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(151)

Construction Documentation Report

The Laundry Basket
300 South Main Street
Luck, Wisconsin

Project No. 06080801
WDNR BRRTS # 02-49-544893

October 2011

Construction Documentation Report

The Laundry Basket
300 South Main Street
Luck, Wisconsin

Project No. 06080801
WDNR BRRTS # 02-49-544893

Prepared by:

MSA Professional Services, Inc.
1230 South Boulevard
Baraboo, Wisconsin 53913
Phone: (800) 362-4505

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I. SUBMITTAL CERTIFICATION

The following submittal certifications are provided in accordance with ss. NR 712.07 and NR 712.09, Wis. Adm. Code, and are applicable only to the The Laundry Basket project in the Village of Luck, Wisconsin.

"I, Jayne A. Englebert, hereby certify that I am a Hydrogeologist as that term is defined in s. NR 712.03(1), Wisconsin Administrative Code, and that to the best of my knowledge, all of the information contained in this document is correct, and the document was prepared in compliance with all applicable requirements in Chapters NR 700 to 726, Wisconsin Administrative Code."

Report Prepared By:

Jayne A. Englebert 10-27-2011

Jayne A. Englebert, Hydrogeologist — Date

"I, Kristi L. DuBois, hereby certify that I am an engineer as that term is defined in s. NR 712.03(2), Wisconsin Administrative Code, and that to the best of my knowledge, all of the information contained in this document is correct, and the document was prepared in compliance with all applicable requirements in Chapters NR 700 to 726, Wisconsin Administrative Code.

Report Prepared By:

Kristi Du Bois 10-27-11

Kristi L. Du Bois, Project Engineer, No. 31561 — Date

II. EXECUTIVE SUMMARY

This Construction Documentation Report has been prepared for The Laundry Basket in the Village of Luck to document installation of injection wells, a sub-slab depressurization system and the October 12, 2011 whey injection event.

The *Remedial Action Options Report (MSA, January 2011)* discussed alternatives for technologies to address groundwater contamination and vapor intrusion at the site in accordance with WAC NR 722. The technology approved for the site was enhanced insitu bioremediation with whey injection and the installation of vapor mitigation systems. The *Design Report (MSA, August 2011)* discussed the nature of contamination and the remedial action design in accordance with WAC NR 724.

Eight permanent injection wells were installed on September 7, 2011. The injection wells are 2-inch diameter Schedule 40 PVC with 0.030 slot screens with the screened portion of the well was installed two feet below the water table elevation, from approximately ten to twenty feet below ground surface.

Whey was delivered to the site by the Burnett Dairy Cooperative for the enhancement of insitu anaerobic bioremediation to address groundwater contaminated by chlorinated volatile organic compounds (CVOCs). Whey was injected under a temporary exemption to ch. NR 140 (WDNR, 9/8/11) and under WPDES permit WI-0046566-5 dated September 27, 2011.

Design of the sub-slab depressurization (SSD) system was based on sub-slab communication tests performed by the installation contractor, Croix Valley Radon Mitigation, with the system installation on September 9, 2011. The SSD consists of three points installed near the former dry cleaning machine, through the main floor slab, and one installed in the basement of the building. One Radonaway fan is connected to the two points on the main floor and a second fan is connected to the point in the basement.

III. GENERAL INFORMATION

The following general information is provided as required by s. NR 724.05(2)(e)2, Wis. Adm. Code.

Project Title:	The Laundry Basket
Purpose:	The Construction Documentation Report documents the injection of whey substrate for enhanced anaerobic bioremediation of groundwater at the site. Also included is the vapor mitigation system installation documentation.
BRRTs Number:	WDNR File No. 02-49-544893
Responsible Party	Lois Baldwin 517 4th Street Luck, WI 54421
WDNR Contact:	Phil Richard Wisconsin Department of Natural Resources 875 South 4th Avenue Park Falls, WI 54452-1130
Consultant:	Brian Hegge, Project Manager MSA Professional Services, Inc. 1835 N Stevens Street Rhinelander, Wisconsin 54501-2163 (715) 362-3244
Site Name, Address, and Location:	300 S. Main Street Village of Luck, Wisconsin, 54853 Polk County SW ¼, SW ¼, Section 28, T36N, R17W
Location and Layout Map:	Refer to **Figures 1 and 2**
Injection Well Information:	Refer to **Appendix A**

IV. SITE USE AND BACKGROUND INFORMATION

This section provides a brief description of remedial actions at the site. This section meets the requirements of s. NR 724.15, Wis. Adm. Code.

A. Site Use

The building is an active laundromat and ice cream parlor.

B. Background Information

Prior use of the site included a gas station and dry cleaning facility. The investigation of a petroleum release found chlorinated solvents commingled with petroleum compounds. The extent of soil contamination from the petroleum release was limited to the former pump island and the petroleum contaminated groundwater plume concentrations were found to be stable or decreasing. The petroleum release portion of the site was closed by the WDNR in January 2010.

Dry cleaning equipment was dismantled and removed from the property in 2009.

V. REMEDIAL ACTION

This section documents the completed remedial action for the site – injection of whey substrate to enhance anaerobic reductive dechlorination of chlorinated ethenes and installation of a sub-slab depressurization system to mitigate vapor intrusion into the former dry cleaning facility, including the ice cream shop. This section meets the requirements of WAC NR 724.15.

A. Sub-Slab Depressurization System Installation

Design of the sub-slab depressurization (SSD) system was based on sub-slab communication tests performed by the installation contractor, Croix Valley Radon Mitigation, Luck, WI. The system was installed on September 9, 2011.

Three suction points were installed; one suction point was installed near the former dry cleaning machine, one was installed near the water heater in the southeast corner of the Laundry Basket building and one was installed in the basement of the building. Two Radonaway GP501 fans were installed, one for the two points in the laundry area, and one for the point in the basement of the building.

MSA used a hand auger to install a 6 feet deep boring into the source area by the former dry cleaning machine. A 0.03 slot screen was installed inside the 4 inch

vent pipe in an effort to improve air flow to contaminated soil in that area. The concrete floor near the former dry cleaning machine was sealed with clear coat sealer.

Basement cracks, drains, and other openings were sealed to maintain negative pressure under the basement slab.

See **Appendix B** for system installation information and **Figure 2** for depressurization point locations.

B. Injection Well Installation

Eight permanent injection wells were installed on September 7, 2011. Wells IW-1 through IW-8 are 2-inch diameter Schedule 40 PVC with 0.030 slot screens. The screened portion of the well was installed two feet below the water table elevation, from approximately ten to twenty feet below ground surface. See **Appendix A** for injection well boring logs and **Figure 3** for well locations.

C. Whey Substrate Injection – Substrate Loading Rates and Delivery

The injection of whey took place on October 12, 2011. The whey was delivered in a tanker truck from the Burnett Dairy Cooperative in Grantsburg. The lactose concentration was 9% as stated in the Design Report (MSA, 2011).

Whey was delivered in a tank truck, and the truck was left on site during the injection process. Whey was transferred to a 1,000-gallon poly tank and transferred via pump to the manifold system. Injection rates were steady at 3 to 4 gallons per minute per injection well. See Table 1 for groundwater elevations in nearby monitoring wells during the injection event. See Table 2 for a log of injection flow rates, start and end times, pressures, groundwater elevations and gallons injected.

Calculations of lactose content per truckload are as follows:

1. 49,280 # whey delivered x 8.6 #/gal whey = 5,730 gallons of whey (some whey left in poly tank, assume 5,600 gallons of whey injected)
2. 48,160 lb x 0.09 = 4,334 lb lactose
3. Each pound of lactose produces 0.047# hydrogen through fermentation. Each truckload:

$$4{,}334\ lb\ lactose \times \frac{0.047\ lb\ Hydrogen}{\#\ lactose} = 204\ lb\ Hydrogen$$

The Substrate Design Tool calculated a life cycle hydrogen requirement of 22.7 pounds and using a design factor of 7, the total life cycle hydrogen

requirement is 158 pounds. Approximately 204 pounds of hydrogen was delivered via injection.

D. Vapor Readings

During injection OVM readings were obtained within the Laundry Basket building to assure whey injection was not forcing vapors into the building. Four readings were obtained throughout the day, and no vapors were detected.

VI. PERMITS AND APPROVALS

A. Wisconsin Department of Natural Resources

Whey was injected under WPDES permit WI-0046566-5 and under temporary exemption to ch. NR 140.

VII. APPLICABLE ENVIRONMENTAL LAWS AND STANDARDS

This section discusses the public health and environmental laws and standards applicable to the contamination and the remedial action being implemented, as well as the physical location where the environmental standards will be complied with for each medium of concern. This section was prepared in accordance with s. NR 724.09(7), Wis. Adm. Code.

A. Soil Laws and Standards

The environmental laws relative to soil contamination that are applicable to the site are the NR 720 RCLs, as required by s. NR 722.09(2)(a), Wis. Adm. Code. Contaminated soil located adjacent to the building will not be addressed with the injection of whey substrate; however, the sub-slab depressurization system addresses the public health concern with vapor intrusion from contaminated soil in the Laundry Basket building. If the building is to be removed in the future and natural biodegradation processes have not sufficiently reduced concentrations of contaminated soil under the building and adjacent to the building, the contaminated soil may need to be addressed at that time.

B. Air Laws and Standards

The environmental laws pertaining to air that are applicable to the site are the air emission limits set forth in WAC NR 419 and WAC NR 445.

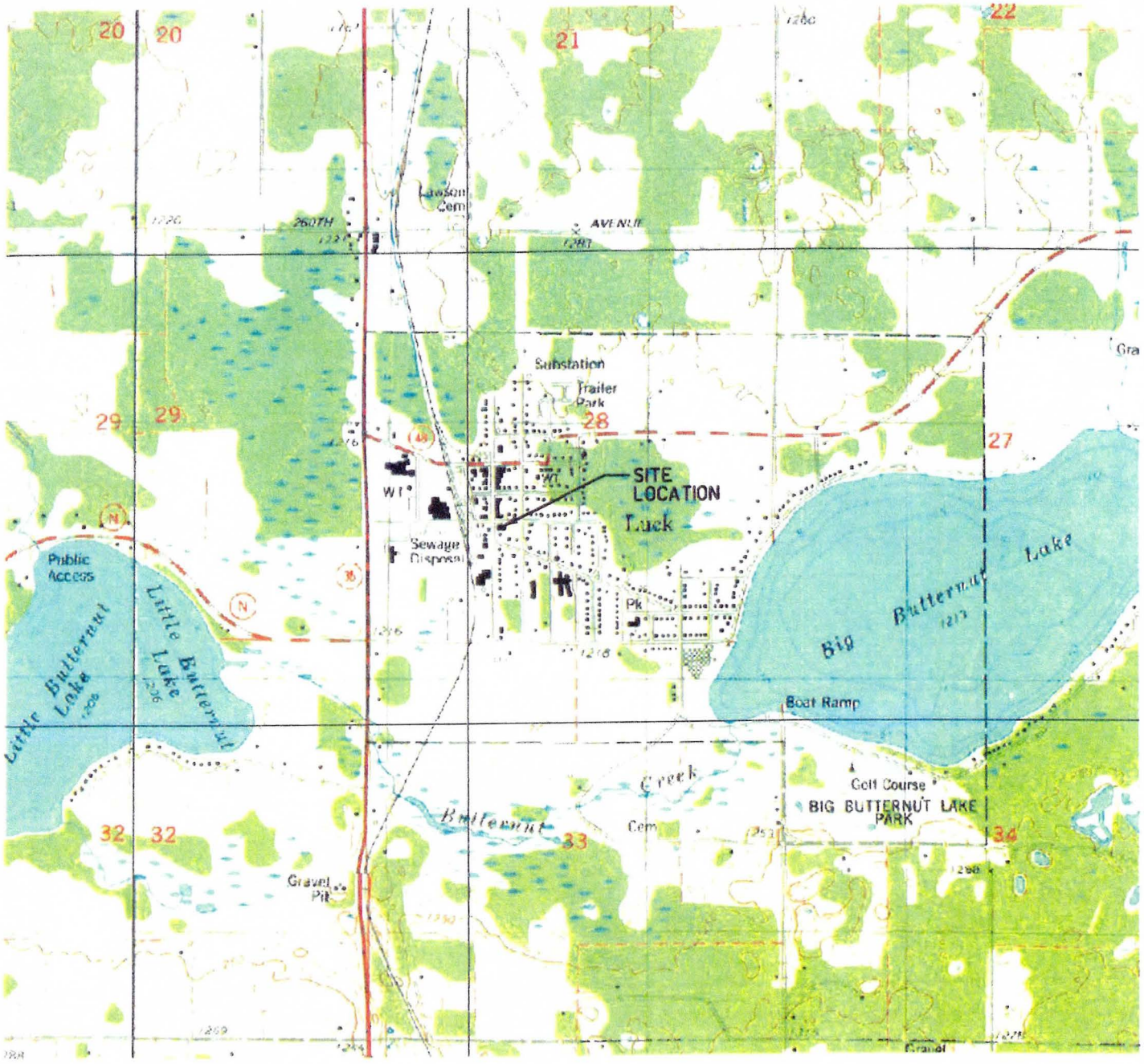
C. Groundwater Laws and Standards

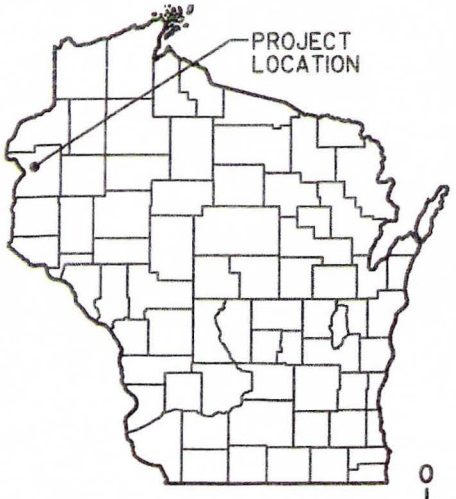
The groundwater remedial action objectives for the site are WAC NR 140 PALs, as required by s. NR 722.09(2)(b), Wis. Adm. Code. However, it is possible that groundwater concentrations will reach a steady-state level above cleanup requirements, which do not appreciably decline with extended remedial action effort(s). If this occurs, alternative groundwater remedial action objectives may be proposed to the WDNR.

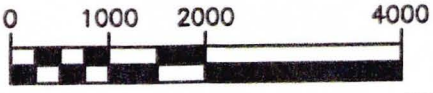
VIII. PRELIMINARY MONITORING PROGRAM

The monitoring program remains as described in the Design Report (MSA, 2011). Quarterly sampling will occur in November 2011.

FIGURES







Luck Quadrangle
Wisconsin - Polk County
7.5 minute series (Topographic)
Contour Interval = 10 feet

FIGURE 1

SITE LOCATION MAP

LAUNDRY BASKET
LUCK, WISCONSIN

MSA PROFESSIONAL SERVICES
TRANSPORTATION • MUNICIPAL
DEVELOPMENT • ENVIRONMENTAL
1835 N. Stevens St. Rhinelander, WI 54501
715-362-3244 1-800-844-7854 Fax: 715-362-4116

F.B. PROJECT

DRAWN BY	CAR	DATE	7/07
CHECKED BY	DA	SCALE	AS SHOWN

SHEET ____ of ____
FILE NO. 6080602F1

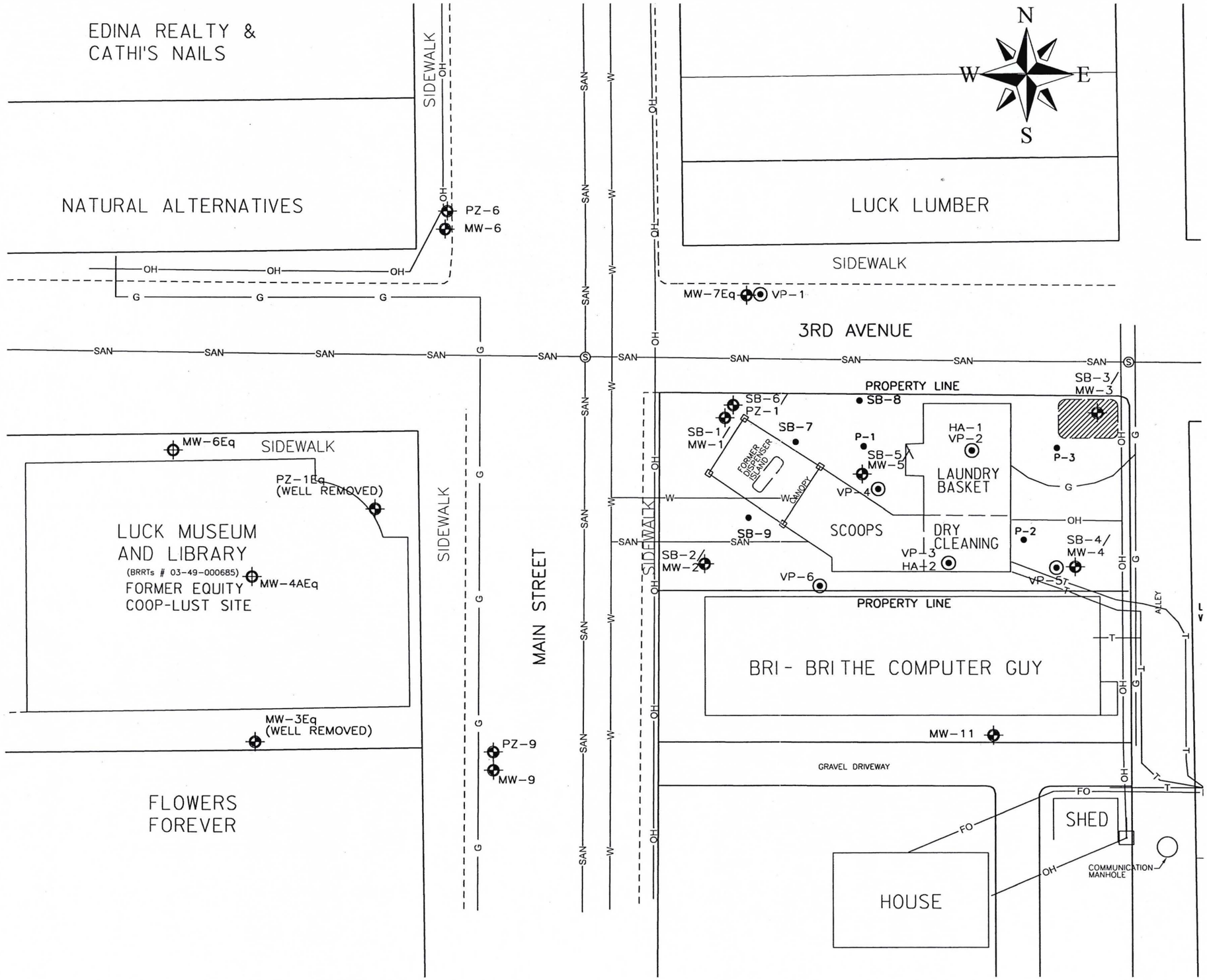


FIGURE 2

SITE LAYOUT MAP
LAUNDRY BASKET
LUCK, WISCONSIN

MSA PROFESSIONAL SERVICES
TRANSPORTATION • MUNICIPAL
DEVELOPMENT • ENVIRONMENTAL
1835 N. Stevens St. Rhinelander, WI 54501
715-362-3244 1-800-814-7854 Fax: 715-362-4116

DRAWN BY	CAR	DATE	8/11
CHECKED BY	DA	SCALE	AS SHOWN

SHEET - of -
FILE NO. 6080801F2F

EDINA REALTY &
CATHI'S NAILS

NATURAL ALTERNATIVES

LUCK LUMBER

SIDEWALK

PZ-6

MW-7Eq

3RD AVENUE

PROPERTY LINE

IW-6

SB-6/
PZ-1

IW-7

SB-8

SB-3/
MW-3

SB-1/
MW-1

SB-7

P-1

IW-5

SB-5/
MW-5

IW-1
P-3

FORMER DISPENSER ISLAND

CANOPY

LAUNDRY BASKET

IW-8

IW-2

SB-9

SCOOPS

DRY CLEANING

P-2

IW-3

SB-4/
MW-4

IW-4

SB-2/
MW-2

PROPERTY LINE

ALLEY

BRI - BRI THE COMPUTER GUY

MW-11

GRAVEL DRIVEWAY

SHED

COMMUNICATION MANHOLE

HOUSE

MW-6Eq

SIDEWALK

PZ-1Eq
(WELL REMOVED)

LUCK MUSEUM
AND LIBRARY
(BRRTs # 03-49-000685)
FORMER EQUITY
COOP-LUST SITE

MW-4AEq

SIDEWALK

MAIN STREET

PZ-9

MW-9

FLOWERS
FOREVER

N

W

E

S

LEGEND

- WATERMAIN
- OVERHEAD ELECTRIC
- UNDERGROUND GAS LINE
- UNDERGROUND TELEPHONE
- SANITARY SEWER MANHOLE AND UNDERGROUND LINE
- FIBER OPTIC
- STORM SEWER
- SUSPECTED LOCATION OF FORMER UST
- HA-1 / VP-2 VAPOR/SOIL SAMPLE WITH LABEL
- SB-8 MSA SOIL BORING
- PROPERTY LINE
- FIBER OPTIC BOX/ COMMUNICATION BOX
- STORM SEWER GRATE
- INJECTION WELL - PERMANENT INSTALLED 9/7/11
- SUBSLAB DEPRESSURIZATION POINT - INSTALLED 9/9/11
- TEMPORARY INJECTION POINT (GEOPROBE) - POSSIBLE FUTURE

30 0 30

SCALE IN FEET

FIGURE 3

INJECTION WELL & SUB-SLAB DEPRESSURIZATION POINTS
LAUNDRY BASKET
LUCK, WISCONSIN

MSA PROFESSIONAL SERVICES
TRANSPORTATION • MUNICIPAL
DEVELOPMENT • ENVIRONMENTAL
1835 N. Stevens St. Rhinelander, WI 54501
715-362-3244 1-800-844-7854 Fax: 715-362-4116

DRAWN BY	CAR	DATE 8/11	SHEET - of -
CHECKED BY	DA	SCALE AS SHOWN	FILE NO. 6080801F3F

TABLES

Table 1
Groundwater Elevations - Whey Injection Event
The Laundry Basket, Luck
Project #6080801
12-Oct-11

Well ID	Time	GW Elevation (ft bgs)
MW-1	Prior to Injection	7.71
	10:47 a.m.	7.29
	12:10 p.m.	7.31
	2:45 p.m.	7.48
	3:43 p.m.	7.43
	After Injection	7.21
MW-2	Prior to Injection	7.72
	10:45 a.m.	7.51
	12:12 p.m.	7.51
	2:47 p.m.	7.52
	3:40 p.m.	7.50
	After Injection	7.66
MW-3	Prior to Injection	7.62
	10:55 a.m.	7.54
	12:15 p.m.	7.51
	2:40 p.m.	6.93
	3:46 p.m.	6.87
	After Injection	6.68
MW-4	Prior to Injection	11.15
	11:02 a.m.	11.07
	11:14 p.m.	11.06
	2:42 p.m.	10.81
	3:47 p.m.	10.68
	After Injection	10.40
MW-5	Prior to Injection	8.22
	10:50 a.m.	7.76
	12:20 p.m.	7.82
	2:50 p.m.	7.60
	3:44 p.m.	7.39
	After Injection	7.20

Note: OVM readings from within the Laundry Basket building were obtained at 10:30 a.m., 1:05, 2:55 and 4:05 p.m. and readings were zero.

Table 2
Injection Log
The Laundry Basket, Luck
Project #6080801
12-Oct-11

Well ID	GW Elev Prior	Start Time	End Time	Estimated Flow Rate	Pressure (psig)	Gallons Injected	GW Elevation After Injection (ft bgs)
IW 1	7.59	2:25 p.m.	4:50 p.m.	@ 4:00 p.m. 4 gpm	2	775	7.66
IW 2	7.69	2:25 p.m.	4:50 p.m.	@ 4:00 p.m. 4 gpm	2	775	7.23
IW 3	8.2	2:25 p.m.	4:50 p.m.	4 gpm	2	775	7.71
IW 4	7.84	9:50 a.m.	1:45 p.m.	3-4 gpm	4 2 @ 11:20 a.m.	625	7.71
IW 5	7.62	9:50 a.m.	1:45 p.m.	3-4 gpm	4 2 @ 11:20 a.m.	625	7.57
IW 6	7.51	9:50 a.m.	1:45 p.m.	3-4 gpm 4 gpm @ 1:30	4 2 @ 1:30 p.m.	625	7.00
IW 7	7.65	9:50 a.m.	1:45 p.m.	3-4 gpm 4 gpm @ 1:30	2	625	7.22
IW 8	8.09	2:25 p.m.	4:50 p.m.	4	2	775	

Notes:

Total Injection Volume 5,600 gallons
Blank - Data not obtained

APPENDIX A

Injection Well Boring Logs

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ☒ DERP

MONITORING WELL CONSTRUCTION

Form 4400-113A Rev. 7-98

Facility/Project Name: LAUNDRY BASKET	Local Grid Location of Well: ft. ☐N. ☐S. ft. ☐E. ☐W.	Well Name: IW-1
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No. / DNR Well ID No.
Facility ID	St. Plane ft. N, ft. E. S/C/N	Date Well Installed: 09/07/2011 (m m d d y y y y)
Type of Well: Well Code 61 / II	Section Location of Waste/Source: SW 1/4 of SW 1/4 of Sec. 28 T. 36 N. R. 17 ☐E ☒W	Well Installed By: Name (first, last) and Firm: Geiss Soil + Samples; Landon Malzahn
Distance from Waste/Source: 50 ft.	Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☒ Sidegradient d ☐ Downgradient n ☐ Not Known
		Gov. Lot Number

A. Protective pipe, top elevation _____ ft. MSL

B. Well casing, top elevation _____ ft. MSL

C. Land surface elevation _____ ft. MSL

D. Surface seal, bottom _____ ft. MSL or 1.0 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☒ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis performed? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 50; Hollow Stem Auger ☒ 41; Other ☐

15. Drilling fluid used: Water ☐ 02; Air ☐ 01; Drilling Mud ☐ 03; None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No

Describe _____

17. Source of water (attach analysis, if required):
Luck Municipal Water

E. Bentonite seal, top _____ ft. MSL or 1.0 ft.

F. Fine sand, top _____ ft. MSL or 9.50 ft.

G. Filter pack, top _____ ft. MSL or 9.75 ft.

H. Screen joint, top _____ ft. MSL or 10.0 ft.

I. Well bottom _____ ft. MSL or 20.0 ft.

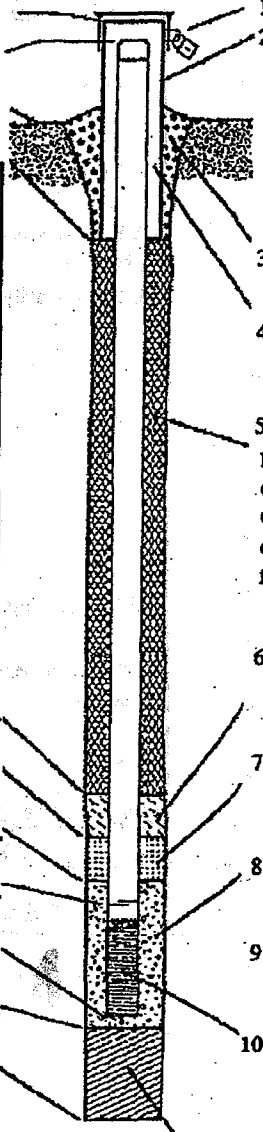
J. Filter pack, bottom _____ ft. MSL or 20.0 ft.

K. Borehole, bottom _____ ft. MSL or 23.0 ft.

L. Borehole, diameter 8.25 in.

M. O.D. well casing 2.06 in.

N. I.D. well casing 1.89 in.



1. Cap and lock? ☐ Yes ☒ No

2. Protective cover pipe:
a. Inside diameter: 12 in.
b. Length: 1.0 ft.
c. Material: Steel ☒ 04; Other ☐
d. Additional protection? ☐ Yes ☒ No
If yes, describe: _____

3. Surface seal: Bentonite ☐ 30; Concrete ☒ 01; Other ☐

4. Material between well casing and protective pipe: Bentonite ☐ 30; SAND; Other ☒

5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. _____ Lbs/gal mud weight ... Bentonite-sand slurry ☐ 35
c. _____ Lbs/gal mud weight ..... Bentonite slurry ☐ 31
d. _____ % Bentonite ..... Bentonite-cement grout ☐ 50
e. 1.60 Ft³ volume added for any of the above
f. How installed: Tremie ☐ 01; Tremie pumped ☐ 02; Gravity ☒ 08

6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐1/4 in. ☒3/8 in. ☐1/2 in. Bentonite chips ☐ 32
c. _____ Other ☐

7. Fine sand material: Manufacturer, product name & mesh size
a. Red Flint #50
b. Volume added 0.03 ft³

8. Filter pack material: Manufacturer, product name & mesh size
a. Red Flint 3/32 - 3/16
b. Volume added 2.9 ft³

9. Well casing: Flush threaded PVC schedule 40 ☒ 23; Flush threaded PVC schedule 80 ☐ 24; Other ☐

10. Screen material: PVC
a. Screen type: Factory cut ☒ 11; Continuous slot ☐ 01; Other ☐
b. Manufacturer _____
c. Slot size: 0.03 in.
d. Slotted length: 10 ft.

11. Backfill material (below filter pack): NATIVE; None ☐ 14; Other ☒

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
Dani Albright	MSA

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ☒ DERP

Facility/Project Name	County Name	Well Name
Laundry Basket	Polk	IW-1
Facility License, Permit or Monitoring Number	**County Code**	**Wis. Unique Well Number**	**DNR Well ID Number**
	49		

1. Can this well be purged dry? ☐ Yes ☒ No

2. Well development method

surged with bailer and bailed	☐ 41
surged with bailer and pumped	☐ 61
surged with block and bailed	☐ 42
surged with block and pumped	☒ 62
surged with block, bailed and pumped	☐ 70
compressed air	☐ 20
bailed only	☐ 10
pumped only	☐ 51
pumped slowly	☐ 50
Other _____	☐

3. Time spent developing well 80 min.

4. Depth of well (from top of well casisng) 20.0 ft.

5. Inside diameter of well 2.06 in.

6. Volume of water in filter pack and well casing 10.5 gal.

7. Volume of water removed from well 100.0 gal.

8. Volume of water added (if any) 15.0 gal.

9. Source of water added Luck Municipal Supply

10. Analysis performed on water added? ☐ Yes ☒ No
(If yes, attach results)

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. 7.13 ft.	7.15 ft.
Date	b. 09/07/2011 (m m d d y y y y)	09/07/2011
Time	c. 3:25 ☐ a.m. ☒ p.m.	4:45 ☐ a.m. ☒ p.m.
12. Sediment in well bottom	48.0 inches	0.0 inches
13. Water clarity	Clear ☐ 10 Turbid ☒ 15 (Describe)	Clear ☒ 20 Turbid ☐ 25 (Describe)

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	_____ mg/l	N/A mg/l
15. COD	_____ mg/l	N/A mg/l

16. Well developed by: Name (first, last) and Firm
First Name: Daria Last Name: Albrecht
Firm: MSA

17. Additional comments on development:
IIII IIII IIII IIII
100 gallons

Name and Address of Facility Contact /Owner/Responsible Party
First Name: Lois Last Name: Baldwin
Facility/Firm: The Laundry Basket
Street: 517 4th St
City/State/Zip: Luck, WI 54421

I hereby certify that the above information is true and correct to the best of my knowledge.
Signature: Daria Albrecht
Print Name: Daria Albrecht
Firm: MSA

NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ☒ DERP

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

Facility/Project Name: LAUNDRY BASKET	Local Grid Location of Well: ☐N. ft. ☐S. ☐E. ft. ☐W.	Well Name: IW-2
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No. / DNR Well ID No.
Facility ID	St. Plane ft. N, ft. E. S/C/N	Date Well Installed: 09/07/2011 (m m d d y y y y)
Type of Well: Well Code 61 / IJ	Section Location of Waste/Source: SW 1/4 of SW 1/4 of Sec. 28 T. 36 N, R. 17 ☐E ☒W	Well Installed By: Name (first, last) and Firm: Geiss Soil & Samples; Landon Malzahn
Distance from Waste/Source: 50 ft. / Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☒ Sidegradient d ☐ Downgradient n ☐ Not Known	Gov. Lot Number

A. Protective pipe, top elevation _____ ft. MSL
B. Well casing, top elevation _____ ft. MSL
C. Land surface elevation _____ ft. MSL
D. Surface seal, bottom _____ ft. MSL or 1.0 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☒ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis performed? ☐ Yes ☒ No

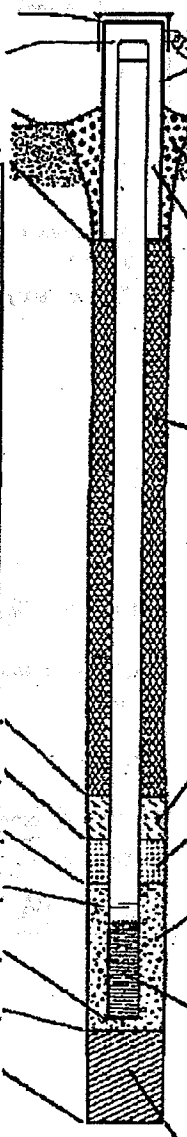
14. Drilling method used: Rotary ☐ 50; Hollow Stem Auger ☒ 41; Other ☐

15. Drilling fluid used: Water ☐ 02 Air ☐ 01 Drilling Mud ☐ 03 None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No
Describe _____

17. Source of water (attach analysis, if required):
Luck Municipal Water

E. Bentonite seal, top _____ ft. MSL or 1.0 ft.
F. Fine sand, top _____ ft. MSL or 9.5 ft.
G. Filter pack, top _____ ft. MSL or 9.75 ft.
H. Screen joint, top _____ ft. MSL or 10.0 ft.
I. Well bottom _____ ft. MSL or 20.0 ft.
J. Filter pack, bottom _____ ft. MSL or 20.0 ft.
K. Borehole, bottom _____ ft. MSL or 23.0 ft.
L. Borehole, diameter 8.25 in.
M. O.D. well casing 2.06 in.
N. I.D. well casing 1.89 in.



1. Cap and lock? ☐ Yes ☒ No
2. Protective cover pipe:
a. Inside diameter: 12 in.
b. Length: 1 ft.
c. Material: Steel ☒ 04 Other ☐
d. Additional protection? ☐ Yes ☒ No
If yes, describe: _____
3. Surface seal: Bentonite ☐ 30 Concrete ☒ 01 Other ☐
4. Material between well casing and protective pipe: Bentonite ☐ 30 Other ☒ Sand
5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. _____ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. _____ % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. 1.6 Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01 Tremie pumped ☐ 02 Gravity ☐ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐1/4 in. ☒3/8 in. ☐1/2 in. Bentonite chips ☒ 32
c. _____ Other ☐
7. Fine sand material: Manufacturer, product name & mesh size
a. Red Flint #50
b. Volume added 0.03 ft^3
8. Filter pack material: Manufacturer, product name & mesh size
a. Red Flint 3/16" - 3/32"
b. Volume added 2.9 ft^3
9. Well casing: Flush threaded PVC schedule 40 ☒ 23 Flush threaded PVC schedule 80 ☐ 24 Other ☐
10. Screen material: PVC
a. Screen type: Factory cut ☒ 11 Continuous slot ☐ 01 Other ☐
b. Manufacturer Monoflex
c. Slot size: 0.03 in.
d. Slotted length: 10 ft.
11. Backfill material (below filter pack): None ☐ 14 Other ☒ Native

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: Dain Albright | Firm: MSA

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ☒ DERP

Facility/Project Name	County Name	Well Name
LAUNDRY BASKET	Polk	IW-2
Facility License, Permit or Monitoring Number	**County Code**	**Wis. Unique Well Number**	**DNR Well ID Number**
	49		

1. Can this well be purged dry? ☐ Yes ☒ No

2. Well development method

surged with bailer and bailed	☐ 41
surged with bailer and pumped	☐ 61
surged with block and bailed	☐ 42
surged with block and pumped	☒ 62
surged with block, bailed and pumped	☐ 70
compressed air	☐ 20
bailed only	☐ 10
pumped only	☐ 51
pumped slowly	☐ 50
Other _____	☐

3. Time spent developing well 120 min.

4. Depth of well (from top of well casisng) 20.2 ft.

5. Inside diameter of well 2.06 in.

6. Volume of water in filter pack and well casing 10.5 gal.

7. Volume of water removed from well 100.0 gal.

8. Volume of water added (if any) 15.0 gal.

9. Source of water added Luck Municipal Supply

10. Analysis performed on water added? (If yes, attach results) ☐ Yes ☒ No

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. 7.25 ft.	7.28 ft.
Date	b. 09/07/2011 (m m d d y y y y)	09/07/2011 (m m d d y y y y)
Time	c. 3:40 ☐ a.m. ☒ p.m.	5:40 ☐ a.m. ☒ p.m.
12. Sediment in well bottom	16.0 inches	0.0 inches
13. Water clarity	Clear ☐ 10 Turbid ☒ 15 (Describe)	Clear ☒ 20 Turbid ☐ 25 (Describe)

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	____.__ mg/l	N/A ____.__ mg/l
15. COD	____.__ mg/l	N/A ____.__ mg/l

16. Well developed by: Name (first, last) and Firm
First Name: Dan Last Name: Cervin
Firm: MSA

17. Additional comments on development:
~~IIIIII IIII IIII~~
100 gallons

Name and Address of Facility Contact/Owner/Responsible Party
First Name: Lois Last Name: Baldwin
Facility/Firm: The Laundry Basket
Street: 517 4th St.
City/State/Zip: Luck, WI 54421

I hereby certify that the above information is true and correct to the best of my knowledge.
Signature: Daniel O Cervin
Print Name: DANIEL O. CERVIN
Firm: MSA

NOTE: See instructions for more information including a list of county codes and well type codes.

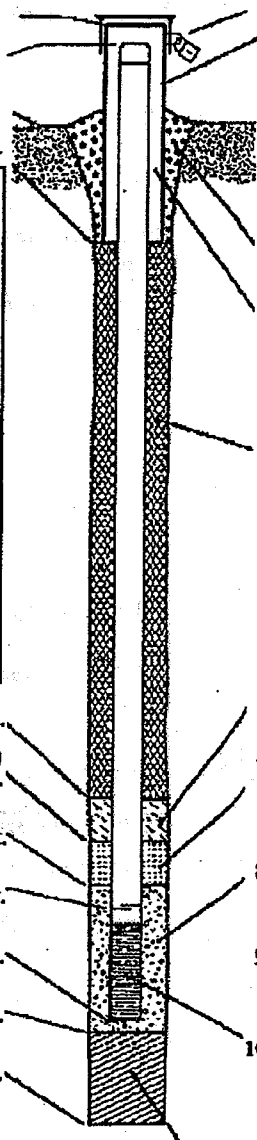
State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ☒ DERP

MONITORING WELL CONSTRUCTION

Form 4400-113A Rev. 7-98

Facility/Project Name: LAUNDRY BASKET	Local Grid Location of Well: ____ ft. ☐N. ☐S. ____ ft. ☐E. ☐W.	Well Name: IW-3
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No. / DNR Well ID No.
Facility ID	St. Plane ____ ft. N, ____ ft. E. S/C/N	Date Well Installed: 09/07/2011 (m m d d y y y y)
Type of Well — Well Code: 61 / IJ	Section Location of Waste/Source: SW 1/4 of SW 1/4 of Sec. 28 T. 36 N, R. 17 ☐E ☒W	Well Installed By: Name (first, last) and Firm: Geiss Soil + Samples; Landon Malzahn
Distance from Waste/Source: 50 ft. / Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☒ Sidegradient d ☐ Downgradient n ☐ Not Known	Gov. Lot Number



A. Protective pipe, top elevation ____ ft. MSL

B. Well casing, top elevation ____ ft. MSL

C. Land surface elevation ____ ft. MSL

D. Surface seal, bottom ____ ft. MSL or 1.0 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☒ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis performed? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 50; Hollow Stem Auger ☒ 41; Other ☐ ____

15. Drilling fluid used: Water ☐ 02 Air ☐ 01 Drilling Mud ☐ 03 None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No

Describe ____

17. Source of water (attach analysis, if required):
Luck Municipal Water

E. Bentonite seal, top ____ ft. MSL or 1.0 ft.

F. Fine sand, top ____ ft. MSL or 9.50 ft.

G. Filter pack, top ____ ft. MSL or 9.75 ft.

H. Screen joint, top ____ ft. MSL or 10.0 ft.

I. Well bottom ____ ft. MSL or 20.0 ft.

J. Filter pack, bottom ____ ft. MSL or 20.0 ft.

K. Borehole, bottom ____ ft. MSL or 23.0 ft.

L. Borehole, diameter 8.25 in.

M. O.D. well casing 2.06 in.

N. I.D. well casing 1.89 in.

1. Cap and lock? ☐ Yes ☒ No

2. Protective cover pipe:
a. Inside diameter: 12 in.
b. Length: 1.0 ft.
c. Material: ____ Steel ☒ 04 Other ☐ ____
d. Additional protection? ☐ Yes ☒ No
If yes, describe: ____

3. Surface seal: ____ Bentonite ☐ 30 Concrete ☒ 01 Other ☐ ____

4. Material between well casing and protective pipe:
SAND Bentonite ☐ 30 Other ☒ ____

5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. ____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. ____ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. ____ % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. 1.6 Ft³ volume added for any of the above
f. How installed: Tremie ☐ 01 Tremie pumped ☐ 02 Gravity ☒ 08

6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐1/4 in. ☒3/8 in. ☐1/2 in. Bentonite chips ☒ 32
c. ____ Other ☐ ____

7. Fine sand material: Manufacturer, product name & mesh size
a. Red Flint #50
b. Volume added 0.03 ft³

8. Filter pack material: Manufacturer, product name & mesh size
a. Red Flint 3/32-3/16
b. Volume added 2.9 ft³

9. Well casing: Flush threaded PVC schedule 40 ☒ 23 Flush threaded PVC schedule 80 ☐ 24 Other ☐ ____

10. Screen material: PVC
a. Screen type: Factory cut ☒ 11 Continuous slot ☐ 01 Other ☐ ____
b. Manufacturer Monoflex
c. Slot size: 0.03 in.
d. Slotted length: 10 ft.

11. Backfill material (below filter pack): NATIVE None ☐ 14 Other ☒ ____

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: Daniel O Cain Firm: MSA

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ☒ DERP

Facility/Project Name	County Name	Well Name
LAUNDRY BASKET	POLK	IW-3
Facility License, Permit or Monitoring Number	**County Code**	**Wis. Unique Well Number**	**DNR Well ID Number**
	99	_____	___

1. Can this well be purged dry? ☐ Yes ☒ No

2. Well development method

surged with bailer and bailed	☐ 41
surged with bailer and pumped	☐ 61
surged with block and bailed	☐ 42
surged with block and pumped	☒ 62
surged with block, bailed and pumped	☐ 70
compressed air	☐ 20
bailed only	☐ 10
pumped only	☐ 51
pumped slowly	☐ 50
Other _____	☐

3. Time spent developing well 90 min.

4. Depth of well (from top of well casisng) 20.1 ft.

5. Inside diameter of well 2.06 in.

6. Volume of water in filter pack and well casing 10.5 gal.

7. Volume of water removed from well 1000 gal.

8. Volume of water added (if any) 15.0 gal.

9. Source of water added Luck Municipal Supply

10. Analysis performed on water added? ☐ Yes ☒ No
(If yes, attach results)

11. Depth to Water (from top of well casing)	Before Development	After Development
a.	7.74 ft.	7.70 ft.
b. Date (mm/dd/yyyy)	09/07/2011	09/07/2011
c. Time	5:02 ☐ a.m. ☒ p.m.	6:30 ☐ a.m. ☒ p.m.
12. Sediment in well bottom	30.0 inches	0.0 inches
13. Water clarity	Clear ☐ 10 Turbid ☒ 15 (Describe)	Clear ☐ 20 Turbid ☐ 25 (Describe)

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	_____ mg/l	N/A mg/l
15. COD	_____ mg/l	N/A mg/l

16. Well developed by: Name (first, last) and Firm
First Name: DAN Last Name: CERVIN
Firm: MSA

17. Additional comments on development:
~~HH HH HH HH~~

Name and Address of Facility Contact/Owner/Responsible Party
First Name: Lois Last Name: Baldwin
Facility/Firm: The Laundry Basket
Street: 517 4th St
City/State/Zip: Luck, WI 54421

I hereby certify that the above information is true and correct to the best of my knowledge.
Signature: Daniel O Cervin
Print Name: DANIEL O. CERVIN
Firm: MSA

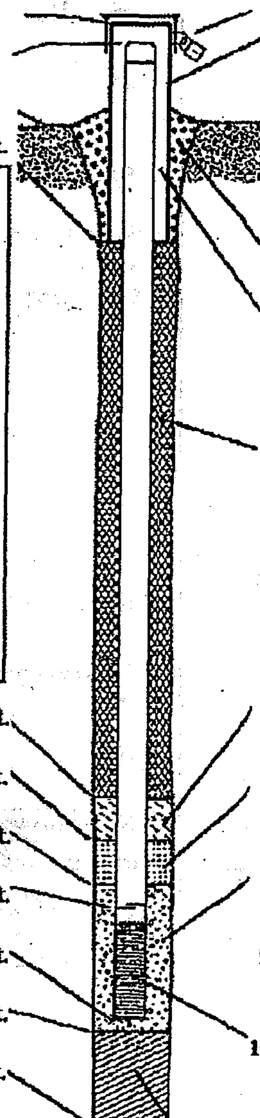
NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐ Remediation/Redevelopment ☐ Other ☒ DERP

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

Facility/Project Name: LAUNDRY BASKET	Local Grid Location of Well: ____ ft. ☐N. ☐S. ____ ft. ☐E. ☐W.	Well Name: IW-4
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No. / DNR Well ID No.
Facility ID	St. Plane ____ ft. N, ____ ft. E. S/C/N	Date Well Installed 09/09/2011 (m m d d y y y y)
Type of Well: Well Code 61 / IJ	Section Location of Waste/Source: SW 1/4 of SW 1/4 of Sec. 28, T. 36 N, R. 17 ☐E ☒W	Well Installed By: Name (first, last) and Firm: Geiss Soil st Samples, Landon Malzahn
Distance from Waste/Source 40 ft. / Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient, s ☒ Sidegradient, d ☐ Downgradient, n ☐ Not Known / Gov. Lot Number	



A. Protective pipe, top elevation _ _ _ _ ft. MSL

B. Well casing, top elevation _ _ _ _ ft. MSL

C. Land surface elevation _ _ _ _ ft. MSL

D. Surface seal, bottom _ _ _ _ ft. MSL or 1.0 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☒ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis performed? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 5 0
Hollow Stem Auger ☒ 4 1
Other ☐

15. Drilling fluid used: Water ☐ 0 2 Air ☐ 0 1
Drilling Mud ☐ 0 3 None ☒ 9 9

16. Drilling additives used? ☐ Yes ☒ No

Describe ____

17. Source of water (attach analysis, if required):
Luck Municipal Water

E. Bentonite seal, top _ _ _ _ ft. MSL or 1.0 ft.

F. Fine sand, top _ _ _ _ ft. MSL or 9.50 ft.

G. Filter pack, top _ _ _ _ ft. MSL or 9.75 ft.

H. Screen joint, top _ _ _ _ ft. MSL or 10.0 ft.

I. Well bottom _ _ _ _ ft. MSL or 20.0 ft.

J. Filter pack, bottom _ _ _ _ ft. MSL or 20.0 ft.

K. Borehole, bottom _ _ _ _ ft. MSL or 23.0 ft.

L. Borehole, diameter 8.25 in.

M. O.D. well casing 2.06 in.

N. I.D. well casing 1.89 in.

1. Cap and lock? ☐ Yes ☒ No

2. Protective cover pipe:
a. Inside diameter: 12 in.
b. Length: 1.0 ft.
c. Material: Steel ☒ 0 4; Other ☐
d. Additional protection? ☐ Yes ☒ No
If yes, describe: ____

3. Surface seal: Bentonite ☐ 3 0; Concrete ☒ 0 1; Other ☐

4. Material between well casing and protective pipe: Bentonite ☐ 3 0; Other ☒ SAND

5. Annular space seal: a. Granular/Chipped Bentonite ☒ 3 3
b. ____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 3 5
c. ____ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 3 1
d. ____ % Bentonite . . . . . . Bentonite-cement grout ☐ 5 0
e. 1.6 Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 0 1; Tremie pumped ☐ 0 2; Gravity ☒ 0 8

6. Bentonite seal: a. Bentonite granules ☐ 3 3
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☐ 3 2
c. ____ Other ☐

7. Fine sand material: Manufacturer, product name & mesh size
a. Red Flint #50
b. Volume added 0.03 ft^3

8. Filter pack material: Manufacturer, product name & mesh size
a. Red Flint 3/32 - 3/16
b. Volume added 2.9 ft^3

9. Well casing: Flush threaded PVC schedule 40 ☒ 2 3
Flush threaded PVC schedule 80 ☐ 2 4
Other ☐

10. Screen material: PVC
a. Screen type: Factory cut ☒ 1 1; Continuous slot ☐ 0 1; Other ☐
b. Manufacturer Monoflex
c. Slot size: 0.03 in.
d. Slotted length: 10.0 ft.

11. Backfill material (below filter pack): None ☐ 1 4; Other ☒ NATIVE

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
[signature]	MSA

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ☒ DERP

Facility/Project Name	County Name	Well Name
LAUNDRY BASKET	POLK	FW-4
Facility License, Permit or Monitoring Number	**County Code**	**Wis. Unique Well Number**	**DNR Well ID Number**
	91		

1. Can this well be purged dry? ☐ Yes ☒ No

2. Well development method

surged with bailer and bailed	☐	41
surged with bailer and pumped	☐	61
surged with block and bailed	☐	42
surged with block and pumped	☒	62
surged with block, bailed and pumped	☐	70
compressed air	☐	20
bailed only	☐	10
pumped only	☐	51
pumped slowly	☐	50
Other _____	☐	

3. Time spent developing well 90 min.

4. Depth of well (from top of well casisng) 20.2 ft.

5. Inside diameter of well 2.06 in.

6. Volume of water in filter pack and well casing 10.5 gal.

7. Volume of water removed from well 80.0 gal.

8. Volume of water added (if any) 15.0 gal.

9. Source of water added Luck Municipal Water

10. Analysis perfomed on water added? ☐ Yes ☒ No
(If yes, attach results)

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. 7.42 ft.	7.40 ft.
Date	b. 09/09/2011 (m m d d y y y y)	09/09/2011
Time	c. 9:20 ☒ a.m. ☐ p.m.	10:50 ☒ a.m. ☐ p.m.
12. Sediment in well bottom	15.0 inches	0.0 inches
13. Water clarity	Clear ☐ 10 Turbid ☒ 15 (Describe)	Clear ☒ 20 Turbid ☐ 25 (Describe)

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	_____ mg/l	_____ mg/l
15. COD	_____ mg/l	_____ mg/l

16. Well developed by: Name (first, last) and Firm
First Name: Darin Last Name: Albrecht
Firm: MSA

17. Additional comments on development:
Pre-Development DTB = 19.82'

Name and Address of Facility Contact/Owner/Responsible Party
First Name: Lois Last Name: Baldwin
Facility/Firm: The Laundry Basket
Street: 517 4th St
City/State/Zip: Luck, WI 54421

I hereby certify that the above information is true and correct to the best of my knowledge.
Signature: Darin Albrecht
Print Name: Darin Albrecht
Firm: MSA

NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ☒ DERP

MONITORING WELL CONSTRUCTION

Form 4400-113A Rev. 7-98

Facility/Project Name: LAUNDRY BASKET	Local Grid Location of Well: ____ ft. ☐N. ☐S. ____ ft. ☐E. ☐W.	Well Name: IW-5
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No. / DNR Well ID No.
Facility ID	St. Plane ____ ft. N, ____ ft. E. S/C/N	Date Well Installed: 09/08/2011 (m m d d y y y y)
Type of Well: Well Code 61 / IJ	Section Location of Waste/Source: SW 1/4 of SW 1/4 of Sec. 28 T. 36 N. R. 17 ☐E ☒W	Well Installed By: Name (first, last) and Firm: Geiss Soils + Samples; Landon Malzahn
Distance from Waste/Source: 80 ft. / Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☒ Downgradient n ☐ Not Known	Gov. Lot Number: -

A. Protective pipe, top elevation _____ ft. MSL

B. Well casing, top elevation _____ ft. MSL

C. Land surface elevation _____ ft. MSL

D. Surface seal, bottom _____ ft. MSL or 1.0 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☒ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis performed? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 50
Hollow Stem Auger ☒ 41
Other ☐ ____

15. Drilling fluid used: Water ☐ 02 Air ☐ 01
Drilling Mud ☐ 03 None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No
Describe ____

17. Source of water (attach analysis, if required): Luck Municipal Water

E. Bentonite seal, top _____ ft. MSL or 1.0 ft.

F. Fine sand, top _____ ft. MSL or 9.50 ft.

G. Filter pack, top _____ ft. MSL or 9.75 ft.

H. Screen joint, top _____ ft. MSL or 10.0 ft.

I. Well bottom _____ ft. MSL or 20.0 ft.

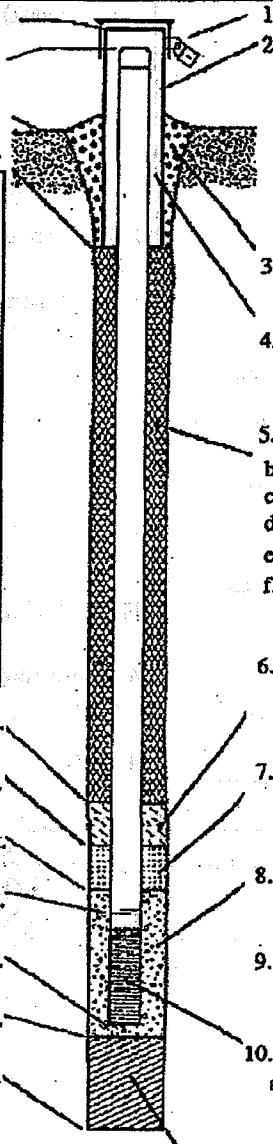
J. Filter pack, bottom _____ ft. MSL or 20.0 ft.

K. Borehole, bottom _____ ft. MSL or 23.0 ft.

L. Borehole, diameter 8.25 in.

M. O.D. well casing 2.06 in.

N. I.D. well casing 1.89 in.



1. Cap and lock? ☐ Yes ☒ No

2. Protective cover pipe:
a. Inside diameter: ____ in.
b. Length: ____ ft.
c. Material: Steel ☒ 04 Other ☐
d. Additional protection? ☐ Yes ☒ No
If yes, describe: ____

3. Surface seal: Bentonite ☐ 30 Concrete ☒ 01 Other ☐

4. Material between well casing and protective pipe: SAND
Bentonite ☐ 30 Other ☒

5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. ____ Lbs/gal mud weight ... Bentonite-sand slurry ☐ 35
c. ____ Lbs/gal mud weight ..... Bentonite slurry ☐ 31
d. ____ % Bentonite ..... Bentonite-cement grout ☐ 50
e. 1.6 Ft³ volume added for any of the above
f. How installed: Tremie ☐ 01 Tremie pumped ☐ 02 Gravity ☒ 08

6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐1/4 in. ☒3/8 in. ☐1/2 in. Bentonite chips ☐ 32
c. ____ Other ☐

7. Fine sand material: Manufacturer, product name & mesh size
a. Red Flint #50
b. Volume added 0.03 ft³

8. Filter pack material: Manufacturer, product name & mesh size
a. Red Flint 3/32 - 3/16
b. Volume added 2.9 ft³

9. Well casing: Flush threaded PVC schedule 40 ☒ 23
Flush threaded PVC schedule 80 ☐ 24
Other ☐ ____

10. Screen material: PVC
a. Screen type: Factory cut ☒ 11 Continuous slot ☐ 01 Other ☐ ____
b. Manufacturer MonoFlex
c. Slot size: 0.03 in.
d. Slotted length: 10.0 ft.

11. Backfill material (below filter pack): NATIVE
None ☐ 14 Other ☒

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: Dan Allcutt Firm: MSA

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT
Form 4400-113B Rev. 7-98

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ☒ DERP

Facility/Project Name	County Name	Well Name
LAUNDRY BASKET	POLK	IW-5

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well ID Number
	49		

1. Can this well be purged dry? ☐ Yes ☒ No

2. Well development method
   - surged with bailer and bailed ☐ 41
   - surged with bailer and pumped ☐ 61
   - surged with block and bailed ☐ 42
   - surged with block and pumped ☒ 62
   - surged with block, bailed and pumped ☐ 70
   - compressed air ☐ 20
   - bailed only ☐ 10
   - pumped only ☐ 51
   - pumped slowly ☐ 50
   - Other ______ ☐

3. Time spent developing well: 85 min.

4. Depth of well (from top of well casisng): 20.1 ft.

5. Inside diameter of well: 2.06 in.

6. Volume of water in filter pack and well casing: 10.5 gal.

7. Volume of water removed from well: 100.0 gal.

8. Volume of water added (if any): 15.0 gal.

9. Source of water added: Luck Municipal Water

10. Analysis performed on water added? ☐ Yes ☒ No
(If yes, attach results)

	Before Development	After Development
11. Depth to Water (from top of well casing) a.	7.21 ft.	7.23 ft.
b. Date (mm dd yyyy)	09/08/2011	09/08/2011
c. Time	12:05 ☐ a.m. ☒ p.m.	1:30 ☐ a.m. ☒ p.m.
12. Sediment in well bottom	0.5 inches	0.0 inches
13. Water clarity	Clear ☐ 10 / Turbid ☒ 15 (Describe)	Clear ☒ 20 / Turbid ☐ 25 (Describe)

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids: ______ mg/l ______ mg/l — N/A

15. COD: ______ mg/l ______ mg/l — N/A

16. Well developed by: Name (first, last) and Firm
First Name: DAN / DARIN Last Name: CERVIN / ALBRECHT
Firm: MSA

17. Additional comments on development:
~~HHHH HHH HHH HHH~~
100 gallons

Name and Address of Facility Contact/Owner/Responsible Party
First Name: Lois Last Name: Baldwin
Facility/Firm: The Laundry Basket
Street: 517 4th St
City/State/Zip: Luck, WI 54421

I hereby certify that the above information is true and correct to the best of my knowledge.
Signature: [signature]
Print Name: DANIEL O. CERVIN
Firm: MSA

NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ☒ DERP

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

Facility/Project Name LAUNDRY BASKET	**Local Grid Location of Well** ☐ ft. ☐ N. ☐ S. ☐ ft. ☐ E. ☐ W.	**Well Name** FW-6
Facility License, Permit or Monitoring No.	**Local Grid Origin** ☐ (estimated: ☐) or **Well Location** ☐ Lat. ° ' " Long. ° ' " or	**Wis. Unique Well No.** / **DNR Well ID No.**
Facility ID	St. Plane ft. N, ft. E. S/C/N	**Date Well Installed** 08/08/2011 (m m d d y y y y)
Type of Well Well Code 61 / IJ	**Section Location of Waste/Source** SW 1/4 of SW 1/4 of Sec. 28 T. 36 N, R. 17 ☐ E. ☒ W.	**Well Installed By: Name (first, last) and Firm** Geiss Soils + Samples; Landon Malzahn
Distance from Waste/Source 90 ft. / **Enf. Stds. Apply** ☐	**Location of Well Relative to Waste/Source** u ☐ Upgradient s ☐ Sidegradient d ☒ Downgradient n ☐ Not Known	**Gov. Lot Number**

A. Protective pipe, top elevation _____ ft. MSL
B. Well casing, top elevation _____ ft. MSL
C. Land surface elevation _____ ft. MSL
D. Surface seal, bottom _____ ft. MSL or 1.0 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☒ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis performed? ☐ Yes ☒ No

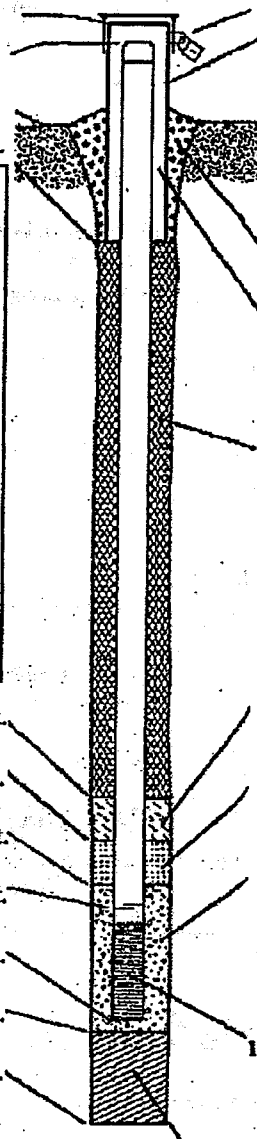
14. Drilling method used: Rotary ☐ 50 / Hollow Stem Auger ☒ 41 / Other ☐

15. Drilling fluid used: Water ☐ 02 / Air ☐ 01 / Drilling Mud ☐ 03 / None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No
Describe _____

17. Source of water (attach analysis, if required):
Luck Municipal Water

E. Bentonite seal, top _____ ft. MSL or 1.0 ft.
F. Fine sand, top _____ ft. MSL or 9.5 ft.
G. Filter pack, top _____ ft. MSL or 9.75 ft.
H. Screen joint, top _____ ft. MSL or 10.0 ft.
I. Well bottom _____ ft. MSL or 20.0 ft.
J. Filter pack, bottom _____ ft. MSL or 20.0 ft.
K. Borehole, bottom _____ ft. MSL or 23.0 ft.
L. Borehole, diameter 8.25 in.
M. O.D. well casing 2.06 in.
N. I.D. well casing 1.89 in.



1. Cap and lock? ☐ Yes ☒ No
2. Protective cover pipe:
a. Inside diameter: 12 in.
b. Length: 1.0 ft.
c. Material: Steel ☒ 04 / Other ☐
d. Additional protection? ☐ Yes ☒ No
If yes, describe: _____
3. Surface seal: Bentonite ☐ 30 / Concrete ☒ 01 / Other ☐
4. Material between well casing and protective pipe: Bentonite ☐ 30 / Other ☒ SAND
5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. _____ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. _____ % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. 1.6 Ft³ volume added for any of the above
f. How installed: Tremie ☐ 01 / Tremie pumped ☐ 02 / Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☐ 32
c. _____ Other ☐
7. Fine sand material: Manufacturer, product name & mesh size
a. Red Flint #50
b. Volume added 0.03 ft³
8. Filter pack material: Manufacturer, product name & mesh size
a. Red Flint 3/32 - 3/16
b. Volume added 2.9 ft³
9. Well casing: Flush threaded PVC schedule 40 ☒ 23 / Flush threaded PVC schedule 80 ☐ 24 / Other ☐
10. Screen material: PVC
a. Screen type: Factory cut ☒ 11 / Continuous slot ☐ 01 / Other ☐
b. Manufacturer Mono Flex
c. Slot size: 0.03 in.
d. Slotted length: 10.0 ft.
11. Backfill material (below filter pack): None ☐ 14 / Other ☒ NATIVE

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature Dan Albrecht | Firm MSA

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ☒ DERP

Facility/Project Name	County Name	Well Name
LAUNDRY BASKET	POLK	IW-4
Facility License, Permit or Monitoring Number	**County Code**	**Wis. Unique Well Number** / **DNR Well ID Number**
	49	

1. Can this well be purged dry? ☐ Yes ☒ No

2. Well development method

surged with bailer and bailed	☐	41
surged with bailer and pumped	☐	61
surged with block and bailed	☐	42
surged with block and pumped	☒	62
surged with block, bailed and pumped	☐	70
compressed air	☐	20
bailed only	☐	10
pumped only	☐	51
pumped slowly	☐	50
Other _____	☐	

3. Time spent developing well 90 min.

4. Depth of well (from top of well casisng) 20.06 ft.

5. Inside diameter of well 2.06 in.

6. Volume of water in filter pack and well casing 10.5 gal.

7. Volume of water removed from well 80.0 gal.

8. Volume of water added (if any) 150 gal.

9. Source of water added Luck Municipal Water

10. Analysis performed on water added? ☐ Yes ☒ No
(If yes, attach results)

	Before Development	After Development
11. Depth to Water (from top of well casing) a.	7.14 ft.	7.11 ft.
Date b. (mm dd yyyy)	09/08/2011	09/08/2011
Time c.	2:00 ☐ a.m. ☒ p.m.	3:30 ☐ a.m. ☒ p.m.
12. Sediment in well bottom	20.0 inches	0.0 inches
13. Water clarity	Clear ☐ 10 Turbid ☒ 15 (Describe)	Clear ☒ 20 Turbid ☐ 25 (Describe)

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	____.__ mg/l	N/A ____.__ mg/l
15. COD	____.__ mg/l	N/A ____.__ mg/l

16. Well developed by: Name (first, last) and Firm
First Name: DAN DARIN Last Name: CERVIN ALBRECHT
Firm: MSA

17. Additional comments on development:
5 gallon Buckets
HH HH HH I
Well cleared up sooner than previous wells @ over or at 100 gal

Name and Address of Facility Contact /Owner/Responsible Party
First Name: Lois Last Name: Baldwin
Facility/Firm: The Laundry Basket
Street: 517 4th St
City/State/Zip: Luck, WI 54421

I hereby certify that the above information is true and correct to the best of my knowledge.
Signature: Daniel O. Cervin
Print Name: DANIEL O. CERVIN
Firm: MSA

NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ☒ DERP

MONITORING WELL CONSTRUCTION

Form 4400-113A Rev. 7-98

Facility/Project Name: LAUNDRY BASKET	Local Grid Location of Well: ____ ft. ☐N. ☐S. ____ ft. ☐E. ☐W.	Well Name: FW-7
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No. / DNR Well ID No.
Facility ID	St. Plane ____ ft. N, ____ ft. E. S/C/N	Date Well Installed: 09/08/2011 (m m d d y y y y)
Type of Well: Well Code 61 / II	Section Location of Waste/Source: SW 1/4 of SW 1/4 of Sec. 28 T. 36 N, R. 17 ☐E ☒W	Well Installed By: Name (first, last) and Firm: Geiss Soils + Sample; Landa Malzahn
Distance from Waste/Source: 60 ft. / Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☒ Downgradient n ☐ Not Known	Gov. Lot Number:

A. Protective pipe, top elevation ____ ft. MSL

B. Well casing, top elevation ____ ft. MSL

C. Land surface elevation ____ ft. MSL

D. Surface seal, bottom ____ ft. MSL or 1.0 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☒ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis performed? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 50 / Hollow Stem Auger ☒ 41 / Other ☐

15. Drilling fluid used: Water ☐ 02 / Air ☐ 01 / Drilling Mud ☐ 03 / None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No

Describe ____

17. Source of water (attach analysis, if required): Luck Municipal Water

E. Bentonite seal, top ____ ft. MSL or 1.0 ft.

F. Fine sand, top ____ ft. MSL or 9.50 ft.

G. Filter pack, top ____ ft. MSL or 9.75 ft.

H. Screen joint, top ____ ft. MSL or 10.0 ft.

I. Well bottom ____ ft. MSL or 20.0 ft.

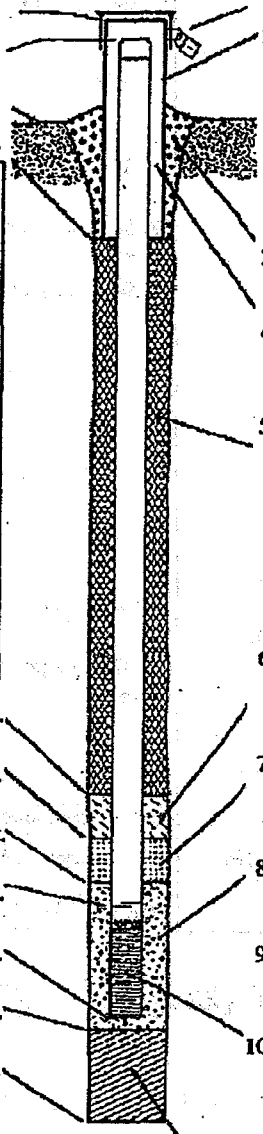
J. Filter pack, bottom ____ ft. MSL or 20.0 ft.

K. Borehole, bottom ____ ft. MSL or 23.0 ft.

L. Borehole, diameter 8.25 in.

M. O.D. well casing 2.06 in.

N. I.D. well casing 1.89 in.



1. Cap and lock? ☐ Yes ☒ No

2. Protective cover pipe:
a. Inside diameter: 12 in.
b. Length: 1.0 ft.
c. Material: Steel ☒ 04 / Other ☐
d. Additional protection? ☐ Yes ☒ No
If yes, describe: ____

3. Surface seal: Bentonite ☐ 30 / Concrete ☒ 01 / Other ☐

4. Material between well casing and protective pipe: SAND
Bentonite ☐ 30 / Other ☒

5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. ____ Lbs/gal mud weight ... Bentonite-sand slurry ☐ 35
c. ____ Lbs/gal mud weight ..... Bentonite slurry ☐ 31
d. ____ % Bentonite ..... Bentonite-cement grout ☐ 50
e. 1.6 Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01 / Tremie pumped ☐ 02 / Gravity ☒ 08

6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐1/4 in. ☒3/8 in. ☐1/2 in. Bentonite chips ☐ 32
c. ____ Other ☐

7. Fine sand material: Manufacturer, product name & mesh size
a. Red Flint #50
b. Volume added 0.03 ft^3

8. Filter pack material: Manufacturer, product name & mesh size
a. Red Flint #3132-3416
b. Volume added 2.9 ft^3

9. Well casing: Flush threaded PVC schedule 40 ☒ 23 / Flush threaded PVC schedule 80 ☐ 24 / Other ☐

10. Screen material: PVC
a. Screen type: Factory cut ☒ 11 / Continuous slot ☐ 01 / Other ☐
b. Manufacturer Monoflex
c. Slot size: 0.03 in.
d. Slotted length: 10.0 ft.

11. Backfill material (below filter pack): NATIVE
None ☐ 14 / Other ☒

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: Dave Albright | Firm: MSA

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ☒ DERP

Facility/Project Name	County Name	Well Name
LAUNDRY BASKET	POLK	IW-7
Facility License, Permit or Monitoring Number	**County Code**	**Wis. Unique Well Number**	**DNR Well ID Number**
	49		

1. Can this well be purged dry? ☐ Yes ☒ No

2. Well development method

surged with bailer and bailed	☐ 41
surged with bailer and pumped	☐ 61
surged with block and bailed	☐ 42
surged with block and pumped	☒ 62
surged with block, bailed and pumped	☐ 70
compressed air	☐ 20
bailed only	☐ 10
pumped only	☐ 51
pumped slowly	☐ 50
Other _____	☐

3. Time spent developing well 85 min.

4. Depth of well (from top of well casisng) 20.0 ft.

5. Inside diameter of well 2.06 in.

6. Volume of water in filter pack and well casing 10.5 gal.

7. Volume of water removed from well 80.0 gal.

8. Volume of water added (if any) 15.0 gal.

9. Source of water added Luck Municipal Wate

10. Analysis performed on water added? ☐ Yes ☒ No
(If yes, attach results)

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. 7.22 ft.	7.24 ft.
Date	b. 09/08/2011 (m m d d y y y y)	09/08/2011 (m m d d y y y y)
Time	c. 04:05 ☐ a.m. ☒ p.m.	5:30 ☐ a.m. ☒ p.m.
12. Sediment in well bottom	20.0 inches	100. inches
13. Water clarity	Clear ☐ 10 Turbid ☒ 15 (Describe)	Clear ☒ 20 Turbid ☐ 25 (Describe)

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids N/A mg/l _____ mg/l

15. COD N/A mg/l _____ mg/l

16. Well developed by: Name (first, last) and Firm
First Name: Darin Last Name: Albrecht
Firm: MSA

17. Additional comments on development:
substantial time was spent trying to remove the sand in the well to no avail.

Name and Address of Facility Contact/Owner/Responsible Party
First Name: Lois Last Name: Baldwin
Facility/Firm: The Laundry Basket
Street: 517 4th St.
City/State/Zip: Luck, WI 54421

I hereby certify that the above information is true and correct to the best of my knowledge.
Signature: Darin Albrecht
Print Name: Darin Albrecht
Firm: MSA

NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ☒ DERF

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

Facility/Project Name: LAUNDRY BASKET	Local Grid Location of Well ☐ ft. ☐ N. ☐ S. ☐ ft. ☐ E. ☐ W.	Well Name: IW-8
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No. / DNR Well ID No.
Facility ID	St. Plane ft. N, ft. E. S/C/N	Date Well Installed: 8 9 1 0 8 1 2 0 1 1 (m m d d y y y y)
Type of Well — Well Code: 61 / IJ	Section Location of Waste/Source: SW 1/4 of SW 1/4 of Sec. 28, T. 36 N, R. 17 ☐ E ☒ W	Well Installed By: Name (first, last) and Firm: Landon Maltzahn; Geiss Soil and Samples
Distance from Waste/Source: 30 ft. — Enf. Stds. Apply ☐	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☒ Downgradient n ☐ Not Known	Gov. Lot Number

A. Protective pipe, top elevation _____ ft. MSL
B. Well casing, top elevation _____ ft. MSL
C. Land surface elevation _____ ft. MSL
D. Surface seal, bottom _____ ft. MSL or 1.0 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☒ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☐

13. Sieve analysis performed? ☐ Yes ☒ No

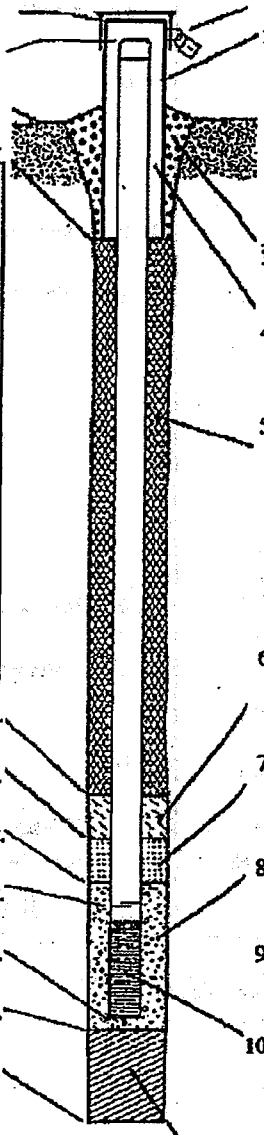
14. Drilling method used: Rotary ☐ 50; Hollow Stem Auger ☒ 41; Other ☐

15. Drilling fluid used: Water ☐ 02 Air ☐ 01 Drilling Mud ☐ 03 None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No
Describe _____

17. Source of water (attach analysis, if required): Lock Municipal Water

E. Bentonite seal, top _____ ft. MSL or 1.0 ft.
F. Fine sand, top _____ ft. MSL or 9.50 ft.
G. Filter pack, top _____ ft. MSL or 9.75 ft.
H. Screen joint, top _____ ft. MSL or 10.0 ft.
I. Well bottom _____ ft. MSL or 20.0 ft.
J. Filter pack, bottom _____ ft. MSL or 20.0 ft.
K. Borehole, bottom _____ ft. MSL or 23.0 ft.
L. Borehole, diameter 8.25 in.
M. O.D. well casing 2.06 in.
N. I.D. well casing 1.89 in.



1. Cap and lock? ☐ Yes ☒ No
2. Protective cover pipe:
a. Inside diameter: 12 in.
b. Length: 1.0 ft.
c. Material: _____ Steel ☒ 04 Other ☐
d. Additional protection? ☐ Yes ☒ No
If yes, describe: _____
3. Surface seal: _____ Bentonite ☐ 30 Concrete ☒ 01 Other ☐
4. Material between well casing and protective pipe: SAND Bentonite ☐ 30 Other ☒
5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. _____ Lbs/gal mud weight ... Bentonite-sand slurry ☐ 35
c. _____ Lbs/gal mud weight ..... Bentonite slurry ☐ 31
d. _____ % Bentonite ..... Bentonite-cement grout ☐ 50
e. 1.6 Ft³ volume added for any of the above
f. How installed: Tremie ☐ 01 Tremie pumped ☐ 02 Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☐ 32
c. _____ Other ☐
7. Fine sand material: Manufacturer, product name & mesh size
a. Red Flint #50
b. Volume added 0.03 ft³
8. Filter pack material: Manufacturer, product name & mesh size
a. Red Flint 3/30-3/16
b. Volume added 2.9 ft³
9. Well casing: Flush threaded PVC schedule 40 ☒ 23 Flush threaded PVC schedule 80 ☐ 24 Other ☐ _____
10. Screen material: PVC
a. Screen type: Factory cut ☒ 11 Continuous slot ☐ 01 Other ☐ _____
b. Manufacturer Monoflex
c. Slot size: 0.03 in.
d. Slotted length: 10.0 ft.
11. Backfill material (below filter pack): NATIVE None ☐ 14 Other ☒

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature	Firm
Dain Albrecht	MSA

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT
Form 4400-113B Rev. 7-98

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☐ Other ☒ DERP

Facility/Project Name	County Name	Well Name	
LAUNDRY BASKET	POLK	IW-8	
Facility License, Permit or Monitoring Number	**County Code**	**Wis. Unique Well Number**	**DNR Well ID Number**
	49		

1. Can this well be purged dry? ☐ Yes ☒ No

2. Well development method
   - surged with bailer and bailed ☐ 41
   - surged with bailer and pumped ☐ 61
   - surged with block and bailed ☐ 42
   - surged with block and pumped ☒ 62
   - surged with block, bailed and pumped ☐ 70
   - compressed air ☐ 20
   - bailed only ☐ 10
   - pumped only ☐ 51
   - pumped slowly ☐ 50
   - Other ______ ☐

3. Time spent developing well 90 min.

4. Depth of well (from top of well casisng) 20.0 ft.

5. Inside diameter of well 2.06 in.

6. Volume of water in filter pack and well casing 10.5 gal.

7. Volume of water removed from well 90.0 gal.

8. Volume of water added (if any) 15.0 gal.

9. Source of water added Luck Municipal Water

10. Analysis performed on water added? ☐ Yes ☐ No (If yes, attach results)

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. 7.69 ft.	7.72 ft.
Date	b. 09/07/2011	09/09/2011
Time	c. 7:10 ☒ a.m. ☐ p.m.	8:40 ☒ a.m. ☐ p.m.
12. Sediment in well bottom	14.0 inches	0.0 inches
13. Water clarity	Clear ☐ 10 / Turbid ☒ 15 (Describe)	Clear ☒ 20 / Turbid ☐ 25 (Describe)

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	N/A mg/l	mg/l
15. COD	N/A mg/l	mg/l

16. Well developed by: Name (first, last) and Firm
First Name: Darin Last Name: Albrecht
Firm: MSA

17. Additional comments on development:

18.83 DTB prior to development
~~HHH HHHHH~~ III
18.30

Name and Address of Facility Contact/Owner/Responsible Party
First Name: Lois Last Name: Baldwin
Facility/Firm: The Laundry Basket
Street: 517 4th St
City/State/Zip: Luck, WI 54421

I hereby certify that the above information is true and correct to the best of my knowledge.
Signature: Darin Albrecht
Print Name: Darin Albrecht
Firm: MSA

NOTE: See instructions for more information including a list of county codes and well type codes.

APPENDIX B

Vapor Mitigation System Documentation

Croix Valley
Radon Mitigation LLC

Val Riedman
Residential Mitigation Provider
#103414RMT

2551 190th St
Luck, WI 54853

Phone: 1-888-481-6870
715-554-0460 Cell
715-472-6870 Fax
www.radonrx.com
val@radonrx.com

MSA Professional Services, Inc.
Project:
The Laundry Basket
Main St
Luck WI 54853

Proposal:

August 17, 2011

A soil communication test will be performed with an Infiltec digital manometer to determine pressure field extension to be expected from the proposed collection pits. Our experience has shown that –2.0 pa or -.008"WC is enough to satisfy seasonal changes in in stack effect in most buildings, thus this is our standard criteria for system design. Fan size will be based on flow rate from each collection pit. A report will be provided of initial readings from test holes with a shop vac and a second after the fans are operating.

Location #1:

Collection point will be located in the south store room at the original location of the dry cleaning machine. A pit will be dug according to soil conditions found and to amplify the soil communication from the pit across the slab area of the laundry area. A core hole is to be drilled by your company and perforated pipe is to be installed in our pit at the location of the dry-cleaning machine. A second pit will be installed behind the west bank of dryers in the store room. These 2 pits will be piped together and depressurized by a single fan mounted on the outside of the south wall of the building. The exhaust for this system will extend up 12" above the roof of this portion of the building.

Location #2:

Will be near the bottom of basement steps under the Scoops Ice Cream shop. The vent pipe will be routed through the storage shelves in the stairway to the basement and then to the attic. The fan for this system will be mounted in the attic and will discharge through the roof.

- All vents will have a varmint guard installed to protect the fan from hail stones, acorns and animals.
- Radonaway fans will be used and have a 5 year warranty. The system will be warranted for a period of 5 years.
- All pipes will be labeled in accordance with EPA standards and insulated in attics areas to reduce condensation and ice issues. A condensation bypass system will be included for the outside fan at location #1.
- Basement cracks, drains, and other openings will be sealed to maintain a negative pressure under the basement slab. This will also reduce the loss of conditioned air from the building.
- A manometer will be installed on a visible section of pipe to warn of system failure.

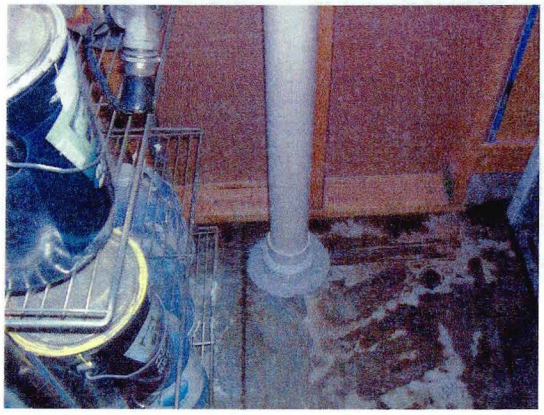
[illegible] includes electrical work

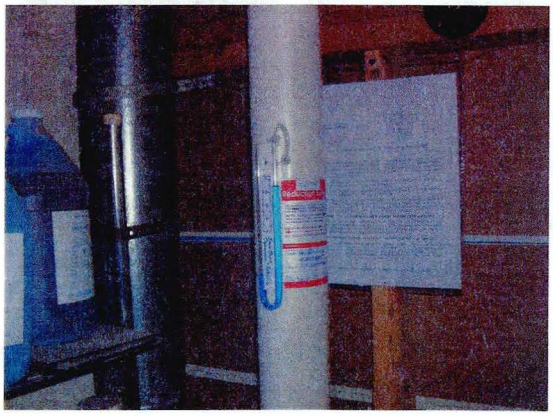
This not a contract or an offer to enter into a contract. It is for our mutual convenience in considering a possible contract.

Sincerely,

Val Riedman

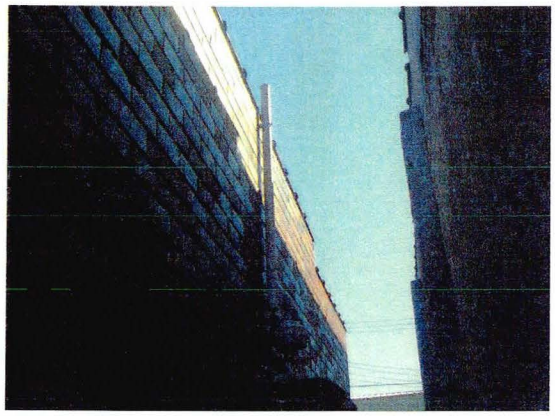
Vapor Mitigation @ Laundry Basket Luck WI
September 9, 2011

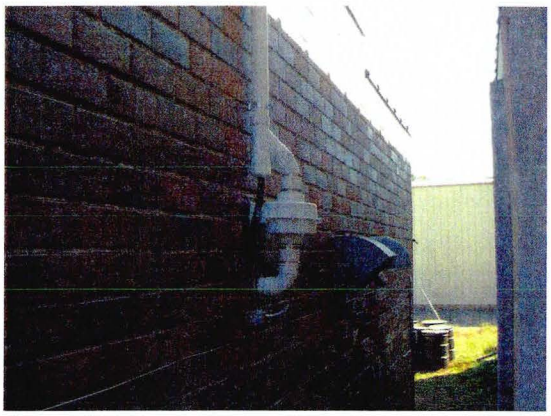




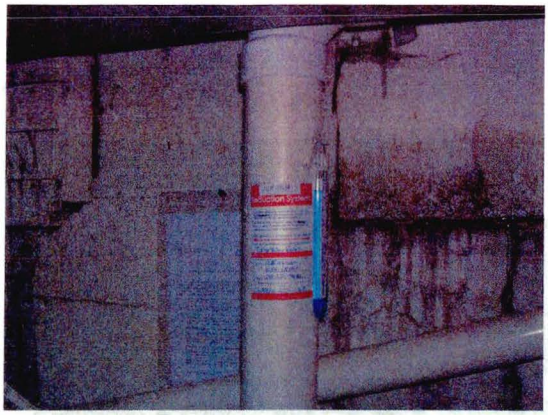
Suction point near dry cleaning equipment

Piping to 2nd suction point located near Water heater @SE corner

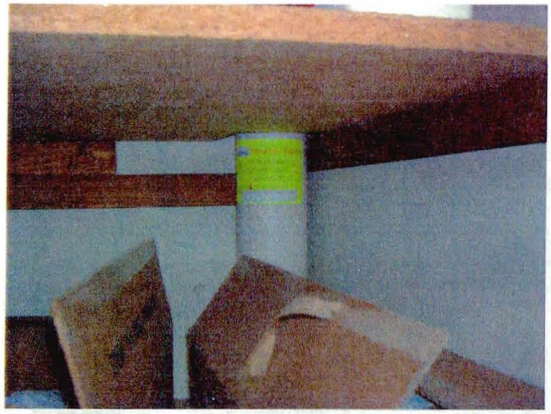




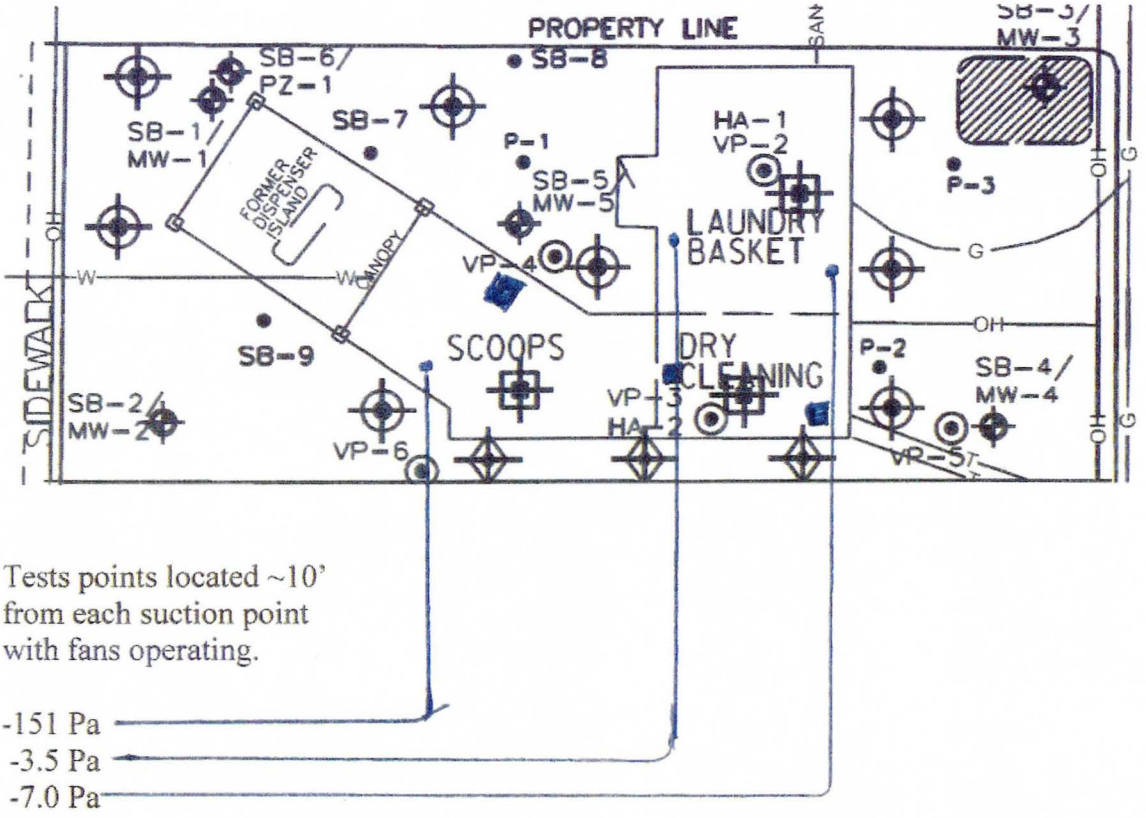
Radonaway GP501 fan for both suction points in laundry area



Suction point in the basement below the Scoop



Pipe passing through stairway closet and roof penetration



Tests points located ~10'
from each suction point
with fans operating.

-151 Pa
-3.5 Pa
-7.0 Pa

All test locations varied from slightly negative <.05 Pa to slightly positive <2.0 Pa with no suction applied. These readings varied due to open doors and dryers operating.

3 Suction Pits are indicated by ■

Fan locations are in the attic above the Scoop Ice Cream Shop and outside on the south side of the building near the former dry cleaning equipment.

2 Radonaway GP501 fans were installed both operating at ~3.5" WC

Croix Valley
Radon Mitigation LLC

Val Riedman
Residential Mitigation Provider
#103414RMT

2551 190th St
Luck, WI 54853

Phone: 1-888-481-6870
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715-472-6870 Fax
www.radonrx.com
val@radonrx.com

Vapor Mitigation System

Principles of Operation and Maintenance of your System

Your system is designed to run continually in order to maintain a negative pressure beneath the basement floor. There is no regular maintenance required except to regularly check to see if the fan is operating. To do so simply view the manometer installed on the pipe to insure that it isn't reading zero. If it does read zero please follow the procedure listed below.

1. Make sure that the circuit to the fan is on. If this is the case the fan should be able to be heard running from near by.
2. If the fan is functioning but the manometer still reads zero, then there must be a blockage on the exhaust side of the fan.
3. During winter it is possibly that a build up of ice could plug the vent pipe and cause the system to stop working. This is usually a temporary event and it will clear by itself. If this problem occurs during warmer temperatures, check the outlet end of the vent for some other type of blockage.

What if the manometer is reading higher than the initial pressure?

This can happen during the spring and after very wet periods. What might occur is that the water table could rise to a point under the intake pipe in the basement floor causing the fan not to be able to suction air properly from the soil. This would most likely be a temporary situation.

What if the manometer is reading lower than the initial pressure?

This would indicate that the fan is moving more air than before. It could indicate that there is a leak in the vent pipe below the fan or in the seal where the pipe enters the basement floor or sump basket. It could also mean that a major crack or opening has occurred near the suction point in the floor. Small fluctuations will occur due to the moisture content of the soil.

Initial operating pressure 3.5 Date of Installation 9-8-2011

IMPORTANT INSTRUCTIONS TO INSTALLER

Inspect the GPx01/XP/XR Series Fan for shipping damage within 15 days of receipt. Notify RadonAway of any damages immediately. Radonaway is not responsible for damages incurred during shipping. However, for your benefit, Radonaway does insure shipments.

There are no user serviceable parts inside the fan. **Do not attempt to open.** Return unit to factory for service.

Install the GPx01/XP/XR Series Fan in accordance with all EPA standard practices, and state and local building codes and state regulations.

WARRANTY

Subject to any applicable consumer protection legislation, RadonAway warrants that the GPX01/XP/XR Series Fan (the "Fan") will be free from defects in materials and workmanship for a period of 90 days from the date of purchase (the "Warranty Term").

RadonAway will replace any Fan which fails due to defects in materials or workmanship. The Fan must be returned (at Owner's cost) to the RadonAway factory. Any Fan returned to the factory will be discarded unless the Owner provides specific instructions along with the Fan when it is returned regardless of whether or not the Fan is actually replaced under this warranty. Proof of purchase must be supplied upon request for service under this Warranty.

This Warranty is contingent on installation of the Fan in accordance with the instructions provided. This Warranty does not apply where any repairs or alterations have been made or attempted by others, or if the unit has been abused or misused. Warranty does not cover damage in shipment unless the damage is due to the negligence of RadonAway.

5 YEAR EXTENDED WARRANTY WITH PROFESSIONAL INSTALLATION.

RadonAway will extend the Warranty Term of the fan to 5 years from date of manufacture if the Fan is installed in a professionally designed and professionally installed radon system or installed as a replacement fan in a professionally designed and professionally installed radon system. Proof of purchase and/or proof of professional installation may be required for service under this warranty. Outside the Continental United States and Canada the extended Warranty Term is limited to one (1) year from the date of manufacture.

RadonAway is not responsible for installation, removal or delivery costs associated with this Warranty

EXCEPT AS STATED ABOVE, THE GPx01/XP/XR SERIES FANS ARE PROVIDED WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

IN NO EVENT SHALL RADONAWAY BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES ARISING OUT OF, OR RELATING TO, THE FAN OR THE PERFORMANCE THEREOF. RADONAWAY'S AGGREGATE LIABILITY HEREUNDER SHALL NOT IN ANY EVENT EXCEED THE AMOUNT OF THE PURCHASE PRICE OF SAID PRODUCT. THE SOLE AND EXCLUSIVE REMEDY UNDER THIS WARRANTY SHALL BE THE REPAIR OR REPLACEMENT OF THE PRODUCT, TO THE EXTENT THE SAME DOES NOT MEET WITH RADONAWAY'S WARRANTY AS PROVIDED ABOVE.

For service under this Warranty, contact RadonAway for a Return Material Authorization (RMA) number and shipping information. No returns can be accepted without an RMA. If factory return is required, the customer assumes all shipping cost to and from factory.

RadonAway
3 Saber Way
Ward Hill, MA 01835
TEL. (978) 521-3703
FAX (978) 521-3964

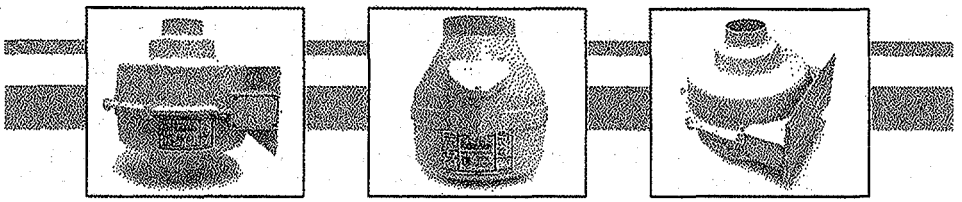
Record the following information for your records:

Serial No. G-PS01

Purchase Date 9-8-2011

RadonAway™

The World's Leading Radon Fan Manufaturer



GP/XP/XR Series Installation Instructions

Please Read And Save These Instructions

DO NOT CONNECT POWER SUPPLY UNTIL FAN IS COMPLETELY INSTALLED. MAKE SURE ELECTRICAL SERVICE TO FAN IS LOCKED IN "OFF" POSITION. DISCONNECT POWER BEFORE SERVICING FAN.

1. WARNING! Do not use fan in hazardous environments where fan electrical system could provide ignition to combustible of flammable materials.
2. WARNING! Do not use fan to pump explosive or corrosive gases.
3. WARNING! Check voltage at the fan to insure it corresponds with nameplate.
4. WARNING! Normal operation of this device may affect the combustion airflow needed for safe operation of fuel burning equipment. Check for possible backdraft conditions on all combustion devices after installation.
5. NOTICE! There are no user serviceable parts located inside the fan unit. Do NOT attempt to open. Return unit to the factory for service.
6. All wiring must be performed in accordance with the National Fire Protection Association's (NFPA)"National Electrical Code, Standard #70"-current edition for all commercial and industrial work, and state and local building codes. All wiring must be performed by a qualified and licensed electrician.
7. WARNING! Do not leave fan unit installed on system piping without electrical power for more than 48 hours. Fan failure could result from this non-operational storage.
8. WARNING - TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS, OBSERVE THE FOLLOWING:
   a) Use this unit only in the manner intended by the manufacturer. If you have questions, contact the manufacturer.
   b) Before servicing or cleaning unit, switch power off at service panel and lock the service disconnecting means to prevent power from being switched on accidentally. When the service disconnecting means cannot be locked, securely fasten a prominent warning device, such as a tag, to the service panel.

RadonAway
3 Saber Way | Ward Hill, MA 01835
www.radonaway.com

1.8 ELECTRICAL WIRING

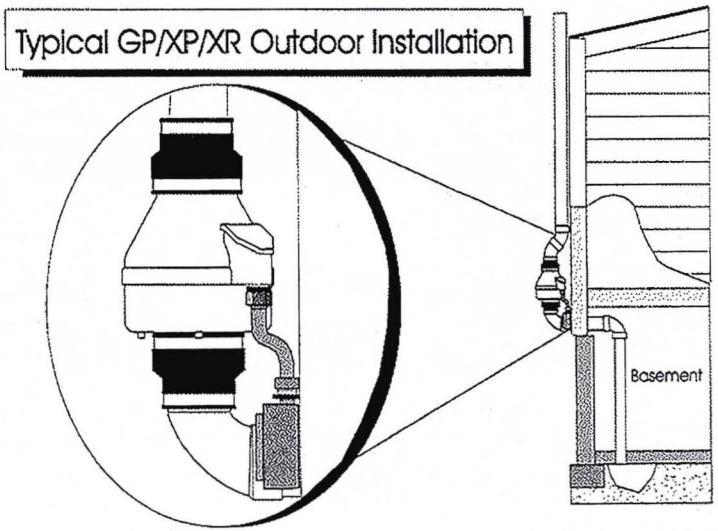
The GP/XP/XR Series Fans operate on standard 120V 60 Hz. AC. All wiring must be performed in accordance with the National Fire Protection Association's (NFPA)"National Electrical Code, Standard #70"-current edition for all commercial and industrial work, and state and local building codes. All wiring must be performed by a qualified and licensed electrician. Outdoor installations require the use of a U.L. listed watertight conduit. Ensure that all exterior electrical boxes are outdoor rated and properly sealed to prevent water penetration into the box. A means, such as a weep hole, is recommended to drain the box.

1.9 SPEED CONTROLS

The GP/XP/XR Series Fans are rated for use with electronic speed controls however, they are generally not recommended. If used, the speed control recommended is Pass & Seymour Solid State Speed Control Cat. No. 94601-I.

2.0 INSTALLATION

The GP/XP/XR Series Fan can be mounted indoors or outdoors. (It is suggested that EPA recommendations be followed in choosing the fan location.) The GP/XP/XR Series Fan may be mounted directly on the system piping or fastened to a supporting structure by means of optional mounting bracket.



2.1 MOUNTING

Mount the GP/XP/XR Series Fan vertically with outlet up. Insure the unit is plumb and level. When mounting directly on the system piping assure that the fan does not contact any building surface to avoid vibration noise.

2.2 MOUNTING BRACKET (optional)

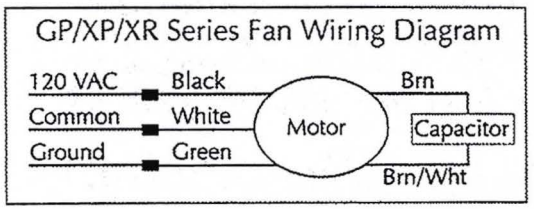
The GP/XP/XR Series Fan may be optionally secured with the integral mounting bracket on the GP Series Fan or with RadonAway P/N 25007-2 mounting bracket for an XP/XR Series Fan. Foam or rubber grommets may also be used between the bracket and mounting surface for vibration isolation.

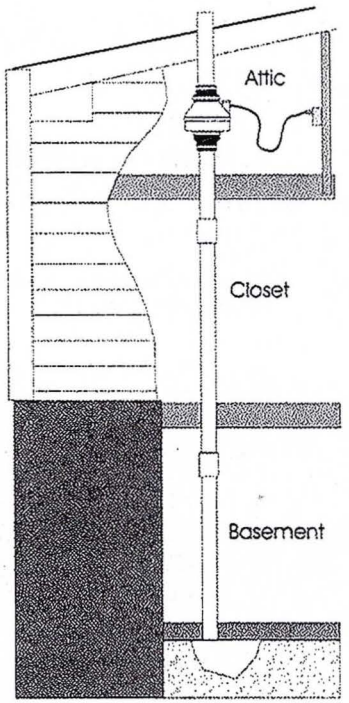
2.3 SYSTEM PIPING

Complete piping run, using flexible couplings as means of disconnect for servicing the unit and vibration isolation.

2.4 ELECTRICAL CONNECTION

Connect wiring with wire nuts provided, observing proper connections (See Section 1.8):





2.5 VENT MUFFLER (optional)

Install the muffler assembly in the selected location in the outlet ducting. Solvent weld all connections. The muffler is normally installed at the end of the vent pipe.

2.6 OPERATION CHECKS

____ **Verify** all connections are tight and **leak-free.**

____ **Insure** the GP/XP/XR Series Fan and all ducting is secure and vibration-free.

____ **Verify** system vacuum pressure with manometer. **Insure** vacuum pressure is **less than** maximum recommended operating pressure
(Based on sea-level operation, at higher altitudes reduce by about 4% per 1000 Feet.)
(Further reduce Maximum Operating Pressure by 10% for High Temperature environments)
See Product Specifications. If this is exceeded, increase the number of suction points.

____ **Verify Radon levels by testing to EPA protocol.**

RadonAway™

INSTALLATION INSTRUCTION IN014 Rev H

XP/XR Series		GP Series	
XP101	p/n 23008-1	GP201	p/n 23007-1
XP151	p/n 23010-1	GP301	p/n 23006-1
XP201	p/n 23011-1	GP401	p/n 23009-1
XR261	p/n 23019-1	GP501	p/n 23005-1

1.0 SYSTEM DESIGN CONSIDERATIONS

1.1 INTRODUCTION

The GP/XP/XR Series Radon Fans are intended for use by trained, professional Radon mitigators. The purpose of this instruction is to provide additional guidance for the most effective use of a fan. This instruction should be considered as a supplement to EPA standard practices, state and local building codes and state regulations. In the event of a conflict, those codes, practices and regulations take precedence over this instruction.

1.2 ENVIRONMENTALS

The GP/XP/XR Series Fans are designed to perform year-round in all but the harshest climates without additional concern for temperature or weather. For installations in an area of severe cold weather, please contact RadonAway for assistance. When not in operation, the fan should be stored in an area where the temperature is never less than 32° F. or more than 100° F.

1.3 ACOUSTICS

The GP/XP/XR Series Fan, when installed properly, operates with little or no noticeable noise to the building occupants. The velocity of the outgoing air should be considered in the overall system design. In some cases the "rushing" sound of the outlet air may be disturbing. In these instances, the use of a RadonAway Exhaust Muffler is recommended.

1.4 GROUND WATER

In the event that a temporary high water table results in water at or above slab level, water may be drawn into the riser pipes thus blocking air flow to the GP/XP/XR Series Fan. The lack of cooling air may result in the fan cycling on and off as the internal temperature rises above the thermal cutoff and falls upon shutoff. Should this condition arise, it is recommended that the fan be turned off until the water recedes allowing for return to normal operation.

1.5 SLAB COVERAGE

The GP/XP/XR Series Fan can provide coverage up to 2000+ sq. ft. per slab penetration. This will primarily depend on the sub-slab material in any particular installation. In general, the tighter the material, the smaller the area covered per penetration. Appropriate selection of the GP/XP/XR Series Fan best suited for the sub-slab material can improve the slab coverage. The GP & XP Series have a wide range of models to choose from to cover a wide range of subslab material. The higher static suction fans are generally used for tighter subslab materials. The XR Series is specifically designed for high flow applications such as stone/gravel and drain tile. Additional suction points can be added as required. It is recommended that a small pit (5 to 10 gallons in size) be created below the slab at each suction hole.

1.6 CONDENSATION & DRAINAGE

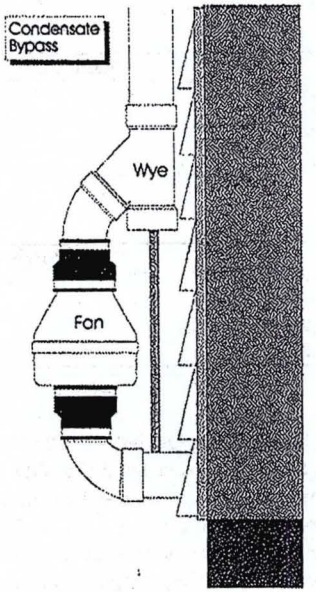
Condensation is formed in the piping of a mitigation system when the air in the piping is chilled below its dew point. This can occur at points where the system piping goes through unheated space such as an attic, garage or outside. The system design must provide a means for water to drain back to a slab hole to remove the condensation. The GP/XP/XR Series Fan **MUST** be mounted vertically plumb and level, with the outlet pointing up for proper drainage through the fan. Avoid mounting the fan in any orientation that will allow water to accumulate inside the fan housing. The GP/XP/XR Series Fans are **NOT** suitable for underground burial.

For GP/XP/XR Series Fan piping, the following table provides the minimum recommended pipe diameter and pitch under several system conditions.

Pipe Dia.	Minimum Rise per Foot of Run* @25 CFM	@50 CFM	@100 CFM
4"	1/8"	1/4"	3/8"
3"	1/4"	3/8"	1 1/2"

*Typical GP/XP/XR Series Fan operational flow rate is 25 - 90 CFM.
(For more precision, determine flow rate by using the chart in the addendum.)

Under some circumstances in an outdoor installation a condensate bypass should be installed in the outlet ducting as shown. This may be particularly true in cold climate installations which require long lengths of outlet ducting or where the outlet ducting is likely to produce large amounts of condensation because of high soil moisture or outlet duct material. Schedule 20 piping and other thin-walled plastic ducting and Aluminum downspout will normally produce much more condensation than Schedule 40 piping.



The bypass is constructed with a 45 degree Wye fitting at the bottom of the outlet stack. The bottom of the Wye is capped and fitted with a tube that connects to the inlet piping or other drain. The condensation produced in the outlet stack is collected in the Wye fitting and drained through the bypass tube. The bypass tubing may be insulated to prevent freezing.

1.7 "SYSTEM ON" INDICATOR

A properly designed system should incorporate a "System On" Indicator for affirmation of system operation. A manometer, such as a U-Tube, or a vacuum alarm is recommended for this purpose.

XP/XR SERIES PRODUCT SPECIFICATIONS

The following chart shows fan performance for the XP & XR Series Fan:

	Typical CFM Vs Static Suction "WC								
	0"	.25"	.5"	.75"	1.0"	1.25"	1.5"	1.75"	2.0"
XP101	125	118	90	56	5	-	-	-	-
XP151	180	162	140	117	78	46	10	-	-
XP201	150	130	110	93	74	57	38	20	-
XR261	250	215	185	150	115	80	50	20	-

Maximum Recommended Operating Pressure*		
XP101	0.9" W.C.	(Sea Level Operation)**
XP151	1.3" W.C.	(Sea Level Operation)**
XP201	1.7" W.C.	(Sea Level Operation)**
XR261	1.6" W.C.	(Sea Level Operation)**

Reduce by 10% for High Temperature Operation
***Reduce by 4% per 1000 feet of altitude*

Power Consumption @ 120 VAC	
XP101	40 - 49 watts
XP151	45 - 60 watts
XP201	45 - 66 watts
XR261	65 - 105 watts

XP Series Inlet/Outlet: 4.5" OD (4.0" PVC Sched 40 size compatible)
XR Series Inlet/Outlet: 5.875" OD
Mounting: Mount on the duct pipe or with optional mounting bracket.
Recommended ducting: 3" or 4" Schedule 20/40 PVC Pipe
Storage temperature range: 32 - 100 degrees F.
Normal operating temperature range: -20 - 120 degrees F.
Maximum inlet air temperature: 80 degrees F.
Size: 9.5H" x 8.5" Dia.
Weight: 6 lbs. (XR261 - 7 lbs)

Continuous Duty
Thermally Protected
Class B Insulation
3000 RPM
Residential Use Only
Rated for Indoor or Outdoor Use

LISTED Electric Fan ETL® 77728 Tested to UL Std. 507

GP SERIES PRODUCT SPECIFICATIONS

The following chart shows fan performance for the GP Series Fan:

	Typical CFM Vs Static Suction "WC						
	1.0"	1.5"	2.0"	2.5"	3.0"	3.5"	4.0"
GP501	95	87	80	70	57	30	5
GP401	93	82	60	38	12	-	-
GP301	92	77	45	10	-	-	-
GP201	82	58	5	-	-	-	-

Maximum Recommended Operating Pressure*		
GP501	3.8" W.C.	(Sea Level Operation)**
GP401	3.0" W.C.	(Sea Level Operation)**
GP301	2.4" W.C.	(Sea Level Operation)**
GP201	1.8" W.C.	(Sea Level Operation)**

**Reduce by 10% for High Temperature Operation*
***Reduce by 4% per 1000 feet of altitude*

Power Consumption @ 120 VAC	
GP501	70 - 140 watts
GP401	60 - 110 watts
GP301	55 - 90 watts
GP201	40 - 60 watts

Inlet/Outlet: 3.5" OD (3.0" PVC Sched 40 size compatible)
Mounting: Fan may be mounted on the duct pipe or with integral flanges.
Weight: 12 lbs.
Size: 13H" x 12.5" x 12.5"
Recommended ducting: 3" or 4" Schedule 20/40 PVC Pipe
Storage temperature range: 32 - 100 degrees F.
Normal operating temperature range: -20 - 120 degrees F.
Maximum inlet air temperature: 80 degrees F.

Continuous Duty
Class B Insulation
3000 RPM
Thermally Protected
Rated for Indoor or Outdoor Use

LISTED Electric Fan ETL® 77728 Tested to UL Std. 507