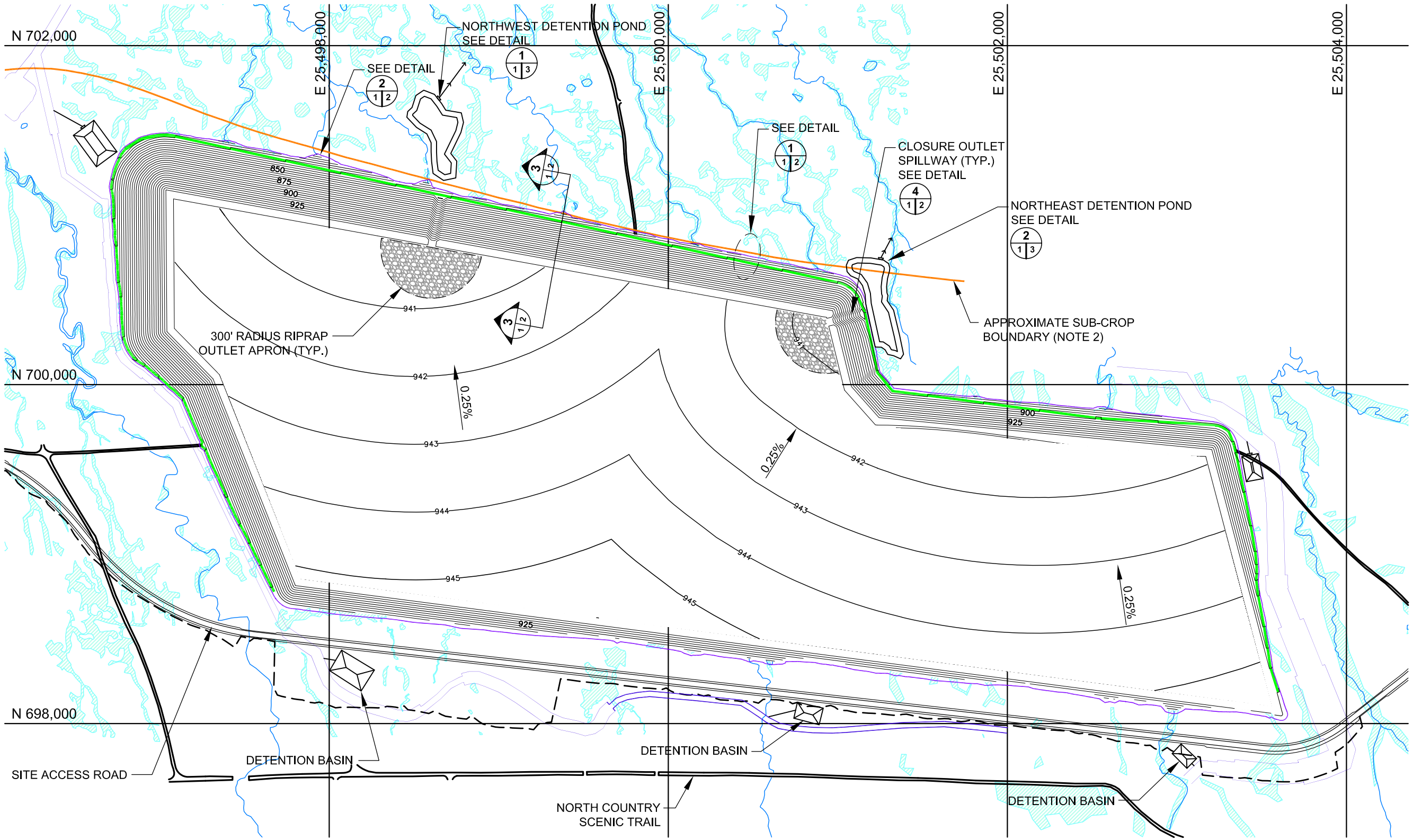

LEGEND

- PROPOSED SEDIMENT BASIN LOCATION
- PROPOSED PERIMETER ROAD
- 944 PROPOSED TDF FINAL COVER CONTOURS
- LIMIT OF DISTURBANCE BOUNDARY
- EXISTING WETLANDS

NOTES:

1. TOPOGRAPHIC MAPPING COMPILED BY AERO–METRIC, INC. FROM AERIAL PHOTOS TAKEN MAY 4, 2009; HORIZONTAL DATUM NAD 83 (96); MICHIGAN STATE PLANE NORTH; VERTICAL DATUM NAVD 88.
2. THE SUB–CROP BOUNDARY LINE WAS PROVIDED BY ORVANA ON FEBRUARY 4, 2011 AND REPRESENTS THE APPROXIMATE LIMIT BEYOND WHICH SETTLEMENT DUE TO UNDERGROUND MINING ACTIVITIES IS NOT ANTICIPATED,
3. THE TAILINGS DISPOSAL FACILITY CONFIGURATION ASSUMES EXTERIOR SLOPES OF 2.5H:1V AND INTERIOR SLOPES OF 2H:1V FOR EMBANKMENT AND 2.5H:1V FOR EXCAVATION.

REVISIONS THIS SHEET

- ADDED FLOW LINE FROM POND OUTLET TO GIPSY CREEK

REVISED 11/13/2012

COLEMAN ENGINEERING COMPANY
635 CIRCLE DRIVE – IRON MOUNTAIN, MICHIGAN 49801 (906) 774–3440
200 EAST AYER STREET – IRONWOOD, MICHIGAN 49938 (906) 932–5048

PROPOSED DITCH, ROAD AND POND PLAN VIEW
ORVANA RESOURCES US CORP.
IRONWOOD AND WAKEFIELD TOWNSHIPS
GOGEBIC COUNTY, MICHIGAN

CADD DRAWING CAD12100_ALT_ANALYSIS
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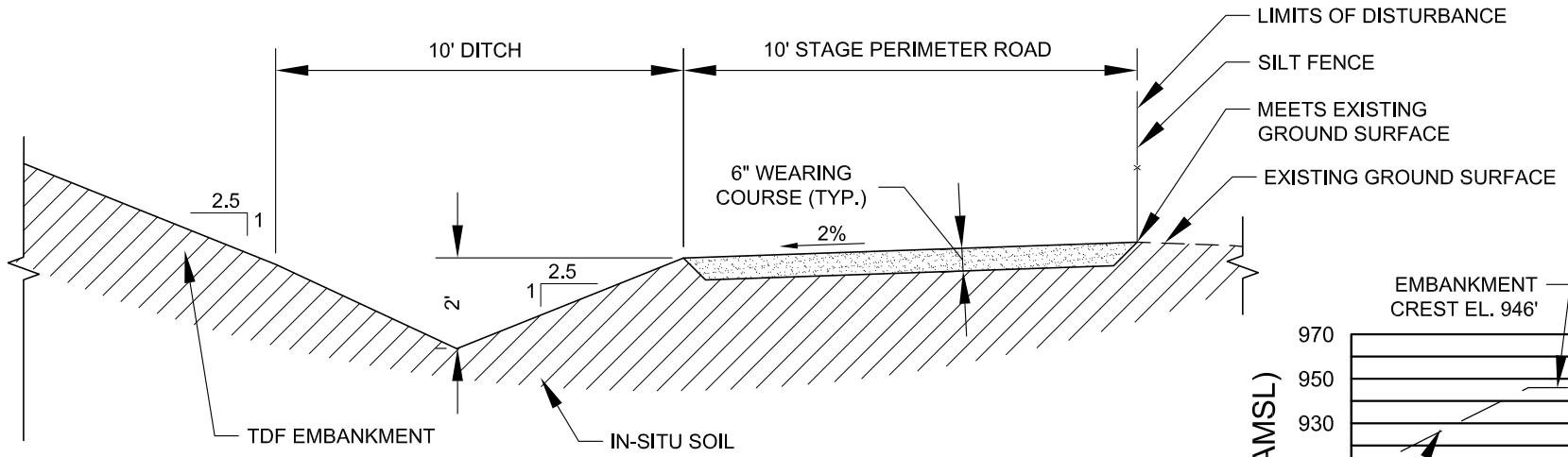
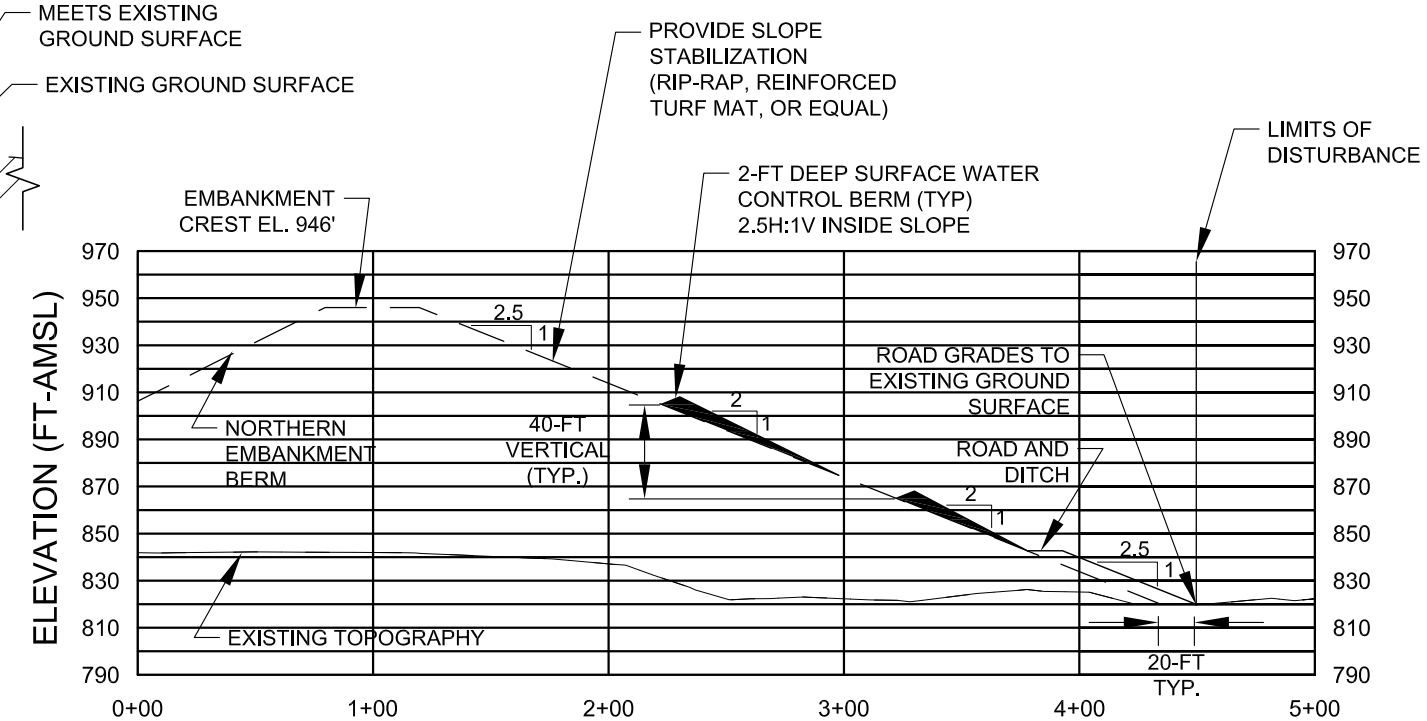
FIGURE B-18



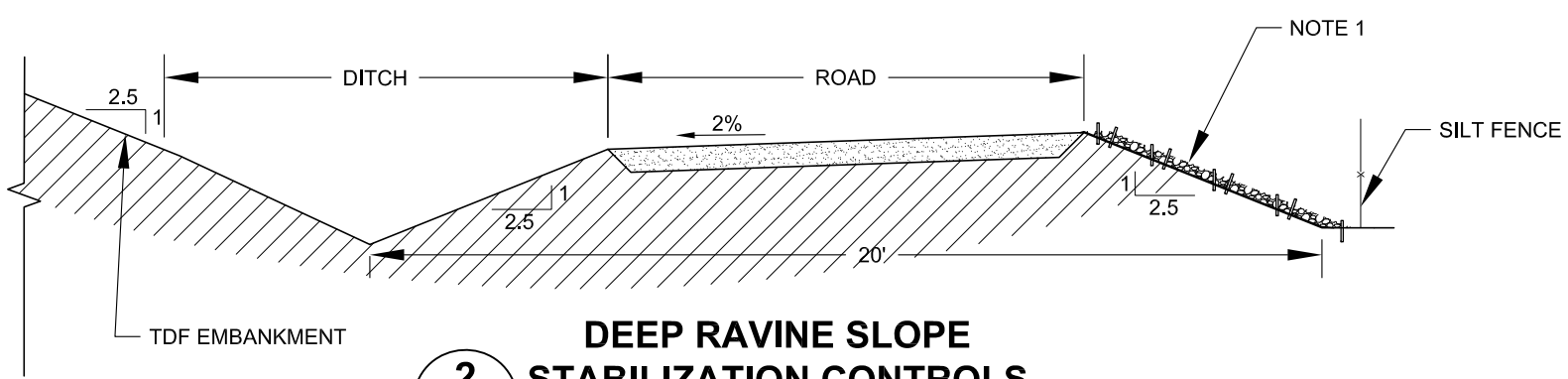
TYPICAL STAGE PERIMETER ROAD AT EMBANKMENT DOWNSTREAM TOE

1 | 1 2 NOT TO SCALE



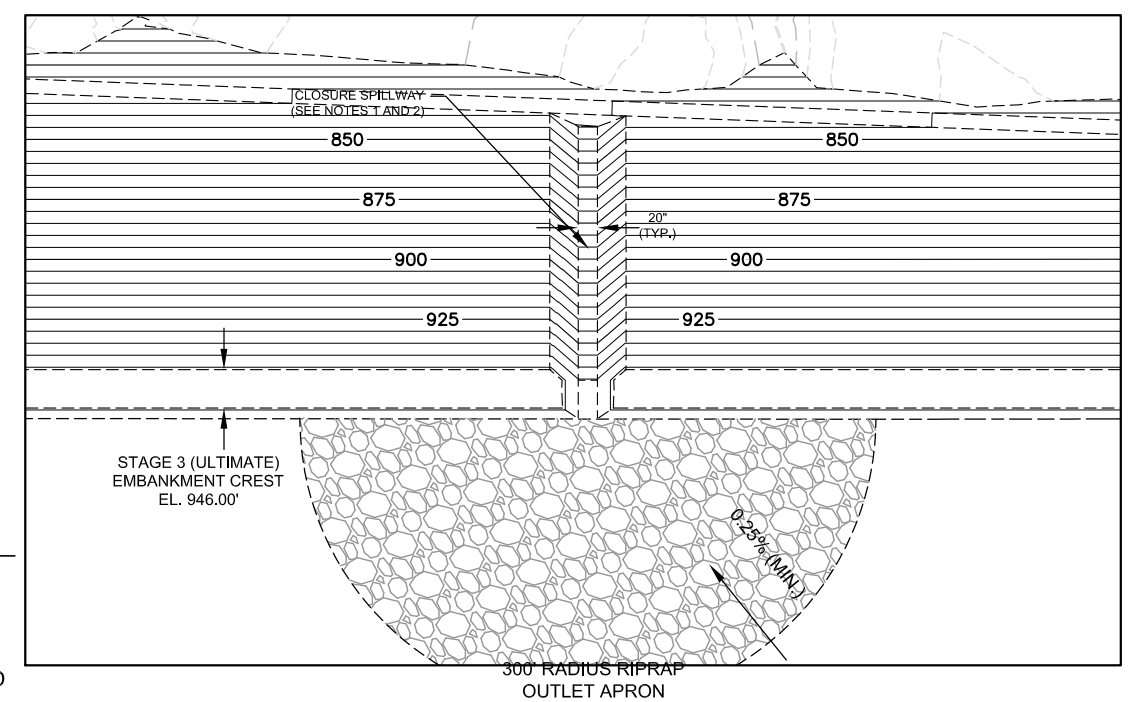
TYPICAL NORTHERN SLOPE PERIMETER ROAD AND DITCH SECTION

3 | 1 2 NOT TO SCALE



DEEP RAVINE SLOPE STABILIZATION CONTROLS

2 | 1 2 NOT TO SCALE



CLOSURE SPILLWAY

4 | 1 2

200 0 200
SCALE FEET

NOTES

1. EROSION CONTROL MEASURES TO BE SPECIFIED AND IMPLEMENTED.

NOTES

1. THE CLOSURE SPILLWAY WILL BE CUT THROUGH THE EMBANKMENT FILL TO REDUCE THE SPILLWAY SLOPE TO THE EXTENT POSSIBLE.
2. THE CLOSURE SPILLWAY WILL BE LINED WITH ARTICULATED BLOCK LINING (SUCH AS CONTECH 50T BLOCK) AND WILL RELEASE RUNOFF TO THE SEDIMENTATION BASIN.
3. CONVEYANCE STRUCTURES UNDER THE PERIMETER ROADWAY NOT SHOWN.

REVISIONS THIS SHEET
- REVISED TYPICAL NORTHERN SLOPE PERIMETER ROAD AND DITCH SECTION SHOWING SURFACE WATER CONTROL BERMS

REVISED 11/13/2012

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PROPOSED DITCH, ROAD AND POND PLAN VIEW
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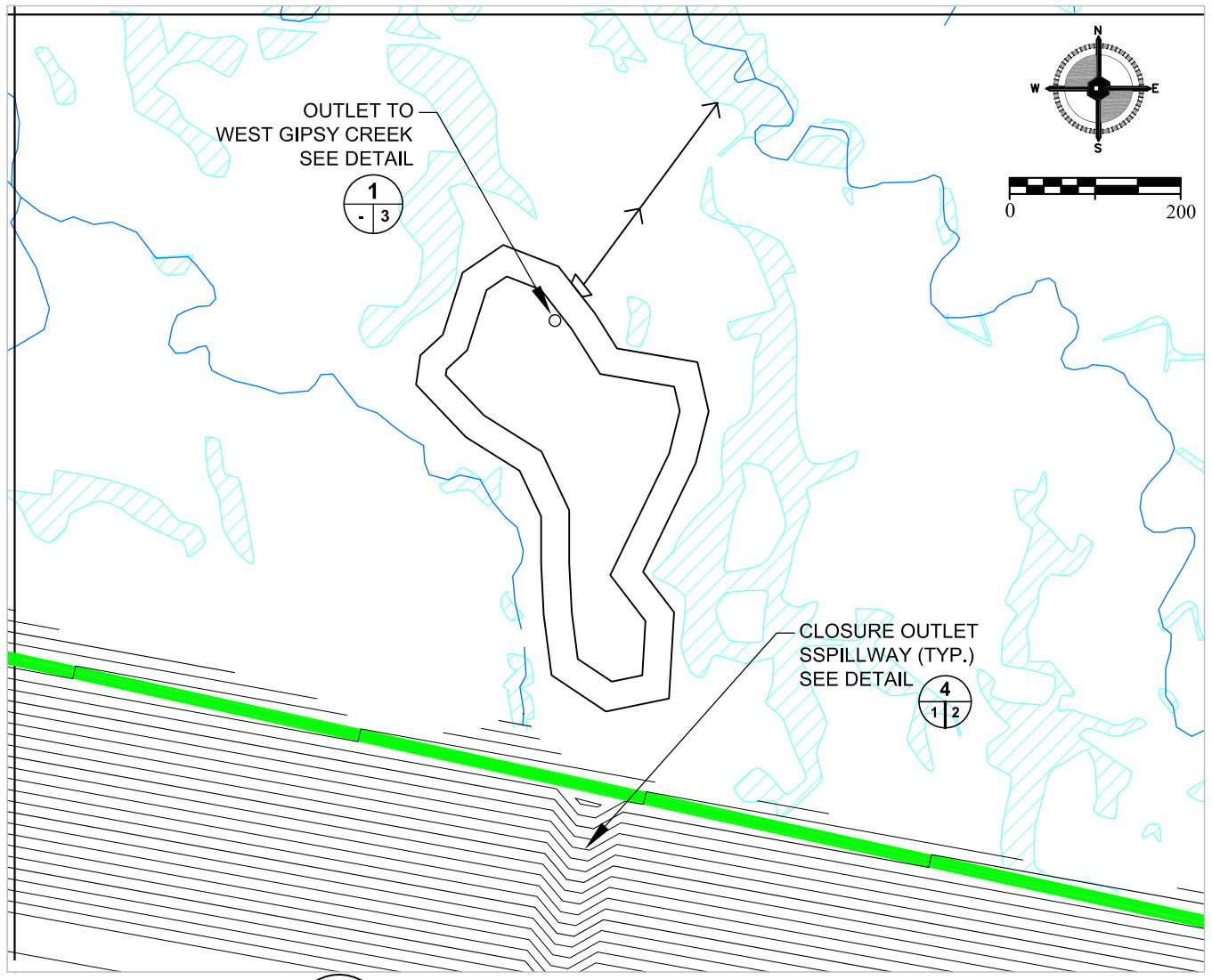
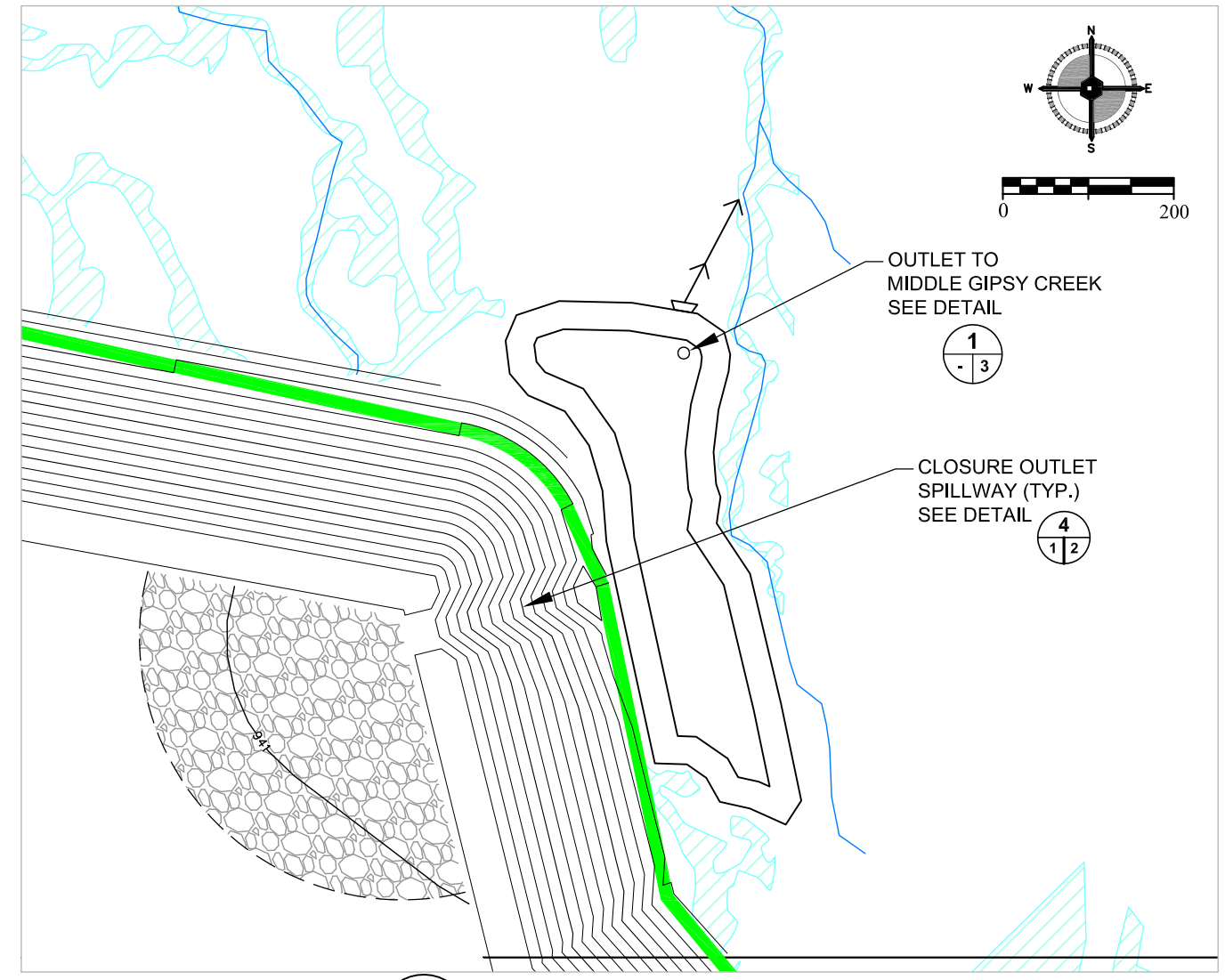
FIGURE B-19



1 / 1 3 NORTHWEST DETENTION POND DETAIL

(NTS)

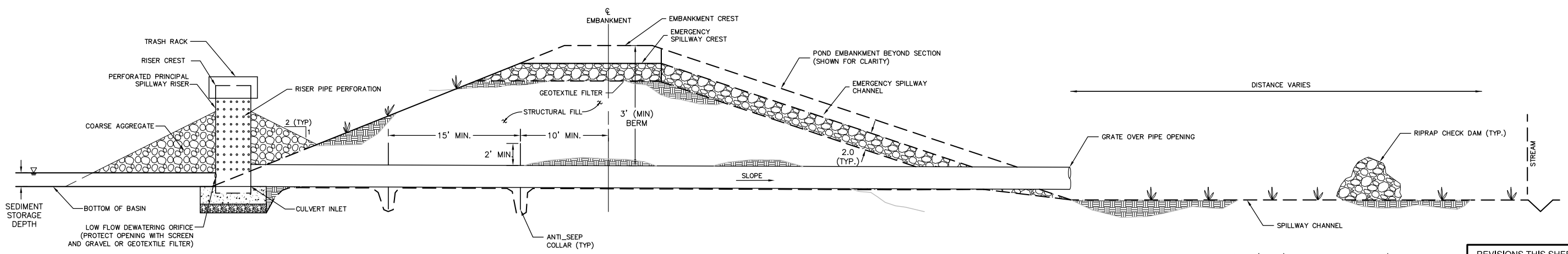
CONVEYANCE FROM SPILLWAY TO SEDIMENTATION POND NOT SHOWN



2 / 1 3 NORTHEAST DETENTION POND DETAIL

(NTS)

CONVEYANCE FROM SPILLWAY TO SEDIMENTATION POND NOT SHOWN



3 / - 3 TYPICAL POND OUTLET DETAIL

(NTS)

REVISIONS THIS SHEET

- REVISED TYPICAL POND OUTLET DETAIL
- CLARIFIED FLOW FROM POND OUTLET TO GIPSY CREEK

REVISED 11/13/2012

COLEMAN ENGINEERING COMPANY
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DATE: 10/18/2012

FIGURE B-20

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