

**From:** Brian Kappen <bkappen@enviroforensics.com>  
**Sent:** Wednesday, April 7, 2021 10:50 AM  
**To:** Beggs, Tauren R - DNR  
**Cc:** Ross Niemi; Richard Carey; Robert Fedorchak  
**Subject:** RE: Follow up Needed for Vapor Assessment and Mitigation, Cobblestone Hotel & Suites, 1407 16th Street, Two Rivers  
**Attachments:** Two Rivers Hotel Group\_WDNR Response Letter\_Final.pdf

Tauren,

On behalf of Two Rivers Hotel Group, EnviroForensics completed the additional actions requested in the November 11, 2020 email below. The findings and conclusions are detailed in the attached letter.

Best Regards,

**Brian Kappen**, Senior Geologist/ Project Manager  
**EnviroForensics®** | N16W23390 Stone Ridge Dr, Suite G, Waukesha, WI 53188  
Direct 414.326.4412 | Mobile 262.745.5054 | [enviroforensics.com](http://enviroforensics.com)

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**From:** Beggs, Tauren R - DNR [<mailto:Tauren.Beggs@wisconsin.gov>]  
**Sent:** Wednesday, November 11, 2020 11:26 AM  
**To:** Ross Niemi <[rniemi@nesco.com](mailto:rniemi@nesco.com)>; Richard Carey <[rcarey@mwcorp.com](mailto:rcarey@mwcorp.com)>; Robert Fedorchak <[rfedorchak@enviroforensics.com](mailto:rfedorchak@enviroforensics.com)>; Brian Kappen <[bkappen@enviroforensics.com](mailto:bkappen@enviroforensics.com)>; 'sschmutzer@brimarkbuilders.com' <[sschmutzer@brimarkbuilders.com](mailto:sschmutzer@brimarkbuilders.com)>  
**Cc:** Schultz, Josie M - DNR <[josie.schultz@wisconsin.gov](mailto:josie.schultz@wisconsin.gov)>; Borski, Jennifer - DNR <[Jennifer.Borski@wisconsin.gov](mailto:Jennifer.Borski@wisconsin.gov)>  
**Subject:** Follow up Needed for Vapor Assessment and Mitigation, Cobblestone Hotel & Suites, 1407 16th Street, Two Rivers

Good morning,

As follow up to the October 28, 2020 call with Ross and the further clarifications provided by Enviroforensics in a call with them on November 4, 2020, the following actions are needed before a determination can be made on whether the vapor mitigation system needs to be activated:

- The April 2020 vapor sampling is not considered to be representative of sampling during the heating season (winter). Therefore, an additional round of vapor sampling is needed below the vapor barrier to get representative vapor samples during the heating season. Samples should be collected during the heating season, ideally when the temperature is 20 degrees Fahrenheit or colder and during a time of falling temperature based on recent scientific presentations on indicators, tracers and surrogates.
- Information for the construction of the elevator pit was not included and at this time it is not clear if the elevator pit is adequately sealed to ensure it is protective of public health.
  - Identify the construction of the elevator pit to determine if the base is sealed to prevent direct intrusion of sub-slab vapors above the vapor action levels into indoor air without attenuation. Mitigate as needed. Provide documentation of the elevator pit construction and any actions taken to seal openings.
  - Collect an indoor air sample from within the elevator pit during the winter sampling event to determine if indoor air is impacted. Air should be analyzed for CVOCs plus

benzene based on previous sub-slab vapor data. In this instance, a sorbent passive collection device with analysis by TO-17 is recommended for collection of air over a longer duration.

- Verify mitigation system standards for exhaust pipes. Only if the exhaust pipes need to be extended to 12" above the parapet roofline on the hotel building for compliance with ANSI/AARST standards, the DNR recommends making this modification for system effectiveness. Submit documentation of any changes or clarify no changes were made.
- Provide information on the new sanitary sewer laterals and if a vapor barrier was installed in-pipe.

Once the appropriate actions above are completed, this documentation needs to be submitted to the DNR in a report addendum to provide the remaining documentation needed for the DNR to respond to the Technical Assistance request. Once this documentation is received, the DNR will provide a formal Technical Assistance Response letter.

Note: If the vapor mitigation system does need to be turned on to protect building occupants from chemical vapor intrusion, then the system must be commissioned and a Vapor Mitigation System Operation & Maintenance Plan will need to be submitted.

Regards,

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**Tauren R. Beggs**

Hydrogeologist & Northeast Region Land Recycling Expert

Remediation and Redevelopment Program

Wisconsin Department of Natural Resources

2984 Shawano Ave

Green Bay, WI 54313

Phone: (920) 510-3472

[Tauren.Beggs@wisconsin.gov](mailto:Tauren.Beggs@wisconsin.gov) (preferred contact method during work at home)

[dnr.wi.gov](http://dnr.wi.gov)



April 6, 2021

Mr. Tauren Beggs, Hydrogeologist Program Coordinator  
Wisconsin Department of Natural Resources  
2984 Shawano Ave  
Green Bay, Wisconsin 54313

**Subject: Vapor Intrusion Assessment Results  
Cobblestone Hotel & Suites  
1407 16<sup>th</sup> Street  
Two Rivers, Wisconsin**

Dear Mr. Beggs:

On behalf of Two Rivers Hotel Group, LLC, EnviroForensics, LLC (EnviroForensics) is pleased to provide this letter documenting the results of recent vapor intrusion (VI) assessment activities completed at the Cobblestone Hotel & Suites (Cobblestone) building located at 1407 16<sup>th</sup> Street in Two Rivers, Wisconsin (the Site).

## **BACKGROUND**

It is EnviroForensics' understanding that the Wisconsin Department of Natural Resources (WDNR) required the installation of a passive vapor mitigation system in the Cobblestone building, with contingency for conversion to an active system, due to the presence of trichloroethene (TCE) contaminated groundwater at the Former Hamilton Industries facility located to the northeast of the Site. A vapor barrier and a passive sub-slab depressurization system (SSDS) were installed by EnviroForensics during construction of the Cobblestone building from October 2019 to March 2020. Two (2) sub-slab vapor sampling events were completed during April 2020 and July 2020, respectively, to evaluate sub-slab vapor conditions with these VI mitigation measures in place. The *Passive Vapor Mitigation System Installation Report*, dated April 8, 2020, and *Sub-Slab Vapor Assessment Activities Summary*, dated July 29, 2020 were shared with the WDNR along with a technical assistance request for review and concurrence with EnviroForensics' conclusion that active vapor mitigation was not needed.

On November 4, 2020, EnviroForensics joined Site stakeholders on a conference call with the WDNR to discuss the submitted documentation and confirm that active vapor mitigation would not be needed in the Cobblestone building. The WDNR summarized the discussion in a November 11, 2020 email and outlined several tasks that would be needed before a determination could be made:

- The April 2020 vapor sampling event is not considered to be representative of sampling during the heating season (winter). Therefore, an additional round of vapor sampling is needed below the vapor barrier to get representative vapor samples during the heating season. Ideally, samples should be collected when the temperature is 20 degrees Fahrenheit or colder, and during a time of falling temperature based on recent scientific presentations on indicators, tracers, and surrogates.
- Information for the construction of the elevator pit was not included and at this time it is not clear if the elevator pit is adequately sealed to ensure it is protective of public health.
  - Evaluate the construction of the elevator pit to determine if the base is sealed to prevent direct migration of sub-slab vapors into indoor air. Mitigate as needed and provide documentation of the elevator pit construction and any actions taken to seal openings.
  - Collect an indoor air sample from within the elevator pit during the winter sampling event to determine if indoor air is impacted. Air should be analyzed for select CVOCs plus benzene based on previous sub-slab vapor data. In this instance, a sorbent passive collection device deployed over several days with analysis by EPA Test Method TO-17 is recommended.
- Verify mitigation system standards for SSDS exhaust pipes. If the exhaust pipes need to be extended to 12” above the parapet roofline on the hotel building for compliance with ANSI/AARST standards, the DNR recommends making this modification for system effectiveness. Submit documentation of any changes or clarify no changes were made.
- Provide information on the new sanitary sewer laterals and if a vapor barrier was installed in-pipe.

## VAPOR INTRUSION ASSESSMENT RESULTS

EnviroForensics performed the winter worst-case sampling event recommended by WDNR, obtained information on construction of the elevator pit and sanitary sewer pipes, and confirmed standards for SSDS exhaust placement. The findings and results are discussed below.

### Indoor Air and Sub-Slab Vapor Sampling

A radiello<sup>®</sup> passive/diffusive air sampler was deployed in the elevator pit on February 2 and retrieved on February 9, 2021. The sample was given ID 300040-IA-ES. The outdoor temperature during the sampling period ranged from -14 to 36 °F, with an average of 11 °F. The 7-day passive air sample results are summarized in the attached **Table 1**. Benzene was detected in the air sample at a concentration well below its Vapor Action Level (VAL). No other compounds were detected. Note only tetrachloroethene (PCE), trichloroethene (TCE) and benzene could be analyzed because diffusion rates for the other chlorinated compounds have not

been established by the manufacturer of the radiello sampler, and therefore the concentrations cannot be calculated.

Sub-slab vapor samples were collected from all five (5) of the permanent Vapor Pin® sampling ports on February 9. The outdoor temperature during vapor sampling was 8 °F. The vapor samples were analyzed for select CVOCs and benzene. The locations of the sub-slab vapor ports at the Site are depicted on **Figure 1** (attached). Field sampling forms are provided in **Attachment 1**.

Sub-slab vapor sample results are summarized and compared to Vapor Risk Screening Levels (VRSLs) in **Table 1**. The results from the first two (2) sampling events, completed in 2020, are included in Table 1 for reference. The laboratory reports are presented in **Attachment 2**. On February 9, TCE was detected in samples collected from ports SS-2 and SS-4 at concentrations of 11.6 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) and 29.1  $\mu\text{g}/\text{m}^3$ , respectively, well below the residential VRSL of 70  $\mu\text{g}/\text{m}^3$ . PCE was detected in each vapor sample, generally at concentrations well below its VRSL of 1,400  $\mu\text{g}/\text{m}^3$ . However, the reported PCE concentration in the SS-2 sample was 6,800  $\mu\text{g}/\text{m}^3$ , which is two orders-of-magnitude higher than any other vapor sample collected at the Site. Due to this dubious result, a repeat sample was collected from SS-2 on March 1 (at 25 °F) for verification. The PCE concentration in the March 1 sample was 88.4  $\mu\text{g}/\text{m}^3$ , which is consistent with concentrations reported in the other vapor samples.

The February 9 vapor sample collected from SS-2 appears to be invalid. As shown in **Table 1**, PCE was not detected in the first two samples collected from SS-2 in 2020, and the PCE concentration in the repeat sample was nearly two orders-of magnitude lower. Additionally, according to the most recent Quarterly Groundwater Monitoring Report for the Former Hamilton Industries Facility, dated June 2020, PCE is not detected in groundwater at concentrations above the enforcement standard. In short, there is no source of PCE contamination that could cause the elevated concentration reported in the February 9 SS-2 sample. The specific cause of the anomalous result at SS-2 could not be ascertained from the laboratory report or discussions with the analyst. EnviroForensics recommends that the result be disregarded and not considered as part of the overall VI assessment.

### **Additional Building Construction Information**

EnviroForensics personnel inspected the concrete floor and walls of the elevator pit for openings, gaps, and penetrations. The following conditions were noted:

- A plastic pipe penetrates the west wall of the pit, approximately four feet above the floor. The pipe appears to extend through the entire thickness of the wall and into the backfill. A membrane on the outside wall was visible through the pipe; however, it did not appear to completely cover the pipe opening. The pipe was plugged with an expandable plug

designed for monitoring wells after the passive indoor air sample was collected (see Photographs 5 and 6).

- There is a sump crock near the northwest corner of the pit. It is constructed of corrugated plastic with no openings around the sides and a solid bottom. The sump is intended to remove water from the pit if the sprinkler system operates. It has a plastic cover with holes for the power cord and discharge piping of a sump pump. The discharge pipe penetration through the wall was sealed with caulk (see Photographs 3 and 8).
- In accordance with Section 9.6 found in the American National Standards Institute (ANSI) and the American Association of Radon Scientists and Technologists (AARST) for the design and installation of soil gas control systems in new construction of buildings (ANSI/AARST CC-1000 2018), the exhaust stacks should terminate a minimum of 18 inches above the roof line. Each exhaust stack currently extends approximately 24 inches above the roof line.
- BriMark Builders, the General Contractor responsible for the building construction, confirmed the following:
  - A waterproofing membrane was installed around the walls of the elevator pit. A construction drawing detail depicting the waterproofing membrane requirement and a membrane material product sheet are provided as **Attachment 4**.
  - All new sanitary sewer laterals were installed from the building to the sanitary sewer in the street, no existing sanitary sewer laterals were used.
  - No vapor barrier was used over any of the sanitary sewer lines.

## CONCLUSIONS

EnviroForensics makes the following conclusions based on the VI assessment:

- The elevator pit does not appear to be a VI pathway; however, penetrations in the walls of the elevator pit were sealed as a preventative vapor mitigation measure.
- The SSDS exhaust pipes were installed in compliance with ANSI/AARST standards.
- The cumulative air and vapor sampling results demonstrate that there is not a current unacceptable risk of exposure to the employees or visitors to the Site through the VI pathway.

Based on the foregoing, there is no technical purpose for implementing active vapor mitigation in the Cobblestone building. Please reply with comment or concurrence with this conclusion. If you have any questions, please feel free to contact the undersigned at 866-800-7911.

Sincerely,  
**EnviroForensics, LLC**

A handwritten signature in blue ink, appearing to read "R. Fedorchak".

Robert S. Fedorchak, P.E.  
Senior Engineer

**Attachments:**

Table 1 – Summary of Vapor Intrusion Assessment Analytical Results

Figure 1 – Above-Grade Passive Vapor Mitigation Diagram and Sub-Slab Vapor Port Locations

Attachment 1 – Field Sampling Forms

Attachment 2 – Laboratory Analytical Reports

Attachment 3 – Elevator Pit Photographs

Attachment 4 – Elevator Pit Construction Detail and Waterproofing Membrane Product Sheet

**TABLE**



**TABLE 1**  
**SUMMARY OF VAPOR INTRUSION ASSESSMENT ANALYTICAL RESULTS**

Cobblestone Hotel & Suites  
1407 16th Street  
Two Rivers, Wisconsin

Sample Location	Sample Identification	Date Sampled	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride	Benzene	Chloroform
<b>INDOOR AIR</b>								
<b>Residential Vapor Action Level (<math>\mu\text{g}/\text{m}^3</math>)</b>			<b>42</b>	<b>2.1</b>	<b>NE</b>	<b>1.7</b>	<b>3.6</b>	<b>1.2</b>
Elevator Shaft	300040-IA-ES	2/2/2021-2/9/2021	<0.127	<0.0400	NA	NA	<b>0.476</b>	NA
<b>SUB-SLAB VAPOR</b>								
<b>Residential Vapor Risk Screening Level (<math>\mu\text{g}/\text{m}^3</math>)</b>			<b>1,400</b>	<b>70</b>	<b>NE</b>	<b>57</b>	<b>120</b>	<b>40</b>
First Floor - Northeast	300040-1407 16th St-SS-1	4/27/2020	< 31.9	< 10.7	<198	< 12.8	<b>73.2</b>	< 8.30
	300040-SS-1	7/7/2020	< 31.9	< 10.7	<198	< 12.8	<16.0	< 8.30
		2/9/2021	<b>8.89</b>	<1.07	<19.8	<1.28	<1.60	NA
First Floor - Central	300040-1407 16th St-SS-2	4/27/2020	< 31.9	< 10.7	<198	< 12.8	<16.0	< 8.30
		7/7/2020	< 31.9	< 10.7	<198	< 12.8	<16.0	<b>18.1</b>
	300040-SS-2	2/9/2021	<b>6,800</b>	<b>29.1</b>	<b>20.3</b>	<1.28	<1.60	NA
		3/1/2021	<b>88.4</b>	<1.07	<19.8	<1.28	<1.60	NA
First Floor - Southeast	300040-1407 16th St-SS-3	4/27/2020	<b>76.6</b>	<b>62.3</b>	<198	< 12.8	<b>20.4</b>	<8.30
		7/7/2020	< 31.9	< 10.7	<198	< 12.8	<16.0	< 8.30
	300040-SS-3	2/9/2021	<b>7.53</b>	<1.07	<19.8	<1.28	<1.60	NA
First Floor - Southwest	300040-1407 16th St-SS-4	4/27/2020	< 31.9	< 10.7	<198	< 12.8	<16.0	< 8.30
		7/7/2020	< 31.9	< 10.7	<198	< 12.8	<16.0	< 8.30
	300040-SS-4	2/9/2021	<b>17.6</b>	<b>11.6</b>	<19.8	<1.28	<1.60	NA
First Floor - Northwest	300040-1407 16th St-SS-5	4/27/2020	< 31.9	< 10.7	<198	< 12.8	<16.0	< 8.30
		7/7/2020	< 31.9	< 10.7	<198	< 12.8	<16.0	< 8.30
	300040-SS-5	2/9/2021	<b>32.3</b>	<1.07	<19.8	<1.28	<1.60	NA

**Notes:**

Indoor air sample analyzed for volatile organic compounds (VOCs) using U.S. EPA Method TO-17

Sub-slab vapor samples analyzed for VOCs using U.S. EPA Method TO-15

Concentrations reported in micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ )

Vapor Risk Screening/Action Levels are calculated in accordance with WDNR Publication RR-800 and subsequent guidance

**Bolded** values are above laboratory detection limits

Shaded results are anomalous and considered invalid; see text for discussion

Constituents not shown are below laboratory reporting limits

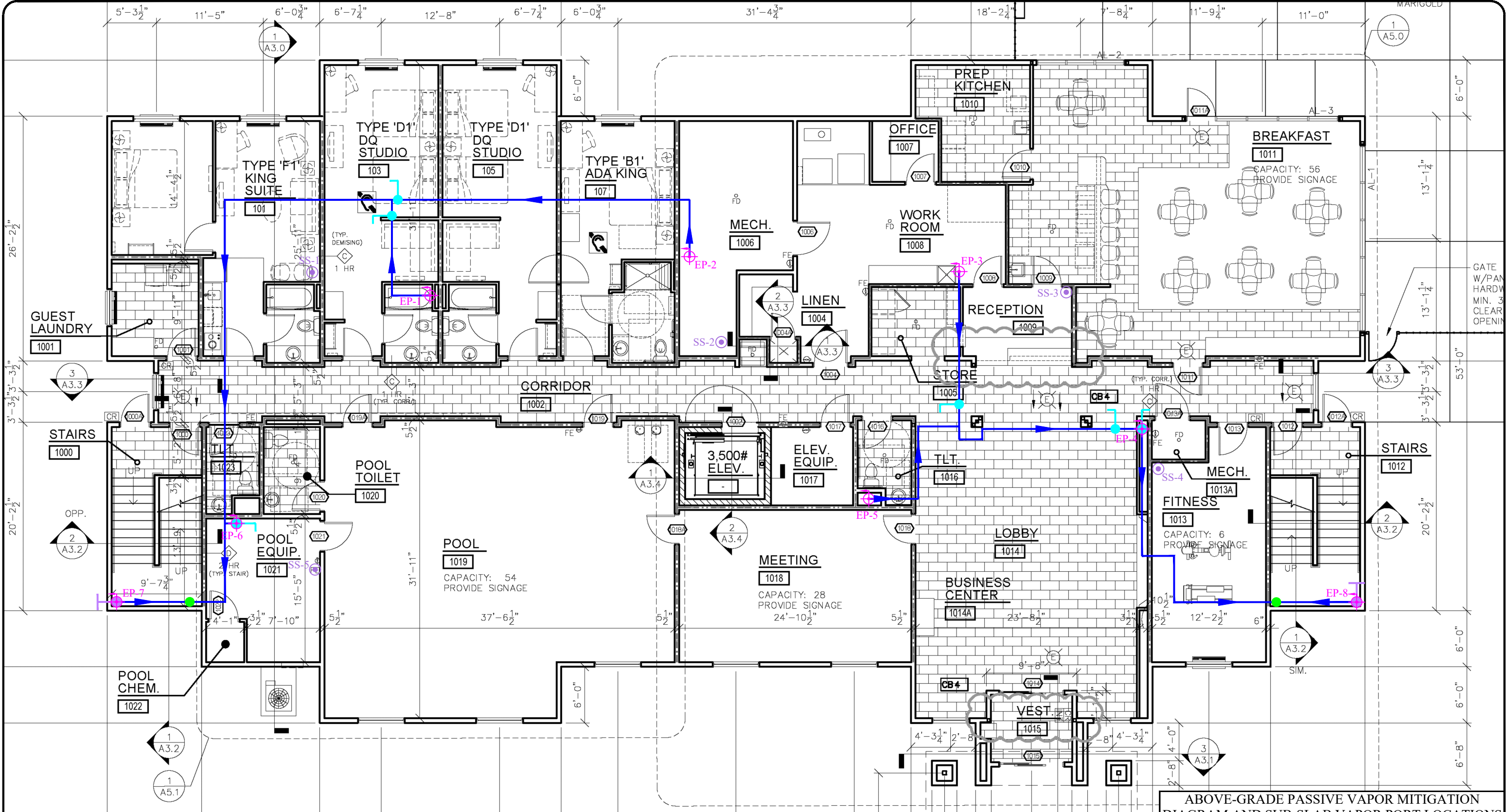
IA = Indoor Air

SS = Sub-Slab Vapor

NA= Not Analyzed

NE= Not Established

**FIGURE**



**Legend**

- 4" PVC vapor conveyance piping from extraction points (Arrow for flow direction)
- 4" PVC gate valve
- 4" PVC butterfly valve
- 6" PVC vapor conveyance riser pipe to roof exhaust
- EP-1 Extraction point
- SS-1 Sub-slab sample

APPROXIMATE SCALE: 1" = 10'

- Note:**
- Access panels are required to be installed by BriMark to operate valving for EP-1, EP-2, EP-4, EP-7, & EP-8
  - Valve for EP-3 & EP-5 will be accessible from proposed drop ceiling in hallway
  - Valves for EP-4 & EP-6 are located on the vertical portion of the vapor extraction point
  - Valves for EP-7 & EP-8 are located under the stairs

**ABOVE-GRADE PASSIVE VAPOR MITIGATION DIAGRAM AND SUB-SLAB VAPOR PORT LOCATIONS**

Cobblestone Hotel & Suites  
 1407 16th Street  
 Two Rivers, Wisconsin

Date:	7/28/20
Designed:	EB
Drawn:	EB
Checked:	GR
DWG file:	300040-0288



825 North Capitol Avenue • Indianapolis, IN 46204  
 EnviroForensics.com

Figure	1
Project	300040



**ATTACHMENT 1**

**Field Sampling Forms**



### INDOOR AIR BUILDING SURVEY FORM

Date 2/2/2021  
Site # 300040  
Site Name Cobble Stone Hotel & Suites  
Address 1407 16th St  
Two Rivers, WI

#### Occupant Information

Owner Name Two Rivers Hotel Group, LLC  
Occupant Name NA / Hotel  
Address \_\_\_\_\_

Telephone No (715) 875-7078 Home/Work/Mobile  
( ) Home/Work/Mobile

Number and Age of Occupants Ross Niemi (Client)

Does anyone smoke inside the building? No

#### Building Characteristics

Type of building: (circle) Residential/Industrial/School/Commercial/Multi-use/Other? Commercial (Hotel)

If residential, what type (circle) Single family/Condo/Multi-family/Other? \_\_\_\_\_

If the property is commercial, indicate the business? Hotel

How many floors does the building have? 4

Does the building have a (circle) Basement/Crawl space/Slab-on-grade/Other? \_\_\_\_\_

Is the basement used as a living/work space area? NA

What type of foundation does the building have (circle) Field stone/Poured concrete/Concrete block Other? \_\_\_\_\_

Is there an attached garage? - Is there a fuel tank? -

Is there a wood stove? No Is there a fireplace? No



Describe the heating system: (circle) Forced air furnace/ Boiler/ Window air conditioner/Other? \_\_\_\_\_

If forced air heating, answer the following questions:

Is there a fresh air exchange? If so, details: \_\_\_\_\_

Are air ducts located within the crawl space of the property? \_\_\_\_\_

Are there additional vents within the property? (Non-powered vent/ bathroom vent/etc.) Passive SSDS

**Table 1:** Potential vapor migration entry point information

Potential Vapor Entry Points	Present (Yes/No)	Field Screening Results (ppm)	Picture	Comments
Foundation penetrations in floor or walls	Yes		Y	Unused pipe penetration - poorly sealed
Cracks in foundation floor or walls	No		NA	
Sump	Yes		Y	
Floor drain	No		NA	
Other	-		-	
Other	-		-	

Sampling Information

Sample Date 2/2/2021

Sampler Type Sorbent SUMMA Passive (Please circle one)

Analysis Method Mass APH TO-15Standard TO-15LL TO-15-SIM TO-17 Other: (Please circle one)

Contact Person (Project Manager) Stan Hunnicot

Telephone No ( ) \_\_\_\_\_

Laboratory Envision Air

Telephone No ( ) \_\_\_\_\_



**Table 2:** Pre-Sampling Background Screening and Inspection Information

List products or items which may be considered potential sources of VOCs such as paint cans, gasoline cans, gasoline powered equipment, cleaning solvents, furniture polish, moth balls, etc.

Date and time of pre-sampling inspection \_\_\_\_\_

*Sampling Inspection Product Inventory*

<b><u>Potential Source/ Trade Name</u></b>	<b><u>Location (Floor/Room)</u></b>	<b><u>Active/Main Ingredient</u></b>	<b><u>Picture</u></b>	<b><u>Removed (Y/N)</u></b>



**Sampling Information**

**Table 3: Sorbent Tube Sampler Information**

Sample ID#	Floor	Room	Tube ID#	Pump ID#	Volume (liters)	Duration (minutes)	Comments
300040-IA-E5	Bottom Elev	Shaft	Q986E	NA			7 day sample

**Table 4: Canister Sampler Information**

Sample ID#	Floor	Room	Canister ID#	Initial On-site Pressure*	Final On-Site Pressure*
300040-SS-1	1	101	2218	-27	-5
300040-SS-2	1	Mechanical	83922	-30	-4
300040-SS-3	1	Reception	2089	-29	-3
300040-SS-4	1	Fitness	83941	-30	-5
300040-SS-5	1	Pool	2225	-30	-4

\*Indicate pressure in units of inches of mercury.

Please provide a sketch of building and sample locations on the following page.

Was the building ventilated prior to sample collection? No

How long was the ventilation process? No

Were vapor control methods in effect while the samples were being collected?

Windows open? Yes/  No      Ventilation fans? Yes/  No      Vapor barriers?  Yes/  No

Vapor phase carbon treatment system? Yes/  No      SSDS?  Yes/  No      Other site control measures \_\_\_\_\_

↳ Passive mitigation installed during building construction.

**Weather Conditions during Sampling**

Outside temperature (°F) High: 36 Low: -14      Inside temperature (°F) 70

Prevailing wind speed and direction 10mph, S

Describe the general weather conditions (e.g. sunny, cloudy, rain) partly cloudy

Significant precipitation (1 inches or more) within 72 hours of the sampling event? no

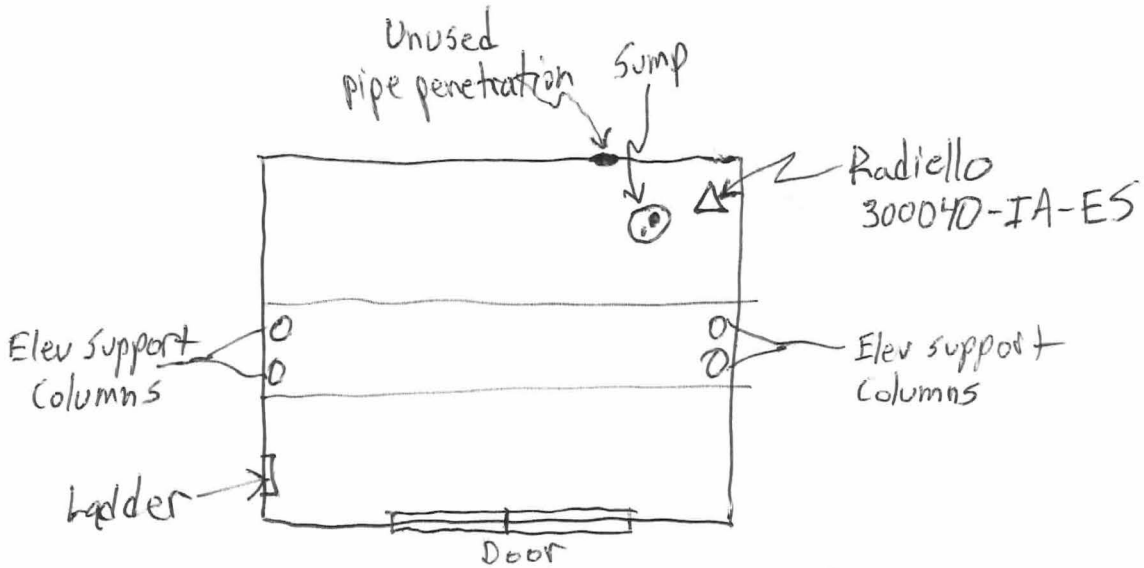


**General Comments and Sketch Area**

Is there any information you feel is important related to this site and the samples collected which would facilitate an accurate interpretation of the indoor air quality? Sketch floor plan, sample locations, location of background sources.

Comments: Radiello suspended one foot above floor.

Sketch:



Looking down on elevator shaft bottom

Project Name: Cobblestone Hotel  
 Project Number: 300040  
 Project Address: 1407 16th St, Two Rivers  
 Client/Contact: Two Rivers Hotel Group

Property Address: 1407 16th St, Two Rivers  
Wisconsin  
 Sampler(s): R. Brown

Sample ID	Canister ID	Flow Controller ID	Date	Time Start	Time End	Vacuum Reading		Sub-Slab Pressure	Negative Pressure Test		Water Dam Test	
			mm/dd/yy	hh:mm	hh:mm	Initial in. Hg	Final in. Hg	in H <sub>2</sub> O	Induced -15 in Hg on sample train and pressure held? (yes/no)	Water Dam Test passed? (air bubbles not observed or water level did not drop) (yes/no)		
300040-SS-1	2218	00561	2-9-21	13:02	13:12	-27	-5	0.00	yes	no	yes	no
300040-SS-3	2089	0122	2-9-21	13:16	13:23	-29	-3	0.00	yes	no	yes	no
300040-SS-2	83922	0121	2-9-21	13:26	13:32	-30	-4	-0.002	yes	no	yes	no
300040-SS-5	2225	0081	2-9-21	13:35	13:39	-30	-4	0.00	yes	no	yes	no
300040-SS-4	83941	0017	2-9-21	13:42	13:46	-30	-5	-0.004	yes	no	yes	no
									yes	no	yes	no

Sketch

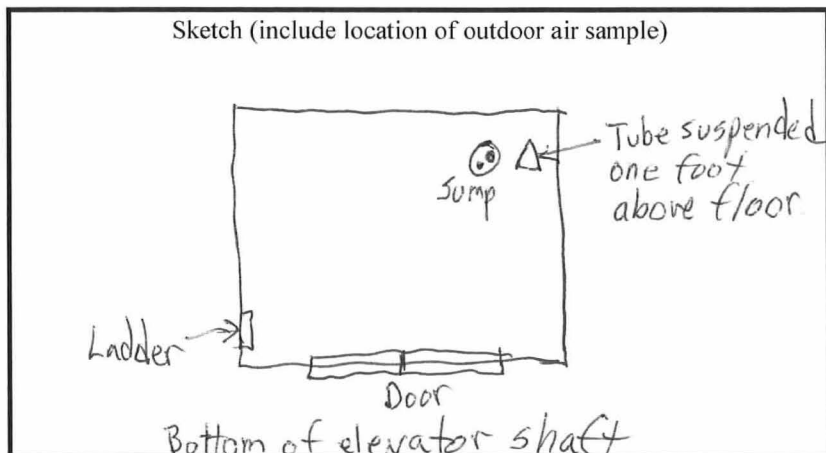
Wind Direction	Wind Speed mph	Temperature °F	Relative Humidity %	Barometric Pressure in. of Hg
SW	9	6	58	29.58

Notes:

Project Name: Cobblestone Hotel & Suites  
 Project Number: 300040  
 Project Address: 1407 16<sup>th</sup> St, Two Rivers, WI  
 Client/Contact: Two Rivers Hotel Group, LLC

Property Address: Same as project  
 OA Sample Location: \_\_\_\_\_  
 Sampler(s): B. Kappen

Sample ID	Canister ID	Flow Controller ID	Date Start	Time Start	Date End	Time End	Vacuum Reading	
			mm/dd/yy	hh:mm	mm/dd/yy	hh:mm	Initial in. Hg	Final in. Hg
300040-IA-ES	Radiello Sorbent Tube		02/02/21	1245	2-9-21	12:35	NA	NA



	Wind Direction	Wind Speed mph	Temperature °F	Relative Humidity %	Barometric Pressure in. of Hg
Start	NW	13	33	59	29.49
End	SW	9	6	58	29.58
Notes:					
Duplicate ID:					

\*All indoor air samples collected from one property will be recorded on the same Indoor Air Sampling Form.  
 \*Outdoor air samples will be recorded on separate Indoor Air Sampling Forms due to changing weather conditions.



Sub-Slab Vapor Field Sampling Form

825 N Capitol Avenue  
Indianapolis, IN 46204  
(317) 972-7870

Project Name: Cobblestone Hotel  
Project Number: 300040  
Project Address: 1407 16<sup>th</sup> St, Two Rivers  
Client/Contact: Two Rivers Hotel Group

Property Address: 1407 16<sup>th</sup> St, Two Rivers  
Wisconsin  
Sampler(s): R. Brown

Sample ID	Canister ID	Flow Controller ID	Date mm/dd/yy	Time Start hh:mm	Time End hh:mm	Vacuum Reading		Sub-Slab Pressure in H <sub>2</sub> O	Negative Pressure Test		Water Dam Test	
						Initial in. Hg	Final in. Hg		Induced -15 in Hg on sample train and pressure held? (yes/no)		Water Dam Test passed? (air bubbles not observed or water level did not drop) (yes/no)	
<u>300040-SS-2</u>	<u>516</u>	<u>0217</u>	<u>3-1-21</u>	<u>14:27</u>	<u>14:32</u>	<u>-30</u>	<u>-3</u>	<u>0.00</u>	<input checked="" type="checkbox"/> yes	no	<input checked="" type="checkbox"/> yes	no
									yes	no	yes	no
									yes	no	yes	no
									yes	no	yes	no
									yes	no	yes	no
									yes	no	yes	no

Sketch

Wind Direction	Wind Speed mph	Temperature ° F	Relative Humidity %	Barometric Pressure in. of Hg
<u>WNW</u>	<u>9</u>	<u>26</u>	<u>44</u>	<u>29.53</u>

Notes:



**ATTACHMENT 2**

**Laboratory Analytical Reports**



**EnvisionAir**  
1441 Sadlier Circle West Drive  
Indianapolis, IN 46239  
Ph: 317-351-0885  
Fax: 317-351-0882  
[www.envision-air.com](http://www.envision-air.com)

Mr. Rob Fedorchak  
Enviroforensics  
N16 W. 23390 Stone Ridge Dr  
Suite G  
Waukesha, WI 53188

February 23, 2021

EnvisionAir Project Number: 2021-82  
Client Project Name: 300040

Dear Mr. Fedorchak,

Please find the attached analytical report for the samples received February 12, 2021. All test methods performed were fully compliant with local, state, and federal EPA methods unless otherwise noted. The project was analyzed as requested on the enclosed chain of custody record. Please review the comments section for additional information about your results or Quality Control data.

Feel free to contact me if you have any questions or comments regarding your analytical report or service.

Thank you for your business. EnvisionAir looks forward to working with you on your next project.

Yours Sincerely,

A handwritten signature in black ink that reads "Stanley A. Hunnicutt".

Stanley A Hunnicutt

Project Manager  
EnvisionAir, LLC



**EnvisionAir**  
 1441 Sadlier Circle West Drive  
 Indianapolis, IN 46239  
 Ph: 317-351-0885  
 Fax: 317-351-0882  
 www.envision-air.com

**Client Name:** ENVIROFORENSICS  
**Project ID:** 300040  
**Client Project Manager:** ROB FEDORCHAK  
**EnvisionAir Project Number:** 2021-82

**Sample Summary**

*Canister Pressure / Vacuum*

<u>Laboratory Sample Number:</u>	<u>Sample Description:</u>	<u>Matrix:</u>	<u>START</u>	<u>START</u>	<u>End Date</u>	<u>End Time</u>	<u>Date</u>	<u>Time</u>	<u>Initial Field</u>	<u>Final Field</u>	<u>Lab</u>
			<u>Collected:</u>	<u>Collected:</u>							<u>Collected:</u>
21-449	300040-IA-ES	A	2/2/21	12:45	2/9/21	12:35	2/12/21	15:00			
21-450	300040-SS-1	A	2/9/21	13:02	2/9/21	13:12	2/12/21	15:00	-27	-5	-5
21-451	300040-SS-2	A	2/9/21	13:26	2/9/21	13:32	2/12/21	15:00	-30	-4	-4
21-452	300040-SS-3	A	2/9/21	13:16	2/9/21	13:23	2/12/21	15:00	-29	-3	-3
21-453	300040-SS-4	A	2/9/21	13:42	2/9/21	13:46	2/12/21	15:00	-30	-5	-5
21-454	300040-SS-5	A	2/9/21	13:35	2/9/21	13:39	2/12/21	15:00	-30	-4	-4



**EnvisionAir**  
 1441 Sadler Circle West Drive  
 Indianapolis, IN 46239  
 Ph: 317-351-0885  
 Fax: 317-351-0882  
 www.envision-air.com

**Client Name:** ENVIROFORENSICS

**Project ID:** 300040

**Client Project Manager:** ROB FEDORCHAK

**EnvisionAir Project Number:** 2021-82

**Analytical Method:** TO-17  
**Analytical Batch:** 021921AIR

**Client Sample ID:** 300040-IA-ES

**Envision Sample Number:** 21-449  
**Sample Matrix:** AIR - TD Tubes

**Sample Collection START Date/Time:** 2/2/21 12:45  
**Sample Collection END Date/Time:** 2/9/21 12:35  
**Sample Received Date/Time:** 2/12/21

<u>Compounds</u>	<u>Sample results</u> <u>Average Concentration ug/m<sup>3</sup></u>	<u>Reporting Limit ug/m<sup>3</sup></u>	<u>Flag</u>
Benzene	<b>0.476</b>	0.0582	
Tetrachloroethene	< 0.127	0.127	
Trichlorethene	< 0.0400	0.0400	
4-bromofluorobenzene (surrogate)	101%		
Analysis Date/Time:	2-21-21/09:01		
Analyst Initials	tjg		





**EnvisionAir**  
 1441 Sadler Circle West Drive  
 Indianapolis, IN 46239  
 Ph: 317-351-0885  
 Fax: 317-351-0882  
 www.envision-air.com

**Client Name:** ENVIROFORENSICS

**Project ID:** 300040

**Client Project Manager:** ROB FEDORCHAK

**EnvisionAir Project Number:** 2021-82

**Analytical Method:** TO-15  
**Analytical Batch:** 021621AIR

**Client Sample ID:** 300040-SS-1

**EnvisionAir Sample Number:** 21-450  
**Sample Matrix:** AIR

**Sample Collection START Date/Time:** 2/9/21 13:02  
**Sample Collection END Date/Time:** 2/9/21 13:12  
**Sample Received Date/Time:** 2/12/21 15:00

<u>Compounds</u>	<u>Sample Results ug/m<sup>3</sup></u>	<u>Reporting Limit ug/m<sup>3</sup></u>	<u>Flag</u>
Benzene	< 1.60	1.60	
cis-1,2-Dichloroethene	< 19.8	19.8	
Tetrachloroethene	<b>8.89</b>	3.19	
trans-1,2-Dichloroethene	< 39.6	39.6	
Trichloroethene	< 1.07	1.07	
Vinyl Chloride	< 1.28	1.28	
4-bromofluorobenzene (surrogate)	106%		
Analysis Date/Time:	2-18-21/09:40		
Analyst Initials	tjg		



**EnvisionAir**  
 1441 Sadler Circle West Drive  
 Indianapolis, IN 46239  
 Ph: 317-351-0885  
 Fax: 317-351-0882  
 www.envision-air.com

**Client Name:** ENVIROFORENSICS

**Project ID:** 300040

**Client Project Manager:** ROB FEDORCHAK

**EnvisionAir Project Number:** 2021-82

**Analytical Method:** TO-15  
**Analytical Batch:** 021621AIR

**Client Sample ID:** 300040-SS-2

**EnvisionAir Sample Number:** 21-451  
**Sample Matrix:** AIR

**Sample Collection START Date/Time:** 2/9/21 13:26  
**Sample Collection END Date/Time:** 2/9/21 13:32  
**Sample Received Date/Time:** 2/12/21 15:00

<u>Compounds</u>	<u>Sample Results ug/m<sup>3</sup></u>	<u>Reporting Limit ug/m<sup>3</sup></u>	<u>Flag</u>
Benzene	< 1.60	1.60	
cis-1,2-Dichloroethene	<b>20.3</b>	19.8	
Tetrachloroethene	<b>6,800</b>	255	1
trans-1,2-Dichloroethene	< 39.6	39.6	
Trichloroethene	<b>29.1</b>	1.07	
Vinyl Chloride	< 1.28	1.28	
4-bromofluorobenzene (surrogate)	89%		
Analysis Date/Time:	2-18-21/12:06		
Analyst Initials	tjg		



**EnvisionAir**  
 1441 Sadlier Circle West Drive  
 Indianapolis, IN 46239  
 Ph: 317-351-0885  
 Fax: 317-351-0882  
 www.envision-air.com

**Client Name:** ENVIROFORENSICS

**Project ID:** 300040

**Client Project Manager:** ROB FEDORCHAK

**EnvisionAir Project Number:** 2021-82

**Analytical Method:** TO-15  
**Analytical Batch:** 021621AIR

**Client Sample ID:** 300040-SS-3

**EnvisionAir Sample Number:** 21-452  
**Sample Matrix:** AIR

**Sample Collection START Date/Time:** 2/9/21 13:16  
**Sample Collection END Date/Time:** 2/9/21 13:23  
**Sample Received Date/Time:** 2/12/21 15:00

<u>Compounds</u>	<u>Sample Results ug/m<sup>3</sup></u>	<u>Reporting Limit ug/m<sup>3</sup></u>	<u>Flag</u>
Benzene	< 1.60	1.60	
cis-1,2-Dichloroethene	< 19.8	19.8	
Tetrachloroethene	<b>7.53</b>	3.19	
trans-1,2-Dichloroethene	< 39.6	39.6	
Trichloroethene	< 1.07	1.07	
Vinyl Chloride	< 1.28	1.28	
4-bromofluorobenzene (surrogate)	104%		
Analysis Date/Time:	2-18-21/11:26		
Analyst Initials	tjg		



**EnvisionAir**  
 1441 Sadler Circle West Drive  
 Indianapolis, IN 46239  
 Ph: 317-351-0885  
 Fax: 317-351-0882  
 www.envision-air.com

**Client Name:** ENVIROFORENSICS

**Project ID:** 300040

**Client Project Manager:** ROB FEDORCHAK

**EnvisionAir Project Number:** 2021-82

**Analytical Method:** TO-15  
**Analytical Batch:** 021621AIR

**Client Sample ID:** 300040-SS-4

**EnvisionAir Sample Number:** 21-453  
**Sample Matrix:** AIR

**Sample Collection START Date/Time:** 2/9/21 13:42  
**Sample Collection END Date/Time:** 2/9/21 13:46  
**Sample Received Date/Time:** 2/12/21 15:00

<u>Compounds</u>	<u>Sample Results ug/m<sup>3</sup></u>	<u>Reporting Limit ug/m<sup>3</sup></u>	<u>Flag</u>
Benzene	< 1.60	1.60	
cis-1,2-Dichloroethene	< 19.8	19.8	
Tetrachloroethene	<b>17.6</b>	3.19	
trans-1,2-Dichloroethene	< 39.6	39.6	
Trichloroethene	<b>11.6</b>	1.07	
Vinyl Chloride	< 1.28	1.28	
4-bromofluorobenzene (surrogate)	92%		
Analysis Date/Time:	2-18-21/12:47		
Analyst Initials	tjg		



**EnvisionAir**  
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 Indianapolis, IN 46239  
 Ph: 317-351-0885  
 Fax: 317-351-0882  
 www.envision-air.com

**Client Name:** ENVIROFORENSICS

**Project ID:** 300040

**Client Project Manager:** ROB FEDORCHAK

**EnvisionAir Project Number:** 2021-82

**Analytical Method:** TO-15  
**Analytical Batch:** 021621AIR

**Client Sample ID:** 300040-SS-5

**EnvisionAir Sample Number:** 21-454  
**Sample Matrix:** AIR

**Sample Collection START Date/Time:** 2/9/21 13:35  
**Sample Collection END Date/Time:** 2/9/21 13:39  
**Sample Received Date/Time:** 2/12/21 15:00

<u>Compounds</u>	<u>Sample Results ug/m<sup>3</sup></u>	<u>Reporting Limit ug/m<sup>3</sup></u>	<u>Flag</u>
Benzene	< 1.60	1.60	
cis-1,2-Dichloroethene	< 19.8	19.8	
Tetrachloroethene	<b>32.3</b>	3.19	
trans-1,2-Dichloroethene	< 39.6	39.6	
Trichloroethene	< 1.07	1.07	
Vinyl Chloride	< 1.28	1.28	
4-bromofluorobenzene (surrogate)	96%		
Analysis Date/Time:	2-18-21/14:46		
Analyst Initials	tjg		

**TO-15 Quality Control Data**

**EnvisionAir Batch Number:** 021621AIR

<u>Method Blank (MB):</u>	<u>MB Results (ppbv)</u>	<u>Reporting Limit (ppbv)</u>	<u>Flags</u>
Benzene	< 0.5	0.5	
cis-1,2-Dichloroethene	< 5	5	
Tetrachloroethene	< 0.47	0.47	
trans-1,2-Dichloroethene	< 10	10	
Trichloroethene	< 0.2	0.2	
Vinyl Chloride	< 0.5	0.5	
4-bromofluorobenzene (surrogate)	105%		
Analysis Date/Time:	2-18-21/08:53		
Analyst Initials	tjg		

<u>LCS/LCSD</u>	<u>LCS Results (ppbv)</u>	<u>LCSD Results (ppbv)</u>	<u>LCS/D Conc(ppbv)</u>	<u>LCS Rec.</u>	<u>LCSD Rec.</u>	<u>RPD</u>	<u>Flag</u>
Vinyl Chloride	10.5	10.1	10	105%	101%	3.9%	
trans-1,2-Dichloroethene	10.5	11.3	10	105%	113%	7.3%	
cis-1,2-Dichloroethene	10.8	11.1	10	108%	111%	2.7%	
Benzene	10.7	11.1	10	107%	111%	3.7%	
Trichloroethene	9.7	10.3	10	97%	103%	6.0%	
Tetrachloroethene	9.67	10.2	10	97%	102%	5.3%	
4-bromofluorobenzene (surrogate)	97%	98%					
Analysis Date/Time:	2-18-21/06:53	2-18-21/07:31					
Analyst Initials	tjg	tjg					

**TO-15 Quality Control Data**

**EnvisionAir Batch Number:** 021921AIR

<u>Method Blank (MB):</u>	<u>MB Results (ppbv)</u>	<u>Reporting Limit (ppbv)</u>	<u>Flags</u>
Benzene	< 0.5	0.5	
Tetrachloroethene	< 0.47	0.47	
Trichloroethene	< 0.2	0.2	
4-bromofluorobenzene (surrogate)	109%		
Analysis Date/Time:	2-20-21/23:23		
Analyst Initials	tjg		

<u>LCS/LCSD</u>	<u>LCS Results (ppbv)</u>	<u>LCSD Results (ppbv)</u>	<u>LCS/D Conc(ppbv)</u>	<u>LCS Rec.</u>	<u>LCSD Rec.</u>	<u>RPD</u>	<u>Flag</u>
Benzene	10.4	10.8	10	104%	108%	3.8%	
Trichloroethene	9.96	10.2	10	100%	102%	2.4%	
Tetrachloroethene	10.8	10.8	10	108%	108%	0.0%	
4-bromofluorobenzene (surrogate)	96%	111%					
Analysis Date/Time:	2-20-21/20:42	2-20-21/21:27					
Analyst Initials	tjg	tjg					



**EnvisionAir**  
1441 Sadlier Circle West Drive  
Indianapolis, IN 46239  
Ph: 317-351-0885  
Fax: 317-351-0882  
[www.envision-air.com](http://www.envision-air.com)

**Flag Number**

1

**Comments**

Reported value is from an 80x dilution. TJG 2/22/21



# CHAIN OF CUSTODY RECORD

EnvisionAir | 1441 Sadler Circle West Drive | Indianapolis, IN 46239 | Phone: (317) 351-0885 | Fax: (317) 351-0882

Client: <u>EnviroForensics</u>	P.O. Number: <u>2021-0047</u>
Report Address: <u>r.fedorchak@enviroforensics.com</u>	Project Name or Number: <u>300040</u>
Report To: <u>R. Fedorchak</u>	Sampled by: <u>BK/RB</u>
Phone: <u>317-441-5633</u>	QA/QC Required: (circle if applicable) <b>Level III</b> Level IV
Invoice Address: <u>accounts payable @enviroforensics.com</u>	Reporting Units needed: (circle) <u>ug/m<sup>3</sup></u> mg/m <sup>3</sup> PPBV PPMV
Desired TAT: (Please Circle One) <u>1 day</u> 2 days 3 days <u>Std (5 bus. days)</u>	Media type: 1LC = 1 Liter Canister 6LC = 6 Liter Canister TB = Tedlar Bag TD = Thermal Desorption Tube

**REQUESTED PARAMETERS**

TO-15 Full List

TO-15 Short List (Specify in notes)



**Sampling Type:**  
 Soil-Gas:   
 Sub-Slab:   
 Indoor-Air:

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*Canister Pressure / Vacuum*

Air Sample ID	Media Type <small>(see code above)</small>	Coll. Date <small>(Grab/Comp Start)</small>	Coll. Time <small>(Grab/Comp Start)</small>	Coll. Date <small>(Comp. End)</small>	Coll. Time <small>(Comp. End)</small>				Canister Serial #	Flow Controller Serial #	Initial Field (in. Hg)	Final Field (in. Hg)	Lab Received (in. Hg)	EnvisionAir Sample Number
300040-IA-ES	TD	2/2/21	1245	2-9-21	12:35	X			NA	NA	NA	NA		21-449
300040-SS-1	1LC	2-9-21	13:02	2-9-21	13:12	X			2218	0061	-27	-5	-5	21-450
300040-SS-2	1LC		13:26		13:32	X			83912	0121	-30	-4	-4	21-451
300040-SS-3	1LC		13:16		13:23	X			2089	0122	-29	-3	-3	21-452
300040-SS-4	1LC		13:42		13:46	X			83941	0077	-30	-5	-5	21-453
300040-SS-5	1LC		13:35		13:39	X			2225	0081	-30	-4	-4	21-454

Comments: Benzene, PCE, TCE, cis-1,2-DCE, trans-1,2-DCE, vinyl chloride  
Sorbent Air sampling Temperature: 70°F

Relinquished by:	Date	Time	Received by:	Date	Time
<u>RL</u>	<u>2-11-21</u>	<u>12:30</u>	<u>[Signature]</u>	<u>2-11-21</u>	<u>12:30</u>
			<u>[Signature]</u>	<u>2/12/21</u>	<u>1500</u>



**EnvisionAir**  
1441 Sadler Circle West Drive  
Indianapolis, IN 46239  
Ph: 317-351-0885  
Fax: 317-351-0882  
www.envision-air.com

Mr. Rob Fedorchak  
Enviroforensics  
825 N. Capitol Ave.  
Indianapolis, IN 46204

March 8, 2021

EnvisionAir Project Number: 2021-118  
Client Project Name: 300040 Cobblestone Hotel

Dear Mr. Fedorchak,

Please find the attached analytical report for the samples received March 4, 2021. All test methods performed were fully compliant with local, state, and federal EPA methods unless otherwise noted. The project was analyzed as requested on the enclosed chain of custody record. Please review the comments section for additional information about your results or Quality Control data.

Feel free to contact me if you have any questions or comments regarding your analytical report or service.

Thank you for your business. EnvisionAir looks forward to working with you on your next project.

Yours Sincerely,

A handwritten signature in black ink that reads "Stanley A. Hunnicutt".

Stan Hunnicutt

Project Manager  
EnvisionAir, LLC



**EnvisionAir**  
1441 Sadlier Circle West Drive  
Indianapolis, IN 46239  
Ph: 317-351-0885  
Fax: 317-351-0882  
www.envision-air.com

**Client Name:** ENVIROFORENSICS  
**Project ID:** COBBLESTONE HOTEL 300040  
**Client Project Manager:** ROB FEDORCHAK  
**EnvisionAir Project Number:** 2021-118

**Sample Summary**

*Canister Pressure / Vacuum*

<u>Laboratory Sample Number:</u>	<u>Sample Description:</u>	<u>START</u> <u>Date</u>	<u>START</u> <u>Time</u>	<u>End Date</u>	<u>End Time</u>	<u>Date</u>	<u>Time</u>	<u>Initial Field</u>	<u>Final Field</u>	<u>Lab</u> <u>Received</u>	
		<u>Collected:</u>	<u>Collected:</u>	<u>Collected:</u>	<u>Collected:</u>	<u>Received:</u>	<u>Received</u>	<u>(in. Hg)</u>	<u>(in. Hg)</u>	<u>(in. Hg)</u>	
21-622	300040-SS-2	A	3/1/21	14:27	3/1/21	14:32	3/4/21	10:50	-30	-3	-3



**EnvisionAir**  
 1441 Sadler Circle West Drive  
 Indianapolis, IN 46239  
 Ph: 317-351-0885  
 Fax: 317-351-0882  
 www.envision-air.com

**Client Name:** ENVIROFORENSICS  
**Project ID:** COBBLESTONE HOTEL 300040  
**Client Project Manager:** ROB FEDORCHAK  
**EnvisionAir Project Number:** 2021-118

**Analytical Method:** TO-15  
**Analytical Batch:** 030821AIR

**Client Sample ID:** 300040-SS-2  
**EnvisionAir Sample Number:** 21-622  
**Sample Matrix:** AIR

**Sample Collection START Date/Time:** 3/1/21 14:27  
**Sample Collection END Date/Time:** 3/1/21 14:32  
**Sample Received Date/Time:** 3/4/21 10:50

<u>Compounds</u>	<u>Sample Results ug/m<sup>3</sup></u>	<u>Reporting Limit ug/m<sup>3</sup></u>	<u>Flag</u>
Benzene	< 1.60	1.60	
cis-1,2-Dichloroethene	< 19.8	19.8	
Tetrachloroethene	<b>88.4</b>	3.19	
trans-1,2-Dichloroethene	< 39.6	39.6	
Trichloroethene	< 1.07	1.07	
Vinyl Chloride	< 1.28	1.28	
4-bromofluorobenzene (surrogate)	91%		
Analysis Date/Time:	3-8-21/11:34		
Analyst Initials	tjg		

**TO-15 Quality Control Data**

**EnvisionAir Batch Number:** 030821AIR

<u>Method Blank (MB):</u>	<u>MB Results (ppbv)</u>	<u>Reporting Limit (ppbv)</u>	<u>Flags</u>
cis-1,2-Dichloroethene	< 5	5	
Tetrachloroethene	< 0.47	0.47	
trans-1,2-Dichloroethene	< 10	10	
Trichloroethene	< 0.2	0.2	
Vinyl Chloride	< 0.5	0.5	
4-bromofluorobenzene (surrogate)	105%		
Analysis Date/Time:	3-8-21/10:53		
Analyst Initials	tjg		

<u>LCS/LCSD</u>	<u>LCS Results (ppbv)</u>	<u>LCSD Results (ppbv)</u>	<u>LCS/D Conc(ppbv)</u>	<u>LCS Rec.</u>	<u>LCSD Rec.</u>	<u>RPD</u>	<u>Flag</u>
Vinyl Chloride	10.7	10.1	10	107%	101%	5.8%	
trans-1,2-Dichloroethene	9.59	9.9	10	96%	99%	3.2%	
cis-1,2-Dichloroethene	9.95	9.66	10	100%	97%	3.0%	
Trichloroethene	10	10.4	10	100%	104%	3.9%	
Tetrachloroethene	10.1	10.5	10	101%	105%	3.9%	
4-bromofluorobenzene (surrogate)	102%	108%					
Analysis Date/Time:	3-8-21/09:29	3-8-21/10:16					
Analyst Initials	tjg	tjg					



**EnvisionAir**  
1441 Sadler Circle West Drive  
Indianapolis, IN 46239  
Ph: 317-351-0885  
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[www.envision-air.com](http://www.envision-air.com)

**Flag Number**

**Comments**

# CHAIN OF CUSTODY RECORD

EnvisionAir | 1441 Sadler Circle West Drive | Indianapolis, IN 46239 | Phone: (317) 351-0885 | Fax: (317) 351-0882

Client: <u>EnviroForensics LLC</u>	P.O. Number: <u>2021-0132</u>
Report Address: <u>r.fedorchak@enviroforensics.com</u>	Project Name or Number: <u>Cobblestone Hotel 300040</u>
Report To: <u>R. Fedorchak</u>	Sampled by: <u>R. Brown</u>
Phone: <u>317-441-5633</u>	QA/QC Required: (circle if applicable) Level III    Level IV
Invoice Address: <u>accounts payable@enviroforensics.com</u>	Reporting Units needed: (circle) <u>ug/m<sup>3</sup></u> mg/m <sup>3</sup> PPBV    PPMV
Desired TAT: (Please Circle One) <u>1 day</u> 2 days    3 days <u>Std (5 bus. days)</u>	Media type: 1LC = 1 Liter Canister 6LC = 6 Liter Canister TB = Tedlar Bag TD = Thermal Desorption Tube

**REQUESTED PARAMETERS**

TO-15 Full List

TO-15 Short List (Specify in notes)



**Sampling Type:**  
 Soil-Gas:   
 Sub-Slab:   
 Indoor-Air:

www.envision-air.com

Canister Pressure / Vacuum

Air Sample ID	Media Type <small>(see code above)</small>	Coll. Date <small>(Grab/Comp Start)</small>	Coll. Time <small>(Grab/Comp Start)</small>	Coll. Date <small>(Comp. End)</small>	Coll. Time <small>(Comp. End)</small>				Canister Serial #	Flow Controller Serial #	Initial Field (in. Hg)	Final Field (in. Hg)	Lab Received (in. Hg)	EnvisionAir Sample Number
300040-55-2	1LC	3/1/21	1427	3/1/21	1432	X			516	0017	-30	-3	-3	21-622

Comments: Benzene, PCE, TCE, cis-1,2 DCE, trans-1,2 DCE, vinyl chloride

Relinquished by:	Date	Time	Received by:	Date	Time
<u>[Signature]</u>	<u>3/3/21</u>	<u>1630</u>	<u>Fed Ex</u>	<u>3/3/21</u>	<u>1630</u>
			<u>Alan Nunez</u>	<u>3/4/21</u>	<u>1050</u>

**ATTACHMENT 3**

**Elevator Pit Photographs**





Photograph 1: Typical construction of elevator pit



Photograph 2: Sump and discharge piping



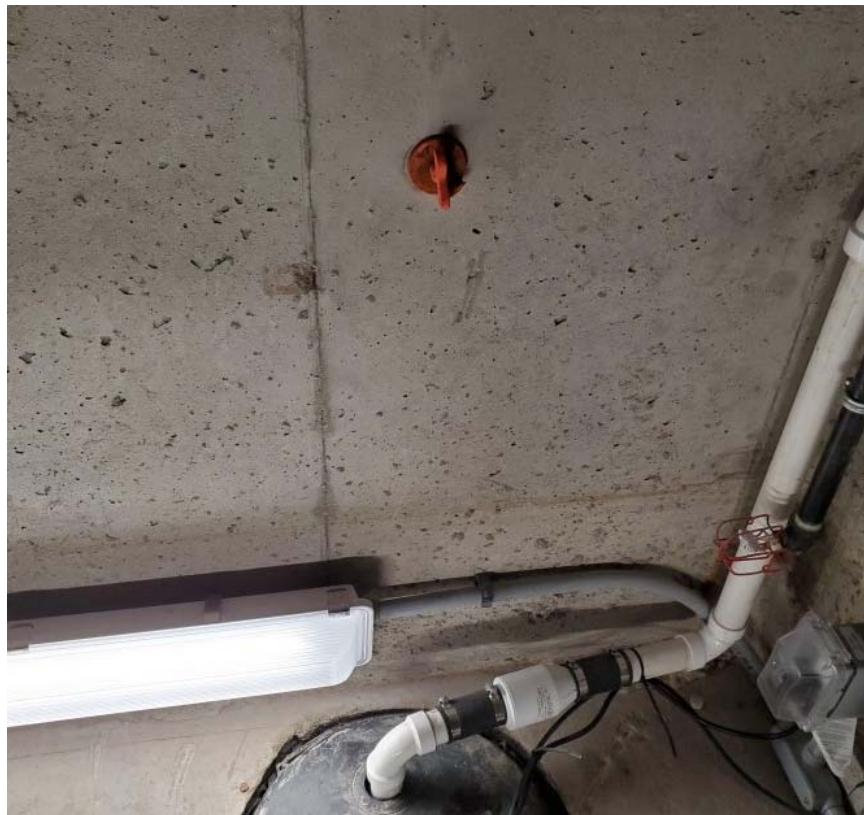
Photograph 3: Sump lid with openings for cord and piping



Photograph 4: radiello passive air sampling device deployed above sump



Photograph 5: Pipe penetration through west wall of elevator pit



Photograph 6: Pipe penetration plugged with expandable plug



Photograph 7: Silicon caulk around sump discharge piping penetration



Photograph 8: View of the sump bottom



## **ATTACHMENT 4**

### **Elevator Pit Construction Detail and Waterproofing Membrane Product Sheet**

**PROJECT INFORMATION**

**NEW HOTEL FOR:**  
**COBBLESTONE HOTEL AND SUITES**  
 1510-1514 JEFFERSON STREET • TWO RIVERS, WI

PROFESSIONAL SEAL

**SHEET DATES**

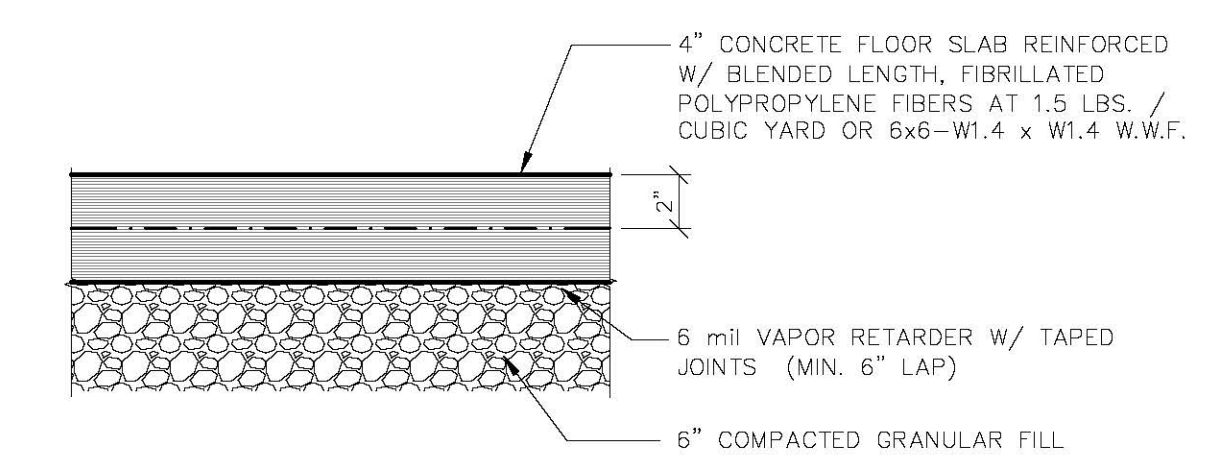
ISSUE DATE AUG. 15, 2019

REVISIONS	
CB3	SEPT. 13, 2019
CB4	SEPT. 24, 2019

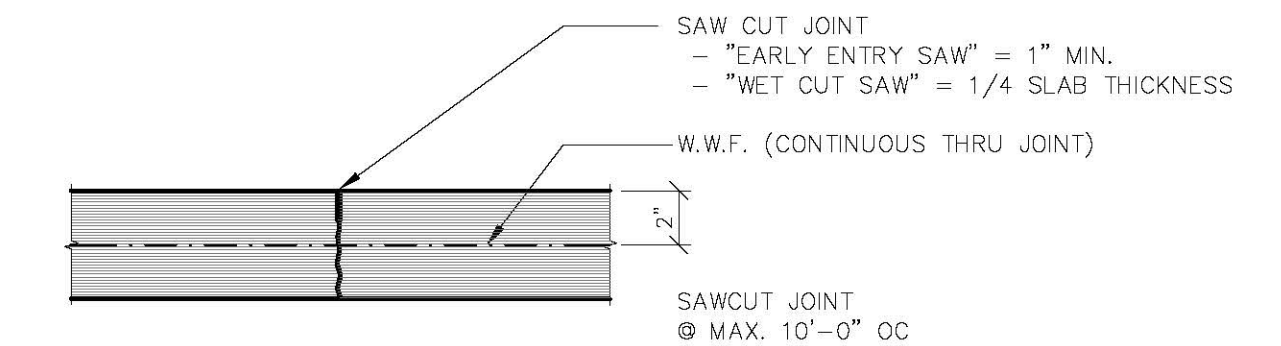
**JOB NUMBER**  
 1831740

**SHEET NUMBER**

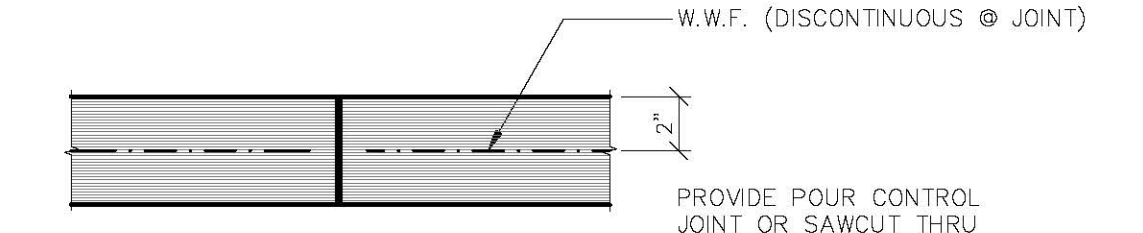
**S2.0**



**TYP. LIGHT DUTY FLOOR**  
 NO SCALE

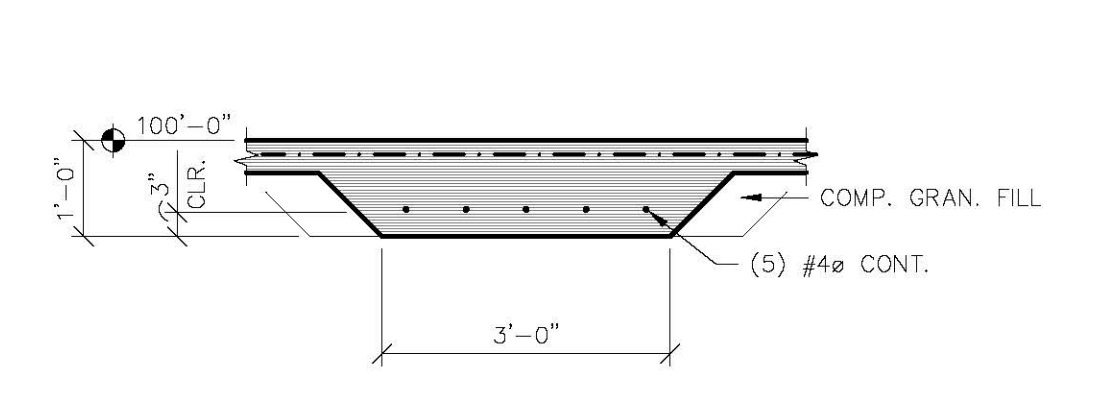


**TYP. SAWCUT JOINT**  
 NO SCALE

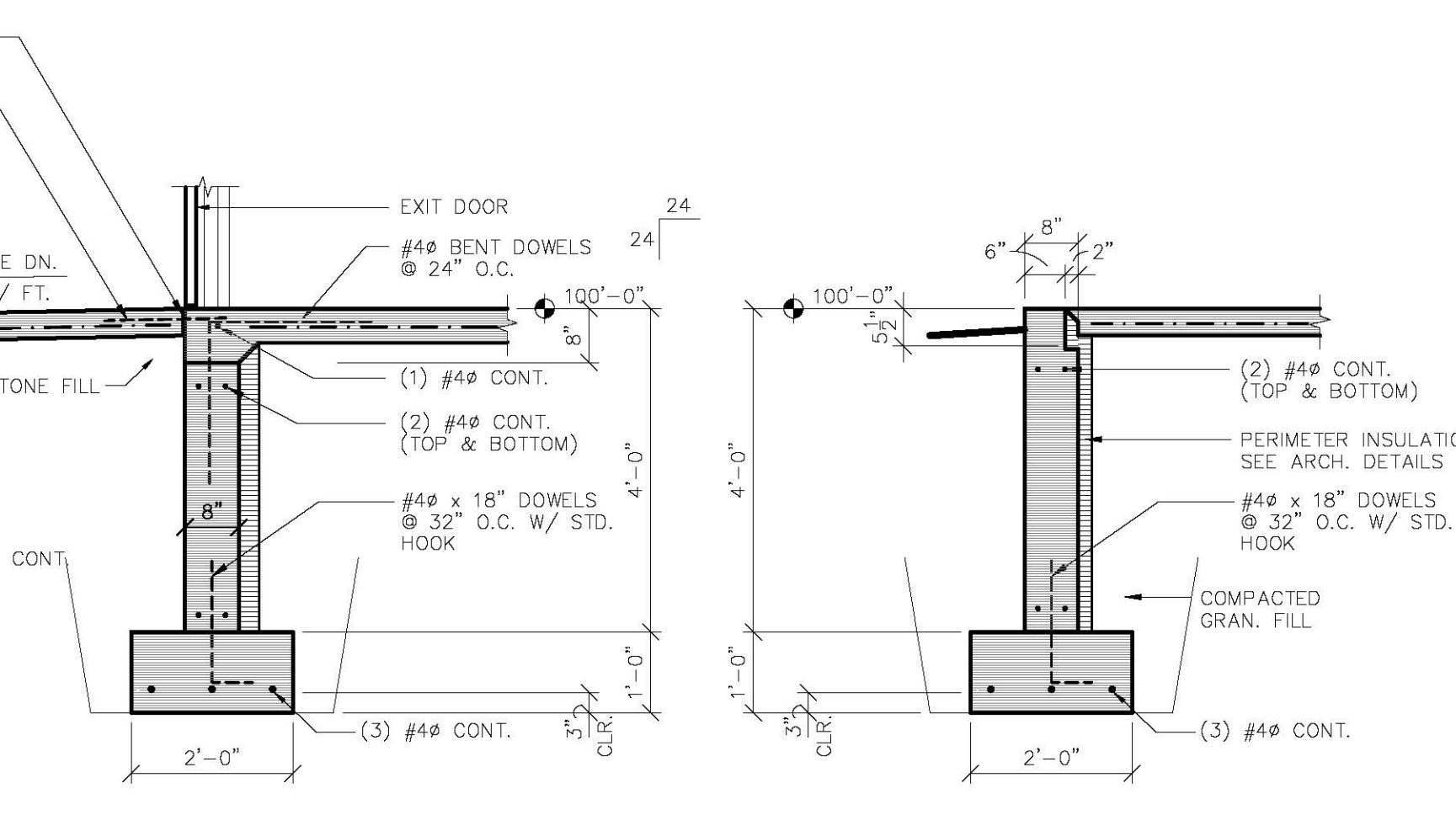


**TYP. POUR CONTROL JOINT**  
 NO SCALE

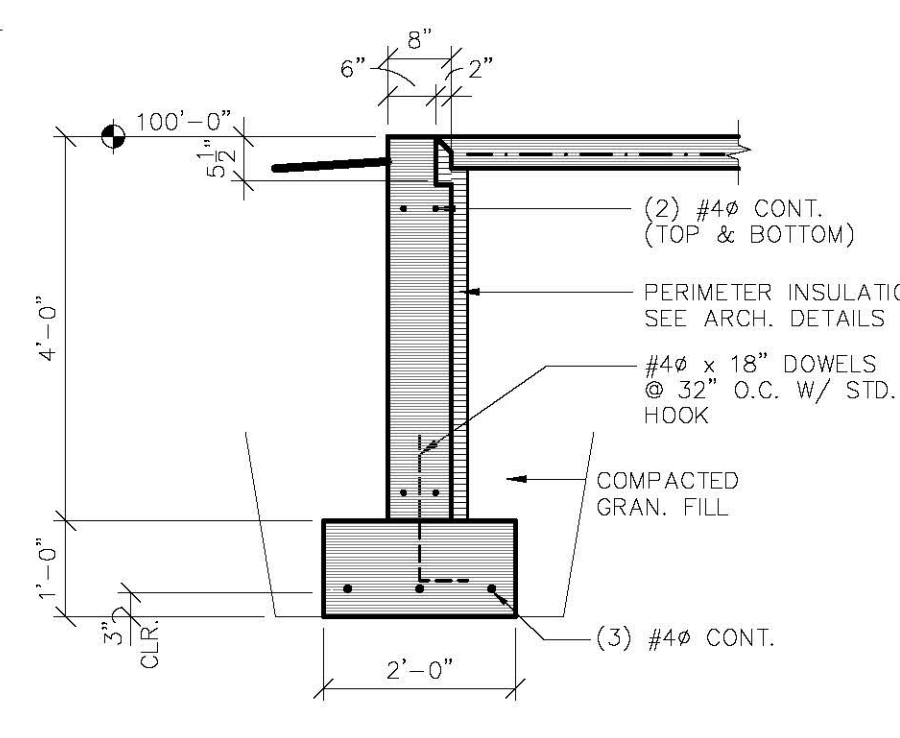
**1 LIGHT DUTY FLOOR**  
 S2.0



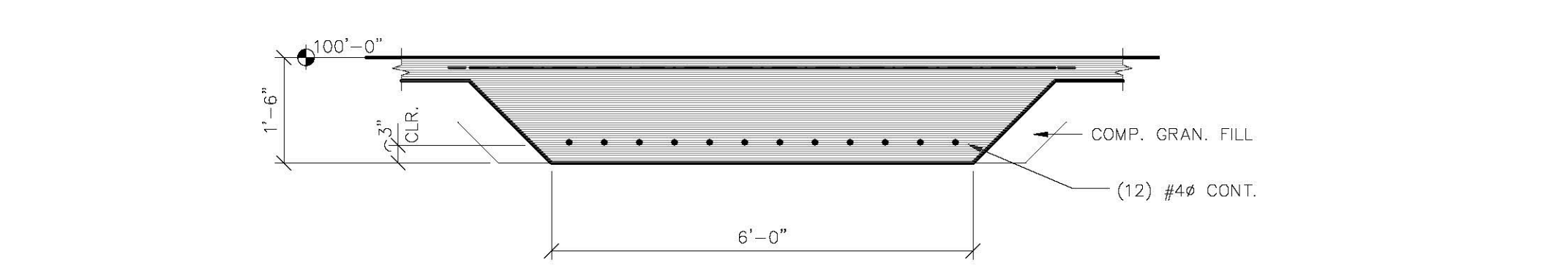
**7 DETAIL**  
 S2.0 SCALE: 1/2" = 1'-0"



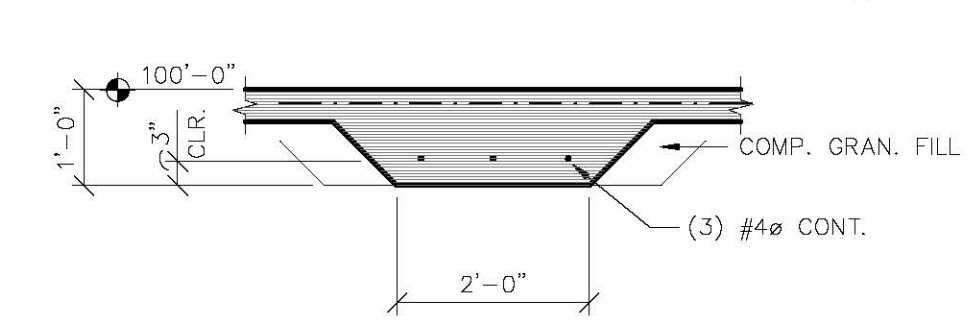
**3 DETAIL**  
 S2.0 SCALE: 1/2" = 1'-0"



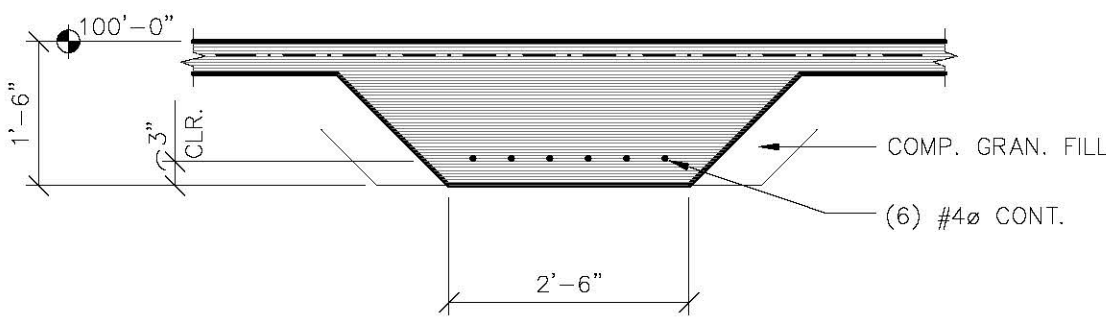
**2 DETAIL**  
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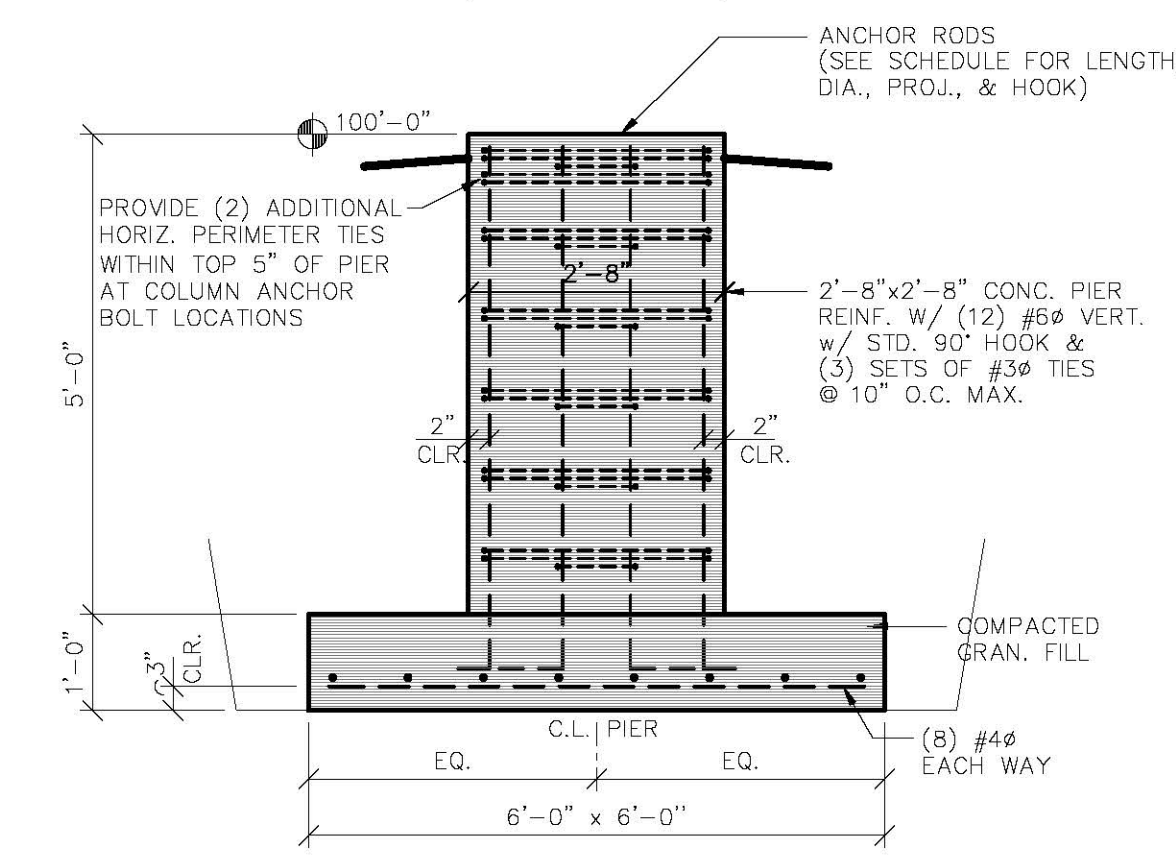
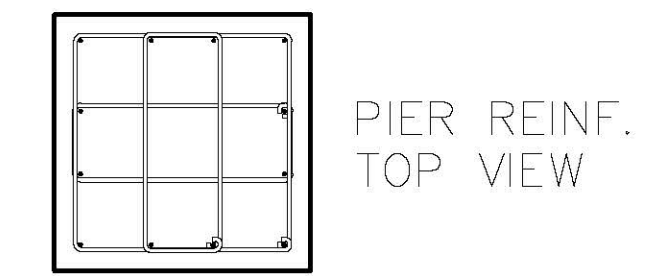
**4 DETAIL**  
 S2.0 SCALE: 1/2" = 1'-0"



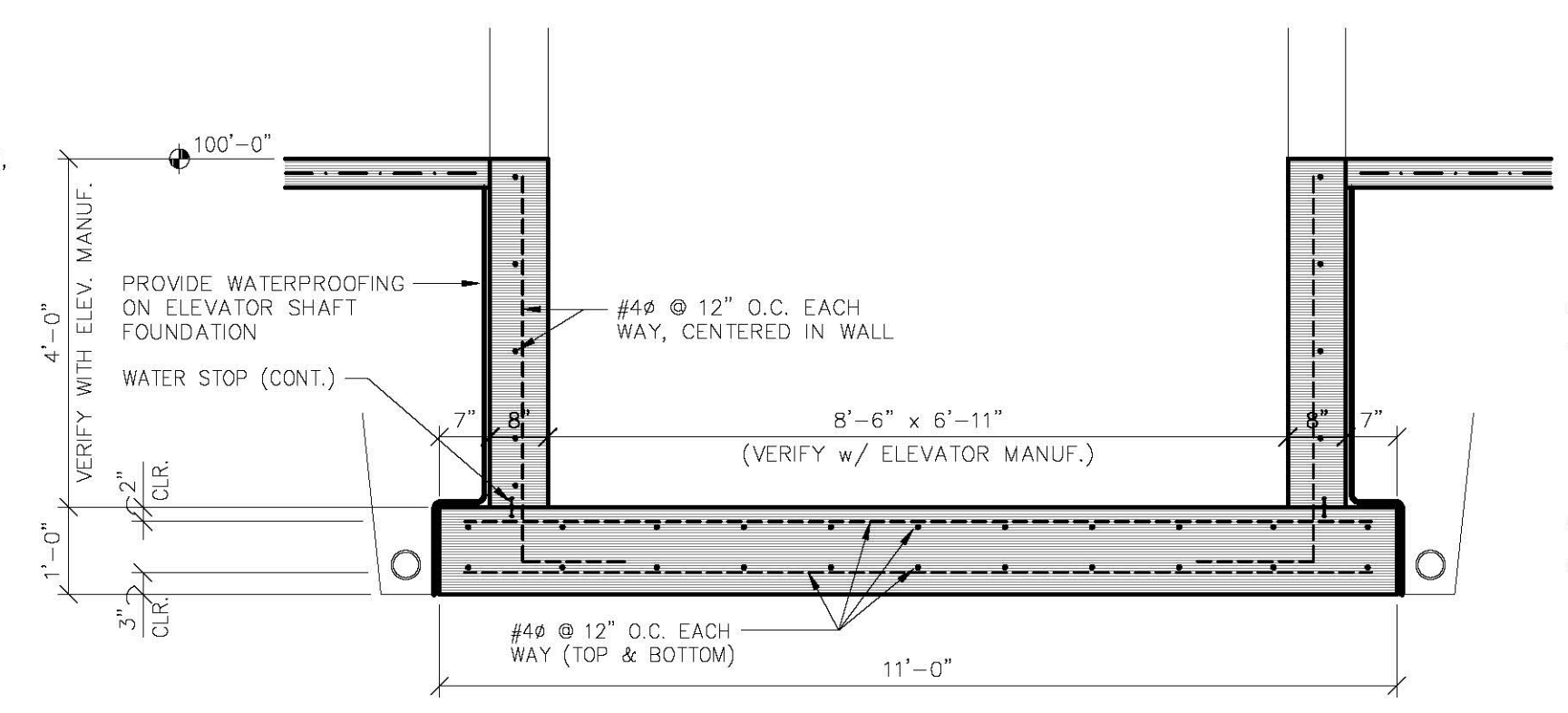
**6 DETAIL**  
 S2.0 SCALE: 1/2" = 1'-0"



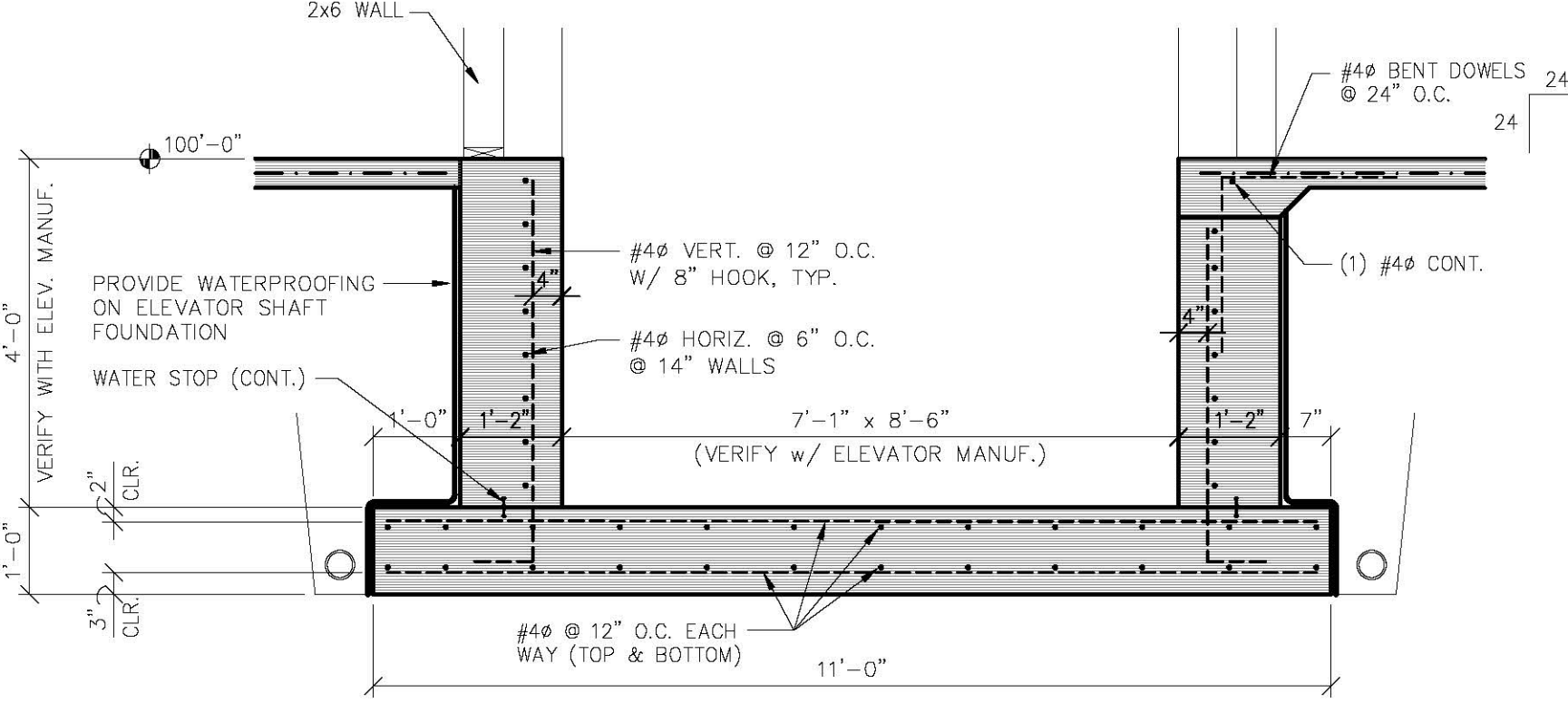
**5 DETAIL**  
 S2.0 SCALE: 1/2" = 1'-0"



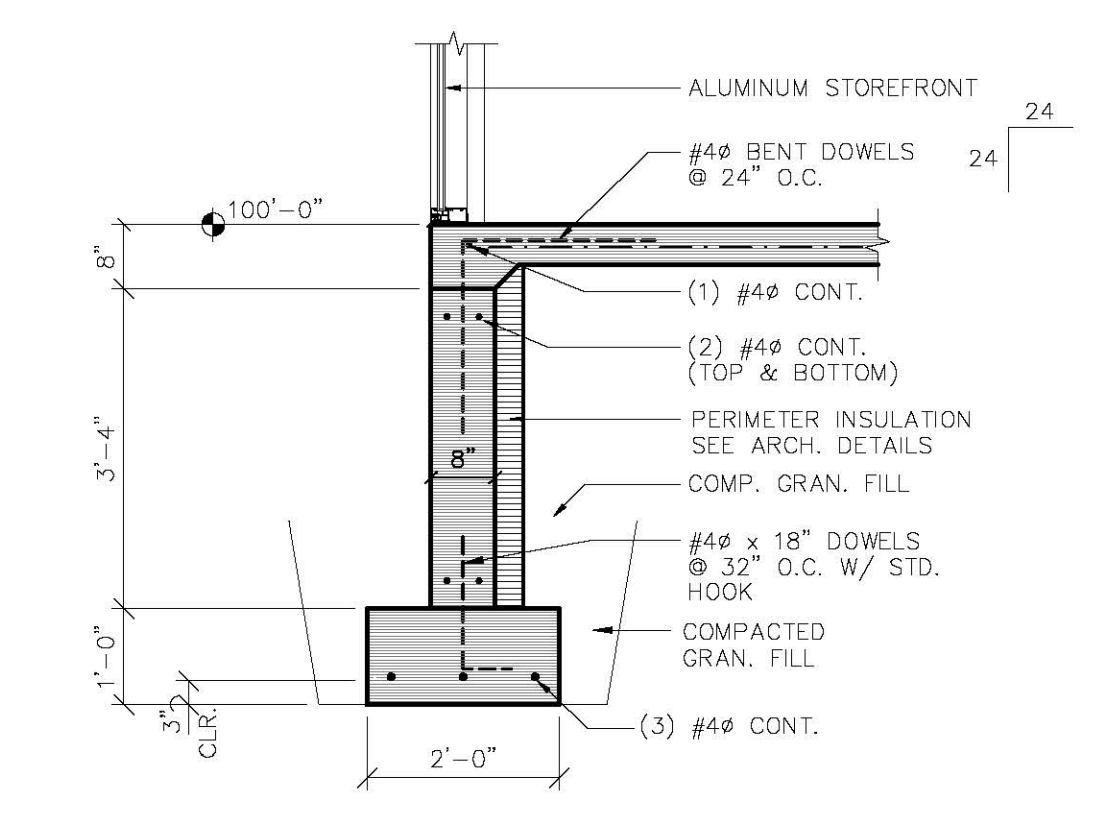
**10 DETAIL**  
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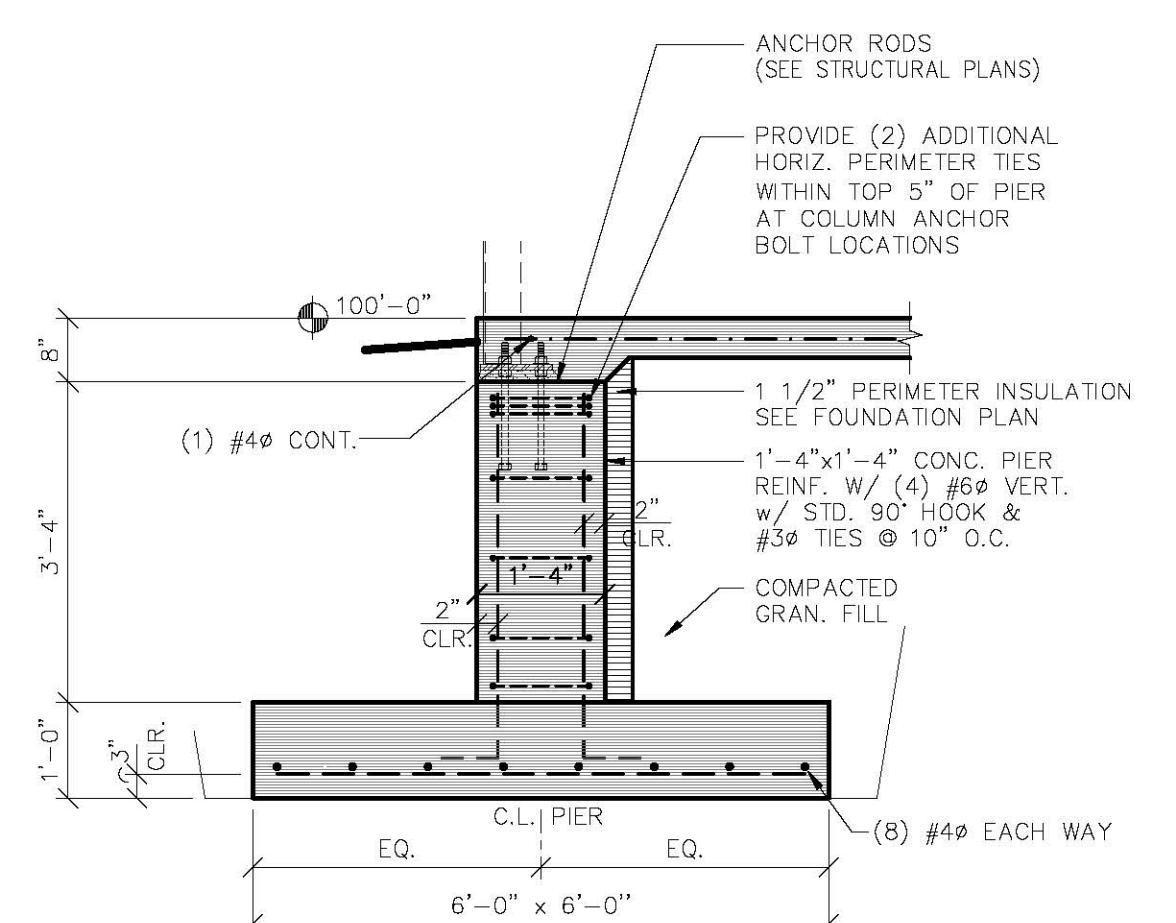
**9 DETAIL**  
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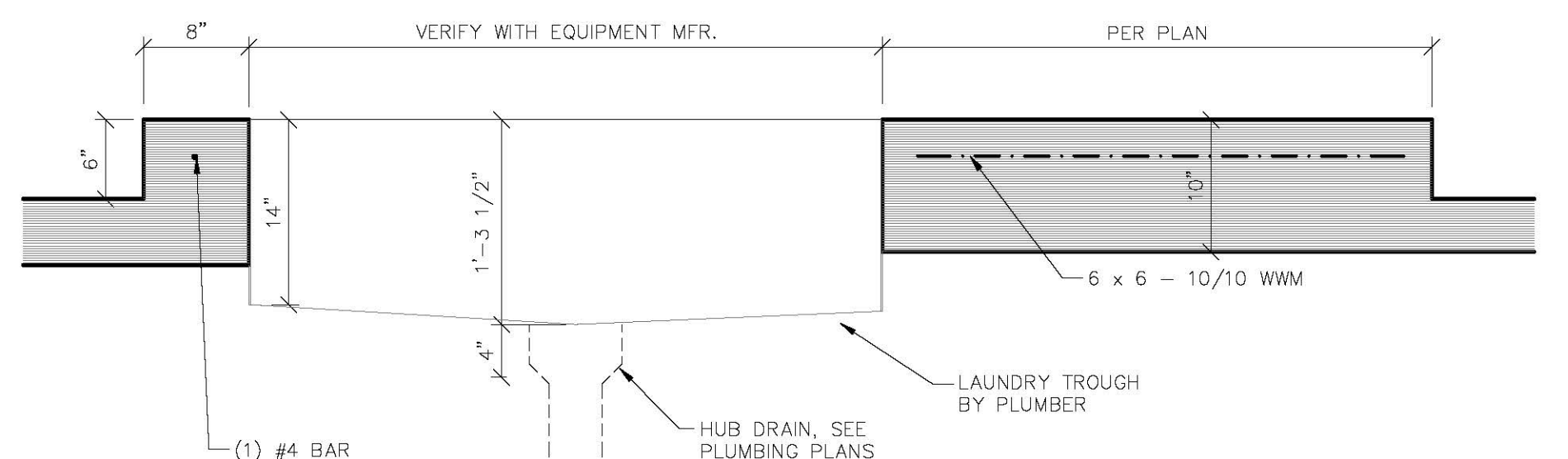
**8 DETAIL**  
 S2.0 SCALE: 1/2" = 1'-0"



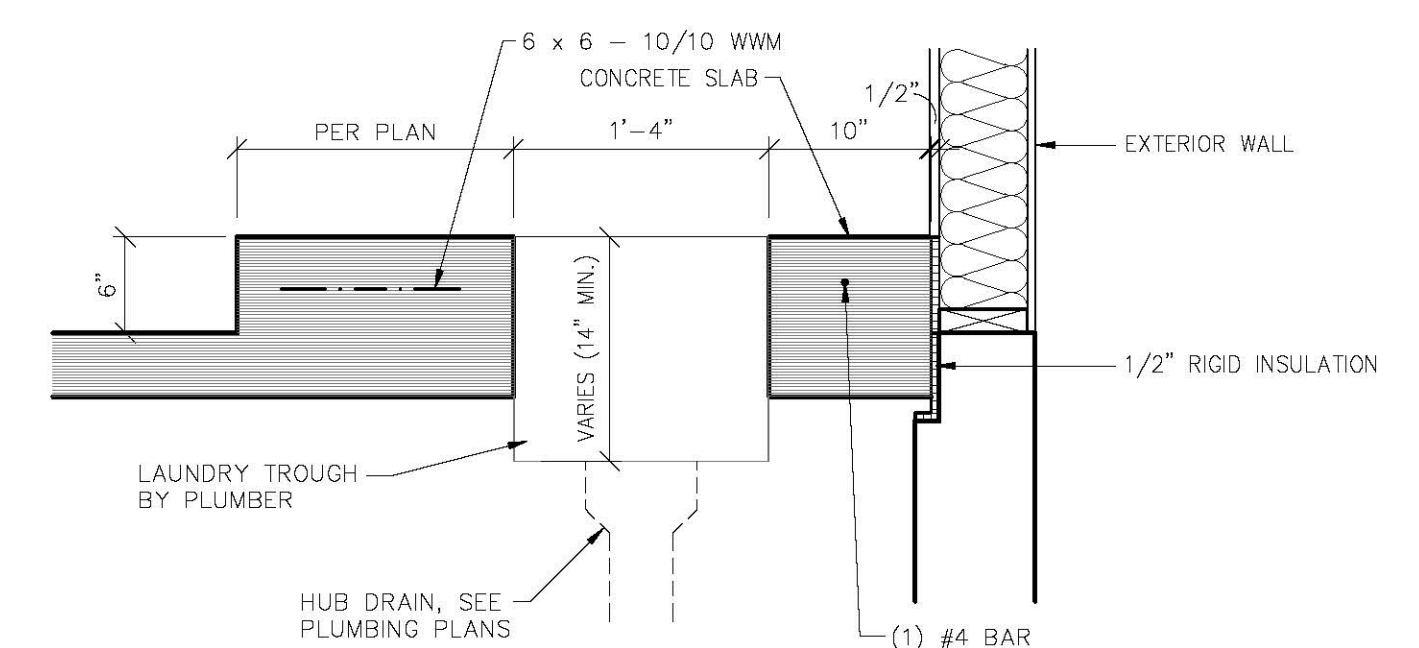
**14 DETAIL**  
 S2.0 SCALE: 1/2" = 1'-0"



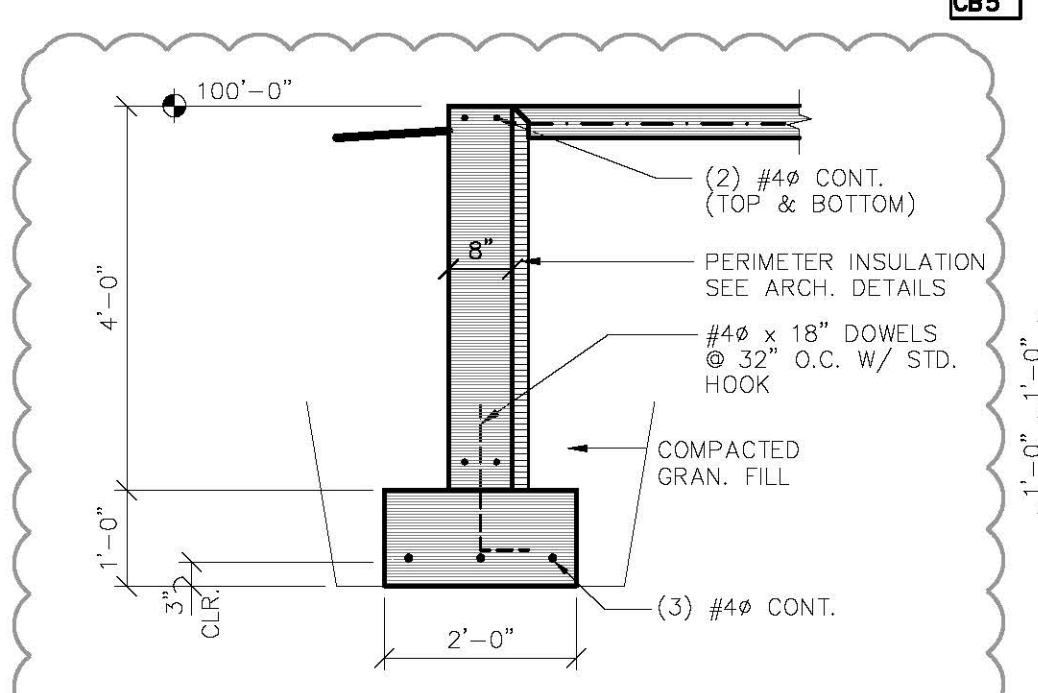
**13 DETAIL**  
 S2.0 SCALE: 1/2" = 1'-0"



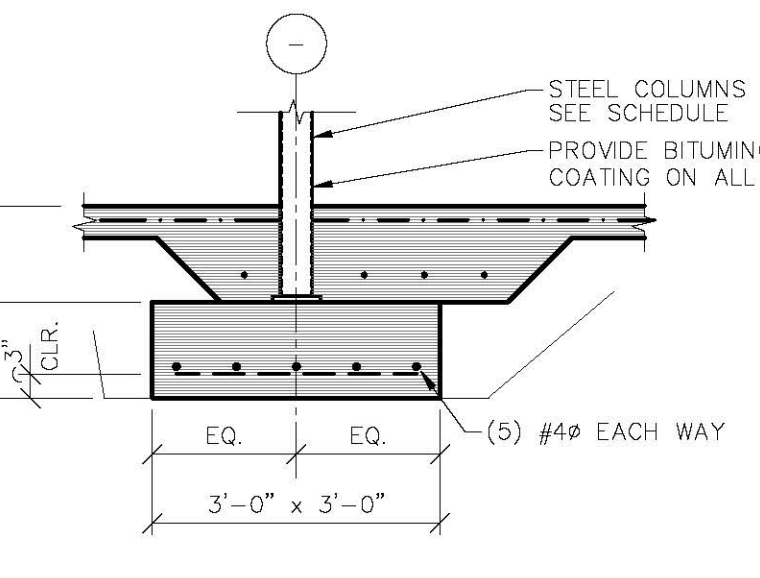
**12 LAUNDRY TRENCH DETAIL**  
 S2.0 SCALE: 1" = 1'-0"



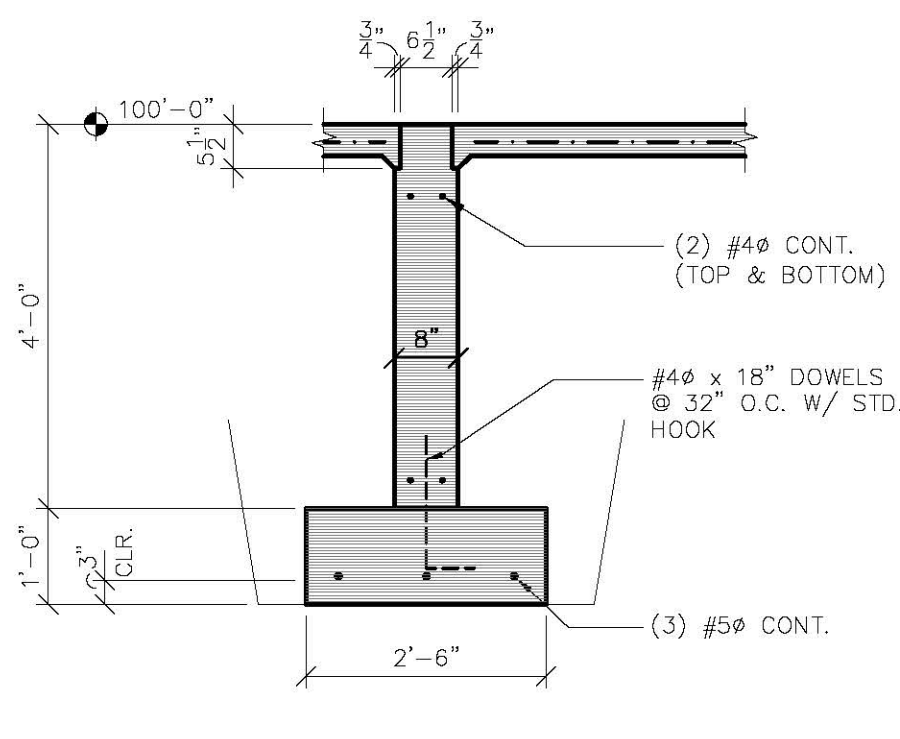
**11 LAUNDRY TRENCH DETAIL**  
 S2.0 SCALE: 1" = 1'-0"



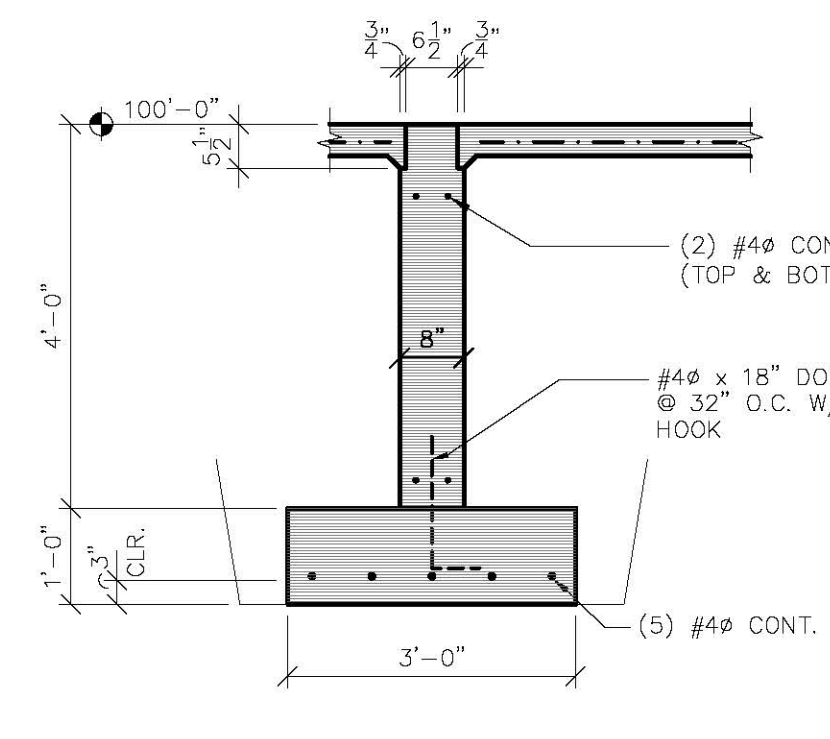
**20 DETAIL**  
 S2.0 SCALE: 1/2" = 1'-0"



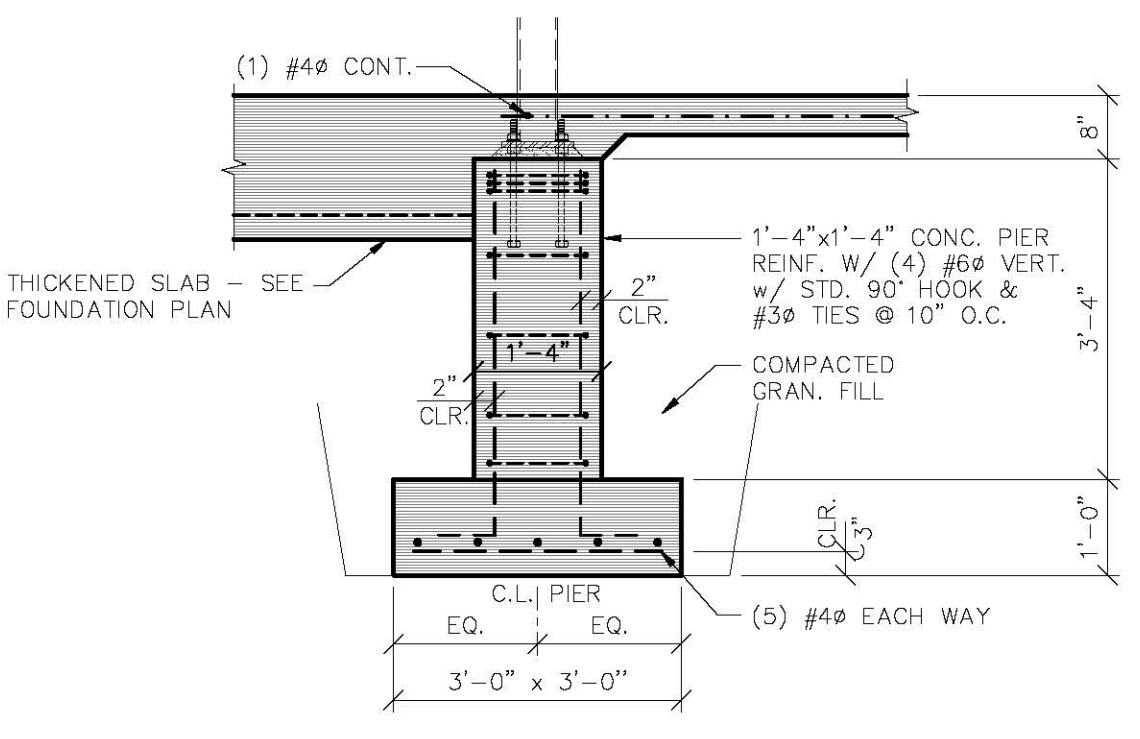
**19 DETAIL**  
 S2.0 SCALE: 1/2" = 1'-0"



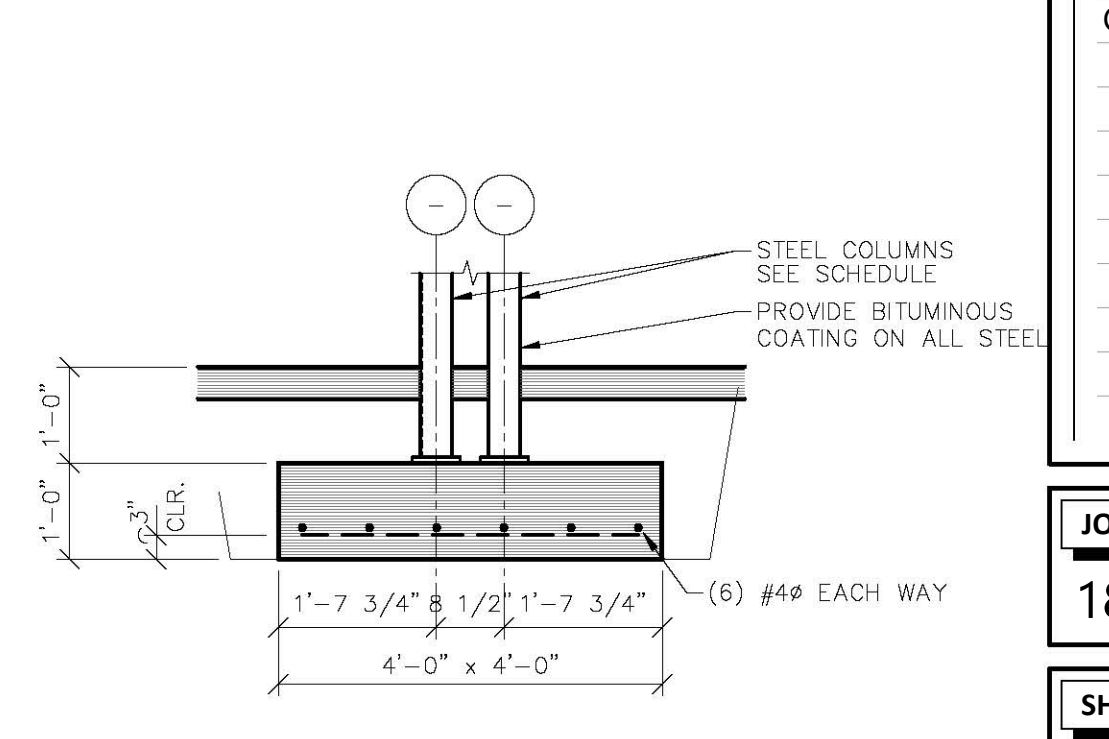
**18 DETAIL**  
 S2.0 SCALE: 1/2" = 1'-0"



**17 DETAIL**  
 S2.0 SCALE: 1/2" = 1'-0"



**16 DETAIL**  
 S2.0 SCALE: 1/2" = 1'-0"



**15 DETAIL**  
 S2.0 SCALE: 1/2" = 1'-0"

# TW-60

## WATERPROOFING MEMBRANE

MANUFACTURED IN COLUMBUS, KS

## PRODUCT DATA

### DESCRIPTION

Information included in this product data sheet was current at time of printing.

To obtain a copy of the most current version of this product data sheet, visit us online at [tamko.com](http://tamko.com) or call us at 800-641-4691.

**TAMKO® TW-60** is a self-adhering sheet membrane consisting of a SBS modified bitumen adhesive and a polymer film as the top surface.

- Features a treated release film for ease of installation and handling.
- Available in factory pre-cut widths of 6", 9", 12", 18", and 39-3/8" rolls.
- 5-year Limited Warranty and Arbitration Agreement

**USES:** TW-60 is used for below-grade waterproofing of foundation walls, tunnels, earth shelters, and similar structures. TW-60 is also used for waterproofing plaza decks, parking decks, balconies, and terraces.

**WATERPROOFING PRODUCTS BEGIN TO AGE AS SOON AS THEY ARE EXPOSED TO NATURE. BUILDINGS EXPERIENCE AGING FACTORS DIFFERENTLY, SO IT IS DIFFICULT TO PREDICT HOW LONG WATERPROOFING PRODUCTS WILL LAST. THAT'S WHY TAMKO PROVIDES A LIMITED WARRANTY FOR MANY PRODUCTS, THAT INCLUDES A BINDING ARBITRATION CLAUSE AND OTHER TERMS AND CONDITIONS WHICH ARE INCORPORATED HEREIN BY REFERENCE. YOU MAY OBTAIN A COPY OF THE LIMITED WARRANTY AT TAMKO.COM OR BY CALLING 1-800-641-4691.**

### LIMITATIONS

- TAMKO® TW-60 must not be left exposed to sunlight for more than 30 days.
- Membrane must be applied when air, substrate, and membrane temperatures are above 40° F.
- Membrane must not come into contact with products containing coal-tar pitch.
- Not intended for use on roofs or prolonged exposure to temperatures above 200° F.

### TECHNICAL INFORMATION

ICC-ES ESR-2260

### PRODUCT DATA

Roll Width†	Roll Size†	Coverage per Ctn. ††	Rolls per Ctn.
6"	6" × 61'	183 sq. ft.	6
9"	9" × 61'	183 sq. ft.	4
12"	12" × 61'	183 sq. ft.	3
18"	18" × 61'	183 sq. ft.	2
39-3/8"	39-3/8" × 61'	187.45 sq. ft. per roll ††	1 (wrapped)
Asphalt Modifier	Styrenic Block Copolymer		
Product Thickness†	60 mil		

†Subject to manufacturing variation

**WARNING:** Use of this product in an assembly that includes polyurethane foam insulation (including without limitation an application directly to the underside of a roof deck or within a wall assembly) may cause premature degradation or failure of this product. We are investigating compatibility of polyurethane foams with our asphalt building products. Chemical incompatibility, off-gassing after application and excess heat during and after application of polyurethane foams may affect the performance of asphalt and modified asphalt building products and metal fasteners used with those products.



**IMPORTANT SAFETY INFORMATION:** Do not install until all appropriate safety precautions have been read and understood. The TAMKO Safety Data Sheet (SDS) is available at [tamko.com/sds](http://tamko.com/sds). Always use appropriate fall protection equipment and wear appropriate personal protective equipment (PPE) when working with this product. Moisture, frost, debris or other material will decrease the traction and can cause slippery conditions when walking on the product. **Applicator safety is of utmost importance.**

**WARNING:** This product contains crystalline silica. Crystalline silica have been classified as "known human carcinogen" by the International Agency for Research on Cancer (IARC) and the National Toxicology Program. This product contains asphalt. The National Institute for Occupational Safety and Health has concluded that the fumes of heated roofing asphalt are a potential occupational carcinogen. The physical nature of this product may help limit any inhalation or dermal hazard during application and/or removal. However, physical forces such as sawing, grinding or drilling during demolition work and heating or burning may increase the inhalation or dermal exposure hazard of this product. Take precautions to prevent breathing and contact with skin.



P.O. Box 1404  
Joplin, MO 64802-1404  
800-641-4691  
[tamko.com](http://tamko.com)

# TW-60

## WATERPROOFING MEMBRANE

MANUFACTURED IN COLUMBUS, KS

## PRODUCT DATA

### TYPICAL PHYSICAL PROPERTIES

Property	Test Method	Value
Tensile (membrane)	ASTM D412, Die C	>425
Elongation	ASTM D412	≥600
Low temperature flexibility	ASTM D1970, Sec. 7.6	Pass 20 ° F
Cracking cycling	ASTM C836	No cracking
90 ° Peel adhesion	ASTM D903	≥9.0
Lap adhesion	ASTM D1876	≥5.5
Puncture resistance	ASTM E154, Sec. 10	≥60
Hydrostatic head	ASTM D5385	Pass 231 ft.



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