



State of West Virginia  
 Department of Administration  
 Purchasing Division  
 2019 Washington Street East  
 Post Office Box 50130  
 Charleston, WV 25305-0130

# Request for Quotation

RFQ NUMBER
DEP15058

PAGE
1

ADDRESS CORRESPONDENCE TO ATTENTION OF
CHUCK BOWMAN 304-558-2157

RFQ COPY  
 TYPE NAME/ADDRESS HERE

VENDOR

SHIP TO

ENVIRONMENTAL PROTECTION  
 DEPT. OF  
 OFFICE OF SPECIAL RECLAMATION  
 105 S. RAILROAD STREET  
 PHILIPPI, WV  
 26416-9998 304-457-3219

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
02/09/2011				

BID OPENING DATE: **04/07/2011** BID OPENING TIME **01:30PM**

LINE	QUANTITY	UOP	CAT NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
0001	1	JB		962-73		
<p>RECLAMATION: RESTORATION OF WATER</p> <p>THE WEST VIRGINIA PURCHASING DIVISION, FOR THE AGENCY, THE WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION'S OFFICE OF SPECIAL RECLAMATION, IS SOLICITING BIDS FROM QUALIFIED CONTRACTORS TO PROVIDE ALL LABOR AND MATERIALS TO PERFORM RECLAMATION ON THE MINING OPERATION OF FREEPORT MINING CORPORATION, NOW UNDER REVOKED PERMIT NUMBER(S) S-1005-95. THIS SITE CONSISTS OF APPROXIMATELY 31 ACRES AND IS LOCATED NEAR PISGAH, WV IN PRESTON COUNTY.</p> <p>THE RECLAMATION SHALL BE PERFORMED UNDER THE GUIDANCE AND GENERAL SUPERVISION OF THE AGENT ASSIGNED TO THE PROJECT FOR THE STATE OF WEST VIRGINIA, DEPARTMENT OF ENVIRONMENTAL PROTECTION.</p> <p>A MANDATORY ON-SITE PREBID CONFERENCE SHALL BE HELD ON 03/10/2011 @ 10:00 AM. ALL INTERESTED PARTIES ARE REQUIRED TO ATTEND THIS MEETING. FAILURE TO ATTEND THE MANDATORY PRE-BID SHALL RESULT IN DISQUALIFICATION OF THE BID. NO ONE PERSON MAY REPRESENT MORE THAN ONE BIDDER.</p> <p>AN ATTENDANCE SHEET WILL BE MADE AVAILABLE FOR ALL POTENTIAL BIDDERS TO COMPLETE. THIS WILL SERVE AS THE OFFICIAL DOCUMENT VERIFYING ATTENDANCE AT THE MANDATORY PRE-BID. FAILURE TO PROVIDE YOUR COMPANY AND REPRESENTATIVE NAME ON THE ATTENDANCE SHEET WILL RESULT IN DISQUALIFICATION OF THE BID. THE STATE WILL NOT ACCEPT ANY OTHER DOCUMENTATION TO VERIFY ATTENDANCE. THE BIDDER IS RESPONSIBLE FOR ENSURING THEY HAVE COMPLETED THE INFOR</p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

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**GENERAL TERMS & CONDITIONS**  
**REQUEST FOR QUOTATION (RFQ) AND REQUEST FOR PROPOSAL (RFP)**

1. Awards will be made in the best interest of the State of West Virginia.
  2. The State may accept or reject in part, or in whole, any bid.
  3. Prior to any award, the apparent successful vendor must be properly registered with the Purchasing Division and have paid the required \$125 fee.
  4. All services performed or goods delivered under State Purchase Order/Contracts are to be continued for the term of the Purchase Order/Contracts, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise available for these services or goods this Purchase Order/Contract becomes void and of no effect after June 30.
  5. Payment may only be made after the delivery and acceptance of goods or services.
  6. Interest may be paid for late payment in accordance with the *West Virginia Code*.
  7. Vendor preference will be granted upon written request in accordance with the *West Virginia Code*.
  8. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.
  9. The Director of Purchasing may cancel any Purchase Order/Contract upon 30 days written notice to the seller.
  10. The laws of the State of West Virginia and the *Legislative Rules* of the Purchasing Division shall govern the purchasing process.
  11. Any reference to automatic renewal is hereby deleted. The Contract may be renewed only upon mutual written agreement of the parties.
  12. **BANKRUPTCY:** In the event the vendor/contractor files for bankruptcy protection, the State may deem this contract null and void, and terminate such contract without further order.
  13. **HIPAA BUSINESS ASSOCIATE ADDENDUM:** The West Virginia State Government HIPAA Business Associate Addendum (BAA), approved by the Attorney General, is available online at [www.state.wv.us/admin/purchase/vrc/hipaa.htm](http://www.state.wv.us/admin/purchase/vrc/hipaa.htm) and is hereby made part of the agreement. Provided that the Agency meets the definition of a Cover Entity (45 CFR §160.103) and will be disclosing Protected Health Information (45 CFR §160.103) to the vendor.
  14. **CONFIDENTIALITY:** The vendor agrees that he or she will not disclose to anyone, directly or indirectly, any such personally identifiable information or other confidential information gained from the agency, unless the individual who is the subject of the information consents to the disclosure in writing or the disclosure is made pursuant to the agency's policies, procedures, and rules. Vendor further agrees to comply with the Confidentiality Policies and Information Security Accountability Requirements, set forth in <http://www.state.wv.us/admin/purchase/privacy/noticeConfidentiality.pdf>.
  15. **LICENSING:** Vendors must be licensed and in good standing in accordance with any and all state and local laws and requirements by any state or local agency of West Virginia, including, but not limited to, the West Virginia Secretary of State's Office, the West Virginia Tax Department, and the West Virginia Insurance Commission. The vendor must provide all necessary releases to obtain information to enable the director or spending unit to verify that the vendor is licensed and in good standing with the above entities.
  16. **ANTITRUST:** In submitting a bid to any agency for the State of West Virginia, the bidder offers and agrees that if the bid is accepted the bidder will convey, sell, assign or transfer to the State of West Virginia all rights, title and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the State of West Virginia for price fixing and/or unreasonable restraints of trade relating to the particular commodities or services purchased or acquired by the State of West Virginia. Such assignment shall be made and become effective at the time the purchasing agency tenders the initial payment to the bidder.
- I certify that this bid is made without prior understanding, agreement, or connection with any corporation, firm, limited liability company, partnership, or person or entity submitting a bid for the same material, supplies, equipment or services and is in all respects fair and without collusion or Fraud. I further certify that I am authorized to sign the certification on behalf of the bidder or this bid.
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**INSTRUCTIONS TO BIDDERS**

1. Use the quotation forms provided by the Purchasing Division. Complete all sections of the quotation form.
2. Items offered must be in compliance with the specifications. Any deviation from the specifications must be clearly indicated by the bidder. Alternates offered by the bidder as **EQUAL** to the specifications must be clearly defined. A bidder offering an alternate should attach complete specifications and literature to the bid. The Purchasing Division may waive minor deviations to specifications.
3. Unit prices shall prevail in case of discrepancy. All quotations are considered F.O.B. destination unless alternate shipping terms are clearly identified in the quotation.
4. All quotations must be delivered by the bidder to the office listed below prior to the date and time of the bid opening. Failure of the bidder to deliver the quotations on time will result in bid disqualifications: Department of Administration, Purchasing Division, 2019 Washington Street East, P.O. Box 50130, Charleston, WV 25305-0130
5. Communication during the solicitation, bid, evaluation or award periods, except through the Purchasing Division, is strictly prohibited (W.Va. C.S.R. §148-1-6.6).



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<p>MATION REQUIRED ON THE ATTENDANCE SHEET. THE PURCHASING DIVISION AND THE STATE AGENCY WILL NOT ASSUME ANY RESPONSIBILITY FOR A BIDDER'S FAILURE TO COMPLETE THE PRE-BID ATTENDANCE SHEET. IN ADDITION, WE REQUEST THAT ALL POTENTIAL BIDDERS INCLUDE THEIR E-MAIL ADDRESS AND FAX NUMBER.</p> <p>ALL POTENTIAL BIDDERS ARE REQUESTED TO ARRIVE PRIOR TO THE STARTING TIME FOR THE PRE-BID. BIDDERS WHO ARRIVE LATE, BUT PRIOR TO THE DISMISSAL OF THE TECHNICAL PORTION OF THE PRE-BID WILL BE PERMITTED TO SIGN IN. BIDDERS WHO ARRIVE AFTER CONCLUSION OF THE TECHNICAL PORTION OF THE PRE-BID, BUT DURING ANY SUBSEQUENT PART OF THE PRE-BID WILL NOT BE PERMITTED TO SIGN THE ATTENDANCE SHEET.</p> <p>DIRECTIONS TO PRE-BID: FROM RT. 68 EAST, TAKE COOPERS ROCK EXIT. TURN LEFT ONTO 73/12, GO TO 73/73. TURN RIGHT, CONTINUE FOR 0.8 MILE TO 73/2 (PISGAH-LAUREL RUN RD) CONTINUE ON 73/2 FOR APPROX. 1.1 MILE TO 73/5. FROM THAT INTERSECTION, CONTINUE STRAIGHT 0.5 MILE TO WHERE SITE ENTRANCE IS ON THE RIGHT.</p> <p>ALL WORK MUST BE COMPLETED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS PREPARED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION AND PURCHASE ORDER ISSUED BY THE DEPARTMENT OF ADMINISTRATION, DIVISION OF PURCHASING.</p> <p>EXHIBIT 5</p> <p>WEST VIRGINIA CODE 21-1D-5 PROVIDES THAT: ANY SOLICITATION FOR A PUBLIC IMPROVEMENT CONSTRUCTION CONTRACT REQUIRES EACH VENDOR THAT SUBMITS A BID FOR THE WORK TO SUBMIT AT THE SAME TIME AN AFFIDAVIT OF COMPLIANCE WITH THE BID. THE ENCLOSED PURCHASING AFFIDAVIT MUST BE SIGNED AND SUBMITTED WITH THE BID AS EVIDENCE OF THE VENDOR'S COMPLIANCE WITH THE PROVISIONS OF ARTICLE 1D,</p>						

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<p>CHAPTER 21 OF THE WEST VIRGINIA CODE. FAILURE TO SUBMIT THE SIGNED PURCHASING AFFIDAVIT WITH THE BID SHALL RESULT IN DISQUALIFICATION OF SUCH BID.</p> <p>NOTICE TO PROCEED: THIS CONTRACT IS TO BE PERFORMED WITH 365 CALENDAR DAYS AFTER THE NOTICE TO PROCEED IS RECEIVED. UNLESS OTHERWISE SPECIFIED, THE FULLY EXECUTED PURCHASE ORDER WILL BE CONSIDERED NOTICE TO PROCEED.</p> <p>CANCELLATION: THE DIRECTOR OF PURCHASING RESERVES THE RIGHT TO CANCEL THIS CONTRACT IMMEDIATELY UPON WRITTEN NOTICE TO THE VENDOR IF THE MATERIALS OR WORKMANSHIP SUPPLIED ARE OF AN INFERIOR QUALITY OR DO NOT CONFORM WITH THE SPECIFICATIONS OF THE THE BID AND CONTRACT HERE IN.</p> <p>WAGE RATES: THE CONTRACTOR OR SUBCONTRACTOR SHALL PAY THE HIGHER OF THE U.S. DEPARTMENT OF LABOR MINIMUM WAGE RATES AS ESTABLISHED FOR PRESTON COUNTY, PURSUANT TO WEST VIRGINIA CODE 21-5A, ET, SEQ. (PREVAILING WAGE RATES APPLY TO THIS PROJECT)</p> <p>ARBITRATION: ANY REFERENCES MADE TO ARBITRATION OR INTEREST FOR PAYMENTS DUE (EXCEPT FOR ANY INTEREST REQUIRED BY STATE LAW) CONTAINED IN THIS CONTRACT OR IN ANY AMERICAN INSTITUTE OF ARCHITECTS DOCUMENTS PERTAINING TO THIS CONTRACT ARE HEREBY DELETED.</p> <p>WORKERS' COMPENSATION: VENDOR IS REQUIRED TO PROVIDE A CERTIFICATE FROM WORKERS' COMPENSATION IF SUCCESSFUL.</p> <p>ALL OF THE ITEMS CHECKED BELOW WILL BE A REQUIREMENT OF THIS CONTRACT:</p> <p>(XX) INSURANCE: SUCCESSFUL VENDOR SHALL FURNISH PROOF</p>						

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<p>LICENSE. APPLICATIONS FOR A CONTRACTORS LICENSE MAY BE MADE BY CONTACTING THE WEST VIRGINIA DIVISION OF LABOR CAPITOL COMPLEX, BUILDING 3, ROOM 319, CHARLESTON, WV 25305. TELEPHONE: (304) 558-7890.</p> <p>WEST VIRGINIA STATE CODE 21-11-11 REQUIRES ANY PROSPECTIVE BIDDER TO INCLUDE THE CONTRACTORS LICENSE NUMBER ON THEIR BID.</p> <p>BIDDER TO COMPLETE:          CONTRACTORS NAME: .....</p> <p>CONTRACTORS LICENSE NO.: .....</p> <p>THE SUCCESSFUL BIDDER WILL BE REQUIRED TO FURNISH A COPY OF THEIR CONTRACTORS LICENSE PRIOR TO ISSUANCE OF A PURCHASE ORDER/CONTRACT.</p> <p style="text-align: center;">APPLICABLE LAW</p> <p>THE WEST VIRGINIA STATE CODE, PURCHASING DIVISION RULES AND REGULATIONS, AND THE INFORMATION PROVIDED IN THE "REQUEST FOR QUOTATION" ISSUED BY THE PURCHASING DIVISION IS THE SOLE AUTHORITY GOVERNING THIS PROCUREMENT.</p> <p>ANY INFORMATION PROVIDED IN SPECIFICATION MANUALS, OR ANY OTHER SOURCE, VERBAL OR WRITTEN, WHICH CONTRADICTS OR ALTERS THE INFORMATION PROVIDED FROM THE SOURCES AS DESCRIBED IN THE ABOVE PARAGRAPH IS VOID AND OF NO EFFECT.</p> <p>BANKRUPTCY: IN THE EVENT THE VENDOR/CONTRACTOR FILES FOR BANKRUPTCY PROTECTION, THE STATE MAY DEEM THIS CONTRACT NULL AND VOID AND TERMINATE SUCH CONTRACT WITHOUT FURTHER ORDER.</p>						

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<p>PREFERENCE FOR USE OF DOMESTIC STEEL PRODUCTS</p> <p>1. EXCEPT WHEN AUTHORIZED BY THE DIRECTOR OF THE PURCHASING DIVISION PURSUANT TO SUBSECTION 2 BELOW, NO CONTRACTOR MAY USE OR SUPPLY STEEL PRODUCTS FOR A STATE CONTRACT PROJECT OTHER THAN THOSE STEEL PRODUCTS MADE IN THE UNITED STATES. AS USED USED IN THIS CONTRACT,</p> <p>A. "STATE CONTRACT PROJECT" MEANS ANY ERECTION OR CONSTRUCTION OF, OR ANY ADDITION TO, ALTERATIO OF OR OTHER IMPROVEMENT TO ANY BUILDING OR STRUCTURE, INCLUDING, BUT NOT LIMITED TO, ROADS OR HIGHWAYS, OR THE INSTALLATION OF ANY HEATING OR COOLING OR VENTILATING PLANTS OR OTHER EQUIPMENT, OR THE SUPPLY OF AND MATERIALS FOR SUCH PROJECTS, PURSUANT TO A CONTRACT WITH THE STATE OF WEST VIRGINIA FOR WHICH BIDS WERE SOLICITED ON OR AFTER JUNE 6, 2001.</p> <p>B. "STEEL PRODUCTS" MEANS PRODUCTS ROLLED, FORMED, SHAPED, DRAWN, EXTRUDED, FORGED, CAST, FABRICATED OR OTHERWISE SIMILARLY PROCESSED, O PROCESSED BY A COMBINATION OF TWO OR MORE OF SUCH OPERATIONS, FROM STEEL MADE BY THE OPEN HEARTH, BASIC OXYGEN, ELECTRIC FURNACE, BESSEMER OR OTHER STEEL MAKING PROCESS.</p> <p>C. "UNITED STATES" MEANS THE UNITED STATES OF AMERICA AND INCLUDES ALL TERRITORY, CONTINENTAL OR INSULAR, SUBJECT TO THE JURISDICTION OF THE UNITED STATES.</p> <p>2. THE DIRECTOR OF THE PURCHASING DIVISION MAY, IN WRITING, AUTHORIZE THE USE OF FOREIGN STEEL</p>						

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<p><b>PRODUCTS IF:</b></p> <p><b>A. THE COST FOR EACH CONTRACT ITEM USED DOES NOT EXCEED ONE TENTH OF ONE PERCENT (.1%) OF THE TOTAL CONTRACT COST OR TWO THOUSAND FIVE HUNDRED DOLLARS (2,500.00), WHICHEVER IS GREATER. FOR THE PURPOSES OF THIS SECTION, THE COST IS THE VALUE OF THE STEEL PRODUCT AS DELIVERED TO THE PROJECT OR,</b></p> <p><b>B. THE DIRECTOR OF THE PURCHASING DIVISION DETERMINES THAT SPECIFIED STEEL MATERIALS ARE NOT PRODUCED IN THE UNITED STATES IN SUFFICIENT QUANTITY OR OTHERWISE ARE NOT REASONABLY AVAILABLE TO MEET CONTRACT REQUIREMENTS.</b></p> <p><b>3. A CONTRACTOR WHO USES STEEL PRODUCTS IN VIOLATION OF THIS SECTION MAY BE SUBJECT TO CIVIL PENALTIES PURSUANT TO WV CODE SECTION 5A-3-56.</b></p> <p>REV. 10/01/01</p> <p>EXHIBIT 7</p> <p>DOMESTIC ALUMINUM, GLASS &amp; STEEL IN PUBLIC WORKS PROJECTS</p> <p>IN ACCORDANCE WITH WEST VIRGINIA CODE 5-19-1 ET., SEQ., EVERY CONTRACT FOR CONSTRUCTION, RECONSTRUCTION, ALTERATION, REPAIR, IMPROVEMENT OR MAINTENANCE OF PUBLIC WORKS, WHERE THE COST IS MORE THAN \$50,000 AND, IN THE CASE OF STEEL ONLY, WHERE THE COST OF STEEL IS MORE THAN \$50,000 OR WHERE MORE THAN 10,000 POUNDS OF STEEL ARE REQUIRED, THE STATE WILL ACCEPT ONLY ALUMINUM GLASS, OR STEEL PRODUCTS PRODUCED IN THE UNITED STATES</p>						

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<p>IN ADDITION, ITEMS OF MACHINERY OR EQUIPMENT PURCHASED FOR USE AT THE SITE OF PUBLIC WORKS SHALL BE MADE OF DOMESTIC ALUMINUM, GLASS OR STEEL, UNLESS THE COST OF THE PRODUCT IS LESS THAN \$50,000 OR LESS THAN 10,000 POUNDS OF STEEL ARE USED IN PUBLIC WORKS PROJECTS.</p> <p>FOREIGN MADE ALUMINUM, GLASS OR STEEL PRODUCTS MAY BE ACCEPTED ONLY IF THE COST OF DOMESTIC PRODUCTS IS FOUND TO BE UNREASONABLE. SUCH COST IS UNREASONABLE IF IT IS 20% OR MORE HIGHER THAN THE BID PRICE FOR FOREIGN MADE PRODUCTS. IF THE DOMESTIC ALUMINUM, GLASS OR STEEL PRODUCTS TO BE SUPPLIED OR PRODUCED IN A "SUBSTANTIAL LABOR SURPLUS AREA", AS DEFINED BY THE UNITED STATES DEPARTMENT OF LABOR, FOREIGN PRODUCTS MAY BE SUPPLIED ONLY IF DOMESTIC PRODUCTS ARE 30% OR MORE HIGHER IN PRICE THAN THE FOREIGN MADE PRODUCTS.</p> <p>IF, PRIOR TO THE AWARD OF A CONTRACT UNDER THE ABOVE PROVISIONS, THE SPENDING OFFICER OF THE SPENDING UNIT DETERMINES THAT THERE EXISTS A BID FOR LIKE FOREIGN ALUMINUM, GLASS OR STEEL THAT IS REASONABLE AND LOWER THAN THE LOWEST BID DOMESTIC PRODUCTS, THE SPENDING OFFICE MAY REQUEST, IN WRITING, A REEVALUATION AND REDUCTION IN THE LOWEST BID FOR SUCH DOMESTIC PRODUCTS ALL VENDORS MUST INDICATE IN THEIR BID IF THEY ARE SUPPLYING FOREIGN ALUMINUM, GLASS OR STEEL.</p> <p>REV. 3/88</p> <p>EXHIBIT 9</p> <p>NOTICE FOR ISSUANCE &amp; ACKNOWLEDGEMENT OF CONSTRUCTION PROJECT ADDENDA</p> <p>THE ARCHITECT/ENGINEER AND/OR AGENCY SHALL BE REQUIRED TO ABIDE BY THE FOLLOWING SCHEDULE IN ISSUING</p>						

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<p><b>CONSTRUCTION PROJECT ADDENDA FOR STATE AGENCIES:</b></p> <p>(1) THE ARCHITECT/ENGINEER SHALL PREPARE THE ADDENDUM AND A LIST OF ALL PARTIES THAT HAVE PROCURED DRAWINGS AND SPECIFICATIONS FOR THE PROJECT. THE ADDENDUM AND LIST SHALL BE FORWARDED TO THE BUYER IN THE STATE PURCHASING DIVISION. THE ARCHITECT/ENGINEER SHALL ALSO SEND A COPY OF THE ADDENDUM TO THE STATE AGENCY FOR WHICH THE CONTRACT IS ISSUED.</p> <p>(2) THE BUYER SHALL SEND THE ADDENDUM TO ALL INTERESTED PARTIES AND, IF NECESSARY, EXTEND THE BID OPENING DATE. ANY ADDENDUM SHOULD BE RECEIVED BY THE BUYER WITHIN FOURTEEN (14) DAYS PRIOR TO THE BID OPENING DATE.</p> <p>(3) ALL ADDENDA SHOULD BE FORMALLY ACKNOWLEDGED BY ALL BIDDERS AND SUBMITTED TO THE STATE PURCHASING DIVISION. THE SAME RULES AND REGULATIONS THAT APPLY TO THE ORIGINAL BIDDING DOCUMENT SHALL ALSO APPLY TO AN ADDENDUM DOCUMENT. THE ONLY EXCEPTION MAY BE FOR AN ADDENDUM THAT IS ISSUED FOR THE SOLE PURPOSE OF CHANGING A BID OPENING TIME AND/OR DATE.</p> <p>REV. 11/96</p> <p>EXHIBIT 10</p> <p style="text-align: center;">DEP15058</p> <p>ADDENDUM ACKNOWLEDGEMENT</p> <p>I HEREBY ACKNOWLEDGE RECEIPT OF THE FOLLOWING CHECKED ADDENDUM(S) AND HAVE MADE THE NECESSARY REVISIONS TO MY PROPOSAL, PLANS AND/OR SPECIFICATION, ETC.</p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE	DATE
TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'



State of West Virginia  
 Department of Administration  
 Purchasing Division  
 2019 Washington Street East  
 Post Office Box 50130  
 Charleston, WV 25305-0130

# Request for Quotation

RFQ NUMBER  
**DEP15058**

PAGE  
**10**

ADDRESS CORRESPONDENCE TO ATTENTION OF  
**CHUCK BOWMAN  
 304-558-2157**

RFQ COPY  
 TYPE NAME/ADDRESS HERE

ENVIRONMENTAL PROTECTION  
 DEPT. OF  
 OFFICE OF SPECIAL RECLAMATION  
 105 S. RAILROAD STREET  
 PHILIPPI, WV  
 26416-9998 304-457-3219

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B	FREIGHT TERMS
02/09/2011				

BID OPENING DATE: **04/07/2011** BID OPENING TIME **01:30PM**

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
ADDENDUM NOS.:						
	NO. 1	.....	.....	.....		
	NO. 2	.....	.....	.....		
	NO. 3	.....	.....	.....		
	NO. 4	.....	.....	.....		
	NO. 5	.....	.....	.....		
I UNDERSTAND THAT FAILURE TO CONFIRM THE RECEIPT OF THE ADDENDUM(S) MAY BE CAUSE FOR REJECTION OF THE BIDS.						
VENDOR MUST CLEARLY UNDERSTAND THAT ANY VERBAL REPRESENTATION MADE OR ASSUMED TO BE MADE DURING ANY ORAL DISCUSSION HELD BETWEEN VENDOR'S REPRESENTATIVES AND ANY STATE PERSONNEL IS NOT BINDING. ONLY THE INFORMATION ISSUED IN WRITING AND ADDED TO THE SPECIFICATIONS BY AN OFFICIAL ADDENDUM IS BINDING.						
.....					SIGNATURE	
.....					COMPANY	
.....					DATE	
REV. 11/96						
NOTICE						
A SIGNED BID MUST BE SUBMITTED TO:						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE \_\_\_\_\_ TELEPHONE \_\_\_\_\_ DATE \_\_\_\_\_

TITLE \_\_\_\_\_ FEIN \_\_\_\_\_ ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO REQ. INSERT NAME AND ADDRESS IN SPACE ABOVE LABELLED 'VENDOR'



State of West Virginia  
 Department of Administration  
 Purchasing Division  
 2019 Washington Street East  
 Post Office Box 50130  
 Charleston, WV 25305-0130

# Request for Quotation

RFQ NUMBER  
**DEP15058**

PAGE  
**11**

ADDRESS CORRESPONDENCE TO ATTENTION OF  
**CHUCK BOWMAN**  
**304-558-2157**

VENDOR

RFQ COPY  
 TYPE NAME/ADDRESS HERE

SHIP TO

ENVIRONMENTAL PROTECTION  
 DEPT. OF  
 OFFICE OF SPECIAL RECLAMATION  
 105 S. RAILROAD STREET  
 PHILIPPI, WV  
 26416-9998      304-457-3219

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
02/09/2011				

BID OPENING DATE: **04/07/2011**      BID OPENING TIME **01:30PM**

LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
DEPARTMENT OF ADMINISTRATION PURCHASING DIVISION BUILDING 15 2019 WASHINGTON STREET, EAST CHARLESTON, WV 25305-0130						
THE BID SHOULD CONTAIN THIS INFORMATION ON THE FACE OF THE ENVELOPE OR THE BID MAY NOT BE CONSIDERED:						
SEALED BID						
BUYER:				CB-23		
REQ. NO.:				DEP15058		
BID OPENING DATE:				04/07/2011		
BID OPENING TIME:				1:30 PM		
PLEASE PROVIDE A FAX NUMBER IN CASE IT IS NECESSARY TO CONTACT YOU REGARDING YOUR BID:						
-----						
PLEASE PRINT OR TYPE NAME OF PERSON TO CONTACT CONCERNING THIS QUOTE:						
-----						

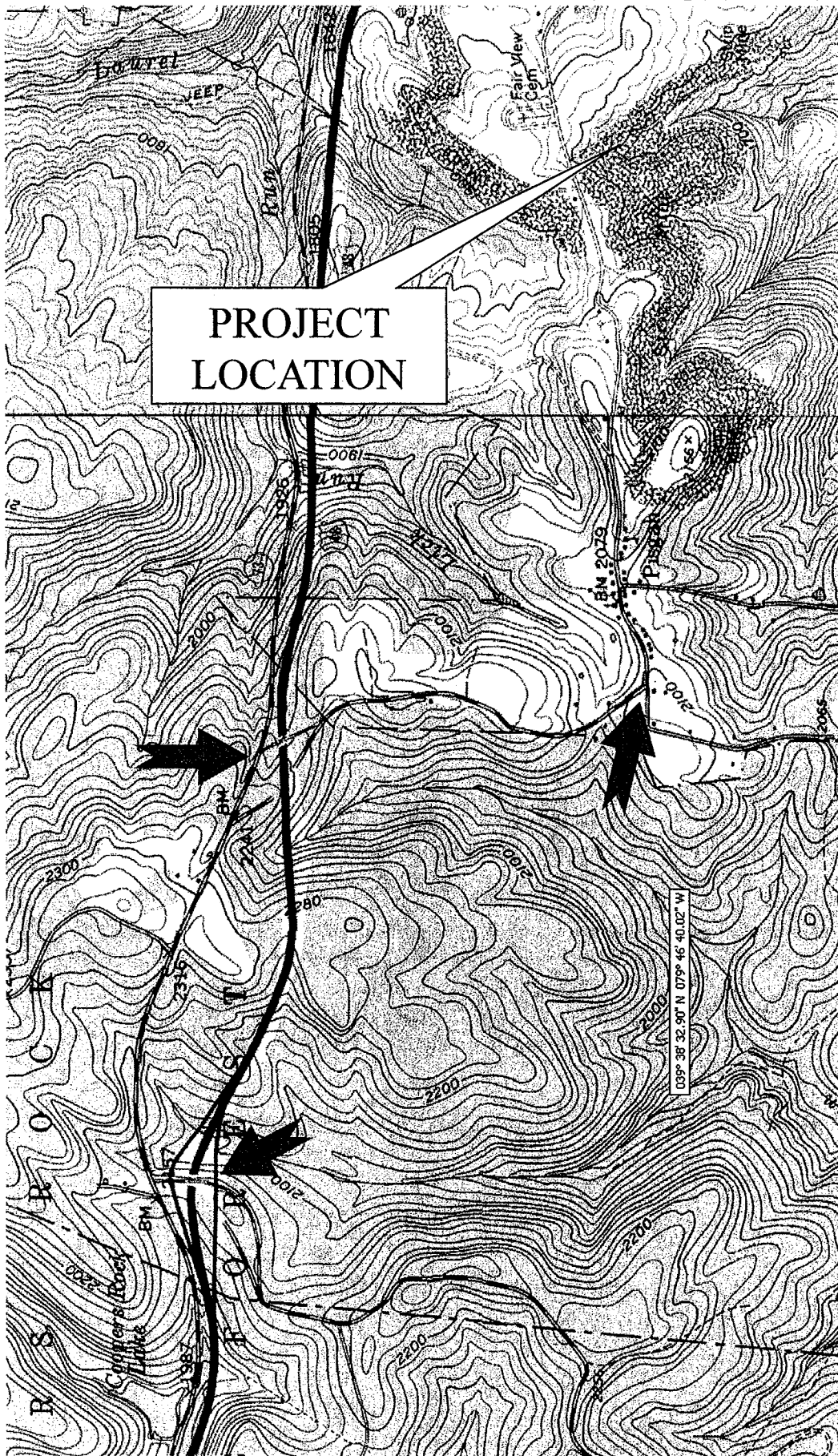
SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE	DATE
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TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE
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WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

# LOCATION MAP



From Rt. 68 east, take Coopers Rock exit. Turn left onto 73/12, go to 73/73. Turn right, continue for 0.8 miles to 73/2: Pisgah-Laurel Run Rd. Continue on 73/2 for approximately 1.1 mile to 73/5. From that intersection, continue straight 0.5 miles to where site entrance is on the right.

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VENDOR:

### SCOPE OF WORK

The successful bidder shall provide appropriate equipment, materials, labor and any technical services needed for the successful reclamation of Freeport Mining Corporation, Permit S-1005-95, and any disturbance associated with such operation. The General Performance Standards (GPS) shall apply to all items in Scope of Work.

Work necessary on this site will include the following items, but is not limited to these:

1. Upon mobilization to the site, which will be directed in a written Notice to Proceed, the access roads shall be developed in accordance with bid item #6.0-7.2. If, fuel and lubricants are to be stored on site, bid item #2.0 shall be in place before fuel is delivered. Project sign is to be obtained and installed.
2. Storm water management, as necessary, in the form as described, in the National Pollutant Discharge Elimination System, Water Pollution Control Permit Number WV0115924, existing sediment control ponds and in additional bid item #5.0 shall be installed (described locations). See Water Quality Control under the General Performance Standards.
3. Concurrent and continuous reclamation shall occur as shown on the site plan. Backfilling is required for all pit and highwall areas. Regrading, topsoiling, and revegetation are required for all disturbed areas. Reclamation is to be according to the attached specifications, plans, and clarifying discussions at the Pre-Bid Conference.
4. Construction stakeout (Bid Item #4.0) as necessary to carry out work, keeping positive drainage on all regrading, ditches, culverts, and pipes. This item is also for aligning new ponds and water treatment systems.
5. All bid items specified by ACRE on this project in the Bid Schedule shall require the submittal of a final survey to verify final acreages. This submittal shall include a copy of all field notes, a map to scale in paper and electronic form. The final survey must be conducted under the direct supervision of and certified by a Professional Surveyor or Professional Engineer licensed in the state of West Virginia. Partial payments may be made for estimated acreages that are field verified and agreed upon with the DEP onsite representative. Partial payments may not exceed 75% of bid item prior to final survey.
6. It shall be the contractor's responsibility to check for and locate all utilities within the work area to provide and maintain a safe working area in addition to preventing damage to the utility.
7. Construct riprap ditches or open limestone channels, install culverts.
8. Construct deep mine seals with cleanouts.
9. Construct underdrains to convey acid mine drainage for treatment, with cleanouts.
10. Install bat gate.
11. Construct three new treatment ponds with synthetic liners.
12. Install two hydrated lime water treatment systems with 40 ton silos.
13. Construct two new sludge cells with drains.
14. Install sludge pumping lines.
15. Clean out and modify/repair existing ponds.

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VENDOR:

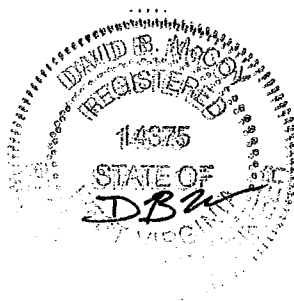
- 
16. Remove structures and debris from site.
17. Revegetate with seed, lime, fertilizer, and mulch.
18. Any other site specific items required.

I, David B. McCoy, the undersigned, hereby certify <sup>1</sup> that this Reclamation Plan is correct and shows to the best of my knowledge and belief all the information required by the surface mining laws of the State of West Virginia. The source of information was the approved mining and reclamation plan contained in the forfeited surface mine permit, existing site conditions and information contained in the WV DEP, Inspection and Enforcement files.

David B. McCoy  
Registered Professional Engineer WV No. 14375

Date: 1-11-2011

<sup>1</sup> The term "certify" as used herein is defined as follows: An engineer's certification of conditions is a declaration of professional judgment. It does not constitute a warranty or guarantee, either expressed or implied.



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ITEM NO.	QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
<b>BID SCHEDULE</b>				
<b>PERMIT NAME: <u>FREEPORT MINING CORPORATION</u></b>				
<b>PERMIT NUMBER: <u>S-1005-95</u></b>				
The DEP reserves the right to request additional information and supporting documentation regarding unit prices when the unit price appears to be unreasonable.				
<b><u>SPECIAL RECLAMATION SECTION</u></b>				
1.0	LUMP SUM	<b><u>MOBILIZATION/DEMobilIZATION/PROJECT SIGN</u></b> (5% Total Bid Maximum for this permit)	LUMP SUM	\$ _____
2.0	LUMP SUM	<b><u>SPILL CONTAINMENT AREA (S.C.A.)</u></b> (\$1,000.00 Maximum Bid for this permit)	LUMP SUM	\$ _____
3.0	NO BID ITEM	<b><u>UTILITIES</u></b>	NO BID ITEM	
4.0	LUMP SUM	<b><u>CONSTRUCTION STAKEOUT</u></b> (Limited to 5% Total Bid)	LUMP SUM	\$ _____
5.0	4000 LF	<b><u>STORMWATER MANAGEMENT – SILT FENCE &amp; HAYBALE DIKE</u></b> (Max. Bid \$5.00 Per LF)	\$ _____ PER LF	\$ _____
6.0	300 TON	<b><u>INCIDENTAL STONE</u></b>	\$ _____ PER TON	\$ _____
7.0	900 LF	<b><u>HAULROAD/ACCESS ROAD UPGRADE</u></b>	\$ _____ PER LF	\$ _____
7.1	900 LF	<b><u>FILTER FABRIC FOR ROAD UPGRADE</u></b>	\$ _____ PER LF	\$ _____
7.2	4000 LF	<b><u>CONSTRUCT NEW HAULROAD/ACCESS ROAD</u></b>	\$ _____ PER LF	\$ _____
8.0	LUMP SUM	<b><u>CLEAR AND GRUB</u></b>	LUMP SUM	\$ _____
9.0	1300 LF	<b><u>RIPRAP V-DITCH – 4'</u></b>	\$ _____ PER LF	\$ _____
10.0	2800 LF	<b><u>RIPRAP V-DITCH – 6'</u></b>	\$ _____ PER LF	\$ _____
11.0	700 LF	<b><u>GROUTED RIPRAP V-DITCH – 8'</u></b>	\$ _____ PER LF	\$ _____
12.0	700 LF	<b><u>GROUTED RIPRAP TRAPEZOIDAL DITCH – 8'</u></b>	\$ _____ PER LF	\$ _____
13.0	1400 LF	<b><u>GROUTED RIPRAP TRAPEZOIDAL DITCH – 10'</u></b>	\$ _____ PER LF	\$ _____
14.0	120 LF	<b><u>CULVERTS – 24"</u></b>	\$ _____ PER LF	\$ _____



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15.0	<u>160</u> LF	<u>CULVERTS - 30"</u>	\$ _____	\$ _____
			PER LF	
16.0	<u>60</u> LF	<u>CULVERTS - 36"</u>	\$ _____	\$ _____
			PER LF	
17.0	<u>1</u> EA	<u>FLOW DIVERSION CHANNEL</u>	\$ _____	\$ _____
			PER EA	
18.0	LUMP SUM	<u>STRUCTURE AND/OR DEBRIS REMOVAL</u>	LUMP SUM	\$ _____
19.0	<u>3</u> EA	<u>DEEP MINE SEALS (Wet Type - Acid producing seams)</u>	\$ _____	\$ _____
			PER EA	
20.0	<u>1500</u> LF	<u>UNDERDRAIN</u>	\$ _____	\$ _____
			PER LF	
21.0	LUMP SUM	<u>WATER TREATMENT</u>	LUMP SUM	\$ _____
22.0	<u>160</u> TON	<u>LIMING</u>	\$ _____	\$ _____
			PER TON	
23.0	LUMP SUM	<u>BACKFILLING</u>	LUMP SUM	\$ _____
24.0	<u>25</u> AC	<u>REGRADING AND TOPSOILING</u>	\$ _____	\$ _____
			PER ACRE	
25.0	<u>1</u> EA	<u>EXISTING POND #4 - CLEANING AND MODIFICATION</u>	\$ _____	\$ _____
			PER EA	
26.0	<u>1</u> EA	<u>UPPER CONTINGENCY POND - CLEANING AND MODIFICATION</u>	\$ _____	\$ _____
			PER EA	
27.0	<u>1</u> EA	<u>LOWER CONTINGENCY POND - CLEANING AND MODIFICATION</u>	\$ _____	\$ _____
			PER EA	
28.0	<u>1</u> EA	<u>EXISTING SLUDGE CELL - CLEANING AND MODIFICATION</u>	\$ _____	\$ _____
			PER EA	
29.0	<u>1</u> EA	<u>MANHOLE</u>	\$ _____	\$ _____
			PER EA	
30.0	<u>3</u> EA	<u>NEW SETTLING PONDS</u>	\$ _____	\$ _____
			PER EA	
30.1	<u>3</u> EA	<u>POND LINERS</u>	\$ _____	\$ _____
			PER EA	
31.0	<u>10</u> EA	<u>CONCRETE SPREADER</u>	\$ _____	\$ _____
			PER EA	
32.0	<u>730</u> LF	<u>BAFFLE CURTAIN</u>	\$ _____	\$ _____
			PER LF	
33.0	<u>20</u> LF (Depth)	<u>SUB-FOUNDATION PREPARATION</u>	\$ _____	\$ _____
			PER LF	
34.0	<u>2</u> EA	<u>FOUNDATION</u>	\$ _____	\$ _____
			PER EA	

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35.0	<u>2</u> EA	<u>LIME DISPENSING UNIT, ENCLOSURE, AND SILO</u>	\$ _____	\$ _____
			PER EA	
36.0	LUMP SUM	<u>CRANE</u>	LUMP SUM	\$ _____
37.0	<u>150</u> LF	<u>4 INCH HDPE DRIVELINE</u>	\$ _____	\$ _____
			PER LF	
38.0	<u>300</u> LF	<u>16 INCH HDPE OVERFLOW PIPE</u>	\$ _____	\$ _____
			PER LF	
39.0	<u>2</u> EA	<u>SLUDGE DISPOSAL CELL</u>	\$ _____	\$ _____
			PER EA	
39.1	<u>800</u> LF	<u>SLUDGE CELL UNDERDRAIN</u>	\$ _____	\$ _____
			PER LF	
40.0	<u>2800</u> LF	<u>6 INCH HDPE SLUDGE PIPE</u>	\$ _____	\$ _____
			PER LF	
40.1	<u>6</u> EA	<u>6 INCH ECCENTRIC PLUG VALVE</u>	\$ _____	\$ _____
			PER EA	
40.2	<u>10</u> EA	<u>PUMP ADAPTOR CONNECTION</u>	\$ _____	\$ _____
			PER EA	
40.3	<u>1</u> EA	<u>TEES (6 INCH HDPE 90°)</u>	\$ _____	\$ _____
			PER EA	
40.4	<u>11</u> EA	<u>WYES (6" HDPE LATERALS 45°)</u>	\$ _____	\$ _____
			PER EA	
40.5	<u>5</u> EA	<u>2 INCH BALL VALVE W/ REDUCER</u>	\$ _____	\$ _____
			PER EA	
41.0		<u>REVEGETATION</u>		
41.1	<u>25</u> AC	<u>AGRICULTURAL LIME</u>	\$ _____	\$ _____
			PER ACRE	
41.2	<u>25</u> AC	<u>FERTILIZER</u>	\$ _____	\$ _____
			PER ACRE	
41.3	<u>25</u> AC	<u>MULCH</u>	\$ _____	\$ _____
			PER ACRE	
41.4	<u>25</u> AC	<u>VEGETATIVE SPECIES</u>	\$ _____	\$ _____
			PER ACRE	
42.0	<u>4000</u> LF	<u>FENCE</u>	\$ _____	\$ _____
			PER LF	
42.1	<u>8</u> EA	<u>8' GATES</u>	\$ _____	\$ _____
			PER EA	
42.2	<u>2</u> EA	<u>4' GATES</u>	\$ _____	\$ _____
			PER EA	
		<b>TOTAL <u>SPECIAL RECLAMATION SECTION</u></b>		\$ _____

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<b><u>ABANDONED MINE LANDS SECTION</u></b>			
43.0	<u>60</u> LF	<b><u>GROUTED RIPRAP V-DITCH - 4'</u></b>	\$ _____ PER LF
44.0	<u>217</u> LF	<b><u>RIPRAP V-DITCH - 4'</u></b>	\$ _____ PER LF
45.0	<u>1143</u> LF	<b><u>UNDERDRAIN</u></b>	\$ _____ PER LF
46.0	<u>200</u> LF	<b><u>SEEP COLLECTOR</u></b>	\$ _____ PER LF
47.0	<u>1</u> EA	<b><u>BAT GATE</u></b>	\$ _____ PER EA
48.0	LUMP SUM	<b><u>BACKFILLING</u></b>	LUMP SUM \$ _____
49.0	<u>6</u> AC	<b><u>REGRAIDING &amp; TOPSOILING</u></b>	\$ _____ PER ACRE
50.0		<b><u>REVEGETATION</u></b>	
50.1	<u>6</u> AC	<b><u>AGRICULTURAL LIME</u></b>	\$ _____ PER ACRE
50.2	<u>6</u> AC	<b><u>FERTILIZER</u></b>	\$ _____ PER ACRE
50.3	<u>6</u> AC	<b><u>MULCH</u></b>	\$ _____ PER ACRE
50.4	<u>6</u> AC	<b><u>VEGETATIVE SPECIES</u></b>	\$ _____ PER ACRE
<b>TOTAL <u>ABANDONED MINE LANDS SECTION</u></b>			\$ _____
<b>TOTAL <u>SPECIAL RECLAMATION SECTION</u></b>			\$ _____
<b>TOTAL PERMIT <u>S-1005-95</u></b>			\$ _____

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## **BID ITEM TECHNICAL SPECIFICATIONS**

### **1.0 MOBILIZATION/DEMOBILIZATION/PROJECT SIGN**

A project sign shall be obtained or manufactured and installed as indicated on the attached specifications and details. Payment for this sign shall be incidental to the mobilization item. No separate payment will be made. This work shall consist of the performance of construction preparatory operations, including the movement of personnel, equipment and other facilities to the project site necessary to begin work on a substantial phase of the contract.

Prior to demobilization, an inspection shall be conducted by the Department of Environmental Protection and the contractor to insure compliance with contract performance. Once compliance is ascertained, demobilization activities can be initiated and completed. Demobilization shall be totally completed before the invoice for payment shall be processed.

The lump sum bid for this item shall not exceed 5% of the total bid for this permit. Payment shall be made in two 50% amounts, one upon completion of the mobilization and project sign items and the second payment at the completion of demobilization. No deduction shall be made nor shall any increase be made in the lump sum item amount, regardless of decreases or increases in the final total contract amount or any other reason.

This bid item shall cover all sections and permits included in this contract.

### **2.0 SPILL CONTAINMENT AREA (S.C.A.)**

Spill containment measures shall be used for fuel and lubricant storage areas. All containers, barrels, buckets, cans, etc., are to be legally disposed of off site. Used lubricants are to be disposed of according to state law to minimize pollution to the local surface and ground water supplies. Spills are the responsibility of the contractor and need immediate clean up and maintained at no expense to the State. This S.C.A. shall be constructed in accordance with the typical drawing specification. (See Attachment) Alternate containment measures will be considered for approval by the Program Manager if acceptable results can be shown. Fuel tanks manufactured with secondary containment are desirable. Minimum secondary containment is 110 percent. (Bid limited to \$1,000.00 maximum)

### **3.0 UTILITIES**

Utilities shall be relocated at the direction of the utility company and reimbursed actual cost to the contractor. This is a "No Bid" item due to the method of reimbursement. It is the contractor's responsibility to determine the exact location of each utility in the project area where these utilities would be interrupted or damaged by performing work.

### **4.0 CONSTRUCTION STAKEOUT**

This work shall consist of furnishing, placing, and maintaining construction layout stakes necessary for the proper execution of the work required under the Contract, production of as-built drawings, and of performing topographic surveys and obtaining surveyed cross-sections for accurate determination of pay item quantities. Construction stakeout shall be under the supervision of a Registered Professional Engineer or Licensed Land Surveyor and all drawings signed and/or sealed by such. The Department shall provide control points for initial layout of the work. Bid shall not exceed 5% of the total bid for this permit.

Specific construction stakeout concerns include, but are not limited to: ensuring positive drainage of all mine drains, underdrains, and connecting piping; ensuring proper setup of two (2) lime dosing units in line with drivewater sources and settling ponds; ensuring proper alignment and slope of all roads and drainage structures; locating

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pertinent property boundaries; surveying all final acreages for payment of per-acre bid items.

#### A. MATERIALS

Wooden stakes and other marking materials as described herein.

#### B. CONSTRUCTION METHODS

B(1). The Contractor shall locate and reference the construction baseline within the limits of work and shall establish bench marks for the proper layout of the work. The Contractor shall make all calculations involved and shall furnish and place all layout stakes or markers.

B(2). The Contractor shall provide field forces and shall set all additional stakes needed, such as offset stakes, reference point stakes, slope stakes, pavement and grade stakes, stakes for roadway drainage, sub-drains, trench drains, fence, culverts or other structures, supplementary bench marks and any other horizontal or vertical controls necessary to secure a correct layout of the work.

B(3). The location of the slope stakes for grading work shall be determined by a calculation method. Elevation control hubs with guard stakes shall be set, at a convenient distance outside the construction limits, and at all stations where original cross-sections are taken. The centerline station, the distance from centerline, and the elevation of the hub shall be recorded on each guard stake.

B(4). The Contractor shall be responsible for having the layout staking work conform to the lines, grades, elevations, and dimensions called for on the Plans. The Contractor shall be responsible for reporting any discrepancies to the Supervisor for clarification. Minor adjustments to suit field conditions are anticipated and it shall be the responsibility of the Supervisor to make decisions regarding adjustments.

B(5). The Contractor shall survey cross-sections and/or profiles in areas of on-site excavation, off-site excavation, and ditch construction as necessary to permit accurate determination of pay item quantities. The locations and spacing of cross-sections and profiles shall be as approved or as directed by the Supervisor. Cross-sections and profiles shall be surveyed:

- a) prior to any excavation
- b) at the completion of excavation

B(6). The Contractor shall furnish a copy of his survey records for the Supervisor and for the DEP's permanent file. These records shall be furnished as they are completed during the progress of the work. Any inspection or checking of the Contractor's layout by the Supervisor and the acceptance of all or any part of it shall not relieve the Contractor of his responsibility to secure the proper dimensions, grades and elevations of the required work.

#### **5.0 STORMWATER MANAGEMENT - SILT FENCE AND HAYBALE DIKE**

Disturbed areas which have storm water runoff and do not pass through a sediment control structure or other areas where excess sedimentation is to be controlled shall utilize the following Best Management Practice (BMP) methods to manage storm water runoff. (For more information on BMP methods go to the WVDEP website <http://www2.wvdep.org/dwwm/stormwater/BMP.htm> and click on **BMP Manual**. The WV Erosion and Sediment Control Best Management Practice Manual may be accessed or printed.)

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Construction activities on this site have been registered with the West Virginia Division of Water and Waste Management under an NPDES Stormwater Pollution Prevention Plan issued to the Office of Special Reclamation. The drawings and specifications are prepared with all sediment controls anticipated to keep the project within the requirements of the approved plan. However, any adjustments needed to be made to this plan during the execution of this project in order to maintain, at a minimum, compliance with said permit shall be the Contractor's responsibility and expense at no additional cost to WVDEP. Any adjustments to the sediment controls described herein will be at the discretion and prior approval of the WVDEP on-site representative.

This item has a Maximum Bid of \$5.00/LF of silt fence and hay bale material installed on site.

CONSTRUCTION - Approximately 4000 LF of silt fence and hay bale dike are proposed for this project, as shown on the attached site plan. Construction of all sediment controls shall comply with the following:

1. Silt fence shall be utilized on perimeter barriers and internally as shown on the plans. Silt fence shall be properly removed after permanent vegetation has been established, as directed by the WVDEP designated on-site representative. Silt fence shall be installed per the manufacturer's recommendations. See the attached drawing for further details.
2. Silt fence shall be placed on the contour. On slopes with grades greater than seven (7%) percent, the silt fence should be located at least five (5) to seven (7) feet beyond the base. Turn the ends of the silt fence upslope so that a certain depth of storm water may be retained in front of the silt fence. The impounded depth should be at least twelve (12) inches, but no more than the height of the silt fence. Hay bale dike shall be staked in place at the end of the row of silt fence as an emergency overflow. This will allow detained water, exceeding the capacity of the silt fence, to be filtered and released quickly. Silt fence shall not be installed in streams or swales or in any area where there is a reasonable chance of concentrated flow. In areas where concentrated flows can be expected, use haybale dike with the construction of sumps. **The bottom edge of silt fence shall be entrenched and backfilled.**
3. The silt fence should be purchased in a continuous roll cut to the length of the barrier to avoid the use of joints. When joints are unavoidable, filter cloth should be spliced together only at a supporting post, with a minimum six (6) inch overlap and securely sealed. See Silt Fence Details and installation requirements. Payment for silt fence will be per linear foot installed. Cost of the silt fence shall include the removal from the project upon stabilization and permanent vegetation being established.
4. Rock filtered outlets are to be placed in the silt fencing as needed to control areas exhibiting concentrated flows to prevent breaching of the fence. Outlets are to be placed at locations per direction of the DEP on-site representative. See attached detail 'Rock Filter Outlets'.
5. Hay bales shall be utilized on internal areas, as a supplement to silt fencing, to control areas where excess runoff may create excessive erosion and instability, per the direction of the DEP on-site representative. For slope stability, place bales on the contour; at the top of cuts; and at the toe of slopes. Bales shall be placed in a row with ends tightly abutting the adjacent bales.
6. Bales shall be securely anchored in place by stakes driven through the bales. Rebar shall not be permitted for use as stakes. Stakes shall be removed after permanent vegetation has been established, as

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directed by the WVDEP designated on-site representative. The first stake in each bale shall be driven toward previously laid bale to force the bales together. See attached drawing for further details.

7. Construction of sediment control sumps before culvert inlets and/or rock check dams in ditch lines (see attached drawings) may become necessary to supplement the silt fence and hay bale dikes. Sumps shall be cleaned out when the sediment capacity reaches 60%, repaired, and maintained until demobilization. Sediment shall be removed from behind rock check dams when it has accumulated to 50% of the original height of the dam. Clean-out and maintenance shall be conducted by the contractor at no expense to DEP. These items shall be installed as shown on the attached plans and at other determined locations upon request of the WVDEP designated onsite representative. Construction of sumps and rock check dams shall be incidental to this bid item. Rock used for rock check dams shall be paid through the Incidental Stone bid item.

**INSPECTION** - Inspect all erosion and sediment controls before anticipated storm events (or series of storm events such as intermittent showers over one or more days) and within twenty-four (24) hours after the end of a storm event greater than 0.5 inches per 24-hour period, and at least once every seven (7) calendar days. Where sites have been finally or temporarily stabilized, such inspection may be conducted only once per month.

**MAINTENANCE** - Sediment should be removed once it has accumulated to one-half (1/2) the original height of the barrier or one-half (1/2) the sediment capacity of any particular control structure. Filter fabric should be replaced whenever it has deteriorated to such an extent that the effectiveness of the fabric is reduced (approximately six (6) months). Silt fence should remain in place until disturbed areas have been permanently stabilized. All sediment accumulated at the fence should be removed and properly disposed of before the fence is removed.

**PAYMENT** – Payment will be by the linear foot installed. **Price of the silt fence and hay bales shall include the removal of all such materials from the project upon stabilization and permanent vegetation being established,** per direction of the DEP on-site representative.

## **6.0 INCIDENTAL STONE**

During construction of culvert installations, roadway ditch improvements, reshaping of the roadway, rock check dams, and rock filter outlets, areas may need additional stone. After any necessary re-compaction and re-grading work on roadways has been performed by the contractor, a six (6) inch layer of #1 limestone (3.5" to 1.5" size) shall be placed as needed. This stone shall be graded and tracked in with a dozer or other equipment to achieve a compacted base for the final top layer of 1 ½ inch crusher run limestone (separate bid item). This bid item may include AASHTO #1, #3, or #57, ¾", 1 ½", or 3" crusher run, R-3, R-4, R-5, or R-6 rip rap limestone. Payment shall be paid per ton of stone applied by weight ticket and will be made at completion of all work and acceptance by DEP.

## **7.0 HAULROAD/ACCESS ROAD UPGRADE**

The contractor shall maintain and/or construct haulroad/access road(s) during the reclamation process to provide access on a well drained surface. Plan to upgrade the existing access road to the specifications and details as indicated in the Upgrade Access Road drawing. The access road on the reclamation site shall be graded, sloped, and maintained to drain to provide a road surface free of excessive mud and standing waters at all times while work is in progress. Upon completion of all reclamation activities, a final 3 inch layer of 1 ½ crusher run limestone shall be placed on the roadway. Roads which are below the project shall be guarded against rolling rock and removal of rocks done as necessary. Dust-control measures may be necessary if hauling creates airborne material. Snow

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removal is to be included in this item.

### **7.1 FILTER FABRIC FOR ROAD UPGRADE**

Filter Fabric (Typar 3401, Mirafi 500X, or equivalent) shall be placed over the completed road foundation (12' width) and covered with a six (6) inch minimum layer of No. 1 limestone (3½ to 1½ inches) (separate bid item). The fabric shall be paid for by the linear foot of road upgrade.

### **7.2 CONSTRUCT NEW HAULROAD/ACCESS ROAD**

Accompanying plans show the details of the construction of the road. The contractor shall provide all services, materials, construction layout, equipment, or other materials necessary to execute the work.

#### **SITE PREPARATION**

Any areas with soft unsuitable foundation materials shall be undercut to remove this material. The material removed shall be disposed of within the construction area at a site agreed to between the contractor and the DEP on site representative. Construction stake out shall be completed as necessary to complete that phase of the work being undertaken. Payment for the road construction stakeout is to be included in the road price.

#### **ROAD CONSTRUCTION**

Suitable foundation material shall then be placed in compacted layers not to exceed six (6) inches in thickness to obtain the desired grade and alignment. Compaction equipment shall be utilized, and is to be approved by DEP on site representative. Filter Fabric (Typar 3401, Mirafi 500X, or equivalent) shall be placed over the completed foundation and covered with a six (6) inch minimum layer of No. 1 limestone (3½ to 1½ inches). The No. 1 stone shall then be covered with 1½ inch crusher run limestone so that the surface is choked off and a three (3) inch minimum layer remains on top. The completed road shall have a minimum width of twelve (12) feet and the surface shall be crowned and sloped to both sides a minimum of 24-horizontal to 1 vertical. Any fill sections, if used, shall not impound water.

#### **ROADSIDE DITCHING**

The total length of roadside ditch shall be along the entire length of the road. A roadside drainage ditch shall be established along the hillside of the road, and shall be free draining to any culverts crossing under the road. The ditch shall be vegetated and constructed as indicated in the New Access Road drawing.

#### **COMPACTION EQUIPMENT**

A smooth drum vibratory roller shall be utilized on the construction of all road surfaces. The road sub-grade shall be smooth drum roll compacted prior to placement of filter fabric. The base stones shall be roll compacted after spreading and final placement. The final top layer of crusher run limestone shall be roll compacted, and a minimum 3 inch thick layer shall remain (AFTER COMPACTION).

Payment shall be for completed length of road, and shall include any truck turn-around areas, which shall be paid as length of road. Any turn-around area locations shall be designated by the DEP on-site representative.

### **8.0 CLEAR AND GRUB**

All vegetative cover (trees, shrubs, bushes etc.) within the entire work area shall be removed to bare ground. It is the contractor's responsibility to obtain all necessary permits and to follow state guidelines for burning and proper disposal of vegetative materials. Disposal of the trees and shrubs on-site with a chipper is an acceptable alternative to burning. Any timber cut in the clear and grub area that the landowner wishes to retain shall be de-limbed and stockpiled.



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### **9.0 RIPRAP V-DITCH - 4'**

Provide all materials, excavate and construct ditch or channel as indicated on the attached typical plans, cross-section, specifications, and as discussed at the Pre-Bid Showing. Channels and ditches shall be free draining upon completion of construction. Length of channel may be adjusted to meet on site conditions. (See riprap specifications) R-5 limestone riprap shall be used at a thickness of 1 ½ feet. The top width of the ditch shall be four (4) feet.

Riprap (Standard) R-5 size

The riprap shall be composed of a well graded mixture of hard durable limestone, such that fifty percent of the mixture by weight shall be larger than the d50 size = 12 inches. Likewise, 50% shall be smaller than the d50 size. The d50 size can be thought of as the average stone size in the mix. The diameter of the largest stone in the rock size shall be 1.5 times the d50 size (or 18 inches). A well-graded mixture is defined as a mixture composed primarily of the average to larger stone sizes, but with a sufficient mixture of smaller sizes to fill the voids between the stones. The rock in the mixture shall range in size from 3 inches minimum diameter to 18 inches maximum diameter, with no more than 15% by weight less than 6 inches.

Stone for the riprap shall consist of shot rock or rough unhewn quarry stone of approximately rectangular shape. The stone shall be hard and angular and of such quality that it will not disintegrate on exposure to water or weathering. Shale shall not be used for riprap. The specific gravity of individual stones shall be at least 2.5. The rock shall have a maximum weight loss of thirty percent when subjected to five cycles of the Sodium Sulphate Soundness Test-ASTM C88/ AASHTO T-104.

### **10.0 RIPRAP V-DITCH - 6'**

Provide all materials, excavate and construct ditch or channel as indicated on the attached typical plans, cross-section, specifications, and as discussed at the Pre-Bid Showing. Channels and ditches shall be free draining upon completion of construction. Length of channel may be adjusted to meet on site conditions. See riprap specifications from previous bid item. R-5 limestone riprap shall be used at a thickness of 1 ½ feet. The top width of the ditch shall be four (6) feet.

### **11.0 GROUTED RIPRAP V-DITCH - 8'**

Unless otherwise noted shall be durable rock placed in a 1.5 foot thick blanket. Twenty-five percent (25%) of the rock will be 18 inches or larger. Ten percent (10%) of the rock shall be no smaller than six (6) inches. The remaining sixty-five percent (65%) of the rock shall be well graded between six (6) and eighteen (18) inches. In-place rammed or hammered rock shall be acceptable.

The grout filler shall be composed of a mixture of one part Type II (sulfate resistant) portland cement and three parts sand, mixed with water to produce a workable consistency. The stone shall be thoroughly wet immediately before grout is applied. As soon as the grout is deposited on the surface, it shall be thoroughly worked into the joints. The stones shall then be brushed, so that their top surfaces are exposed. Grout shall penetrate 100% of the riprap thickness.

### **12.0 GROUTED RIPRAP TRAPEZOIDAL DITCH - 8'**

Unless otherwise noted shall be durable rock placed in a 1.5 foot thick blanket. Twenty-five percent (25%) of the rock will be 18 inches or larger. Ten percent (10%) of the rock shall be no smaller than six (6) inches. The remaining sixty-five percent (65%) of the rock shall be well graded between six (6) and eighteen (18) inches. In-place rammed or hammered rock shall be acceptable.

The grout filler shall be composed of a mixture of one part Type II (sulfate resistant) portland cement and three parts sand, mixed with water to produce a workable consistency. The stone shall be thoroughly wet immediately before grout is applied. As soon as the grout is deposited on the surface, it shall be thoroughly worked into the joints. The

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stones shall then be brushed, so that their top surfaces are exposed. Grout shall penetrate 100% of the riprap thickness.

### **13.0 GROUTED TRAPEZOIDAL DITCH – 10'**

Provide all materials, excavate and construct ditch or channel as indicated on the attached typical plans, cross-section, specifications, and as discussed at the Pre-Bid Showing. Channels and ditches shall be free draining upon completion of construction. Length of channel may be adjusted to meet on site conditions. (See riprap specifications) R-5 limestone riprap shall be used at a thickness of 1 ½ feet. The top width of the ditch shall be ten (10) feet.

The grout filler shall be composed of a mixture of one part Type II (sulfate resistant) portland cement and three parts sand, mixed with water to produce a workable consistency. The stone shall be thoroughly wet immediately before grout is applied. As soon as the grout is deposited on the surface, it shall be thoroughly worked into the joints. The stones shall then be brushed, so that their top surfaces are exposed. Grout shall penetrate 100% of the riprap thickness.

### **14.0 CULVERTS - 24"**

The culvert shall be HDPE, dual wall smooth interior corrugated twenty (20) foot joint type. The pipe joints shall be silt-tight and the pipe shall meet ASTM D3350 manufacturing standards. The culvert locations shall be determined by the onsite DEP representative.

#### **STANDARD INSTALLATION**

Culverts installed in access roads shall cross the road at a 30 degree angle downgrade with a minimum grade of three percent (3%) from inlet to outlet, except in streams or diversion ditches where the pipe shall be installed straight and coincide with the normal direction of flow.

The culvert inlet and outlet ends shall be protected by a headwall of stable non-erodible material and the slope at the outlet shall be protected with an apron of rock riprap, energy dissipater or other designated material. The culvert shall be installed in a trench excavated in solid undisturbed ground or formed by compacted earth.

The culvert shall be imbedded in a formed trench to a depth no less than 1/10 the outside diameter of the pipe. Selected backfill material shall be placed around the culvert in four (4) inch layers and thoroughly compacted by means of hand tamping or manually directed power tampers or plate vibrators.

The culvert shall be covered with a minimum of twelve (12) inches of material. Payment shall be for length of culvert installed, and any riprap for rock aprons, headwalls and endwalls shall be incidental to this bid item.

### **15.0 CULVERTS – 30"**

The culvert shall be HDPE, dual wall smooth interior corrugated twenty (20) foot joint type. The pipe joints shall be silt-tight and the pipe shall meet ASTM D3350 manufacturing standards. The culvert locations shall be determined by the onsite DEP representative.

#### **STANDARD INSTALLATION**

Culverts installed in access roads shall cross the road at a 30 degree angle downgrade with a minimum grade of three percent (3%) from inlet to outlet, except in streams or diversion ditches where the pipe shall be installed straight and coincide with the normal direction of flow.

The culvert inlet and outlet ends shall be protected by a headwall of stable non-erodible material and the slope at the outlet shall be protected with an apron of rock riprap, energy dissipater or other designated material. The culvert shall be installed in a trench excavated in solid undisturbed ground or formed by compacted earth.

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The culvert shall be imbedded in a formed trench to a depth no less than 1/10 the outside diameter of the pipe. Selected backfill material shall be placed around the culvert in four (4) inch layers and thoroughly compacted by means of hand tamping or manually directed power tampers or plate vibrators.

The culvert shall be covered with a minimum of fifteen (15) inches of material. Payment shall be for length of culvert installed, and any riprap for rock aprons, headwalls and endwalls shall be incidental to this bid item.

### **16.0 CULVERTS – 36”**

The culvert shall be HDPE, dual wall smooth interior corrugated twenty (20) foot joint type. The pipe joints shall be silt-tight and the pipe shall meet ASTM D3350 manufacturing standards. The culvert locations shall be determined by the onsite DEP representative.

#### **STANDARD INSTALLATION**

Culverts installed in access roads shall cross the road at a 30 degree angle downgrade with a minimum grade of three percent (3%) from inlet to outlet, except in streams or diversion ditches where the pipe shall be installed straight and coincide with the normal direction of flow.

The culvert inlet and outlet ends shall be protected by a headwall of stable non-erodible material and the slope at the outlet shall be protected with an apron of rock riprap, energy dissipater or other designated material. The culvert shall be installed in a trench excavated in solid undisturbed ground or formed by compacted earth.

The culvert shall be imbedded in a formed trench to a depth no less than 1/10 the outside diameter of the pipe. Selected backfill material shall be placed around the culvert in four (4) inch layers and thoroughly compacted by means of hand tamping or manually directed power tampers or plate vibrators.

The culvert shall be covered with a minimum of eighteen (18) inches of material. Payment shall be for length of culvert installed, and any riprap for rock aprons, headwalls and endwalls shall be incidental to this bid item.

### **17.0 FLOW DIVERSION CHANNEL**

A single reinforced concrete flow diversion channel shall be constructed per the attached plans and specifications, located between the first dosing unit and the first settling pond. This is to facilitate bypassing water around the first settling pond during sludge pumping. Channel shall be installed level and flat, and be furnished with ¼” rubber gaskets affixed into the 2” weir grooves. Grouted riprap ditch connecting the flow diversion channel to the dosing unit and pond shall be paid under a separate bid item.

### **18.0 STRUCTURE AND/OR DEBRIS REMOVAL**

All existing man-made items particular to the site and not to be utilized in the total reclamation of this site shall be demolished (if necessary) and disposed of in a legal manner. All iron, steel, aluminum, or any other metal, plastic, or any other man made material, including but not limited to I-Beams, Angle Iron, Channel Iron, Corrugated Metal, Flat Metal, Floc Drums, Grease Drums, Pipe or Conduit is to be dismantled, removed and properly disposed of off site and according to state, local, and federal requirements. These structures are identified as: the two small buildings near the pit, as well as any and all piping/drainage structures found in the pit. Any pipes that are not removable shall be sealed and grouted in place, and shall be incidental to this bid item.

### **19.0 DEEP MINE SEALS (Wet Type (Acid Producing Seams))**

Seals shall be constructed to conform to the attached plans and specifications. Each seal will consist of a bulk head which completely fills the opening and one (1) 12” perforated SDR 35 PVC pipe surrounded by 3” - 6” clean sandstone at a minimum depth of two (2) feet and minimum width of six (6) feet. The seal shall be wrapped in filter

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fabric. Each seal shall attach to a collection underdrain (see next bid item) running along the base of the highwall, perpendicular to the mine openings. The connections to the underdrain shall be in the form of a 90 degree 4-way cross, with the underdrain running east-west, the mine drain running north, and a mine drain cleanout pipe (incidental to this bid item) running south as it angles to the surface of the backfill. All shall be installed at a minimum 1% slope. Installation shall remain uncovered for visual inspection by DEP (owner) prior to the completion of the associated reclamation activities. Payment for each wet mine seal is for complete installation and verified by DEP with photo.

### **20.0 UNDERDRAIN**

Collection underdrains shall be constructed to collect all seep water for conveyance to the treatment sites. The collection underdrain shall be 4 ft. X 4 ft. in cross-section. Stone for the underdrain shall be non-calcareous with a size of 3" to 6" in diameter. The drain shall be wrapped with filter fabric (Tyvar 3401 or equivalent). Filter fabric may be omitted from areas where the seepage enters the underdrain if approved by the DEP on site representative. A 12" perforated SDR-35 PVC pipe shall extend the length of the underdrain and connect to solid pipe. The solid pipe shall terminate at a drivewater collection manhole (a separate bid item) or to a surface ditch. The perforated end of the 12" pipe seep collector shall extend to the surface as a clean-out with solid 12" diameter pipe and cap. A second leg of underdrain shall extend north, along the highwall outside the pit, parallel to the mine drains and with a connection and cleanout identical to the mine drains. One additional intermediate cleanout shall also be included in this bid item. A 40 mil HDPE synthetic liner shall cover the bottom and lower side/ends of the underdrain.

Cover the underdrain with a minimum of 1 ft. of material and grade the surface so it is well drained. Material on the downslope side of the drain shall be impervious to prevent leakage from the underdrain to the surface. Provide all fittings necessary for installation. Refer to the attached drawing for further details. All materials specified above and on the attached drawing shall be incidental to this bid item. Payment for each underdrain is for complete installation and verified by DEP with photos.

### **21.0 WATER TREATMENT**

Water in pits or sediment structures shall be analyzed and treated before pumping and discharge to receiving waters of the state. Treat to a pH of 6 or to the pH of the receiving stream (whichever is greater). Provide all chemicals, equipment, testing, personnel, or other items needed to complete this bid item. The water pumped out of the pit during dewatering shall be pumped to the existing 'pond 5', which shall later be converted to a sludge cell (see below). During dewatering, the drainage of pond 5 shall be temporarily re-routed to pass through the contingency ponds below it. The method of re-routing drainage shall be at the discretion of the contractor, but shall include appropriate sediment control. This shall be incidental to this bid item.

### **22.0 LIMING**

Liming of open pits is to be carried out at a rate of 40 tons/acre. All potentially toxic material shall be cleaned from the pavement prior to spreading lime uniformly over the exposed pavement. This potentially toxic material shall be placed on a pad prepared in the backfill. The top of the pad shall be a minimum of 4 ft. above the pavement, located out of any water course and away from the highwall. Lime shall be blended with the toxic material. Coal refuse shall be treated in the same manner as the toxic material above. Lime at a rate of 40 tons/1000 tons.

Unless otherwise specified, all lime used shall be registered with the West Virginia Department of Agriculture, have an 85% minimum calcium carbonate equivalent, and meet the fineness classification no larger than that for ground. The following fineness classifications or combinations of are acceptable:

- Pulverized - 100% passing a U.S. Standard 20 mesh sieve
- 70% passing a U.S. Standard 100 mesh sieve

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- Ground
- 90% passing a U.S. Standard 20 mesh sieve
  - 50% passing a U.S. Standard 60 mesh sieve
  - 35% passing a U.S. Standard 100 mesh sieve

Use of blends and low-grade agricultural liming materials shall require prior approval. Lime shall be spread as soon as possible after delivery to site. Lime shall be applied evenly and uniformly distributed over the treated area. Lime shall be thoroughly mixed into the soil material. Lime subjected to adverse conditions before spreading will be deemed unacceptable. Failure to complete this phase shall result in nonpayment of this bid item.

### **23.0 BACKFILLING**

Areas of this project subject to backfilling to achieve the post-mining land-use shall: be accomplished in a continuous concurrent manner on all surface disturbances within the original permit and associated disturbed areas as existing at bid showing; be filled by mechanical methods to eliminate highwall and rock outcropping, to produce slopes of consistent lines and of the approximate original contour; be free of protruding rock and debris; be compacted in a progressive backfilling manner with mechanical equipment to ensure stability of backfill material. The maximum acceptable slope of any backfill face shall not exceed two (2) horizontal to one (1) vertical, unless otherwise stated. Backfilling shall cease during periods of adverse site conditions (for example: excessive soil moisture).

This bid item shall only pay for the backfilling of the Special Reclamation sections of pit and highwall, as indicated on the site plans. A separate bid item shall cover the Abandoned Mine Lands highwall section.

### **24.0 REGRADING AND TOPSOILING**

Concurrent regrading and topsoiling shall immediately follow backfilling and shall distribute topsoil or the best available material to support vegetation, as identified by the Department of Environmental Protection contact person, on the surface of the backfill in a smooth, uniform manner. This item shall include the elimination of all rills and gullies, the construction of sediment control sumps, the removal of sediment control sumps, the grading of spoil and/or fill materials. Surface shall be free of all rock exceeding six (6) inches in diameter and shall be tracked, track to track. Topsoil presently stockpiled on site shall be preserved and spread on the fill surface. In the absence of stockpiled topsoil, material which can be used as a topsoil substitute shall be identified, segregated, and stockpiled for spreading on the surface. If necessary to manufacture fines, mechanical treatment to pulverize the surface layer shall be required. Regrading and topsoiling shall be conducted prior to and in preparation for the revegetation item. The acreage quantities in this contract are for bidding purposes only. It shall be the contractor's responsibility to verify acreage for bidding purposes. The contractor shall not exceed the contract amount of 25 acres. If any additional amount is required, the contractor must have written approval from the DEP, prior to any additional work being completed.

### **25.0 EXISTING POND #4 - CLEANING AND MODIFICATION**

Pond #4, located at the toe of the valley fill, shall be modified as follows.

#### **DROPPED INLET ELIMINATION**

The pond currently drains through, and pipes around, a dropped inlet located in the center of the pond. All efforts shall be made to seal off this drainage route. The dropped inlet pipe shall be removed to the extent possible, and the remaining pipe grouted in place. Any and all locations of apparent piping near the dropped inlet shall be sealed with bentonite clay (incidental to this bid item).

#### **SPILLWAY MODIFICATION**

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The elevation of the spillway shall be re-established to set the pond's freeboard at two (2) feet (see below). The exit spillway shall be cleaned out and re-worked to include construction of a grouted drive-thru across the spillway. The pond side of the drive-thru shall be built up with riprap to provide for a smooth, level flow transition across the spillway. This shall include 10-12 feet of riprap leading out of the pond to the spillway, which shall be built upon riprap and base stone, to provide access to the far end of the pond. A reinforced concrete spillway/seepage cutoff structure shall be constructed, to be the transition between the pond riprap and the grouted drive-thru. The grout shall extend 15 feet away from the concrete spillway (15 feet road width). See specifications.

#### **EMBANKMENT MODIFICATION**

Embankment shall be modified to have two (2) feet of freeboard all around. It shall be built up in places in compacted lifts with no lift exceeding six (6) inches. The entire width of each 6" lift shall be compacted with an overlapping pattern. If necessary, compaction equipment (vibratory roller, sheep's foot roller, etc.) may be used to help secure a solid embankment, which will not slip or allow seepage of the ponded water. The base of any fill areas shall be undercut to solid material, and benched or keyed into the existing bank. All stones exceeding 6 inches shall be removed from the embankment material prior to being placed. Also, any organic material (tree limbs, roots, top soil, etc.) shall be removed from embankment material prior to compaction. Weak or compressible areas, which cannot be satisfactorily compacted, shall be removed and replaced with properly compacted fill material. During dry conditions, water may need to be added to the fill material during the placement process to achieve optimum compaction. If the fill material is over saturated with water, the material may need to be spread and aerated prior to placement at the fill site for compaction. The top pond berm width shall be a minimum of 12.0 feet.

#### **26.0 UPPER CONTINGENCY POND – CLEANING AND MODIFICATION**

The upper contingency pond shall be cleaned out to the original depth of ten (10) feet. The spillway between the two ponds shall be paid through the 8' grouted riprap trapezoidal ditch bid item, and shall set two (2) feet of freeboard around the upper pond. The pond inlet and outlet spillways shall be paid under the concrete spreader bid item, and channels shall be paid for under the 8' grouted riprap trapezoidal ditch bid item. See specifications.

#### **27.0 LOWER CONTINGENCY POND – CLEANING AND MODIFICATION**

The lower contingency pond shall be cleaned out to the original depth of ten (10) feet. The pond inlet and outlet spillways shall be paid under the concrete spreader bid item, and channels shall be paid for under the 8' grouted riprap trapezoidal ditch bid item. The exit spillway shall set two (2) feet of freeboard around the pond. The spillway below the lower pond shall have a short (4-8') section of 24" culvert pipe grouted in place as a flow measurement device. See specifications.

#### **28.0 EXISTING SLUDGE CELL – CLEANING AND MODIFICATION**

After dewatering and treating the pit water, and after the pit has been backfilled, pond 5 shall be converted to a sludge disposal cell. Modifications include regrading the embankment to a level top and uniform outslope, removing all vegetation and soft material from the floor of the cell. The pipe emanating from the toe of the embankment shall be removed to whatever extent possible, and the remainder grouted in place to a minimum depth of 20 feet.

#### **29.0 MANHOLE**

The manhole shall be "Type A" as specified by the West Virginia Department of Highways or shown on drawings. Excavation shall be done to the elevation determined, and undercutting shall be required if competent foundation conditions are not encountered. Compacted crushed stone shall be placed under manhole for bedding. The ring shall be of standard cast iron or ductile construction and shall be watertight with bolt anchors in the concrete. The lid shall be light weight ductile iron hinged type (Pamrex, Rexus brand or equal). Entrance pipes shall extend four (4) inches past the manhole wall. The exit pipes are a 4" HDPE driveline and 16" HDPE overflow line which shall each be paid

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under a separate bid item. Ensure that the exit pipes are sealed into the manhole wall. The purpose of the manhole is to establish a collection point to drive the first dosing unit while maintaining minimal slope from the seep collector. Also, the manhole shall serve as an entry point to perform maintenance on the seep conveyance drains. See detail sheet for layout and desired location. Payment shall be made upon completion of installation of the manhole and exit pipes.

### **30.0 NEW SETTLING PONDS**

Three settling ponds shall be constructed. The ponds shall have a top width of approximately sixty (60) feet, a top length of one hundred fifty (150) feet and a total excavation volume of approximately 48,000 cubic feet each. The ponds shall have a varying water depth from approximately 6 ft. to 8 ft. (sloped towards the inlet end, to facilitate sludge pumping) with 2 ft. of freeboard. Side slopes shall be two horizontal to one vertical (2h:1v).

The settling ponds are paid per each completed. The settling pond inlet and outlet spillways shall be paid under the concrete spreader bid item, and channels shall be paid for under the 8' grouted riprap trapezoidal ditch bid item.

### **EMBANKMENT CONSTRUCTION**

Embankments shall be constructed in compacted lifts with no lift exceeding six (6) inches. The entire width of each 6" lift shall be compacted with an overlapping pattern. If necessary, compaction equipment (vibratory roller, sheep's foot roller, etc.) may be used to help secure a solid embankment, which will not slip or allow seepage of the ponded water. The base of any fill areas shall be undercut to solid material, and benched or keyed into the existing bank. All stones exceeding 6 inches shall be removed from the embankment material prior to being placed. Also, any organic material (tree limbs, roots, top soil, etc.) shall be removed from embankment material prior to compaction. Weak or compressible areas, which cannot be satisfactorily compacted, shall be removed and replaced with properly compacted fill material. During dry conditions, water may need to be added to the fill material during the placement process to achieve optimum compaction. If the fill material is over saturated with water, the material may need to be spread and aerated prior to placement at the fill site for compaction. The top pond berm width shall be a minimum of 12.0 feet. During construction if the above mentioned compaction equipment is not utilized, the top berm may need to be wider than 12.0 feet (20 feet wide) to accommodate multiple dozer passes and overlapping tracking to obtain compaction across the entire top width of pond berm. After appropriate compaction of material is achieved, the embankment slopes may be cut back to a 12.0 feet top width.

### **30.1 POND LINERS**

This bid item shall include the purchase and installation of HDPE 60 mil. smooth geomembrane liners made by Poly-Flex or approved equivalent for each new settling pond. The liners shall be installed in accordance to the manufacturer specifications and general requirements, attached. A 4 inch diameter drive line shall extend from the second settling pond to dosing unit #2, and shall be sealed with a fitted boot to the pond liner (incidental to this bid item, see specifications). After completion of liner installation, the pond liner shall not leak or seep any water away from the pond. The grouted riprap inlet and exit spillways shall also flow without leaking.

### **31.0 CONCRETE SPREADER**

Provide all materials, excavate and construct the concrete spreader as indicated on the attached typical plans, cross-section, specifications, and/or discussions at the Pre-Bid Showing. The concrete spreader shall also act as a seepage cutoff structure for the grouted riprap ditch leading in and out of each pond.

The channel is a wide and flat trapezoidal ditch, consisting of one and one half (1 ½) foot thick blanket of R-5 limestone with grout. The concrete spreader shall be impervious, thus containing all baffled settling pond discharge water. The concrete shall be Type II Sulfate Resistant Concrete (WVDOH Sec. 601). The concrete spreader shall have a width of 12 inches and a depth that continues into original ground two (2) feet each way. The skimmer shall be level, and the top of the skimmer shall be equal to the bottom of the outer edge of the wide ditch riprap. The concrete spreader shall have an 8 inch lower weir section to direct all treatment pond water. Reinforcing steel shall

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be utilized as indicated in the attached drawing. The water will flow through the grouted riprap of the channel. The pond liner shall extend over the concrete spreader and terminate below the grouted riprap channel. Payment for each concrete spreader shall also include any inlet or outlet grouting necessary to keep water flowing through the channels and over the spreader.

### **32.0 BAFFLE CURTAIN**

The baffle curtain shall be of an ultraviolet (UV) resistant type vinyl coated polyester material with a minimum total weight rating of 17 oz./sq. yd. Styrofoam floats of minimum size 3"x4"x24" shall be hot seam sealed into the top of the baffle curtain, and shall be evenly spaced 4 inches apart end to end. A grommet shall be placed between each of the styrofoam floats. A 1/4 inch diameter stainless steel wire cable shall be seamed into the top of the baffle to anchor at the sides of the pond. The cable and bottom chain shall extend 10 feet past the cut length of the baffle curtain on each end. A 5/16 inch diameter link chain shall be hot seam sealed into the bottom of the baffle for weight. Curtain shall have aluminum plates attached at each end through the top hot seam to create another anchor point for the curtain. Secure anchor points (pipe, rods, or treated posts) shall be installed at the ponds edge to hold the baffle in place. Anchor points and the baffle location shall be approved by the DEP onsite representative before installation. The wire cable and chain shall be attached in such a way to allow for easy disconnect while sludge is being pumped from the pond. All cable fasteners, eye bolts, and other accessories shall be stainless steel to prevent corrosion, and shall be incidental to this pay item. The baffle curtain opening slots shall be cut into the curtain below the hot seam seal at the top of the baffle, as indicated on the attached drawing. The spacing and the size of the slots shall be determined by the DEP engineer or onsite representative, and shall be installed at the time of installation. Payment shall be per linear feet of baffle curtain specified, and shall include all posts, anchors, fasteners, chain, and cable required to secure baffles in place. Baffle curtains shall be installed at ten different locations, two in each pond (new ponds and existing).

### **33.0 SUB-FOUNDATION PREPARATION**

The sub-foundation shall be undercut to remove all fill (unconsolidated material) down to a competent foundation as determined by the DEP on site representative. The sub-foundation shall be constructed in substantial conformity to the plans and/or specifications. The DEP on site representative shall be present during this work.

The sub-foundation material shall be suitable material free of particles larger than three inches in diameter and consist of granular material conforming to WVDOH specification 716.1.1.2. A bearing capacity of approximately 6 tons per square ft should be obtained.

Compaction shall be done with a suitable compactor to obtain approximately 98% Standard Proctor Density. Layers shall be six (6) inches or less in thickness before compaction is initiated. Moisture content of the fill material shall be controlled to obtain maximum compaction.

Payment shall be made for each one (1) foot depth of undercut required. This bid item shall cover both dosing unit locations.

### **34.0 FOUNDATION**

This item includes all work necessary construct the foundations for two water powered lime dosing units. The foundation shall be Type II (Sulfate Resistant) Concrete and shall conform to the dimensions and shape shown in the detail drawings and specifications. Include all reinforcing bars with supports and anchor bolts as necessary. Provide all forms, personnel and equipment required for the placement, finishing, and curing of the concrete. The concrete shall be consolidated with use of an internal spud vibrator to liquefy the concrete so that entrapped air and water can come to the surface. Also, supplement the mechanical vibrator by hand-spading, rodding, or tamping. Adverse weather conditions shall be avoided during completion of this item. WVDOH specifications (Section 601-



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Construction Manual) for concrete shall apply to this item. Concrete shall cure for a minimum of 7 days before the silo may be erected in place. Excavation for the foundation is incidental to this item with no separate payment being made. Concrete shall meet a minimum 28-day compressive test strength of 4000 psi, and the slump shall be between 2 and 3 inches during placement of concrete. A 6 inch HDPE conduit pipe shall be placed in the concrete foundation for the drivewater line. A non-corrodible walk grate shall be supplied to cover the trough and trough cutout where people will be walking, not under the dosing unit (see drawings). A non-corrodible (i.e. rubber) flap shall be affixed at the trough exit (and entrance, if open) to inhibit air flow through the enclosure and animal entry. The finished floor elevation of the foundation shall be set at an elevation which provides four feet (4') of head on the water supply line to operate the dosing unit. The location of the foundation shall be set to maximize the length and elevation drop of the grouted riprap receiving ditch of the treated water.

### **35.0 LIME DISPENSING UNIT, ENCLOSURE, AND SILO**

This item includes all work necessary to purchase, install and initiate operation of two water powered lime dispensing units. These units must utilize hydrated lime.

#### **DOSING UNIT**

The dosing units are to receive water from intake pipes in the manhole and new pond #2, respectively, by means of a 4" HDPE drive line and a 16" HDPE overflow pipe (separate bid items). The 4" HDPE drive line shall pass through foundation conduit to supply flow to power the dosing units, while the overflow pipes shall be positioned to flow through the foundation troughs. After treatment with the reagent, the water will exit the foundations into a grouted riprap ditch (separate bid item). Each dosing unit shall be capable of feeding hydrated lime at a rate ranging from 12 to 36 lbs./hr.

Each dosing unit, silo, and filler pipe shall be designed to facilitate the use of hydrated lime during the service life of the unit. This portion of the work shall include the initial filling and the start up of the units, at the direction of the Program Manager, to confirm that all units function as intended. Any repairs and/or adjustments required to the unloading system and dosing unit to allow them to function as designed shall be performed at no cost to the DEP. The systems shall be operated successfully for a one-week period before acceptance by the DEP. All settling ponds and riprap ditches leading to them must be completed before testing is initiated. The hydrated lime shall be 40 tons in amount per unit and delivered as scheduled by the on-site DEP representative.

#### **PRE-QUALIFIED VENDORS**

Pre-qualified lime dispensing units or equal shall be used on this project. The current pre-qualified vendors include: Aquafix Systems, Inc., ph: 304-329-1056; and Lime Doser Consulting, LLC., ph: 304-782-1037.

#### **WV DEP Office of Special Reclamation procedure for pre-qualifying a vendor's acid mine drainage lime dispensing unit.**

A vendor wishing to bid on providing water driven lime dispensing units shall be pre-qualified by successfully demonstrating proposed unit on existing Office of Special Reclamation active acid mine drainage treatment sites. Vendor will be required, at their sole expense, to demonstrate that their proposed water driven lime dosing unit is sufficiently capable and mechanically dependable of treating the current range of flows and qualities while maintaining current required final discharge limits without increasing present man-hours devoted to each site. The vendor shall successfully demonstrate the unit for a minimum time period of 30 days, which shall include high rainfall events, and may include different seasonal periods at the discretion of the DEP.

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The Office of Special Reclamation will provide the treatment chemical, at their cost, for each of the demonstrations. Vendor's lime dispensing unit shall bolt to the flange of the existing silos and be capable of dispensing calcium oxide chips (pebble quick lime), and other lime based chemical such as hydrated lime.

The vendor shall remove the current lime dosing unit, install the lime dosing unit being pre-qualified, temporarily modify the drive water plumbing and mine drainage channel as may be necessary.

Upon completion of the demonstration the vendor shall replace the existing dosing unit, re-plumb the drive water, remove any temporary mine drainage channel modifications, establish treatment with the existing unit, clean the site of all debris and excess lime to pre-existing conditions at the vendor's sole expense.

#### ENCLOSURE

An insulated steel security enclosure shall be attached to each silo structure support system to protect the dosing units from vandalism and the weather. Walls and doors shall be fitted with minimum 1 inch thickness standard closed-cell foam wall insulation. The wall thickness of the silo enclosure shall be equivalent to the steel used in the construction of the silo, and shall be minimum 3/16 inch thick. The enclosure shall be equipped with two hinged, lockable steel doors, one of which is sufficient size to facilitate removal of the dosing unit for repair and/or future replacement. The second door shall only be accessible from the inside. The enclosed structures shall be fitted with propane heating units with a capacity to prevent freezing of the dosing units during the winter. The heaters shall be Model MH25LP made by Mr. Heater (Enerco) or approved equivalent, and include all needed piping, regulator and fittings to connect to the tanks. The heater units shall have a minimum capacity of 22,000 BTU/hr, and be infrared radiant type. 500 gallon tanks shall be included, and will need to be filled one time. Adequate ventilation shall be provided with louvered screened vents for the heaters, and to reduce condensation.

Painting of the silos and steel security enclosures shall be painted green, in accordance with WVDOH Specification 711. All steel surfaces on the interior and exterior of the enclosures and exterior of the silos shall be thoroughly cleaned, primed, and painted, utilizing Carboline brand Rustbond FC primer and two to three coats of Carboline brand Carbothane 133HB paint, or approved equivalents.

#### SILLO

Structural elements shall be warranted by the manufacturer to withstand normal static and dynamic loads as commonly accepted by industry. Changes to these specifications shall be made only with the written approval of the Program Manager.

40 ton capacity steel silos to store the reagent is required. The silos shall be equipped with interior ladders extending down to the cone, exterior ladders extending down to within 8 feet of surface with a protective cage and a lockable steel safety door, a steel safety fence around the top of the silo, and a filler pipe to extend to the unloading port. All components shall adhere to Occupational Safety and Health Administration (OSHA) Standards 29 CFR, part 1910. A steel cone shall be placed at the base of each silo to direct the discharge of the reagent through a steel flange, which is sized and located to accommodate the reagent dispensing units. Silos shall include a vent pipe to prevent pressure buildup during filling. The vent pipe shall extend down within 2 feet of surface, and be directed into the treatment ditch. An emergency pop off valve shall be included in case the vent pipe malfunctions. Pneumatic filling of the silos is to be utilized. For the sizing of the silo, use a unit weight of 35 lbs./cubic ft. for hydrated lime.

#### SUBMITTALS

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1. A written contract shall be submitted by the contractor to the DEP with the contractor and the sub-contractor of choice for the lime dispensing unit. The contract shall clearly stipulate the obligations of each party, and shall be submitted within 30 calendar days after the DEP Notice To Proceed date.
2. Shop drawings of the silo, enclosure, and any alterations required for the foundation shall be provided to the engineer prior to design, fabrication, delivery, and installation of the system.

Payment for all of the work specified above shall be made per each lime dispensing system installed.

### **36.0 CRANE**

This shall include furnishing a crane of sufficient capacity to unload and erect the silo structures on their foundations and to install the reagent dispensing units. A silo is estimated to weigh less than 10 tons.

Payment for this work shall be made based on the lump sum contract and paid upon final acceptance by DEP.

### **37.0 4 INCH HDPE DRIVE LINE**

Pipe shall be 4 inch diameter, SDR 15.5 or 17 HDPE of standard manufacture. Install to manufacturers recommendations. Install the pipe as indicated in the specifications and/or as shown on the drawings.

Payment shall be for the actual length of pipe installed. This 4 inch HDPE pipe shall be used for a driveline to the first lime dispensing system from the manhole, as well as to the second lime dispensing system from the second new settling pond. Provide all materials, equipment and personnel necessary for installation. Pipe shall be buried at least 2.5 feet deep. Use butt weld fusion process to join pipes. A qualified fusion technician shall supervise the fusion of all joints. See site plan for location.

### **38.0 16 INCH HDPE OVERFLOW PIPE**

Pipe shall be 16 inch diameter, SDR 15.5 or 17 HDPE of standard manufacture. Install to manufacturers recommendations. Install the pipe as indicated in the specifications and/or as shown on the drawings.

Payment shall be for the actual length of pipe installed. This 16 inch HDPE pipe shall be used for overflow from the manhole to the first lime dispensing system, as a transition into the second lime dispensing system trough, and as between sludge cells. Provide all materials, equipment and personnel necessary for installation. Pipe shall be buried at least 2.5 feet deep. Use butt weld fusion process to join pipes. A qualified fusion technician shall supervise the fusion of all joints. See site plan for location.

### **39.0 SLUDGE DISPOSAL CELL**

Two sludge disposal areas shall be constructed to receive sludge pumped from the settling ponds. These areas shall have a completed total holding volume of at least 200,000 cubic feet. The constructed sludge disposal cells shall have two-foot freeboard. The approximate size of each cell shall have a sixty (60) foot top width, a top length of three hundred (300) feet, and a total depth of ten (10) feet. The sludge disposal cells shall have side slopes not exceeding one horizontal to one vertical. The cells shall be constructed in an area approved by the DEP onsite representative. Material which is removed during the cell construction and which is suitable for reclamation shall be stockpiled on site and vegetated, and some material may be used for partial embankment construction. This pond shall be dugout in nature to facilitate its future reclamation. Lump sum payment shall be for the completed item upon approval of the DEP on site representative.

### **39.1 SLUDGE CELL UNDERDRAIN**

An underdrain shall be excavated and installed according to the attached drawings and specifications. This component of the sludge cell shall consist of a three feet deep by four feet wide trough lined with filter fabric (3'd X

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4'w). The trough shall be excavated down the side and along the entire bottom of the cell. Starting at ground level, the four-inch SCH-35 PVC perforated pipe shall run the entire length of the trough. A SCH-35 PVC cap shall be placed on the high end of the pipe to allow for future maintenance. The four-inch pipe shall be surrounded by ¼" to 3/8" pea gravel which will then have a twelve-inch layer of sand placed on top. The sand layer shall be clean and graded filter media with an effective size of 0.6 mm to 0.8 mm and a uniformity coefficient of less than 2.0. Two types of pre-approved filter sand media are as follows: #3 Q-Rock, U.S. Silica Company, Berkeley Springs, WV ph:800-243-7500; Black Beauty product #1240, Reed Minerals, Moundsville, WV ph:304-845-0211. Other filter media such as Ohio Valley River sand must be certified by quarry or lab to meet the listed specifications prior to placement. A layer of filter fabric (non-woven) shall separate the pea-gravel and the sand. The section of pipe extending through the embankment shall be solid.

The drain line for the underdrain shall be increased to 6", and flow back to the water treatment system via 6" HDPE sludge pipe (a separate bid item). The pipe shall be buried with a minimum of two and one-half (2.5') feet of cover to avoid freezing.

#### **40.0 6 INCH HDPE SLUDGE PIPE**

Pipe shall be 6 inch diameter, SDR 15.5 or 17 HDPE of standard manufacture. Install to manufacturers recommendations. Install the pipe as indicated in the specifications and/or as shown on the drawings.

Payment shall be for the actual length of pipe installed. This 6 inch HDPE pipe shall be used for sludge line. Provide all materials, equipment and personnel necessary for installation. Pipe shall be buried at least 2.5 feet deep. Use butt weld fusion process to join pipes. A qualified fusion technician shall supervise the fusion of all joints. See site plan for location.

#### **40.1 6-INCH ECCENTRIC PLUG VALVE**

6 inch epoxy coated cast iron eccentric plug valves with flanged ends shall be provided and installed in multiple locations according to specifications. The valves shall be Milliken brand or equivalent, and shall have a 2 inch square top nut. Two (2) 2-inch square valve box key wrenches shall be supplied for this project, incidental to this bid item. A piece of SDR 35 PVC pipe and cap shall be provided for a riser to access each valve. Appropriate rubber flange gaskets, stainless steel bolts/nuts, and HDPE flanges shall also be incidental to this bid item. Fiberglass valve markers shall be supplied and installed for each valve, incidental to this bid item (see specifications).

#### **40.2 PUMP ADAPTOR CONNECTION**

The pond ends of the HDPE 6 inch diameter pipe shall be fitted with a threaded stainless steel adaptor to receive a 6 inch cam-lock (lockable style) adaptor. Install posts or pipes to protect outlet from damage. Use riprap around pipe as necessary. Include a cam-lock lockable cap for sealing each adaptor. The cap shall withstand pressures developed during pumping at other pumping points. The sludge disposal pond and recirculation line ends will be the same as the pond ends. Payment shall be for each location installed.

#### **40.3 TEE (6 INCH HDPE TEE 90°)**

Tees shall be of standard manufacture for 6 inch diameter HDPE pipe to allow 90° junction. Use butt weld fusion process to join fittings to pipes. A qualified fusion technician shall supervise the fusion of all joints. Payment shall be for each location installed.

#### **40.4 WYES (6 INCH HDPE LATERALS 45°)**

Wyes shall be of standard manufacture for 6 inch diameter HDPE pipe to allow 45° junction. Use butt weld fusion process to join fittings to pipes. A qualified fusion technician shall supervise the fusion of all joints. Payment shall be for each location installed.

#### **40.5 2-INCH BALL VALVE W/ REDUCER**

The pond end of the HDPE 6 inch diameter pipe shall be fitted with a threaded stainless steel adaptor to receive a 2

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inch stainless steel ball valve. A 6 by 2 inch HDPE reducer shall be used to reduce down to the smaller pipe size. Install posts or pipes to protect outlet from damage. Use butt weld fusion process to join fittings to pipes. Use riprap around pipe as necessary. Payment shall be for each location installed, and the 2 inch valve shall be incidental to this pay item.

#### **41.0 REVEGETATION**

The actual seeding date, within the work performance period, shall be at the discretion of the contractor, but a permanent vegetative cover must be established. Verification of materials used shall be required for payment. Seed bed preparation, unless otherwise approved, shall be conducted by industrial disks or tracking with heavy equipment with cleat marks across slope and parallel to the final contours. The surface shall be tracked, track to track. Seeding shall commence after seedbed preparation on a loose and uncompacted soil and with the approval of the Department of Environmental Protection. Contractor shall provide equipment as necessary to secure approval of the seedbed. Revegetation activities shall be carried out in a continuous, concurrent, timely and uniform manner. Failure to do this may result in nonpayment for portions of or the entire Revegetation item. Hydroseeding or broadcast seeding with the approved species is acceptable. The application rate may be increased but the ratio is to remain constant, but no additional monetary compensation will be awarded. Areas outside the limits of construction, disturbed by the contractor, shall be revegetated by the contractor at no expense to DEP. Water utilized for hydroseeding shall be free of injurious or other toxic substances harmful to plant life. The source of water is subject to the approval of the DEP Specialist. It shall be the vendor's responsibility to repeat the procedures under REVEGETATION until a permanent vegetation is established. The acreage quantities in this contract are for bidding purposes only.

A warranty period of one (1) year shall commence upon completion and payment of the revegetation item of the contract. No payment will be made for additional seeding necessary to comply with warranty requirements. The warranty period will be extended for one (1) year from the date of the last augmented seeding done by the contractor. The performance bond and labor and materials bond shall remain in effect throughout the warranty period. The Standards for Evaluating Vegetative Cover as presented in Title 38, CSR2, Section 9 of the West Virginia Surface Mining Reclamation Regulations will apply.

Equipment for the retracking/scarification to eliminate rills and gullies shall be mobilized and utilized to produce slopes consistent with the regrading and topsoiling bid item prior to warranty reseeding. No additional payment will be made by DEP for this warranty work.

#### **41.1 AGRICULTURAL LIME**

Unless otherwise specified, all lime used shall be registered with the West Virginia Department of Agriculture, have an 85% minimum calcium carbonate equivalent, and meet the fineness classification no larger than that for ground lime. The following fineness classifications or combinations of lime are acceptable:

- Pulverized - 100% passing a U.S. Standard 20 mesh sieve
- 70% passing a U.S. Standard 100 mesh sieve
- Ground - 90% passing a U.S. Standard 20 mesh sieve
- 50% passing a U.S. Standard 60 mesh sieve
- 35% passing a U.S. Standard 100 mesh sieve

Use of blends and low-grade agricultural liming materials shall require prior approval. Lime shall be spread as soon as possible after delivery to site. Lime shall be applied evenly and uniformly distributed over the treated area. Lime shall be thoroughly mixed into the soil material. Lime subjected to adverse conditions before spreading will be deemed unacceptable. Failure to complete this phase shall result in nonpayment of this bid item.

Lime shall be applied at 10 ton/acre.

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**41.2 FERTILIZER**

Fertilizer rates given for REVEGETATION are for 1,000 lbs. of 10-20-20 per acre. These rates are minimum and for bidding purposes.

Fertilizer shall be applied evenly and uniformly distributed over the treated area. Common complete fertilizers which meet the minimum standards are acceptable.

**41.3 MULCH**

Acceptable mulch for this project is wood fiber, hay, or straw.  
 Mulch: Wood Fiber @ 1.0 ton/Acre  
 Hay or straw mulch may be substituted at a rate of 2 tons/Acre

**41.4 VEGETATIVE SPECIES**

Seeding rate required is for pure live seed (pls) in pounds per acre. The use of annuals or cover crops will not be considered for vegetative success.

**NORTH MIX**

VEGETATIVE SPECIES <sup>1</sup>	RATE/ACRE <sup>1</sup>
Orchard Grass	@ 15 lbs/acre
Birdsfoot Trefoil <sup>2</sup>	@ 15 lbs/acre
Yellow Sweet Clover	@ 5 lbs/acre
Red Clover	@ 10 lbs/acre
Ky 31 Fescue	@ 15 lbs/acre
Foxtail Millet <sup>3</sup>	@ 12 lbs/acre
Wheat or Rye <sup>4</sup>	@ 50 lbs/acre
Black Locust <sup>5</sup>	@ 3 lbs/acre

1. Seeding rate suggested is for pure live seed (pls) in pounds per acre.
2. Herbaceous legumes must be treated with the appropriate bacterium before seeding.
3. Spring mix.
4. Fall mix.
5. Black locust used only for woodland land use.

**42.0 FENCE**

This item shall consist of site preparation; providing all necessary materials, equipment, and personnel needed to carry out the installation and reclamation of site disturbances. Install fences at the locations shown on the plans and/or as directed by the DEP on site representative.

Unless otherwise indicated, the ASAE Specifications for Farm Fence Construction shall apply. (ASAE EP250.2 DEC01). Exceptions to the specifications are listed below:

- Woven wire fence fabric shall be used (10-47-6-11).
- One strand of barbed wire shall be placed 3 inches above the top strand of the woven wire.
- Use gate specifications for placing gates in fence line.
- Line posts shall be spaced a maximum distance of 16 feet.
- No fence curvature is anticipated.
- Line posts shall have a minimum length of 7 feet.
- Posts may be driven, tamped, or set in concrete as necessary.
- In the event concrete is used, the top of concrete will be held a min. of 6" below the finished ground level.
- Payment of this item shall be for the measured length installed.

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#### **42.1 8' GATES**

Gates and other fence hardware shall be hot-dipped galvanized as per ASTM A153 specifications for zinc coating (hot dip) on iron and steel hardware. Gates shall be painted. Preferred colors are green or tan.

Wood posts and braces shall be pressure-preservative treated according to Federal Specification TT-W-571, Wood Preservation: Treating Practices, latest revision and may be round or square. Decay-resistant species may be used untreated with prior approval.

Gate posts shall be a minimum 6-inch top diameter or square and 8 ft. long.

Post holes shall be a minimum of three (3) ft. deep and twelve (12) inch in diameter or square. Sides shall be nearly vertical. Posts shall be embedded in concrete. The embedment shall extend 2 inches above grade at the post and shall slope to grade at the edge of the concrete. Concrete shall have a minimum 28-day test strength of 4000 psi.

Posts shall be braced to support the weight of the gate. Conventional bracing or use of a dead man will be considered for approval.

The gates shall be two (2) inch diameter heavy duty pipe gates or equivalent. Provide a lockable latch which includes protection for the lock. All hardware and/or accessories necessary for installation of gates shall be incidental to the bid price. Gates will be installed at the intersection of the access road and the county road, and specified locations around the treatment ponds. Payment shall be made at the completion of installation and acceptance by the DEP.

#### **42.2 4' GATES**

Gates and other fence hardware shall be hot-dipped galvanized as per ASTM A153 specifications for zinc coating (hot dip) on iron and steel hardware. Gates shall be painted. Preferred colors are green or tan.

Wood posts and braces shall be pressure-preservative treated according to Federal Specification TT-W-571, Wood Preservation: Treating Practices, latest revision and may be round or square. Decay-resistant species may be used untreated with prior approval.

Gate posts shall be a minimum 6-inch top diameter or square and 8 ft. long.

Post holes shall be a minimum of three (3) ft. deep and twelve (12) inch in diameter or square. Sides shall be nearly vertical. Posts shall be embedded in concrete. The embedment shall extend 2 inches above grade at the post and shall slope to grade at the edge of the concrete. Concrete shall have a minimum 28-day test strength of 4000 psi.

Posts shall be braced to support the weight of the gate. Conventional bracing or use of a dead man will be considered for approval.

The gates shall be two (2) inch diameter heavy duty pipe gates or equivalent. Provide a lockable latch which includes protection for the lock. All hardware and/or accessories necessary for installation of gates shall be incidental to the bid price. Gates will be installed at specified locations around the sludge cells. Payment shall be made at the completion of installation and acceptance by the DEP.

#### **43.0 GROUTED RIPRAP V-DITCH - 4'**

Provide all materials, excavate and construct ditch or channel as indicated on the attached typical plans, cross-section, specifications, and as discussed at the Pre-Bid Showing. Channels and ditches shall be free draining upon completion of construction. Length of channel may be adjusted to meet on site conditions. (See riprap specifications) Limestone riprap shall be used at a thickness of 1 ½ feet. The top width of the ditch shall be four (4) feet.

Riprap (Standard) R-5 size

The riprap shall be composed of a well graded mixture of hard durable limestone, such that fifty percent of the mixture by weight shall be larger than the d50 size = 12 inches. Likewise, 50% shall be smaller than the d50 size. The d50 size can be thought of as the average stone size in the mix. The diameter of the largest stone in the rock size shall be 1.5 times the d50 size (or 18 inches). A well-graded mixture is defined as a mixture composed primarily of the average to larger stone sizes, but with a sufficient mixture of smaller sizes to fill the voids between the stones.

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The rock in the mixture shall range in size from 3 inches minimum diameter to 18 inches maximum diameter, with no more than 15% by weight less than 6 inches.

Stone for the riprap shall consist of shot rock or rough unhewn quarry stone of approximately rectangular shape. The stone shall be hard and angular and of such quality that it will not disintegrate on exposure to water or weathering. Shale shall not be used for riprap. The specific gravity of individual stones shall be at least 2.5. The rock shall have a maximum weight loss of thirty percent when subjected to five cycles of the Sodium Sulphate Soundness Test-ASTM C88/ AASHTO T-104.

The grout filler shall be composed of a mixture of one part Type II (sulfate resistant) Portland cement and three parts sand, mixed with water to produce a workable consistency. The stone shall be thoroughly wet immediately before grout is applied. As soon as the grout is deposited on the surface, it shall be thoroughly worked into the joints. The stones shall then be brushed, so that their top surfaces are exposed. Grout shall penetrate 100% of the riprap thickness.

The minimum required compressive strength of the grout shall be 2000 psi @ 28 days. All testing shall be the responsibility of the contractor.

#### **44.0 RIPRAP V-DITCH – 4'**

Provide all materials, excavate and construct ditch or channel as indicated on the attached typical plans, cross-section, specifications, and as discussed at the Pre-Bid Showing. Channels and ditches shall be free draining upon completion of construction. Length of channel may be adjusted to meet on site conditions. (See riprap specifications) Limestone riprap shall be used at a thickness of 1 ½ feet. The top width of the ditch shall be four (4) feet

#### **Riprap (Standard) R-5 size**

The riprap shall be composed of a well graded mixture of hard durable limestone, such that fifty percent of the mixture by weight shall be larger than the d50 size = 12 inches. Likewise, 50% shall be smaller than the d50 size. The d50 size can be thought of as the average stone size in the mix. The diameter of the largest stone in the rock size shall be 1.5 times the d50 size (or 18 inches). A well-graded mixture is defined as a mixture composed primarily of the average to larger stone sizes, but with a sufficient mixture of smaller sizes to fill the voids between the stones. The rock in the mixture shall range in size from 3 inches minimum diameter to 18 inches maximum diameter, with no more than 15% by weight less than 6 inches.

Stone for the riprap shall consist of shot rock or rough unhewn quarry stone of approximately rectangular shape. The stone shall be hard and angular and of such quality that it will not disintegrate on exposure to water or weathering. Shale shall not be used for riprap. The specific gravity of individual stones shall be at least 2.5. The rock shall have a maximum weight loss of thirty percent when subjected to five cycles of the Sodium Sulphate Soundness Test-ASTM C88/ AASHTO T-104.

#### **45.0 UNDERDRAIN**

Collection underdrains shall be constructed to collect all seep water for conveyance to the drainage system. The collection underdrain shall be 4 ft. X 4 ft. in cross-section. Stone for the underdrain shall be non-calcareous with a size of 3" to 6" in diameter. The drain shall be wrapped with filter fabric (Tyrar 3401 or equivalent). Filter fabric may be omitted from areas where the seepage enters the underdrain if approved by the DEP on site representative. A 12" perforated SDR-35 PVC pipe shall extend the length of the underdrain and connect to solid pipe. The solid pipe shall terminate at the open ditch flowing to the exit spillway of pond #4. The perforated end of the 12" pipe underdrain shall extend to the surface as a clean-out with solid 12" diameter pipe and cap, and there shall be



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additional cleanouts installed for every 200 feet of underdrain placed. Clean outs shall consist of necessary wye fittings and connections compatible with SDR 35 PVC pipe and extending from the outlet pipe to within a maximum of three feet above final grades shown on the Plans. A 40 mil HDPE synthetic liner shall cover the bottom and lower side/ends of the underdrain. Animal guards shall be constructed and installed on the downstream end of each outlet pipe as detailed on the Plans. These guards will be installed the same day to prevent animal entry during non-work time.

Cover the underdrain with a minimum of 1 ft. of material and grade the surface so it is well drained. Material on the downslope side of the drain shall be impervious to prevent leakage from the underdrain to the surface. Provide all fittings necessary for installation. Refer to the attached drawing for further details. All materials specified above and on the attached drawing shall be incidental to this bid item. Payment for each underdrain is for complete installation and verified by DEP with photos.

The method of measurement for constructing underdrain shall be on a linear foot basis measured along the centerline of the underdrain. Excavation necessary to construct the underdrain; furnishing and placement of filter fabric,

AASHTO No. 1 aggregate, erosion control matting (where required), cleanouts, and all other work necessary for the acceptable installation of the underdrain will not be measured but shall be considered incidental to the construction of the respective underdrains. The cost of these incidental items shall be included in the unit price bid for aggregate underdrains.

#### **46.0 SEEP COLLECTOR**

Seep collectors shall be constructed to collect all seep water for conveyance to the drainage system. The collection underdrain shall be 4 ft. X 4 ft. in cross-section. Stone for the underdrain shall be non-calcareous with a size of 3" to 6" in diameter. The drain shall be wrapped with filter fabric (Tyvar 3401 or equivalent). Filter fabric may be omitted from areas where the seepage enters the underdrain if approved by the DEP on site representative. A 12" perforated SDR-35 PVC pipe shall extend the length of the underdrain and connect to solid pipe. The solid pipe shall terminate at the open trapezoidal ditch flowing past pond #4. The perforated end of the 12" pipe underdrain shall extend to the surface as a clean-out with solid 12" diameter pipe and cap. A 40 mil HDPE synthetic liner shall cover the bottom and lower side/ends of the underdrain. Animal guards shall be constructed and installed on the downstream end of each outlet pipe as detailed on the Plans. These guards will be installed the same day to prevent animal entry during non-work time.

Cover the underdrain with a minimum of 1 ft. of material and grade the surface so it is well drained. Material on the downslope side of the drain shall be impervious to prevent leakage from the underdrain to the surface. Provide all fittings necessary for installation. Refer to the attached drawing for further details. All materials specified above and on the attached drawing shall be incidental to this bid item. Payment for each underdrain is for complete installation and verified by DEP with photos.

The method of measurement for constructing underdrain shall be on a linear foot basis measured along the centerline of the underdrain. Excavation necessary to construct the underdrain; furnishing and placement of filter fabric,

AASHTO No. 1 aggregate, erosion control matting (where required), cleanouts, and all other work necessary for the acceptable installation of the underdrain will not be measured but shall be considered incidental to the construction of the respective underdrains. The cost of these incidental items shall be included in the unit price bid for aggregate underdrains.

#### **47.0 BAT GATE**

The opening shall be cleaned of debris to the satisfaction of the Engineer. Once the opening has been cleaned a 6"

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layer of stone shall be placed as pipe bedding. The stone shall consist of sound, durable 3" to 6" non-calcareous stone such as that commercially available. Crushed stone shall consist of particles of clean, hard, tough, durable rock, free from adherent coating and meeting the requirements of **Section 703.1 of the WVDOH Standard Specifications**. The pipes shall be attached to steel plates and placed in the openings as shown on the attached Plans. The Gravel Bulkhead will be constructed and covered with one layer of Filter Fabric and compacted clay and soil cover as shown on the Plans. Solid pipe shall extend from the mine seal to a riprap channel discharging one foot above the invert of the channel. All pipes shall have a minimum grade of 2 percent.

The bat gate pipe shall be 57" x 83" elliptical CMP arch culvert. A bat gate shall be installed at the end of the bat gate pipe as detailed on the Plans. All steel used for bat gate components shall be Grade 50 with Grade 46 steel for structural tubing. All welds shall be 1/4" fillet welds, minimum. Steel components include: 4" x 4" x 3/8" structural steel tubing, 6" x 6" x 3/8" angle steel, 4" x 4" x 3/8" angle steel; 8" x 3/8" steel plate; and 5/8" high strength A325 bolts, nuts and washers.

Bat gates shall be installed between May 1 and August 31. However, there may be an opportunity to finish gate installation between September 1 and October 1, if the weather is warm enough that bats have not begun to hibernate and the construction equipment will not block the portal entrance at night when bats will be exiting to forage.

Payment for Bat Gate installation shall be in a lump sum per each installed; only one is anticipated.

#### **48.0 BACKFILLING**

This work shall consist of excavating, transporting, stockpiling, placing and compacting mine spoil, soil, rock, coal refuse or other materials encountered in the grading of the refuse disposal/overburden stockpile area and any other indicated incidental work. It shall also include the regrading and covering of isolated areas of coal refuse and/or spoil to eliminate erosion rills and gullies and to establish and promote positive drainage and vegetative cover to these areas. Areas of this project subject to backfilling to achieve the post-mining land-use shall: be accomplished in a continuous concurrent manner on all surface disturbances defined within the AML area, and associated disturbed areas as existing at bid showing; be filled by mechanical methods to eliminate highwall and rock outcropping, to produce slopes of consistent lines and of the approximate original contour; be free of protruding rock and debris; be compacted in a progressive backfilling manner with mechanical equipment to ensure stability of backfill material. The maximum acceptable slope of any backfill face shall not exceed two (2) horizontal to one (1) vertical, unless otherwise stated. Backfilling shall cease during periods of adverse site conditions (for example: excessive soil moisture).

This bid item shall only pay for the backfilling of the defined Abandoned Mine Lands highwall section.

#### **49.0 REGRADING AND TOPSOILING**

Concurrent regrading and topsoiling shall immediately follow backfilling and shall distribute topsoil or the best available material to support vegetation, as identified by the Department of Environmental Protection contact person, on the surface of the backfill in a smooth, uniform manner. This item shall include the elimination of all rills and gullies, the construction of sediment control sumps, the removal of sediment control sumps, the grading of spoil and/or fill materials. Surface shall be free of all rock exceeding six (6) inches in diameter and shall be tracked, track to track. Topsoil presently stockpiled on site shall be preserved and spread on the fill surface. In the absence of stockpiled topsoil, material which can be used as a topsoil substitute shall be identified, segregated, and stockpiled for spreading on the surface. If necessary to manufacture fines, mechanical treatment to pulverize the surface layer shall be required. Regrading and topsoiling shall be conducted prior to and in preparation for the revegetation item. The acreage quantities in this contract are for bidding purposes only. It shall be the contractor's responsibility to verify acreage for bidding purposes. The contractor shall not exceed the contract amount of 6 acres. If any

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additional amount is required, the contractor must have written approval from the DEP, prior to any additional work being completed.

### **50.0 REVEGETATION**

The actual seeding date, within the work performance period, shall be at the discretion of the contractor, but a permanent vegetative cover must be established. Verification of materials used shall be required for payment. Seed bed preparation, unless otherwise approved, shall be conducted by industrial disks or tracking with heavy equipment with cleat marks across slope and parallel to the final contours. The surface shall be tracked, track to track. Seeding shall commence after seedbed preparation on a loose and uncompacted soil and with the approval of the Department of Environmental Protection. Contractor shall provide equipment as necessary to secure approval of the seedbed. Revegetation activities shall be carried out in a continuous, concurrent, timely and uniform manner. Failure to do this may result in nonpayment for portions of or the entire Revegetation item. Hydroseeding or broadcast seeding with the approved species is acceptable. The application rate may be increased but the ratio is to remain constant, but no additional monetary compensation will be awarded. Areas outside the limits of construction, disturbed by the contractor, shall be revegetated by the contractor at no expense to DEP. Water utilized for hydroseeding shall be free of injurious or other toxic substances harmful to plant life. The source of water is subject to the approval of the DEP Specialist. It shall be the vendor's responsibility to repeat the procedures under REVEGETATION until a permanent vegetation is established. The acreage quantities in this contract are for bidding purposes only.

A warranty period of one (1) year shall commence upon completion and payment of the revegetation item of the contract. No payment will be made for additional seeding necessary to comply with warranty requirements. The warranty period will be extended for one (1) year from the date of the last augmented seeding done by the contractor. The performance bond and labor and materials bond shall remain in effect throughout the warranty period. The Standards for Evaluating Vegetative Cover as presented in Title 38, CSR2, Section 9 of the West Virginia Surface Mining Reclamation Regulations will apply.

Equipment for the retracking/scarification to eliminate rills and gullies shall be mobilized and utilized to produce slopes consistent with the regrading and topsoiling bid item prior to warranty reseeding. No additional payment will be made by DEP for this warranty work.

### **50.1 AGRICULTURAL LIME**

Unless otherwise specified, all lime used shall be registered with the West Virginia Department of Agriculture, have an 85% minimum calcium carbonate equivalent, and meet the fineness classification no larger than that for ground lime. The following fineness classifications or combinations of lime are acceptable:

- Pulverized - 100% passing a U.S. Standard 20 mesh sieve
  - 70% passing a U.S. Standard 100 mesh sieve
- Ground - 90% passing a U.S. Standard 20 mesh sieve
  - 50% passing a U.S. Standard 60 mesh sieve
  - 35% passing a U.S. Standard 100 mesh sieve

Use of blends and low-grade agricultural liming materials shall require prior approval. Lime shall be spread as soon as possible after delivery to site. Lime shall be applied evenly and uniformly distributed over the treated area. Lime shall be thoroughly mixed into the soil material. Lime subjected to adverse conditions before spreading will be deemed unacceptable. Failure to complete this phase shall result in nonpayment of this bid item.

Lime shall be applied at 10 ton/acre.

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### 50.2 FERTILIZER

Fertilizer rates given for REVEGETATION are for 1,000 lbs. of 10-20-20 per acre. These rates are minimum and for bidding purposes.

Fertilizer shall be applied evenly and uniformly distributed over the treated area. Common complete fertilizers which meet the minimum standards are acceptable.

### 50.3 MULCH

Acceptable mulch for this project is wood fiber, hay, or straw.

Mulch: Wood Fiber @ 1.0 ton/Acre

Hay or straw mulch may be substituted at a rate of 2 tons/Acre

### 50.4 VEGETATIVE SPECIES

Seeding rate required is for pure live seed (pls) in pounds per acre. The use of annuals or cover crops will not be considered for vegetative success.

VEGETATIVE SPECIES <sup>1</sup>	NORTH MIX RATE/ACRE <sup>1</sup>
Orchard Grass	@ 15 lbs/acre
Birdsfoot Trefoil <sup>2</sup>	@ 15 lbs/acre
Yellow Sweet Clover	@ 5 lbs/acre
Red Clover	@ 10 lbs/acre
Ky 31 Fescue	@ 15 lbs/acre
Foxtail Millet <sup>3</sup>	@ 12 lbs/acre
Wheat or Rye <sup>4</sup>	@ 50 lbs/acre
Black Locust <sup>5</sup>	@ 3 lbs/acre

1. Seeding rate suggested is for pure live seed (pls) in pounds per acre.
2. Herbaceous legumes must be treated with the appropriate bacterium before seeding.
3. Spring mix.
4. Fall mix.
5. Black locust used only for woodland land use.

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## **BID PREPARATION INFORMATION**

### **HISTORICAL INFORMATION**

Prospective bidders may review files at the West Virginia Department of Environmental Protection, Charleston, WV office, or the Regional West Virginia Department of Environmental Protection Office at 105 South Railroad St., Philippi, WV 26416. These files may contain additional information not included in the contract. Documents including, but not limited to, permit applications, permits, inspection reports, environmental documents, permit violation history, geological and geotechnical information, probable hydrologic consequences, maps, modifications, NPDES information and other related data. Copies may be obtained upon request and payment of copying fees.

### **EXAMINATION OF BID PACKAGE AND SITE OF WORK**

The bidder is required to examine, carefully, the bid package (plans, specifications, supplemental specifications, contract forms, etc.) and the site of the work contemplated. The submission of a bid shall be considered prima facie evidence that the bidder has made such examination and has judged for and satisfied themselves as to the character, quantity, and quality of work to be performed and the materials required to be furnished under the contract.

### **PREBID CONFERENCE**

Only the prospective bidders on the sign-in sheet in attendance for the entire Pre-Bid Conference will be eligible to submit bids for consideration of this project. Considerable foot travel over rough terrain and/or inclement weather may be required.

### **VIDEO**

The information given at the pre-bid showing by the project contact person or the assigned person shall be documented on video tape and shall be an integral part of this contract's requirements, but will not supersede the written contract. All information on video tape that is new or provides clarification to the specifications, will be issued in writing by a formal addendum and will become part of the written contract.

### **INTENT OF CONTRACT**

The intent of the contract is for the reclamation/restoration of forfeited mine lands as required by West Virginia Department of Environmental Protection. The contractor is to provide for the construction and completion in every detail of the work described. The Contractor shall furnish all labor, materials, equipment, tools, transportation, and supplies required to complete the work in accordance with the Plans, Specifications, and terms of the Contract.

Should any misunderstanding arise as to the intent or meaning of the Contract, or any discrepancy appear, the decision of the Director of Division of Land Restoration shall be final.

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## **GENERAL PERFORMANCE STANDARDS**

### **INTRODUCTION**

The performance standards and non-compliance penalties which govern special reclamation-bond forfeiture projects are in Chapter 22A, Article 3, of the Code of West Virginia and subsequent rules and regulations. The following performance standards are of a general nature and do not represent all the performance standards applicable to a special reclamation-bond forfeiture project. However, some or all of these standards will pertain to each project.

### **BACKFILLING**

1. Unless otherwise noted, the highwall shall be eliminated and the disturbed area graded to the approximate original contour.
2. The material used to backfill and eliminate the highwall shall be sufficiently compacted so as to insure stability of the backfill throughout the warranty period.
3. The land above the highwall shall not be disturbed unless otherwise directed.
4. The best available material to support vegetation, sufficient to establish a permanent vegetative cover and to achieve the approved post mining land use, shall be used.

### **BLASTING**

The performance standards of the blasting regulations must be adhered to.

### **LIFE OF CONTRACT**

The purchase order contract becomes effective on the starting date as specified in the notice to proceed as issued by the Department of Environmental Protection. This contract extends for a period of one (1) year and may be renewed until such "reasonable time" thereafter as is necessary to complete the payment therefore. A responsible Contractor's Agent shall be on the site at all working times who demonstrates a knowledge of mined land reclamation, contract requirements and responds to DEP (owner) inspections.

### **WORK PERFORMANCE PERIOD**

The work performance period is a defined portion of the contract in which all items shall be completed. The work performance period is to be performed within 365 calendar days. Extensions may be granted based upon contractor's performance, weather conditions and site-specific site conditions.

### **NOTICE TO PROCEED**

A notice to proceed shall be issued to the Contractor by the project contact person for the Department of

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Environmental Protection. Actual construction may only begin after a Notice to Proceed is given and as specified. Such notice shall specify the starting date of the Purchase Order, the work performance period, and the completion date of the work performance period.

### **PRE-CONSTRUCTION CONFERENCE**

The Contractor in possession of the awarded purchase order shall schedule a Pre-Construction Conference on the site within ten (10) days after receiving the Notice To Proceed. The Contractor's foreman or the on-the-ground supervisor must be in attendance.

### **GENERAL SUPERVISION**

This contract is under the general supervision of the West Virginia Department of Environmental Protection's contact person for the purpose of contract compliance inspection only. Contractor shall supervise work being conducted at all times. All services rendered by the Engineer/Contact Person consist of professional opinions and recommendations made in accordance with generally accepted engineering practice. Under no circumstances is it the intent of the Engineer/Contact Person to directly control the physical activities of the Contractor or the Contractor's workmen's accomplishment of work on this project.

### **CONTRACTOR RESPONSIBILITY**

The contractor is responsible for compliance with all aspects of this written contract. No changes will be honored without prior approval from the Program Supervisor.

### **LAWS TO BE OBSERVED**

The Contractor shall keep fully informed of all Federal and State laws, all local laws, ordinances, and regulations and all orders and decrees of bodies or tribunals having any jurisdiction or authority, which in any manner affect those engaged or employed on the work, or which in any way affect the conduct of the work. The Contractor shall at all times observe and comply with all such laws, ordinances, regulations, orders and decrees; and shall protect and indemnify the State and its representatives against any claim or liability arising from or based on the violation of any such laws, ordinances, regulations, orders, or decrees, whether by themselves, their subcontractors or their employees.

### **PERMITS, LICENSES AND TAXES**

The Contractor shall procure all permits and licenses, pay all charges, fees, and taxes, and give all notices necessary and incidental to the due and lawful prosecution of the work.

### **CONCURRENT RECLAMATION**

Reclamation of this project shall commence at a definite point as defined and shall progress from that point with total reclamation to include backfilling, grading/regrading, and revegetation. Changes may be granted based upon weather or differing site conditions with prior approval.

### **WATER QUALITY CONTROL**

Shall commence with initial start-up of the project and remain in effect for the extent of the backfilling, regrading and revegetation activity. DEP obtains a storm water permit for each project from the Water Resources Division. (General Water Pollution Control Permit WVO115924) The Contractor is responsible for performing the

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best management practices. Adequate facilities shall be installed, operated and maintained using the best management practices of the U.S. Environmental Protection Agency's Non-Point Source (NPS) Program for sediment control during the active reclamation. The contractor shall take any and all steps necessary to prevent erosion or silting problems from occurring and to minimize pollution or sedimentation of the stream. If any such problems develop, the contractor shall be responsible to take immediate corrective action. No separate payment for this work will be honored. All impounded waters which require removal during reclamation, shall be pumped with appropriate measures taken to prevent erosion from the discharge. The contractor shall be responsible for treatment of said waters to meet pH standards. The water shall be discharged only when the quality meets a pH equivalent to the pH of the receiving stream but not less than 6.0.

### **DIFFERING SITE CONDITIONS**

During the progress of the work, if subsurface or latent physical conditions are encountered at the site differing materially from those indicated in the contract or if unknown physical conditions of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in the work provided by the contract, are encountered at the site, the party discovering such conditions shall promptly notify the other party in writing of the specific differing conditions before they are disturbed and before the affected work is performed.

Upon written notification, the Engineer/Contact Person will investigate the conditions, and if determined that the conditions materially differ and cause an increase or decrease in the cost or time required for the performance of any work under the contract, an adjustment, excluding loss of anticipated profits, will be made and the contract modified in writing accordingly. The Engineer/Contact Person will notify the Contractor of DEP's determination whether or not an adjustment of the contract is warranted.

No contract adjustment which results in a benefit to the Contractor will be allowed unless the Contractor has provided the required written notice.

No contract adjustment will be allowed under this clause for any effects caused on unchanged work.

### **HANDLING AND STORAGE OF MATERIALS**

Materials which are stored on site, before utilization, shall be stored so as to assure the preservation of their quality and fitness for the work. Stored materials, even though approved before storage, may be inspected again prior to their use in the work. Damaged or deteriorated materials shall be removed and replaced by materials meeting the original specifications.

Aggregate stockpiles shall be made on ground that is denuded of vegetation, hard, and well drained. Removal of aggregate from the stockpile shall be done in a manner which will not result in the inclusion of foreign material into the aggregate. The use of the aggregate will determine if exceptions are permitted.

All materials shall be handled in such a manner as to preserve their quality and fitness for the work.

### **MAINTENANCE DURING CONSTRUCTION**

The contractor shall maintain the work during construction and until the project is accepted. All cost of maintenance work during construction and before the project is accepted shall be included in the unit or lump sum prices on the various pay items.

### **FINAL INSPECTION**

A final inspection meeting by the Department of Environmental Protection's Specialist and the contractor is required for the construction phase and prior to demobilization.



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WV-36a STATE OF WEST VIRGINIA  
REV. 5-26-09 PURCHASING CONTINUATION SHEET  
VENDOR: \_\_\_\_\_

### ACREAGE QUANTITIES

The acreage quantities in this contract are for bidding purpose and are set (definite) number for the project area as specified at the pre-bid showing. Only surveyed acreage's through figures the Contractor and/or the State develops will be honored to alter these acreage numbers.

### PAYMENT

Invoices must be submitted on prescribed Department of Environmental Protection, Special Reclamation Program forms and include verification. Certified contractor payrolls for operators directly involved in this project and a current workers compensation certificate must accompany each invoice for payment. Verification of wage rates may include employee interviews. Invoices shall be signed in blue ink so that it is easy to verify that document is an original. Vendor should submit with their bid the current remit-to address to be used for payment processing.

MOBILIZATION/DEMobilIZATION shall be invoiced at fifty percent (50%) with the first invoice and the last 50% invoiced after demobilization and acceptance of the road abandonment or final invoice. Demobilization must have written approval.

SPILL CONTAINMENT AREA shall not exceed \$1,000.00 and will be payable in two payments. The first fifty percent (50%) payable with the first invoice and the remainder payable when all fuel tanks, containers and etc., are removed from the site.

Lump sum items shall be percentage payments based on work completed at time of invoice and paid upon acceptance by the Department of Environmental Protection.

Unit items shall be invoiced by specified units completed and accepted by the DEP.

ROAD ABANDONMENT shall be included in the final construction invoice, when necessary.

### FAILURE TO COMPLETE ON TIME AND LIQUIDATED DAMAGES

Time is an essential element of the Contract and it is important that the work be completed within the time specified. The cost to the Department of the administration of the Contract, including engineering, inspection and supervision, will increase as the time required to complete the work is increased.

The work performance period as specified in the contract's Notice to Proceed shall be complied with or result in liquidated damages. Such damages shall be assessed at an amount of two hundred and fifty dollars (\$250.00) per day for each and every day beyond the work performance period as specified in the Notice to Proceed. The total amount of daily charges will be deducted from any moneys due the Contractor, not as a penalty but as liquidated damages.

### REVEGETATION AND WARRANTY

The seeding date shall be at the discretion of the contractor once an approved seedbed has been prepared. In all cases a permanent vegetative cover capable of supporting the post-mining land use must be established. A warranty period of one (1) year shall commence upon completion and payment of the revegetation item of the contract. No payment will be made for additional seeding necessary to comply with warranty requirements. The warranty period will be extended for one (1) year from the date of the last augmented seeding done by the contractor. The performance bond and labor and materials bond shall remain in effect throughout the warranty period. The Standards for Evaluating Vegetative Cover as presented in Title 38, CSR2, Section 9 of the West Virginia Surface Mining Reclamation Regulations will apply.

Equipment for the retracking/scarification to eliminate rills and gullies shall be mobilized and utilized to produce slopes consistent with the regrading and topsoiling bid item prior to warranty reseeding. No additional payment will be made by DEP for this warranty work.

Water utilized for hydroseeding shall be free of injurious or other toxic substances harmful to plant life. The source of water is subject to the approval of the DEP contact person.

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### **CONTRACT NON-COMPLIANCE**

If in the opinion of the Department of Environmental Protection the contract is not in compliance with any line item specification, that portion of the project shall cease until a compliance schedule and understanding is demonstrated in writing and accepted by the Director of Division of Land Restoration.

### **CONTRACT DELETIONS**

Any line item, or any portion thereof, may be deleted when determined by the project contact person that such line item, or portion thereof, is deemed unnecessary for the successful reclamation of this project. No claim for loss of anticipated profits will be considered.

### **CANCELLATION**

The performance of work under contract may be terminated by the State in whole, or from time to time in part whenever the State shall determine that such termination is in the best interest of the State. Any such termination shall be effected by delivery to the Contractor of a Notice of Termination specifying the extent to which performance of work under the Contract is terminated and the date upon which such termination becomes effective.

When contracts, or any portion thereof, are terminated before completion of all items of work in the Contract, payment will be made for the actual number of units or items of work completed and accepted at the contract unit price. No claim for loss of anticipated profits will be considered. Reimbursement for organization of the work, when not otherwise included in the Contract, and moving equipment to and from the job will be considered where the volume of work completed and accepted is too small to compensate the Contractor for these expenses under the contract unit prices, the intent being that an equitable settlement will be made with the Contractor.

Termination of the Contract or a portion thereof shall not relieve the Contractor of his responsibilities for the completed work, nor shall it relieve his surety of its obligation for and concerning any just claims arising out of the work performed.

This contract may be cancelled in whole or in part in writing by the Director of Purchasing, without prejudice to any other right or remedy it may have, provided that the contractor is given not less than thirty (30) calendar days written notice, (delivered by certified mail, return receipt requested) of intent to terminate. This contract objective is to comply with the reclamation laws of this state and must be expedient to meet the time requirements for reclamation of revoked surface mine permits.

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WV-36a STATE OF WEST VIRGINIA  
 REV. 5-26-09 PURCHASING CONTINUATION SHEET  
 VENDOR:

S

Attn:

A

Re Notice to Proceed  
 Permit Name: \_\_\_\_\_  
 Permit No. \_\_\_\_\_  
 Purchase Order No.: DEP

Dear :

M

The purpose of this letter is to express our appreciation for your work in advance and to recognize a reclamation partnership project. The official starting date for the above mentioned purchase order is . The work performance period must be completed by . The contract life of one year is provided to accomplish all line items and to process all payments within that period.

P

You must schedule a pre-construction conference on site within ten (10) days after receiving this notice to proceed. It is then mandatory that construction begins within ten (10) days of the pre-construction conference and continues diligently until completion of the project. Please contact this office to schedule the pre-construction conference. The foreman, superintendent, or on-the-ground supervisor must be in attendance at this conference.

Failure to comply with this notice to proceed will cause termination of the contract and forfeiture of your performance bond.

If you have any questions please feel free to contact this office.

L

Sincerely,

E

BUYER CB-23		REQ. OR PO NO. DEP 15058
SPENDING UNIT WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION/SPECIAL RECLAMATION		

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VENDOR:

### General Requirements

#### Project Construction Sign

#### Work Required

The work to be performed under this Section consists of providing all labor, material and equipment necessary to install a project sign as indicated on the detail included herein and as specified herein.

#### Materials

Paint. Paint for the project sign shall be one (1) coat Exterior-Grade Wood Primer- Sealer, and two (2) coats Exterior-Grade Enamel by Glidden or equivalent.

Wood. Sign face shall be ¾" X 4' X 8' Marine Exterior plywood, and posts and cross braces shall be treated.

Hardware. All hardware shall be manufactured from good, commercial-quality material and be rust resistant such as galvanized coated.

#### Execution

Project Sign. The signboard shall be cut to the dimensions shown on the details herein. The sign shall be painted with one (1) coat of primer and two (2) coats of white enamel. All exterior cut edges shall be smooth sanded prior to painting. All edges shall be double primed. The letters, border and strips shall be painted as shown on the detail drawing.

The Contractor shall bolt the sign to posts and provide required cross bracing. The posts and sign shall be erected and posts set in gravel base, as shown on the drawings. One (1) sign is required and is to be located at the direction of WVDEP.

Payment. Payment for the work which shall include installation of the project sign shall be incidental to the lump sum bid item for "Mobilization/Demobilization"

Note: No construction work shall commence prior to the project sign being installed.

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**STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION**

**Division of Land Restoration  
Office of Special Reclamation**

**Earl Ray Tomblin,  
Governor**

Project Cost: \$XXX,XXX.00  
Funding provided by the Special Reclamation Coal Tax paid by WV Coal Mine Companies



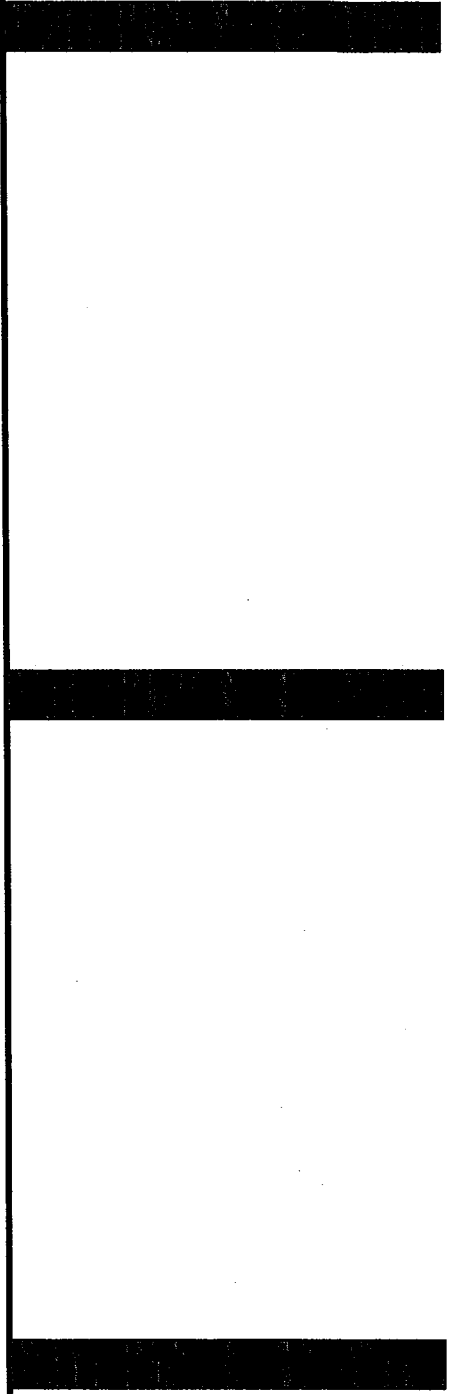
Randy C. Huffman,  
Cabinet Secretary



Ken Ellison,  
Director

<p>Permit Name</p> <p>Permit Number</p>	<p>Project Start Date: 01/01/01</p>
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Contractor: Joe Smith Contracting



77 1/4"

27 3/4"

18"

CB-23 DEP 15058

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Division of Land Restoration  
Office of Special Reclamation

Project Cost: \$XXX,XXX.00  
Funding provided by the Special Reclamation Coal Tax paid by WV Coal Mine Companies

Permit Name  
Permit Number

Contractor: Joe Smith Contracting  
Project Start Date: 01/01/01

17 1/4"

1 1/2"

1 1/8"

15 3/4"

7 7/8"

3 3/4"

7 7/8"

3"

8 5/8"



Earl Ray Tomblin,  
Governor



Randy C. Huffman,  
Cabinet Secretary



Ken Ellison,  
Director

73 7/8"

36"

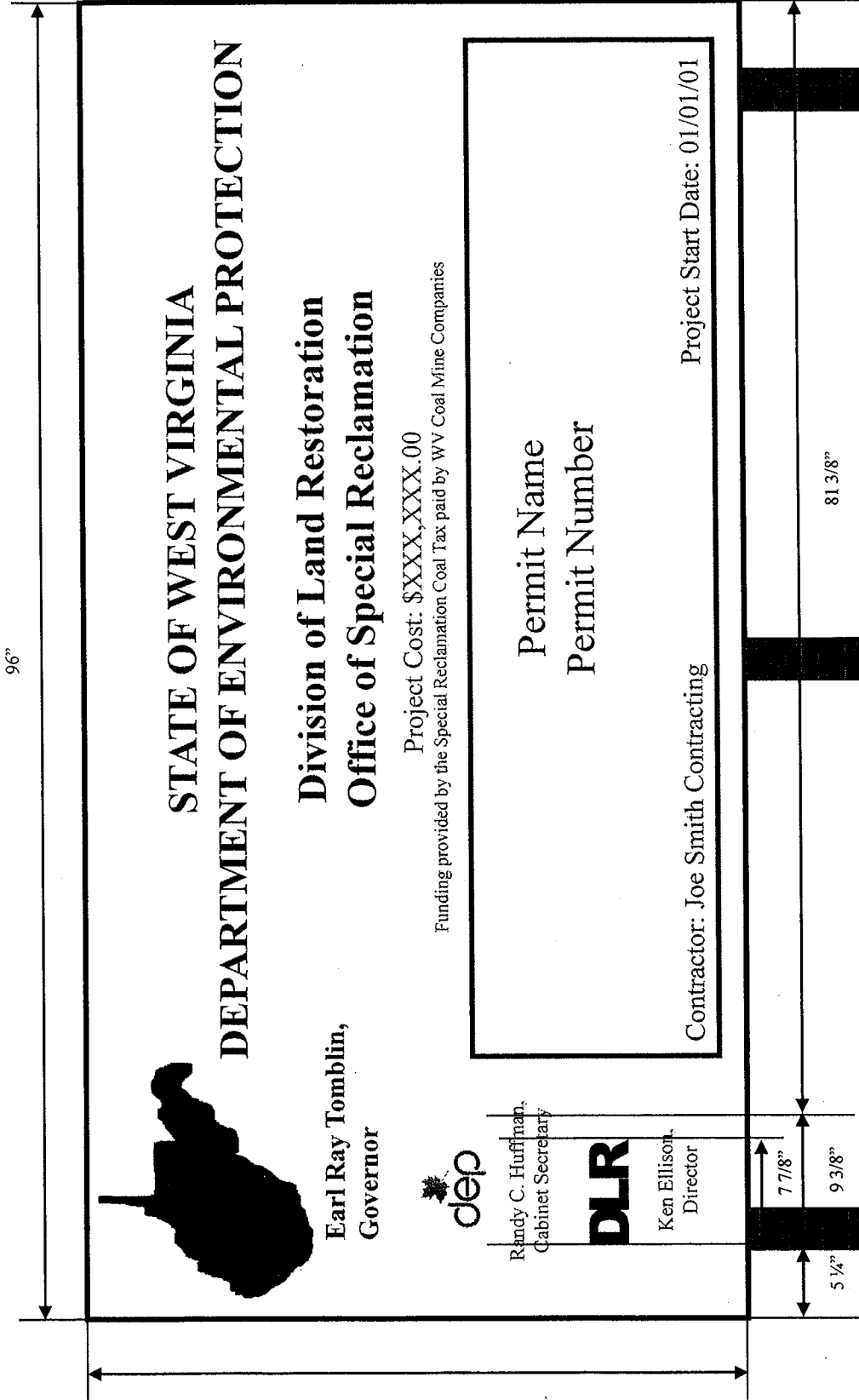
6"

48"

36"

6"

2 1/4"



Earl Ray Tomblin,  
Governor



Randy C. Huffman,  
Cabinet Secretary



Ken Ellison,  
Director



STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Earl Ray Tomblin  
Governor



Randy C. Huffman,  
Cabinet Secretary

**DLR**

Ken Hillison,  
Director

Division of Land Restoration  
Office of Special Reclamation

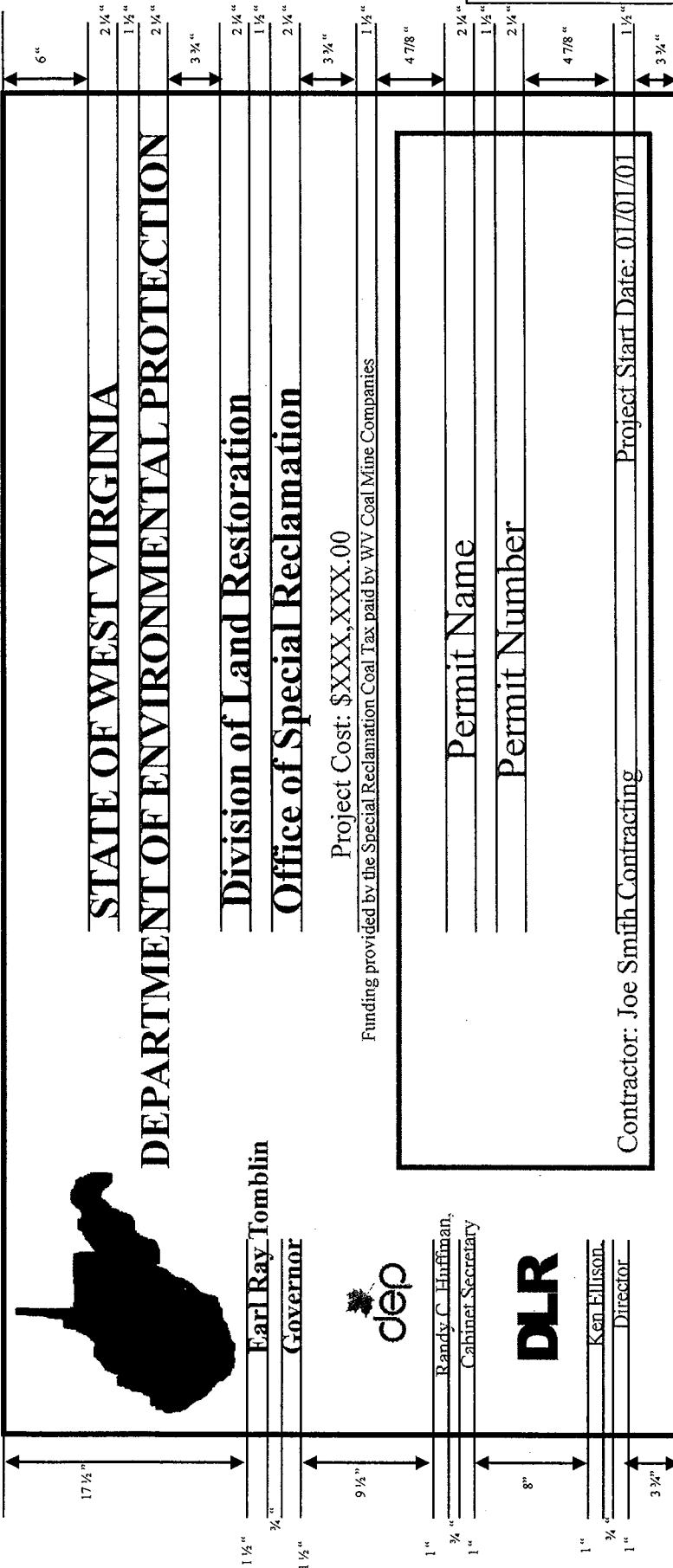
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Permit Name

Permit Number

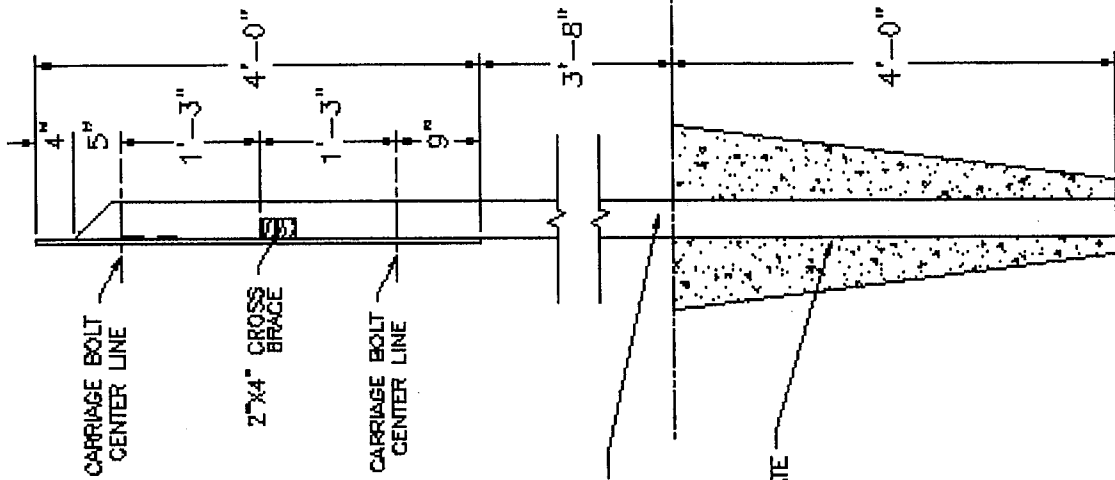
Contractor: Joe Smith Contracting Project Start Date: 01/01/01



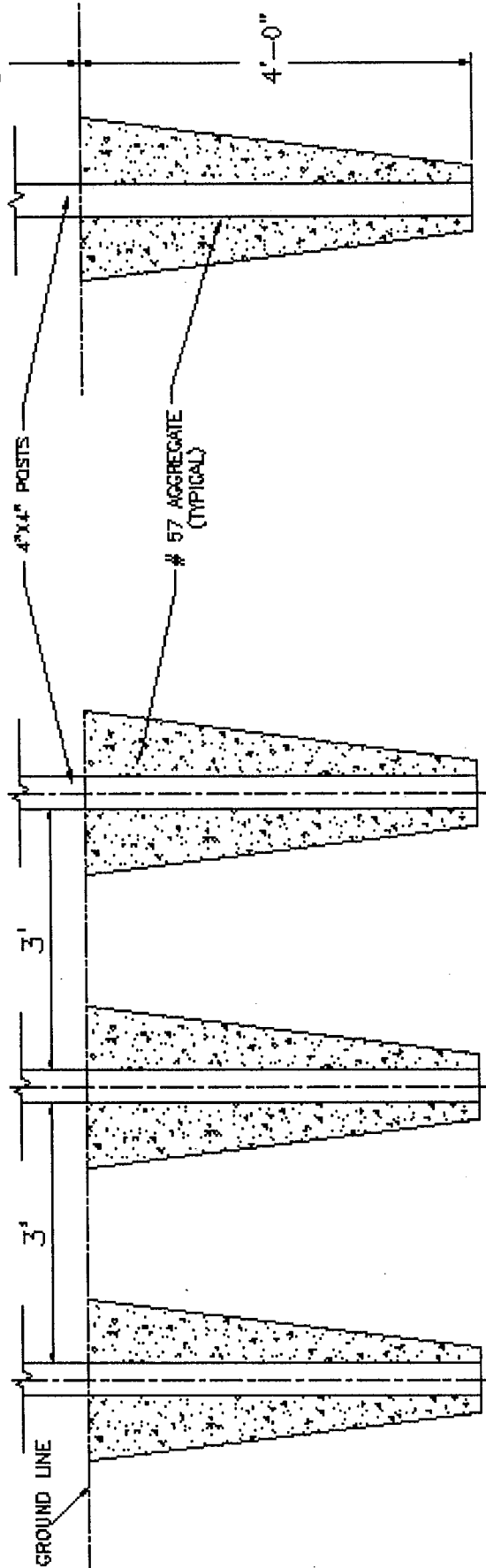


CB-23

DEP 15058

**NOTES:**

- 1.) SIGN BOARD TO BE 3/4" x 4' x 8' MARINE PLYWOOD.
- 2.) SIGN BOARD COLOR IS WHITE AND LETTER COLORS ARE DARK GREEN.
- 3.) TREATED 2" x 4" CROSS BRACE LET INTO POSTS.
- 4.) MOUNT SIGN TO POSTS USING 3/8" x 5" GALVANIZED CARRIAGE BOLTS.
- 5.) USE 4" x 4" x 12' TREATED POSTS.
- 6.) LOCATION DETERMINED BY WVDEP.



PROJECT SIGN  
NOT TO SCALE

BUYER CB-23		REQ. OR P.O. No. DEP 15058
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## POLY FLEX LINER SPECIFICATIONS

### 1. GENERAL REQUIREMENTS

#### 1.1 Scope

The following describes parameters for the manufacture, supply, and installation of Poly-Flex polyethylene geomembranes. All procedures, operations, and methods shall be in strict accordance with the engineer's specifications, plans, and drawings.

#### 1.2 Qualifications of Contractor Work Activities

##### 1.2.1 Manufacturing

The manufacturer shall have at least five (5) years continuous experience in manufacturing polyethylene geomembrane and/or experience totaling 10,000,000 square feet of manufactured polyethylene geomembrane.

##### 1.2.2 Installation

The installation contractor shall be the manufacturer or a dealer trained to install the manufacturer's geomembrane.

Installation shall be performed under the constant direction of a field installation supervisor who shall remain on site and be responsible, throughout the liner installation, for liner layout, seaming, testing, repairs, and all other activities by the Installer. The field installation supervisor shall have installed or supervised the installation of a minimum of 2,000,000 square feet of polyethylene geomembrane. Seaming shall be performed under the direction of a master seamer (who may also be the field installation supervisor) who has seamed a minimum of 2,000,000 square feet of polyethylene geomembrane, using the same type of seaming apparatus specified for this project. The field installation supervisor and/or master seamer shall be present whenever seaming is performed.

#### 1.3 Submittals

##### 1.3.1 Manufacturer

The manufacturer shall provide the following information:

###### A. Submittals After Contract Award, Prior to Liner Installation

1. List of material properties.
2. Manufacturing quality control program.
3. Copy of quality control certificates issued by the resin supplier.
4. Copy of quality control certificates for the geomembranes in conformance with Section 2.4.3.

##### 1.3.2 Installation Contractor

The installer shall provide the following written information:

###### A. Submittals by Successful Bidder Prior to Commencement of Installation

A list of completed facilities, totaling a minimum of 2,000,000 square feet, for which the installer has installed polyethylene geomembrane. For each installation, the following information shall be provided:

- a. Name and purpose of facility, location, and date of installation.
- b. Name of owner, design engineer, manufacturer, and name and telephone number of contact at the facility who can discuss the project.
- c. Thickness and quantity of the installed geomembrane.

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## POLY FLEX LINER SPECIFICATIONS

d. Proposed installation panel layout.

### 1.4 Meeting

A daily meeting shall be held at the work area just prior to commencement of the work to discuss work activities. The earthwork contractor, the liner installer and the inspector shall be present.

### 1.5 Warranty

A written Warranty shall be obtained from the manufacturer (for material) and the installation contractor (for workmanship). These documents shall warrant both the quality of the material and workmanship for a specified duration of time.

## 2. MATERIAL SPECIFICATIONS

### 2.1 Materials

1. The geomembrane shall be High-Density Polyethylene (HDPE) or Linear Low Density Polyethylene (LLDPE).
2. Gasket material shall be neoprene, closed cell medium, 1/4-inch thick, 2 inches wide with adhesive on one side, or other compatible gasket materials as required.
3. Metal battens or banding and hardware shall be stainless steel.
4. Water cut-off mastic shall be Neoprene Flashing Cement as supplied by Poly-Flex, Inc., or as required.
5. Sealant shall be General Electric Silicone, RTV 103, or equivalent.

### 2.2 Geomembrane Raw Materials

The geomembrane shall be manufactured of polyethylene resins produced in the United States and shall be compounded and manufactured specifically for the intended purpose. The resin manufacturer shall certify each lot for the following properties.

The natural polyethylene resin without the carbon black shall meet the following requirements:

Property	Test Method	HDPE	LLDPE
		Requirements	Requirements
Density, g/cc	ASTM D 1505 or ASTM D 792	0.935 - 0.940	0.915 - 0.926
Melt Index, g/10 min.	ASTM D 1238 Condition E	<0.4	<0.6

### 2.3 Rolls

The geomembrane shall be a minimum 23.0 ft seamless width, as manufactured by Poly-Flex, Inc. (2000 W. Marshall Dr., Grand Prairie, TX 75051, 888-765-9359). Carbon black shall be added to the resin if the resin is not compounded for ultra-violet resistance.

The surface of the smooth geomembrane shall not have striations, roughness, pinholes, or bubbles.

The geomembrane shall be supplied in rolls. Labels on each roll shall identify the thickness of the material, the length and width of the roll, lot and roll numbers, and name of manufacturer.

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## POLY FLEX LINER SPECIFICATIONS

### Applicable Test Methods

#### American Society for Testing and Materials (ASTM)

ASTM D 792	Specific gravity (relative density) and density of plastics by displacement
ASTM D 1004	Initial tear resistance of plastic sheeting
ASTM D 1238	Flow rates of thermoplastics by extrusion plastometers
ASTM D 1505	Density of plastics by the Density-Gradient technique
ASTM D 1603	Carbon black in olefin plastics
ASTM D 1898	Sampling of plastics
ASTM D 3895	Test method for oxidative induction time of polyolefins by thermal analysis
ASTM D 4833	Index Puncture Resistance of geotextiles, geomembranes and related products
ASTM D 5199	Test method for measuring nominal thickness of geotextiles and geomembrane
ASTM D 5323	Determination of 2% secant modulus for polyethylene geomembranes
ASTM D 5397	Procedure to perform a single point notched constant tensile load - Appendix (SP-NCTL) test
ASTM D 5596	Test method for microscopic evaluation of the dispersion of carbon black in polyolefin geosynthetics
ASTM D 5617	Multi-axial tension test for geosynthetics
ASTM D 5721	Practice for air-oven aging of polyolefin geomembranes
ASTM D 5885	Test method for oxidative induction time of polyolefin geosynthetics by high pressure differential scanning calorimetry
ASTM D 5994	Test method for measuring the core thickness of textured geomembranes
ASTM D 6392	Determining the integrity of nonreinforced geomembrane seams produced using thermo-fusing methods
ASTM D 6693	Determining tensile properties of nonreinforced polyethylene and nonreinforced flexible polypropylene geomembranes

#### Geosynthetic Research Institute (GRI)

GRI GM 10	Specification for the stress crack resistance of geomembrane sheet
GRI GM 11	Accelerated weathering of geomembranes using a florescent UVA-condensation exposure device
GRI GM 12	Measurement of the asperity height of textured geomembranes using a depth gauge

The geomembrane rolls shall meet the following specifications:

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**POLY FLEX LINER SPECIFICATIONS**  
**SMOOTH HDPE GEOMEMBRANE (ENGLISH UNITS)**

Property	Test Method	Minimum Average Values				
		30 mil	40 mil	60 mil	80 mil	100 mil
Thickness, mils	ASTM D 5199					
minimum average		30	40	60	80	100
lowest individual reading		27	36	54	72	90
Sheet Density, g/cc	ASTM D 1505/D 792	0.940	0.940	0.940	0.940	0.940
Tensile Properties <sup>1</sup>	ASTM D 6693					
1. Yield Strength, lb/in		63	84	126	168	210
2. Break Strength, lb/in		114	152	228	304	380
3. Yield Elongation, %		12	12	12	12	12
4. Break Elongation, %		700	700	700	700	700
Tear Resistance, lb	ASTM D 1004	21	28	42	56	70
Puncture Resistance, lb	ASTM D 4833	54	72	108	144	180
Stress Crack Resistance <sup>2</sup> , hrs	ASTM D 5397 (App.)	300	300	300	300	300
Carbon Black Content <sup>3</sup> , %	ASTM D 1603	2.0 - 3.0	2.0 - 3.0	2.0 - 3.0	2.0 - 3.0	2.0 - 3.0
Carbon Black Dispersion	ASTM D 5596	--Note 4--				
Oxidative Induction Time (OIT)						
Standard OIT, minutes	ASTM D 3895	100	100	100	100	100
Oven Aging at 85°C	ASTM D 5721					
High Pressure OIT - % retained after 90 days	ASTM D 5885	80	80	80	80	80
UV Resistance <sup>5</sup>	GRI GM11					
High Pressure OIT <sup>6</sup> - % retained after 1600 hrs	ASTM D 5885	50	50	50	50	50
Seam Properties	ASTM D 6392 (@ 2 in/min)					
1. Shear Strength, lb/in		57	80	120	160	200
2. Peel Strength, lb/in - Hot Wedge		45	60	91	121	151
- Extrusion Fillet		39	52	78	104	130
Roll Dimensions						
1. Width (feet):		23	23	23	23	23
2. Length (feet)		1000	750	500	375	300
3. Area (square feet):		23,000	17,250	11,500	8,625	6,900
4. Gross weight (pounds, approx.)		3,470	3,470	3,470	3,470	3,470

- Machine direction (MD) and cross machine direction (XMD) average values should be on the basis of 5 test specimens each direction. Yield elongation is calculated using a gauge length of 1.3 inches; Break elongation is calculated using a gauge length of 2.0 inches.
- The yield stress used to calculate the applied load for the SP-NCTL test should be the mean value via MQC testing.
- Other methods such as ASTM D 4218 or microwave methods are acceptable if an appropriate correlation can be established.
- Carbon black dispersion for 10 different views: Nine in Categories 1 and 2 with one allowed in Category 3.
- The condition of the test should be 20 hr. UV cycle at 75°C followed by 4 hr. condensation at 60°C.
- UV resistance is based on percent retained value regardless of the original HP-OIT value.

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## POLY FLEX LINER SPECIFICATIONS

### 2.4 Quality Control Specifications

#### 2.4.1 Raw Materials

##### A. Resin

All resins for use in geomembrane must pass a candidate pre-approval process before being eligible for use. Each incoming railcar shall be sampled by compartment with the following testing performed and compared to the manufacturer's specifications:

1. Density: ASTM D 1505.
2. Melt Index: ASTM D 1238.
3. Oxidative Induction Time (OIT): ASTM D 3895.

##### B. Additives

All incoming materials are to be tested and approved prior to use with the following testing performed and compared to the manufacturer's specifications:

1. Carbon Black Content: ASTM D 1603.
2. Oxidative Induction Time (OIT): ASTM D 3895.

#### 2.4.2 Finished Product: During Production

##### A. Inspection

Performed on each roll during manufacturing.

##### 1. Appearance

Sheet surface appearance shall be monitored for flaws.

##### 2. Thickness

A full width sample shall be cut from the end of each roll for thickness measurement.

##### B. Roll Identification

Four tags per roll shall be used.

1. Outside the core.
2. On the core plug.
3. On the roll surface.
4. On the production roll sample.

##### C. Out-of-Spec. Material

Any roll not meeting the specification for any of the above inspections shall be separated from other rolls and placed on hold.

#### 2.4.3 Manufacturer's Quality Control & Quality Assurance Testing

##### A. Sampling

Full width samples shall be taken as retains from the end of each roll to the manufacturer's laboratory.



BUYER CB-23	REQ. OR P.O. No. DEP 15058
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## POLY FLEX LINER SPECIFICATIONS

- |                         |             |
|-------------------------|-------------|
| 2. Density              | ASTM D 1505 |
| 3. Melt Index           | ASTM D 1238 |
| 4. Carbon Black Content | ASTM D 1603 |

### D. Reporting

Results from the testing shall be reviewed by the quality control manager. Material that does not meet specifications shall be identified and placed on hold. The test data shall then be transferred to the product data file for roll certification.

## 3. GEOMEMBRANE INSTALLATION

### 3.1 Materials Logistics

#### 3.1.1 Transportation and On-site Storage

The geomembrane rolls shall be shipped by flatbed trailer to the job site. The geomembrane shall be stored so as to be protected from puncture, dirt, grease, moisture and excessive heat. Damaged material shall be stored separately for repair or replacement. The rolls shall be stored on a prepared smooth surface (not wooden pallets) and should not be stacked more than two rolls high.

### 3.2 Earthwork

#### 3.2.1 General

The owner or his representative (soil quality assurance inspector) shall inspect the subgrade preparation. Prior to liner installation the subgrade shall be compacted in accordance with the project specifications. Weak or compressible areas which cannot be satisfactorily compacted should be removed and replaced with properly compacted fill. All surfaces to be lined shall be smooth, free of all foreign and organic material, sharp objects, or debris of any kind. The subgrade shall provide a firm, unyielding foundation with no sharp changes or abrupt breaks in grade. Standing water or excessive moisture shall not be allowed.

The installer, on a daily basis, shall approve the surface on which the geomembrane will be installed. After the supporting soil surface has been approved, it shall be the installer's responsibility to indicate to the inspector any changes to its condition that may require repair work.

#### 3.2.2 Anchor Trench

The anchor trench shall be excavated to the line, grade, and width shown on the project construction drawings, prior to liner system placement. Slightly rounded corners shall be provided in the trench to avoid sharp bends in the geomembrane.

### 3.3 Method of Placement

The rolls shall be deployed using a spreader bar assembly attached to a loader bucket or by other methods approved by the project engineer.

The installer shall be responsible for the following:

1. Equipment or tools shall not damage the geomembrane during handling, transportation and deployment.
2. Personnel working on the geomembrane shall not smoke or wear damaging shoes.
3. The method used to unroll the panels shall not cause scratches or crimps in the geomembrane and shall not damage



BUYER CB-23		REQ. OR P.O. No. DEP 15058
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## POLY FLEX LINER SPECIFICATIONS

the supporting soil.

- Adequate loading (e.g., sand bags or similar items that will not damage the geomembrane) shall be placed to prevent uplift by wind (in case of high winds, continuous loading is recommended along edges of panels to minimize risk of wind flow under the panels).

### 3.3.1 Weather Conditions

Geomembrane deployment shall proceed between ambient temperatures of 32° F and 104° F. Placement can precede below 32° F only after it has been verified by the inspector that the material can be seamed according to the specification. Geomembrane placement shall not be done during any precipitation, in the presence of excessive moisture (e.g., fog, rain, dew) or in the presence of excessive winds, as determined by the installation supervisor.

## 3.4 Field Seaming

Approved seaming processes are fusion and extrusion welding. On side slopes, seams shall be oriented in the general direction of maximum slope, i.e., oriented down, not across the slope. In corners and odd-shaped geometric locations, the number of field seams shall be minimized.

No base T-seam shall be closer than 5 feet from the toe of the slope. Seams shall be aligned with the least possible number of wrinkles and "fishmouths". If a fishmouth or wrinkle is found, it shall be relieved and cap-stripped.

### 3.4.1 Seam Overlap

Geomembrane panels must have a finished minimum overlap of 4 inches for fusion welding and 6 inches for extrusion welding.

Cleaning solvents may not be used unless the product is approved by the liner manufacturer.

### 3.4.2 Test Seams

Field test seams shall be conducted on the liner to verify that seaming conditions are satisfactory. Test seams shall be conducted at the beginning of each seaming period and at least once every 4 hours, for each seaming apparatus and personnel used that day.

All test seams shall be made in contact with the subgrade. Welding rod used for extrusion welding shall have the same properties as the resin used to manufacture the geomembrane. The test seam samples shall be 10 feet long for fusion welding and 3 feet long for extrusion welding with the seam centered lengthwise. Three specimens shall be cut from each end of the test seams by the inspector. The inspector shall use a tensiometer to test 3 specimens for shear and 3 specimens for peel. Each specimen shall be one inch wide with a grip separation of 4 inches plus the width of the seam. The seam shall be centered between the clamps. The rate of grip separation shall be 2 inches per minute.

### 3.4.3 Assessment of Seam Test Results

For both smooth and textured seams the strength of two out of three 1.0 inch (25 mm) wide strip specimens should meet or exceed values given in this specification. The third must meet or exceed 80% of the given values. The shear percent elongation should exceed 50%. The assumed gauge length is considered to be the unseamed sheet material on either side of the welded area. Elongation measurements should be omitted for field testing. In addition, the peel separation should not exceed 25% based on the proportion of area of separated bond to the area of the original bonding. Regarding the locus-of-break patterns of the different seaming methods in shear and peel, the following are unacceptable break codes per their description in the ASTM D 6392. In this regard, SIP is an acceptable break code.

#### Unacceptable Break Codes

Hot Wedge: AD and AD-BRK > 25%

Extrusion Fillet: AD1, AD2 and AD-Weld (unless strength is achieved)

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## POLY FLEX LINER SPECIFICATIONS

### 3.4.4 Non-Destructive Seam Testing

The installer shall non-destructively test all field seams over their full length.

#### A. Vacuum Box Testing

Equipment for testing extrusion seams shall be comprised of the following:

1. A vacuum box assembly consisting of a rigid housing, a transparent viewing window, a soft rubber gasket attached to the bottom, port hole or valve assembly, and a vacuum gauge.
2. Soapy solution in a plastic bucket with a mop.

The following procedures shall be followed by the installer:

1. Excess sheet overlap shall be trimmed away.
2. Wet a strip of geomembrane approximately 12 inches wide by the length of box with the soapy solution.
3. Place the box over the wetted area and compress.
4. Create a vacuum of 3 - 5 psi.
5. Ensure that a leak tight seal is created.
6. For a period of approximately 10 seconds, examine the geomembrane through the viewing window for the presence of animated soap bubbles.
7. If no animated bubbles appear after 10 seconds, close the vacuum valve and open the bleed valve, move the box over the next adjoining area with a minimum 3 inches overlap and repeat the process.
8. All areas where animated soap bubbles appear shall be marked, repaired and then retested.

The following procedures shall apply to locations where seams cannot be non-destructively tested.

1. If the seam is accessible to testing equipment prior to final installation, the seam shall be non-destructively tested prior to final installation.
2. If the seam cannot be tested prior to final installation, the seams shall be spark tested according to the spark tester manufacturer's procedures.

#### B. Air Pressure Testing (For Double Fusion Seams Only)

Equipment for testing double fusion seams shall be comprised of the following:

1. An air pump equipped with pressure gauge capable of generating and sustaining a pressure between 25 and 30 psi.
2. A pressure gauge equipped with a sharp hollow needle.

The following procedures shall be followed by the installer:

1. Seal one end of the seam to be tested.
2. Insert needle or other approved pressure feed device through the sealed end of the channel created by the double wedge fusion weld.
3. Energize the air pump to verify the unobstructed passage of air through the channel.
4. Seal the other end of the channel.
5. Energize the air pump to a pressure between 25 and 30 psi, close valve, allow 2 minutes for the injected air to come to equilibrium in the channel, and sustain pressure for approximately 5 minutes.

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## POLY FLEX LINER SPECIFICATIONS

6. If loss of pressure exceeds 4 psi, or pressure does not stabilize, locate faulty area, repair and retest.
7. If pressure does not drop below the acceptable value after five minutes, cut the air channel open at the opposite end from the pressure gauge. The air channel should deflate immediately indicating that the entire length of the seam has been tested.

### 3.4.5 Destructive Seam Testing

Destructive seam testing should be minimized to preserve the integrity of the liner. The installer shall provide the inspector with one destructive test sample per project specifications (usually once per 500 feet of seam length) from a location specified by the inspector.

#### A. Sampling Procedure

In order to obtain test results prior to completion of liner installation, samples shall be cut by the installer as the seaming progresses. The installer shall also record the date, location, and pass or fail description. All holes in the geomembrane resulting from obtaining the seam samples shall be immediately patched and vacuum tested.

#### B. Size and Disposition of Samples

The samples shall be 12 inches wide by 36 inches long with the seam centered lengthwise. The sample shall be cut into three equal-length pieces, one to be given to the inspector, one to be given to the owner and one to the installer.

#### C. Field Laboratory Testing

The inspector shall test ten 1-inch wide specimens from his sample, five specimens for shear strength and five for peel strength.

#### D. Independent Laboratory Testing

The owner, at his discretion and expense, may send seam samples to a laboratory for testing. The test method and procedures to be used by the independent laboratory shall be the same as used in field testing.

#### E. Procedures for Destructive Test Failure

The following procedures shall apply whenever a sample fails the field destructive test:

1. The installer shall cap strip the seam between the failed location and any passed test locations.
2. The installer can retrace the welding path to an intermediate location (usually 10 feet from the location of the failed test), and take a sample for an additional field test. If this test passes, then the seam shall be cap stripped between that location and the original failed location. If the test fails, then the process is repeated.
3. Over the length of seam failure, the installer shall either cut out the old seam, reposition the panel and reseam, or add a cap strip.

### 3.4.6 Defects and Repairs

All seams and non-seam areas of the geomembrane shall be inspected by the inspector for defects, holes, blisters, undispersed raw materials, and any sign of contamination by foreign matter. The surface of the geomembrane shall be clean at the time of inspection.

#### A. Evaluation

Each suspect location in seam and non-seam areas shall be non-destructively tested as appropriate in the presence of the inspector. Each location that fails the non-destructive testing shall be marked by the

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## POLY FLEX LINER SPECIFICATIONS

inspector, and repaired accordingly.

### B. Repair Procedures

1. Defective seams shall be cap stripped or replaced.
2. Small holes shall be repaired by extrusion welding a bead of extrudate over the hole. If the hole is larger than  $\frac{1}{4}$  inch, it shall be patched.
3. Tears shall be repaired by patching. If the tear is on a slope or an area susceptible to stress and has a sharp end it must be rounded prior to patching.
4. Blisters, large cuts and undispersed raw materials shall be repaired by patches.
5. Patches shall be completed by extrusion welding. The weld area shall be ground no more than 10 minutes prior to welding. No more than 10% of the thickness shall be removed by grinding. Welding shall commence where the grinding started and must overlap the previous seam by at least 2 inches. Reseaming over an existing seam without regrinding shall not be permitted. The welding shall restart by grinding the existing seam and rewelding a new seam.

Patches shall be round or oval in shape, made of the same geomembrane, and extend a minimum of 6 inches beyond the edge of defects.

### C. Verification of Repairs

Each repair shall be non-destructively tested. Repairs that pass the non-destructive test shall be taken as an indication of an adequate repair. Failed tests indicate that the repair shall be repeated and retested until passing test results are achieved.

The inspector shall keep daily documentation of all non-destructive and destructive testing. This documentation shall identify all seams that initially failed the test and include evidence that these seams were repaired and successfully retested.

### 3.5 Cover Material and Backfilling of Anchor Trench

The geomembrane shall be covered as soon as possible. The covering operation shall not damage the geomembrane. The cover soil material shall be free of foreign and organic material, sharp objects, or debris of any kind, which could potentially damage the geomembrane. No construction equipment or machinery shall operate directly on the geomembrane. The use of lightweight machinery (i.e., generator, etc.) with low ground pressure is allowed.

The anchor trench shall be backfilled by the earthwork contractor. Trench backfill material shall be placed and compacted in accordance with the project specifications.

Care shall be taken when backfilling the trenches to prevent any damage to the geomembrane. If damage occurs, it shall be repaired prior to backfilling.

### 3.6 Geomembrane Acceptance

The installer shall retain all ownership and responsibility for the geomembrane until accepted by the owner.

Final acceptance is when all of the following conditions are met:

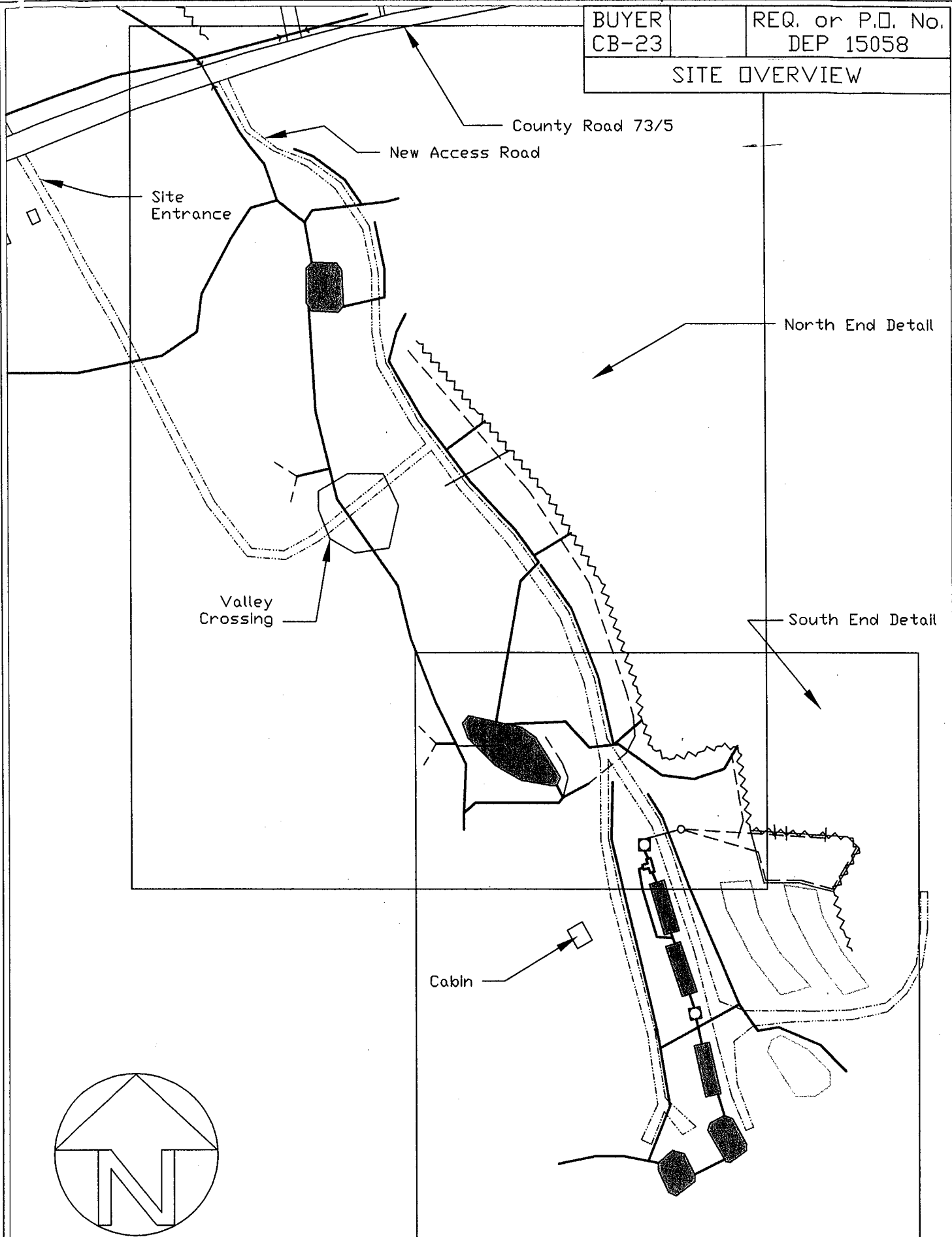
1. Installation is finished.
2. Verification of the adequacy of all field seams and repairs, including associated testing, is complete.

**END OF SECTION**

BUYER  
CB-23

REQ. or P.O. No.  
DEP 15058

SITE OVERVIEW



Site Entrance

County Road 73/5

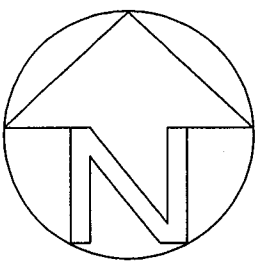
New Access Road

North End Detail

Valley Crossing

South End Detail

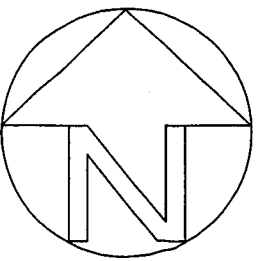
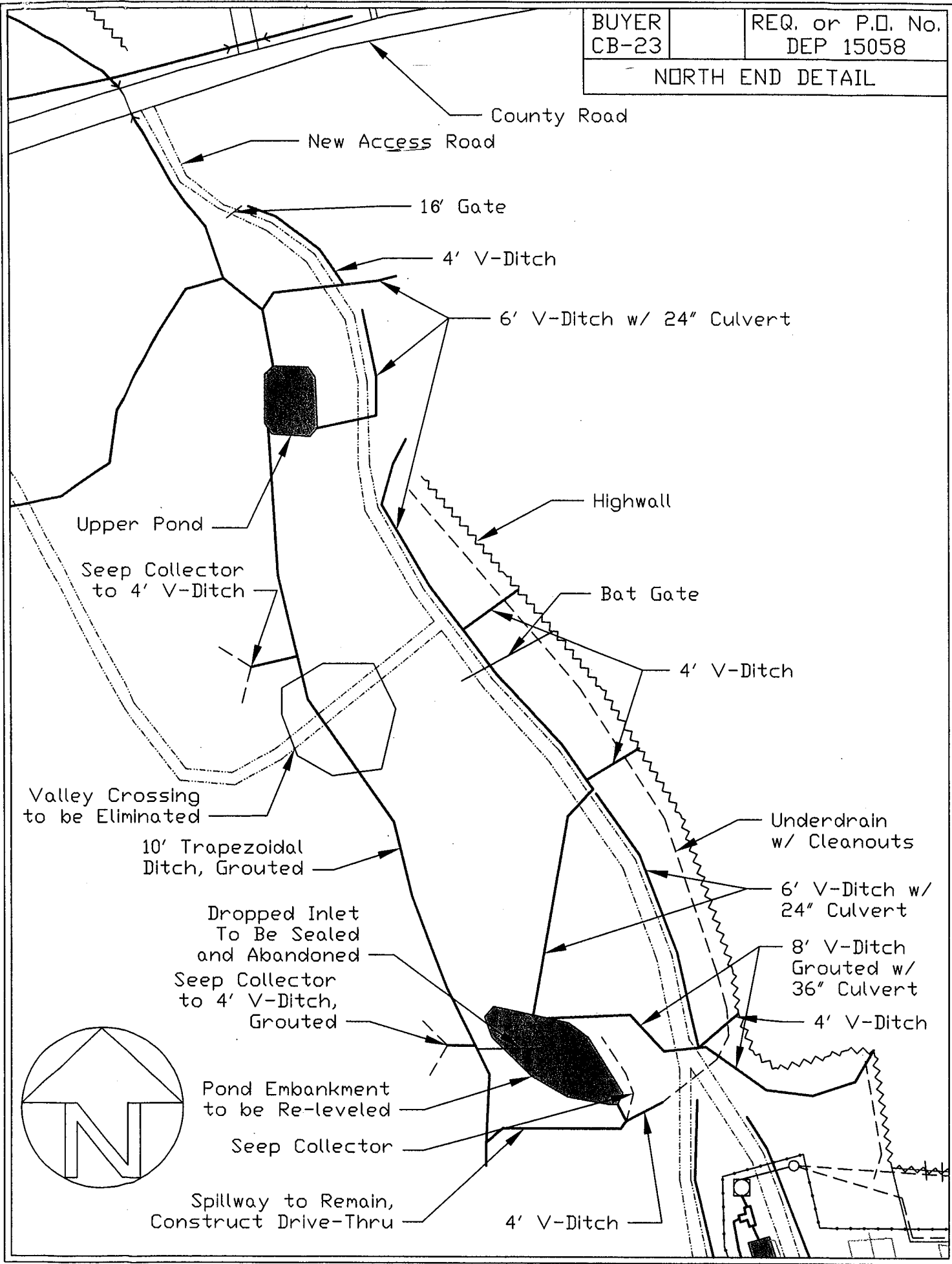
Cabin



BUYER  
CB-23

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DEP 15058

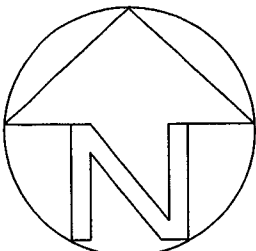
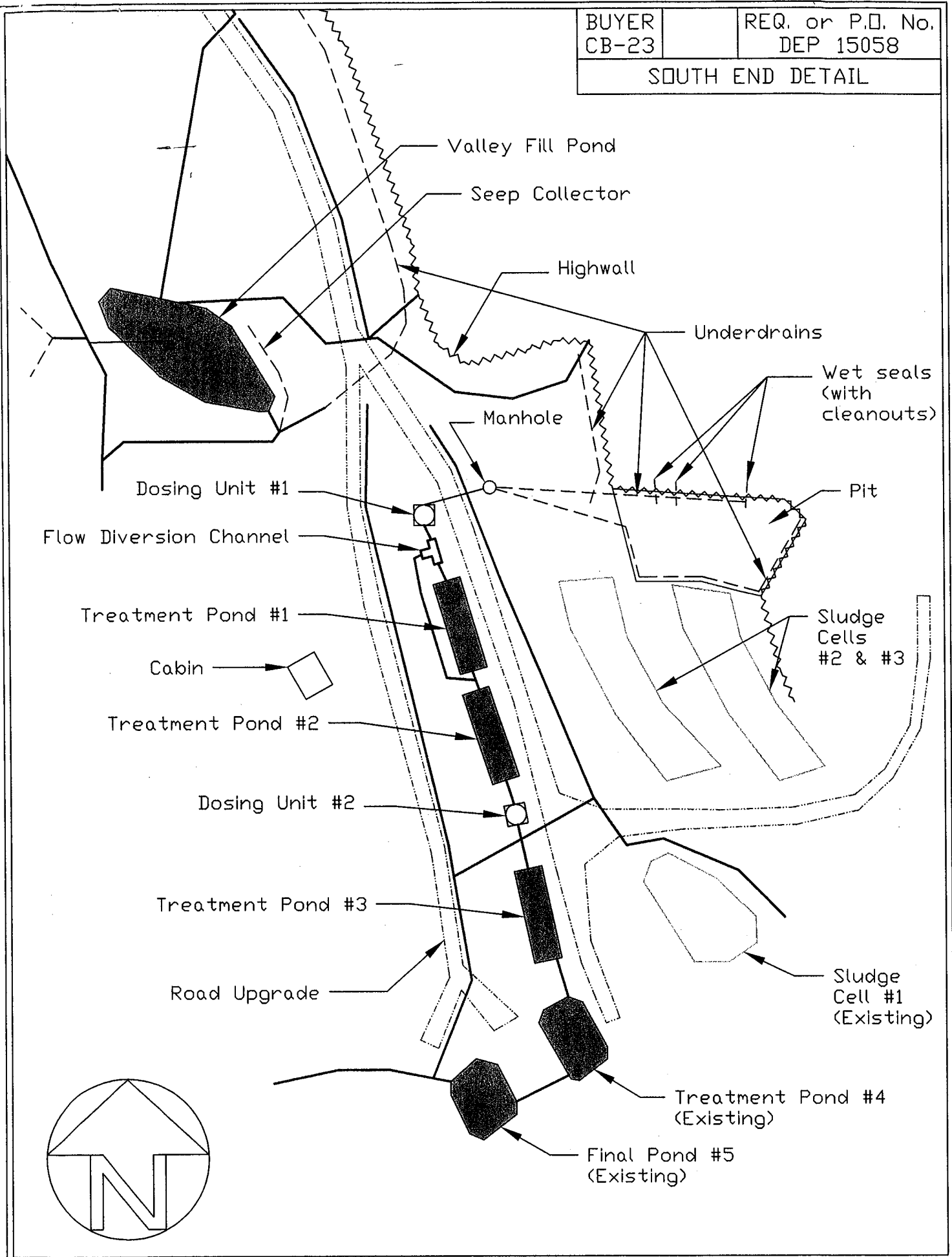
NORTH END DETAIL



BUYER  
CB-23

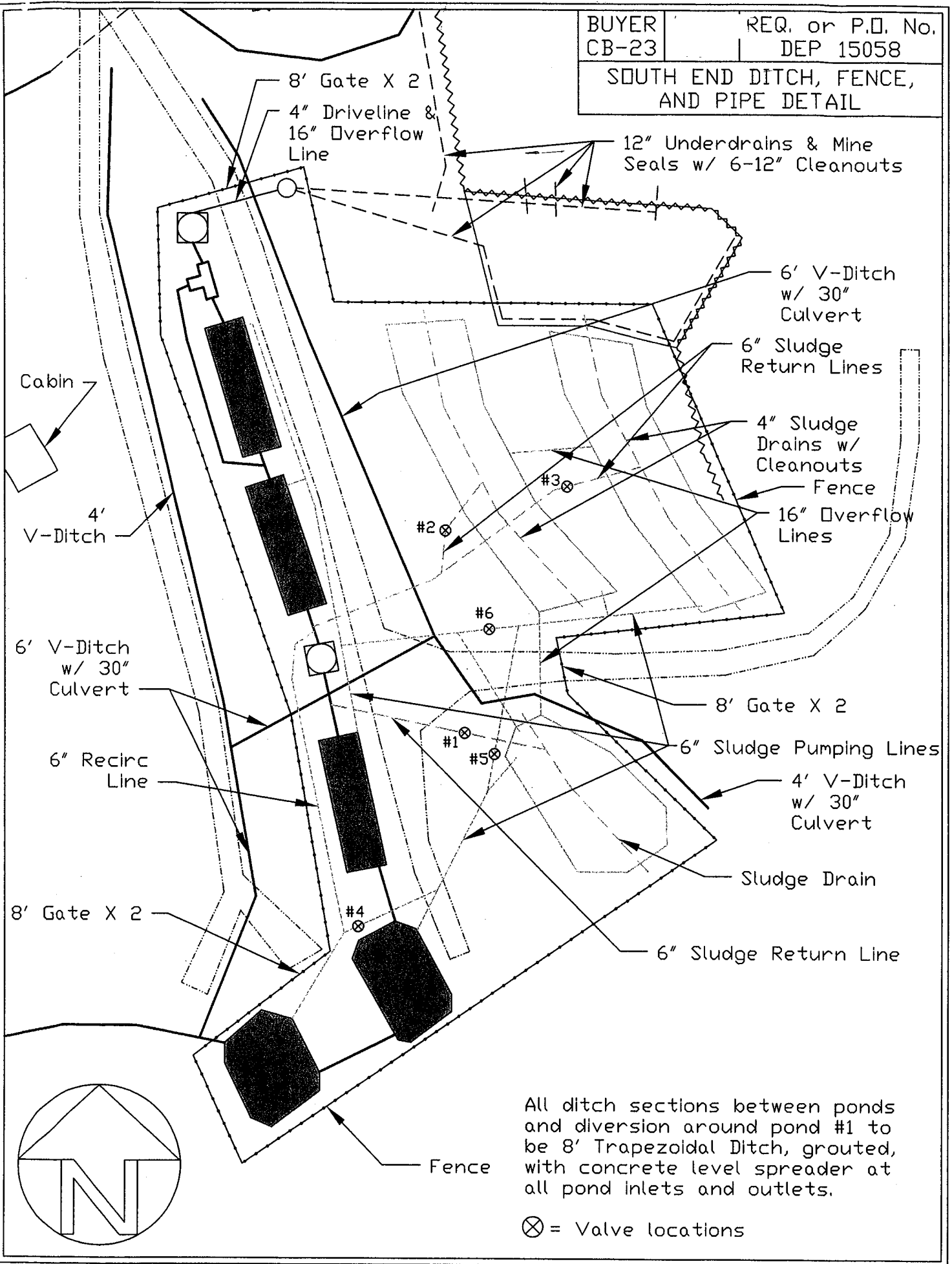
REQ. or P.O. No.  
DEP 15058

SOUTH END DETAIL



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**SOUTH END DITCH, FENCE,  
AND PIPE DETAIL**

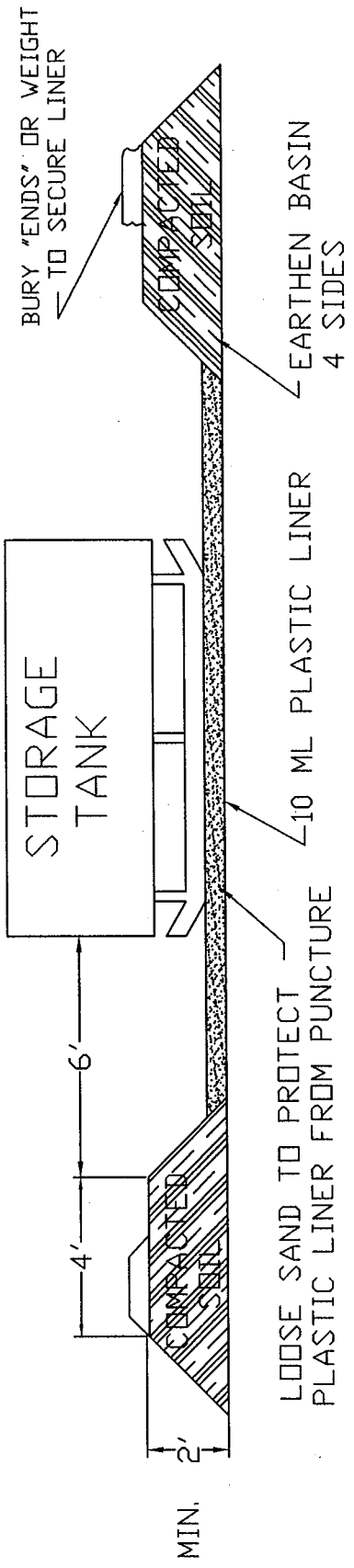


All ditch sections between ponds and diversion around pond #1 to be 8' Trapezoidal Ditch, grouted, with concrete level spreader at all pond inlets and outlets.

⊗ = Valve locations



BUYER CB-23		REQ. or P.O. No. DEP 15058
SPILL CONTAINMENT		

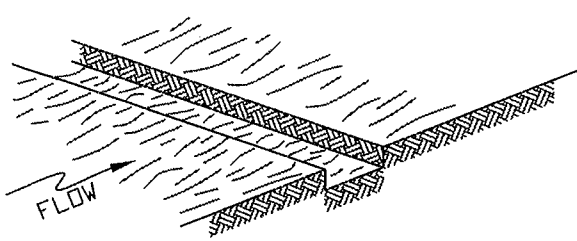


SELECTED HEIGHT OF EARTHEN BERM IS TO BE A TWO (2') FOOT MINIMUM OR ONE HUNDRED TEN PERCENT (110%) OF THE CAPACITY OF THE TANK(S) TOTAL VOLUME WITHIN THE BERM. A SIX (6") INCH FREEBOARD MUST BE INCLUDED.

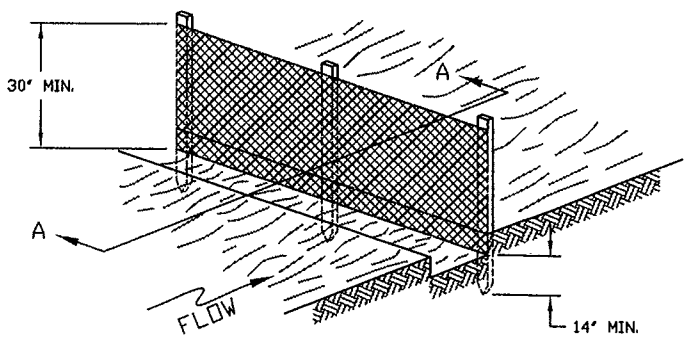
NOTE: A TWO INCH (2") WATER REMOVAL DRAIN SHALL BE LOCATED AT THE LOWEST POINT IN THE BOTTOM OF THE CONTAINMENT VOLUME. IT SHALL CONNECT TO A NORMALLY CLOSED VALVE OUTSIDE THE DIKE. THE VALVE SHALL BE MANUALLY OPERATED AND PROTECTED FROM UNAUTHORIZED OPERATION. RAINWATER CONTAINED WITHIN THIS DIKE SHALL BE EXAMINED PRIOR TO RELEASE TO ENSURE THAT HARMFUL QUANTITIES OF FUELS AND LUBRICANTS ARE NOT DISCHARGED. ALTERNATE METHODS OF WATER REMOVAL WILL BE CONSIDERED FOR APPROVAL.

TANKS WITH SECONDARY CONTAINMENT MAY BE USED AS AN ALTERNATIVE.

BUYER CB-23	REQ. or P.D. No. DEP 15058
SILT FENCE INSTALLATION	

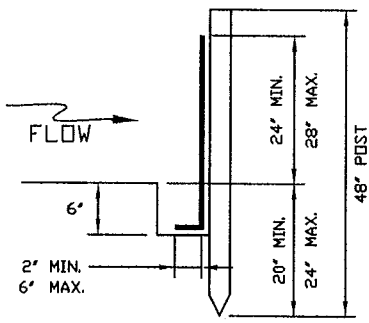


1. EXCAVATE 6" X 6" TRENCH

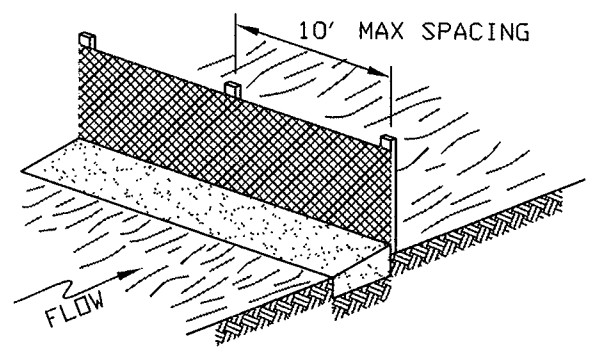


2. PLACE FENCE AT BACK EDGE OF TRENCH (FABRIC FACING DIRECTION OF FLOW)

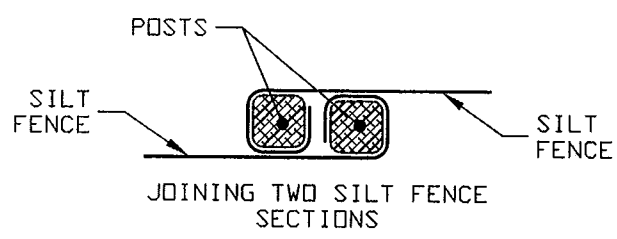
3. DRIVE POST UNTIL FABRIC REACHES BOTTOM OF TRENCH



SECTION A-A

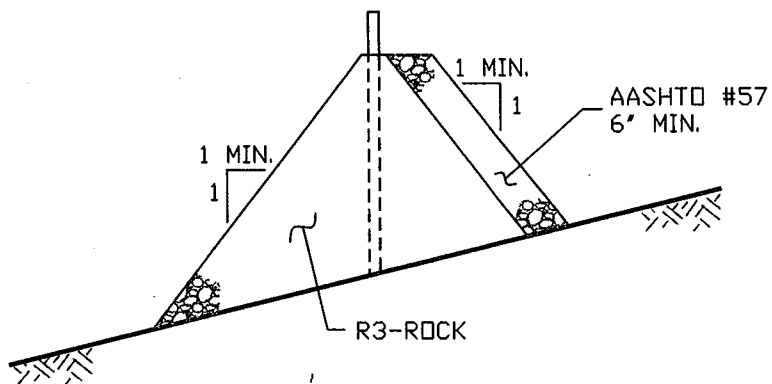


4. FILL TRENCH WITH EMBANKMENT & TAMP

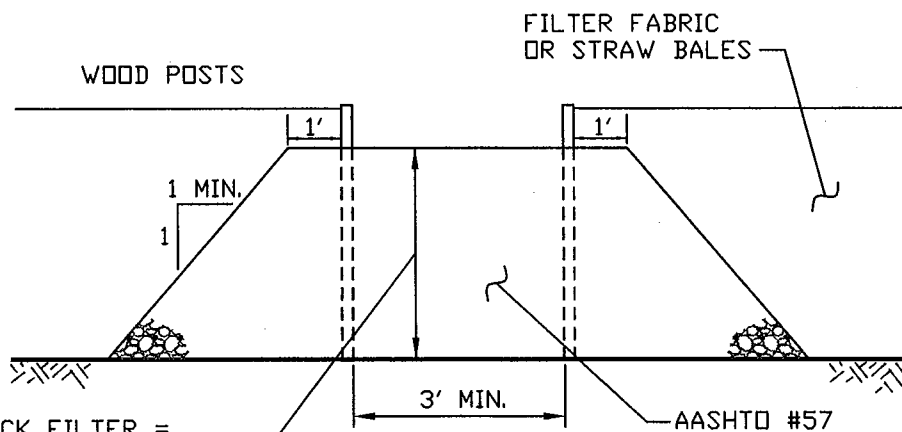


NOTE: WHEN MORE THAN ONE ROLL OF SILT FENCE IS USED, THE FENCE AT THE JUNCTION MUST BE PLACED SO THAT THE LAST POST OF THE FIRST RUN & THE FIRST POST OF THE SECOND RUN OVERLAP & ARE TIED TOGETHER.

BUYER CB-23	REQ. or P.O. No. DEP 15058
ROCK FILTER OUTLETS	



OUTLET CROSS-SECTION



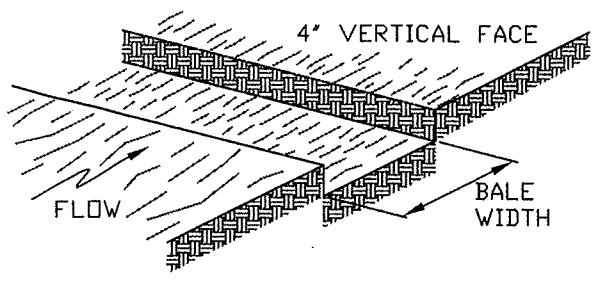
HEIGHT OF ROCK FILTER =  
5/6 HEIGHT OF FILTER FABRIC  
FENCE OR STRAW BALES

UP-SLOPE FACE

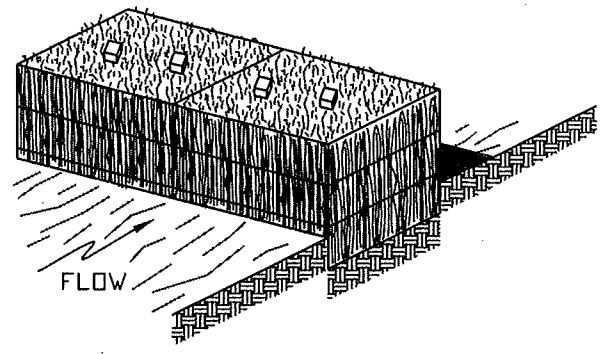
NOTE: Sediment must be removed when accumulations reach 1/3 the height of the outlet.

BUYER CB-23	REQ. or P.O. No. DEP 15058
STRAW/HAY BALE DIKE	

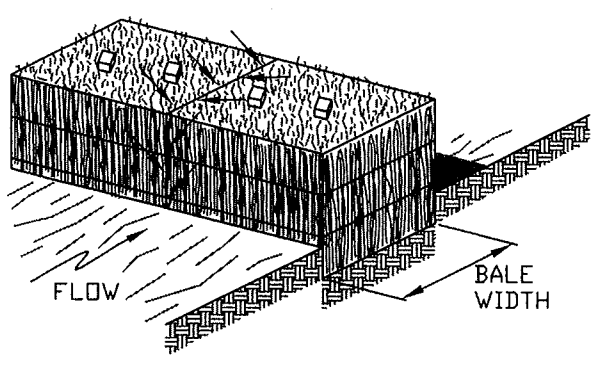
2 REBAR, STEEL PICKETS, OR  
2"x2" STAKERS PER BALE  
DRIVEN 1' MIN. INTO GROUND



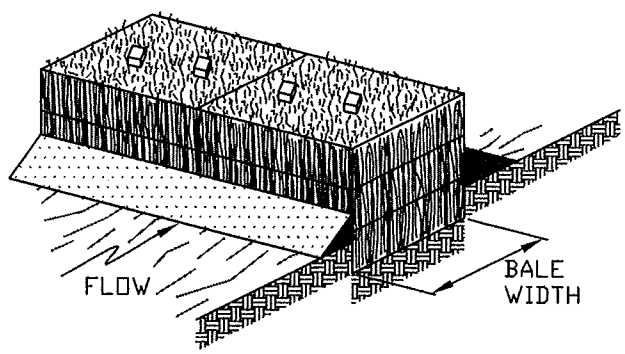
1. EXCAVATE THE TRENCH.



2. PLACE AND STAKE THE BALES.

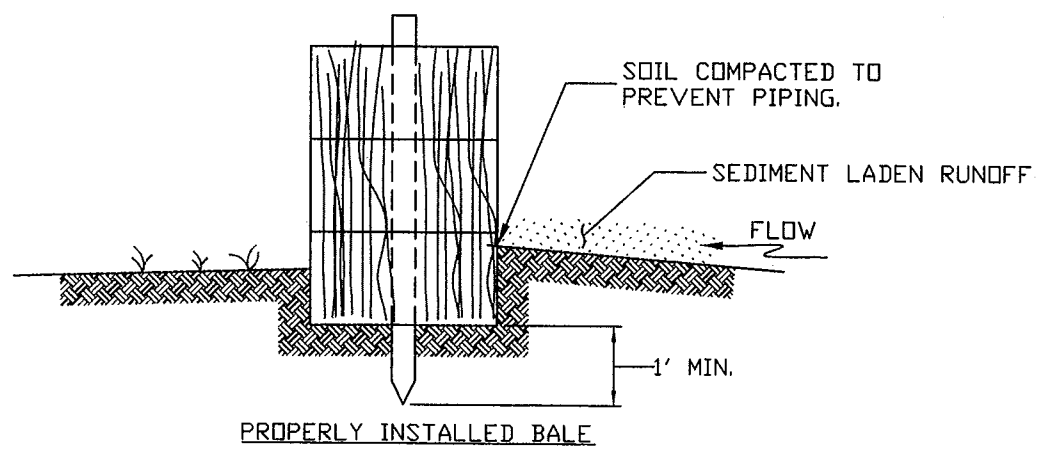


3. WEDGE LOOSE STRAW BETWEEN BALES.



4. BACKFILL AND COMPACT THE EXCAVATED SOIL.

HAY OR STRAW BALE INSTALLATION SEQUENCE

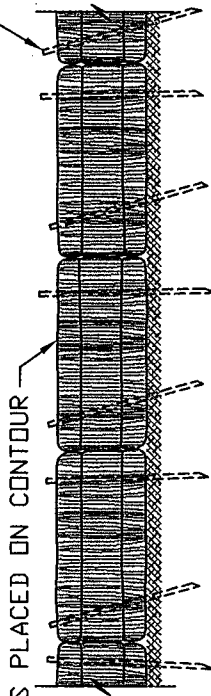


BUYER  
CB-23

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DEP 15058

HAY/STRAW BALE DIKE  
SEDIMENT CONTROL

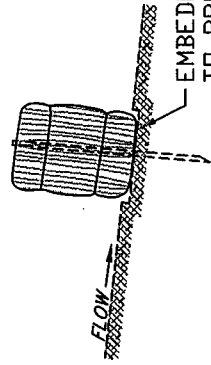
ANGLE FIRST STAKE TOWARD  
PREVIOUSLY LAID BALE



2' x 2' STAKES MINIMUM OF 1' INTO GROUND

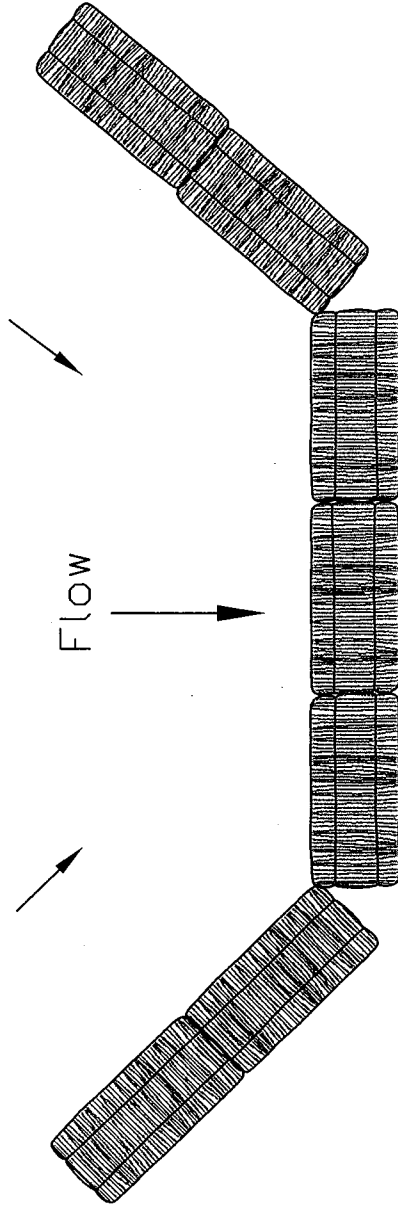
BOUND BALES PLACED ON CONTOUR

ANCHORING DETAIL



EMBEDED AS SITE CONDITIONS DICTATE  
TO PREVENT FLOW UNDER BALES.

END VIEW



DESIGN TO FIT SITE CONDITIONS

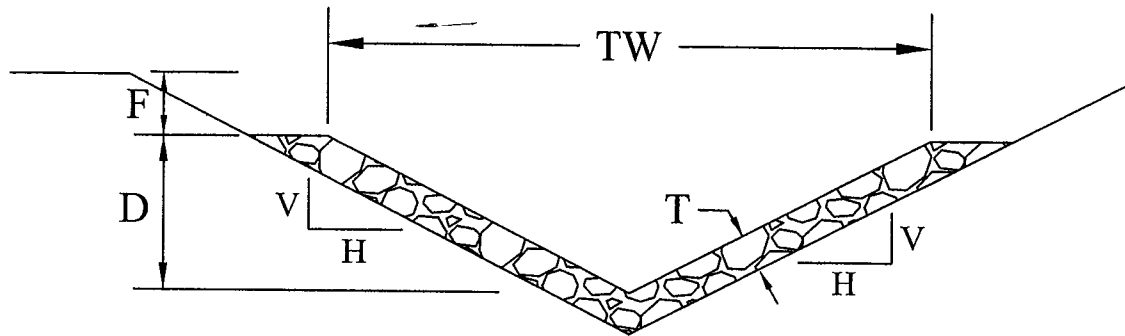
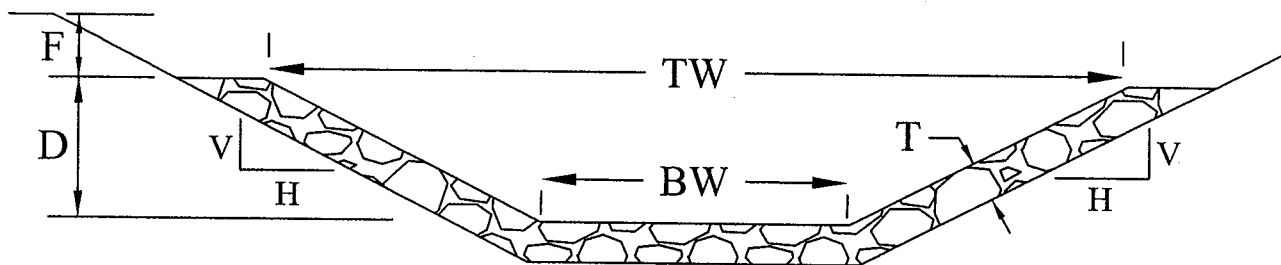
SEDIMENT BARRIER

TOP VIEW

NOT TO SCALE

BUYER  
CB-23REQ. or P.O. No.  
DEP 15058

DIVERSION DITCHES - RIP-RAP

**TYPICAL V-DITCH X-SECTION****TYPICAL TRAPEZOIDAL CHANNEL X-SECTION**

DITCH / CHANNEL TYPE	TOP WIDTH -TW- (FT)	BOT. WIDTH -BW- (FT)	TOTAL DEPTH -D- (FT)	SIDE SLOPE (H/V)	RIPRAP THICKNESS -T- (FT)
RIPRAP V-DITCH	4.0	0	1.0	2/1	1.5
RIPRAP V-DITCH	6.0	0	1.5	2/1	1.5
GROUTED RIPRAP V-DITCH	8.0	0	2.0	2/1	1.5
GROUTED TRAPEZOIDAL DITCH	8.0	4.0	1.0	2/1	1.5
GROUTED TRAPEZOIDAL DITCH	10.0	4.0	1.5	2/1	1.5

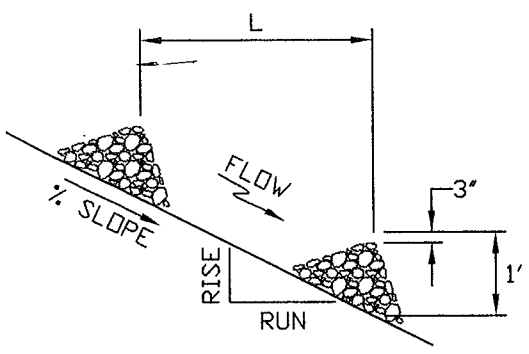
**NOTES:**

1. ALL CHANNELS SHALL HAVE ONE (1) FOOT MINIMUM OF FREEBOARD (F), UNLESS OTHERWISE NOTED.
2. ALL GROUTED RIP RAP CHANNELS SHALL HAVE 100% GROUT PENETRATION IN ALL VOIDS.

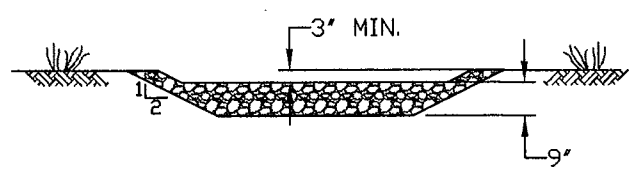
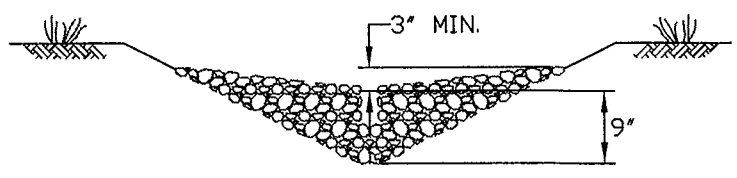
BUYER  
CB-23

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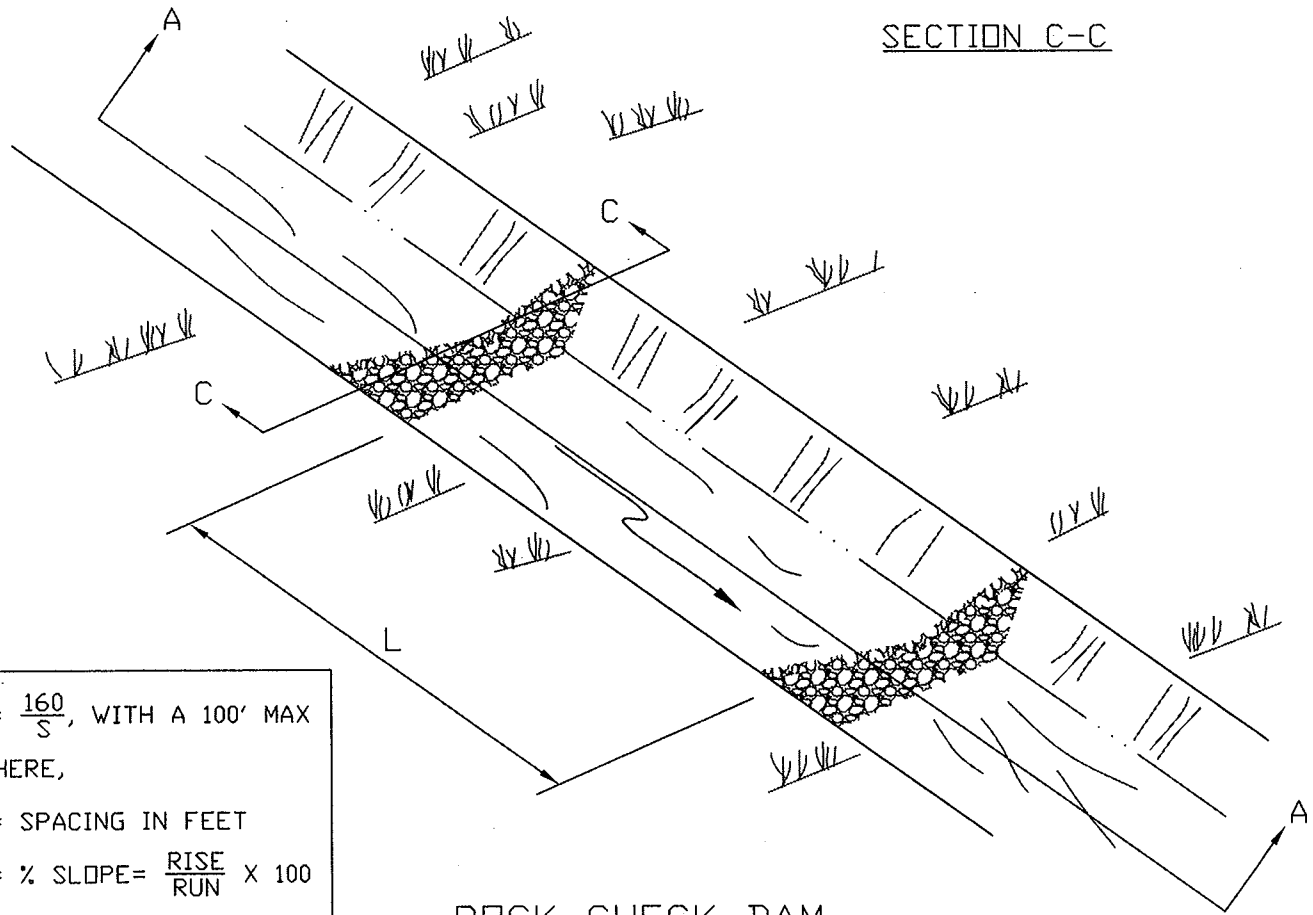
ROCK CHECK DAM



SECTION A-A



SECTION C-C



ROCK CHECK DAM

$$L = \frac{160}{S}, \text{ WITH A } 100' \text{ MAX}$$
 WHERE,  

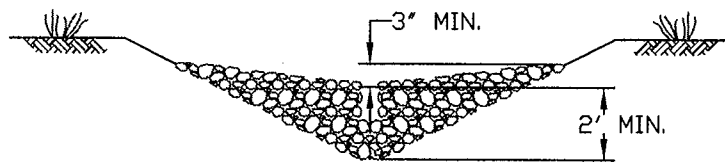
$$L = \text{SPACING IN FEET}$$

$$S = \frac{1}{2} \text{ SLOPE} = \frac{\text{RISE}}{\text{RUN}} \times 100$$

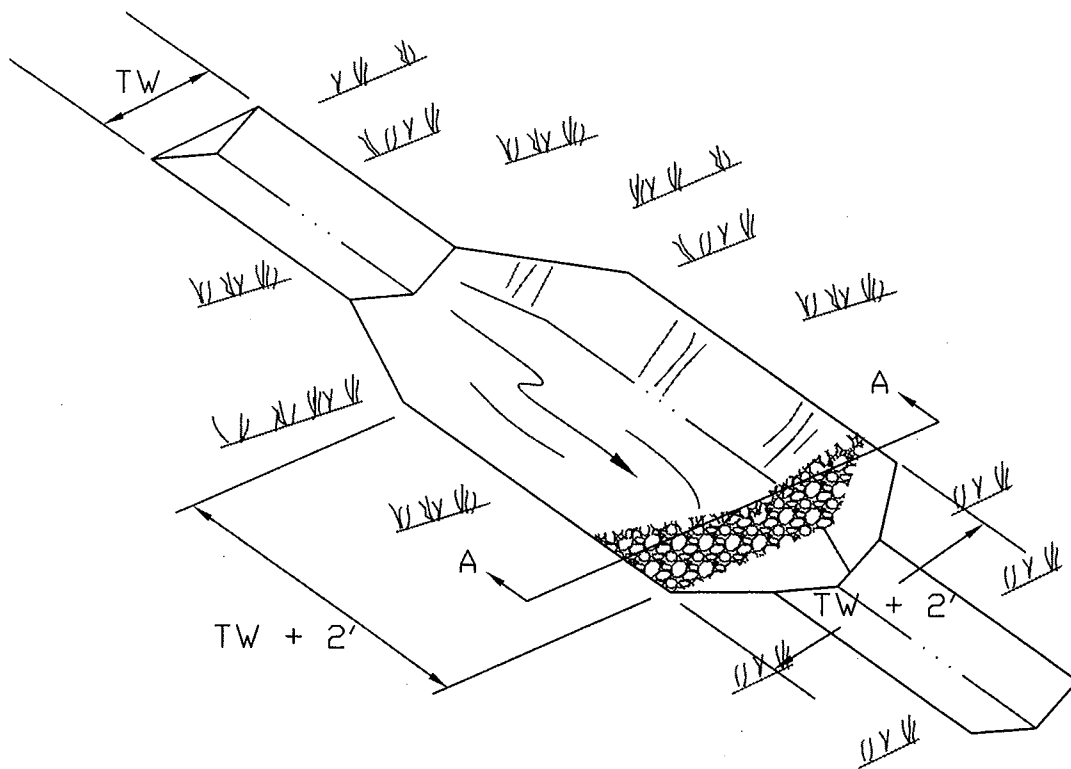
NOTE: MAY BE TRAPAZOIDAL OR V-DITCH

NOTE:  
 SPACING OF PREFABRICATED DITCH CHECKS SHALL BE THE SAME AS STONE DITCH CHECKS.  
 AASHTO #1 (2-4 INCH) SHALL BE USED, AND MAY BE REINFORCED WITH 3 TO 6 INCH RIPRAP.  
 THE MINIMUM DITCH DEPTH IS 1.0'.

BUYER CB-23	REQ. or P.O. No. DEP 15058
SEDIMENT CONTROL SUMP	



SECTION A-A



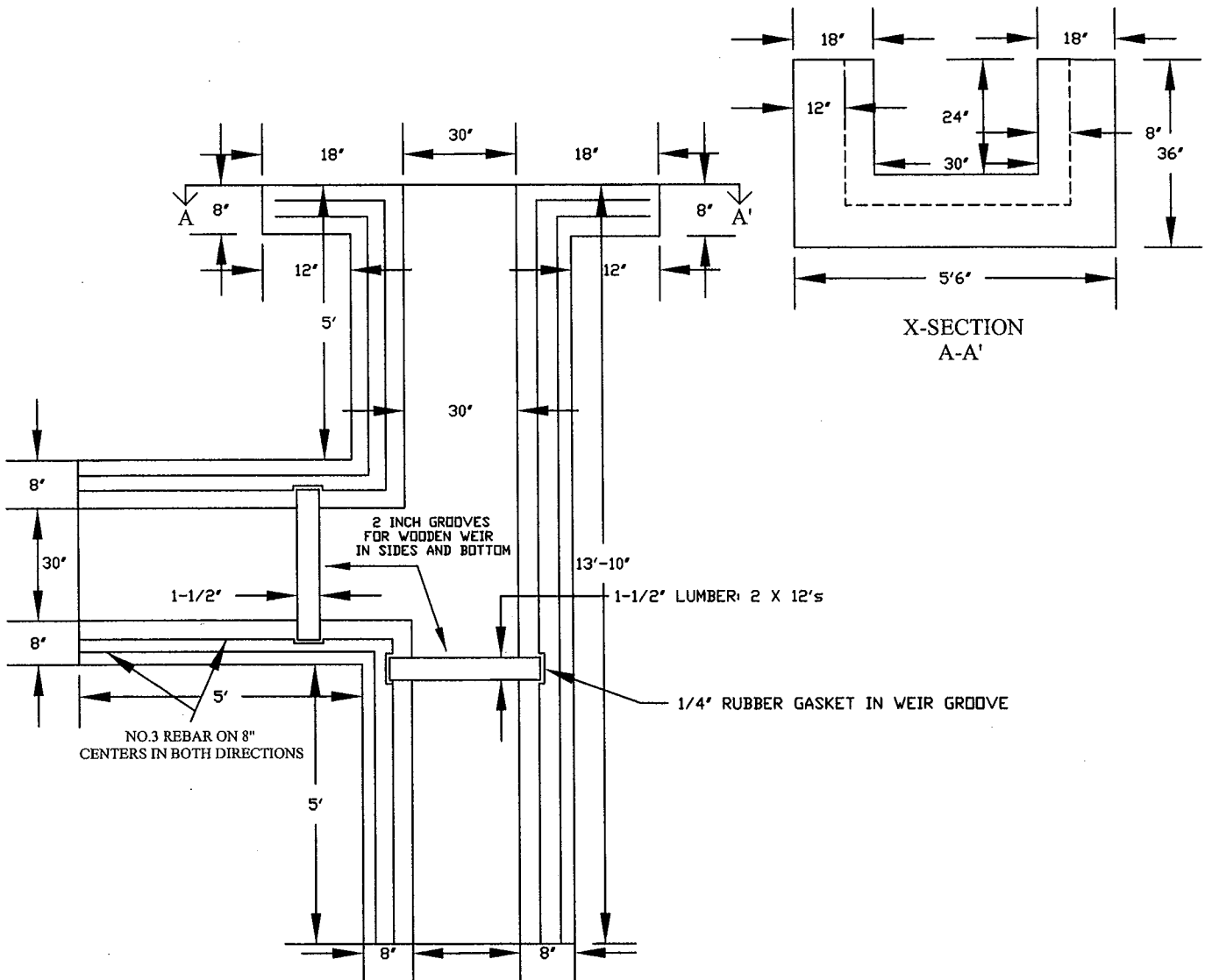
NOTE:

THE SUMP MUST BE CLEANED WHEN 60% FULL.  
 ROCK OR HAYBALES SHALL BE PLACED AT SUMP OUTLET.  
 THE MINIMUM DITCH DEPTH IS 1.0', AND THE MINIMUM SUMP DEPTH IS 4.0'.  
 TW = TOP WIDTH



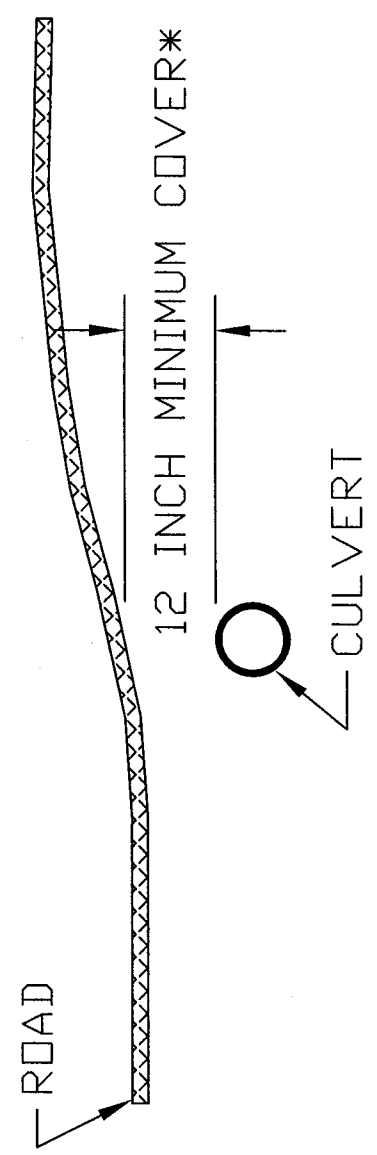
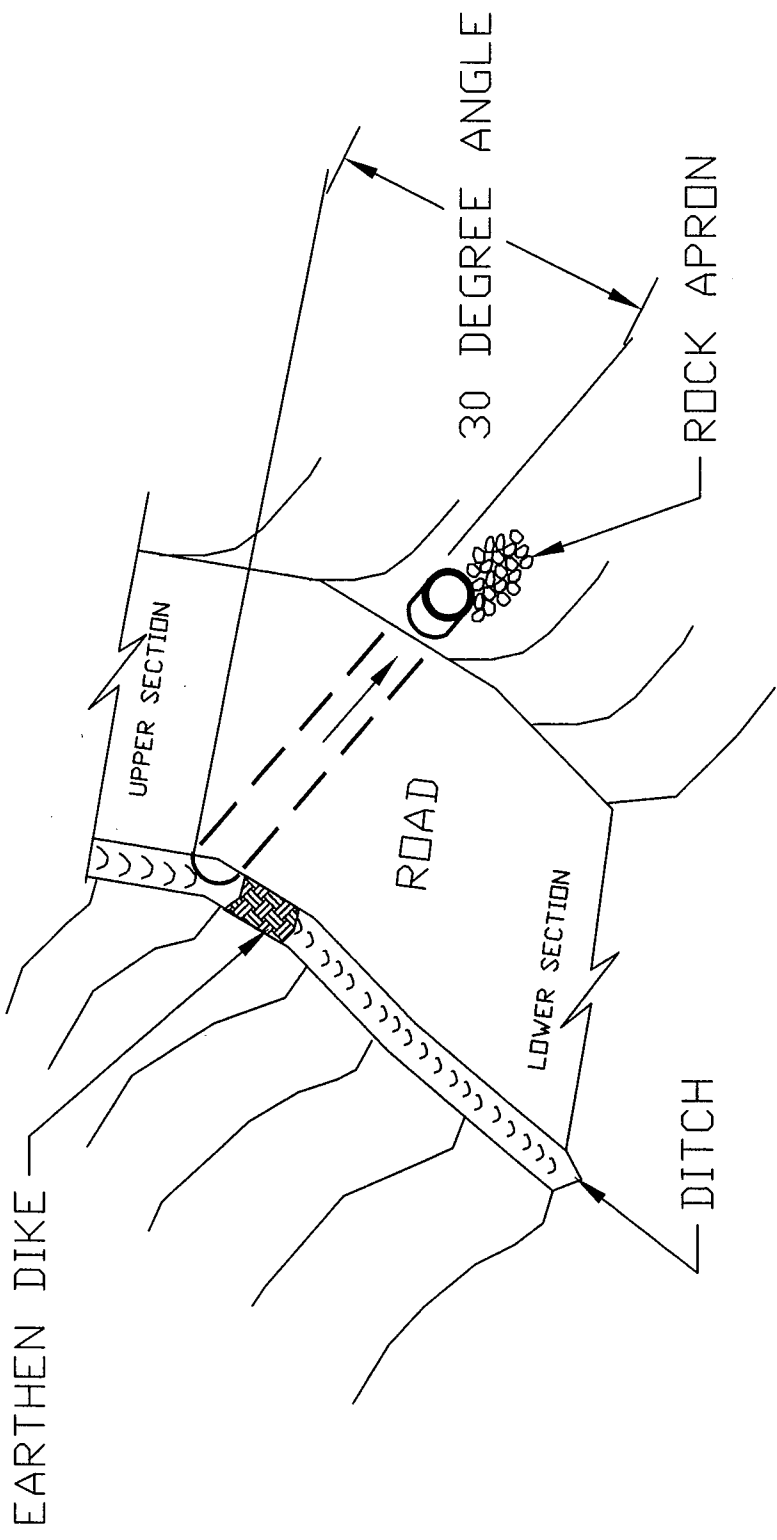
BUYER  
CB-23REQ. or P.O. No.  
DEP 15058

## FLOW DIVERSION CHANNEL



FLOW DIVERSION CHANNEL SHALL BE MADE OF TYPE II SULPHATE RESISTANT CONCRETE.  
 ALL REBAR SHALL HAVE A MINIMUM OF 2 INCHES COVER FROM CONCRETE FACE. STRUCTURE SHALL BE INSTALLED AT OUTLET OF DOSING UNIT #1.  
 POND LINER SHALL EXTEND PAST AND BE KEYED UNDER THE CONCRETE AT THE INLET OF POND #1.

BUYER CB-23	REQ. or P.O. No. DEP 15058
CULVERT INSTALLATION	

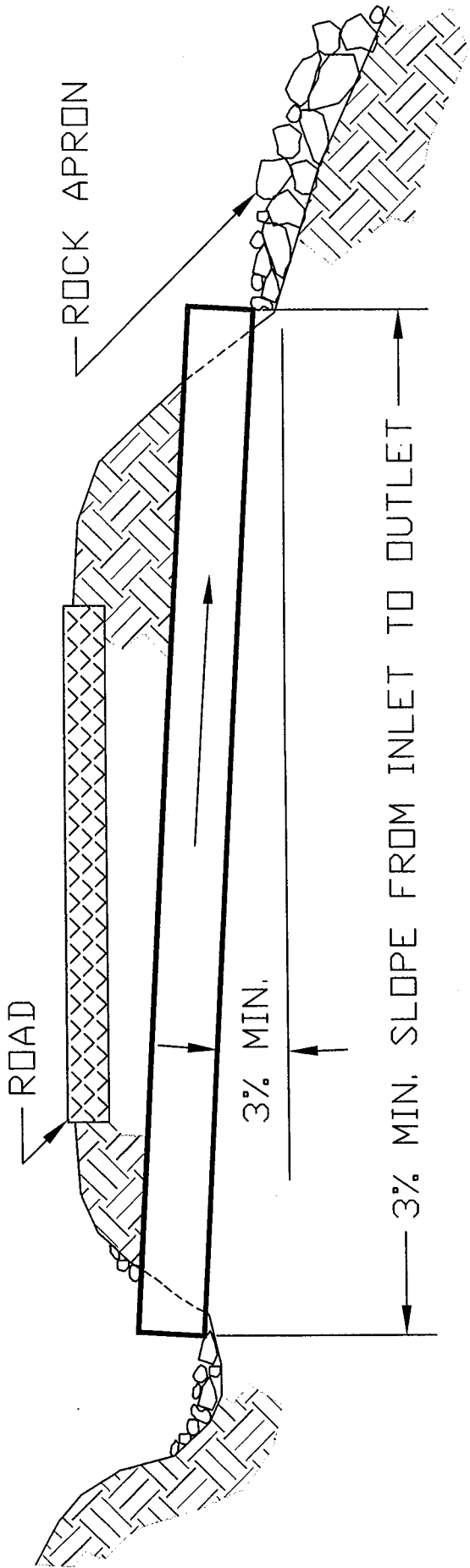


\*OR 1/2 CULVERT DIAMETER, WHICHEVER IS GREATER.

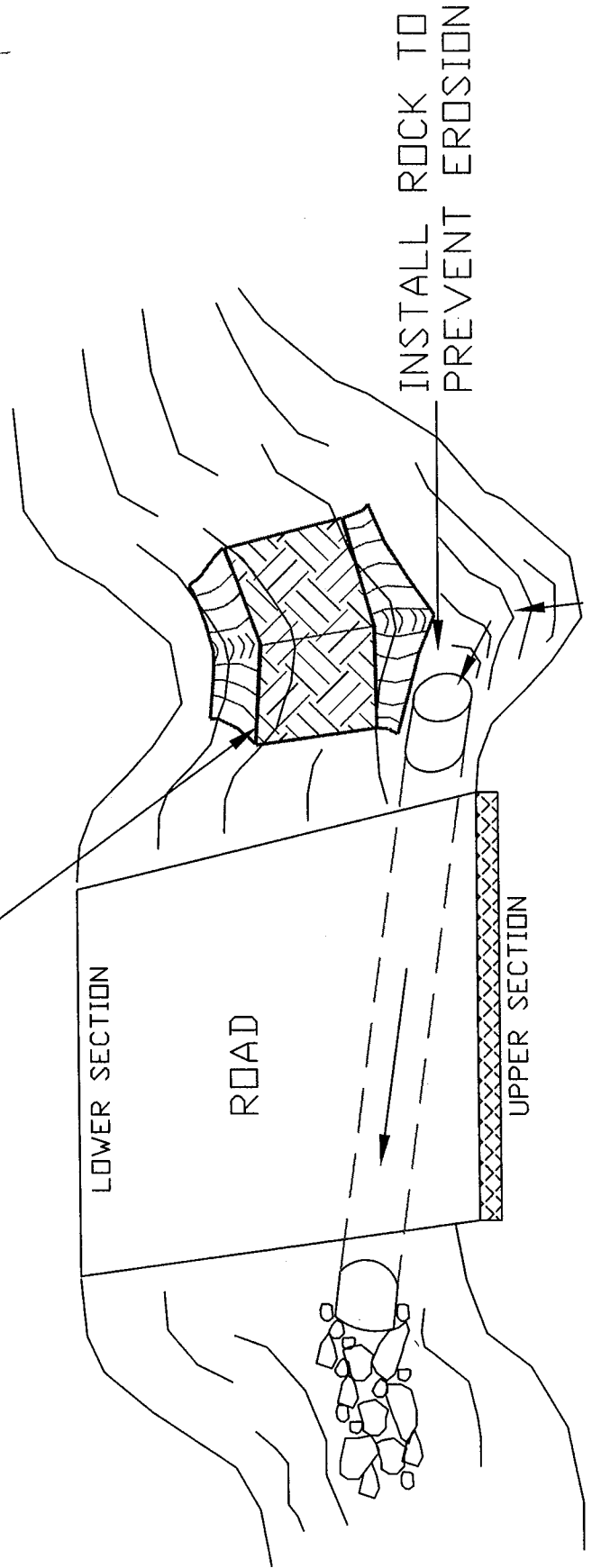
BUYER  
CB-23

REQ. or P.O. No.  
DEP 15058

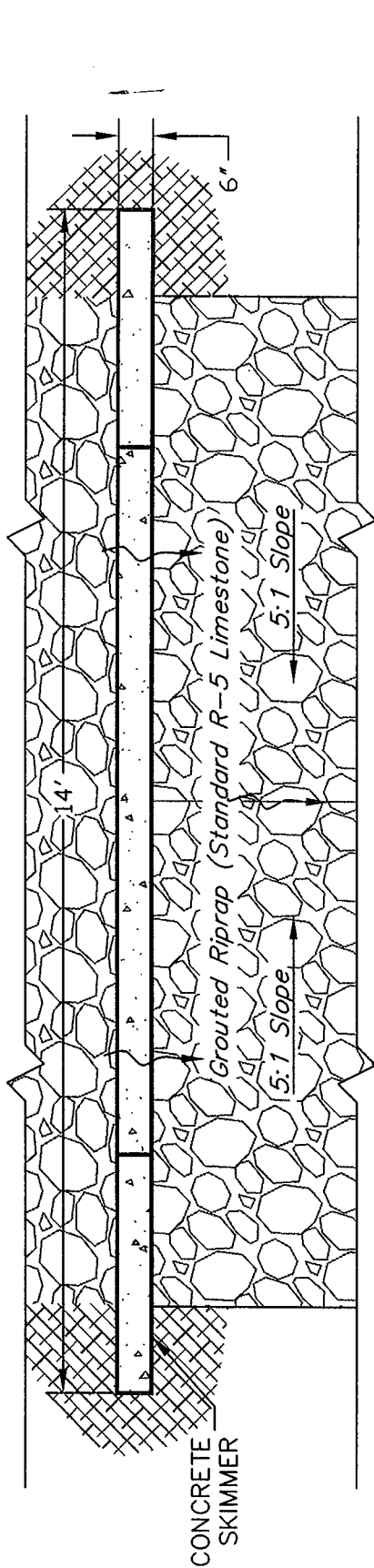
CULVERT INSTALLATION



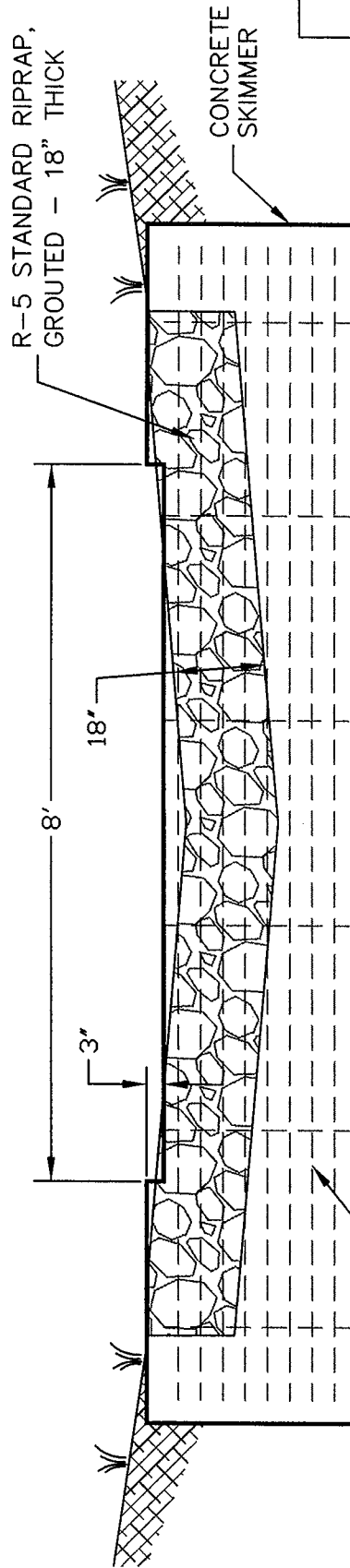
EARTHEN DIKE TO BE INSTALLED IN DITCH  
LINE BELOW CULVERT INLET



BUYER CB-23	REQ. or P.D. No. DEP 15058
DRIVE-THRU SPILLWAY	



PLAN VIEW



SECTION

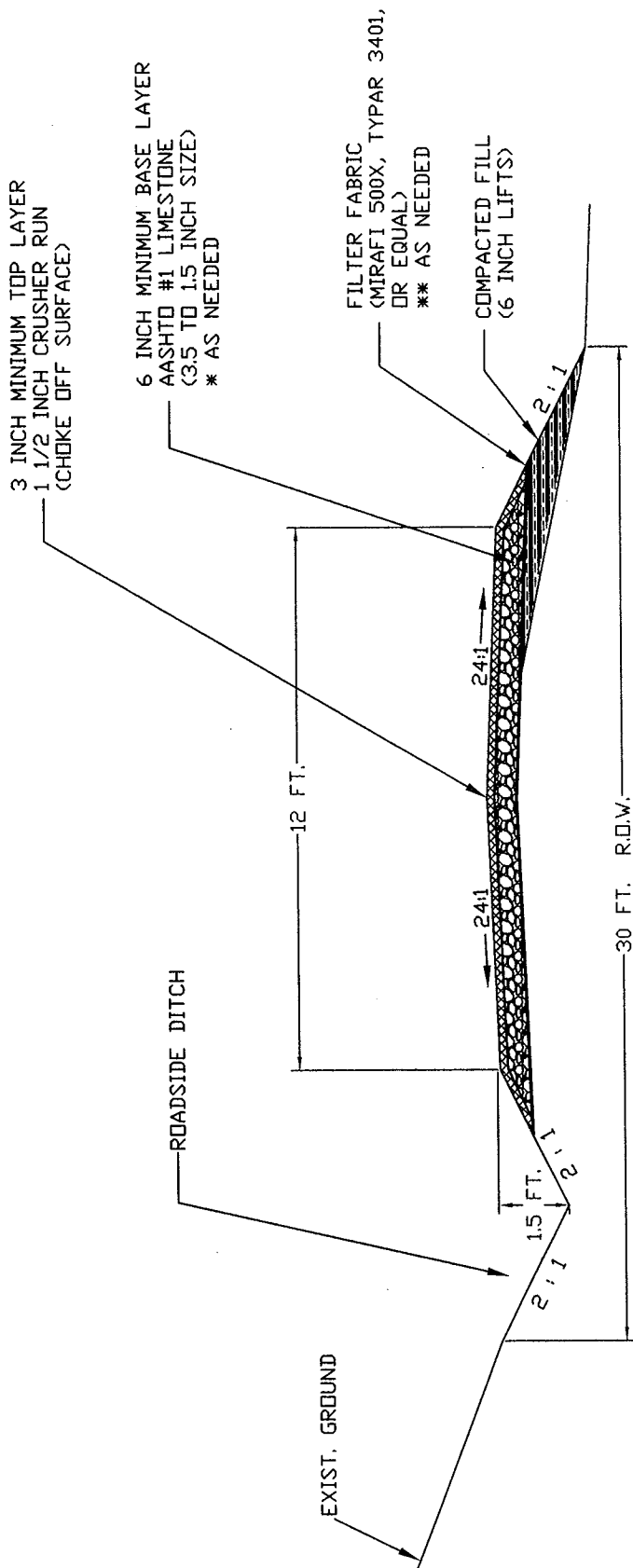
#4 Rebar evenly spaced every 6" vertically

*Skimmer will be made of Type II Sulphate Resistant concrete with a minimum width of 6", minimum depth 1' below original ground, and extend 1' on each side into original ground.  
Skimmer will run the full length of the Channel Road Crossing.  
The skimmer will be placed on the up-stream side of the Channel Road Crossing.*

BUYER CB-23	REQ. or P.O. No. DEP 15058
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ACCESS ROAD UPGRADE

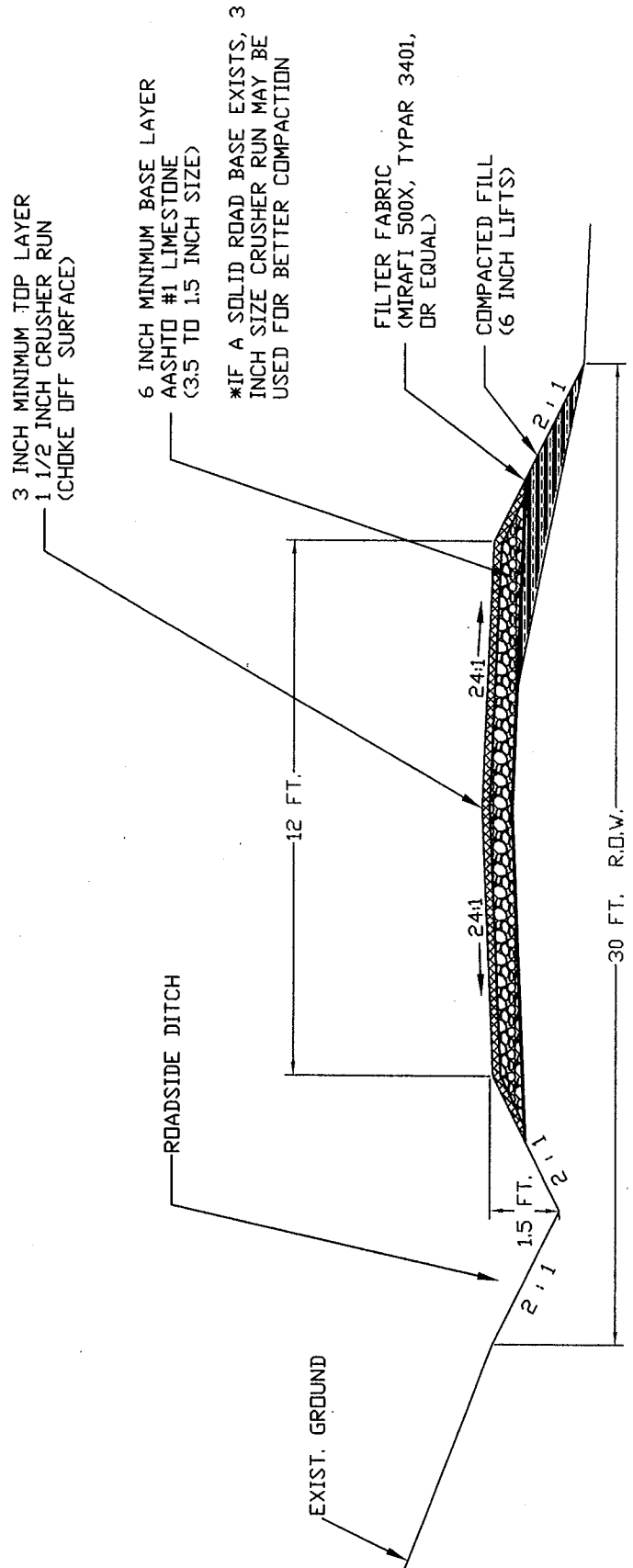
ACCESS ROAD UPGRADE



TYPICAL SECTION

- NOTES:**
- THE EXISTING ROAD SHALL BE REGRADED, SHAPED, AND ROCKED AS NECESSARY TO MEET THESE SPECIFICATIONS.
  - ANY TREES OR BRUSH WITHIN THE 30 FEET R.O.W. OF THE ROAD SHALL BE REMOVED.
  - ANY OVERHANGING TREE LIMBS IN THE R.O.W. AT A HEIGHT OF 15 FEET OR LESS SHALL BE REMOVED.
  - THE SUB BASE SURFACE, BASE STONE LAYER, AND THE FINAL SURFACE SHALL BE ROLL COMPACTED WITH A SMOOTH DRUM VIBRATORY ROLLER.
  - \*THE 6 INCH BASE LAYER OF STONE SHALL BE USED AS NEEDED, AND SHALL BE PAID BY THE TON.
  - \*\*THE FILTER FABRIC SHALL BE USED AS NEEDED, AND SHALL BE PAID BY THE LINEAR FOOT OF ROAD SECTION.

# NEW ACCESS ROAD



BUYER  
CB-23

REQ. or P.O. No.  
DEP 15058

## NEW ACCESS ROAD

### TYPICAL SECTION

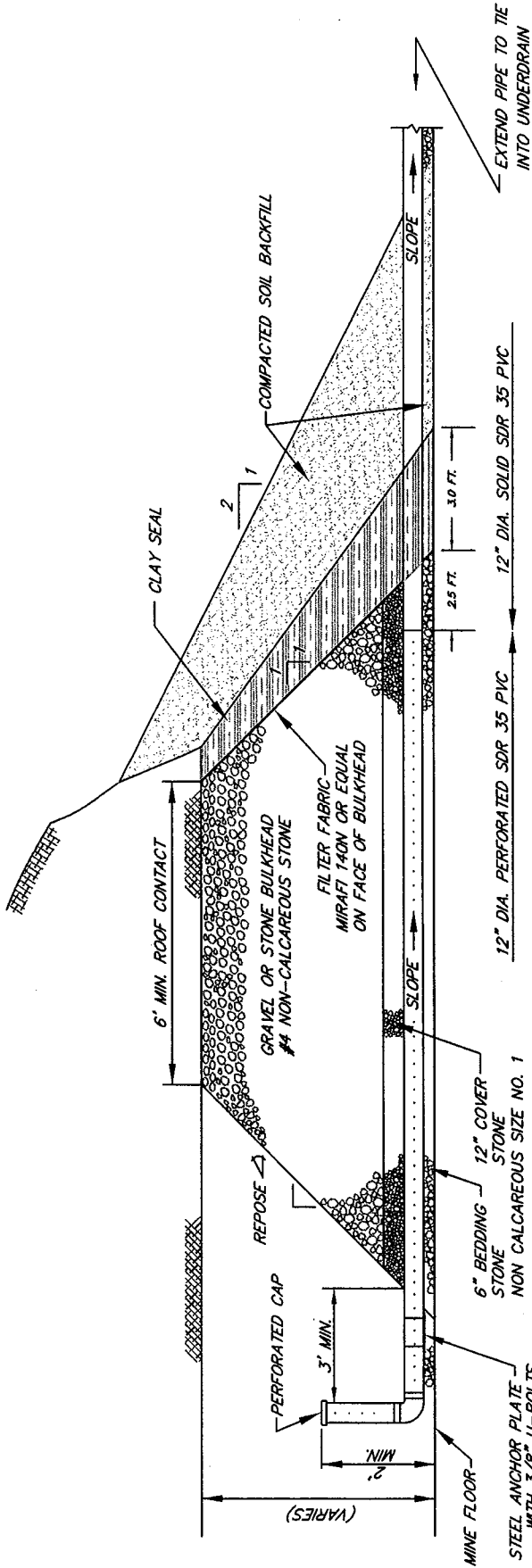
NOTES: ANY TREES OR BRUSH WITHIN THE 30 FEET R.O.W. OF THE ROAD SHALL BE REMOVED.

ANY OVERHANGING TREE LIMBS IN THE R.O.W. AT A HEIGHT OF 15 FEET OR LESS SHALL BE REMOVED.

THE SUB BASE SURFACE, BASE STONE LAYER, AND THE FINAL SURFACE SHALL BE ROLL COMPACTED WITH A SMOOTH DRUM VIBRATORY ROLLER.

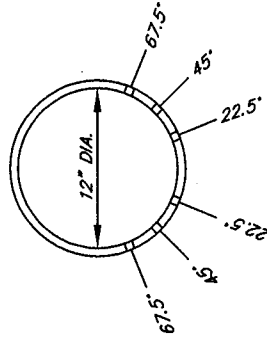
\*IF PORTIONS OF ROAD BASE ARE SOLID, THE CLEAN BASE STONE MAY BE SUBSTITUTED WITH A 6 INCH THICK LAYER OF 3 INCH SIZE CRUSHER RUN TO ACHIEVE BETTER COMPACTION. THIS MUST BE APPROVED BY DEP ONSITE INSPECTOR PRIOR TO INSTALLATION.

BUYER CB-23	REQ. or P.O. No. DEP15058
WET MINE SEAL	

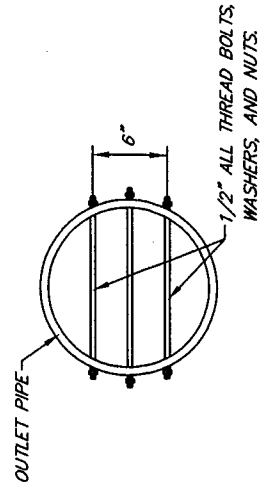


**TYPICAL SECTION**

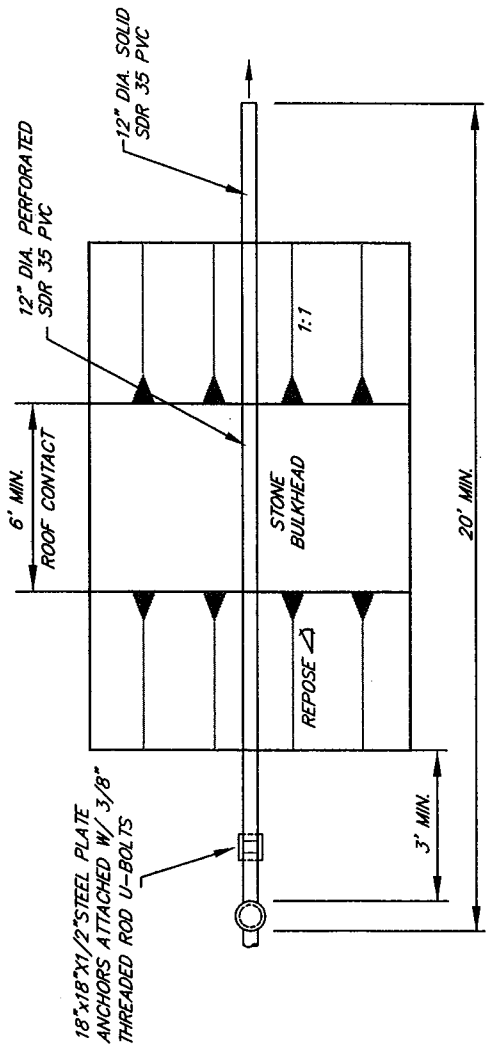
N. T. S.



**PIPE PERFORMANCES DETAIL**



**TYPICAL ANIMAL GUARD DETAIL**



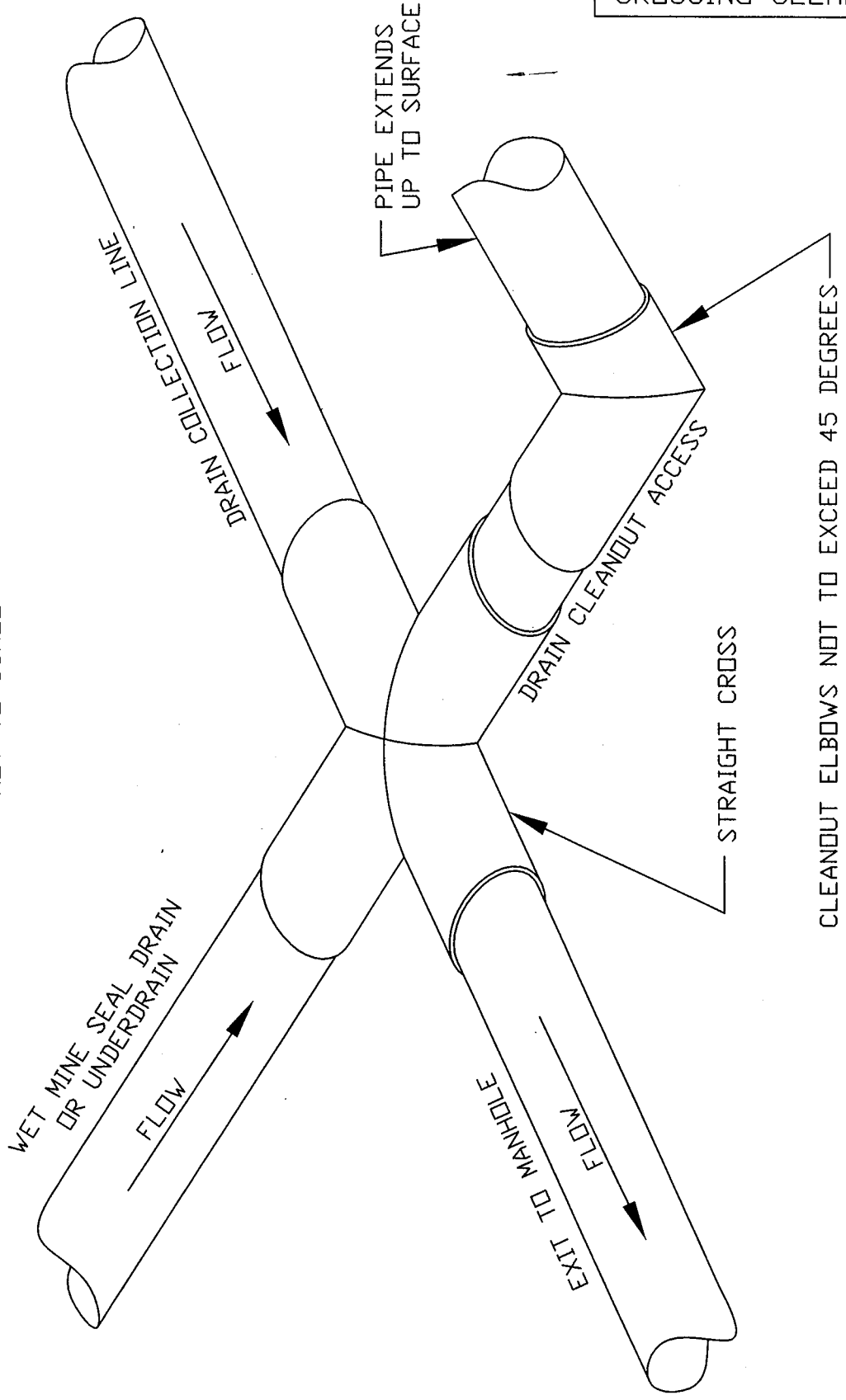
**PLAN**

N. T. S.

BUYER CB-23	REQ. or P.O. No. DEP 15058
CROSSING CLEANOUT DETAIL	

# MINE DRAIN/UNDERDRAIN CROSSING CLEANOUT

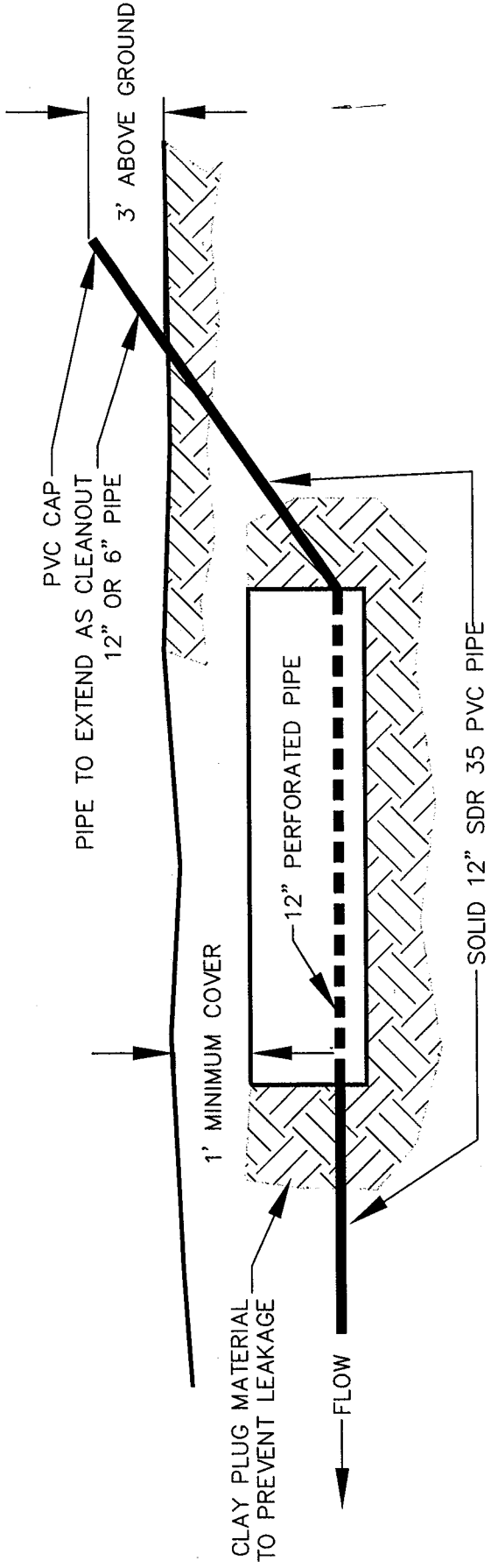
NOT TO SCALE



- NOTES:
- CLEANOUT PIPE SHALL TERMINATE THREE FEET ABOVE THE SURFACE, AND BE FITTED WITH A REMOVABLE CAP.
  - ELBOWS SHALL BE SPACED A MINIMUM OF THREE FEET APART.
  - CLEANOUT LEG MAY BE REDUCED TO 6 INCH DIAMETER PIPE.

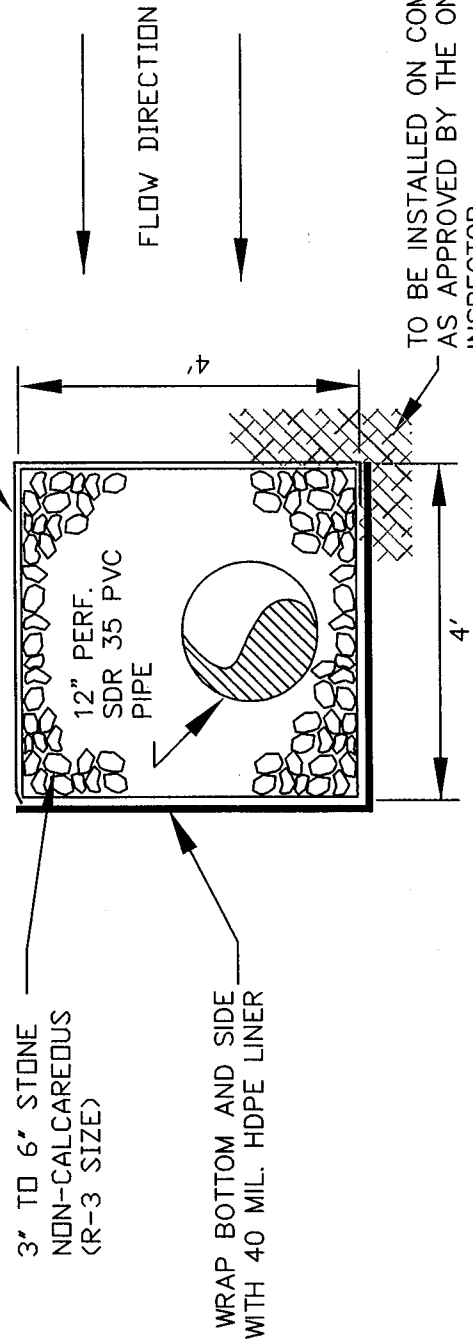


BUYER CB-23	REQ. or P.O. No. DEP 15058
SEEP COLLECTOR	



SIDE VIEW

WRAP WITH FILTER FABRIC (NONWOVEN)  
TYPAR 3401 or EQUIVALENT



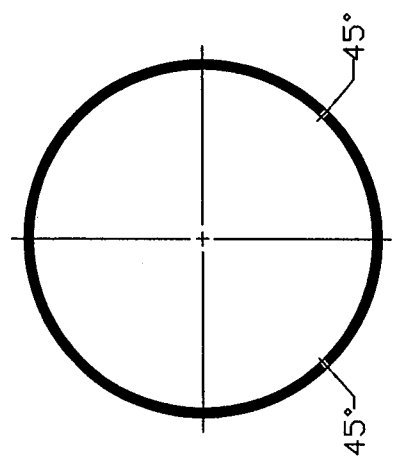
END VIEW

NOT TO SCALE

TO BE INSTALLED ON COMPETENT MATERIAL  
AS APPROVED BY THE ON-SITE DEP  
INSPECTOR.

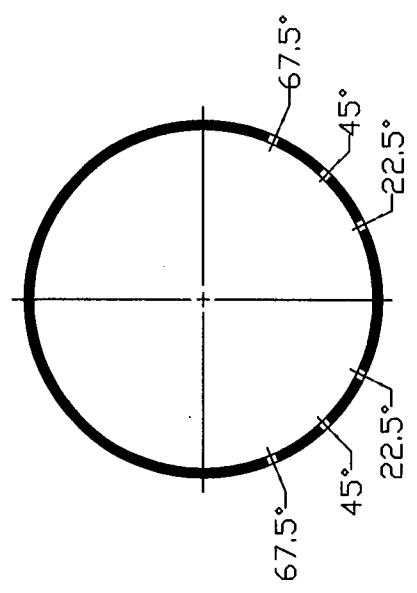
FLOW DIRECTION

# PIPE PERFORATION DETAILS



## 2, 4, & 6 INCH DIAMETER PIPE PERFORATIONS

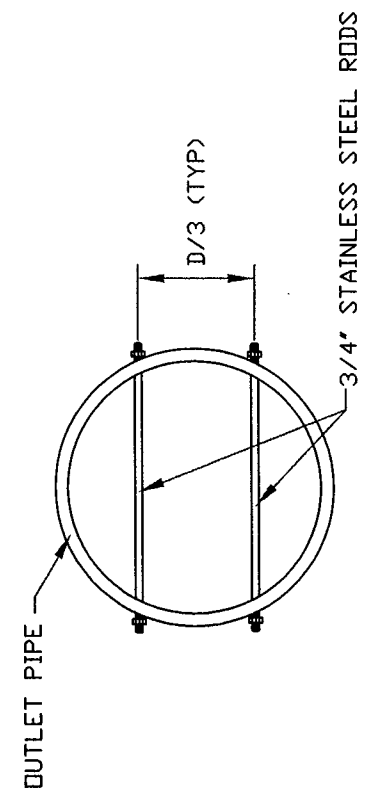
HOLES SHALL BE 1/2 INCH DIAMETER FOR 2 & 4 INCH PIPE. USE 1 INCH DIAMETER HOLES FOR 6 INCH PIPE.  
 HOLE SPACING SHALL BE 4 INCHES ON CENTER ALONG THE LENGTH OF PIPE WITHIN SEEP COLLECTOR.



## 12 INCH DIAMETER PIPE PERFORATIONS

HOLES SHALL BE 1 INCH DIAMETER.  
 HOLE SPACING SHALL BE 6 INCHES ON CENTER ALONG THE LENGTH OF PIPE WITHIN SEEP COLLECTOR.

# ANIMAL GUARD DETAILS



BUYER CB-23	REQ. or P.O. No. DEP 15058
PIPE PERFORATION & ANIMAL GUARD DETAILS	

BUYER  
CB-23

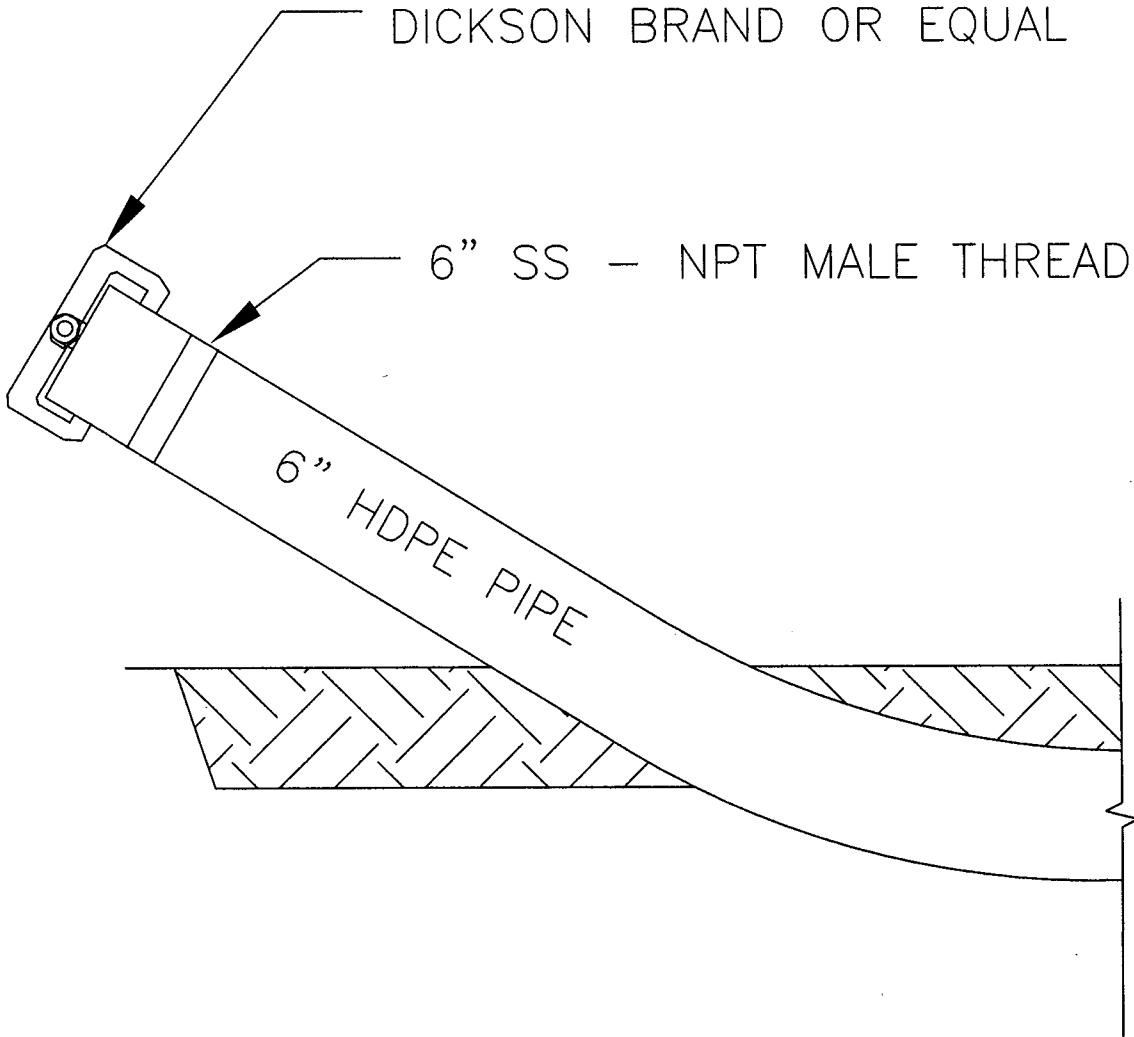
REQ. or P.O. No.  
DEP 15058

PUMP CONNECTION END

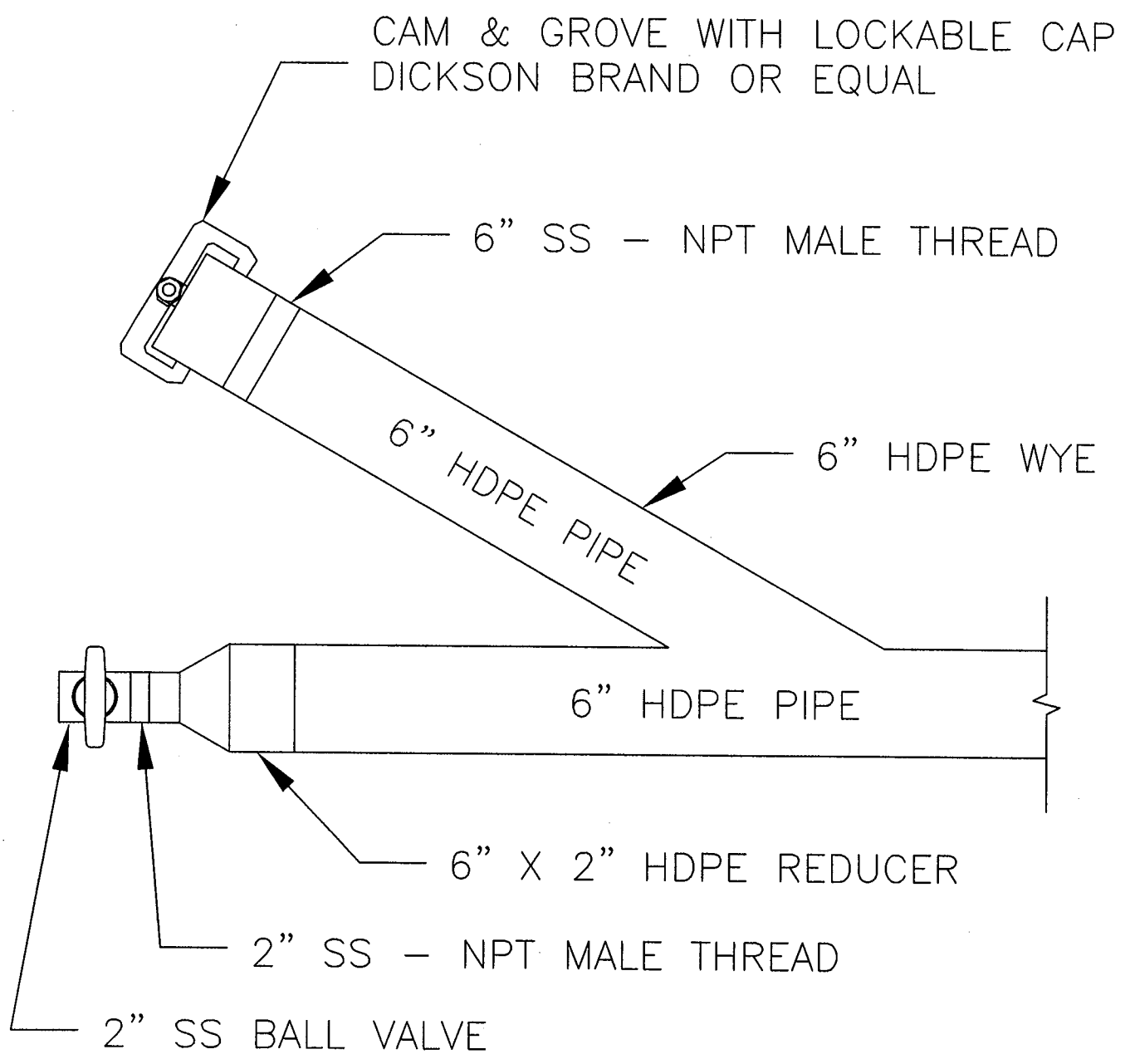
CAM & GROVE WITH LOCKABLE CAP  
DICKSON BRAND OR EQUAL

6" SS - NPT MALE THREAD

6" HDPE PIPE

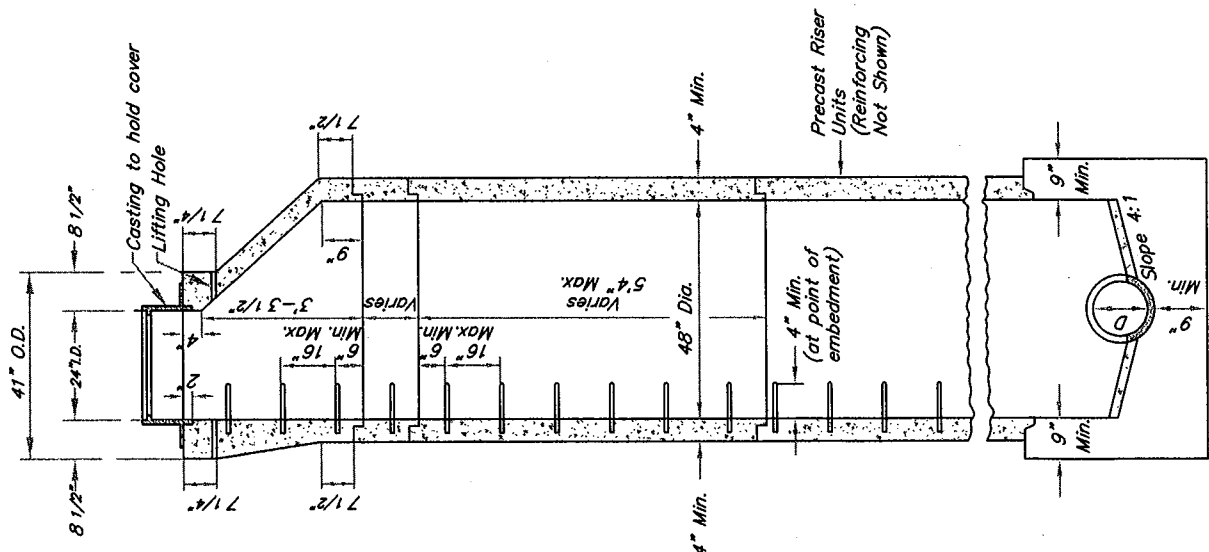


BUYER CB-23	REQ. or P.D. No. DEP 15058
PUMP CONNECTION END WITH 2 INCH DRAIN	



# TYPE A MANHOLE

## STANDARD DETAIL



Manhole steps shall be placed into plastic concrete wall during manufacture or mortared into holes after the concrete has set.

Sidewall sections may be used in any combination to produce a manhole of desired depth, except the tapered top section shall be retained as shown.

Lifting hole in the tapered top section and the circumferential notches in the manhole cover are for lifting purposes only.

Drawing shows pipe entering an leaving manhole in a straight line. However, the pipes may enter or leave at any angle or place as called for on the plans.

Pipe at elevations other than shown may be joined to the manhole by cutting a hole the sized of the connecting pipe in the manhole, inserting the pipe the thickness of the manhole shell and closing the openings around the connecting pipe with waterstop sealant and joint mortar.

Minimum height of bench wall above flow line of pipe is 25% of the diameter of the pipes.

The bearing area of the frame and cover shall be fitted and finished as to provide a firm and even seat for the entire cover and the frame. Lightweight hinged Rexus brand lids (or equal) shall be used.

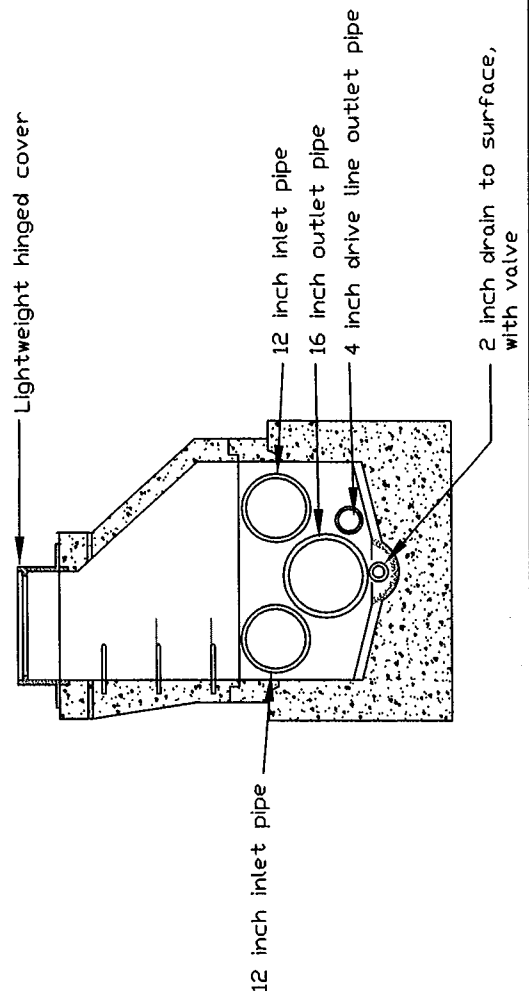
**NOTES** The 4 inch pipe invert shall be 2 inches above the bottom of manhole.

One 12 inch pipe from a seep collector, and one from the mine drains will enter the manhole.

Two outlet pipes: One 4 inch HDPE pipe is to be used as the driveline to the dosing unit. The second pipe shall be a 12 inch HDPE line to the concrete channel as an overflow line.

A two inch drain pipe shall be installed in the bottom of the manhole with a stainless steel ball valve on the inside of manhole.

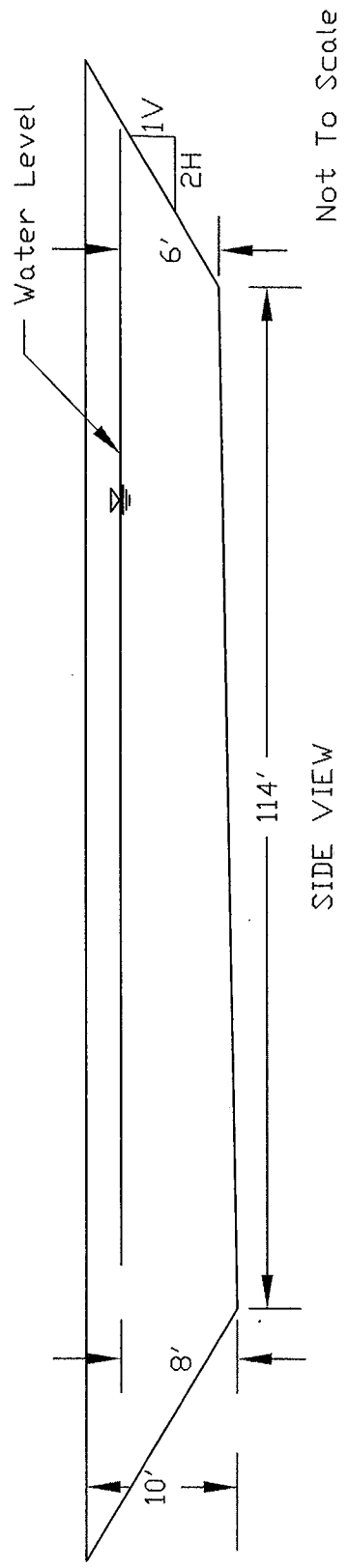
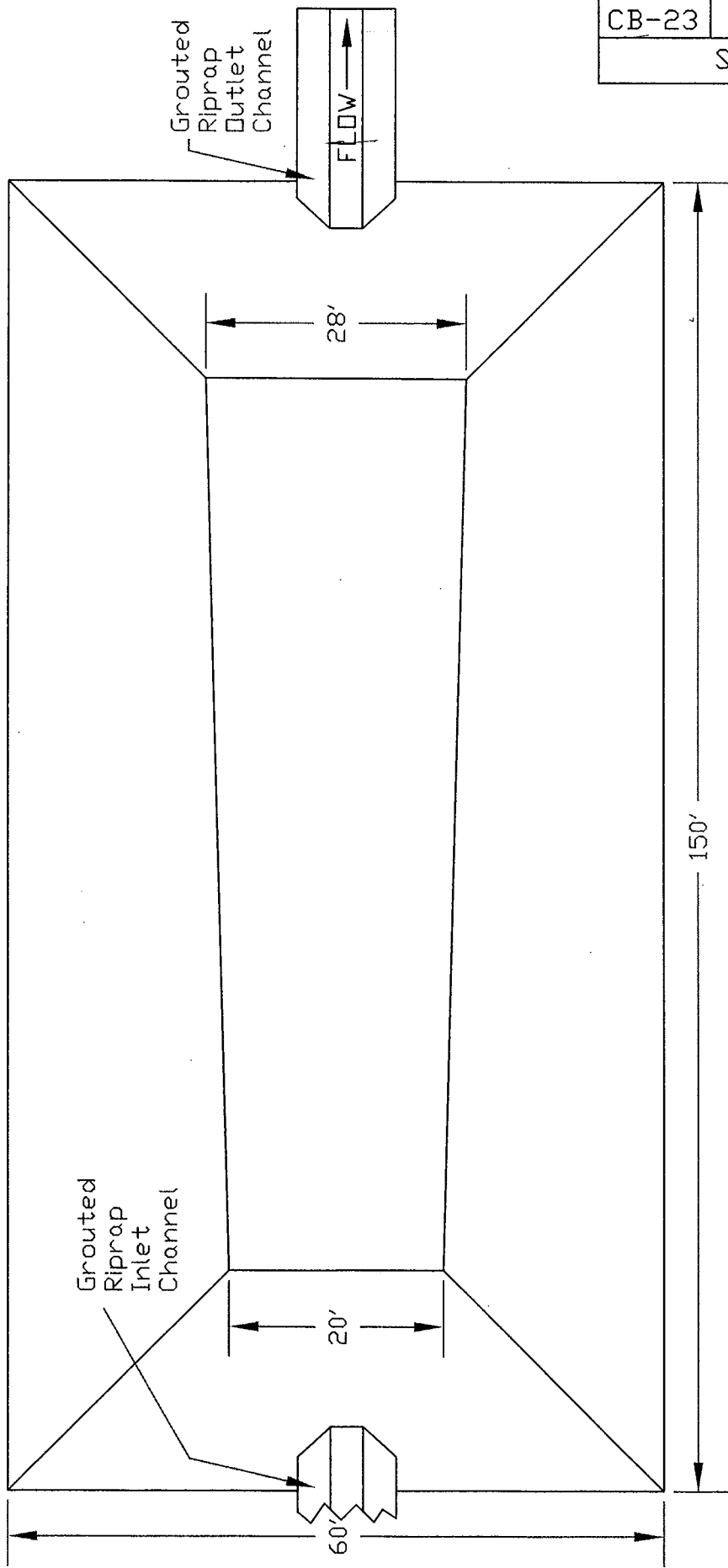
BUYER CB-23	REQ. or P.O. No. DEP 15058
PRE-CAST MANHOLE	



BUYER CB-23	REQ. or P.O. No. DEP 15058
SETTLING POND	

# SETTLING POND

PLAN VIEW

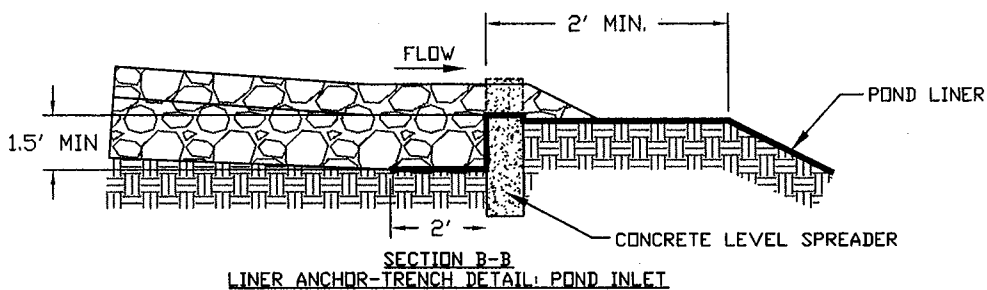
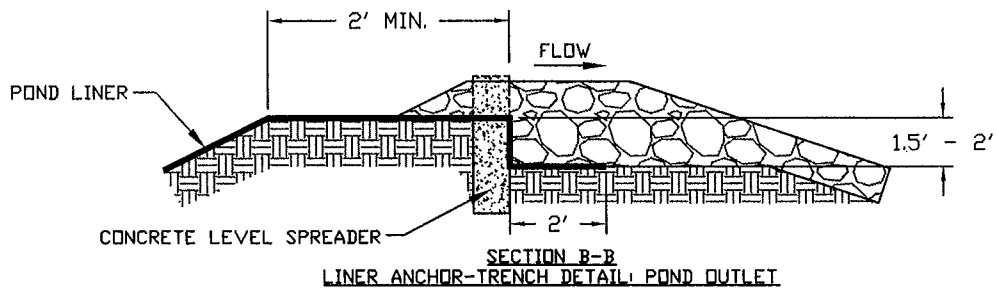


SIDE VIEW

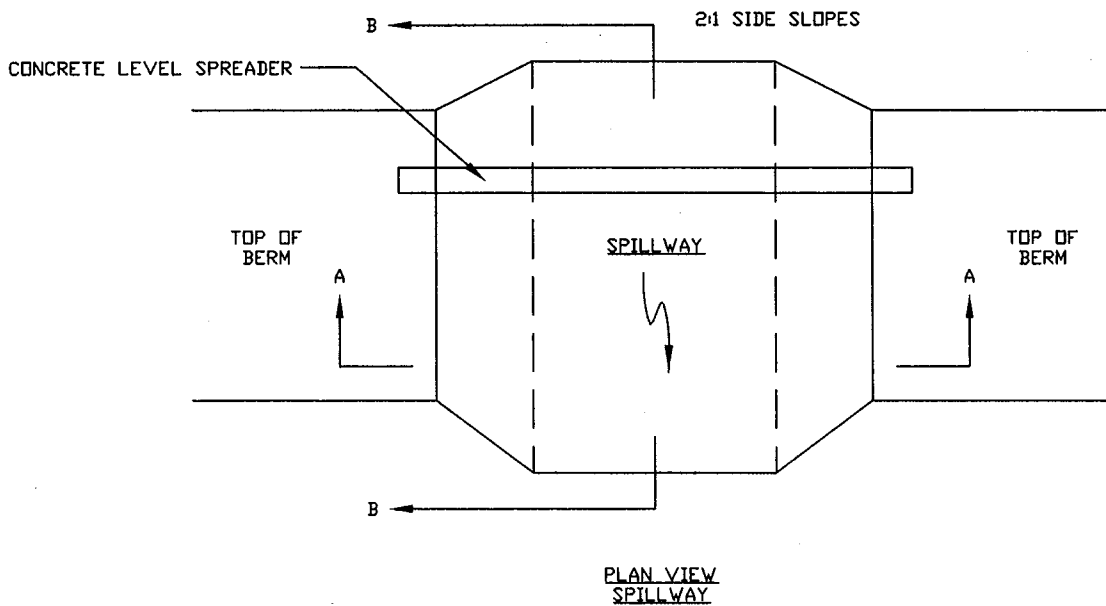
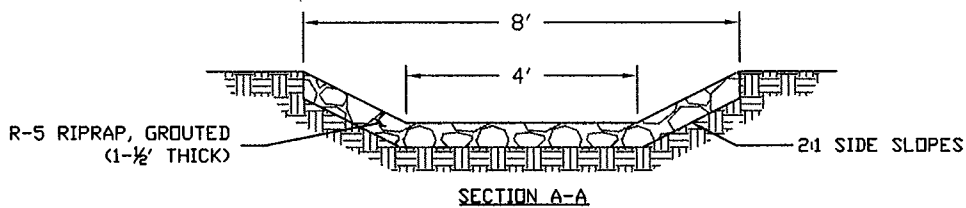
BUYER  
CB-23

REQ. or P.O. No.  
DEP 15058

SPILLWAY WITH POND LINER  
AND LEVEL SPREADER



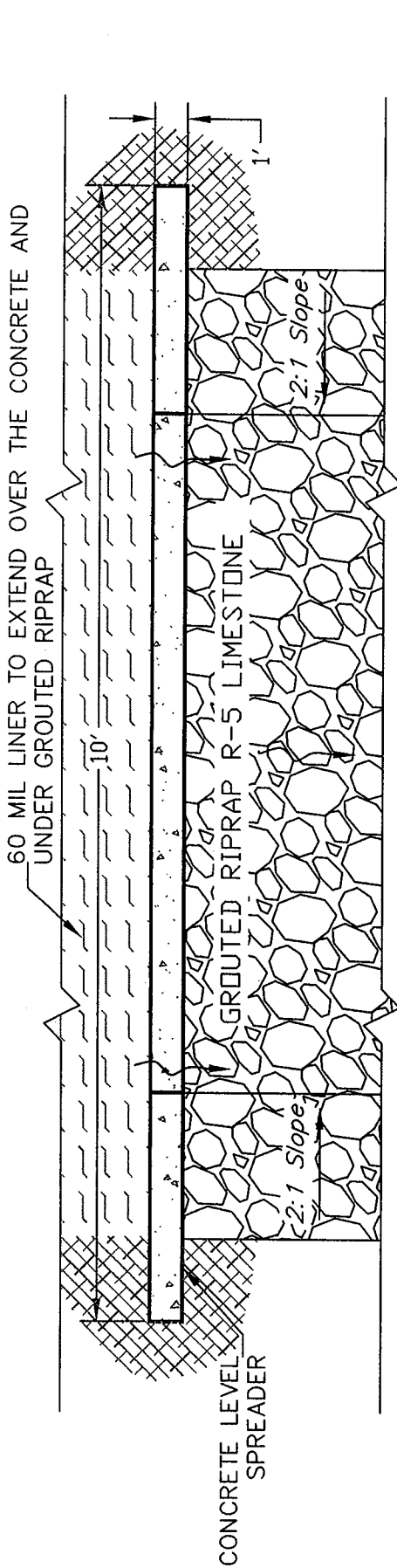
NOTE:  
CONCRETE LEVEL SPREADERS SHALL BE INSTALLED AT BOTH THE INLET AND OUTLET OF EACH POND,  
POND LINER SHALL EXTEND OVER LEVEL SPREADER AND BE KEYED UNDER THE ABUTTING GROUTED RIPRAP CHANNEL.



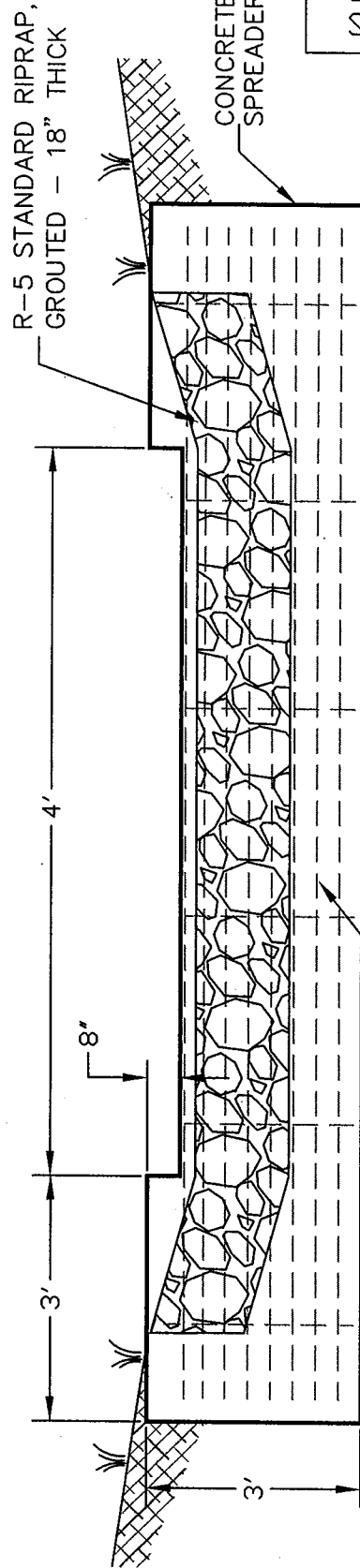
BUYER  
CB-23

REQ. or P.O. No.  
DEP 15058

CONCRETE SPREADER AND  
SEEP CUTOFF STRUCTURE



PLAN VIEW



SECTION

1 MAT OF #4 REBAR EVENLY  
SPACED EVERY 6" VERTICALLY, AND  
EVERY 2 FEET HORIZONTALLY

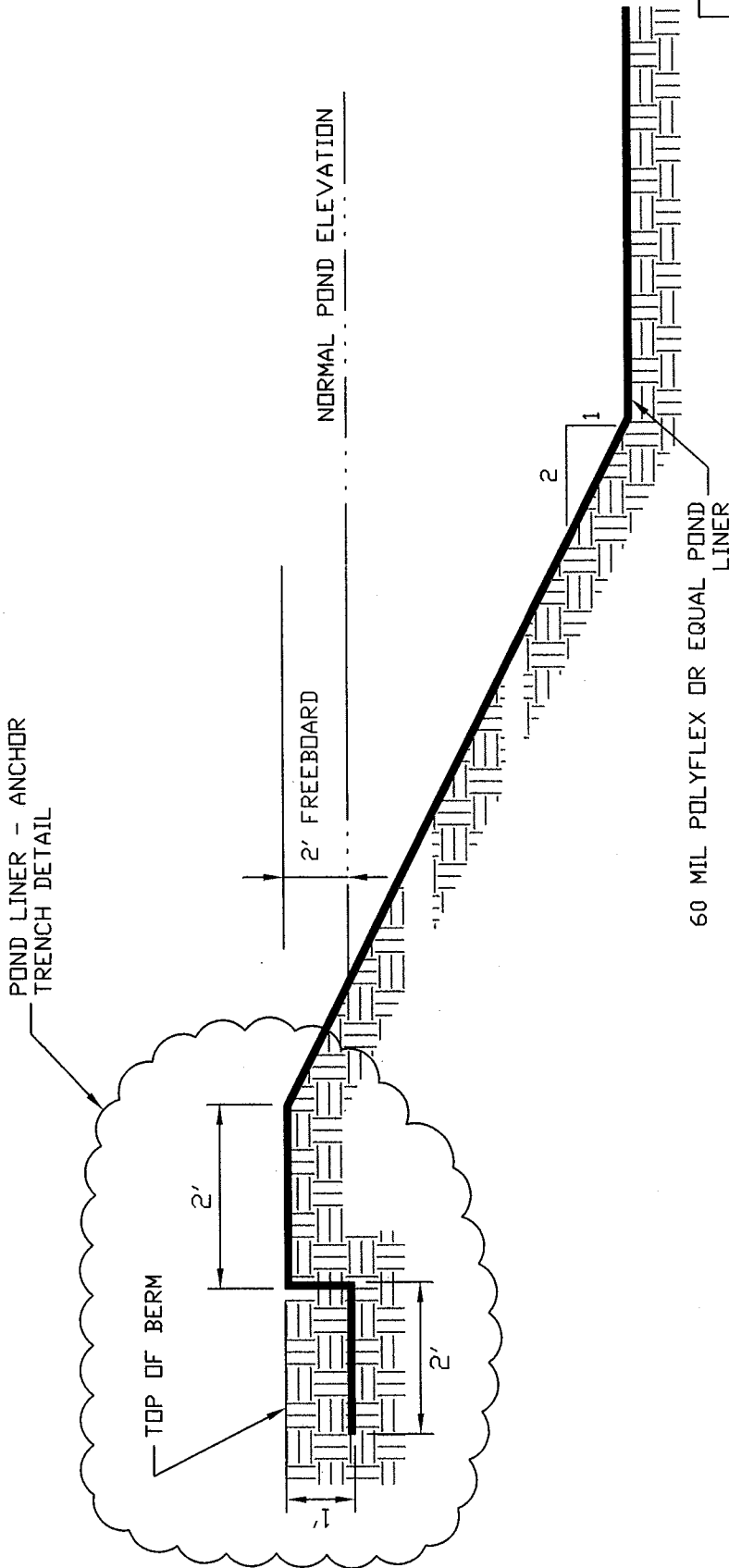
CONCRETE LEVEL SPREADER AND SEEPAGE CUTOFF STRUCTURE SHALL BE MADE OF TYPE II SULPHATE RESISTANT CONCRETE WITH A MINIMUM WIDTH OF 1 FEET, MINIMUM DEPTH 3 FEET BELOW ORIGINAL GROUND, AND EXTEND 2 FEET ON EACH SIDE INTO ORIGINAL GROUND. LEVEL SPREADER WILL RUN FULL LENGTH OF ROAD CROSSING, OR CHANNEL WIDTH. THE CONCRETE SPREADER SHALL BE PLACED ON THE UPSTREAM SIDE OF THE CROSSING, IF APPLICABLE. STRUCTURES SHALL BE INSTALLED AT INLET AND OUTLET OF EACH POND. POND LINERS SHALL EXTEND PAST THE CONCRETE AND KEYED UNDER ANY GROUDED RIPRAP IN AND OUT OF PONDS.



BUYER  
CB-23

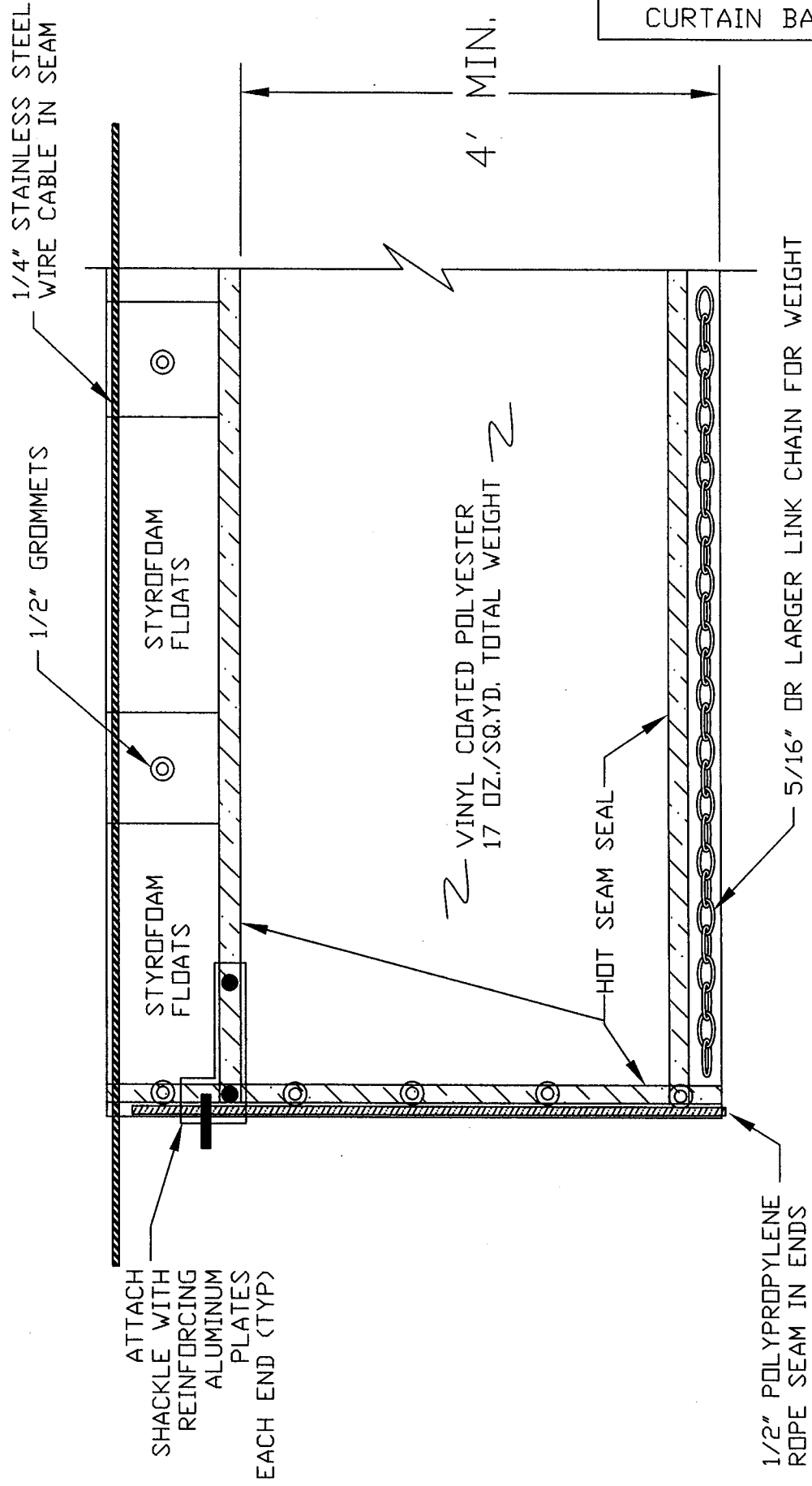
REQ. or P.O. No.  
DEP 15058

POND LINER ANCHOR  
TRENCH DETAIL



NOT TO SCALE

BUYER CB-23	REQ. or P.O. No. DEP 15058
CURTAIN Baffle DETAIL	



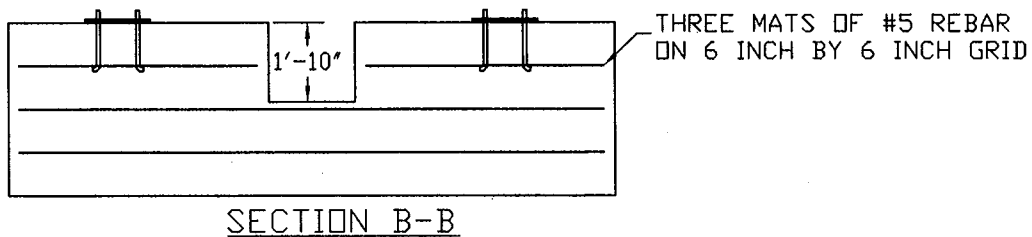
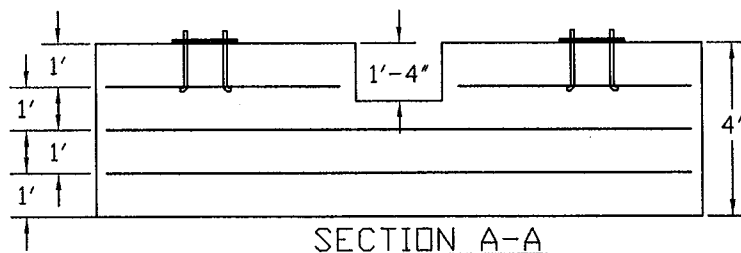
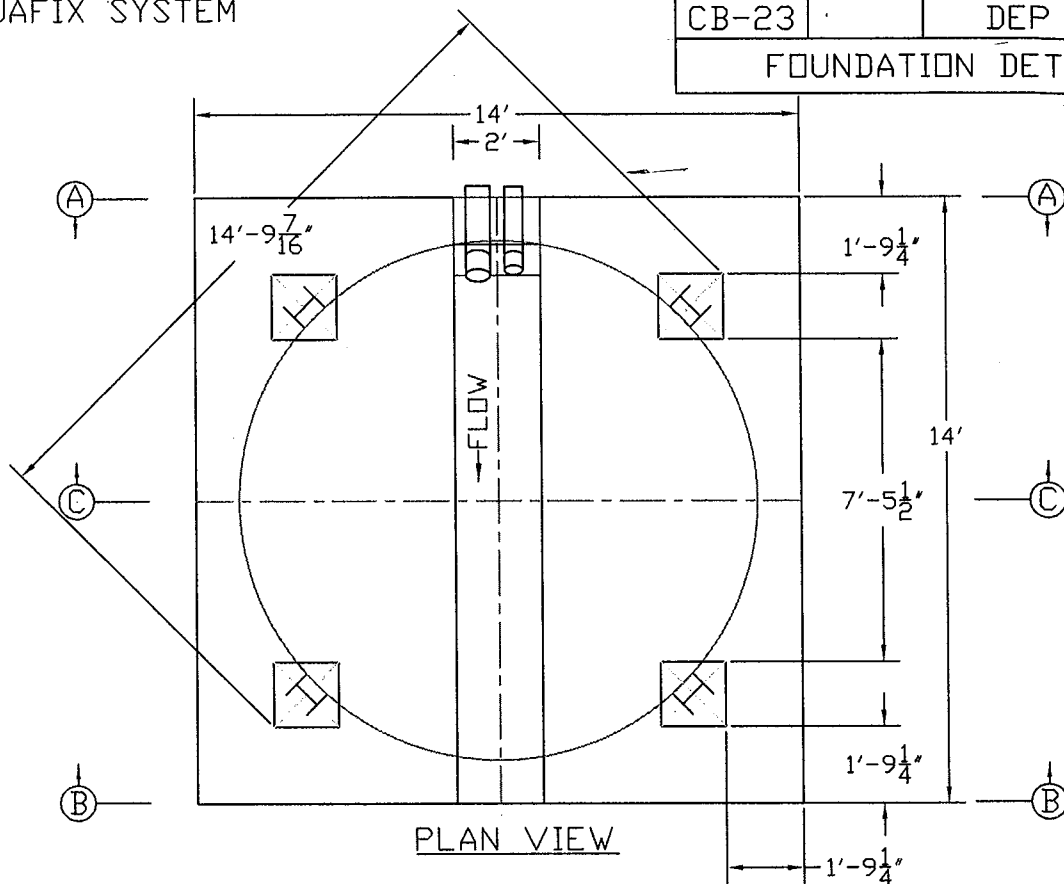
NOTE: THE CABLE MUST EXTEND 10 FEET PAST THE Baffle MATERIAL ON EACH END.  
 ANY OPENINGS SHALL BE CUT IN THE CURTAINS ON-SITE AT THE DIRECTION OF THE  
 ON-SITE DEP REPRESENTATIVE.

FOR AQUAFIX SYSTEM

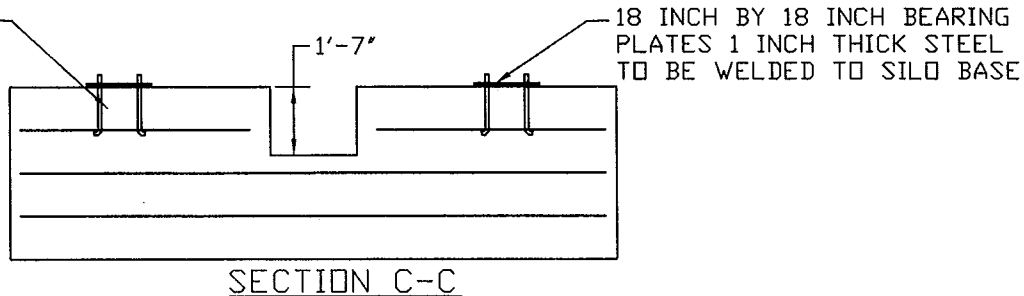
BUYER  
CB-23

REQ. or P.O. No.  
DEP 15058

FOUNDATION DETAILS



FOUR 1 INCH DIAMETER ANCHOR BOLTS TO EXTEND BELOW REBAR MAT AND BE TIED. BOLTS SHALL EXTEND 2.5 INCHES ABOVE CONCRETE PAD.

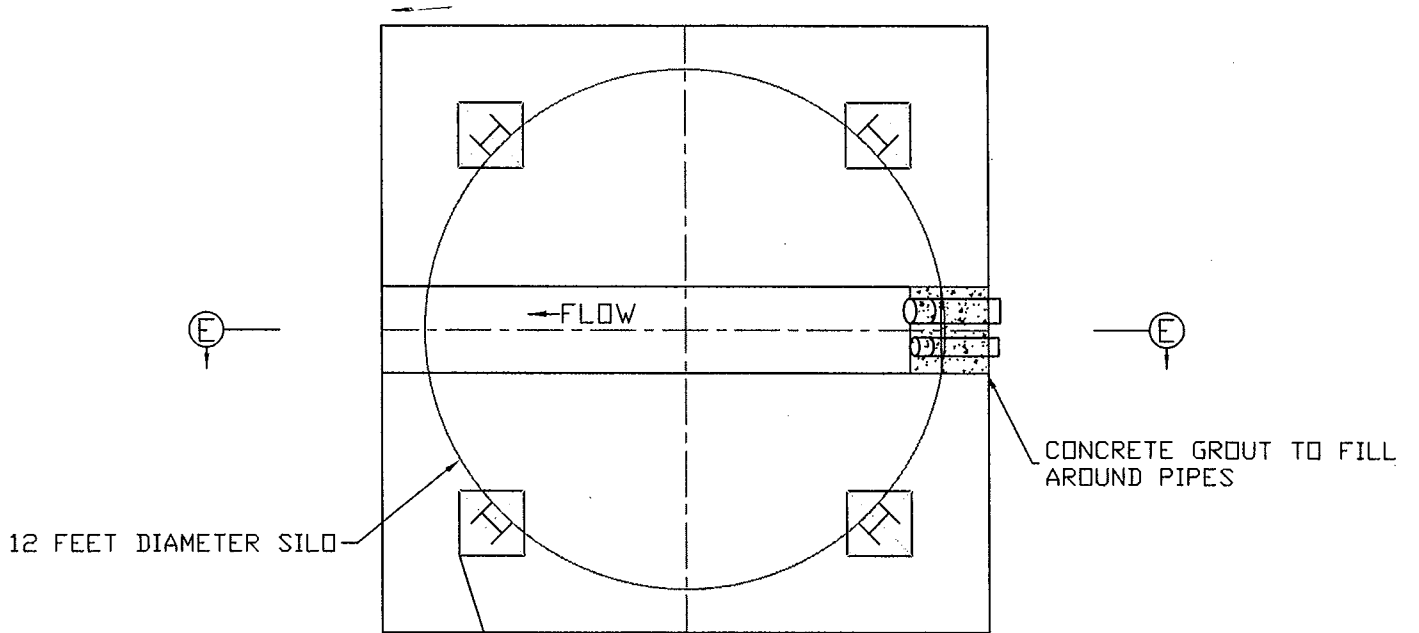


FOR AQUAFIX SYSTEM

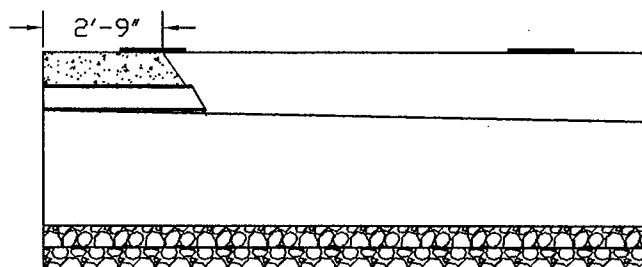
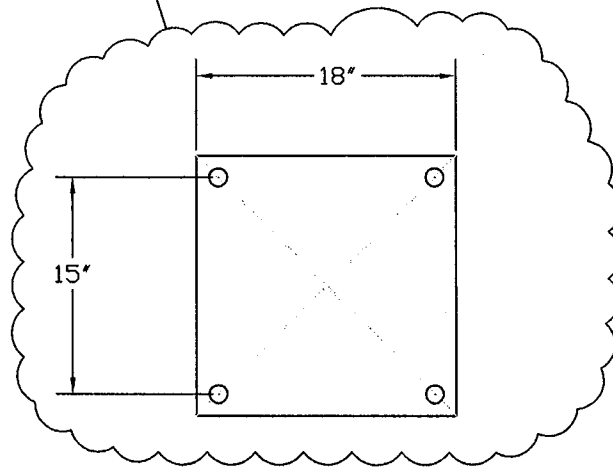
BUYER:  
CB-23

REQ. or P.O. No.  
DEP 15058

FOUNDATION DETAILS



PLAN VIEW



SECTION E-E

EXCAVATE TO CONSOLIDATED MATERIAL  
ADD 6 INCH COMPACTED LAYERS  
OF CRUSHER RUN LIMESTONE USING  
VIBRATORY TAMPER UNTIL THE DESIGN  
ELEVATION IS ACHIEVED.

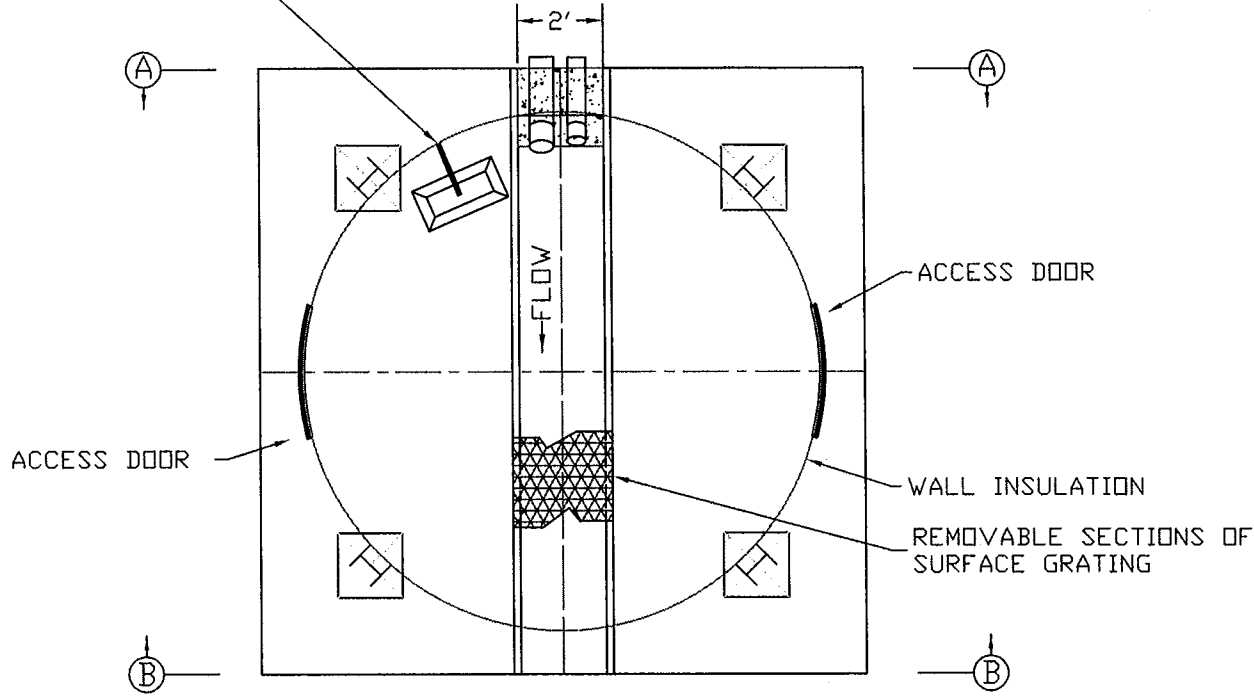
FOR AQUAFIX SYSTEM

BUYER  
CB-23

REQ. or P.O. No.  
DEP 15058

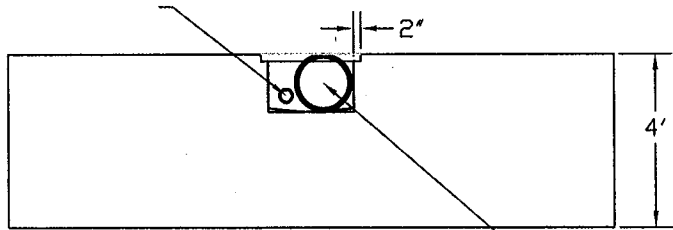
FOUNDATION DETAILS

PROPANE HEATER



PLAN VIEW

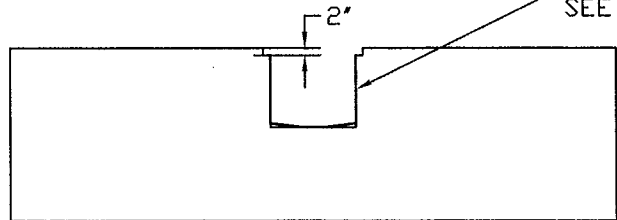
4' DRIVELINE



SECTION A-A

16" HDPE PIPE SECTION TO CONVEY WATER FROM DITCH

STAINLESS STEEL TROUGH LINER  
SEE SEPARATE DETAIL DRAWING

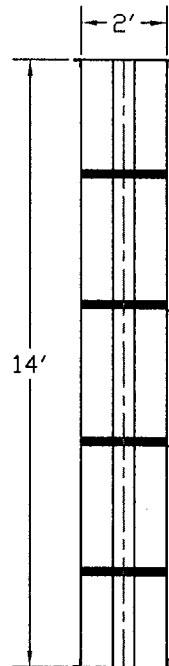


SECTION B-B

FOR AQUAFIX SYSTEM

BUYER  
CB-23REQ. or P.O. No.  
DEP 15058

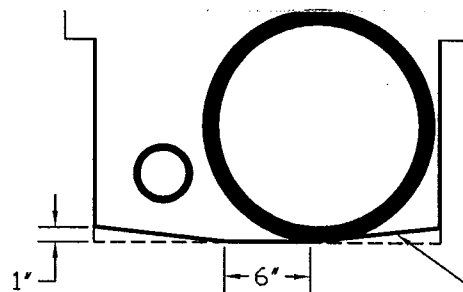
## TROUGH LINER DETAILS



PLAN VIEW

STEEL ANGLE SHALL BE TACK WELDED ON TOP OF CHANNEL TO BE USED AS STIFFENERS, AND SHALL BE REMOVED AFTER CONCRETE HAS BEEN POURED.

ANGLE SHALL BE WELDED ON OUTSIDE EDGES OF LINER ENDS TO BE USED TO BOLT TO FOUNDATION FORMS.



ENLARGED CROSS SECTION

NOTES: THE ENTIRE LENGTH OF THE TROUGH SHALL LINED WITH SOLID ONE-EIGHTH INCH THICK STAINLESS STEEL 304 GRADE. THE HEIGHT OF THE LINER SHALL EXTEND TO THE 2' BY 2' GROOVE, AND SHALL VARY IN HEIGHT FROM THE INLET TO THE OUTLET OF THE FOUNDATION TROUGH.

THE LINER SHALL HAVE A FLAT CENTER SECTION OF 6" WIDE AND THEN BE SLOPED (1%) ON EACH SIDE. THIS SHALL MAINTAIN A CONCENTRATION OF FLOW IN THE CENTER OF THE TROUGH.

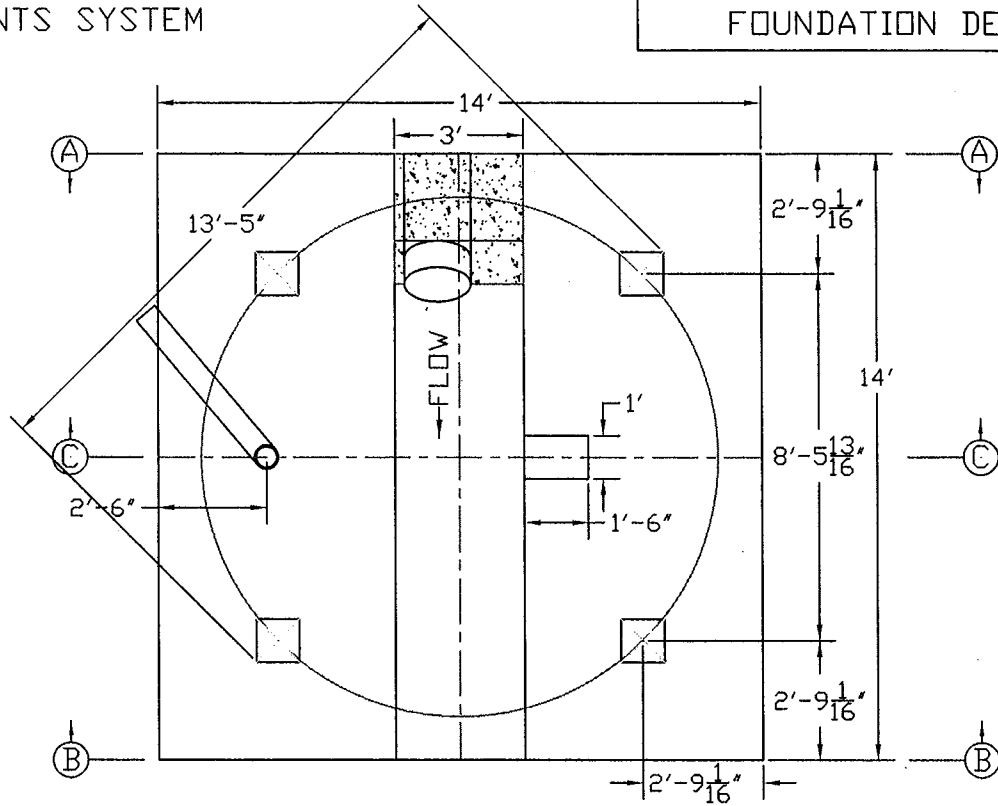
THE LINER SHALL BE USED AS A STRUCTURAL COMPONENT OF THE FORM, AND SHALL BE IN PLACE AT TIME OF CONCRETE POUR FOR THE FOUNDATION. THE LINER SHALL BE PAID AS PART OF THE FOUNDATION BID ITEM.

FOR LIME DOSING  
CONSULTANTS SYSTEM

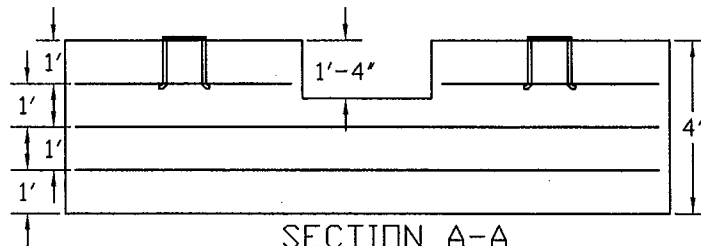
BUYER  
CB-23

REQ. or P.O. No.  
DEP 15058

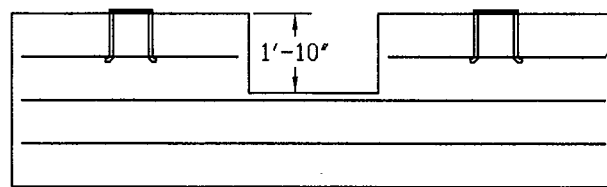
FOUNDATION DETAILS



PLAN VIEW



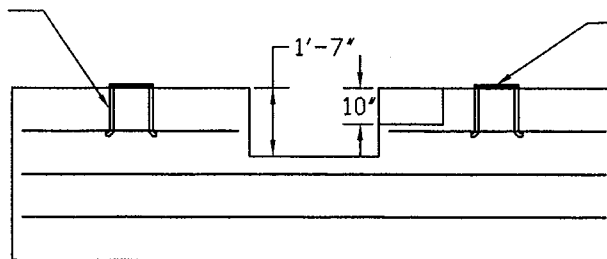
SECTION A-A



SECTION B-B

THREE MATS OF #5 REBAR  
ON 6 INCH BY 6 INCH GRID

FOUR 1 INCH DIAMETER  
ANCHOR BOLTS TO EXTEND  
BELOW REBAR MAT AND  
BE TIED. BOLTS SHALL  
BE WELDED TO PLATE.



SECTION C-C

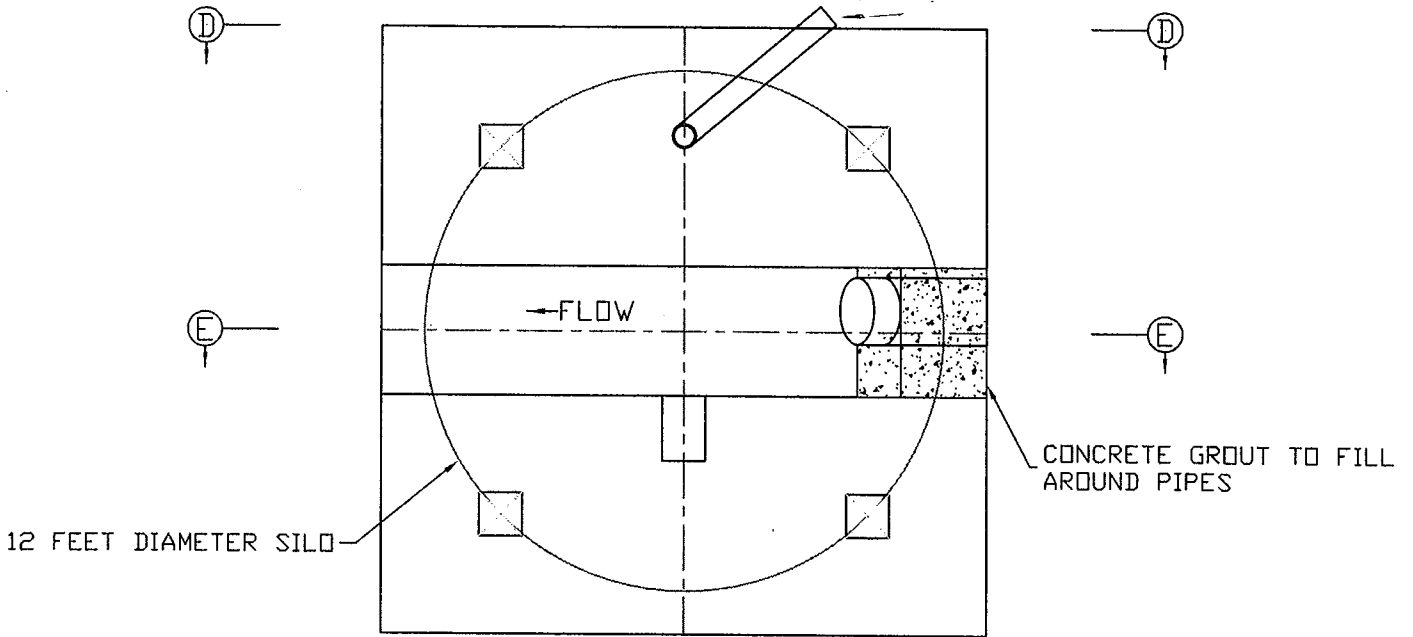
12 INCH BY 12 INCH BEARING  
PLATES 1 INCH THICK STEEL  
TO BE WELDED TO SILO BASE

FOR LIME DOSING  
CONSULTANTS SYSTEM

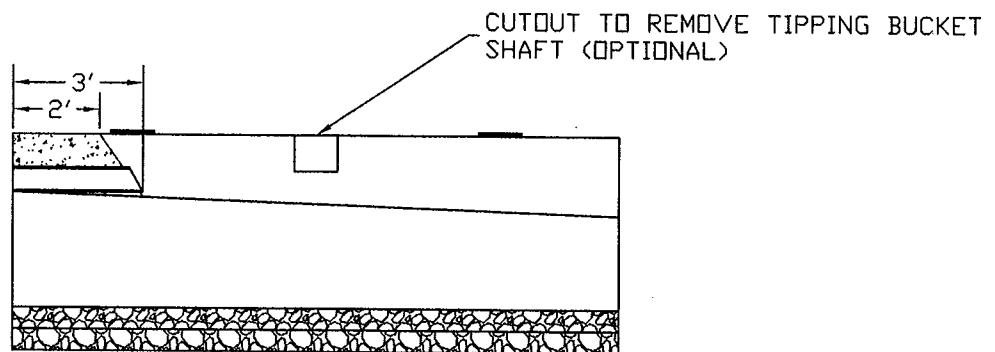
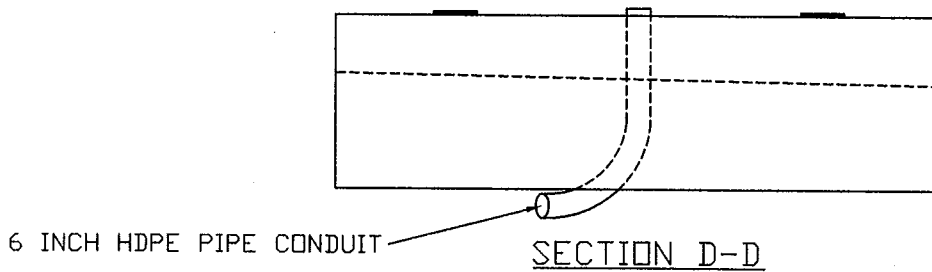
BUYER  
CB-23

REQ. or P.O. No.  
DEP 15058

FOUNDATION DETAILS



PLAN VIEW



EXCAVATE TO CONSOLIDATED MATERIAL  
ADD 6 INCH COMPACTED LAYERS  
OF CRUSHER RUN LIMESTONE USING  
VIBRATORY TAMPER UNTIL THE DESIGN  
ELEVATION IS ACHIEVED.

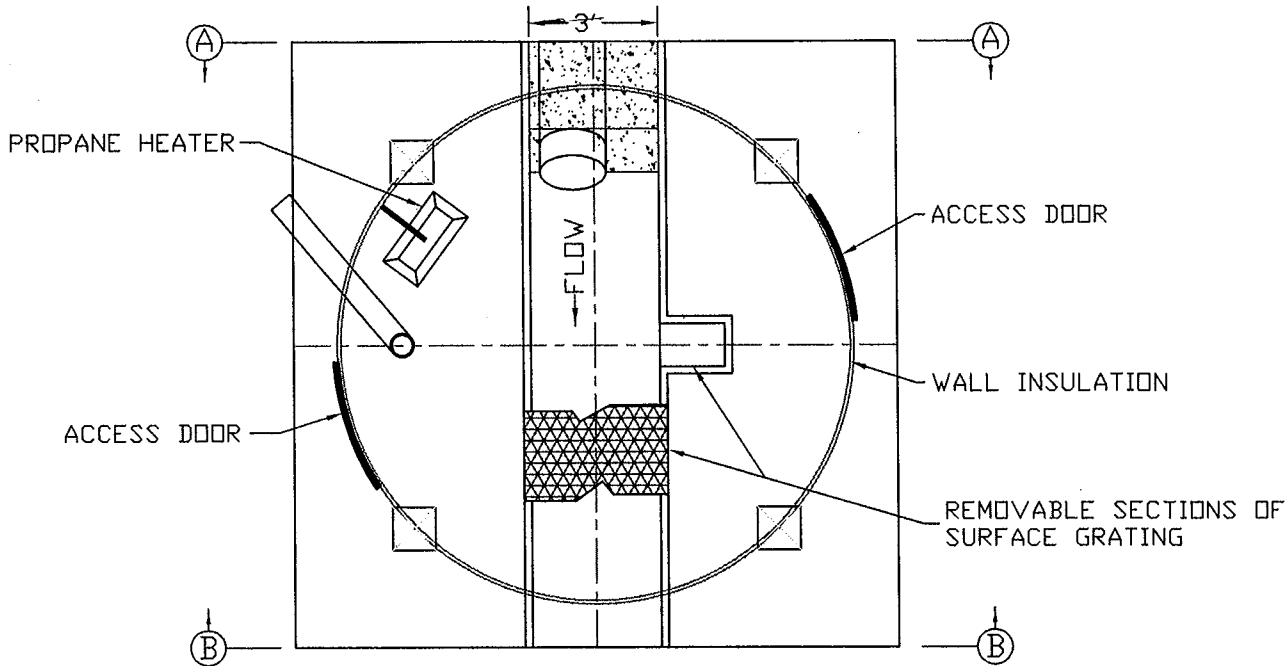


FOR LIME DOSING  
CONSULTANTS SYSTEM

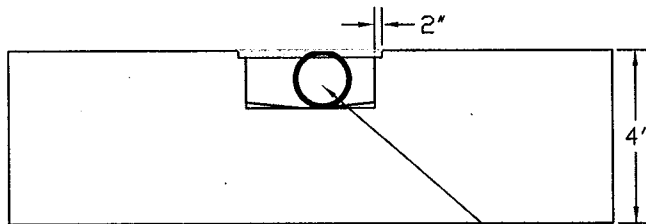
BUYER  
CB-23

REQ. or P.O. No.  
DEP 15058

FOUNDATION DETAILS



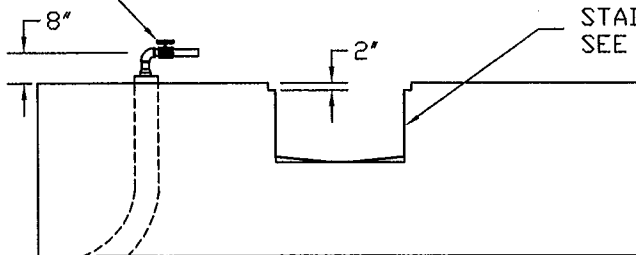
PLAN VIEW



SECTION A-A

16" HDPE PIPE SECTION TO CONVEY  
WATER FROM DITCH

2 INCH VALVE  
REDUCE DRIVE LINE TO  
FIT IN CONDUIT



SECTION B-B

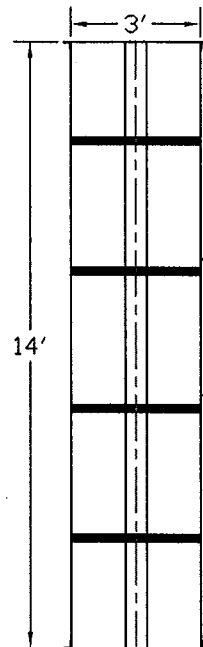
STAINLESS STEEL TROUGH LINER  
SEE SEPARATE DETAIL DRAWING

FOR LIME DOSING  
CONSULTANTS SYSTEM

BUYER  
CB-23

REQ. or P.O. No.  
DEP 15058

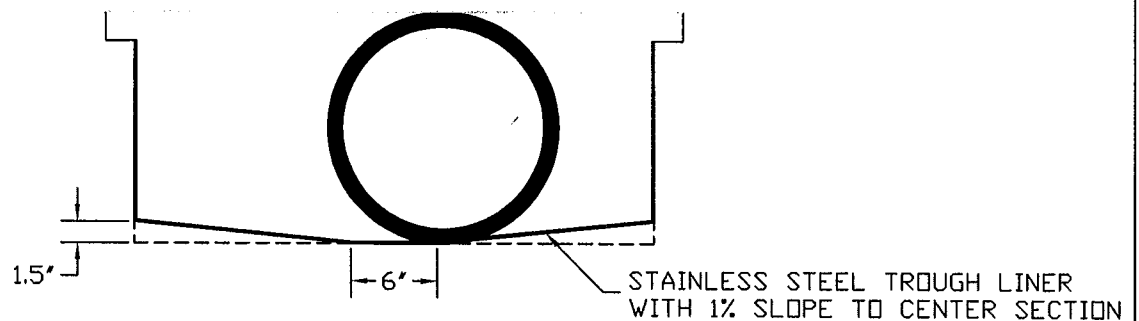
TROUGH LINER DETAILS



STEEL ANGLE SHALL BE TACK WELDED ON TOP OF CHANNEL TO BE USED AS STIFFENERS, AND SHALL BE REMOVED AFTER CONCRETE HAS BEEN POURED.

ANGLE SHALL BE WELDED ON OUTSIDE EDGES OF LINER ENDS TO BE USED TO BOLT TO FOUNDATION FORMS.

PLAN VIEW



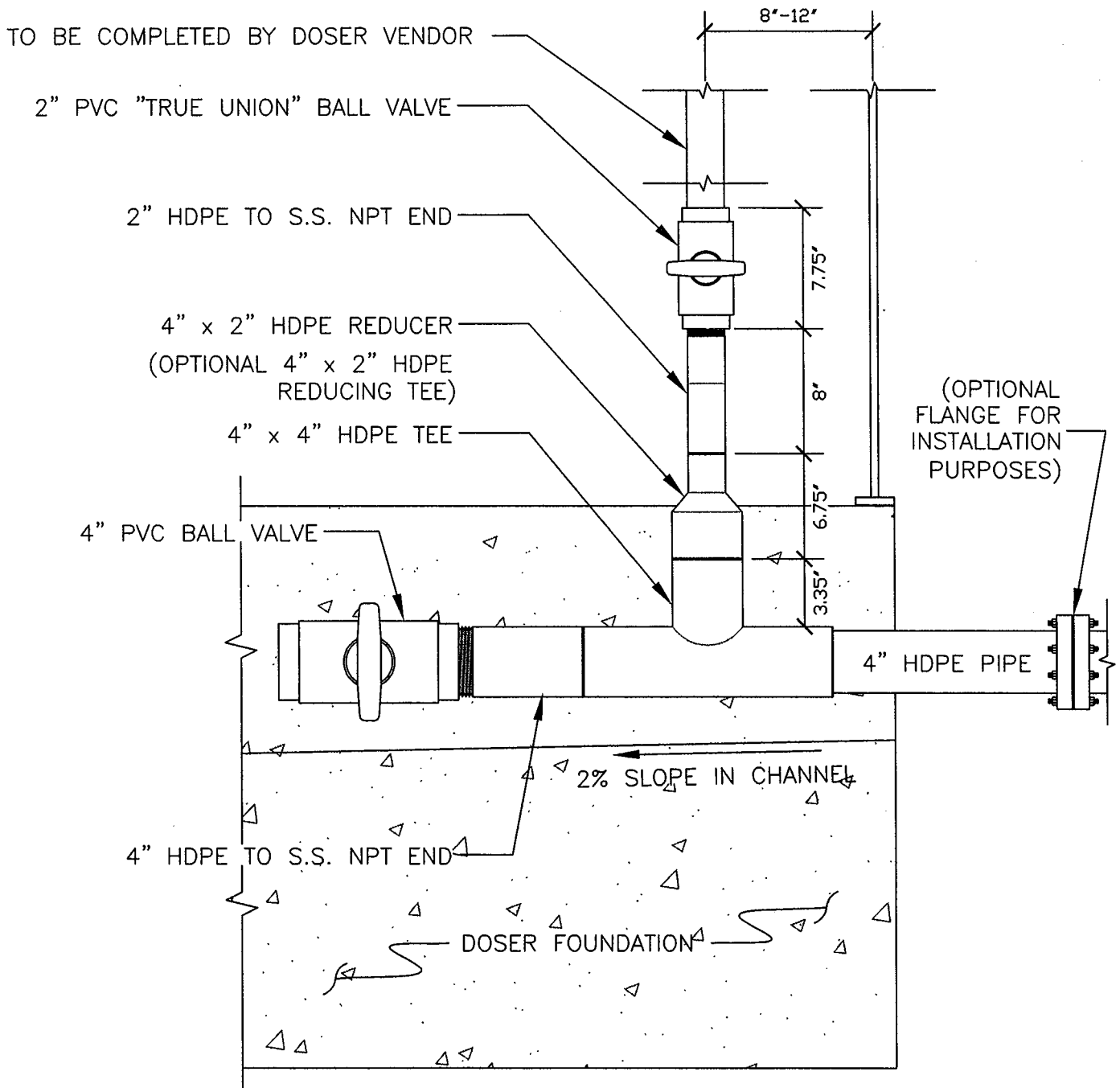
ENLARGED CROSS SECTION

NOTES: THE ENTIRE LENGTH OF THE TROUGH SHALL LINED WITH SOLID ONE-EIGHTH INCH THICK STAINLESS STEEL 304 GRADE. THE HEIGHT OF THE LINER SHALL EXTEND TO THE 2" BY 2" GROOVE, AND SHALL VARY IN HEIGHT FROM THE INLET TO THE OUTLET OF THE FOUNDATION TROUGH.

THE LINER SHALL HAVE A FLAT CENTER SECTION OF 6" WIDE AND THEN BE SLOPED (1%) ON EACH SIDE. THIS SHALL MAINTAIN A CONCENTRATION OF FLOW IN THE CENTER OF THE TROUGH.

THE LINER SHALL BE USED AS A STRUCTURAL COMPONENT OF THE FORM, AND SHALL BE IN PLACE AT TIME OF CONCRETE POUR FOR THE FOUNDATION. THE LINER SHALL BE PAID AS PART OF THE FOUNDATION BID ITEM.

BUYER CB-23	REQ. or P.O. No. DEP 15058
DRIVE LINE SCHEMATIC	

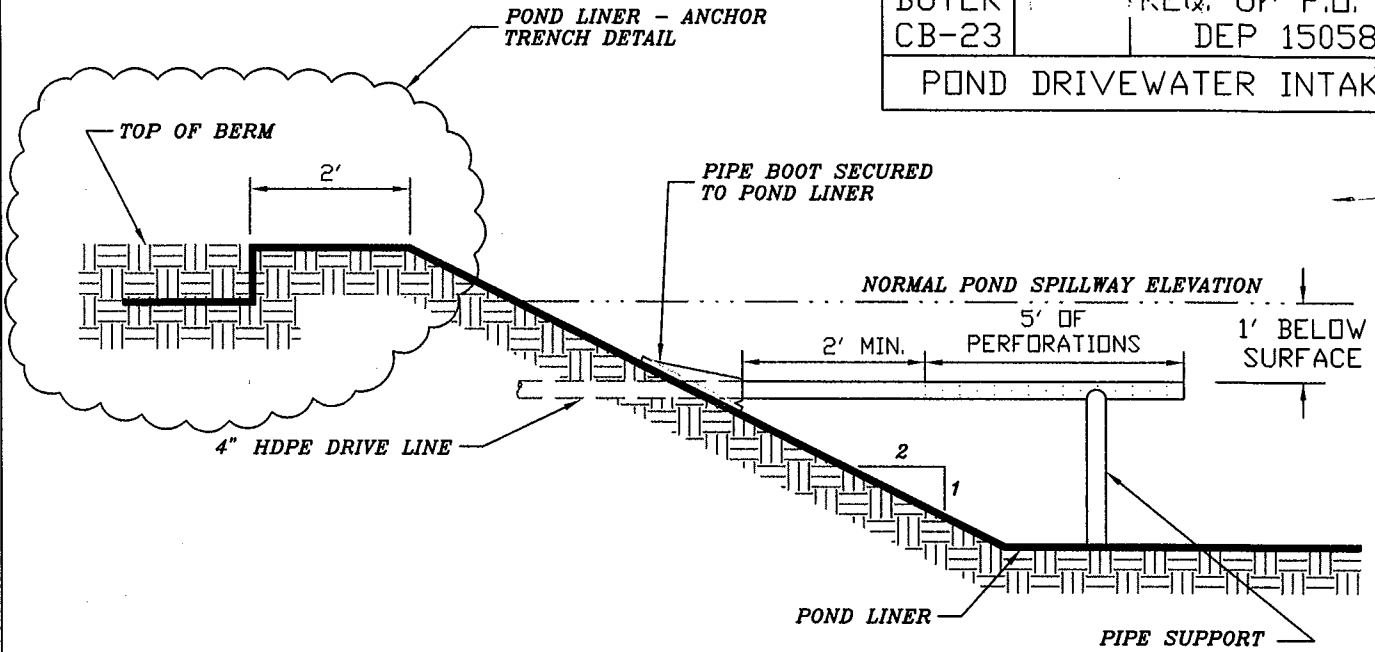


NOT TO SCALE

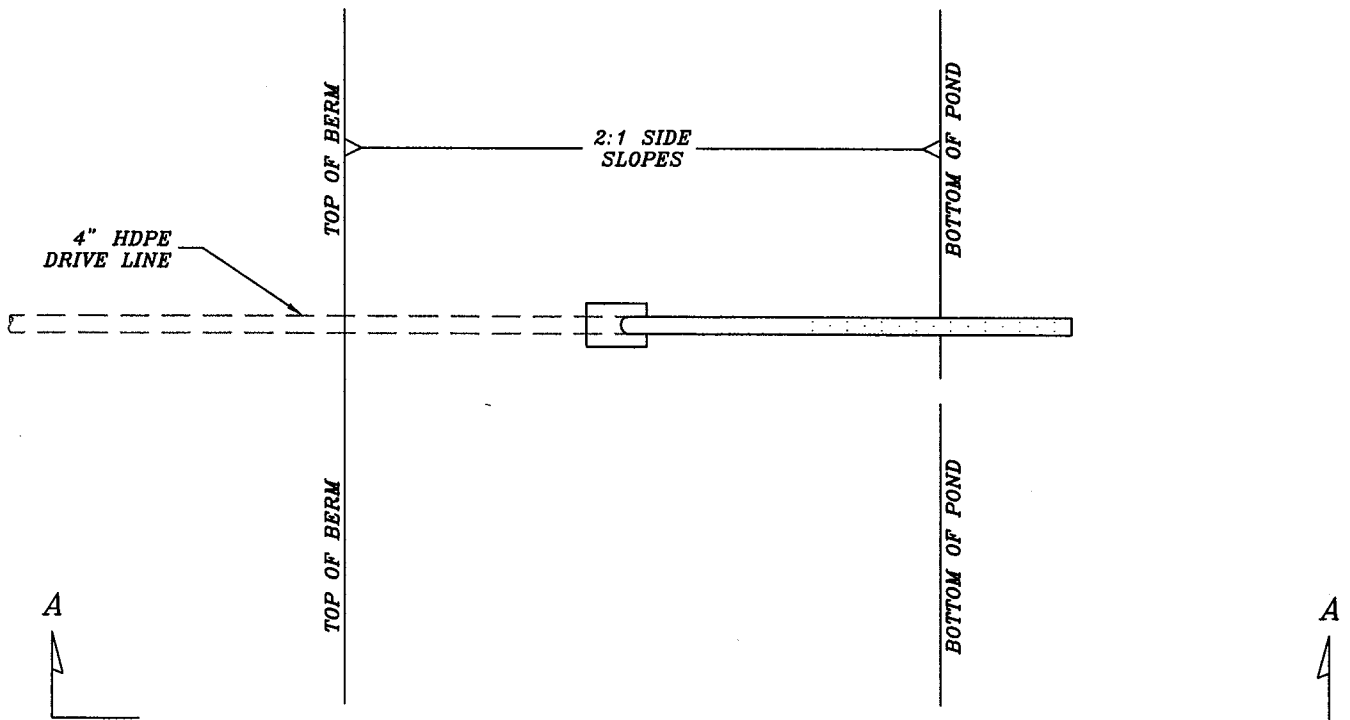
NOTE: DEPENDING ON WHICH TYPE OF DOSER IS SELECTED, THE DRIVELINE MAY ENTER THE FOUNDATION THRU THE CHANNEL OR THRU A CONDUIT IN THE FOUNDATION.

THIS SCHEMATIC IS FOR ENTERING FROM THE REAR OF THE CHANNEL.

BUYER	REQ. or P.O. No.
CB-23	DEP 15058
POND DRIVEWATER INTAKE	



SECTION A'-A'



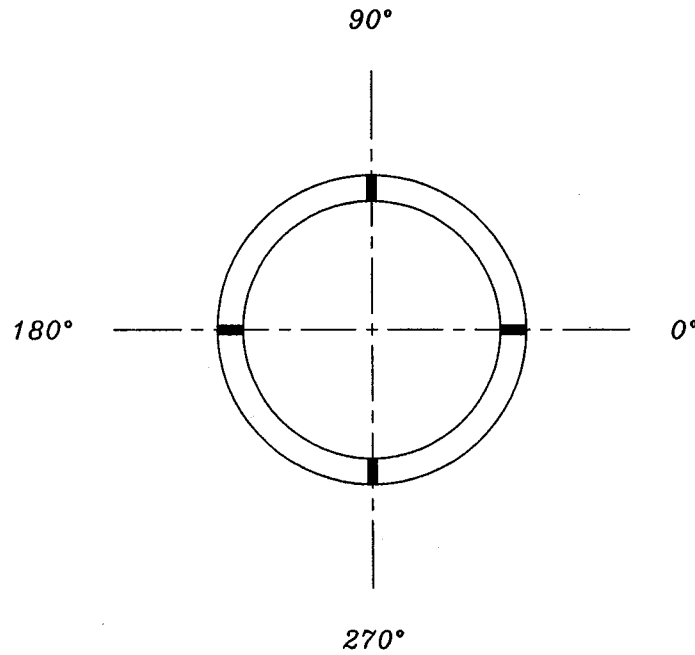
NOT TO SCALE

BUYER  
CB-23

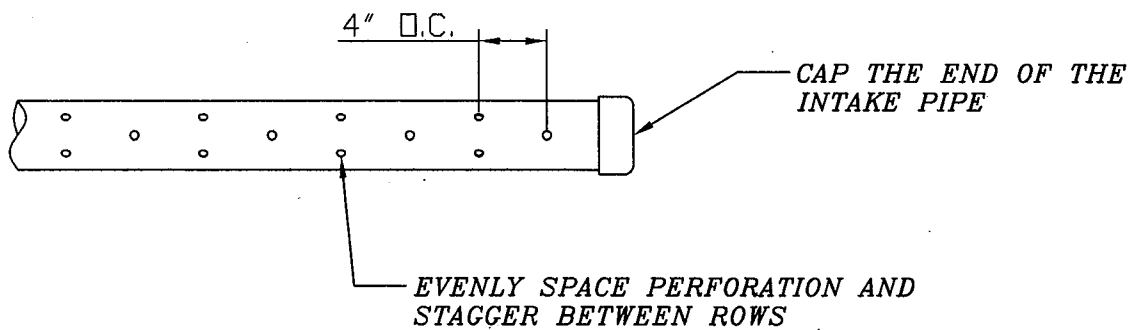
REQ. or P.O. No.  
DEP 15058

INTAKE PERFORATIONS

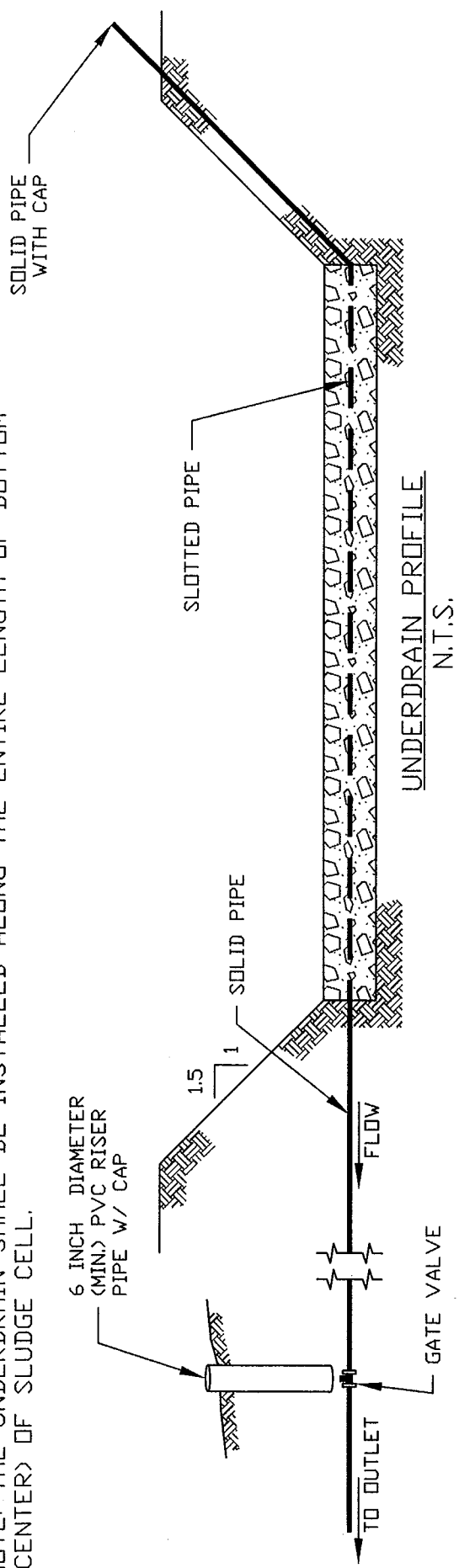
**4" HDPE INTAKE  
PERFORATION SPACING  
4 - 3/4" DIAMETER PERFORATIONS PER ROW**



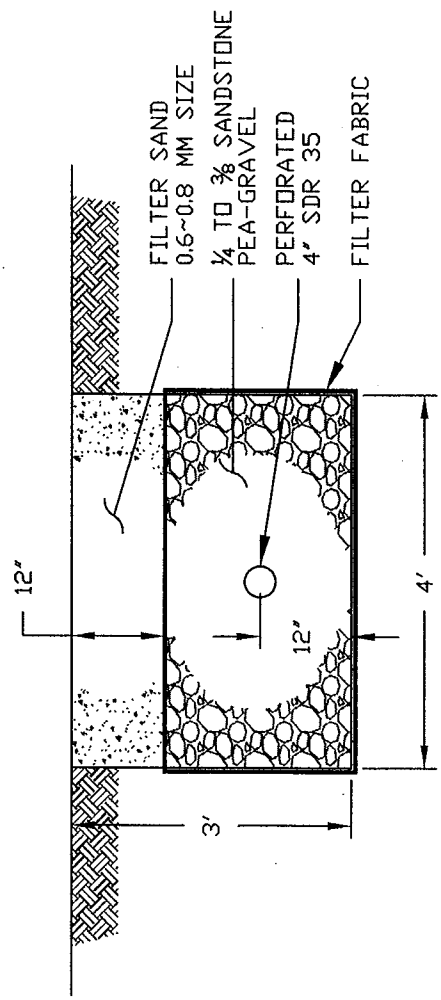
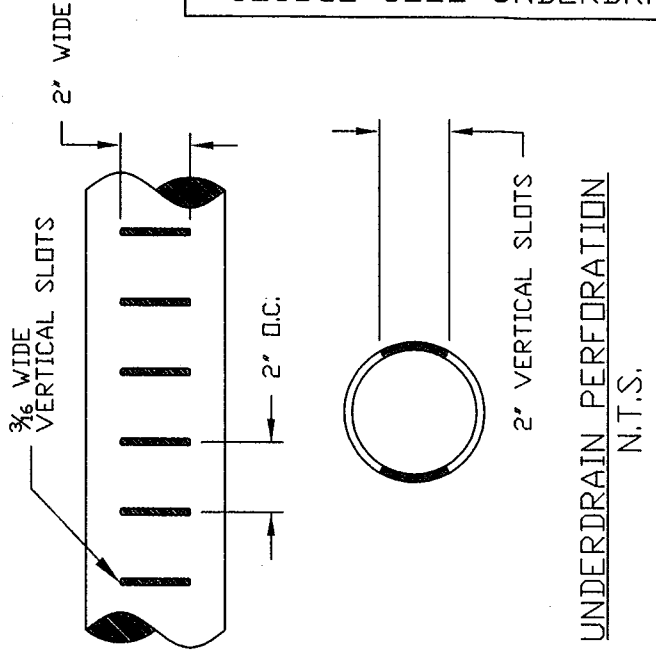
**4 - 3/4" DIAMETER PERFORATIONS PER ROW  
15 ROWS IN 5 FEET  
(4" O.C. SPACING)**



NOTE: THE UNDERDRAIN SHALL BE INSTALLED ALONG THE ENTIRE LENGTH OF BOTTOM (CENTER) OF SLUDGE CELL.

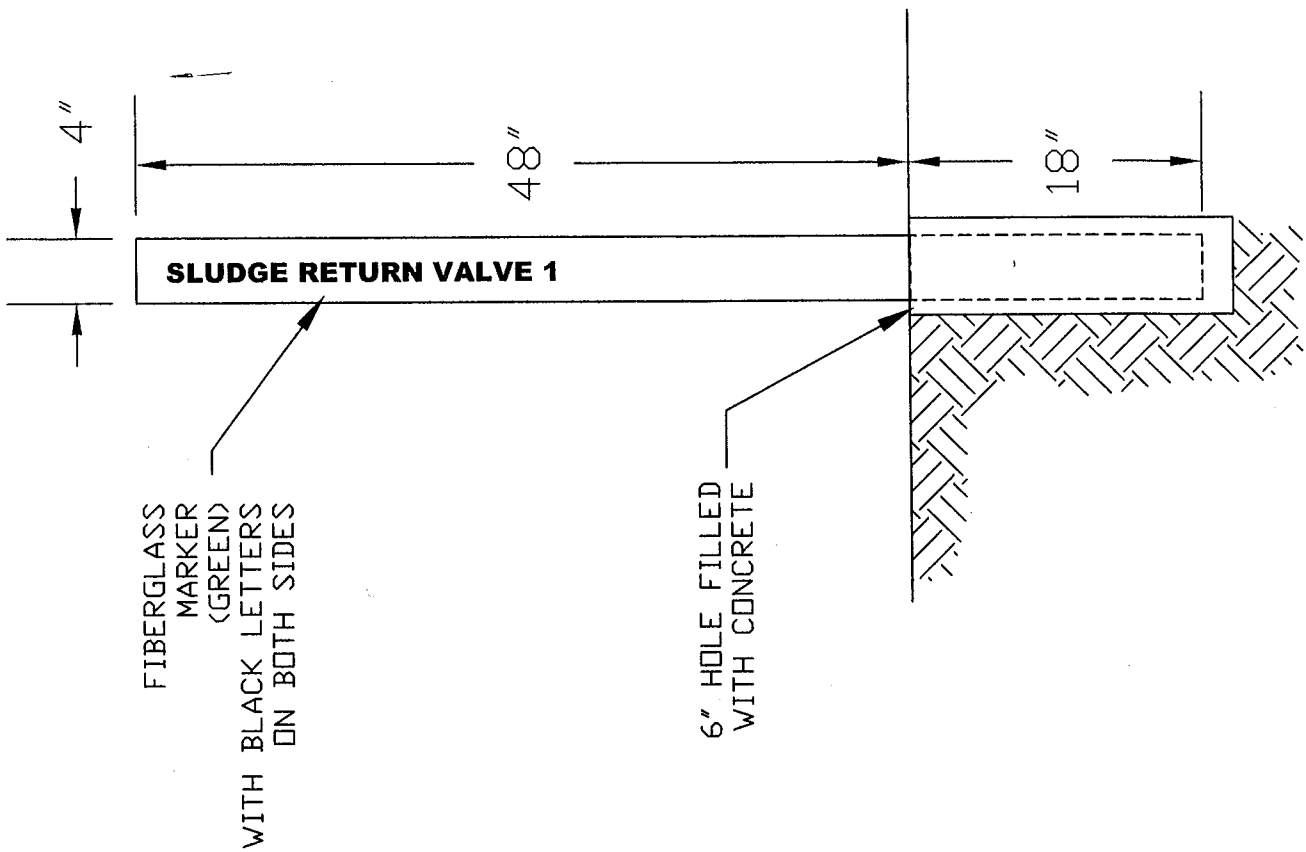


BUYER CB-23	REQ. or P.O. No. DEP 15058
SLUDGE CELL UNDERDRAIN	



UNDERDRAIN CROSS SECTION N.T.S.

BUYER CB-23	REQ. or P.O. No. DEP 15058
VALVE MARKERS	



# VALVE LABEL CHART

VALVE LOCATION NUMBER	LABELING FOR MARKER
1	SLUDGE RETURN VALVE 1
2	SLUDGE RETURN VALVE 2
3	SLUDGE RETURN VALVE 3
4	SLUDGE/RECIRC VALVE N.C.
5	SLUDGE DIRECTION VALVE N.C.
6	SLUDGE DIRECTION VALVE N.D.

BUYER CB-23	REQ. or P.D. No. DEP 15058
FENCE SPECIFICATION	

End, Corner or Intermediate Posts  
6' Min. Dia.,  
8' Min. Length

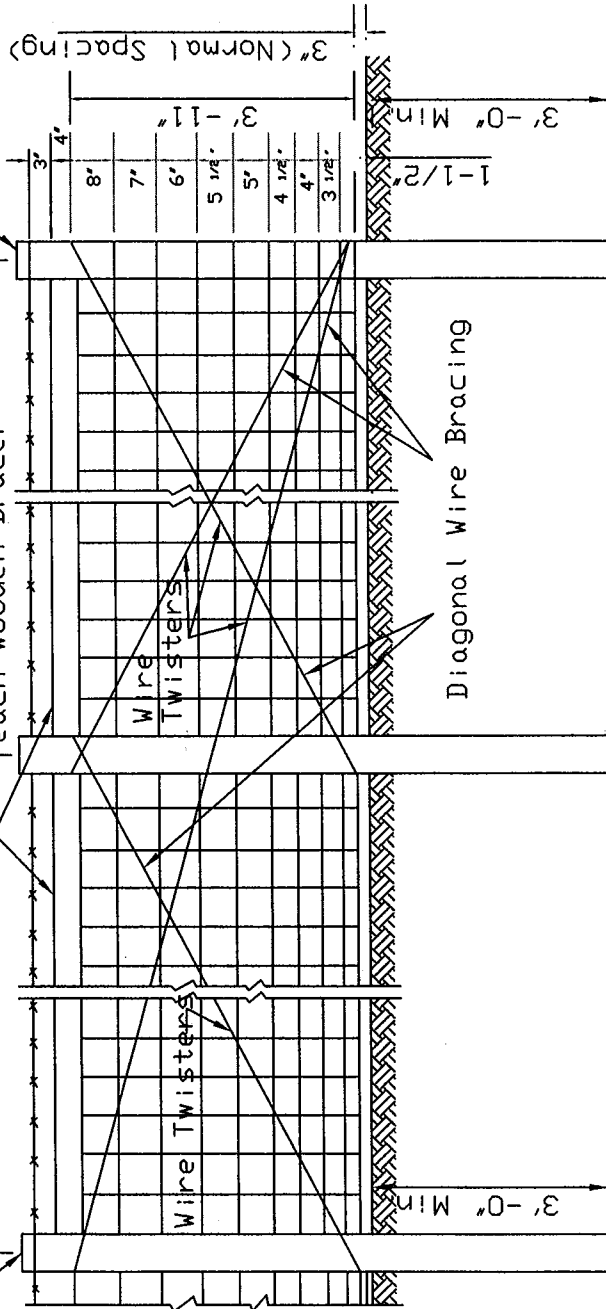
\* Applies on level terrain, may be adjusted for slope for construction.

10' with one Intermediate Post when less than 300' to next Corner, Intermediate, Gate, or End Post.  
Notch Post and Dowel with 5/8" by 5" Steel Pin at both ends of each Wooden Brace.

20' with three Approach Posts when more than 300' to next Corner

Intermediate, Gate or End Post

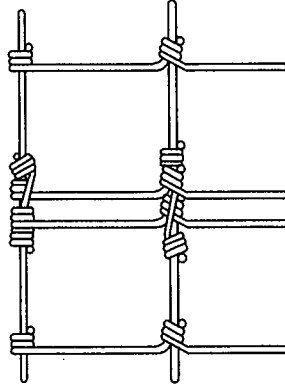
4" Dia. Braces





BUYER  
CB-23REQ. or P.O. No.  
DEP 15058

## FENCE SPECIFICATION



Note: Type FW-4-5 Nicopress Oval Sleeve Wire Splices, or other equal sleeve splices approved by the Engineer, may be used in lieu of the above wrapped wire splices.

## TYPICAL WIRE FENCE SPLICE

## NOTES:

Posts and braces may be either round or square shaped. Dimensions shown on the Plans are for round posts and braces only. When square posts are used, line posts shall be 4" square (min.); braces 4" square (min.); corner, end, pull, gate, approach, and intermediate posts 6" square (min.).

The positioning of the fence fabric and barbed wire on the posts, as shown on the "Typical Fence Section" detail, applies for level and gentle sloping terrain. For fence erected on slopes, the positioning may be adjusted to meet the slope conditions as long as the adjustment is continued from post to post in a uniform manner. Trenching on slopes may be warranted. On slopes, posts will continue to be erected vertically, unless otherwise directed, and the ends of the fencing fabric shall be cut on a skew as may be necessary for proper connection to the posts.

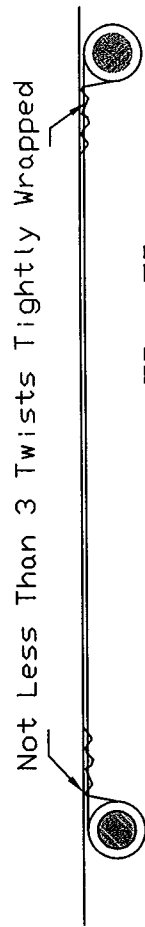
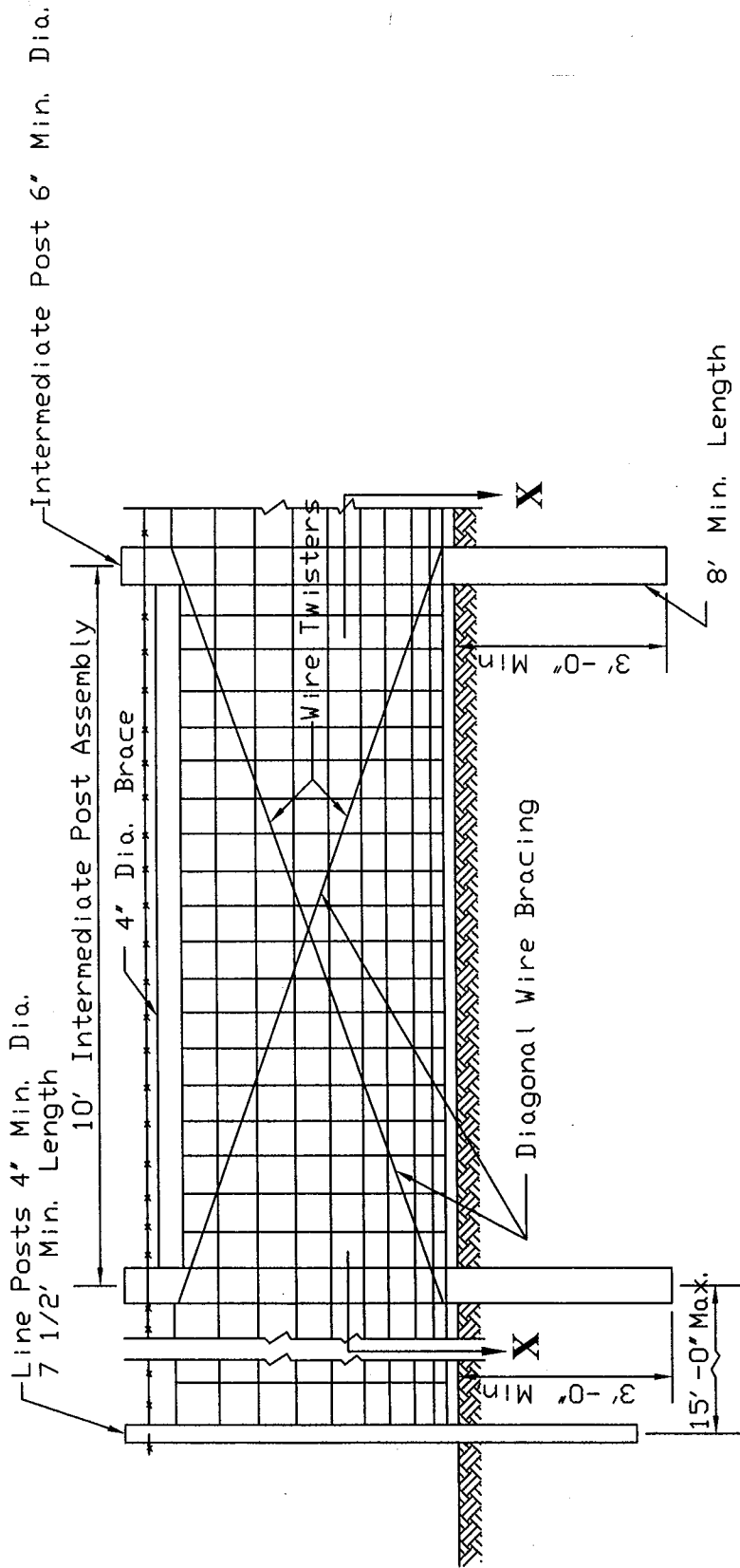
Dumped rock channel protection will be used at channel crossings when called for on the plans.

Install drainage structure terminal installations as called for on the plans and/or as shown on typical fence details.

Unless otherwise specified, or directed by the Engineer, the farm field fence may be installed with the fence fabric and barbed wire positioned on either side of the fence

Hardware and miscellaneous fittings, not specifically designated herein as to type or dimensions, shall conform to the applicable requirements of WVDH Section 608 of the Specifications and shall be of good quality commercial design acceptable to the Director or Representative.

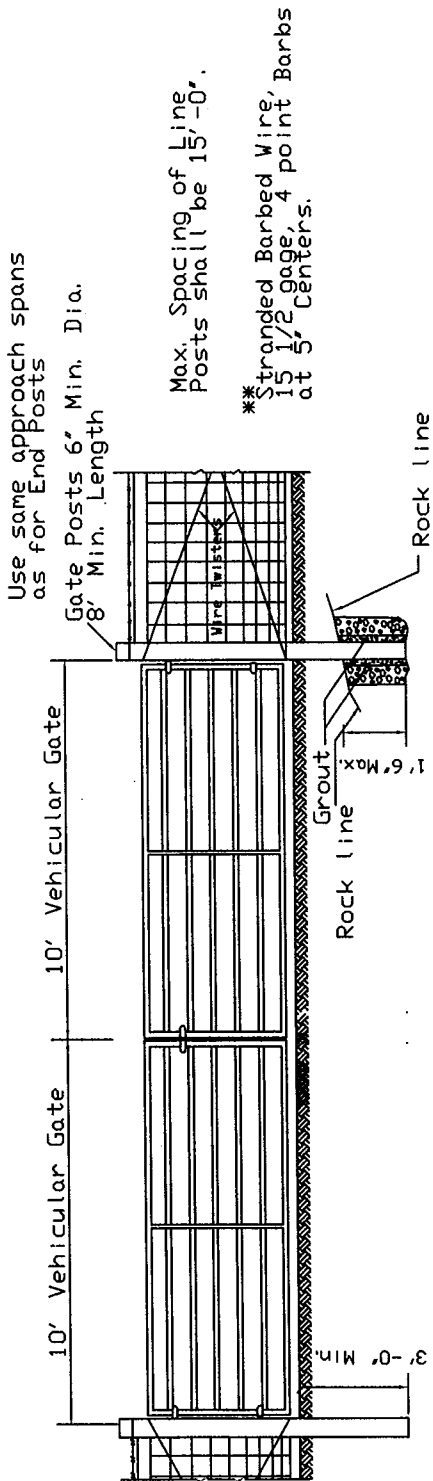
BUYER CB-23	REQ. or P.O. No. DEP 15058
FENCE SPECIFICATION	



(Connection of Fencing Fabric to Intermediate Assembly Posts)

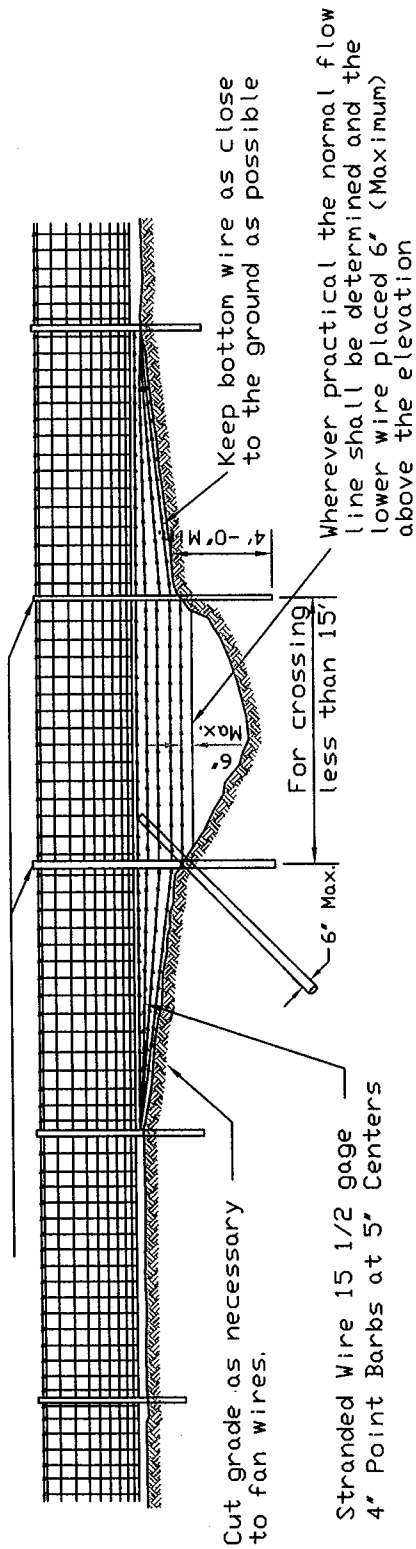
BUYER CB-23	REQ. or P.O. No. DEP 15058
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FENCE SPECIFICATION



When a portion of any post falls in rock, that portion shall be grouted in place as shown above.

Line Posts: 4" Min. Dia. up to and including heights 6.5' above ground line.



DETAIL SHOWING TYPICAL SECTION AT MINDR DEPRESSIONS AND WET WEATHER CROSSINGS

Agency \_\_\_\_\_  
REQ. P. O# \_\_\_\_\_

**BID BOND**

KNOW ALL MEN BY THESE PRESENTS, That we, the undersigned, \_\_\_\_\_  
of \_\_\_\_\_, \_\_\_\_\_, as Principal, and \_\_\_\_\_  
of \_\_\_\_\_, \_\_\_\_\_, a corporation organized and existing under the laws of the State of \_\_\_\_\_  
with its principal office in the City of \_\_\_\_\_, as Surety, are held and firmly bound unto the State  
of West Virginia, as Obligee, in the penal sum of \_\_\_\_\_ (\$ \_\_\_\_\_) for the payment of which,  
well and truly to be made, we jointly and severally bind ourselves, our heirs, administrators, executors, successors and assigns.

The Condition of the above obligation is such that whereas the Principal has submitted to the Purchasing Section of the  
Department of Administration a certain bid or proposal, attached hereto and made a part hereof, to enter into a contract in writing for  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

NOW THEREFORE,

- (a) If said bid shall be rejected, or
- (b) If said bid shall be accepted and the Principal shall enter into a contract in accordance with the bid or proposal attached  
hereto and shall furnish any other bonds and insurance required by the bid or proposal, and shall in all other respects perform the  
agreement created by the acceptance of said bid, then this obligation shall be null and void, otherwise this obligation shall remain in full  
force and effect. It is expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event,  
exceed the penal amount of this obligation as herein stated.

The Surety, for the value received, hereby stipulates and agrees that the obligations of said Surety and its bond shall be in no  
way impaired or affected by any extension of the time within which the Obligee may accept such bid, and said Surety does hereby  
waive notice of any such extension.

IN WITNESS WHEREOF, Principal and Surety have hereunto set their hands and seals, and such of them as are corporations  
have caused their corporate seals to be affixed hereunto and these presents to be signed by their proper officers, this  
\_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

Principal Corporate Seal

\_\_\_\_\_  
(Name of Principal)

By \_\_\_\_\_  
(Must be President or  
Vice President)

\_\_\_\_\_  
(Title)

Surety Corporate Seal

\_\_\_\_\_  
(Name of Surety)

\_\_\_\_\_  
Attorney-in-Fact

**IMPORTANT - Surety executing bonds must be licensed in West Virginia to transact surety insurance. Raised corporate seals  
must be affixed, a power of attorney must be attached.**

BID BOND PREPARATION INSTRUCTIONS

AGENCY (A)
RFQ/RFP# (B)

Bid Bond

KNOW ALL MEN BY THESE PRESENTS, That we, the undersigned, (C) of (D), (E) as Principal, and (F) of (G), (H), a corporation organized and existing under the laws of the State of (I) with its principal office in the City of (J), as Surety, are held and firmly bound unto The State of West Virginia, as Obligee, in the penal sum of (K) (\$ (L)) for the payment of which, well and truly to be made, we jointly and severally bind ourselves, our heirs, administrators, executors, successors and assigns.

The Condition of the above obligation is such that whereas the Principal has submitted to the Purchasing Section of the Department of Administration a certain bid or proposal, attached hereto and made a part hereof to enter into a contract in writing for (M)

NOW THEREFORE.

(a) If said bid shall be rejected, or (b) If said bid shall be accepted and the Principal shall enter into a contract in accordance with the bid or proposal attached hereto and shall furnish any other bonds and insurance required by the bid or proposal, and shall in all other respects perform the agreement created by the acceptance of said bid then this obligation shall be null and void, otherwise this obligation shall remain in full force and effect. It is expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated

The Surety for value received, hereby stipulates and agrees that the obligations of said Surety and its bond shall be in no way impaired or affected by any extension of time within which the Obligee may accept such bid: and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, Principal and Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be affixed hereto and these presents to be signed by their proper officers, this (N) day of (O), 20 (P).

Principal Corporate Seal

(R)

Surety Corporate Seal

(U)

(Q) (Name of Principal)
By (S) (Must be President or Vice President)
(T) Title
(V) (Name of Surety)
(W) Attorney-in-Fact

- (A) WV State Agency (Stated on Page 1 "Spending Unit") Request for Quotation Number (upper right corner of page #1)
(C) Your Company Name
(D) City, Location of your Company
(E) State, Location of your Company
(F) Surety Corporate Name
(G) City, Location of Surety
(H) State, Location of Surety
(I) State of Surety Incorporation
(J) City of Surety Incorporation
(K) Minimum amount of acceptable bid bond is 5% of total bid. You may state "5% of bid" or a specific amount on this line in words.
(L) Amount of bond in figures
(M) Brief Description of scope of work
(N) Day of the month
(O) Month
(P) Year
(Q) Name of Corporation
(R) Raised Corporate Seal of Principal
(S) Signature of President or Vice President
(T) Title of person signing
(U) Raised Corporate Seal of Surety
(V) Corporate Name of Surety
(W) Signature of Attorney in Fact of the Surety
NOTE: Dated, Power of Attorney with Raised Surety Seal must accompany this bid bond.

IMPORTANT - Surety executing bonds must be licensed in West Virginia to transact surety insurance. Raised Corporate Seals must be affixed and a Power of Attorney must be attached.



State of West Virginia  
DRUG FREE WORKPLACE CONFORMANCE AFFIDAVIT  
West Virginia Code §21-1D-5

STATE OF \_\_\_\_\_

COUNTY OF \_\_\_\_\_, TO-WIT:

I, \_\_\_\_\_, after being first duly sworn, depose and state as follows:

- 1. I am an employee of \_\_\_\_\_; and,  
(Company Name)
- 2. I do hereby attest that \_\_\_\_\_  
(Company Name)

maintains a valid written drug free workplace policy and that such policy is in compliance with **West Virginia Code** §21-1D-5.

The above statements are sworn to under the penalty of perjury.

\_\_\_\_\_  
(Company Name)

By: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Taken, subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_.

By Commission expires \_\_\_\_\_

(Seal)

\_\_\_\_\_  
(Notary Public)

**THIS AFFIDAVIT MUST BE SUBMITTED WITH THE BID IN ORDER TO COMPLY WITH WV CODE PROVISIONS. FAILURE TO INCLUDE THE AFFIDAVIT WITH THE BID SHALL RESULT IN DISQUALIFICATION OF THE BID.**

RFQ No. \_\_\_\_\_

STATE OF WEST VIRGINIA  
Purchasing Division

**PURCHASING AFFIDAVIT**

West Virginia Code §5A-3-10a states: No contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and the debt owed is an amount greater than one thousand dollars in the aggregate.

**DEFINITIONS:**

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Debtor" means any individual, corporation, partnership, association, limited liability company or any other form or business association owing a debt to the state or any of its political subdivisions. "Political subdivision" means any county commission; municipality; county board of education; any instrumentality established by a county or municipality; any separate corporation or instrumentality established by one or more counties or municipalities, as permitted by law; or any public body charged by law with the performance of a government function or whose jurisdiction is coextensive with one or more counties or municipalities. "Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceed five percent of the total contract amount.

**EXCEPTION:** The prohibition of this section does not apply where a vendor has contested any tax administered pursuant to chapter eleven of this code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

Under penalty of law for false swearing (*West Virginia Code §61-5-3*), it is hereby certified that the vendor affirms and acknowledges the information in this affidavit and is in compliance with the requirements as stated.

**WITNESS THE FOLLOWING SIGNATURE**

Vendor's Name: \_\_\_\_\_

Authorized Signature: \_\_\_\_\_ Date: \_\_\_\_\_

State of \_\_\_\_\_

County of \_\_\_\_\_, to-wit:

Taken, subscribed, and sworn to before me this \_\_\_\_ day of \_\_\_\_\_, 20\_\_.

My Commission expires \_\_\_\_\_, 20\_\_.

AFFIX SEAL HERE

NOTARY PUBLIC \_\_\_\_\_