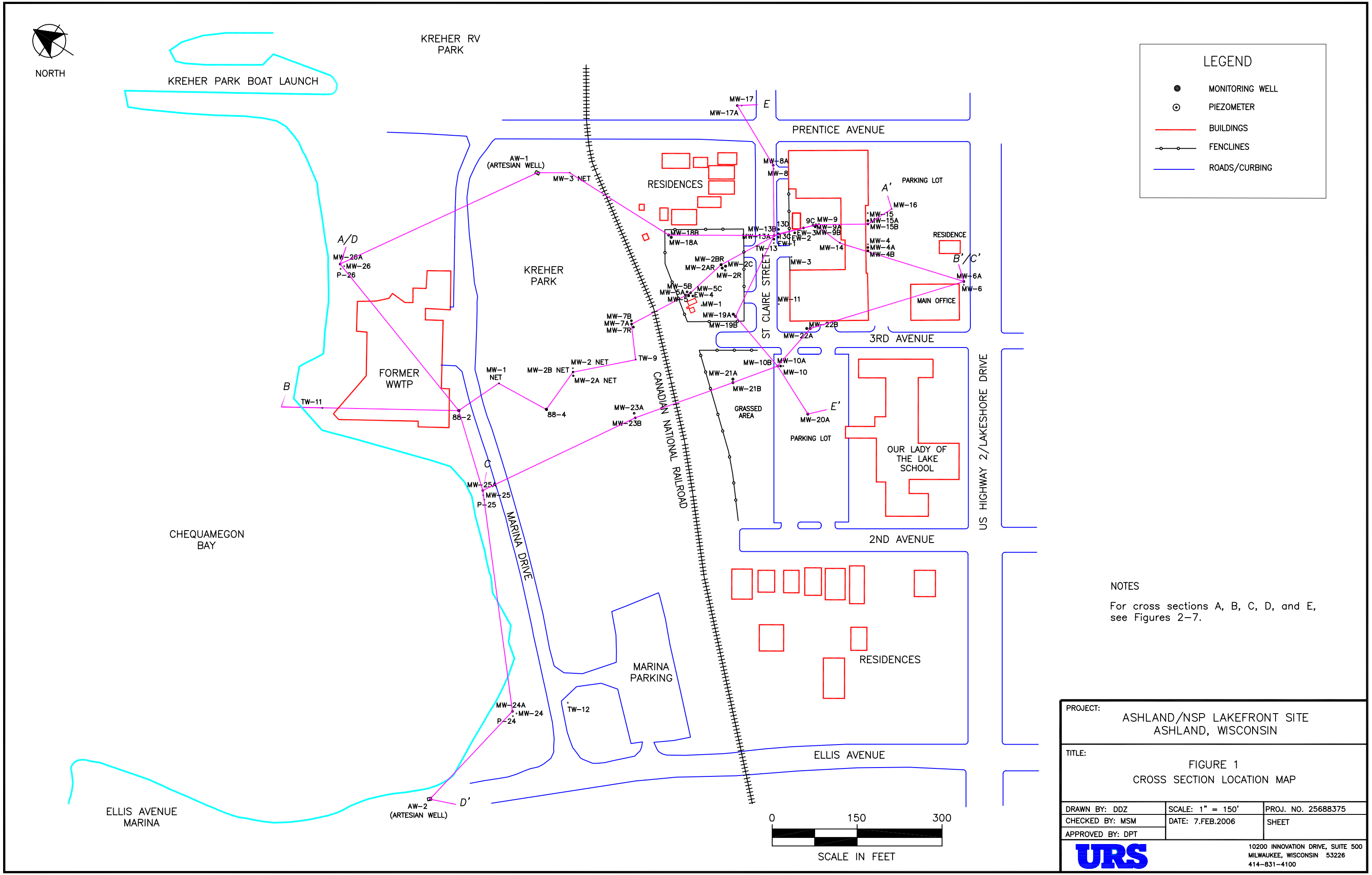


LEGEND

- MONITORING WELL
- PIEZOMETER
- BUILDINGS
- FENCLINES
- ROADS/CURBING

NOTES

For cross sections A, B, C, D, and E, see Figures 2–7.

| | | |
|---|---|---|
| PROJECT: ASHLAND/NSP LAKEFRONT SITE ASHLAND, WISCONSIN | | |
| TITLE: FIGURE 1 CROSS SECTION LOCATION MAP | | |
| DRAWN BY: DDZ | SCALE: 1" = 150' | PROJ. NO. 25688375 |
| CHECKED BY: MSM | DATE: 7.FEB.2006 | SHEET |
| APPROVED BY: DPT | | |

URS

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MILWAUKEE, WISCONSIN 53226
414–831–4100

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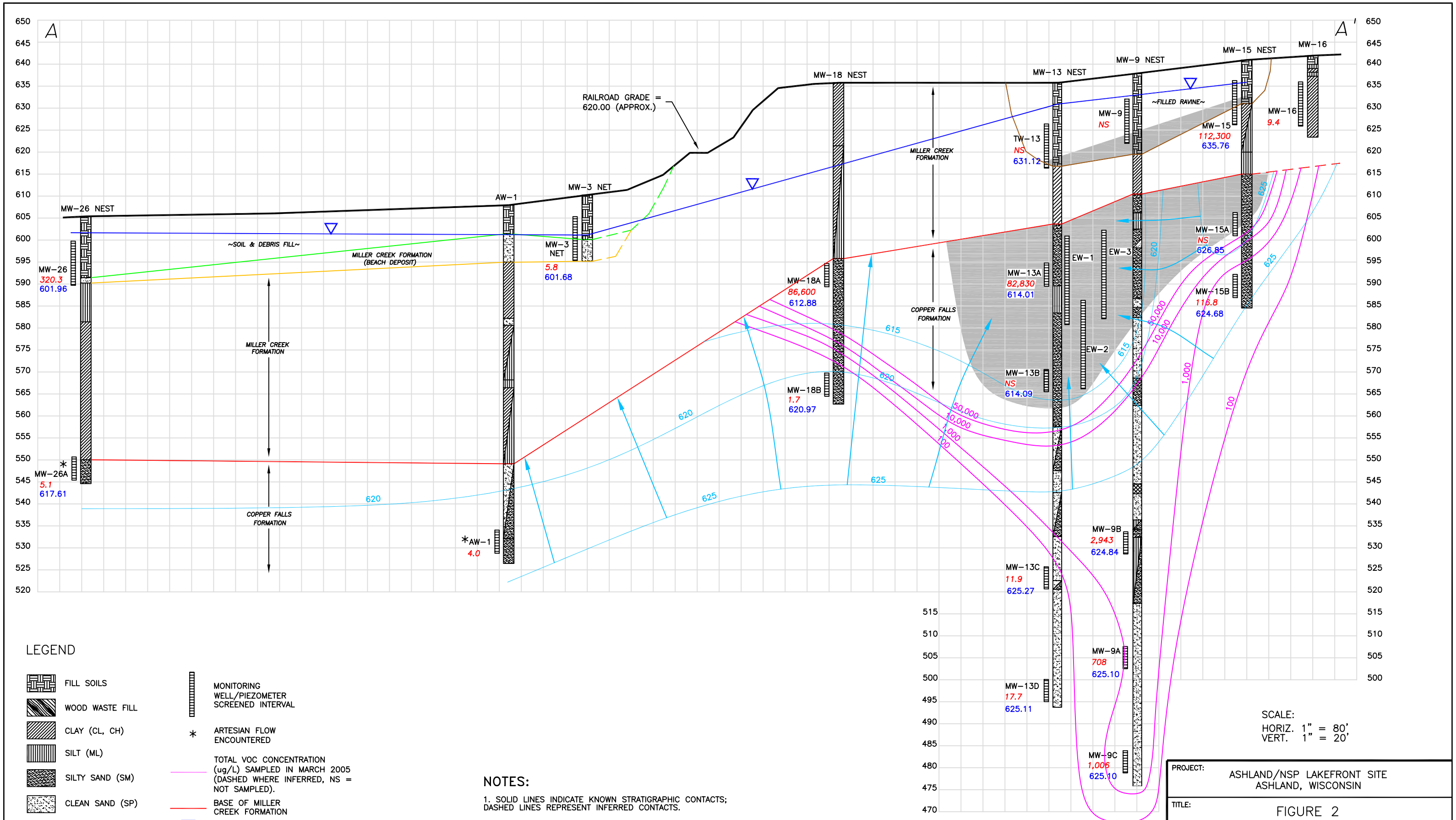


## LEGEND

- FILL SOILS
- WOOD WASTE FILL
- CLAY (CL, CH)
- SILT (ML)
- SILTY SAND (SM)
- CLEAN SAND (SP)
- GRAVELLY INTERVALS (GP, GM, GC, SW)
- BEDROCK
- DNAPL
- MONITORING WELL/PIEZOMETER SCREENED INTERVAL
- * ARTESIAN FLOW ENCOUNTERED
- TOTAL VOC CONCENTRATION (ug/L) SAMPLED IN MARCH 2005 (DASHED WHERE INFERRED, NS = NOT SAMPLED).
- BASE OF MILLER CREEK FORMATION
- WATER TABLE (MEASURED NOV. 3, 2005)
- EQUIPOTENTIAL SURFACE WITHIN COPPER FALLS FORMATION (MEASURED NOV. 3, 2005)
- GROUNDWATER FLOW DIRECTION

## NOTES:

1. SOLID LINES INDICATE KNOWN STRATIGRAPHIC CONTACTS; DASHED LINES REPRESENT INFERRED CONTACTS.
2. TOTAL VOC CONCENTRATIONS FROM MARCH 2005 (ug/L) ARE LISTED BELOW WELLS WHERE ANALYZED.
3. STRATIGRAPHY FOR AW-1 FROM GEOPHYSICAL SURVEY COMPLETED BY GEOSPHERE, INC. (NOVEMBER 2005).
4. GROUNDWATER ELEVATIONS FROM NOVEMBER 2005 (FT MSL) ARE LISTED BELOW WELLS WHERE MEASURED.

SCALE:
HORIZ. 1" = 80'
VERT. 1" = 20'

PROJECT: ASHLAND/NSP LAKEFRONT SITE
ASHLAND, WISCONSIN

TITLE: FIGURE 2
CROSS SECTION A–A'

| | | |
|---|---|---|
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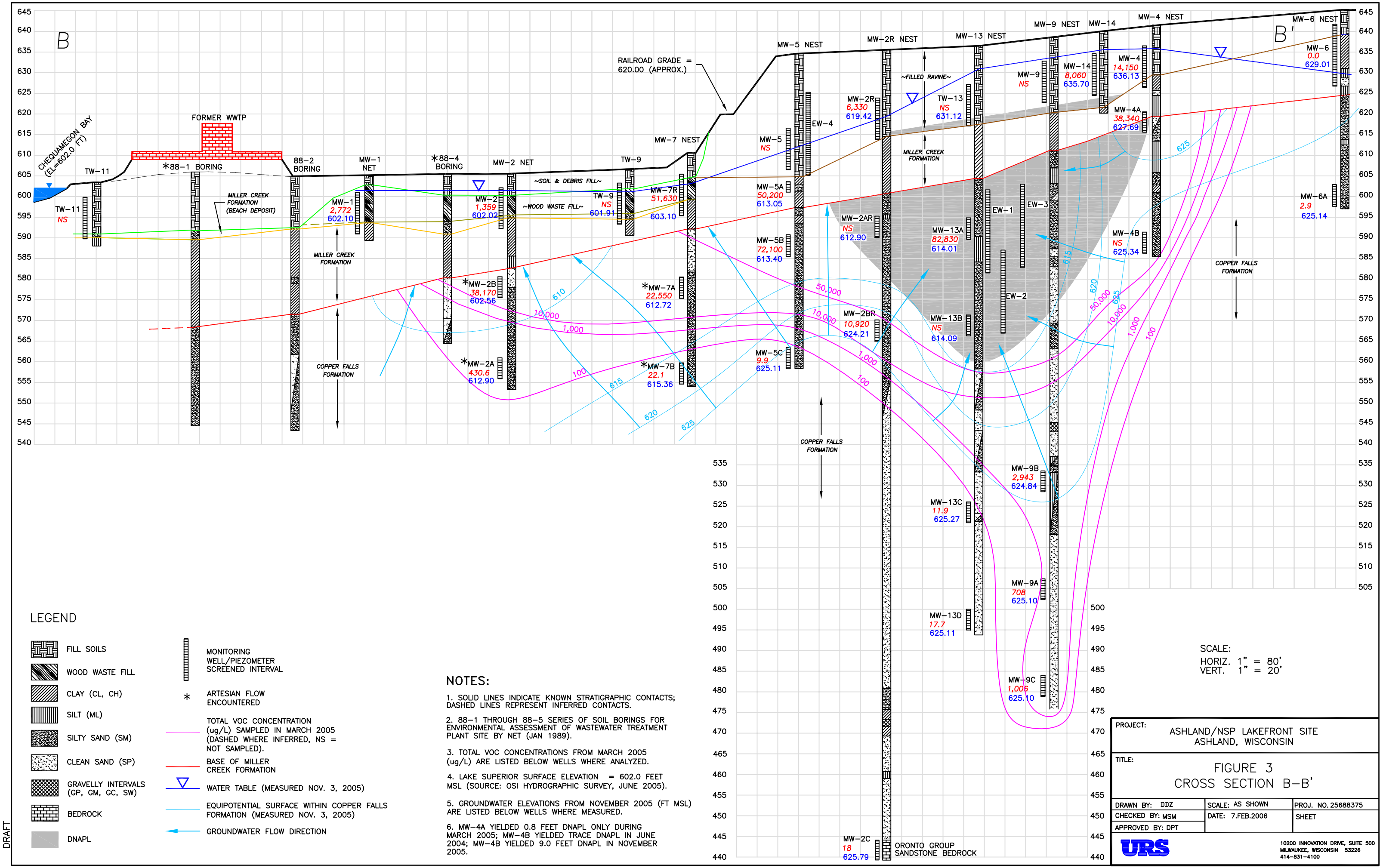


## LEGEND

- FILL SOILS
- WOOD WASTE FILL
- CLAY (CL, CH)
- SILT (ML)
- SILTY SAND (SM)
- CLEAN SAND (SP)
- GRAVELLY INTERVALS (GP, GM, GC, SW)
- BEDROCK
- DNAPL
- MONITORING WELL/PIEZOMETER SCREENED INTERVAL
- * ARTESIAN FLOW ENCOUNTERED
- TOTAL VOC CONCENTRATION (ug/L) SAMPLED IN MARCH 2005 (DASHED WHERE INFERRED, NS = NOT SAMPLED).
- BASE OF MILLER CREEK FORMATION
- WATER TABLE (MEASURED NOV. 3, 2005)
- EQUIPOTENTIAL SURFACE WITHIN COPPER FALLS FORMATION (MEASURED NOV. 3, 2005)
- GROUNDWATER FLOW DIRECTION

## NOTES:

1. SOLID LINES INDICATE KNOWN STRATIGRAPHIC CONTACTS; DASHED LINES REPRESENT INFERRED CONTACTS.
2. 88-1 THROUGH 88-5 SERIES OF SOIL BORINGS FOR ENVIRONMENTAL ASSESSMENT OF WASTEWATER TREATMENT PLANT SITE BY NET (JAN 1989).
3. TOTAL VOC CONCENTRATIONS FROM MARCH 2005 (ug/L) ARE LISTED BELOW WELLS WHERE ANALYZED.
4. LAKE SUPERIOR SURFACE ELEVATION = 602.0 FEET MSL (SOURCE: OSI HYDROGRAPHIC SURVEY, JUNE 2005).
5. GROUNDWATER ELEVATIONS FROM NOVEMBER 2005 (FT MSL) ARE LISTED BELOW WELLS WHERE MEASURED.
6. MW-4A YIELDED 0.8 FEET DNAPL ONLY DURING MARCH 2005; MW-4B YIELDED TRACE DNAPL IN JUNE 2004; MW-4B YIELDED 9.0 FEET DNAPL IN NOVEMBER 2005.

SCALE:
HORIZ. 1" = 80'
VERT. 1" = 20'

PROJECT: ASHLAND/NSP LAKEFRONT SITE
ASHLAND, WISCONSIN

TITLE: FIGURE 3
CROSS SECTION B-B'

| | | |
|---|---|---|
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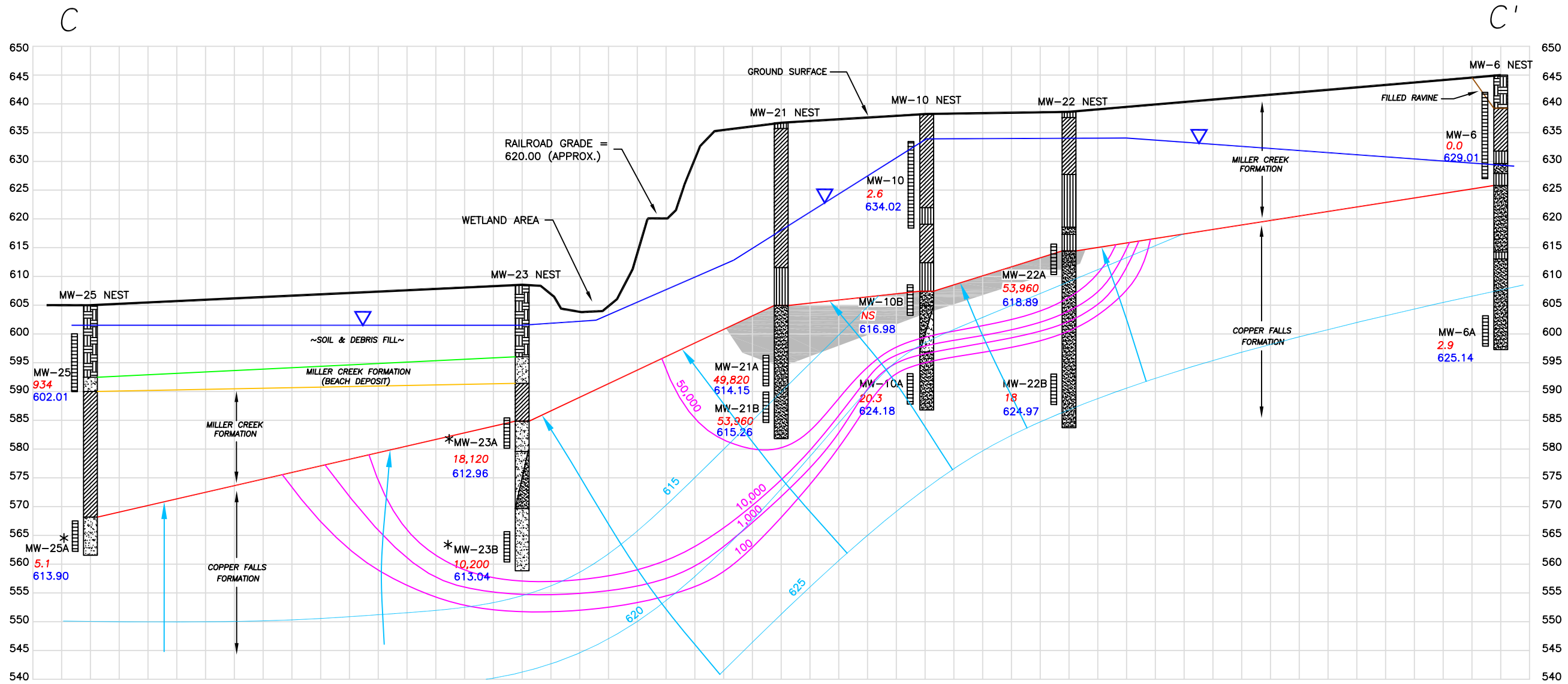


## LEGEND

- FILL SOILS
- WOOD WASTE FILL
- CLAY (CL, CH)
- SILT (ML)
- SILTY SAND (SM)
- CLEAN SAND (SP)
- GRAVELLY INTERVALS (GP, GM, GC, SW)
- BEDROCK
- DNAPL

- MONITORING WELL/PIEZOMETER SCREENED INTERVAL
- * ARTESIAN FLOW ENCOUNTERED
- TOTAL VOC CONCENTRATION (ug/L) SAMPLED IN MARCH 2005 (DASHED WHERE INFERRED, NS = NOT SAMPLED).
- BASE OF MILLER CREEK FORMATION
- WATER TABLE (MEASURED NOV. 3, 2005)
- EQUIPOTENTIAL SURFACE WITHIN COPPER FALLS FORMATION (MEASURED NOV. 3, 2005)
- GROUNDWATER FLOW DIRECTION

## NOTES:

1. SOLID LINES INDICATE KNOWN STRATIGRAPHIC CONTACTS; DASHED LINES REPRESENT INFERRED CONTACTS.
2. TOTAL VOC CONCENTRATIONS FROM MARCH 2005 (ug/L) ARE LISTED BELOW WELLS WHERE ANALYZED.
3. GROUNDWATER ELEVATIONS FROM NOVEMBER 2005 (FT MSL) ARE LISTED BELOW WELLS WHERE MEASURED.

SCALE:
HORIZ. 1" = 80'
VERT. 1" = 20'

| | | |
|---|---|---|
| PROJECT: ASHLAND/NSP LAKEFRONT SITE ASHLAND, WISCONSIN | | |
| TITLE: FIGURE 4 CROSS SECTION C–C' | | |
| DRAWN BY: DDZ | SCALE: AS SHOWN | PROJ. NO. 25688375 |
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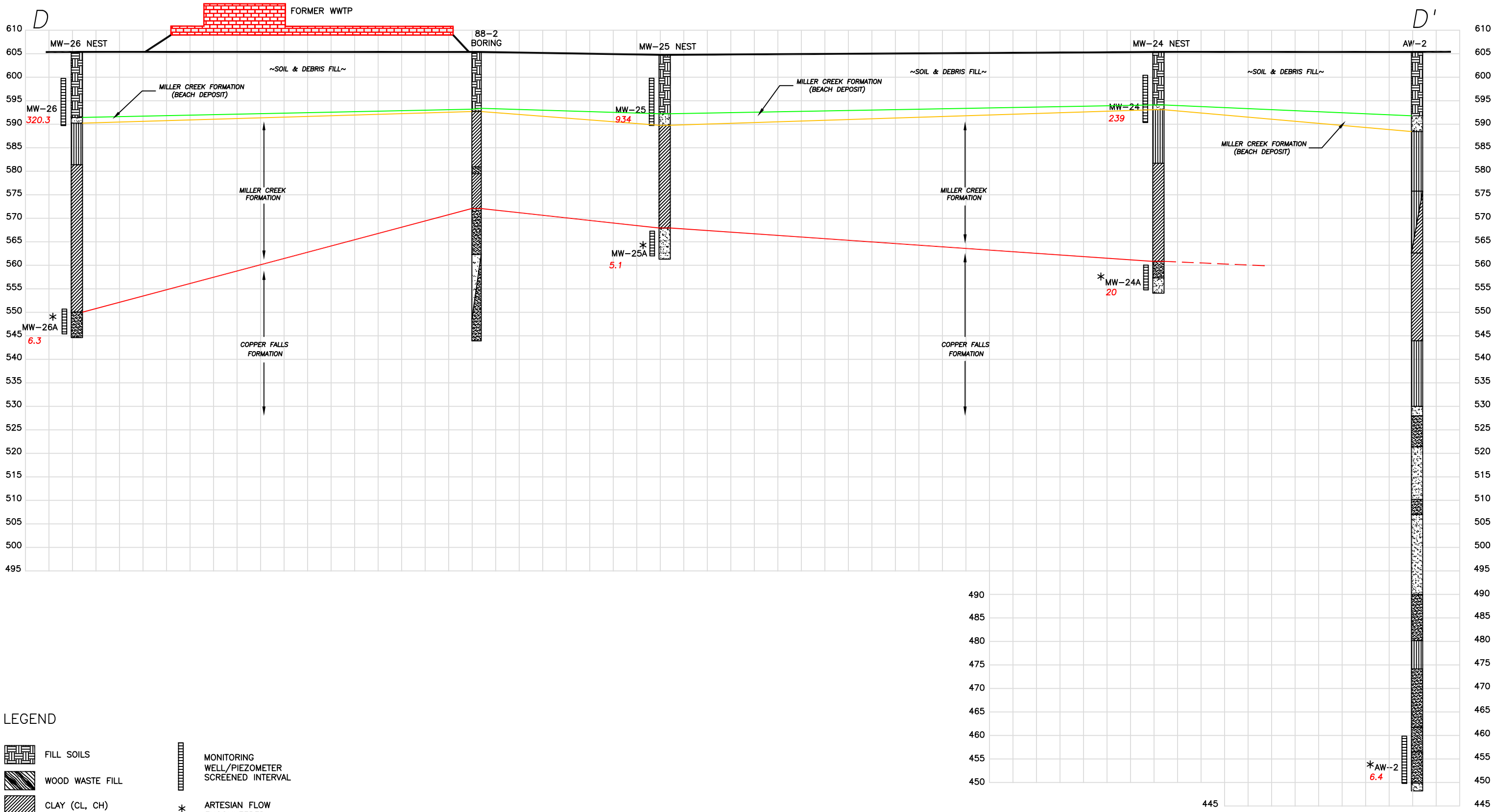


## LEGEND

- FILL SOILS
- WOOD WASTE FILL
- CLAY (CL, CH)
- SILT (ML)
- SILTY SAND (SM)
- CLEAN SAND (SP)
- GRAVELLY INTERVALS (GP, GM, GC, SW)
- BEDROCK
- MONITORING WELL/PIEZOMETER SCREENED INTERVAL
- * ARTESIAN FLOW ENCOUNTERED
- TOTAL VOC CONCENTRATION (ug/L) SAMPLED IN MARCH 2005 (DASHED WHERE INFERRED, NS = NOT SAMPLED).
- BASE OF MILLER CREEK FORMATION

## NOTES:

1. SOLID LINES INDICATE KNOWN STRATIGRAPHIC CONTACTS; DASHED LINES REPRESENT INFERRED CONTACTS.
2. 88-1 THROUGH 88-5 SERIES OF SOIL BORINGS FOR ENVIRONMENTAL ASSESSMENT OF WASTEWATER TREATMENT PLANT SITE BY NET (JAN 1989).
3. TOTAL VOC CONCENTRATIONS FROM MARCH 2005 (ug/L) ARE LISTED BELOW WELLS WHERE ANALYZED.
4. STRATIGRAPHY FOR AW-2 FROM GEOPHYSICAL SURVEY COMPLETED BY GEOSPHERE, INC. (NOVEMBER 2005).

SCALE:
HORIZ. 1" = 80'
VERT. 1" = 20'

PROJECT: ASHLAND/NSP LAKEFRONT SITE
ASHLAND, WISCONSIN

TITLE: FIGURE 5
CROSS SECTION D-D'

| | | |
|---|---|---|
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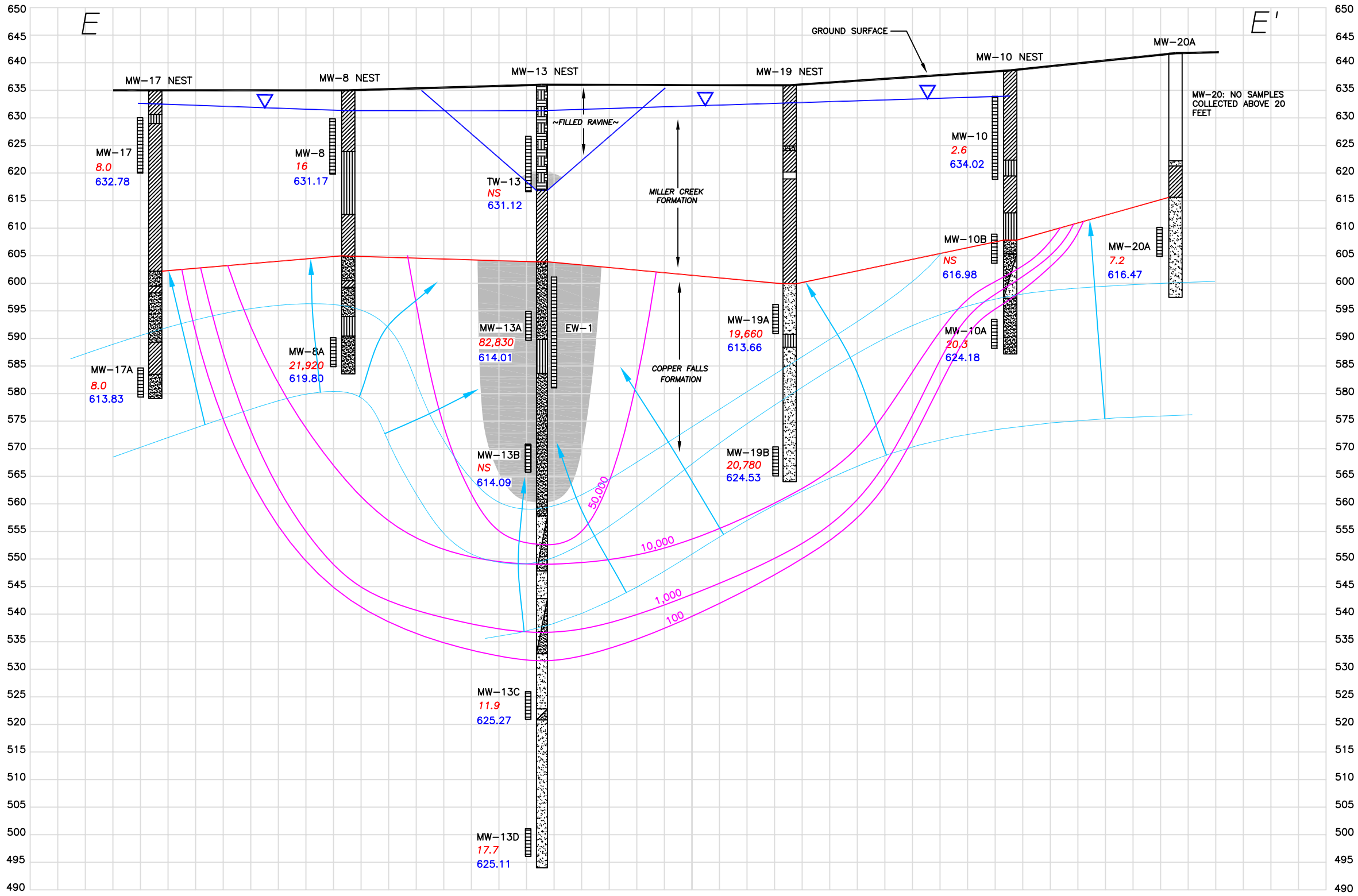


## LEGEND

- FILL SOILS
- WOOD WASTE FILL
- CLAY (CL, CH)
- SILT (ML)
- SILTY SAND (SM)
- CLEAN SAND (SP)
- GRAVELLY INTERVALS (GP, GM, GC, SW)
- BEDROCK
- DNAPL
- MONITORING WELL/PIEZOMETER SCREENED INTERVAL
- * ARTESIAN FLOW ENCOUNTERED
- TOTAL VOC CONCENTRATION (ug/L) SAMPLED IN MARCH 2005 (DASHED WHERE INFERRED, NS = NOT SAMPLED).
- BASE OF MILLER CREEK FORMATION
- WATER TABLE (MEASURED NOV. 3, 2005)
- EQUIPOTENTIAL SURFACE WITHIN COPPER FALLS FORMATION (MEASURED NOV. 3, 2005)
- GROUNDWATER FLOW DIRECTION

SCALE:
HORIZ. 1" = 80'
VERT. 1" = 20'

## NOTES:

1. SOLID LINES INDICATE KNOWN STRATIGRAPHIC CONTACTS; DASHED LINES REPRESENT INFERRED CONTACTS.

2. TOTAL VOC CONCENTRATIONS FROM MARCH 2005 (ug/L) ARE LISTED BELOW WELLS WHERE ANALYZED.

3. GROUNDWATER ELEVATIONS FROM NOVEMBER 2005 (FT MSL) ARE LISTED BELOW WELLS WHERE MEASURED.

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| | | |
|---|---|---|
| PROJECT: ASHLAND/NSP LAKEFRONT SITE<br>ASHLAND, WISCONSIN | | |
| TITLE: FIGURE 6<br>CROSS SECTION E–E' | | |
| DRAWN BY: DDZ | SCALE: AS SHOWN | PROJ. NO. 25688375 |
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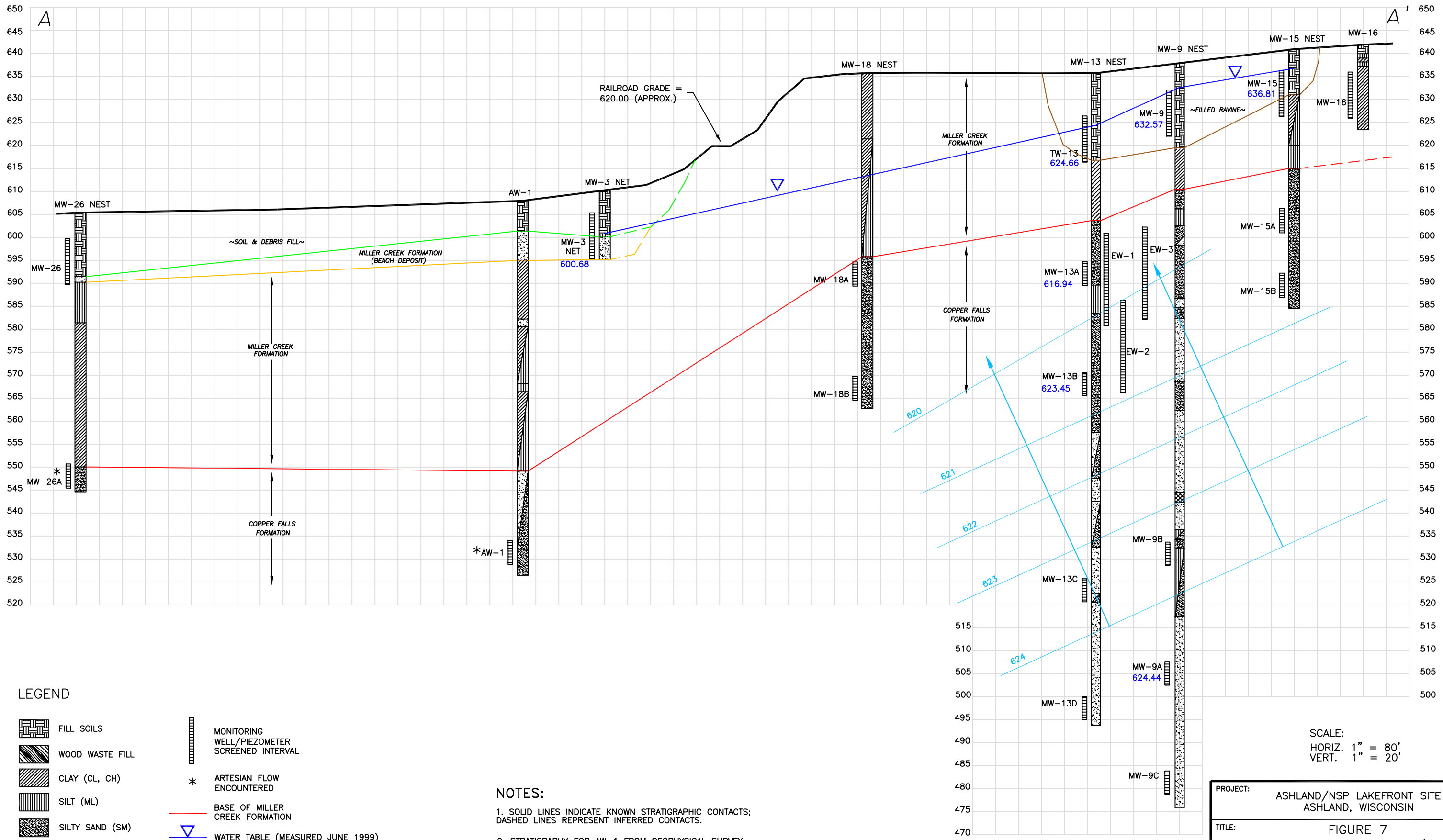


## LEGEND

- FILL SOILS
- WOOD WASTE FILL
- CLAY (CL, CH)
- SILT (ML)
- SILTY SAND (SM)
- CLEAN SAND (SP)
- GRAVELLY INTERVALS (GP, GM, GC, SW)
- BEDROCK
- MONITORING WELL/PIEZOMETER SCREENED INTERVAL
- * ARTESIAN FLOW ENCOUNTERED
- BASE OF MILLER CREEK FORMATION
- WATER TABLE (MEASURED JUNE 1999)
- EQUIPOTENTIAL SURFACE WITHIN COPPER FALLS FORMATION (MEASURED JUNE 1999)
- GROUNDWATER FLOW DIRECTION

## NOTES:

1. SOLID LINES INDICATE KNOWN STRATIGRAPHIC CONTACTS; DASHED LINES REPRESENT INFERRED CONTACTS.
2. STRATIGRAPHY FOR AW-1 FROM GEOSPHERE, INC. (NOVEMBER 2005).
3. GROUNDWATER ELEVATIONS FROM JUNE 1999 (FT MSL) ARE LISTED BELOW WELLS WHERE MEASURED.
4. WELLS MW-9B, MW-9C, MW-13C, MW-13D, MW-15A, MW-15B, MW-16, MW-18A, MW-18B, MW-26, AND MW-26A WERE INSTALLED AFTER JUNE 1999.

SCALE:
HORIZ. 1" = 80'
VERT. 1" = 20'

PROJECT: ASHLAND/NSP LAKEFRONT SITE
ASHLAND, WISCONSIN

TITLE: FIGURE 7
CROSS SECTION A-A'
PRIOR TO PUMPING – JUNE 1999

| | | |
|---|---|---|
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