State of Wisconsin
Department of Natural Resources
P.O. Box 7921, Madison, WI 53707-7921

GIS REGISTRY (Cover Sheet)
Form 4400-280 (R 6/13)

Source Property Information

CLOSURE DATE: 01/05/2015

BRRTS #: 06-41-562057

FID #: 241588820

ACTIVITY NAME: Milwaukee Stockyard Fmr

DATCP #:

PROPERTY ADDRESS: 1207 W Canal St (fka1301 W Canal St)

PECFA#:

MUNICIPALITY: Milwaukee

PARCEL ID #: 4260132000

***WTM COORDINATES:**

X: 688881 Y: 286215

** Coordinates are in WTM83, NAD83 (1991)*

WTM COORDINATES REPRESENT:

○ Approximate Center Of Contaminant Source

◉ Approximate Source Parcel Center

Please check as appropriate: (BRRTS Action Code)

CONTINUING OBLIGATIONS

Contaminated Media for Residual Contamination:

☒ Groundwater Contamination > ES *(236)*

- ☐ Contamination in ROW
- ☐ Off-Source Contamination

*(**note:** for list of off-source properties see "Impacted Off-Source Property Information, Form 4400-246")*

☒ Soil Contamination > *RCL or **SSRCL *(232)*

- ☐ Contamination in ROW
- ☐ Off-Source Contamination

*(**note:** for list of off-source properties see "Impacted Off-Source Property Information, Form 4400-246")*

Site Specific Obligations:

☐ Soil: maintain industrial zoning *(220)*

*(**note:** soil contamination concentrations between non-industrial and industrial levels)*

☐ Structural Impediment *(224)*

☐ Site Specific Condition *(228)*

☒ Cover or Barrier *(222)*

- ☒ Direct Contact
- ☐ Soil to GW Pathway

☐ Vapor Mitigation *(226)*

☐ Maintain Liability Exemption *(230)*

*(**note:** local government unit or economic development corporation was directed to take a response action)*

Monitoring Wells:

Are all monitoring wells properly abandoned per NR 141? *(234)*

○ Yes ○ No ◉ N/A

228: maintain methane abatement system in crawlspace
222: land use restricted to industrial/commercial

** Residual Contaminant Level*
***Site Specific Residual Contaminant Level*

BRRTS #: 06-41-562057
FID #: 241588820
SITE NAME: MILWAUKEE STOCKYARD FMR

Associated ERP/LUST Sites

This VPLE applies to the following closed ERP and/or LUST site(s). The following links can be used to access the associated GIS packet(s).

BRRTS #	SITE NAME
02-41-540548	STOCKYARD GP-5 AREA
02-41-546856	MAIN PARCEL
03-41-002139	MILWAUKEE STOCK YARD

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
2300 N. Dr. Martin Luther King, Jr. Drive
Milwaukee WI 53212-3128

Scott Walker, Governor
Cathy Stepp, Secretary
Telephone 608-266-2621
Toll Free 1-888-936-7463
TTY Access via relay - 711

January 5, 2015

BRRTS# 06-41-562057
FID# 241588820

Mr. Rob Gerbitz
Hendricks Commercial Properties, LLC
655 Third Street
Suite 301
Beloit, WI 53511

SUBJECT: Certificate of Completion for Former Milwaukee Stockyards
1301West Canal Street, Milwaukee, Wisconsin

Dear Mr. Gerbitz:

Congratulations! Your Certificate of Completion is attached. It has been a pleasure working with you and your consultant on this Voluntary Party Liability Exemption (VPLE) process.

The Wisconsin Department of Natural Resources ("the Department") has reviewed your request for issuance of a Certificate of Completion under the Voluntary Party Liability Exemption Program for the environmental investigation and cleanup of the Former Milwaukee Stockyards site, 1301West Canal Street, Milwaukee, Wisconsin, hereinafter referred to as "the Property". You have requested that the Department determine whether Hendricks Commercial Properties have met the environmental investigation and restoration requirements under s. 292.15(2), Wis. Stats., for the issuance of a Certificate of Completion.

The Property consists of a single parcel located at 1302 West Canal Street, Milwaukee, Wisconsin. The Property is fully described in Attachment A of the Certificate of Completion.

Determination

As you are aware, s. 292.15, Wis. Stats., authorizes the Department to issue a *Certificate of Completion* to a voluntary party that conducts an approved environmental investigation of a property and restores the environment to the extent practicable and minimizes the harmful effects with respect to hazardous substance discharges on or originating from the property. Based on the information received by the Department, the Department has determined that the investigation and restoration (to the extent practicable) of the Property is complete and that all the conditions in s. 292.15(2), Wis. Stats., have been met. Attached is the *Certificate of Completion* for this Property.

While the conditions for issuance of a *Certificate of Completion* have been met, residual soil contamination remains at the Property. Barriers consisting of pavement, soil, and building foundations must be maintained in accordance with the approved Cap Maintenance Plan. Historic fill material is present on the site and may require appropriate handling and disposal during future redevelopment activities. An Exemption Approval for Building on a Historic Fill Site has been granted by the Department for construction already completed on the property. If changes to the property are proposed in the future, a new exemption application must be submitted for approval. Also, the crawl space ventilation system installed in the onsite building must continue to be operated and maintained. Closure Letters for the three environmental cases opened on the Property, the Cap Maintenance Plan, the Exemption Approval, and the Crawl Space Ventilation System Maintenance Plan are all included as attachments to the Certificate of Completion.

Conclusions

The Department appreciates the work undertaken by Hendricks Commercial Properties, LLC, to ensure that contamination associated with the Property has been investigated and restored to the extent practicable. The exemption provided by the *Certificate of Completion* applies to any successor or assignee of Hendricks Commercial Properties, LLC if the successor or assignee complies with the appropriate conditions, pursuant to s. 292.15(3), Wis. Adm. Code. If you have any questions or concerns regarding this letter or the *Certificate of Completion*, please call me at (414) 263-8541.

Sincerely,

Paul Grittner
Hydrogeologist
Remediation & Redevelopment Program

Attachment: *Certificate of Completion*

cc: Michael Prager – RR/5
Susan Petrofske – AECOM (electronic)

State of Wisconsin
Department of Natural Resources

CERTIFICATE OF COMPLETION OF RESPONSE ACTIONS UNDER SECTION 292.15(2)(a), WIS. STATS.

Whereas, Hendricks Commercial Properties, LLC has applied for an exemption from liability under s. 292.15, Wis. Stats., for the property located at 1301 W Canal Street, Milwaukee, Wisconsin, which is commonly referred to as the Former Milwaukee Stockyards site, further described in the legal description found on Attachment A (the "Property");

Whereas, an environmental investigation of the Property has been conducted and the Wisconsin Department of Natural Resources ("WDNR") has determined that environmental contamination exists at the Property;

Whereas, former Property owners Milwaukee Stockyards, Menomonee Valley Partners, and Ziegler/Bence Partners 5, LLC and the voluntary party, Hendricks Commercial Properties, LLC have submitted to the WDNR certain investigation reports and a remedial action plan for the Property which comply with the requirements set forth in chs. NR 700-754, Wis. Adm. Code, consisting of the documents and reports listed in Attachment B;

Whereas, in accordance with s. 292.15(2)(a)1, Wis. Stats., the WDNR has determined that an environmental investigation has been conducted which adequately identified and evaluated the nature and extent of the hazardous substance discharges on the Property. The WDNR approved of the site investigation on November 25, 2014;

Whereas, the Property contains soil contamination that exceeds site-specific and/or generic residual contaminant levels ("RCLs") under ch. NR 720, Wis. Adm. Code. Therefore, the Property will be included on the WDNR's Geographical Information System data base ("the GIS Registry") pursuant to s. 292.12(3), Wis. Stats. The former owners of the Property during the time of an environmental case closure have submitted to the WDNR all the information necessary to be included on the GIS Registry, pursuant to Wis. Adm. Code;

Whereas, the WDNR has determined that the historic fill material brought onto or existing at the Property in the past does not qualify as exempt under s. NR 500.08, Wis. Adm. Code. On November 29, 2006, WDNR issued a Conditional Grant of Exemption for Development on Historic fill for construction which has been completed on the Property, Attachment D. As approved by WDNR, a methane abatement system was constructed to prevent methane gas from collecting in the structure and in October of 2014 the owner prepared a Crawl Space Ventilation System Maintenance Plan ("Ventilation Maintenance Plan") (Attachment C). If anyone proposes to do any future construction work on the Property, any changes to the construction of the existing structures or the methane system or to modify the Ventilation Maintenance Plan, that person would also have to obtain approval for that work from the WDNR under s. NR 506.085, Wis. Adm. Code, prior to initiating any construction on the Property;

Whereas, on June 29, 1999, July 13, 2006, and January 19, 2010, the WDNR issued case closure letters for the Property (Attachment C). The owner of this Property shall adhere to, abide by, and maintain the continuing obligations and other requirements that are specified in the attached state case closure letter and maintenance plans and the Ventilation Maintenance Plan. The WDNR requires maintenance of a cover or barrier in order to prevent direct contact with and infiltration through residual soil contamination that might otherwise pose a threat to public health and the environment. The closure letters require that if soil with residual contamination is excavated in the future, the Property owner at the time of excavation must manage the soil in accordance with applicable federal and state laws. The June 29, 1999 closure letter also requires the Property owner abide by the groundwater use restriction recorded on the Property deed, however, because concentrations of groundwater contamination have decreased, that restriction no longer applies as noted in the amended GIS Registry packet for that closure letter;

Whereas, the WDNR has determined that the response action is complete and was based on the Property being used as an industrial and/or commercial facility. In the event that the cover or barrier that currently exists is removed, the replacement barrier must be equally protective. Because of the residual contamination and certain continuing obligations for this site, before use of this site can be changed to residential use, or use by certain sensitive populations, such as a day care center, school, a senior center, hospital or a similar use, notification of the Department is required at a minimum. Additional sampling and/or cleanup may be required to ensure that the residual contamination levels, existing remedial action and land use is protective;

Whereas, if the requirements of this Certificate, the case closure letter or the maintenance plans, including the Ventilation Maintenance Plan, are not followed, or if the land use changes, the WDNR may take actions under ss. 292.11 or 292.12, Wis. Stats., to ensure compliance with the specified requirements, and the person who owns

or controls the Property may no longer qualify for the liability protections under s. 292.15, Wis. Stats.;

Whereas, on July 13, 2000, and January 19, 2010, the WDNR has granted Menomonee Valley Partners and Ziegler/Bence Partners 5, LLC, former owners of the Property, an exemption under NR 140.28(2)(b) Wis. Adm. Code for having benzo(a)pyrene, benzo(b)fluoranthene, and chrysene in the groundwater above the ch. NR 140 preventive action limit; and

Whereas, on January 19, 2010, the WDNR determined that response actions necessary to restore the environment were completed.

Therefore, based upon the information that has been submitted, the WDNR hereby certifies that the response actions set forth in the WDNR approved remedial action plan for the Property and any other necessary response actions have been completed. Upon issuance of this Certificate, Hendricks Commercial Properties, LLC and the persons qualified for protection under s. 292.15(3), Wis. Stats., are exempt from the provisions of ss. 289.05(1), (2), (3) and (4), 289.42(1), 289.67, 291.25(1) to (5), 291.29, 291.37, 292.11(3), (4), and (7)(b) and (c) and 292.31(8), Wis. Stats., with respect to the existence of hazardous substances on or originating from the Property, the release of which occurred prior to the date the WDNR approved the environmental investigation required under s. 292.15(2)(a)1., Wis. Stats.

However, the person who owns or controls the Property would no longer qualify for this liability exemption if that person fails to maintain or monitor the Property as required by the conditions in this Certificate, the June 29, 1999, July 13, 2006, and January 19, 2010 case closure letter, the Conditional Grant of Exemption for Development on Historic fill, the Ventilation Maintenance Plan, s. 292.12, Wis. Stats., and administrative rules promulgated by the WDNR. Any discharges of a hazardous substance to or from the Property that occur after the date that the environmental investigation was approved will be the responsibility of the current Property owner and any other person who possesses or controls that discharge and any person who caused the discharge.

The protection from liability provided under s. 292.15(2), Wis. Stats., does not apply to any person who has obtained a Certificate of Completion by fraud or misrepresentation, or by knowingly failing to disclose material information or under circumstances in which Hendricks Commercial Properties, LLC knew or should have known about more discharges of hazardous substances than was revealed by the investigation approved by the WDNR.

Nothing in this Certificate or in s. 292.15, Wis. Stats., affects the authority of the WDNR to exercise any powers or duties under applicable laws other than ss. 289.05(1), (2), (3) and (4), 289.42(1), 289.67, 291.25(1) to (5), 291.29, 291.37, 292.11(3), (4), and (7)(b) and (c) and 292.31(8), Wis. Stats., with respect to any release or threatened release of

contaminants at the Property, or the right of the WDNR to seek relief available against any person who is not entitled to protection from liability under s. 292.15, Wis. Stats., with respect to such release or threatened release.

SIGNED AND CERTIFIED this 16th day of December, 2014.

Darsi J. Foss, Director
Bureau for Remediation and Redevelopment
Wisconsin Department of Natural Resources

ATTACHMENT A
LEGAL DESCRIPTION
Former Milwaukee Stockyards

See attached Quit Claim Deed Doc. # 09342004 recorded with Milwaukee County Register of Deeds Office on November 20, 2006.

DOC.# 09342004

REGISTER'S OFFICE | SS
Milwaukee County, WI|

RECORDED 11/20/2006 01:47PM

JOHN LA FAVE
REGISTER OF DEEDS

AMOUNT: 11.00

Recording Area

Name and Return Address
Elizabeth D. Perry
411 East Wisconsin Avenue
Milwaukee, Wisconsin 53202-4497

Document Number

State Bar of Wisconsin Form 3-2003

QUIT CLAIM DEED

Document Name

THIS DEED, made between MILWAUKEE ECONOMIC DEVELOPMENT CORPORATION, a Wisconsin nonprofit corporation, as nominee of MENOMONEE VALLEY PARTNERS, INC., a Wisconsin nonprofit corporation ("Grantor," whether one or more), and ZIEGLER/BENCE PARTNERS 5, LLC, a Wisconsin limited liability company ("Grantee," whether one or more).

Grantor quit claims to Grantee the following described real estate, together with the rents, profits, fixtures and other appurtenant interests, in Milwaukee County, State of Wisconsin ("Property") (if more space is needed, please attach addendum):

Lot 2 of Certified Survey Map No. 7629, recorded on July 7, 2005, as Document No. 9044078, being a division of Parcel 3 of Certified Survey Map No. 2440, part of Parcel A of Certified Survey Map No. 2441 and part of Lot 4 in Subdivision and Partition of the Northwest ¼ of Section 32 in the Northeast ¼ of the Northeast ¼ of Section 31 and the Northwest ¼ of the Northwest ¼ of Section 32, Town 7 North, Range 22 East in the City of Milwaukee, County of Milwaukee, State of Wisconsin.

Tax Key No.: 426-0132-000-7
Parcel Identification Number (PIN)

This is not homestead property.
(~~is~~) (is not)

TRANSFER
$3,300.00
FEE

Dated November 13, 2006

MILWAUKEE ECONOMIC DEVELOPMENT CORPORATION,
as nominee of MENOMONEE VALLEY PARTNERS, INC.

By: _____

Name: Patrick G. Walsh

Its: President

AUTHENTICATION

Signature(s) _____

_____

authenticated on _____

_____

* _____

TITLE: MEMBER STATE BAR OF WISCONSIN
(If not, _____
authorized by § 706.06, Wis. Stats.)

THIS INSTRUMENT DRAFTED BY:

Jonathan R. Dotson of Foley & Lardner LLP

ACKNOWLEDGMENT

STATE OF WISCONSIN)
) ss.
Milwaukee COUNTY)

Personally came before me on November 9, 2006
the above-named PATRICK G. WALSH

to me known to be the person(s) who executed the foregoing instrument and acknowledged the same.

* _____

Notary Public, State of Wisconsin
My Commission (~~is permanent~~) (expires: 5/10/2009)

(Signatures may be authenticated or acknowledged. Both are not necessary.)

NOTE: THIS IS A STANDARD FORM. ANY MODIFICATIONS TO THIS FORM SHOULD BE CLEARLY IDENTIFIED.

QUIT CLAIM DEED
STATE BAR OF WISCONSIN
FORM NO. 3-2003

* Type name below signatures.

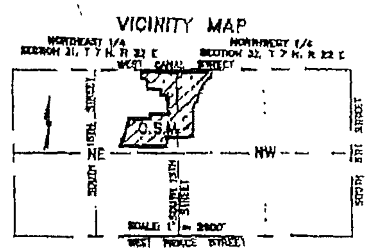
2114986.1

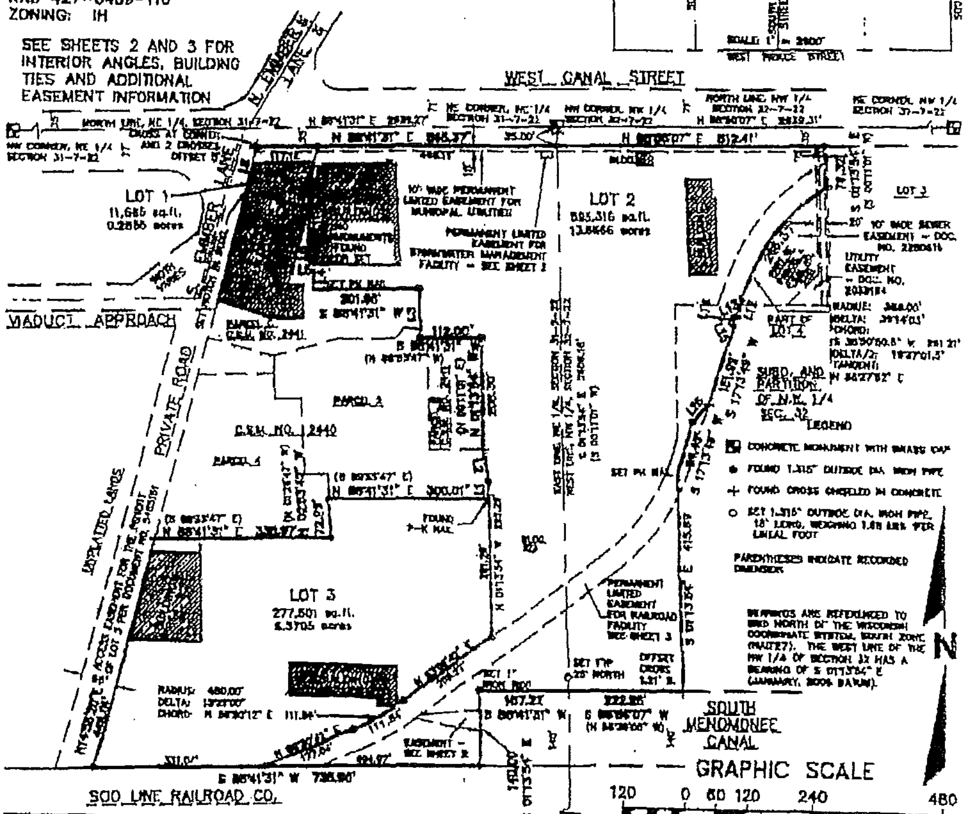
PCD # 2470

CERTIFIED SURVEY MAP NO. 7629

A DIVISION OF PARCEL 3 OF CERTIFIED SURVEY MAP NO. 2440, PART OF PARCEL A OF CERTIFIED SURVEY MAP NO. 2441 AND PART OF LOT 4 IN SUBD. AND PARTITION OF N.W. 1/4 OF SEC. 32 IN THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SECTION 31 AND THE NORTHWEST 1/4 OF THE NORTHWEST 1/4 OF SECTION 32, TOWN 7 NORTH, RANGE 22 EAST, IN THE CITY OF MILWAUKEE, MILWAUKEE COUNTY, WISCONSIN

TAX KEY NOS.: PART OF 426-0031-000, 426-0033-110, AND 427-0409-110
ZONING: IH





LINE TABLE		
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L3	[illegible]	[illegible]
L4	[illegible]	[illegible]
L5	[illegible]	[illegible]
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L9	[illegible]	[illegible]
L10	[illegible]	[illegible]
L11	[illegible]	[illegible]
L12	[illegible]	[illegible]
L13	7.07'	[illegible]
L14	[illegible]	[illegible]
L15	7.07'	[illegible]
L16	[illegible]	[illegible]

WISCONSIN DONALD ... S-2316 BROOKFIELD, 12 LAND SURVEYOR

National Survey & Engineering
A Division of R.A. Smith & Associates, Inc.
262-781-1000
Fax 262-797-7373
16745 W. Bluemound Road
Suite 200
Brookfield, WI 53005-5938
www.nsae.com

SHEET 1 OF 6 SHEETS

INFRASTRUCTURE SERVICES DIVISION
5/19/05
CENTRAL DRAFTING & RECORDS MANAGER
5/19/05
ENGR. IN CHARGE ENVIRON. ENGR.
CORRECT
5/19/05
CITY ENGINEER
APPROVED

DEPARTMENT OF CITY DEVELOPMENT
CITY OF MILWAUKEE
APR 01 2005
STAFF APPROVED

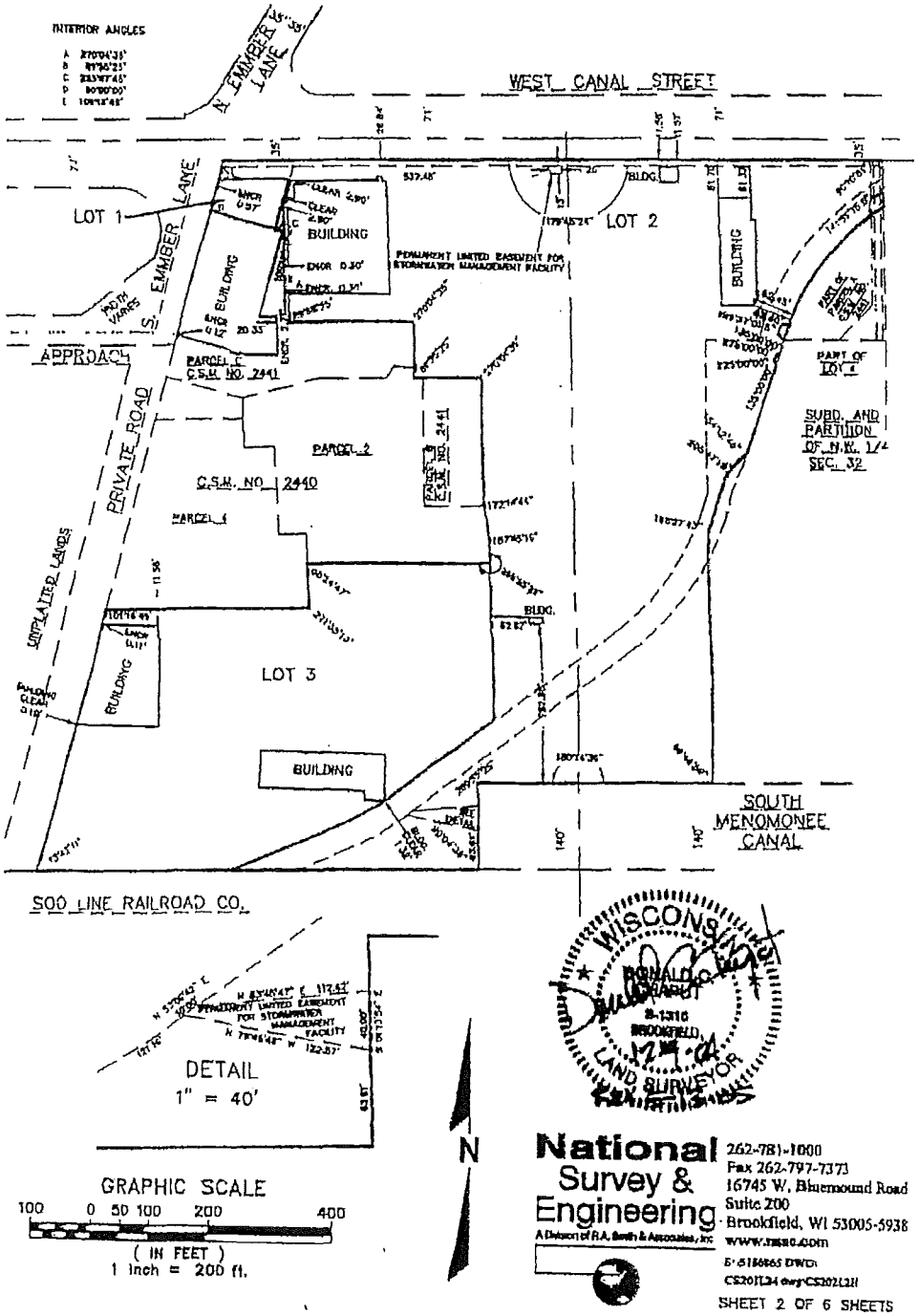
09044078
REGISTERS OFFICE
Milwaukee County, WI } SS
RECORDED AT 3:26 pm
JUL 7 2005
REEL 189 IMAGE
REGISTER OF DEEDS

09044078
Amount: 21.00

DCD #2470

CERTIFIED SURVEY MAP NO. 7629

A DIVISION OF PARCEL 3 OF CERTIFIED SURVEY MAP NO. 2440, PART OF PARCEL A OF CERTIFIED SURVEY MAP NO. 2441 AND PART OF LOT 4 IN SUBD. AND PARTITION OF N.W. 1/4 OF SEC. 32 IN THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SECTION 31 AND THE NORTHWEST 1/4 OF THE NORTHWEST 1/4 OF SECTION 32, TOWN 7 NORTH, RANGE 22 EAST, IN THE CITY OF MILWAUKEE, MILWAUKEE COUNTY, WISCONSIN



WISCONSIN
RONALD C. CHAPUT
S-1316
BROOKFIELD
LAND SURVEYOR

National Survey & Engineering
A Division of R.A. Smith & Associates, Inc.
262-781-1000
Fax 262-797-7373
16745 W. Bluemound Road
Suite 200
Brookfield, WI 53005-5938
www.rasmith.com

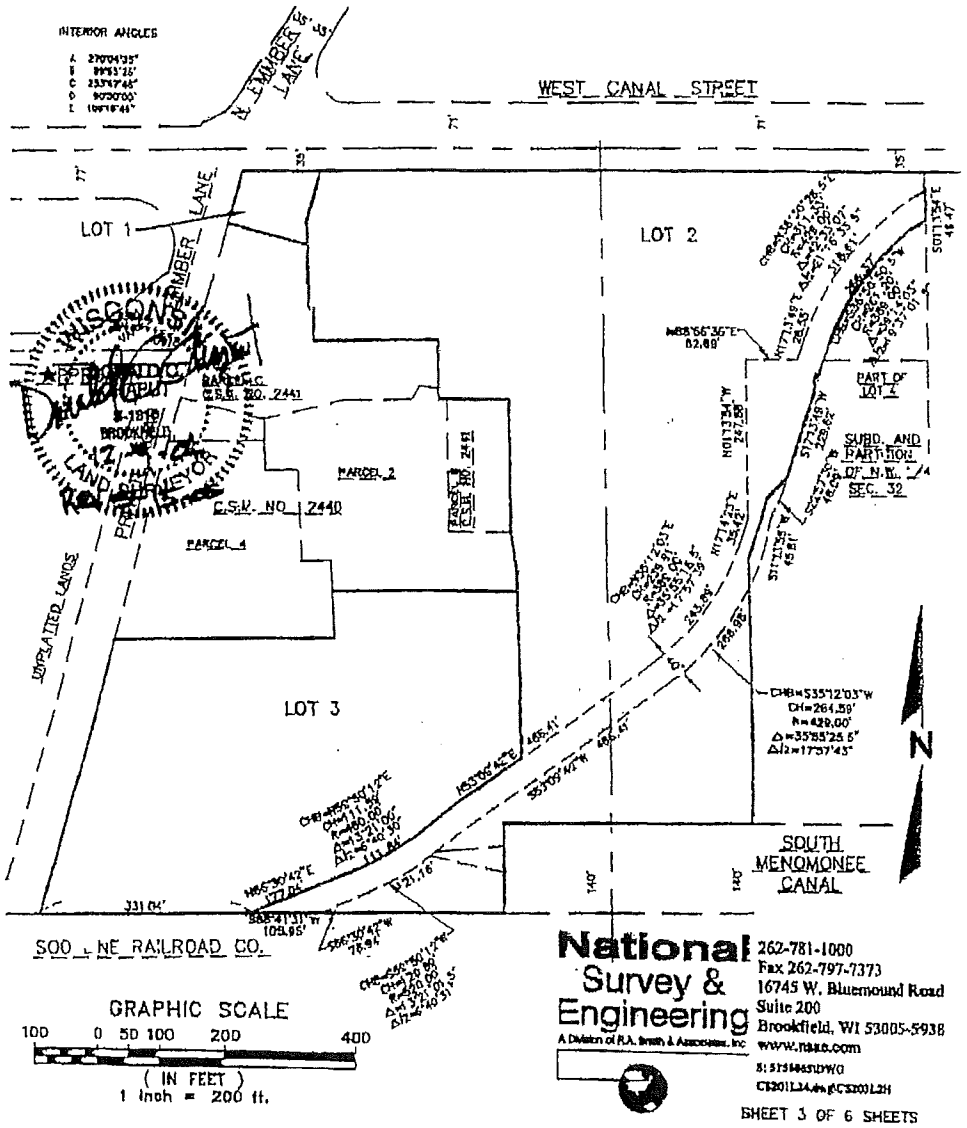
S:\5186665 DWG\CS2021L24 dwg\CS2021L24

SHEET 2 OF 6 SHEETS

Doc # 2470

CERTIFIED SURVEY MAP NO. 7629

A DIVISION OF PARCEL 3 OF CERTIFIED SURVEY MAP NO. 2440, PART OF PARCEL A OF CERTIFIED SURVEY MAP NO. 2441 AND PART OF LOT 4 IN SUBD. AND PARTITION OF N.W. 1/4 OF SEC. 32 IN THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SECTION 31 AND THE NORTHWEST 1/4 OF THE NORTHWEST 1/4 OF SECTION 32, TOWN 7 NORTH, RANGE 22 EAST, IN THE CITY OF MILWAUKEE, MILWAUKEE COUNTY, WISCONSIN



National Survey & Engineering
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262-781-1000
Fax 262-797-7373
16745 W. Bluemound Road
Suite 200
Brookfield, WI 53005-5938
www.rasa.com

SHEET 3 OF 6 SHEETS

DCD # 2473

CERTIFIED SURVEY MAP NO. 7629

A division of Parcel 3 of Certified Survey Map No. 2440, part of Parcel "A" of Certified Survey Map No. 2441 and part of Lot 4 in Subd. and Partition of Northwest 1/4 of Section 32 in the Northeast 1/4 of the Northeast 1/4 of Section 31 and the Northwest 1/4 of the Northwest 1/4 of Section 32, Town 7 North, Range 22 East, in the City of Milwaukee, Milwaukee County, Wisconsin.

SURVEYOR'S CERTIFICATE

STATE OF WISCONSIN)
:SS
WAUKESHA COUNTY)

I, DONALD C. CHAPUT, Registered Land Surveyor, do hereby certify:

THAT I have surveyed, divided and mapped a division of Parcel 3 of Certified Survey Map No. 2440, part of Parcel "A" of Certified Survey Map No. 2441 and part of Lot 4 in Subd. and Partition of Northwest 1/4 of Section 32 in the Northeast 1/4 of the Northeast 1/4 of Section 31 and the Northwest 1/4 of the Northwest 1/4 of Section 32, Town 7 North, Range 22 East, in the City of Milwaukee, Milwaukee County, Wisconsin, which is bounded and described as follows:

COMMENCING at the Northeast corner of said Northeast 1/4 Section; thence South 01°13'54" East along the East line of said Northeast 1/4 Section 35.00 feet to the South line of West Canal Street and the point of beginning of the lands to be described; thence North 88°56'07" East along said South line 512.41 feet to a point; thence South 01°13'54" East 76.32 feet to a point; thence Southwesterly 286.37 feet along the arc of a curve whose center lies to the Southeast, whose radius is 369.00 feet and whose chord bears South 35°50'50.5" West 281.20 feet to a point; thence South 17°13'49" West 35.31 feet to a point; thence South 62°13'49" West 7.07 feet to a point; thence South 17°13'49" West 9.42 feet to a point; thence South 27°46'11 East 7.07 feet to a point; thence South 17°13'49" West 151.99 feet to a point; thence South 43°01'04" West 45.97 feet to a point; thence South 17°13'49" West 99.46 feet to a point; thence South 01°13'54" East 415.89 feet to the North line of South Menomonee Canal; thence South 88°56'07" West along said North line 222.28 feet to the East line of said Northeast 1/4 Section; thence South 88°41'31" West along the North line of said South Menomonee Canal 167.22 feet to a point; thence South 01°13'54" East 140.00 feet to the North line of the Soo Line Railroad Company; thence South 88°41'31" West along said North line 736.96 feet to a point; thence North 14°58'20" East 448.01 feet to a point; thence North 88°41'31" East 338.97 feet to a point; thence North 02°53'42" West 72.99 feet to a point; thence North 88°41'31" East 300.01 feet to a point; thence North 01°13'54" West 34.00 feet to a point; thence North 08°59'10" West 60.53 feet to a point; thence North 01°13'54" West 208.30 feet to a point; thence South 88°41'31" West 112.00 feet to a point; thence North 01°13'54" West 90.03 feet to a point; thence South 88°41'31" West 201.98 feet to a point; thence North 01°13'54" West 52.00 feet to a point; thence South 88°41'31" West 6.36 feet to a point; thence North 01°13'54" West 98.14 feet to a point; thence North 75°01'40" West 124.00 feet to the East line of South Emmber Lane; thence North 14°58'20" East along said East line 84.26 feet to the South line of West Canal Street; thence North 88°41'31" East along said South line 565.37 feet to the point of beginning.

THAT I have made the survey, land division and map by the direction of EMMPAK FOODS, INC., owner.

THAT the map is a correct representation of all the exterior boundaries of the land surveyed and the land division thereof made.

THAT I have fully complied with Chapter 236 of the Wisconsin Statutes and Chapter 119 of the Milwaukee Code in surveying, dividing and mapping the same.

December 9, 2004
DATE
Revised April 29, 2005

(SEAL)
DONALD C. CHAPUT,
REGISTERED LAND SURVEYOR S-1316

WISCONSIN
DONALD C. CHAPUT
S-1316
BROOKFIELD, WI
LAND SURVEYOR

Sheet 4 of 6 Sheets

DCD # 2470

CERTIFIED SURVEY MAP NO. 7624

A division of Parcel 3 of Certified Survey Map No. 2440, part of Parcel "A" of Certified Survey Map No. 2441 and part of Lot 4 in Subd. and Partition of Northwest 1/4 of Section 32 in the Northeast 1/4 of the Northeast 1/4 of Section 31 and the Northwest 1/4 of the Northwest 1/4 of Section 32, Town 7 North, Range 22 East, in the City of Milwaukee, Milwaukee County, Wisconsin.

OWNER'S CERTIFICATE

EMMPAK FOODS, INC., a corporation duly organized and existing under and by virtue of the laws of the State of Wisconsin, as owner, certifies that said corporation caused the land described on this map to be surveyed, divided and mapped as represented on this map in accordance with the requirements of Chapter 119 of the Milwaukee Code of Ordinances.

IN consideration of the approval of the map by the Common Council of the City of Milwaukee and in accordance with Chapter 119 of the Milwaukee Code, the undersigned agrees:

A. That all utility lines to provide electric power and telephone service and cable television or communications systems lines or cables to all lots in the Certified Survey Map shall be installed underground in easements provided therefore, where feasible.

THIS agreement shall be binding on the undersigned and assigns.

IN Witness Whereof EMMPAK FOODS, INC. has caused these presents to be signed by William A. Buckner, Chief Executive Officer, at Minneapolis, MN, this 3rd day of May, 2005.

In the presence of:

EMMPAK FOODS, INC.

STATE OF ~~WISCONSIN~~ MINNESOTA)
:SS
~~MILWAUKEE~~ HENNEPIN COUNTY)

PERSONALLY came before me this 3rd day of May, 2005, William A. Buckner, Chief Executive Officer of EMMPAK FOODS, INC. to me known as the person who executed the foregoing instrument, and to me known to be the Chief Executive Officer of corporation, and acknowledged that he executed the foregoing instrument as such officer as the deed of the corporation, by its authority.

LORI K. BUCICH
Notary Public
State of Minnesota
My Commission Expires
January 31, 2010

(SEAL)
Notary Public, State of
My commission expires 1-31-2010

DONALD C. GRABB
S-1818
LAND SURVEYOR

Sheet 5 of 8 Sheets

DCD #2470

CERTIFIED SURVEY MAP NO. 7629

A division of Parcel 3 of Certified Survey Map No. 2440, part of Parcel "A" of Certified Survey Map No. 2441 and part of Lot 4 in Subd. and Partition of Northwest 1/4 of Section 32 in the Northeast 1/4 of the Northeast 1/4 of Section 31 and the Northwest 1/4 of the Northwest 1/4 of Section 32, Town 7 North, Range 22 East, in the City of Milwaukee, Milwaukee County, Wisconsin.

CERTIFICATE OF CITY TREASURER

STATE OF WISCONSIN)
:SS
MILWAUKEE COUNTY)

I, WAYNE F. WHITTOW, being the duly elected, qualified and acting City Treasurer of the City of Milwaukee, certify that in accordance with the records in the office of the City Treasurer of the City of Milwaukee there are no unpaid taxes or unpaid special assessments on the land included in this Certified Survey Map.

6-29-05
DATE

Deputy City Treasurer
WAYNE F. WHITTOW, CITY TREASURER

COMMON COUNCIL CERTIFICATE OF APPROVAL

I certify that this Certified Survey Map was approved under Resolution File No. 050310 adopted by the Common Council of the City of Milwaukee on July 6, 2005.

RONALD D. LEONHARDT, CITY CLERK

TOM BARRETT, MAYOR

WISCONSIN
DONALD C. CHAPUT
S-1316
REGISTERED
LAND
SURVEYOR

THIS INSTRUMENT WAS DRAFTED BY DONALD C. CHAPUT,
REGISTERED LAND SURVEYOR S-1316

156865 CBM

Sheet 6 of 6 Sheets

ATTACHMENT B
INVESTIGATION AND REMEDIAL ACTION PLAN REPORTS
Former Milwaukee Stockyards

1. Phase I Environmental Site Assessment, April 1, 2014, Vieau Associates Inc.
2. Voluntary Party Liability Exemption Application Review, August 20, 2014, AECOM
3. Voluntary Party Liability Exemption Application Review, October 29, 2014, AECOM
4. All other reports included in the WDNR case file for FID # 241588820, which includes documentation for:
    a. WDNR BRRTS # 02-41-540548, Stockyard GP-5 Area
    b. WDNR BRRTS # 02-41-546856, Main Parcel
    c. WDNR BRRTS # 03-41-002139, Milwaukee Stock Yard
    d. WDNR BRRTS # 07-41-537078, Stockyards Redevelopment

ATTACHMENT C
Closure Letter and Cap Maintenance Plan
Exemption Approval, Building on a Historic Fill Site

Former Milwaukee Stockyards

1. Closure Letter, BRRTS # 03-41-002139, June 29, 1999

2. Closure Letter, BRRTS # 02-41-540548, July 13, 2006

3. Exemption Approval, Building on a Historic Fill Site, BRRTS # 07-41-537078, November 29, 2006

4. Closure Letter and Cap Maintenance Plan, BRRTS # 02-41-546856, January 19, 2010

5. Crawl Space Ventilation System Maintenance Plan, BRRTS # 06-41-562057, October 2014

WISCONSIN
DEPT. OF NATURAL RESOURCES

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Tommy G. Thompson, Governor
George E. Meyer, Secretary
Gloria L. McCutcheon, Regional Director

Southeast Regional Headquarters
2300 N. Dr. ML King Drive, PO Box 12436
Milwaukee, Wisconsin 53212-0436
Telephone 414-263-8500
FAX 414-263-8483
TDD 414-263-8713

June 29, 1999

Mr. Gary Sutherland, Manager
Milwaukee Stockyards
104 S. Emmber Ln.
Milwaukee, WI 53233

FID 241588820
BRRTS 0341002139

Subject: Closure request for Milwaukee Stockyards located at 104 s. Emmber Ln, Milwaukee WI

Dear Mr. Sutherland:

The Department has received the monitoring well abandonment documentation and a copy of the receipt from the recording of the groundwater use restriction. The Department considers this case in compliance with NR 726, WI Adm. Code, and considers this case officially closed and tracked as such on the Department's tracking system. After a copy of the recorded deed is received, please submit a copy to the Department for our records.

For expedient processing, please send all future correspondence to the attention of Brenda Brown - RR Program Assistant at the above address. Please include that I, Michelle McGee, am the current reviewer of the case.

If you have any questions regarding this letter, please contact me at the above address or at (414) 263-8644.

Sincerely,

Michelle M. McGee
Hydrogeologist
Remediation and Redevelopment Program

cc: Kirsten Jurcek, Northern Environmental
SER case file

WISCONSIN
DEPT. OF NATURAL RESOURCES

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Jim Doyle, Governor
Scott Hassett, Secretary
Gloria L. McCutcheon, Regional Director

Southeast Region Headquarters
2300 N. Dr. Martin Luther King, Jr. Drive
Milwaukee, Wisconsin 53212-0436
Telephone 414-263-8500
FAX 414-263-8716
TTY 414-263-8713

July 13, 2006

Ms. Laura Bray
Menomonee Valley Partners, Inc.
301 W. Wisconsin Ave. – Suite 400B
Milwaukee, WI 53203

Subject: Final Case Closure by Project Manager
Former Milwaukee Stockyards – Triangular Parcel, Milwaukee, Wisconsin
WDNR BRRTS Activity # 02-41-540548 / FID# 241588820

Dear Ms. Bray:

On July 13, 2006, your site as described above was reviewed for closure by the Department of Natural Resources. The Department reviews environmental remediation cases for compliance with state laws and standards to maintain consistency in the closure of these cases.

On January 30, May 1, and July 7, 2006, the Department received correspondence indicating that you have complied with the conditions of closure. Based on the correspondence and data provided, it appears that your case has been remediated to Department standards in accordance with s. NR 726.05, Wis. Adm. Code. The Department considers this case closed and no further investigation, remediation or other action is required at this time.

FUTURE EXCAVATION OF RESIDUAL CONTAMINATED SOIL

Residual soil contamination remains at GP-5 as indicated in the information submitted to the Department of Natural Resources. If soil in these specific locations is excavated in the future, the property owner at the time of excavation will be required to sample and analyze the excavated soil to determine whether the contamination still remains. All current and future owners and occupants of the property need to be aware that excavation of the contaminated soil may pose an inhalation or other direct contact hazard at the time of excavation. **Special precautions may need to be taken during excavation activities to prevent a direct contact health threat to humans.** Based upon the results of sample analysis, the current owner will also have to properly store, treat, or dispose of any excavated materials, in accordance with state and federal laws.

Your site will be listed on the DNR Remediation and Redevelopment GIS Registry of Closed Remediation Sites. Information that was submitted with your closure request application will be included on the Registry. To review the sites on the GIS Registry web page, visit http://dnr.wi.gov/aw/rr/gis/index.htm. If your property is listed on the GIS Registry and you intend to construct or reconstruct a well, you will need Department approval. Department approval is required before construction or reconstruction of a well on a property listed on the GIS Registry, in accordance with s. NR 812.09(4)9(w), Wis. Adm. Code. To obtain approval, Form 3300-254 needs to be completed and submitted to the DNR Drinking and Groundwater program's regional water supply specialist. This form can be obtained on-line at the web address listed above.

Recent groundwater monitoring data at this site indicates exceedances of the NR 140 preventive action limit (PAL) for benzo(a)pyrene, benzo(b)fluoranthene, and chrysene at MW-05-1, but compliance with the NR 140 enforcement standard. The Department may grant an exemption to a PAL for a substance of public health concern, other than nitrate, pursuant to s. NR 140.28(2)(b), Wis. Adm. Code, if all of the following criteria are met:

1. The measured or anticipated increase in the concentration of the substance will be minimized to the extent technically and economically feasible.

2. Compliance with the PAL is either not technically or economically feasible.

3. The enforcement standard for the substance will not be attained or exceeded at the point of standards application.

4. Any existing or projected increase in the concentration of the substance above the background concentration does not present a threat to public health or welfare.

Based on the information you provided, the Department believes that the above criteria have been or will be met. Therefore, pursuant to s. NR 140.28(2)(b), Wis. Adm. Code, an exemption to the PAL is granted for at benzo(a)pyrene, benzo(b)fluoranthene, and chrysene at MW-05-1. This letter serves as your exemption.

If this is a PECFA site, section 101.143, Wis. Stats., requires that PECFA claimants seeking reimbursement of interest costs, for sites with petroleum contamination, submit a final reimbursement claim within 120 days after they receive a closure letter on their site. For claims not received by the PECFA Program within 120 days of the date of this letter, interest costs after 60 days of the date of this letter will not be eligible for PECFA reimbursement.

Please be aware that the case may be reopened pursuant to s. NR 726.09, Wis. Adm. Code, if additional information regarding site conditions indicates that contamination on or from the site poses a threat to public health, safety, or welfare or to the environment.

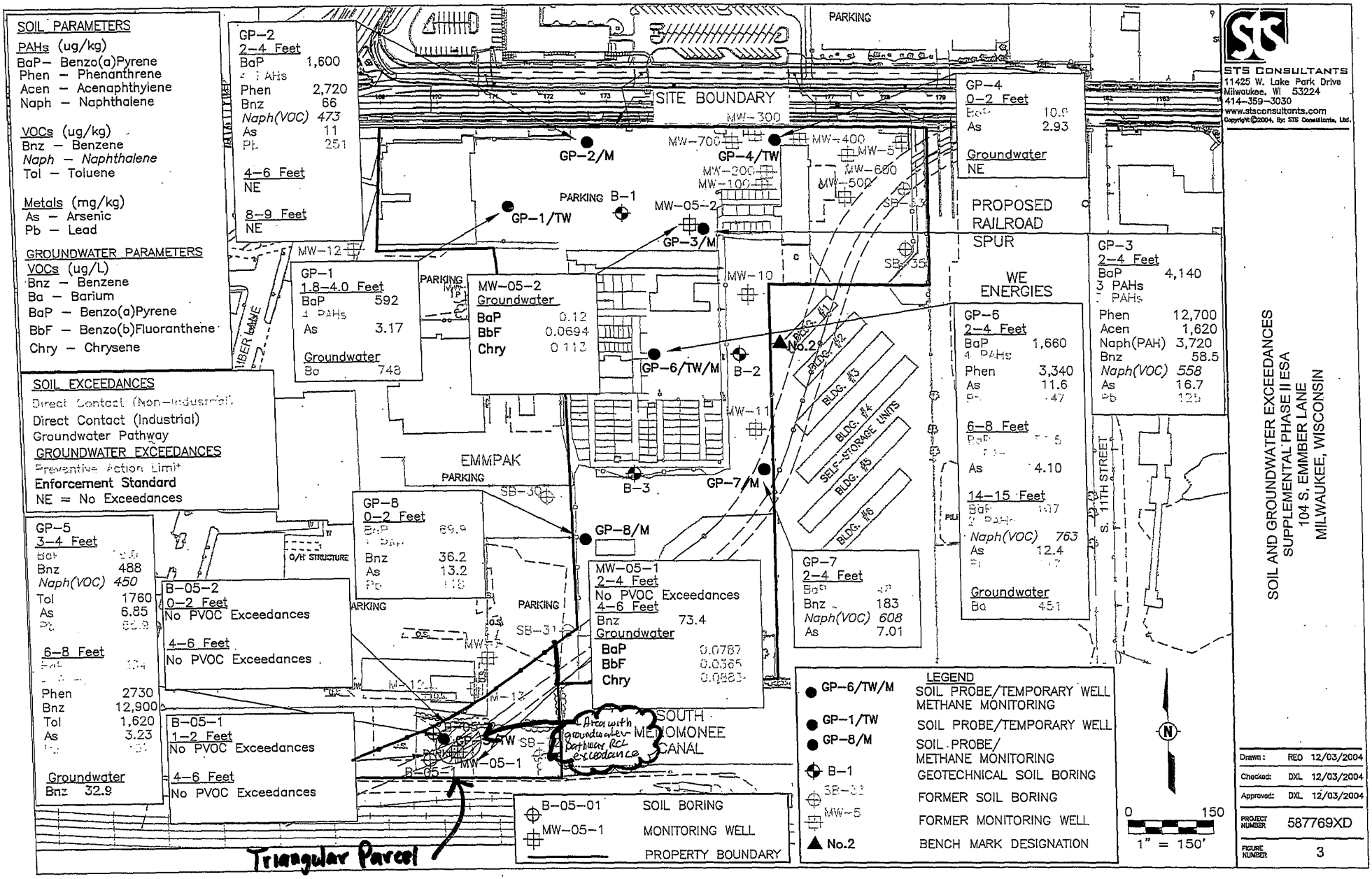
The Department appreciates your efforts to restore the environment at this site. If you have any questions regarding this letter, please contact me at (414)263-8557.

Sincerely,

Margaret M. Brunette

Margaret M. Brunette, P.G.
Hydrogeologist
Bureau for Remediation & Redevelopment

cc: Bill Phelps, DG/2 (for PAL exemptions)


SOIL PARAMETERS
PAHs (ug/kg)
BaP – Benzo(a)Pyrene
Phen – Phenanthrene
Acen – Acenaphthylene
Naph – Naphthalene
VOCs (ug/kg)
Bnz – Benzene
Naph – Naphthalene
Tol – Toluene
Metals (mg/kg)
As – Arsenic
Pb – Lead
GROUNDWATER PARAMETERS
VOCs (ug/L)
Bnz – Benzene
Ba – Barium
BaP – Benzo(a)Pyrene
BbF – Benzo(b)Fluoranthene
Chry – Chrysene
SOIL EXCEEDANCES
Direct Contact (Non-Industrial)
Direct Contact (Industrial)
Groundwater Pathway
GROUNDWATER EXCEEDANCES
Preventive Action Limit
Enforcement Standard
NE = No Exceedances
GP-2
2-4 Feet
BaP 1,600
4 PAHs
Phen 2,720
Bnz 66
Naph(VOC) 473
As 11
Pb 251
4-6 Feet
NE
8-9 Feet
NE
GP-1
1.8-4.0 Feet
BaP 592
4 PAHs
As 3.17
Groundwater
Ba 748
MW-05-2
Groundwater
BaP 0.12
BbF 0.0694
Chry 0.113
GP-4
0-2 Feet
As 2.93
Groundwater
NE
GP-3
2-4 Feet
BaP 4,140
3 PAHs
Phen 12,700
Acen 1,620
Naph(PAH) 3,720
Bnz 58.5
Naph(VOC) 558
As 16.7
GP-6
2-4 Feet
BaP 1,660
4 PAHs
Phen 3,340
As 11.6
6-8 Feet
As 4.10
14-15 Feet
Naph(VOC) 763
As 12.4
Groundwater
Ba 451
GP-7
2-4 Feet
Bnz 183
Naph(VOC) 608
As 7.01
GP-8
0-2 Feet
Bnz 36.2
As 13.2
MW-05-1
2-4 Feet
No PVOC Exceedances
4-6 Feet
Bnz 73.4
Groundwater
BaP 0.0787
BbF 0.0365
Chry 0.0883
GP-5
3-4 Feet
Bnz 488
Naph(VOC) 450
Tol 1760
As 6.85
6-8 Feet
Phen 2730
Bnz 12,900
Tol 1,620
As 3.23
Groundwater
Bnz 32.9
B-05-2
0-2 Feet
No PVOC Exceedances
4-6 Feet
No PVOC Exceedances
B-05-1
1-2 Feet
No PVOC Exceedances
4-6 Feet
No PVOC Exceedances
SITE BOUNDARY
PARKING
PROPOSED RAILROAD SPUR
WE ENERGIES
EMMPAK
BLDG. #1
BLDG. #2
BLDG. #3
BLDG. #4
BLDG. #5
BLDG. #6
SELF-STORAGE LIMITS
O/H STRUCTURE
S. 11TH STREET
SOUTH MENOMONEE CANAL
Area with groundwater pathway RCL exceedance
Triangular Parcel
GP-2/M
GP-4/TW
GP-1/TW
GP-3/M
GP-6/TW/M
GP-7/M
GP-8/M
B-1
B-2
B-3
MW-300
MW-400
MW-500
MW-600
MW-700
MW-200
MW-100
MW-5
MW-10
MW-11
MW-12
MW-13
SB-30
SB-31
SB-33
SB-35
No.2
B-05-01 SOIL BORING
MW-05-1 MONITORING WELL
PROPERTY BOUNDARY
GP-6/TW/M SOIL PROBE/TEMPORARY WELL METHANE MONITORING
GP-1/TW SOIL PROBE/TEMPORARY WELL
GP-8/M SOIL PROBE/ METHANE MONITORING
B-1 GEOTECHNICAL SOIL BORING
SB-33 FORMER SOIL BORING
MW-5 FORMER MONITORING WELL
No.2 BENCH MARK DESIGNATION
0 150
1" = 150'
STS CONSULTANTS
11425 W. Lake Park Drive
Milwaukee, WI 53224
414-359-3030
www.stsconsultants.com
Copyright ©2004, By: STS Consultants, Ltd.
SOIL AND GROUNDWATER EXCEEDANCES
SUPPLEMENTAL PHASE II ESA
104 S. EMMBER LANE
MILWAUKEE, WISCONSIN
Drawn: REO 12/03/2004
Checked: DXL 12/03/2004
Approved: DXL 12/03/2004
PROJECT NUMBER 587769XD
FIGURE NUMBER 3

FID# 241588820

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Jim Doyle, Governor
Scott Hassett, Secretary
Gloria L. McCutcheon, Regional Director

Plymouth Service Center
1155 Pilgrim Rd.
Plymouth, Wisconsin 53073-4294
Telephone 920-892-8756
FAX 920-892-6638
TTY Access via relay - 711

November 29, 2006

FILE COPY

Mr. Todd Bence
5582 County Highway Z
West Bend, WI 53095

Subject: Building on a Historic Fill Site
Exemption Approval Former Milwaukee Stockyard Property
BRRTS# 07-41-537078

Dear Mr. Bence:

We have received your request for a grant of exemption from regulation under s. NR 506.085, Wis. Adm. Code. Your application includes an evaluation that methane is present at the site. Your application also contains an acceptable method for methane management. The Department is issuing this conditional grant of exemption from the prohibitions contained in s. NR 506.085, Wis. Adm. Code. Provided you comply with the conditions of this grant of exemption. This grant of exemption is limited to the proposed development described in your application, a one-story steel framed building and parking lot. If you are considering additional changes beyond those described in the application, a new application must be submitted to the Department for approval.

Please review the information contained in the publication *Development at Historic Fill Sites and Licensed Landfills: Considerations and Potential Problems* PUB-RR-685 to assist you in preventing environmental or safety problems during and after development.

You are reminded that this approval does not relieve you of obligations to meet all other applicable federal, state and local permits, as well as zoning and regulatory requirements including site closure under ch. NR 726. If you have any questions concerning this letter, please contact Thomas A. Wentland at 920-892-8756 Ex. 3028.

Sincerely,

James A. Schmidt

James A. Schmidt, Supervisor
Remediation and Redevelopment Section
Southeast Region

Cc: City of Milwaukee
STS Consultants

BEFORE THE

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

CONDITIONAL GRANT OF EXEMPTION
FOR
DEVELOPMENT ON A PROPERTY
WHERE SOLID WASTE HAS BEEN DISPOSED

FINDINGS OF FACT

The Department finds that:

1. Ziegler/Bence Partners 5, LLC owns the property at 1301 West Canal Street, Milwaukee, Wisconsin.
2. The site contains historic fill, namely cinders, slag, coal, wood, ceramics and wire.
3. The site is underlain by organic silt and peat.
4. Methane gas was detected on the site in amounts below 1.25%.

CONCLUSIONS OF LAW

1. The Department has the authority under s. NR 500.08(4), Wis. Adm. Code to issue an exemption from the prohibition in s. NR 506.085, Wis. Adm. Code, if the proposed development will not cause environmental pollution as defined in ss. 289.01(8) and 299.01(4), Wis. Stats.
2. The Department has authority to approve a grant of exemption with conditions if the conditions are necessary to ensure compliance with the applicable provisions of chapters NR 500 to 538, Wis. Adm. Code, or to assure that environmental pollution will not occur.
3. The conditions set forth below are necessary to ensure compliance with the applicable provisions of chapters NR 500 to 538, Wis. Adm. Code, and to assure that environmental pollution will not occur.
4. In accordance with the foregoing, the Department has the authority under s. NR 500.08(4), Wis. Adm. Code, to issue the following conditional grant of exemption.

CONDITIONAL GRANT OF EXEMPTION

The Department hereby issues an exemption to the Ziegler/Bence Partners 5, LLC, from the prohibition in s. NR 506.085, Wis. Adm. Code for development on a property which contains solid waste as proposed in the submittal received October 13, 2006 subject to the following conditions:

1. No action related to the development of the property may be taken which will cause a significant adverse impact on wetlands as provided in ch. NR 103, Wis. Adm. Code.

2. No action related to the development of the property may be taken which will cause a significant adverse impact on critical habitat areas, as defined in s. NR 500.03(55), Wis. Adm. Code.

3. No action related to the development of the property may be taken which will cause a detrimental effect on any surface water, as defined in s. NR 500.03(62), Wis. Adm. Code.

4. No action related to the development of the property may be taken which will cause a detrimental effect on groundwater, as defined in s. NR 500.03(62), Wis. Adm. Code, or will cause or exacerbate an attainment or exceedance of any preventive action limit or enforcement standard in ch. NR 140, Wis. Adm. Code.

5. No action related to the development of the property may be taken which will cause an emission of any hazardous air contaminant exceeding the limitations for those substances contained in s. NR 445.03, Wis Adm. Code.

6. No action related to the development of the property may be taken which will cause an exceedance of a soil clean up standard in ch. NR 720, Wis. Adm. Code.

7. This grant of exemption should not be construed as a site closure under ch. NR 726.

8. A methane abatement system shall be constructed to prevent methane gas from collecting in the structure. The installation of vents, trenches, methane alarms, flexible membrane liners under foundations, and constructing with slab foundations may prevent the migration of methane into the building. At a minimum, the external venting system should consist of a 6 to 12 inch pea gravel layer laid directly over the waste with an interconnected system of 4-inch diameter polyvinyl chloride (PVC) or corrugated drainage pipe installed in the top 4 inches of the pea gravel. A vapor barrier consisting of a minimum 30-mil thick polyethlylene geomembrane welded at the seams to provide a continuous barrier between the venting system and the floor slab should be installed. Filter fabric or a 6-inch layer of fine sand should be placed on top of the geomembrane to act as a cushion.

9. Clay plugs shall be installed in the utility trenches to prevent the trench from becoming a conduit for the migration of methane gas.

10. The development construction activities shall be coordinated with the approved remedial response actions and shall not prevent the completion of the approved remedial response actions.

This grant of exemption is limited to the proposed changes described in your application. If you are considering additional changes beyond those described in the application, a new application must be submitted to the Department for approval. The Department reserves the right to require the submittal of additional information and to modify this grant of exemption at any time, if in the Department's opinion, modifications are necessary. Unless specifically noted, the conditions of this grant of exemption do not supersede or replace any previous conditions of approval for this property.

NOTICE OF APPEAL RIGHTS

If you believe that you have a right to challenge this decision, you should know that Wisconsin statutes and administrative rules establish time periods within which requests to review Department decisions must be filed.

For judicial review of a decision pursuant to section 227.52 and 227.53, Stats., you have 30 days after the decision is mailed, or otherwise served by the Department, to file your petition with the appropriate circuit court and serve the petition on the Department. Such a petition for judicial review shall name the Department of Natural Resources as the respondent.

Dated: 12-1-06

DEPARTMENT OF NATURAL RESOURCES
For the Secretary

James A. Schmidt

James A. Schmidt, Supervisor
Remediation and Redevelopment Section
Southeast Region

Thomas A. Wentland

Thomas A. Wentland
Waste Management Engineer
Remediation and Redevelopment Section
Southeast Region

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Jim Doyle, Governor
Matthew J. Frank, Secretary
Gloria L. McCutcheon, Regional Director

Southeast Region Headquarters
2300 N. Dr. Martin Luther King, Jr. Drive
Milwaukee, Wisconsin 53212-0436
Telephone 414-263-8500
FAX 414-263-8716
TTY 414-263-8713

January 19, 2010

Mr. Todd Bence
Ziegler/Bence Partners 5, LLC
5582 County Hwy Z
West Bend, WI 53095

SUBJECT: Final Case Closure with Continuing Obligations
Former Milwaukee Stockyards – Main Parcel, 1301 W. Canal St., Milwaukee, WI
WDNR BRRTS Activity #: 02-41-546856
FID #: 241588820

Dear Mr. Bence:

On January 15, 2010, the Department of Natural Resources staff in the Southeast Region reviewed the above referenced case for closure. The Department reviews environmental remediation cases for compliance with state laws and standards to maintain consistency in the closure of these cases

Based on the correspondence and data provided, it appears that your case meets the closure requirements in ch. NR 726, Wisconsin Administrative Code. The Department considers this case closed and no further investigation or remediation is required at this time, however, you and future property owners must comply with certain continuing obligations as explained in this letter.

GIS Registry

This site will be listed on the Remediation and Redevelopment Program's GIS Registry. The specific reasons are summarized below:

- Residual soil contamination exists that must be properly managed should it be excavated or removed
- Pavement, an engineered cover or a soil barrier must be maintained over contaminated soil and the state must approve any changes to this barrier

This letter and information that was submitted with your closure request application will be included on the GIS Registry. To review the sites on the GIS Registry web page, visit the RR Sites Map page at http://dnr.wi.gov/org/aw/rr/gis/index.htm. If the property is listed on the GIS Registry because of remaining contamination and you intend to construct or reconstruct a well, you will need prior Department approval in accordance with s. NR 812.09(4)(w), Wis. Adm. Code. To obtain approval, Form 3300-254 needs to be completed and submitted to the DNR Drinking and Groundwater program's regional water supply specialist. This form can be obtained on-line http://dnr.wi.gov/org/water/dwg/3300254.pdf or at the web address listed above for the GIS Registry.

Closure Conditions

Please be aware that pursuant to s. 292.12 Wisconsin Statutes, compliance with the requirements of this letter is a responsibility to which you and any subsequent property owners must adhere. You must pass on the information about these continuing obligations to the next property owner or owners. If these requirements are not followed or if additional information regarding site conditions indicates that contamination on or from the site poses a threat to public health, safety, welfare, or the environment, the Department may take enforcement action under s. 292.11 Wisconsin Statutes to ensure compliance with the specified requirements, limitations or other conditions related to the property or this case may be reopened pursuant to s. NR 726.09, Wis. Adm. Code. The Department intends to conduct inspections in the future to ensure that the conditions included in this letter including compliance with referenced maintenance plans are met.

Cover or Barrier

Pursuant to s. 292.12(2)(a), Wis. Stats., the pavement, building foundation and soil cover that currently exists in the location shown on the attached map shall be maintained in compliance with the attached maintenance plan in order to prevent direct contact with residual soil contamination that might otherwise pose a threat to human health. If soil in the specific locations described above is excavated in the future, the property owner at the time of excavation must sample and analyze the excavated soil to determine if residual contamination remains. If sampling confirms that contamination is present the property owner at the time of excavation will need to determine whether the material is considered solid or hazardous waste and ensure that any storage, treatment or disposal is in compliance with applicable statutes and rules. In addition, all current and future owners and occupants of the property need to be aware that excavation of the contaminated soil may pose an inhalation or other direct contact hazard and as a result special precautions may need to be taken during excavation activities to prevent a health threat to humans.

The attached maintenance plan and inspection log are to be kept up-to-date and on-site. Please submit the inspection log to the Department only upon request.

Prohibited Activities

The following activities are prohibited on any portion of the property where pavement, a building foundation, soil cover, engineered cap or other barrier is required as shown on the attached map, unless prior written approval has been obtained from the Wisconsin Department of Natural Resources: 1) removal of the existing barrier; 2) replacement with another barrier; 3) excavating or grading of the land surface; 4) filling on capped or paved areas; 5) plowing for agricultural cultivation; 6) construction or placement of a building or other structure.

Chapter NR 140, Wis. Adm. Code Exemption

Recent groundwater monitoring data at this site indicates that for benzo(a)pyrene, benzo(b)fluoranthene, and chrysene at MW-05-2 contaminant levels exceed the NR 140 preventive action limit (PAL) but are below the enforcement standard (ES). The Department may grant an exemption to a PAL for a substance of public health concern, other than nitrate, pursuant to s. NR 140.28(2)(b), Wis. Adm. Code, if all of the following criteria are met:

1. The measured or anticipated increase in the concentration of the substance will be minimized to the extent technically and economically feasible.

2. Compliance with the PAL is either not technically or economically feasible.

3. The enforcement standard for the substance will not be attained or exceeded at the point of standards application. [Note: at this site the point of standards application is all points where groundwater is monitored.]

4. Any existing or projected increase in the concentration of the substance above the background concentration does not present a threat to public health or welfare.

Based on the information you provided, the Department believes that these criteria have been or will be met due to the reduction in infiltration to the groundwater from the addition of cover materials. Therefore, pursuant to s. NR 140.28, Wis. Adm. Code, an exemption to the PAL is granted for benzo(a)pyrene, benzo(b)fluoranthene, and chrysene at MW-05-2. Please keep this letter, because it serves as your exemption.

Post-Closure Notification Requirements

In accordance with ss, 292.12 and 292.13, Wis. Stats., you must notify the Department before making changes that affect or relate to the conditions of closure in this letter. For this case, examples of changed conditions requiring prior notification include, but are not limited to:

- Disturbance, construction on, change or removal in whole or part of pavement, an engineered cover or a soil barrier that must be maintained over contaminated soil

Please send written notifications in accordance with the above requirements to the Southeast Region Headquarters Office, to the attention of Vicky Stovall.

The Department appreciates your efforts to restore the environment at this site. If you have any questions regarding this closure decision or anything outlined in this letter, please contact Margaret Brunette at (414)263-8557.

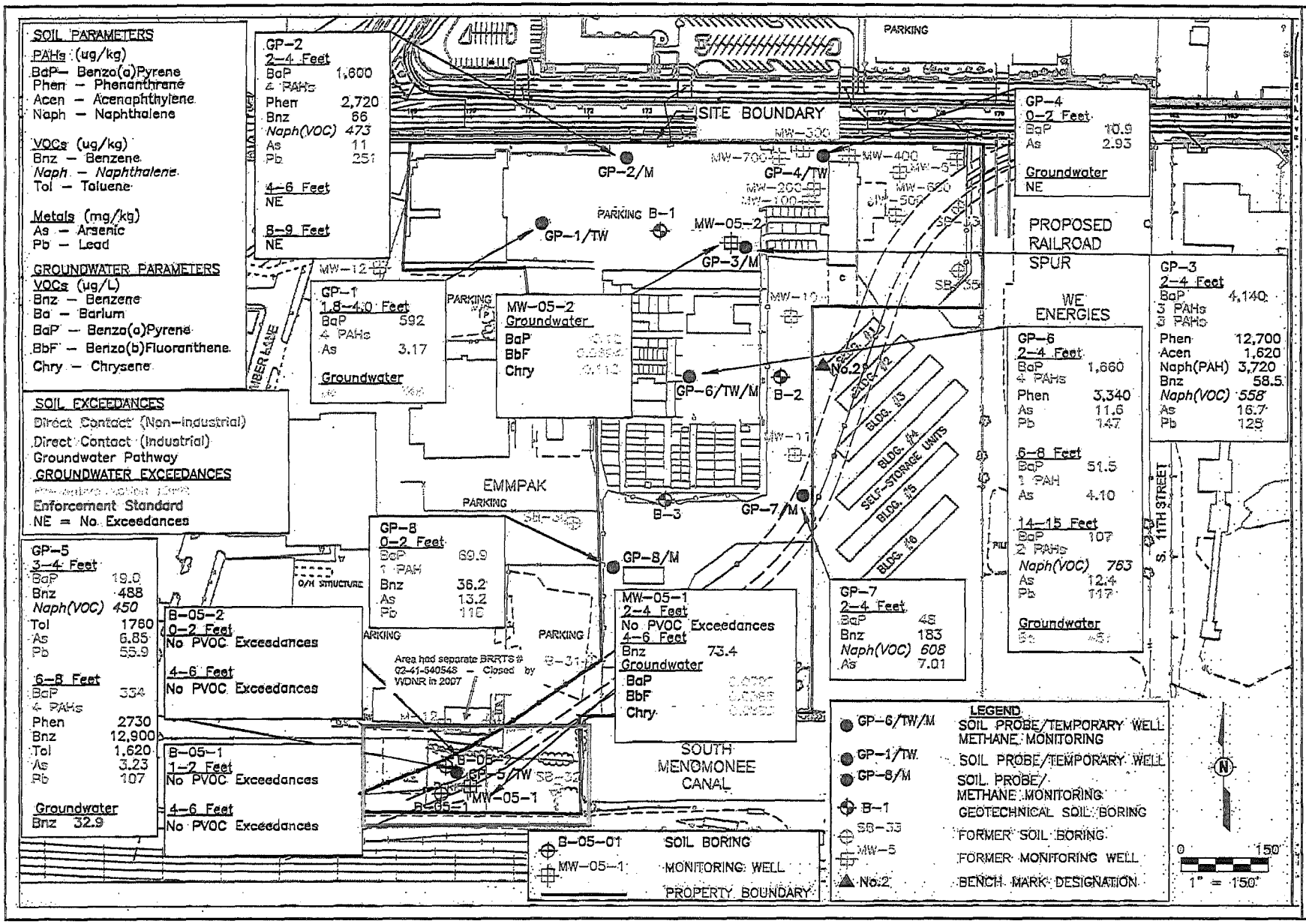
Sincerely,

James A. Schmidt

James A. Schmidt, Team Supervisor
Southeast Region Remediation & Redevelopment Program

Attach.
- Remaining soil contamination map
- Maintenance plan

cc: Lanette Altenbach – w/o attach
Bill Phelps, DG/5



STS | AECOM

11425 W. Lake Park Drive
Suite 100, Milwaukee, WI 53224
T 414.359.3030
www.sts.aecom.com

INVESTIGATION RESULTS
CANAL STREET COMMERCE CENTER
1301 WEST CANAL STREET
MILWAUKEE, WISCONSIN

Drawn:	TWP, Ltd.	9/15/2006
Bordered:	LLA	12/4/2008
Reviewed:	DXL	2/9/2009
PROJECT NUMBER	13290001	
FIGURE NUMBER	A-1	

K:\projects\13290001\1000\F2006092916-Fig_A-1-Investigation_results-updated09.doc

Prepared for:
Ziegler Bence
West Bend, Wisconsin

Cap Maintenance Plan

Canal Street Commerce Center

1301 West Canal Street
Milwaukee, Wisconsin
WDNR BRRTS #:02-41-546856

Prepared By

Reviewed By

AECOM, Inc.
Revision 1, June 2009
Document No.: 13290-001-1000

AECOM

Contents

List of Attachments

1.0 Introduction

The Canal Street Commerce Center property is located at 1301 West Canal Street in Milwaukee, Wisconsin. Ziegler/Bence Partners 5 LLC redeveloped this property as an office/warehouse/light industrial multi-tenant facility. The property is a 12.26-acre parcel with approximately 1,077 feet of street frontage along W. Canal Street.

Multiple investigations have been conducted on the property and adjacent parcels to evaluate for the presence of environmental impairment due to past and present property uses. These investigations have identified soils with concentrations of various organic and inorganic compounds above generic direct contact residual contaminant levels (RCLs) established by the Wisconsin Department of Natural Resources (WDNR). The WDNR accepted the proposed remedial action for the site in a July 13, 2006 letter and concluded that further investigation of the property is not necessary. Figure A-1 depicts the investigation results and indicates the original depth from which the soil samples were collected. These soils are now overlain by various thicknesses of cover, up to nine feet of cover under the building, up three feet in landscaped areas and up to two feet in paved areas.

The extent and type of capped areas at the property are depicted on Figure 1.

The purpose of this Cap Maintenance Plan (CMP) is to present requirements for maintaining the cap over the historic fill soil. The cap was placed over the historic fills because the results of a site investigation found detectable concentrations of polynuclear aromatic hydrocarbons (PAHs) exceeding industrial direct contact Residual Contaminant Levels (RCLs). The cap consists of a direct contact barrier consisting of the building footprint, paved areas, and placement of two feet of fill soil/topsoil in landscaped areas.

The CMP describes procedures necessary to observe and document that the cap over the historic fill soil remains intact and in relatively good condition. The next sections describe the observation, inspection and documentation requirements.

2.0 Pavement and Building Maintenance Plan

2.1 Inspection and Evaluation

Regular evaluation of the pavement surfaces with respect to surface condition, strength and drainage is the first step in pavement maintenance. In order to accomplish this, the following steps will be taken.

- The pavement should be inspected twice per calendar year; in the Spring and in the Fall.
- The inspections should be scheduled either after or before the ground thaws or freezes.
- Inspections should be conducted by completing a thorough walkover of the site to allow for observations of loss of integrity in the surface.

Regular inspection of the building should be conducted at the same time as the pavement inspection. The building roof should be observed for leaks and the building floor inspected for cracks.

A log of inspections should be maintained. The following information should be included in the inspection log:

- Date and time of Inspection
- Weather conditions
- Person(s) conducting inspection
- Condition of pavement
- Areas of distress (loss of integrity)

When areas of distress are noted, the following information should be logged:

1. Type of distressed pavement area

- Pot Holes
- Ruts
- Depressed areas
- Heaved areas

Type of distressed building area

- Full thickness cracks in concrete floor
- Leaks from roof

2. Size of distressed area

- Dimensions (length and width) of distressed area

3. Take photographs of each distressed area observed
    - Label the photographs with date and locations
    - Include an object in the photos of the distressed areas for scale (ruler, pen, coin, etc.)

2.2 Repair Measures

The purpose of the cap is to maintain a suitable barrier preventing direct contact with the waste. Repair measures are required when disruptions to the surface of the cap such as potholes or ruts are present and extend through the cap material. Repairs to distressed areas shall be made as soon as possible after the inspection, but no later than 2 to 3 months after the date of inspection. Repair measures should be logged, including the starting time and date the repair activities occurred, location of the repaired area, and who performed the work. Photographs should be taken to record the repair activities. The repaired area should be inspected after the repair activities to confirm the integrity of the pavement surface.

2.3 Records

Inspection and repair logs including photographs should be maintained for a period of at least five years.

3.0 Landscape Maintenance Plan

Maintenance of the landscape is required for the care of the soil direct contact barrier system employed over historic fill soil at the property.

3.1 Inspection and Evaluation

Regular evaluation of the landscaped surfaces with respect to surface condition and drainage is the first step in landscape maintenance. In order to accomplish this, the following steps will be taken by the property owner or his designee:

- The landscape will be inspected semi-annually (spring and fall), indefinitely.
- Inspections will be conducted by completing a thorough walkover of the site to allow for observations of stressed vegetation, bare soil areas, signs of animal burrows, etc.

A log of inspections should be maintained. The following information should be included in the inspection log:

- Date and time of Inspection
- Weather conditions
- Person(s) conducting inspection
- Condition of the landscape
- Areas of stressed vegetation, bare soil, animal activity etc.

If areas of distressed landscape are noted, the following information will be logged:

1. Type of distressed area:
    - Stressed vegetation (brown grass, wilted shrubs or tree leaves)
    - Lack of vegetation, dead shrubs or trees
    - Bare soil areas
    - Signs of animal burrows
2. Size of distressed area
3. Take photographs of each distressed area observed
    - Label the photographs with date and locations
    - Include an object in the photos of the distressed areas for scale (ruler, pen, coin, etc.)

3.2 Repair Measures

The objective of the repair activities to distressed areas is to protect the cover soil that prevents direct contact with the historic fill soil below the clean fill soil cover. Repairs to distressed areas shall be made as soon as possible after the inspection, weather dependent, but no later than 2 weeks after the date of inspection. Repair measures should be logged, including the starting time and date the repair activities occurred, location of the repaired area, and who performed the work. Photographs should be taken to record the repair activities. The repaired area should be inspected after the repair activities to confirm the integrity of the repair. Temporary repair measures such as erosion control mats should be used if the weather conditions are unsuitable for supporting vegetative growth (such as late fall, winter, or early spring before the growing season begins).

3.3 Records

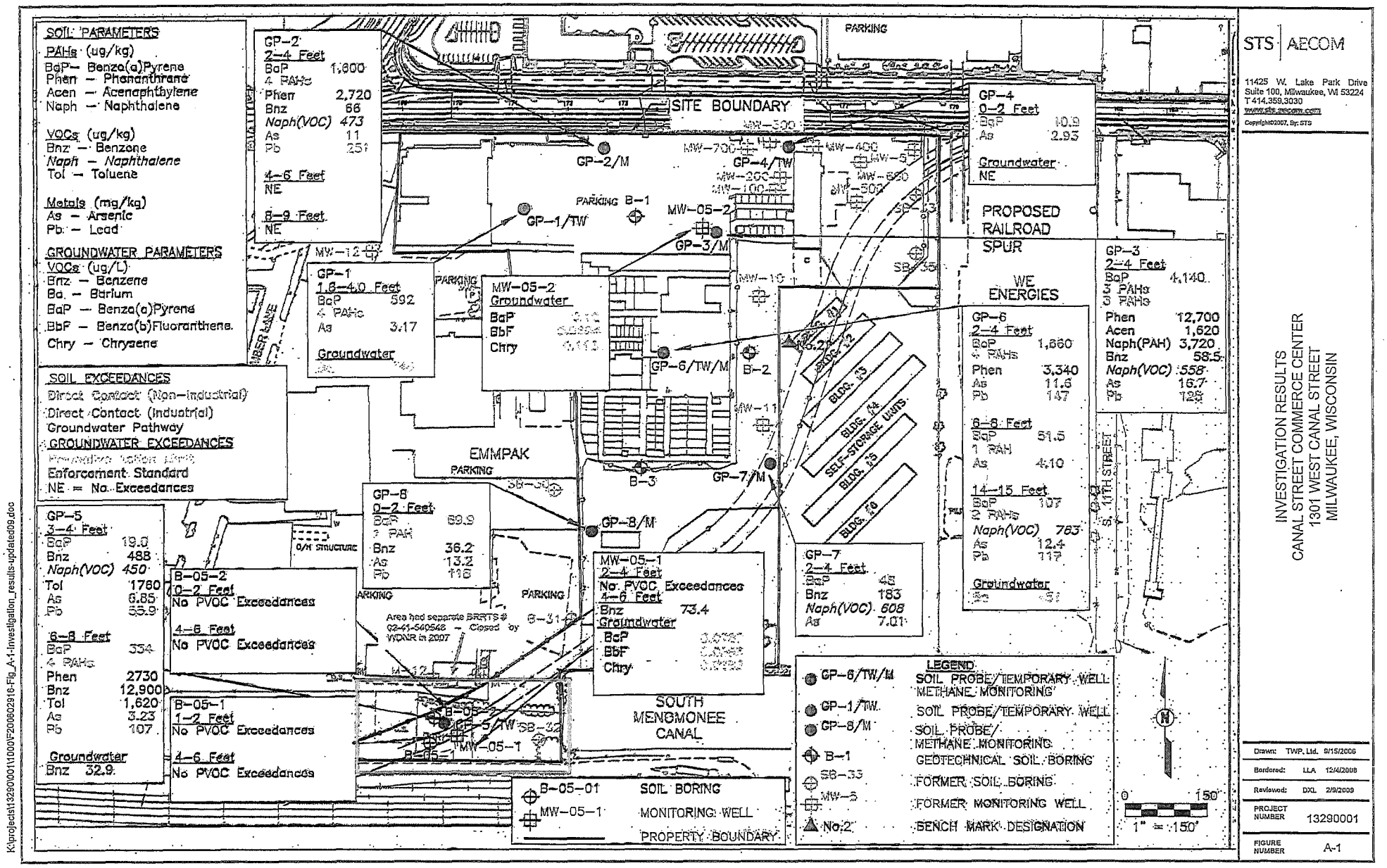
Inspection and repair logs including photographs should be maintained for a period of at least five years.

Attachments

Figure A-1 Investigation Results

Figure 1 Extent of Direct Contact Barrier

Cap Inspection Form



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11425 W. Lake Park Drive
Suite 100, Milwaukee, WI 53224
T 414.359.3030
www.sts.aecomw.com

INVESTIGATION RESULTS
CANAL STREET COMMERCE CENTER
1301 WEST CANAL STREET
MILWAUKEE, WISCONSIN

Drawn:	TWP, Ltd.	9/15/2006
Bordered:	LLA	12/4/2008
Reviewed:	DXL	2/9/2009
PROJECT NUMBER	13290001	
FIGURE NUMBER	A-1	

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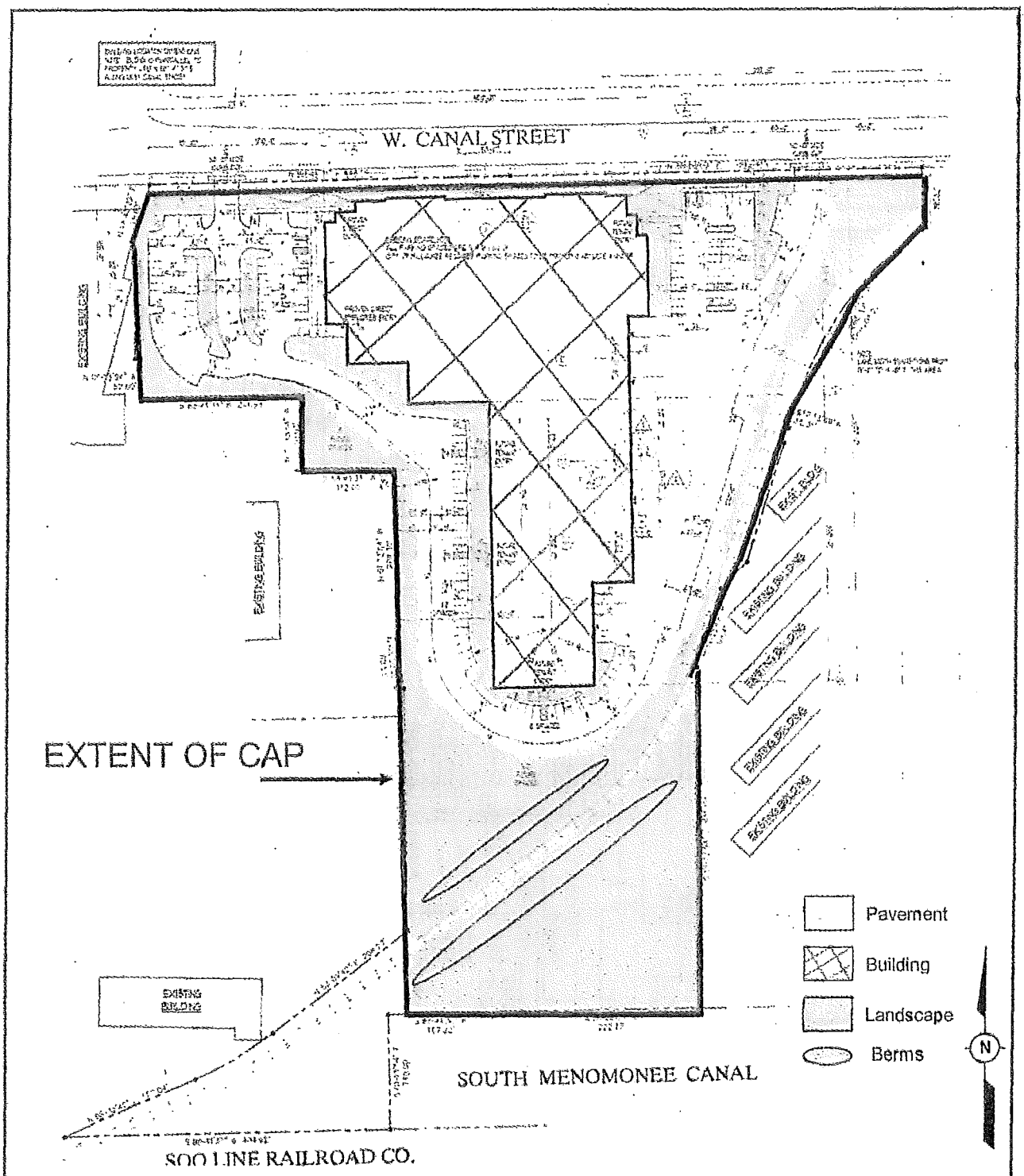

Source: Canal Street Commerce Center Site Plan by Torke Wirth Pujara, Ltd. Architects/Engineers

STS AECOM

11425 W. Lake Park Drive
Suite 100, Milwaukee, WI 53224
T 414.359.3030
www.sts.aecom.com

EXTENT OF CAP
CANAL STREET COMMERCE CENTER
1301 WEST CANAL STREET
MILWAUKEE, WI

Drawn:	drk 9/15/2008
Checked:	lla 12/4/2008
Approved:	dal 2/9/2009
PROJECT NUMBER	13290001
FIGURE NUMBER	1

CAP INSPECTION FORM
1301 West Canal Street

Site: _____ Date: _____

Inspected By: _____ Weather: _____

Page __ of __

Distress Types in Pavement

1. Alligator Cracking
2. Linear Cracking *
3. Blocks and Sags *
4. Depression
5. Edge Cracking *
6. Joint Reflection Crack *
7. Edge Drop Off *
8. Patching (incl. Utility)
9. Potholes *
10. Rutting
11. Heaving
12. Weathering & Raveling

Existing Pavement Distress Observed

Distress Type	Quantity	Severity Low	Medium	High	Photo No.	Description

All distresses are measured in square feet except for 2,3,5,6 & 7are in feet and 9 is number of potholes

Distress Types in Landscape Areas

1. Stressed Vegetation (brown grass, wilted shrubs or tree leaves)
2. Lack of Vegetatiion (dead grass, shrubs or trees)
3. Bare Soil Areas
4. Signs of Animal Burrows

Existing Landscape/Storm Water Basin Distress Observed

Distress Type	Quantity	Severity Low	Medium	High	Photo No.	Description

All distresses are measured in square feet except for 4 is number of burrows

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Pavement Overview Photographs – Canal Street Commerce Center

Photograph 1 – View west of west entrance

Photograph 2 – View northwest of west entrance

Photograph 3- View west of northwest parking

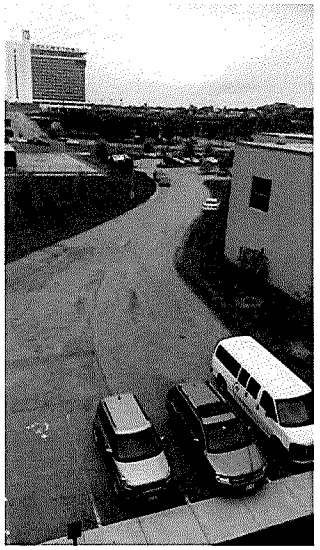
Photograph 4 – View west of northwest parking

Photographs taken on October 7, 2014

AECOM

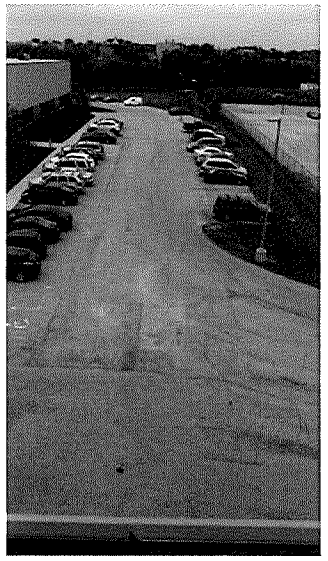
Pavement Overview Photographs – Canal Street Commerce Center

Photograph 5 – View southwest of northwest parking



Photograph 6 – View northwest from west side parking

Photograph 7 – View southeast of west side parking



Photograph 8 – View south of west side parking

Pavement Overview Photographs – Canal Street Commerce Center

Photograph 9 - View northwest of west side parking

Photograph 10 - View west of west side parking

Photograph 11 - View southwest of west side parking

Photograph 12 - View northwest of southwest side parking

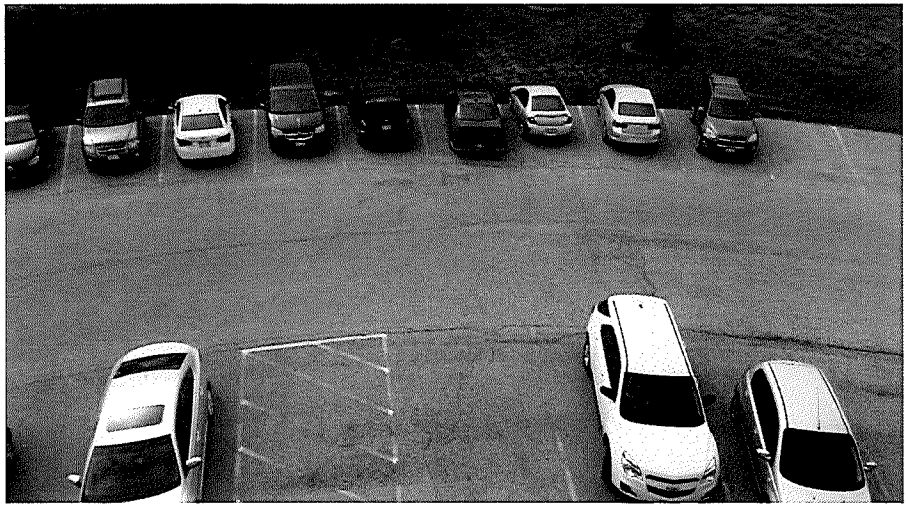
AECOM

Pavement Overview Photographs – Canal Street Commerce Center

Photograph 13 - View west of southwest side parking

Photograph 14 - View southwest of southwest side parking

Photograph 15 - Southwest corner parking



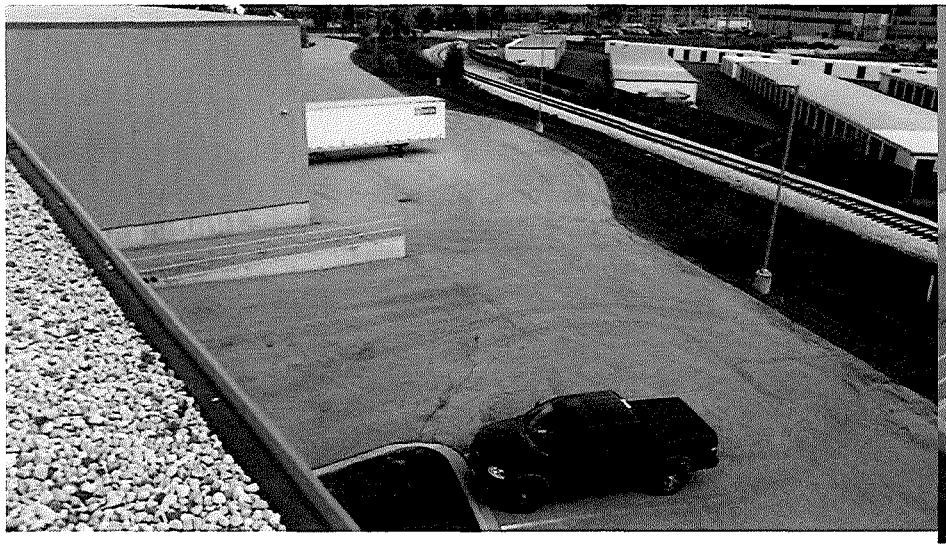
Photograph 16 - South parking

AECOM

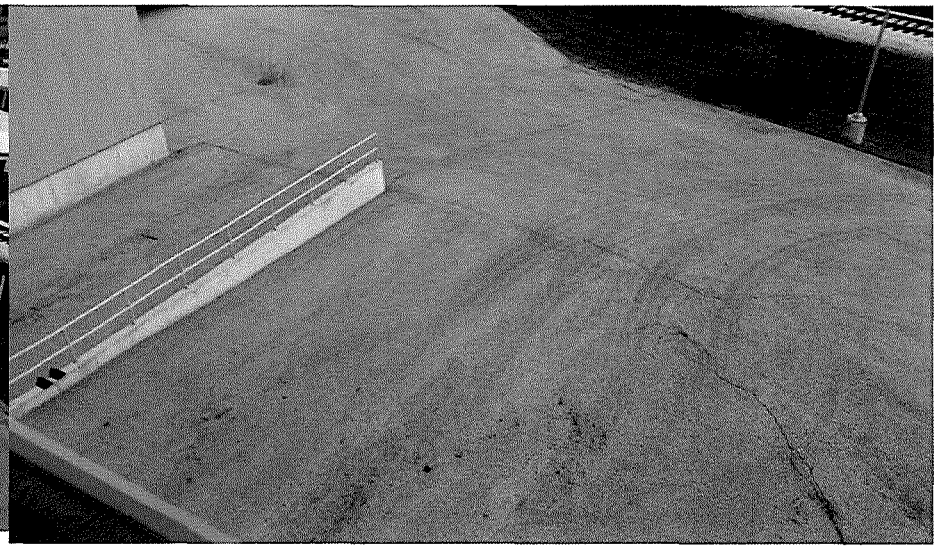
Pavement Overview Photographs – Canal Street Commerce Center

Photograph 17 - Southeast corner parking

Photograph 18 - East Southeast parking

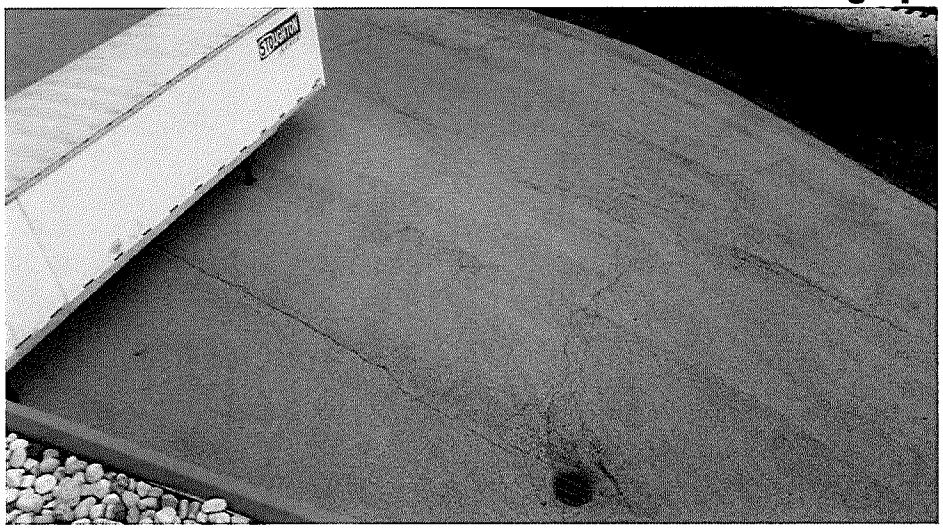


Photograph 19 - View northeast of east side parking



Photograph 20- East southeast loading dock

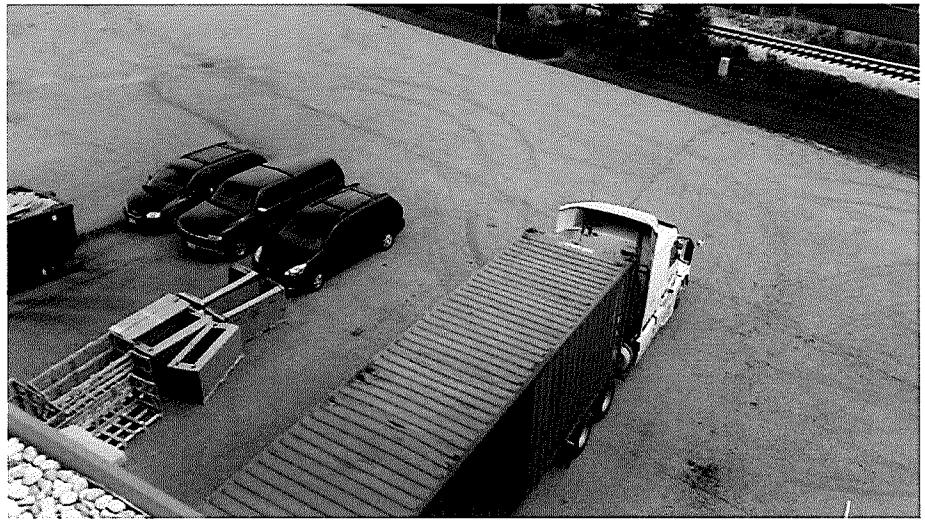
Pavement Overview Photographs – Canal Street Commerce Center



Photograph 21 - East southeast loading dock

Photograph 22 - View southeast of east loading dock

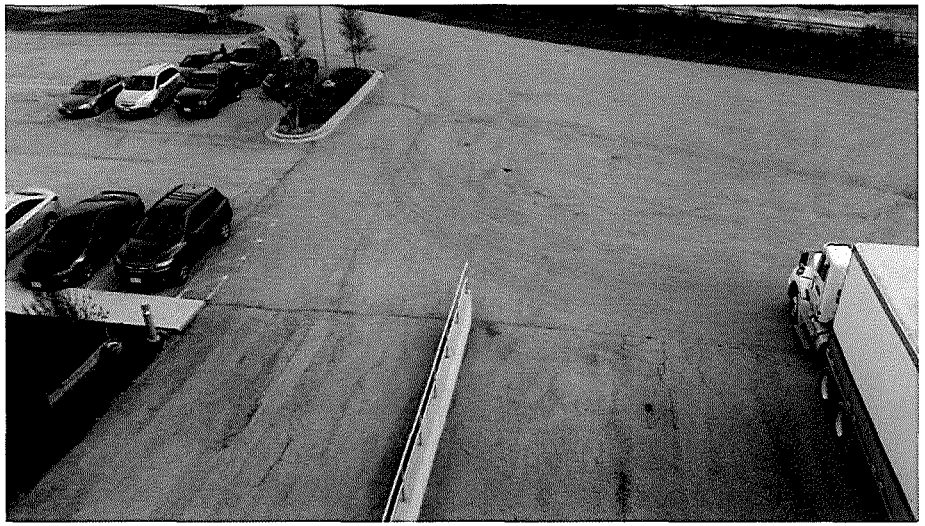
Photograph 23 - View northeast of east loading dock



Photograph 24 - View east of east loading dock

Pavement Overview Photographs – Canal Street Commerce Center

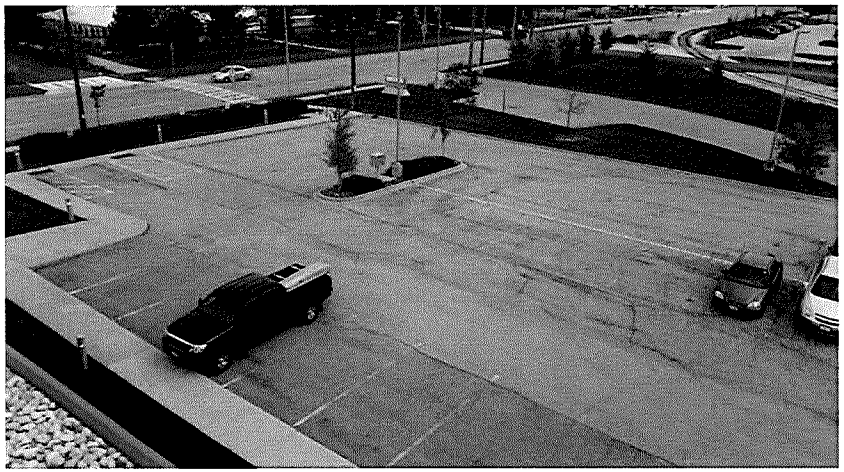
Photograph 25 - View northeast of northeast loading dock



Photograph 26 - View east of northeast loading dock

Photograph 27 - View southeast of northeast parking

Photograph 28 – View east of northeast parking

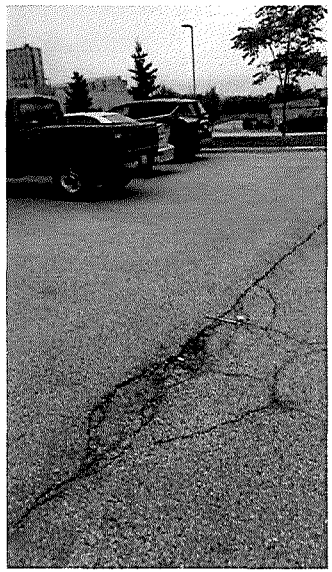


Photograph 29 - View northeast of east entrance

AECOM

Pavement Conditions Photographs – Canal Street Commerce Center

Photograph 1 – Pavement Conditions



Photograph 2 – Pavement Conditions

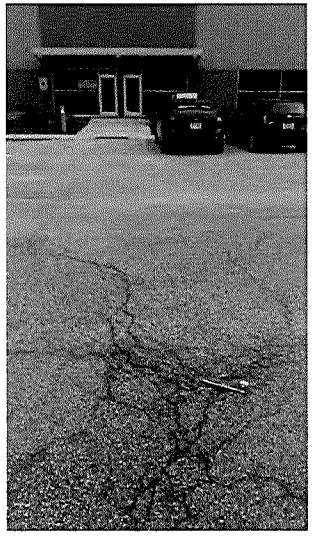
Photograph 3- Pavement Conditions

Photograph 4 – Pavement Conditions

AECOM

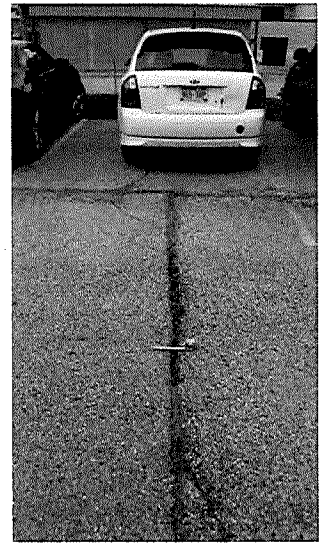
Pavement Conditions Photographs – Canal Street Commerce Center

Photograph 5 – Pavement Conditions



Photograph 6 – Pavement Conditions

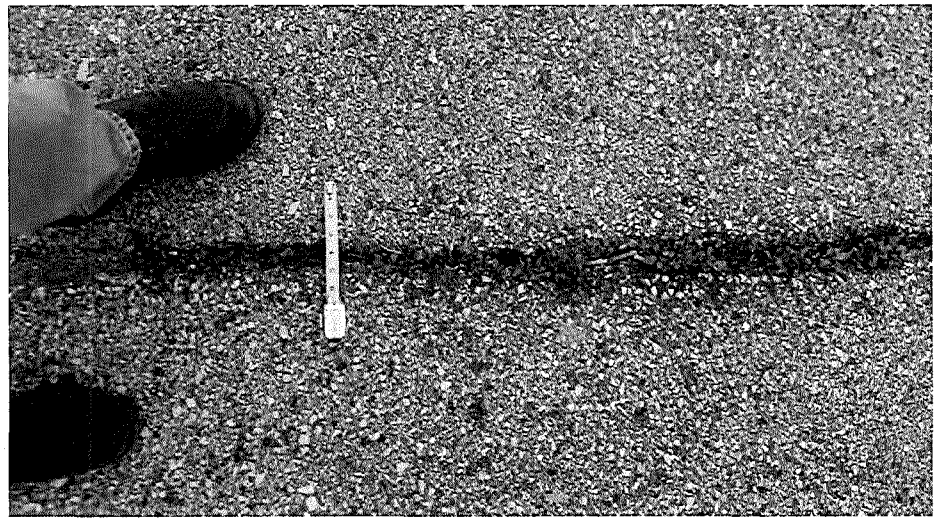
Photograph 7 – Pavement Conditions



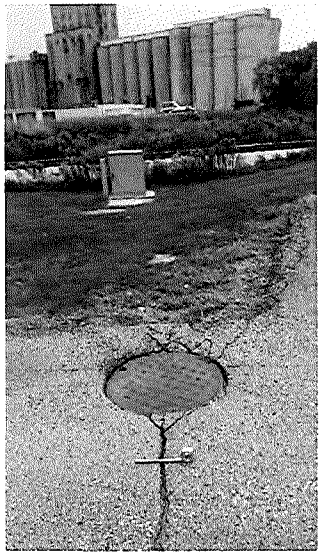
Photograph 8 – Pavement Conditions

AECOM

Pavement Conditions Photographs – Canal Street Commerce Center



Photograph 9 - Pavement Conditions



Photograph 10 - Pavement Conditions

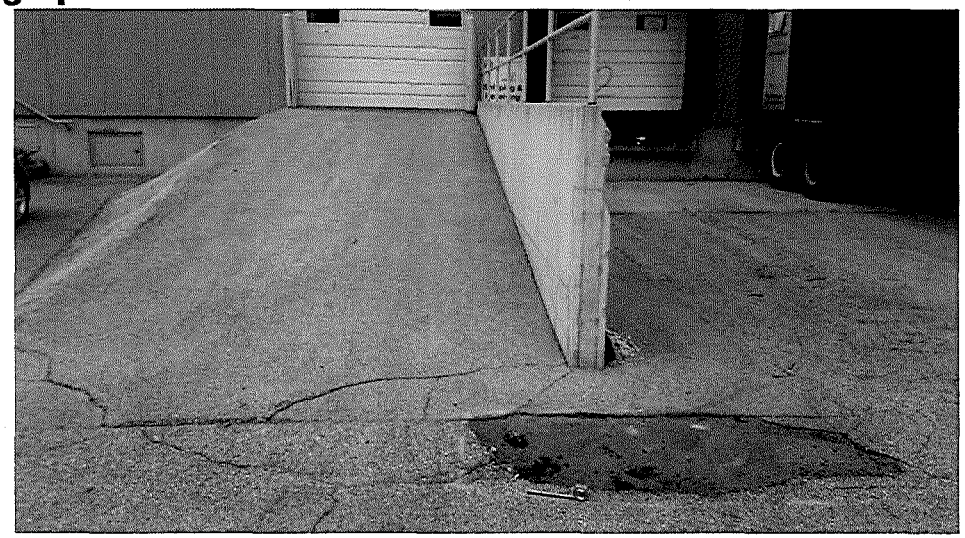
Photograph 11 - Pavement Conditions

Photograph 12 - Pavement Conditions

AECOM

Pavement Conditions Photographs – Canal Street Commerce Center

Photograph 13 - Pavement Conditions



Photograph 14 - Pavement Conditions

Photograph 15 - Pavement Conditions

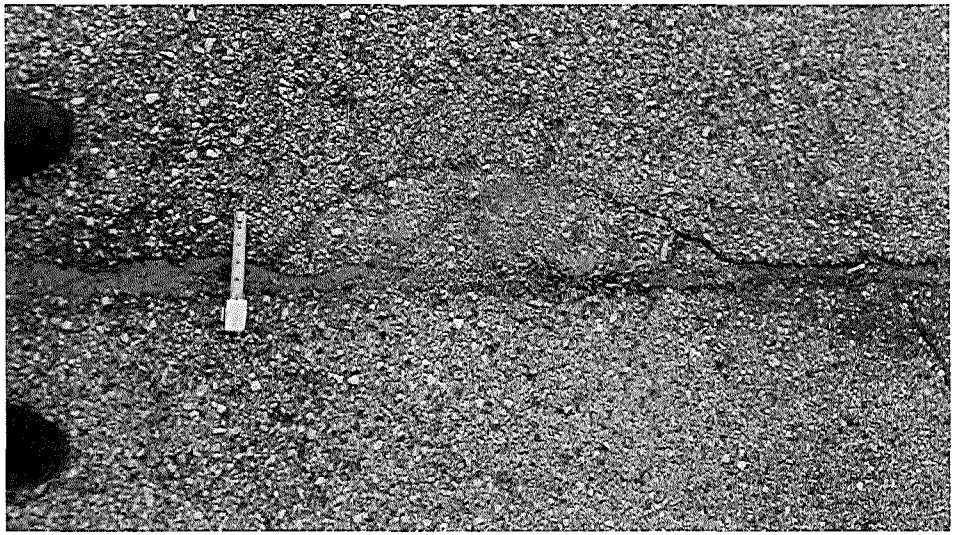
Photograph 16 - Pavement Conditions

AECOM

Pavement Conditions Photographs – Canal Street Commerce Center

Photograph 17 - Pavement Conditions

Photograph 18 - Pavement Conditions



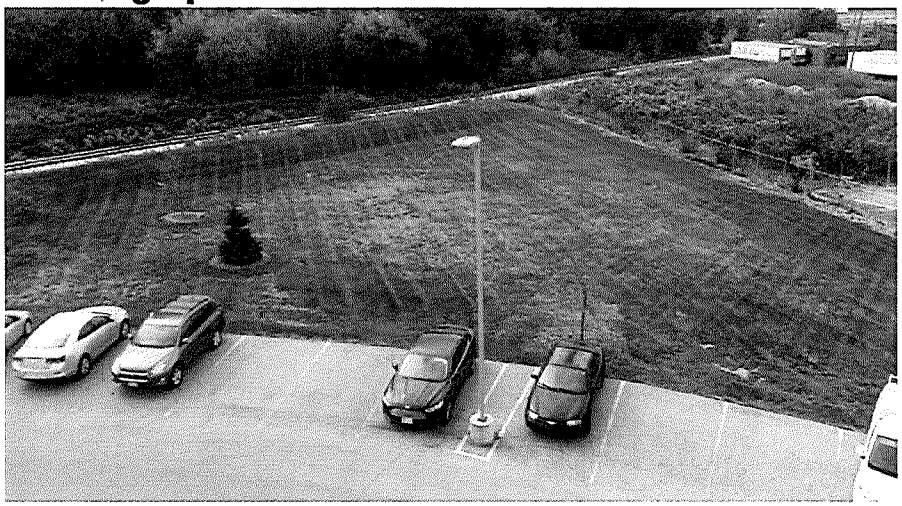
Photograph 19 - Pavement Conditions

Photographs taken on October 7, 2014

AECOM

Southern Portion of Property Overview Photographs – Canal Street Commerce Center

Photograph 1 – View southeast



Photograph 2 – View south

Photograph 3- View southewest

Photographs taken on October 7, 2014

CRAWL SPACE VENTILATION SYSTEM MAINTENANCE PLAN

October 2014

Canal Street Commerce Center
1207-1301 West Canal Street
Milwaukee, Wisconsin

WDNR BRRTS# 06-41-562057

Legal Description: Lot 2 of CSM Map No. 7629, recorded on July 7, 2005, as Document No. 9044078, being a division of Parcel 3 of CSM 2440, part and partition of the northwest ¼ of section 32 in the northeast ¼ of the northeast ¼ of section 31 and the northwest ¼ of the northwest ¼ of section 32, town 7 north, range 22 east in the City of Milwaukee, County of Milwaukee, State of Wisconsin.

Introduction

This document is the Maintenance Plan for an active crawl space ventilation system at the above-referenced property and was prepared in general accordance with the requirements of s. NR 724.13 (2), Wis. Adm. Code. The system was installed during building construction, primarily as a methane mitigation measure.

More site-specific information about this property/site may be found in:

- The case file in the Wisconsin Department of Natural Resources (DNR) Southeast Region office in Milwaukee;
- BRRTS on the Web (DNR's internet based data base of contaminated sites) for the link to a PDF for site-specific information at the time of closure and on continuing obligations (http://dnr.wi.gov/botw);
- RR Sites Map/GIS Registry layer for a map view of the site (http://dnr.wi.gov/topic/Brownfields/clean.html); and
- The DNR project manager for Milwaukee County.

Description of Contamination

The crawl space ventilation system was designed and installed as a methane mitigation measure. During pre-development site investigation activities, methane gas was detected in select soil probes located within the proposed building footprint. Methane concentrations measured in two of the soil probes (screened at depths between 3 to 8 feet below ground surface (bgs) exceeded the DNR recommended maximum soil gas concentrations for construction of new structures (1.25% methane or 25% of the lower explosive limit (LEL)). Subsequent methane pad sampling, designed to better simulate post development site conditions, indicated that methane concentrations were below DNR recommended levels. Based on the results of the initial soil probe methane results it was determined that some degree of methane mitigation would be required for the building.

The results of the methane sampling activities were described in the document entitled Proposed Methane Abatement System (Sigma Environmental Services, Inc., March 29, 2007). A table summarizing the methane sampling results and a figure showing the methane probe and pad locations are included as **Attachment A.**

The pre-development site investigation activities also identified concentrations of arsenic, lead, several PAHs, and limited VOCs at concentrations above the NR 720 non-industrial and industrial direct contact residual contaminant levels (RCLs) and/or groundwater pathway RCLs in the historic fill material at the site. The detected concentrations of PAHs and metals, and to some extent VOCs, generally appeared to be consistent with what would be expected in historic fill material in the Menomonee Valley. A figure presenting the sub-surface site investigation results is included as **Attachment B.** Based on building construction and contaminant levels, the potential for vapor intrusion associated residual petroleum impacts is minimal, however the existing crawl space ventilation system would mitigate any such impacts.

The operation of the existing crawl space ventilation system serves as a protective measure to building occupants for methane and petroleum compound vapor intrusion.

Description of Crawl Space Ventilation System to be Maintained

The existing building was constructed on a network of driven steel piles interconnected by a series of pile caps and grade beams, which are located on the ground surface of the original site. After construction of the foundation (driven steel piles, pile caps and grade beams) a geotextile liner was installed as a direct contact and vapor barrier. Crushed granular material was placed over the liner.

The main/first floor of the building was constructed on structural steel above the grade beams. As a result, the first floor slab is elevated approximately 6 feet above the surrounding finish grade creating an open crawl space beneath the building floor. The crawl space was designed to be actively vented by the building HVAC system.

The crawl space ventilation system was designed to utilize the buildings HVAC system to continually ventilate the space. The crawl space ventilation system was installed in 2007/2008 when the building was constructed and it was designed to operate as follows:

- Air from the occupied building spaces is vented into the crawl space through a series of "Crawl Space HVAC Supply" ducts.
- Air is drawn out of the crawl space through "Crawl Space HVAC Return" ducts that are connected to four rooftop air-to-air heat exchange units.
- The air flow within the crawl space, between the Supply ducts and the Return ducts was reportedly designed to provide cross ventilation of the crawl space.
- The four rooftop air-to-air heat exchangers (Renewaire Model numbers HE-1XRT) draw air from the crawl space and exhaust 3,000 cfm to the exterior of the building at the roof level. The out-going crawl space air is used to precondition the incoming ventilation air for the occupied spaces. Out-going crawl space air and incoming ventilation air do not mix.
- The system design and operation reportedly maintains a negative pressure in the crawl space under the building and provides the code required air movement within the crawl

space. Additionally, the use of four rooftop air-to-air heat exchanger units provides redundancy in the event of mechanical problems.

Figure 1 and **Figure 2** illustrate the locations of the primary design components of the crawl space ventilation system. **Figure 3** provides a schematic flow diagram of the system.

Please note that a system of methane monitors/detectors was originally installed in the building. The monitors were understood to be optional as the crawl space is ventilated continuously and a negative pressure is maintained within the crawl space. It is reported that the monitors were removed in 2012 due to a number of false alarms caused by moisture interferences and the lack of positive methane readings during the prior four years of operation. There currently is a stand-alone methane detector within the 1301 W Canal Street address. The detector is located on the main level at building column line K5 as shown on **Figure 1**.

Specifications for the four rooftop air-to-air heat exchangers are included as **Attachment C**. The specifications for the stand-alone methane detector are also included in **Attachment C**. Representative photographs of the crawl space ventilation system are included as **Attachment D**.

Crawl Space Ventilation System Purpose

The original purpose of the crawl space ventilation system was to prevent methane from entering the building's occupied space. The system also addresses any limited potential for petroleum vapor phase intrusion resulting from residual soil impacts identified at the site.

System Inspection

Visible portions of the crawl space ventilation system will be formally inspected on an annual basis to ensure that the system is operating as intended. Because the crawl space ventilation system utilizes the buildings HVAC system, less formal inspections are performed on a more frequent basis as part of the overall building operation and maintenance activities.

The annual inspections will be performed by the site owner or their designated representative. The inspection will include a visual check for any damage to the ductwork. The crawl space supply and return ducts will be visually inspected to ensure that they are not damaged, obstructed, or blocked. The rooftop air handling units will have a visual and audible inspection to determine if they are operational without signs of distress or the need for maintenance. Excessive vibration and/or noise would indicate that maintenance is needed.

A log of the inspections and any repairs will be maintained by the property owner and is included in **Attachment E** (DNR Form 4400-305, *Continuing Obligations Inspection and Maintenance Log*). The log will include recommendations for repairs to the equipment and/or ductwork system. Once repairs are completed, they will be documented in the inspection log. A copy of this maintenance plan and inspection log will be kept at the site and available for submittal or inspection by DNR representatives upon their request.

System Maintenance

The current HVAC system components (rooftop air-to-air heat exchangers) will be operated and maintained by the building owner or their designated representative in accordance with manufacturer recommendations. If problems are noted during the annual inspection, or at any time during the year, the required repairs will be initiated as soon as practical.

The property owner will maintain a copy of this Maintenance Plan at the site and make it available to interested parties (i.e. on-site employees, contractors, future property owners, DNR representatives, etc.) for viewing.

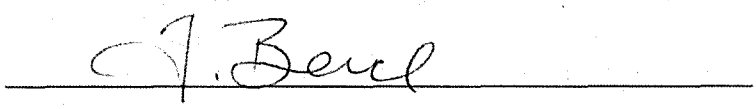
Amendment or Withdrawal of Maintenance Plan

This Maintenance Plan can be amended or withdrawn by the property owner and its successors with the written approval of DNR.

Contact Information

October 2014

Site Owner and Operator: Ziegler/Bence Development
Contact: Todd Bence
5582 Highway Z
West Bend, WI 53095
(262) 366-5744
tbence@zieglerbence.com

Signature: 

Property Mgmt: Irgens
Contact: James Groth
648 N. Plankinton Avenue, Suite 200
Milwaukee, WI 53203
(414) 443-0700
jgroth@irgens.com

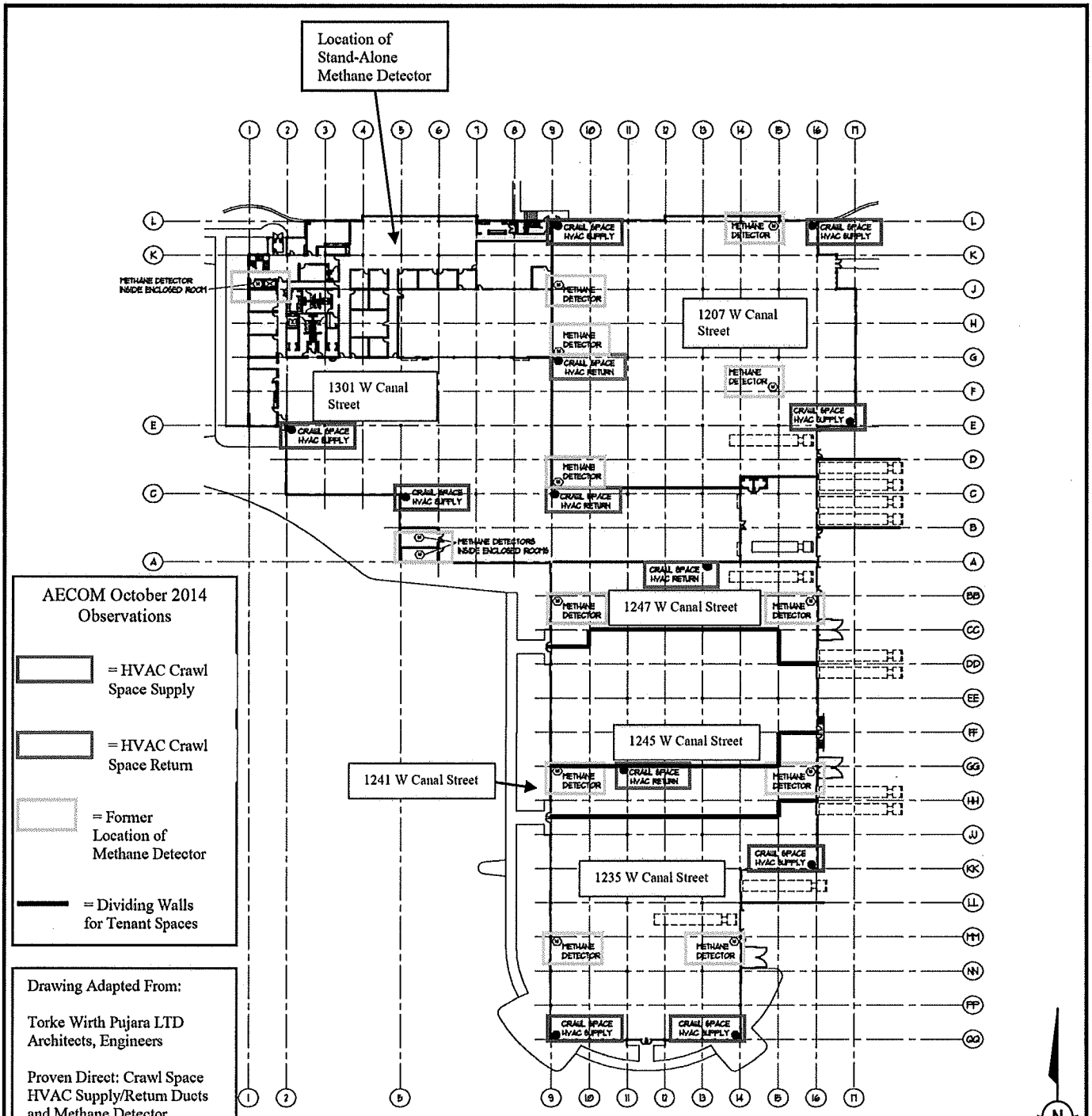
Consultant: AECOM
Project Manager: Dennis Lawton
1555 N RiverCenter Drive, Suite 214
Milwaukee, WI 53212
(414) 944-6183
dennis.lawton@aecom.com

DNR: Wisconsin Department of Natural Resources
Project Manager: Paul Grittner
Remediation and Redevelopment Program
2300 N. Dr. Martin Luther King Drive
Milwaukee, WI 53212
(414) 263-8541
Paul.Grittner@wisconsin.gov

Plan Attachments

Figure 1: Main Level – Methane System Observations (October 2014)
Figure 2: Mezzanine Level – Methane System Observations (October 2014)
Figure 3: Schematic Flow Diagram – Methane System Observations(October 2014)

Attachment A: Methane Sampling Results Summary
Attachment B: Site Investigation Sampling Results Summary
Attachment C: Equipment Information
Attachment D: Photographs – Existing Condition of the Crawl Space Ventilation System
Attachment E: Inspection Log (DNR Form 4400-305)



OVERALL BUILDING FLOOR PLAN – MAIN LEVEL

SCALE: 1/32" = 1'-0"

SHOWING CRAWL SPACE HVAC SUPPLY/RETURN DUCTS AND METHANE DETECTOR LOCATIONS

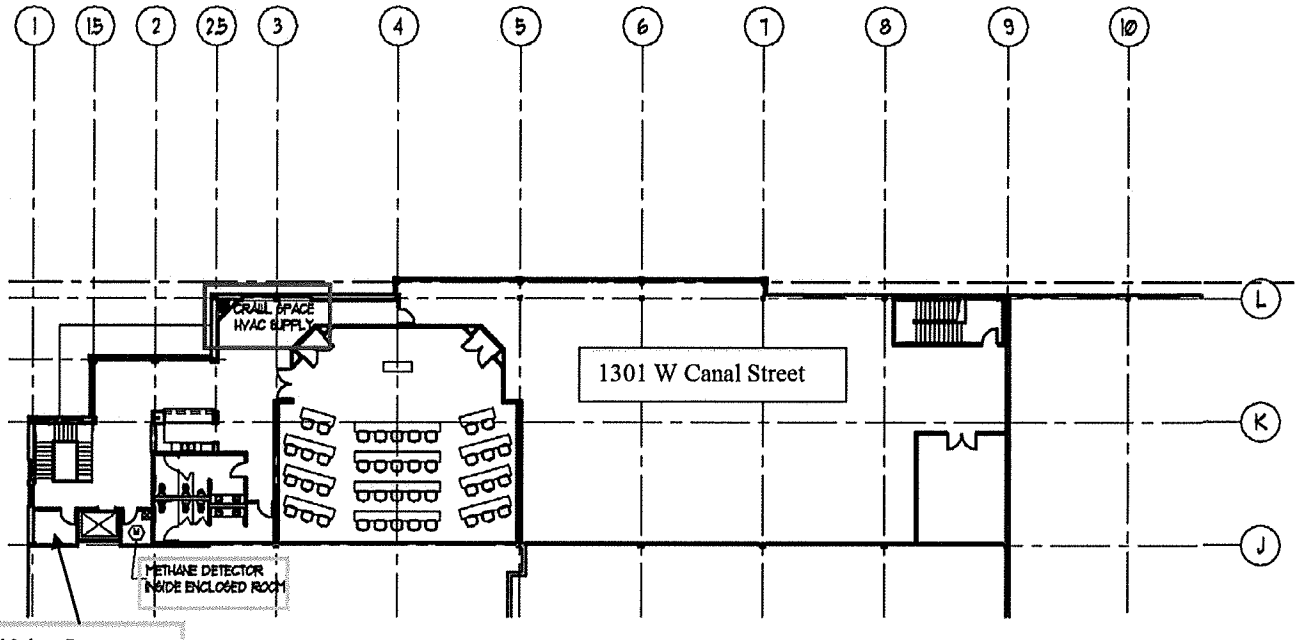
AECOM

1555 N RiverCenter Drive
Suite 214, Milwaukee, WI 53212
T 414.944.6180
www.aecom.com

Main Level
Methane System Observations
October 2014

Canal Commerce Center
1207 – 1301 W Canal Street, Milwaukee, WI

Drawn:	dsh	10/24/2014
Checked:	sp	10/24/2014
Approved:	dsh	10/24/2014
PROJECT NUMBER	60331488	
FIGURE NUMBER	1	



MEZZANINE PLAN

SCALE: 1/16" = 1'-0"

SHOWING CRAWL SPACE HVAC SUPPLY/RETURN DUCTS AND METHANE DETECTOR LOCATIONS

Drawing Adapted From:

Torke Wirth Pujara LTD
Architects, Engineers

Proven Direct: Crawl Space HVAC Supply/Return Ducts and Methane Detector Locations

Project Number 05178
Dated 06/06/07

AECOM October 2014 Observations

= HVAC Crawl Space Supply

= HVAC Crawl Space Return

= Former Location of Methane Detector

= Dividing Walls for Tenant Spaces

N

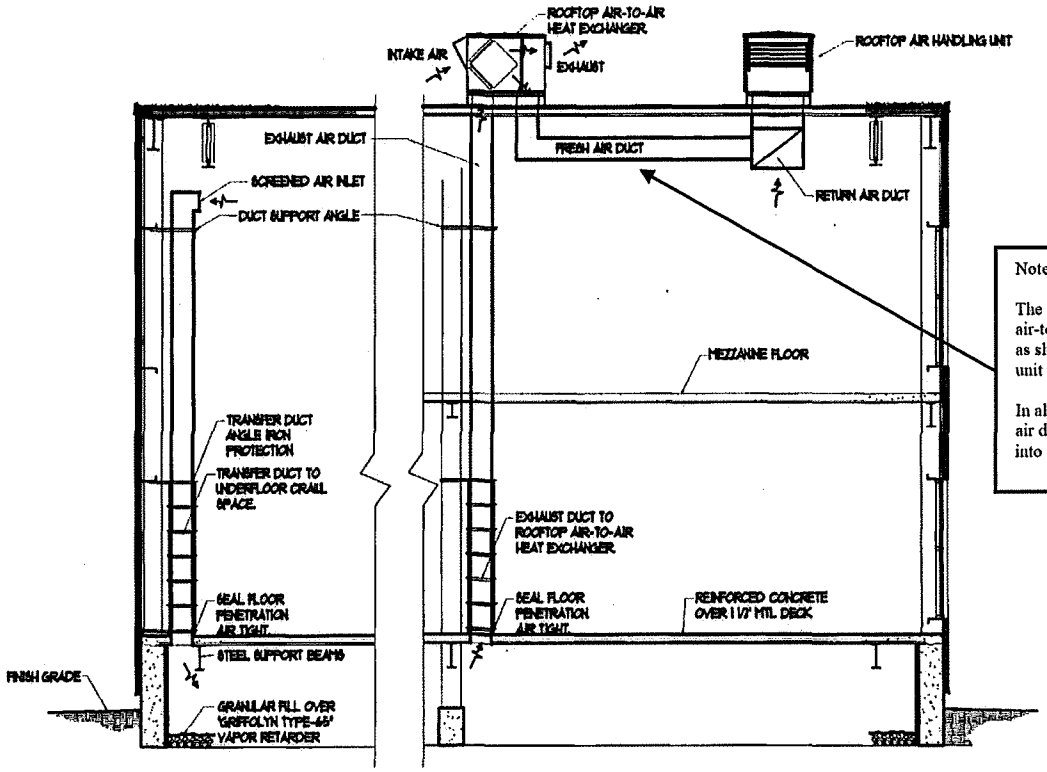
AECOM

1555 N RiverCenter Drive
Suite 214, Milwaukee, WI 53212
T 414.944.6180
www.aecom.com

Mezzanine Level
Methane System Observations
October 2014

Canal Commerce Center
1207-1301 W Canal Street, Milwaukee, WI

Drawn:	dsh	10/24/2014
Checked:	sp	10/24/2014
Approved:	dsh	10/24/2014
PROJECT NUMBER	60331488	
FIGURE NUMBER	2	



SCHEMATIC FLOW DIAGRAM

Note:

The fresh air duct from the rooftop air-to-air heat exchanger is connected as shown to the rooftop air handling unit only at 1301 W Canal.

In all other address spaces, the fresh air duct discharges fresh air directly into the occupied space.

GENERAL NOTES:

CRAWL SPACE HVAC SUPPLY DUCTS ARE OPEN TO THE OCCUPIED SPACE AND TERMINATE IN THE CRAWL SPACE JUST UNDER THE FLOOR SLAB

CRAWL SPACE HVAC RETURN DUCTS EXTEND FROM JUST UNDER THE FLOOR SLAB UP TO THE ROOFTOP AIR-TO-AIR HEAT EXCHANGERS

AIR FROM THE CRAWL SPACE IS EXHAUSTED TO THE EXTERIOR AFTER BEING USED TO PRECONDITION THE INCOMING VENTILATION AIR. OUTGOING CRAWL SPACE AIR AND INCOMING VENTILATION AIR DO NOT MIX. PRECONDITIONING OF THE INCOMING AIR OCCURS IN THE ROOFTOP AIR-TO-AIR HEAT EXCHANGERS.

Drawing Adapted From:

Torke Wirth Pujara LTD
Architects, Engineers

Proven Direct: Crawl Space HVAC Supply/Return Ducts and Methane Detector Locations

Project Number 05178
Dated 06/06/07

AECOM

1555 N RiverCenter Drive
Suite 214, Milwaukee, WI 53212
T 414.944.6180
www.aecom.com

Schematic Flow Diagram
Methane System Observations
October 2014

Canal Commerce Center
1207 - 1301 W Canal Street, Milwaukee, WI

Drawn:	dsh	10/24/2014
Checked:	sp	10/24/2014
Approved:	dsh	10/24/2014
PROJECT NUMBER	60331488	
FIGURE NUMBER	3	

ATTACHMENT A

Methane Sampling Results Summary

Table 1
Methane Monitoring Data
Design To Construct - Canal Street Site
Project Reference #10085

Methane Monitoring Point	Methane Gas	Carbon Dioxide	Oxygen	LEL	Date	Pressure	Water Level	Comments
Units	%	%	%	%	-	Hg"	Feet	(All readings open cap unless noted otherwise)
	0.0	8.2	9.9	0	10/03/06	29.4		
	0.6	14.3	0.5	12	10/04/06	29.6		
#1	0.0	0.0	19.4	0	10/05/06	29.8		
	0.1	8.0	9.1	15	10/06/06	29.9		
	2.8	7.4	10.7	54	10/09/06	29.7		
	2.5	9.0	8.8	48	10/10/06	29.5		
	3.8	14.5	1.7	78	10/11/06	28.7		cap was on wells before testing, run for 300 sec., steady
	3.0	9.1	8.0	60	10/12/06	28.9		run for 180 sec., steady
	4.0	8.5	8.4	80	10/13/06	28.9		run for 240 sec., steady
	2.9	3.3	13.6	58	11/15/06	29.3		run for 120 sec., steady
	5.7	6.2	8.3	114	11/16/06	29		run for 120 sec., steady
	8.3	10.9	0.0	166	11/17/06	29.3	6.40	run for 120 sec., steady
	9.2	9.6	1.6	184	11/22/06	29.7		run for 120 sec., steady
	3.3	4.1	11.9	66	11/23/06	29.7		run for 365 sec., steady
	5.3	5.8	8.8	106	11/24/06	29.4		run for 303 sec., steady
	3.8	5.7	9.2	76	11/25/06	29.4		run for 280 sec., steady
	6.1	7.7	6.5	122	11/26/06	29.5		run for 400 sec., steady
	7.0	10.7	2.5	140	11/27/06	29.5		run for 120 sec., steady
	12.0	11.0	0.0	240	11/28/06	29.3		run for 600 sec., steady
	11.1	10.9	0.0	222	11/29/06	29.5		run for 600 sec., steady
	7.0	10.5	0.0	140	12/05/06	29.5		run for 600 sec., steady
	6.0	10.0	0.0	120	12/06/06	29.5		run for 600 sec., steady
	0.9	3.2	14.2	18	12/08/06	29.5		run for 600 sec., steady
#2	0.0	0.0	19.5	0	10/05/06	29.8		
	0.0	0.0	19.8	0	10/06/06	29.8		
	0.0	0.0	20.0	0	10/09/06	29.7		
	0.0	0.0	20.0	0	10/10/06	29.5		
	0.0	0.0	19.9	0	10/11/06	28.7		cap on well before testing, run for 120 sec., steady
	0.0	0.0	19.8	0	10/12/06	28.9		run for 120 sec., steady
	0.0	0.0	19.9	0	10/13/06	28.9		run for 120 sec., steady
	0.0	0.0	19.8	0	11/15/06	29.3		run for 120 sec., steady
	0.0	0.0	19.7	0	11/16/06	29.0		run for 120 sec., steady
	0.0	9.7	4.7	0	11/17/06	29.3	4.30	run for 120 sec., steady
	0.0	7.5	7.1	0	11/22/06	29.7		run for 120 sec., steady
	0.0	0.0	19.9	0	11/23/06	29.6		run for 105 sec., steady
	0.0	0.0	19.9	0	11/24/06	29.4		run for 100 sec., steady
	0.0	0.0	19.8	0	11/25/06	29.4		run for 78 sec., steady
	0.0	0.0	19.8	0	11/26/06	29.5		run for 100 sec., steady
	0.0	12.0	1.3	0	11/27/06	29.5		run for 120 sec., steady
	0.0	12.5	0.0	0	11/28/06	29.3		run for 180 sec., steady
	0.0	0.0	19.8	0	11/29/06	29.5		run for 180 sec., steady
	0.0	0.0	20.3	0	11/30/06	29.5		run for 180 sec., steady
	0.0	0.2	21.6	0	12/05/06	29.5		run for 180 sec., steady
	0.0	0.0	21.0	0	12/06/06	29.5		run for 20 sec., water in probe
	0.0	0.0	21.5	0	12/08/06	29.8		run for 220 sec., steady

Table 1
Methane Monitoring Data
Design To Construct - Canal Street Site
Project Reference #10085

Methane Monitoring Point	Methane Gas	Carbon Dioxide	Oxygen	LEL	Date	Pressure	Water Level	Comments
Units	%	%	%	%	-	Hg"	Feet	(All readings open cap unless noted otherwise)
#3	0.0	0.8	15.7	0	10/05/06	29.8		
	0.0	0.4	18.0	0	10/06/06	29.9		
	0.0	0.9	17.4	0	10/09/06	29.7		
	0.0	1.0	13.5	0	10/10/06	29.5		
	0.0	3.3	12.8	0	10/11/06	28.7		Cap on well before testing,run for 120 sec., steady
	0.0	2.5	12.1	0	10/12/06	28.9		run for 120 sec., steady
	0.0	2.3	13.3	0	10/13/06	28.9		run for 120 sec., steady
	0.0	0.5	17.6	0	11/15/06	29.3		run for 120 sec., steady
	0.0	1.0	15.4	0	11/16/06	29		run for 120 sec., steady
	0.0	1.1	15.4	0	11/17/06	29.3	5.78	run for 120 sec., steady
	0.0	1.2	16.1	0	11/22/06	29.7		run for 120 sec., steady
	0.0	1.2	16.2	0	11/23/06	29.7		run for 120 sec., steady
	0.0	1.2	16.1	0	11/24/06	29.4		run for 110 sec., steady
	0.0	1.3	16.3	0	11/25/06	29.4		run for 150 sec., steady
	0.0	1.4	16.2	0	11/26/06	29.5		run for 140 sec., steady
	0.0	1.6	16.1	0	11/27/06	29.5		run for 120 sec., steady
	0.0	1.2	15.2	0	11/28/06	29.3		run for 180 sec., steady
	0.0	1.2	15.9	0	11/29/06	29.5		run for 180 sec., steady
	0.0	0.0	20.2	0	11/30/06	29.5		run for 180 sec., steady
	0.0	0.1	21.5	0	12/05/06	29.5		run for 180 sec., steady
	0.0	0.0	21.5	0	12/06/06	29.5		run for 80 sec., water in probe
	0.0	0.0	21.5	0	12/08/06	29.8		run for 160 sec., water in probe
#4	0.6	2.8	11.3	12	10/03/06	29.4		
	0.3	1.5	16.0	6	10/04/06	29.6		
	0.7	1.7	15.7	18	10/05/06	29.8		
	0.3	1.0	15.9	6	10/06/06	29.9		Partial screen under water
	0.0	3.3	15.6	0	10/09/06	29.7		Partial screen under water
	0.1	2.0	16.6	0	10/10/06	29.5		
	0.0	3.8	10.7	0	10/11/06	28.7		Cap was on well before testing, run for 120 sec., steady
	0.0	2.4	17.0	0	10/12/06	28.9		run for 120 sec., steady
	0.0	1.1	18.7	0	10/13/06	28.9		run for 120 sec., steady
	0.0	0.8	18.3	0	11/15/06	29.3		run for 120 sec., steady
	0.0	1.9	18.1	0	11/16/06	29.0		run for 120 sec., steady
	0.0	2.2	17.0	0	11/17/06	29.3	5.47	run for 120 sec., steady
	0.0	2.3	17.2	0	11/22/06	29.7		run for 120 sec., steady
	0.0	0.9	19.0	0	11/23/06	29.7		run for 180 sec., steady
	0.0	0.8	19.4	0	11/24/06	29.4		run for 221 sec., steady
	0.0	1.1	19.0	0	11/25/06	29.4		run for 205 sec., steady
	0.0	1.8	18.6	0	11/26/06	29.5		run for 168 sec., steady
	0.0	3.2	16.5	0	11/27/06	29.5		run for 120 sec., steady
	4.5	6.7	3.2	90	11/28/06	29.3		run for 240 sec., steady
	0.0	0.9	18.4	0	11/29/06	29.5		run for 240 sec., steady
	0.0	1.3	18.1	0	11/30/06	29.5		run for 240 sec., steady
	0.0	0.1	21.5	0	12/05/06	29.3		run for 180 sec., steady
	0.0	0.0	21.0	0	12/06/06	29.5		run for 25 sec., water in probe
	0.0	0.1	20.8	0	12/08/06	29.9		run for 180 sec., steady

Table 1

Methane Monitoring Data

Design To Construct - Canal Street Site

Project Reference #10085

Methane Monitoring Point	Methane Gas	Carbon Dioxide	Oxygen	LEL	Date	Pressure	Water Level	Comments
Units	%	%	%	%	-	Hg"	Feet	(All readings open cap unless noted otherwise)
#5	52.0	6.9	6.0	1040	10/03/06	29.4		
	6.0	0.0	19.6	120	10/04/06	29.6		Partial screen under water
	11.4	1.5	17.0	228	10/05/06	29.8		
	42.0	8.4	14.5	840	10/06/06	29.9		
	15.1	21.0	17.2	302	10/09/06	29.7		
	28.1	3.0	13.3	562	10/10/06	29.5		
	16.2	3.4	7.8	324	10/11/06	28.7		Cap was on well before testing, run for 600 seconds, methane started at 73.6 % and decreased to 16.2 % and remained steady
	12.6	2.2	13.9	252	10/12/06	28.9		run for 600 sec., methane increased to 26% then decreased to 12.6 and remained steady
	14.1	2.3	13.3	282	10/13/06	28.9		run for 480 sec., methane increased to 30% then decrease to 14.1 and remained steady
	1.8	0.9	15.4	36	11/15/06	29.3		run for 300 sec., methane increased to 15% then decrease to 1.8 and remained steady
	3.0	0.9	14.0	60	11/16/06	29.0		run for 300 sec., methane incresed to 18 then steady
	24.8	2.5	13.2	496	11/17/06	29.3	5.75	run for 180 sec., steady
	5.7	0.7	17.7	114	11/22/06	29.7		run for 180 sec., steady
	2.5	0.9	13.8	50	11/23/06	29.7		run for 310 sec., steady (max 11.2%)
	2.2	0.9	14.0	44	11/24/06	29.4		run for 310 sec., steady (max 15%)
	1.6	0.9	15.2	32	11/25/06	29.4		run for 600 sec., steady (max 12.5%)
	1.7	0.9	14.8	34	11/26/06	29.5		run for 480 sec., steady (max 15%)
	24.3	3.0	6.0	486	11/27/06	29.5		run for 120 sec., steady (max 15%)
	0.7	6.6	3.4	14	11/28/06	29.3		run for 600 sec., steady (max 15%)
	1.1	0.8	13.3	22	11/29/06	29.5		run for 600 sec., steady (max 20%)
	1.5	1.1	14.1	30	11/30/06	29.5		run for 600 sec., steady (max 18%)
	24	2.8	14.5	480	12/05/06	29.3		run for 600 sec., day after rain
	33	2.5	12.2	660	12/06/06	29.5		run for 600 sec.
	12	1.2	13.8	240	12/08/06	29.5		run for 600 sec., steady (max 18%)
#6	15.0	0.6	16.0	234	10/03/06	29.4		
	0.0	0.0	19.1	0	10/04/06	29.6		Partial screen under water
	--	--	--	--	10/05/06	29.8		Screen under water
	--	--	--	--	10/06/06	29.9		Screen under water
	0.0	0.0	20.0	0	10/09/06	29.7		Partial screen under water
	0.8	0.0	19.9	12	10/10/06	29.5		Partial screen under water
	2.0	0.1	19.7	40	10/11/06	28.7		Cap was on well before testing, methane started at 88% and decreased to 2.0% and remained steady
	0.8	0.1	19.6	16	10/12/06	28.9		run for 120 sec., steady
	0.3	0.0	19.9	6	10/13/06	28.9		run for 120 sec., steady
	0.0	0.0	19.8	0	11/15/06	28.9		run for 120 sec., steady, partial screen under water
	0.0	0.0	19.7	0	11/17/06	29.0		run for 120 sec., steady
	0.0	0.0	19.7	0	11/17/06	29.3	3.80	run for 120 sec., steady
	7.6	0.1	17.9	152	11/22/06	29.7		run for 180 sec., steady
	0.0	0.0	19.7	0	11/23/06	29.6		run for 125 sec., steady
	0.0	0.0	19.7	0	11/24/06	29.4		run for 125 sec., steady
	0.0	0.0	19.7	0	11/25/06	29.4		run for 100 sec., steady
	0.0	0.0	19.7	0	11/26/06	29.5		run for 200 sec., steady
	0.0	0.0	20.0	0	11/27/06	29.5		run for 120 sec., steady
	0.1	0.0	19.1	2	11/28/06	29.3		run for 180 sec., steady
	0.0	0.0	19.7	0	11/29/06	29.5		run for 180 sec., steady
	0.0	0.0	19.1	0	11/30/06	29.5		run for 180 sec., steady
					12/05/06			Probe destroyed.

Table 1

Methane Monitoring Data

Design To Construct - Canal Street Site

Project Reference #10085

Methane Monitoring Point	Methane Gas	Carbon Dioxide	Oxygen	LEL	Date	Pressure	Water Level	Comments
Units	%	%	%	%	-	Hg"	Feet	(All readings open cap unless noted otherwise)
PAD -A1	0.0	0.1	19.1	0	11/22/06	29.7		run for 180 sec., steady, closed cap reading
	0.0	0.4	18.6	0	11/23/06	29.7		run for 364 sec., steady, closed cap reading
	0.0	0.5	18.5	0	11/24/06	29.4		run for 205 sec., steady, closed cap reading
	0.0	0.7	18.1	0	11/25/06	29.4		run for 214 sec., steady, closed cap reading
	0.0	0.8	17.9	0	11/26/06	29.5		run for 200 sec., steady, closed cap reading
	0.0	0.9	17.9	0	11/27/06	29.5		run for 120 sec., steady, closed cap reading
	0.0	0.9	17.3	0	11/28/06	29.3		run for 180 sec., steady, closed cap reading
	0.0	0.9	17.5	0	11/29/06	29.5		run for 180 sec., steady, Open cap reading
	0.0	0.9	17.9	0	11/30/06	29.5		run for 180 sec., steady, Open cap reading
	0.0	0.1	21.6	0	12/05/06	29.5		run for 180 sec., steady, Open cap reading
	0.0	0.0	21.3	0	12/06/06	29.3		run for 180 sec., steady, Open cap reading
	0.0	0.0	21.5	0	12/08/06	29.7		run for 600 sec., steady, Open cap reading
PAD -A2	0.0	0.1	19.0	0	11/22/06	29.7		run for 180 sec., steady, closed cap reading
	0.0	0.2	18.8	0	11/23/06	29.7		run for 260 sec., steady, closed cap reading
	0.0	0.4	18.3	0	11/24/06	29.4		run for 230 sec., steady, closed cap reading
	0.0	0.6	18.1	0	11/25/06	29.4		run for 130 sec., steady, closed cap reading
	0.0	0.7	17.9	0	11/26/06	29.5		run for 120 sec., steady, closed cap reading
	0.0	0.9	17.7	0	11/27/06	29.5		run for 120 sec., steady, closed cap reading
	0.0	0.9	17.1	0	11/28/06	29.3		run for 180 sec., steady, closed cap reading
	0.0	0.7	17.7	0	11/29/06	29.5		run for 180 sec., steady, Open cap reading
	0.0	0.3	17.3	0	11/30/06	29.5		run for 180 sec., steady, Open cap reading
	0.0	0.2	21.5	0	12/05/06	29.3		run for 180 sec., steady, Open cap reading
	0.0	0.0	21.3	0	12/06/06	29.5		run for 180 sec., steady, Open cap reading
	0.0	0.2	21.1	0	12/08/06	29.7		run for 600 sec., steady, Open cap reading
PAD -B1	0.0	0.1	16.8	0	11/22/06	29.7		run for 180 sec., steady, closed cap reading
	0.0	0.1	15.6	0	11/23/06	29.7		run for 437 sec., steady, closed cap reading
	0.0	0.2	14.9	0	11/24/06	29.4		run for 390 sec., steady, closed cap reading
	0.0	0.2	15.1	0	11/25/06	29.4		run for 190 sec., steady, closed cap reading
	0.0	0.2	14.5	0	11/26/06	29.5		run for 220 sec., steady, closed cap reading
	0.0	0.6	14.7	0	11/27/06	29.5		run for 120 sec., steady, closed cap reading
	0.0	0.4	14.8	0	11/28/06	29.3		run for 180 sec., steady, closed cap reading
	0.0			0	11/29/06	29.5		run for 180 sec., steady, Open cap reading
	0.0			0	11/30/06	29.5		run for 180 sec., steady, Open cap reading
	0.0	0.1	21.3	0	12/05/06	29.3		run for 180 sec., steady, Open cap reading
	0.0	0.0	21.6	0	12/06/06	29.5		run for 180 sec., steady, Open cap reading
	0.0	0.0	21.2	0	12/08/06	29.5		run for 180 sec., steady, Open cap reading
PAD -B2	0.4	0.0	18.8	8	11/22/06	29.7		run for 180 sec., steady, closed cap reading
	0.2	0.0	17.9	4	11/23/06	29.7		run for 240 sec., steady, closed cap reading
	0.1	0.0	17.0	2	11/24/06	29.4		run for 380 sec., steady, closed cap reading
	0.2	0.0	16.9	4	11/25/06	29.4		run for 160 sec., steady, closed cap reading
	0.1	0.0	16.4	2	11/26/06	29.5		run for 320 sec., steady, closed cap reading
	0.0	0.2	15.9	0	11/27/06	29.5		run for 120 sec., steady, closed cap reading
	0.3	0.2	15.8	6	11/28/06	29.3		run for 180 sec., steady, closed cap reading
	0.0	0.0	17.0	0	11/29/06	29.5		run for 180 sec., steady, Open cap reading
	0.0	0.0	15.5	0	11/30/06	29.5		run for 180 sec., steady, Open cap reading
	0.0	0.2	21.1	0	12/05/06	29.3		run for 180 sec., steady, Open cap reading
	0.0	0.0	21.4	0	12/06/06	29.5		run for 180 sec., steady, Open cap reading
	0.0	0.0	21.3	0	12/08/06	29.8		run for 180 sec., steady, Open cap reading

Table 1

Methane Monitoring Data

Design To Construct - Canal Street Site

Project Reference #10085

Methane Monitoring Point	Methane Gas	Carbon Dioxide	Oxygen	LEL	Date	Pressure	Water Level	Comments
Units	%	%	%	%	-	Hg"	Feet	(All readings open cap unless noted otherwise)
PAD -C1	0.0	0.0	19.9	0	11/22/06	29.7		run for 180 sec., steady, closed cap reading
	0.0	0.0	19.4	0	11/23/06	29.6		run for 90 sec., steady, closed cap reading
	0.0	0.0	19.4	0	11/24/06	29.4		run for 232 sec., steady, closed cap reading
	0.0	0.0	19.3	0	11/25/06	29.4		run for 242 sec., steady, closed cap reading
	0.0	0.0	19.2	0	11/26/06	29.5		run for 252 sec., steady, closed cap reading
	0.0	0.0	19.2	0	11/27/06	29.5		run for 120 sec., steady, closed cap reading
	0.0	0.0	18.7	0	11/28/06	29.3		run for 180 sec., steady, closed cap reading
	0.0	0.0	19.0	0	11/29/06	29.5		run for 180 sec., steady, Open cap reading
	0.0	0.0	19.0	0	11/30/06	29.5		run for 180 sec., steady, Open cap reading
	0.0	0.2	21.2	0	12/05/06	29.3		run for 180 sec., steady, closed cap reading
	0.0	0.0	21.4	0	12/06/06	29.5		run for 180 sec., steady, Open cap reading
	-	-	-	-	12/08/06	-		Cannot access, probe destroyed
PAD -C2	0.0	0.0	19.3	0	11/22/06	29.7		run for 180 sec., steady, closed cap reading
	0.0	0.0	18.7	0	11/23/06	29.6		run for 89 sec., steady, closed cap reading
	0.0	0.0	18.4	0	11/24/06	29.4		run for 96 sec., steady, closed cap reading
	0.0	0.0	18.3	0	11/25/06	29.4		run for 180 sec., steady, closed cap reading
	0.0	0.0	18.3	0	11/26/06	29.5		run for 240 sec., steady, closed cap reading
	0.0	0.0	18.4	0	11/27/06	29.5		run for 120 sec., steady, closed cap reading
	0.0	0.0	18.0	0	11/28/06	29.3		run for 180 sec., steady, closed cap reading
	0.0	0.0	18.3	0	11/29/06	29.5		run for 180 sec., steady, Open cap reading
	0.0	0.0	18.0	0	11/30/06	29.5		run for 180 sec., steady, Open cap reading
	0.0	0.2	21.2	0	12/05/06	29.6		Probe hit by construction equipment, repaired
	-	-	-	-	12/06/06	-		Cannot access, probe destroyed
	-	-	-	-	12/08/06	-		Cannot access, probe destroyed
DRUM-A	0.0	0.0	19.9	0	11/25/06	29.4		run for 210 sec to evacuate the bag
	0.0	0.2	17.6	0	11/28/06	29.3		run for 130 sec to evacuate the bag
	0.0	0.0	21.1	0	12/06/06	29.8		run for 22 sec to evacuate the bag
	0.0	0.0	21.5	0	12/08/06	29.8		run for 160 sec to evacuate the bag
DRUM-B	0.0	0.0	19.9	0	11/25/06	29.4		run for 710 sec to evacuate the bag
	0.0	0.0	19.6	0	11/28/06	29.3		run for 275 sec to evacuate the bag
	0.0	0.0	21.3	0	12/06/06	29.8		run for 51 sec to evacuate the bag
	0.0	0.0	21.4	0	12/08/06	29.8		run for 100 sec to evacuate the bag

Notes:

LEL = Lower explosive limit (5% for methane)

Bold = methane gas greater than 1.25%

W. CANAL STREET

S. EMMBER LANE

N 88°41'31" E 448.19'

N 88°56'07" E 512.41'

N 14°40'29" E 28.37'

N 01°13'54" W 138.20'

N 01°13'54" W 52.00'

S 88°41'31" W 201.98'

N 01°13'54" W 90.93'

S 88°41'31" W 112.00'

N 01°13'54" W 308.30'

N 08°59'10" W 60.53'

W 295.29'

S 01°13'54" E 48.32'

S 36°50'50.5" W 266.37' CH=261.21'

S17°13'49"W 35.31'

S17°13'49"W 99.45'

F.F. ELEV = 10.45

18" HIGH-SIDE CURB

18" LOW-SIDE CURB

TRANSITION

FUTURE 18" HIGH-SIDE CURB

STM

Inv = 3.70

Scale

0 40 80

ATTACHMENT B

Site Investigation Sampling Results Summary

SOIL PARAMETERS

PAHs (ug/kg)
BaP– Benzo(a)Pyrene
Phen – Phenanthrene
Acen – Acenaphthylene
Naph – Naphthalene

VOCs (ug/kg)
Bnz – Benzene
Naph – Naphthalene
Tol – Toluene

Metals (mg/kg)
As – Arsenic
Pb – Lead

GROUNDWATER PARAMETERS
VOCs (ug/L)
Bnz – Benzene
Ba – Barium
BaP – Benzo(a)Pyrene
BbF – Benzo(b)Fluoranthene
Chry – Chrysene

SOIL EXCEEDANCES
Direct Contact (Non-Industrial)
Direct Contact (Industrial)
Groundwater Pathway
GROUNDWATER EXCEEDANCES
Preventive Action Limit
Enforcement Standard
NE = No Exceedances

GP-2
2-4 Feet
BaP 1,600
4 PAHs
Phen 2,720
Bnz 66
Naph(VOC) 473
As 11
Pb 251

4-6 Feet
NE

8-9 Feet
NE

GP-1
1.8-4.0 Feet
BaP 592
4 PAHs
As 3.17

Groundwater
Ba 748

MW-05-2
Groundwater
BaP 0.12
BbF 0.0694
Chry 0.113

GP-4
0-2 Feet
BaP 10.9
As 2.93

Groundwater
NE

GP-3
2-4 Feet
BaP 4,140
3 PAHs
3 PAHs
Phen 12,700
Acen 1,620
Naph(PAH) 3,720
Bnz 58.5
Naph(VOC) 558
As 16.7
Pb 125

GP-6
2-4 Feet
BaP 1,660
4 PAHs
Phen 3,340
As 11.6
Pb 147

6-8 Feet
BaP 51.5
1 PAH
As 4.10

14-15 Feet
BaP 107
2 PAHs
Naph(VOC) 763
As 12.4
Pb 117

Groundwater
Ba 451

GP-7
2-4 Feet
BaP 48
Bnz 183
Naph(VOC) 608
As 7.01

GP-8
0-2 Feet
BaP 69.9
1 PAH
Bnz 36.2
As 13.2
Pb 118

GP-5
3-4 Feet
BaP 19.0
Bnz 488
Naph(VOC) 450
Tol 1760
As 6.85
Pb 55.9

6-8 Feet
BaP 334
4 PAHs
Phen 2730
Bnz 12,900
Tol 1,620
As 3.23
Pb 107

Groundwater
Bnz 32.9

B-05-2
0-2 Feet
No PVOC Exceedances

4-6 Feet
No PVOC Exceedances

B-05-1
1-2 Feet
No PVOC Exceedances

4-6 Feet
No PVOC Exceedances

MW-05-1
2-4 Feet
No PVOC Exceedances
4-6 Feet
Bnz 73.4
Groundwater
BaP 0.0757
BbF 0.0365
Chry 0.0883

GP-2/M
GP-4/TW
GP-1/TW
GP-3/M
GP-6/TW/M
GP-7/M
GP-8/M
GP-5/TW
B-1
B-2
B-3
B-05-2
B-05-1
MW-05-1
No.2

SITE BOUNDARY
PARKING
PROPOSED RAILROAD SPUR
WE ENERGIES
EMMPAK
PARKING
SOUTH MENOMONEE CANAL
BLDG. #1
BLDG. #2
BLDG. #3
BLDG. #4
SELF-STORAGE UNITS
BLDG. #5
BLDG. #6
S. 11TH STREET
O/H STRUCTURE

B-05-01 SOIL BORING
MW-05-1 MONITORING WELL
PROPERTY BOUNDARY

LEGEND
GP-6/TW/M SOIL PROBE/TEMPORARY WELL METHANE MONITORING
GP-1/TW SOIL PROBE/TEMPORARY WELL
GP-8/M SOIL PROBE/ METHANE MONITORING
B-1 GEOTECHNICAL SOIL BORING
FORMER SOIL BORING
FORMER MONITORING WELL
No.2 BENCH MARK DESIGNATION

N
0 150
1" = 150'

INVESTIGATION RESULTS
CANAL STREET COMMERCE CENTER
1301 WEST CANAL STREET
MILWAUKEE, WISCONSIN

Drawn:	TWP, Ltd. 9/15/2006
Bordered:	LLA 12/4/2008
Reviewed:	DXL 2/9/2009
PROJECT NUMBER	13290001
FIGURE NUMBER	A-1

STS | AECOM
11425 W. Lake Park Drive
Suite 100, Milwaukee, WI 53224
T 414.359.3030
www.sts.aecom.com

K:\projects\200602916\ENG\Phase 1000 Site Development Support\Construction_Doc_and_Case_Closure\F200602916-Fig_A-1-Investigation_results.doc

ATTACHMENT C

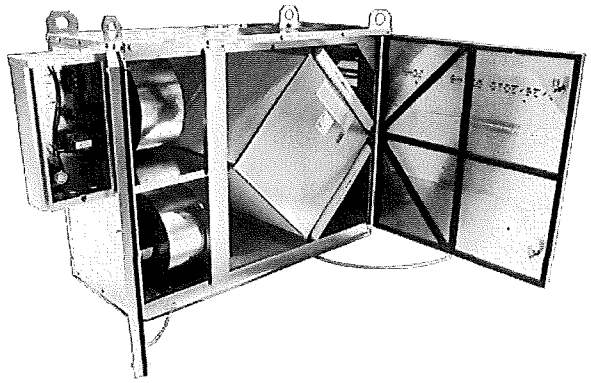
Equipment Specifications

HE1XRT

AHRI CERTIFIED

c UL us LISTED DUCTED HEAT RECOVERY VENTILATOR 8985

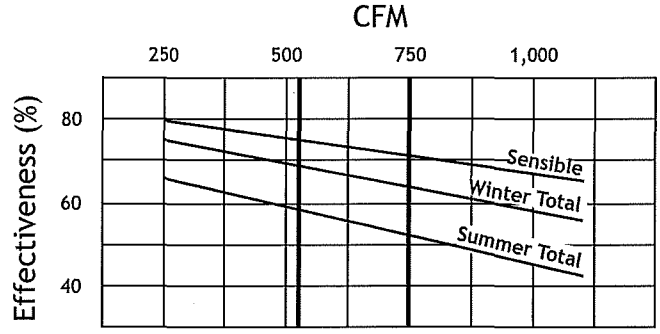
Outdoor Unit



Specifications

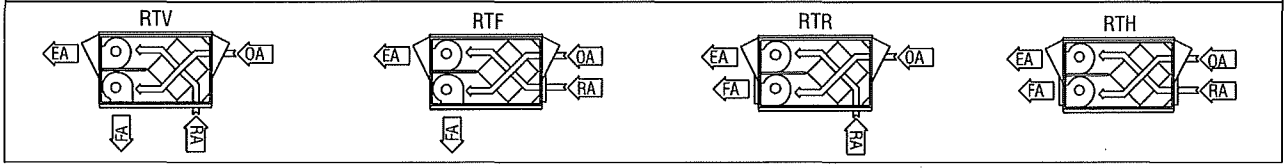
Ventilation Type: Static Plate, Heat and Humidity Transfer					
Typical Airflow Range: 250-870 CFM					
AHRI 1060 Certified Core: One L125-00					
Airflow Rating Points (for AHRI): 750 CFM and 563 CFM					
Number Motors: Two direct drive blower/motor packages					
V	HZ	Phase	FLA (per motor)	Min. Cir. Amps	Max. Overcurrent Protection Device
115	60	Single	9.0	20.3	25
208-230	60	Single	4.5	10.1	15
277	60	Single	3.9	8.8	15
208-230	60	Three	1.7-2.3	5.2	15
460	60	Three	1.15	2.6	15
Standard Features: Non-fused Disconnect 24 VAC Transformer/Relay Package					
Filters: Two total, MERV 8, 2" pleated, 20" x 20" nominal size					
Weight: 265 lbs (unit), 350 lbs (shipping weight, on pallet)					
Shipping Dimensions: 90" L x 45" W x 48" H					
Options: Controls (see pages 64 & 65) Roof curb Alternate duct connections					

G5 Performance



*At AHRI 1060 standard conditions
(See certified data on page 67 for core components.)

Base Type/Airflow Orientations



Airflow Performance

Motor HP Phase	External Static Pressure (Inches Water Column)					
	0.0	0.5	1.0	1.25	1.45	1.75
0.75 Single Phase	950 CFM 1,630 Watts	820 CFM 1,475 Watts	730 CFM 1,385 Watts	650 CFM 1,300 Watts	560 CFM 1,220 Watts	250 CFM 1,080 Watts
0.75 Three Phase	950 CFM 1,430 Watts	820 CFM 1,255 Watts	730 CFM 1,155 Watts	650 CFM 1,060 Watts	560 CFM 955 Watts	250 CFM 685 Watts

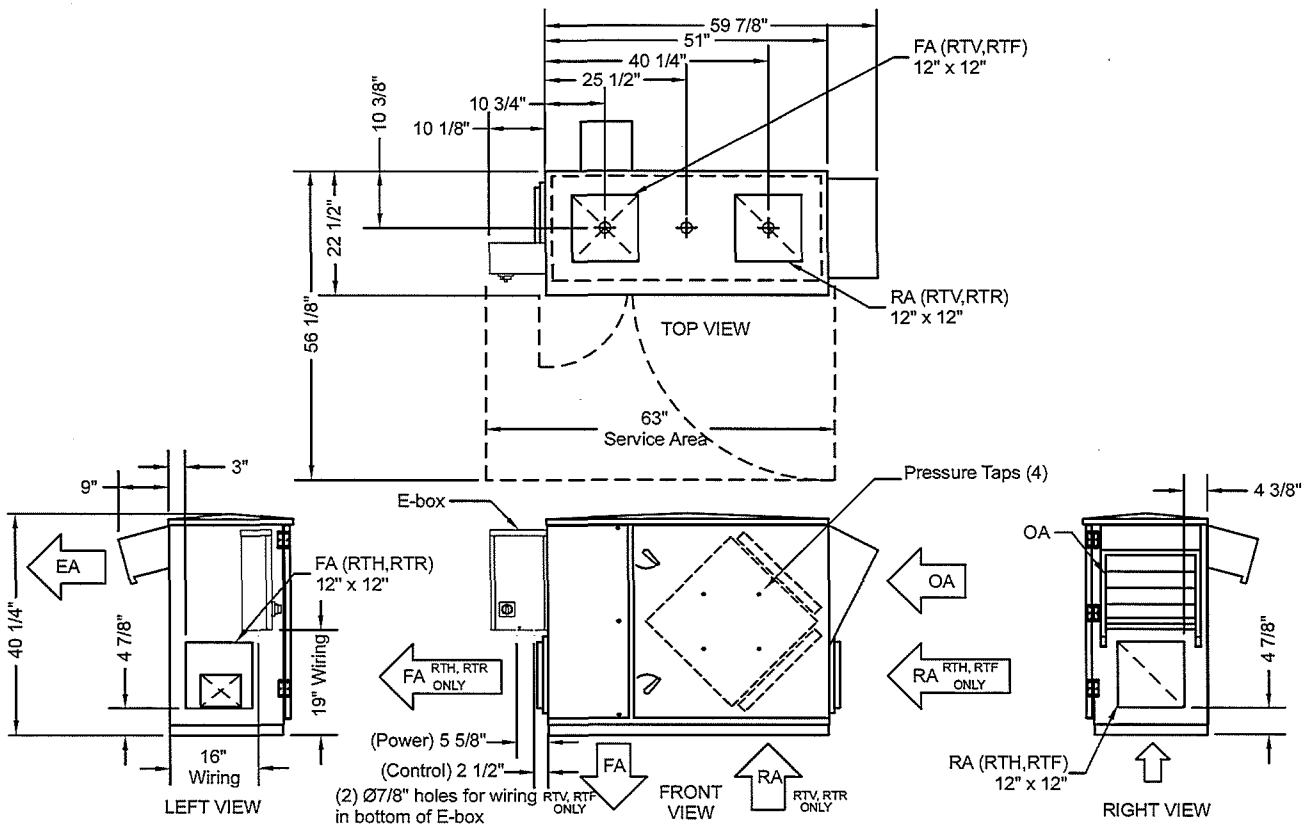
Note: Watts is for the entire unit (two motors).

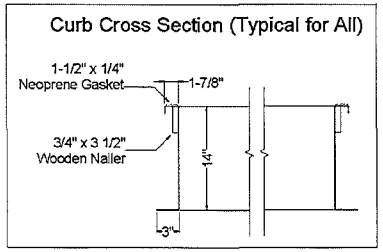
(800) 627-4499 • Fax: (608) 221-2824

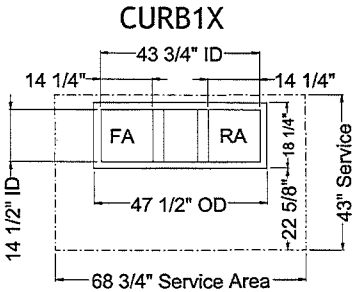
RenewAire Energy Recovery Ventilation

HE1XRT
UNIT DIMENSIONS

EA: Exhaust Air to outdoors
OA: Outdoor Air intake
RA: Room Air to be exhausted
FA: Fresh Air to inside





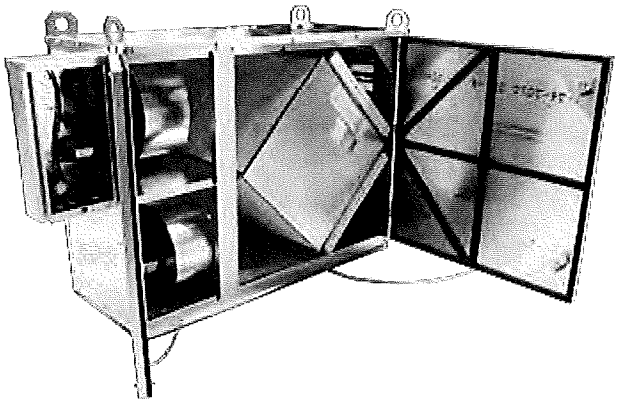


RenewAire
Energy Recovery Ventilation

4510 Helgesen Drive, Madison, WI 53718
(608) 221-4499, (800) 627-4499, Fax: (608) 221-2824
support@renewaire.com www.renewaire.com

INSTALLATION AND OPERATION MANUAL

HE1XRT



NOTE: Disconnect Switch and 24V Transformer Standard

⚠WARNING

RISK OF FIRE, ELECTRIC SHOCK, OR INJURY. OBSERVE ALL CODES AND THE FOLLOWING:

1. Before servicing or cleaning the unit, switch power off at disconnect switch or service panel and lock-out/tag-out to prevent power from being switched on accidentally. More than one disconnect switch may be required to de-energize the equipment for servicing.
2. This installation manual shows the suggested installation method. Additional measures may be required by local codes and standards.
3. Installation work and electrical wiring must be done by qualified professional(s) in accordance with all applicable codes, standards and licensing requirements.
4. Any structural alterations necessary for installation must comply with all applicable building, health, and safety code requirements.
5. This unit must be grounded.
6. Danger of severe injury to bystanders and damage to unit or property if high winds move this unit. Secure this unit to the building!
7. Sufficient air is needed for proper combustion and exhausting of gases through the flue (chimney) of fuel burning equipment that might be installed in the area affected by this equipment. If this unit is exhausting air from a space in which chimney-vented fuel burning equipment is located, take steps to assure that combustion air supply is not affected. Follow the heating equipment manufacturer's requirements and the combustion air supply requirements of applicable codes and standards.
8. Use the unit only in the manner intended by the manufacturer. If you have questions, contact the manufacturer.
9. This unit is intended for general ventilating only. Do not use to exhaust hazardous or explosive materials and vapors. Do not connect this unit to range hoods, fume hoods or collection systems for toxics.
10. When cutting or drilling into wall or ceiling, do not damage electrical wiring and other hidden utilities.

CAUTION

To avoid motor bearing damage and noisy and/or unbalanced impellers, keep drywall spray, construction dust, etc., out of unit.

CAUTION

Do not remove or disable the wiring interconnection between the Overload Relays and the Contactors. Without this interconnection the motor(s) will not be protected against overload.

c UL us
LISTED
DUCTED HEAT
RECOVERY VENTILATOR
89S5

AHRI CERTIFIED™
www.ahridirectory.org
Air-to-Air ERV
AHRI Standard 1060
Energy Recovery COMPONENT is certified. Actual performance in packaged equipment may vary.

Placement of the HE1XRT

The HE1XRT is designed for installation on a roof or other outside location.

Select a location that is central to the inside duct runs, and close to any other air handler that might be part of the system.

⚠WARNING

The unit's fresh air inlet should be at least 10' away from any exhaust, such as dryer vents, chimneys, furnace and water heater exhausts, or other sources of contamination or carbon monoxide. Do not locate the fresh air inlet where vehicles may be serviced or left idling. Never locate the unit inside a structure.

⚠WARNING

Danger of damage or severe injury if high winds move this unit. Secure unit to structure. Observe local code requirements at a minimum.

CAUTION

It is the installer's responsibility to make sure that the screws or bolts used for securing the units are properly selected for the loads and substrates involved. Secure the HE1XRT so that it cannot fall or tip in the event of accident, structural failure or earthquake. See Rigging Information for unit weight.

RenewAire strongly recommends that you secure rooftop units properly to the building structure. Strong winds, tornados, and hurricanes can and do displace or remove rooftop equipment from rails or curbs. When this happens, the equipment, adjacent roof structure, and even vehicles parked near the building can be damaged, and rain typically enters the building. The equipment is put out of service and the collateral damage can be very expensive.

CAUTION

Provide Adequate Service Access for Maintenance

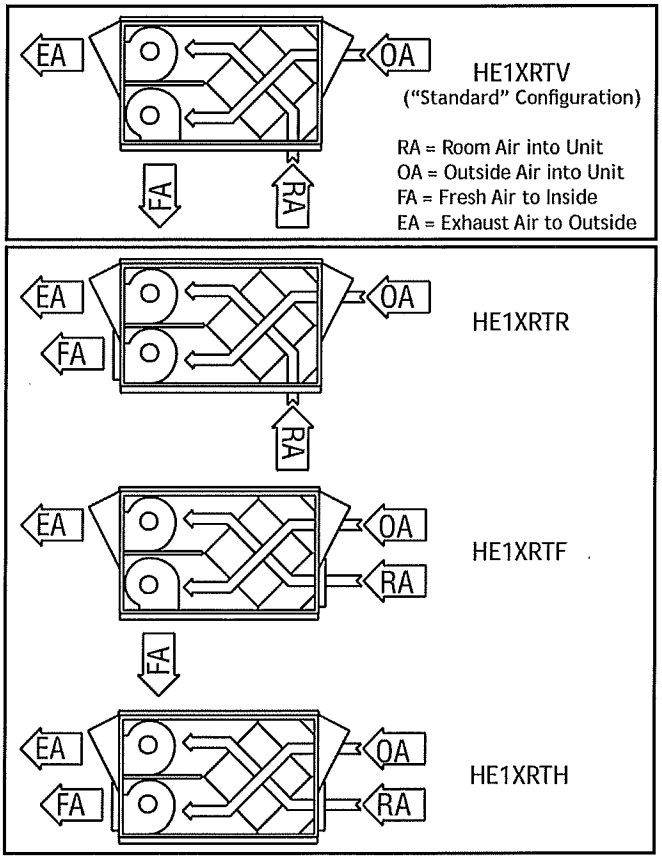
The HE1XRT will require regular filter and core inspections. Install the HE1XRT where you can remove the doors for cleaning the core and replacing the filters, and where you can get at the wiring for installation and service.

Provide service access to the unit to allow for cleaning the core and filter.

The HE1XRT is available from the factory in four different configurations to meet different connection requirements:

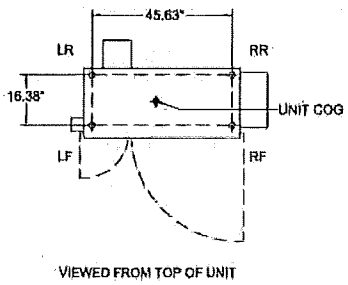
Option Code	Description of Duct Connection Configuration	Mounting Option
HE1XRTV	Room Air [RA] enters bottom of unit. Fresh Air [FA] exits bottom of unit.	Roof Curb
HE1XRTR	Room Air [RA] enters bottom of unit. Fresh Air [FA] exits side of unit.	Roof Curb
HE1XRTF	Room Air [RA] enters side of unit. Fresh Air [FA] exits bottom of unit.	Roof Curb
HE1XRTH	Room Air [RA] enters side of unit. Fresh Air [FA] exits side of unit.	Equipment Rail

NOTE: There are always two ducts connected to every HE1XRT unit. Openings for these ducts will be located on the bottom and/or end(s) of the unit.



Rigging Information

There are pairs of rigging holes at each upper corner of the unit. Use slings or shackles at all four corners. Spreader bars are recommended in order to avoid damage to the unit.



VIEWED FROM TOP OF UNIT

HE1XRT UNIT AND CORNER WEIGHTS (LBS)					
SINGLE-WALL					
PHASE	UNIT	LF	LR	RR	RF
1-PHASE	243	67	63	56	56
3-PHASE	250	70	66	55	59
DOUBLE-WALL					
PHASE	UNIT	LF	LR	RR	RF
1-PHASE	303	86	73	66	78
3-PHASE	310	89	76	67	78

INDICATES LOCATIONS AT WHICH CORNER WEIGHTS ARE CALCULATED: ALONG CENTERS OF CURB RAILS.

Mounting the HE1XRT

On Roof Curbs:

The base of the HE1XRT is designed for installation on typical Roof Curbs that come with 1½" wide wood nailers on the top edge. See drawing below for appropriate curb size.

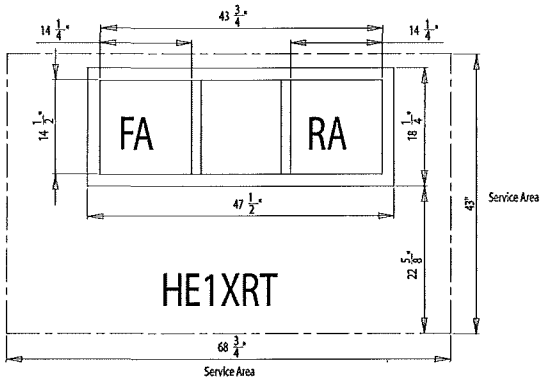
Set HE1XRT in place. We recommend bolting through sides of unit base into the Roof Curb to secure the unit against high winds.

On Equipment Rails (HE1XRTH only):

Review drawing of Roof Curb and specify Equipment Rail to fit.

Before installing HE1XRT, apply roofing and counterflashing to Equipment Rails as per standard practice.

Set HE1XRT in place. We recommend bolting through sides of unit base into the Equipment Rails to secure the unit against high winds.



Ducting

Basic Requirements

- Always connect an RA and an FA duct to each Rooftop unit.
- With Rooftop units, the RA and FA ducts cannot be interchanged.
- With RTV units, both ducts are inside the building. In other units, such as the RTR/RTF and RTEC/RTH, that utilize the optional roof adapter, at least one of the ducts is outside and must be weatherized.
- Any weatherized duct must be thermally insulated to prevent condensation on the inside or outside of the duct. The duct lining must be vapor-sealed, and the duct exterior must be rain tight.

Duct(s) connected to the bottom of the HE1XRT are generally installed at this time. Install (2) ducts with HE1XRTV, (1) duct with HE1XRTR or RTF.

Ducts should be insulated on the inside or the outside:

- If insulation is applied to **outside** of duct, duct should be 12" x 12", with 2" or 3" lips turned out at the top.
- If insulation is applied to **inside** of duct, duct should be 14" x 1", with 1" or 2" lips turned out at the top.

Drop duct(s) into openings in top of roof curb.

Install appropriate gasket on top of Roof Curb and edges of ducts.

CAUTION

Tape both inner and outer vapor barriers of insulated duct to collars on duct adapters. This is critical to prevent migration of moisture into insulation. Build-up of moisture can result in failure of the duct system and/or frost in the insulation. Make sure any tears in the inner and outer vapor barriers are sealed.

Connecting Horizontal Ducts to Unit

Double-flanged duct connections are provided on the horizontal duct connections of the HE1XRTR, RTF, and RTH units. These allow for connection of ducts insulated on the inside or the outside, or for installation of lined duct.

- Inside duct flange size: 12" x 12"
- Outside duct flange size: 14" x 14"

Inside Ductwork System

Follow Engineer's Ductwork Design

Ductwork should be designed by an engineer to allow the unit to provide the required airflow.

Duct Insulation

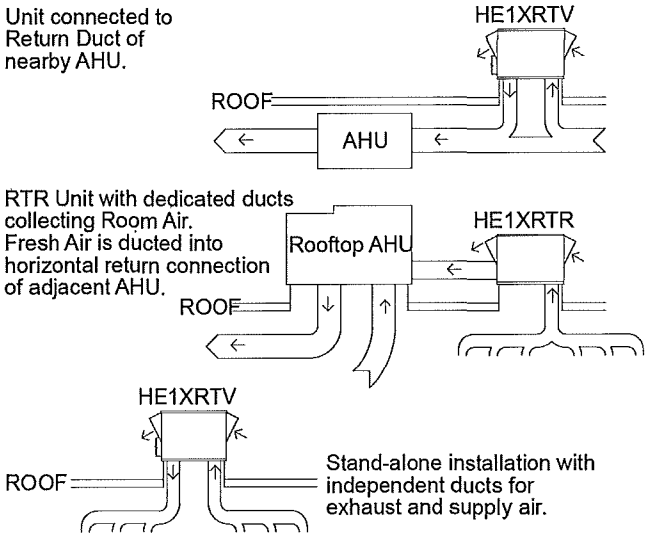
If the inside ducts run through un-conditioned spaces, they must be insulated, with a sealed vapor barrier on both inside and outside of insulation.

Use Dampers to Set and Balance Airflow Rates

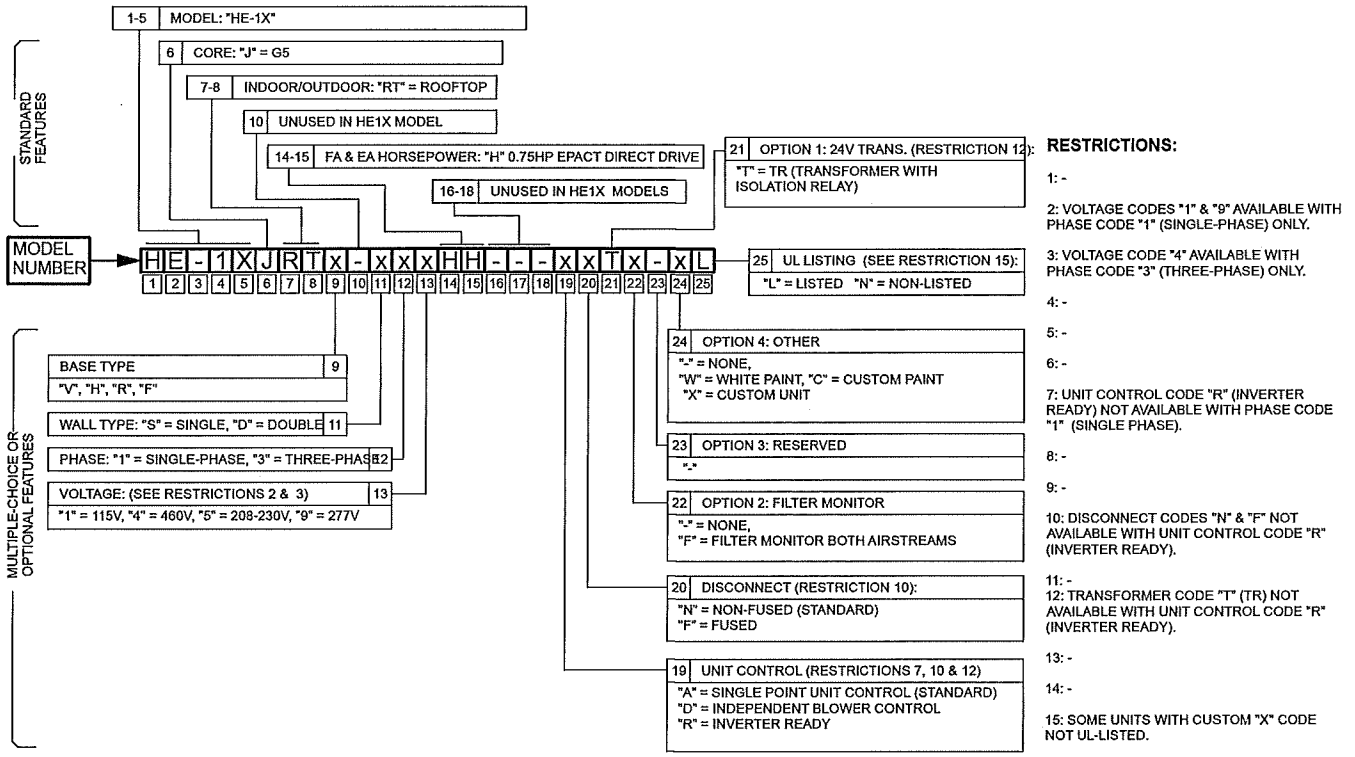
In most applications, the airflow rate for both the Fresh Air and the Exhaust Air should be roughly equal (or "balanced") for best performance of the HE1XRT Unit. See unit specification sheet for CFM/ESP curves for available horsepower motors.

CAUTION

Standard HE1XRT is not suitable for speed control by rheostats. Speed control devices will damage the blowers. Balance air flows using dampers.



HE1XRTH Configuration Chart



RESTRICTIONS:

1: -

2: VOLTAGE CODES "1" & "9" AVAILABLE WITH PHASE CODE "1" (SINGLE-PHASE) ONLY.

3: VOLTAGE CODE "4" AVAILABLE WITH PHASE CODE "3" (THREE-PHASE) ONLY.

4: -

5: -

6: -

7: UNIT CONTROL CODE "R" (INVERTER READY) NOT AVAILABLE WITH PHASE CODE "1" (SINGLE PHASE).

8: -

9: -

10: DISCONNECT CODES "N" & "F" NOT AVAILABLE WITH UNIT CONTROL CODE "R" (INVERTER READY).

11: -

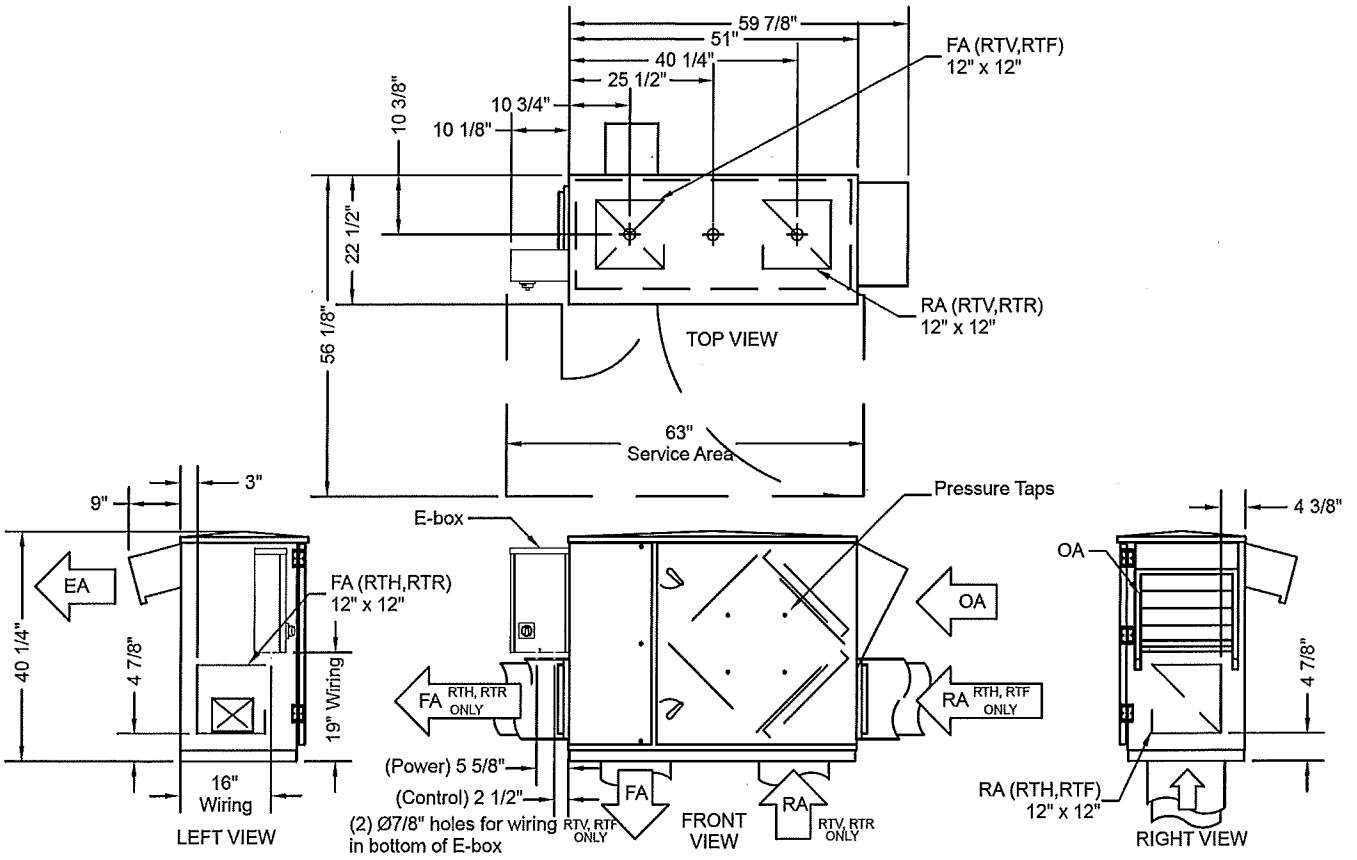
12: TRANSFORMER CODE "T" (TR) NOT AVAILABLE WITH UNIT CONTROL CODE "R" (INVERTER READY).

13: -

14: -

15: SOME UNITS WITH CUSTOM "X" CODE NOT UL-LISTED.

HE1XRT Dimensions



Sound Attenuation

General Practices

Take these simple steps to attenuate noise from the unit.

Outside the building:
The exhaust hood is the primary source of noise outside the building. When practical, orient the exhaust air hood to point away from houses or public areas.

At the Curb:
Cut the holes in the roof deck to fit closely around the duct(s) passing through the roof deck. Seal all gaps around the duct(s) at the roof deck.

Ducts:
Make sure the ductwork at the unit outlets is stiff enough to resist the flexure and resulting booming associated with system start-up and shut-off, as well as the turbulent flow conditions at the blower outlets.

In general, provide smooth transitions from the ERV's outlets to the duct. The ducts connecting to the outlets should be straight for a sufficient distance, with gradual transitions to the final duct size.

These guidelines are consistent with SMACNA recommended duct layout practices for efficient and quiet air movement. Follow SMACNA guidelines.

Radiated Noise

The HE1XRT is insulated with high-density fiberglass. This provides significant attenuation of radiated sound from the unit itself.

The outlet ducts can be significant sources of radiated sound as well. The FA duct should be insulated for sound control. This insulation should start at the unit. At a minimum the first ten feet of duct should be insulated. All parts of the FA and RA ducts located in a mechanical space with noise-generating equipment also should be insulated for sound control, both to minimize sound radiation out of the FA duct, and also to control sound radiation into both ducts.

Aerodynamic (Velocity) Noise

When sound attenuation is a design concern, the primary consideration is velocity noise at the unit's Fresh Air blower outlet. The average velocity at the Fresh Air blower outlet is 950 FPM when the unit is operating at 950 CFM. The average velocity at the Exhaust Hood outlet is 2925 FPM when the unit is operating at 950 CFM.

Electrical Specifications

Electrical Options and Ratings are identified on the Unit Label (located near electrical box). Find the complete Unit Model Number in the lower left corner of the Unit Label.

⚠WARNING

Danger of Electrical Shock when servicing an installed unit.

ALWAYS DISCONNECT POWER SOURCE BEFORE SERVICING! More than one disconnect switch may be required.

Proper Wiring Size Selection and Wiring Installation are the Responsibility of the Electrical Contractor.

CAUTION

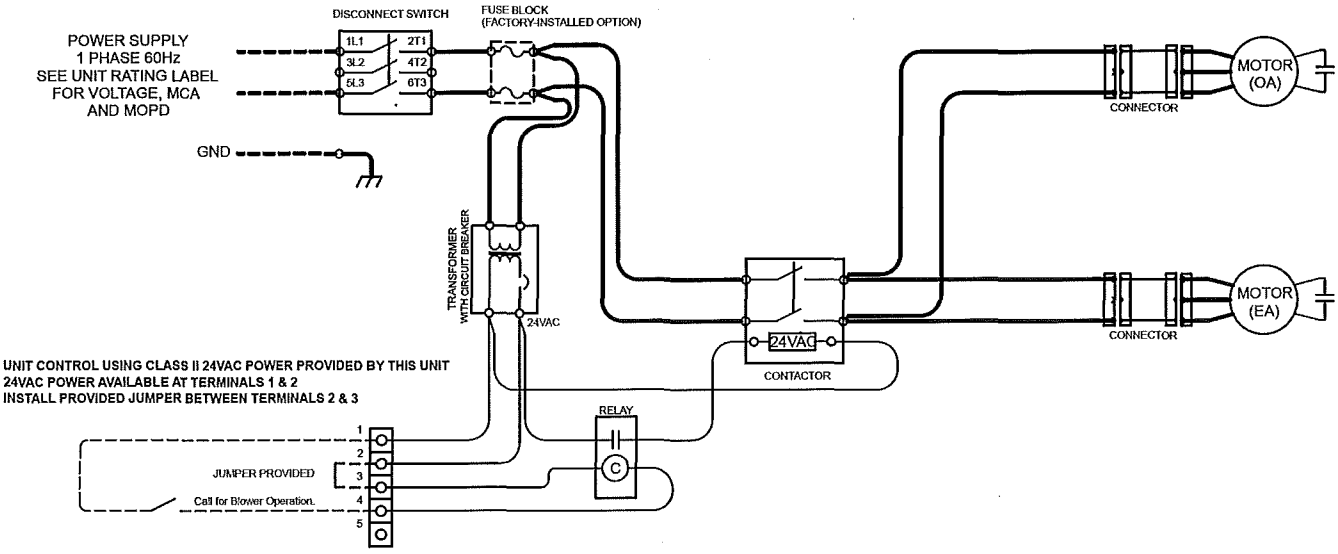
Before bringing power to the unit check unit nameplate to confirm it matches the voltage and phase of the power you are supplying.

Remember that your field connections need to be accessible for inspection.

HE1XRT Airflow Performance

Airflow CFM	ESP in. H20	Watts 1P	Watts 3P	Temp EFF%	Total EFF% Winter/Summer
250	1.75	1080	685	82	76/66
560	1.45	1220	955	75	67/57
650	1.25	1300	1060	73	65/53
730	1.00	1385	1155	72	64/52
750	0.90	1400	1175	71	63/51
820	0.50	1475	1255	69	62/50
950	0.00	1630	1430	67	59/46

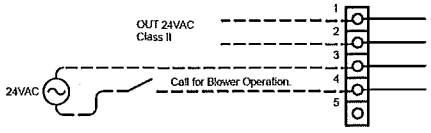
HE1XRT P1 Wiring Schematics - Standard



UNIT CONTROL USING CLASS II 24VAC POWER PROVIDED BY THIS UNIT
24VAC POWER AVAILABLE AT TERMINALS 1 & 2
INSTALL PROVIDED JUMPER BETWEEN TERMINALS 2 & 3

ADDITIONAL INFORMATION ON CONTROL WIRING OPTIONS IS AVAILABLE IN THE UNIT'S INSTALLATION AND OPERATION MANUAL

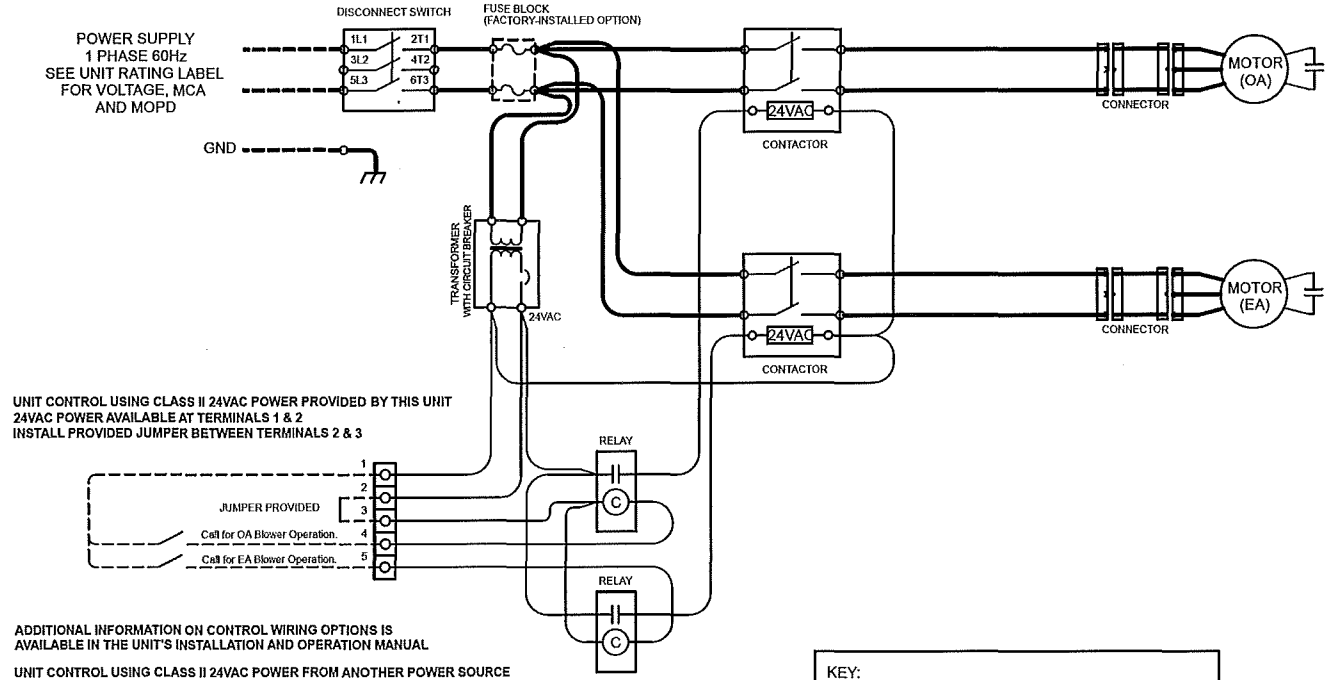
UNIT CONTROL USING CLASS II 24VAC POWER FROM ANOTHER POWER SOURCE
24VAC POWER AVAILABLE AT TERMINALS 1 & 2
DO NOT INSTALL JUMPER BETWEEN TERMINALS 2 & 3



KEY:
"OA" = Outside Air Blower
"EA" = Exhaust Air Blower

FACTORY WIRING HIGH-VOLTAGE
FACTORY WIRING 24VAC
FIELD WIRING HIGH-VOLTAGE
FIELD WIRING LOW-VOLTAGE

HE1XRT P1 Wiring Schematics with Independent Blower Control



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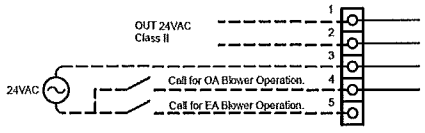
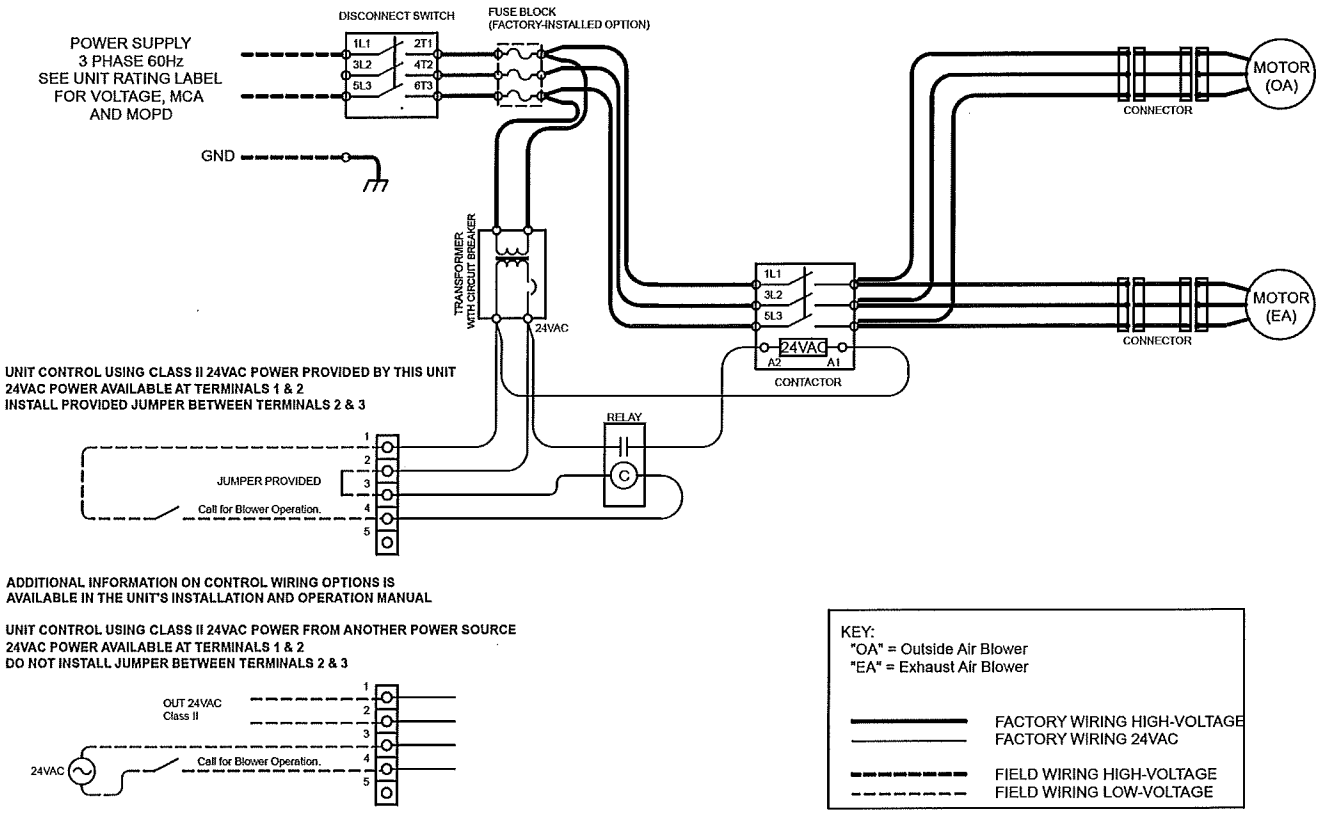


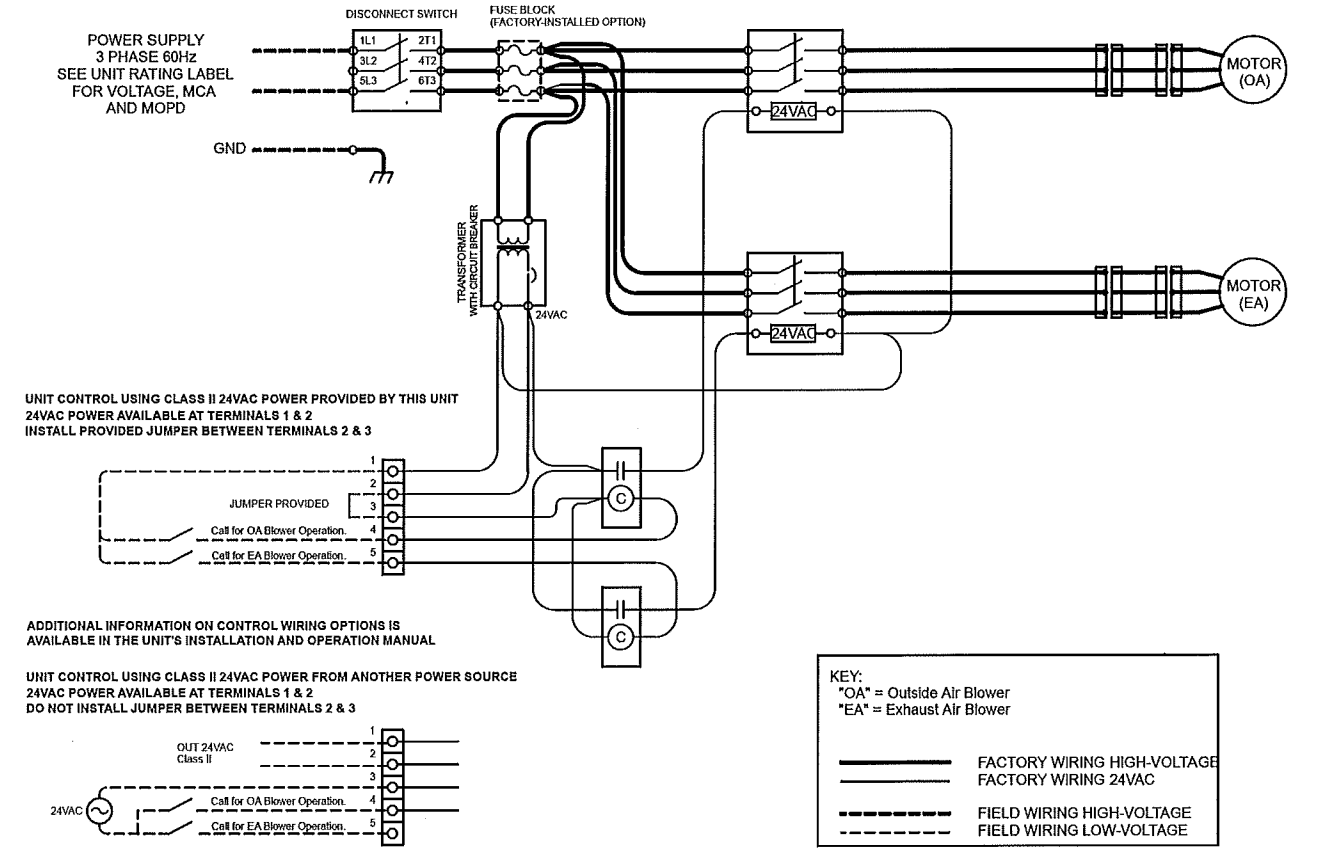
KEY:
"OA" = Outside Air Blower
"EA" = Exhaust Air Blower

FACTORY WIRING HIGH-VOLTAGE
FACTORY WIRING 24VAC
FIELD WIRING HIGH-VOLTAGE
FIELD WIRING LOW-VOLTAGE

HE1XRT P3 Wiring Schematics - Standard



HE1XRT P3 Wiring Schematics with Independent Blower Control



24VAC Power Supply Provided with this ERV Unit

This ERV is provided with a Class II 24VAC power supply system that operates the unit's contactor(s) for the HE1X. The ERV's 24VAC Power Supply can also be used to power the externally-installed controls system: up to 8VA of power is available.

The unit's power supply system includes isolation relay(s) so you can use external controls whose contact ratings are as low as 50mA (1.2VA). Also, it is possible to operate the isolation relays with 24VAC power from an external source (with proper wiring connections).

A built-in circuit-breaker prevents damage to the transformer and other low-voltage components in the event of a short-circuit or overload. In extreme cases, the transformer itself is designed to fail safely.

CAUTION

1. Connect only to components intended for use with 24VAC power.
2. Do not undersize the low-voltage wires connected to this device. Observe the wire length and gauge limits indicated in this manual.
3. Do not overload this unit's 24VAC power supply system. Confirm that the power requirements of devices you connect to this power supply system do not exceed 8VA in total.
4. If an external source of 24VAC power is used to control the unit, consult the wiring schematics and connect the external power only to the specified terminals in order to avoid damaging the unit or external controls. Connect only CLASS II power to the control terminals of this unit.
5. Unit is not equipped to receive analog signals (such as 1-10vdc or 4-20mA).
6. Unit is not equipped to communicate directly with Building Management Systems (such as BACNET, LONWORKS, etc.). However, the unit can be controlled by powered or non-powered contacts operated by any kind of control system.

Specifications

- Nominal Output Voltage under load: 24VAC
- Typical Output Voltage at no load: 29-31V
- Minimum contact rating for connected control device: (50mA (1.2VA)
- Circuit Breaker Trip Point: 3A

How to Reset the Circuit Breaker

If the transformer is subjected to an excessive load or a short circuit, the circuit breaker will trip to prevent the failure of the transformer. When it trips the circuit breaker's button pops up. Shut off the primary-side power to the unit, and remove the excessive load or the short. The circuit breaker can be reset about fifteen seconds after it trips by pressing in the button.

NOTE: *INSTALLING CONTRACTOR:*
If primary-side voltage is 230VAC, move black primary-side lead from transformer's "208V" terminal to the transformer's terminal marked "240V" ("230V" in some units).

Do not move the black primary-side lead that is connected to the transformer's "COM" terminal.

Limits of Power Output
If limits on wire gauge and length are observed, you may connect control devices that draw up to 8VA to the blue and red wires. More than one device can be connected as long as total steady-state load does not exceed 8VA.

OBSERVE THESE LIMITS TO WIRE LENGTH AND GAUGE, in order to ensure reliable operation of the control system.						
Wire Gauge	#22	#20	#18	#16	#14	#12
Circuit Length	100'	150'	250'	400'	700'	1000'
"Circuit Length" is distance from ERV to Control Device.						

⚠WARNING

DANGER OF INJURY OR DAMAGE.

The motors in this unit must not be run at an amperage that exceeds the motor's rated full load amps.

It is the installer's responsibility to measure the operating amperage of each motor. If the full load amp rating is exceeded, the amp draw must be reduced by reducing airflow with an external damper.

Failure to make this adjustment may result in unsafe motor winding temperatures or tripping of the supplied motor starter's overload relay motor protection devices set at full load amps.

Control Wiring Schematics

NOTE: The simplified schematics below show only the relevant portions of the low-voltage control circuit in the ERV unit and representational external control approaches. See the complete unit schematics elsewhere in this manual.

CAUTION

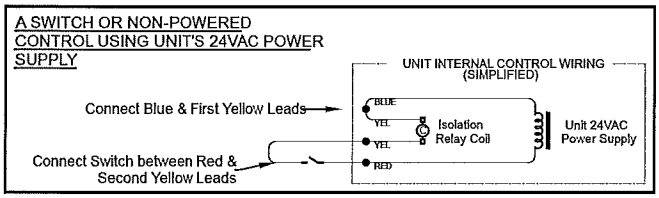
Be careful if the external control system provides 24VAC power at its control output: make sure blue and red leads are separately capped and not connected to any other wires.

A. **Single 2-wire Control:** Use this schematic if the control requires no power to operate and acts like a simple on/off switch. **The control must not supply any power to the ERV unit.** Connect the blue lead to one yellow lead. Connect the control's contacts to the red lead and the remaining yellow lead.

Control on separate Power Supply, no power present at Control Output: Wire as shown for the Single 2-wire control.

CAUTION

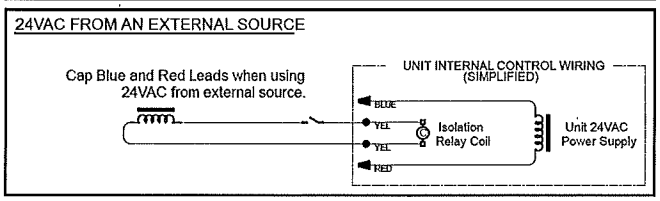
Make sure the control provides no voltage or current at its output terminals.



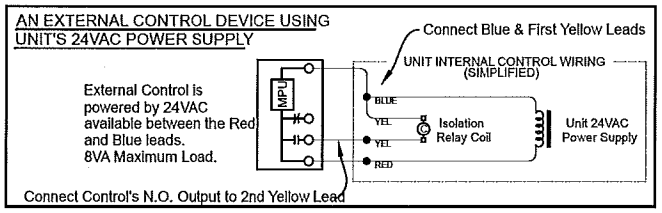
B. **Control Sending 24VAC "On" Signal (from an external power source) to ERV:** Make sure the blue and red leads are separately capped and not connected to any other wires. Now you safely can apply 24VAC to the two yellow leads to operate the ERV's isolation relay.

CAUTION

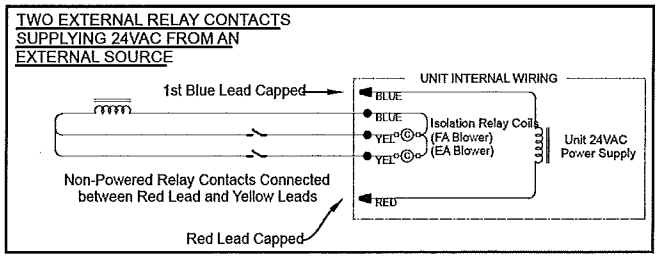
Supply only 24VAC (not VDC) from a Class II Power Source.



C. **Control operating on Unit's 24VAC Power Supply:** 24VAC power is available at the blue and red leads. CAUTION: external control system should not draw more than 8VA. Also connect one of the yellow leads to the blue lead. Connect the switched output of the Control to the red lead to operate the ER's isolation relay.



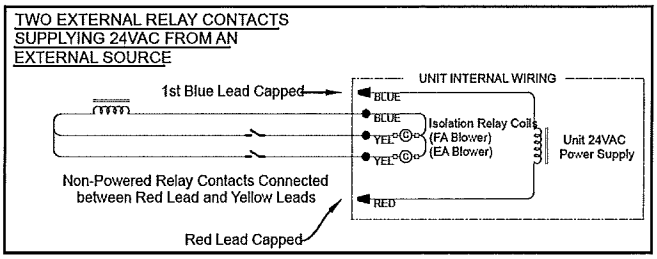
D. **Control System with 2 Non-powered Relay Contacts; ERVs with Independent Blower Control Only:** Use this schematic if the external control system provides no voltage or current at its output contacts. Connect the two blue leads together. Connect the red lead to one side of each of the output contacts. Connect the other side of the output contacts to the appropriate yellow leads (marked "FA Blower" and "EA Blower").



E. **Control System Sending two 24VAC "On" Signals (from an external power source); ERVs with Independent Blower Control Only:** Make sure the blue and red leads are separately capped and not connected to any other wires. Now you safely can apply one of the 24VAC signals to the one of the yellow leads (marked "FA Blower" and "EA Blower") and the red lead to operate one of the ERV's isolation relay. Supply the second 24VAC signal to the other yellow lead and again to the red lead (make sure the polarity of each wire connected to the red lead is the same).

CAUTION

Supply only 24VAC (not VDC) from a Class II Power Source.



F. Control on separate Power Supply: Use this schematic only if no power is present at the controls output terminals. Install jumper at terminals 2 & 3. Connect the Control's Normally Open (N.O.) contacts to terminals 1 & 4. NOTE: See Wiring Schematics.

G. Control System on separate Power Supply; Independent Blower Control: Use this schematic only if no power is present at the controls output terminals. Install jumper at terminals 2 & 3. Connect one of the Control's (N.O.) contacts to terminals 1 & 4 to operate the ERV's isolation relay for the Outside Air (OA) Blower. Connect another of the Control's (N.O.) contacts to terminals 1 & 5 to operate the isolation relay for the Exhaust Air (EA) Blower. NOTE: See Wiring Schematics.

H. Control System Operating Isolation Dampers with End Switches: Use Isolation Dampers with electrically separate end switches. The end switches are used to separately control the ERV unit's Isolation Relays. Also, specify the ERV with Independent Blower Control. This ensures that each damper is open before the respective blower starts up. NOTE: Because the ERV's Motor Starters will only be operating once the Dampers are open, the power draw of the Damper Actuators is allowed to be as much as 35VA while opening (including power draw of the external control system, if any). However, the power draw of the fully-opened (stalled) Actuators (and external control system if any) must be less than 8VA.

Operation

Principal of Operation

The HE1XRT has one basic purpose: to exhaust air from a structure and bring in fresh air from outside, while transferring heating or cooling energy from the exhaust air to the fresh air.

The HE1XRT is a very simple device, and will accomplish this purpose as long as the blowers for both airstreams are able to move air through the energy-exchange core.

Checking that Unit is Operating

Air Flow

Airflow should be occurring in both airstreams. Sometimes the easiest place to confirm that air is moving is at the weatherhoods.

If exact airflow is critical, it may be desirable to permanently install flow measuring stations and manometers in the ductwork connected to the unit. These also can be used to determine when filters should be cleaned or changed.

Use Static Taps in Doors to Measure Airflow Rates

See "Cross-Core Static Drop" in MEASURING AIRFLOW table. These may be used to directly measure airflow in the unit.

Energy Exchange

Precise determination of installed sensible energy exchange effectiveness requires careful measurement of temperatures and air flows in all four air streams, and in practice is somewhat difficult.

It is possible to confirm that energy is being exchanged simply by feeling the ducts. If the Fresh Air duct from the unit into the room is closer to room temperature than to the outside temperature, energy is being recovered.

Operating Controls

A wide variety of control schemes may be selected by the engineer, installer, or owner to meet the ventilation needs of the facility. These may include timer clocks, occupancy sensors, dehumidistats (for cool-weather operation), carbon dioxide sensors, and others. DDC systems may also control the unit. Most control schemes will operate the unit only when needed.

Do Not Use Variable Speed Controls

Blower motors in the HE1XRT will be damaged by speed control devices. Use balancing dampers in ductwork to set or control operating air flow rates. Inverter rated versions are available.

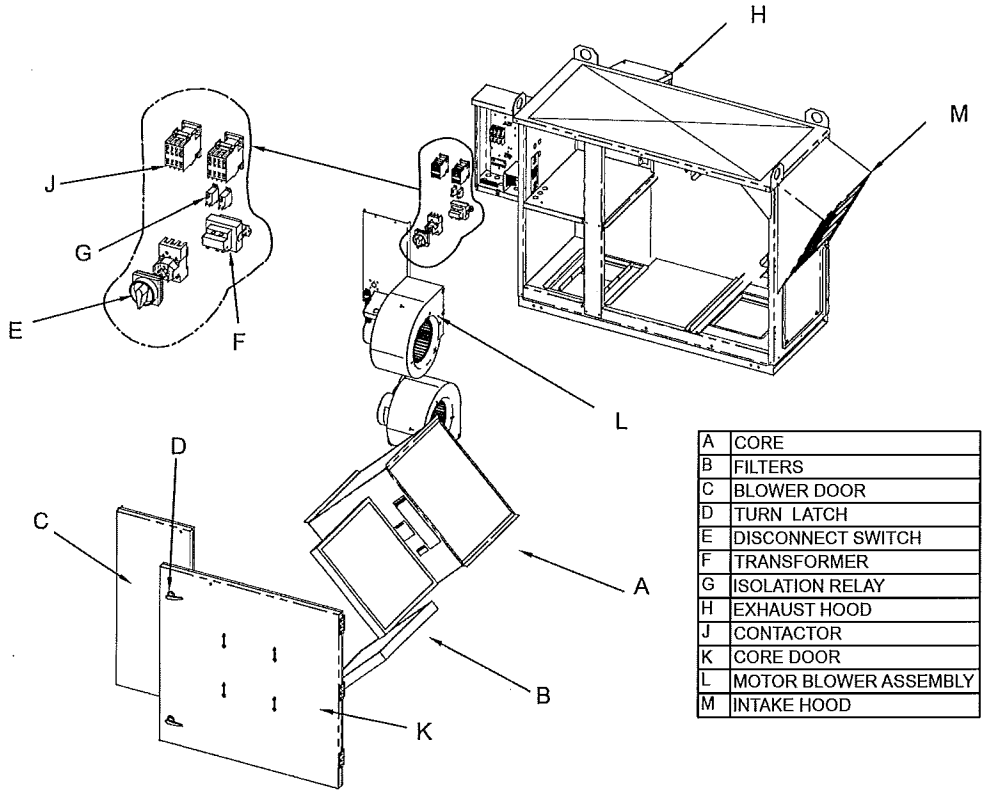
Continuous Operation

Continuous operation is acceptable in virtually all conditions. Unit will not be damaged by continuous operation as long as air flow occurs. Blower motors may overheat if filters become completely blocked due to lack of maintenance. Motors are thermally protected. With continuous operation, some external frosting may occur in very cold weather (see below).

Operation in Extreme Cold Weather

Unit is capable of operating at outside temperatures down to -10°F, with indoor humidities below 40%, without any internal frosting. Unit can operate at more severe conditions occasionally with little or no impact on its performance. At lower humidities, it can operate at lower outside temperatures without freezing the energy-exchange core.

HE1XRT Replacement Parts



A	CORE
B	FILTERS
C	BLOWER DOOR
D	TURN LATCH
E	DISCONNECT SWITCH
F	TRANSFORMER
G	ISOLATION RELAY
H	EXHAUST HOOD
J	CONTACTOR
K	CORE DOOR
L	MOTOR BLOWER ASSEMBLY
M	INTAKE HOOD

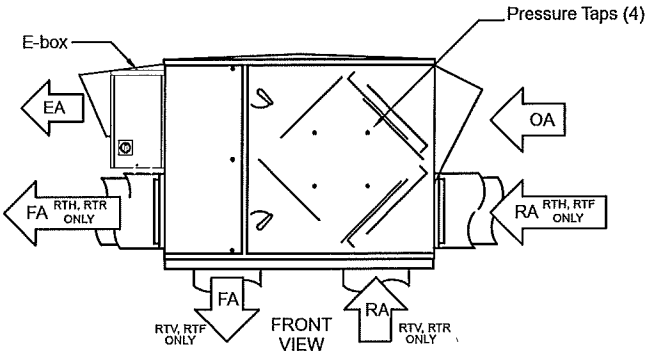
Measuring Airflow

Equipment Required

- A magnehelic gauge or other device capable of measuring 0 to 1.5 in. water of differential pressure.
- 2 pieces of natural rubber latex tubing, 1/8" ID, 1/16" Wall works the best. NOTE: Be sure to remove cap from pressure port before inserting tubing. Insure tubing is well seated in pressure ports. NOTE: The tubing should extend in the pressure port approx. 1 inch.

Cross Core Static Pressure Measurement Instructions

- The individual differential static pressures (DSP) can be measured using the installed pressure ports located in the front of the units core access doors. NOTE: These ports have been carefully located on the unit as to give you the most accurate airflow measurement. NOTE: Do not relocate pressure ports.
- To read SCFM of Fresh Air (FA) install the "high" pressure side (+) of your measuring device to the Outside Air (OA) port and the "low" pressure side (-) to the Fresh Air (FA) port.
- To read SCFM of Room Air (RA) install the "high" pressure side (+) of your measuring device to the Room Air (RA) port and the "low" pressure side (-) to the Exhaust Air (EA) port.
- Use the reading displayed on your measurement device to cross reference the CFM output using the conversion chart. NOTE: Be sure to replace cap into pressure port when air flow measuring is completed.



Differential Static Across Core DSP vs. CFM												
HE1XRT		DSP	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.10
	Fresh Air (FA)	CFM	180	280	370	460	550	640	740	830	920	1010
	Room Air (RA)	CFM	170	250	330	410	500	580	660	740	830	910

CAUTION

The proper operating airflow range for this model is 250 - 870 CFM.

Maintenance

SUMMARY MAINTENANCE REQUIREMENTS

Change Filters
Inspect Blower
General Cleaning and Inspection
Clean Energy Exchange Cores

CHANGING THE FILTERS

Inspect and/or replace filters every two or three months when the unit is in regular use, or as needed.

- Turn off unit completely! Lock-out and tag-out the unit disconnect switch.
- Open the Door. The door is secured with turn-type latches, plus one Phillips-head securing screw. Keep the securing screw. NOTE: Always replace securing screw when reinstalling door.
- Remove and dispose of all (2) filters. Replace all (2) filters. NOTE: See chart for information on the initial resistance of the filters originally supplied with this unit. If replacement filters have higher resistance, the airflow of the system will be lower.
- Close door; reinstall securing screw.

Blower Inspection

Inspect Blowers every time you change the filters.

- Confirm bearings are still secure to blower shaft. It should not be possible to move the blower shaft back and forth along its length.
- Confirm blower wheel is not rubbing against the blower inlet or housing.

GENERAL CLEANING AND INSPECTION

Perform general cleaning and inspection when changing filters.

- Remove dust from blower wheels periodically.
- Remove paper, leaves, etc. from inlet and outlet screens.
- Inspect for insect nests.

TO CLEAN THE ENERGY EXCHANGE CORE

Clean the core annually.

- Remove the filters.
- Vacuum the exposed faces of the energy exchange core with a soft brush.
- Vacuum out dust from the rest of the unit case.
- Install new filters.

CAUTION

Filters must be used or the energy exchange core will become blocked by dust and the unit will not do its job. In extreme cases components may be damaged.

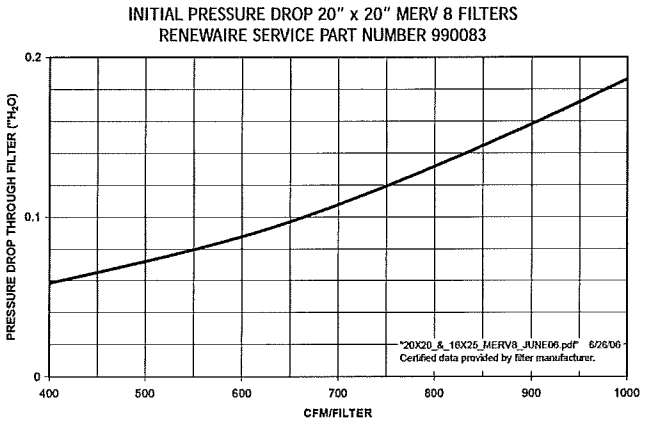
CAUTION

DO NOT WASH THE ENERGY EXCHANGE CORE. Keep it away from water or fire to avoid damaging it. Always handle the core carefully.

⚠WARNING

Danger of injury if unit starts unexpectedly. Switch power off at service disconnect. Lock-out/tag-out the disconnect.

Initial Resistance of Filters supplied with this unit:



Filter Specifications:
(2) 20" x 20" x 2"(nominal) pleated filters
Actual size: 19.5" x 19.5" x 1.75"
Unit shipped with MERV-8 Filters
Minimum recommended effectiveness: MERV-6

Lubrication

If the motors used in this ERV are equipped with grease fittings, motors must be lubricated as part of routine maintenance. Use Exxon Polyrex or equivalent at 2500 operating hour intervals.

⚠WARNING

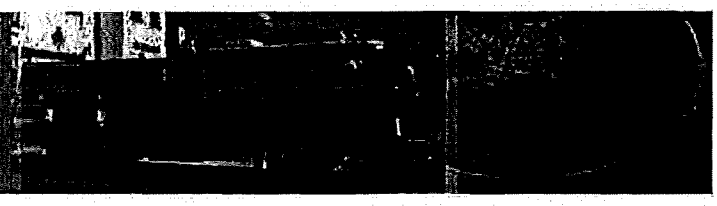
RISK OF INJURY OR DAMAGE.

Motor may have a manual reset thermal protector. Disconnect power before servicing or resetting motor thermal protector. Use caution, motor may be hot. Allow the motor to cool before resetting the thermal protector.

If the motor thermal protector tripped, correct the issue that caused the motor to overheat (e.g. over motor rated amperage or locked rotor).

If the motor has a manual reset thermal protector, the red thermal protector reset button is located on the motor body, on or near the lead end of the motor. If the button does not reset, the motor may still be too hot. Allow the motor to fully cool to reset the thermal protector, you should feel or hear a click when the thermal protector resets while pushing the reset button.

Vulcain 201T gas detection transmitter



User Friendly
- 10-step LED display
- Proven sensing technology
- Easy installation and operation

Reliability
- Field-proven protection
- Robust RS-485 Modbus communication

Versatility
- Stand-alone or network configuration
- Full compatibility with the Vulcain 301C controller

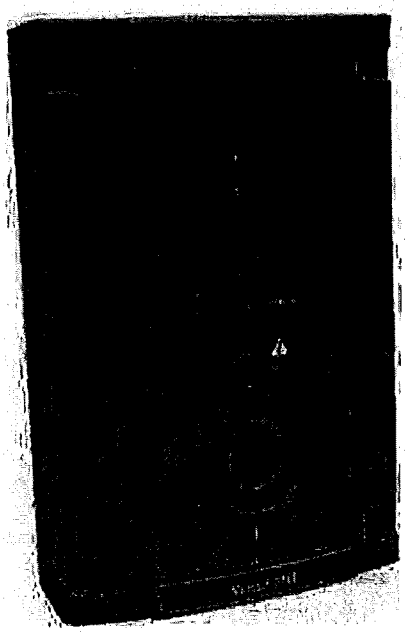
Original Architecture
- Innovative and compact case design

Beneficial Options
- Optional 4-20 mA and one relay output
- Optional audible alarm and LCD display

The Vulcain 201T gas detection transmitter is designed to meet or exceed safety requirements in a variety of commercial and industrial applications.

The Vulcain 201T series transmitters are able to detect a wide range of toxic and explosive gasses. The Vulcain 201T gas detection transmitter can work in an addressable network mode with the Vulcain 301C controller through an RS-485 Modbus link. They can also be used in a stand-alone configuration with an optional 4-20mA or alarm relay outputs.

The catalytic sensors of the Vulcain 201T can be used to detect hundreds of different gasses and inflammable vapour concentrations. Toxic gasses are detected by way of electrochemical cells, while metal-air battery cells are used to detect oxygen. Moreover, a second generation of semi-conductor detectors offer a highly effective solution for a variety of different applications.



Technical summary

General Specification	
Uses	Work horse transmitter of a gas detection network to be used with the 301C controller providing a cost-effective solution to gas related hazards and energy management
Power Requirement	17-27 Vac, 24-38 Vdc, 250 mA
Size	8.4 x 5.3 x 2.25 in. (21.3 x 13.4 x 5.7 cm)
Weight	0.88 lb (0.4kg)
Display	10-step LED or LCD
Visual Indicators	Failure Indication: Yellow LED (Available in network configuration only) Normal Operation: Green LED
Relay Output Rating	5A, 30Vdc or 250 Vac (resistive load)
Audible Alarm	65 dBA at 3 ft. / 1 m
Optional Outputs	RS-485 Modbus, 4-20mA, Alarm relay

Sensing Technology	
Q1-type Sensor	Toxic: Electrochemical Combustibles: Catalytic Oxygen: Diffusion fuel cell
Q2-type Sensor	Refrigerants: Solid-state Carbon Monoxide: Electrochemical

Detection	Gas Detected	Detection Range		Accuracy		Operating Humidity Range		Operating Temperature Range	
		Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2
	Carbon Monoxide (CO)	0-50 ppm 0-100 ppm 0-250 ppm (std) 0-500 ppm	0-250 ppm	+/- 3%	+/- 5%	0 - 90% RH non-condensing	10 - 95% RH non-condensing	-4 to 122°F (-20 to +50°C)	-4 to 122°F (-20 to +50°C)
	Nitrogen Dioxide (NO_2)	0-10 ppm	—	+/- 3%	—	15 - 90% RH, continuous	—	-22 to 122°F (-30 to +50°C)	—
	Oxygen (O_2)	0-1 ppm	—	+/- 3%	—	5 - 95% RH continuous	—	-4 to 131°F (-20 to +55°C)	—
	Combustibles	0-100% LEL	0-100% LEL	+/- 3%	+/- 5%	—	0 - 95% RH, non-condensing	—	14 to 104°F (-10 to +40°C)
	Refrigerants (R11, R12, R22 and R134a)	—	0-2000 ppm (N/A for R123)	—	+/- 10%	—	40 - 100% RH non-condensing	—	32 to 122°F (0 to +50°C)

Ratings and Certifications	
Certified to	CAN/CSA C22.2 No. 61010-1 ⓁL 116662
Conforms to	ANSI/UL 61010-1

PARTIAL LIST OF DETECTED GASES

GAS	MOLECULAR FORMULA	APPLICATION	LOCATION
Ammonia	NH_3	- Refrigerated Warehouses - Arenas - Breweries	30cm (1 foot) below the ceiling.
Carbon Monoxide	CO	- Indoor Parking Garages	1.0 to 1.5 meters (3 to 5 feet) above the floor.
Chlorine	CL_2	- Water Treatment Plants - Municipal Pools	30cm (1 foot) above the floor.
Diesel			Gas lighter than air at emission.
Nitrogen Dioxide Nitrogen Oxide	NO_2 NO	- Indoor Parking - Machine Shops	30cm to 1 meter (1 foot to 3 feet) below the ceiling.
Refrigerants R-11, R-143a, R-134a,	R-12 R-22 R-502 R-123	- Compressor and Machine Rooms - Refrigeration Systems	30cm (1 foot) above the floor .
Hydrogen	H_2	- Battery Rooms	30cm (1 foot) below the ceiling.
Hydrogen Chloride	HCL	- Industries	30cm (1 foot) above the floor.
Hydrogen Cyanide	HCN	- Industries	30cm (1 foot) above the floor.
Hydrogen Sulfide	H_2S	- Man Holes - Pumping Stations - Filtration Plants	30cm (1 foot) above the floor.
Methane	CH_4	- Boiler Rooms	30cm (1 foot) below the ceiling.
Oxygen	O_2	- Pumping Stations - Refrigeration Systems - Air Conditioning Systems	1.0 to 1.5 meters (3 to 5 feet) above the floor.
Sulphur Dioxide	SO_2	- Pulp and Paper Industries - Military Industries	30cm (1 foot) above the floor.
Hydrocarbons/Alcohol/Ketones (Heavy)			
Methyl Ethyl Keton	C_4H_8O	- Laboratories - Industries	30cm (1 foot) above the floor.
Butane	C_4H_{10}		
Methanol	CH_4O		
Propane	C_3H_8		
Hydrocarbons (Light)			
Acetylene Ethylene	C_2H_2 C_2H_4	- Industries	30cm (1 foot) below the ceiling.
Carbon Dioxide	CO_2	- Industries - Indoor Air Quality	30cm (1 foot) above the floor. 1.0 to 1.5 meters (3 to 5 feet) above the floor.
VOC			1.0 to 1.5 meters (3 to 5 feet) above the floor.

NOTE: Our Technical Department will be pleased to answer any inquiries concerning these or other detected gases and their applications.

manuel/catalgan/gaslist.cnd
Ver. A-6

As world leaders in gas detection solutions, Honeywell Analytics' Vulcain range of gas detection systems has been designed to provide efficient, practical and cost-effective equipment to protect people from a variety of forms of hazardous gases and to efficiently monitor and control indoor air quality. The equipment is also extremely simple to install and easy to operate and maintain.

The Vulcain range of fixed gas detection and air monitors

Vulcain 301RLC

GasPoint II

Vulcain 201T

Vulcain 301W

Vulcain 301C

Vulcain 301EM

Vulcain Sensors
From refrigerants to toxic and combustible gases, Honeywell Analytic's Vulcain line has a sensor designed for any industrial or commercial application. With award winning sensor technology, this line of sensors is the answer to any fixed HVAC, IAQ or gas detection concerns.

Vulcain Controllers
Designed for industrial or commercial use, the Vulcain 301C monitors and controls toxic gases, combustible gases and oxygen hazards. With the same simple installation and operation and flexibility as the Vulcain 301C, the Vulcain 301EM is specifically designed to fulfil the requirements of a mechanical room.

Find out more
For more information on Honeywell Analytic's Vulcain line of products, visit www.honeywellanalytics.com or contact us at 800 563 2967

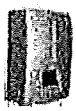
Customer business center
Canada
Honeywell Analytics
4005 Matte Blvd., Unit G
Brossard, QC, Canada
J4Y 2P4
Toll free: +1 800 563 2967
Tel: +1 450 619 2450
Fax: + 1 888 967 9938
detectgas@honeywell.com
www.honeywell.com

Customer business center
USA, Central and South America
Honeywell Analytics
Suite 100
400 Sawgrass Corporate Parkway
Sunrise, FL
33325
Tel: +1 954 514 2700
Toll free: +1 800 538 0363
Fax: +1 954 514 2784
detectgas@honeywell.com
www.honeywell.com

Customer business centre
Europe and the rest of the world
Honeywell Analytics
Wilstrasse 11-U11
CH-8610 Uster
Switzerland
Tel: +41 (0) 44 943 4300
Fax: +41 (0)44 943 4398
gasdetection@honeywell.com
www.honeywell.com

Vulcain 301M

Stand-Alone Dual Gas Monitor
For applications where gas detection is only needed at one or two points, the Vulcain 301M offers a simple solution. While continually monitoring for CO, a remote sensor can also be integrated to detect CO, NO_2, propane, hydrogen or methane with a remote sensor that can be place up to 200' away.



Vulcain 90DM$_4$

Commercial CO_2 Detection
Using proven infrared dual sensing technology to detect carbon dioxide (CO_2) the Vulcain 90DM$_4$ can be either wall or duct mounted to monitor CO_2 levels in you commercial environment.

Honeywell

H_301C_DS01005_V1
September 2006

ATTACHMENT D

Photographs – Existing Condition of the Crawl Space Ventilation System
(October 7, 2014)

ATTACHMENT D – Photo Log
Existing Condition of Crawl Space Ventilation System

Canal Street Commerce Center
1207 - 1301 Canal Street, Milwaukee, Wisconsin

Photo 1: 1301 Canal; typical office area supply air duct, mezzanine level, column L2.5.

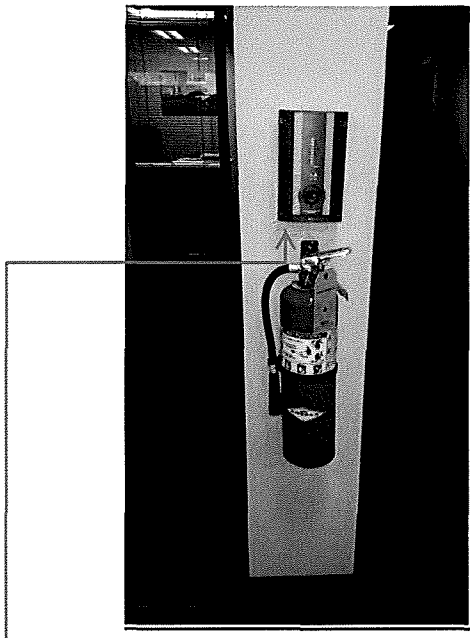


Photo 2: 1301 Canal; stand-alone methane detector, column K5.

ATTACHMENT D – Photo Log
Existing Condition of Crawl Space Ventilation System

Canal Street Commerce Center
1207 - 1301 Canal Street, Milwaukee, Wisconsin

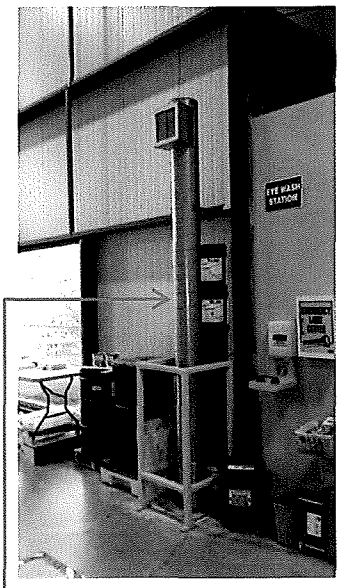


Photo 3: 1301 Canal; typical supply air duct, column C5 .

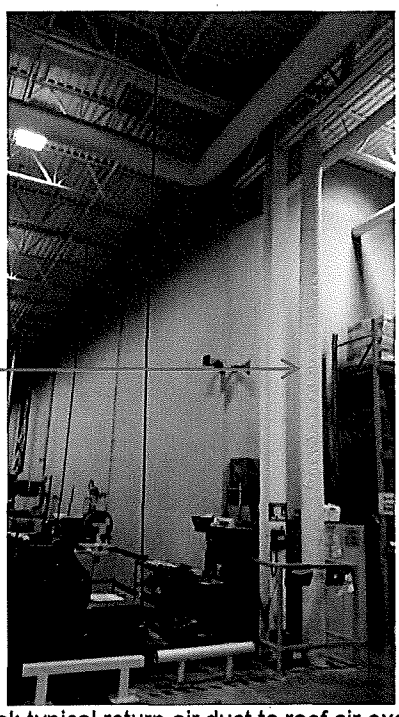


Photo 4: 1301 Canal; typical return air duct to roof air exchanger, column C9.

ATTACHMENT D – Photo Log
Existing Condition of Crawl Space Ventilation System

Canal Street Commerce Center
1207 - 1301 Canal Street, Milwaukee, Wisconsin

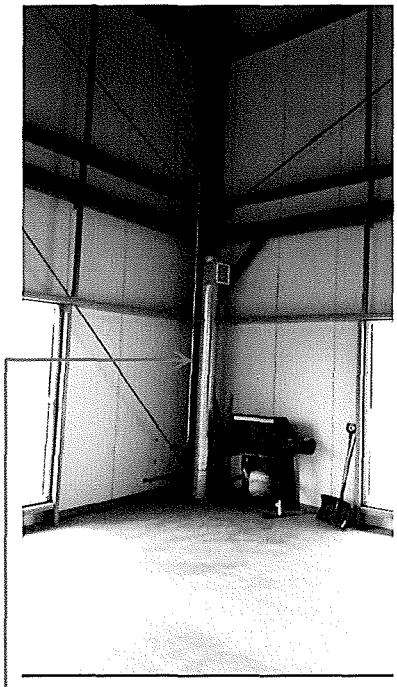


Photo 5: 1207 Canal; typical warehouse space supply air duct, column E17.

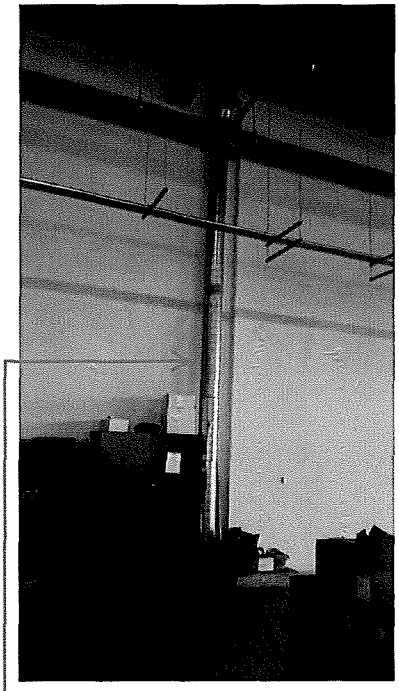


Photo 6: 1207 Canal; typical warehouse space return air duct to roof air exchanger, column G9.

ATTACHMENT D – Photo Log
Existing Condition of Crawl Space Ventilation System

Canal Street Commerce Center
1207 - 1301 Canal Street, Milwaukee, Wisconsin

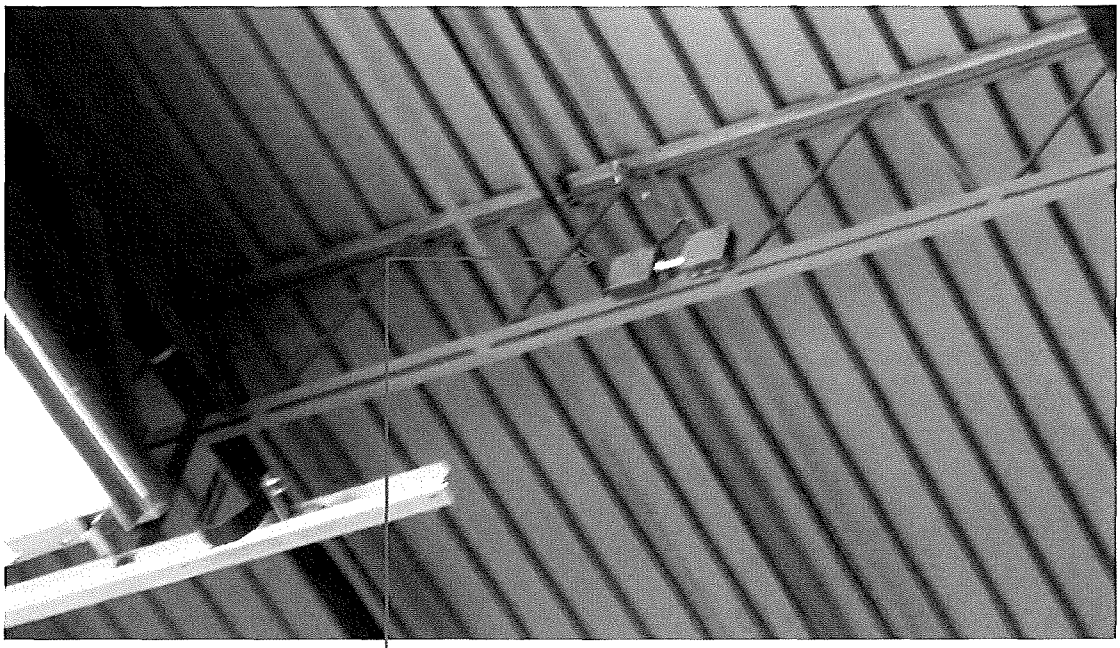


Photo 7: 1247 Canal; typical warehouse - former location of methane monitors, red electrical boxese on ceiling truces, column BB16.

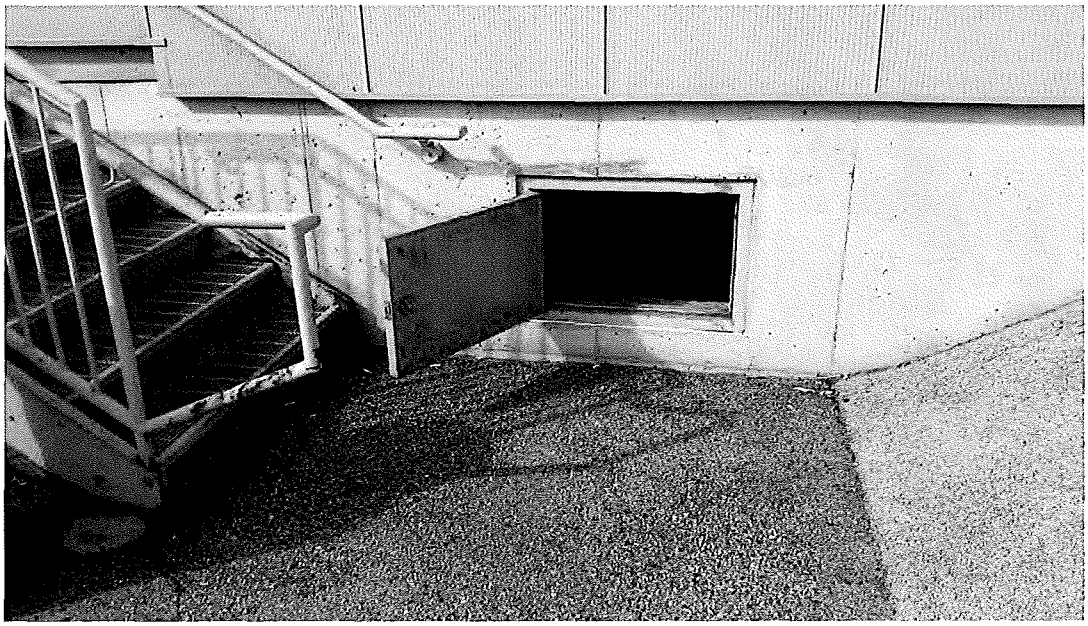


Photo 8: 1245 Canal; crawl space entrance, column EE/FF16.

ATTACHMENT D – Photo Log
Existing Condition of Crawl Space Ventilation System

Canal Street Commerce Center
1207 - 1301 Canal Street, Milwaukee, Wisconsin

Photo 9: Typical crawl space area showing concrete grade-beam foundations, geo-membrane, andc gravel base, approximately column EE14.

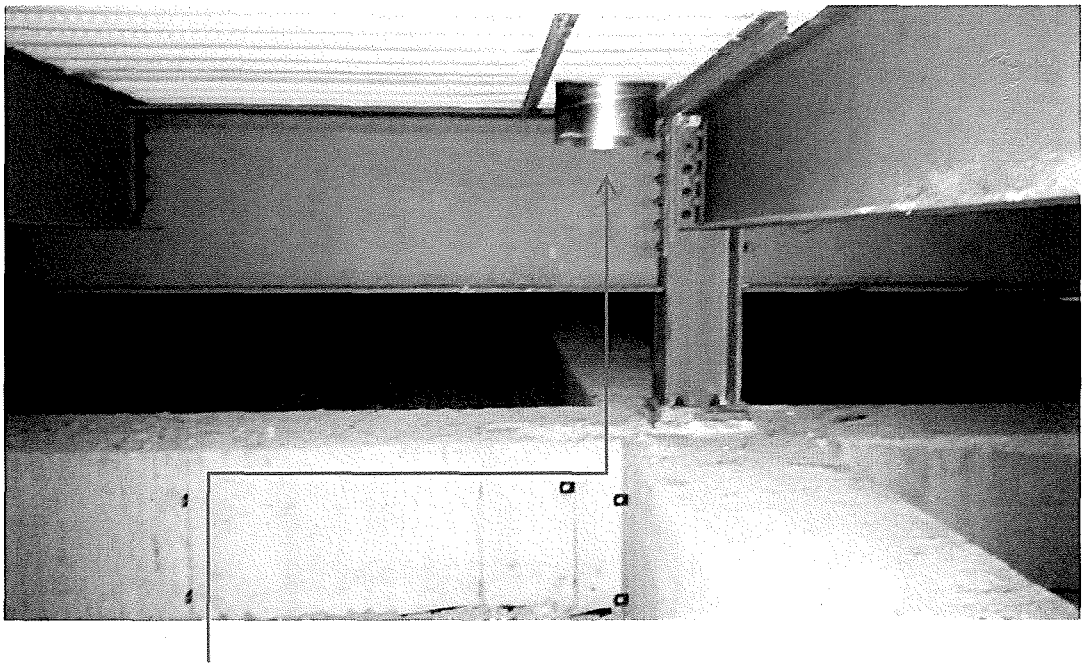


Photo 10: Typical air return duct in crawl space, column A13.

ATTACHMENT D – Photo Log
Existing Condition of Crawl Space Ventilation System

Canal Street Commerce Center
1207 - 1301 Canal Street, Milwaukee, Wisconsin

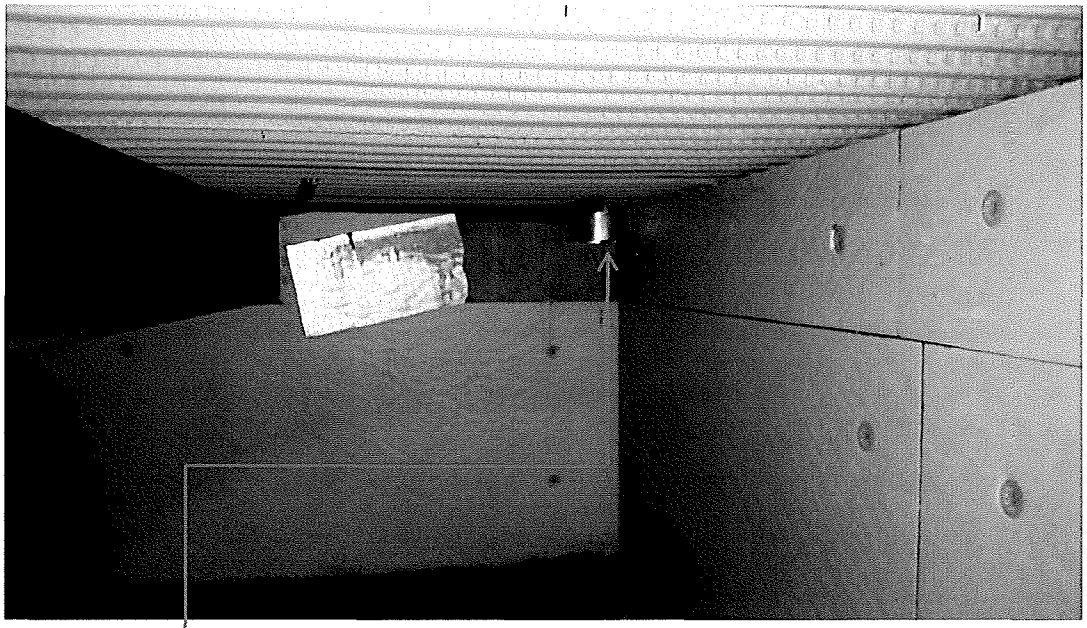


Photo 11: Typical air supply duct in crawl space, column KK16.

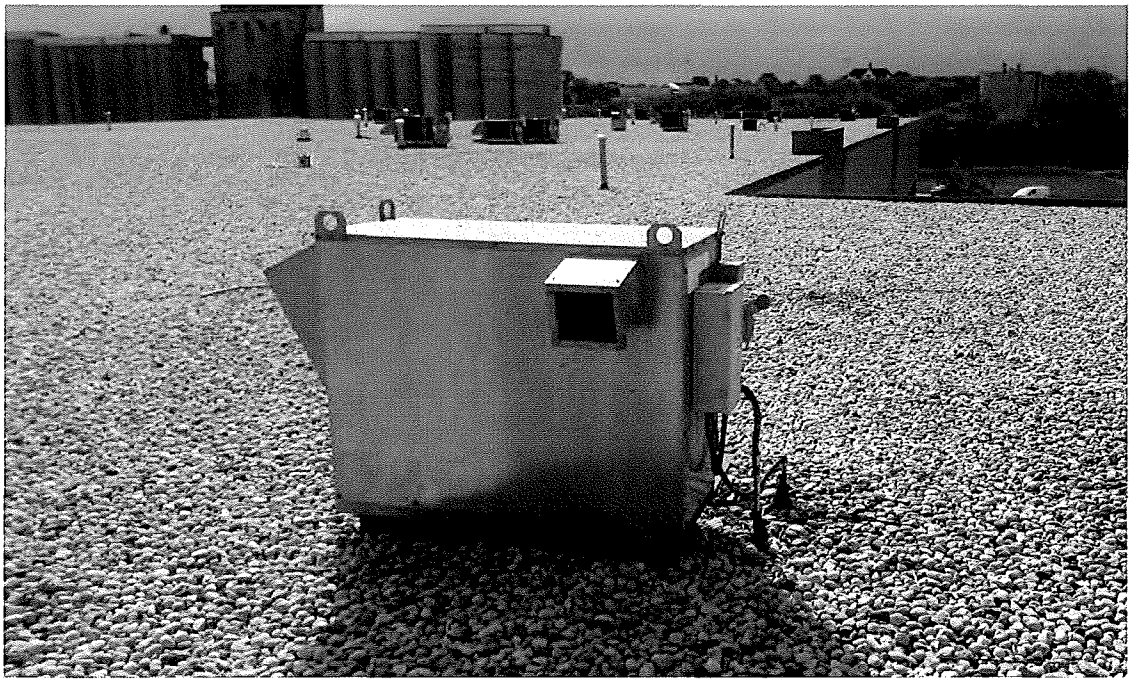


Photo 12: Typical air exchange unit on roof, column C9.

ATTACHMENT E

Inspection Log (DNR Form 4400-305)

State of Wisconsin
Department of Natural Resources
dnr.wi.gov

Continuing Obligations Inspection and Maintenance Log

Form 4400-305 (2/14)

Page 1 of 2

Directions: In accordance with s. NR 727.05 (1) (b) 3., Wis. Adm. Code, use of this form for documenting the inspections and maintenance of certain continuing obligations is required. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records law [ss. 19.31-19.39, Wis. Stats.]. When using this form, identify the condition that is being inspected. See the closure approval letter for this site for requirements regarding the submittal of this form to the Department of Natural Resources. A copy of this inspection log is required to be maintained either on the property, or at a location specified in the closure approval letter. Do NOT delete previous inspection results. This form was developed to provide a continuous history of site inspection results. The Department of Natural Resources project manager is identified in the closure letter. The project manager may also be identified from the database, BRRTS on the Web, at http://dnr.wi.gov/botw/SetUpBasicSearchForm.do, by searching for the site using the BRRTS ID number, and then looking in the "Who" section.

Activity (Site) Name: Canal Street Commerce Center

BRRTS No.: 06-41-562057

Inspections are required to be conducted (see closure approval letter):

● annually
○ semi-annually
○ other – specify ______

When submittal of this form is required, submit the form electronically to the DNR project manager. An electronic version of this filled out form, or a scanned version may be sent to the following email address (see closure approval letter):

Inspection Date	Inspector Name	Item	Describe the condition of the item that is being inspected	Recommendations for repair or maintenance	Previous recommendations implemented?	Photographs taken and attached?
		☐ monitoring well ☐ cover/barrier ☐ vapor mitigation system ☒ other: methane ventilation system			○ Y ○ N	○ Y ○ N
		☐ monitoring well ☐ cover/barrier ☐ vapor mitigation system ☐ other:			○ Y ○ N	○ Y ○ N
		☐ monitoring well ☐ cover/barrier ☐ vapor mitigation system ☐ other:			○ Y ○ N	○ Y ○ N
		☐ monitoring well ☐ cover/barrier ☐ vapor mitigation system ☐ other:			○ Y ○ N	○ Y ○ N
		☐ monitoring well ☐ cover/barrier ☐ vapor mitigation system ☐ other:			○ Y ○ N	○ Y ○ N
		☐ monitoring well ☐ cover/barrier ☐ vapor mitigation system ☐ other:			○ Y ○ N	○ Y ○ N

Continuing Obligations Inspection and Maintenance Log

{Click to Add/Edit Image} Date added:	{Click to Add/Edit Image} Date added:
Title:	Title: