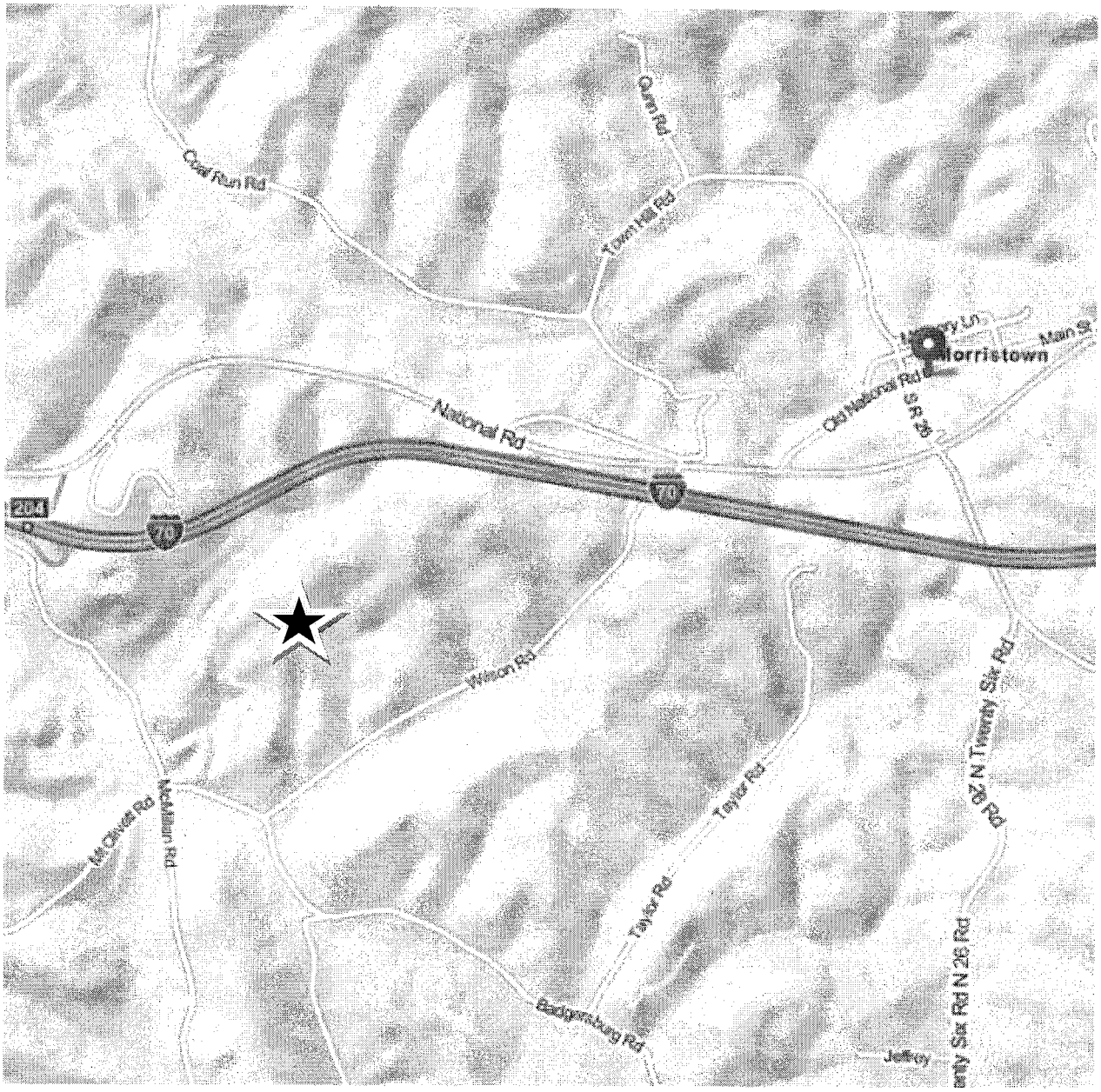
**The following document is not readable via Optical Character Recognition. For more information or if you require the document to be read aloud please call: 304-399-5353**

LRH-2010-911

PROJECT LOCATION



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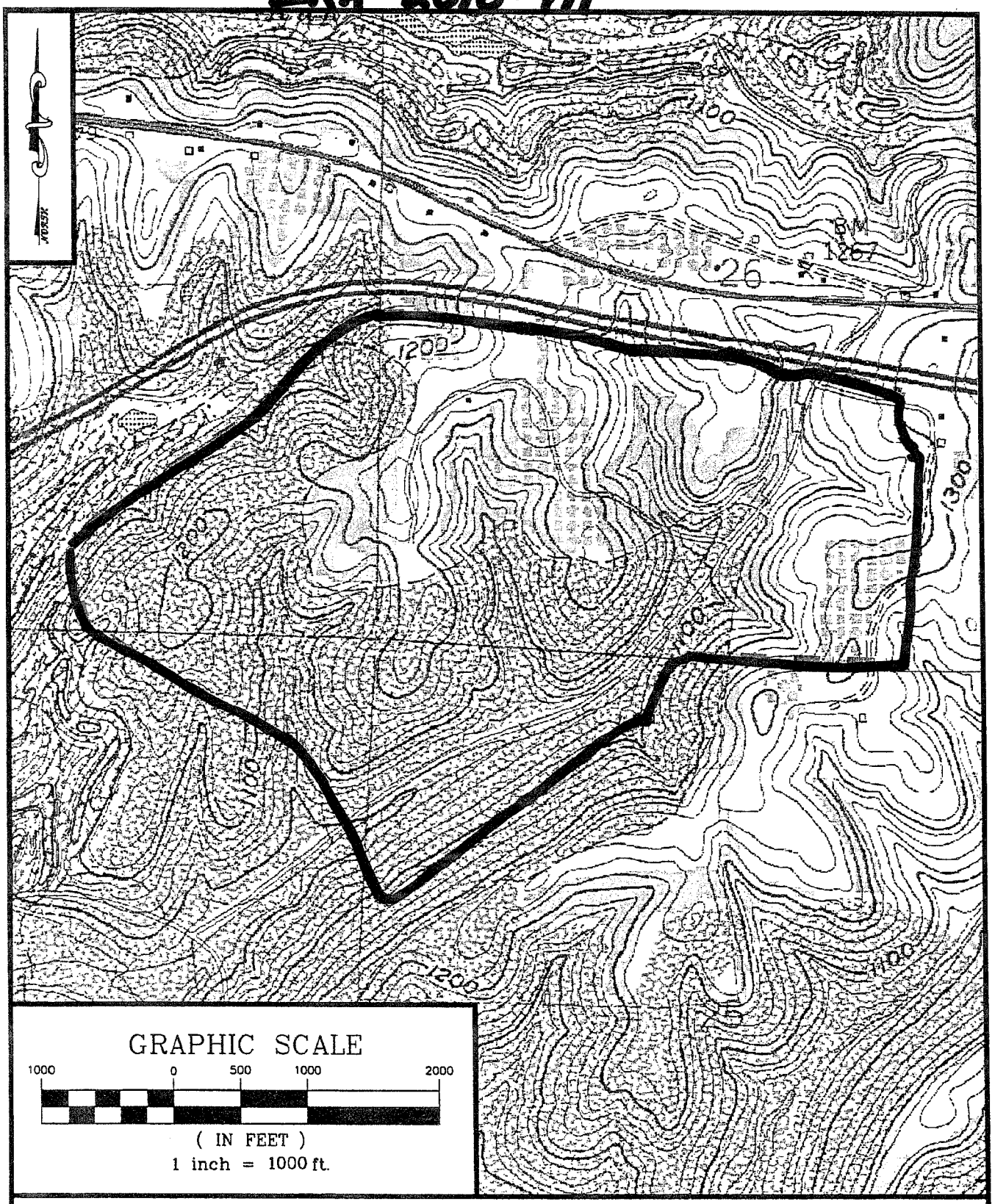


LAT: 40° 03' 24"N LONG: 81° 05' 37"W
Source: USGS 7.5 minute Bethesda quadrangle

STUDY AREA, 380.3 acres

Figure 1: LOCATION MAP
OXFORD MINING COMPANY, LLC.
BELMONT COUNTY, OHIO
DATE: 01/05/12 SCALE: 1" = 1000'

Linn Engineering, Inc. 740-452-7434
*Civil Engineering Consultants*
*P.O. Box 2086 Zanesville, Ohio 43702-2086*

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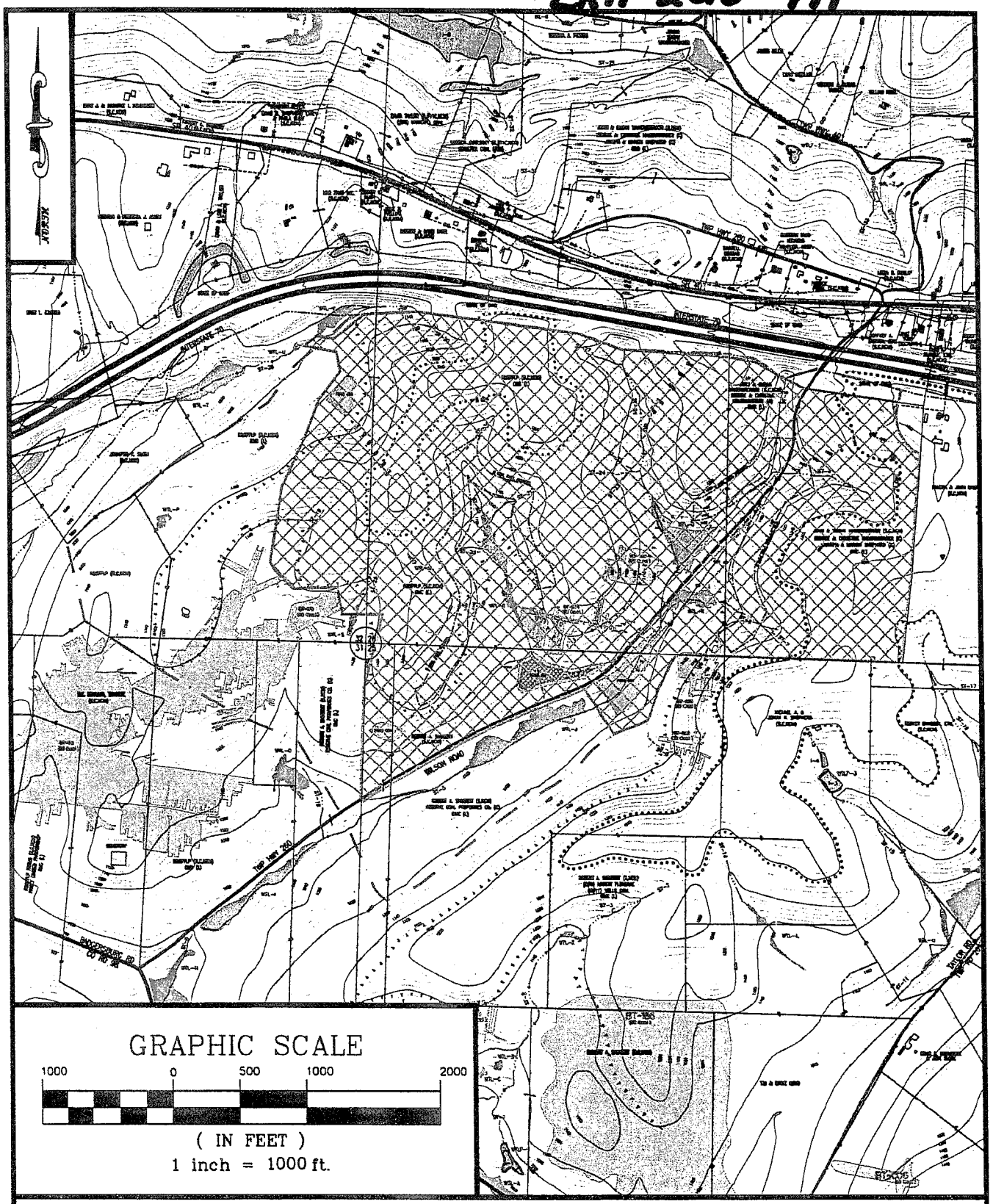


AREA, 265.6 ACRES

STUDY AREA

DEEPMINE

Figure 2: PREFERRED DEGRADATION ALTERNATIVE

OXFORD MINING COMPANY, LLC.

BELMONT COUNTY, OHIO

DATE: 01/05/12 SCALE: 1" = 1000'

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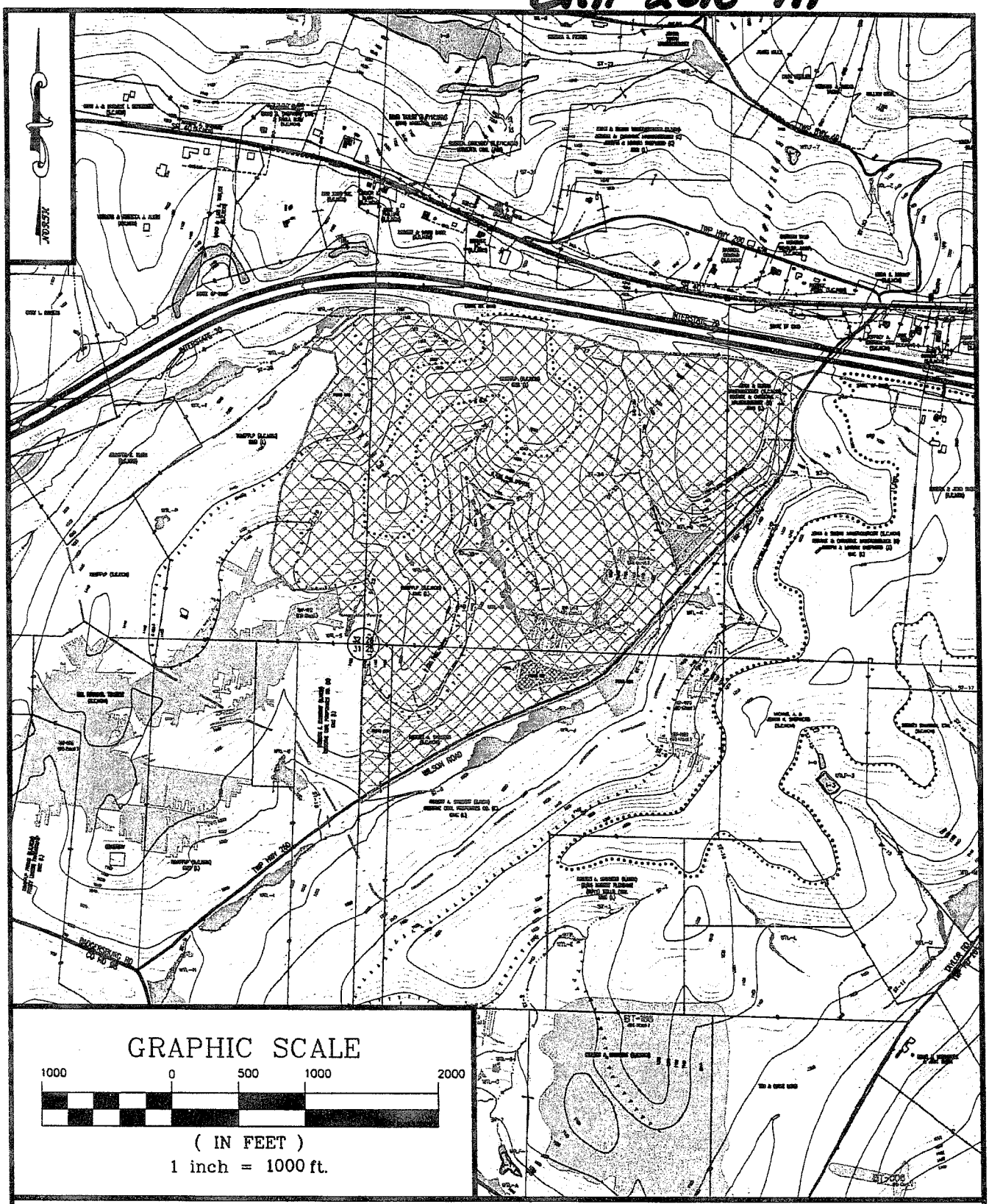


AREA, 201.4 ACRES

STUDY AREA

DEEPMINE

Figure 3: MINIMAL DEGRADATION ALTERNATIVE
OXFORD MINING COMPANY, LLC.
BELMONT COUNTY, OHIO
DATE: 01/05/12 SCALE: 1" = 1000'

Linn Engineering, Inc. 740-452-7434
*Civil Engineering Consultants*
*P.O. Box 2086 Zanesville, Ohio 43702-2086*

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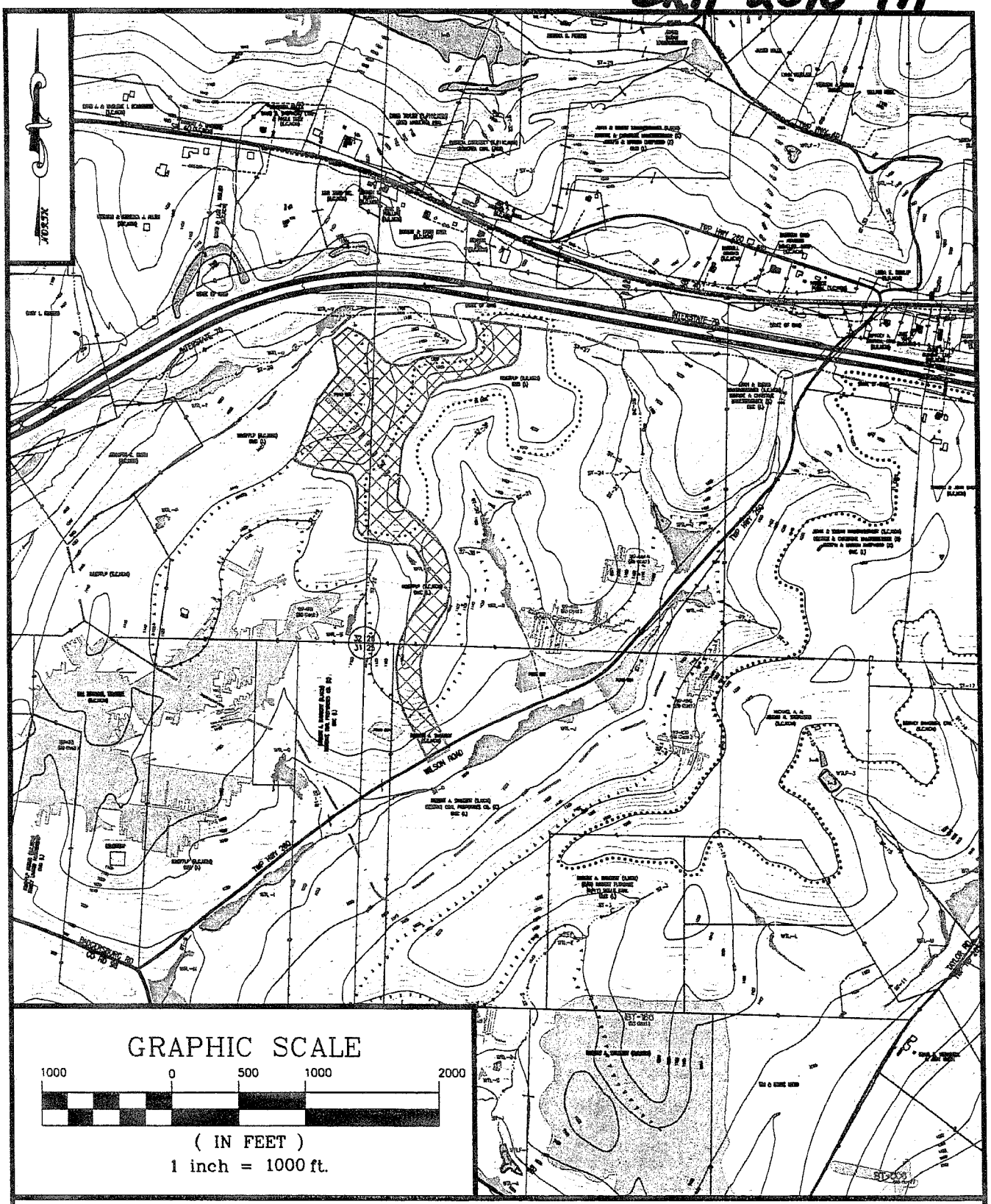


AREA, 31.2 ACRES

STUDY AREA

DEEPMINE

Figure 4: NON-DEGRADATION ALTERNATIVE
OXFORD MINING COMPANY, LLC.
BELMONT COUNTY, OHIO
DATE: 01/05/12 SCALE: 1" = 1000'

Linn Engineering, Inc. 740-452-7434
*Civil Engineering Consultants*
*P.O. Box 2086 Zanesville, Ohio 43702-2086*

**Stream Impact/Avoidance Summary Table**



**Applicant:** Oxford Mining Company, LLC **Project Name:** Shugert South **Corps #:** LRH-2010-911
**Date:** 12/27/2011

| Stream Id/Name | HHEI | HMFEI | Total stream length on-site | Preferred Impacts | | | Minimal Impacts | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Stream Length | | Describe proposed types of impacts | Stream Length | | Describe proposed types of impacts |
| | | | | Impacted | Avoided | | Impacted | Avoided | |
| ST-5 | 70 | 8 | 5,105 | 2,529 | 2,576 | 790' temp pond const; 1192' sed trans; 547' mined thru | 317 | 4,788 | 317' sed trans and temp diversion |
| ST-6 | 55 | 17 | 1,050 | 907 | 143 | 744' sed trans; 163' mined thru | 0 | 1,050 | avoided |
| ST-7 | 22 | - | 57 | 0 | 57 | avoided | 0 | 57 | avoided |
| ST-9 | 40 | 12 | 812 | 311 | 501 | 311' mined thru | 0 | 812 | avoided |
| ST-19 | 17 | - | 186 | 0 | 186 | avoided | 0 | 186 | avoided |
| ST-20 | 39 | 0 | 211 | 211 | 0 | 211' sed trans | 211 | 0 | 211' sed trans |
| ST-21 | 36 | - | 290 | 290 | 0 | 19' mined thru; 271' sed trans | 290 | 0 | 19' mined thru; 271' sed trans |
| ST-22 | 38 | 0 | 369 | 0 | 369 | avoided | 0 | 369 | avoided |
| ST-23 | 38 | 0 | 161 | 0 | 161 | avoided | 0 | 161 | avoided |
| ST-24 | 23 | - | 163 | 0 | 163 | avoided | 0 | 163 | avoided |
| ST-25 | 38 | - | 61 | 0 | 61 | avoided | 0 | 61 | avoided |
| ST-26 | 51 | - | 1,720 | 0 | 1,720 | avoided | 0 | 1,720 | avoided |
| ST-27 | 37 | 0 | 235 | 0 | 235 | avoided | 0 | 235 | avoided |
| ST-28 | 61 | - | 400 | 0 | 400 | avoided | 0 | 400 | avoided |
| ST-35 | 35 | 4 | 171 | 171 | 0 | 171' sed trans | 171 | 0 | 171' sed trans |
| ST-36 | 21 | - | 251 | 251 | 0 | 112' mined thru; 139' sed trans | 251 | 0 | 112' mined thru; 139' sed trans |

**Impact Type:**

MT = Mine Through
PC = Pond Construction
HR = Highwall Reclamation
SS = Spoil Storage
ST = Sediment Transport
TR = Temporary Relocation
WM = Wetland Mitigation
RC = Reconstruction
AV = Avoided

LRH-2010-911

JURISDICTIONAL

## Wetlands Impact/Avoidance Summary Table

Page 1

Applicant: Oxford Mining Company, LLC

Project Name: Shugert South

Corps # LRH-2010-911

ORAM Version Used: 5.0

Date: 12/27/2011

| Id # | ORAM Score | Total acres on-site | Type of Impact | Preferred Degradation Alternative (acres) | | | | | | Minimal Degradation Alternative (acres) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Impact | | | Avoidance | | | Impact | | | Avoidance | | |
| | | | | Forested | Non-Forested | Total Impact | Forested | Non-Forested | Total Avoided | Forested | Non-Forested | Total Impact | Forested | Non-Forested | Total Avoided |
| **Category 1 or 2 gray** | | | | | | | | | | | | | | | |
| WTL-J | 33.5 | 2.44 | AV | | 0.00 | 0.00 | | 2.44 | 2.44 | | 0.00 | 0.00 | | 2.44 | 2.44 |
| WTL-K | 30.5 | 0.72 | RG | | 0.72 | 0.72 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.72 | 0.72 |
| WTL-R | 32.5 | 1.09 | AV | | 0.00 | 0.00 | | 1.09 | 1.09 | | 0.00 | 0.00 | | 1.09 | 1.09 |
| | | | | | | | | | | | | | | | |
| **Total** | | **4.25** | | | **0.72** | **0.72** | | **3.53** | **3.53** | | **0.00** | **0.00** | | **4.25** | **4.25** |

| Id # | ORAM Score | Total acres on-site | Type of Impact | Preferred Degradation Alternative (acres) | | | | | | Minimal Degradation Alternative (acres) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Impact | | | Avoidance | | | Impact | | | Avoidance | | |
| | | | | Forested | Non-Forested | Total Impact | Forested | Non-Forested | Total Avoided | Forested | Non-Forested | Total Impact | Forested | Non-Forested | Total Avoided |
| **Category 2 (modified)** | | | | | | | | | | | | | | | |
| WTL-Q | 43.5 | 2.01 | AV | | 0.00 | 0.00 | | 2.01 | 2.01 | | 0.00 | 0.00 | | 2.01 | 2.01 |
| | | | | | | | | | | | | | | | |
| **Total** | | **2.01** | | | **0.00** | **0.00** | | **2.01** | **2.01** | | **0.00** | **0.00** | | **2.01** | **2.01** |

| Id # | ORAM Score | Total acres on-site | Type of Impact | Preferred Degradation Alternative (acres) | | | | | | Minimal Degradation Alternative (acres) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Impact | | | Avoidance | | | Impact | | | Avoidance | | |
| | | | | Forested | Non-Forested | Total Impact | Forested | Non-Forested | Total Avoided | Forested | Non-Forested | Total Impact | Forested | Non-Forested | Total Avoided |
| **Category 2** | | | | | | | | | | | | | | | |
| WTL-V | 52 | 0.07 | AV | | 0.00 | 0.00 | | 0.07 | 0.07 | | 0.00 | 0.00 | | 0.07 | 0.07 |
| | | | | | | | | | | | | | | | |
| **Total** | | **0.07** | | | **0.00** | **0.00** | | **0.07** | **0.07** | | **0.00** | **0.00** | | **0.07** | **0.07** |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Jurisdictional Grand Total** | **6.33** | | **0.72** | **0.72** | | **5.61** | **5.61** | | **0.00** | **0.00** | | **6.33** | **6.33** |

**Impact Type:**

MT = Mine Through
PC = Pond Construction
HR = Highwall Reclamation
RG = Reclamation Grading
SS = Spoil Storage
ST = Sediment Transport
TR = Temporary Relocation
WM = Wetland Mitigation
RC = Reconstruction
AV = Avoided

7 of 9

LRH-2010-911

**Oxford Mining Company, LLC**
**Shugert South**

**Table 3**
**Gain-Loss Summaries**

**Streams - Perennial and Intermittent**

**Loss Summary**

| Stream Designation | Flow Regime | Type of Impact / Length (ft) | | | |
|---|---|---|---|---|---|
| | | Mine Thru | Sediment Transport | Temporary Pond | Total |
| ST-5 | Perennial | 547 | 1,192 | 790 | 2,529 |
| ST-6 | Intermittent | 0 | 744 | 163 | 907 |
| ST-9 | Intermittent | 311 | 0 | 0 | 311 |
| ST-20 | Intermittent | 0 | 211 | 0 | 211 |
| ST-21 | Intermittent | 19 | 271 | 0 | 290 |
| ST-35 | Intermittent | 0 | 171 | 0 | 171 |
| | **Total (ft)** | 877 | 2,589 | 953 | **4,419** |

**Gain Summary**

| Stream Designation | Constructed Length On-site (ft) |
|---|---|
| ST-5 | 1,622 |
| ST-6 | 907 |
| ST-9 | 311 |
| ST-20 | 500 |
| ST-21 | 300 |
| ST-35 | 125 |
| **Gain Length (ft)** | **3,765** |

**Streams - Ephemeral**

**Loss Summary**

| Stream Designation | Flow Regime | Type of Impact / Length (ft) | | | | Width (ft) | Area (ac) |
|---|---|---|---|---|---|---|---|
| | | Mine Thru | Sediment Transport | Temporary Pond | Total | | |
| ST-36 | Ephemeral | 112 | 139 | 0 | 251 | 2.6 | 0.015 |
| | **Total (ft)** | 112 | 139 | 0 | **251** | **Loss Area (ac)** | 0.015 |

**Class 1 ephemeral stream loss area will be mitigated as additional wetland mitigation.**



LRH-2010-911

Oxford Mining Company, LLC
Shugert South

Table 3
Gain-Loss Summaries

Wetlands

| Loss Summary | | | | | |
|---|---|---|---|---|---|
| Jurisdictional Wetlands | ORAM Score | ORAM Category | Designation | Hydrologic Connectivity | Acreage |
| WTL-K | 30.5 | 1 or 2 gray | emergent | yes | 0.72 |
| Total Loss | | | | | 0.72 |

| Loss Summary | | | | | |
|---|---|---|---|---|---|
| Isolated Wetlands | ORAM Score | ORAM Category | Designation | Hydrologic Connectivity | Acreage |
| WTL-W | 23.5 | 1 | emergent | no | 0.05 |
| Total Loss | | | | | 0.05 |

| Gain Summary | | |
|---|---|---|
| Mitigation Area | former Pond # | Acreage |
| 1 | 002 | 1.20 |
| | | |
| | | |
| | | |
| | | |
| Total Gain | | 1.20 |

| Gain Required | |
|---|---|
| | Acreage |
| Total Loss | 0.77 |
| Mitigation Factor | 1.50 |
| Req'd Gain | 1.16 |
| Ephemeral Stream Area | 0.015 |
| Total Req'd Gain | 1.17 |

LRH-2010-911