

From: [David Garrett](#)
To: ["Brian Wootton"; John.Murray@ncmail.net;](#)
cc: ["Gurley, Mike"; mcheek@hhnt.com; hodgeswmf@aol.com;](#)
Subject: CMS Phase 3 Design Hydro Drawing Revision - 1 of 3
Date: Tuesday, September 15, 2009 1:52:29 AM
Attachments: [CMS-3 SHEET 4_GW POTENTIOMETRIC MAP.pdf](#)

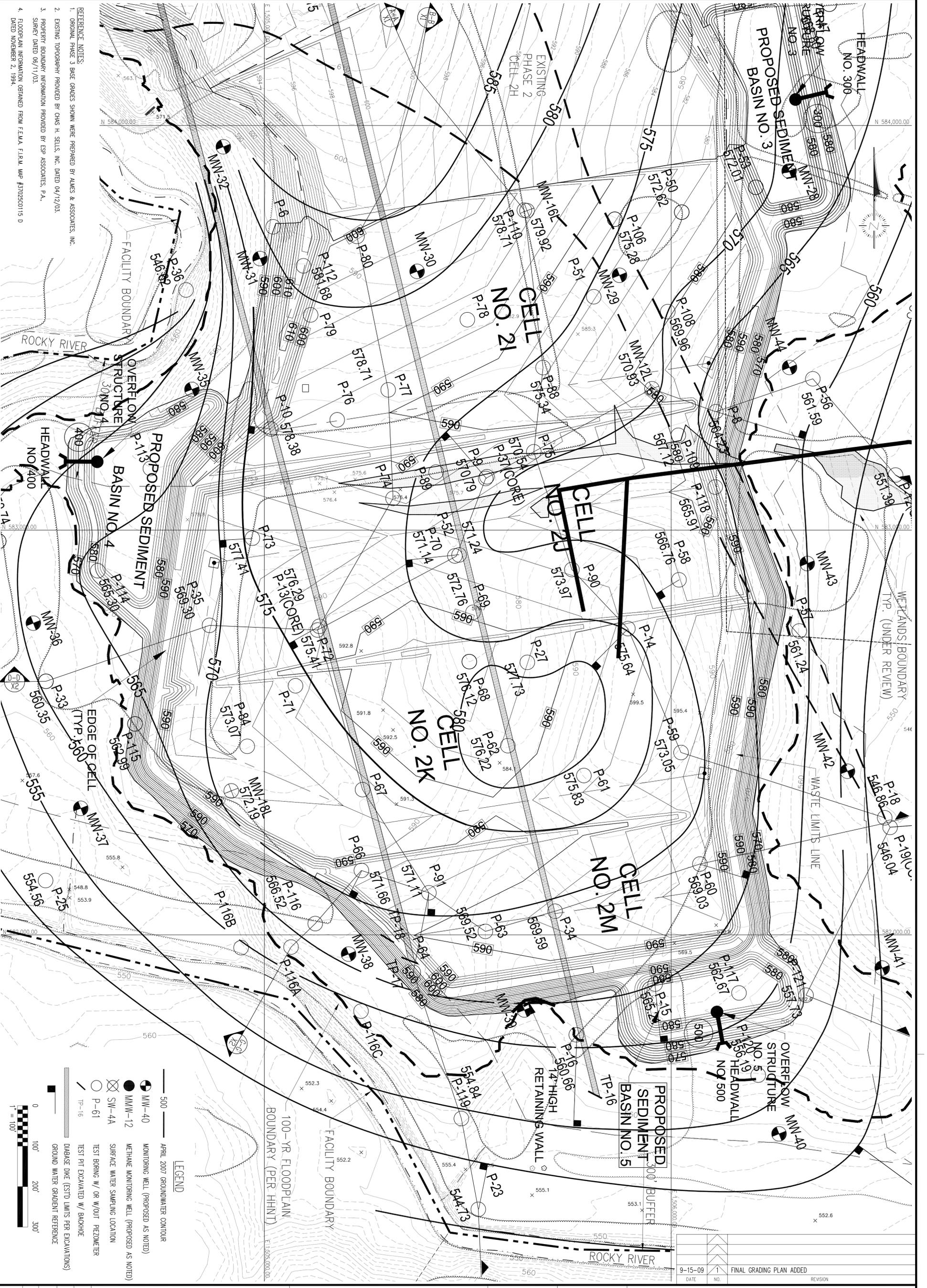
Gentlemen, it was brought to my attention that the base grades prepared by HHNT changed slightly since we issued the Design Hydro report just over a year ago. The changes do not adversely affect vertical separation – these revised drawings were updated per today's date for completeness. The attached image is a 24 x 36 inch format of the GW Contours of April 2007. Due to the size of the pdf images I will need to use three separate transmissions. Paper copies are forthcoming later this week to the recipient list.

Please contact me with any further comment or questions. Thank you.

[David Garrett, P.G., P.E.](#)

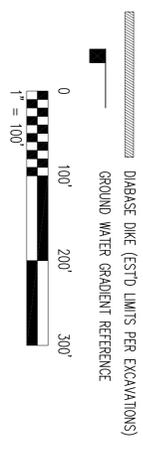
David Garrett & Associates
5105 Harbour Towne Drive
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- REFERENCE NOTES:
1. ORIGINAL PHASE 3 BASE GRADES SHOWN WERE PREPARED BY AMES & ASSOCIATES, INC.
 2. EXISTING TOPOGRAPHY PROVIDED BY CHAS H. SELLS, INC. DATED 04/12/03.
 3. PROPERTY BOUNDARY INFORMATION PROVIDED BY ESP ASSOCIATES, P.A. SURVEY DATED 06/11/03.
 4. FLOODPLAIN INFORMATION OBTAINED FROM FEMA. FIRM MAP #3702500115 D DATED NOVEMBER 2, 1994.

- LEGEND
- 500 ——— APRIL 2007 GROUNDWATER CONTOUR
 - MW-40 ——— MONITORING WELL (PROPOSED AS NOTED)
 - MW-12 ——— METHANE MONITORING WELL (PROPOSED AS NOTED)
 - SW-4A ——— SURFACE WATER SAMPLING LOCATION
 - P-61 ——— TEST BORING W/ OR W/O/P PIEZOMETER
 - TP-16 ——— TEST PIT EXCAVATED W/ BACKHOE
 - DABASE DIKE (ESTD LIMITS PER EXCAVATIONS)
 - GROUND WATER GRADIENT REFERENCE
 - FACILITY BOUNDARY
 - 100-YR FLOODPLAIN BOUNDARY (PER HINT)



DATE	NO.	REVISION
9-15-09	1	FINAL GRADING PLAN ADDED

DRAWING TITLE:
GROUNDWATER POTENTIOMETRIC SURFACE MAP APRIL 2007 (PHASE 3)

PROJECT TITLE:
CMS V MSLWF PHASE 3 DESIGN HYDROGEOLOGIC REPORT PERMIT #13-04 CABARRUS COUNTY, NORTH CAROLINA

SEAL
 NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER
 DAVID GARRETT
 9-15-2009

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FILE NAME: CMS-3 ON POTENTIOMETRIC MAP
 SHEET NO.: 4
 AS SHOWN: FEBRUARY 2008

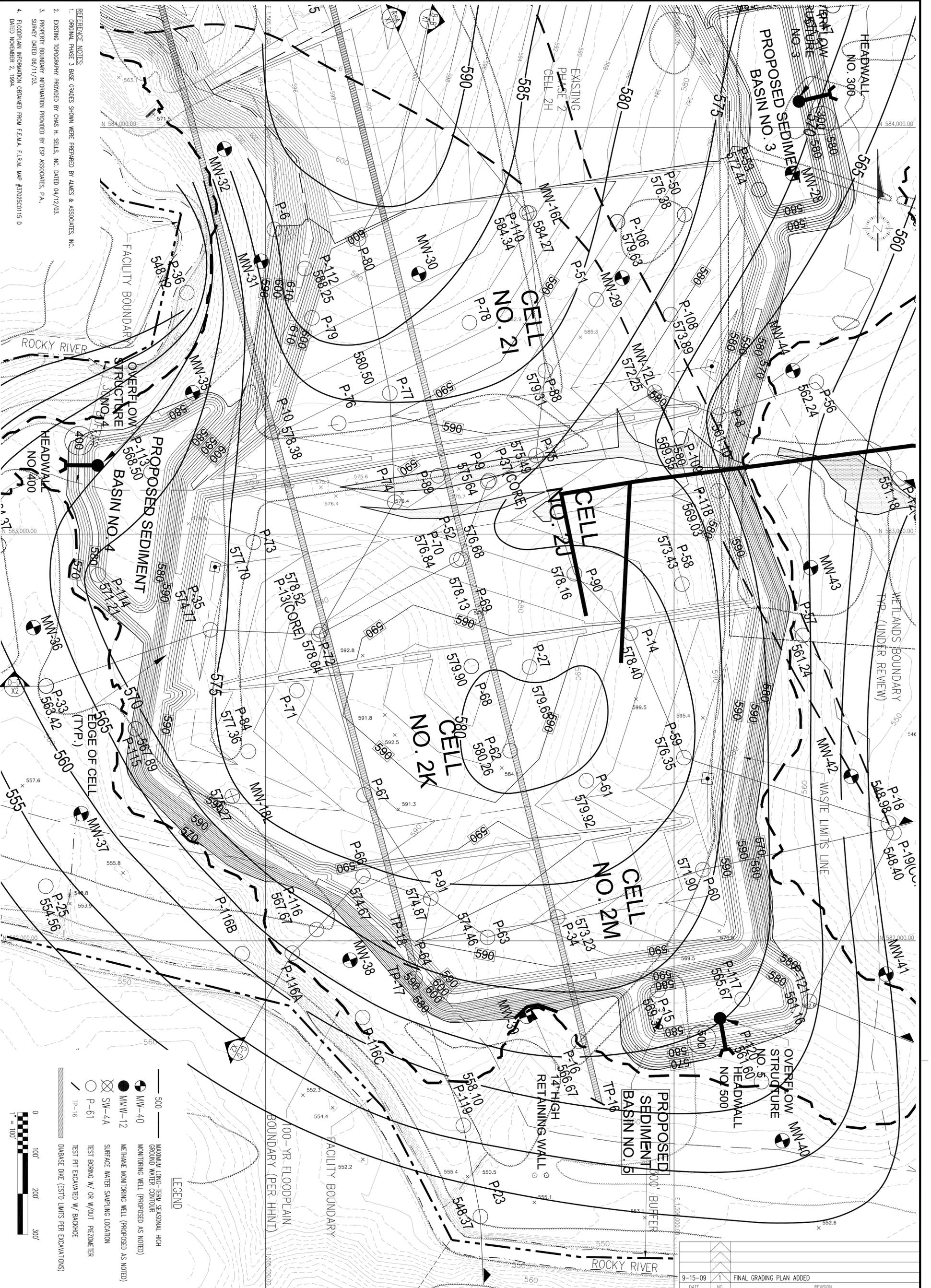
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cc: ["Gurley, Mike"; mcheek@hhnt.com; hodgeswmf@aol.com;](#)
Subject: CMS Drawing Revision - 2 of 3
Date: Tuesday, September 15, 2009 1:54:59 AM
Attachments: [CMS-3 SHEET 5_MAX SEASONAL GW MAP.pdf](#)

This is the Max. Long-Term Seasonal Ground Water drawing.

[David Garrett, P.G., P.E.](#)

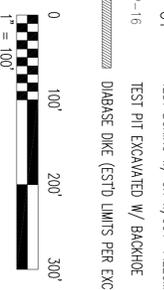
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 3. PROPERTY BOUNDARY INFORMATION PROVIDED BY ESP ASSOCIATES, P.A. SURVEY DATED 06/11/03.
 4. FLOODPLAIN INFORMATION OBTAINED FROM FEMA FIRM MAP #370250115 D DATED NOVEMBER 2, 1994.

- LEGEND
- 500 ————— MAXIMUM LONG-TERM SEASONAL HIGH GROUND WATER CONTOUR
 - MW-40 ——— MONITORING WELL (PROPOSED AS NOTED)
 - MW-12 ——— METHANE MONITORING WELL (PROPOSED AS NOTED)
 - SW-4A ——— SURFACE WATER SAMPLING LOCATION
 - P-61 ——— TEST BORING W/ OR W/OUT PIEZOMETER
 - TP-16 ——— TEST PIT EXCAVATED W/ BACKFILL
 - DIABASE DIKE (ESTD LIMITS PER EXCAVATIONS)



DATE	NO.	REVISION
9-15-09	1	FINAL GRADING PLAN ADDED

FILE NAME: CMS-3 MAX SEASONAL GW MAP
 SHEET NO. 5

DRAWING TITLE:
MAXIMUM LONG-TERM SEASONAL HIGH GROUNDWATER MAP (PHASE 3)

PROJECT TITLE:
CMS V MSLWF PHASE 3 DESIGN HYDROGEOLOGIC REPORT PERMIT #13-04 CABARRUS COUNTY, NORTH CAROLINA

SEAL
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 DAVID GARRETT
 9-15-2009

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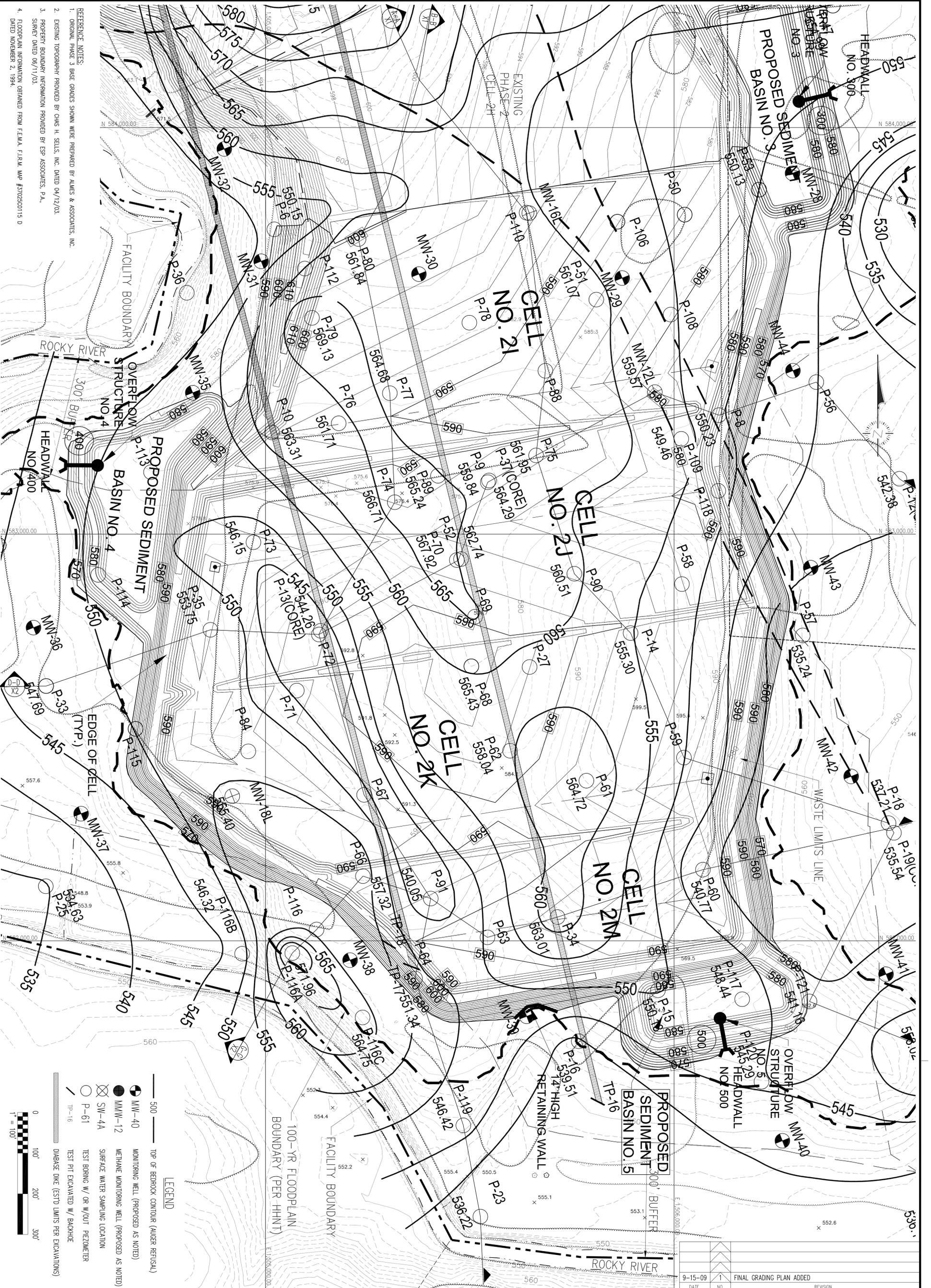
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To: ["Brian Wootton"](#); John.Murray@ncmail.net;
cc: ["Gurley, Mike"](#); mcheek@hhnt.com; hodgeswmf@aol.com;
Subject: CMS Drawing Revision - 3 of 3
Date: Tuesday, September 15, 2009 1:57:34 AM
Attachments: [CMS-3 SHEET 6_BEDROCK MAP.pdf](#)

This is the Bedrock Contour Map. By the way, I checked the most recent version of the Monitoring Plan map (last revised May 2009) against HHNT's latest grades and found it to be consistent with the current base grades. Due to the subtle changes, I see no need to revise the hydrogeologic cross sections.

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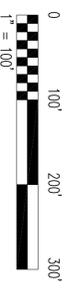
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- REFERENCE NOTES:
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 2. EXISTING TOPOGRAPHY PROVIDED BY CHAS H. SELLS, INC. DATED 04/12/03.
 3. PROPERTY BOUNDARY INFORMATION PROVIDED BY ESP ASSOCIATES, P.A. SURVEY DATED 06/11/03.
 4. FLOODPLAIN INFORMATION OBTAINED FROM FEMA FIRM MAP #3702500115 D DATED NOVEMBER 2, 1994.

LEGEND

- 500 — TOP OF BEDROCK CONTOUR (AUGER REFUSAL)
- MW-40 MONITORING WELL (PROPOSED AS NOTED)
- MW-12 METHANE MONITORING WELL (PROPOSED AS NOTED)
- ⊗ SW-4A SURFACE WATER SAMPLING LOCATION
- P-61 TEST BORING W/ OR W/OUT PEZOMETER
- TP-16 TEST PIT EXCAVATED W/ BACKHOE
- ▨ DATABASE DIKE (ESTD LIMITS PER EXCAVATIONS)



DATE	NO.	REVISION
9-15-09	1	FINAL GRADING PLAN ADDED

BEDROCK SURFACE CONTOUR MAP (PHASE 3)

PROJECT TITLE:
 CMS V MSLWF PHASE 3
 DESIGN HYDROGEOLOGIC REPORT
 PERMIT #13-04
 CABARRUS COUNTY, NORTH CAROLINA

SEAL

SEAL

9-15-2009

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DESIGNED BY:	DATE:
G.D.G.	FEBRUARY 2008
CHECKED BY:	DATE:
G.D.G.	
AS SHOWN:	DATE:
CMS-3 BEDROCK MAP	
SHEET NO.:	DRAWING NO.:
6	S6