CONTRACTOR in advance of these drawings and instructions shall be entirely at the CONTRACTOR's risk.

9. Ownership of Drawings:

All copies of drawings and specifications furnished the CONTRACTOR by the OWNER are the property of the OWNER. They are not to be used by the CONTRACTOR on other work, and are to be returned to the OWNER, upon request, at the completion of the WORK.

10. Dimensions:

Where no figures or memoranda are given, the drawings shall be accurately followed according to their scale, but figures or memoranda are to be preferred to the scale, in all cases of difference, and the larger scale details shall take preference over those of smaller scale.

11. Substitutions:

Where reference is made to one or more propriety products but restrictive descriptive material of one or more manufacturer(s) is used, it is understood that the products of other manufacturers will be accepted, provided they equal or exceed the standards set forth in the plans and specifications and are compatible with the intent and purpose of the design, subject to the written approval of the OWNER and the CONTRACT REPRESENTATIVE prior to the opening of bids. Requests for and information pertaining to said approval must be submitted to the OWNER no later than four (4) working days (not including Saturday, Sunday or state holidays) prior to bid opening. If the descriptive material is not restrictive, the products of other manufacturers specified will be accepted without prior approval provided they are compatible with the intent and purpose of the design.

The CONTRACTOR may propose the substitution of any material as a supplement to his/her bid with the monetary amount, additive or deductive as may be the case, clearly stated and shall include the manufacturer's complete descriptive information with the proposed substitution. This shall be completely apart and separate from the BID PRICE quotation and shall be solely for the information of the OWNER and the use of such proposed substitutions shall be strictly at the decision of the OWNER. If substitution is accepted by the OWNER, the CONTRACT sum shall be adjusted from the BID PRICE either up or down as indicated on the supplementary list by change order after award.

12. Samples:

The CONTRACTOR shall furnish to the OWNER for approval, all samples as directed. The WORK shall be in accordance with approved samples.

13. Drawings and Specifications on the WORK:

The CONTRACTOR shall keep at the jobsite one copy of all drawings and specifications on the WORK in good order, available to the OWNER and their representatives.

14. Shop Drawings/As-Built Drawings:

The CONTRACTOR shall submit to the OWNER, with such promptness as to cause no delay in his/her WORK or in that of any other contractor, six copies of all shop/as built drawings or setting drawings and schedules required for the WORK of the various trades and the OWNER shall pass upon them with reasonable promptness. The CONTRACTOR shall submit to the OWNER, with such promptness, making desired corrections. Said corrections shall pertain to conformance with the basic design concepts embodied in the CONTRACT documents. The CONTRACTOR shall make any corrections required by the OWNER. The OWNER shall distribute the corrected drawings as follows: Two drawings to the OWNER; three drawings back to the general CONTRACTOR; and one drawing to the project inspector (if one is assigned to the job). The OWNER's approval of such drawings or schedules shall not relieve the CONTRACTOR from responsibility for deviations from drawings or specifications, unless he/she has in writing called the OWNER's attention to such deviations at the time of submission, and has received the OWNER's written approval of such deviation; nor shall it relieve him/her from responsibility for errors of any sort in shop/as built drawings or schedules.

15. Materials, Appliances, Employees:

Unless otherwise stipulated, the CONTRACTOR shall provide and pay for all materials, labor, water, tools, equipment, light, power, transportation, and other facilities and services necessary for the execution and completion of the WORK.

Unless otherwise specified, all materials shall be new, and both workmanship and materials shall be of high quality. The CONTRACTOR shall, if required, furnish satisfactory evidence as to the kind and quality of materials.

The CONTRACTOR shall at all times enforce strict discipline and order among his/her employees, and shall not employ on the WORK any unfit person or anyone not skilled in the work assigned to him/her.

16. Superintendence and Supervision:

The CONTRACTOR shall keep on the WORK, during its progress, a competent superintendent and any necessary assistants, all satisfactory to the OWNER. The superintendent shall represent the CONTRACTOR in his/her absence, and all directions given to superintendent shall be as binding as if given to the CONTRACTOR.

The CONTRACTOR shall give efficient supervision to the WORK, using his/her best skill and attention. CONTRACTOR shall carefully study and compare all drawings, specifications and other instructions, and shall at once report to the OWNER any error, inconsistency, or omission which CONTRACTOR may discover, but shall not be held responsible for their existence or discovery.

17. Surveys, Permits and Regulations:

The OWNER shall furnish surveys necessary to establish site boundaries and existing topography. The OWNER shall provide those surveys necessary for laying out the WORK.

The CONTRACTOR shall give all notices and comply with all applicable laws, ordinances, rules and regulations bearing on the conduct of the WORK as drawn and specified. If the CONTRACTOR observes that the drawings and specifications are at variance therewith, he/she shall promptly notify the OWNER in writing, and any necessary changes shall be adjusted as provided in the contract for changes in the WORK. If the CONTRACTOR performs any work knowing it to be contrary to such laws, ordinances, rules and regulations and without such notice to the OWNER, he/she shall bear all costs arising therefrom.

Inasmuch as the WORK under this contract will be performed for the State of Utah, it will not be necessary to take out local building permits, electrical permits and plumbing permits, nor will it be necessary to pay fees for inspections pertaining thereto; however, it will be necessary to obtain a permit from the city, county, and or Department of Transportation having jurisdiction whenever the WORK involves their property. The CONTRACTOR shall cooperate as necessary with these jurisdictions to comply with all their requirements, which may include a bond and permit fee.

Fees for connection to utilities such as water and power must be borne by the CONTRACTOR.

18. Protection of Work and Property:

The CONTRACTOR shall continuously maintain adequate protection of all his/her WORK from damage and shall protect the OWNER's property from injury or loss arising in connection with this CONTRACT. CONTRACTOR shall make good any such damage, injury, or loss, except such as may be directly due to errors in the CONTRACT documents or caused by agents or employees of the OWNER. CONTRACTOR shall adequately protect adjacent property as provided by law and the CONTRACT documents.

The CONTRACTOR shall take all necessary precautions for the safety of employees on the WORK and shall comply with all applicable provisions of federal, state and municipal safety laws and building codes to prevent accidents or injury to persons on, about, or adjacent to the premises where the WORK is being performed. CONTRACTOR shall erect and properly maintain at all times, as required by the conditions and progress of the WORK, all necessary safeguards for the protection of workers and the public and shall post danger signs warning against hazardous conditions.

19. Inspection of Work:

The OWNER and the representatives thereof and authorized federal government inspectors shall at all times have access to the WORK, and the CONTRACTOR shall provide proper facilities for such access and for inspection.

If the specifications or the OWNER requires any work to be specially tested or approved, the CONTRACTOR shall give the OWNER timely notice of its readiness for inspection. Inspections shall be promptly made and, where practicable, at the source of supply. If any WORK should be covered up without approval or consent of the OWNER, it must, if required by the OWNER, be uncovered for examination at the CONTRACTOR's expense.

20. Access to Records:

The CONTRACTOR agrees to provide the OWNER, the U.S. Office of Surface Mining, The Comptroller General of the United States, or any of their duly authorized representatives access to any books, documents, papers, and records which are directly pertinent to this CONTRACT for the purpose of making audit, examination, excerpts, and transcriptions. Such access will be made during normal business hours, or by appointment.

21. Retention of Records:

The CONTRACTOR agrees to retain and preserve any books, documents, papers, and records which are directly

pertinent to this CONTRACT for a period of four years from the date of final payment for the WORK or from the date of Final Acceptance, whichever is later.

22. Liability Insurance:

To protect against liability, loss, or expense arising from damage to property or injury or death of any person or persons incurred in any way out of, in connection with or resulting from the WORK provided hereunder, CONTRACTOR shall obtain at its own expense from reliable insurance companies acceptable to OWNER's Risk Manager and authorized to do business in the state in which the work is to be performed, and shall maintain in full force during the entire period of this contract the following or equivalent insurance:

(a) Workers' Compensation Insurance and Employers' Liability Insurance providing statutory benefits.

(b) Comprehensive General Liability Insurance, including premises-operations; explosion; collapse and underground hazards; products and completed operation hazards; blanket contractual; broad form property damage; independent CONTRACTORs; and personal injury including employees with limits not less than $1,000,000 combined single limit per occurrence.

(c) Comprehensive Automobile Liability Insurance including owned, hired and non-owned automobiles with limits not less than $1,000,000 combined single limit per occurrence.

(d) CONTRACTOR using its own aircraft, or employing aircraft in connection with the WORK performed under this contract shall maintain Bodily Injury and Property Damage Liability coverage with a combined single limit of not less than $1,000,000 per occurrence.

Any policy required by this section may be arranged under a single policy for the full limit required, or by a combination of underlying policies with the balance provided by an Excess or Umbrella Liability policy.

OWNER may accept equivalent self-insured programs in lieu of insurance upon specific approval of OWNER's Risk Manager.

Irrespective of the requirements as to insurance to be carried by CONTRACTOR as provided herein, insolvency, bankruptcy or failure of any insurance company to pay all claims accruing, shall not be held to relieve CONTRACTOR of any obligations hereunder.

The State of Utah and all Institutions, Agencies, Departments, Authorities and Instrumentalities of the State of Utah, and while acting within the scope of their duties as such: any member of their governing bodies, or of their boards, commissions, or advisory committees, or any of their elected or appointed officials, or any of their employees or authorized volunteers shall be listed as additional insureds under each of the policies required to be purchased and maintained by CONTRACTOR, with the exception of Workers' Compensation. Each policy so required shall be primary to the aforesaid additional insureds listed above, and shall apply to the full policy limits prior to any other insurance coverage which the aforesaid additional insureds may have in the event of claim under any of said policies, but, only with respect to WORK being performed by CONTRACTOR on behalf of the aforesaid additional insureds.

Before the WORK is commenced, certificates evidencing that satisfactory coverage of the type and limits set forth above are in effect, shall be furnished to the OWNER. Such insurance policies shall contain provisions that no alteration, cancellation or material change therein shall become effective except upon thirty (30) days prior written notice to OWNER's Risk Manager as evidenced by return of registered or certified letter sent to OWNER's Risk Manager.

Any and all deductibles in the above described policies shall be assumed by, for the account of, and at sole risk of CONTRACTOR.

23. Property Insurance:

OWNER shall provide "all risk" property insurance to protect OWNER, as well as all CONTRACTORs, Subcontractors and sub-subcontractors with respect to WORK performed hereunder at OWNER's own cost and expense, according to the policy forms currently in force with insurance carriers selected by OWNER's Risk Manager. OWNER's Risk Manager will furnish, upon request, all parties in interest with copies of said policies authenticated by authorized agents of the insurers or the State Risk Management Fund.

The above described policies shall be subject to a total deductible of $500.00 per loss occurrence, which shall be assumed by all insureds in proportion to their share of the total amount of an insured loss occurrence.

Any insured property loss is to be adjusted with the OWNER's Risk Manager, and made payable to the OWNER's Risk Manager as trustee for the insureds, as their interests may appear, subject to the requirements of any applicable loss payable clause.

CONTRACTOR and OWNER hereby waive all rights against each other for damages caused by perils insured against under the property insurance provided by OWNER, except such rights as CONTRACTOR may have to the proceeds of such insurance held by the OWNER's Risk Manager as trustee.

If the CONTRACTOR requests in writing that insurance for special hazards be included in the property insurance policy,

the OWNER's Risk Manager shall, if possible, include such insurance, and the cost thereof shall be charged to the CONTRACTOR by appropriate change order.

24. Indemnification:

"Indemnities" shall be defined for the purposes of this section: the State of Utah and all institutions, agencies, departments, authorities, and instrumentalities of the State of Utah, and any member of their governing bodies, or of their boards or commissions, or any of their elected or appointed officers, or any of their employees or authorized volunteers.

The CONTRACTOR will protect, indemnify and hold harmless indemnities from every kind and character of damages, losses, expenses, demands, claims and causes of action arising against indemnities and their Subcontractors, their officers, agents, employees or any other person, firm or corporation whatsoever from, against, or on account of any and all claims damages, losses, demands causes of action and expenses (including attorney's fees) arising out of or resulting from any violation or alleged violation by CONTRACTOR, his officers, agents and employees, or his Subcontractors or their officers, agents and employees of any federal, state or local law, statute or ordinance, relating to the WORK to be performed by the CONTRACTOR on the project growing out of or incident to the WORK to be performed and operations to be conducted by CONTRACTOR, or his Subcontractors, under this agreement, whether such claims, death or damages, result from or are claimed to have resulted from the negligence of CONTRACTOR, his officers, agents or employees, or his Subcontractors, their officers, agents, employees, or whether resulting from or alleged to have resulted from the concurrent negligence of indemnities and/or CONTRACTORs, their officers, agents or employees. The CONTRACTOR, at his own expense, shall defend any suit or action brought against OWNER based on any such alleged injury, death or damage, and shall pay all damages, costs and expenses, including attorney's fees in connection therewith or in any manner resulting therefrom. Such damages will include all the injuries or damages occasioned by the failure of, use of, or misuse of any and all kinds of equipment, whether owned or rented by CONTRACTOR or furnished by a Subcontractor.

The OWNER shall be fully informed by the CONTRACTOR of settlement negotiations regarding any matter referred to in the preceding paragraph and shall first approve any settlement to be made by CONTRACTOR. Any such settlement shall include a release of all claims relating to OWNER. The form copy of all releases obtained shall be furnished by OWNER. If CONTRACTOR is unable to make settlement of any such claims within fifteen (15) days after the final completion date, the OWNER reserves the right, at his/her option, to either make settlement of the claim and charge the amount to CONTRACTOR or to withhold the dollar amount, in whole or in part, of the claim or claims in question from payment to CONTRACTOR until OWNER receives a release for such claim or claims.

In any and all claims against indemnities by any employee or CONTRACTOR, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation under this article shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for CONTRACTOR or any Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

The CONTRACTOR shall indemnify and hold harmless indemnities from all claims, demands, causes of action or suits of whatever nature arising out of services, equipment, supplies, materials and/or labor furnished by CONTRACTOR or its Subcontractors under this agreement; from all labor and/or mechanic or materialmen liens upon the real property upon which the work is located arising in favor of laborers and/or materialmen, Subcontractors and suppliers, out of services, equipment, supplies, materials and/or labor furnished by CONTRACTOR or any of his/her Subcontractors from all liens, claims and encumbrances arising from the performance of CONTRACTOR or his/her Subcontractors.

25. Changes:

1. Change Order. The Procurement Officer, at any time, and without notice to the sureties, in a signed writing designated or indicated to be a change order, may order:

   (a) Changes in the WORK within the scope of the CONTRACT; and

   (b) Changes in the time for performance of the CONTRACT that do not alter the scope of the CONTRACT

2. Adjustment of Price or Time for Performance. If any such change order increases or decreases the CONTRACTOR's cost of, or the time required for, performance of any part of the WORK under this CONTRACT, whether or not changed by the order, an adjustment shall be made and the contract modified in writing accordingly. Any adjustment in contract price made pursuant to this clause shall be determined in accordance with the Price Adjustment Clause of this contract.

   Failure of the parties to agree to an adjustment shall not excuse a CONTRACTOR from proceeding with the contract as changed, provided that the State promptly and duly makes such provisional adjustments in payments or time for performance as may be reasonable.

3. Written Certification. The CONTRACTOR shall not perform any change order which increases the CONTRACT amount unless it bears, or the CONTRACTOR has separately received, a written certification, signed by the fiscal officer of the entity responsible for funding the project or CONTRACT or other official responsible for monitoring and reporting upon the status of the costs of the total project or contract budget that funds are available therefor; and, if acting in good faith, the CONTRACTOR may rely upon the validity of such certification.

4. Time Period for Claim. Within 30 days after receipt of a written change order under Paragraph (1) (Change Order) of this clause, unless such period is extended by the Procurement Officer in writing, the CONTRACTOR shall file notice of intent to assert a claim for an adjustment.

5. Claim Barred after Final Payment. No claim by the contractor for an adjustment hereunder shall be allowed if notice is not given prior to final payment under this contract.

6. Claims Not Barred. In the absence of such a change order, nothing in this clause shall restrict the CONTRACTOR's right to pursue a claim arising under the CONTRACT, if pursued in accordance with the clause entitled 'Claims Based on a Procurement Officer's Actions or Omissions Clause' (General Condition 33) or for breach of contract.

[Reference: Utah Admin Code R33-5-420]

26. Variations in Estimated Quantities:

1 Variations Requiring Adjustments. Where the quantity of a pay item in this CONTRACT is an estimated quantity and where the actual quantity of such pay item varies more than 15% above or below the estimated quantity stated in this CONTRACT, an adjustment in the CONTRACT price shall be made upon demand of either party. The adjustment shall be based upon any increase or decrease in costs due solely to the variation above 15% or below 85% of the estimated quantity. If the quantity variation is such as to cause an increase in the time necessary for completion, the Procurement Officer shall, upon receipt of a timely written request for an extension of time, prior to the date of final settlement of the CONTRACT, ascertain the facts and make such adjustment for extending the completion date as in the judgment of the Procurement Officer the findings justify.

2. Adjustments of Price. Any adjustment in CONTRACT price made pursuant to this clause shall be determined in accordance with the Price Adjustment Clause (General Condition 28) of this CONTRACT.

[Reference: Utah Admin Code R33-5-430]

27. Differing Site Conditions: Price Adjustments:

1. Notice. The CONTRACTOR shall promptly, and before such conditions are disturbed, notify the Procurement Officer of:

   (a) subsurface or latent physical conditions at the site differing materially from those indicated in this CONTRACT; or

   (b) Unknown physical conditions at the site of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in WORK of the character provided for in this CONTRACT.

2. Adjustments of Price or Time for Performance. After receipt of such notice, the Procurement Officer shall promptly investigate the site, and if it is found that such conditions do materially so differ and cause an increase in the CONTRACTOR's cost of, or the time required for, performance of any part of the WORK under this contract, whether or not changed as a result of such conditions, an adjustment shall be made and the CONTRACT modified in writing accordingly. Any adjustment in CONTRACT price made pursuant to this clause shall be determined in accordance with the Price Adjustment Clause (General Condition 28) of this CONTRACT.

3. Timeliness of Claim. No claim of the CONTRACTOR under this clause shall be allowed unless the CONTRACTOR has given the notice required in this clause; provided, however, that the time prescribed therefor may be extended by the Procurement Officer in writing.

4. No Claim After Final Payment. No claim by the CONTRACTOR for an adjustment thereunder shall be allowed if asserted after final payment under this CONTRACT.

5. Knowledge. Nothing contained in this clause shall be grounds for an adjustment in compensation if the CONTRACTOR had actual knowledge of the existence of such conditions prior to the submission of bids.

[Reference: Utah Admin Code R33-5-450]

28. Price Adjustment:

1. Price Adjustment Methods. Any adjustment in CONTRACT price pursuant to any clause in this CONTRACT shall be made in one or more of the following ways:

   (a) by agreement on a fixed price adjustment before commencement of the pertinent performance or as soon thereafter as practicable;

   (b) by unit prices specified in the CONTRACT or subsequently agreed upon;

   (c) by the costs attributable to the event or situation covered by the clause, plus appropriate profit or fee, all as specified in the CONTRACT or subsequently agreed upon;

(d) in such other manner as the parties may mutually agree; or

(e) in the absence of agreement between the parties, by a unilateral determination by the Procurement Officer of costs attributable to the event or situation covered by the clause, plus appropriate profit or fee, all as computed by the Procurement Officer in accordance with generally accepted accounting principles and applicable sections of the rules promulgated under Section 63G-6-415 (Cost Principles) and subject to the provisions of Part H (Legal and Contractual Remedies) of the Utah Procurement Code.

2. Submission of Cost or Pricing Data. The CONTRACTOR shall submit cost or pricing data for any price adjustments subject to the provisions of Section 63G-6-415 (Cost Principles) of the Utah Procurement Code.

[Reference: Utah Admin Code R33-5-460]

29. Suspension of WORK:

1. Suspension for Convenience. The Procurement Officer may order the CONTRACTOR in writing to suspend, delay or interrupt all or any part of the WORK for such period of time as the Procurement Officer may determine to be appropriate for the convenience of the State.

2. Adjustment of Cost. If the performance of all or any part of the WORK is, for an unreasonable period of time, suspended, delayed, or interrupted by an act of the Procurement Officer in the administration of this CONTRACT, or by the failure of the Procurement Officer to act within the time specified in this CONTRACT (or if no time is specified, within reasonable time), an adjustment shall be made for any increase in the cost of performance of this CONTRACT necessarily caused by such unreasonable suspension, delay, or interruption and the CONTRACT modified in writing accordingly. However, no adjustment shall be made under this clause for any suspension, delay, or interruption to the extent:

   (a) that performance would have been so suspended, delayed or interrupted by any other cause, including the fault or negligence of the CONTRACTOR; or

   (b) for which an adjustment is provided for or excluded under any other provision of this CONTRACT.

3. Time Restriction on Claim. No claim under this clause shall be allowed:

   (a) for any costs incurred more than 20 days before the contractor shall have notified the Procurement Officer in writing of the act or failure to act involved (but this requirement shall not apply as to a claim resulting from a suspension order); and

   (b) unless the claim is asserted in writing as soon as practicable after the termination of such suspension, delay, or interruption, but not later than the date of final payment under the CONTRACT.

4. Adjustments of Price. Any adjustment in contract price made pursuant to this clause shall be determined in accordance with the Price Adjustment Clause (General Condition 28) of this CONTRACT.

[Reference: Utah Admin Code R33-5-440]

30. Termination for Default for Nonperformance or Delay Damages for Delay-Time Extensions:

1. Default. If the CONTRACTOR refuses or fails to prosecute the WORK, or any separable part thereof, with such diligence as will assure its completion within the time specified in this CONTRACT, or any extension thereof, fails to complete said WORK within such time, or commits any other substantial breach of this CONTRACT, and further fails within fourteen (14) days after receipt of written notice from the Procurement Officer to commence and continue correction of such refusal or failure with diligence and promptness, the Procurement Officer may, by written notice to the CONTRACTOR, declare the CONTRACTOR in breach and terminate the CONTRACTOR 's right to proceed with the WORK or such part of the WORK as to which there has been delay. In such event, the State may take over the WORK and prosecute the same to completion, by contract or otherwise, and may take possession of, and utilize in completing the WORK, such materials, appliances, and plant as may be on the site of the WORK and necessary therefor. Whether or not the CONTRACTOR 's right to proceed with the WORK is terminated, the CONTRACTOR and the CONTRACTOR 's sureties shall be liable for any damage to the State resulting from the CONTRACTOR 's refusal or failure to complete the WORK within the specified time.

2. Liquidated Damages Upon Termination. If fixed and agreed liquidated damages are provided in the CONTRACT, and if the State so terminates the CONTRACTOR 's right to proceed, the resulting damage will consist of such liquidated damages for such reasonable time as may be required for final completion of the WORK.

3. Liquidated Damages in Absence of Termination. If fixed and agreed liquidated damages are provided in the CONTRACT, and if the State does not terminate the CONTRACTOR's right to proceed, the resulting damage will consist of such liquidated damages until the WORK is completed or accepted.

4. Time Extension. The CONTRACTOR 's right to proceed shall not be so terminated nor the CONTRACTOR charged with resulting damage if:

(a) the delay in the completion of the work arises from causes such as: acts of God; acts of the public enemy; acts of the State and any other governmental entity in either a sovereign or contractual capacity; acts of another contractor in the performance of a contract with the State; fires; floods; epidemics; quarantine restrictions; strikes or other labor disputes; freight embargoes; unusually severe weather; delays of subcontractors due to causes similar to those set forth above; or shortage of materials; provided, however, that no extension of time will be granted for a delay caused by a shortage of materials, unless the CONTRACTOR furnishes to the Procurement Officer proof that the CONTRACTOR has diligently made every effort to obtain such materials from all known sources within reasonable reach of the work, and further proof that the inability to obtain such materials when originally planned did in fact cause a delay in final completion of the entire WORK which could not be compensated for by revising the sequence of the CONTRACTOR 's operations; and

(b) the CONTRACTOR, within ten days from the beginning of any such delay (unless the Procurement Officer grants a further period of time before the date of final payment under the CONTRACT), notifies the Procurement Officer in writing of the causes of delay. The Procurement Officer shall ascertain the facts and the extent of the delay and extend the time for completing the WORK when, in the judgment of the Procurement Officer, the findings of fact justify such an extension.

5. Erroneous Termination for Default. If, after notice of termination of the CONTRACTOR 's right to proceed under the provisions of this clause, it is determined for any reason that the CONTRACTOR was not in default under the provisions of this clause, or that the delay was excusable under the provisions of this clause, the rights and obligations of the parties shall, if the CONTRACT contains a clause providing for termination for convenience of the State, be the same as if the notice of termination had been issued pursuant to such clause. If, in the foregoing circumstances, this CONTRACT does not contain a clause providing for termination for convenience of the State, the CONTRACT shall be adjusted to compensate for such termination and the contract modified accordingly.

6. Additional Rights and Remedies. The rights and remedies of the State provided in this clause are in addition to any other rights and remedies provided by law or under this CONTRACT.

[Reference: Utah Admin Code R33-5-480]

31. Termination for Convenience:

1. Termination. The Procurement Officer may, when the interests of this State so require, terminate this CONTRACT in whole or in part, for the convenience of the State. The Procurement Officer shall give written notice of the termination to the CONTRACTOR specifying the part of the CONTRACT terminated and when termination becomes effective.

2. CONTRACTOR 's Obligations. The CONTRACTOR shall incur no further obligations in connection with the terminated WORK and on the date set in the notice of termination, the CONTRACTOR will stop work to the extent specified. The CONTRACTOR shall also terminate outstanding orders and subcontracts as they relate to the terminated WORK. The CONTRACTOR shall settle the liabilities and claims arising out of the termination of subcontracts and orders connected with the terminated WORK. The Procurement Officer may direct the CONTRACTOR to assign the CONTRACTOR's right, title, and interest under terminated orders or subcontracts to the State. The CONTRACTOR shall still complete the WORK not terminated by the notice of termination and may incur obligations as necessary to do so.

3. Right to Construction and Supplies. The Procurement Officer may require the CONTRACTOR to transfer title and deliver to the State in the manner and to the extent directed by the Procurement Officer:

   (a) any completed construction; and

   (b) such partially completed construction, supplies, materials, parts, tools, dies, jigs, fixtures, plans, drawings, information, and contract rights (hereinafter called "construction material") as the CONTRACTOR has specifically produced or specially acquired for the performance of the terminated part of this CONTRACT.

   The CONTRACTOR shall protect and preserve property in the possession of the CONTRACTOR in which the State has an interest. If the Procurement Officer does not exercise this right, the CONTRACTOR shall use best efforts to sell such construction, supplies, and construction materials in accordance with the standards of Uniform Commercial Code Section 2-706. This in no way implies that the State has breached the CONTRACT by exercise of the Termination for Convenience Clause.

4. Compensation.

   (a) The CONTRACTOR shall submit a termination claim specifying the amounts due because of the termination for convenience together with cost or pricing data, submitted to the extent required by Section 63G-6-415 (Cost or Pricing Data) of the Utah Procurement Code, bearing on such claim. If the CONTRACTOR fails to file a termination claim within one year from the effective date of termination, the Procurement Officer may pay the CONTRACTOR, if at all, an amount set in accordance with Subparagraph (c) of this Paragraph.

   (b) The Procurement Officer and the CONTRACTOR may agree to a settlement provided the CONTRACTOR has filed a termination claim supported by cost or pricing data submitted as required by Section 63G-6-601 (Cost or Pricing Data) of the Utah Procurement Code and that the settlement does not exceed the total CONTRACT

price plus settlement costs reduced by payments previously made by the State, the proceeds of any sales of construction, supplies, and construction materials under Paragraph (3) of this clause, and the CONTRACT price of the work not terminated.

(c) Absent complete agreement under Subparagraph (b) of this paragraph, the Procurement Officer shall pay the CONTRACTOR the following amounts, provided payments under Subparagraph (b) shall not duplicate payments under this paragraph:

(i) with respect to all CONTRACT WORK performed prior to the effective date of the notice of termination, the total (without duplication of any items) of:

(A) the cost of such WORK plus a fair and reasonable profit on such portion of the WORK (such profit shall not include anticipatory profit or consequential damages) less amounts paid or to be paid for completed portions of such WORK; provided, however, that if it appears that the CONTRACTOR would have sustained a loss if the entire CONTRACT would have been completed, no profit shall be allowed or included and the amount of compensation shall be reduced to reflect the anticipated rate of loss;

(B) costs of settling and paying claims arising out of the termination of subcontracts or orders pursuant to paragraph (2) of this clause. These costs shall not include costs paid in accordance with subparagraph (c)(i)(A) of this paragraph;

(C) the reasonable settlement costs of the CONTRACTOR including accounting, legal, clerical, and other expenses reasonably necessary for the preparation of settlement claims and supporting data with respect to the terminated portion of the CONTRACT and for the termination and settlement of subcontracts thereunder, together with reasonable storage, transportation, and other costs incurred in connection with the protection or disposition of property allocable to the terminated portion of this CONTRACT.

The total sum to be paid the CONTRACTOR under this paragraph shall not exceed the total CONTRACT price plus the reasonable settlement costs of the CONTRACTOR reduced by the amount of any sales of construction, supplies, and construction materials under paragraph (3) of this clause, and the CONTRACT price of work not terminated.

(d) Cost claimed, agreed to, or established under subparagraphs (b) and (c) of this paragraph shall be in accordance with Section R33-3-8.

[Reference: Utah Admin Code R33-5-495]

32. Termination for Breach, Etc.:

If the CONTRACTOR shall be adjudged bankrupt, or if CONTRACTOR should make a general assignment for the benefit of his/her creditors, or if a receiver should be appointed on account of CONTRACTOR's insolvency, or if CONTRACTOR or any of his/her Subcontractors should violate any of the provisions of this CONTRACT, the OWNER may serve written notice upon CONTRACTOR of its intention to terminate said CONTRACT; and unless within ten (10) days after the serving of such notice, such violation shall cease, the OWNER then may take over the WORK and prosecute same to completion by CONTRACT or by any other method it may deem advisable for the amount and at the expense of the CONTRACTOR. The CONTRACTOR shall be liable to the OWNER for any excess cost occasioned the OWNER thereby and in such event, the OWNER may, without liability for so doing, take possession of and utilize in completing the WORK, such materials, appliances, paint, and any other property belonging to the CONTRACTOR as may be on the site of the work and necessary therefor.

33. Claims Based on a Procurement Officer's Actions or Omissions:

1. Notice of Claim. If any action or omission on the part of a Procurement Officer or designee of such officer, requiring performance changes within the scope of the CONTRACT and which are not covered by other clauses of this CONTRACT, constitutes the basis for a claim by the CONTRACTOR for additional compensation, damages, or an extension of time for completion, the CONTRACTOR shall continue with performance of the CONTRACT in compliance with the directions or orders of such officials, but by so doing, the CONTRACTOR shall not be deemed to have prejudiced any claim for additional compensation, damages, or an extension of time for completion; provided:

(a) The CONTRACTOR shall have given written notice to the Procurement Officer or designee of such officer:

(i) prior to the commencement of the WORK involved, if at that time the CONTRACTOR knows of the occurrence of such action or omission;

(ii) Within thirty (30) days after the CONTRACTOR knows of the occurrence of such action or omission, if the CONTRACTOR did not have such knowledge prior to the commencement of the WORK; or

(iii) within such further time as may be allowed by the Procurement Officer in writing.

This notice shall state that the CONTRACTOR regards the act or omission as a reason which may entitle the CONTRACTOR to additional compensation, damages, or an extension of time. The Procurement Officer or

designee of such officer, upon receipt of such notice, may rescind such action, remedy such omission, or take such other steps as may be deemed advisable in the discretion of the Procurement Officer or designee of such officer;

(b) The notice required by Subparagraph (a) of this Paragraph describes as clearly as practicable at the time the reasons why the CONTRACTOR believes that additional compensation, damages, or an extension of time may be remedies to which the CONTRACTOR is entitled; and

(c) The CONTRACTOR maintains and, upon request, makes available to the Procurement Officer within a reasonable time, detailed records to the extent practicable, of the claimed additional costs or basis for an extension of time in connection with such changes.

2. Limitation of Clause. Nothing herein contained, however, shall excuse the CONTRACTOR from compliance with any rules of law precluding any State officers and any contractors from acting in collusion or bad faith in issuing or performing change orders which are clearly not within the scope of the CONTRACT.

3. Adjustments of Price. Any adjustment in the CONTRACT price made pursuant to this clause shall be determined in accordance with the Price Adjustment Clause (General Condition 28) of this CONTRACT.

[Reference: Utah Admin Code R33-5-470]

34. Liquidated Damages:

The CONTRACTOR is referred to Attachment C, Article 12 of the CONTRACT for conditions of liquidated damages.

35. Remedies:

Any dispute arising under or out of this CONTRACT is subject to the provisions of Part H (Legal and Contractual Remedies) of the Utah Procurement Code.

[Reference: Utah Admin Code R33-5-497]

36. Delays and Extension of Time:

If the CONTRACTOR is significantly delayed at any time in the progress of the WORK by any act or neglect of the OWNER, or of any employee of either, or by any separate CONTRACTOR employed by the OWNER, or by significant changes ordered in the WORK or by strikes, lockouts, fire, unavoidable casualties or any causes beyond the CONTRACTOR's control, or by any cause which the OWNER shall decide justifies the delay, then the time of completion shall be extended for such reasonable time as the OWNER may decide. No action shall lie against the OWNER for damages or other claims due to losses attributable to hindrances or delays from any cause whatsoever, including acts and omissions of the OWNER or its agents; however, the CONTRACTOR may receive an extension of time in which to complete the WORK under this CONTRACT as provided above. The right to apply for such an extension of time shall be the exclusive remedy available to the CONTRACTOR or any Subcontractor as against the OWNER for such loss.

Any request for extension of time shall be made to the OWNER in writing within seven (7) days from the time of occurrence of cause for delay. In case of a continuing cause of delay, only one claim is necessary.

37. Balancing and Testing:

It is the intent of this specification that the site, when presented to the OWNER for final acceptance, be complete and operable in all respects, including, but not limited to, mechanical, utilities, and other systems which are tuned, tested, and balanced to the satisfaction of the OWNER, or his/her appropriate engineers and consultants. Any and all testing and balancing necessary shall be done as part of the CONTRACT with the state.

During, or in connection with the inspection of the WORK, the CONTRACTOR or his/her appropriate Subcontractor(s) shall perform such tests and/or demonstrations of the operation of the systems, or its components, as may be requested by the OWNER, or his/her appropriate engineers and consultants, as necessary to adequately determine the acceptability of the installation.

38. Substantial Completion:

The OWNER will conduct inspections to determine the dates of substantial completion and final payment, will receive written guarantees and related documents required by the CONTRACT and assembled by the CONTRACTOR and submit these to the OWNER, and will issue a final certificate for payment.

The date of substantial completion of the WORK or designated portion thereof is the date certified by the OWNER when construction is sufficiently complete in accordance with the CONTRACT documents so the OWNER may occupy the site or designated portion thereof for the use for which it is intended. When the CONTRACTOR determines that the WORK, or a designated portion thereof acceptable to the OWNER, is substantially complete, the OWNER shall prepare a list of items to be completed or corrected. The failure to include any item on such list does not alter the responsibility of the CONTRACTOR to complete all WORK in accordance with the contract documents. When the OWNER, on the basis of an inspection, determines that this WORK is substantially complete, the CONTRACT REPRESENTATIVE then will

prepare a Certificate of Substantial Completion which shall establish the date of substantial completion; shall state the responsibilities of the OWNER and the CONTRACTOR for maintenance, heat, utilities and insurance; and shall fix the time within which the CONTRACTOR shall complete the items listed therein, said time to be within the CONTRACT time unless extended pursuant to Article, "Delays and Extension of Time." The certificate of substantial completion shall be submitted to the OWNER and the CONTRACTOR for their written acceptance of the responsibilities assigned to them in such certificate. A sample form of the certificate of substantial completion is included in the specifications.

If within one year after the date of substantial completion or within such longer period of time as may be prescribed by law or by the terms of any applicable special guarantee required by the CONTRACT documents, any of the WORK is found to be defective or not in accordance with the CONTRACT documents, the CONTRACTOR shall correct it promptly after receipt of written notice from the OWNER to do so unless the OWNER has previously given the CONTRACTOR a written acceptance of such condition. The OWNER shall give such notice promptly after discovery of the condition.

39. Application for Payments:

The CONTRACTOR shall submit an application monthly for progress payments to the OWNER for approval. The CONTRACT REPRESENTATIVE shall approve the payment, and obtain the signature of the inspector for payment. Receipts or other vouchers showing payments for the materials and labor, including payments to Subcontractors, for the preceding month shall be submitted with the application if required.

If payments are made on valuation of WORK done, such application shall be submitted at least ten days before each payment falls due. The CONTRACTOR shall, before the first application, submit to the OWNER, a schedule of values for the various parts of the WORK, including quantities, aggregating the total sum of the CONTRACT, divided so as to facilitate payments as outlined above and made out in such form as the OWNER and the CONTRACTOR may agree upon, and supported by such evidence as to its correctness as the OWNER may direct. This schedule, when approved by the OWNER, shall be used as a basis for payment, unless it be found to be in error. In applying for payments, the CONTRACTOR shall submit in duplicate a statement based upon this schedule and itemized in such form and supported by such evidence as the OWNER may direct, showing CONTRACTOR's right to the payment claimed.

In making payments to the CONTRACTOR for completed WORK or for materials stored on site, it is understood between the OWNER and the CONTRACTOR that proportionate parts of such payments as are made to the CONTRACTOR for completed WORK of Subcontractors and/or suppliers will be transmitted to such Subcontractors and/or suppliers in the form of payments for completed WORK within ten (10) days after receipt of such payments by the CONTRACTOR. The submittal of an application by a CONTRACTOR for a progress payment shall constitute prima facie representation by that CONTRACTOR that all previous proportionate payments made by the OWNER to the CONTRACTOR for completed WORK of Subcontractors and/or suppliers have been transmitted to all appropriate Subcontractors and/or suppliers for their completed WORK within ten (10) days after receipt of respective payments.

The CONTRACTOR may request retainage to be paid to an escrow agent for interest to accrue to the CONTRACTOR's benefit. See OWNER for forms and more information.

40. OWNER's Right to Withhold Certain Amounts and Make Application Thereof:

The OWNER may withhold from payment to the CONTRACTOR such an amount or amounts as, in its judgment, may be necessary to pay just claims against the CONTRACTOR or any Subcontractor for labor and services rendered and materials furnished in and about the WORK. The OWNER may apply such withheld amounts on the payment of such claims in its discretion. In so doing, the OWNER shall be deemed the agent of the CONTRACTOR and payments so made by the OWNER shall be considered as a payment made under the CONTRACT by the OWNER to the CONTRACTOR and the OWNER shall not be liable to the CONTRACTOR for any such payments in good faith made. Such payments may be made without prior determination of the claim or claims.

Neither the final certificate of payment nor any provision in the CONTRACT documents, nor partial or entire occupancy of the premises by the OWNER shall constitute an acceptance of WORK not done in accordance with the contract documents or relieve the CONTRACTOR of liability in respect to any express warranties or responsibility for faulty materials or workmanship. The CONTRACTOR shall remedy any defects in the WORK and pay for any damage to other WORK resulting therefrom, which shall appear within a period of one year from the date of the certificate of substantial completion of the WORK, unless a longer period is specified. The OWNER will give notice of observed defects with reasonable promptness.

41. Deductions for Uncorrected Work:

If the OWNER deems it inexpedient to correct WORK damaged or done not in accordance with the CONTRACT, an equitable deduction from the CONTRACT price shall be made therefor.

42. Correction of WORK Before Final Payment:

The CONTRACTOR shall promptly remove from the premises all WORK condemned by the OWNER as failing to conform to the CONTRACT, whether incorporated or not, and the CONTRACTOR shall promptly replace and reexecute his/her own WORK in accordance with the CONTRACT and without expense to the State of Utah and shall bear the expense of making good all WORK of other CONTRACTORS destroyed or damaged by such removal or replacement.

If the CONTRACTOR does not remove such condemned WORK within a reasonable time, fixed by written notice, the

OWNER may have the materials removed and stored at the expense of the CONTRACTOR.

43. Correction of WORK After Final Payment:

Neither the final certificate of payment nor any provision in the CONTRACT documents nor partial or entire occupancy of the premises by the OWNER shall constitute an acceptance of WORK not done in accordance with the CONTRACT documents or relieve the CONTRACTOR of liability in respect to any express warranties or responsibility for faulty materials or workmanship. The CONTRACTOR shall remedy any defects in the WORK and pay for any damage to other WORK resulting therefrom which shall appear within a period of one year from the date of substantial completion of the WORK, unless a longer period is specified. The OWNER will give notice of observed defects with reasonable promptness.

44. Liens:

Neither the final payment nor any part of the retained percentage shall become due until the CONTRACTOR, if required, shall deliver to the OWNER a complete release of all liens arising out of this CONTRACT, or receipts in full in lieu thereof, and, if required in either case, an affidavit that so far as CONTRACTOR has knowledge or information the releases and receipts include all the labor and materials for which a lien could be filed, but the CONTRACTOR may, if any Subcontractor refuses to furnish a release or receipt in full, furnish a bond satisfactory to the OWNER to indemnify him/her against any lien. If any lien remain unsatisfied after all payments are made, the CONTRACTOR shall refund to the OWNER all moneys that the latter may be compelled to pay in discharging such a lien, including all costs and a reasonable attorney's fee.

45. Assignment:

The CONTRACTOR shall not assign the CONTRACT or sublet it as a whole without the written consent of the OWNER, nor shall the CONTRACTOR assign any moneys due or to become due to CONTRACTOR hereunder, without the previous written consent of the OWNER.

46. Separate Contracts:

The OWNER reserves the right to let other CONTRACTS in connection with this WORK. The CONTRACTOR shall afford other CONTRACTORs reasonable opportunity for the introduction and storage of their materials and the execution of their work and shall properly connect and coordinate his/her WORK with theirs.

If any part of the CONTRACTOR's WORK depends for proper execution or results upon the WORK of any other CONTRACTOR, the CONTRACTOR shall inspect and promptly report to the OWNER any defects in such WORK that render it unsuitable for such proper execution and results. His/her failure so to inspect and report shall constitute an acceptance of the other CONTRACTOR's work as fit and proper for the reception of his/her work, except as to defects which may develop in the other CONTRACTOR's WORK after the execution of his/her WORK. To insure the proper execution of his/her subsequent WORK, the CONTRACTOR shall measure WORK already in place and shall at once report to the OWNER any discrepancy between the executed WORK and the drawings.

47. Mutual Responsibility of Contractors:

Should the CONTRACTOR cause damage to any separate CONTRACTOR on the WORK, the CONTRACTOR agrees, upon due notice, to settle with such CONTRACTOR by agreement or arbitration, if he/she will so settle. If such separate CONTRACTOR sues the OWNER on account of any damage alleged to have been so sustained, the OWNER shall notify the CONTRACTOR, who shall defend such proceedings at his/her own expense, and if any judgment against the OWNER arises therefrom, the CONTRACTOR shall pay or satisfy it in its entirety.

48. Subcontractors:

The two apparent low bidders shall furnish to the OWNER, within twenty-four (24) hours after the opening of bids, a list of the Subcontractors by name and amounts where Subcontractors' bids are in excess of $5,000 and shall not employ any that the OWNER may, within a reasonable time, object to as incompetent or unfit. Bidders shall not list themselves or "self" under any category as Subcontractor unless the bidder intends to perform as the Subcontractor for which he/she lists "self," and unless he/she generally and regularly performs that type of subcontract WORK. The OWNER shall, on request, furnish to any Subcontractor, wherever practicable, evidence of the amounts certified on this account.

The CONTRACTOR agrees that CONTRACTOR is as fully responsible to the OWNER for the acts and omissions of his Subcontractors and of persons either directly or indirectly employed by them, as he/she is for the acts and omissions of persons directly employed by CONTRACTOR.

Nothing contained in the CONTRACT documents shall create any contractual relation between any Subcontractor or supplier and the OWNER.

49. Relations of CONTRACTOR and Subcontractor:

The CONTRACTOR agrees to bind every Subcontractor and every Subcontractor agrees to be bound by the terms of the agreement, the general conditions, and the drawings and specifications as far as applicable to his/her WORK. Nothing in this article shall create any obligation on the part of the OWNER to pay or to see to the payment of any sums to any

Subcontractor.

50. Subcontractor's Financial Bid Limits and License Classification:

The CONTRACTOR shall verify the license classification and bid limit of each of his/her Subcontractors. Regulations prohibit work of the above Subcontractors exceeding their respective bid limit and working outside of license classification as determined by the Division of Occupational and Professional Licensing, Department of Commerce.

In the event the bid limit or classification is not complied with, the respective Subcontractor(s) mentioned above will be disqualified by the OWNER, and the CONTRACTOR shall be responsible to provide a suitable and properly qualified Subcontractor as approved by the OWNER without a change in the contract price.

51. CONTRACT REPRESENTATIVE Status:

The OWNER shall appoint a CONTRACT REPRESENTATIVE who shall have general supervision of the work and he/she is the agent of the OWNER to the extent provided in the CONTRACT documents and when in special instances he/she is authorized by the OWNER to so act.

As the CONTRACT REPRESENTATIVE is, in the first instance, an interpreter of the conditions of the CONTRACT and a judge of its performance, he/she shall side neither with the OWNER nor with the CONTRACTOR, but shall use his/her powers under the CONTRACT to enforce its faithful performance by both.

52. CONTRACT REPRESENTATIVE's Decisions:

The CONTRACT REPRESENTATIVE shall, within a reasonable time, make decisions on all claims of the OWNER or CONTRACTOR and on all other matters relating to the execution and progress of the WORK or the interpretation of the CONTRACT documents.

53. State's Inspection:

The OWNER, at his/her option, may assign a inspector to the project. Such staff inspector will cooperate with the CONTRACT REPRESENTATIVE and design engineer in noting deviations from, or necessary adjustments to, the CONTRACT documents or of deficiencies or defects in the construction. The staff inspector's presence on the project, however, shall in no way relieve the CONTRACT REPRESENTATIVE of the prime responsibilities as set forth herein.

54. Monthly Progress Meetings:

Monthly progress meetings may be held at the discretion of the OWNER or the general CONTRACTOR, at which time the Subcontractors and/or suppliers will be required to be present.

55. Guarantee Bonds:

The CONTRACTOR shall include in his/her bid, as part of the quoted total, all costs involved in securing and furnishing the following bonds based on the completed cost of the CONTRACT:

(a) A full 100% performance bond covering the faithful execution of the CONTRACT; and

(b) A full 100% payment bond of all obligations arising thereunder.

56. Taxes:

The CONTRACTOR shall include in his/her BID PRICE the cost of social security, unemployment compensation, and sales and use taxes as required by federal and state laws.

57. Cash Allowances:

The CONTRACTOR shall include in the BID PRICE all allowances named in the CONTRACT documents and shall cause the WORK so covered to be done by such CONTRACTORs and for such sums as the CONTRACT REPRESENTATIVE may specify and certify, the BID PRICE being adjusted in conformity therewith, upon approval of the OWNER.

58. Royalties and Patents:

The CONTRACTOR shall pay all royalties and license fees. He/she shall defend all suits or claims for infringement of any patent rights and shall save the OWNER harmless from loss on account thereof.

59. Examination of Site:

The CONTRACTOR shall visit the site and examine for himself/herself the site conditions. He/she shall furnish all labor and materials necessary for preparation of the site for the execution of this CONTRACT.

60. Construction Risks:

The construction and all materials and WORK connected therewith shall be at the CONTRACTOR's risk until they are accepted, and he/she will be held responsible for and liable for their safety in the amount paid to him/her by the OWNER on account thereof.

61. Use of Premises:

The CONTRACTOR shall confine apparatus, the storage of materials and the operations of his/her workers to limits indicated by law, ordinances, permit or directions of the CONTRACT REPRESENTATIVE and shall not unreasonably encumber the premises with his/her materials. The CONTRACTOR shall not load or permit any part of the equipment or structure to be loaded with a weight that will endanger its safety or the safety of any person on the premises.

62. Laying Out WORK:

The CONTRACTOR shall be held strictly responsible for the accuracy of the laying out of his/her WORK and for its strict conformity with the existing conditions of the building and shall determine all changes and chases and openings before WORK is commenced.

63. Cutting, Patching and Digging:

The CONTRACTOR shall do all cutting, patching or fitting of his/her WORK that may be required to make its several parts come together properly and fit it to receive or be received by WORK of other CONTRACTORs shown upon, or reasonably implied by, the drawings and specifications for the completed structure, and he shall make good after them as the CONTRACT REPRESENTATIVE may direct.

Any cost caused by defective or ill-timed work shall be borne by the party responsible therefor. The CONTRACTOR shall not endanger any WORK by cutting, digging or otherwise, and shall not cut or alter the WORK of any other CONTRACTOR save with the consent of the CONTRACT REPRESENTATIVE.

64. Cleaning Up:

The CONTRACTOR shall at all times keep the premises free from accumulations of waste material or rubbish caused by his/her employees or WORK. At the completion of the WORK, CONTRACTOR shall remove all rubbish from and about the building and all tools, scaffolding and surplus materials and shall leave his/her WORK "broom-clean" or its equivalent, unless more exactly specified. In case of dispute, the OWNER may remove the rubbish and charge the cost to the several CONTRACTORs as the CONTRACT REPRESENTATIVE may determine to be just.

65. Testing of Materials:

In case the CONTRACT REPRESENTATIVE directs that any materials be tested or analyzed, then the CONTRACTOR shall furnish a sample for the test, such sample being selected according to the directions of the CONTRACT REPRESENTATIVE. The cost of testing or analysis of such sample or samples shall be borne by the manufacturer or supplier of the product. This provision shall not apply to the testing of concrete. The cost of testing shall be borne by the OWNER.

66. Temporary Enclosing, Drying Out, Etc.:

If applicable when openings are made in exterior walls, the CONTRACTOR shall, if required by the OWNER on account of weather or security conditions, close up all exterior openings (except one or more which are to be provided with battened doors, padlocks, etc.) with temporary frames covered with approved material.

The CONTRACTOR must, at all times, protect the building from damage from weather, surface water or subsoil drainage. He/she must keep the excavations dry, if necessary, by pumping, while concrete or masonry is being laid.

67. Storage and Care of Materials:

The CONTRACTOR shall provide, maintain and remove when directed, suitable, substantial, watertight storage sheds upon the premises where directed, in which he/her shall store his/her materials. All cement, lime and other materials affected by moisture shall be covered and protected to keep from damage while it is being transported to the site.

68. Temporary Appurtenances and Conveniences:

The CONTRACTOR shall provide well-fastened ladders and other means to facilitate inspection of the work.

69. Scaffolding, Tools, Etc.:

The CONTRACTOR shall provide and erect all the necessary platforms, scaffolds and supports of ample strength required for the handling of the materials and other loading to be imposed. The same shall apply to all derricks and hoisting machinery, all appliances and materials, ladders, horses, poles, plants, ropes, wedges, centers, moulds, and other tools and materials, and the cartage thereof to and from the site as may become necessary for the performance of his/her contract.

70. Sanitary Provisions:

The CONTRACTOR shall provide a chemical toilet for his workers' use. The CONTRACTOR shall keep the toilet clean, neat and in first-class condition at all times.

71. Refuse:

Refuse barrels are to be provided by the CONTRACTOR for the workers' lunch boxes and papers.

72. Rubbish Disposal:

Rubbish, trash, etc., shall not be burned on premises unless approved by the local fire authority, but rather, hauled from the site and legally disposed of or other methods as specified by OWNER.

73. Removing Water:

The CONTRACTOR shall remove, at his/her expense from all excavations and/or from the site, all unwanted water appearing from any cause during any stage of the WORK until the site is accepted by the OWNER. All excavations shall be free from water before any concreting or other WORK is done in them.

74. Safety:

The CONTRACTOR shall institute a safety program at the start of construction to minimize accidents; such program to continue to the end of the job and conform to the latest general safety orders of the State Industrial Commission. The CONTRACTOR shall post signs, erect barriers, etc., as necessary to implement this program. The CONTRACTOR shall have all workers and all visitors on site wear safety hard hats and obey all safety rules and regulations and statutes as soon as the CONTRACTOR proceeds. The CONTRACTOR shall post a sign regarding hats in a conspicuous location and furnish extra hats at his/her expense for visitors.

75. Emergencies:

In an emergency affecting the safety of life, or of the structure or of adjoining property, then the CONTRACTOR, without special instruction or authorization from the OWNER, shall act at his/her discretion to prevent such threatened loss or injury. Any compensation claimed to be due him/her therefrom shall be determined as provided for under Article 17, "Changes."

76. Normal Daylight Hours:

Contractor shall perform WORK on the premises during normal daylight hours and shall not perform WORK on the site when artificial light would be required to safely perform the WORK.

77. Normal Working Days:

CONTRACTOR shall perform the WORK during normal working days and shall not work during Sundays, or recognized national and state holidays. CONTRACTOR may take the option of working on Saturdays if the WORK is scheduled regularly to be performed on Saturdays and is approved by OWNER.

78. Use of Explosives

The storage, possession or use of explosives on the site shall be strictly prohibited unless expressly authorized by the OWNER and approved by the State.

79. Code Requirements:

The provisions of the 1979 Uniform Building Code, and the 1980 Supplement to Uniform Building Code and Uniform Building Code Standards, the 1981 National Electrical Code, except as specific variances therewith may be authorized by the OWNER, and the 1979 Utah Plumbing Code as amended, shall apply.

If the drawings and specifications fail to meet the minimum standards of the above-mentioned codes, it shall be the responsibility of the CONTRACTOR to bring such information to the attention of the OWNER having jurisdiction. Subcontractors shall also inform the CONTRACTOR of any infractions of the above-mentioned codes regarding their own particular trades.

In the event that workmanship or incidental materials are not specified or indicated, they shall at least conform to the above-mentioned codes and shall be incorporated into the work without any additional cost to the OWNER. If the plans and specifications call for items or workmanship which exceed the codes, the plans and specifications hold precedence over any code requirements.

80. Conflict of Interest:

CONTRACTOR represents that none of its officers or employees are officers or employees of the State of Utah, unless disclosure has been made in accordance with Section 67-16-8, UCA 1953, as amended.

81. Other Prohibited Interests:

No official of the OWNER who is authorized in such capacity and on behalf of the OWNER to negotiate, make, accept or approve, or to take part in negotiating, making, accepting, or approving any architectural engineering, inspection, construction or material supply contract or any subcontract in connection with the construction of the project, shall become directly interested personally in the CONTRACT or in any part hereof.

No officer, employee, attorney, engineer or inspector of or for the OWNER who is authorized in such capacity and on behalf of the OWNER to exercise any legislative, executive, supervisory or other similar functions in connection with the construction of the project shall become directly or indirectly interested personally in this contract or in any part thereof, any material supply contract, subcontract, insurance contract, or any other contract pertaining to the project.

82. Debarment:

The CONTRACTOR certifies that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this CONTRACT by any governmental department or agency.

83. Citizens Preferred:

Preference shall be given in hiring citizens of the United States or those having declared their intention of becoming citizens; failure to comply may result in the OWNER declaring the contract void.

84. Equal Opportunity:

The CONTRACTOR agrees to abide by the provisions of Titles VI and VII of the Civil Rights Act of 1964 (42 USC 2000e) which prohibits discrimination against any employee or applicant for employment or any applicant or recipient of services on the basis of race, religion, color, or national origin. CONTRACTOR further agrees to abide by the following directives: Executive Order No. 11246, as amended, which prohibits discrimination on the basis of sex; federal regulation 45 CFR 90, which prohibits discrimination on the basis of age; Section 504 of the Rehabilitation Act of 1973 (29 USC 701 et seq), which prohibits discrimination on the basis of handicap; and Utah's Executive Order, dated June 30, 1989, which prohibits sexual harassment in the workplace.

85. Nondiscrimination - Equal Employment Opportunity:

In order to comply with the provisions of the Utah Anti-Discrimination Act of 1965, relating to unfair employment practices, the CONTRACTOR agrees as follows:

A. The CONTRACTOR will not discriminate against any employee or applicant for employment because of race, color, sex, religion ancestry or natural origin.

B. In all solicitations or advertisements for employees, the CONTRACTOR will state that all qualified applicants will receive consideration without regard to race, color, sex, religion, ancestry or national origin.

C. The CONTRACTOR will send to each labor union or workers' representative notices to be provided, stating the CONTRACTOR's responsibilities under the statute.

D. The CONTRACTOR will furnish such information and reports as requested by the division for the purpose of determining compliance with the statute.

E. Failure of the CONTRACTOR to comply with the statute, the rules and regulations promulgated thereunder and this nondiscrimination clause shall be deemed a breech of contract and it may be canceled, terminated or suspended in whole or in part.

F. The CONTRACTOR shall include the provisions of the above Paragraphs A through E in all subcontracts for this project.

86. Affirmative Action:

The CONTRACTOR will take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to their race, color, religion, sex or national origin. Such action shall include, but not be limited to the following: employment; upgrading; demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.

At its discretion, the OWNER may perform a compliance review at the office and project of the CONTRACTOR to check on compliance in hiring practices, record-keeping, contracting of agencies and unions, advertising, informing of personnel of the requirements under this provision, etc. If the visit to the project site or other information received indicates need to perform a compliance review more frequently on a project, this will be done. The size of the project, complaint situation, and past record of CONTRACTOR will determine the frequency of on-the-job compliance reviews.

87. Compliance with Copeland Regulations

The CONTRACTOR shall comply with the Copeland Regulations of the Secretary of Labor (29 CFR Part 3) which are incorporated herein by reference.

88. Overtime Compensation

1. The CONTRACTOR or Subcontractor shall not require or permit any laborer or mechanic in any workweek in which he or she is employed under this CONTRACT to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek, whichever is the greater number of overtime hours.

2. In the event of any violation of the provisions of paragraph (a), the CONTRACTOR or Subcontractor shall be liable to any affected employee for any amounts due, and to the State of Utah for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the provisions of paragraph (a) in the sum of $10 for each calendar day on which such employee was required or permitted to work in excess of the standard forty hour workweek without payment of the overtime wages required by paragraph (a).

89. Clean Air and Water

The CONTRACTOR shall use best efforts to comply with all requirements and applicable regulations, standards, and implementation plans under the Clean Air Act (42 USC 7401 et seq.) and the Clean Water Act (33 USC 1251 et seq.). No part of the WORK shall be performed in a facility listed on the U.S. Environmental Protection Agency List of Violating Facilities during the term of the CONTRACT. CONTRACTOR further agrees to insert the substance of this clause in any Subcontract.

Clean air and water standards include any enforceable rules, regulations, guidelines, orders, or other requirements issued under the Clean Air Act, Clean Water Act, or Executive Order 11738; applicable approved implementation plans described in Sections 110(d), 111(c&d), or 112(d) of the Clean Air Act; and requirements contained in permits issued by the U.S. Environmental Protection Agency or state or local governments authorized by Sections 402 or 307 of the Clean Water Act. "Facility," as used here, means any building, plant, structure, mine, location, or site of operations owned, leased, or supervised by the CONTRACTOR or Subcontractor in the performance of the CONTRACT.

DOGM General Conditions
[Last Revised: October 27, 2010.]

CHAPTER 4 FORMS

Certificate of Substantial Completion
Certificate of Final Acceptance
Daily Construction Progress Report
As-Built Drawing Form
Contractor Performance Rating

Certificate of Substantial Completion

UTAH DIVISION OF OIL, GAS AND MINING

PROJECT: Eccles Creek Pad and Culvert Removal project, C/007/0001

CONTRACT/PO NO.: _____

The WORK performed under the subject CONTRACT has been reviewed on this date and found to be substantially completed.

DEFINITION OF SUBSTANTIAL COMPLETION

The date of substantial completion of a project or specified area of a project is the date when the construction is sufficiently completed in accordance with the Contract Documents, as modified by any change orders agreed to by the parties, so that the OWNER can occupy the project or specified area of the project for the use for which it was intended.

A list of items to be completed or corrected, prepared by the Division of Oil, Gas & Mining and verified by the OWNER, is appended hereto. This list may not be exhaustive, and the failure to include an item on it does not alter the responsibility of the CONTRACTOR to complete all the WORK in accordance with the Contract Documents, including authorized changes thereof.

Division of Oil, Gas & Mining_____ _____
OWNER CONTRACT REPRESENTATIVE DATE

The CONTRACTOR will complete or correct the work on the list of items appended hereto within _____ days from the above date of issuance of this Certificate.

_____ _____
CONTRACTOR AUTHORIZED REPRESENTATIVE DATE

The OWNER accepts the project or specified area of the project as substantially complete and will assume full possession of the project or specified area of the project at _____P.M. (time) on _____, 20__ (date).

Division of Oil, Gas & Mining_____ _____
OWNER CONTRACT REPRESENTATIVE DATE

_____
COAL PROGRAM MANAGER DATE

RESPONSIBILITIES AND/OR EXCEPTIONS:

This form used by permission of A.I.A.
DIVISION OF FACILITIES CONSTRUCTION AND MANAGEMENT

Certificate of Final Acceptance

UTAH DIVISION OF OIL, GAS AND MINING

PROJECT: Eccles Creek Pad and Culvert Removal Project, C/007/0001

PO NO.: _____

The WORK performed under the subject CONTRACT has been reviewed on this date and found to be completed.

DEFINITION OF FINAL ACCEPTANCE

The date of final acceptance of a project is the date when the construction is completed in accordance with the Contract Documents, as modified by any change orders agreed to by the parties, so that the OWNER can occupy the project for the use for which it was intended.

Items listed on the Certificate of Substantial Completion, as prepared by the Division of Oil, Gas & Mining, have been completed or corrected and verified by the OWNER as having been completed or corrected.

Division of Oil, Gas & Mining	_____	
OWNER	INSPECTOR	DATE
	_____	
	CONTRACT REPRESENTATIVE	DATE
_____	_____	
CONTRACTOR	AUTHORIZED REPRESENTATIVE	DATE

The OWNER accepts the project as complete and will assume full possession of the project or specified area of the project at _____P.M. (time) on _____ (date).

Division of Oil, Gas & Mining	_____	
OWNER	COAL PROGRAM MANAGER	DATE

Daily Construction Progress Report

Eccles Creek Pad and Culvert Removal Project, C/007/0001

DAILY CONSTRUCTION PROGRESS REPORT
-- CONTRACTOR --

Project: Eccles Creek Pad and Culvert Removal Project Date:_____ M T W Th F

Crew Size: _____ Supervisor: _____ Hours: _____ to_____

Crew Names:_____

Equipment:_____

_____ down from _____ to _____ for _____

General description of work performed, equipment/material deliveries, etc:

_____

_____

_____(Attach as-built drawings as required.)

WORK items approved:_____

_____

Problems/delays and proposed or actual resolution. DOGM action required? Yes No

_____

_____

Visitors & purpose:_____

_____

Temp: 20 30 40 50 60 70 80 90 100 Comments:
Sky: fair pc mc cldy ovrcst rain snow
Ground: dry wet muddy snow ____" frozen

Project is approximately □ on schedule
____ days behind schedule
____ days ahead of schedule

Contract expires:
____/____/____

Project Mgr: _____ ___/___/___

Page 1 of __.

As-Built Drawing Form

As-Built Drawing Form	Show cross-section, plan view, and front view of the Eccles Creek Channel. Indicate scale and North arrow.	**Eccles Creek Pad and Culvert Removal Project** C/007/0001
UTAH NATURAL RESOURCES Coal Program	Contractor: Drawn By: Date Completed:	Crossing Location: Sheet of

Contractor Performance Rating

CONTRACTOR PERFORMANCE RATING

Contractor: _____

Project: Eccles Creek Pad and Culvert Removal Project

Contract/PO#: ____-_____

Start Date: __/__/___2015
End Date: __/__/2015 Duration: ____ days

Rating: Satisfactory= 1; Unsatisfactory= 0

_____ 1. Achieved the specified level of project quality and quantity.

_____ 2. Prompt, diligent, and systematic prosecution of work.

_____ 3. Adequate personnel (number and skill level).

_____ 4. Adequate equipment (number, type, and operating condition).

_____ 5. Effective onsite management and supervision of work.

_____ 6. Cooperation, responsiveness, and communication with inspector and project manager.

_____ 7. Cooperation and timely response in negotiation of contract changes.

_____ 8. Cooperation in negotiation of claims.

_____ 9. Record of prompt payment for labor, materials, equipment, and subcontract work.

_____ 10. On-time submission of necessary documents and reports.

_____ 11. Compliance with all applicable federal, state, and local laws and regulations.

_____ 12. Minimized the adverse effect of construction activities on the public and the environment.

_____ 13. Cooperation with landowners and/or utilities.

_____ = Total = Performance Rating

Attach explanations of all "Unsatisfactory" ratings.

Rated by: _____ Date_____

Reviewed by: _____ Date_____

[DOGM Contractor Performance Rating Form 07/20/88, Revised 06/28/12]

Chapter 5: SCOPE OF WORK

SCOPE OF WORK

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5.0 LOCATION AND SCOPE

There is no longer a need for access across Eccles Creek to access the mine. The site is located in the NW/4 of Section 19, T 13 S, R 7 E adjacent to State Route 264, two miles west of the intersection of SR 264 and SR 96. The location is approximately four miles southwest of Scofield town. The location is also located midway between the Skyline Mine Loadout and the Skyline Mine on SR 264.

The Scope of Work for the Eccles Creek Pad and Culvert Removal is based on the Mining and Reclamation plan (MRP) for the Belina Haul Road to the White Oak Mine approved under Utah Coal permit C/007/0001. This Scope of Work refers to that design which is Appendix 527 of the MRP and which is included as Appendix B to this Scope of Work.

Reclamation of the mile long Belina haul road described in AppendixB was completed in 2014. The removal of the pad and culvert in Eccles Creek remains to be accomplished. In this Scope of Work, we have referred to Section 3.2 Design Flow, Section 3.5 Eccles Creek Design, Section 3.7 Water Control Bars , Section 4.3 Recontouring , and Section 4.3.2 Eccles Creek Crossing contained in Appendix B.

Exhibit 1. Fill/Pad crossing Eccles Creek adjacent to Hwy 264.

Approximately 110 CY of asphalt with an estimated density of 150 lbs/CY must be removed from the pad along with concrete jersey barriers, crushed and buried against the road cut on the south side of the creek. Approximately 4,000 CY of fill will be removed from the pad, leaving a 15 ft. wide turnout along SR 264. The fill will either be placed against the road cut on the south side of the creek or hauled offsite. The 48 inch culvert located within Eccles Creek will be removed and the land surface re-established to the approximate original alignment. This will re-expose the stream channel.

Eccles Creek is at its lowest flow during the third quarter of the year. Therefore the work will begin in August and must be completed by mid-September. Work in the stream channel may not occur until after September 1st to protect spawning fish. The stream will be captured in a pipe during construction. Silt fence and straw bales will treat water leaving the work area during all phases of construction.

This reclamation plan addresses the following reclamation activities:

1. Installation of sediment control on the perimeter of the work area to protect Eccles Creek.
2. Removal of the asphalt surface and concrete jersey barriers.
3. Crush and place asphalt and concrete on south side of creek against the road cut.
4. Removal 2,700 CY of fill onto south side of the creek to bury asphalt and concrete against the road cut.
5. Haul 1,300 CY of fill to a storage site in Scofield (8 miles round trip).
6. Direct Eccles Creek flow into a temporary pipe.
7. Crush and remove the 48" culvert, approximately 120 ft. long.
8. Construct granular riprap filter bed in channel
9. Construct armored channel using native rock with d_{50}= 18 inches and
10. Install 4 drop structures with d_{50}= 24 inches.
11. Grade remaining fill slopes to 2h:1v or less, leaving a 15 ft wide pull out on the north and a foot trail to the stream on each side. Use surface roughening and create water bars and swales to control run-off.
12. Incorporate 1 ton/ac straw with surface roughening (gouging)
13. Apply seed with 1,500 lbs/ac wood fiber mulch and 50 lbs/ac tackifier.
14. Plant willow cuttings at high water line.

Questar gas line JTL83 runs in the SR 264 Right of Way. The location of the pipeline is shown on Exhibit 2 below.

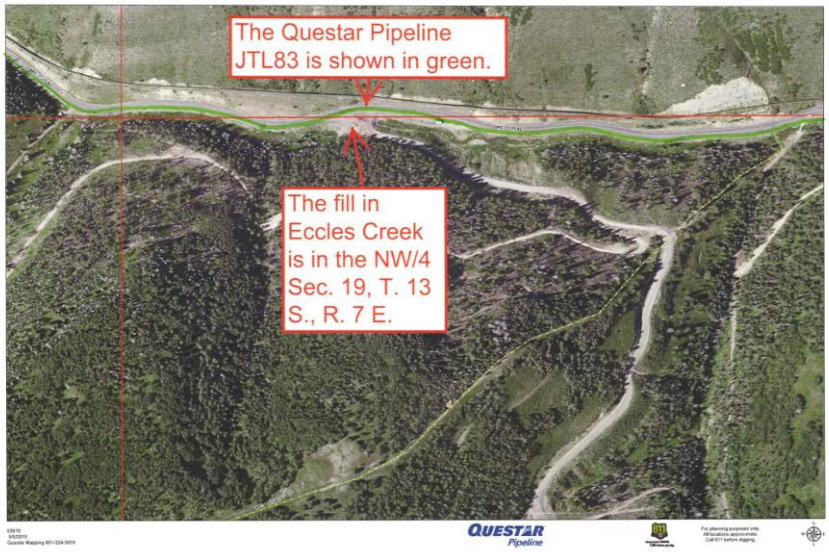

Exhibit 2 Location of Questar Pipeline

The Contractor is responsible for calling Blue Stakes prior to beginning the work (811).

The contractor is responsible for obtaining a highway ROW Encroachment Permit from UDOT Region 4 (www.udot.utah.gov).

A stream alteration permit application has been filed for this project (Appendix E).

5.1 Install sediment control on the perimeter of the work area.

Install sediment and runoff controls to prevent sediment pollution from entering Eccles Creek.

5.2 Removal of Asphalt and Concrete Jersey Barriers.

Reclamation will begin with the ripping and removal of the asphalt and concrete jersey barriers. There are approximately 110 in- place CY of asphalt on site (50% cover of 0.2 acres). The asphalt and concrete will be rubblized so that no surface is greater than six inches. The asphalt and concrete will be evenly distributed along a quarter mile of the road cut on the south side of the creek. The asphalt/concrete will be completely buried by fill from the pad, see Section 5.3 below.

Beneath the asphalt is likely a foot of granular road base which should be salvaged and stockpiled for use as a granular/riprap filter, see Section 5.7 below. Below the granular filter will likely be a geotextile fabric that must be removed and hauled away.

5.3 Removal of Fill to the South side of the Creek.

Table 4.1 in Appendix B estimates the fill in Eccles Creek to be approximately 4,000 CY. Approximately 2,700 CY of Fill will be removed and placed on one quarter mile of the reclaimed White Oak haul road. The fill will be placed against the cut to cover the crushed asphalt and concrete to a depth of four feet. The fill will create a barrier and direct flow off the logging road that intersects the mine road. Mulch and seed will be applied to the area as described in Section 6.0 and 6.1 below. The existing water bars and swales directing sheet flow will be re-established at completion of the work on the south side of the creek.

5.4 Removal of fill to the North side of the creek.

Approximately 1,300 CY of fill will be removed and stockpiled on the north side of the creek, adjacent to SR 264. The work includes loading haul trucks with fill and hauling the fill to a storage site in Scofield, an 8 mile round trip.

5.5 Direct Eccles Creek into a Temporary Pipe

The average annual flow is estimated to be about 28 cfs in Eccles Creek. The design storm is the 100 year, 24 hour, which has a rainfall amount of 3.65 inches. Table 3.2 in Section 3.2 of Appendix B is the source of the data used to determine the design flow for Eccles Creek.

watershed size = 2,087 acres
Runoff Curve Number = 60
Time of Concentration in hours = 1.37
Q = 378 cubic feet/sec.

The velocity for the 100 year storm will be approximately 6.6 fps with a depth in the main channel of 3.5 feet and 1.5 ft in the floodway. A Manning's *n* of .060 was used in computing the flow depth and velocities for Eccles Creek. A 36 inch temporary pipe will be installed to handle an estimated maximum flow of 28 cfs during construction. Temporary pipe will extend beyond the perimeter of the work area to capture and divert all flow from entering the work area and release flow beyond the work area (a 225 ft. length is anticipated). The natural stream bed will be protected at both the inlet and outlet of the temporary diversion pipe to prevent scour or damage to the natural stream channel.

5.6 Remove and Crush the 48 inch culvert

The 48 inch culvert is approximately 175 - 225 ft. long. It will be crushed and completely removed from the channel and hauled away.

5.7 Gravel Filter Bed

Section R1 of the White Oak MRP contains the supporting hydrologic calculations for the reconstruction of Eccles Creek. MRP Appendix R2 has been included as Appendix C to the Scope of Work.

The hydrologic calculations in Appendix D require a granular riprap filter below the riprap, as illustrated in Exhibit 3 below. The filter will be constructed of a well-graded sandy gravel with a minimum size of about 3/16" up to a maximum of four inches. Beneath the asphalt is likely a foot of granular road base which upon examination may meet these requirements and should be salvaged and stockpiled for use as a granular/riprap filter. The in-situ stream bed material may also meet the above requirements. If not, the granular riprap filter will be imported. In either case, the granular riprap filter bed will extend across the channel bottom and the flood plain to a depth of 9 -12 inches. The material will be of a size and shape that readily compacts and the maximum particle size will not exceed four inches. (For granular riprap filter details, refer to Class II Rip Rap in Table 3.4, RipRap Filter Design and Figure 3-3 in App. B and engineers notes in Appendix C.)

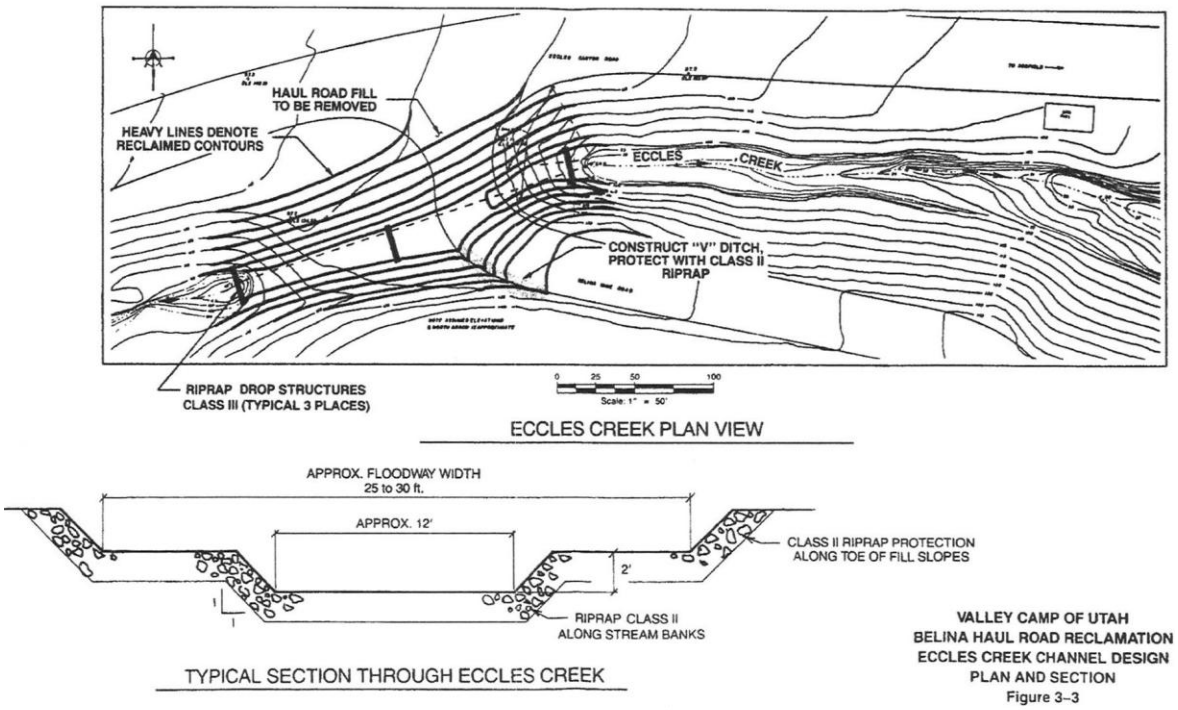

Exhibit 3 Typical Section through Restored Eccles Creek and Plan View showing drop structures

5.8 Construct Eccles Creek Channel and Floodplain

The 100 year design flood is estimated at 378 cfs. A channel will be constructed using the rock in the fill after the soil fill has been removed. From the toe of the slope, the channel flood plain will extend 12 ft on either side of the channel bottom. The channel bottom will be 10 ft wide. The channel bottom, side slopes and flood plain will all have three ft of rock rip rap that has a d_{50} of 18 inches.

Class II riprap sizing was selected based on the calculated velocities. Class II rip rap has a maximum of 24 inches, a d_{50} size of eighteen (18) inches, and a minimum size of 6 inches and be no more than 10 percent of the total weight of the load (see Table 3.3 in App. C). Riprap should be reasonably well graded from the maximum size down to the minimum. Refer to Exhibit 3 above and Figure 3-3 in Appendix B for a typical cross section through the channel.

The channel will be constructed with similar geometry to the channel below the fill. A typical section through this channel is shown in Exhibit 3 above and in Figure 3-3 in Appendix B. The design of this channel will be similar to the channel just downstream. This will maintain continuity in the channel design. The channel will meander and include several drop structures to maintain a reasonable stream gradient of 2.5 percent or less. These drop structures will be constructed of Class III riprap so that they will maintain a natural appearance. Exhibit 3 above (Figure 3-3 in Appendix B) shows a plan view of the proposed new alignment after the fill is removed.

A minimum of 4 drop structures will be installed every 50 feet (more frequently than shown on the plan view in Exhibit 3) in order to mimic the natural drops seen in the channel as illustrated in Exhibit 4, below. The drop structures will be constructed of Class III riprap having a d_{50} of 24 inches. Typical drop structure design is attached as Appendix D.

The maintaining a grade of 2.0% will allow for fish passage given the average annual flow in Eccles of 28 cfs (see Table 3.3A of Appendix B).

5.9 Grade Remaining Fill to 2h:1v

Grade the remaining fill to 2h:1v or less, leaving a 15 foot wide pull out on the north and foot trails down to the stream on both sides of the creek.

Slopes on the south and north will be graded to 2h:1v or less steep. For all areas disturbed by this work, AFTER mulching, and PRIOR to seeding, the ground surface will be roughened and gouged to create hummocks and depressions with 12 to 18 inches of relief. This relief will reduce ground surface wind disturbance and create water catchment basins, and incorporate the mulch. Soil gouges should not be aligned, one above the other, but should be irregularly spaced across the slope so as to minimize the potential for break-through erosion. Boulders and rocks may be left on the surface.

On the south side of the river, water bars and swales will be re-established after placement of fill against the cut of the reclaimed road. Runoff will be directed towards the outslope which will reinforced with rock armor. Riprap protection will be included in the construction of the water control bars along the length of the waterbar and at the point where the flow breaks over the edge of the old road bed.

Water control bars will also be constructed to reduce erosion on the foot trails down to the creek. Figure 3-4 in Appendix B shows a typical waterbar. These structures will be placed every 30 ft. along the trail. Riprap protection will be included in the construction of the water control bars along the length of the waterbar and at the point where the flow breaks over the edge of the slope.

Exhibit 4 Two photos of natural drop structures

6.0 Incorporate One Ton/Acre Straw with Surface Roughening.

Straw mulch will be spread by hand, in an even manner, at a **rate of 2,000 pounds per acre**. Mulch application shall be initiated at the top of the slope, working downhill, where possible. The straw will be incorporated into the soil with surface roughening or pocking (for stability and water retention). Seedbed preparation will be considered complete when the soil surface is completely roughened.

Available deadfall will be placed across the slope. Exhibit 5 below is an example of straw mulch incorporated with pocking with 12 – 18 inches of relief.

Exhibit 5. Surface roughening

The contractor shall submit ***during construction and prior to applying mulch*** the **Phytosanitary Certificate required** by the Utah Department of Agriculture. Mulch must meet the requirements of the Utah Noxious Weed Act (4-17-3, UCA; Regulation A700-04-09) and the Utah Phytosanitation Act. Mulch must be tested and found clean by an official Utah Department of Agriculture Inspector. CONTRACTOR shall contact the state inspector and arrange testing. Payment will not be made without certificate of inspection from Agricultural Inspector.

6.1 Seeding

The contractor will use purchase the seed mix (Appendix A) to be used on all re-disturbed areas including the road cut to the south and the slopes of Eccles Creek.

The acreage to be seeded is approximately 1.5 acres, as follows:

- 0.6 ac. surface roughened along reclaimed road
- 0.4 ac South side Eccles Creek
- 0.4 ac North side Eccles Creek

Seed will be broadcast by handheld equipment contemporaneously with reclamation work. Passes will be made over the site to be seeded such that even distribution of seed will be obtained. Seeding will take place immediately following the completion of final seedbed preparation, except that seeding should not be conducted when wind velocities would prohibit even seed distribution.

The contractor will retain seed tags showing purchase date and analysis of seed mixture, percentage of pure live seed (PLS), year of production, net weight, date of packaging and location of packaging. Seed must be stored under dark, cool, and dry conditions. Damaged packages are not acceptable.

APPENDIX A

Seed Mix

Seed: Common Name	Seed: Scientific Name	Bulk Pounds per acre	PLS Pounds per acre	# Seeds/lb	Average PLS	# of Viable Seeds/sq foot
Mountain Brome	Bromus marginatus	1	0.98	90,000	97.85	2.02
Alfalfa	Medicago sativa	1	0.92	225,000	91.95	4.75
Sainfoin	Onobrychis viciifolia	1	0.91	30,000	91.28	0.63
Sweetanise	Osmorhiza occidentalis	0.5	0.38	28,243	76.67	0.25
Mountain Brome	Bromus marginatus	1	0.98	90,000	97.85	2.02
Small Burnet	Sanguisorba minor	1	0.91	55,000	90.84	1.15
Western Wheatgrass	Agropyron smithii	0.5	0.43	105,000	86.91	1.05
Timothy	Phleum pratense	0.5	0.40	1,095,626	80.87	10.17
Alsike Clover	Trifolium hybridum	1	0.96	680,000	95.79	14.95
Western Yarrow	Achillea millefolium	0.02	0.02	3,300,000	89.66	1.36
Bluebunch Wheatgrass	Agropyron spicatum	0.5	0.38	140,000	76.50	1.23
	Total Pounds/acre	8	lbs			
	Total required (1.5 acre)	12	lbs			

APPENDIX B

Appendix 527 of the White Oak Mine MRP C/007/0001

APPENDIX 527

Belina Haul Road Reclamation Plan Morrison-Knudsen (1987)

Valley Camp of Utah

Belina Haul Road Reclamation Plan

January 1987

BELINA HAUL ROAD RECLAMATION PLAN

Prepared For

Valley Camp of Utah, Inc.
Helper, Utah

Prepared By

Morrison-Knudsen Engineers, Inc.
Boise, Idaho

January, 1987

0842h/1

ENGINEERING CERTIFICATION

I, J. Carl Dille, have reviewed Section 2 and 3 and the following Tables, Figures and Exhibits in the ~~Belina~~ Haul Road Reclamation Plan.

REGISTERED PROFESSIONAL ENGINEER
No. 5538
J. CARL DILLE
STATE OF UTAH

J. Carl Dille, P.E.

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Figure 2-9	Slope Stability Analysis of Current
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Figure 3-1	Small Drainage Hydraulic Data
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SECTION 1.0 - INTRODUCTION

1.1 General

The following reclamation plan is for Valley Camp of Utah's Belina Haul Road which supports their coal mining operation located on Whiskey Creek in Carbon County, Central Utah.

The haul road is constructed on a cut/fill bench having a total road width of thirty-four feet with very steep natural slopes above and below the road. These two facts create several unique problems when considering reclamation of the road.

This reclamation plan addresses the removal of the road surface materials and associated structures and the recontouring of the area to facilitate the return of the disturbed lands to its pre-mining land use of limited rangeland and wildlife habitat.

1.2 Objectives

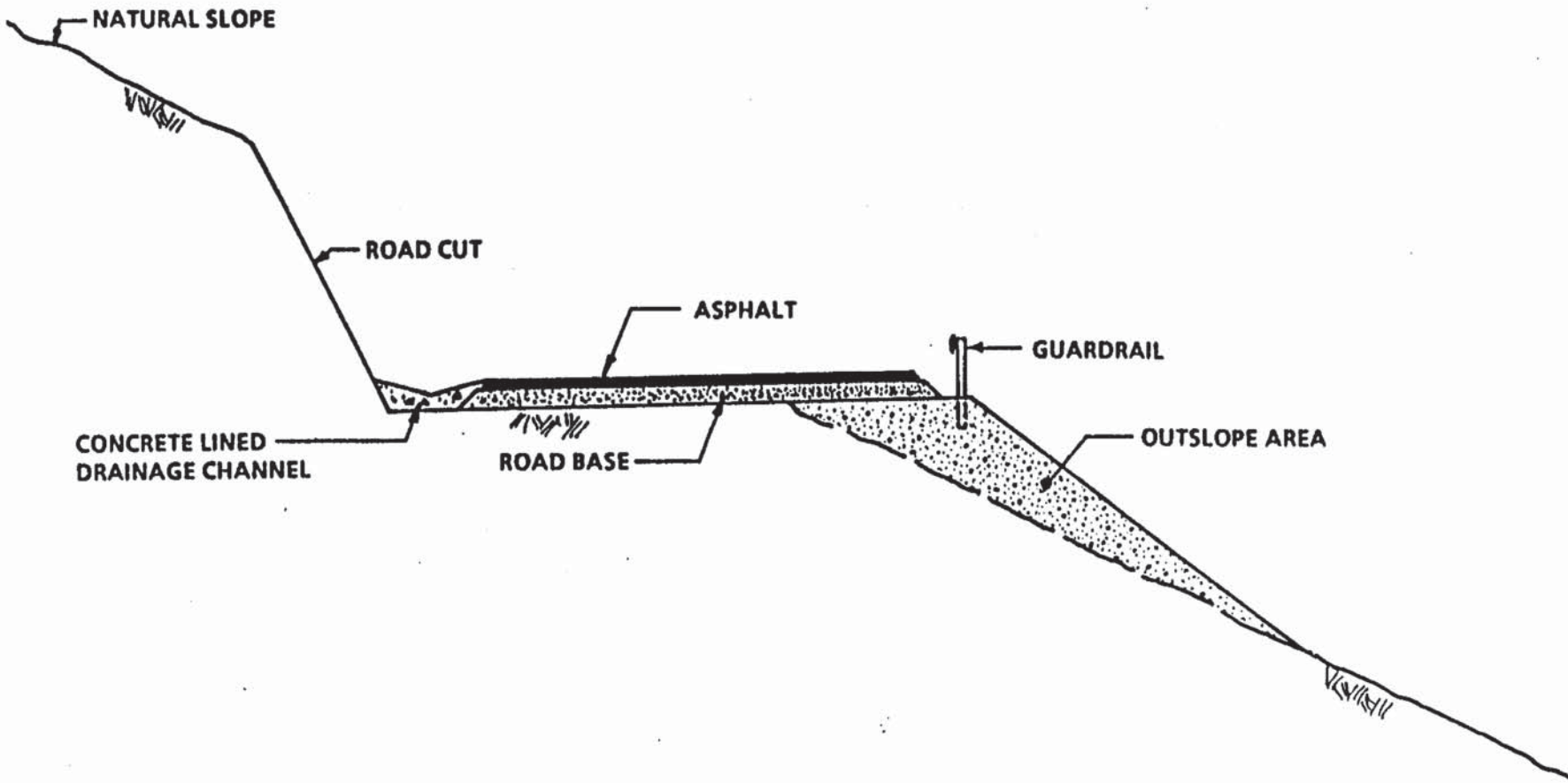
The objectives of this reclamation plan are to eliminate the permanent road surface and support structures and return the disturbed land to a condition capable of supporting the pre-mine land use of limited rangeland and wildlife habitat. These objectives will be obtained by recontouring the road surface to re-establish a drainage pattern comparable to pre-mining conditions; by replacing the soil medium and re-establishing an effective permanent vegetation cover.

The affective area consists of a strip of land approximately 100 feet wide and 1.5 miles long. Although the right-of-way (ROW) is approximately 100 feet wide, this reclamation plan will only address the road surface (34 feet wide); the outslope areas having

questionable slope stability and the area to be re-disturbed to re-establish the natural drainages. Figure 1-1 is a typical cross section illustrating the construction of the Belina Haul Road. Approximately ten acres will require recontouring and/or reclamation activities. The majority of the road outslope areas are considered stable as final reclamation, as discussed in Section 2.0, and therefore will not be disturbed. Determination of slope stability is discussed in detail in Section 2.0. The results of a limited geotechnical evaluation concerning the road outslopes and drainage fills are shown in Table 2.1. Only the potentially unstable slopes and their corresponding station location are shown on this table. These station locations were determined from plan and profile sheets showing the general road location and grade. Survey station locations were shown on the map beginning at the mine portal going towards the Eccles Canyon intersection and ending at Station 83+52.

Reclamation activities will be conducted in a manner that will minimize the potential adverse impacts to the air, water, vegetation, wildlife, and general aesthetics of the area. This proposed reclamation plan will establish a permanent, diversified vegetation cover capable of self-regeneration and soil stabilization that will support the post-mining land use of limited rangeland and wildlife habitat.

VALLEY CAMP OF UTAH
BELINA HAUL ROAD RECLAMATION
TYPICAL HAUL ROAD CROSS SECTION
Figure 1-1



SECTION 2 - GEOTECHNICAL INVESTIGATION

2.1 General

The geotechnical investigation for the Belina Haul Road was performed in three phases. Phase I was a site evaluation of the natural talus in the local region. Phase II identified the areas considered to be critical. Phase III was the slope stability analysis for typical sections of the road before and after reclamation. Conclusions were then based upon all three phases.

Soils in this region are considered young and primarily consist of weathered rock high in quartz. The Unified Soil Classification System would consider this material as SP since it is gravelly sand which is poorly graded and has very few fines. This type of soil has essentially no cohesion; therefore, it is considered a pure phi (Ø) soil which will control the type of slope failures and geometry of the natural talus slopes.

2.2 Natural Talus Evaluation

Natural talus slopes in the haul road area widely vary between 30 percent to over 100 percent. By considering the friction angling (Ø) of the soil to be constant across the region, the depth to bedrock will control the natural talus slope stability. Shallow soils are stable at greater slopes than deep soils. The length of run also plays a major role in the stability of the slopes. The natural talus in the region was self-stabilizing due to small failures creating a terracing effect across the hillside. The stabilizing of the natural talus slopes is still occurring and numerous natural slope failures

may be seen around the vicinity of the Belina Haul Road. The friction angle of the talus was derived from the geometry of a recent natural slope failure. This failure analysis produced a friction angle equal to 31°. This value is very typical for SP classified soils.

2.3 Critical Fill Areas

Critical fill areas are defined for this discussion as areas which have localized evidence of recent slope failures, slopes which exceed the friction angle of the soil, or slopes that have similar characteristics of recent failures in the region, such as deep soil horizons. These critical areas are listed in Table 2.1:

TABLE 2.1

POTENTIALLY UNSTABLE SLOPES*

AREA	Station Location	Linear Distance	Slope Pre-Construction	Slope Post-Construction
1	21+10 to 22+70	160'	63%	70%
2	24+06 to 29+34	520'	63%	72%
3	30+40 to 32+00	160'	55%	68%
4	37+18 to 44+00	682'	63%	70%
5	51+17 to 52+75	158'	65%	75%
6	61+00 to 64+12	312'	70%	80%
7	73+00 to 75+60	260'	84%	128%
8	77+18 to 82+46	528'	84%	143%

TOTAL = 2,780 Feet

*Typical Geometries for each one of these reaches are illustrated in Figures 2.1 to 2.8.

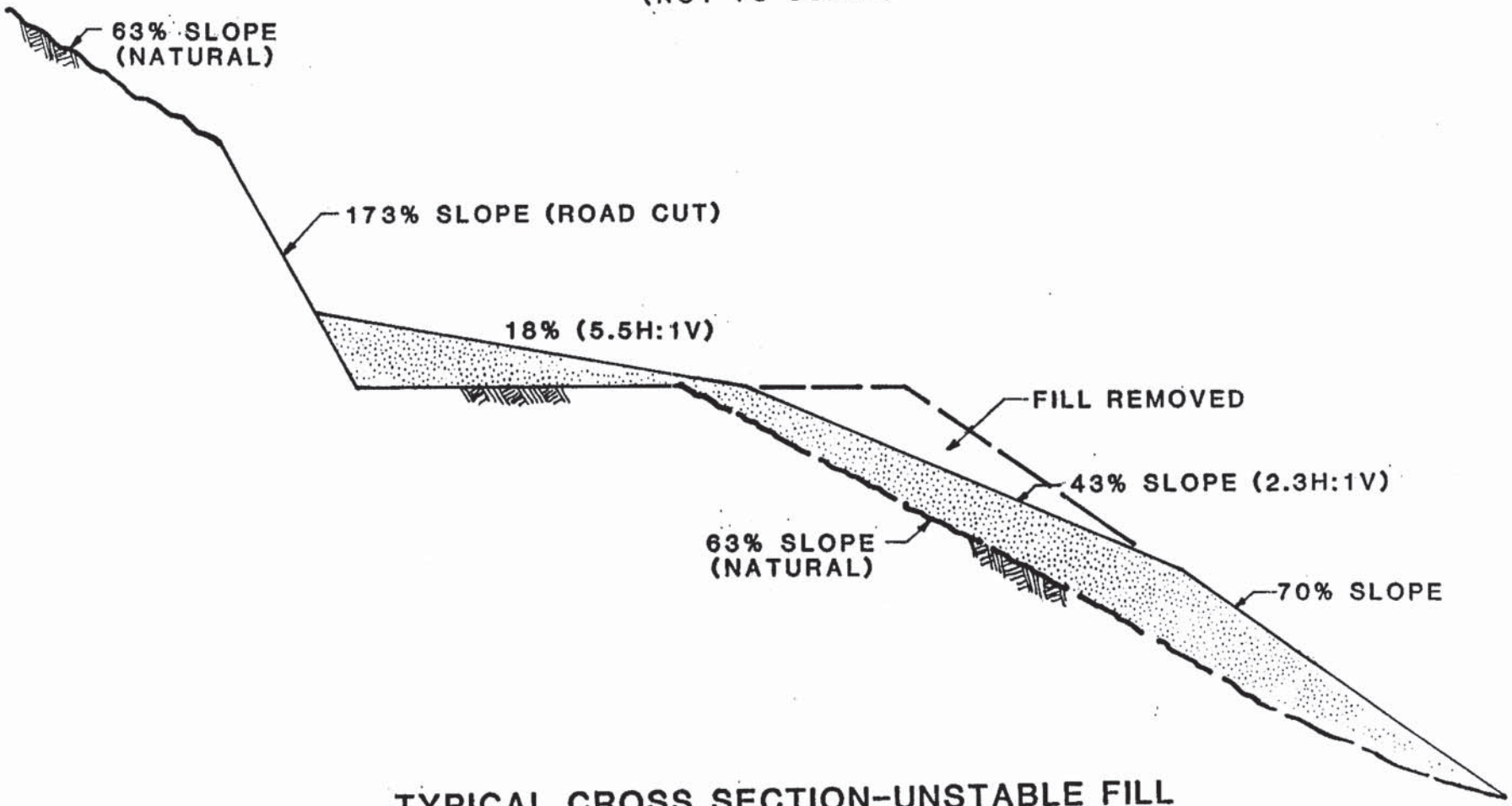
VALLEY CAMP OF UTAH

BELINA HAUL ROAD RECLAMATION

FINAL CONTOURED SURFACE

Figure 2-1

(NOT TO SCALE)



TYPICAL CROSS SECTION-UNSTABLE FILL

STA 21 + 10 TO 22 + 70

AREA 1

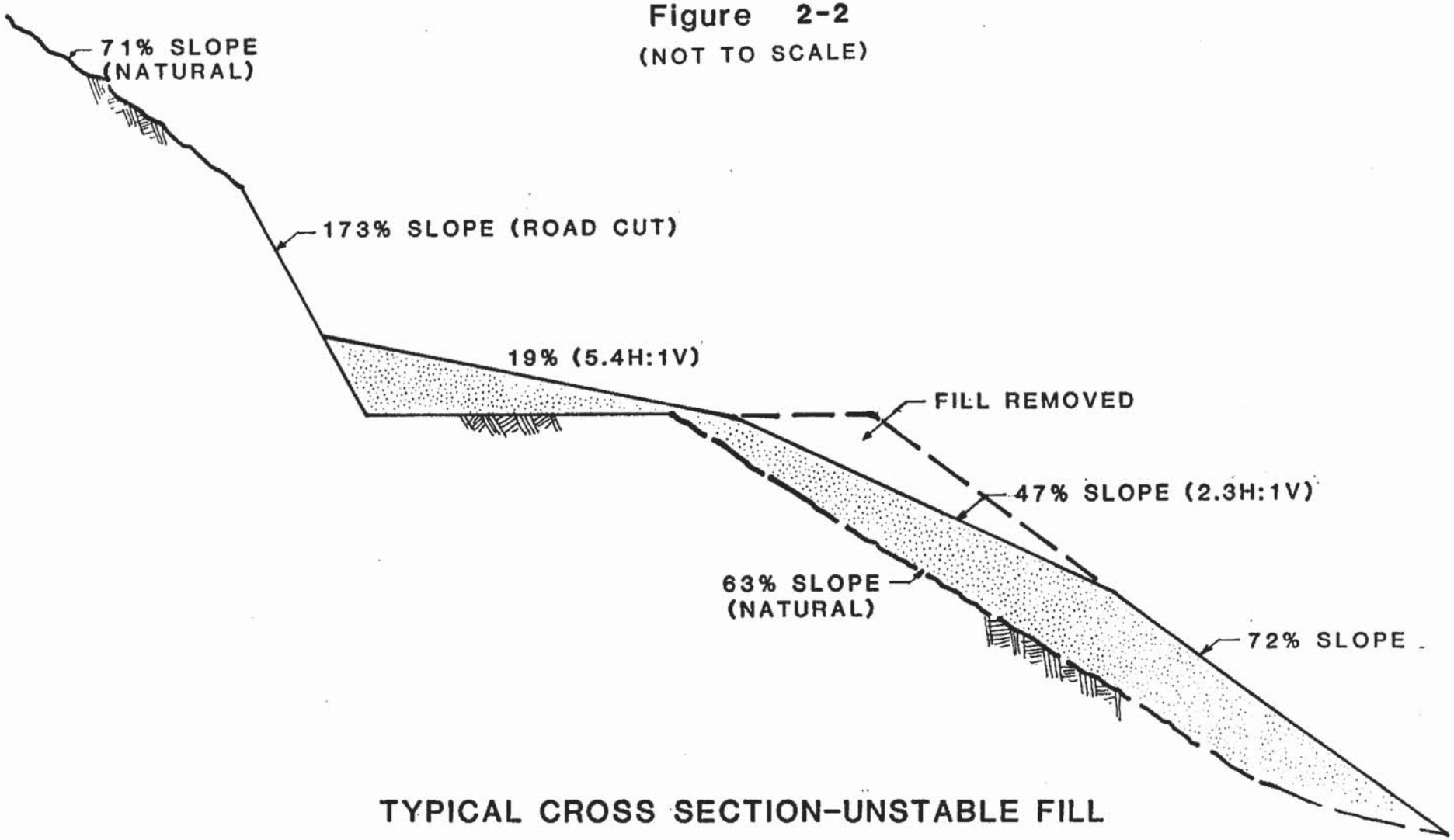
VALLEY CAMP OF UTAH

BELINA HAUL ROAD RECLAMATION

FINAL CONTOURED SURFACE

Figure 2-2

(NOT TO SCALE)



TYPICAL CROSS SECTION-UNSTABLE FILL

STA. 24 + 06 TO 29 + 34

AREA 2

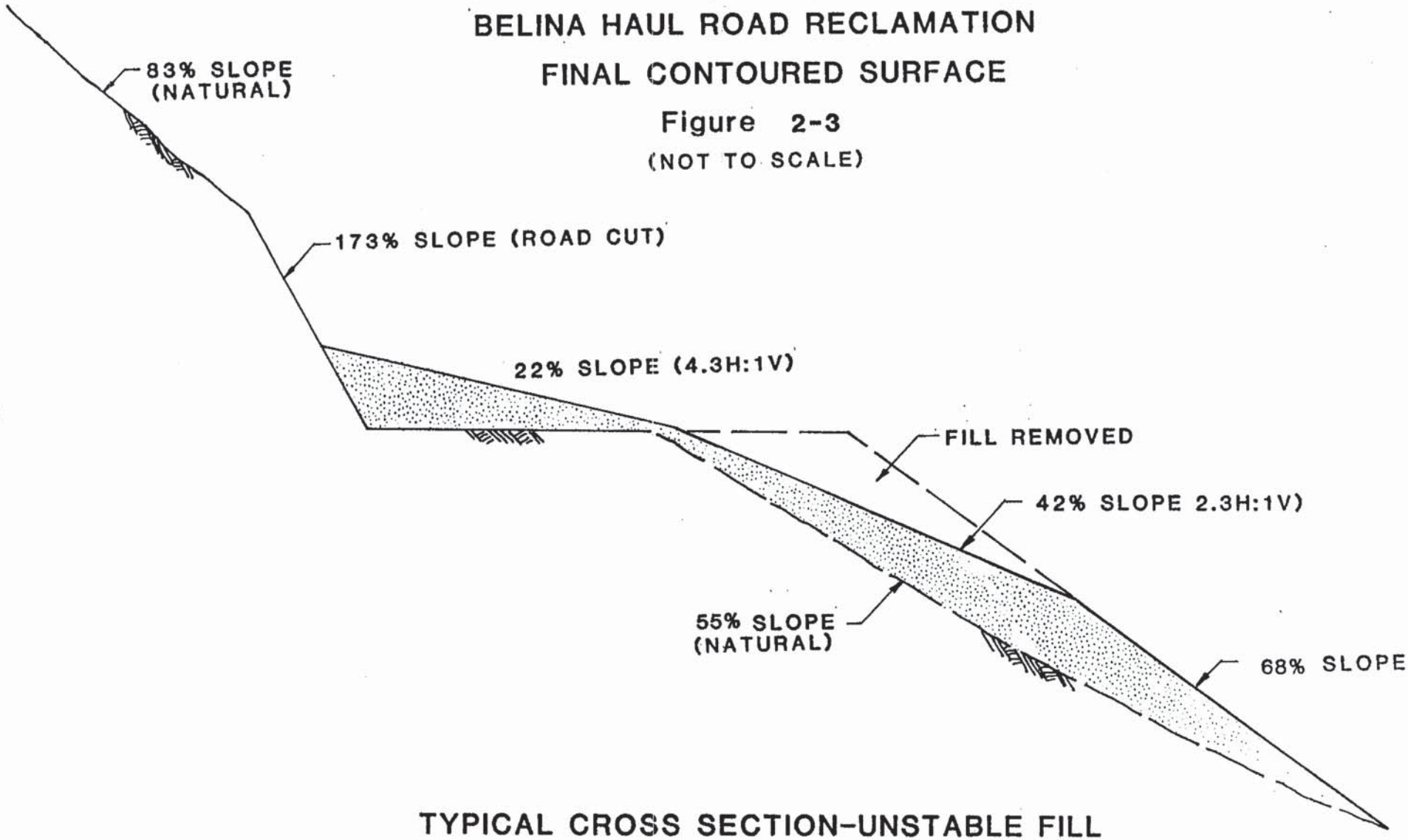
VALLEY CAMP OF UTAH

BELINA HAUL ROAD RECLAMATION

FINAL CONTOURED SURFACE

Figure 2-3

(NOT TO SCALE)



TYPICAL CROSS SECTION-UNSTABLE FILL

STA. 30 + 40 TO 32 + 00

AREA 3

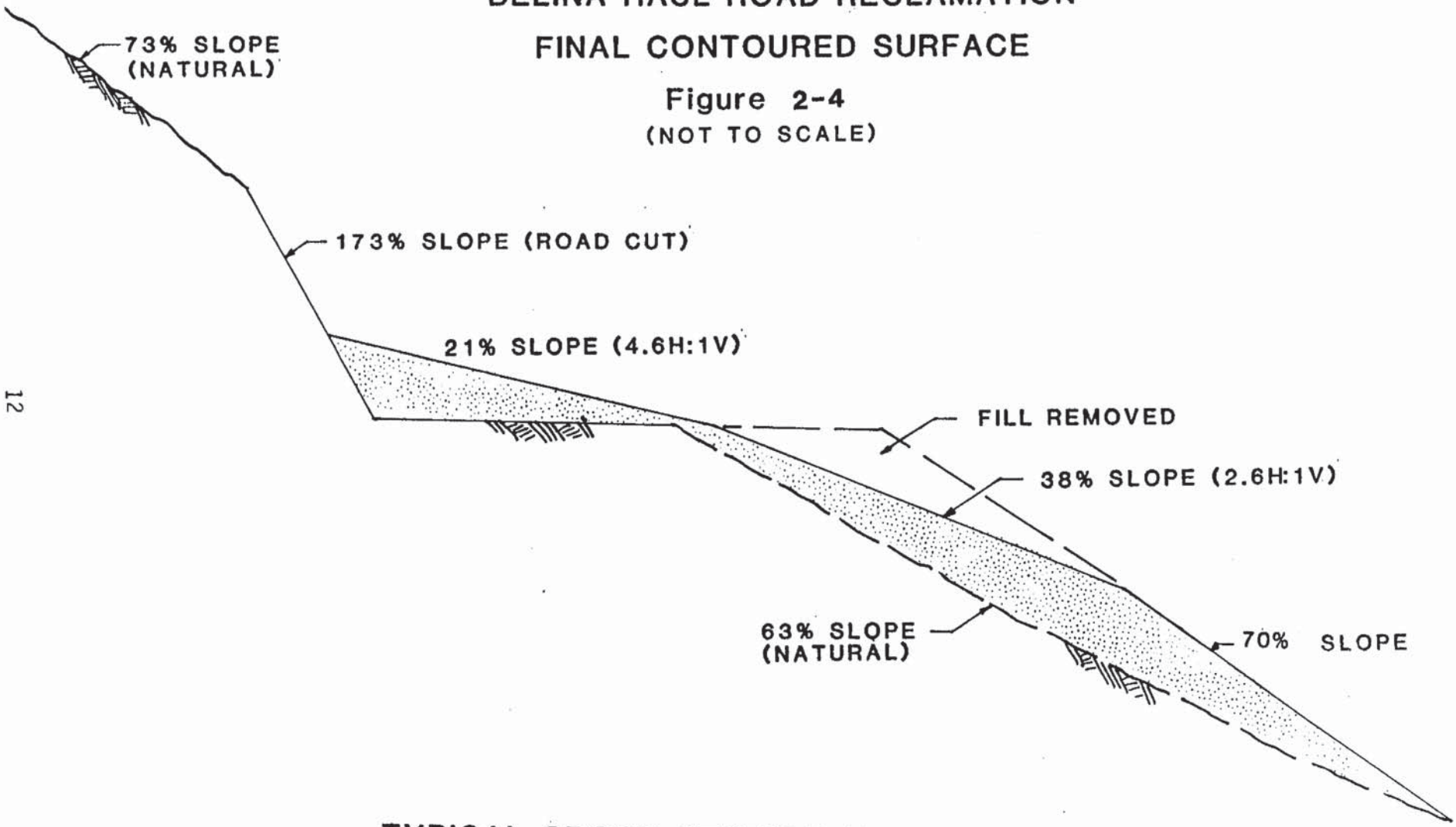
VALLEY CAMP OF UTAH

BELINA HAUL ROAD RECLAMATION

FINAL CONTOURED SURFACE

Figure 2-4

(NOT TO SCALE)



TYPICAL CROSS SECTION-UNSTABLE FILL

STA. 37 + 18 TO 44 + 00

AREA 4

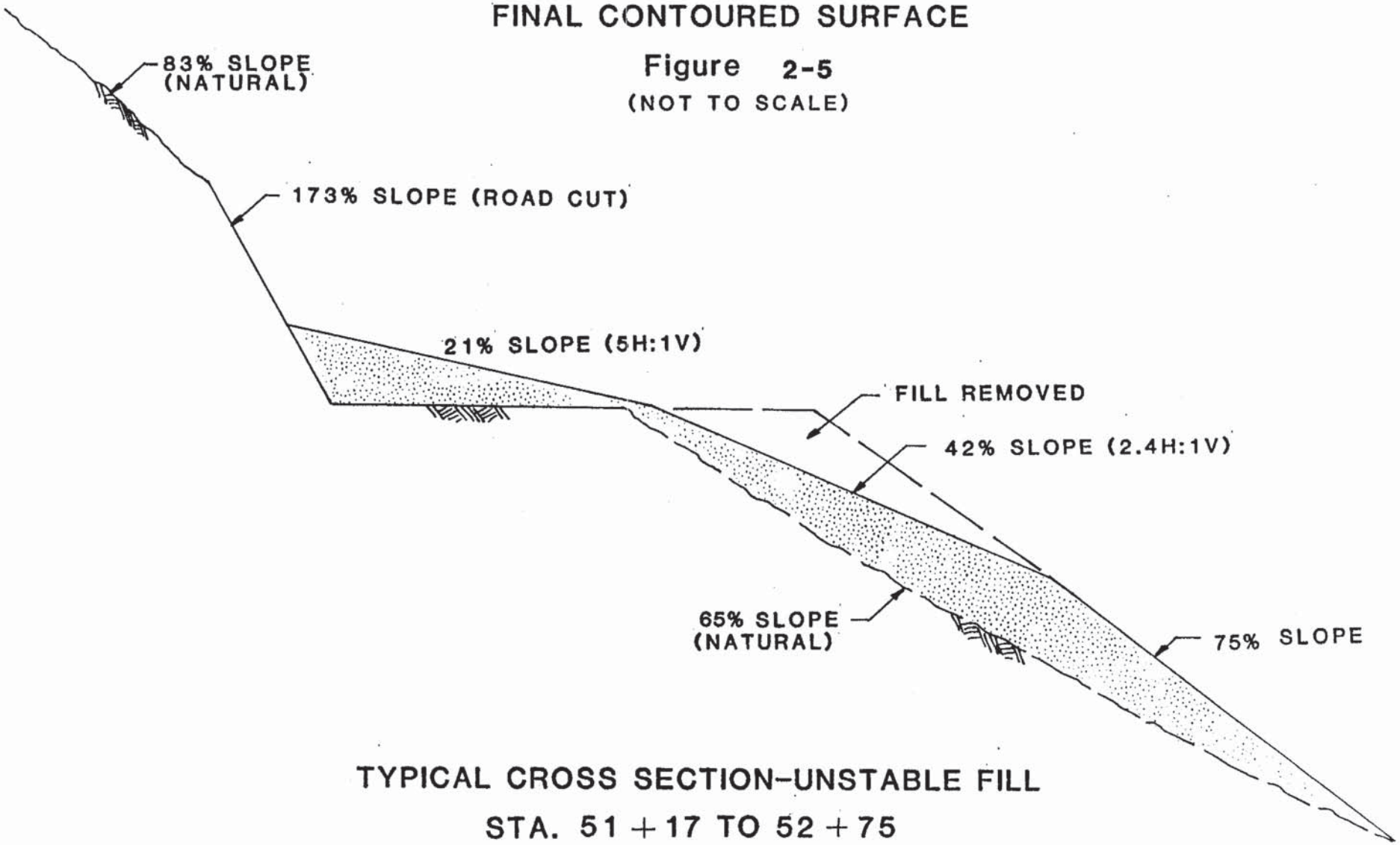
VALLEY CAMP OF UTAH

BELINA HAUL ROAD RECLAMATION

FINAL CONTOURED SURFACE

Figure 2-5

(NOT TO SCALE)



TYPICAL CROSS SECTION-UNSTABLE FILL

STA. 51 + 17 TO 52 + 75

AREA 5

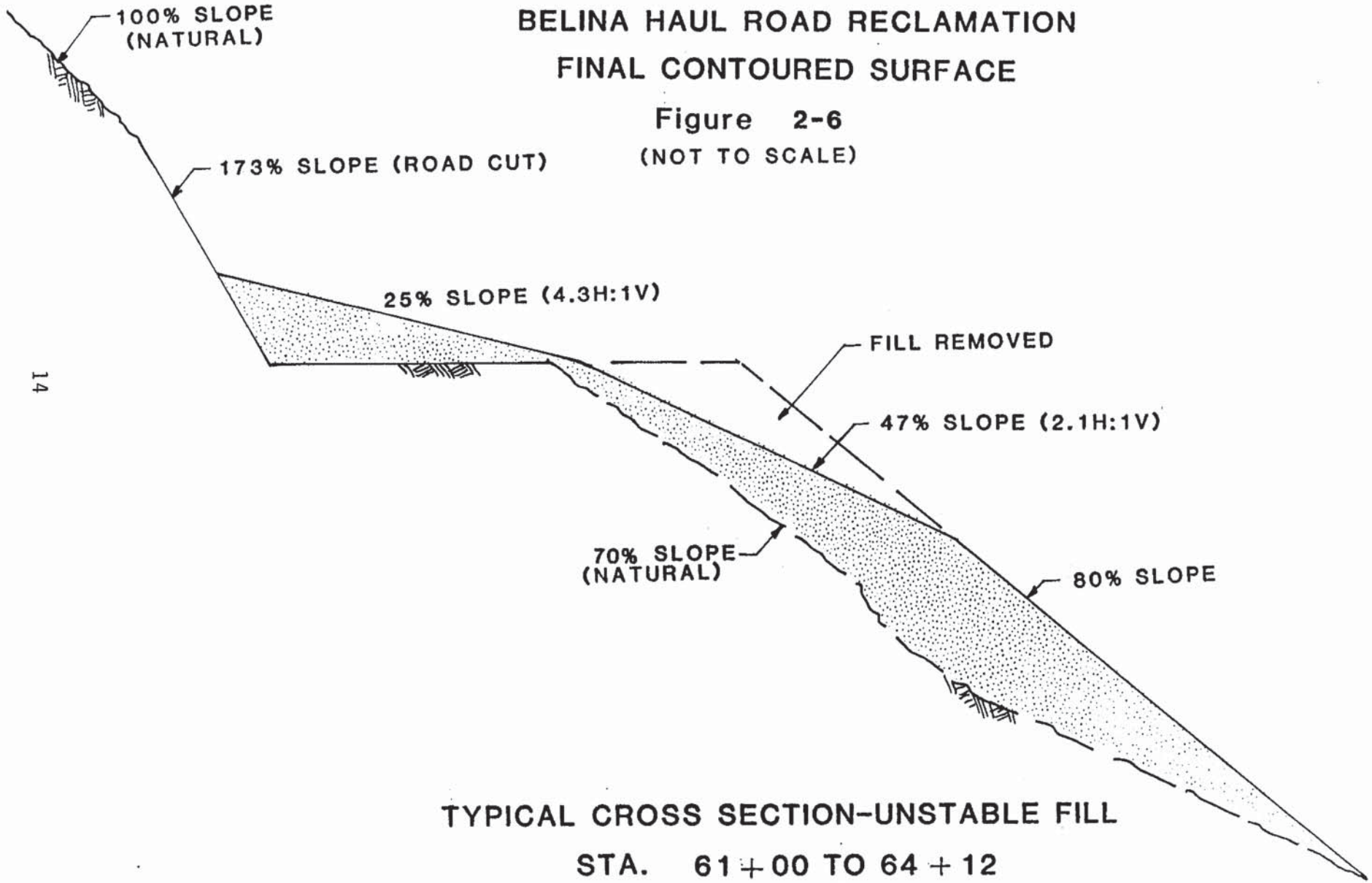
VALLEY CAMP OF UTAH

BELINA HAUL ROAD RECLAMATION

FINAL CONTOURED SURFACE

Figure 2-6

(NOT TO SCALE)



TYPICAL CROSS SECTION-UNSTABLE FILL

STA. 61+00 TO 64+12

AREA 6

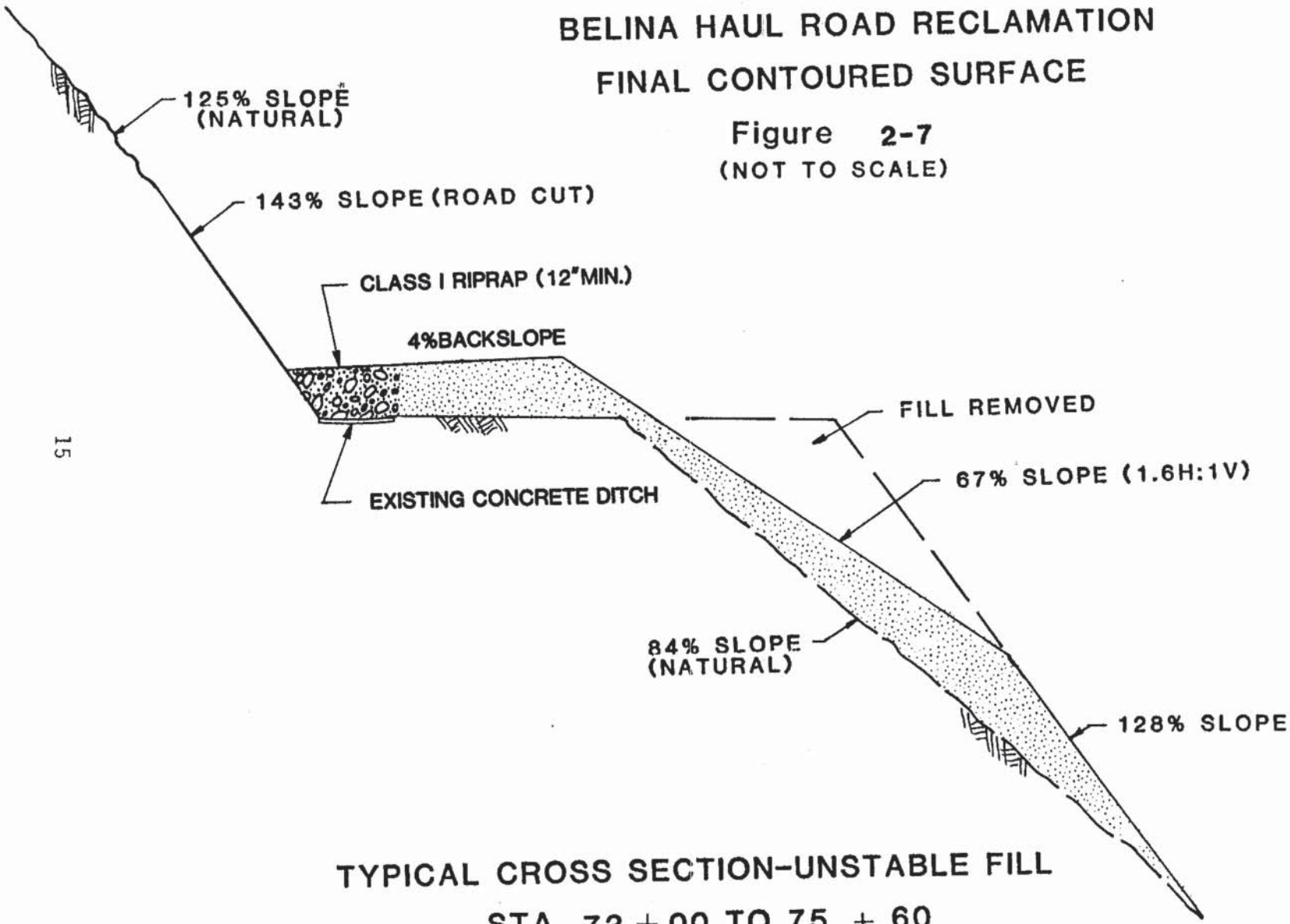
VALLEY CAMP OF UTAH

BELINA HAUL ROAD RECLAMATION

FINAL CONTOURED SURFACE

Figure 2-7

(NOT TO SCALE)



TYPICAL CROSS SECTION-UNSTABLE FILL

STA. 73 + 00 TO 75 + 60

AREA 7

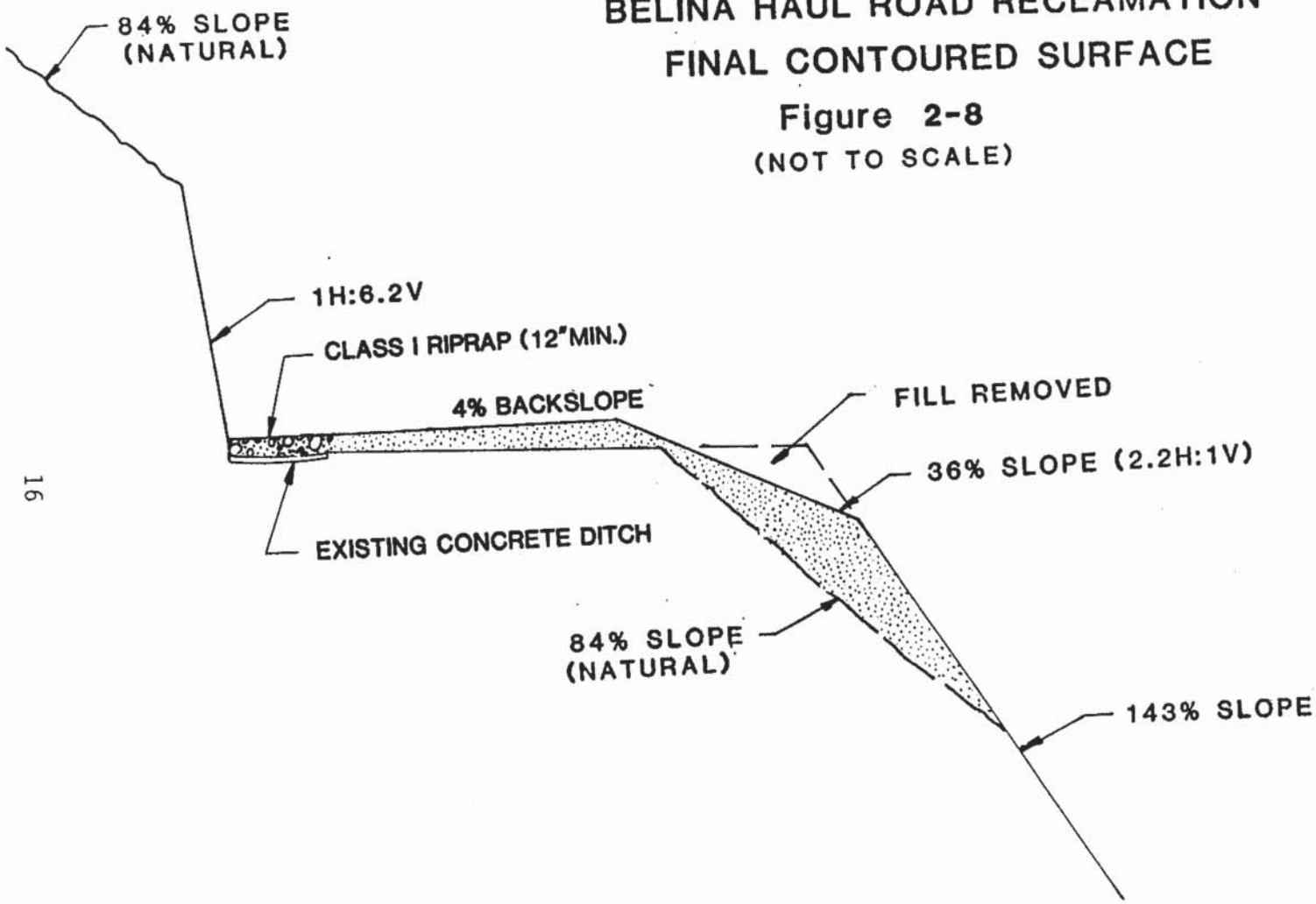
VALLEY CAMP OF UTAH

BELINA HAUL ROAD RECLAMATION

FINAL CONTOURED SURFACE

Figure 2-8

(NOT TO SCALE)



TYPICAL CROSS SECTION-UNSTABLE FILL

STA. 77 + 18 TO 82 + 46

AREA 8

The Bowel Crossing has not been considered to be a critical fill area due to the reclamation plans in this reach. By removing the top portion of the fill, this region does not present a slope stability problem and should remain stable.

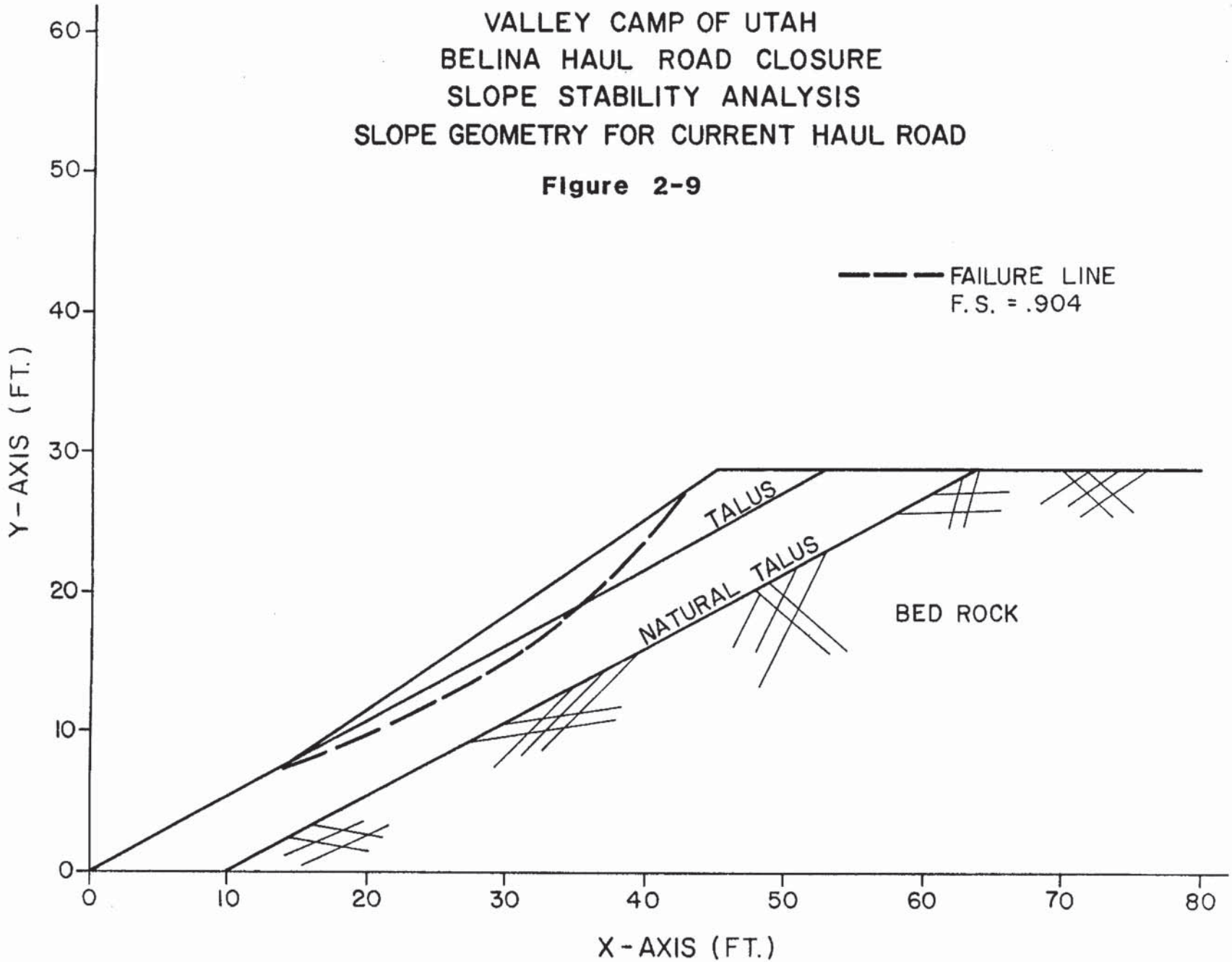
2.4 Methods and Results of the Slope Stability Analyses

The slope stability analysis was performed using the computer model STABL 5. Typical geometries before and after reclamation of the Belina Haul Road are illustrated in Figures 2.9 and 2.10. The natural talus slope used for model input was set equal to 53 percent and the talus slope to 68 percent. The reclamation slope was based upon the capability of a backhoe to reach downslope 25 feet. The soil density was assumed to be 100 pounds per cubic foot with a phi value of 31°.

The factor of safety for the talus on the current haul road was estimated to be .904, which is reasonable since the talus' phi value input is 31° and no adjustment was made for the irregular bedrock formation. The factor of safety after reclamation was estimated to be 1.08, which increases the factor of safety from the original haul road geometry by 19 percent. This increases the factor of safety to be greater than most of the natural talus since many of the natural slopes are unstable. Most natural talus slopes in the region have a factor of safety equal to 1.00 for their given geometry. Note that the failure plane configuration produced by the model shows shallow, circular failures which are predominant in this region. The very steep slopes noted in this study were made up of coarser sands and gravels which have considerably higher friction angles than the soil used for the typical section modeling. This non-homogeneity is common in young, shallow soils with some deviation in parent material and weathering exposure.

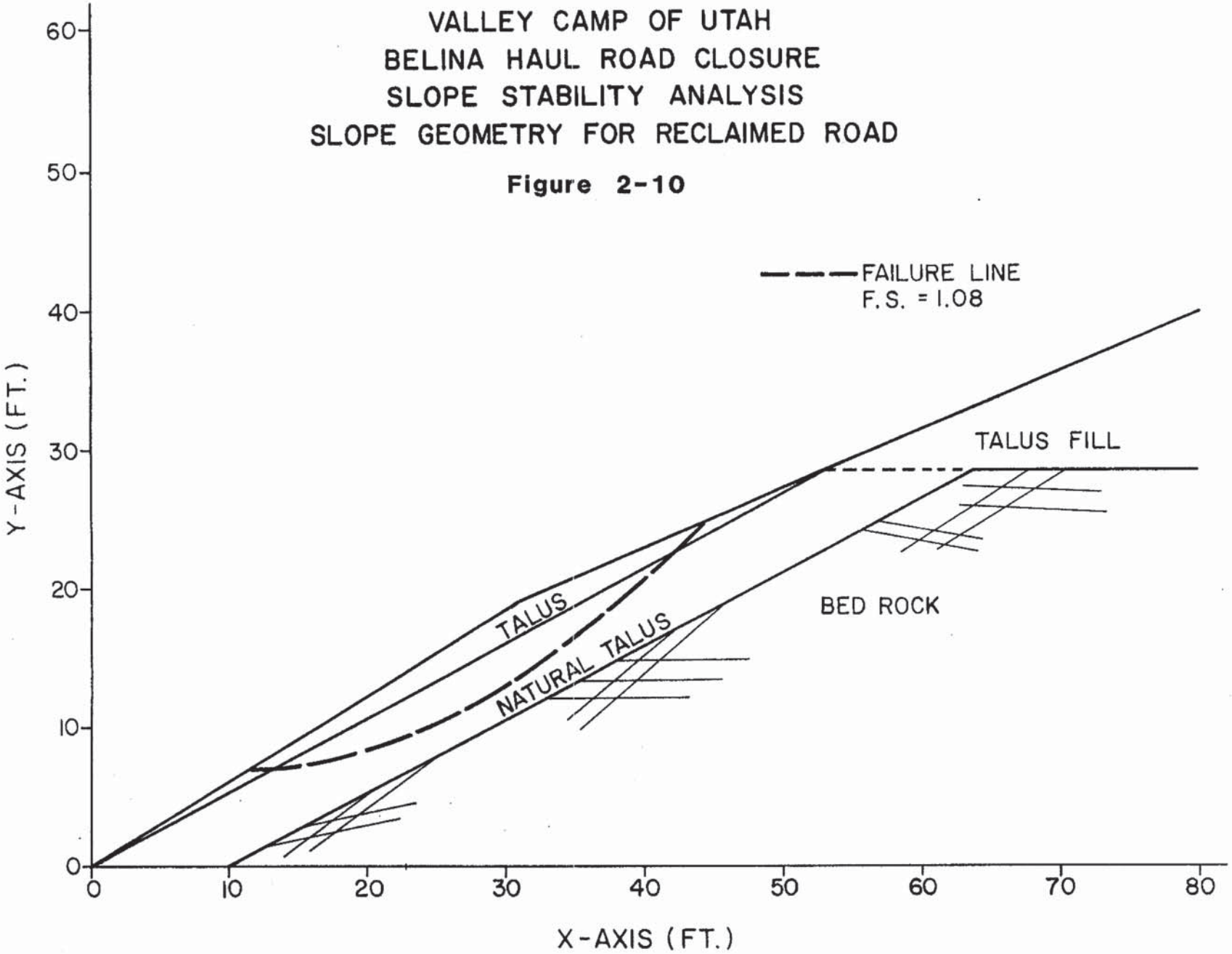
VALLEY CAMP OF UTAH
BELINA HAUL ROAD CLOSURE
SLOPE STABILITY ANALYSIS
SLOPE GEOMETRY FOR CURRENT HAUL ROAD

Figure 2-9



VALLEY CAMP OF UTAH
BELINA HAUL ROAD CLOSURE
SLOPE STABILITY ANALYSIS
SLOPE GEOMETRY FOR RECLAIMED ROAD

Figure 2-10



SECTION 3.0 SURFACE HYDROLOGY/HYDRAULICS

3.1 General

Surface water runoff was determined for the seven small drainages on the Belina Haul Road using the Soil Conservation Service (SCS) curve number method and the TR-20 Computer Program. Once flows were determined for each of the drainages, typical channels were developed and the velocity was determined so that the riprap sizing could be developed. Also included as part of the surface water design are the water bars to be constructed along the recontoured road.

3.2 Design Flows

The design storm for the seven drainages shown on Exhibit 3-1 was the 100 year, 24 hour, which has a rainfall amount of 3.65 inches. This is based on information developed for the Clear Creek Summit, Utah. Table 3-1 shows the precipitation depths versus return period for the Clear Creek Summit Site. The flows were developed based on a Type II rainfall distribution and are shown in Table 3-1.

The major parameters used in determining the runoff with the TR-20 model are the drainage area, time of concentration and CN. The time of concentration is defined as the time required for water to travel from the most hydraulic point of the watershed to the point of interest. It is computed by adding together the time for various segments of the conveyance system. For the mountainous drainage along the Belina Haul Road the time was estimated following the steps outlined in the SCS TR-55 publication and consist of three parts, sheet flow, shallow concentrated flow and open channel flow. The time of travel for each segment was computed and added together to determine the time of concentration for the drainage.

TABLE 3-1

Estimated precipitation depths for various return periods and durations at Clear Creek, Summit, Utah (from Richardson (1971).

RETURN PERIOD (years)	DURATION 5 Min	10 Min	15 Min	30 Min	1 Hr	2 Hr	3 Hr	6 Hr	12 Hr	24 Hr
1	.10	.16	.20	.28	.35	.46	.57	.84	1.08	1.33
2	.12	.19	.25	.34	.43	.57	.70	1.04	1.34	1.65
5	.16	.24	.31	.43	.54	.72	.90	1.34	1.73	2.14
10	.19	.29	.37	.51	.65	.86	1.06	1.55	1.99	2.45
25	.24	.38	.48	.66	.84	1.08	1.31	1.88	2.39	2.92
50	.25	.38	.48	.67	.85	1.13	1.40	2.07	2.67	3.29
100	.27	.42	.53	.73	.93	1.24	1.54	2.29	2.96	3.65

Runoff curve number (CN) are based on hydrologic soil group, cover type, and antecedent moisten condition of the soil. The soils and vegetation maps from Valley Camps' approved mining permit application (UT-0013) were used to determine the CN value for each of the drainages. The USFS has recently completed classifying their lands and assigning CN values and was contacted to see how values compared. In general the values computed for the haul road agreed quite closely and were slightly higher giving a more conservative estimate of the flow and were judged to be reasonable for forest lands. Table 3-2 below shows the date used to compute the design flows for each of the drainages.

TABLE 3.2

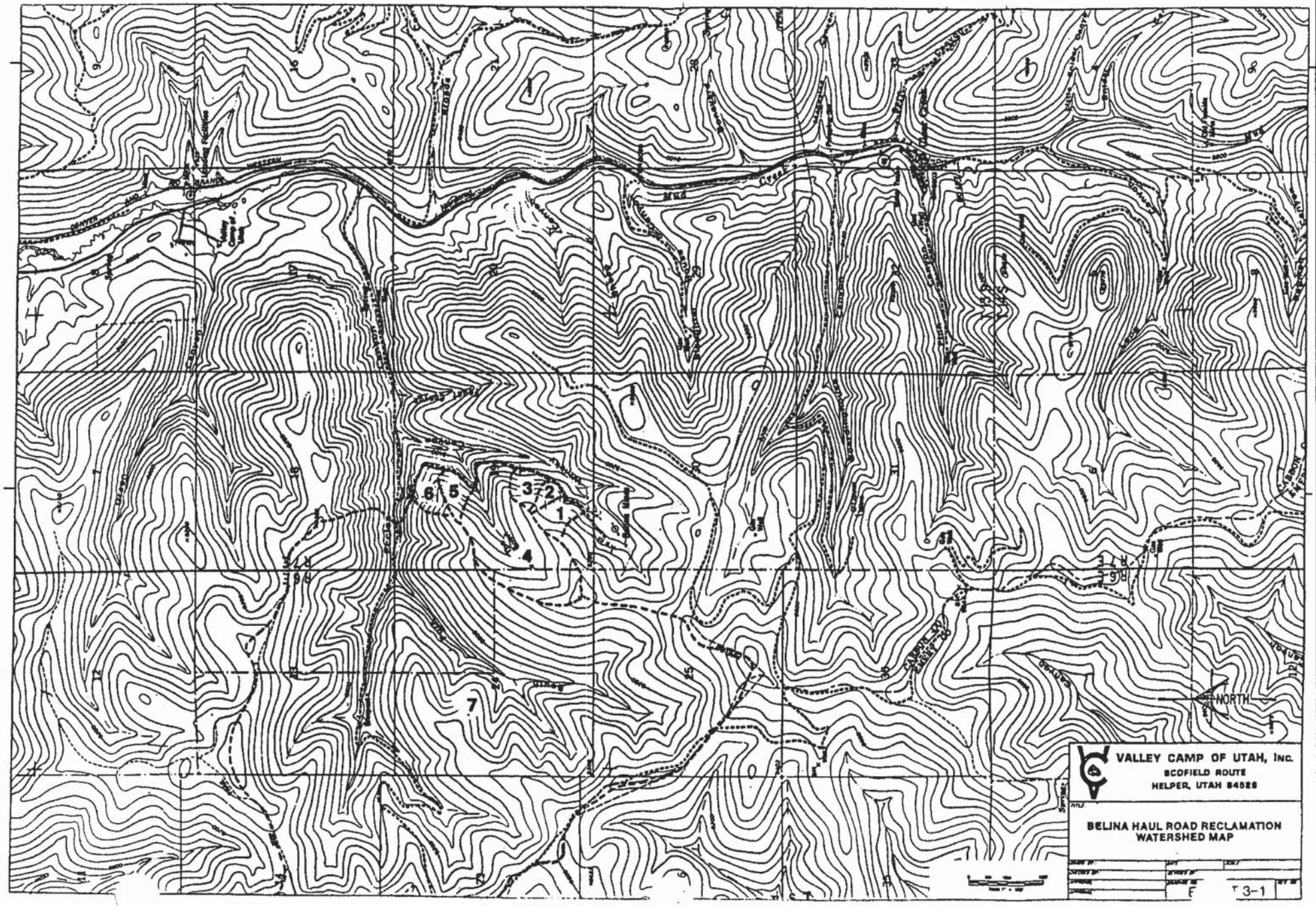
WATERSHED SIZE AND FLOW CHARACTERISTICS

Watershed #	CN	tc hrs.	Area, AC	Q cfs
1	60	.49	18.8	6.7
2	60	.35	9.6	4.3
3	60	.74	11.8	3.2
4 (Bowl Crossing)	60	.71	147.8	44.0
5	60	.71	14.2	4.0
6	60	.56	25.0	8.3
7 (Eccles Creek)	60	1.37	2087.0	378.

3.3 Channel Design

It is proposed in the reclamation plan that the existing culverts be removed and the ephemeral channels reestablished at their original slope and be protected with riprap. Figure 3.1 shows a typical section through the road after regrading and contouring and the various hydraulic data.

The slope will vary from about 15 percent across the road to a maximum of 65-70 percent along the slope face. To replace the culverts on five of the smallest drainages, a small "V" ditch will


1
2
3
4
5
6
7
NORTH
VALLEY CAMP OF UTAH, INC.
SCOFIELD ROUTE
HELPER, UTAH 84526
BELINA HAUL ROAD RECLAMATION
WATERSHED MAP
3-1

be constructed to carry the flow from each of the small drainages through the road sections. These small ditches will be protected with riprap and a typical section is shown on Figure 3-1.

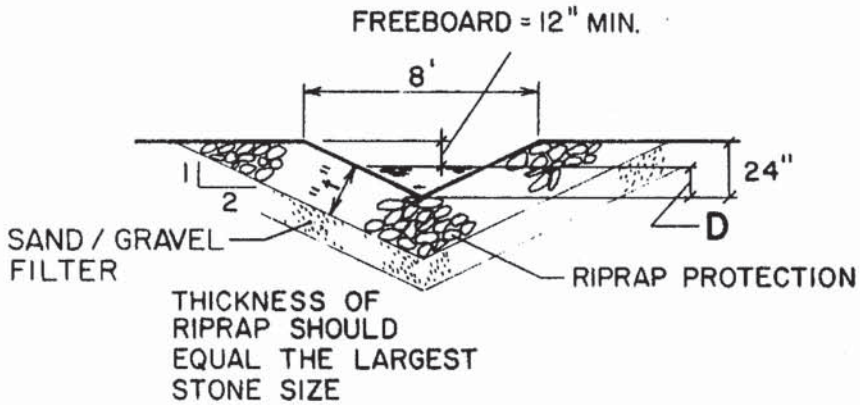
Velocities were computed using the Manning's equation. The channel roughness coefficient, n, was estimated based on values for small mountain streams where the depth of flow is small when compared to the size of bed material. In Open-Channel Hydraulics, Chow suggested n values range from .040 to .070 for small, steep mountain streams with cobbles and boulders. Values were also determined from the paper Two Approaches for Estimation of Manning's n in Mountain Streams, by Weache, et al. at the Wyoming Water Research Center. Based on their method, n is estimated to range from .065 to .085. A value of .06 was used in all of the computation. It was felt that the turbulence would be very high since the average depth of flow would range from .5 feet to 1.0 feet and the riprap size would range from 1.0 feet to 2.0 feet.

While this value is higher than those typically used, (.035 - .045), it is felt justified because the depth of flow is much greater than the stone size and this is not the case for the Belina Haul Road drainages.

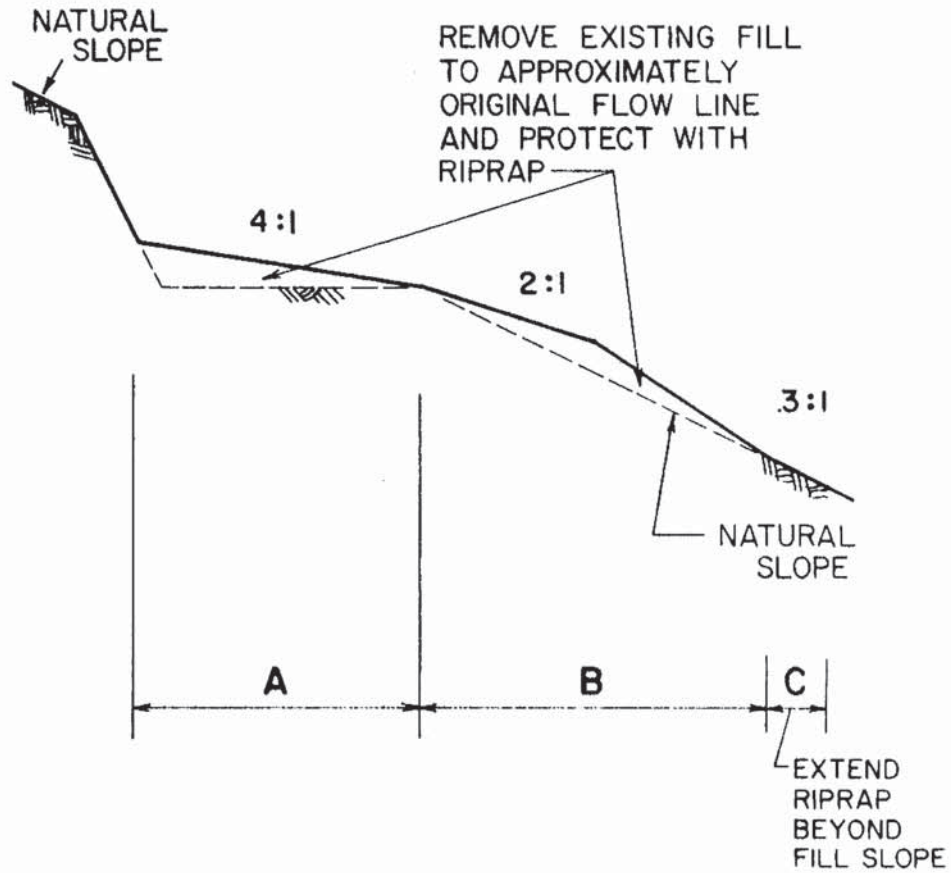
3.3.1 Small Drainages

Flows vary from 3.2 to 8.3 cfs for the five smallest drainages. The small "V" ditches were designed based on the maximum flow of 8.3 cfs. This will provide a conservative design and will standardize them making construction easier. The velocity will vary from about 4 feet per second for the 15 percent slope to about 10 ft/sec. on the steeper slope of 70 percent. Details for each of the crossings are shown on Figure 3-1.

VALLEY CAMP OF UTAH
BELINA HAUL ROAD RECLAMATION
SMALL DRAINAGE
HYDRAULIC DATA
Figure 3–1



TYPICAL "V" DITCH
FOR SMALL DRAINAGES



TYPICAL STREAM CROSSING
FOR SMALL DRAINAGES

VALLEY CAMP OF UTAH
BELINA HAUL ROAD RECLAMATION
SMALL DRAINAGE
HYDRAULIC DATA
Figure 3–1a

AREA	DRAINAGE	CHANNEL SLOPE	Q in cfs.	*D Depth Ft.	VELOCITY Ft./Sec.	RIPRAP CLASS
*A	1	15%	6.7	.85	5	I
	2	15%	4.3	.70	4	I
	3	15%	3.2	.65	4	I
	5	15%	4.0	.70	4	I
	6	15%	8.3	.90	5	I
*B	1	63%	6.7	.65	9	II
	2	63%	4.3	.55	8	II
	3	55%	3.2	.50	7	II
	5	70%	4.0	.50	8	II
	6	70%	8.3	.70	10	II
*C	ALL					II

*SEE FIGURE 3-1
FOR LOCATION

3.3.2 Bowl Crossing

Design of the channel for the Bowl Crossing drainage (Area 4) was done in a similar manner. The 100 year design flood is estimated at 44 cfs. It is proposed that a small overland flow channel be constructed through the rock fill after the soil fill has been removed, (See Section 4.3.1) which will have a bottom width of four feet. Figure 3-2 shows a typical section through the fill. The existing culvert will remain in place and will carry the smaller flows. The new overland flow channel will carry the flood flows for the more infrequent storms and also if the culvert should become clogged. The velocity in the new channel will vary from 8 ft/sec. across the rock fill where the slope is about 15 percent to 13 ft/sec. down the steeper natural slope. Details of the channel and hydraulic data are shown on Figure 3-2.

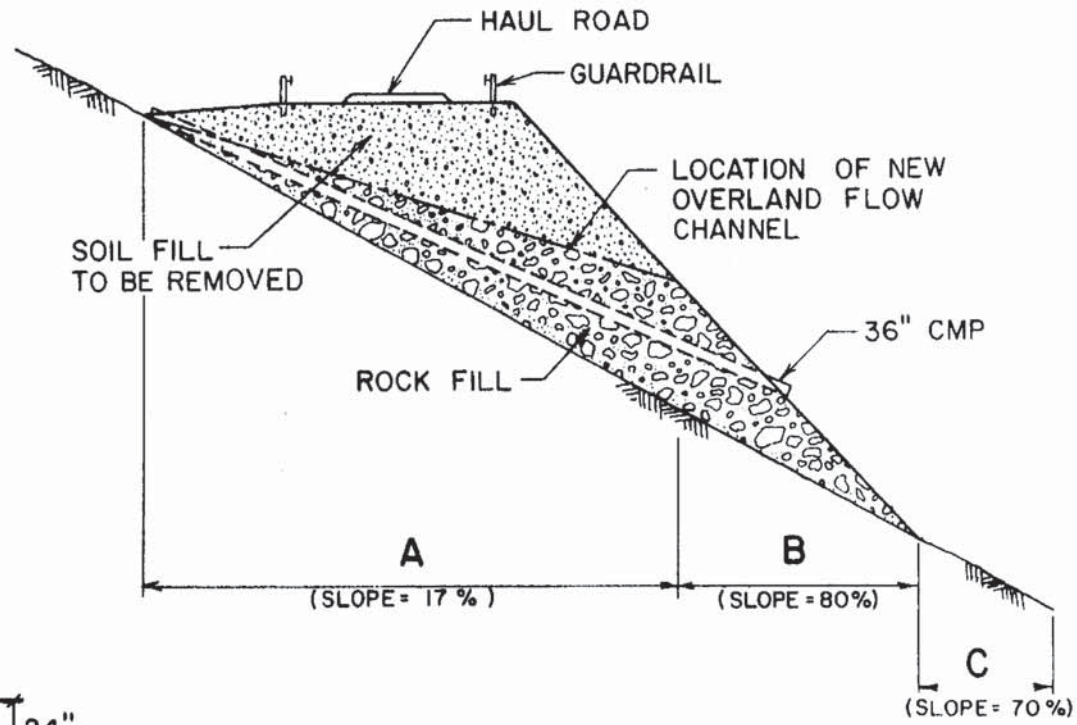
The design for Eccles Creek drainage is covered in Section 3.5.

3.4 Riprap Design

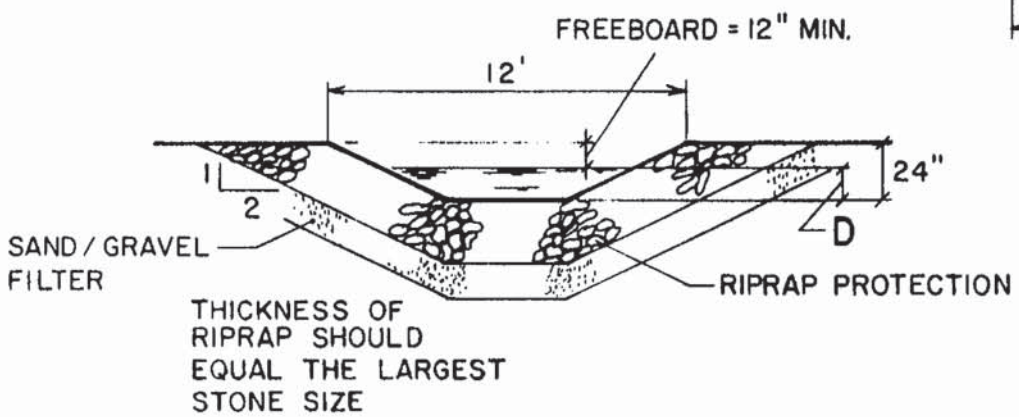
Rirrap sizing was selected based on the above velocities using USBR Engineering Monograph #25 and FHWA Hydraulic Engineering Circular #11. The d_{50} size is four inches on the flatter slopes (Class I) and is nine inches on the steeper slopes (Class II). Gradation for the different classes of riprap are shown in the Table 3.3.

VALLEY CAMP OF UTAH
BELINA HAUL ROAD RECLAMATION
BOWL CROSSING
HYDRAULIC DATA
Figure 3–2

AREA	D Depth Ft.	VELOCITY Ft./Sec.	RIPRAP CLASS
A	1.0	8	II
B	.70	13	II
C	.70	13	II



SECTION THRU BOWL CROSSING



TYPICAL DITCH FOR BOWL CROSSING
DESIGN Q=44 cfs.

TABLE 3.3

RIPRAP DESIGN

Class	Max.	Size, In d_{50}	Min.
I	8	4	1 1/2
II	24	18	6
III	36	24	8

Riprap should be reasonably well graded from the maximum size down to the minimum. The concrete removed from the project will be used as part of the riprap protection and will be broken so as not to be larger than the d_{50} size and will not makeup more than 15 percent of the volume. The riprap will extend beyond the toe of the fill slopes a minimum of five feet to provide energy dissipation at the termination of the riprap channels, the energy dissipator will be small mounds of riprap approximately 18"-24" high to help spread the flows out and reduce erosion.

A filter blanket will be constructed and placed between the riprap and the native material. The filter will be constructed of a well-graded gravel with a minimum size of about 3/16" up to a maximum required by the riprap class and is shown below in Table 3.4.

TABLE 3.4

RIPRAP FILTER DESIGN

RIPRAP CLASS	MAX, in	MIN, in	THICKNESS, in
I	*		
II	4	3/16	9
III	6	3/16	9

*Not required; native material acceptable

3.4.1 Small Drainages

The existing native material appears to be sandy gravelly material based on field inspections. The gradation is estimated to be from 3 inches down to less than 1/8" with a d_{50} size of about 3/8". This material will meet the requirements for a filter material for the Class I riprap, since the d_{15} Riprap/d_{85} Base is less than 5.

3.4.2 Bowl Crossing

Based on field observations and discussions with the mining operation people, it appears that the blast rock in the Bowl crossing fill has a maximum size of 18 inches to 36 inches. This would provide adequate protection based on the above velocities. If, when the soil fill is removed and the channel is constructed, it is determined that the actual blast rock is not large enough, additional riprap protection (Class III) will be provided.

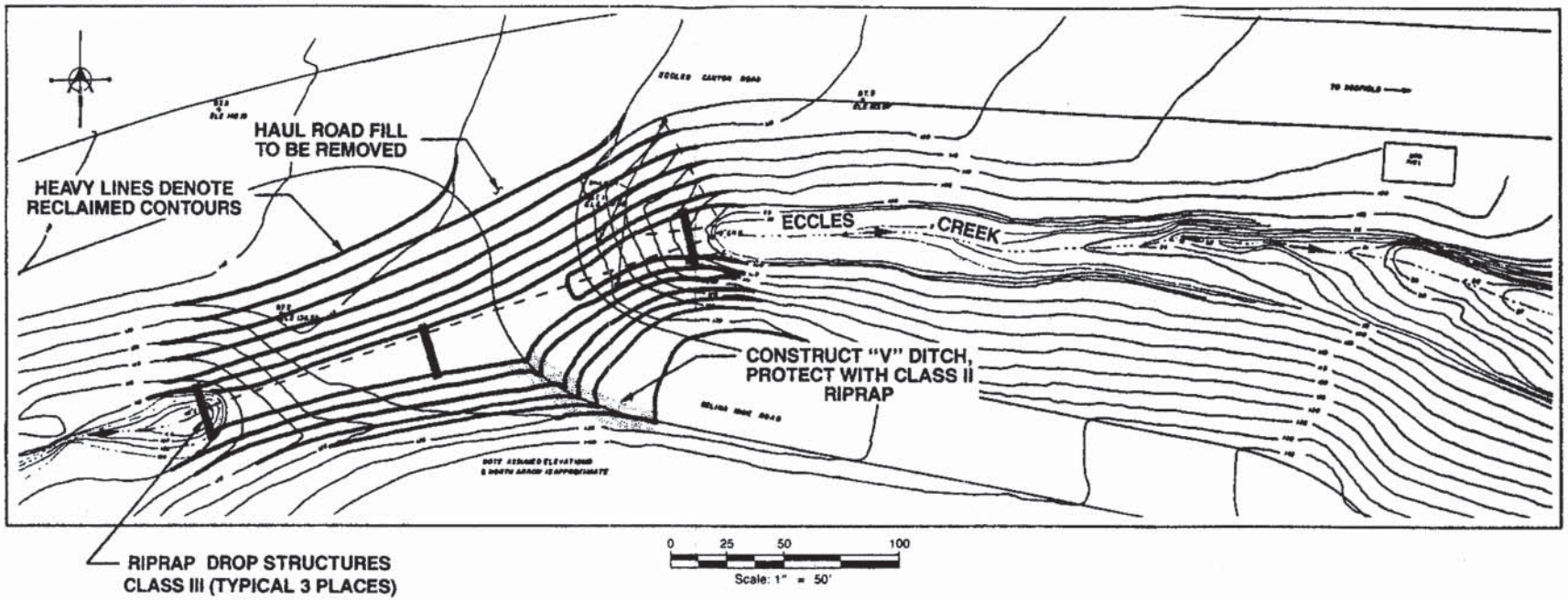
After excavating the soil fill at the Bowl Crossing the base material will be examined to determine if it meets the filter criteria. If it does not, a filter will be constructed meeting the gradation shown in Table 3-4.

3.5 Eccles Creek

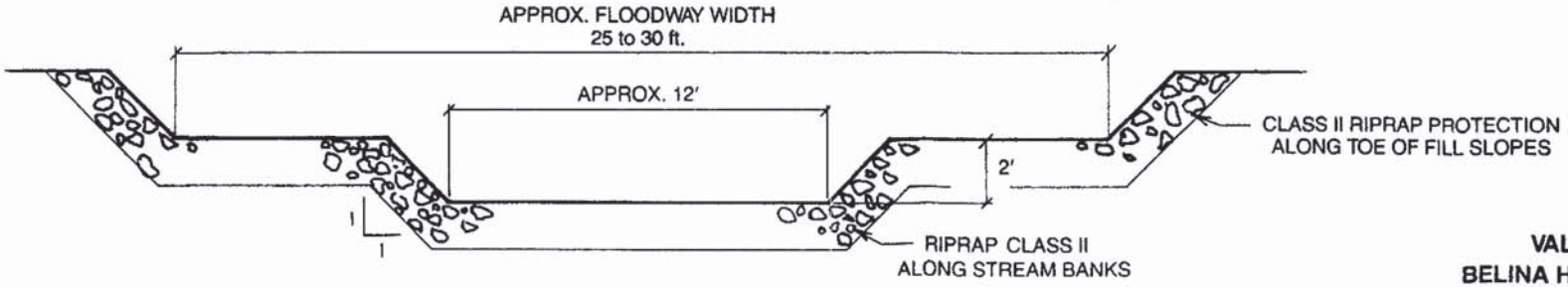
The drainage above the Belina Haul in Eccles Creek is the largest with an area of 2,047 acres. The 100 year 24 hour storm is estimated to be about 378 cfs. The channel slope in this area is estimated to be 2 - 2.5 percent. This channel will have a low flow section with a width of 12 feet. The velocity for the 100 year storm will be approximately 6.6 feet per second with depth varying from about 1.5 feet in the floodway to 3.5 feet in the main channel. A Manning's n of .060 was used in computing the flow depth and velocities for Eccles Creek. Based on this velocity and depth of flow, the Class II (24 inch)

riprap will be required. The channel will be constructed with similar geometry to the recently reconstructed channel below the Belina Haul Road turnout. A typical section through this channel is shown in Figure 3-3. The design of this channel will be similar to the recently completed channel reconstruction just downstream. This will maintain continuity in the channel design. The channel will include several drop structures to maintain a reasonable stream gradient of 2.5 percent or less. These drop structures will be constructed of large rock so that they will maintain a natural appearance. Figure 3-3 shows a plan view of the proposed new alignment after the fill is removed.

The velocity and depth were also computed for the average annual flow to evaluate the effects on fish passage, and are presented in Table 3.3. The average annual flow is estimated to be about 28 cfs. This flow was computed using the USGS report, "Methods for Estimating Peak Discharges and Flood Boundaries of Streams in Utah", WRI 83-4129. In addition to the average annual flow, depths and velocities were computed for several other flows.



ECCLES CREEK PLAN VIEW



TYPICAL SECTION THROUGH ECCLES CREEK

VALLEY CAMP OF UTAH
BELINA HAUL ROAD RECLAMATION
ECCLES CREEK CHANNEL DESIGN
PLAN AND SECTION
Figure 3–3

TABLE 3.3

ECCLES CREEK CHANNEL HYDRAULICS

Discharge, cfs	Depth,Ft.	Velocity, Ft./Sec.	Channel Slope %
15	.55	2.2	2.0
20	.65	2.5	2.0
28*	.80	2.8	2.0
30	.85	2.9	2.0

*Average annual flow

These are within the reported sustainable swimming speed for trout, which is two to six feet per second as reported in Fisheries Handbook, by Milo C. Bell, 1986. These velocities were not related to depth of flow in Milo C. Bell's report.

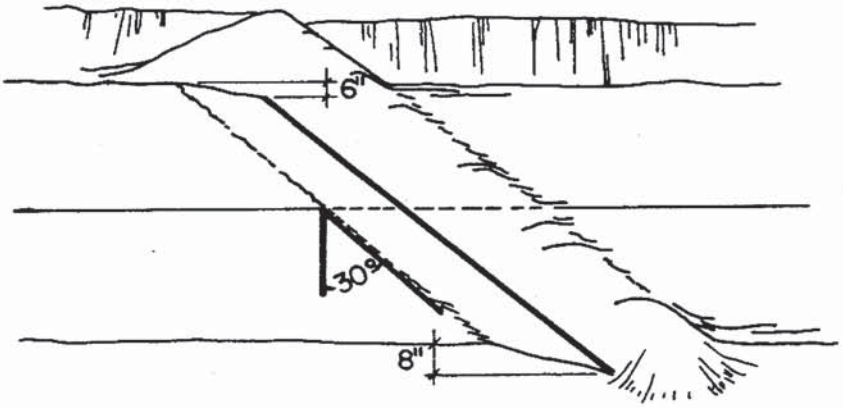
3.6 Concrete Ditch: Sta 71+00 to 82+00

A riprap ditch will be constructed at the base of the cut slope from about Sta. 71+00 to Sta. 82+00 where the haul road intersects Eccles Creek as shown on Figure 2-7 and Figure 2-8. Class I riprap will be placed over the existing concrete ditch with a minimum depth of about 12 inches. The reclaimed back slope of the road surface will contain the design flows. The last 100 feet of this ditch has a slope of about 35 percent where it drops down into Eccles Creek. This reach will be constructed similar to those in Figure 3-1. The ditch will have side slopes of 2H:1V and be protected with Class II riprap.

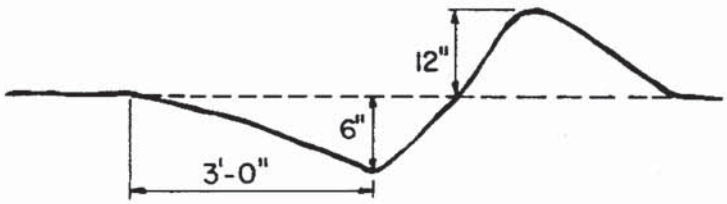
3.7 Water Control Bars

Water control bars will be constructed to reduce erosion of the recontoured haulroad. Figure 3-4 shows a typical waterbar. These structures will be spaced approximately 100 feet apart along the road. Waterbars will be placed more frequently if, during the final reclamation work it is determined they would be necessary to control runoff. Class I riprap protection will be included in the construction of the water control bars. The riprap will be placed at the point where the flow breaks over the edge of the old road bed.

VALLEY CAMP OF UTAH
BELINA HAUL ROAD RECLAMATION
TYPICAL WATERBAR
DETAILS
Figure 3–4



PLAN



SECTION

SECTION 4.0 - RECLAMATION PROCEDURES

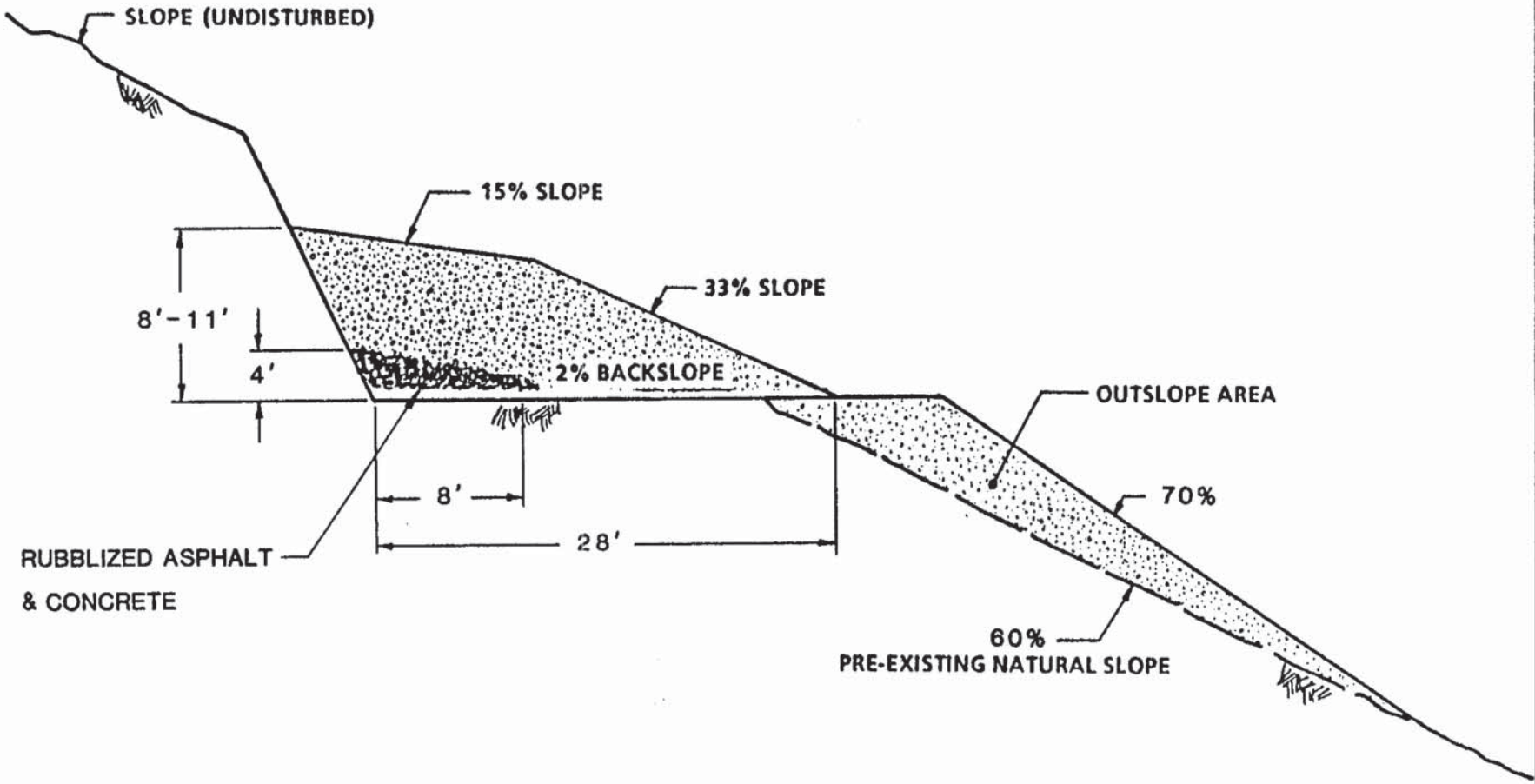
4.1 Road Surface Removal

Reclamation of the road will begin with the removal of the asphaltic concrete road surface and the Portland cement concrete lining of the water control ditch which is located at the toe of the road cut slope. A portion of the cement concrete ditch (from station 71+00 to station 82+00) will be left in place and backfilled with riprap, as discussed in Section 3.6. After the road surface is reclaimed and the recontoured surface sloped back towards the hill at approximately four percent, this water control structure will convey water to Eccles Creek. Leaving this portion of the concrete ditch in place will minimize infiltration to the fractured rock hillside, thereby lessening the chance of slope failure. This water control structure will be monitored for bond release for the same period as the rest of the reclamation. The cement concrete lining will be rubblized to eliminate any slippage surface when it and the asphaltic concrete and fill material are placed for disposal. The larger pieces of cement concrete will be salvaged and used as riprap if they meet the specifications for riprap discussed in Section 3.4.

The asphaltic concrete will then be broken and will be placed against tne toe of the cut slope over the previously placed broken Portland cement concrete. The asphaltic concrete will be piled approximately four feet deep adjacent to the cut slope and graded to ground level seven to eight feet out from the toe of the slope (Figure 4-1). There are approximately 3,500 in place cubic yards of asphaltic concrete to dispose of. To insure a competent fill and prevent piping, the asphaltic concrete will be placed in an engineered manner and compacted. The asphalt will be broken by ripping it with the

VALLEY CAMP OF UTAH
BELINA HAUL ROAD RECLAMATION
TYPICAL CROSS SECTION - STABLE FILL
FINAL CONTOURED SURFACE
Figure 4-1

(NOT TO SCALE)



scarifiers on a motor grader or equivalent machine. The scarifiers are approximately 17-20 inches apart. It is expected, therefore, that their use will create pieces of asphalt less than two-feet square. If necessary a dozer will be walked over the ripped asphalt to further reduce the size. The rubblized asphalt will then be bladed to the toe of the cut slope by a motor grader or equivalent equipment. The asphalt will be compacted in one foot lifts. Once the asphaltic concrete surface has been removed, the gravel road base material will be ripped or disked to eliminate compaction and to promote water infiltration and root penetration.

After the asphalt is placed and compacted it will be covered with soil removed from the out slope fill portions of the road, to a sufficient depth to prevent it from being exposed to the atmosphere. The surface of the replaced soil will be contoured as shown in Figure 4-1 to reestablish a drainage pattern similar to that which was present prior to mining.

4.2 Corrugated Metal Pipe Removal

Seven of the eight corrugated metal pipe (CMP) culverts buried in the Belina haul road will be removed during reclamation. These channels, which include Eccles Creek, will be cleared of fill material, recontoured and riprapped as necessary to prevent excessive erosion. The riprap material will consist of large competent rock and/or broken pieces of cement concrete as discussed in Section 3.4 of this report. The removed CMP will be salvaged if possible, or disposed of in a section of the underground mine workings as detailed in Section 784.13 of Valley Camp's approved Mining and Reclamation Plan Permit Number UT0013.

The remaining CMP is the large culvert through the fill in the Bowl. As agreed to during a site visit with UDOGM personnel, this CMP will be left in place unplugged. The reconstruction of a channel through the fill will provide a significant overflow safety factor in the unlikely event that the CMP would become dammed or plugged.

4.3 Recontouring

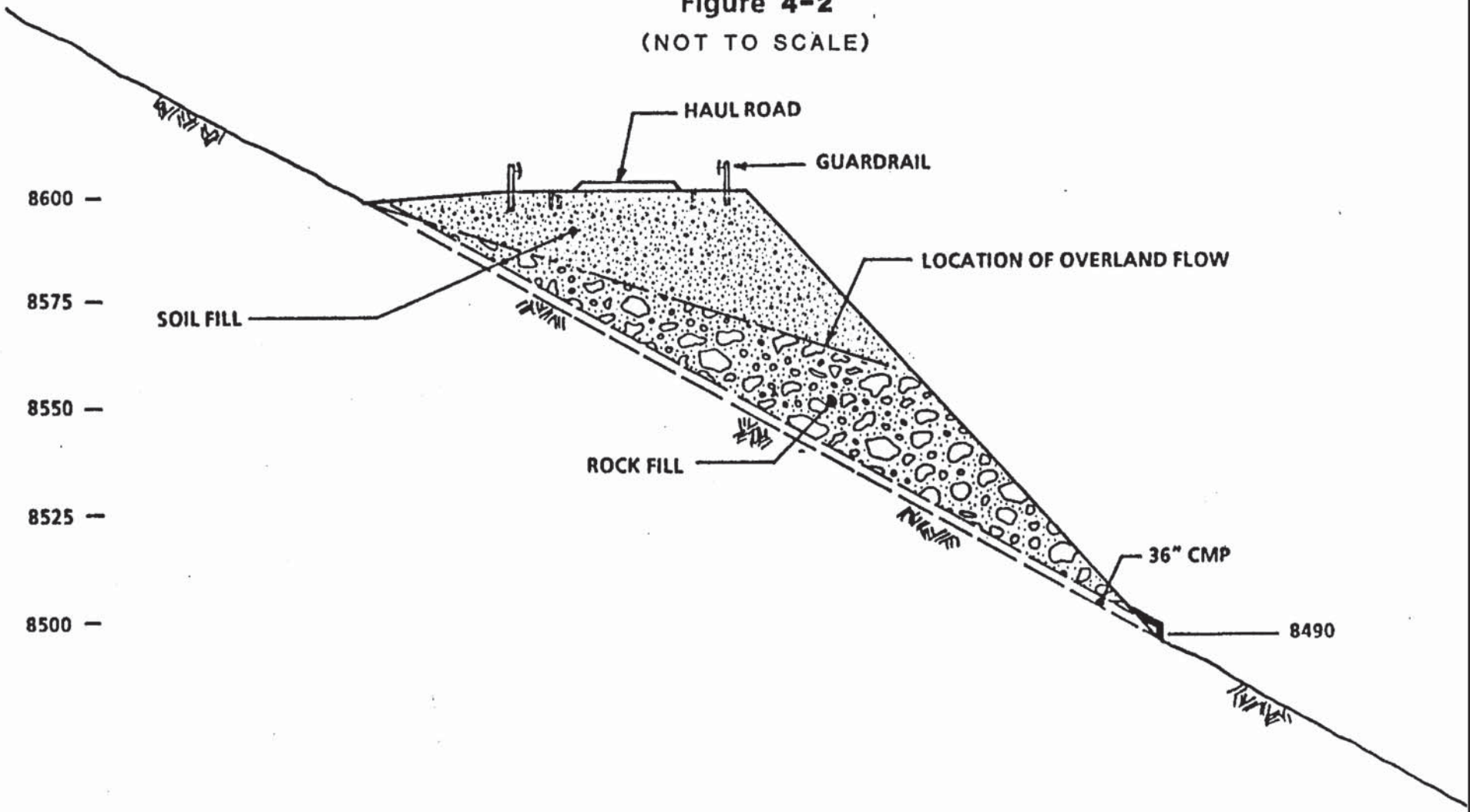
The recontoured areas will be developed by placing soil material excavated from two major fill areas (the Bowl crossing and the Eccles Creek crossing) on the "cut" portions of the road against the cut slopes as buttress fills. Additionally, portions of the road outslope fill areas are considered to be of questionable stability and will therefore also be excavated and placed in the buttress fills. Approximately 30,000 to 35,000 cubic yards of material will be excavated and placed during this recontouring effort. Drainage crossovers will be constructed across this recontoured surface to shorten the slope length and prevent excessive erosion (refer to Section 3.6 for details). These cutouts or crossovers will be riprapped to prevent the development of rills and gullies.

The reclaimed surface of the haul road will in most cases, slope to the outside. In some cases, however, it will slope back to the hill. Approximately the first 1,100 feet of the road, (from station 82+00 to station 71+00 on the CEI, 9/83 drawings) has a very steep outslope (approaching 120 percent) toward Eccles Creek. To keep water off of the face of this area and protect Eccles Creek the recontoured surface will pitch into the hill at approximately four percent (Figure 2.8). Runoff will be collected in a riprapped ditch constructed at the base of the road cut slope and will be conveyed down the hill and released to Eccles Creek approximately at the haul road/creek junction. The design of this ditch is addressed in Section 3.5 of this report.

4.3.1 Bowl Crossing

The largest fill is located near the midpoint of the haul road. It consists of blast rock on the bottom and soil on the top. The soil portion (approximately 15,000 yd^3) will be excavated and an overland channel will be developed through the remaining rock. The CMP will be left in place unplugged. This new drainage will be a permanent

VALLEY CAMP OF UTAH
BELINA HAUL ROAD RECLAMATION
THE BOWL CROSSING
Figure 4-2
(NOT TO SCALE)



structure constructed from competent rock which meets riprap specifications. In addition, energy dissipaters will be utilized, if necessary, to control the flow of water until it reaches the natural drainage channel. Figure 4.2 is a cross section showing the present road surface, fill slopes, and the projected location of the overland flow channel.

4.3.2 Eccles Creek Crossing

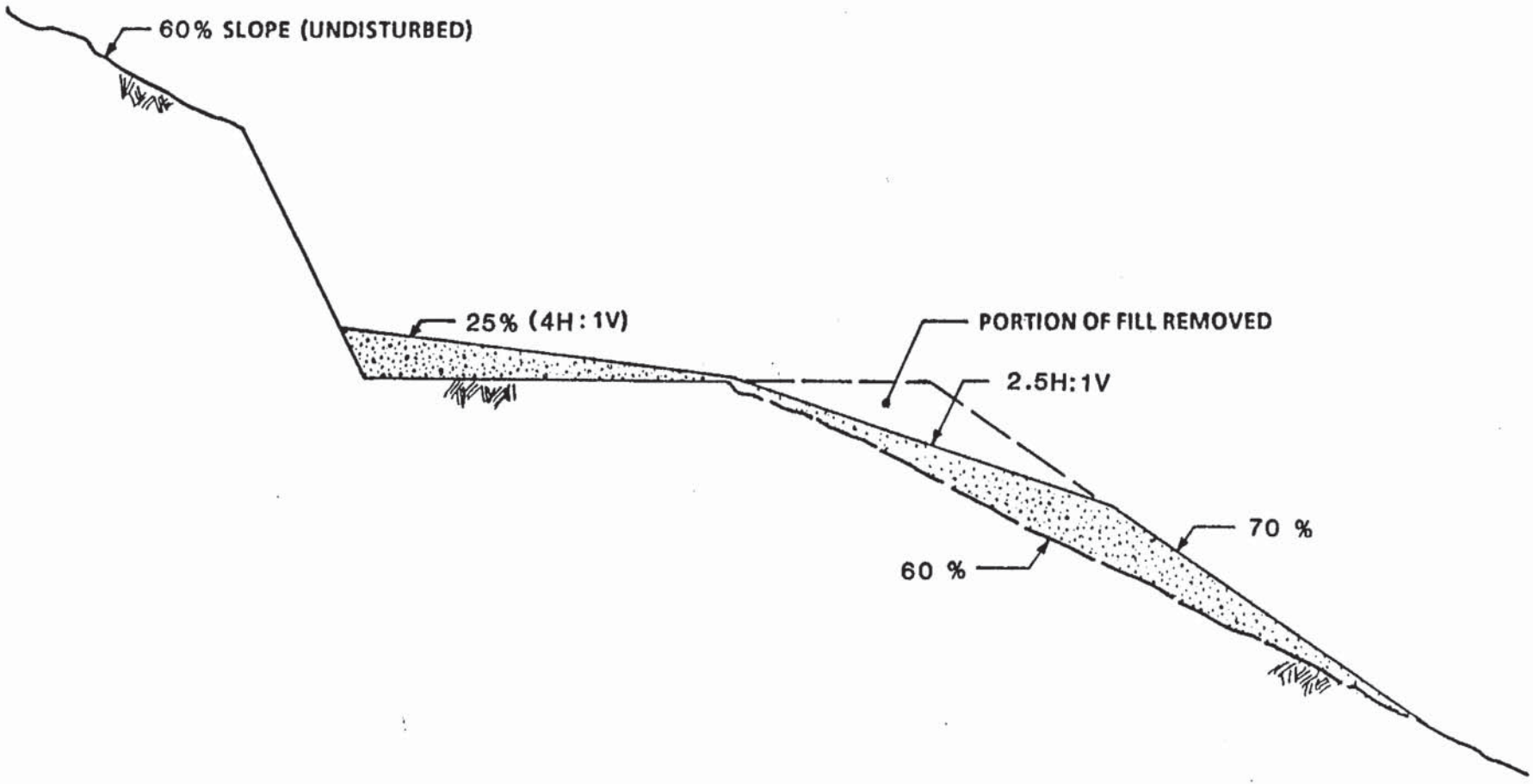
The second major fill is located at the intersection of the Belina Haul Road and the Eccles Canyon Road. This fill consists primarily of blast rock from the development of the first section of the haul road and is covered with soil. Again, only the soil portion will be removed. The remaining rock will be used as riprap for the rehabilitation of Eccles Creek, provided it meets riprap specifications. Any unused rock will be disposed of as discussed in Section 784.13 of Valley Camp's approved mining and reclamation plan (UT 0013). The corrugated metal pipe will be removed and disposed of similarily. These activities will allow Eccles Creek to return to its natural channel.

4.3.3 Unstable Fill Slopes

The third area from which backfill material will be obtained is from the portions of the outslope road fills that have been determined to be potentially unstable (Table 2.1). A sufficient quantity of fill will be removed from each of these fill slopes to reduce the potential of the slope failing. To initiate reclamation of these fill slopes, the guard rails will be removed and the support post and metal rails will be salvaged or disposed of.

The excavated material (Figure 4.3) will be removed using a backhoe or a similar machine to reach down the slope to retrieve material. As a result of this operation, the road edge will be cut back toward the

VALLEY CAMP OF UTAH
BELINA HAUL ROAD RECLAMATION
TYPICAL CROSS SECTION - UNSTABLE FILL
FINAL CONTOURED SURFACE
Figure 4-3
(NOT TO SCALE)



toe of the cut slope ten to fifteen feet. With the removal of this material the final surface will have an approximate slope of 2.5H:1V. The excavated material will be placed on the remaining road surface thereby creating an outslope of approximately 4H:1V.

The quantity of fill material estimated to be removed from the various sources and the estimate of the storage capacity that can be developed from utilizing the road surface is given in Table 4.1.

TABLE 4.1

VALLEY CAMP OF UTAH

BELINA HAUL ROAD RECLAMATION

SOIL DISPOSAL VOLUMETRICS

Fill Material To Remove:

o Eccles Creek Fill	4,000 $yd^3 \pm$
o The Bowl Crossing Fill	15,000 $yd^3 \pm$
o Haul Road Outslopes	6,000 $yd^3 \pm$
o Remaining CMP Removal	1,500 $yd^3 \pm$
o Asphaltic Concrete and Broken Cement Concrete	5,000 $yd^3 \pm$
GRAND TOTAL	**31,500 yd^3+**

Storage Capacity:

o Haul Road with Stable Outslopes (3,470 feet)	25,000 $yd^3 \pm$
o Haul Road with Portion of Outslopes Removed (2,780 feet)	6,000 $yd^3 \pm$
o Backslope Section of Road (1,250 feet)	3,000 $yd^3 \pm$
GRAND TOTAL	**34,000 yd^3+**

4.4 Topsoiling

During the construction of the haul road the overlaying topsoil and subsoils were excavated and stockpiled where possible, sidecast or used as fill. During the reclamation of the haul road some of the material which was sidecast and/or used for fill material will be excavated and used to recontour the road. The suitability of this material as a growth medium is evidenced by the vegetation currently growing on it and in fact very similar material has already been approved for use as topsoil at this mine by the Utah Division of Oil Gas and Mining. Prior to using this material as topsoil however, it will be analyzed for pH, texture, electrical conductivity, calcium, magnesium, sodium, organic matter, phosphorous and potassium. Because this material is a mixture of topsoil and subsoil and because no segregated topsoil stockpiles exist at this mine "topsoil" will not be placed on the regraded surface.

4.5 Seed Bed Preparation

The soil removed from the large fills will be replaced using dozers and scrapers. Soil removal from the potentially unstable outslopes will be accomplished using a backhoe or similar equipment. The soil replaced by scrapers and dozers will be scarified to a depth sufficient to allow root penetration whereas the soil placed by the backhoe will not require loosening since it will be subject only to limited packing. The final recontoured surface will then be disked or tracked on the contour prior to seeding.

4.6 Seeding

Seeding will follow the procedures and seed mixes outlined in Valley Camp's approved Mining and Reclamation plan, Permit Number UT 0013.

Areas of the haul road outslopes and cut slopes which will not be disturbed by reclamation activities will be subjected to a statistically valid vegetation survey at the time to determine the adequacy of the existing vegetation when compared to reference areas identified in Mining Permit Number UT-0013. If it is determined necessary, these undisturbed areas will be interseeded or interplanted with shrubs.

4.7 Fertilizing

A chemical analysis will be performed on samples of the soil which will indicate the nutrients and amounts necessary for proper plant growth. Fertilizer will be applied either just prior to or immediately following seeding.

4.8 Mulching

Mulch will be applied at approximately 2,000 pounds per acre, depending on the material of choice, and will follow application of the seed and fertilizer. The mulch will be straw or any of the other commonly used mulch materials. At the time of reclamation, where it is deemed necessary, a tackifying agent or some other means will be used to hold the mulch in place.

4.9 Erosion Control and Maintenance

During reclamation activities, interim erosion control measures such as filter fabric and straw bales will be used to control water flow. Once a drainage channel is established, these interim structures will be removed and the disturbed areas will be seeded, fertilized and mulched. At the conclusion of reclamation activities, runoff will be slowed by the proper placing of straw bales, filter fabric fences, riprap or mulch, in potential

problem areas. If runoff channels develop in excess of nine inches, the most applicable erosion control technique will be selected. For example, small erosion channels will be blocked with a filter fabric fence, a straw bale or some other material to slow the water and allow vegetation to establish.

4.10 Revegetation

The revegetated area will be monitored closely to ensure that a diverse, permanent vegetation cover capable of self-regeneration is developed. Revegetation success of the newly reclaimed haul road areas will be determined by following the techniques developed in Section 817.116 of Valley Camp's approved mining and reclamation plan, Permit Number UT-0013.

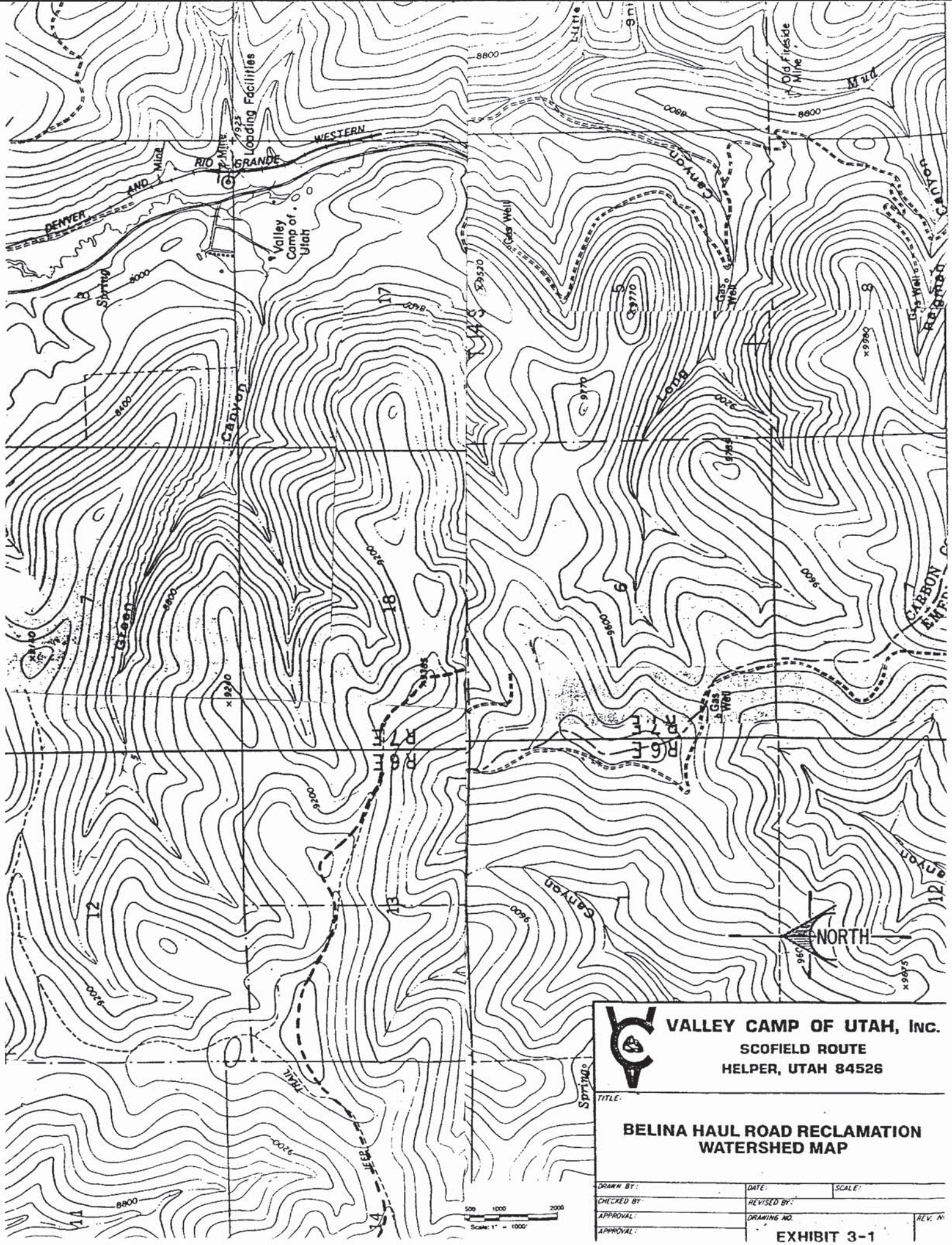
4.11 Reclamation Costs

Reclamation costs are summarized by task for the purpose of bonding costs. These cost estimates are made with the knowledge that the efficiency of workers and machinery may far exceed the normal rate because of the very limited work space, and the difficulty in scheduling of crews. The reclamation cost estimates are given in Table 4.2.

TABLE 4.2

RECLAMATION COST ESTIMATES

Remove Concrete and Asphaltic Concrete:			
Rip Portland Cement Concrete and Breakup Asphaltic Concrete			$ 3,500
Remove and Place Asphaltic Concrete (40 hrs. @ $87.50/hr.)			2,800
Compact Asphaltic Concrete			1,600
Break and Remove Concrete Ditch			6,500
Rip/Scarify Road Base Material (65 acres) (8 hrs. @ $75.00/hr.)			600
Remove corrugated Metal Pipes			8,000
Remove and Dispose Guard Rails, Posts, and Signs			5,800
Remove and Place Fill Material:			
20,000 yd^3 (Intersecting Drainage Fills)			50,000
7,000 yd^3 (Road Outslope Fills) (80 hrs. @ $100/hr.)			8,000
Recontour Road Surface:			
10.0 Acres ± (80 hrs. @ $100.00/hr.			8,000
Construct Riprap Drainage Channels:			
8 each (@ 200 feet each)			32,000
Redistribute Topsoil Substitute (10 Acres x 6" Deep):			
8,100 yd^3 ± (@$2.50/yd.)			20,000
Seedbed Preparation (Scarification, Disking, Harrowing)			1,000
Fertilizing, Seeding, and Mulching:			
Seed:	(10 acres @ 24.0 lbs/acre @ $15.00/P.L.S. lb.)	$3,600	
Fertilizer:	(10.0 acres @ $425.00/acre)	$4,250	
Mulching:	(10.0 acres @ $500.000/acre	$5,000	
Equipment and Labor:		$2,000	
Total			14,850
Monitoring			1,000
	TOTAL		$163,650
	10% Mobilization and Demobilization		16,365
	15% Profit and Administration		24,548
	Maintenance-10 Acres @ $100.00/ac/yr.		1,000
	TOTAL BONDING COST		$205,563


DENVER AND RIO GRANDE WESTERN
Mine
Loading Facilities
Valley Camp of Utah
Spring
Mud
Canyon
Gas Well
Old Fireside Mine
Mud
Canyon
Canyon
Canyon

APPENDIX C

Appendix R2 of the White Oak Mine MRP C/007/0001

APPENDIX R2

Reclamation Details

EFFECTIVE
NOV 1 5 1994
94G

PRELIMINARY CHANNEL DESIGN FOR CHANNEL AT C-21-48

IF CULVERT IS TO BE REMOVED (AT UDOT'S REQUEST) FULL DESIGN SHOULD BE COMPLETED. THESE CALCULATIONS SHOW FEASIBILITY.

APPROXIMATE DATA: Channel Slope: 5/120 = 0.042 (4.2%)
Channel Width: 10'
Channel Side Slope: m = 2

from Culvert design Sheets, $Q_{100yr,6Hr}$ = 330 cfs. (100yr, 6Hr)

Assume: D_{50} Req'd = 1.0', then $\eta = 0.0395\, D^{1/6} \sim 0.04$

$\frac{Qn}{1.49 S^{1/2}} = 43.34$

y	$AR^{2/3}$	
1.0	10.59	
2.0	36.33	
3.0	77.46	A = 31.68
2.2	43.28 ⇒	V = 10.42 fps

from Chart 27, "Flexible Linings $D_{50} \sim 1.25 - 1.50'$

Recalculate using corrected "η" value

$\eta = 0.0395\,(1.5)^{1/6} = 0.042$

NOV 15 1994

$\frac{Qn}{1.49 S^{1/2}} = 45.51$

y	$AR^{2/3}$	
2.3	46.99	
2.2	43.28	A = 32.63
2.25	45.16 ⇒	V = 10.12 fps

DOESN'T CHANGE: $D_{50} = 1.50'$ $\quad D_{max} = \frac{5 D_{50}}{\gamma S_o} = 2.9 \Rightarrow 3.0'$

FILTER BLANKET $\frac{D_{15}\,filter}{D_{85}\,base} < 5 < \frac{D_{15}\,filter}{D_{15}\,base} < 40$

filter Criteria, OR COULD USE 1.0' TYPE II GRANULAR FILTER AS PER OSM STDS, SEE OTHER RECLAMATION CALC'S FOR DETAILS ON TYPE II SPECS.

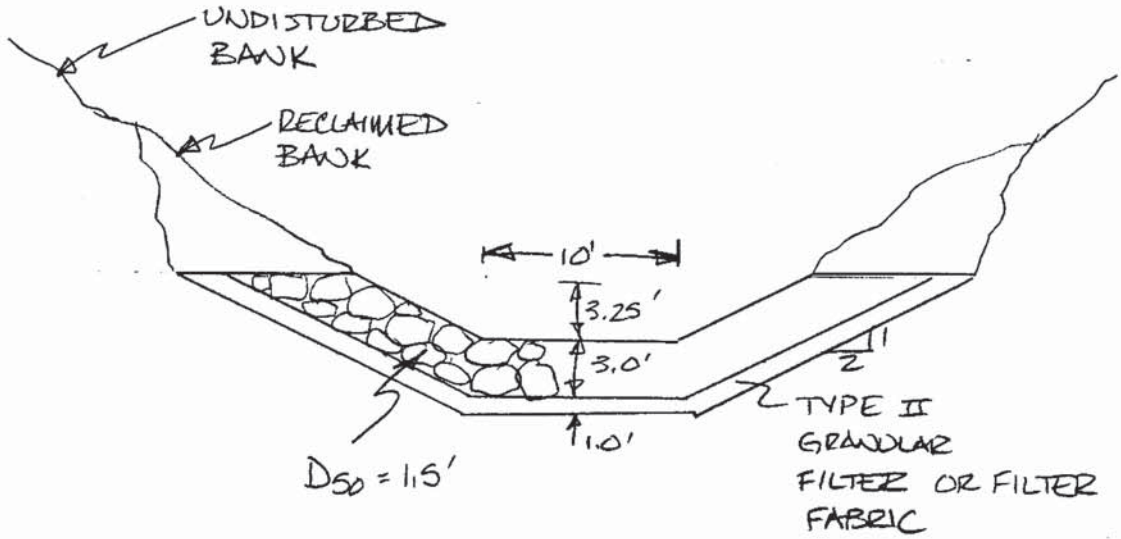
GENERAL: Riprap Thickness = 3.0'; Filter Thickness = 1.0'
Side Slope: 2:1; Channel depth = 2.25 + 1.0 = 3.25'

HANSEN ALLEN & LUCE inc

CLIENT VALLEY CAMP
PROJECT RECLAMATION
FEATURE
PROJECT NO. 007.12.100

SHEET 2 OF 2
COMPUTED DEH
CHECKED
DATE 26 SEPT 90

TYPICAL SECTION

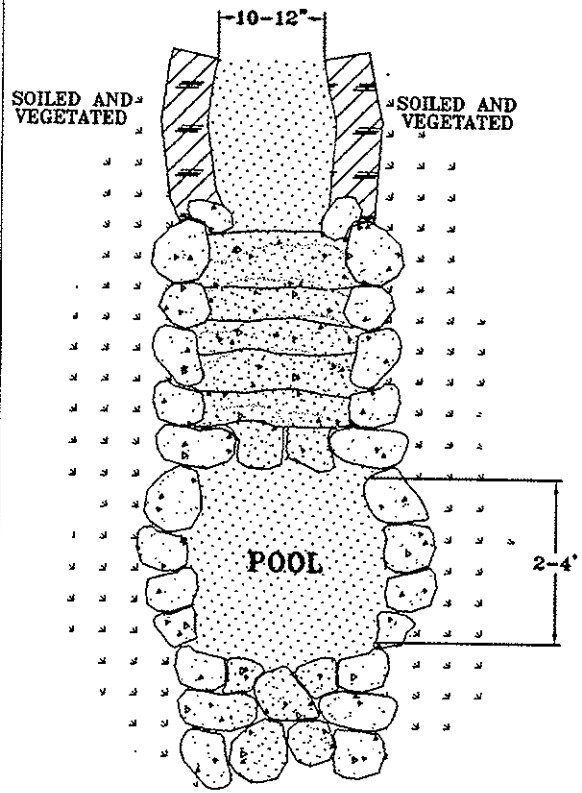


NOTES:
- SIDES TO MATCH EXISTING EMBANKMENTS
- MEANDER CHANNEL TO MATCH NATURAL STREAM
- SHORT BENDS WILL REQUIRE CHECK OF DEPTH TO ACCOUNT FOR WAVE RUNUP.

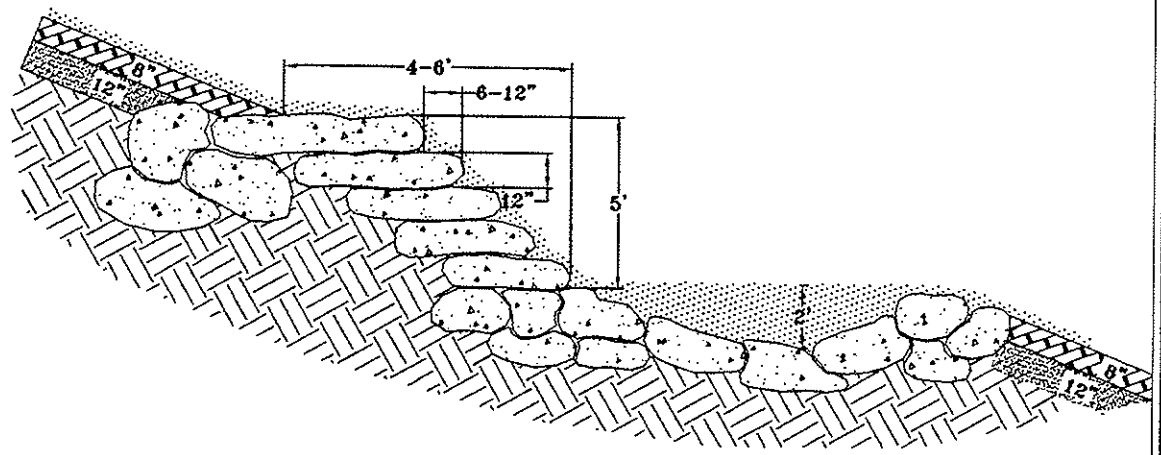
APPENDIX D

Typical Drop Structure

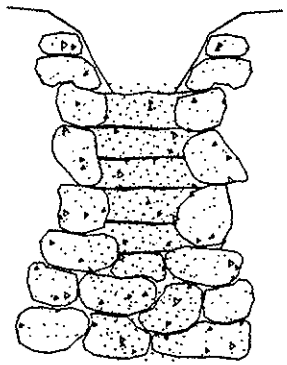
PLAN VIEW



PROFILE VIEW



CROSS SECTION VIEW



INCORPORATED
EFFECTIVE:
OCT 26 2001
UTAH DIVISION OIL, GAS AND MINIING
PRICE FIELD OFFICE

LEGEND:

< 4" Gravel
< 2" x 0 Material

REGISTERED PROFESSIONAL ENGINEER
No. 7418
DAVID B. MILLER
8/29/01
STATE OF UTAH

Lodestar Energy Inc.
Mountain Operations, White Oak Mine
HC 35, Box 370, Helper Ut. 84526
PH #: 435-637-9200 Fax #: 435-448-9466

Drawn By: JASON BENNETT	Date: Feb. 21, 2001	Scale: NTS
Approved: DAVE MILLER	Drawing Location: LADDER DROP.DWG	

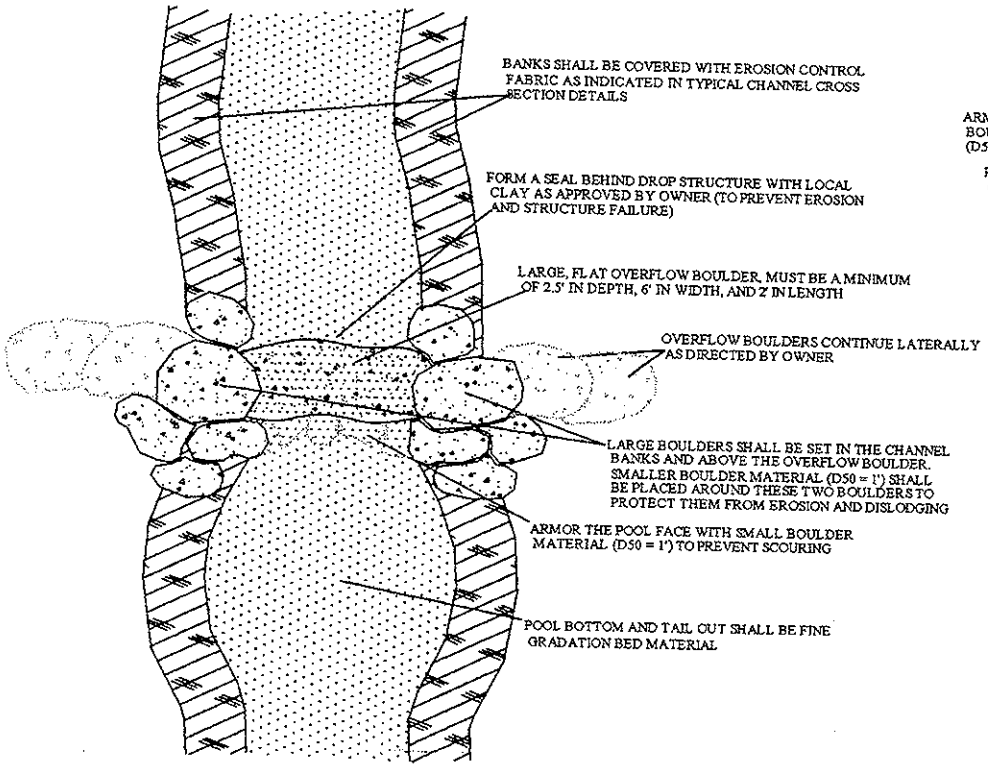
Drawing:

LADDER DROP

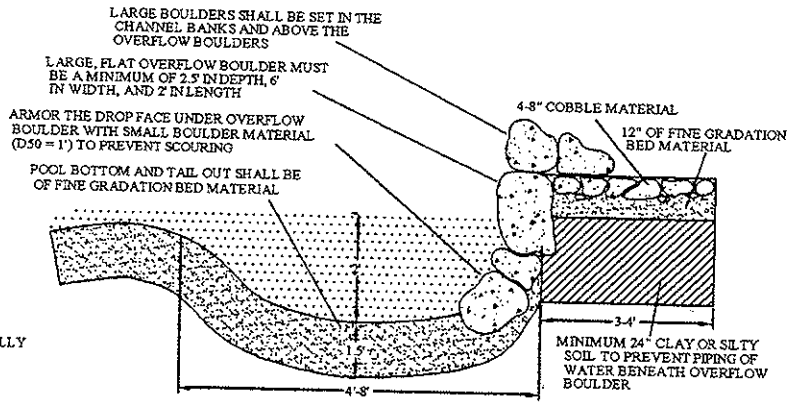
SIMULATES BEDROCK EXPOSED

Aug 29, 2001 - 4:10pm - C:\Jason\White Oak\ladder drop.dwg

PLAN VIEW



PROFILE VIEW



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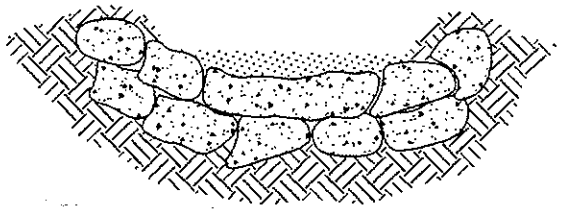


LEGEND:

REGISTERED PROFESSIONAL ENGINEER
No. 7415
DAVID B. MILLER
STATE OF UTAH

Lodestar Energy Inc.
Mountain Operations, White Oak Mine
HC 35, Box 370, Helper Ut. 84526
PH #: 435-637-9200 Fax #: 435-448-9456

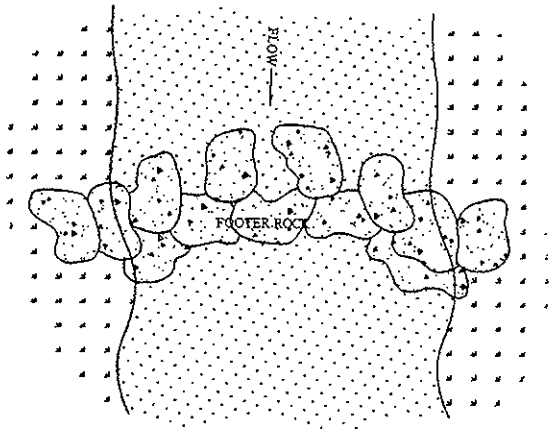
Drawn By: JASON BENNETT	Date: Feb. 28, 2001	Scale: NTS
Approved: DAVE MILLER	Drawing Location: C:\JASON\WHITE OAK\CHANNEL PROFILE.DWG	

Drawing:

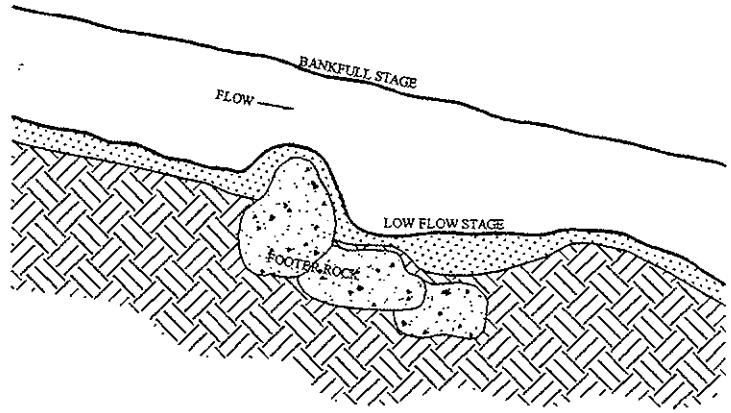
CHANNEL PROFILE

1' DROP STRUCTURE

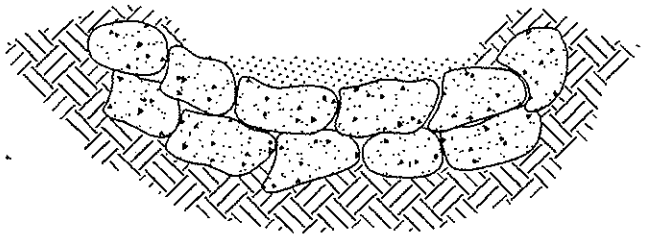
PLAN VIEW



PROFILE VIEW



CROSS SECTION VIEW



LEGEND:

Lodestar Energy Inc.
Mountain Operations, White Oak Mine
HC 35, Box 370, Helper Ut. 84526
PH #: 435-637-9200 Fax #: 435-448-9456

DRAWN BY:	JASON BENNETT	SCALE:	NTS
APPROVAL:	DAVE MILLER	SHEET:	1 of 1
TITLE:	VORTEX WEIR	DATE:	FEB. 20, 2001
DRAWING:	C:\JASON\WHITE OAK\VORTEX WEIR.DWG	REV. DATE:	

Appendix E

Stream Alteration Permit Application

Rec. by _____
Fee Rec. _____
Receipt # _____

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): _____ / _____
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
Division of Oil, Gas & Mining - Coal Program	Dana Dean, Associate Director Mining	801-538-5340
		Representative's Telephone Number and Area Code: 801-538-5320

Applicant's Address (Street, RFD, Box, Number, City, State, Zip)

1594 West North Temple, Ste 1210
Salt Lake City UT 84114-5801

PROJECT LOCATION

Quarter Section(s)	Section	Township	Range	Base & Meridian
NW1/4	19	T13S	R7E	Salt Lake

County	Associated Watercourse or Watercourse to be Altered	Check one: ☐ Within City Limits ☒ Outside City Limits List town or nearest town:
Carbon	Eccles Creek	Scofield

Project location or address:

Adjacent to State Route 264, two miles west of the intersection of SR 264 and SR 96.

Brief description of project including methods and equipment to be employed to complete the work:

Approximately 4,000 cu yds of fill will be removed from the pad. We will leave a 15 ft. wide turnout along SR 264. The fill will either be placed against the road cut on the south side of the creek or hauled offsite. The 48 inch culvert located within Eccles Creek will be removed and the land surface re-established to the approximate original contour and alignment as shown on attached Figure 3.3. This will re-expose 125 ft of stream channel with a drop of 5 ft. and a grade of 4.2%. The work will be completed during the fall which is the season of lowest flow. The stream will be captured in a pipe during construction. Silt fence and straw bales will treat water leaving the work area during construction.

Purpose (justification) of project:

The White oak mine was reclaimed in 2004 and stabilized in 2010. The mile long asphalt road From Eccles Creek to the White Oak mine was reclaimed in 2014. There is no longer a need for access across Eccles Creek. The Mining and Reclamation Plan outlines removal of the pad pending UDOT's agreement. Jim Chandler, R- 4 East Area Engineer, requested the pad be removed (email dated 1/27/2014). The removal of the culvert will restore habitat and allow fish passage upstream.

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.

This action is part the White Oak Mine reclamation, Utah Coal Mining permit C/007/0001 which included stabilization of Whiskey Creek under stream alteration permit #09-91-18SA.

If project included the discharge of dredged or fill material into a watercourse or wetland: Not Applicable

Cubic yards of material:

Acreage or square footage of waters of the United States affected by the project:

Source and type of fill material:

Length of stream that will be impacted below ordinary high water elevation:

Alternatives (other ways to accomplish project purpose):

None.

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

During construction sediment control will be placed around the perimeter of the work area to prevent sediments from entering Eccles Creek. Eccles Creek will be contained in a 36 inch culvert during channel reconstruction.

Remaining fill will be sloped at 2h:1v down to the channel flood plain. The toe of the slopes will be rip-rapped with rock having a D50 of 18 inches. From the toe of the slope, the channel flood plain will extend 12 ft on either side of the channel bottom. The channel bottom will be 10 ft wide. The channel bottom, side slopes and flood plain will all have three ft of rock rip rap that has a D50 of 18 inches. Beneath the rip rap, a granular riprap filter will be placed 9 inches to one foot deep. A typical cross section through the channel is attached as Figure 3-3. The channel will meander and grade will be reduced with a minimum of four drop structures, to maintain a grade of 2.5%.

The side slopes will be stabilized with mulch incorporated with surface roughening and vegetated with native seed (mix attached). Willow cuttings will be planted by hand along the stream bank flood plain

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:

Yes. "Intensive Archaeological Surface Evaluations in the Proposed Whiskey Creek Canyon-Pleasant Valley Project in Carbon County, Utah." . F.R. Hauck, and D.G. Weder . 1980. IN Appendix 411.140. White Oak Mining and Reclamation Plan, C/007/0001.
The survey found no historic sites at the location of the present day culvert and fill.

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

Highway ROW Encroachment Permit application will be filed with UDOT.
Questar blue stakes will be called to mark JTL83 gas line that runs in the SR 264 ROW.
(The Centra Com telecommunications line is not near the fill. It runs on the north side of SR 264.)

Estimated starting date of project:	Estimated completion date:
mid-August 2015	mid-September 2015

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_____Date:_____

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.

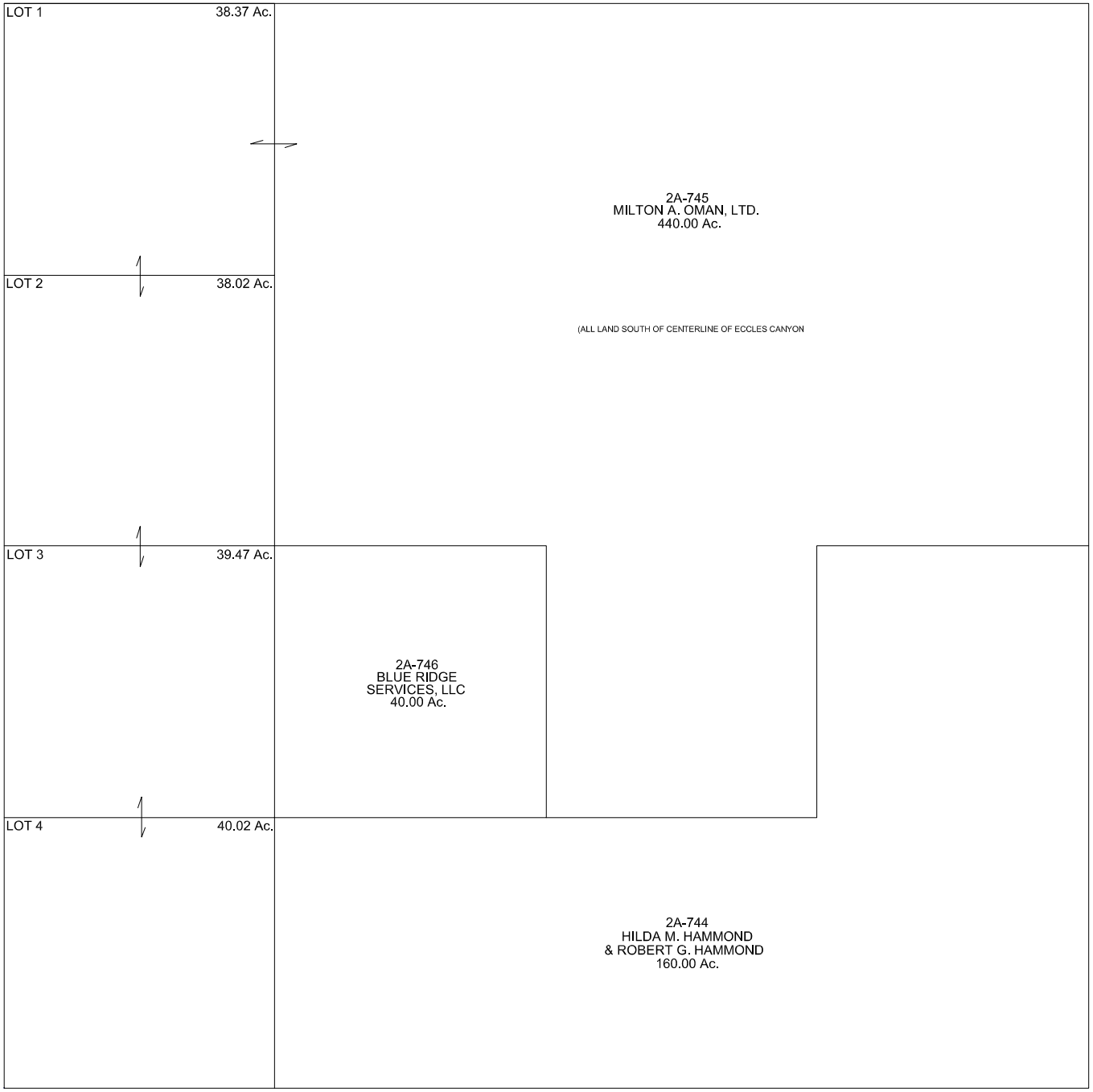
USA Topo Maps

This map service presents detailed USGS topographic maps for the United States at multiple scales.

Copyright:© 2013 National Geographic Society, i-cubed

CARBON COUNTY PLATS

SECTION 19 | TOWNSHIP 13 SOUTH | RANGE 7 EAST



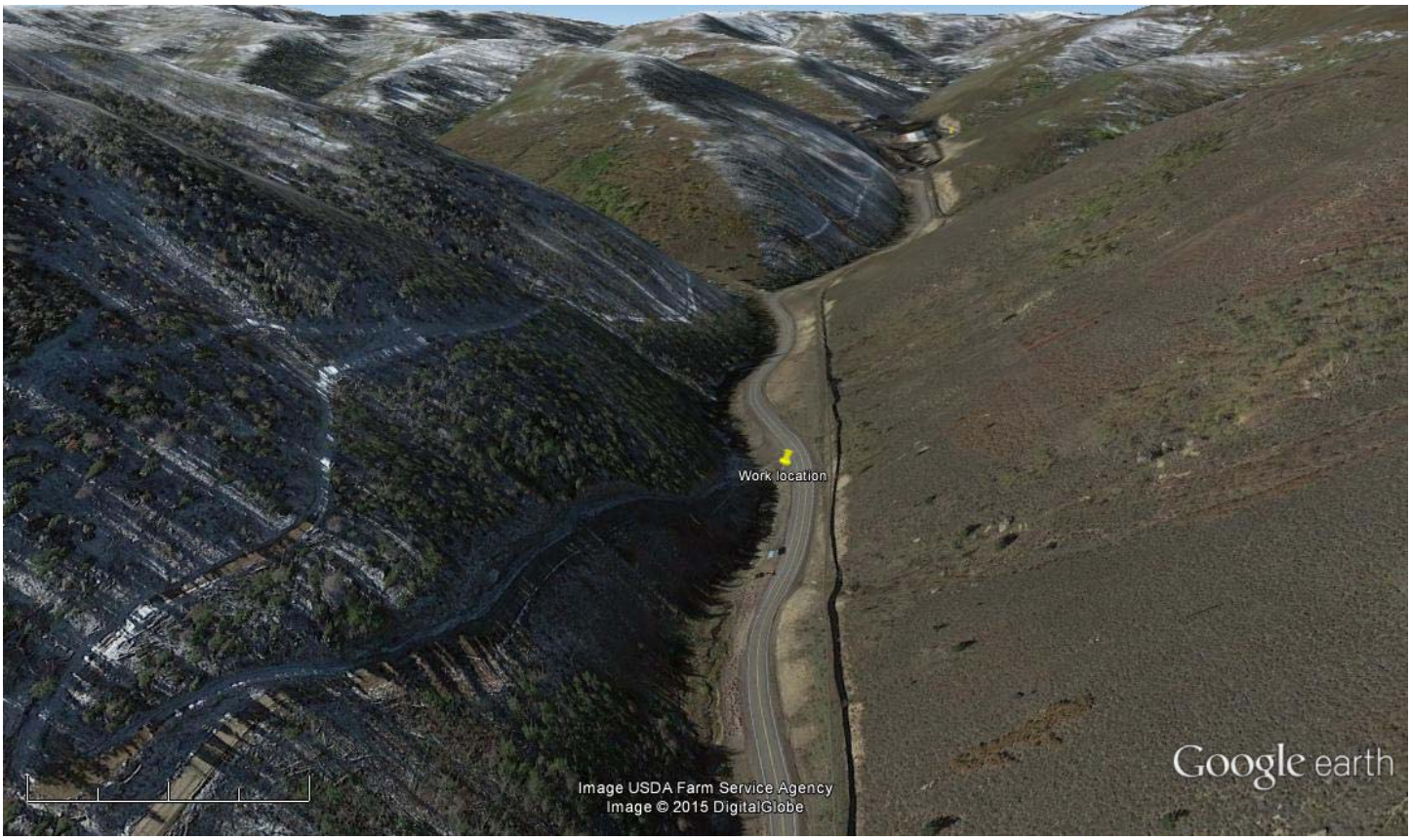
Carbon County assumes no liability for errors or omissions in any information.

SCALE: 400 FEET = 1 INCH

6/28/2013 11:09:21 AM

Google earth

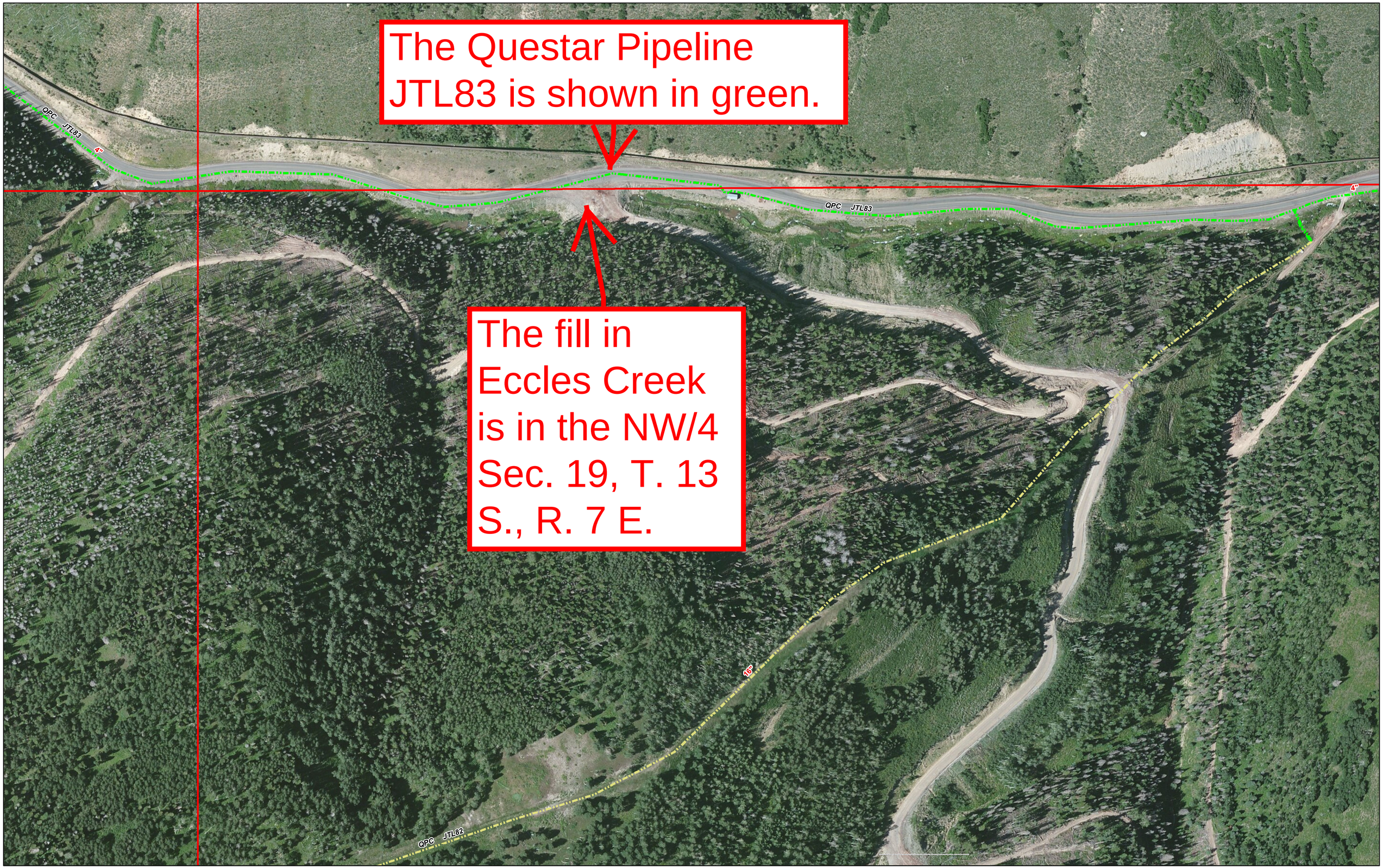
miles 1
km 2



Google earth

feet 500

meters 100



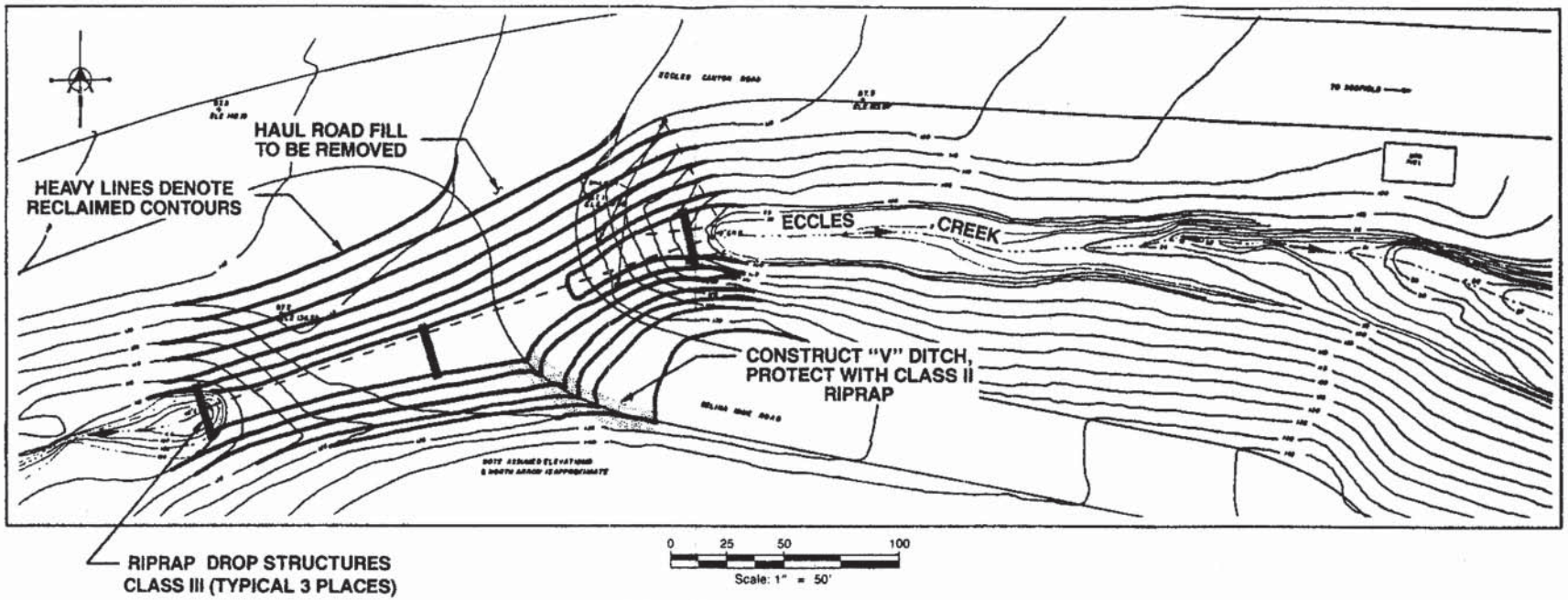
03919
5/5/2015
Questar Mapping 801-324-3970

QUESTAR Pipeline

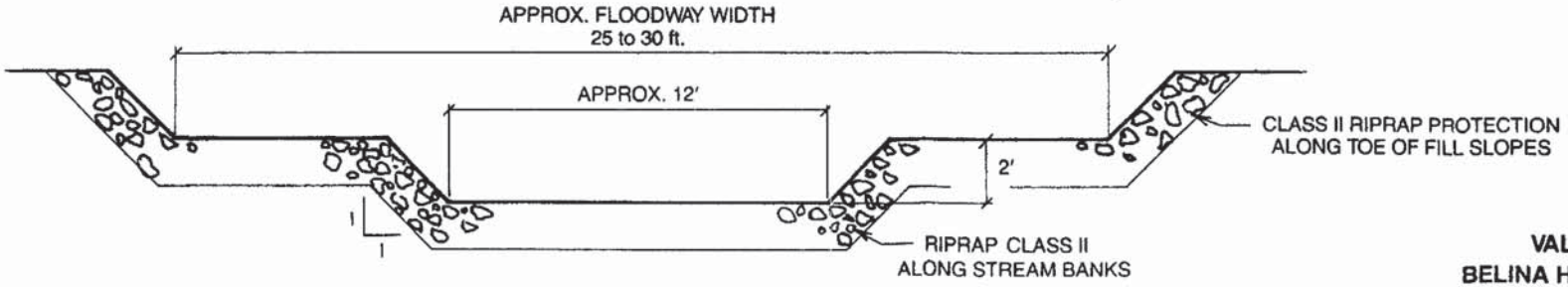
811 Know what's below. Call before you dig.

For planning purposes only.
All locations approximate.
Call 811 before digging.

N W E S



ECCLES CREEK PLAN VIEW



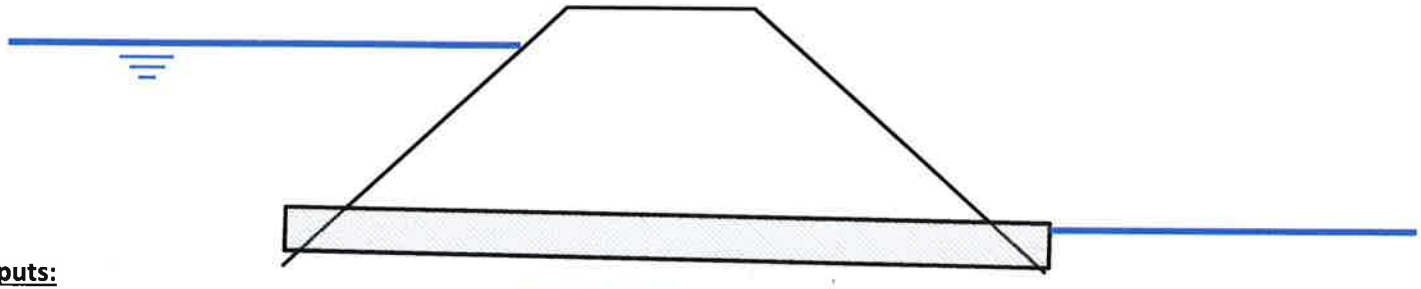
TYPICAL SECTION THROUGH ECCLES CREEK

VALLEY CAMP OF UTAH
BELINA HAUL ROAD RECLAMATION
ECCLES CREEK CHANNEL DESIGN
PLAN AND SECTION
Figure 3–3

Culvert Analysis Spreadsheet

Ver 5/2012

Client:	White Oak	County:		Date:	Jun-15
Design By:	KS	Checked By:		Date:	
Comments:	Culvert sizing calculation for temporary bypass of Eccles Creek				



Inputs:

Headwater (Upstream Water Surface) Elevation:	102.40	Feet
Culvert Inlet Invert Elevation:	100.00	Feet
Culvert Diameter:	36.00	Inches
Length of Culvert:	225.00	Feet
Culvert Outlet Invert Elevation:	75.00	Feet
Tailwater (Downstream) Elevation:	77.40	Feet

Select Culvert Material:	Corrugated_PE
Select Culvert Inlet Type:	Headwall - Square Edge

Outputs:

CAPACITY = 28.5 cfs **INLET CONTROLS (Unsubmerged Equation)**

Manning's n value:	0.024	Corrugated_PE
Entrance Coefficient, Ke:	0.5	Headwall - Square Edge