

# Commercial/Industrial Floodplain Development Permit

## Doddridge County, WV Floodplain Management

This permit has been issued to **CNX Gas Company, LLC**, and is for the approved commercial and/or industrial development project associated with this permit that impacts the FEMA-designated floodplain and/or floodway of Doddridge County, WV, pursuant to the rules and regulations established by all applicable Federal, State and local laws and ordinances, including the Doddridge County Floodplain Ordinance. This permit must be posted at the site of work as to be clearly visible, and must remain posted during entirety of development.

**Permit: #14-314 ~ CNX Gas Company, LLC ~  
OXFD 14 Well Pad, Tank Pad, Access Road, & Stockpiles**

**Date Approved: 10/23/2014**

**Expires: N/A**

**Issued to: CNX Gas Company, LLC**

**POC: Kelly Eddy  
304-884-2131**

**Company Address: One Energy Drive, PO Box 1248  
Jane Lew, WV 26378**

**Project Address: Southwest District  
Lat/Long: 39.155479N/80.756002W**

**Purpose of development: Well pad construction. *Project does not impact floodplain.***

**Issued by: Edwin L. "Bo" Wriston, Doddridge County FPM (*or designee*)**

**Date: 10/23/2014**

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For additional information regarding this permit, please contact  
Doddridge County Floodplain Manager at 304.873.2631, or via email at  
doddridgecountyfpm@gmail.com  
118 East Court Street; West Union, WV 26456

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#14-314



FILED PROFESSIONAL ENERGY CONSULTANTS

A DIVISION OF SMITH LAND SURVEYING, INC.

2014 OCT 23 AM 9:18

October 20, 2014

BETH A. ROGERS  
COUNTY CLERK  
DODDRIDGE COUNTY, WV

Mr. Bo Wriston  
Floodplain Coordinator  
Doddridge County Commission  
118 East Court Street  
West Union, WV 26456

RE: CNX Gas Company, LLC  
OXFD 14 Well Pad, Tank Pad, Access Road, and Stockpiles

Mr. Wriston,

On behalf of CNX, SLS is submitting this letter pursuant to the requirements of the Doddridge County Floodplain Ordinance to request concurrence to complete a project in Doddridge County, West Virginia. CNX has proposed a well pad, tank pad, access road, and stockpiles to aid in the development of individual Marcellus Shale gas wells. The well pad entrance is located at latitude 39.168752 and longitude -80.764640 (NAD 83) and the well pad is located at latitude 39.155479 and longitude -80.756002 (NAD 83).

This site does not impact a floodplain. Please see the attached application, project location map, site plans, and FEMA firmette.

Again, on behalf of CNX, SLS is requesting your concurrence to begin construction on the OXFD 14 Well Pad Project once the WVDEP drilling permits are received. Please feel to contact Leslie Pierce with SLS at 304-462-5634 or [lpierce@slssurveys.com](mailto:lpierce@slssurveys.com), or Kelly Eddy with CNX at 304-884-2131 or [KellyEddy@consolenergy.com](mailto:KellyEddy@consolenergy.com) should you have any questions or comments.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Leslie Pierce', is written over a horizontal line.

Leslie Pierce

cc: Kelly Eddy/CNX Gas Company LLC

**DODDRIDGE COUNTY**  
**FLOODPLAIN DEVELOPMENT PERMIT APPLICATION**

**SECTION 1: GENERAL PROVISIONS (APPLICANT TO READ AND SIGN)**

1. No work may start until a permit is issued.
2. The permit may be revoked if any false statements are made herein.
3. If revoked, all work must cease until permit is re-issued.
4. Development shall not be used or occupied until a Certificate of Compliance is issued.
5. The permit will expire if no work is commenced within six months of issuance.
6. Applicant is hereby informed that other permits may be required to fulfill local, state, and federal requirements.
7. Applicant hereby gives consent to the Floodplain Administrator/Manager or his/her representative to make inspections to verify compliance.
8. **I, THE APPLICANT CERTIFY THAT ALL STATEMENTS HEREIN AND IN ATTACHMENTS TO THIS APPLICATION ARE, TO THE BEST OF MY KNOWLEDGE, TRUE AND ACCURATE.**

APPLICANT'S SIGNATURE Kelly Eddy

DATE 10-20-14

**SECTION 2: PROPOSE DEVELOPMENT (TO BE COMPLETED BY APPLICANT).**

**IF THE APPLICANT IS NOT A NATURAL PERSON, THE NAME, ADDRESS, AND TELEPHONE NUMBER OF A NATURAL PERSON WHO SHALL BE APPOINTED BY THE APPLICANT TO RECEIVE NOTICE PURSUANT TO ANY PROVISION OF THE CURRENT DODDRIDGE COUNTY FLOODPLAIN ORDINANCE.**

APPLICANT'S NAME: CNX Gas Com pany, LLC

ADDRESS: One Energy Drive Jane Lew, WV 26378

TELEPHONE NUMBER: 304-884-2131

**BUILDER'S NAME:** CNX Gas Company, LLC

**ADDRESS:** One Energy Drive Jane Lew, WV 26378

**TELEPHONE NUMBER:** 304-884-2131

**ENGINEER'S NAME:** Smith Land Surveying

**ADDRESS:** 12 Vanhorn Drive; P.O. Box 150, Glenville, WV 26351

**TELEPHONE NUMBER:** 304-462-5634

**PROJECT LOCATION:** The site is located on a ridge south of County Route 40, approximately 3,400 feet south of the County Route 40 and County Route 19/11 intersection.

**NAME OF SURFACE OWNER/OWNERS (IF NOT THE APPLICANT)** Diane E. Hickock et al. and Joseph I. Shulte

**ADDRESS OF SURFACE OWNER/OWNERS (IF NOT THE APPLICANT)** \_\_\_\_\_

Diane Hickock et al. 12200 Farm Rd, Upper Marlboro, MD 20772

Joseph I. Shulte 4778 Vadis Rd, Alum Bridge, WV 26321

**DISTRICT:** Southwest and Cove District

**DATE/FROM WHOM PROPERTY**

**PURCHASED** \_\_\_\_\_

**LAND BOOK DESCRIPTION:** Diane Hickock et al.- COVE CK 165.13 AC Joseph I Shulte- COVE CK 130 AC

**DEED BOOK REFERENCE:** Diane Hickock- Book 296; Page 632 Joseph I. Shulte- Book AB27; Page 351

**TAX MAP REFERENCE:** Doddridge County; Southwest and Cove Districts; Tax Maps 2-2 and 5-1

**EXISTING BUILDINGS/USES OF PROPERTY:** \_\_\_\_\_

**NAME OF AT LEAST ONE ADULT RESIDING IN EACH RESIDENCE LOCATED UPON THE SUBJECT PROPERTY** \_\_\_\_\_

**ADDRESS OF AT LEAST ONE ADULT RESIDING IN EACH RESIDENCE LOCATED UPON THE SUBJECT PROPERTY** \_\_\_\_\_

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To avoid delay in processing the application, please provide enough information to easily identify the project location.

**DESCRIPTION OF WORK (CHECK ALL APPLICABLE BOXES)**

**A. STRUCTURAL DEVELOPMENT**

<u>ACTIVITY</u>	<u>STRUCTURAL TYPE</u>
<input checked="" type="checkbox"/> New Structure	<input type="checkbox"/> Residential (1 – 4 Family)
<input type="checkbox"/> Addition	<input type="checkbox"/> Residential (more than 4 Family)
<input type="checkbox"/> Alteration	<input type="checkbox"/> Non-residential (floodproofing)
<input type="checkbox"/> Relocation	<input type="checkbox"/> Combined Use (res. & com.)
<input type="checkbox"/> Demolition	<input type="checkbox"/> Replacement
<input type="checkbox"/> Manufactured/Mobil Home	

**B. OTHER DEVELOPMENT ACTIVITIES:**

- Fill             Mining             Drilling             Pipelining
- Grading
- Excavation (except for STRUCTURAL DEVELOPMENT checked above)
- Watercourse Altercation (including dredging and channel modification)
- Drainage Improvements (including culvert work)
- Road, Street, or Bridge Construction
- Subdivision (including new expansion)
- Individual Water or Sewer System
- Other (please specify)
- 

**C. STANDARD SITE PLAN OR SKETCH**

- 1. SUBMIT ALL STANDARD SITE PLANS, IF ANY HAVE BEEN PREPARED.**
- 2. IF STANDARD SITE PLANS HAVE NOT BEEN PREPARED:**  
SKETCH ON A SEPARATE 8 ½ X 11 INCH SHEET OF PAPER THE SHAPE AND LOCATION OF THE LOT. SHOW THE LOCATION OF THE INTENDED CONSTRUCTION OR LAND USE INDICATING BUILDING SETBACKS, SIZE & HEIGHT. IDENTIFY EXISTING BUILDINGS, STRUCTURES OR LAND USES ON THE PROPERTY.
- 3. SIGN AND DATE THE SKETCH.**

**ACTUAL TOTAL CONSTRUCTION COSTS OF THE COMPLETE DEVELOPMENT IRRESPECTIVE OF WHETHER ALL OR ANY PART OF THE SUBJECT PROPOSED CONSTRUCTION PROJECT IS WITHIN THE FLOODPLAIN \$ \_\_\_\_\_**

**D. ADJACENT AND/OR AFFECTED LANDOWNERS:**

- 1. NAME AND ADDRESS OF ALL OWNERS OF SURFACE TRACTS ADJACENT TO THE AREA OF THE SURFACE TRACT (UP & DOWN STREAM) UPON WHICH THE PROPOSED ACTIVITY WILL OCCUR AND ALL OTHER SURFACE OWNERS UP & DOWN STREAM) WHO OWN PROPERTY THAT MAY BE AFFECTED BY FLOODING AS IS DEMONSTRATED BY A FLOODPLAIN STUDY OR SURVEY (IF ONE HAS BEEN COMPLETED).**

NAME: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_  
\_\_\_\_\_

NAME: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_  
\_\_\_\_\_

NAME: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_  
\_\_\_\_\_

NAME: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_  
\_\_\_\_\_

- 1. NAME AND ADDRESS OF AT LEAST ONE ADULT RESIDING IN EACH RESIDENCE LOCATED UPON ANY ADJACENT PROPERTY AT THE TIME THE FLOODPLAIN PERMIT APPLICATION IS FILED AND THE NAME AND ADDRESS OF AT LEAST ONE ADULT RESIDING IN ANY HOME ON ANY PROPERTY THAT MAY BE AFFECTED BY FLOODING AS IS DEMONSTRATED BY A FLOODPLAIN STUDY OR SURVEY.**

NAME: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_  
\_\_\_\_\_

NAME: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_  
\_\_\_\_\_

NAME: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_  
\_\_\_\_\_

NAME: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_  
\_\_\_\_\_

**E. CONFIRMATION FORM**

THE APPLICANT ACKNOWLEDGES, AGREES, AND CONFIRMS THAT HE/IT WILL PAY WITHIN 30 DAYS OF RECEIPT OF INVOICE BY THE COUNTY FOR ALL EXPENSES RELATIVE TO THE PERMIT APPLICATION PROCESS GREATER THAN THE REQUIRED DEPOSIT FOR EXPENSES INCLUDING:

- (A) PERSONAL SERVICE OF PROCESS BY THE DODDRIDGE COUNTY SHERIFF AT THE RATES PERMITTED BY LAW FOR SUCH SERVICE.
- (B) SERVICE BY CERTIFIED MAIL RETURN RECEIPT REQUESTED.
- (C) PUBLICATION.
- (D) COURT REPORTING SERVICES AT ANY HEARINGS REQUESTED BY THE APPLICANT.
- (E) CONSULTANTS AND/OR HEARING EXPERTS UTILIZED BY DODDRIDGE COUNTY FLOODPLAIN ADMINISTRATOR/MANAGER OR FLOODPLAIN APPEALS BOARD FOR REVIEW OF MATERIALS AND/OR TESTIMONY REGARDING THE EFFICACY OF GRANTING OR DENYING THE APPLICANT'S FLOODPLAIN PERMIT.

NAME (PRINT): Kelly Eddy

SIGNATURE: Kelly Eddy DATE: 10-20-14

After completing SECTION 2, APPLICANT should submit form to Floodplain Administrator/Manager or his/her representative for review.

**SECTION 3: FLOODPLAIN DETERMINATION (to be completed by Floodplain Administrator/Manager or his/her representative)**

**THE PROPOSED DEVELOPMENT:**

THE PROPOSED DEVELOPMENT IS LOCATED ON:

FIRM Panel: \_\_\_\_\_

Dated: \_\_\_\_\_

Is **NOT** located in a Specific Flood Hazard Area (Notify applicant that the application review is complete and **NO FLOODPLAIN DEVELOPMENT PERMIT IS REQUIRED**).

Is located in Special Flood Hazard Area.

FIRM zone designation \_\_\_\_\_

100-Year flood elevation is: \_\_\_\_\_ NGVD (MSL)

Unavailable

The proposed development is located in a floodway.

FBFM Panel No. \_\_\_\_\_

Dated \_\_\_\_\_

See section 4 for additional instructions.

**SIGNED** \_\_\_\_\_

**DATE** \_\_\_\_\_

**SECTION 4: ADDITIONAL INFORMATION REQUIRED (To be completed by  
Floodplain Administrator/Manager or his/her representative)**

The applicant must submit the documents checked below before the application can be processed.

A plan showing the location of all existing structures, water bodies, adjacent roads, lot dimensions and proposed development.

Development plans, drawn to scale, and specifications, including where applicable: details for anchoring structures, storage tanks, proposed elevation of lowest floor, (including basement or crawl space), types of water resistant materials used below the first floor, details of flood proofing of utilities located below the first floor and details of enclosures below the first floor. Also \_\_\_\_\_

Subdivision or other development plans (If the subdivision or development exceeds 50 lots or 5 acres, whichever is the lesser, the applicant must provide 100-year flood elevations if they are not otherwise available).

Plans showing the extent of watercourse relocation and/or landform alterations.

Top of new fill elevation \_\_\_\_\_ Ft. NGVD (MSL).  
For floodproofing structures applicant must attach certification from registered engineer or architect.



Certification from a registered engineer that the proposed activity in a regulatory floodway will not result in any increase in the height of the 100-year flood. A copy of all data and calculations supporting this finding must also be submitted.

Manufactured homes located in a floodplain area must have a West Virginia Contractor's License and a Manufactured Home Installation License as required by the Federal Emergency Management Agency (FEMA).

Other:

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**SECTION 5: PERMIT DETERMINATION (To be completed by Floodplain Administrator/Manager or his/her representative)**

I have determined that the proposed activity **(type is or is not)** in conformance with provisions of the Floodplain Ordinance adopted by the County Commission of Doddridge County on May 21, 2013. The permit is issued subject to the conditions attached to and made part of this permit.

SIGNED \_\_\_\_\_ DATE \_\_\_\_\_

If the Floodplain Administrator/Manager found that the above was not in conformance with the provisions of the Doddridge County Floodplain Ordinance and/or denied that application, the applicant may complete an appealing process below.

APPEALS:   Appealed to the County Commission of Doddridge County?  Yes  No  
Hearing Date: \_\_\_\_\_  
County Commission Decision - Approved    Yes    No

CONDITIONS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**SECTION 6: AS-BUILT ELEVATIONS (To be submitted by APPLICANT before Certificate of Compliance is issued).**

The following information must be provided for project structures. This section must be completed by a registered professional engineer or a licensed land surveyor (or attach a certification to this application).

COMPLETE 1 OR 2 BELOW:

- 1 Actual (As-Built) Elevation of the top of the lowest floor (including basement or crawl space is \_\_\_\_\_ FT. NGVD (MSL)
- 2 Actual (As Built) elevation of floodproofing is \_\_\_\_\_ FT. NGVD (MSL)

**Note: Any work performed prior to submittal of the above information is at risk of the applicant.**

**SECTION 7: COMPLIANCE ACTION (To be completed by the Floodplain Administrator/Manager or his/her representative).**

The Floodplain Administrator/Manager or his/her representative will complete this section as applicable based on inspection of the project to ensure compliance with the Doddridge County Floodplain Ordinance.

**INSPECTIONS:**

DATE: \_\_\_\_\_ BY: \_\_\_\_\_  
DEFICIENCIES ?      Y/N

COMMENTS \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**SECTION 8: CERTIFICATE OF COMPLIANCE (To be completed by Floodplain Administrator/Manager or his/her representative).**

Certificate of Compliance issued: DATE: \_\_\_\_\_ BY: \_\_\_\_\_

**CERTIFICATE OF COMPLIANCE  
FOR DEVELOPMENT IN SPECIAL FLOOD HAZARD AREA  
(OWNER MUST RETAIN)**

**PERMIT NUMBER:** \_\_\_\_\_

**PERMIT DATE:** \_\_\_\_\_

**PURPOSE –**

**CONSTRUCTION LOCATION:** \_\_\_\_\_

**OWNER'S ADDRESS:** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

**THE FOLLOWING MUST BE COMPLETED BY THE FLOODPLAIN ADMINISTRATOR/MANAGER OR HIS/HER AGENT.**

**COMPLIANCE IS HEREBY CERTIFIED WITH THE REQUIREMENT OF THE  
FLOODPLAIN ORDINANCE ADOPTED BY THE COUNTY COMMISSION OF  
DODDRIDGE COUNTY ON MAY 21, 2013.**

**SIGNED \_\_\_\_\_ DATE \_\_\_\_\_**

# OXFORD 14 VICINITY MAP



SCALE

1 INCH = 2000-FEET

**NOTES**

OXFORD TOPO QUADRANGLE

0'      2000'      4000'      6000'



JOB #: 8116  
 DRAWN BY: CMH  
 DATE: 09-29-14  
 SCALE: 1" = 2000'

## OXFORD 14

THIS DOCUMENT WAS PREPARED BY:  
 SMITH LAND SURVEYING, INC.  
 FOR: CNX



**Professional Energy Consultants**  
 A DIVISION OF SMITH LAND SURVEYING, INC.



SURVEYORS  
 ENGINEERS  
 ENVIRONMENTAL  
 PROJECT MGMT.  
 WWW.SLSSURVEYS.COM





# OXFORD 14 FEMA MAP



**NOTES**  
 FEMA FIRM PANELS  
 0225C AND 0250C

**SCALE**  
 1 INCH = 2000-FEET



JOB #: 8116  
 DRAWN BY: CMH  
 DATE: 09-29-14  
 SCALE: 1" = 2000'

## OXFORD 14

THIS DOCUMENT WAS PREPARED BY:  
 SMITH LAND SURVEYING, INC.  
 FOR: CNX

**Professional Energy Consultants**  
 A DIVISION OF SMITH LAND SURVEYING, INC.  
  
**SLS**  
 (304) 482-5634  
 SURVEYORS  
 ENGINEERS  
 ENVIRONMENTAL  
 PROJECT MGMT.  
 WWW.SLSSURVEYS.COM



STATE OF WEST VIRGINIA,  
COUNTY OF DODDRIDGE, TO WIT

I, Virginia Nicholson, Editor of THE  
HERALD RECORD, a weekly newspaper  
published regularly, in Doddridge County,  
West Virginia, Do Hereby Certify  
That the Accompanying Legal Notice

Entitled:

*Floodplain Permit*  
*# 14-314*

*OXFID 14 Well Pad*

was published in said paper for *2*

successive weeks beginning with the issue  
of *November 11<sup>th</sup>* 2014 and

ending with the issue of  
*November 18<sup>th</sup>* 2014 and

that said notice contains *189*

WORD SPACE at *115* cents a word

amounts to the sum of \$ *21,74*

FOR FIRST PUBLICATION, SECOND  
PUBLICATION IS 75% OF THE FIRST  
PUBLICATION

\$ *16,31*

and each publication thereafter

\$ *38,05* TOTAL

EDITOR

*Virginia Nicholson*

SWORN TO AND SUBSCRIBED

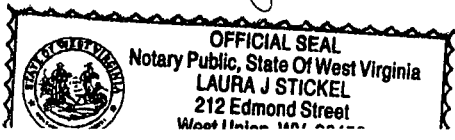
BEFORE ME THIS THE *18<sup>th</sup>* DAY

OF *November* 2014

NOTARY PUBLIC

*Laura J. Stichel*

LEGAL ADVERTISEMENT  
Doddridge County  
Floodplain Permit Application  
Please take notice that on the 23rd day of October, 2014  
CNX Gas Company LLC filed an application for a  
Floodplain Permit to develop land located at or about:  
Southwest District 39.155479N/80.756002W Permit #14-  
314 OXFID 14 Well Pad. (Note: This project is not within  
the floodplain). The Application is on file with the Clerk  
of the County Court and may be inspected or copied  
during regular business hours. As this project is outside  
the FEMA identified floodplain of Doddridge County,  
Doddridge County Floodplain Management has no  
regulatory authority. Any interested persons who desire  
to comment shall present the same in writing by  
November 27, 2014.  
Delivered to the  
Clerk of the County Court  
118 E. Court Street, West Union, WV 26456  
Beth A. Rogers, Doddridge County Clerk  
Edwin L. "Bo" Wriston, Doddridge County Flood Plain  
Manager  
11-11-2014





**PROJECT INFORMATION**

PROJECT NAME: OXFD 14  
 TAX PARCEL & SURFACE OWNER:  
 TAX MAP/PARCEL 2-2 DIANE E. HICKOCK ET AL  
 COVE DISTRICT  
 TOTAL PROPERTY AREA: 165.13 ACRES  
 TAX MAP/PARCEL 5-1 JOSEPH I. SHULTE  
 COVE DISTRICT  
 TOTAL PROPERTY AREA 130.00 ACRES  
 (ALL PROPERTIES ARE LOCATED IN DODDRIDGE COUNTY)

OIL AND GAS ROYALTY OWNER:  
 SUSAN V. BRENNAN ET AL  
 COVE DISTRICT  
 DODDRIDGE COUNTY, WV  
 TOTAL PROPERTY AREA: 130.00 ± ACRES (TM 5-1)  
 LEASE: L258609001

MARY M. WELCH ET AL  
 COVE DISTRICT  
 DODDRIDGE COUNTY, WV  
 TOTAL PROPERTY AREA: 165.12 ACRE (TM 2-2)

SITE LOCATION:  
 THE OXFD 14 SITE IS LOCATED ON A RIDGE WEST OF CO. RT. 40, APPROXIMATELY  
 6,500 FT NORTH OF THE CO. RT. 19 AND CO. RT. 40 INTERSECTION.

**LOCATION COORDINATES**

OXFD 14 ACCESS RD (CO. RT. 19/11)  
 LATITUDE: 39.168752 LONGITUDE: -80.764640 (NAD 83)

OXFD 14 ACCESS RD  
 (ENTRANCE OF OXF 14 JUNCTION W/OXF 10 ACCESS ROAD)  
 LATITUDE: 39.156997 LONGITUDE: -80.756210 (NAD 83)

OXFD 14 WELL PAD  
 LATITUDE: 39.155479 LONGITUDE: -80.756002 (NAD 83)

OXFD 14 CENTER OF TANK  
 LATITUDE: 39.154905 LONGITUDE: -80.755708 (NAD 83)

**GENERAL DESCRIPTION**

THE WELL PAD AND TANK PAD ARE BEING CONSTRUCTED TO AID IN THE  
 DEVELOPMENT OF INDIVIDUAL MARCELLUS SHALE GAS WELLS.

**SITE DISTURBANCE COMPUTATIONS**

WELL PAD/CONTAINMENT PAD AREA = 19.17 ± ACRES\*  
 ACCESS ROAD C = 2.29 ± ACRES  
 TOTAL SITE DISTURBANCE = 21.46 ± ACRES  
 \*INCLUDES AREA OF THE WELL PAD/TANK PAD & STOCKPILES

**ENTRANCE PERMIT**

CONSOL ENERGY WILL OBTAIN AN ENCROACHMENT PERMIT (FORM MM-109)  
 FROM THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION DIVISION OF  
 HIGHWAYS, PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.

**MISS UTILITY STATEMENT**

MISS UTILITY OF WEST VIRGINIA WAS NOTIFIED FOR THE LOCATING OF  
 UTILITIES PRIOR TO THIS PROJECT DESIGN; TICKET #1401697642.  
 IN ADDITION, MISS UTILITY WILL BE CONTACTED PRIOR TO START OF THE  
 PROJECT.

**FLOODPLAIN NOTE**

THE PROPOSED LIMITS OF DISTURBANCE FOR THIS PROJECT IS LOCATED IN  
 FEMA FLOOD ZONE X, PER THE FLOOD INSURANCE RATE MAP (FIRM) NUMBER  
 54017C0225C, DATED OCT. 04, 2011.

**ENVIRONMENTAL NOTES**

A WETLAND DELINEATION COVERING THE ACCESS ROADS WAS PERFORMED ON NOVEMBER 19, 2013 & JULY 21,  
 2014 BY ALLSTAR ECOLOGY, LLC (ASE) AND A SEPARATE WETLAND DELINEATION COVERING THE OXFD 10 WELL  
 PAD WAS PERFORMED ON MAY 16, 2013 BY FORENVICON, LLC TO REVIEW THE SITE FOR WATERS AND WETLANDS  
 THAT ARE MOST LIKELY WITHIN THE REGULATORY PURVIEW OF THE U.S. ARMY CORPS OF ENGINEERS (USACE)  
 AND/OR THE WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION (WVDEP). THE NOVEMBER 20, 2013 &  
 JULY 21, 2014 REPORT WAS PREPARED BY ALLSTAR ECOLOGY, LLC (ASE) AND THE OCTOBER 06, 2013 REPORT  
 WAS PREPARED BY FORENVICON, LLC THAT SUMMARIZES THE RESULTS OF THE FIELD DELINEATION. THE REPORTS  
 DO NOT, IN ANY WAY, REPRESENT A JURISDICTIONAL DETERMINATION OF THE LANDWARD LIMITS OF WATERS AND  
 WETLANDS WHICH MAY BE REGULATED BY THE USACE OR THE WVDEP. IT IS STRONGLY RECOMMENDED THAT THE  
 AFOREMENTIONED AGENCIES BE CONSULTED IN AN EFFORT TO GAIN WRITTEN CONFIRMATION OF THE DELINEATION  
 DESCRIBED BY THIS REPORT PRIOR TO ENGAGING CONSTRUCTION ON THE PROPERTY DESCRIBED HEREIN. THE  
 DEVELOPER SHALL OBTAIN THE APPROPRIATE PERMITS FROM THE FEDERAL AND/OR STATE REGULATORY AGENCIES  
 PRIOR TO ANY PROPOSED IMPACTS TO WATERS OF THE U.S., INCLUDING WETLAND FILLS AND STREAM CROSSINGS.

**GEOTECHNICAL NOTES**

A SUBSURFACE INVESTIGATION OF THE PROPOSED SITE WAS PERFORMED BY TERRACON  
 ON MAY 5-26, 2014. THE REPORT PREPARED BY TERRACON, DATED JULY 23, 2014,  
 REFLECTS THE RESULTS OF THE SUBSURFACE INVESTIGATION. PLEASE REFER TO THE  
 SUBSURFACE INVESTIGATION REPORT BY TERRACON CONSULTANTS, INC. FOR  
 RECOMMENDATIONS FOR DESIGN AND CONSTRUCTION.

**RESTRICTIONS NOTES:**

1. THERE ARE NO PERENNIAL STREAMS, LAKES, PONDS, OR RESERVOIRS WITHIN 100 FEET OF THE PAD AND LOD. THERE ARE WETLANDS WITHIN 100 FEET OF THE PAD AND LOD, AND A WAIVER FROM THE WVDEP WILL BE APPLIED FOR THROUGH THE ARMY CORPS OF ENGINEERS.
2. THERE IS NO NATURALLY PRODUCING TROUT STREAMS WITHIN 300 FEET OF THE PAD AND LOD.
3. THERE ARE NO GROUNDWATER INTAKE OR PUBLIC WATER SUPPLY FACILITIES WITHIN 1000 FEET OF THE PAD AND LOD.
4. THERE ARE NO EXISTING WATER WELLS OR DEVELOPED SPRINGS WITHIN 250 FEET OF THE WELL(S) BEING DRILLED.
5. THERE ARE NO OCCUPIED DWELLING STRUCTURES WITHIN 625 FEET OF THE CENTER OF THE PAD.
6. THERE ARE NO AGRICULTURAL BUILDINGS LARGER THAN 2,500 SQUARE FEET WITHIN 625 FEET OF THE CENTER OF THE PAD.

# OXFD 14 SITE PLAN CNX GAS COMPANY, LLC

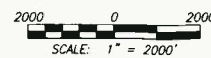
PROPOSED WELL NO. OXFD14 AHS, OXFD14 BHS, OXFD14 CHS, OXFD14 DHS,  
 OXFD14 EHS, OXFD14 FHS, OXFD14 GHS, OXFD14 HHS & OXFD14 IHS

SITUATE ON THE WATERS OF TRIBUTARIES OF SOUTH FORK OF HUGHES RIVER  
 IN SOUTHWEST & COVE DISTRICTS, DODDRIDGE COUNTY, WV.

GRID NORTH AND ELEVATIONS  
 SHOWN HEREON WERE  
 ESTABLISHED BY SURVEY  
 GRADE GPS



OXFORD QUAD NEW MILTON QUAD



MISS Utility of West Virginia  
 1-800-245-4848  
 West Virginia State Law  
 (Section XIV: Chapter 24-C)  
 Requires that you call two  
 business days before you dig in  
 the state of West Virginia.  
 IT'S THE LAW!!

**LIST OF DRAWINGS**

- 01 COVER SHEET
- 02 NOTES
- 03 OVERALL SHEET INDEX & VOLUMES
- 04 EXISTING UTILITY LAYOUT PLAN
- 05 WELL PAD DETAILS
- 06 ACCESS ROAD DETAILS
- 07 ACCESS ROAD DETAILS
- 08 ACCESS ROAD DETAILS
- 09 ACCESS ROAD DETAILS
- 10 STOCKPILE DETAILS
- 11 WELL PAD SECTIONS & ACCESS ROAD C PROFILE
- 12 EXISTING ACCESS ROAD PROFILE & SECTIONS
- 13 ACCESS ROAD A PROFILE
- 14 ACCESS ROAD A & B PROFILE
- 15 ACCESS ROAD B PROFILE
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EX. ROAD EDGE OF PAVEMENT	PROF. WELL PAD
EX. ROAD CENTERLINE	PROF. WELL HEAD
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EX. CULVERT	PROF. SUMP DRAIN
EX. GUARDRAIL	PROF. CONTAINMENT BERM
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EX. GATE	PROF. PERIMETER SAFETY FENCE
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EX. WATER WELL	
EX. GAS WELL	
EX. TREELINE	
EX. REFERENCE TREE	PROF. ROAD EDGE OF GRAVEL
EX. DELINEATED STREAM	PROF. ROAD CENTERLINE
EX. DELINEATED WETLAND/POND	PROF. V-DITCH W/ CHECK DAMS
	PROF. DITCH RELIEF
EX. BUILDING	PROF. RIP-RAP OUTLET PROTECTION
EX. BRIDGE	PROF. GUARDRAIL
100' WETLAND/STREAM BUFFER	PROF. EARTHEN DIVERSION BERM
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	X-SECTION GRID INTERMEDIATE
	X-SECTION PROPOSED GRADE
	X-SECTION EXISTING GRADE
	X-SECTION WATER SURFACE
	SPOT ELEVATION

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**ENGINEER**

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 FOR: CNX GAS  
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COVER SHEET  
**OXFD 14**  
 SOUTHWEST & COVE DISTRICTS  
 DODDRIDGE COUNTY, WV

DATE: 10/07/2014

SCALE: AS NOTED

DESIGNED BY: JMM

FILE NO. 8116

SHEET 01 OF 33



**CONSTRUCTION NOTES:**

1. THE CONTRACTOR IS TO VERIFY FIELD CONDITIONS PRIOR TO AND DURING CONSTRUCTION AND WILL NOTIFY NAVITUS ENGINEERING AT (888) 662-4185 OR SMITH LAND SURVEYING AT (304) 462-5634 IMMEDIATELY OF ANY DISCREPANCIES BETWEEN ACTUAL FIELD CONDITIONS AND THE APPROVED PLAN. ANY WORK PERFORMED BY THE CONTRACTOR AFTER THE FINDING OF SUCH DISCREPANCIES, SHALL BE DONE AT THE CONTRACTOR'S RISK.
2. METHODS AND MATERIALS USED IN THE CONSTRUCTION OF THE IMPROVEMENTS HEREIN SHALL CONFORM TO THE CURRENT COUNTY CONSTRUCTION STANDARDS AND SPECIFICATIONS AND/OR CURRENT WVDEP EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICE MANUAL STANDARDS AND SPECIFICATIONS. SHOULD A CONFLICT BETWEEN THE DESIGN, SPECIFICATIONS, AND PLANS OCCUR, THE MOST STRINGENT REQUIREMENT WILL APPLY. THE APPROVAL OF THESE PLANS IN NO WAY RELIEVES THE DEVELOPER OR HIS AGENT OF THE RESPONSIBILITIES CONTAINED IN THE WVDEP EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICE MANUAL.
3. AN APPROVED SET OF PLANS AND ALL APPLICABLE PERMITS MUST BE AVAILABLE AT THE CONSTRUCTION SITE. ALSO, A REPRESENTATIVE OF THE DEVELOPER MUST BE AVAILABLE AT ALL TIMES.
4. THE CONTRACTOR SHALL PROVIDE ADEQUATE MEANS OF CLEANING MUD FROM TRUCKS AND/OR OTHER EQUIPMENT PRIOR TO ENTERING PUBLIC STREETS, AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO CLEAN STREETS, ALLAY DUST, AND TO TAKE WHATEVER MEASURES ARE NECESSARY TO INSURE THAT THE STREETS ARE MAINTAINED IN A CLEAN, MUD AND DUST FREE CONDITION AT ALL TIMES.
5. THE LOCATION OF EXISTING UTILITIES SHOWN IN THESE PLANS ARE FROM FIELD LOCATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE EXACT HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UTILITIES AS NEEDED PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL INFORM THE ENGINEER OF ANY CONFLICTS ARISING FROM HIS EXISTING UTILITY VERIFICATION AND THE PROPOSED CONSTRUCTION.
6. THE CONTRACTOR SHALL PROVIDE NOTIFICATION TO THE APPROPRIATE UTILITY COMPANY PRIOR TO CONSTRUCTION OF WATER AND/OR GAS PIPE LINES. INFORMATION SHOULD ALSO BE OBTAINED FROM THE APPROPRIATE AUTHORITY CONCERNING PERMITS, CUT SHEETS, AND CONNECTIONS TO EXISTING LINES.
7. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE REPAIR OF ANY DAMAGES TO THE EXISTING STREETS AND UTILITIES WHICH OCCURS AS A RESULT OF HIS CONSTRUCTION PROJECT WITHIN OR CONTIGUOUS TO THE EXISTING RIGHT-OF-WAY.
8. WHEN GRADING IS PROPOSED WITHIN EASEMENTS OF UTILITIES, LETTERS OF PERMISSION FROM ALL INVOLVED COMPANIES MUST BE OBTAINED PRIOR TO GRADING AND/OR SITE DEVELOPMENT.
9. THE DEVELOPER WILL BE RESPONSIBLE FOR THE RELOCATION OF ANY UTILITIES WHICH IS REQUIRED AS A RESULT OF HIS PROJECT. THE RELOCATION SHOULD BE DONE PRIOR TO CONSTRUCTION.
10. THESE PLANS IDENTIFY THE LOCATION OF ALL KNOWN GRAVESITES. GRAVESITES SHOWN ON THIS PLAN WILL BE PROTECTED IN ACCORDANCE WITH STATE LAW. IN THE EVENT GRAVESITES ARE DISCOVERED DURING CONSTRUCTION, THE OWNER AND ENGINEER MUST BE NOTIFIED IMMEDIATELY.
11. THE CONTRACTOR(S) SHALL NOTIFY OPERATORS WHO MAINTAIN UNDERGROUND UTILITY LINES IN THE AREA OF PROPOSED EXCAVATING OR BLASTING AT LEAST TWO (2) WORKING DAYS, BUT NOT MORE THAN TEN (10) WORKING DAYS, PRIOR TO COMMENCEMENT OF EXCAVATION OR DEMOLITION.
12. CONTRACTOR TO CONTACT OPERATOR AND ENGINEER IF GROUNDWATER IS ENCOUNTERED DURING CONSTRUCTION.
13. THE CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH THE EROSION AND SEDIMENT CONTROL INSPECTOR, 2 DAYS PRIOR TO THE START OF CONSTRUCTION.
14. THE CONTRACTOR IS RESPONSIBLE FOR ALL FILL MATERIAL TESTING REQUIRED DURING THE CONSTRUCTION OF THIS PROJECT. ALL MATERIAL TEST SHALL BE CONDUCTED BY A CERTIFIED MATERIALS TESTING LABORATORY AND A CERTIFICATION OF THE MATERIALS TESTED SHALL BE PROVIDED BY A LICENSED PROFESSIONAL ENGINEER REPRESENTING THE LABORATORY. ALL TEST RESULTS SHALL BE SUBMITTED TO THE ENGINEER CERTIFYING THE CONSTRUCTED FACILITY. FAILURE TO CONDUCT THE DENSITY TEST SHALL BE CAUSE FOR NON-ACCEPTANCE OF THE CONSTRUCTED FACILITY.
15. THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTING THE SITE IN ACCORDANCE WITH THE DESIGN PLANS AND CONSTRUCTION DOCUMENTS AND THE SCOPE OF WORK SHALL CONFORM WITH THE GRADES, BERMS, DEPTHS, DIMENSIONS, ETC. SHOWN HEREON.

**CONSTRUCTION SEQUENCE**

- THE DEVELOPMENT OF THIS SITE SHALL BE CONSISTENT WITH THE FOLLOWING GENERAL SEQUENCE OF CONSTRUCTION. THE CONTRACTOR SHALL IMPLEMENT, MAINTAIN, AND OPERATE ALL PROPOSED EROSION AND SEDIMENT CONTROL MEASURES TO EFFECTIVELY MITIGATE THE HAZARD OF ACCELERATED EROSION AND SEDIMENTATION TO ACCEPTABLE LEVELS. MINOR DEVIATIONS FROM THIS SEQUENCE SHALL BE EXECUTED BY THE PROJECT'S SUPERINTENDENT AS NEEDED TO ELIMINATE ANY POTENTIAL EROSION CONDITION THAT MAY ARISE FOR THE DURATION OF THE PROJECT. THE WVDEP OFFICE OF OIL AND GAS SHALL BE NOTIFIED OF ANY AND ALL SUCH DEVIATIONS FROM THE APPROVED PLANS.
- 1) A PRE-CONSTRUCTION CONFERENCE WITH THE CONTRACTOR AND THE APPROPRIATE EROSION AND SEDIMENT CONTROL INSPECTOR 48 HOURS PRIOR TO BEGINNING WORK TO REVIEW THE CONSTRUCTION DRAWINGS AND PROVIDE ANY REQUESTED GUIDANCE
  - 2) STAKE THE LIMITS OF CONSTRUCTION.
  - 3) INSTALL THE ROCK CONSTRUCTION ENTRANCE AS SHOWN ON THE PLANS.
  - 4) INSTALL ALL ORANGE SAFETY FENCE AS SHOWN AROUND ANY DELINEATED STREAMS AND WETLANDS TO CLEARLY IDENTIFY THOSE AREAS THAT ARE NOT TO BE DISTURBED.
  - 5) INSTALL ALL BMP'S (COMPOST FILTER SOCKS, SEDIMENT TRAPS, ETC) AS SHOWN ON THE PLANS AND DETAILS. THE SEDIMENT TRAPS SHOWN ON THIS PLAN WILL FUNCTION AS A PLUNGE POOL TO REDUCE THE VELOCITIES ON THE PROPOSED DITCHES DRAINING INTO THEM. THE RUNOFF DRAINING TO THESE FACILITIES WILL BE SEDIMENT FREE.
  - 6) CLEAR AND GRUB THE ACCESS ROAD, WELL PAD AND TANK PAD AREA. ALL WOODY MATERIAL, BRUSH, TREES, STUMPS, LARGE ROOTS, BOULDERS, AND DEBRIS SHALL BE CLEARED FROM THE SITE AREA AND KEPT TO THE MINIMUM NECESSARY FOR PROPER CONSTRUCTION, INCLUDING THE INSTALLATION OF NECESSARY SEDIMENT CONTROLS. TREES SIX INCHES IN DIAMETER AND LARGER SHALL BE CUT AND LOGS STACKED. SMALLER TREES, BRUSH, & STUMPS SHALL BE CUT AND OR GRUBBED AND WINDROWED IN APPROPRIATE AREAS FOR USE AS SEDIMENT BARRIERS AT WATER DRAINAGE OUTLETS, WINDROWED BELOW THE WELL SITE, USED FOR WILDLIFE HABITAT, BURNED (AS PER WV FOREST FIRE LAWS), REMOVED FROM SITE, OR DISPOSED OF BY OTHER METHODS APPROVED BY DEP.
  - 7) CONSTRUCT THE ACCESS ROAD. DITCH RELIEF CULVERTS SHALL BE INSTALLED AT A GRADE OF 1-8% TO MINIMIZE OUTLET VELOCITIES TO THE EXTENT POSSIBLE. INSTALL OUTLET PROTECTION AS SHOWN ON PLANS. STABILIZE THE ROAD WITH GEOTEXTILE FABRIC & STONE AND SIDE SLOPES AS SPECIFIED WITH PERMANENT SEEDING. STOCKPILE AND STABILIZE EXCESS MATERIAL ALONG THE ACCESS ROAD, AS NEEDED.
  - 8) STRIP THE TOPSOIL FROM THE PAD AREA. ALL STRIPPED TOPSOIL SHALL BE STOCKPILED IN AREAS SHOWN IN THE PLANS AND IMMEDIATELY STABILIZED. ADDITIONAL BMP MEASURE SHALL BE CONSTRUCTED AROUND TOPSOIL STOCKPILES, IF NECESSARY.
  - 9) ALL DITCH LINES SHALL BE CLEANED PRIOR TO INSTALLATION OF LINED PROTECTION. ALL DITCHES SHALL HAVE ROCK AND GEOTEXTILE FABRIC LINING. INSTALL OUTLET PROTECTION ONCE DITCH RELIEF CULVERTS ARE INSTALLED, AS SHOWN ON THIS PLAN.
  - 10) GRADE THE PAD AREA AS SHOWN ON THE PLANS. IMMEDIATELY STABILIZE THE OUTER AREAS OF THE PADS. THE WELL PAD AND TURNAROUND AREA(S) SHALL BE STABILIZED WITH GEOTEXTILE FABRIC & STONE AND THE SIDE SLOPES WITH COCONUT EROSION CONTROL BLANKETS ON ALL SLOPES. APPLY SEED AND MULCH TO ALL DISTURBED AREAS. THIS SHALL INCLUDE ALL AREAS THAT WILL NOT BE SUBJECT TO REGULAR TRAFFIC ACTIVITY (TO BE STABILIZED WITH STONE), OR ANY DISTURBED AREA THAT WILL NOT BE RE-DISTURBED BEFORE SITE RECLAMATION BEGINS.
  - 11) PREVIOUSLY DISTURBED AREAS AND IMMEDIATE DOWN SLOPE AREAS SHALL BE INSPECTED AFTER EACH RAINFALL STORM EVENT AND MONITORED WEEKLY FOR SIGNS OF ACCELERATED EROSION. IMPLEMENT ADDITIONAL BMP'S AS DEEMED NECESSARY. THESE INSPECTIONS SHALL CONTINUE DURING THE DURATION OF THE PROJECT AND SUBSEQUENT SITE RECLAMATION.
  - 12) COMMENCE THE DRILLING ACTIVITY.
  - 13) ONCE DISTURBED AREAS HAVE BEEN RE-VEGETATED AND STABILIZED FOLLOWING RECLAMATION, THE TEMPORARY BMP'S IN THOSE AREAS MAY BE REMOVED. CONTINUE TO MONITOR THESE AREAS TO ENSURE A UNIFORM RATE OF 70% VEGETATIVE COVERAGE IS MAINTAINED. ANY AREAS FOUND TO BE DEFICIENT SHALL BE RE-SEEDED AND MULCHED.

**SITE CLEANUP & RECYCLE PROGRAM**

1. GARBAGE, FUELS OR ANY SUBSTANCE HARMFUL TO HUMAN, AQUATIC OR FISH LIFE, WILL BE PREVENTED FROM ENTERING SPRINGS, STREAMS, PONDS, LAKES, WETLANDS OR ANY WATER COURSE OR WATER BODY.
2. OILS, FUELS, LUBRICANTS AND COOLANTS WILL BE PLACED IN SUITABLE CONTAINERS AND DISPOSED PROPERLY.
3. ALL TRASH AND GARBAGE WILL BE COLLECTED AND DISPOSED PROPERLY.
4. ALL SEDIMENT REMOVED FROM SEDIMENT CAPTURING DEVICES SHALL BE PLACED ON THE TOPSOIL STOCKPILE, THEN SEEDED AND MULCHED, AS NECESSARY. ALTERNATIVELY, THE REMOVED SEDIMENT CAN BE TRANSPORTED TO A SITE WITH AN APPROVED PERMIT.

**MAINTENANCE PROGRAM**

1. BMP'S WILL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH MEASURABLE RAINFALL EVENT DURING THE ACTIVE CONSTRUCTION PHASE OF THE PROJECT.
2. ALL REVEGETATED ACCESS ROADS AND FACILITIES ARE TO BE MAINTAINED THROUGHOUT THE LIFE OF EACH STRUCTURE.
3. CULVERTS, ROAD DITCHES, BROAD-BASED DIPS, DIVERSION DITCHES, AND ROCK CHECK DAMS MUST BE MAINTAINED IN PROPER WORKING ORDER AND WILL BE CLEANED OUT, REPAIRED, OR REPLACED AS NECESSARY.
4. FILTER STRIPS AND/OR SILT FENCE WILL BE MAINTAINED.
5. ALL AREAS OF EARTH DISTURBANCE WILL BE REPAIRED WHERE SIGNS OF ACCELERATED EROSION ARE DETECTED.
6. SEEDING AND MULCHING WILL BE REPEATED IN THOSE AREAS THAT APPEAR TO BE FAILING OR HAVE FAILED.

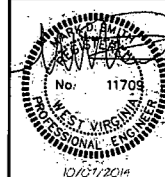
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NAVITUS ENGINEERING  
INC.  
FOR CNX GAS  
COMPANY, LLC

NOTES

**OXFD 14**

SOUTHWEST & COVE DISTRICTS  
DODDRIDGE COUNTY, WV

DATE: 10/07/2014

SCALE: N/A

DESIGNED BY: JMM

FILE NO. 8118

SHEET 02 OF 33

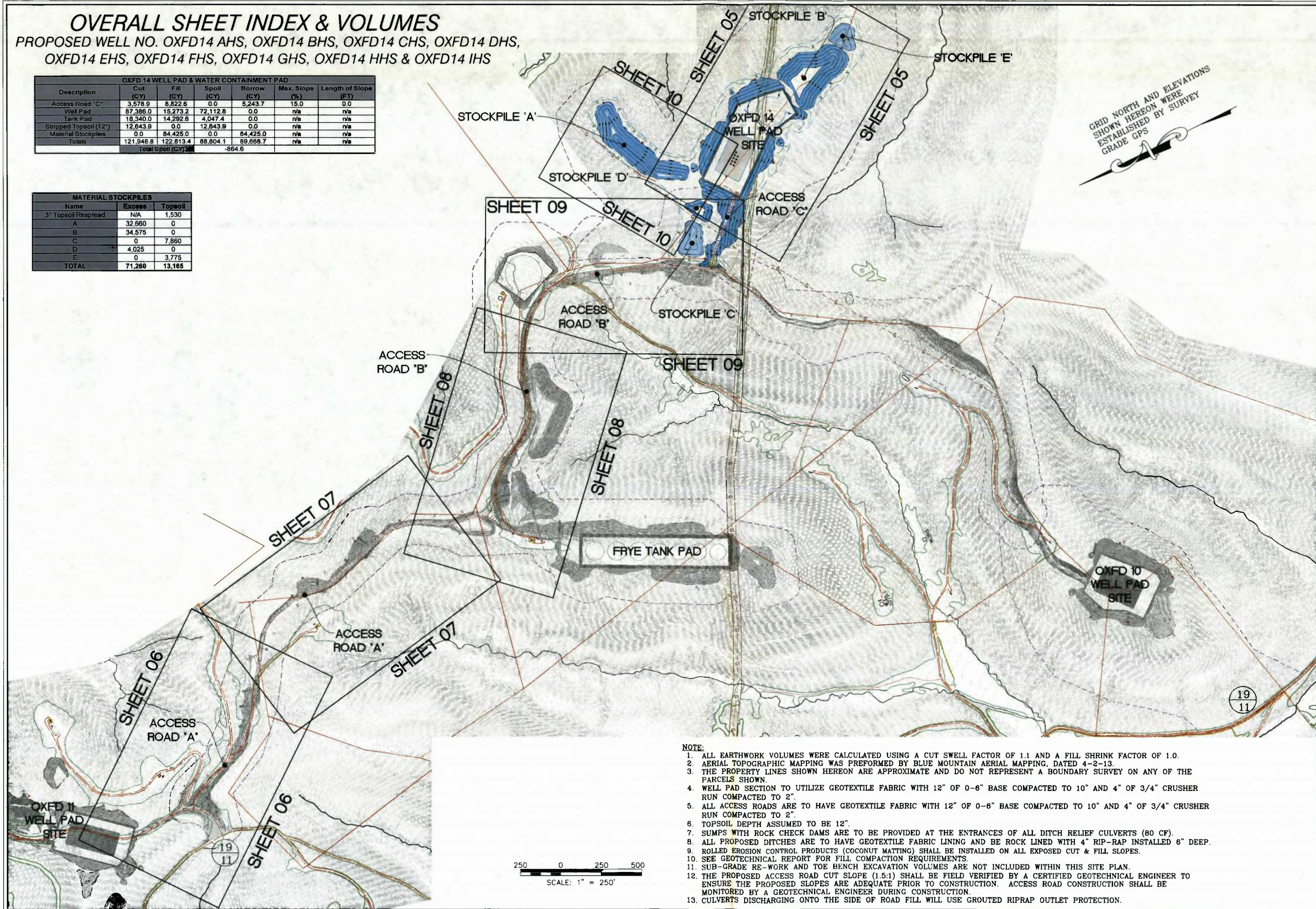


# OVERALL SHEET INDEX & VOLUMES

PROPOSED WELL NO. OXFD14 AHS, OXFD14 BHS, OXFD14 CHS, OXFD14 DHS,  
OXFD14 EHS, OXFD14 FHS, OXFD14 GHS, OXFD14 HHS & OXFD14 IHS

OXFD 14 WELL PAD & WATER CONTAINMENT PAD						
Description	Cut (CY)	Fill (CY)	Spill (CY)	Borrow (CY)	Max. Slope (%)	Length of Slope (FT)
Access Road 'C'	3,578.9	8,822.6	0.0	5,243.7	15.0	0.0
Well Pad	87,386.0	15,273.2	72,112.8	0.0	n/a	n/a
Tank Pad	18,340.0	14,292.8	4,047.4	0.0	n/a	n/a
Stripped Topsoil (12")	12,643.9	0.0	12,643.9	0.0	n/a	n/a
Material Stockpiles	0.0	84,425.0	0.0	84,425.0	n/a	n/a
Totals	121,948.8	122,813.4	88,804.1	89,668.7	n/a	n/a
	Total Spill (CY)		-864.6			

MATERIAL STOCKPILES		
Name	Excess	Topsoil
3" Topsoil Respread	N/A	1,530
A	32,660	0
B	34,575	0
C	0	7,860
D	4,025	0
E	0	3,775
TOTAL	71,260	13,165



- NOTE:**
- ALL EARTHWORK VOLUMES WERE CALCULATED USING A CUT SWELL FACTOR OF 1.1 AND A FILL SHRINK FACTOR OF 1.0.
  - AERIAL TOPOGRAPHIC MAPPING WAS PERFORMED BY BLUE MOUNTAIN AERIAL MAPPING, DATED 4-2-13.
  - THE PROPERTY LINES SHOWN HEREON ARE APPROXIMATE AND DO NOT REPRESENT A BOUNDARY SURVEY ON ANY OF THE PARCELS SHOWN.
  - WELL PAD SECTION TO UTILIZE GEOTEXTILE FABRIC WITH 12" OF 0-6" BASE COMPACTED TO 10" AND 4" OF 3/4" CRUSHER RUN COMPACTED TO 2".
  - ALL ACCESS ROADS ARE TO HAVE GEOTEXTILE FABRIC WITH 12" OF 0-6" BASE COMPACTED TO 10" AND 4" OF 3/4" CRUSHER RUN COMPACTED TO 2".
  - TOPSOIL DEPTH ASSUMED TO BE 12".
  - SUMPS WITH ROCK CHECK DAMS ARE TO BE PROVIDED AT THE ENTRANCES OF ALL DITCH RELIEF CULVERTS (80 CF).
  - ALL PROPOSED DITCHES ARE TO HAVE GEOTEXTILE FABRIC LINING AND BE ROCK LINED WITH 4" RIP-RAP INSTALLED 6" DEEP.
  - ROLLED EROSION CONTROL PRODUCTS (COCONUT MATTING) SHALL BE INSTALLED ON ALL EXPOSED CUT & FILL SLOPES.
  - SEE GEOTECHNICAL REPORT FOR FILL COMPACTION REQUIREMENTS.
  - SUB-GRADE RE-WORK AND TOE BENCH EXCAVATION VOLUMES ARE NOT INCLUDED WITHIN THIS SITE PLAN.
  - THE PROPOSED ACCESS ROAD CUT SLOPE (1.5:1) SHALL BE FIELD VERIFIED BY A CERTIFIED GEOTECHNICAL ENGINEER TO ENSURE THE PROPOSED SLOPES ARE ADEQUATE PRIOR TO CONSTRUCTION. ACCESS ROAD CONSTRUCTION SHALL BE MONITORED BY A GEOTECHNICAL ENGINEER DURING CONSTRUCTION.
  - CULVERTS DISCHARGING ONTO THE SIDE OF ROAD FILL WILL USE GROUTED RIPRAP OUTLET PROTECTION.

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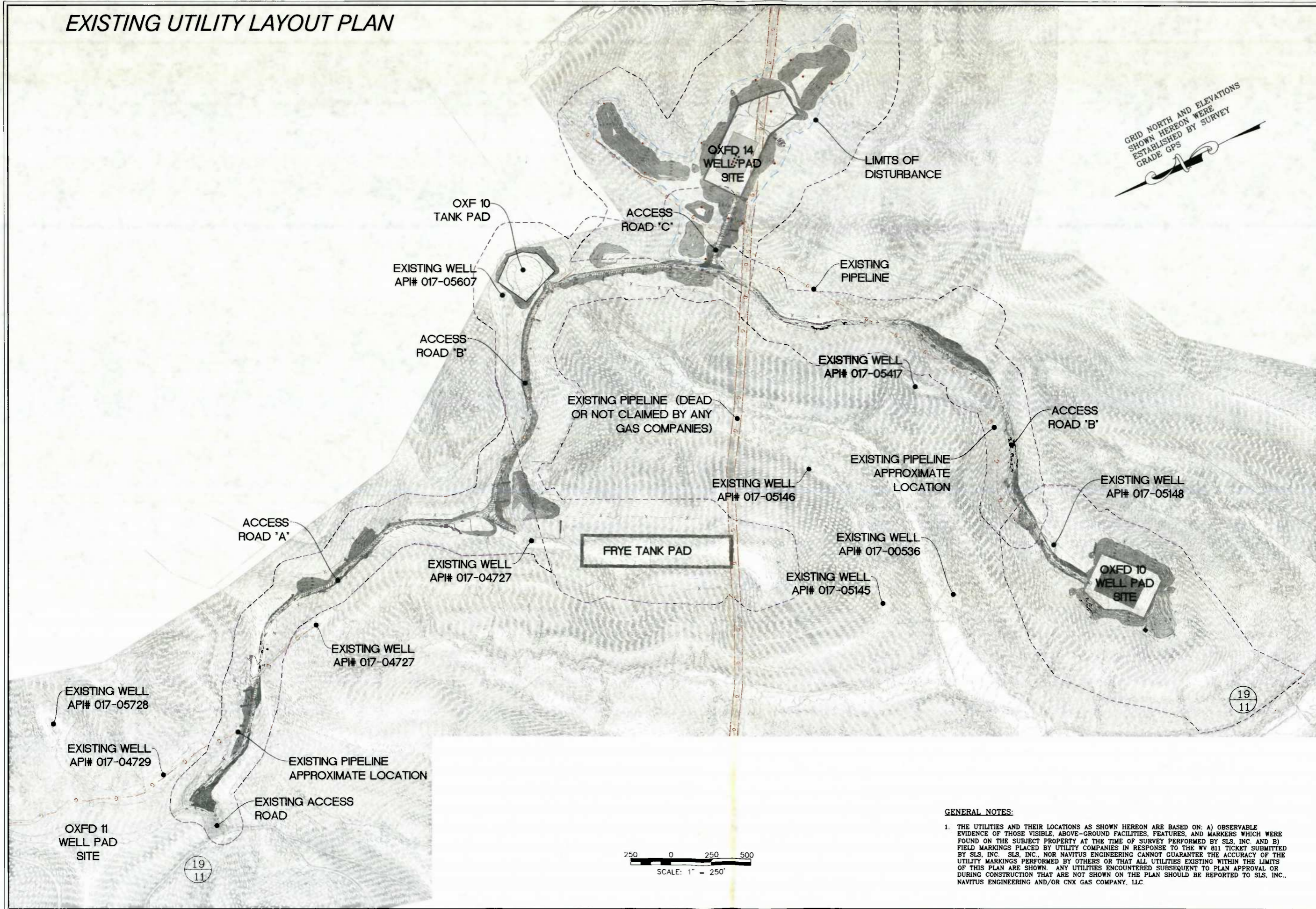
OVERALL SHEET INDEX & VOLUMES  
**OXFD 14**  
SOUTHWEST & COVE DISTRICTS  
DODDRIDGE COUNTY, WV

DATE: 10/07/2014  
SCALE: 1" = 250'  
DESIGNED BY: JMM  
FILE NO. 8116  
SHEET 03 OF 33

Telephone: (888) 662-4185 | www.NavitusEng.com



# EXISTING UTILITY LAYOUT PLAN



**GENERAL NOTES:**

1. THE UTILITIES AND THEIR LOCATIONS AS SHOWN HEREON ARE BASED ON: A) OBSERVABLE EVIDENCE OF THOSE VISIBLE, ABOVE-GROUND FACILITIES, FEATURES, AND MARKERS WHICH WERE FOUND ON THE SUBJECT PROPERTY AT THE TIME OF SURVEY PERFORMED BY SLS, INC. AND B) FIELD MARKINGS PLACED BY UTILITY COMPANIES IN RESPONSE TO THE WV 811 TICKET SUBMITTED BY SLS, INC. SLS, INC. NOR NAVITUS ENGINEERING CANNOT GUARANTEE THE ACCURACY OF THE UTILITY MARKINGS PERFORMED BY OTHERS OR THAT ALL UTILITIES EXISTING WITHIN THE LIMITS OF THIS PLAN ARE SHOWN. ANY UTILITIES ENCOUNTERED SUBSEQUENT TO PLAN APPROVAL OR DURING CONSTRUCTION THAT ARE NOT SHOWN ON THE PLAN SHOULD BE REPORTED TO SLS, INC., NAVITUS ENGINEERING AND/OR CNX GAS COMPANY, LLC.

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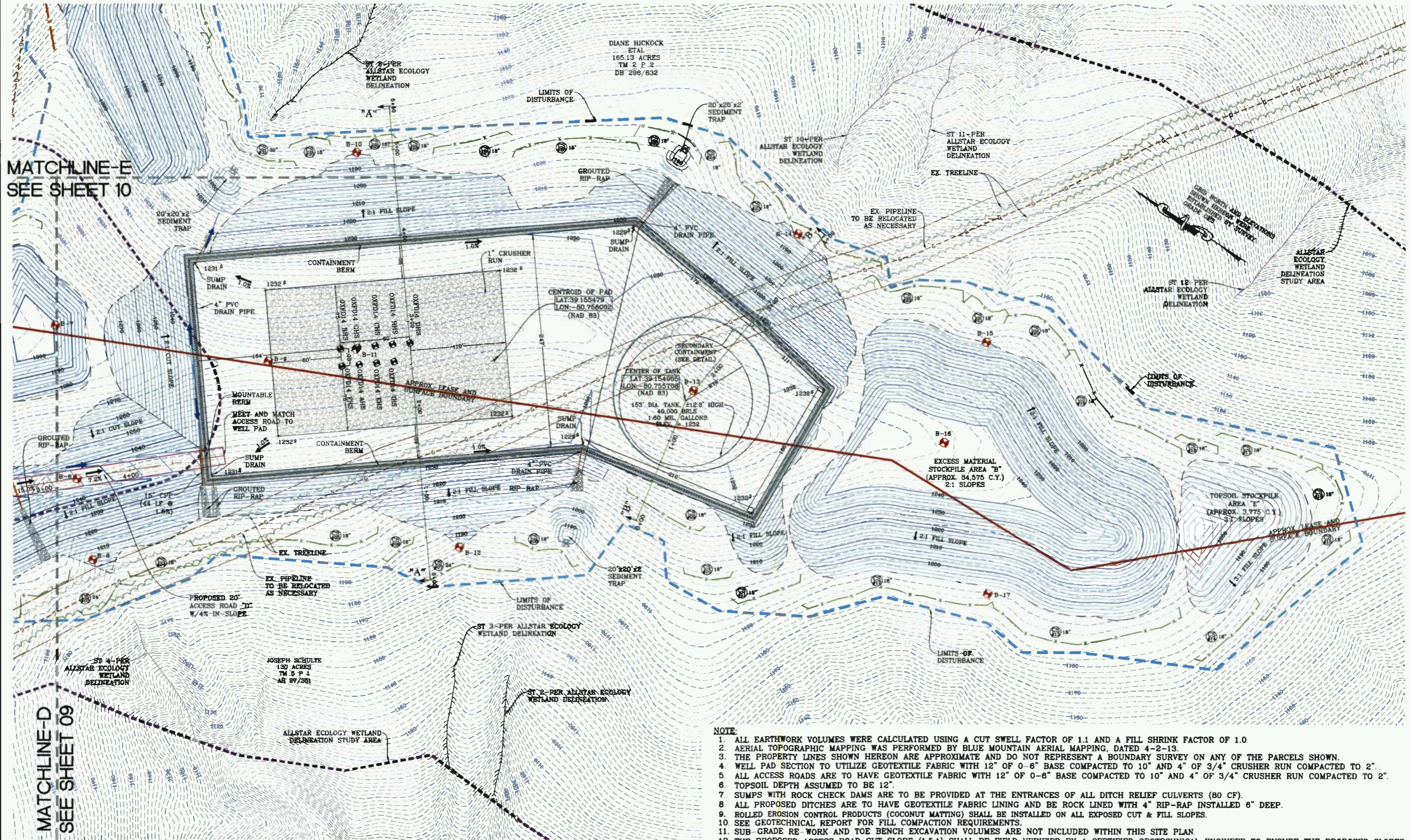
EXISTING UTILITY LAYOUT PLAN  
**OXFD 14**  
SOUTHWEST & COVE DISTRICTS  
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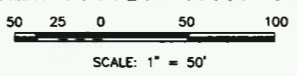


# WELL PAD DETAILS

PROPOSED WELL NO. OXFD14 AHS, OXFD14 BHS, OXFD14 CHS, OXFD14 DHS,  
OXFD14 EHS, OXFD14 FHS, OXFD14 GHS, OXFD14 HHS & OXFD14 IHS



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1. ALL EARTHWORK VOLUMES WERE CALCULATED USING A CUT SWELL FACTOR OF 1.1 AND A FILL SHRINK FACTOR OF 1.0.
  2. AERIAL TOPOGRAPHIC MAPPING WAS PERFORMED BY BLUE MOUNTAIN AERIAL MAPPING, DATED 4-2-13.
  3. THE PROPERTY LINES SHOWN HEREON ARE APPROXIMATE AND DO NOT REPRESENT A BOUNDARY SURVEY ON ANY OF THE PARCELS SHOWN.
  4. WELL PAD SECTION TO UTILIZE GEOTEXTILE FABRIC WITH 12" OF 0-6" BASE COMPACTED TO 10" AND 4" OF 3/4" CRUSHER RUN COMPACTED TO 2".
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  7. SUMPS WITH ROCK CHECK DAMS ARE TO BE PROVIDED AT THE ENTRANCES OF ALL DITCH RELIEF CULVERTS (80 CF).
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  10. SEE GEOTECHNICAL REPORT FOR FILL COMPACTION REQUIREMENTS.
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  13. CULVERTS DISCHARGING ONTO FILL WILL USE GROUTED RIPRAP OUTLET PROTECTION.



MATCHLINE-E  
SEE SHEET 10

MATCHLINE-D  
SEE SHEET 09

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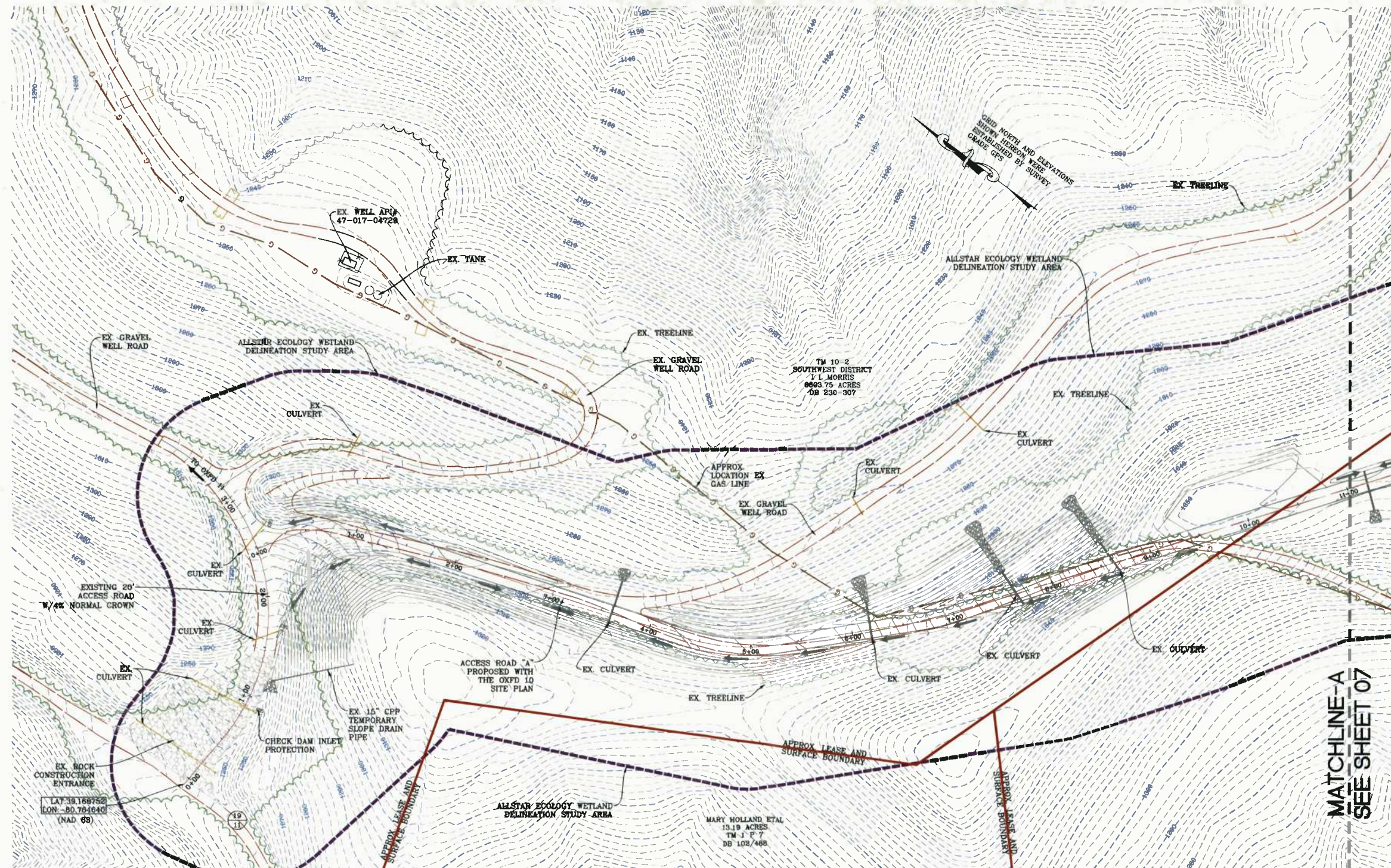
WELL PAD DETAILS  
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SHEET 05 OF 33



# ACCESS ROAD DETAILS

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**NOTE:**

1. ALL EARTHWORK VOLUMES WERE CALCULATED USING A CUT SWELL FACTOR OF 1.1 AND A FILL SHRINK FACTOR OF 1.0.
2. AERIAL TOPOGRAPHIC MAPPING WAS PERFORMED BY BLUE MOUNTAIN AERIAL MAPPING, DATED 4-2-13.
3. THE PROPERTY LINES SHOWN HEREON ARE APPROXIMATE AND DO NOT REPRESENT A BOUNDARY SURVEY ON ANY OF THE PARCELS SHOWN.
4. WELL PAD SECTION TO UTILIZE GEOTEXTILE FABRIC WITH 12" OF 0-6" BASE COMPACTED TO 10" AND 4" OF 3/4" CRUSHER RUN COMPACTED TO 2".
5. ALL ACCESS ROADS ARE TO HAVE GEOTEXTILE FABRIC WITH 12" OF 0-6" BASE COMPACTED TO 10" AND 4" OF 3/4" CRUSHER RUN COMPACTED TO 2". TOPSOIL DEPTH ASSUMED TO BE 12".
6. TOPSOIL DEPTH ASSUMED TO BE 12".
7. SUMPS WITH ROCK CHECK DAMS ARE TO BE PROVIDED AT THE ENTRANCES OF ALL DITCH RELIEF CULVERTS (80 CF).
8. ALL PROPOSED DITCHES ARE TO HAVE GEOTEXTILE FABRIC LINING AND BE ROCK LINED WITH 4" RIP-RAP INSTALLED 6" DEEP.
9. ROLLED EROSION CONTROL PRODUCTS (COCONUT MATTING) SHALL BE INSTALLED ON ALL EXPOSED CUT & FILL SLOPES.
10. SEE GEOTECHNICAL REPORT FOR FILL COMPACTION REQUIREMENTS.
11. SUB-GRADE RE-WORK AND TOE BENCH EXCAVATION VOLUMES ARE NOT INCLUDED WITHIN THIS SITE PLAN.
12. THE PROPOSED ACCESS ROAD CUT SLOPE (1.5:1) SHALL BE FIELD VERIFIED BY A CERTIFIED GEOTECHNICAL ENGINEER TO ENSURE THE PROPOSED SLOPES ARE ADEQUATE PRIOR TO CONSTRUCTION. ACCESS ROAD CONSTRUCTION SHALL BE MONITORED BY A GEOTECHNICAL ENGINEER DURING CONSTRUCTION.
13. CULVERTS DISCHARGING ONTO FILL WILL USE GROUTED RIPRAP OUTLET PROTECTION.

MATCHLINE-A  
SEE SHEET 07

EX. ROCK  
CONSTRUCTION  
ENTRANCE  
LAT: 39.168752  
LON: -82.724640  
(NAD 83)

ACCESS ROAD "A"  
PROPOSED WITH  
THE OXFD 14  
SITE PLAN

EX 15" CPP  
TEMPORARY  
SLOPE DRAIN  
PIPE  
CHECK DAM INLET  
PROTECTION

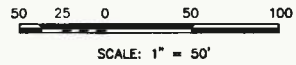
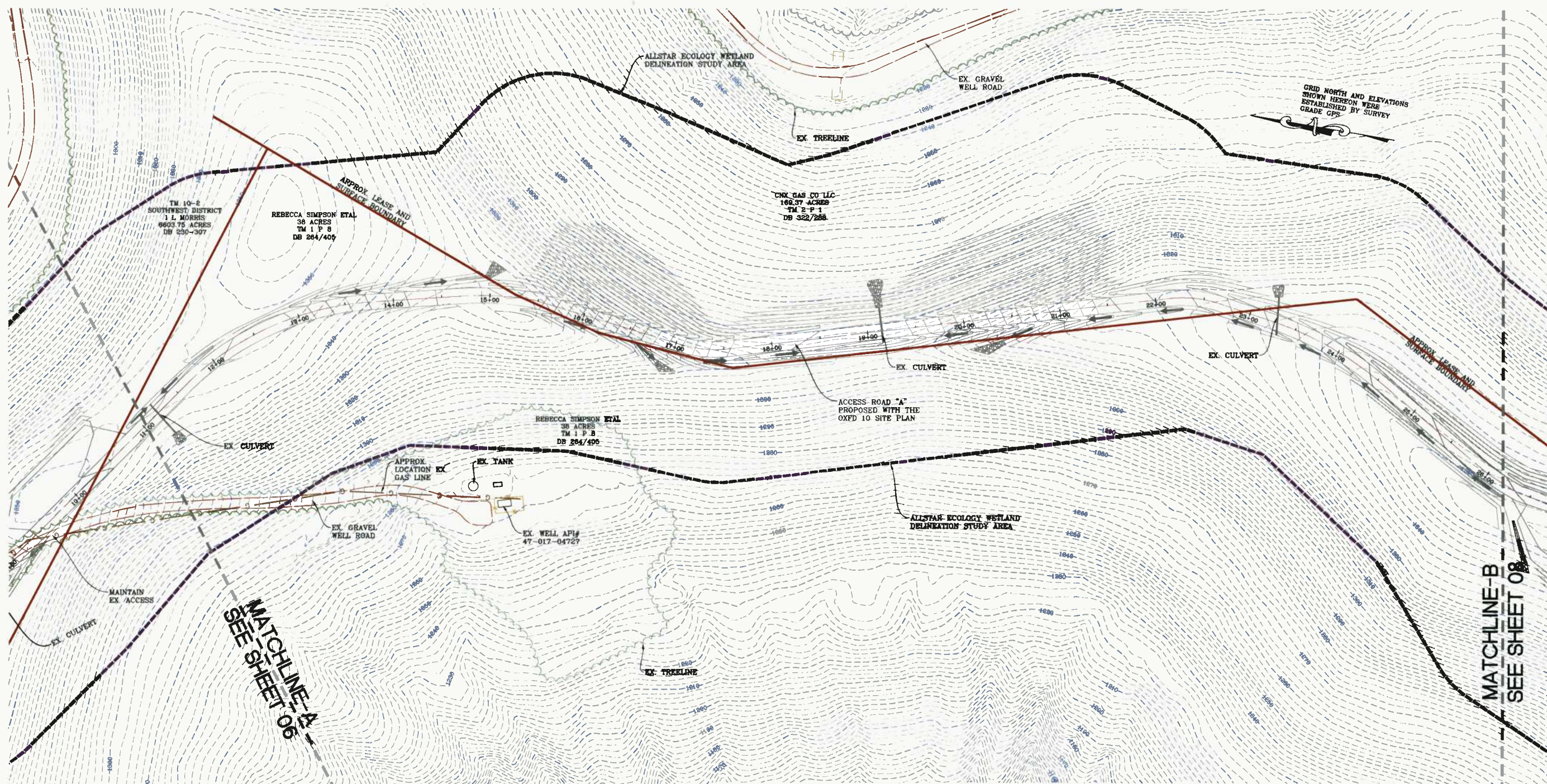
MARY HOLLAND ETAL  
13.19 ACRES  
TM J P 7  
DB 102/488

TM 10-2  
SOUTHWEST DISTRICT  
L. MORRIS  
6663.75 ACRES  
DB 230-307



# ACCESS ROAD DETAILS

PROPOSED WELL NO. OXFD14 AHS, OXFD14 BHS, OXFD14 CHS, OXFD14 DHS,  
OXFD14 EHS, OXFD14 FHS, OXFD14 GHS, OXFD14 HHS & OXFD14 IHS



**NOTE:**

1. ALL EARTHWORK VOLUMES WERE CALCULATED USING A CUT SWELL FACTOR OF 1.1 AND A FILL SHRINK FACTOR OF 1.0.
2. AERIAL TOPOGRAPHIC MAPPING WAS PERFORMED BY BLUE MOUNTAIN AERIAL MAPPING, DATED 4-2-13.
3. THE PROPERTY LINES SHOWN HEREON ARE APPROXIMATE AND DO NOT REPRESENT A BOUNDARY SURVEY ON ANY OF THE PARCELS SHOWN.
4. WELL PAD SECTION TO UTILIZE GEOTEXTILE FABRIC WITH 12" OF 0-6" BASE COMPACTED TO 10" AND 4" OF 3/4" CRUSHER RUN COMPACTED TO 2".
5. ALL ACCESS ROADS ARE TO HAVE GEOTEXTILE FABRIC WITH 12" OF 0-6" BASE COMPACTED TO 10" AND 4" OF 3/4" CRUSHER RUN COMPACTED TO 2".
6. TOPSOIL DEPTH ASSUMED TO BE 12".
7. SUMPS WITH ROCK CHECK DAMS ARE TO BE PROVIDED AT THE ENTRANCES OF ALL DITCH RELIEF CULVERTS (80 CF).
8. ALL PROPOSED DITCHES ARE TO HAVE GEOTEXTILE FABRIC LINING AND BE ROCK LINED WITH 4" RIP-RAP INSTALLED 6" DEEP.
9. ROLLED EROSION CONTROL PRODUCTS (COCONUT MATTING) SHALL BE INSTALLED ON ALL EXPOSED CUT & FILL SLOPES.
10. SEE GEOTECHNICAL REPORT FOR FILL COMPACTION REQUIREMENTS.
11. SUB-GRADE RE-WORK AND TOE BENCH EXCAVATION VOLUMES ARE NOT INCLUDED WITHIN THIS SITE PLAN.
12. THE PROPOSED ACCESS ROAD CUT SLOPE (1.5:1) SHALL BE FIELD VERIFIED BY A CERTIFIED GEOTECHNICAL ENGINEER TO ENSURE THE PROPOSED SLOPES ARE ADEQUATE PRIOR TO CONSTRUCTION. ACCESS ROAD CONSTRUCTION SHALL BE MONITORED BY A GEOTECHNICAL ENGINEER DURING CONSTRUCTION.
13. CULVERTS DISCHARGING ONTO FILL WILL USE GROUTED RIPRAP OUTLET PROTECTION.

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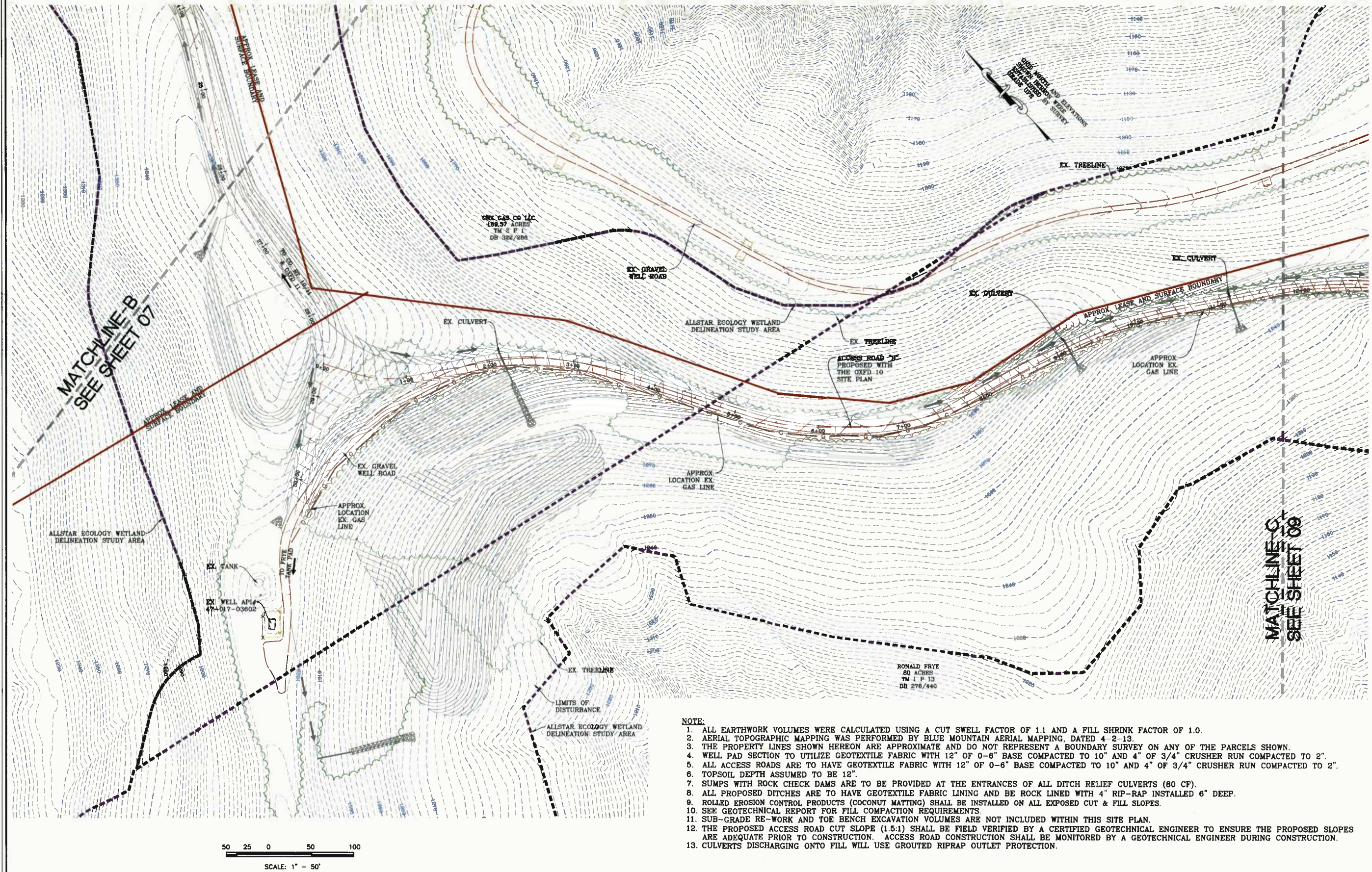
ACCESS ROAD DETAILS  
**OXFD 14**  
SOUTHWEST & COVE DISTRICTS  
DODDRIDGE COUNTY, WV

DATE: 10/07/2014  
SCALE: 1"=50'  
DESIGNED BY: JMM  
FILE NO. 8116  
SHEET 07 OF 33



# ACCESS ROAD DETAILS

PROPOSED WELL NO. OXFD14 AHS, OXFD14 BHS, OXFD14 CHS, OXFD14 DHS,  
OXFD14 EHS, OXFD14 FHS, OXFD14 GHS, OXFD14 HHS & OXFD14 IHS



- NOTE:**
1. ALL EARTHWORK VOLUMES WERE CALCULATED USING A CUT SWELL FACTOR OF 1.1 AND A FILL SHRINK FACTOR OF 1.0.
  2. AERIAL TOPOGRAPHIC MAPPING WAS PERFORMED BY BLUE MOUNTAIN AERIAL MAPPING, DATED 4-2-13.
  3. THE PROPERTY LINES SHOWN HEREON ARE APPROXIMATE AND DO NOT REPRESENT A BOUNDARY SURVEY ON ANY OF THE PARCELS SHOWN.
  4. WELL PAD SECTION TO UTILIZE GEOTEXTILE FABRIC WITH 12" OF 0-6" BASE COMPACTED TO 10" AND 4" OF 3/4" CRUSHER RUN COMPACTED TO 2".
  5. ALL ACCESS ROADS ARE TO HAVE GEOTEXTILE FABRIC WITH 12" OF 0-6" BASE COMPACTED TO 10" AND 4" OF 3/4" CRUSHER RUN COMPACTED TO 2".
  6. TOPSOIL DEPTH ASSUMED TO BE 12".
  7. SUMPS WITH ROCK CHECK DAMS ARE TO BE PROVIDED AT THE ENTRANCES OF ALL DITCH RELIEF CULVERTS (80 CF).
  8. ALL PROPOSED DITCHES ARE TO HAVE GEOTEXTILE FABRIC LINING AND BE ROCK LINED WITH 4" RIP-RAP INSTALLED 6" DEEP.
  9. ROLLED EROSION CONTROL PRODUCTS (COCONUT MATTING) SHALL BE INSTALLED ON ALL EXPOSED CUT & FILL SLOPES.
  10. SEE GEOTECHNICAL REPORT FOR FILL COMPACTION REQUIREMENTS.
  11. SUB-GRADE RE-WORK AND TOE BENCH EXCAVATION VOLUMES ARE NOT INCLUDED WITHIN THIS SITE PLAN.
  12. THE PROPOSED ACCESS ROAD CUT SLOPE (1.5:1) SHALL BE FIELD VERIFIED BY A CERTIFIED GEOTECHNICAL ENGINEER TO ENSURE THE PROPOSED SLOPES ARE ADEQUATE PRIOR TO CONSTRUCTION. ACCESS ROAD CONSTRUCTION SHALL BE MONITORED BY A GEOTECHNICAL ENGINEER DURING CONSTRUCTION.
  13. CULVERTS DISCHARGING ONTO FILL WILL USE GROUTED RIPRAP OUTLET PROTECTION.

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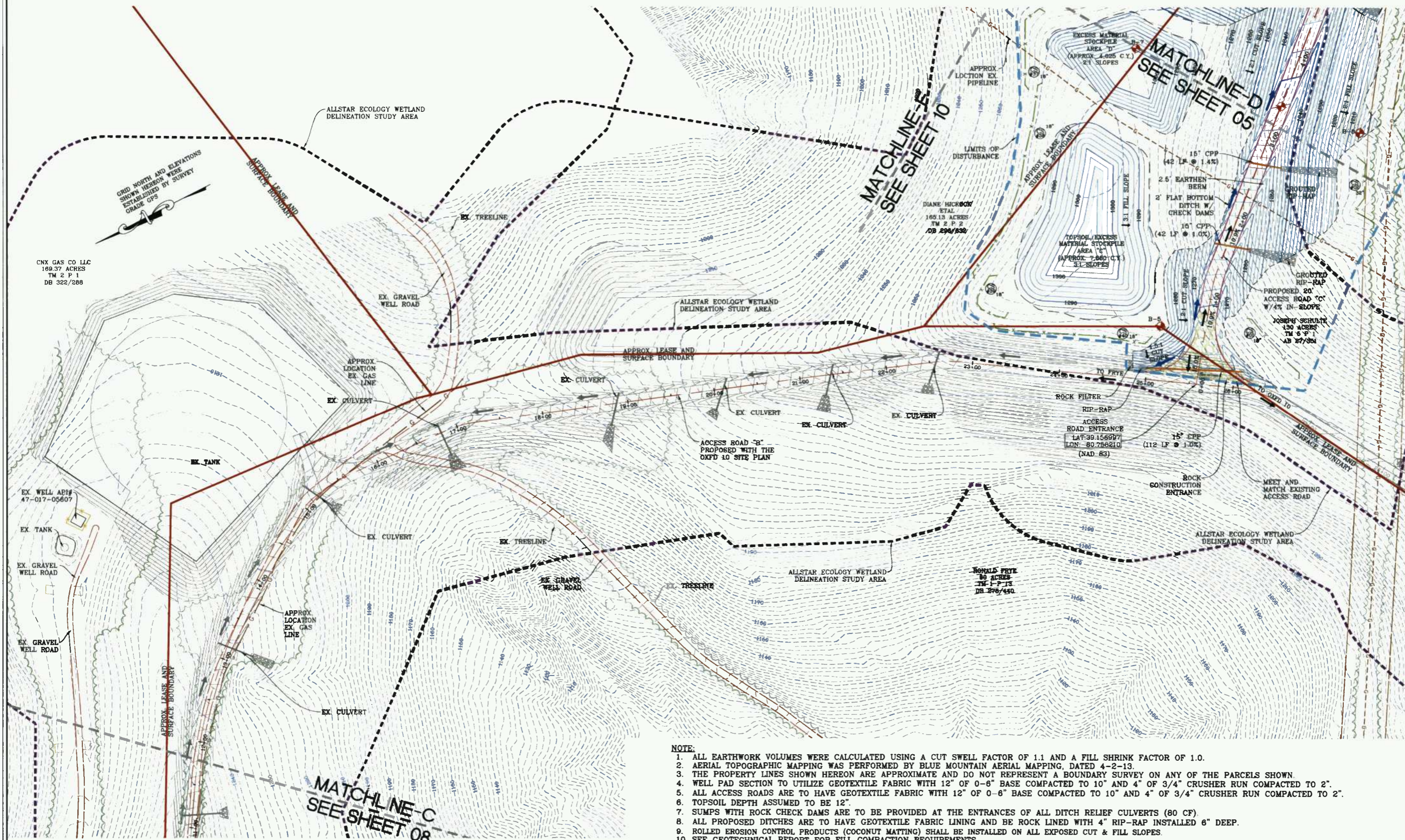
ACCESS ROAD DETAILS  
**OXFD 14**  
SOUTHWEST & COVE DISTRICTS  
DODDRIDGE COUNTY, WV

DATE: 10/07/2014  
SCALE: 1" = 50'  
DESIGNED BY: JMM  
FILE NO. 8116  
SHEET 08 OF 33



# ACCESS ROAD DETAILS

PROPOSED WELL NO. OXFD14 AHS, OXFD14 BHS, OXFD14 CHS, OXFD14 DHS,  
OXFD14 EHS, OXFD14 FHS, OXFD14 GHS, OXFD14 HHS & OXFD14 IHS



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13. CULVERTS DISCHARGING ONTO FILL WILL USE GROUDED RIPRAP OUTLET PROTECTION.

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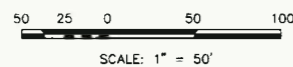
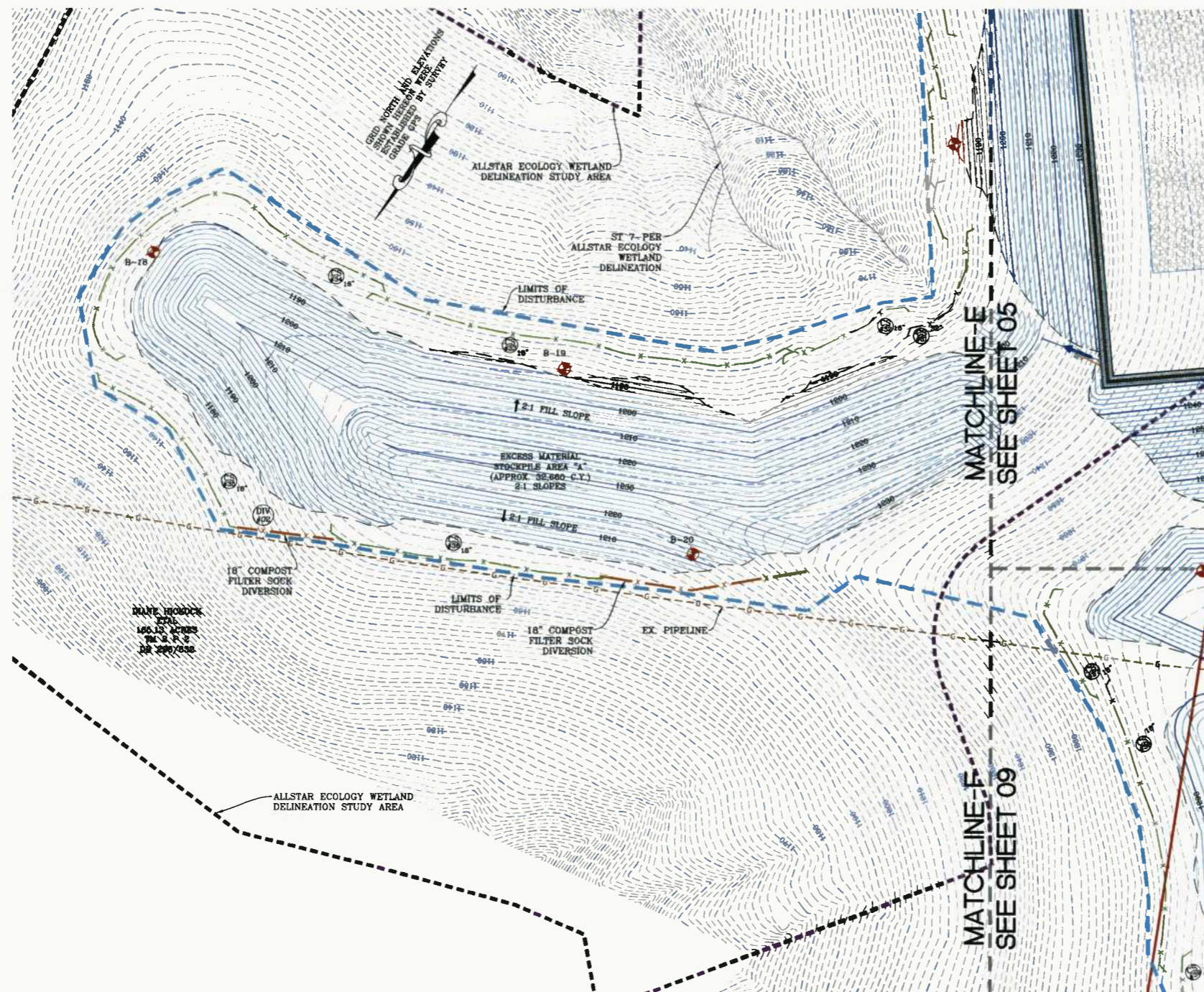
ACCESS ROAD DETAILS  
**OXFD 14**  
SOUTHWEST & COVE DISTRICTS  
DODDRIDGE COUNTY, WV

DATE: 10/07/2014  
SCALE: 1"=50'  
DESIGNED BY: JMM  
FILE NO. 8116  
SHEET 09 OF 33



# STOCKPILE DETAILS

PROPOSED WELL NO. OXFD14 AHS, OXFD14 BHS, OXFD14 CHS, OXFD14 DHS,  
OXFD14 EHS, OXFD14 FHS, OXFD14 GHS, OXFD14 HHS & OXFD14 IHS



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13. CULVERTS DISCHARGING ONTO FILL WILL USE GROUTED RIPRAP OUTLET PROTECTION.

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STOCKPILE DETAILS  
OXFD 14

SOUTHWEST & COVE DISTRICTS  
DODDRIDGE COUNTY, WV

DATE 10/07/2014

SCALE: 1"=50'

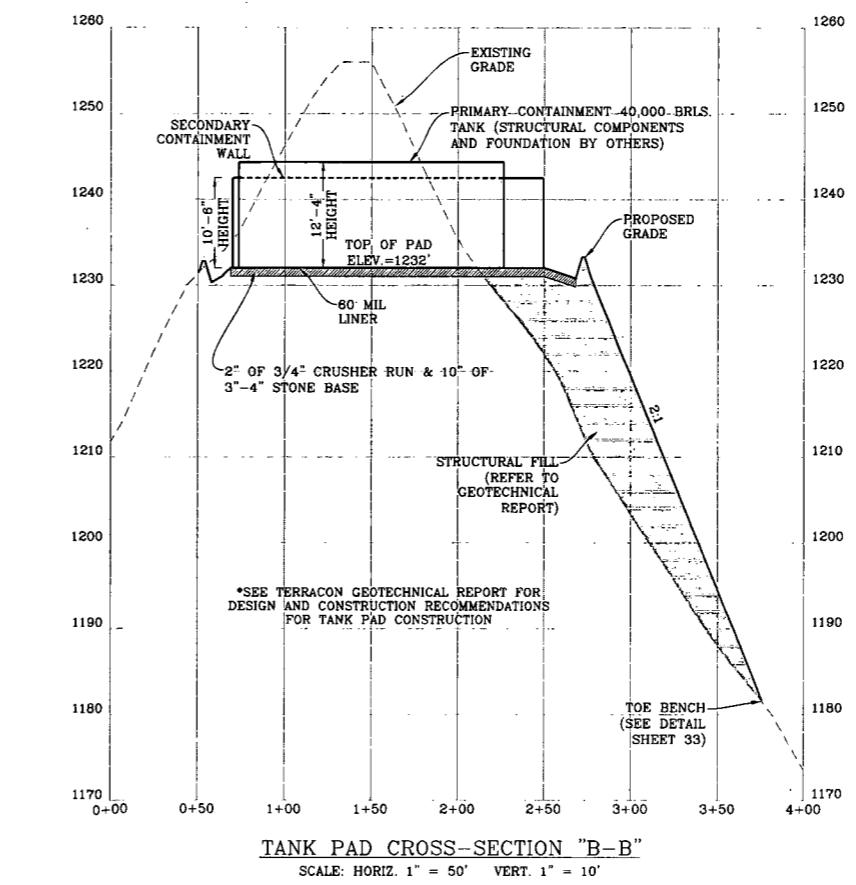
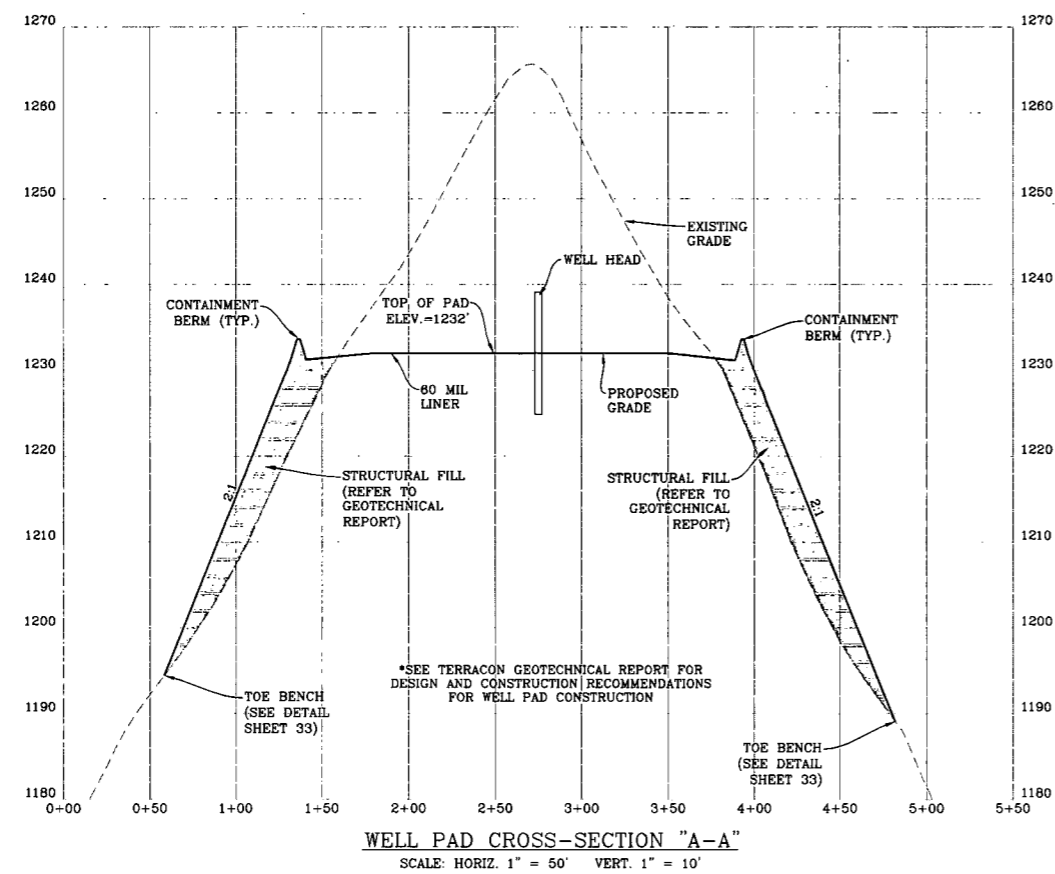
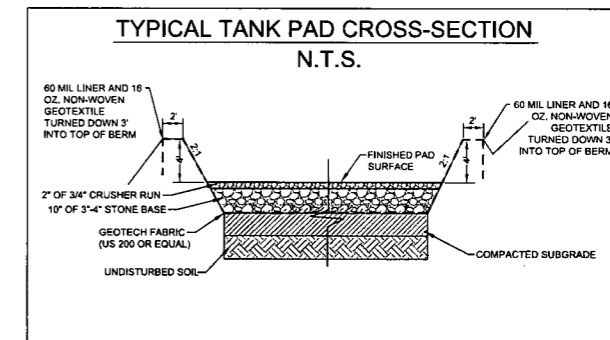
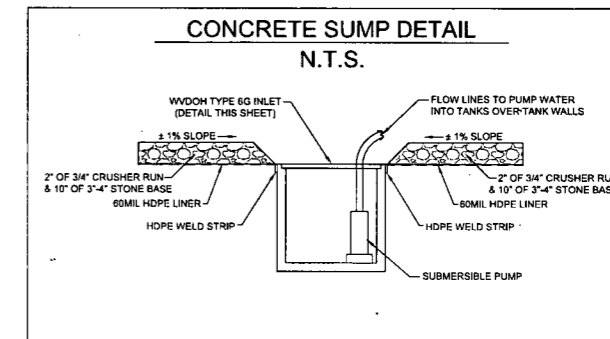
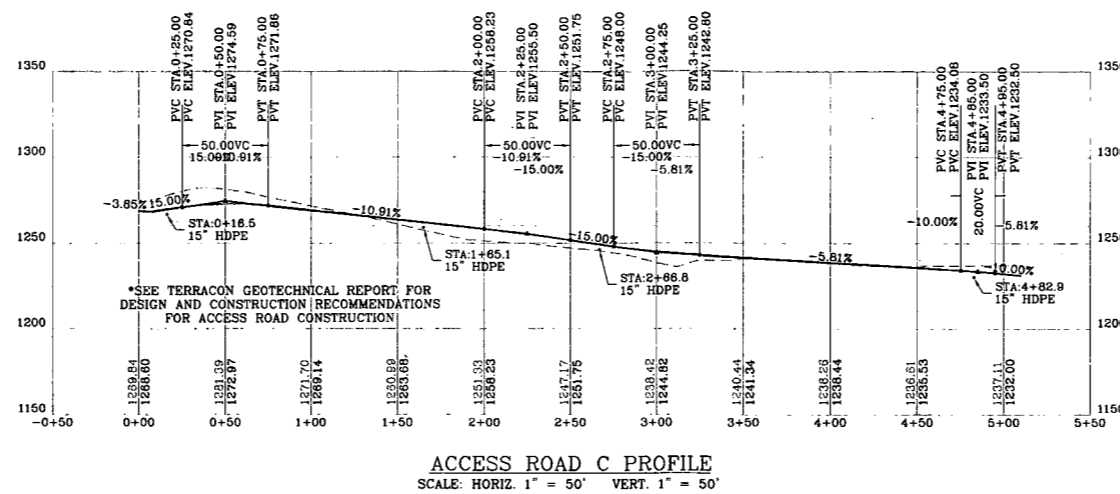
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SHEET 10 OF 33



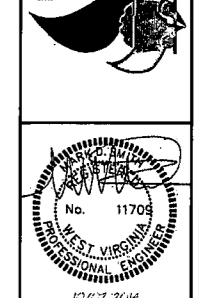
# WELL PAD SECTIONS & ACCESS ROAD C PROFILE



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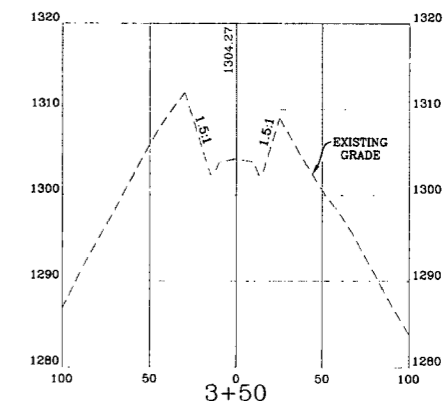
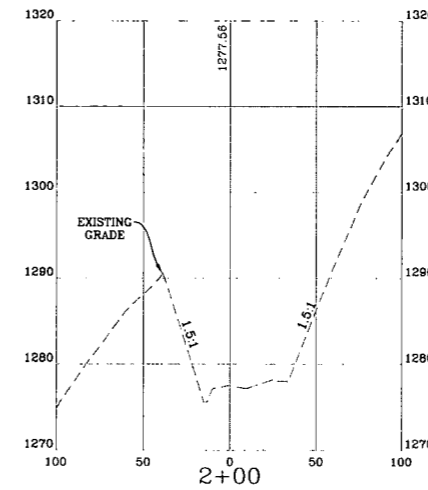
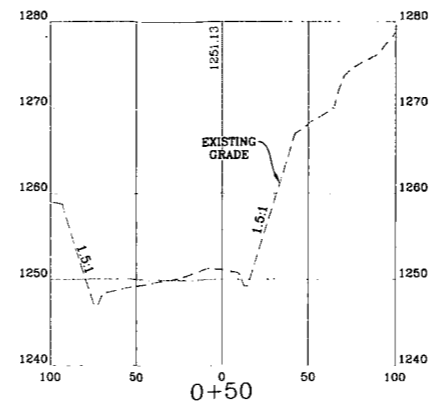
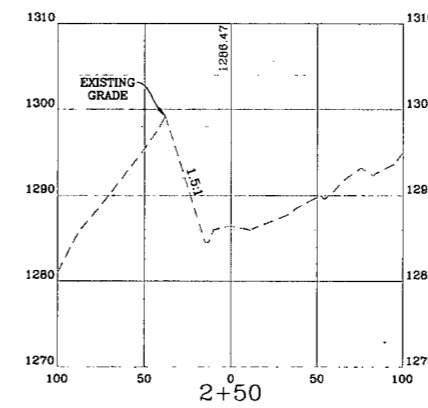
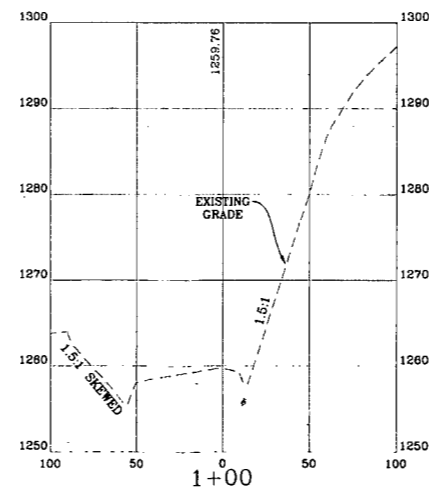
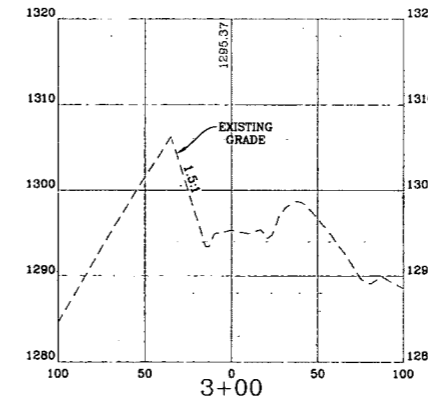
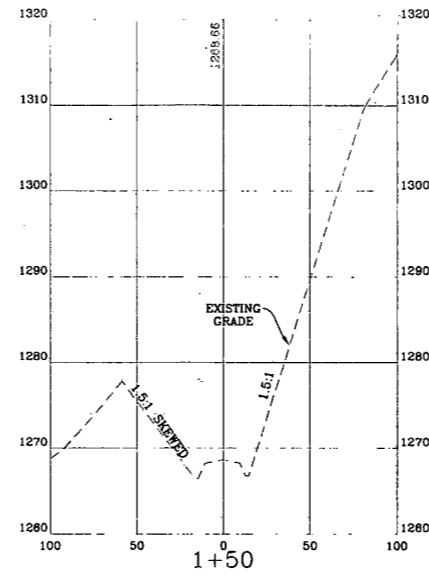
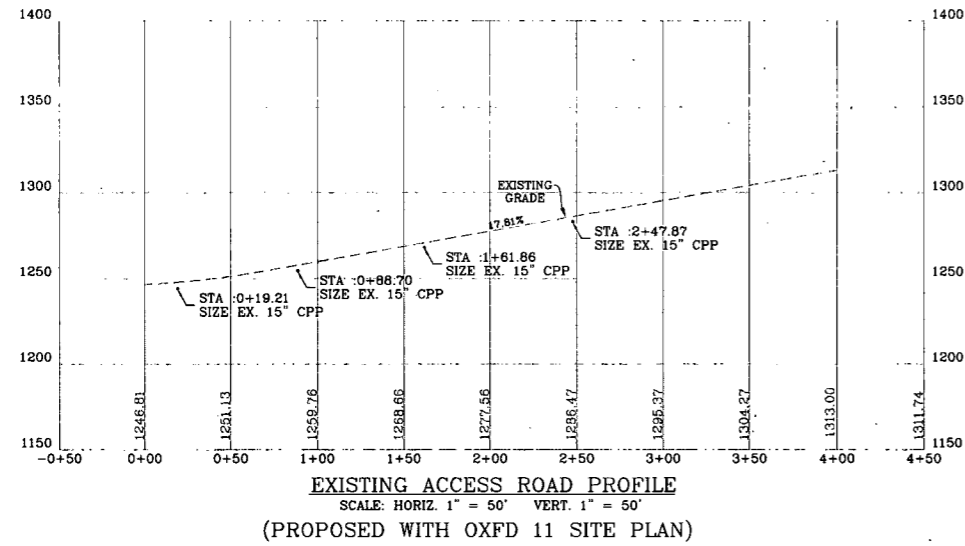
WELL PAD SECTIONS & ACCESS ROAD C PROFILE  
**OXFD 14**  
SOUTHWEST & COVE DISTRICTS  
DODDRIDGE COUNTY, WV

DATE: 10/07/2014  
SCALE: 1"=50'  
DESIGNED BY: JMM  
FILE NO. 8116  
SHEET 11 OF 33

# EXISTING ACCESS ROAD PROFILE & SECTIONS

## EXISTING ACCESS ROAD CROSS-SECTIONS

SCALE: HORIZ. 1" = 50' VERT. 1" = 10'  
(PROPOSED WITH OXFD 11 SITE PLAN)



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EXISTING ACCESS ROAD PROFILE & SECTIONS  
**OXFD 14**  
SOUTHWEST & COVE DISTRICTS  
DODDRIDGE COUNTY, WV

DATE: 10/07/2014

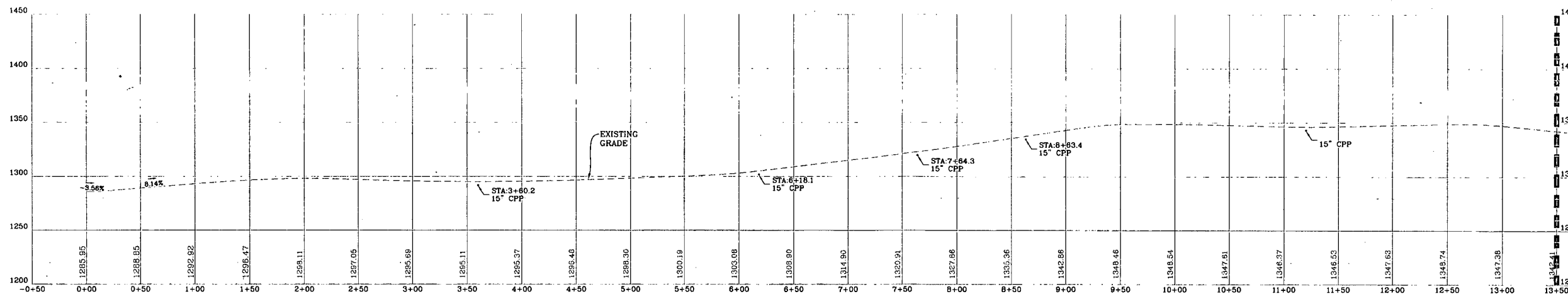
SCALE: 1"=50'

DESIGNED BY: JMM

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SHEET 12 OF 33

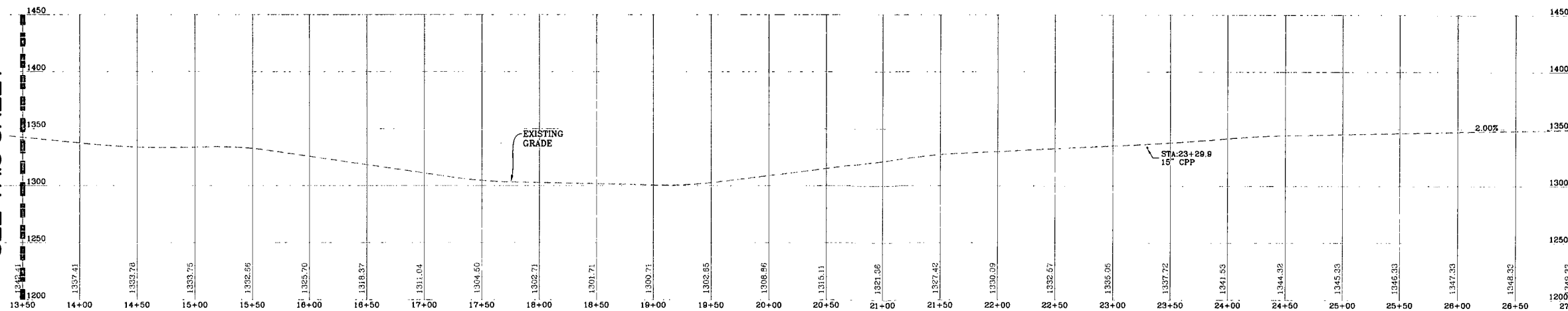
# ACCESS ROAD A PROFILE



ACCESS ROAD A PROFILE  
SCALE: HORIZ. 1" = 50' VERT. 1" = 50'  
(PROPOSED WITH OXFD 10 SITE PLAN)

MATCHLINE-G  
SEE THIS SHEET

MATCHLINE-G  
SEE THIS SHEET



ACCESS ROAD A PROFILE  
SCALE: HORIZ. 1" = 50' VERT. 1" = 50'  
(PROPOSED WITH OXFD 10 SITE PLAN)

MATCHLINE-H  
SEE SHEET 14

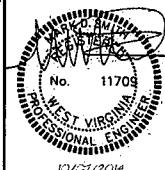
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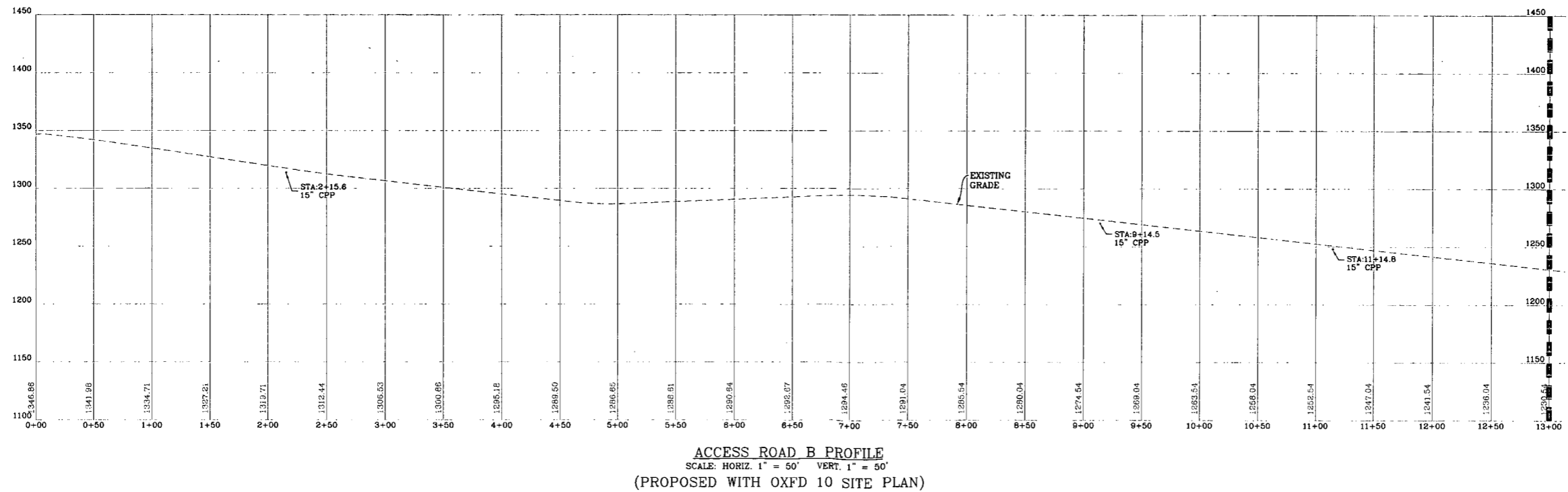
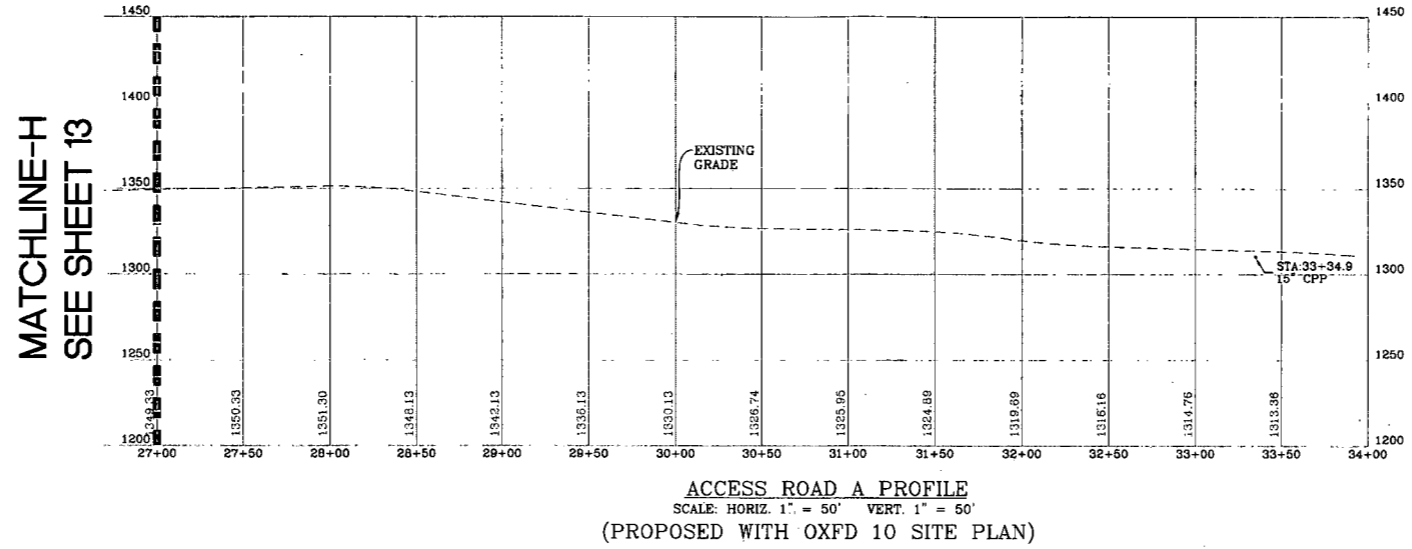


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ACCESS ROAD A PROFILE  
**OXFD 14**  
SOUTHWEST & COVE DISTRICTS  
DODDRIDGE COUNTY, WV

DATE: 10/07/2014  
SCALE: 1"=50'  
DESIGNED BY: JMM  
FILE NO. 8116  
SHEET 13 OF 33

# ACCESS ROAD A & B PROFILE

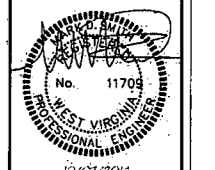


MATCHLINE-H  
SEE SHEET 13

MATCHLINE-I  
SEE SHEET 15

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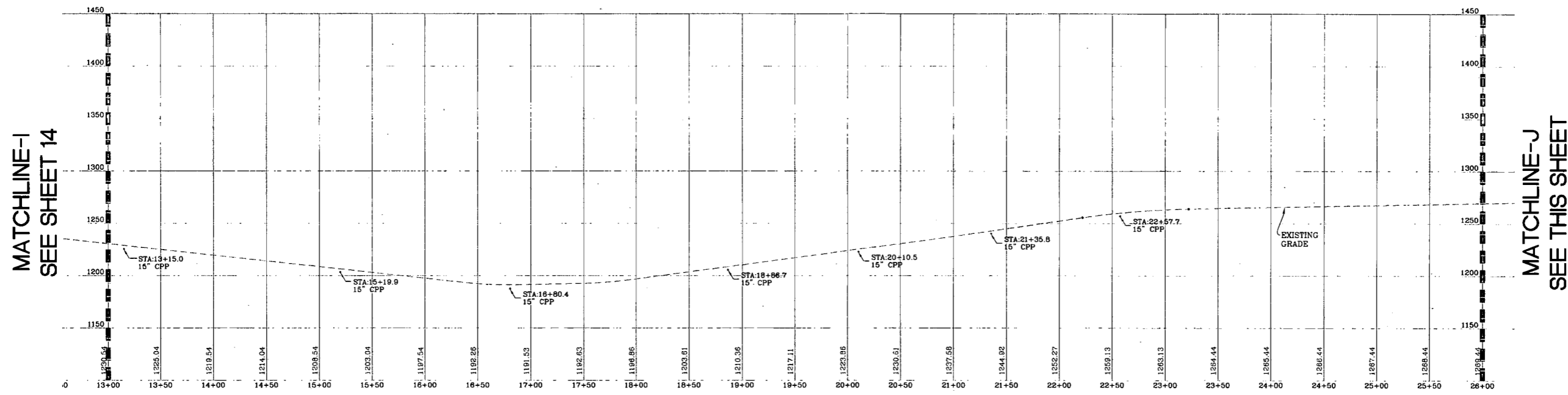


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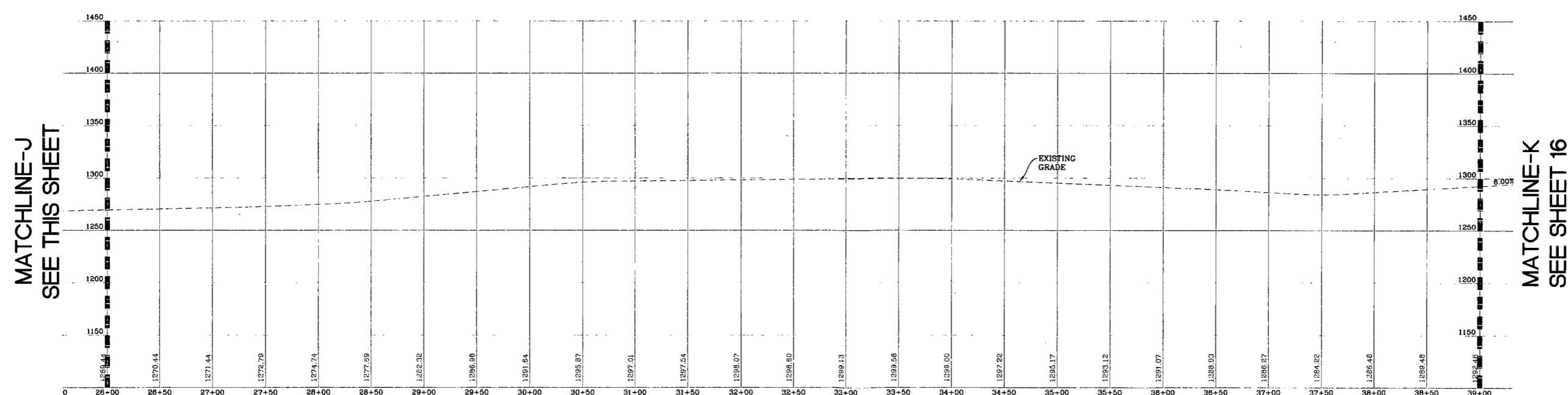
ACCESS ROAD A & B PROFILE  
**OXFD 14**  
 SOUTHWEST & COVE DISTRICTS  
 DODDRIDGE COUNTY, WV

DATE: 10/07/2014  
 SCALE: 1"=50'  
 DESIGNED BY: JMM  
 FILE NO. 8116  
 SHEET 14 OF 33

# ACCESS ROAD B PROFILE



ACCESS ROAD B PROFILE  
SCALE: HORIZ. 1" = 50' VERT. 1" = 50'  
(PROPOSED WITH OXFD 10 SITE PLAN)



ACCESS ROAD B PROFILE  
SCALE: HORIZ. 1" = 50' VERT. 1" = 50'  
(PROPOSED WITH OXFD 10 SITE PLAN)

MATCHLINE-I  
SEE SHEET 14

MATCHLINE-J  
SEE THIS SHEET

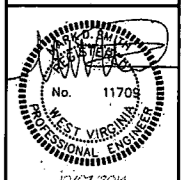
MATCHLINE-J  
SEE THIS SHEET

MATCHLINE-K  
SEE SHEET 16

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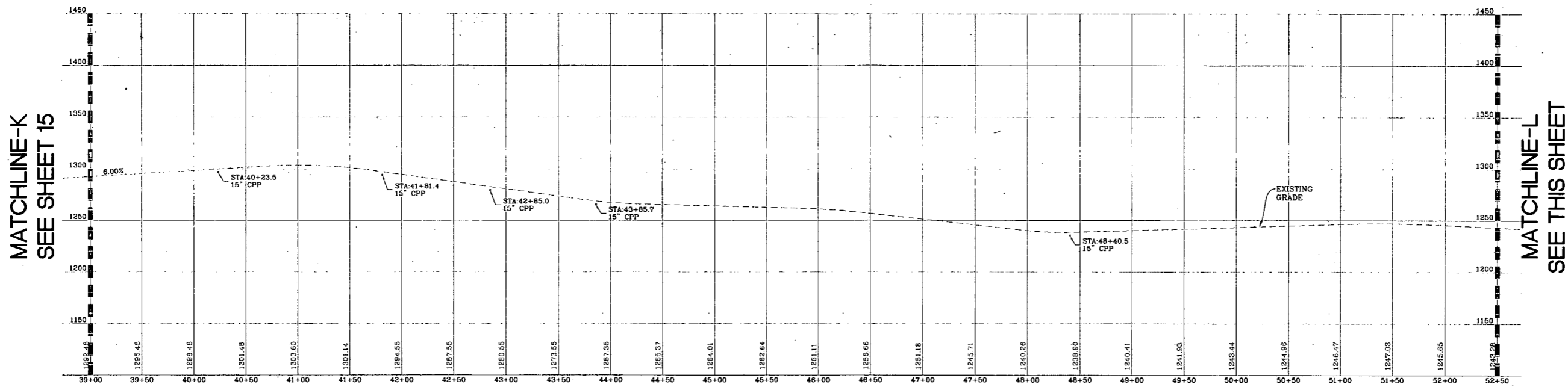


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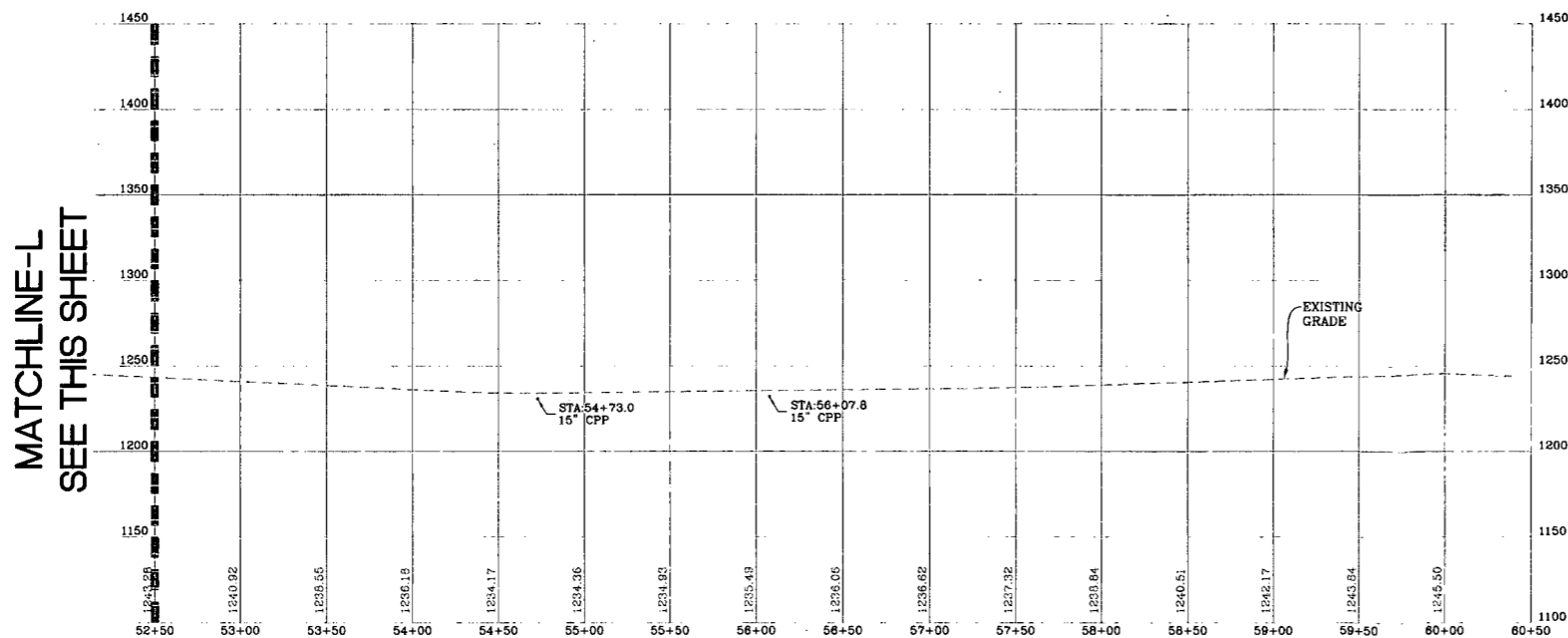
ACCESS ROAD B PROFILE  
OXFD 14  
SOUTHWEST & COVE DISTRICTS  
DODDRIDGE COUNTY, WV

DATE: 10/07/2014  
SCALE: 1"=50'  
DESIGNED BY: JMM  
FILE NO. 8116  
SHEET 15 OF 33

# ACCESS ROAD B PROFILE



**ACCESS ROAD B PROFILE**  
 SCALE: HORIZ. 1" = 50' VERT. 1" = 50'  
 (PROPOSED WITH OXFD 10 SITE PLAN)



**ACCESS ROAD B PROFILE**  
 SCALE: HORIZ. 1" = 50' VERT. 1" = 50'  
 (PROPOSED WITH OXFD 10 SITE PLAN)

MATCHLINE-K  
SEE SHEET 15

MATCHLINE-L  
SEE THIS SHEET

MATCHLINE-L  
SEE THIS SHEET

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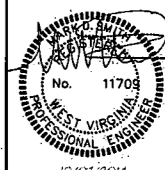
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ACCESS ROAD B PROFILE  
**OXFD 14**  
 SOUTHWEST & COVE DISTRICTS  
 DODDRIDGE COUNTY, WV

DATE: 10/07/2014

SCALE: 1"=50'

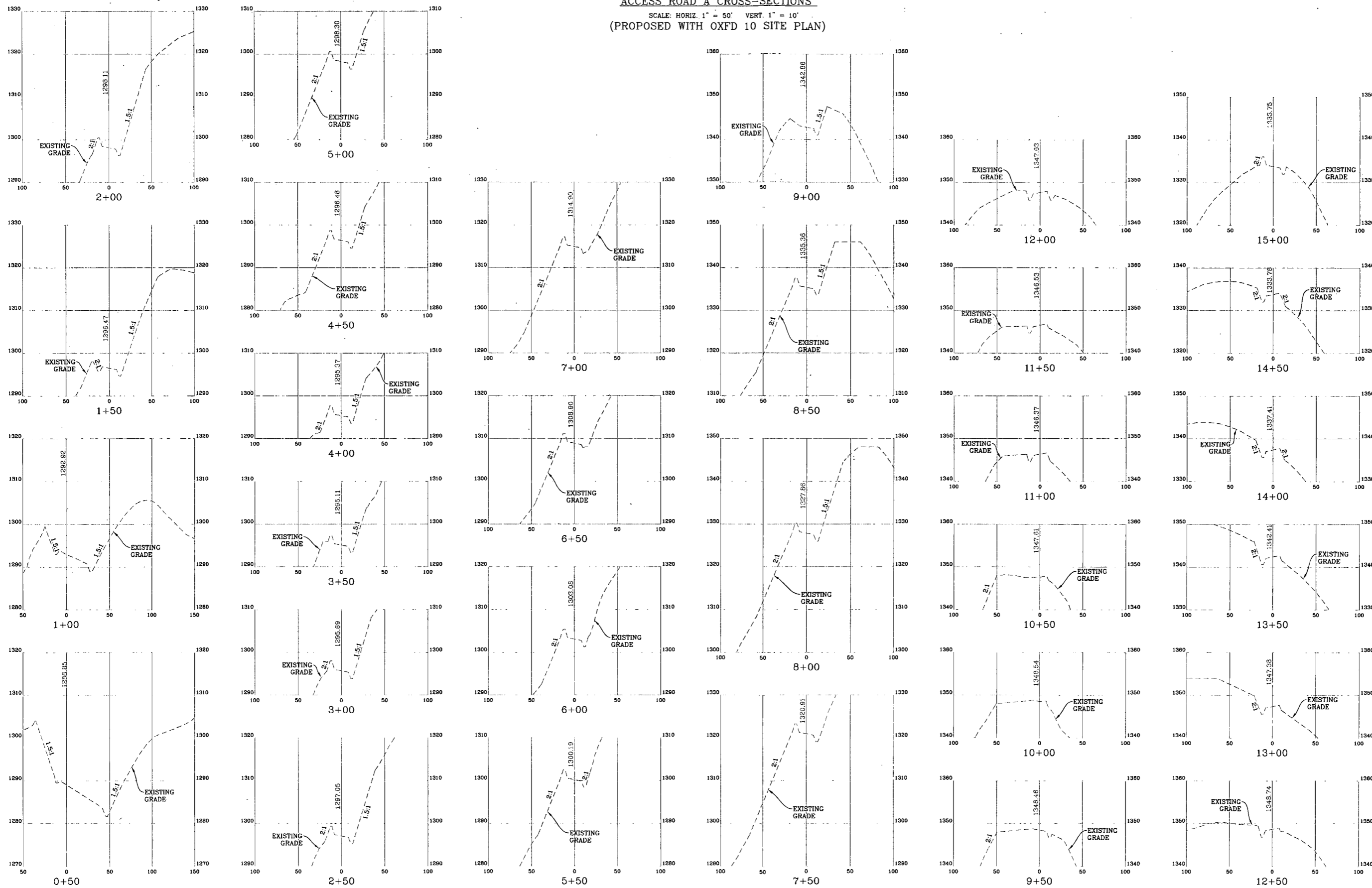
DESIGNED BY: JMM

FILE NO. 8116

SHEET 16 OF 33

# ROAD SECTIONS

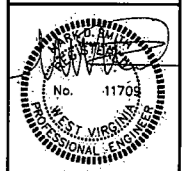
ACCESS ROAD A CROSS-SECTIONS  
 SCALE: HORIZ. 1" = 50' VERT. 1" = 10'  
 (PROPOSED WITH OXFD 10 SITE PLAN)



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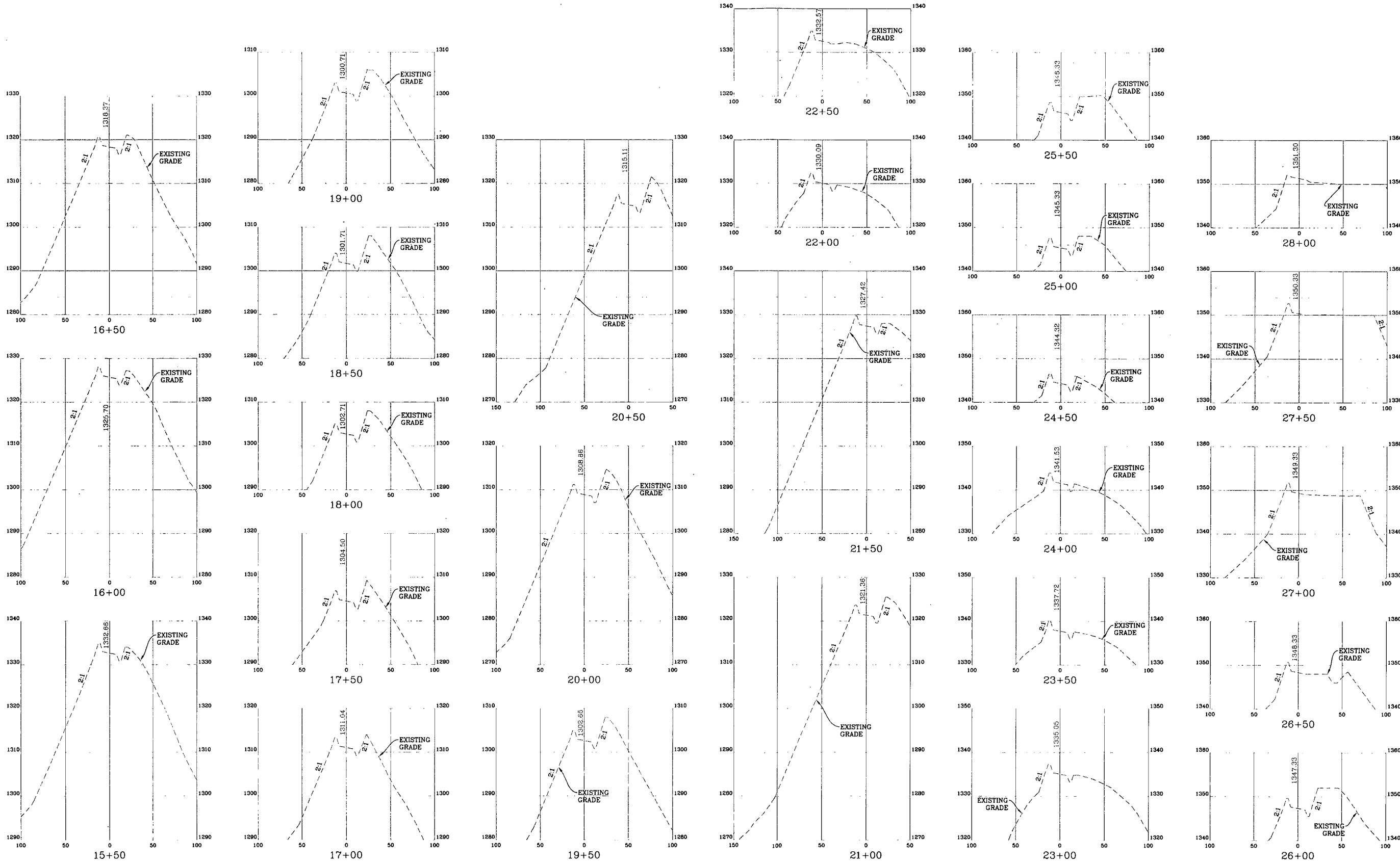
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**OXFD 14**  
 SOUTHWEST & COVE DISTRICTS  
 DODDRIDGE COUNTY, WV

DATE: 10/07/2014  
 SCALE: 1"=50'  
 DESIGNED BY: JMM  
 FILE NO. 8116  
 SHEET 17 OF 33



# ROAD SECTIONS

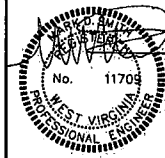
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 (PROPOSED WITH OXFD 10 SITE PLAN)



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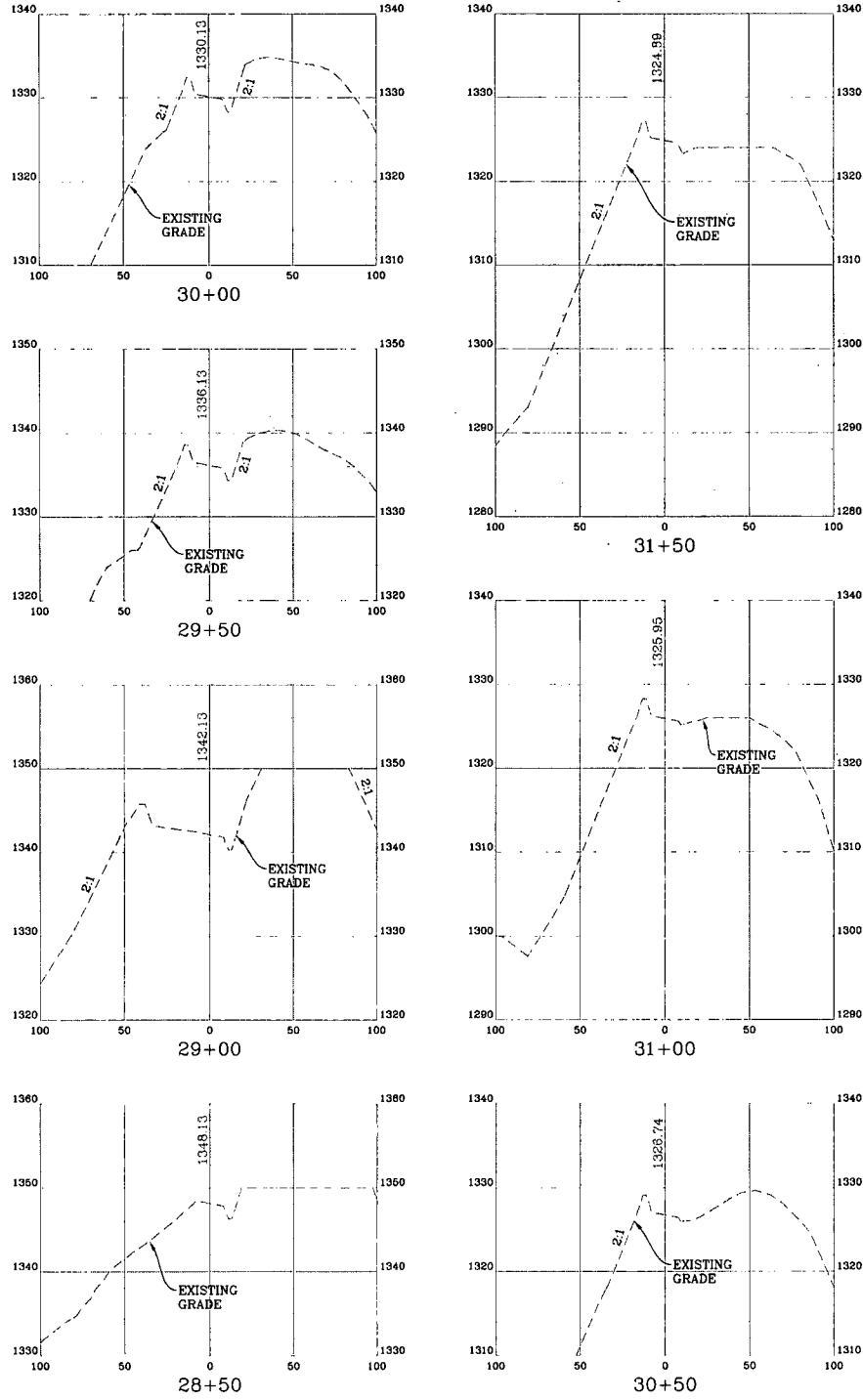
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**OXFD 14**  
 SOUTHWEST & COVE DISTRICTS  
 DODDRIDGE COUNTY, WV

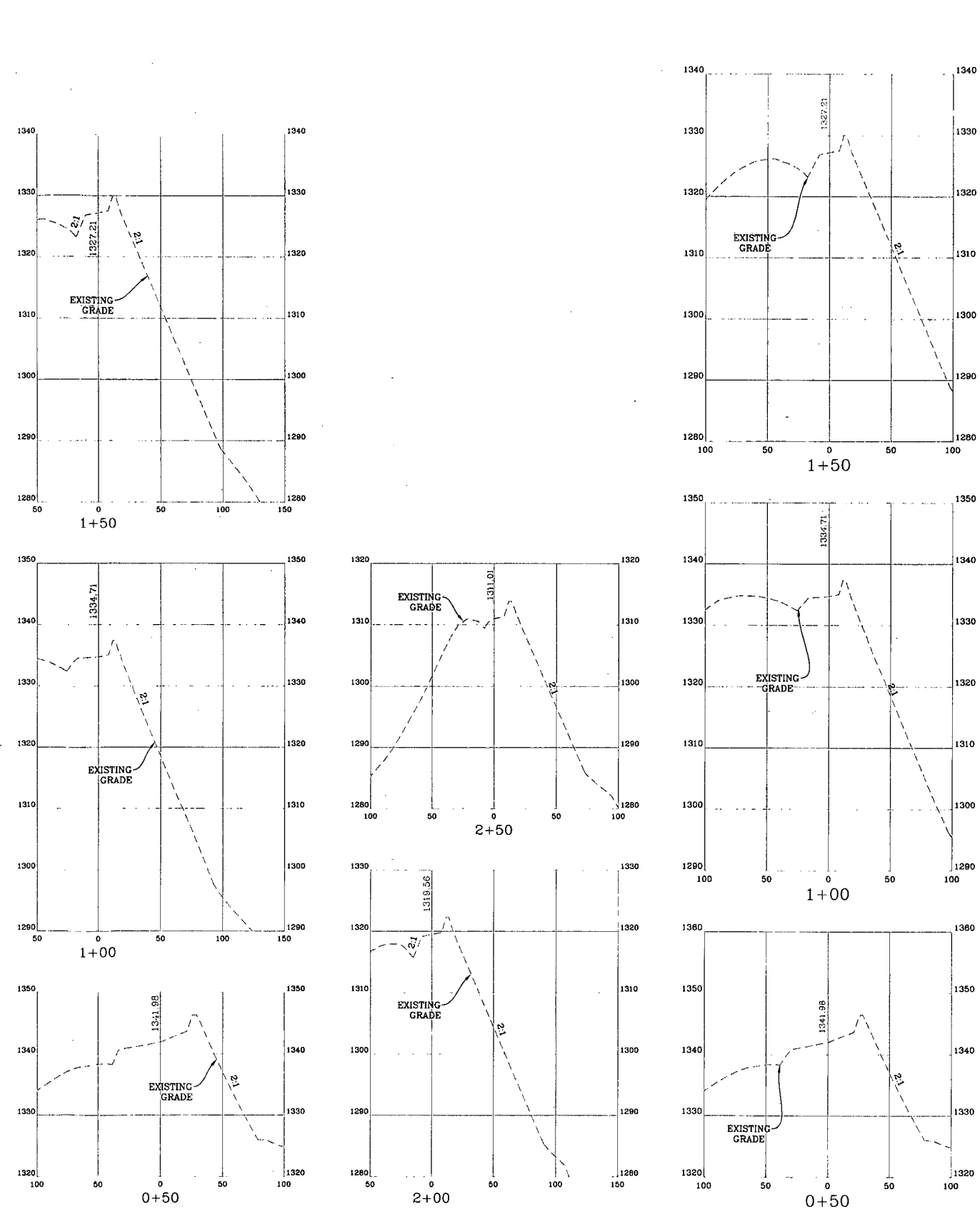
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 SCALE: 1"=50'  
 DESIGNED BY: JMM  
 FILE NO. 8116  
 SHEET 18 OF 33

# ROAD SECTIONS

**ACCESS ROAD A CROSS-SECTIONS**  
 SCALE: HORIZ. 1" = 50' VERT. 1" = 10'  
 (PROPOSED WITH OXFD 10 SITE PLAN)

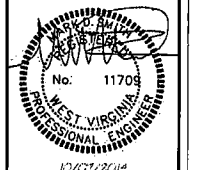


**ACCESS ROAD B CROSS-SECTIONS**  
 SCALE: HORIZ. 1" = 50' VERT. 1" = 10'  
 (PROPOSED WITH OXFD 10 SITE PLAN)



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**OXFD 14**  
 SOUTHWEST & COVE DISTRICTS  
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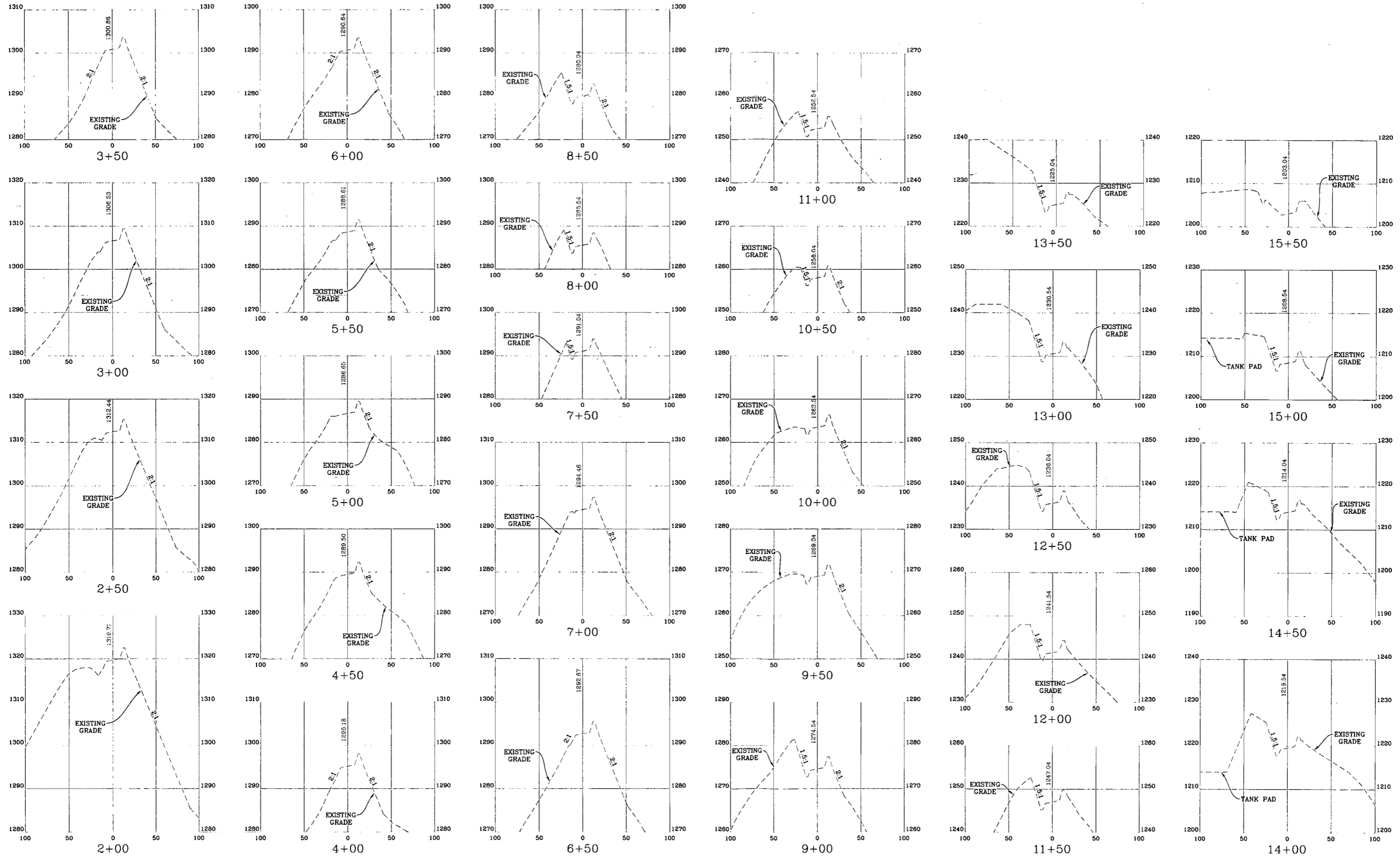
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 SCALE: 1"=50'  
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 FILE NO. 8116  
 SHEET 19 OF 33

# ROAD SECTIONS

## ACCESS ROAD B CROSS-SECTIONS

SCALE: HORIZ. 1" = 50' VERT. 1" = 10'

(PROPOSED WITH OXFD 10 SITE PLAN)



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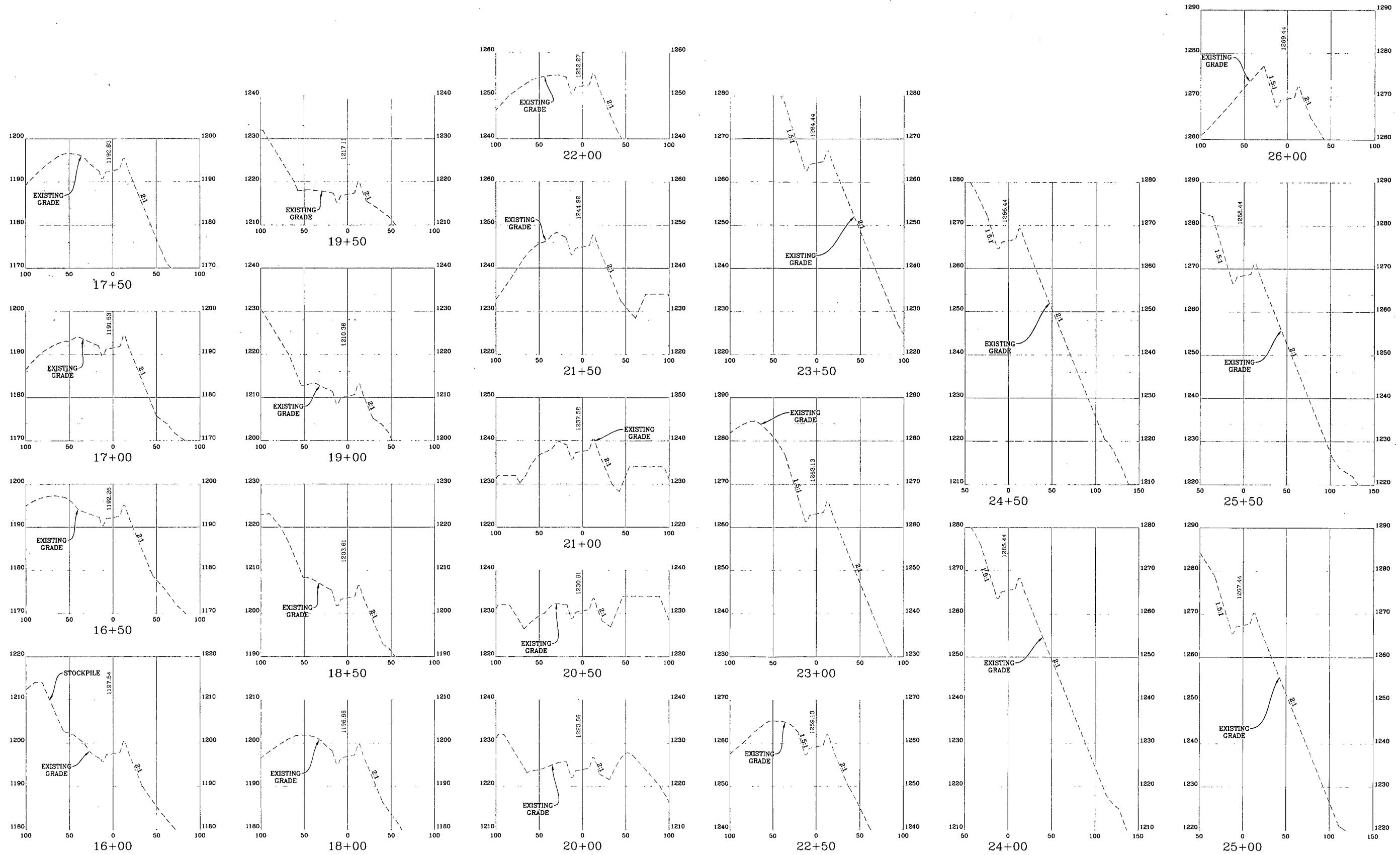
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ROAD SECTIONS  
**OXFD 14**  
SOUTHWEST & COVE DISTRICTS  
DODDRIDGE COUNTY, WV

SCALE: 1"=50'  
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FILE NO. 8116  
SHEET 20 OF 33

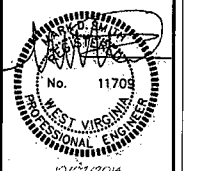
# ROAD SECTIONS

ACCESS ROAD B CROSS-SECTIONS  
 SCALE: HORIZ. 1" = 50' VERT. 1" = 10'  
 (PROPOSED WITH OXFD 10 SITE PLAN)



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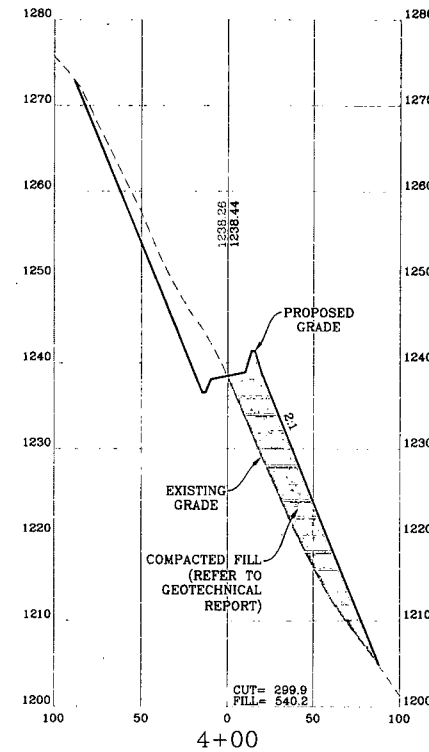
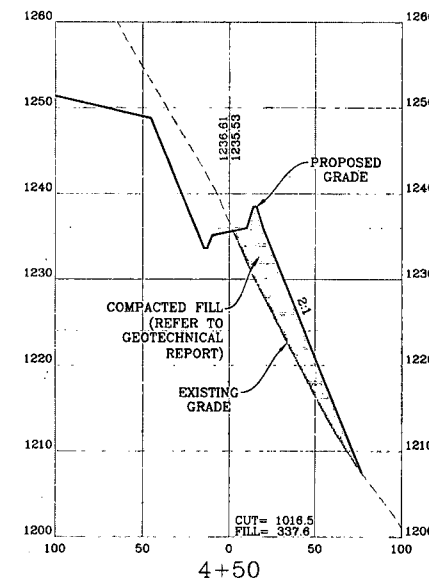
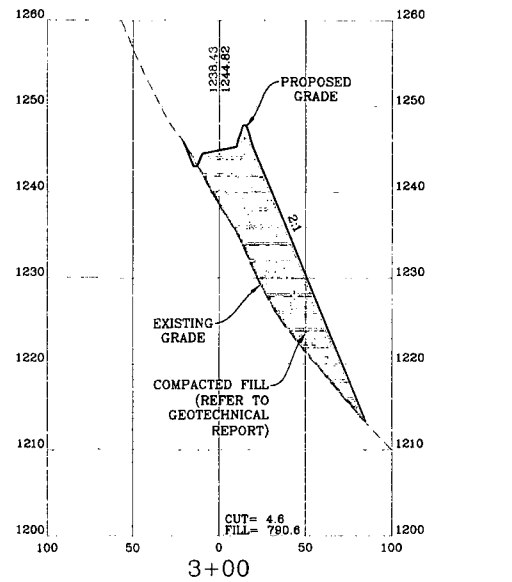
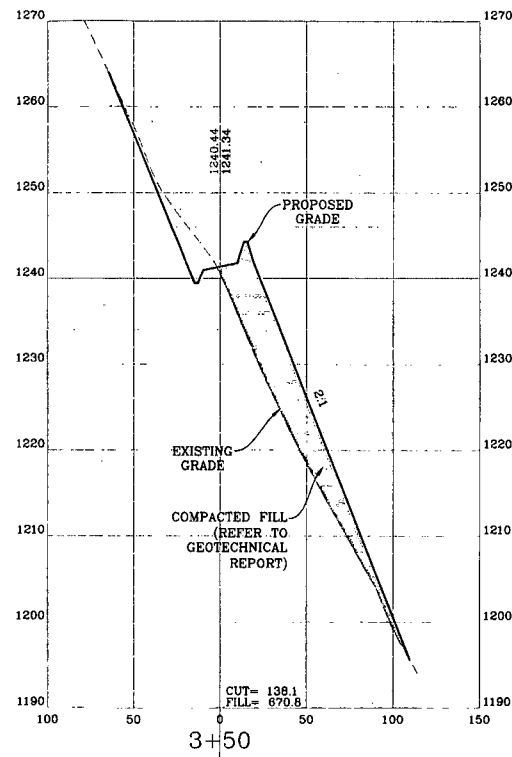
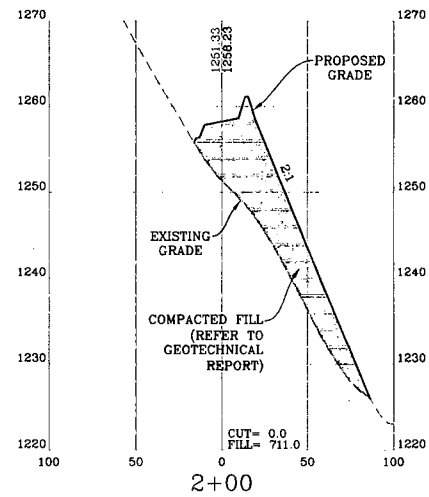
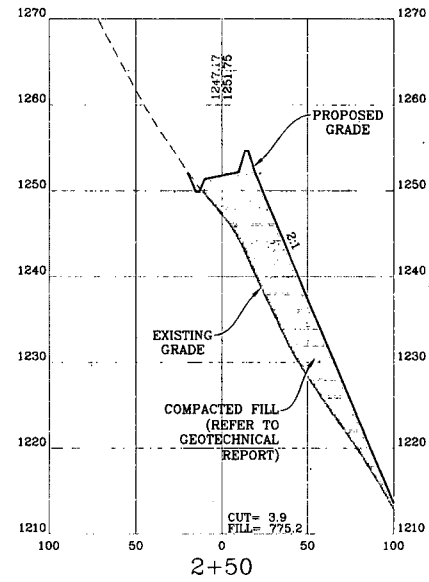
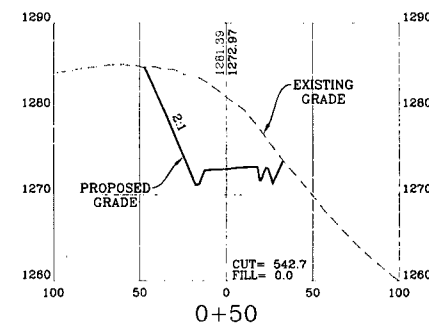
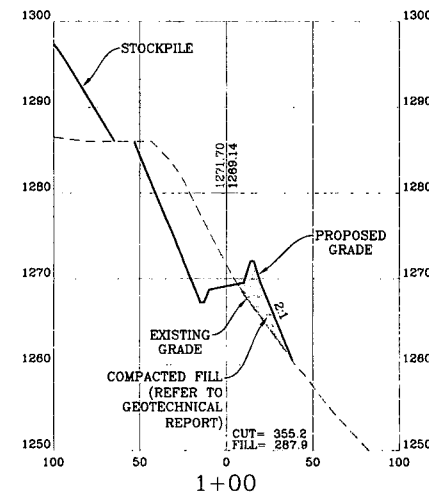
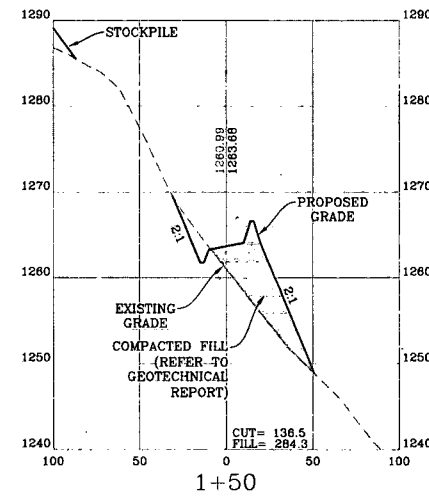
ROAD SECTIONS  
**OXFD 14**  
 SOUTHWEST & COVE DISTRICTS  
 DODDRIDGE COUNTY, WV

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 FILE NO. 6116  
 SHEET 21 OF 33

# ROAD SECTIONS

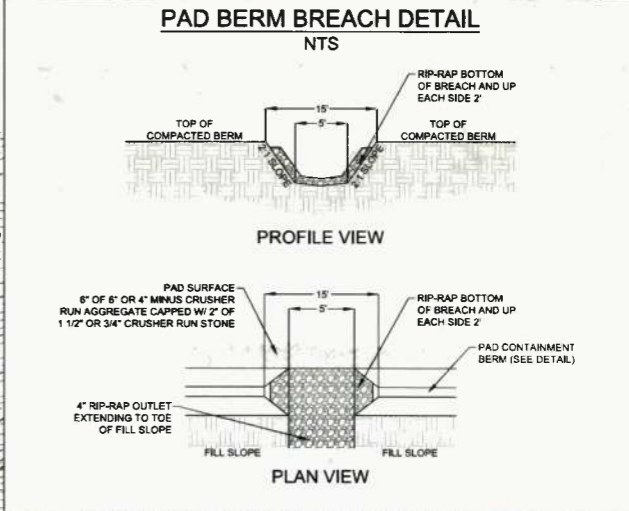
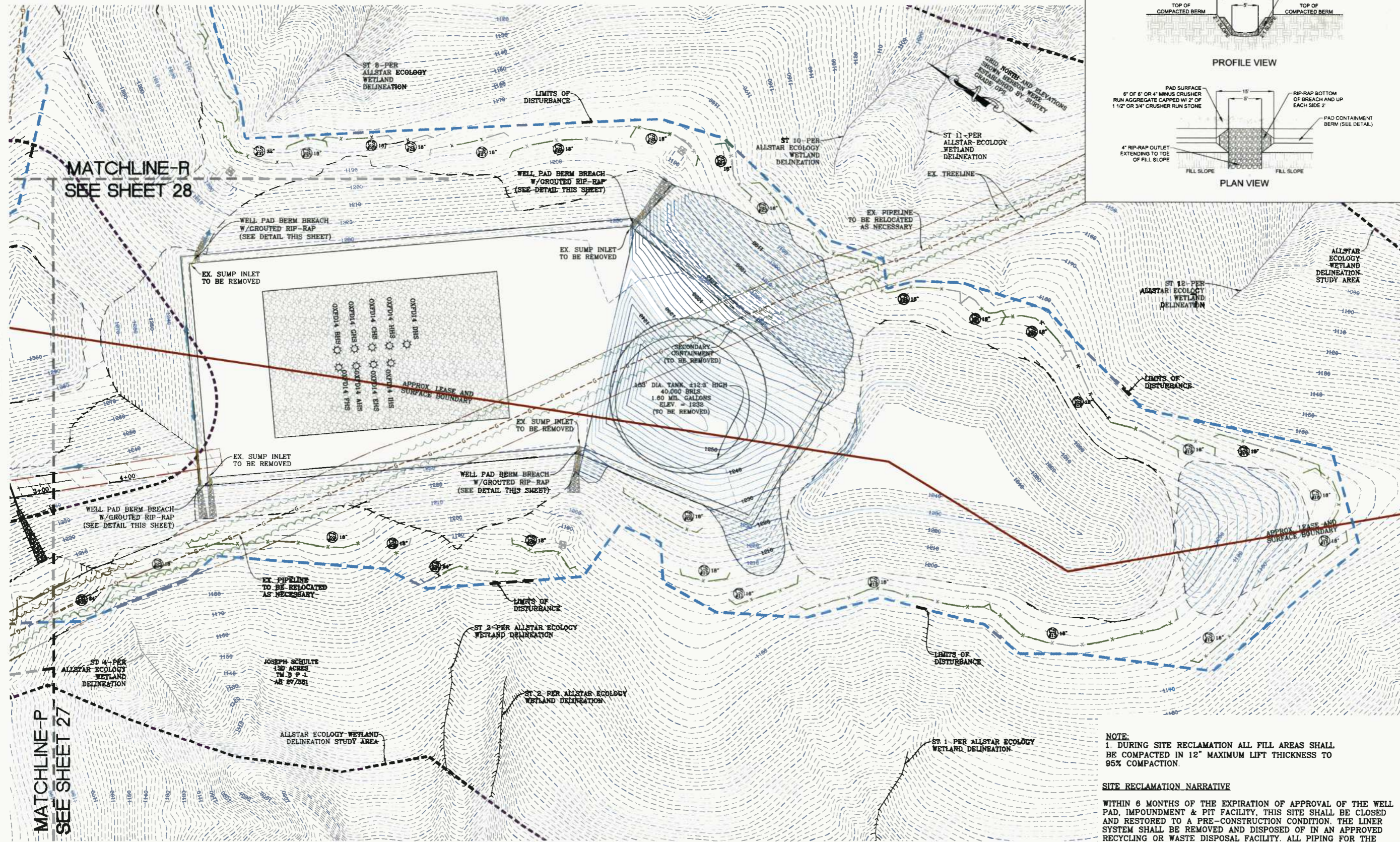
## ACCESS ROAD C CROSS-SECTIONS

SCALE: HORIZ. 1" = 50' VERT. 1" = 10'





# WELL PAD RECLAMATION PLAN



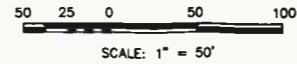
MATCHLINE-R  
SEE SHEET 28

MATCHLINE-P  
SEE SHEET 27

**NOTE:**  
1. DURING SITE RECLAMATION ALL FILL AREAS SHALL BE COMPACTED IN 12" MAXIMUM LIFT THICKNESS TO 95% COMPACTION.

**SITE RECLAMATION NARRATIVE**

WITHIN 6 MONTHS OF THE EXPIRATION OF APPROVAL OF THE WELL PAD, IMPOUNDMENT & PIT FACILITY, THIS SITE SHALL BE CLOSED AND RESTORED TO A PRE-CONSTRUCTION CONDITION. THE LINER SYSTEM SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED RECYCLING OR WASTE DISPOSAL FACILITY. ALL PIPING FOR THE GROUNDWATER DEWATERING SYSTEM, WATER LINES, AND ASSOCIATED STRUCTURES SHALL BE REMOVED. ALL EX. BMP'S SHOWN SHALL BE INSPECTED FOR DAMAGE AND REPLACED AS NECESSARY BEFORE RECLAMATION CAN BEGIN. THE SITE SHALL BE REGRADED AS INDICATED ON PLANS TO PRE CONSTRUCTION GRADES. UPON COMPLETION OF GRADING, THE SITE SHALL BE SEEDED AND MULCHED PER THE REVEGETATION DETAILS ON SHEET 31.



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WELL PAD RECLAMATION PLAN  
**OXFD 14**  
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DODDRIDGE COUNTY, WV

DATE: 10/07/2014  
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FILE NO. 8116  
SHEET 23 OF 33

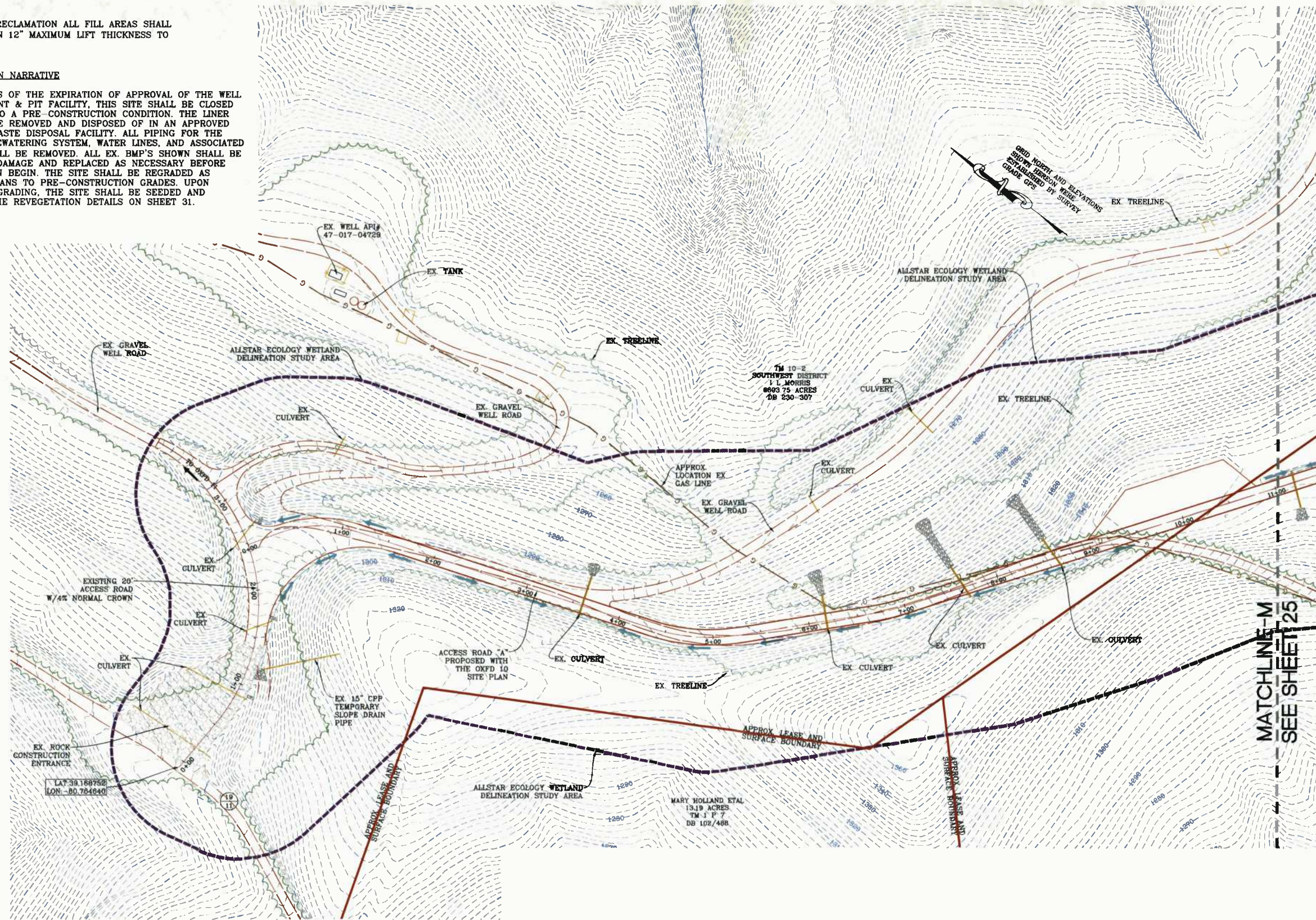


# ACCESS ROAD RECLAMATION PLAN

**NOTE:**  
 1. DURING SITE RECLAMATION ALL FILL AREAS SHALL BE COMPACTED IN 12" MAXIMUM LIFT THICKNESS TO 95% COMPACTION.

**SITE RECLAMATION NARRATIVE**

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ACCESS ROAD RECLAMATION PLAN  
**OXFD 14**  
 SOUTHWEST & COVE DISTRICTS  
 DODDRIDGE COUNTY, WV

DATE: 10/07/2014

SCALE: 1" = 50'

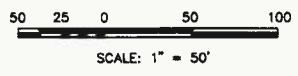
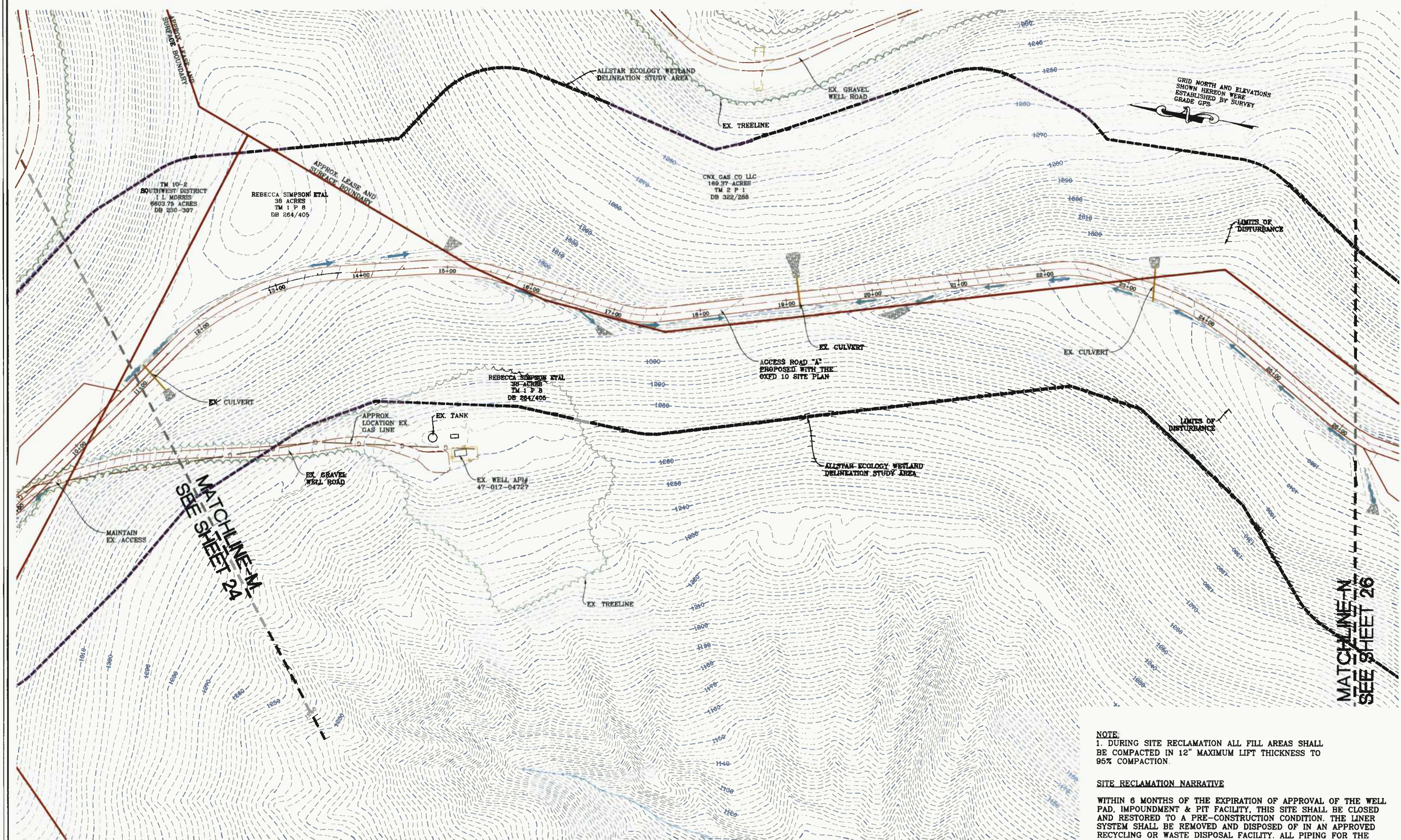
DESIGNED BY: JMM

FILE NO. 8116

SHEET 24 OF 33



# ACCESS ROAD RECLAMATION PLAN



**NOTE:**  
 1. DURING SITE RECLAMATION ALL FILL AREAS SHALL BE COMPACTED IN 12" MAXIMUM LIFT THICKNESS TO 95% COMPACTION.

**SITE RECLAMATION NARRATIVE**  
 WITHIN 6 MONTHS OF THE EXPIRATION OF APPROVAL OF THE WELL PAD, IMPOUNDMENT & PIT FACILITY, THIS SITE SHALL BE CLOSED AND RESTORED TO A PRE-CONSTRUCTION CONDITION. THE LINER SYSTEM SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED RECYCLING OR WASTE DISPOSAL FACILITY. ALL PIPING FOR THE GROUNDWATER DEWATERING SYSTEM, WATER LINES, AND ASSOCIATED STRUCTURES SHALL BE REMOVED. ALL EX. BMP'S SHOWN SHALL BE INSPECTED FOR DAMAGE AND REPLACED AS NECESSARY BEFORE RECLAMATION CAN BEGIN. THE SITE SHALL BE REGRADED AS INDICATED ON PLANS TO PRE-CONSTRUCTION GRADES. UPON COMPLETION OF GRADING, THE SITE SHALL BE SEEDED AND MULCHED PER THE REVEGETATION DETAILS ON SHEET 31.

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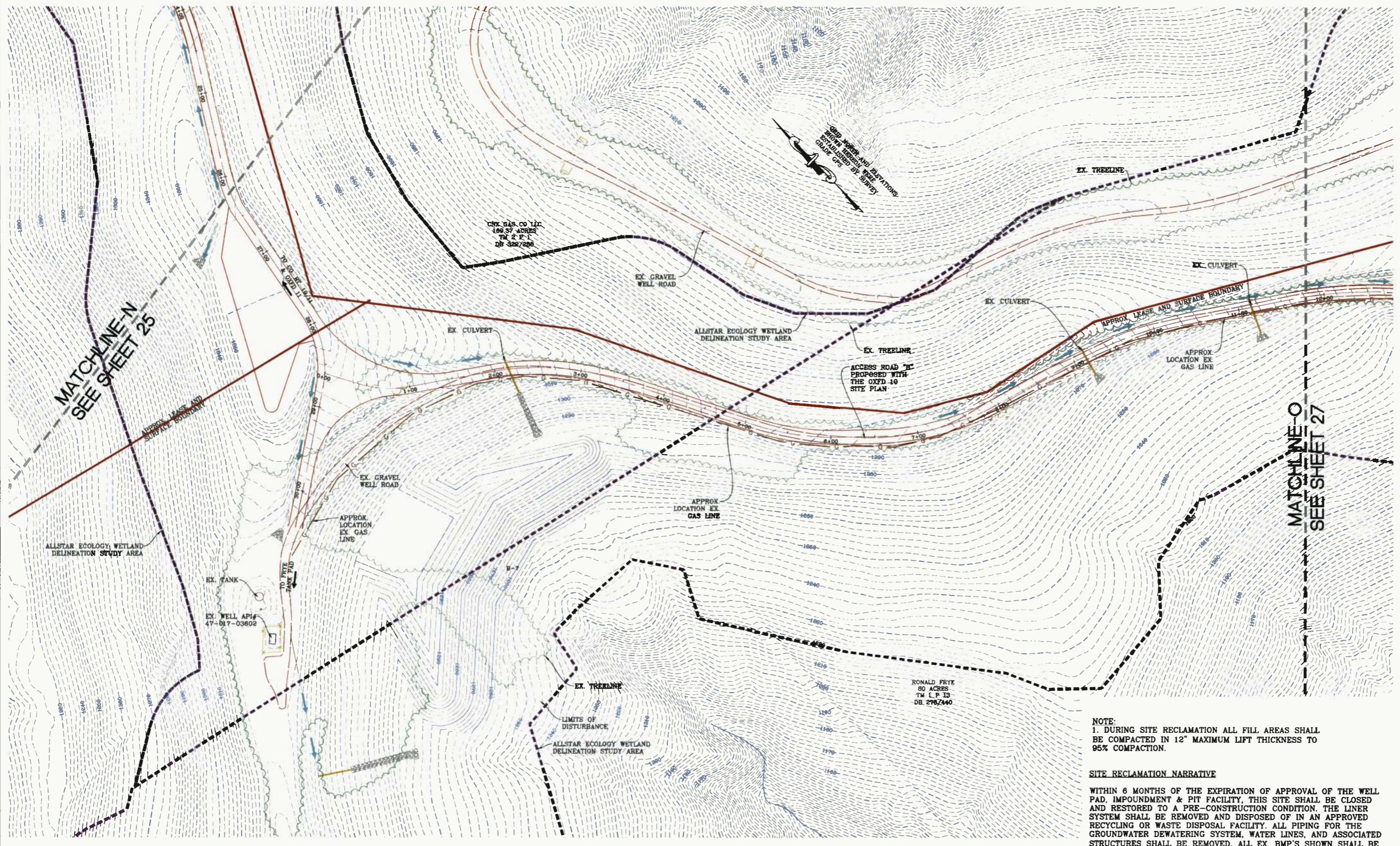
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ACCESS ROAD RECLAMATION PLAN  
**OXFD 14**  
 SOUTHWEST & COVE DISTRICTS  
 DODDRIDGE COUNTY, WV

DATE: 10/07/2014  
 SCALE: 1" = 50'  
 DESIGNED BY: JMM  
 FILE NO. 8116  
 SHEET 25 OF 33

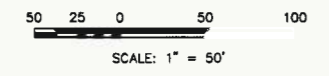


# ACCESS ROAD RECLAMATION PLAN



MATCHLINE-N  
SEE SHEET 25

MATCHLINE-O  
SEE SHEET 27



NOTE:  
1. DURING SITE RECLAMATION ALL FILL AREAS SHALL BE COMPACTED IN 12" MAXIMUM LIFT THICKNESS TO 95% COMPACTION.

**SITE RECLAMATION NARRATIVE**

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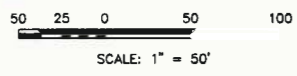
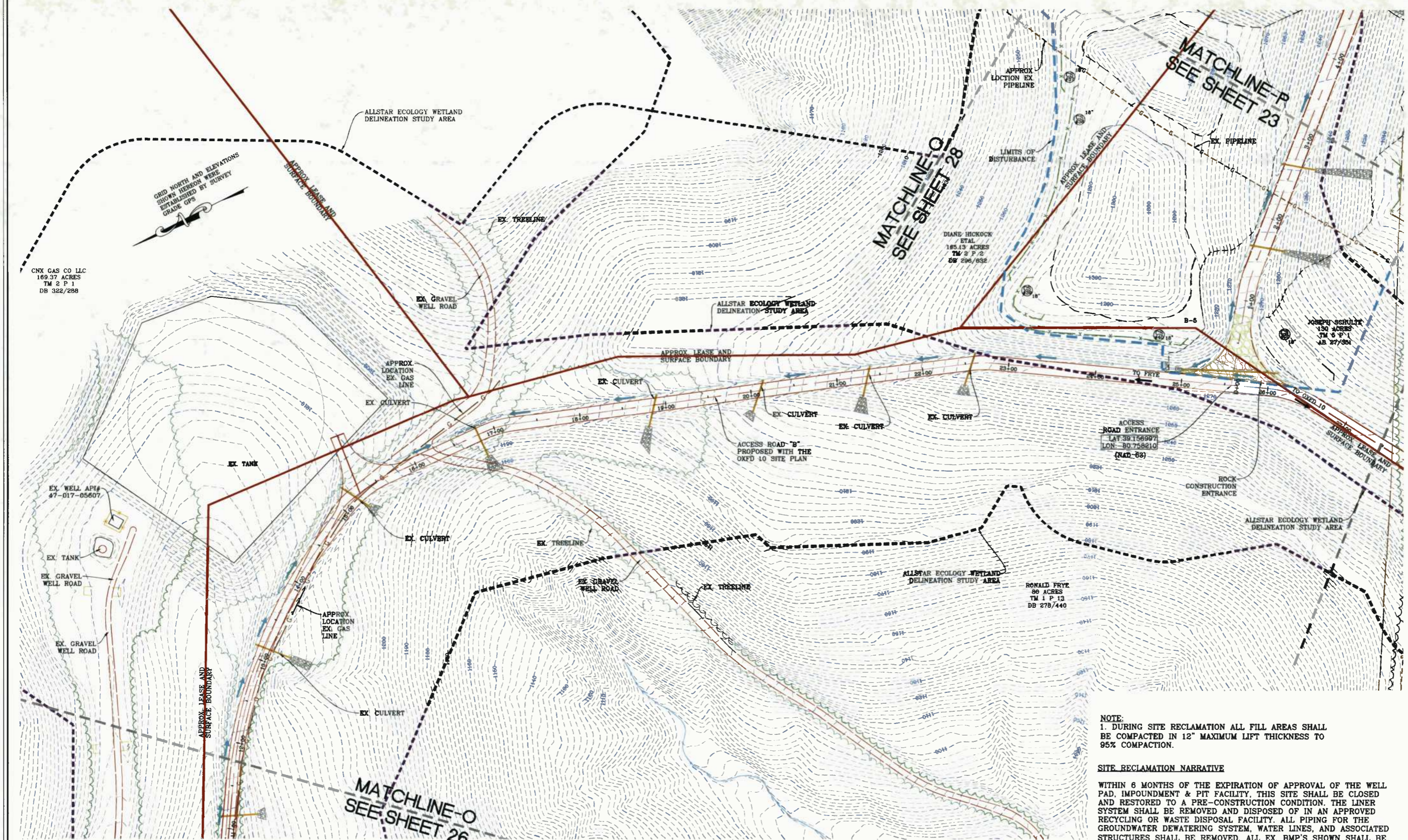
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ACCESS ROAD RECLAMATION PLAN  
**OXFD 14**  
SOUTHWEST & COVE DISTRICTS  
DODDRIDGE COUNTY, WV

DATE: 10/07/2014  
SCALE: 1" = 50'  
DESIGNED BY: JMM  
FILE NO. 8116  
SHEET 26 OF 33



# ACCESS ROAD RECLAMATION PLAN



NOTE:  
1. DURING SITE RECLAMATION ALL FILL AREAS SHALL BE COMPACTED IN 12" MAXIMUM LIFT THICKNESS TO 95% COMPACTION.

**SITE RECLAMATION NARRATIVE**

WITHIN 6 MONTHS OF THE EXPIRATION OF APPROVAL OF THE WELL PAD, IMPOUNDMENT & PIT FACILITY, THIS SITE SHALL BE CLOSED AND RESTORED TO A PRE-CONSTRUCTION CONDITION. THE LINER SYSTEM SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED RECYCLING OR WASTE DISPOSAL FACILITY. ALL PIPING FOR THE GROUNDWATER DEWATERING SYSTEM, WATER LINES, AND ASSOCIATED STRUCTURES SHALL BE REMOVED. ALL EX. BMP'S SHOWN SHALL BE INSPECTED FOR DAMAGE AND REPLACED AS NECESSARY BEFORE RECLAMATION CAN BEGIN. THE SITE SHALL BE REGRADED AS INDICATED ON PLANS TO PRE-CONSTRUCTION GRADES. UPON COMPLETION OF GRADING, THE SITE SHALL BE SEEDED AND MULCHED PER THE REVEGETATION DETAILS ON SHEET 31.

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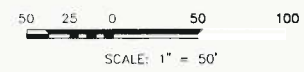
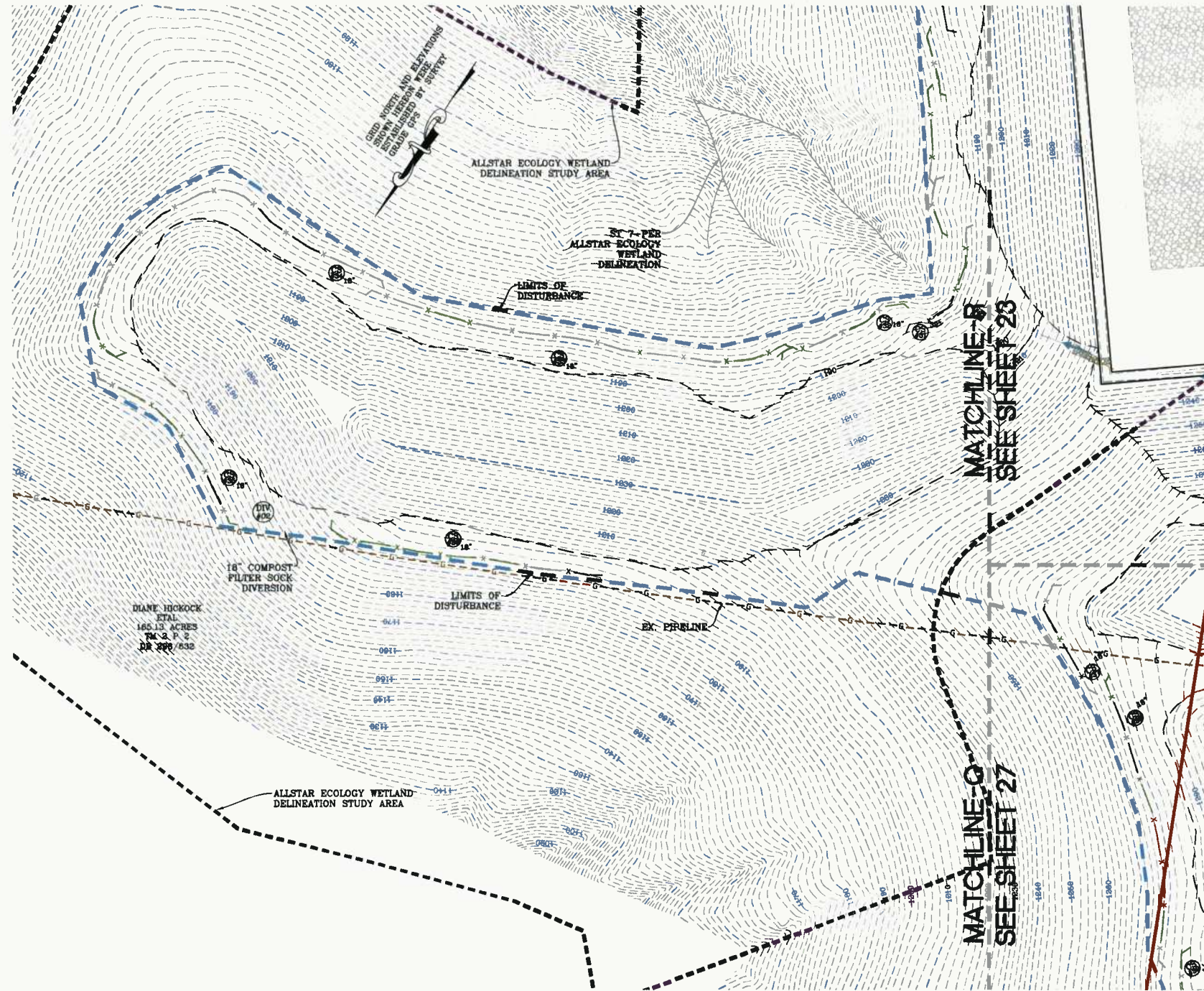
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ACCESS ROAD RECLAMATION PLAN  
**OXFD 14**  
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DODDRIDGE COUNTY, WV

DATE: 10/07/2014  
SCALE: 1"=50'  
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FILE NO. 8116  
SHEET 27 OF 33



# STOCKPILE RECLAMATION PLAN



**NOTE:**  
 1. DURING SITE RECLAMATION ALL FILL AREAS SHALL BE COMPACTED IN 12" MAXIMUM LIFT THICKNESS TO 95% COMPACTION.

**SITE RECLAMATION NARRATIVE**  
 WITHIN 6 MONTHS OF THE EXPIRATION OF APPROVAL OF THE WELL PAD, IMPOUNDMENT & PIT FACILITY, THIS SITE SHALL BE CLOSED AND RESTORED TO A PRE-CONSTRUCTION CONDITION. THE LINER SYSTEM SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED RECYCLING OR WASTE DISPOSAL FACILITY. ALL PIPING FOR THE GROUNDWATER DEWATERING SYSTEM, WATER LINES, AND ASSOCIATED STRUCTURES SHALL BE REMOVED. ALL EX. BMP'S SHOWN SHALL BE INSPECTED FOR DAMAGE AND REPLACED AS NECESSARY BEFORE RECLAMATION CAN BEGIN. THE SITE SHALL BE REGRADED AS INDICATED ON PLANS TO PRE-CONSTRUCTION GRADES. UPON COMPLETION OF GRADING, THE SITE SHALL BE SEEDED AND MULCHED PER THE REVEGETATION DETAILS ON SHEET 31.

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THIS DOCUMENT WAS PREPARED BY:  
 NAVITUS ENGINEERING INC.  
 FOR: CNX GAS COMPANY, LLC

STOCKPILE RECLAMATION PLAN  
**OXFD 14**  
 SOUTHWEST & COVE DISTRICTS  
 DODDRIDGE COUNTY, WV

DATE: 10/07/2014  
 SCALE: 1" = 50'  
 DESIGNED BY: JMM  
 FILE NO. 8116  
 SHEET 28 OF 33

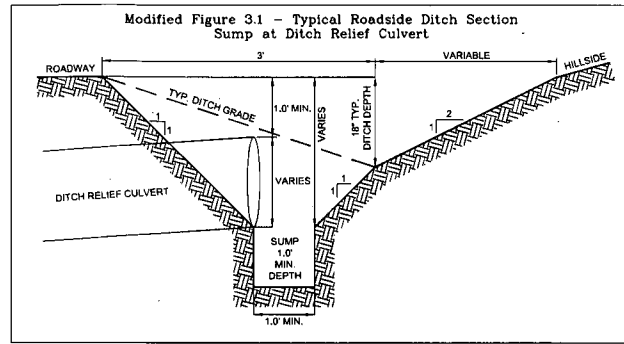
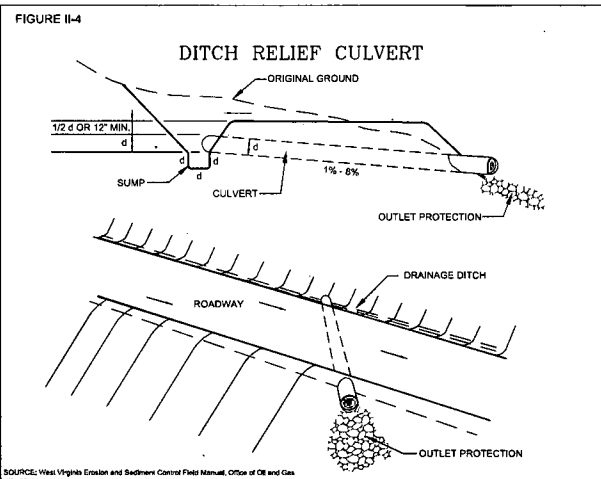
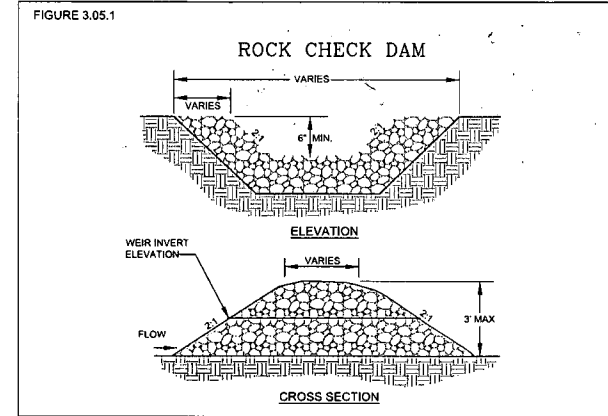
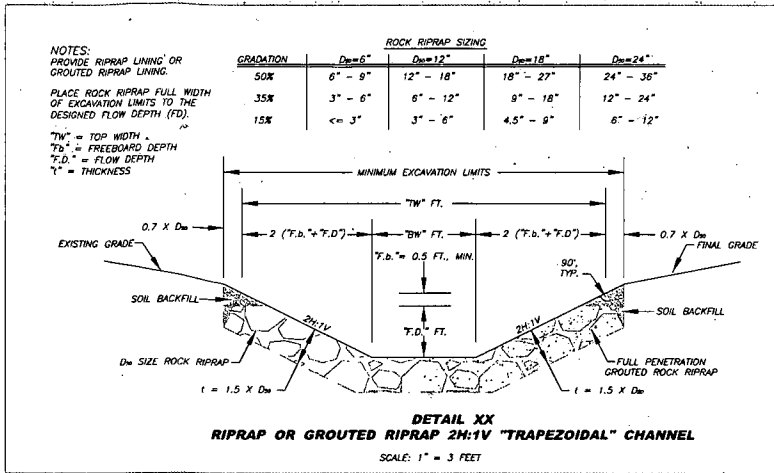
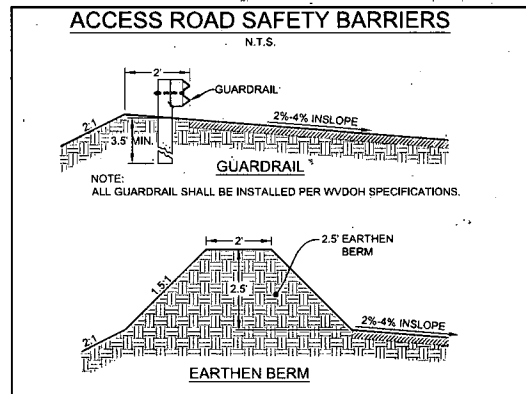
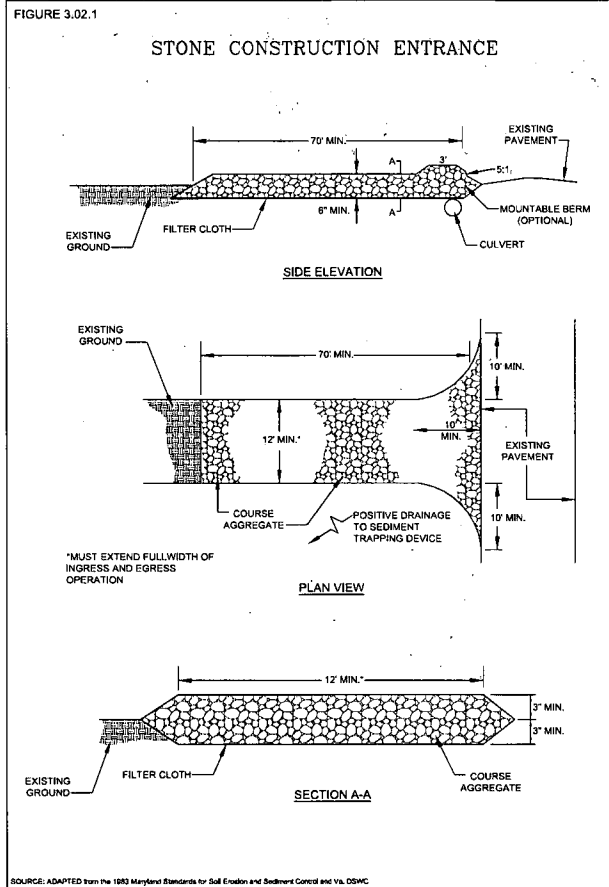
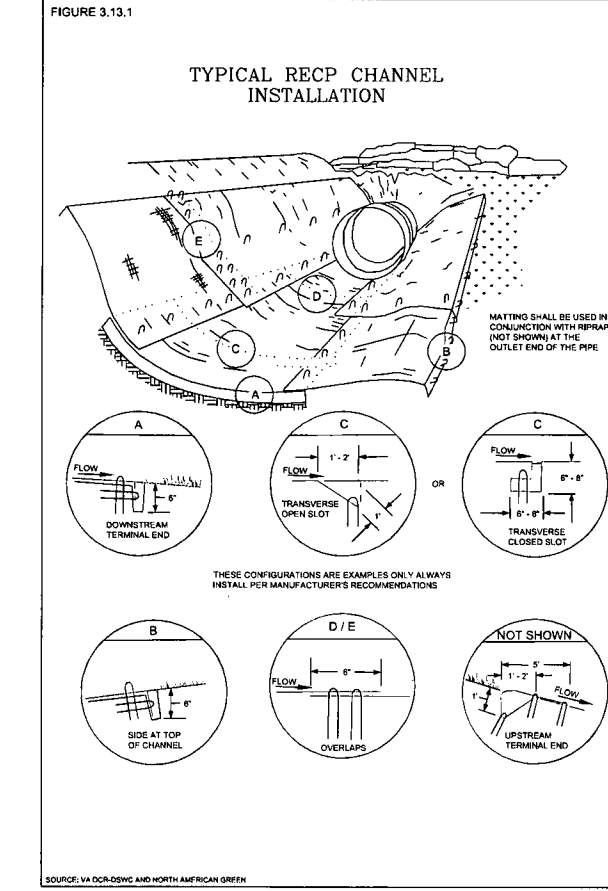
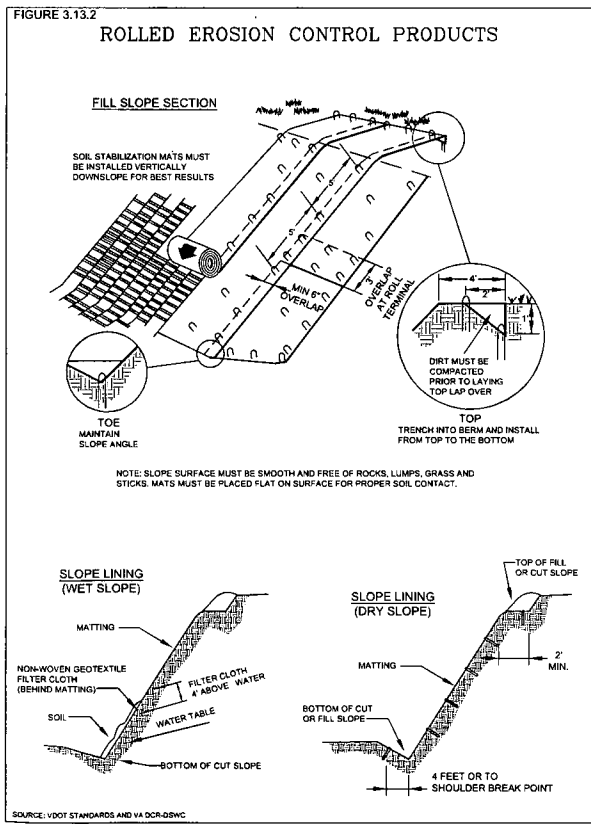
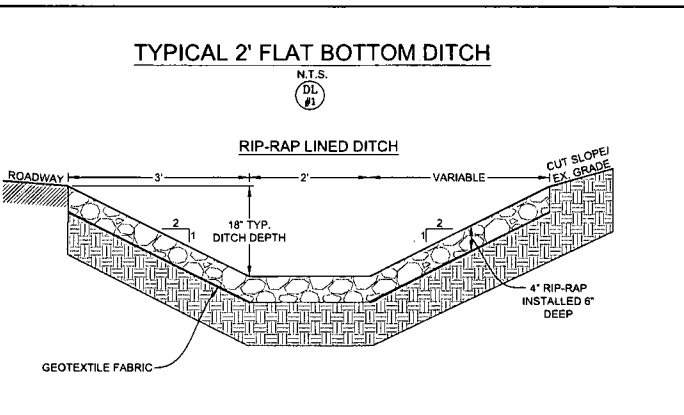
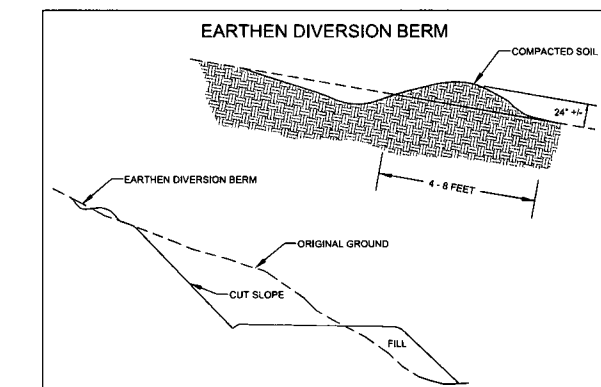
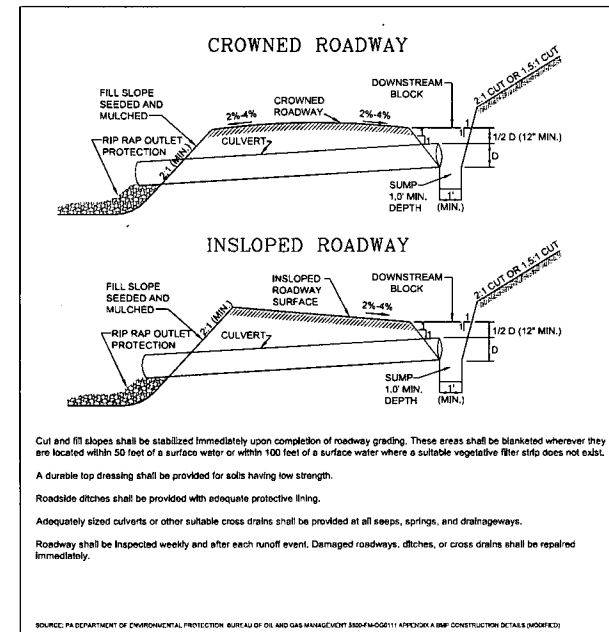
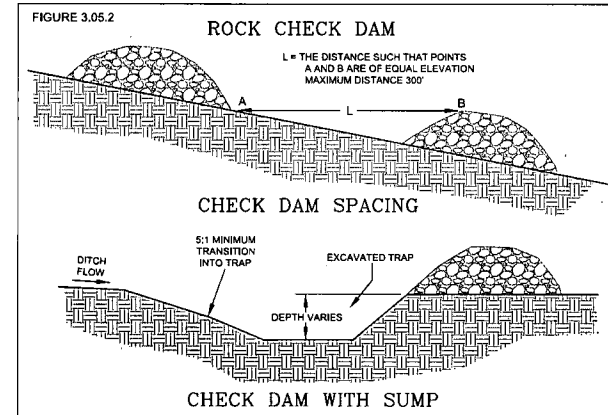


Table II-5  
Pipe Sizes for Culverts Across Roads

Drainage Area (Ac)	Pipe Diameter (in)	Pipe Capacity (Cfs)
10	15	5
20	18	9
30	21	12
50	24	18
80	27	24
100	30	29
300	36	60
500	42	85

Table II-6  
Spacing of Culverts

Road Grade %	Distance (Ft)
2-5	500-300
6-10	300-200
11-15	200-100
16-20	100





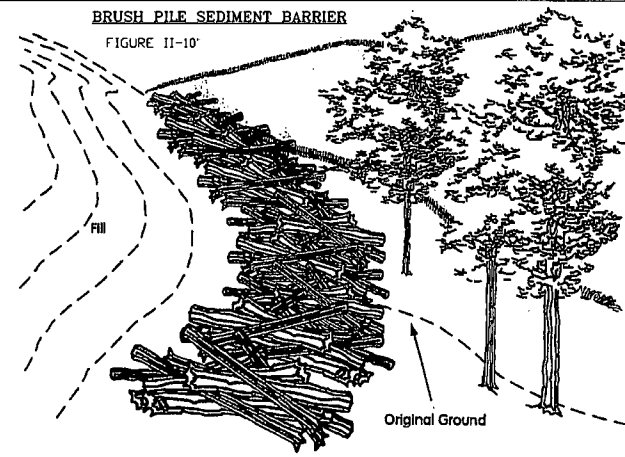
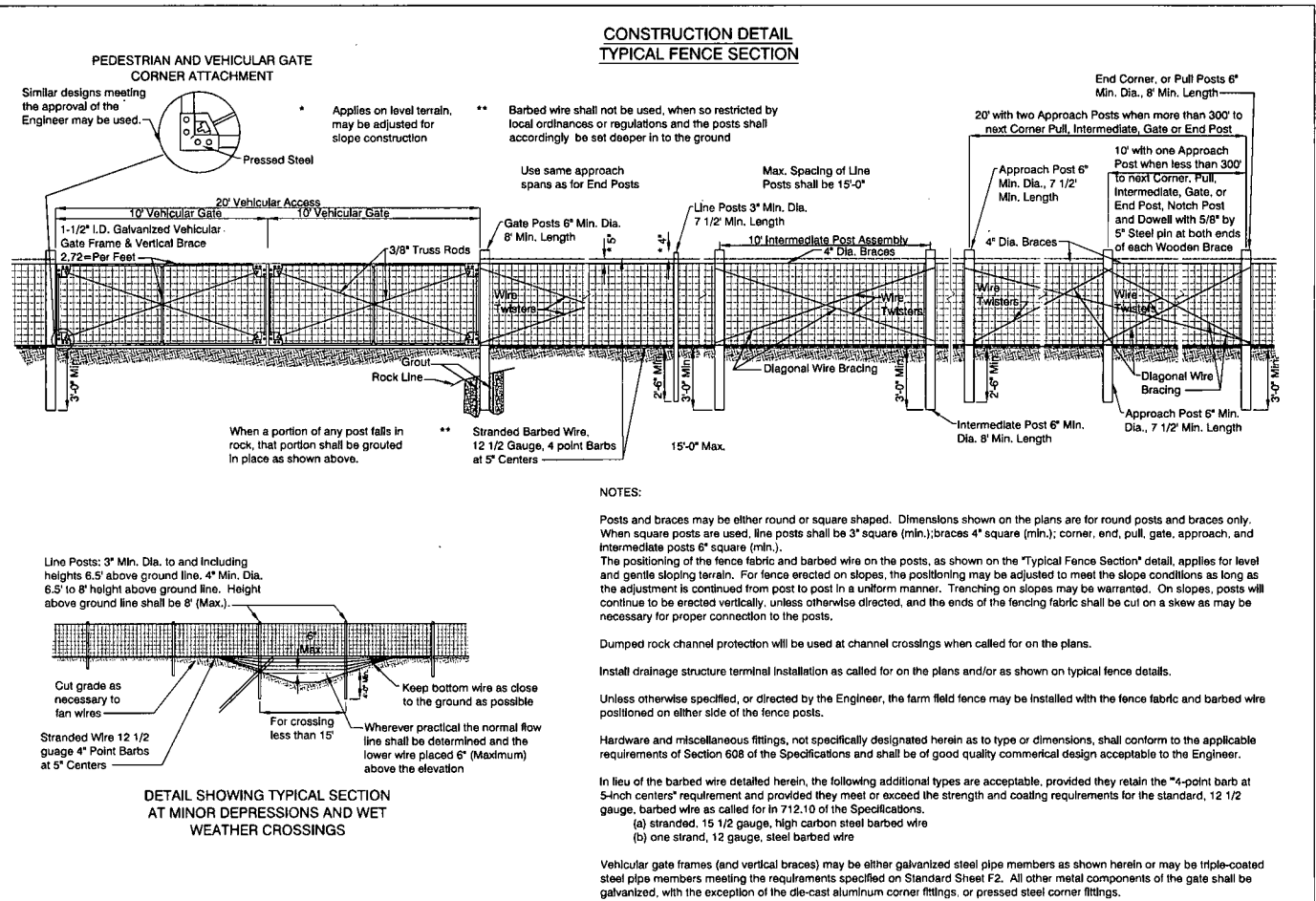
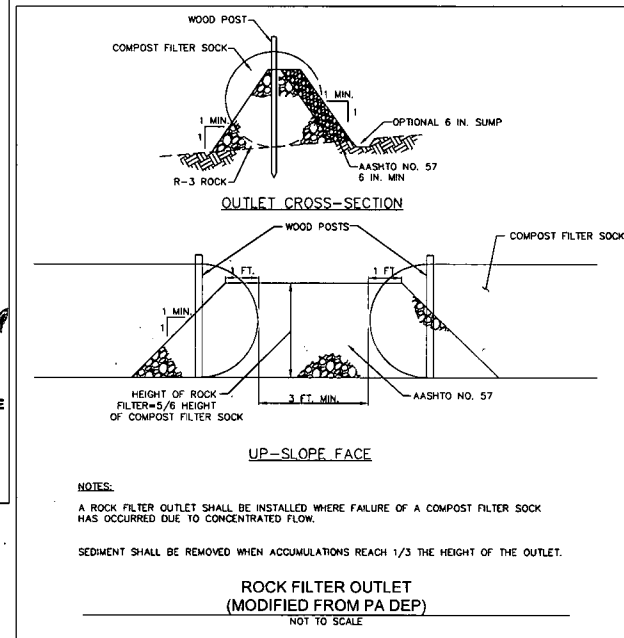
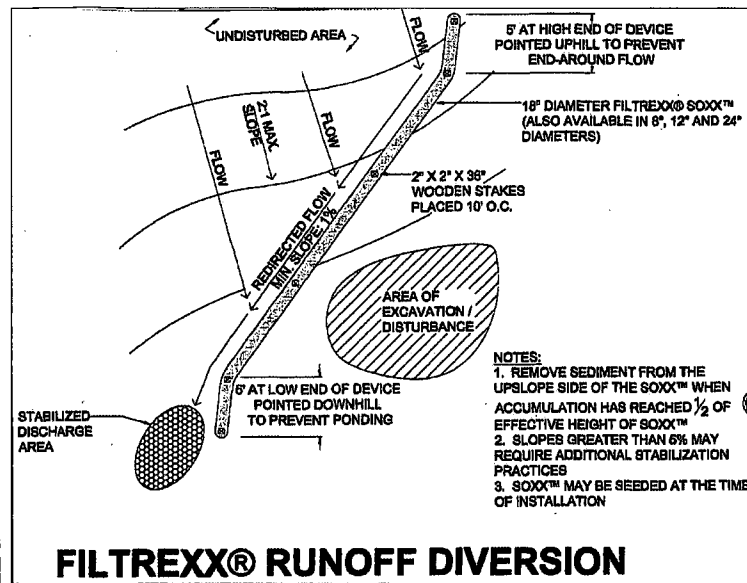
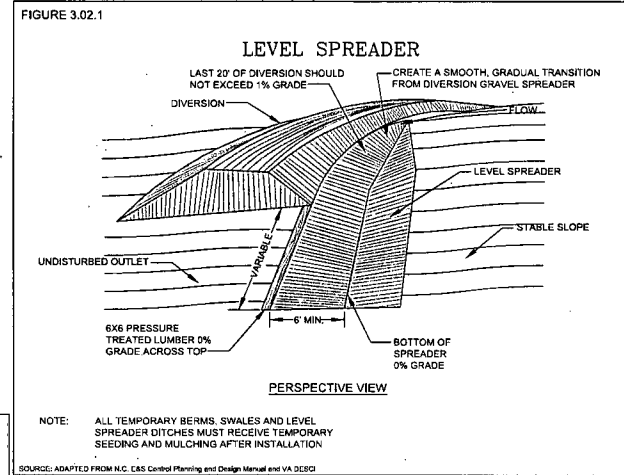
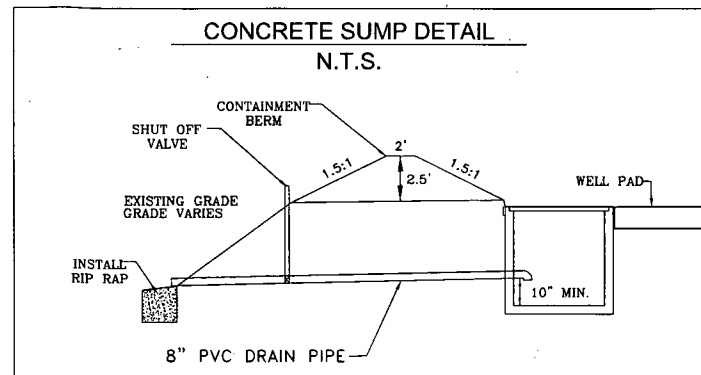
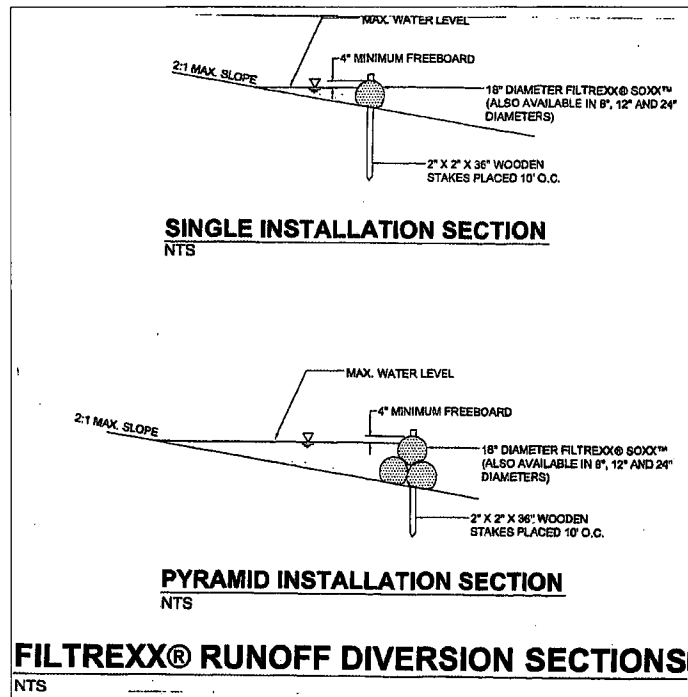
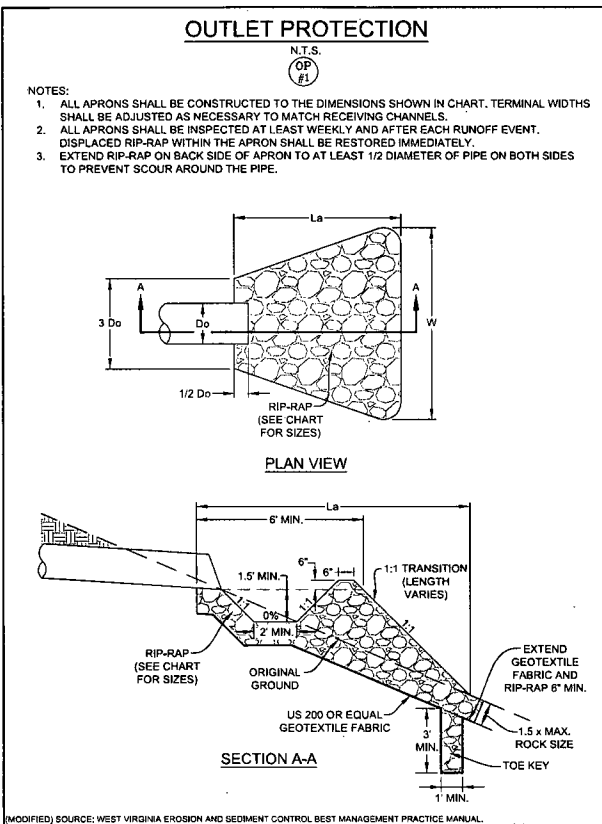


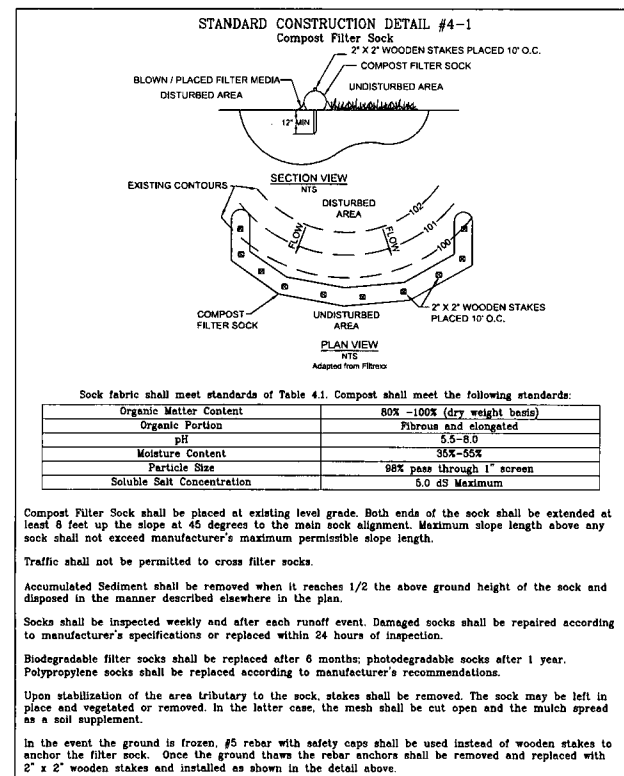
Table 4.1  
Compost Sock Fabric Minimum Specifications

Material Type	3 mil HDPE		5 mil HDPE		Multi-Filament Polypropylene (MFPF)		Heavy Duty Multi-Filament Polypropylene (HDMPF)	
	Photo-degradable	Biodegradable	Photo-degradable	Biodegradable	Photo-degradable	Biodegradable	Photo-degradable	Biodegradable
Material Characteristics	12"	18"	12"	18"	12"	18"	12"	18"
Sock Diameters	12"	18"	12"	18"	12"	18"	12"	18"
Mesh Opening	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"
Textile Strength	28 psi	28 psi	44 psi	44 psi	202 psi	202 psi	202 psi	202 psi
Ultraviolet Stability % Original Strength (ASTM G-155)	23% at 1000 hr.	23% at 1000 hr.	100% at 1000 hr.	100% at 1000 hr.	100% at 1000 hr.	100% at 1000 hr.	100% at 1000 hr.	100% at 1000 hr.
Minimum Functional Longevity	6 months	9 months	6 months	1 year	2 years	2 years	2 years	2 years

Two-ply systems

Inner Containment Netting	HDPE biaxial net
	Continuously wound Fusion-welded junctures
Outer Filtration Mesh	3/4" x 3/4" Max. aperture size Composite Polypropylene Fabric (Woven layer & non-woven fleece mechanically fused via needle punch)
	3/16" Max. aperture size

Sock fabrics composed of burlap may be used on projects lasting 6 months or less.



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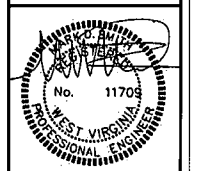
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DATE: 10/07/2014  
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SHEET 30 OF 33



**REVEGETATION**  
 Taken from the  
 West Virginia Erosion and Sediment Control Field Manual  
 West Virginia Division of Environmental Protection Office of Oil and Gas  
 Charleston, W.Va.  
 Section IV

**Temporary Seeding**

- a. General Conditions Where Practice Applies**  
 Where exposed soil surfaces are not to be fine-graded or worked for periods longer than 21 days. Temporary vegetative cover with sediment controls must be established where runoff will go directly into a stream. Immediately upon construction of the site (site includes road and location), vegetation must be established on road bank and location slopes. A permanent vegetative cover shall be applied to areas that will be left un-worked for a period of more than six months.
- b. Seed Mixtures and Planting Dates**  
 Refer to Tables 2 through 4 for recommended dates to establish vegetative cover and the approved lists of temporary and permanent plant species, and planting rates. Table 3 gives recommended types of temporary vegetation, rates of application, and optimum seeding dates. In situations where another cover is desired, contact the local soil conservation district for seeding recommendations.
- c. Seed Application**  
 Apply seed by broadcasting, drilling, or by hydroseed according to the rates indicates in Table IV-3. Perform all planting operations at right angles to the slope. Necessary site preparation and roughening of the soil surface should be done just prior to seeding. Seedbed preparation may not be required on newly disturbed areas.

**Permanent Seeding**

- a. General**  
 Permanent vegetative cover will be established where no further soil disturbance is anticipated or needed. Soil fertility and pH level should be tested and adjusted according to seed species planted. Planting of permanent vegetative covers must be performed on all disturbed areolation of the drilling process. Any site that contains significant amounts of topsoil shall have the topsoil removed and stockpiled when feasible. Topsoil should not be added to slopes steeper than 2:1 unless a good bonding to the sub-layer can be achieved. After proper grading and seedbed preparation, the vegetation will reestablish ground cover for the control of surface water runoff erosion.
- All required seedbed preparation and loosening of soil by disking or dozer tracking should be performed just prior to seeding. If seedbed preparation is not feasible, 50% more seed shall be added to the recommended rates shown in Tables IV-3 and IV-4. When hydroseeding, seedbed preparation may not be necessary if adequate site preparation was performed. Incorporate the appropriate amount of lime and/or fertilizer in the slurry mix when hydroseeding.
- When hydroseeding, first mix the lime, fertilizer, and hydro-mulch in the recommended amount of water. Mix the seed and inoculants together within one hour prior to planting, and add to the slurry just before seeding. Apply the slurry uniformly over the prepared site. Assure that agitation is continuous throughout the seeding operation and the mix is applied within one hour of initial mixing.
- b. Lime and Fertilizer**
- Lime shall be applied to all permanent seedings. The pH of the soil is to be determined and lime applied accordingly. Once the pH is known, select the amount of lime to be applied from Table IV-5.
  - Fertilizer shall be applied in all permanent seedings. Apply the equivalent for 500 lbs. minimum 10-20-20 fertilizer per acre or use the amount of fertilizer and lime recommended by a certified soil test.
  - Application: For best results and maximum benefits, the lime and fertilizer are to be applied at the time of seedbed preparation.
- c. Permanent Seed Mixtures**  
 Planners should take into consideration the species makeup of the existing pasture and the landowner's future pasture management plans when recommending seed mixtures. Selection: From Tables IV 4a and b. Permanent Seeding Mixtures Suitable for Establishment in West Virginia.

- Notes:**
- All legumes must be planted with the proper inoculants prior to seeding.
  - Lathco* Flatpea is potentially poisonous to some livestock.
  - Only endophyte free varieties of Tall Fescue should be used. Tall Fescue and Crownvetch are also very invasive species, non-native to WV.
  - For unprepared seedbeds or seeding outside the optimum timeframes, add 50% more seed to the specified rate. Mixtures in Table 4b are more wildlife and farm friendly; those listed in bold are suitable for use in shaded woodland settings. Mixtures in italic are suitable for use in filter strips.

- d. Seeding for Wildlife Habitat**  
 Consider the use of the native plants or locally adapted plants when selecting cover types and species for wildlife habitat. Wildlife friendly species or mixes that have multiple values should be considered. See wildlife friendly species/mixtures in Table IV-4b. Consider selecting no or low maintenance long-lived plants adaptable to sites which may be difficult to maintain with equipment.

**Mulching**

- a. General Organic Mulches**  
 The application of straw, hay or other suitable materials to the soil surface to prevent erosion. Straw made from wheat or oats is the preferred mulch, the use of hay is permissible, but not encouraged due to the risk of spreading invasive species. Mulch must be applied to all temporary and permanent seeding on all disturbed areas. Depending on site conditions, in critical areas such as waterways or steep slopes, additional or substitute soil protective measures may be used if deemed necessary. Examples include jute mesh and soil stabilization blankets or erosion control matting. Areas that have been temporarily or permanently seeded should be mulched immediately following seeding. Mulches conserve desirable soil properties, reduce soil moisture loss, prevent crusting and sealing of the soil surface and provide a suitable microclimate for seed germination. Areas that cannot be seeded because of the season should be mulched to provide some protection to the soil surface. An organic mulch, straw or hay should be used and the area then seeded as soon as weather or seasonal conditions permit. Do not use fiber mulch (cellulose-hydroseed) alone for this practice; at normal application rates it will not give the soil protection of other types of mulch. Wood cellulose fiber mulch is used in hydroseeding operations and applied as part of the slurry. It creates the best seed-soil contact when applied over the top of (as a separate operation) newly seeded areas. Fiber mulch does not alone provide sufficient protection on highly erodible soils, or during less than favorable growing conditions. Fiber mulch should not be used alone during the dry summer months or when used for late fall mulch cover. Use straw mulch during these periods and fiber mulch may be used to tack (anchor) the straw mulch. Fiber mulch is well suited for steep slopes, critical areas and areas susceptible to wind.
- b. Chemical Mulches, Soil Binders and Tackifiers**  
 A wide range of synthetic spray on materials are marketed to stabilize and protect the soil surface. These are mixed with water and sprayed over the mulch and to the soil. They may be used alone in some cases as temporary stabilizers, or in conjunction with fiber mulch, straw or hay. When used alone most chemical mulches do not have the capability to insulate the soil or retain soil moisture that organic mulches have.
- c. Specifications**  
 From Table IV-6 select the type of mulch and rate of application that will best suit the conditions at the site.
- d. Anchoring**  
 Depending on the field situation, mulch may not stay in place because of wind action or rapid water runoff. In such cases, mulch is to be anchored mechanically or with mulch netting.
- Mechanical Anchoring**  
 Apply mulch and pull mulch anchoring tool over the mulch. When a disk is used set the disk straight and pull across slope. Mulch material should be tucked into the soil about three inches.
  - Mulch netting**  
 Follow manufacturer's recommendation when positioning and stapling the mulch netting in the soil.

**Table IV-1  
 Recommended Seeding Dates**

Planting Dates	Best Seeding Periods	Suitability
March 1 - April 15 and August 1 - October 1		Best Seeding Periods
April 15 - August 1		HIGH RISK - moisture stress likely
October 1 - December 1		HIGH RISK - freeze damage to young seedlings
December 1 - March 1		Good seeding period. Dormant seeding

**Table 2  
 Acceptable Fertilization Recommendation**

Species	N (lbs/ac)	P2O5 (lbs/ac)	Example Rec* (per acre)
Cool Season Grass	40	80	400 lbs. 10-20-20
CS Grass & Legume	30	60	300 lbs. 10-20-20
Temporary Cover	40	40	200 lbs. 19-19-19

**Table 3  
 Temporary Cover**

Species	Seeding Rate (lbs/acre)	Optimum Seeding Dates	Drainage	pH Range
Annual Ryegrass	40	3/1 - 6/15 or 8/15 - 9/15	Well - Poorly	5.5 - 7.5
Field Bromegrass	40	3/1 - 6/15 or 8/15 - 9/15	Well - Mod. Well	6.0 - 7.0
Spring Oats	96	3/1 - 6/15	Well - Poorly	5.5 - 7.0
Sundagrass	40	5/15 - 8/15	Well - Poorly	5.5 - 7.5
Winter Rye	168	8/15 - 10/15	Well - Poorly	5.5 - 7.5
Winter Wheat	180	8/15 - 11/15	Well - Mod. Well	5.5 - 7.0
Japanese Millet	30	6/15 - 8/15	Well	4.5 - 7.0
Redtop	5	3/1 - 6/15	Well	4.0 - 7.5
Annual Ryegrass	26	3/1 - 6/15	Well - Poorly	5.5 - 7.5
Spring Oats	64	3/1 - 6/15	Well - Poorly	5.5 - 7.5

NOTE: These rates should be increased by 50% if planted April 15 - August 1 and October 1 - March 1.

**Table 4a  
 Permanent Seeding Mixture**

Species/Mixture	Seeding Rate (lbs/acre)	Soil Drainage preference	pH Range
Crownvetch / Tall Fescue	10 - 15	Well - Mod. Well	5.0 - 7.5
Crownvetch / Perennial Ryegrass	10 - 15	Well - Mod. Well	5.0 - 7.5
Flatpea or Perennial Pea / Tall Fescue	20	Well - Mod. Well	4.0 - 8.0
Ladino Clover / Sericea Lespedeza / Tall Fescue	30	Well - Mod. Well	4.5 - 7.5
Tall Fescue / Ladino Clover / Redtop	40	Well - Mod. Well	5.0 - 7.5
Crownvetch / Tall Fescue / Redtop	10	Well - Mod. Well	5.0 - 7.5
Tall Fescue / Birdsfoot Trefoil / Redtop	10	Well - Mod. Well	5.0 - 7.5
Sericea Lespedeza / Tall Fescue / Redtop	25	Well - Mod. Well	4.5 - 7.5
Redtop / Tall Fescue / Creeping Red	30	Well - Mod. Well	5.0 - 7.5
Tall Fescue / Perennial Ryegrass / Tall Fescue / Lathco Flatpea *	50	Well - Poorly	4.5 - 7.5
	10	Well - Poorly	5.8 - 8.0
	15	Well - Poorly	5.8 - 8.0
	20	Well - Poorly	5.8 - 8.0

\* *Lathco* Flatpea is potentially poisonous to some livestock. All legumes should be planted with proper inoculants prior to seeding. For unprepared seedbeds or seeding outside the optimum timeframe, add 50% more seed to the specified rate. Mixtures listed in bold are suitable for use in shaded woodland settings; those in italics are suitable for use in filter strips.

**Table 4b  
 Wildlife and Farm Friendly Seed Mixtures**

Species/Mixture	Seeding Rate (lbs/acre)	Soil Drainage preference	pH Range
KY Bluegrass / Redtop / Ladino Clover or Birdsfoot Trefoil	20	Well - Mod. Well	5.5 - 7.5
Timothy / Alfalfa / Timothy / Birdsfoot Trefoil	5	Well - Mod. Well	6.5 - 8.0
Orchardgrass / Ladino Clover / Redtop	12	Well - Mod. Well	5.5 - 7.5
Orchardgrass / Ladino Clover / Orchardgrass / Perennial Ryegrass	10	Well - Mod. Well	5.5 - 7.5
Creeping Red Fescue / Perennial Ryegrass	30	Well - Mod. Well	5.5 - 7.5
Orchardgrass or KY Bluegrass	10	Well - Mod. Well	6.0 - 7.5
Birdsfoot Trefoil / Redtop / Orchardgrass	10	Well - Mod. Well	5.5 - 7.5
Lathco Flatpea * / Perennial Ryegrass / Lathco Flatpea * / Orchardgrass	20	Well - Mod. Well	5.5 - 7.5
	30	Well - Mod. Well	5.5 - 7.5
	20	Well - Mod. Well	5.5 - 7.5
	30	Well - Mod. Well	5.5 - 7.5
	20	Well - Mod. Well	5.5 - 7.5

\* *Lathco* Flatpea is potentially poisonous to some livestock. All legumes should be planted with proper inoculants prior to seeding. For unprepared seedbeds or seeding outside the optimum timeframe, add 50% more seed to the specified rate. Mixtures listed in bold are suitable for use in shaded woodland settings; those in italics are suitable for use in filter strips.

**Table IV-5  
 Lime and Fertilizer Application Table**

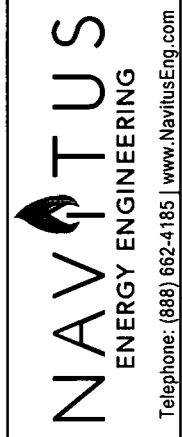
pH of Soil	Lime In Tons per Acre	Fertilizer, Lbs. per Acre (10-20-20 or Equivalent)
Above 6.0	2	500
5.0 to 6.0	3	500
Below 5.0	4	500

The pH can be determined with a portable pH testing kit or by sending the soil samples to a soil testing laboratory. When 4 tons of lime per acre are applied it must be incorporated into the soil by disking, backblading or tracking up and down the slope.

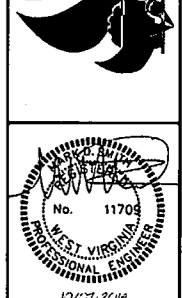
**Table IV-6  
 Mulch Materials Rates and Uses**

Material	Minimum Rates per acre	Coverage	Remarks
Hay or Straw	2 to 3 Tons	Cover 75% to 90%	Subject to wind blowing or washing unless tied down
Wood Fiber	100 to 150 bales	of Surface	
Pulp Fiber		Disturbed Areas	For hydroseeding
Wood - Cellulose			
Recirculated Paper			

Tables IV 1-4 taken from Natural Resources Conservation Service Manual 'Critical Area Planting'



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CONSTRUCTION DETAILS  
**OXFD 14**  
 SOUTHWEST & COVE DISTRICTS  
 DODDRIDGE COUNTY, WV

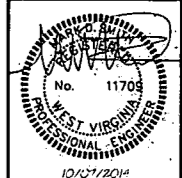
DATE: 10/07/2014  
 SCALE: 1"=50'  
 DESIGNED BY: JMM  
 FILE NO. 8116  
 SHEET 31 OF 33

MATERIAL QUANTITIES				
WELL PAD & WATER CONTAINMENT SITE: OXFD 14				
Item Description	Quantity	Unit	Unit Cost	Item Total
<b>1.0 Clearing and Grubbing</b>				
1.a Tree Clearing	20.8	AC	\$	\$
1.b. Mowing	0.6	AC	\$	\$
<b>2.0 Compost Filter Sock</b>				
2.a. 18" Compost Filter Sock	5,134	LF	\$	\$
2.b. 24" Compost Filter Sock	209	LF	\$	\$
2.c. 32" Compost Filter Sock	217	LF	\$	\$
2.d. Compost Sock Diversion	248	LF	\$	\$
<b>3.0 Stone &amp; Aggregate Surfacing</b>				
3.a. Pad 12" of 0"-6" Aggregate (Compacted to 10")*	10,228	TONS	\$	\$
3.b. Pad 4" of 3/4" Crusher Run (Compacted to 2")*	1,091	TONS	\$	\$
3.c. Access Road 12" of 0"-6" Aggregate (Compacted to 10")*	710	TONS	\$	\$
3.d. Access Road 4" of 3/4" Crusher Run (Compacted to 2")*	276	TONS	\$	\$
3.e. Geotextile	19,887	SY	\$	\$
<b>4.0 Coconut Slope Matting</b>				
	47,747	SY	\$	\$
<b>5.0 Seed &amp; Mulch</b>				
	17.4	AC	\$	\$
<b>6.0 Ditch Lining</b>				
6.a. Ditch Fabric	785	SY	\$	\$
6.b. R-3	131	TONS	\$	\$
<b>7.0 CPP Culvert</b>				
7.a. 15"	240	LF	\$	\$
7.b. Sump Drains	4	EA	\$	\$
<b>8.0 Excavation</b>				
8.a. Well Pad (Cut w/ 10% Swell)	15,273	CY	\$	\$
8.b. Well Pad (Export to Stockpile)	72,113	CY	\$	\$
8.c. Tank Pad (Cut w/ 10% Swell)	14,293	CY	\$	\$
8.d. Tank Pad (Export to Stockpile)	4,047	CY	\$	\$
8.e. Access Road "C" (Cut w/ 10% Swell)	3,579	CY	\$	\$
8.f. Access Road "C" (Import from Stockpile)	5,244	CY	\$	\$
8.g. Topsoil (12")	12,644	CY	\$	\$
<b>9.0 Ditch Length</b>				
	811	LF	\$	\$
<b>10.0 Rip Rap Aprons</b>				
	35	TONS	\$	\$
<b>11.0 Rip Rap Weir</b>				
	11	TONS	\$	\$

\*Gravel quantities shown have been increased by 10%

**NOTE:**

1. THE SQUARE YARDAGE FOR THE GEOTEXTILE FABRIC, COCONUT MATTING, AND THE LINER SYSTEM DO NOT ACCOUNT FOR MATERIAL OVERLAP AND WASTE.
2. SUB-GRADE RE-WORK AND TOE EXCAVATION VOLUMES ARE NOT INCLUDED WITHIN THIS SITE PLAN.



THIS DOCUMENT WAS  
PREPARED BY:  
NAVITUS ENGINEERING  
INC.  
FOR: CNX GAS  
COMPANY, LLC

MATERIAL QUANTITIES  
**OXFD 14**  
SOUTHWEST & COVE DISTRICTS  
DODDRIDGE COUNTY, WV

DATE: 10/07/2014

SCALE: 1"=50'

DESIGNED BY: JMM

FILE NO. 8116

SHEET 32 OF 33

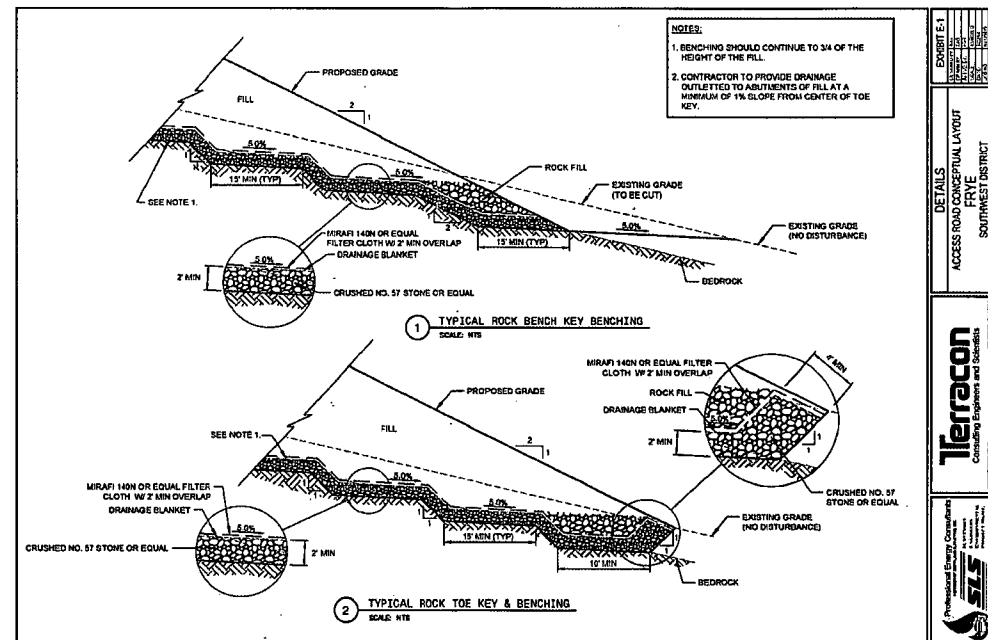


EXHIBIT E-1  
 ACCESS ROAD CONCEPTUAL LAYOUT  
 FRYE  
 SOUTHWEST DISTRICT  
 DODDRIDGE COUNTY, WV

**Terracon**  
 Consulting Engineers and Scientists

Professional Energy Consultants  
**SES**  
 SOUTHWEST DISTRICT  
 DODDRIDGE COUNTY, WV

OR ALTERNATIVELY

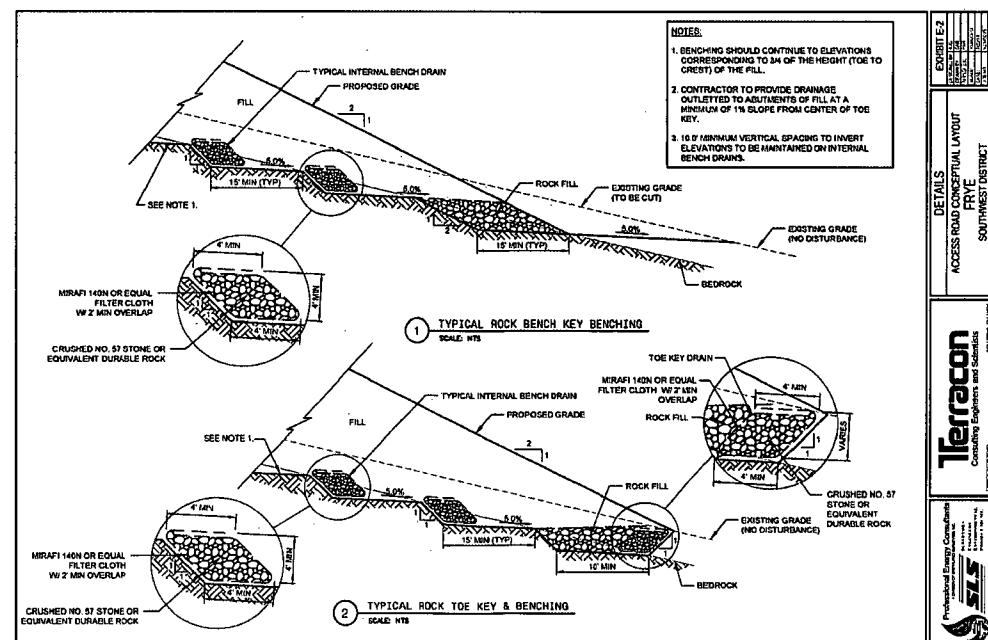


EXHIBIT E-2  
 ACCESS ROAD CONCEPTUAL LAYOUT  
 FRYE  
 SOUTHWEST DISTRICT  
 DODDRIDGE COUNTY, WV

**Terracon**  
 Consulting Engineers and Scientists

Professional Energy Consultants  
**SES**  
 SOUTHWEST DISTRICT  
 DODDRIDGE COUNTY, WV

TOE KEY GEOTECHNICAL DETAILS  
**OXFD 14**  
 SOUTHWEST & COVE DISTRICTS  
 DODDRIDGE COUNTY, WV

DATE: 10/07/2014

SCALE: 1"=50'

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SHEET 33 OF 33

REV.:

**NOTE:**  
 1. REFER TO TERRACON'S GEOTECHNICAL REPORT FOR ADDITIONAL INFORMATION.