MADISON COUNTY MINES SUPERFUND SITE
CATHERINE MINES AND SKAGGS TAILINGS SUBSITES
OPERABLE UNIT 05

PRELIMINARY
REMEDIAL DESIGN

MADISON COUNTY, MISSOURI

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

BLACK & VEATCH
building a world of difference ™

ENERGY WATER INFORMATION GOVERNMENT

BLACK & VEATCH
Federal Services Div.
200 BELLEVUE PARKWAY, SUITE 215
WILMINGTON, DELAWARE 19809
PHONE: (302) 798-0202 FAX: (302) 798-0201
WEBSITE: WWW.BV.COM

Rev.	Description	Date	Apr.
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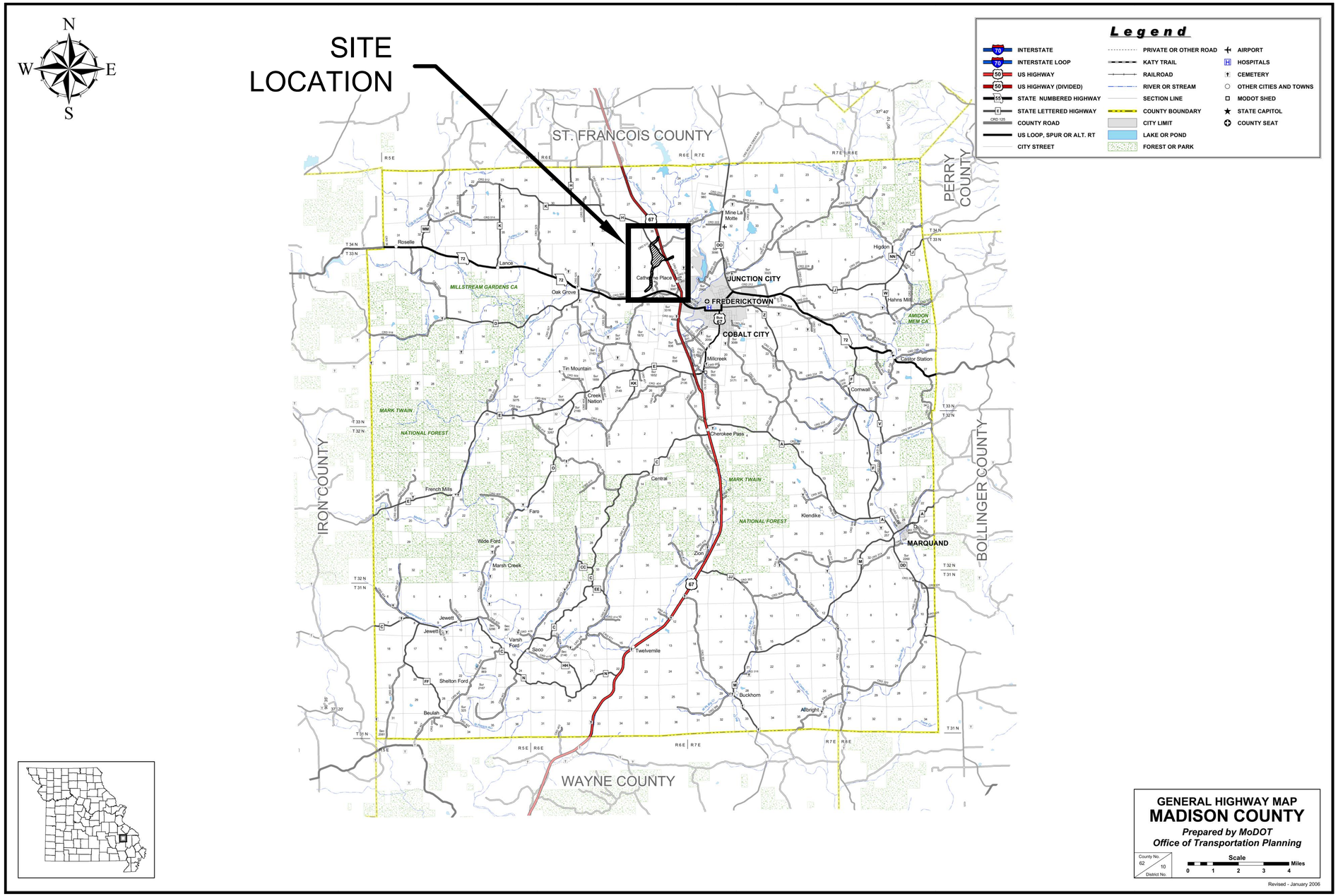
Date: 04-30-14
Drawn by: JLB
Check by:
Project #: 144799
Design by: JLB/GEH
Review by:

MADISON COUNTY MINES SUPERFUND SITE
CATHERINE MINES AND SKAGGS TAILINGS SUBSITES
OPERABLE UNIT 05

COVER SHEET

DRAWING NO.



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Date: 04-30-14
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SCALE: 1" = 2 MILE
2 MILES 1 0 2 MILES

MADISON COUNTY MINES SUPERFUND SITE
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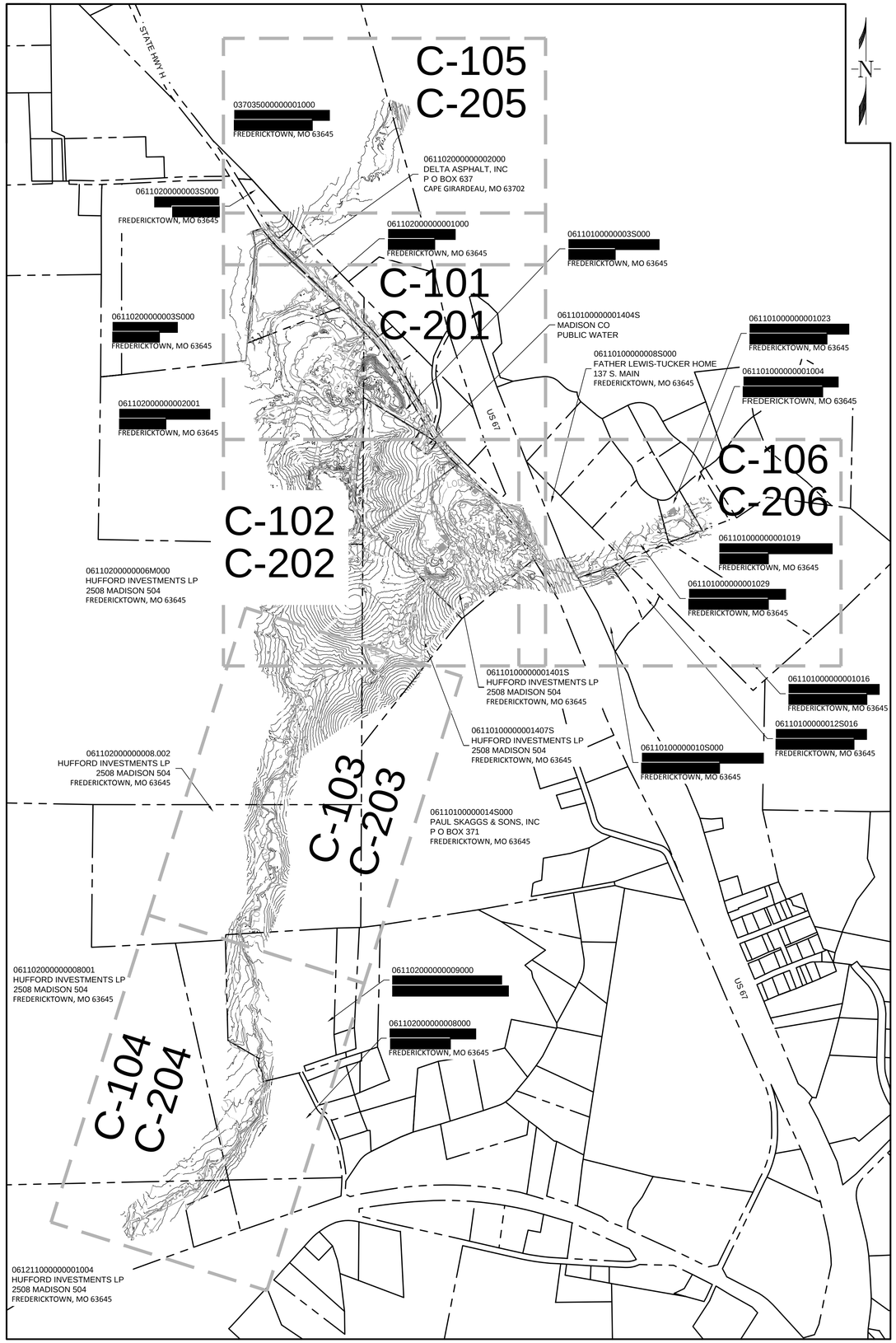
OPERABLE UNIT 05

LOCATION MAP

DRAWING NO.
G-001



SEQUENCE OF CONSTRUCTION

1. INSTALL EROSION AND SEDIMENT CONTROL MEASURES FOR AREA TO BE EXCAVATED. THE CONTRACTOR SHALL ONLY DISTURB 40 ACRES OF THE SITE AT A TIME. ONCE A 40 ACRE SECTION HAS BEEN DISTURBED IT SHALL BE STABILIZED PRIOR TO ANY ADDITIONAL AREA BEING DISTURBED.

2. THE CONTRACTOR SHALL MODIFY, IF NECESSARY, THE PROPOSED EROSION AND SEDIMENT CONTROLS BY STANDARD CONSTRUCTION MEANS AND METHODS WITH APPROVAL FROM THE OWNER OR ENGINEER.

3. CLEAR AND GRUB THE AREA TO BE EXCAVATED (INCLUDES HAUL ROAD). VEGETATIVE MATERIAL SHALL BE DISPOSED OF OFF SITE AT AN APPROVED DISPOSAL FACILITY. UNLESS APPROVED BY THE EPA PROJECT MANAGER NO VEGETATIVE MATERIALS SHALL BE PLACED IN THE REPOSITORY.

4. EXCAVATE AREA TO GRADES SHOWN ON THE EXCAVATION GRADING PLANS. BEGIN EXCAVATION AT THE UPHILL PORTION OF THE AREA, WORKING TOWARDS THE DOWNHILL PORTION OF THE AREA.

5. TEST SOIL AT THE BOTTOM OF THE EXCAVATION IN ACCORDANCE WITH THE FIELD SAMPLING PLAN PREPARED BY BLACK AND VEATCH. IF SAMPLING SHOWS CONTAMINANTS ABOVE THE ACTION LEVELS FOR THE SITE, CONTINUE EXCAVATING AND RETEST SOIL UNTIL CONTAMINANTS ARE BELOW ACTION LEVELS.

6. REGRADE SITE TO ROUGHLY THE GRADES SHOWN ON THE FINAL GRADING PLANS. AT A MINIMUM THE FINISHED GRADES SHOULD PROVIDE POSITIVE DRAINAGE AND PREVENT WATER FROM PONDING ON THE SITE. IF POSSIBLE, MATERIAL NEEDED TO PROVIDE POSITIVE DRAINAGE CAN BE TAKEN FROM ONSITE PROVIDED CONTAMINANTS ARE BELOW ACTION LEVELS FOR THE SITE. IF NEEDED CONTRACTOR WILL BE RESPONSIBLE FOR IMPORTING FILL MATERIAL TO PROVIDE POSITIVE DRAINAGE.

7. PLACE 12 INCHES OF CLAY MATERIAL AND 6 INCHES OF TOPSOIL ON THE REPOSITORIES TO ACT AS A CAP.

8. WHEN FINISH GRADES HAVE BEEN MET THE CONTRACTOR SHALL FERTILIZE AND SEED AS SOON AS POSSIBLE PER MODOT STANDARDS.

NOTES

1. EXISTING UTILITY LOCATIONS SHOWN ARE APPROXIMATE ONLY AND MAY NOT REFLECT FIELD CONDITIONS. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING UTILITIES PRIOR TO EXCAVATION. IF UTILITY LOCATIONS CONFLICT WITH EXCAVATION PLANS SHOWN, CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY.

2. THE CONTRACTOR SHALL NOT DISTURB OR BLOCK ACCESS TO OTHER FACILITIES AND AREAS ADJACENT TO THE SITE.

3. THE CONTRACTOR SHALL PROTECT EXISTING UTILITIES.

4. CONCRETE STRUCTURES ARE TO BE LEFT IN PLACE.

5. EXISTING MANHOLES IN THE CONSTRUCTION AREA SHALL BE MODIFIED TO MATCH THE FINAL GRADES.

6. EXISTING CONDITIONS SURVEY WAS PROVIDED BY ASI BASED ON AN AERIAL SURVEY PERFORMED IN MARCH 2014.

7. AT A MINIMUM A SURVEY SHALL BE PERFORMED AT THE BOTTOM OF EXCAVATION GRADES AND AT THE END OF THE REMEDIAL ACTION (FINAL GRADES) FOR VERIFICATION OF WORK PERFORMED. SURVEY DATA FOR THESE ITEMS SHALL BE COLLECTED UNDER THE SUPERVISION OF A PROFESSIONAL LAND SURVEYOR LICENSED IN THE STATE OF MISSOURI. THE PLS SHALL CERTIFY ALL SURVEY DATA AND VOLUMES.

8. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF TRAFFIC AND PROTECTION OF ROADS FOR TRANSPORTATION OF FILL MATERIAL ACROSS PUBLIC ROADWAYS.

EXISTING FEATURES

- *TREE*
- *TREE/BRUSH LINE*
- 945 — *MAJOR CONTOUR*
- *MINOR CONTOUR*
- x 928.2 — *SPOT ELEVATION*
- *H2O 927.7* — *WATER LEVEL*
- *SURFACE WATER/ DRAINAGE LINE*
- *PROPERTY LINE*
- *EXISTING STRUCTURE*
- *FENCE*
- *UTILITY POLE*
- *CONCRETE PAD*
- *CULVERT*
- *SIGN*
- *UNPAVED ROAD*
- *GUARD RAIL*
- *US 67* — *HIGHWAY*

PROPOSED FEATURES

- LOD — LIMIT OF DISTURBANCE
- SF — SILT FENCE
- BF — ORANGE BARRIER FENCE
- 1350 — MAJOR CONTOUR
- MINOR CONTOUR
- AREA TO BE FILLED AFTER EXCAVATION TO PROMOTE DRAINAGE
- REPOSITORY AREA. COVERED IN 18 INCH SOIL CAP.
- STABILIZED CONSTRUCTION ENTRANCE
- STONE FILTER RING
- HAUL ROAD

SHEET INDEX

DRAWING NO.	DRAWING NAME
G-001	LOCATION MAP
C-001	INDEX PLAN
C-101 TO C-106	EXISTING CONDITIONS
C-201 TO C-206	EXCAVATION GRADING PLAN
C-301 TO C-302	FINAL GRADING PLAN
C-401 TO C-402	EROSION AND SEDIMENT CONTROL PLAN
C-501 TO C-502	CONSTRUCTION DETAILS

BLACK & VEATCH
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Date: 04-30-14 | Drawn by: JLB | Check by:
Project #: 044799 | Design by: JLB/GEH | Review by:
SCALE: 1" = 600'
600' 300' 0' 600'

MADISON COUNTY MINES SUPERFUND SITE
CATHERINE MINES AND SKAGGS TAILINGS SUBSITES
OPERABLE UNIT 05

INDEX PLAN

DRAWING NO.
C-001

MATCH LINE SEE SHEET C-105

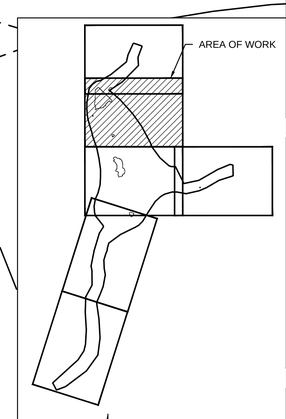
STATE HWY 11

H2O 927.7

H2O 917.2

H2O 948.6

GRAVEL



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04-30-14	JLB	
Project #:	Design by:	Review by:
(044799)	JLB/GEH	

100' 50' 0' 100'
SCALE: 1" = 100'

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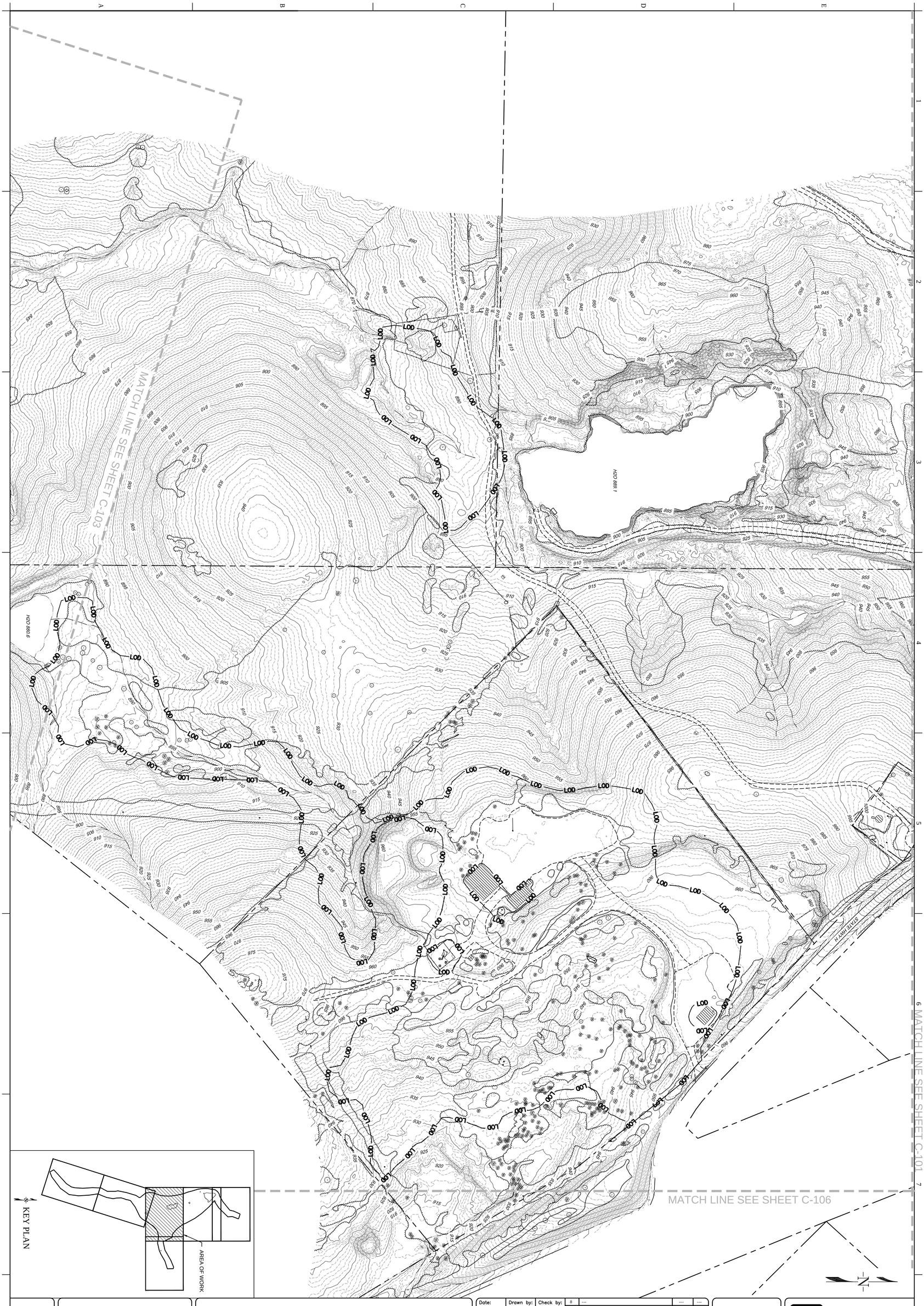
MADISON COUNTY MINES SUPERFUND SITE
CATHERINE MINES AND SKAGGS TAILINGS SUBSITES
OPERABLE UNIT 05

EXISTING CONDITIONS
CATHERINE SITE

DRAWING NO.
C-101

MATCH LINE SEE SHEET C-105



DRAWING NO. C-102

EXISTING CONDITIONS
SKAGGS SITE

MADISON COUNTY MINES SUPERFUND SITE
CATHERINE MINES AND SKAGGS TAILINGS SUBSITES
OPERABLE UNIT 05

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Project #: 044799	Design by: JLB/GEH	Review by:

100' 50' 0' 100'
SCALE: 1" = 100'

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Project #: 044799	Design by: JLB/GEH	Review by:	

SCALE: 1" = 100'

MADISON COUNTY MINES SUPERFUND SITE
CATHERINE MINES AND SKAGGS TAILINGS SUBSITES
OPERABLE UNIT 05

EXISTING CONDITIONS
SOUTHERN TRIBUTARY
SHEET 1

DRAWING NO.
C-103

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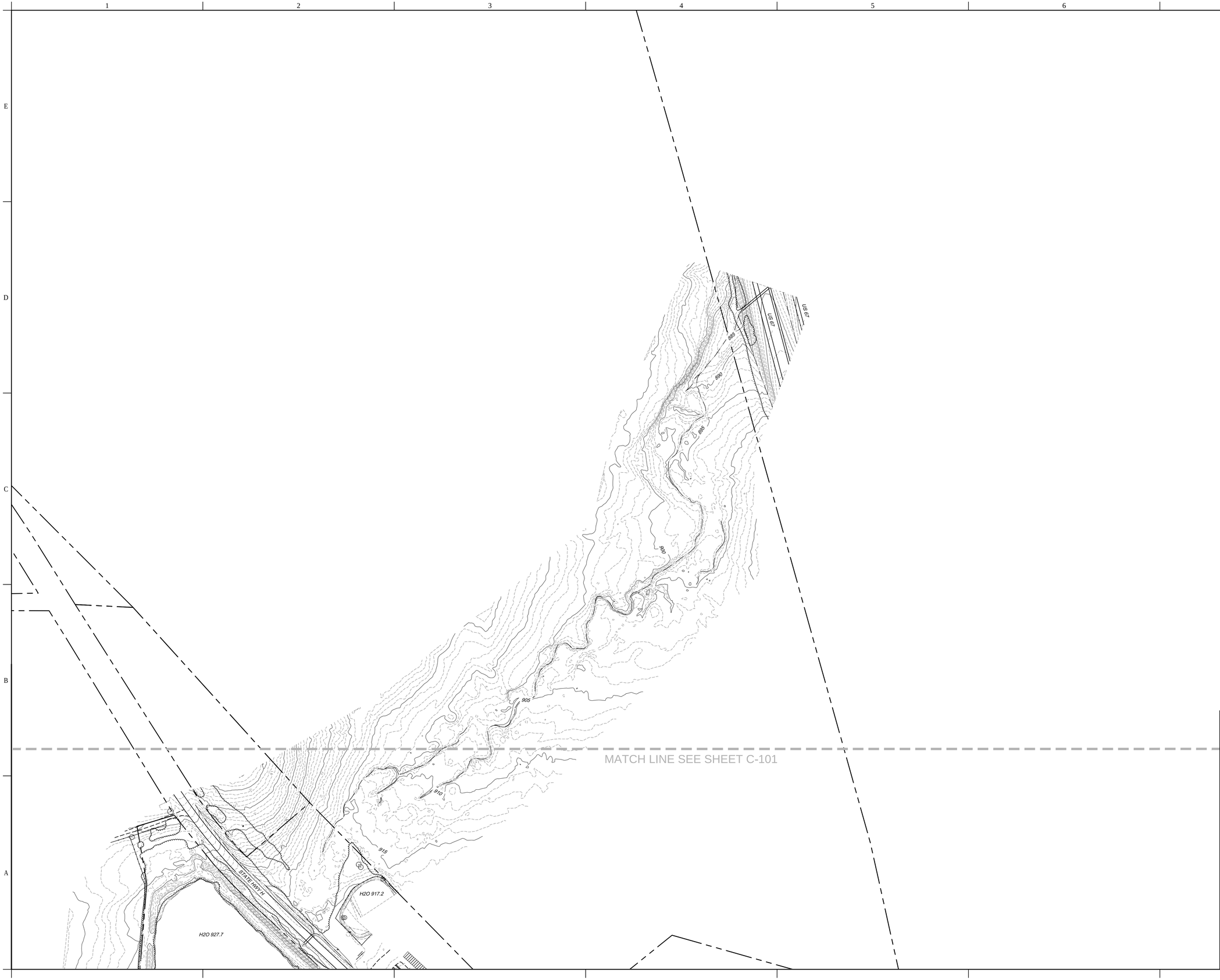
04-30-14	JLB	
Project #:	Design by:	Review by:
044799	JLB/GEH	

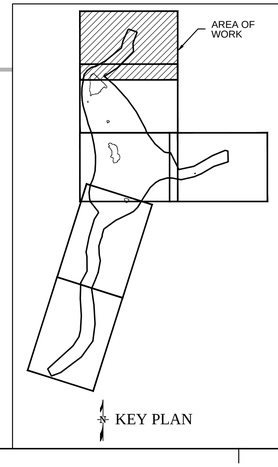
SCALE: 1" = 100'

MADISON COUNTY MINES SUPERFUND SITE
CATHERINE MINES AND SKAGGS TAILINGS SUBSITES
OPERABLE UNIT 05

EXISTING CONDITIONS
SOUTHERN TRIBUTARY
SHEET 2

DRAWING NO.
C-104





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Date:	Drawn by:	Check by:
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Project #:	Design by:	Review by:
(044799)	JLB/GEH	

100' 50' 0' 100'
SCALE: 1" = 100'

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MADISON COUNTY MINES SUPERFUND SITE
CATHERINE MINES AND SKAGGS TAILINGS SUBSITES
OPERABLE UNIT 05

EXISTING CONDITIONS
LOGTOWN BRANCH

DRAWING NO.
C-105

DRAWING NO.
C-106

EXISTING CONDITIONS
EASTERN TRIBUTARY

MADISON COUNTY MINES SUPERFUND SITE
CATHERINE MINES AND SKAGGS TAILINGS SUBSITES
OPERABLE UNIT 05

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Project #:	Design by:	Review by:
044799	JLB/GEH	

100' 50' 0' 100'
SCALE: 1" = 100'

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PHONE: (302) 798-0200 FAX: (302) 798-0201
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MATCH LINE SEE SHEET C-205

CATHERINE REPOSITORY

FOOTPRINT: 7.2 ACRES
VOLUME CUT: 122,000 CU. YD.
TOP ELEVATION: 960 FT

STATE HWY 11

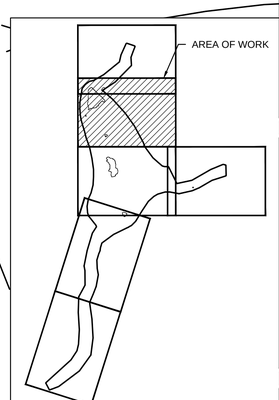
H2O 917.2

H2O 927.7

H2O 948.6

GRAVEL

MATCH LINE SEE SHEET C-202



KEY PLAN

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SCALE: 1" = 100'

MADISON COUNTY MINES SUPERFUND SITE
CATHERINE MINES AND SKAGGS TAILINGS SUBSITES
OPERABLE UNIT 05

EXCAVATION GRADING PLAN
CATHERINE SITE

DRAWING NO.
C-201

MATCH LINE SEE SHEET C-201

MATCH LINE SEE SHEET C-206

MATCH LINE SEE SHEET C-203

SKAGGS REPOSITORY

FOOTPRINT: 3.3 ACRES
VOLUME CUT: 71,000 CU. YD.
TOP ELEVATION: 960 FT

H2O 889.1

H2O 880.6

STATE HWY 1

AREA OF WORK

KEY PLAN

BLACK & VEATCH
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SCALE: 1" = 100'

100' 50' 0' 100'

MADISON COUNTY MINES SUPERFUND SITE
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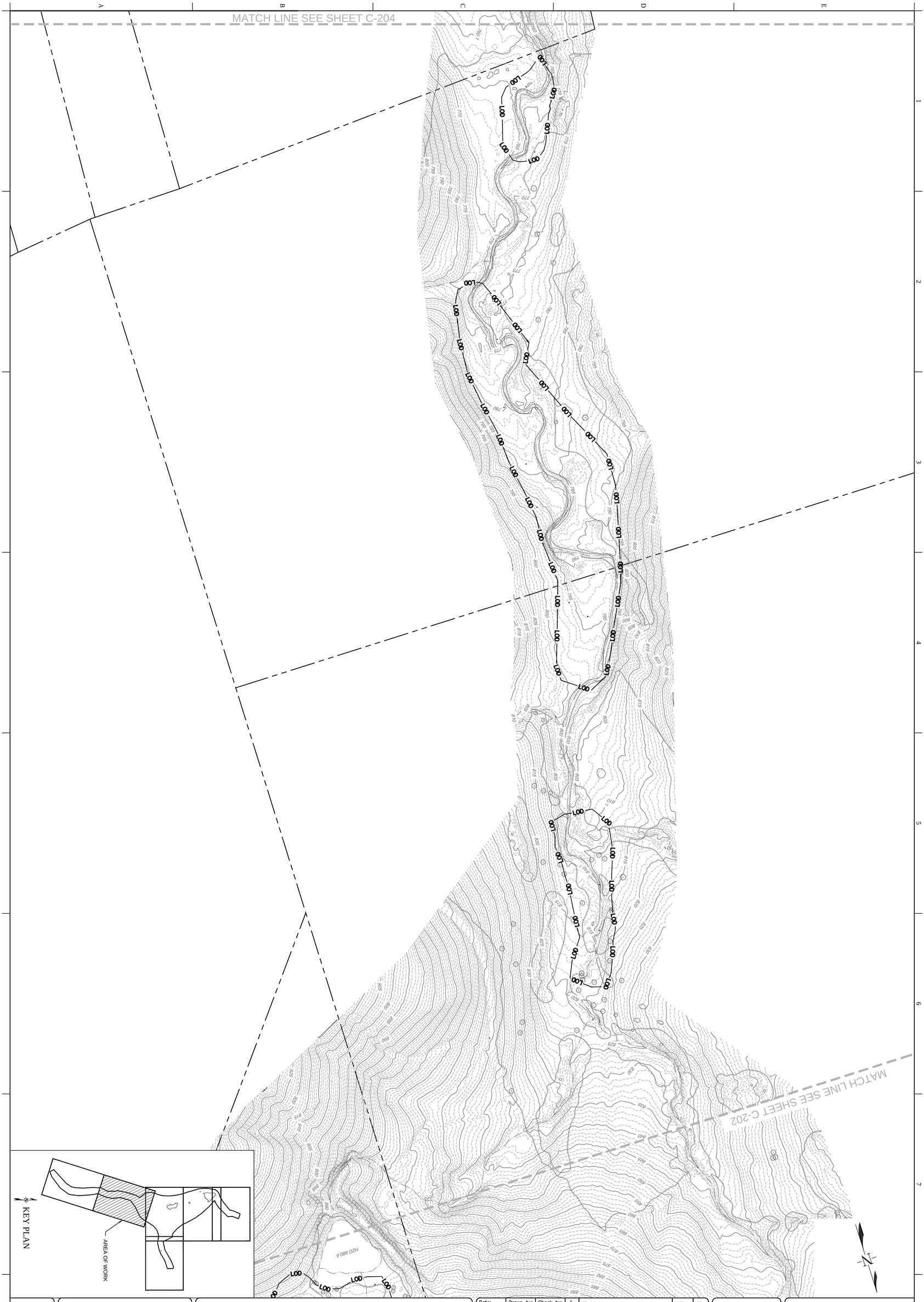
OPERABLE UNIT 05

EXCAVATION GRADING PLAN
SKAGGS SITE

DRAWING NO.
C-202



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EXCAVATION GRADING PLAN
SOUTHERN TRIBUTARY
SHEET 1

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MADISON COUNTY MINES SUPERFUND SITE
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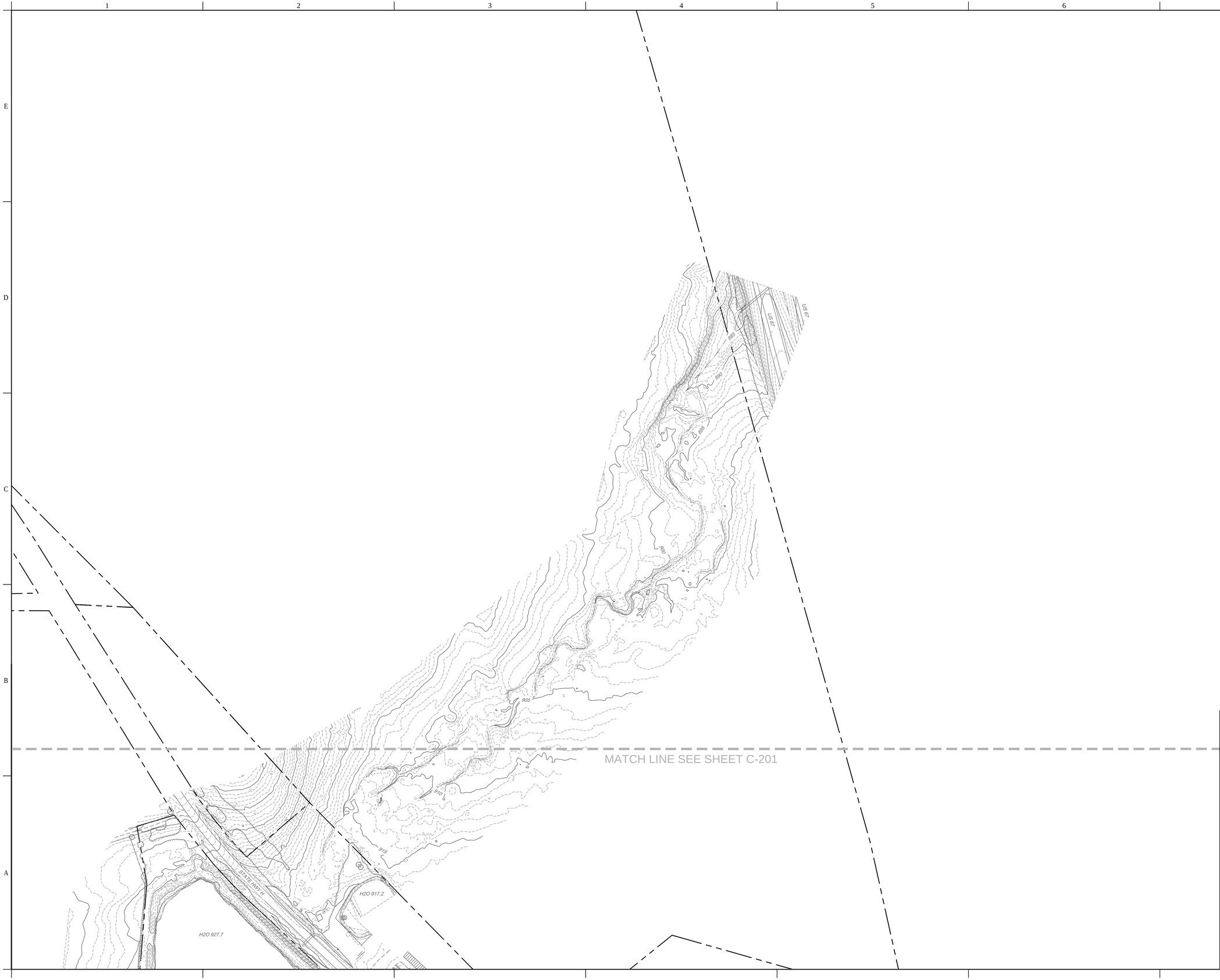
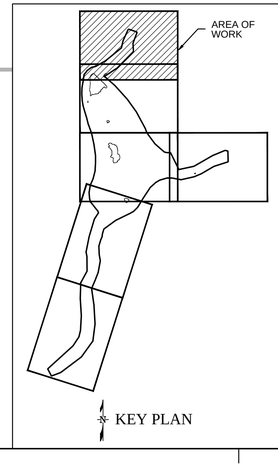
OPERABLE UNIT 05

EXCAVATION GRADING PLAN
SOUTHERN TRIBUTARY
SHEET 2

DRAWING NO.
C-204





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OPERABLE UNIT 05

EXCAVATION GRADING PLAN
LOGTOWN BRANCH

DRAWING NO.
C-205

DRAWING NO.
C-206

EXCAVATION GRADING PLAN
EASTERN TRIBUTARY

MADISON COUNTY MINES SUPERFUND SITE
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