

CORRESPONDENCE/MEMORANDUM

DATE: August 10, 1992

FILE REF: FID #0501109
Brown Co.
ER/SFND

TO: Terry Koehn - LMD

FROM: Gary Edelstein - SW/3 *GAE*

SUBJECT: Better Brite Chrome Interim Action Plans and Specs

This is the first time I have seen these plans and specs (received on 8/6). We received them very late in the design process, as the project is about to be bid on 8/20/92. My comments, if addressed, will result in some significant changes to the project and may require a postponement of the bidding date.

1. Management of trench spoils - The ROD (pg. 15, first ¶) states that the water treatment residuals (sludge) and any excavated contaminated soils would be managed in accordance with our waste management guidelines. Any contaminated soil that fails TCLP must be managed as a hazardous waste, and any contaminated soil that passes TCLP must be managed as a solid waste. The specs do not call for testing of any excavated soils, and simply indicate that they are to be spread back on the site in a vaguely defined area (How was this area selected?). Redisposal of hazardous soils on-site must be in a unit that meets the ch. NR 600 series, Wis. Adm. Code, new hazardous waste landfill unit standards (double composite liner and cover, leachate collection, etc., would apply). Redisposal of contaminated solid waste soils on-site may have to be in a unit that meets the ch. NR 500 series, Wis. Adm. Code, new landfill standards (clay liner and composite cover, leachate collection, etc.), unless Solid Waste waives these requirements for this site. If you believe the excavated soils would have low levels of contamination and would not fail TCLP, it may be possible for you or Doug Rossberg to grant such a waiver.

If the soils do not have low levels of contamination, my suggestion is to store the soils in a secure waste pile unit until the final remedial action or upcoming SACM removal can deal with them. The pile should be constructed with a synthetic liner and composite cover. Leachate from the pile would need management (likely in the treatment system on-site), or the soils would have to be dry enough to not generate leachate prior to placement in the pile.

2. I could not find any specs for specific erosion and dust control measures. I suggest they be written in.

3. The berm includes a 30-mil PVC liner, with a total of 8" of cover over it. The liner is a good idea, as it may help keep the berm soils clean, but the 8" of cover may not be enough to prevent frost damage and/or damage from ice forming on water collected behind the berm.

4. How will the trench be dewatered during construction? I could not find the specs for that. The specs say the contractor will coordinate with the City for treatment of dewatering water. Will the treatment system handle this? Will the City need to know about this and agree in advance? Do we have final say on this, given our relationship with the City?



5. I assume some sediment will collect behind the berm and will be discharged to the treatment system with the collected surface water. Can the treatment system handle this? Will it result in significantly more sludge to manage? Can the system be operated so the surface water collects for a time and the sediment settles out before discharging to the treatment system? Would the City be willing to operate it that way?

6. The decon pad design details are unclear. The pad should be designed to slope to a sump for collection of decon liquids. The membrane should be placed on an appropriate bedding and covered with pea gravel to protect it from damage.

Give me a call if you have any questions. Thanks.



State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Carroll D. Rowley
Secretary

101 South Webster Street
Box 7921

Madison, Wisconsin 53707

SOLID WASTE TELEBRAX 608-267-2768

SOLID WASTE GENERAL TELEPHONE 608-266-2111

TDD 608-267-6897

August 10, 1992

IN REPLY REFER TO: FID #0501109
Brown Co.
ER/SFND

TELEFAX FROM THE DESK OF GARY EDELSTEIN
Voice Phone #: (608)267-7563

TO: Terry Koehn - LMD

SUBJECT: Better Brite Interim Action

MESSAGE: My comments. Can this be postponed for a few weeks while we iron things out with David? Thanks.

PAGES TO FOLLOW (EXCLUDING COVER SHEET): 2

R 7-1-91

cc: Celia VanDerLoop SW/3
Doug Rossberg LMD

CORRESPONDENCE/MEMORANDUM STATE OF WISCONSIN

Date: June 28, 1991 File Ref: 3450

To: Terry Koehn-LMD-SW

From: Nan Jameson-LMD-WW 

Subject: Better Brite-Draft ROD/Interim Action Comments

1. North arrow appears to be incorrect on Figure 3, Site Map, BBZn.
2. Where is Appendix B, WDNR Letter of Concurrence? Does this letter spell out EPA, WDNR, & DePere responsibilities, cost estimates, standards to meet, etc., or is it pretty much a generic "OK-Fine" statement?
3. I believe that the operation and maintenance estimate figure is low. Operation only at \$60,000.00 per year may be realistic, but I think maintenance activities associated with not only the pretreatment system itself, but the groundwater and surface water collection systems, and monitoring wells may add to the \$60,000.00 figure.
4. It seems that when EPA funds run out, DePere and WDNR will operate and maintain the system for an additional 2-5 year period. What type of agreement is in place for all parties concerned? Who is paying for what? When does this take effect?
5. Whoever is operating the system needs to maintain a base of influent and effluent wastewater data relating to the pretreatment system. This information provides a demonstration of pretreatment system performance, operational information, and compliance determination with DePere's Local Limits. A regular monitoring and reporting schedule needs to be outlined and adhered to.

An ideal method to obtain this information would be for DePere to issue a control document (permit) to the party responsible for the operation of the system producing treated wastewater contributing to DePere's wastewater treatment plant. This would be totally ineffectual if DePere ends up issuing a permit to themselves, and may be put in a position of enforcing their own Local Limits upon themselves through the procedures of DePere's delegated pretreatment program. I am not recommending

that DePere issue any permit. The information contained in a permit should be spelled out, though: monitoring frequency, sample type, parameters, source of wastewater (BBZn or BBCr), standards (limits) which must be met, etc.

6. The wastewater generated via sump collection of contaminated groundwater at the BBZn site needs to be addressed. If the wastewater exhibits high concentrations of pollutants, then that wastewater should also be treated to meet DePere's Local Limits prior to discharge to the collection system.

7. Comparison of Limits Daily Maximum (mg/l)

	<u>DePere Local Limits</u>	<u>PSES-EP>*</u>
Cd	1.2	1.2
Cr	7.0	7.0
Cu	4.5	4.5
Pb	0.6	0.6
Ni	4.1	4.1
Zn	4.2	4.2
Cyanide	1.9	1.9
Hg	0.005	No Limit
pH	5.5-9.5	5.0, minimum
O & G	100	No Limit
TTO**	No Limit	2.13
Total Metals	No Limit	10.5

* Pretreatment Standards for Existing Sources-
Electroplating with flows of greater than 10,000 gallons
per day

** Total Toxic Organics

cc: Bob Behrens-LMD
Dave Hantz-WW/2

BETTER BRITE PLATING CHROME & ZINC, WI
First Remedial Action
June 20, 1991

ROD ABSTRACT

The 2-acre Better Brite Plating Chrome & Zinc site is composed of two plating facilities in De Pere, Brown County, Wisconsin. The site includes the 1.5-acre Chrome Shop and the 0.5-acre Zinc Shop, which are located 0.5 miles apart. Because of their proximity and related backgrounds, both sites will be addressed in this Record of Decision (ROD). Land use in the area is predominantly residential and commercial, with a wetlands located approximately one-quarter mile from the site. The estimated 15,000 area residents use the municipal wells located in the deepest aquifer as a drinking water supply. A municipal well located approximately 250 feet from the site is thought to influence the ground water flow in the contaminated shallow aquifer. From 1963 to the early 1970's, the Zinc Shop primarily plated zinc. The Zinc Shop has a long history of improper operational procedures and spills into the surrounding soil. Wastewater and/or plating solutions routinely leaked between the floor and sill plate of the building. The Chrome Shop began chrome plating operations during the 1970's using several above-ground drums and four buried vertical tanks in the plating process. In 1978 and 1979, the Chrome Shop was found to be responsible for surface spills, which resulted in construction of a shallow ground water extraction system around a small portion of the site. Later, it was determined that the underground plating tanks from the Chrome Shop had leaked an unknown amount of plating solution and VOCs into the onsite ground water. Consequently, in 1986, the Chrome Shop closed. In 1987, the State installed ground water monitoring wells at the site, which identified contamination by metals and VOCs in soil and ground water. In 1989, the Zinc Shop closed, and a private contractor removed the building that housed the Chrome Shop. The State constructed a clay cap and fenced around the area of highest soil contamination. In 1990, the Zinc Shop owner failed to comply with an Administrative Order to conduct clean-up activities. Subsequently, EPA performed an emergency removal action, which included shipping 350 cubic yards of hazardous and solid waste offsite and constructing a ground water collection sump. Ground water is collected, stored temporarily, and treated onsite. The residual chromium sludge from the ground water treatment is sent offsite for recycling. Later in 1990, EPA performed an additional emergency response, and provided for the construction of a wastewater pretreatment system and an extraction system to collect and pretreat shallow ground water prior to discharge offsite to the De Pere wastewater system. This ROD addresses

BETTER BRITE PLATING CHROME & ZINC, WI
First Remedial Action
(Continued)

Operable Unit 1, contaminated ground water and surface water, as an interim action. Future RODs will address remaining soil and ground water contamination. The primary contaminants of concern affecting the ground water and surface water are VOCs including 1,1-TCA and 1,1-DCE; and metals including chromium and lead.

The selected remedial action for the site includes continuing and expanding the current operation of the ground water extraction system and pretreatment facility to include pretreatment of the water collected by the surface water and ground water collection systems, and the Chrome and Zinc shops, with offsite discharge to the De Pere wastewater system; improving surface water drainage, and constructing berms to control surface water runoff and to prevent contaminant migration; ~~installing monitoring wells;~~ fencing around the site; and applying siding materials on the exterior of the building at the Zinc Shop. The estimated present worth cost for this remedial action is \$500,000, which includes an annual O&M cost of \$60,000.

PERFORMANCE STANDARDS OR GOALS: All ARARs will be met during the final action for the site.

INSTITUTIONAL CONTROLS: Not applicable.

KEYWORDS: Benzene; Carcinogenic Compounds; Chromium; Direct Contact; Ground Water; Ground Water Treatment; Interim Remedy; Lead; MCLGs; MCLs; Metals; O&M; Offsite Discharge; Onsite Treatment; Organics; Plume Management; Publicly Owned Treatment Works (POTW); RCRA; Safe Drinking Water Act; Solvents; Surface Water; Surface Water Collection/Diversion; VOCs; Wetlands.

MODE = TRANSMISSION

START=FEB-25 11:12

END=FEB-25 11:13

NO.	COM	SPEED	DIALSTATION NAME/ TELEPHONE NO.	PAGES	PRG.NO.	PROGRAM NAME
-----	-----	-------	------------------------------------	-------	---------	--------------

001	OK	8	813032382522	003		
-----	----	---	--------------	-----	--	--

-LMD/SOLID WASTE -

***** - *****



Carroll D. Besadny
Secretary

Lake Michigan District Headquarters
1125 N. Military Avenue
P.O. Box 10448
Green Bay, WI 54307-0448
TELEPHONE # (414)492-5869
TELEFAX # (414)492-5913

February 27, 1992

File Ref: WID-560010118
Brown Co.
SFND

Mr. David Linnear
Remedial Project Manager
U.S. EPA Region V HSRW-6J
77 West Jackson Blvd.
Chicago, IL 60604

Re: Comments on ROD Abstract
Better Brite Superfund Site

Dear Mr. Linnear:

Please note the following comments regarding the Interim Action ROD Abstract that you faxed to my attention on February 25, 1992. The WDNR'S suggested modifications are shaded in the following text.

ROD Abstract

The two acre Better Brite Plating Chrome and Zinc site is composed of two plating facilities in De Pere, Brown County, Wisconsin. The site includes the 1.5 acre Chrome Shop and the 0.5 acre Zinc Shop, which are located approximately 0.5 miles apart. Because of their proximity and related backgrounds, the two Shops were jointly nominated to the National Priorities List (NPL) and are addressed as a single site in this Record of Decision (ROD). Land use in the area is predominately residential and commercial, with a wetland located approximately 0.25 miles from the site. The estimated 15,000 area residents use municipal wells, drawing from the area's deep sandstone aquifer, for a drinking water supply. One of the municipal wells, located approximately 250 feet from the Zinc Shop, is thought to influence groundwater flow in the contaminated shallow aquifer. To date, impacts from the site have not been observed in this municipal well.

From 1963 to the early 1970's the Zinc Shop primarily plated chrome, after this time the operation switched to plating zinc. The Zinc shop has a long history of improper operational procedures and spills into the surrounding soil. Wastewater and/or plating solutions routinely leaked between the concrete slab and the sill plate of the building. Reportedly underground vertical plating tanks were used in early Zinc Shop operations. Plating at the Zinc Shop ended in 1989.

The Chrome Shop began chrome plating operations during the early 1970's using both above ground tanks and four underground vertical tanks in the plating process. In 1978 and 1979, the Chrome Shop owner was found to be responsible for surface spills, which resulted in the construction of a shallow groundwater collection system around a portion of the site. Later, it was determined that the underground plating tanks at the Chrome Shop had leaked an unknown amount of plating solution and VOC's into the on-site groundwater. Consequently, in 1985, the owner of the Chrome Shop filed for bankruptcy. Operations are thought to have ceased in 1986. In 1989 a private contractor removed the Chrome Shop building.

In 1987, the State installed groundwater monitoring wells at both Shops, which identified contamination including metals and VOC's in soil and groundwater. After removal of the Chrome Shop building a clay cap and a fence were installed in the area of highest soil contamination.

Since April, 1986 EPA has been involved in the performance of emergency removal actions at the Chrome Shop. In 1990, the Zinc Shop owner failed to comply with an Administrative Order to conduct clean-up activities. Subsequently, EPA performed an emergency removal action at the Zinc Shop, which included shipping 350 cubic yards of hazardous and solid waste off-site and the construction of a groundwater collection sump. Later in 1990, EPA continued their emergency response at the Chrome Shop which provided for the construction of a wastewater pretreatment system and an extraction well. Extracted shallow groundwater from both Shops is pretreated to remove contaminants prior to discharge to the De Pere POTW.

This ROD addresses Operable Unit 1, which deals with aspects of contaminated groundwater and surface water, as an Interim Action. Future RODs will address remaining soil and groundwater contamination. The primary contaminants of concern affecting groundwater, soil and surface water are VOC's, including 1,1,1-TCA, 1,1-DCA and 1,1-DCE; and metals, including chromium, cyanide and lead.

The selected remedial action for the site, under the Interim Action, includes expanding the current operation of the groundwater extraction system and the pretreatment facility through additional collection of groundwater and surface water at the Chrome Shop, with discharge to the De Pere POTW; improving surface water drainage, through construction of berms to control surface water runoff and contaminant migration; fencing around the Shops; and installation of siding materials on the exterior of the building at the Zinc Shop. The estimated present worth cost of this remedial action is \$500,000, which includes an annual O&M of approximately \$60,000.

If you have any questions regarding the above please let me know.

Sincerely,



Terry Koehn, State Project Manager

cc: D. Rossberg LMD-SW
G. Edelstein SW/3

CORRESPONDENCE/MEMORANDUM

Date: June 19, 1991

File Ref: WID-560010118

Brown Co.

SW/SFND

To: Lyman Wible AD/5

From: Terry Koehn LMD

Subject: Better Brite Plating Chrome and Zinc Plating Superfund Site
City of DePere, Brown County, Wisconsin
Briefing on Interim Action Draft Record of Decision

A Draft Record of Decision (ROD), prepared by EPA, has recently been provided to the WDNR for comment. The ROD presents the preferred Interim Action remedy for a limited clean-up of the site. The Better Brite Site consists of two separate locations within the City of DePere, that were utilized for metal plating from 1963 through 1989. The metal plating operations at the two locations, the Zinc Shop and the Chrome Shop, resulted in groundwater and soil contamination.

Groundwater extraction systems have been constructed by EPA's Emergency Response program at both locations. The Emergency Response program has also constructed a pretreatment system to treat groundwater prior to discharge to the DePere wastewater treatment facility. The Emergency program is currently operating the pretreatment facility, however, their involvement and funding legally expires in October of 1991. This Interim Action is necessary to continue operation of the pretreatment system for an additional five (5) year period utilizing funds to be provided through EPA's Remedial Program. Limited additional actions, generally directed toward providing improved site security and reducing the threat of direct contact, are additionally included.

Concurrent with this Interim Action, the WDNR has begun activities toward performing a Remedial Investigation/Feasibility Study (RI/FS) to characterize the sites and investigate alternatives for final remediation. We are currently in the process of obtaining a contract with Hydro Search, Inc to begin the RI/FS work.

The proposed activities of the Interim Action, as identified and more fully described in the draft Record of Decision, include:

- 1) Continue operating the groundwater pretreatment plant for a five year period.
 - The pretreatment plant is to continue operating as a temporary remedial measure, funded through EPA, with the State providing its 10% cost share.

- The State will be responsible for obtaining a contractor(s) for operation of the plant. The State will pay the selected contractor and be reimbursed by EPA for ninety (90%) percent of such expenses.
 - We are currently negotiating a contract with the City of DePere to have the city operate the pretreatment plant.
 - Operation of the on-site extraction systems is included as part of operation of the pretreatment plant.
 - Operation of the pretreatment plant is to be performed in a safe and proper manner to assure discharge to DePere's Sanitary sewer system within acceptable limits.
- 2) Construct a berm or berms to divert surface water away from nearby residential areas.
- Diverted water is to be collected and treated prior to discharge.
 - This work is expected to be performed at both the Chrome and Zinc Shops as needed.
- 3) Improve existing fencing at the Chrome Shop and install fencing at the Zinc Shop.
- Prior to installation, efforts will be made to obtain written consent from any landowners which will have portions of their property enclosed by the fencing.
- 4) Apply siding and/or durable plastic to the exterior of the building at the Zinc Shop.
- The purpose of installing this material is to prevent direct contact hazards related to the building, thus it is expected that other limited security measures will be performed.
- 5) Install a limited number of groundwater monitoring wells to provide information concerning flow direction and chemistry of the groundwater, until the Remedial Investigation (RI) begins.
- Until such time as the limits of contamination are identified in the area of the Chrome and Zinc Shops, none of the monitoring wells are to penetrate the sandstone aquifer of the area, which is used for municipal drinking water.
 - Without prior evaluation of the extent of contamination at the site, the risks associated with penetrating the sandstone aquifer may outweigh the potential benefits from such a well.
 - It is expected that these wells would consist of water table observation well(s) and piezometer(s) screened in the unconsolidated sediments and possibly piezometer(s) screened in the upper portion of the underlying dolomite bedrock unit.

Estimated costs associated with the above activities are as follows:

Total Estimated Cost - \$500,000		
Operation and Maintenance - \$60,000 per annum -	\$300,000	
Berm Construction -	\$ 70,000	
Fencing Installation -	\$ 35,000	
Siding Installation/Security -	\$ 25,000	
Monitoring Well Installation and Sampling -		\$ 70,000

Management of all treatment residuals will be performed in accordance with Wisconsin's interim waste management guidelines. It is anticipated that the treatment residuals will be recycled. The waste management guidance will be a required component of the of the selected remedy in the Interim Action ROD.

If you have any questions regarding the Better Brite Superfund Site or the proposed Interim Action please contact myself at (414) 492-5869 or Celia VanDerLoop at (608) 266-3308.

Noted:

Lyman Wible
Division Administrator
Bureau for Environmental Quality

cc: Paul Didier SW/3
Mark Giesfeldt SW/3
Sue Bangert SW/3
Celia VanDerLoop SW/3
Doug Rossberg LMD
Patricia Hanz LC/5

cc: G. Edelstein SW/3
R. Karraushas HSI

WW Engineering & Science, Inc.



5555 Glenwood Hills Parkway SE • P.O. Box 874 • Grand Rapids, Michigan 49588-0874 • PH(616)942-9600 FX(616)942-6499

June 18, 1992

Mr. Terry K. Koehn
Wisconsin Department of Natural Resources
1125 N. Military Avenue
P.O. Box 10448
Green Bay, WI 54307-0448

RECEIVED

JUN 19 1992

LAND SOLID WASTE

RE: Better Brite Chrome Facility, DePere WI

Dear Mr. Koehn:

Enclosed please find a copy of a letter recently submitted to Mr. David Linnear regarding the recommended activities as part of the interim RD/RA for the referenced site.

The U.S. EPA and WWES believe that the three activities presented will be effective to accomplish the goals of the Interim RD/RA. Please review these recommendations at your earliest convenience. I will be contacting you during the week of June 26th to discuss this project.

Do not hesitate to call Mr. Linnear or myself if you have any questions.

Sincerely,

WW ENGINEERING & SCIENCE
Environmental Services Division

Ray Andrasi

Ray Andrasi, P.E.
Project Manager

Enclosure

cc: D. Linnear, U.S. EPA
04010, 32

Ray Andrase

WW Engineering & Science, Inc.



5555 Glenwood Hills Parkway SE • P.O. Box 874 • Grand Rapids, Michigan 49588-0874 • PH(616)942-9600 FX(616)942-6499

June 15, 1992

Mr. David Linnear, Remedial Project Manager
U.S. Environmental Protection Agency
77 West Jackson Blvd., HSRW-6J
Chicago, IL 60604

RE: Better Brite Plating Co.
WA 10-FN5L under Contract No. 68-W8-0079

Dear Mr. Linnear:

WW Engineering & Science, Inc., is proposing the implementation of three engineering design additions at the former Better Brite Plating Company site in De Pere, Wisconsin. These additions consists of extending the drain to the north as shown on the site map. The berm which is in place, would also be extended to enclose the southern, western & northern sides of the site. Lastly, a soil cap is being proposed to temporarily cover impacted soils on residential properties west and south of the facility grounds. The goals for each of these proposed additions are explained below.

- **DRAIN EXTENSION TO THE NORTH**

The goal for the proposed drain extension is to capture surface water runoff and groundwater migrating west toward the adjacent residential properties. The captured water will be pumped via the existing sump to the on-site treatment facility.

- **BERM EXTENSION TO THE SOUTH, WEST AND NORTH SIDES OF THE SITE**

The berm will accomplish two tasks. First, the berm will prevent surface water impacted by on-site soils from migrating off-site and ponding on neighboring residential properties. Secondly, the berm will prevent excess surface water from collecting on-site. This will minimize the additional volume of water to be processed by the treatment facility.

- **REGRADE THE RESIDENTIAL BACKYARDS TO ELIMINATE SURFACE PONDING**

Residential properties west and south of the Better Brite property will be regraded by the placement of a soil cap. The cover will be graded to direct surface water drainage to the existing storm water sewer catch basins, and prevent the surface water ponding which occurs

Mr. David Linnear

June 15, 1992

Page 2

on the residential properties. The cap will help provide a barrier between the impacted soils and potential contact by local residence.

The catch basins located in the residential backyards are connected to an 18" diameter discharge line. The runoff entering this storm sewer is discharged to the Fox River with no pretreatment. The third function of the cap will be to provide isolation of surface water flowing to the drains from contacting the impacted soils below. This isolation will then reduce the risk of impacting the Fox River with chromium contaminated runoff. A rough estimate of the volume of soil needed to complete the cap as shown on the site map is 1,200 cubic yards.

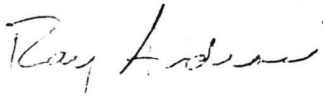
WWES contacted City of De Pere representatives to evaluate the effect the additional water from the drain extension would have on the existing treatment system. Calculations performed to estimate water volumes are included in Attachment 1. The estimated increase in flow volume from the extended on-site drain is expected to double the present flow. During wet periods the present operation of the existing treatment plant is fairly consistent (i.e. performed on a daily basis).

As an alternative to capping the backyard areas and directing surface flow to the existing storm sewer system, drain extension laterals into the backyards were considered. The addition of both the water from the drain and the additional surface water drainage would be expected to overload the treatment plant. The capture of both areas would increase the present volume for a 1 year period from 500,000 gallons to a potential 1,500,000 gallons.

If you have any questions or comments, please contact me at (616) 942-9600.

Sincerely,

WW ENGINEERING & SCIENCE
ENVIRONMENTAL SERVICES DIVISION



Ray Andrasi, P.E.
Project Manager

cc: Pat Vogtman, PO, U.S. EPA
04010, 32

Enclosures

ATTACHMENT 1

Estimated Ground Water and Surface Water Capture
Interim Remedial Action Plan Design
Former Better Brite Chromium Plating Facility
De Pere, Wisconsin.

U.S. EPA Treatment Plant flow volumes for Chromium impacted Groundwater & Surface Water past Treatment Volume Log.

1 year November 30, 1990 - 1991 = 64 batches processed @ 5,200 gallons = 332,800 gallons

6 months November 15, 1990 - 1991 = April 15, 1992 = 40 batches @ 5,200~ = 208,000 gallons

Existing land surface area on site drained by the present drain & berm.

Approx. 120 ft. x 200 ft. = 24,000 ft² Area = 0.55 Acres

Additional land surface area on site to be drained by the extended drain and berm.

Approx. 110 ft. x 200 ft. = 22,000 ft² Area = 0.51 Acres

As an estimate of the total flow for one year into the proposed capture system, the 6 month treatment volume was doubled 416,000 gallons and doubled once again for the expanded area of capture 832,000 gallons.

A factor of safety of 20% was also added in because the flows for this year are slightly behind an average year.

Total Estimated flow for Treatment - 998,400 gallons/yr.

The total estimated land surface area inside the proposed berm area is 1.05 Acres. Using an average precipitation value for the area of 32 inches per year, the total recharge from precipitation to the site would be as follows:

$$46,000 \text{ ft}^2 \times \frac{32 \text{ inches}}{12 \text{ inches}} = 122,666 \text{ ft}^3 \times \frac{7.48 \text{ gallons}}{1 \text{ ft}^3} = 917,547 \text{ gallons/year}$$

The volumes experienced at the treatment plant appear to be in close agreement with the calculated precipitation value. The difference provides for a low volume of base groundwater flow into the system.

Peak Runoff Flow Volumes:

Estimates of direct surface water runoff on site into the collection system during a 2 year, 5 year, and 10 year rainfall over a 24 hr. period:

Rational Formula

$$Q = CiA$$

where:

Q = Flow in cfs

C - runoff coefficient unitless

i = rainfall intensity in inches/hr.

1) Area = 1.1 Acres

2) C = 0.2 for hours with clay soils, Civil Engineering Manual 4th Ed., Michael R. Lindeburg, P.E.

3) i = 2 yr (0.1 in/hr), 5 yr (0.133 in/hr), & 10 yr (0.15 in/hr)

2 Yr. Rainfall - 24 hrs.

$$Q = 0.2 \times 0.1 \times 1.1 = 0.022 \text{ cfs, or } 9.9 \text{ gpm, or } 14,256 \text{ gal/day}$$

5 Yr. Rainfall - 24 hrs.

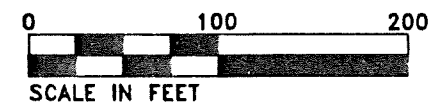
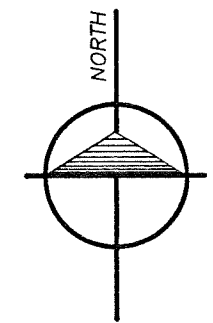
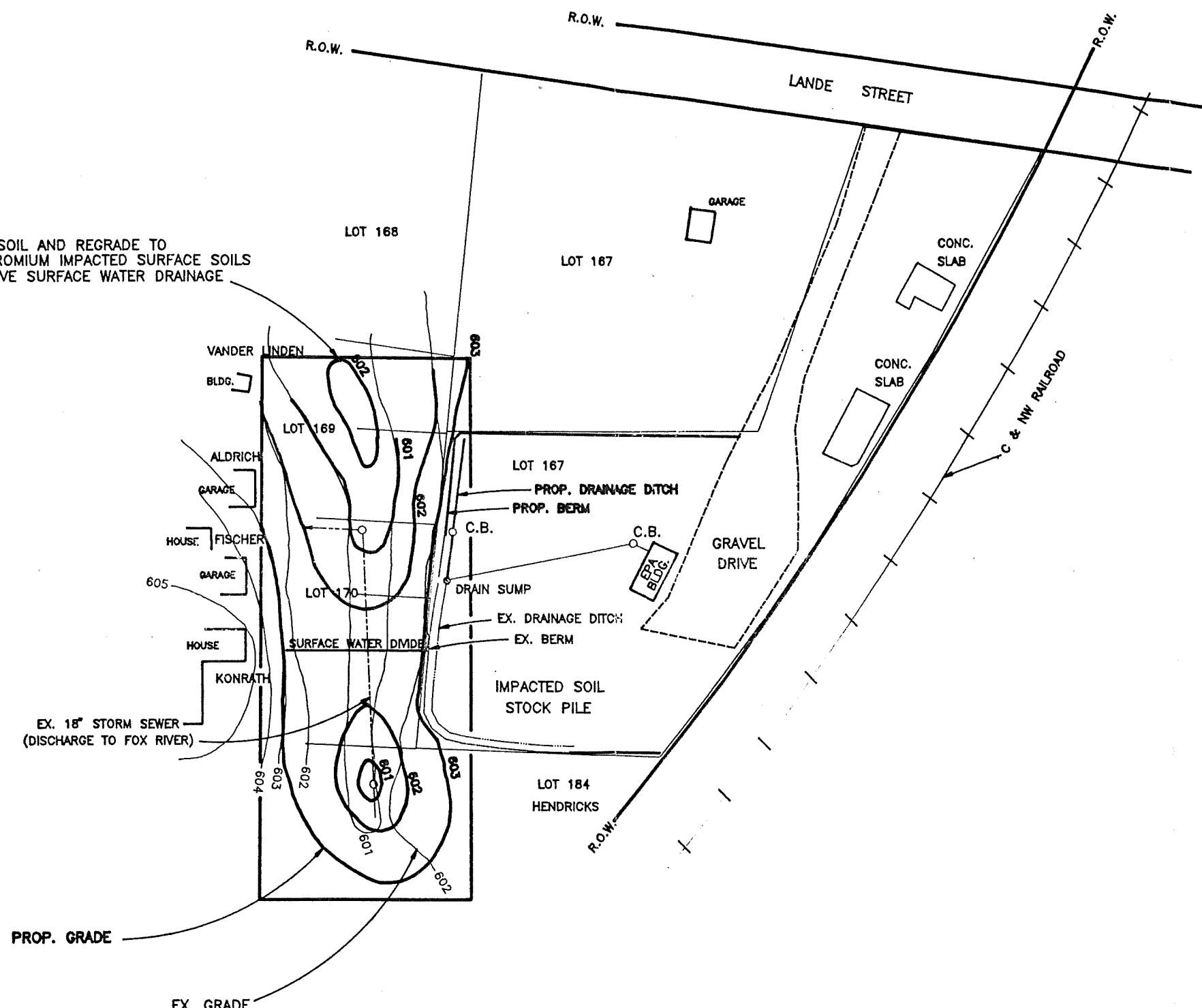
$$Q = 0.2 \times 0.133 \times 1.1 = 0.029 \text{ cfs, or } 13.0 \text{ gpm, or } 18,720 \text{ gal/day}$$

10 Yr. Rainfall - 24 hrs.

$$Q = 0.2 \times 0.15 \times 1.1 = 0.033 \text{ cfs, or } 14.8 \text{ gpm, or } 21,312 \text{ gal/day}$$

In order to continually pump and capture runoff during rainfall events additional storage of water to be treated may be required.

CAP WITH SOIL AND REGRADE TO COVER CHROMIUM IMPACTED SURFACE SOILS AND IMPROVE SURFACE WATER DRAINAGE



U.S.E.P.A.
 BETTER BRITE PLATING FACILITY
 DE PERE, WISCONSIN
 SITE MAP

04010BM2
 100
 PAD081292

CORRESPONDENCE/MEMORANDUM-----State of Wisconsin

Date: June 11, 1991

To: Terry Koehn

From: Rick Stoll *R.C. Stoll*

Subject: Comments on the Better Brite - Proposed Plan/Interim Action of 5-16-91

I have reviewed the subject plan and find it informative as a public document; however, non-specific as a technical plan. Therefore my comments which follow may seem premature since they address technical issues which are not well addressed in the proposal. My primary concerns are:

- 1) Why is the on-site pretreatment plant only proposed to operate for one additional year?

Wouldn't a more long range proposal be more acceptable given that the contaminated groundwater will most certainly remain longer than one year?

- 2) This plan states on page 5 that there are private wells in the deep aquifer located near the source of contamination.

Since these areas are served by a municipal water supply a strong effort should be made to locate and require the abandonment of these private wells. They may pose a potential threat to the aquifer by acting as conduits.

- 3) Included in the planned activities for the zinc site is the proposal to construct deep groundwater monitoring wells into the dolomite and sandstone aquifers. The zinc site is only 250' from the active DePere municipal well #2. These monitoring wells are proposed to be installed near the municipal well. I highly discourage the selection of this option because it could potentially allow contamination of the aquifer. I further question the merits of what it would accomplish.

It is already known from the installation of shallow bedrock wells at the chrome shop that the shallow bedrock aquifer is becoming contaminated. Proximity would suggest this analogy is also true at the zinc shop. Various research further supports the likelihood of at least some communication between the upper and deeper aquifers. Downward gradients measured at the zinc shop suggest vertical movement towards the deep aquifer. The cone of depression from the DePere municipal well encompasses the area beneath the zinc site. Thus the real question now becomes; when does the municipal well become contaminated, not will the municipal well become contaminated. The primary advantage to knowing when the deep aquifer is impacted is in formulating a reaction time to actually implement a site remediation strategy. Why not simply commence now with an

active and through remediation of the upper unconsolidated aquifer. Thereby removing the source and averting the problem.

Installation of deep aquifer monitoring wells may only exasperate the problem. Even with the greatest construction precautions these wells can potentially act as conduits to the aquifer which feeds the public. Numerous studies have shown that the science of grouting wells is still leaky. Furthermore the potential for reactions with the grout due to the presence of chromic acid or other caustic solutions is unknown. Deep bedrock wells are not necessary since they will only identify when that aquifer is impacted. They will not prevent its contamination. Ironically they may actually cause it. Contamination to the municipal well would be nearly inevitable once the deep aquifer is impacted here. The contamination forewarning offered by a monitoring well in the deep aquifer located less than 200' from a pumping municipal well is to minimal to accept the risks of installing it.

The risks far outweigh the merits. The selected options should, instead include:

- A) Frequently sample the municipal well at least each 30 days for the parameters of concern. Or this should be done until a model is developed which lends itself to predicting better sample intervals.
- B) Better define the plume and groundwater gradients in the upper aquifer around the zinc shop. Do not engage in any bedrock exploration until this is completed.
- C) Engage in active and rapid site remediation.
- D) Install bedrock monitoring well(s) only in the upper portion of the shallow bedrock aquifer and only if absolutely necessary. This should be determined only after item B above. These wells should be out of the plume concentration as much as possible with at least one well located between the zinc site and the municipal well. These wells should be of special design and abandoned as soon as vertical/horizontal gradients and contamination are confirmed in them.

These comments are respectfully submitted for your review and inclusion in the plan. Please respond with your final plan proposal when it is completed. The WDNR water supply program is requesting a copy for their review prior to the installation of any bedrock wells. Please send a copy of your revised proposal to the Private Water Supply Supervisor (Bob Barnum 492-5888) at LMD.

Further considerations to install bedrock monitoring wells at this site will require discussions and approval by the WDNR Water Supply Bureau.

cc: Bob Barnum - LMD Water Supply Supervisor
Mark Schuelke - LMD
Doug Rossberg - LMD
Patty Hanz - LC/5
Bob Baumeister - WS/2

CORRESPONDENCE/MEMORANDUM

DATE: April 22, 1991

TO: Paul Didier - SW/3

FROM: Terry Koehn - LMD
Celia VanDerLoop - SW/3

SUBJECT: Better Brite Plating Company Superfund Site
Briefing on the Interim Action Proposed Plan

FILE REF: 4440

*Comments
given to
CULP by Phone
4-26-91
R*

limited The interim action proposed plan for the Better Brite Plating Company Superfund Site will be published soon. The plan presents the preferred remedy for clean-up of the site. The Better Brite site is made up of two separate locations within the city of DePere, the Chrome Shop and the Zinc Shop. The Better Brite plating business operated from 1963 to 1989. The plating operations and spills at both locations have resulted in groundwater and soil contamination.

Groundwater extraction systems have been constructed at both locations. US EPA Emergency Response has constructed and is operating a pretreatment system which treats the extracted groundwater prior to discharge to the DePere wastewater treatment system. Current funding for groundwater pumping and operation of the pretreatment facility will expire in October 1991. This interim action proposed plan and subsequent record of decision are necessary for EPA to provide additional funds to continue the groundwater pumping and the operation of the pretreatment system. *Limited* additional actions will also be taken to minimize direct contact with site contamination. Concurrent with the interim action, WDNR has begun a remedial investigation/feasibility study to characterize the site and investigate alternatives for complete clean-up.

through Emergency Response

through the remedial program

The preferred remedy includes the following components:

- * Continued operation of the groundwater extraction system.
- * Continued operation of the pretreatment facility.
- * Fencing of portions of the site. *or sites*
- * *Limited* ^{*monitoring*} well installation to ensure that the DePere drinking water supply is not contaminated.
- * Limited surface contouring to improve surface water drainage, with collection of contaminated surface water and subsequent treatment in the pretreatment facility.
- * Management of all pretreatment residuals in accordance with Wisconsin's interim waste management guidelines. Recycling or in-state treatment and disposal of pretreatment residuals will be preferred. This guidance

will be a required component of the selected remedy in the Record of Decision and will be followed when implementing the remedy.

If you have questions about the Better Brite Plating Company Superfund Site or the proposed interim action, please contact us.

Noted:

Paul P. Didier, P.E., Director
Bureau of Solid & Hazardous Waste Management

Date _____

cc: Sue Bangert - SW/3
Doug Rossberg - LMD

DNR, BUREAU OF SOLID & HAZARDOUS WASTE MANAGEMENT

TELEFAX COVER SHEET

DATE: 4/22

TO: Terry Koehn - LMD

FROM: Celia Clark Long

SUBJECT: Draft Briefing

Not Sent Yet

2 PAGES TO FOLLOW (EXCLUDING COVER SHEET)

any comments?



Jennifer Huffman

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
230 SOUTH DEARBORN ST.
CHICAGO, ILLINOIS 60604

January 4, 1991

REPLY TO ATTENTION OF:

5HS-11

Mr. James Reyburn
Wisconsin Department of Natural Resources
1125 N. Military Avenue
Green Bay, Wisconsin 54301

Subject: Better Brite Remedial Procedures

Dear Mr. Reyburn:

I hope the following information responds to your request from our December 12, 1990 meeting with WDNR, City of DePere and U.S. EPA Emergency Response:

A) Outline of Interim Action Procedure

There are three (3) components that are involved with action concerning the pump and treat facility at the Chrome Shop: Proposed Plan, Public Meeting/Comment Period and Record of Decision. It is our intention to complete all three and earmark funds for continuous operation before September 30, 1991.

B) U.S. EPA-1 year of Operation & Maintenance (O&M);
State- year 2 through completion

According to the National Oil and Hazardous Substances Pollution Contingency Plan, EPA may share, for a period of up to one year, in the cost of the operation of the remedial action to ensure that the remedy is operational and functional. I was incorrect in stating the O&M period runs from the second through the fifth year. The correct period is from the second year through completion. Five-year periods are involved because Emergency Response estimates the need to operate the facility for 5 years. Remedial Response reviews site progress every 5 years and we hope to have the Remedial Action well under way, if not completed, within 5 years.



FAK #
1414-336-2244

COMPUTATION SHEET

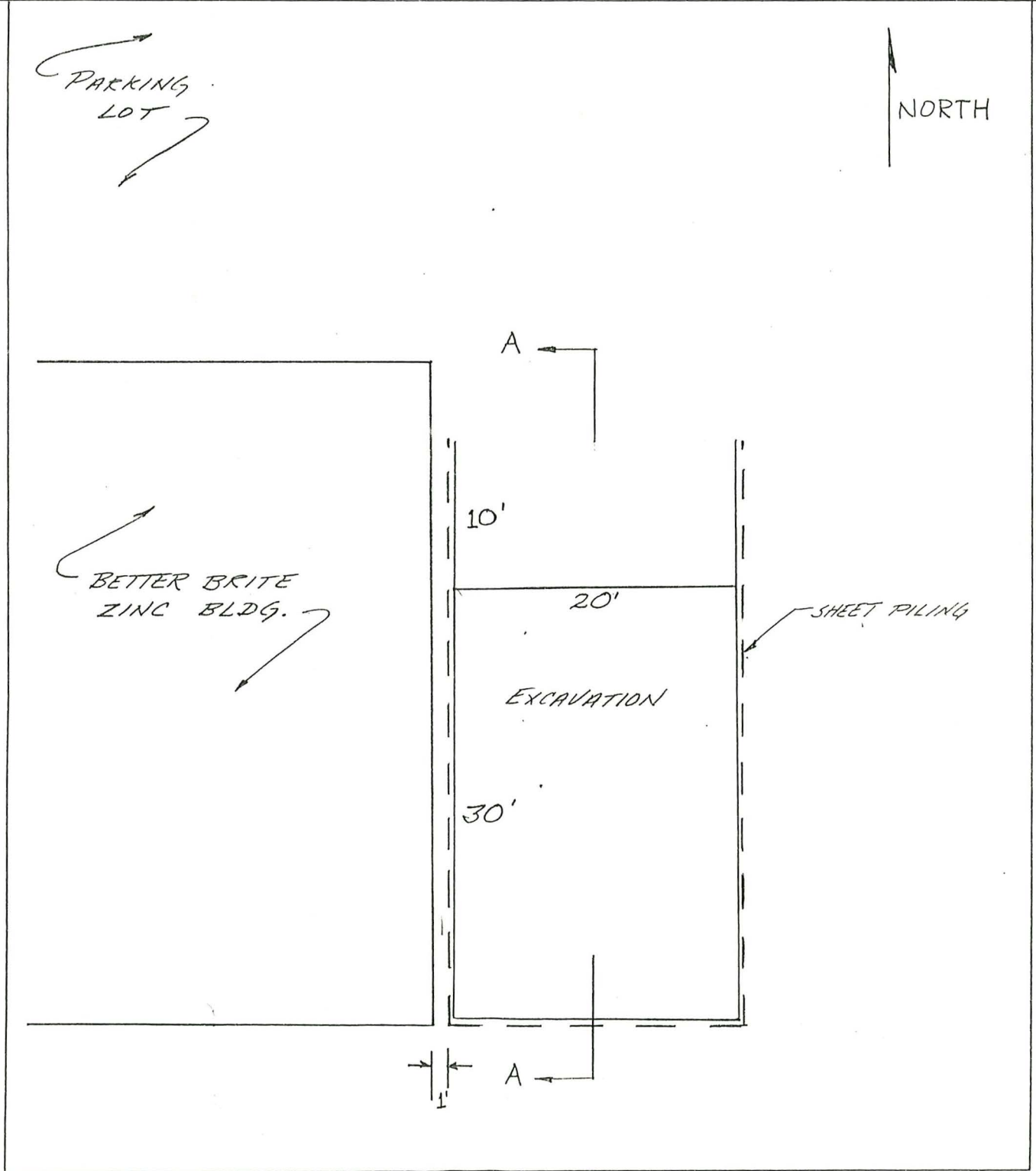
Form No. 0048
Midwest Tech. Servs.
Rev. 05/88

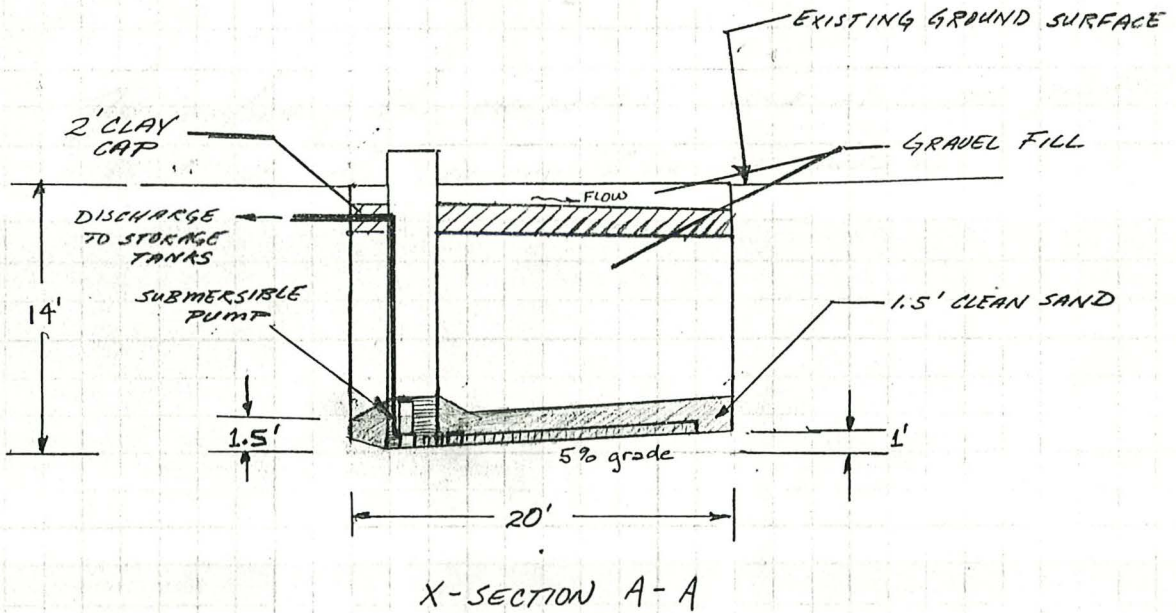
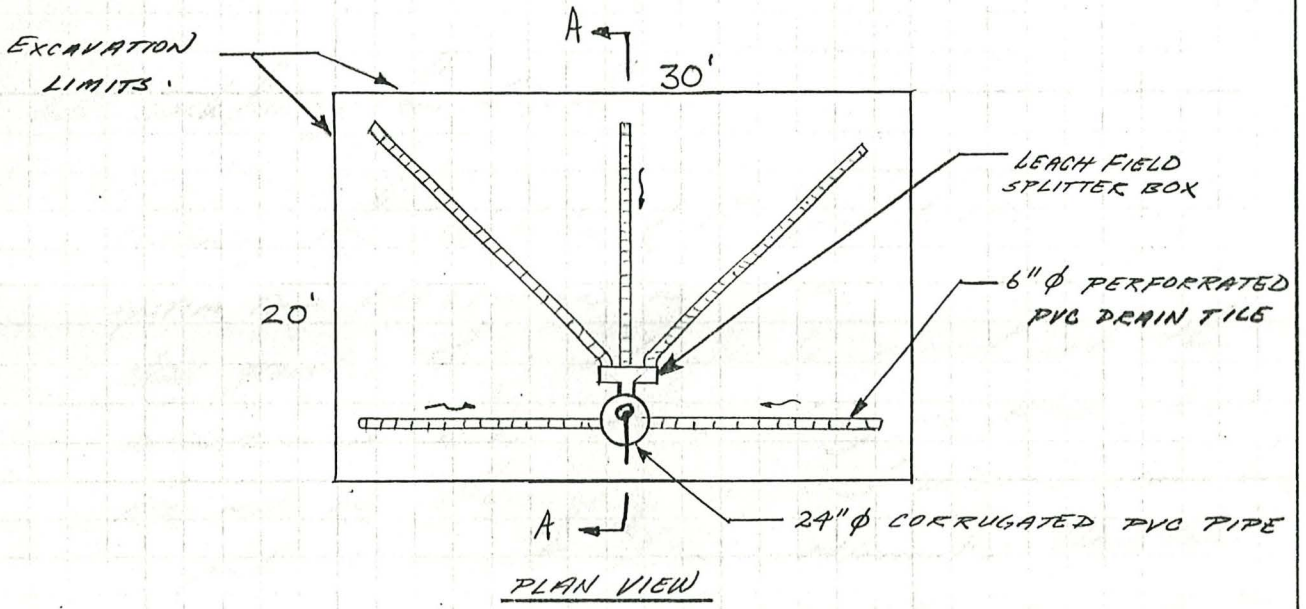
5

FIGURE 2A

Page 1 of 2

Proj. No. 8161 P-2	Client OHM CORP.	Location 315 S. SIXTH ST DEPERE, WIS	Subject EXCAVATION PLAN VIEW			
Preparer's Initials LWM	Date 6-20-90	Reviewer's Initials	Date	Approver's Initials	Date	

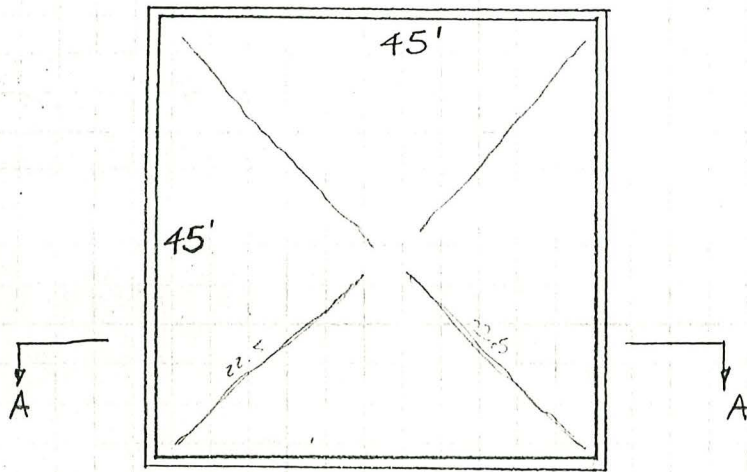




GROUNDWATER RECOVERY SYSTEM

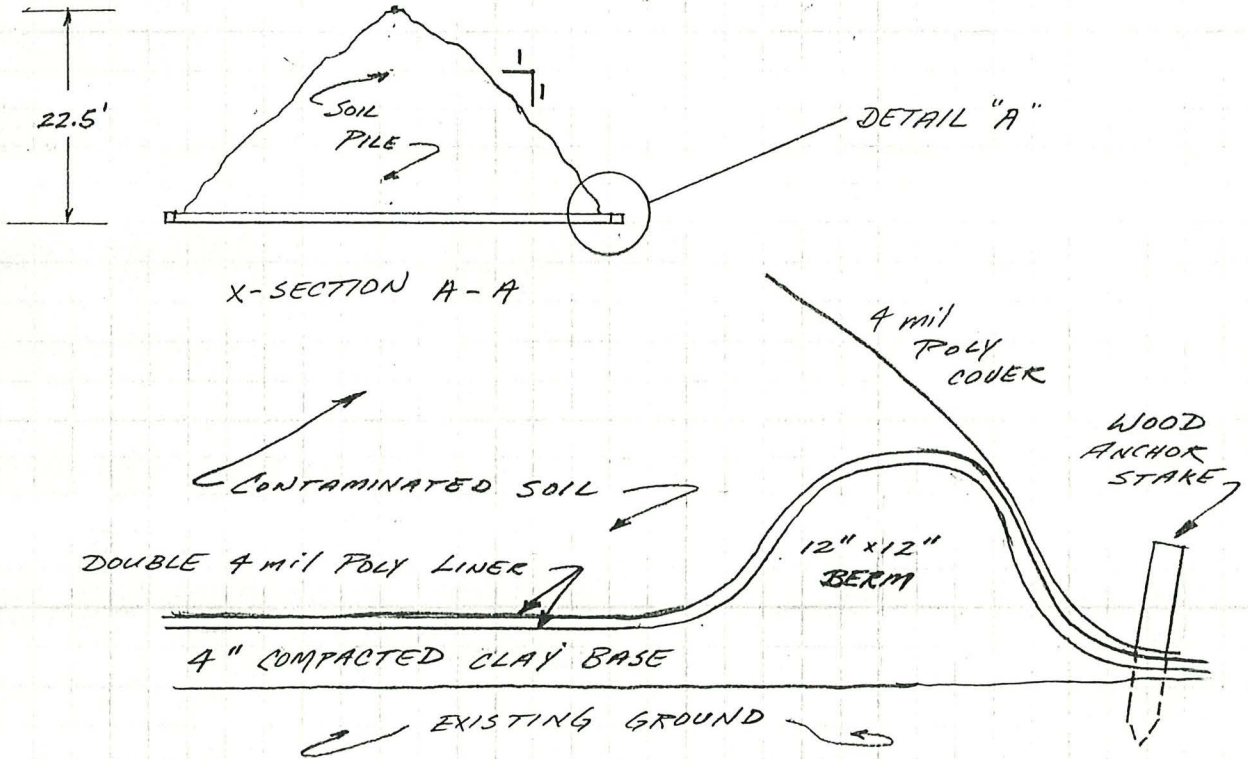
FIGURE 3.2

22-141 50 SHEETS
22-142 100 SHEETS
22-144 200 SHEETS



$$\text{Area of Base} \times \frac{1}{3} \text{ Alt.}$$

PLAN VIEW



TEMPORARY SOIL STORAGE CONTAINMENT

FIGURE 3.1