



Mike Schmoller
Project Manager
Wisconsin Department of Natural Resources
South Central Region
3911 Fish Hatchery Rd
Fitchburg WI 53711

Subject:

Summary of Residential Sub-Slab Depressurization System Work, Madison-Kipp Corporation Site, 201 Waubesa Street, Madison, Wisconsin.

Dear Mr. Schmoller:

On behalf of Madison-Kipp Corporation, this letter provides a summary of the sub-slab depressurization system (SSDS) work performed in May 2012 at neighboring residences to the Madison-Kipp site located at 201 Waubesa Street in Madison, Wisconsin (site). A total of 5 residences (146, 150, 154, 162, and 166 South Marquette Street) adjacent to the site currently have an operating SSDS. Inspections were performed at each of the 5 residences on May 1, 2012. The inspections were documented in the *Results of Sub-Slab Depressurization System Inspection* letters dated May 15, 2012 and submitted to each home owner, the Wisconsin Department of Health Services (WDHS), and the Wisconsin Department of Natural Resources (WDNR). Copies of the letters are provided as Attachment A.

Recommendations for improvements to the SSDSs were presented, specific to each residence, in the *Results of Sub-Slab Depressurization System Inspection* letters. Access was provided to ARCADIS and Radon, Inc., to complete SSDS improvements at each of the residences.

The following repairs were completed at 166 South Marquette Street on May 22, 2012:

- The existing RadonAway XR261 fan was replaced with a RadonAway RP145 fan.
- An exterior disconnect switch was installed. New wiring was installed from the new fan/disconnect switch to a basement outlet. The breaker in the electric panel powering the fan was labeled.

ARCADIS U.S., Inc.
126 North Jefferson Street
Suite 400
Milwaukee
Wisconsin 53202
Tel 414 276 7742
Fax 414 276 7603
www.arcadis-us.com

ENVIRONMENT

Date:

May 23, 2012

Contact:

Jennine Trask

Phone:

414.277.6203

Email:

Jennine.Trask@arcadis-us.com

Our ref:

WI001283.0001

- Cracks in the basement block walls were sealed with polyurethane caulking. Expansion joints in the basement floor did not exist, so no sealing of joints was necessary.
- The discharge piping was replaced with 4-inch Schedule 40 polyvinyl chloride piping and extended to 1 foot above the roofline. A new galvanized bracket was installed to secure the new piping. A condensate bypass was included in the new piping.
- The exterior piping was painted with Krylon Fusion paint to prevent deterioration from exposure to sunlight.
- Testing of the sub-slab vacuum influence was conducted upon completion of the fan replacement. Based on the SSDS testing, the SSDS is depressurizing the sub-slab appropriately.

The following repairs were completed at 154 South Marquette Street on May 23, 2012:

- A portion of the stairs was removed to access and evaluate the crawlspace under the front porch.
- Four-inch perforated drain tile was installed in the crawlspace.
- Four-inch Schedule 40 PVC piping was connected to the drain tile and routed up the outside of the home to a discharge location approximately 1 foot above the roof line. A RadonAway RP145 fan was installed in the exterior piping. An exterior disconnect switch was installed. Wiring was installed from the new fan/disconnect switch to a basement outlet. The breaker in the electric panel powering the fan was labeled.
- The exterior piping was painted with Krylon Fusion paint to prevent deterioration from exposure to sunlight.

The following work will be completed at 154 South Marquette Street on May 24, 2012:

- A membrane will be installed (above the drain tile) to seal the dirt floor area in the crawlspace. The membrane to be installed is 6-mil polyethylene. The

edges of the membrane will be sealed to the basement foundation wall on one side and secured to the ground with concrete blocks on the other three sides since no footing is present to attach to. The penetrations through the membrane will be sealed.

The following repairs were scheduled for completion at 162 South Marquette Street on May 23, 2012; however, the tenant was not present for access and this work will be re-scheduled:

- Sealing of a crack around patched concrete, which extends around the perimeter of the basement floor.
- Painting the exterior piping and brackets to prevent deterioration from exposure to sunlight.

The following repairs are scheduled for 146 South Marquette Street on May 24, 25, and 29, 2012:

- Entry into three crawlspaces to determine if the floors are dirt or concrete.
- Perforated drain tile will be installed, if necessary, in the crawlspaces. A membrane will be installed (above the drain tile) to seal dirt floor areas in the crawlspaces. The membrane(s) installed will be a minimum of 6-mil polyethylene. The edges of the membrane(s) will be sealed and any penetrations through the membrane will be sealed.
- Schedule 40 PVC piping will be connected to the drain tile under each liner and routed to the exiting SSDS riser piping in the basement. Valves will be installed in each of these lines.
- Testing of the sub-slab vacuum influence will be conducted upon completion of the addition of the crawlspace SSDSs to existing system to confirm that adequate coverage has been maintained.

The following repairs for 150 South Marquette Street are not currently scheduled and will be completed following receipt of access from homeowner:

- Sealing of an opening in the basement wall around an abandoned pipe

- Painting of the exterior piping and brackets on the initial SSDS to prevent deterioration from exposure to sunlight.
- Additional testing of vacuum influence during the 2013 heating season is recommended to determine if ongoing operation of two systems is necessary during the "worst case" heating season.

Due to the discovery of previously unknown crawl spaces during inspections within the homes at 146 and 154 South Marquette Street, additional evaluations were required for these residences. As noted above, inspections, appropriate sealing of the crawlspaces, and improvements to the SSDS, if necessary, are scheduled to be performed at 146 South Marquette on May 24, 25, and 29, 2012. Follow-up correspondence to WDNR to document the work at this residence and 162 South Marquette will be forthcoming upon completion. In addition, if access is granted to 150 South Marquette, and improvements can be completed, this documentation will be provided to the WDNR.

If you have any questions or require any additional information, please contact us at 414.276.7742.

Sincerely,
ARCADIS U.S., Inc.



Christopher D. Kubacki, PE
Project Engineer



Jehnine L. Trask, PE
Project Manager

Attachments:

A Residential SSDS Inspection Letters

Copies:

David Crass – Michael Best
Mark Meunier – Madison Kipp
Steve Tinker – Wisconsin Department of Justice



Mr. Eric Fuller and Ms. Kathleen McHugh
146 S. Marquette Street
Madison, Wisconsin 53704

Subject:
Results of Sub-Slab Depressurization System Inspection, 146 S. Marquette Street,
Madison, Wisconsin 53704

Dear Mr. Fuller and Ms. McHugh:

On May 1, 2012, ARCADIS personnel, on behalf of Madison-Kipp, completed an inspection of the sub-slab depressurization system (SSDS) at your home, located at 146 S. Marquette Street in Madison, Wisconsin. This work was completed in cooperation with and with the prior approval of the Wisconsin Department of Natural Resources.

Based on the observations made during the inspection, the SSDS is depressurizing the basement sub-slab appropriately. However, a depressurization system has not been installed in the crawlspace areas. Therefore the following activities are recommended:

- Entry into three crawlspaces to determine if the floors are dirt or concrete.
- Sealing of the crawlspace floors as necessary. A membrane will be installed to seal any dirt floor areas.
- Design and installation of sub-membrane or sub-slab depressurization for the crawlspaces.

A test of the sub-slab vacuum influence will be conducted upon completion of the system modifications to verify continued depressurization of the basement slab. The work described above will be completed under the direction of ARCADIS by a subcontractor. It is anticipated that this work will require approximately 2 days to complete. ARCADIS will be contacting you to schedule the work.

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ENVIRONMENT

Date:
May 15, 2012

Contact:
Jennine Trask

Phone:
414.277.6203

Email:
Jennine.trask@arcadis-us.com

Our ref:
WI001283.00005

Imagine the result

A copy of the inspection notes is enclosed for your reference.

Sincerely,

ARCADIS U.S., Inc.



Jennine L. Trask, PE
Project Manager

Copies:

Norman Berger, Esq.

David A. Crass, Esq.

Dr. Henry Nehls-Lowe – WDHS

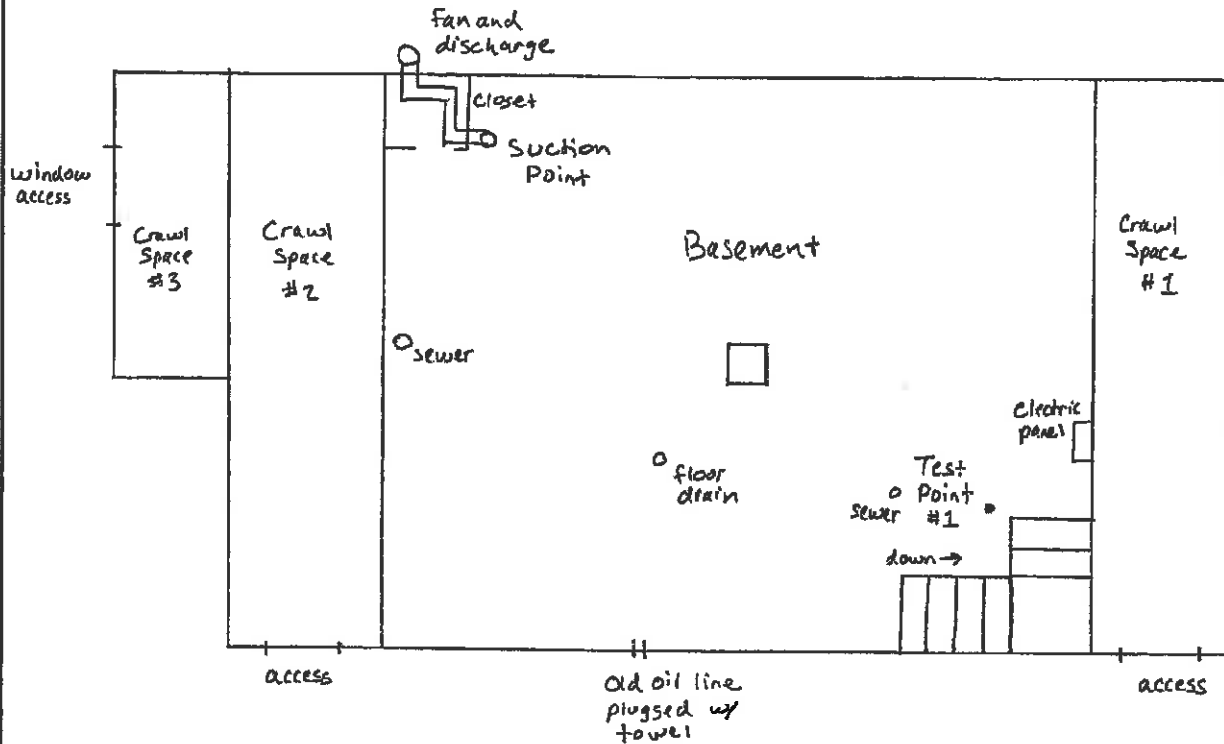
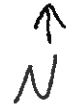
Michael Schmoller – WDNR

Attachments:

Field Notes

DRAFT - Privileged & Confidential

Not to Scale



SSDS Piping: 4" Thin Walled

Fan: VenTech Dominator 801

Smoke Test @ Test Point #1: passed by micromanometer - 0.027 to -0.0029 in wc
 (doors shut, heat/AC off)

U-Tube: 3.6 in wc

Openings: crawl spaces - dirt?

Discharge Location: meets requirements

Electrical: junction box and plug labeled

Foundation: unfinished basement w/ concrete floor and poured walls,
 3 crawl spaces



Ms. Deanna Schneider
150 S. Marquette Street
Madison, Wisconsin 53704

Subject:
Results of Sub-Slab Depressurization System Inspection, 150 S. Marquette Street,
Madison, Wisconsin 53704

Dear Ms. Schneider:


On May 1, 2012, ARCADIS personnel, on behalf of Madison-Kipp, completed an inspection of the sub-slab depressurization system (SSDS) at your home, located at 150 S. Marquette Street in Madison, Wisconsin. This work was completed in cooperation with and with the prior approval of the Wisconsin Department of Natural Resources (WDNR).

Based on the observations made during the inspection, the SSDS is depressurizing the sub-slab appropriately. However, the following activities are recommended to promote continued successful operation:

- Seal an opening in the basement wall around an abandoned pipe.
- Paint the exterior piping and brackets on the initial SSDS (to prevent deterioration from exposure to sunlight).
- Additional testing of vacuum influence during the heating season to determine if ongoing operation of two systems is necessary during the "worst case" season.

The work described above will be completed under the direction of ARCADIS by a subcontractor. It is anticipated that this work will require approximately 1 hour to complete. ARCADIS will be contacting you to schedule the work.

A copy of the inspection notes is enclosed for your reference.

Sincerely,
ARCADIS U.S., Inc.

Jennine L. Trask, PE
Project Manager

Copies:
Norman Berger, Esq.
David A. Crass, Esq.
Dr. Henry Nehls-Lowe – WDHS
Michael Schmoller – WDNR

Attachments:
Field Notes

Imagine the result

g:\project\madisonkipp\001283\com\home owner 150.docx

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Our ref:
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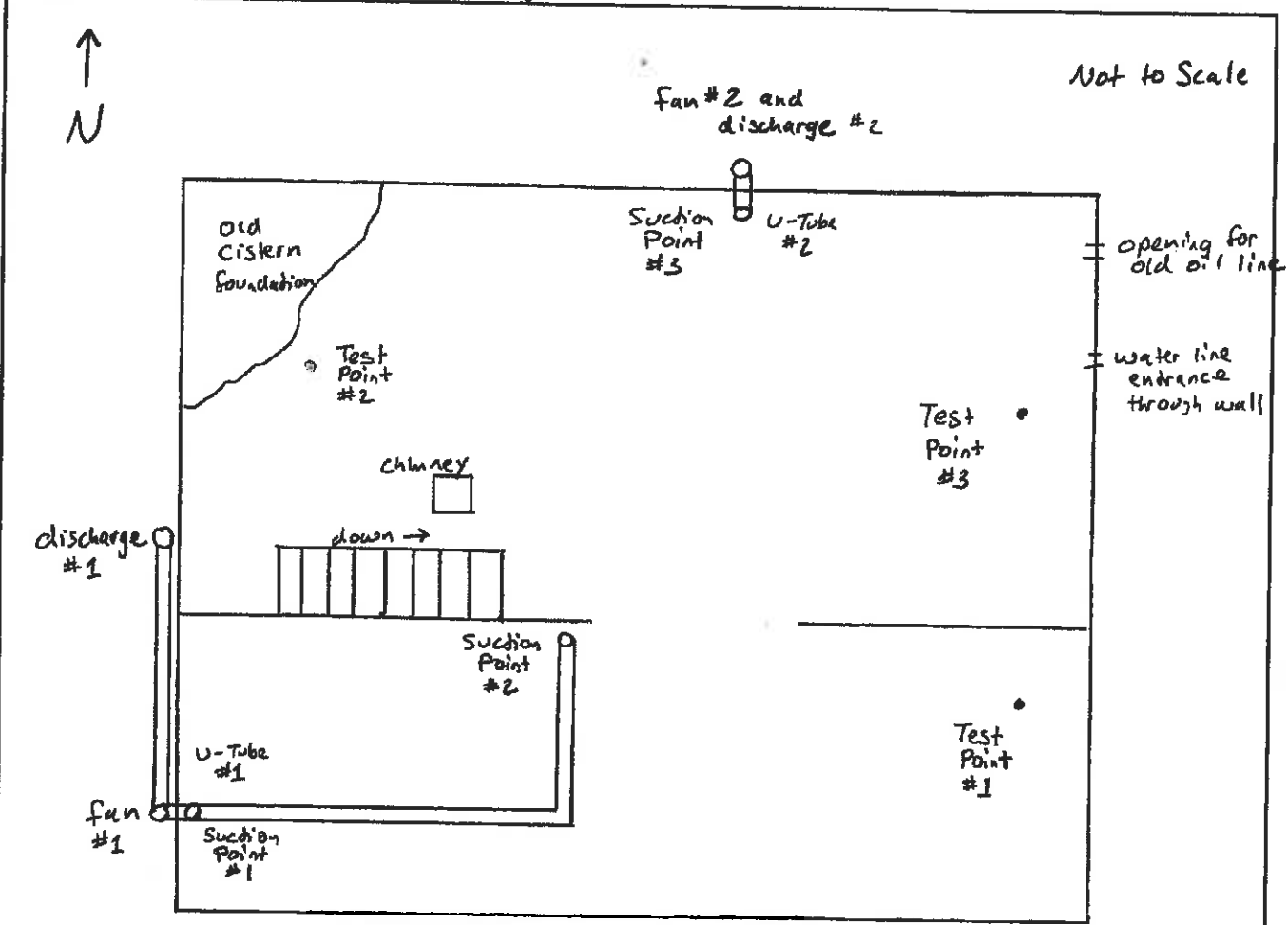


SUBJECT: 1505 Marguette St.
 Basement Layout
 JOB NO:

BY: RS DATE: 5/11/12
 CHKD: DATE:

PAGE
 SHEET /

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SSDS Piping 4" Thin Walled

Fan #1 and #2: VenTech Dominator 801
 U-Tube #1: 3.7 in wc U-Tube #2: 3.4 in wc

	Both fans on	Fan #2 off	Fan #2 off heat on	Fan #2 off doors closed heat and dryer on
Test Point #1	-0.020	-0.014 to -0.015	-0.011 to -0.010	-0.007 to -0.008
Test Point #2	-0.410	-0.040	-0.045 to -0.048	-0.039 to -0.045
Test Point #3	-0.009 to -0.011	-0.009 to -0.010	NM	-0.007 to -0.012

- Notes
- Hot water heat
 - Dryer vents to outside
 - data in inches of water column
 - NM = not measured

Openings: opening around oil line
 Discharge Locations: #1 & #2 meet requirements
 Electrical: Systems #1 & #2 Junction boxes and plugs labeled
 Foundation: Unfinished basement, concrete floor



Mr. Prentice Berge
154 S. Marquette Street
Madison, Wisconsin 53704

Subject:
Results of Sub-Slab Depressurization System Inspection, 154 S. Marquette Street,
Madison, Wisconsin 53704

Dear Mr. Prentice Berge:

On May 1, 2012, ARCADIS personnel, on behalf of Madison-Kipp, completed an inspection of the sub-slab depressurization system (SSDS) at your home, located at 154 S. Marquette Street in Madison, Wisconsin. This work was completed in cooperation with and with the prior approval of the Wisconsin Department of Natural Resources.

Based on the observations made during the inspection, the SSDS is depressurizing the basement sub-slab appropriately. However, a depressurization system has not been installed in the crawlspace area of your home. Therefore, the following activities are recommended:

- Determine the location of any existing entrance to the crawlspace located under the front porch. If an entrance is not able to be located, propose a location to create an entrance. Enter the crawlspace to determine if the floors are dirt or concrete.
- Seal the crawlspace floors as necessary. A membrane will be installed to seal any dirt floor areas.
- Design and installation of a sub-membrane or sub-slab depressurization system for the crawlspace.
- Paint the existing exterior piping and brackets (to prevent deterioration from exposure to sunlight).

The work described above will be completed under the direction of ARCADIS by a subcontractor. It is anticipated that this work will be completed in approximately 1 day. ARCADIS will be contacting you this week to schedule the work.

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ENVIRONMENT

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May 15, 2012

Contact:
Jennine Trask

Phone:
414.277.6203

Email:
Jennine.trask@arcadis-us.com

Our ref:
WI001283.00005

Imagine the result

A copy of the inspection notes is enclosed for your reference.

Sincerely,

ARCADIS U.S., Inc.



Jennine L. Trask, PE
Project Manager

Copies:

Norman Berger, Esq.

David A. Crass, Esq.

Dr. Henry Nehls-Lowe – WDHS

Michael Schmoller – WDNR

Attachments:

Field Notes



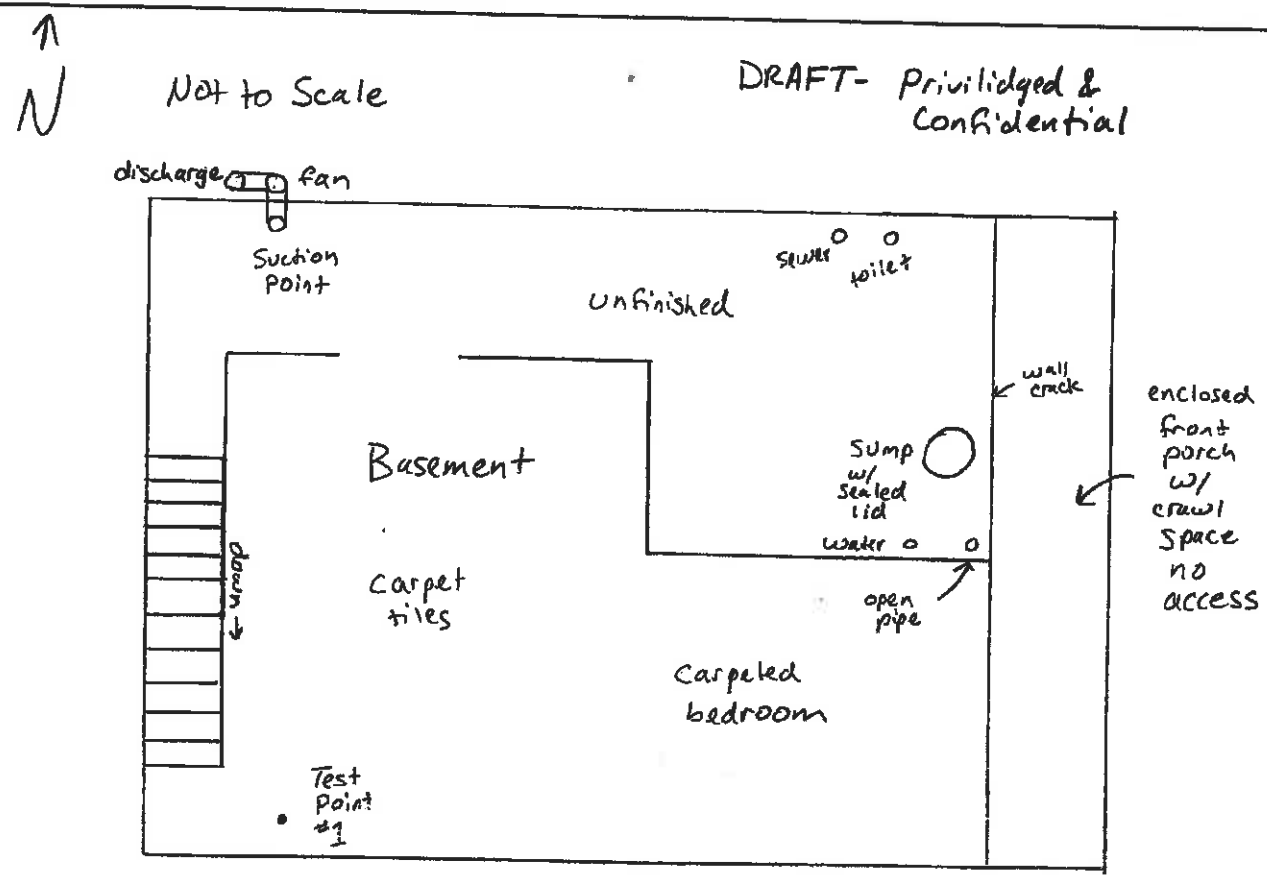
SUBJECT: 154 S. Marquette St.
Basement/Crawl Space Layout
JOB NO: Prendice and Dorris Berge

BY: RS DATE: 8/11/12
CHKD: DATE:

PAGE

SHEET /

345-2748



- Sump Lid - sealed
- SSDS Piping: 4" Thin Walled
- Fan: VentTech Dominator 801
- Smoke Test @ Test Point #1: passed, micromanometer -0.004 to -0.005 (furnace and water heater on)
- U-Tube: 3.6 in wc
- Openings: crawl space, wall crack, open pipe (dirt?)
- Discharge Location: meets requirements
- Electrical: Junction Box and Plug labeled
- Foundation: Partially finished basement w/ concrete floor and poured walls, 1 crawl space



Mr. Peter Uttech
162 S. Marquette Street
Madison, Wisconsin 53704

Subject:
Results of Sub-Slab Depressurization System Inspection, 162 S. Marquette Street,
Madison, Wisconsin 53704

Dear Mr. Uttech:

On May 1, 2012, ARCADIS personnel, on behalf of Madison-Kipp, completed an inspection of the sub-slab depressurization system (SSDS) at your home, located at 162 S. Marquette Street in Madison, Wisconsin. This work was completed in cooperation with and with the prior approval of the Wisconsin Department of Natural Resources.

Based on the observations made during the inspection, the SSDS is depressurizing the sub-slab appropriately. However, the following activities are recommended to promote continued successful operation:

- Sealing of crack around patched concrete, which extends around the perimeter of the basement floor.
- Painting the exterior piping and brackets (to prevent deterioration from exposure to sunlight).

The work described above will be completed under the direction of ARCADIS by a subcontractor. It is anticipated that this work will be completed in approximately 3 hours. ARCADIS will be contacting you to schedule the work.

A copy of the inspection notes is enclosed for your reference.

Sincerely,
ARCADIS U.S., Inc.

Jennine L. Trask, PE
Project Manager

Copies:
Norman Berger, Esq.
David A. Crass, Esq.
Dr. Henry Nehls-Lowe – WDHS
Michael Schmoller – WDNR

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Field Notes

Imagine the result

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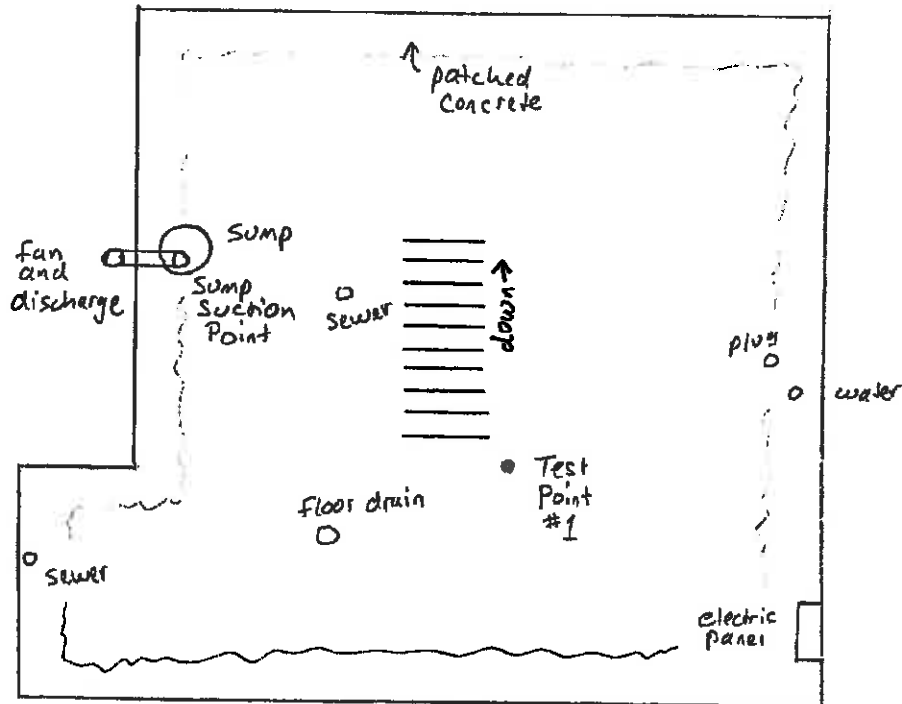
Email:
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Our ref:
WI001283.00005



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Not to Scale



Interior Drain Tile and Block wall Drainage System - sealed

Sump Lid - sealed

SSDS Piping: 4" Thin Walled

Fan: RadonAway XP 201C

Smoke Test @ Test Point #1: passed, micromanometer -0.013

U-Tube: 1.1 in wc

Openings: edges of patched concrete

Discharge Location: meets requirements

Electrical: Junction Box and Plug labeled

Foundation: unfinished basement, block walls



Ms. Carla Mills and Ms. Sharon Helmus
166 S. Marquette Street
Madison, Wisconsin 53704

Subject:
Results of Sub-Slab Depressurization System Inspection, 166 S. Marquette Street,
Madison, Wisconsin 53704

Dear Ms. Mills and Ms. Helmus:

On May 1, 2012, ARCADIS personnel, on behalf of Madison-Kipp, completed an inspection of the sub-slab depressurization system (SSDS) at your home, located at 166 S. Marquette Street in Madison, Wisconsin. This work was completed in cooperation with and with the prior approval of the Wisconsin Department of Natural Resources.

Based on the observations made during the inspection, the following activities are recommended:

- Replacement of the existing RadonAway XR261 fan with a RadonAway GP501 fan.
- Sealing of cracks in the basement block walls and expansion joints in the basement floor with polyurethane caulking.
- Extending the discharge piping to 1 foot above the porch roof.
- Painting the exterior piping and brackets (to prevent deterioration from exposure to sunlight).

A test of the sub-slab vacuum influence will be conducted upon completion of the fan replacement and sealing work. The work described above will be completed under the direction of ARCADIS by a subcontractor. It is anticipated that this work will require approximately 3 hours to complete. ARCADIS will be contacting you to schedule the work.

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Jennine.trask@arcadis-us.com

Our ref:
WI001283.00005

Imagine the result

A copy of the inspection notes is enclosed for your reference.

Sincerely,

ARCADIS U.S., Inc.

A handwritten signature in blue ink, appearing to read "J. Trask".

Jennine L. Trask, PE
Project Manager

Copies:

Norman Berger, Esq.

David A. Crass, Esq.

Dr. Henry Nehls-Lowe – WDHS

Michael Schmoller – WDNR

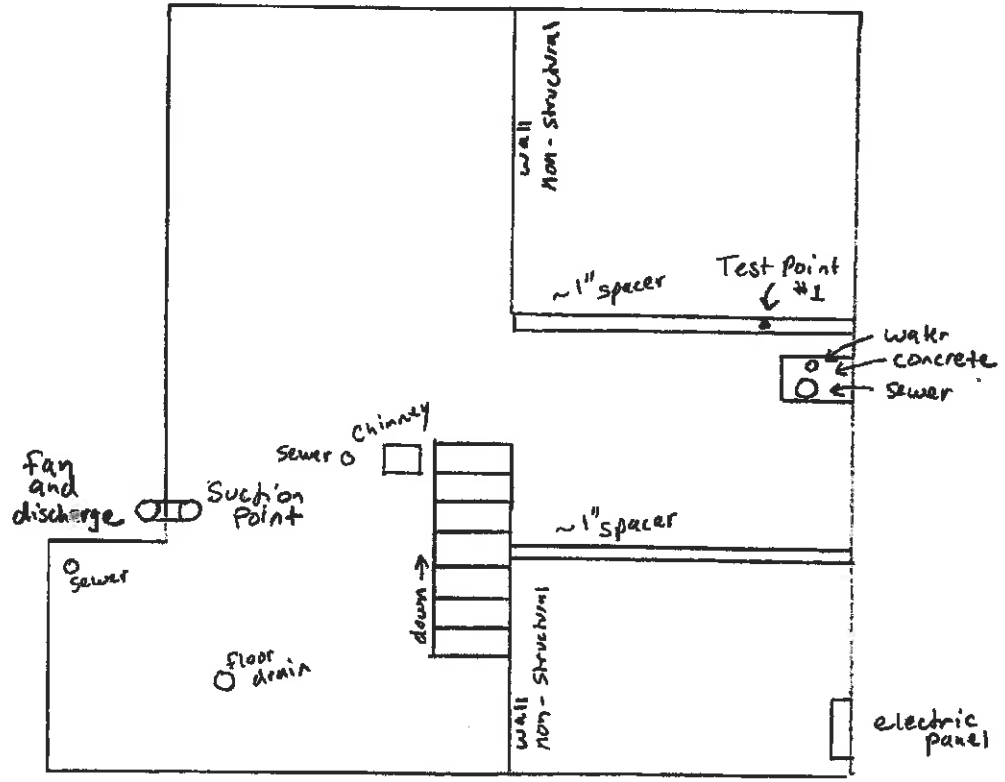
Attachments:

Field Notes

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Not To Scale



SSDS Piping 4" thin walled

Fan: RadonAway XR 261C

Smoke Test @ Test Point #1: failed notes: furnace & AC off, doors/windows closed

U-Tube: 2.1 inwc

Openings: ^{open} Cracks in block wall mortar joints, block tops previously sealed w/ foam, 1" spacers in floor

Discharge Location: < 1' above eave

Electrical: Junction Box and plug labeled

Foundation: Unfinished basement, concrete floor, block walls