2008 Annual Inspection for the Parkersburg, West Virginia, Nuclear Waste Policy Act Section 151(c) Disposal Site

Summary

The Parkersburg, West Virginia, Site was inspected on October 16, 2008, to confirm the integrity of visible features and to determine the need, if any, for maintenance, additional inspections, or monitoring. Results of the inspection conclude that the site is in excellent condition.

Vegetation control activities (mow and spray) have been effective in reducing the populations of weed species present at the site. An area of poison hemlock re-growth and an area of poison ivy were identified during the inspection. Although the site is currently mowed twice a year, the grass was rather high at the time of the inspection. It is recommended that the frequency of mowing be increased to three times a year.

Monitor wells at Parkersburg are sampled once every five years. This year was a sampling year, and the wells were sampled just prior to the site inspection. Many of the monitor wells have old sampling equipment left in protective well casings that are unpainted, rusted, and leaning. The old equipment inside the protective well casings and the leaning rusted casings themselves pose no immediate threat to the integrity of the monitor wells but the old equipment should be removed, and the protective casings should be straightened, painted, and properly labeled on the outer surface with the correct well number. Arrangements will be made within the next year or so to perform this work.

No additional monitoring needs were identified as an outcome of this year's inspection.

1.0 Introduction

This report presents the findings of the annual U.S. Department of Energy (DOE) inspection of the Nuclear Waste Policy Act (NWPA) Section 151(c) disposal site at Parkersburg, West Virginia. M. Miller (Chief Inspector), K. Broberg (Assistant Inspector), both with S.M. Stoller Corporation, the DOE Legacy Management (LM) Contractor, conducted the inspection on October 16, 2008. J. Craig, DOE–LM also participated in the inspection.

2.0 Institutional Controls

Institutional controls at the disposal site consist of federal ownership of the property. No use restrictions have been placed on off-site property.

3.0 Inspection Results

Features discussed in this report are shown on the attached inspection drawings (Sheet 1 shows physical features and Sheet 2 is a vegetation map). Photographs to support specific observations are identified on the appropriate sheet using a photograph location (PL) number.

3.1 Site Access

The Parkersburg site is immediately adjacent to land owned by the Northwest Pipe Company. Access to the site from Northwest Drive (formerly called Foster Drive, as in the LTSP) crosses a field being used for soccer. The access route is along a permanent 20-foot-wide right-of-way. The grade over the railroad tracks provides adequate clearance for a passenger car, but gravel is needed to fill in low spots (PL–1). It is recommended that gravel be placed in the low spots in the grade over the railroad tracks. This is considered to be a low maintenance priority.

3.2 Entrance Gate and Security Fence

Both the entrance gate and security fence were replaced in 2007 and are in excellent condition. Vegetation management efforts are successful in keeping woody vegetation off the fence. Spraying along the fence line is taking place and is effective (PL–2).

3.3 Entrance Sign and Perimeter Signs

The entrance sign is in good condition. Website information was added to the entrance sign, and other key perimeter signs located close to access gates during this years inspection (PL–3).

3.4 Boundary Monuments

The site has six boundary monuments. A property audit was completed earlier this year at the Parkersburg site. All boundary monuments were located for the audit, so not all were re-located during this year's inspection.

Five of the six boundary monuments were located during the inspection and were in good condition. Boundary monument BM–4 is located in the bottom of a drainage ditch that parallels the western property boundary. It is buried under approximately a foot of silt but its location is well marked with a steel post making it fairly easy to find (PL–4). The decision has been made not to spend resources raising this boundary monument unless locating it becomes a problem in the future.

Boundary monuments BM–5 and BM–6 are both located in wooded areas. Previous inspectors have flagged adjacent trees and put measurements from fence posts on the inspection drawings to aid in locating these monuments (PL–5). It is helpful to carry a 100-foot measuring tape to facilitate locating these boundary monuments.

3.5 Monitor Wells

There are six groundwater monitor wells at the Parkersburg site. All six wells are located inside the security fence around the edge of the cell. The wells are numbered in the chronological order in which they were drilled and installed. All six monitor wells were located during the inspection and found to be secured with locks.

Of the six monitor wells, well construction and completion records for wells 1 through 4 are incomplete; therefore only wells 5 and 6 are routinely sampled every five years for water quality

parameters. Water levels are collected every five years, though, at all 6 wells. Sampling and water level measurements were collected just prior to the site inspection this year.

The protective casings of all 6 groundwater monitor wells are rusted but serviceable. Several of the protective casings are leaning and need to be straightened (PL–6). Although some protective casings are leaning, they are not leaning enough yet to impact the riser of the monitor well inside the protective casing (PL–7). Several of the monitor wells also still contain old, sampling equipment that is no longer serviceable (PL–7, PL–8, and PL–9). The bollard at monitor well 6 needs to be repaired (PL–10). It is recommended that old sampling equipment be removed from the wells, that leaning protective casings be straightened, painted, and properly labeled with the well number on the outside surface. It is also recommended that the bollard located at well 6 be repaired. This work is not considered to be urgent.

3.6 Disposal Cell and Area Inside Security Fence

Inspectors checked the disposal cell top for signs of settlement, erosion, or other modifying process that would indicate a threat to cell integrity. No concerns were observed.

A trench-like depression approximately 20 feet long, 6-12 inches deep, and 18- to 24-inches wide was noted about 50 feet to the south of the center point of the cell in 2006. It was attributed to an area that was disturbed in 2004 to remove poison hemlock root masses. The depression probably formed from consolidation of the disturbed soil. This area appeared to be stable during the 2007 inspection. Grass was just a little bit too high during the inspection this year to discern the depression.

Dominant vegetation at the site consists of fescue, crown vetch, and goldenrod. The vegetation on the disposal cell cover, essentially in the area inside the security fence, appeared healthy and vigorous in most areas. Two areas of poisonous and noxious weeds were identified during the inspection: an area of poison hemlock in the northwest corner of the site near the gate leading to BM–3, and an area of poison ivy in the southwest corner of the site near the erosion control area. Both areas are shown on page 2 of the attached site inspection map. Mowing of the site appears to be effective but grass during the inspection was a little higher than normal. It is recommended that the mowing effort be increased from twice a year to three times a year.

3.7 Area Between Security Fence and Property Boundary

The drainage channel in the southwest corner of the site, lined with HDPE honeycomb baffles and brick energy dissipation baffles in August 1996, is in good condition and functioning as designed. Erosion does not appear to be occurring. It was recommended last year that 2-inch diameter stone be used to fill in the HDPE honeycomb baffles. Inspectors this year observed that erosion does not appear to be an issue in this area and that additional stone is not warranted.

Inspectors found some old fencing rolled up and leaning against the new fence in the southwest corner of the site. It is recommended that the old fencing be removed.

An animal burrow was discovered which appears to go beneath the west fence (PL–11). The location of this burrow is identified on page 1 of the site inspection map. The burrow does not pose a threat to the disposal cell, and does not need to be filled in at this time.

3.8 Outlying Area

The Parkersburg site is in a developed industrial area. Inspectors observed that no new development or change in the adjacent land use has occurred that threatens site integrity or access, or would result in more incidental traffic near the site.

3.9 Poisonous and Noxious Weed Control

Poisonous and noxious weed control at the Parkersburg site is taking place and site conditions are much improved over last year. Species of poisonous or noxious weeds present at the Parkersburg site include Canada thistle, poison hemlock, Johnsongrass, and poison ivy.

Canada thistle was first identified at the site in 1999, primarily along the security fence. This weed is not a listed noxious species in West Virginia, but it is considered noxious in the neighboring states of Ohio and Pennsylvania. It seemed to be out competing desirable species on the site, as it had spread to a significant portion of the cell cover and perimeter. As a best management practice to maintain plant diversity on the property, DOE added control of this species to the scope of routine maintenance activities in 2001. No large areas of Canada thistle were noted during this year's inspection.

Poison hemlock was discovered on the site in 2003. In the past, plants had grown to heights of up to 10 feet and covered approximately 4 acres on and around the cell. Poison hemlock is a listed noxious weed species in West Virginia; and it poses a safety hazard to personnel who must walk through or work in infested areas, as all parts of the plant are poisonous. Poison hemlock poses a particular hazard to children, who often play in the soccer fields adjacent to the site. Although poison hemlock was cut and sprayed in 2008, re-growth was evident during the site inspection, especially in the northwest corner of the site near the gate leading to boundary monument BM–3.

Johnsongrass is a listed noxious weed species in West Virginia and was first identified at the site in 2003. It reproduces by horizontal roots and by seed, and can be controlled with herbicide. No large areas of Johnson grass were noted during this year's inspection.

Poison ivy was noticed this year in the southwest corner of the site near the erosion control area. The area is identified on page 2 of the site inspection map.

4.0 Recommendations

1. The grade over the railroad tracks provides adequate clearance for a passenger car, but gravel is needed to fill in low spots (PL–1) (page 2).

   Recommendation: It is recommended that gravel be placed in the low spots in the grade over the railroad tracks. This is considered to be a low maintenance priority.

2. Several protective well casings are leaning and need to be straightened (PL–6). Although some protective casings are leaning, they are not leaning enough yet to impact the riser of the monitor well (PL–7). Several of the monitor wells still contain old sampling equipment that is no longer serviceable (PL–7, PL–8, and PL–9). The bollard located at monitor well 6 needs to be repaired (PL–10) (page 3).

Recommendation: It is recommended that old sampling equipment be removed from the wells, leaning protective casings be straightened, painted, and wells properly labeled with the well number on the outside surface. It is also recommended that the bollard located at well 6 be repaired. This work is not considered to be urgent.

3. Mowing of the site appears to be effective but grass during the inspection was a little higher than normal (page 3).

   Recommendation: It is recommended that the mowing effort be increased from twice a year to three times a year.

4. Inspectors found some old fencing rolled up and leaning against the new fence in the southwest corner of the site (page 3).

   Recommendation: The old fencing needs to be removed.

5.0 Photographs

Photo Location Number	Azimuth	Description
PL–1	350	Gravel needed to fill in low spots in the grade going over the railroad tracks.
PL–2	30	Southeast fence line.
PL–3	315	Website information added to perimeter signs nearest the gates.
PL–4	315	Boundary monument BM–4.
PL–5	190	Boundary monument BM–5.
PL–6	20	Monitor well 3.
PL–7	NA	Inside of monitor well 3.
PL–8	NA	Inside of monitor well 2.
PL–9	NA	Inside of monitor well 4.
PL–10	20	Loose bollard at monitor well 6.
PL–11	135	Animal burrow under fence.

PKB 10/2008. PL–1. Gravel needed to fill in low spots in the grade going over the railroad tracks.

PKB 10/2008. PL–2. Southeast fence line.

PKB 10/2008. PL–3. Website information added to perimeter signs nearest the gates.

PKB 10/2008. PL–4. Boundary monument BM–4.

PKB 10/2008. PL–5. Boundary monument BM–5.

PKB 10/2008. PL–6. Monitor well 3.

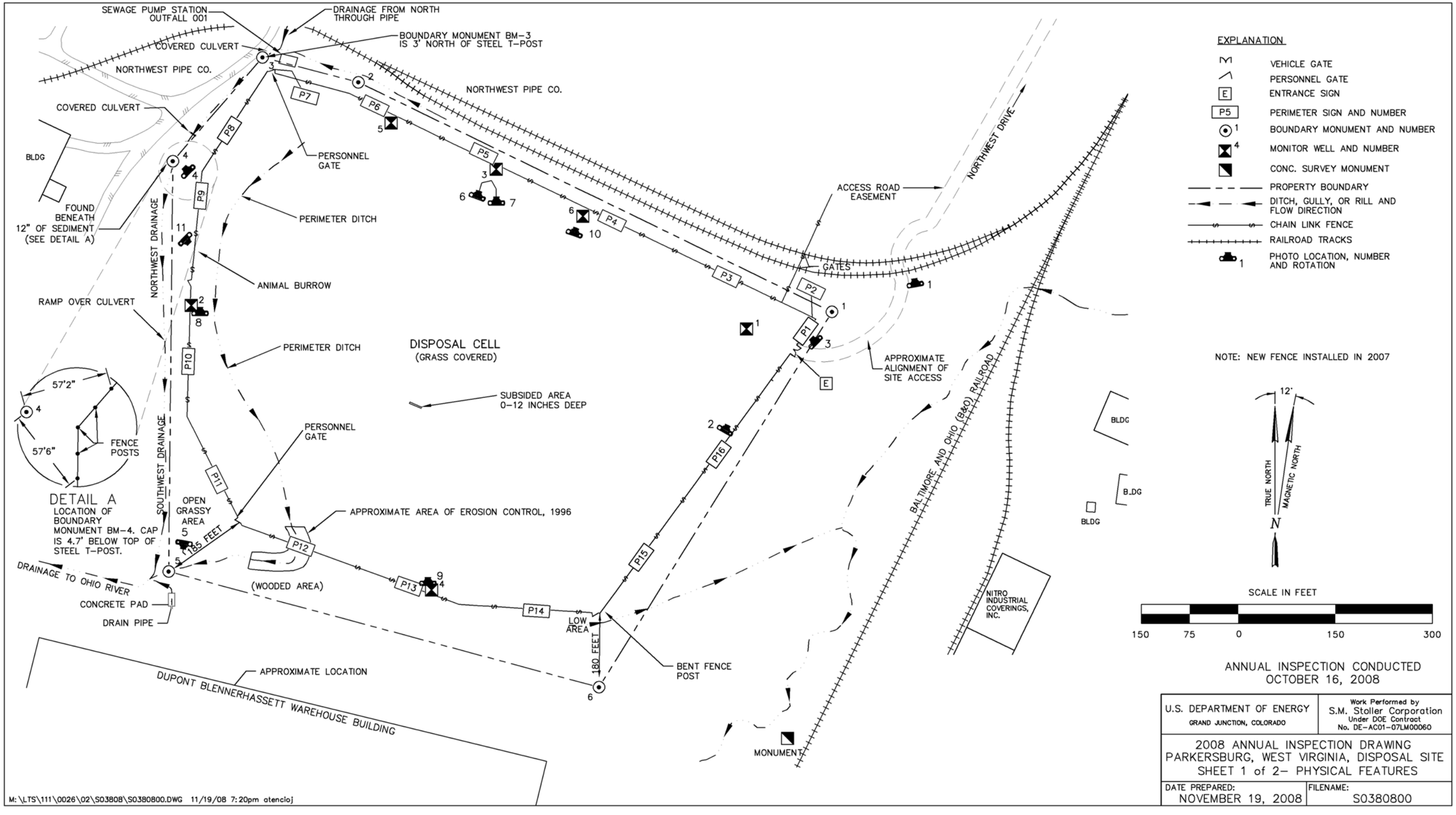
PKB 10/2008. PL–7. Inside of monitor well 3.

PKB 10/2008. PL–8. Inside of monitor well 2.

PKB 10/2008. PL–9. Inside of monitor well 4.

PKB 10/2008. PL–10. Loose bollard at monitor well 6.

PKB 10/2008. PL–11. Animal burrow under fence.


SEWAGE PUMP STATION OUTFALL 001
DRAINAGE FROM NORTH THROUGH PIPE
BOUNDARY MONUMENT BM-3 IS 3' NORTH OF STEEL T-POST
COVERED CULVERT
NORTHWEST PIPE CO.
COVERED CULVERT
BLDG
FOUND BENEATH 12" OF SEDIMENT (SEE DETAIL A)
NORTHWEST DRAINAGE
PERSONNEL GATE
PERIMETER DITCH
ANIMAL BURROW
RAMP OVER CULVERT
PERIMETER DITCH
PERSONNEL GATE
SOUTHWEST DRAINAGE
OPEN GRASSY AREA
185 FEET
APPROXIMATE AREA OF EROSION CONTROL, 1996
(WOODED AREA)
DRAINAGE TO OHIO RIVER
CONCRETE PAD
DRAIN PIPE
APPROXIMATE LOCATION
DUPONT BLENNERHASSETT WAREHOUSE BUILDING
DISPOSAL CELL
(GRASS COVERED)
SUBSIDED AREA
0-12 INCHES DEEP
LOW AREA
180 FEET
BENT FENCE POST
NORTHWEST PIPE CO.
ACCESS ROAD EASEMENT
NORTHWEST DRIVE
GATE5
APPROXIMATE ALIGNMENT OF SITE ACCESS
BALTIMORE AND OHIO (B&O) RAILROAD
NITRO INDUSTRIAL COVERINGS, INC.
MONUMENT
57'2"
57'6"
FENCE POSTS
DETAIL A
LOCATION OF BOUNDARY MONUMENT BM-4. CAP IS 4.7' BELOW TOP OF STEEL T-POST.
P1
P2
P3
P4
P5
P6
P7
P8
P9
P10
P11
P12
P13
P14
P15
P16
EXPLANATION
VEHICLE GATE
PERSONNEL GATE
ENTRANCE SIGN
PERIMETER SIGN AND NUMBER
BOUNDARY MONUMENT AND NUMBER
MONITOR WELL AND NUMBER
CONC. SURVEY MONUMENT
PROPERTY BOUNDARY
DITCH, GULLY, OR RILL AND FLOW DIRECTION
CHAIN LINK FENCE
RAILROAD TRACKS
PHOTO LOCATION, NUMBER AND ROTATION
NOTE: NEW FENCE INSTALLED IN 2007
12°
TRUE NORTH
MAGNETIC NORTH
N
SCALE IN FEET
150 75 0 150 300
ANNUAL INSPECTION CONDUCTED OCTOBER 16, 2008
U.S. DEPARTMENT OF ENERGY
GRAND JUNCTION, COLORADO
Work Performed by S.M. Stoller Corporation Under DOE Contract No. DE-AC01-07LM00060
2008 ANNUAL INSPECTION DRAWING
PARKERSBURG, WEST VIRGINIA, DISPOSAL SITE
SHEET 1 of 2- PHYSICAL FEATURES
DATE PREPARED: NOVEMBER 19, 2008
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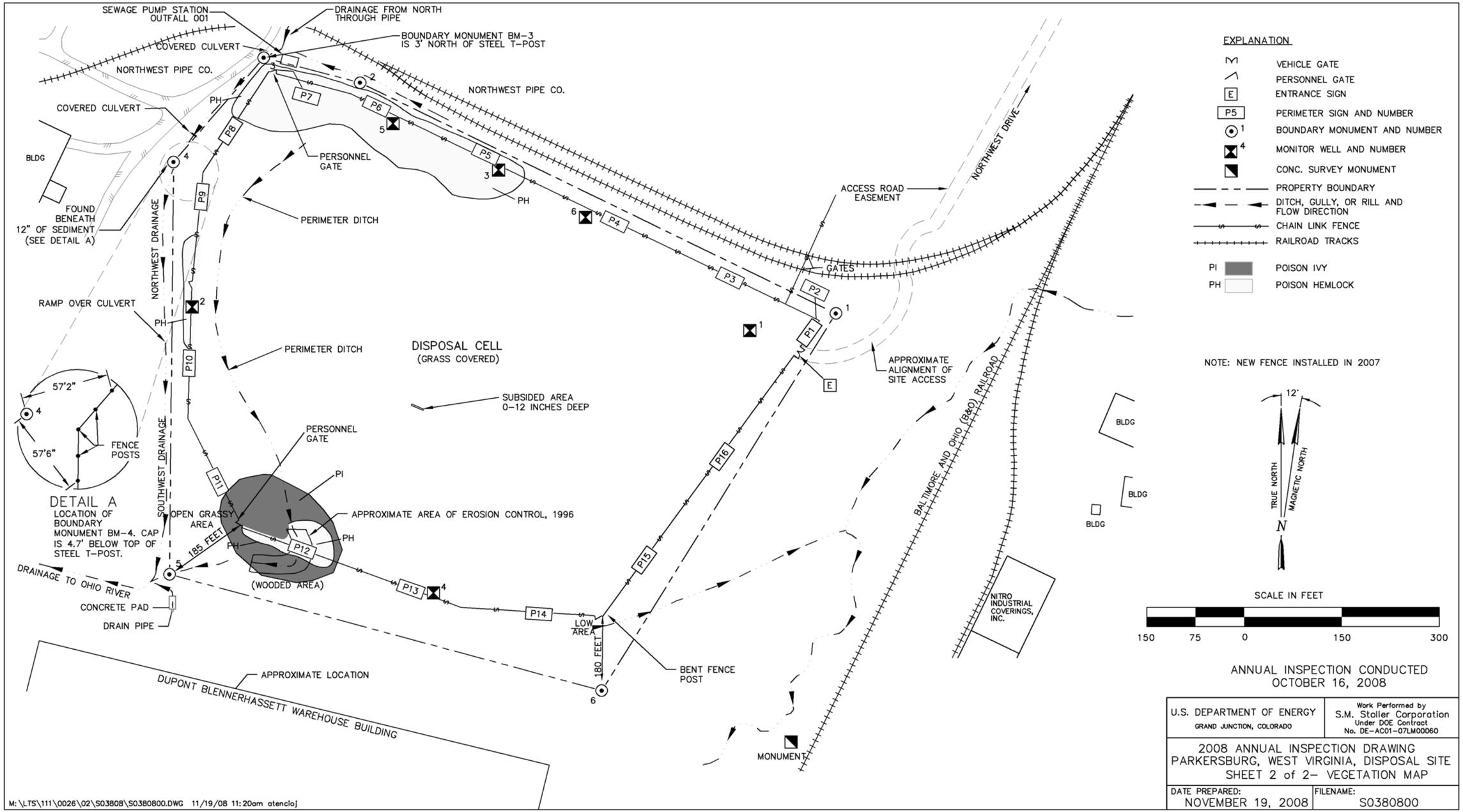
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2008 ANNUAL INSPECTION DRAWING
PARKERSBURG, WEST VIRGINIA, DISPOSAL SITE
SHEET 2 of 2- VEGETATION MAP
DATE PREPARED: NOVEMBER 19, 2008
FILENAME: S0380800
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