SUB-SLAB DEPRESSURIZATION SYSTEM

LUITPOLD PHARMACEUTICALS, INC.
26 PRECISION DRIVE FACILITY
SHIRLEY, NEW YORK 11967

JANUARY 2018

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1.0 INTRODUCTION

H2M architects + engineers (H2M) was retained by Luitpold Pharmaceuticals, Inc. (Luitpold) to install a sub-slab depressurization system to address sub-slab soil vapor contamination, including 1,1,1-trichloroethane (TCA), Tetrachloroethene (PCE) and 1,1-dichloroethene (DCE), at 26 Precision Drive in Shirley, NY.

Implementation of a sub-slab depressurization system (SSDS) was selected as the mitigation remedy following a pilot test conducted at the site in May 2014. Due to low soil permeability, as confirmed during this pilot test, the SSDS required a soil vapor extraction blower. A remediation system was designed by H2M and approved by the New York State Department of Environmental Conservation (NYSDEC) and the New York State Department of Health (NYSDOH) on February 4, 2016. The Town of Brookhaven Planning Department approved the SSDS project on August 10, 2017. A Town of Brookhaven Building Permit 17B119335 was issued on October 17, 2017. Construction of the SSDS began on December 7, 2017 and was completed December 21, 2017. System startup and inspection was performed by the Town of Brookhaven Building Department on January 10, 2018.

2.0 BACKGROUND

2.1 Purpose of Report

The purpose of this report is to document the SSDS pilot test, system design, and installation of a soil vapor extraction blower installed at the Luitpold Pharmaceuticals, Inc. facility (Site).

2.2 Site Details

The Site is located at 26 Precision Drive in Shirley, New York. The property is situated on the south side of the Long Island Expressway and to the east of the nearest intersection of Precision Drive and Upton Road. The site includes office space, a lunch room and warehouse.

The subject property is bordered by industrial and commercial properties to the south and west, a densely wooded area to the east and the Long Island Expressway to the north. The hydraulic gradient in the area is approximately south-southeasterly. Groundwater at the subject property is approximately 38 feet bgs. A site location map is provided as **Figure 1**. A partial site plan is provided as **Figure 2**.

2.3 Previous Investigations/Site Work

Air samples were collected in January 2011, February 2012 and January 2013 from nine locations depicted on the attached Figure 2 (Locations of Indoor Air and Sub-Slab Soil Vapor Samples). Sub-slab air sample locations are depicted in red and indoor air sample points are depicted in green. Two (i.e., north and south) ambient air samples were also collected in conjunction with the indoor air/sub-slab soil vapor sampling. Based on the results of these samples, an area of concern (AOC) was established around SS-1 to be used for the evaluation of remedial alternatives.

2.4 Soil Vapor Extraction (SVE)

SVE is an established in-situ technique in which the volatilization of volatile organic compounds (VOCs) is induced in the soil and the constituents are removed in the extracted vapor. The removal rate of VOCs by SVE may be controlled by one or more of the following processes: advection, volatilization, desorption and diffusion. During SVE, as air is drawn through the soil pore space, VOCs volatilize and are carried to extraction wells via advection. This removal induces further volatization from the impacted soils. Impacted areas that are not in direct contact with the advective air flow rely on diffusion of VOCs toward zones of enhanced air flow. The contemplated SVE system consisted of one vacuum extraction well screened horizontally through the proposed treatment zone, which is located from 0 to 2 feet below the concrete slab.

3.0 SSDS PILOT TEST

The objective of the SSDS pilot test was to evaluate Site-specific design parameters for an SSDS system. The primary parameters to be determined for the SVE system are the soil permeability, radius of influence, operating vacuum and vapor extraction flow rates.

The SVE pilot test was conducted to establish the radius of influence (ROI) and final system design parameters such as extraction well vacuum and air flows. The SVE pilot test was conducted over a one day period on May 20, 2014 using a skid mounted SVE system provided by Product Recovery Management (PRM). The SVE pilot system included a 10 HP regenerative blower with variable frequency drive to provide vacuum for the soil vapor extraction well. A digital manometer was used to gauge vacuum pressure at each of the vacuum monitoring locations.

3.1 SVE Pilot Test Design

The SVE pilot test utilized one vertical SVE well (SVE-1). SVE-1 was located in the northwest parking lot. The Luitpold facility is of slab on grade construction. Sub grade soils in the parking lot were used to represent the sub-slab soils beneath the building. The vapor extraction well was constructed of 2-

inch diameter Schedule 40 PVC well casing with a two-foot length of #20 slot screen set at 2 feet bgs. The vapor extraction point was bedded with pea gravel and sealed with bentonite at the surface.

The two vacuum monitoring wells were constructed with 2-inch diameter Schedule 40 PVC well casing with two-foot lengths of #20 slot screen set at 2 feet bgs. Vacuum monitoring well VW-1 and VW-2 were installed approximately 5 and 10 feet away from the vapor extraction well, respectively.

3.2 SVE at VW-1 & VW-2, 5/20/14 12:00 – 14:00

The SVE test was operated for approximately two hours at SVE-1 to achieve steady state influence in the monitoring wells. A 10 hp regenerative blower, GAST R7100R-50, was utilized for the SVE pilot test. This blower generates airflows ranging from 275-420 cfm at vacuums ranging from 40 - 100 in-wc. A blower vacuum level of 95 in-wc was immediately achieved at the site with no need for dilution air. This corresponded to approximately 280 scfm.

Vacuum readings were collected at 2 wells approximately every 15-20 minutes as shown in **Table 5** utilizing a set of Dwyer Magnehelic gauges covering a total range from 0.001 to 1 in-wc. SVE at this point yielded a low radius of influence. As indicated in **Table 5**, a vacuum at SVE-1 of 98-inches of water yields between .000-inches of water and 0.006-inches of water at a distance of 10 ft (VW-2). A vacuum at SVE-1 of 98-inches of water yields between 0.166-inches of water and 0.19-inches of water at a distance of 5 ft (VW-1).

3.3 SVE Pilot Test Results

Reasonable vacuum influences (>0.2 in-wc) were observed in monitored well VW-1 located 5 ft from the extraction well. Vacuum influences generally increased/decreased with distance at a proportional rate. As detailed in the SVE pilot test data summary included in **Table 5**, vacuum influence ranged from 0.00 – 0.19 in-wc. This data yields a reasonable radius of influence (ROI) to be 0-5 ft.

4.0 SYSTEM DESIGN

Based on the pilot test results, a full-scale SSDS system was designed utilizing a conservative SVE radius of influence of 5 ft. These numbers were set lower to aid a permanent system in achieving proper vacuums and pressures throughout the area of concern taking into consideration the tightness of the sub-slab soils. The SVE system consists of one soil vapor extraction point, piping, vacuum blower, and SVE manifold all packaged into a turnkey treatment building. A copy of the SSDS design is included as **Figure 3** through **Figure 6**.

Post mitigation confirmation testing to verify the performance of the SVE system and coverage of the area will be discussed and identified in the System Vapor Sampling Plan. NYSDEC DAR-1 is a policy to provide guidance for the control of toxic ambient air contaminants in New York State. DAR-1 is used to determine the Environmental Rating and control requirements for all criteria and non-criteria pollutants regulated under 6NYCRR Part 212. Initial environmental ratings are assigned to the contaminant of concern and then compliance with the Short-term Guidance Concentration (SGC) and Annual Guidance Concentration (AGC) is evaluated. Analysis indicated the concentration of PCE exhausted from the mitigation system did not exceed the SGC, but was 110% of the AGC. Emissions will be reduced with carbon control by operating the system utilizing two granulated activated carbon drums in series prior to exhausting the vapors. Calculations for the DAR-1 analysis are included in **Appendix A**.

4.1 SVE Enclosure

- 3' x 5' x 8' high aluminum frame enclosure with double front doors for access and maintenance.
- Enclosure has passive wall vents for ventilation
- Exhaust fan
- Temperature switch
- Magnehelic Pressure gauge on inlet and discharge flow
- Control panel mounted on exterior of enclosure
- All electric was overseen by ______
- Exhaust has 5' of steel pipe for heat dissipation

4.2 SVE Blower

- Gast 7100-50 XP 10 HP regenerative blower
- Exhaust has 5' of steel pipe for heat dissipation

4.3 Moisture Separator

- PRM Model MS-60 moisture separator which has a Dwyer V8 flow switch to detect low flow condition in the event of SVE failure.

4.4 Carbon Drums

- (2) PRM VP-55 vapor carbon vessels, each with 170 lb reactivated GAC Vapor Phase Carbon
- Sample port before, between, and after carbon drums

4.5 Piping

- 4” slotted PVC installed approximately 12” below existing concrete slab into the existing subbase.
- Pipe bedding consists of approximately 18” of washed pea gravel.

5.0 INSTALLATION DETAILS

- 12/7 Fully packaged Air Sparge System provided by Product Recovery Management (PRM) delivered and secured into place on concrete pad in the southeastern corner of the subject property.
- 12/8 – 12/11 Electricians installed a dedicated ~250’ x 1” conduit to a 2-pole 50-amp breaker connecting the system to the building panel.
- 12/12 – 12/13 Saw cutting concrete pad.
- 12/14 Jackhammer concrete, dig out soil. Concrete and soil stockpiled outside – Sampled and disposed of by Brookside.
- 12/15 Lay pea gravel and install piping in trench.
- 12/19 Inspection of piping completed.
- 12/21 Backfilled and pour concrete.
- 12/29 – 12/30 Stonehard application of epoxy to concrete.
- 1/10 System startup – Field pressure test confirmed negative (>-5 psi) sub slab pressure. Town of Brookhaven inspection completed.

The SSDS was installed in accordance with the NYSDEC and NYSDOH approved plans. The installation was approved by the Town of Brookhaven. A pressure field test has proven that the sub-slab soil vapors in the area of SS-1 are being mitigated.

FIGURES

SITE LOCATION MAP

SCALE: 1" = 2,000'

FIGURE 1

LUIT1401

H2M architects + engineers

Melville, NY
Parsippany, NJ

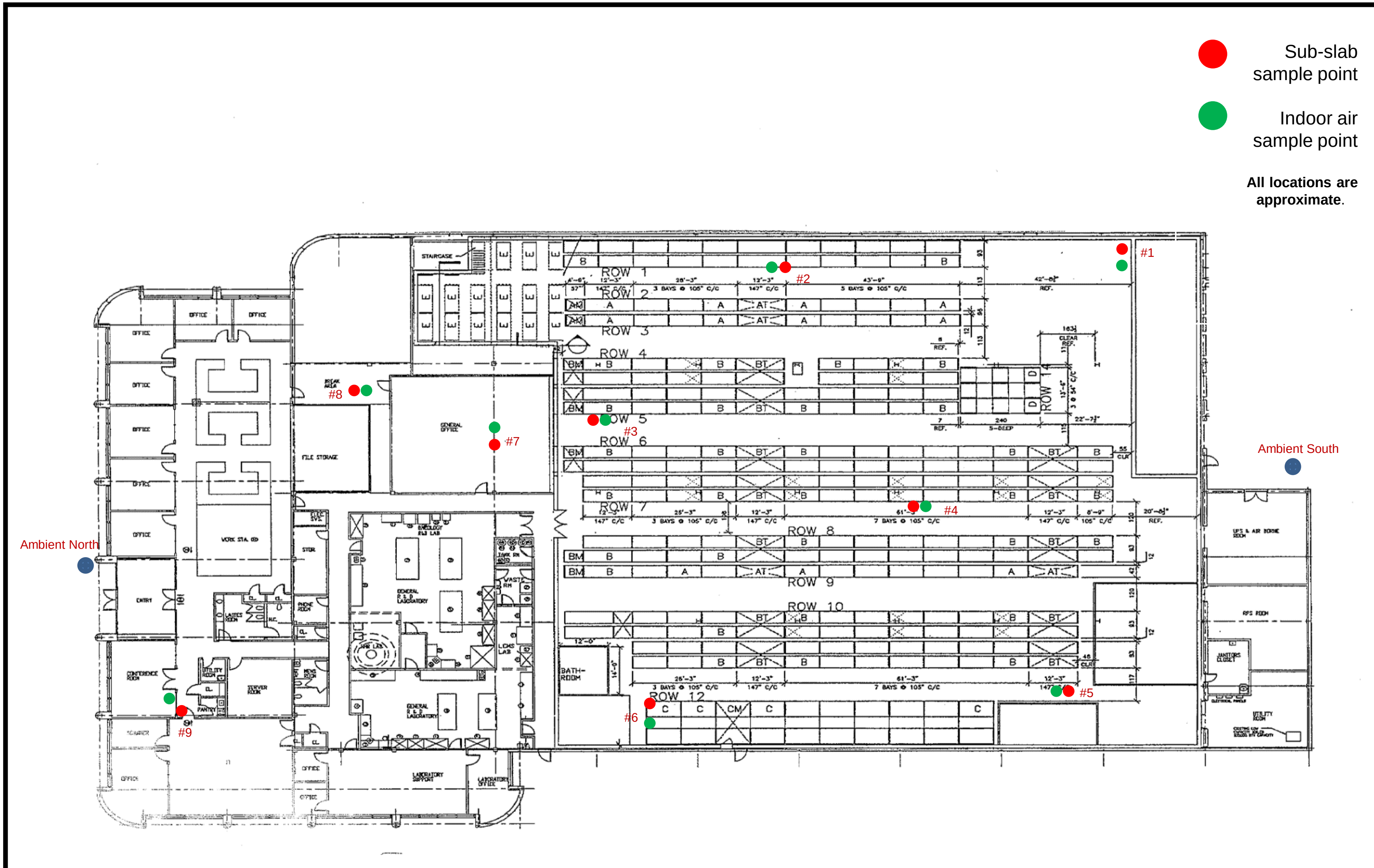


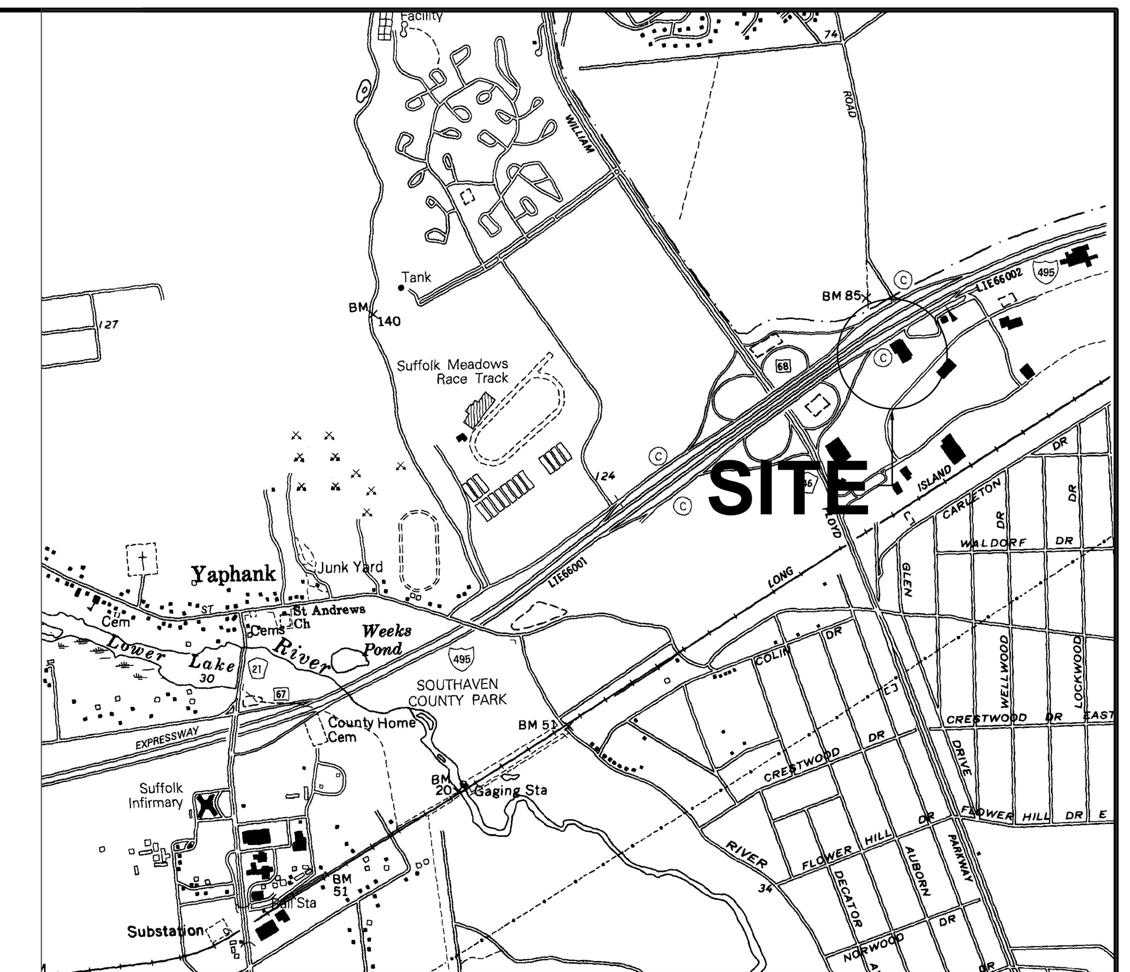
Figure 2.0
Site Plan
Locations of Indoor Air and Sub-Slab Vapor Samples

H2M Project No. LUIT13-01

H2M architects + engineers

GENERAL CONDITIONS

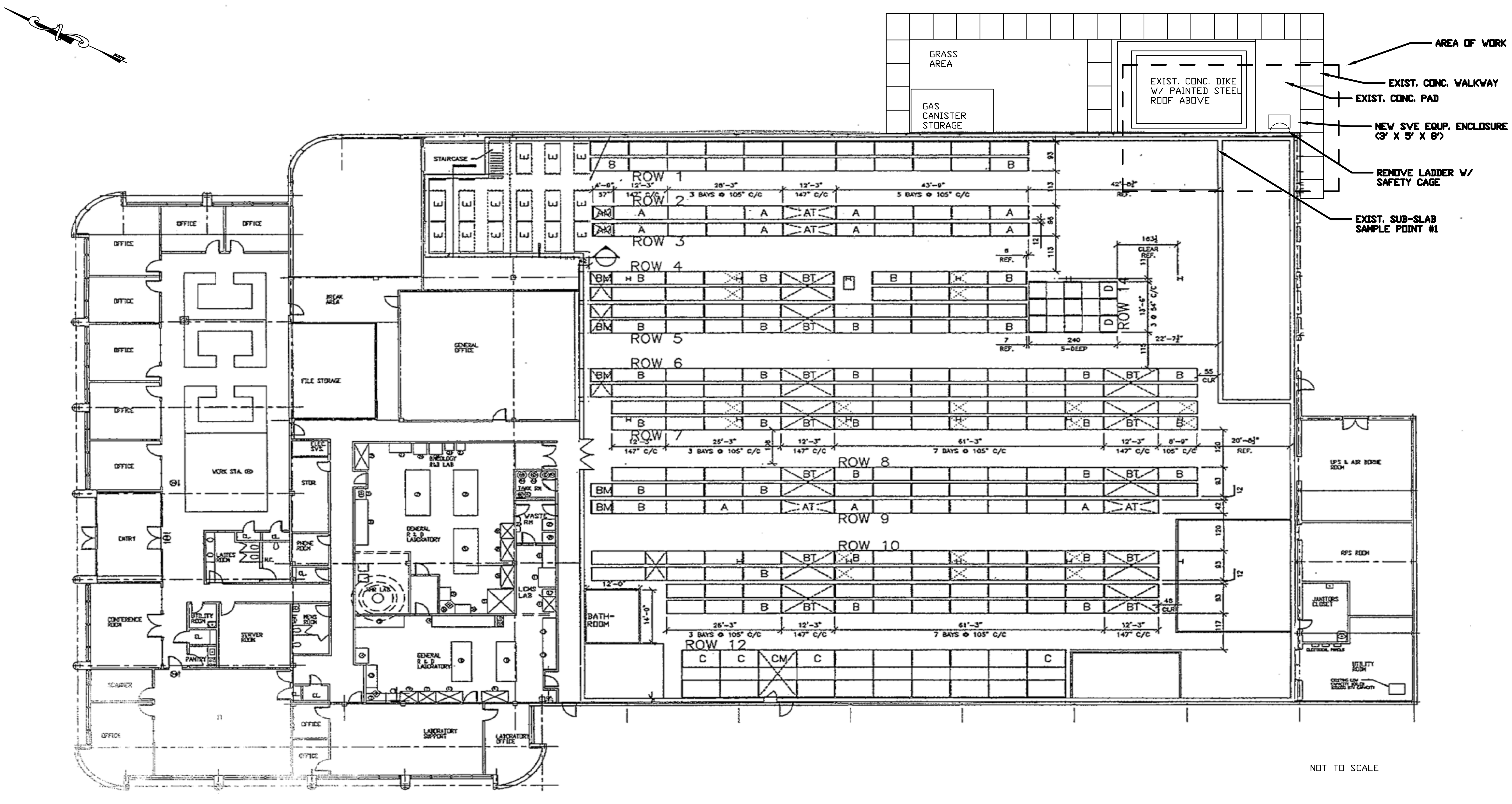
1. ALL DESIGN, FABRICATION AND CONSTRUCTION SHALL BE CONDUCTED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL CODES AND ORDINANCES.
2. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF WORK WITH ALL TRADES SO THAT NO CONFLICT OR DEFICIENCY RESULTS IN WORK. COORDINATION INCLUDES ACQUISITION OF DESIGN DRAWINGS & SHOP DRAWINGS BY ALL TRADES AS APPROVED BY THE OWNER.
3. THE ENGINEER/ARCHITECT ASSUMES NO RESPONSIBILITY FOR FIELD SUPERVISION OF CONSTRUCTION ACTIVITIES.
4. THE CONTRACTOR SHALL OBTAIN, PRESENT EVIDENCE OF, AND PAY FOR ALL PERMITS NECESSARY TO CONDUCT THE WORK AND COMPLETE THIS CONTRACT. HE/SHE SHALL OBTAIN THE BUILDING PERMIT AND CERTIFICATE OF OCCUPANCY. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE REGULATIONS AND REQUIREMENTS OF THE VARIOUS CIVIL AGENCIES HAVING JURISDICTION THERE OF. UPON COMPLETION OF THE WORK PROVIDED FOR IN THIS CONTRACT, AND BEFORE FINAL PAYMENT SHALL BE MADE, THE CONTRACTOR SHALL FURNISH THE OWNER WITH ANY NECESSARY CERTIFICATES OF APPROVAL ISSUED BY THESE VARIOUS AGENCIES.
5. CONTRACTOR SHALL INSPECT SITE AND MAKE ALL APPROPRIATE INQUIRES TO DETERMINE ACTUAL CONDITIONS AND FIELD CONSTRUCTION CRITERIA PRIOR TO SUBMISSION OF BIDS, AND SHALL MAKE NO ADDITIONAL CLAIMS REGARDING SITE CONDITIONS THEREAFTER.
6. THE CONTRACTOR SHALL VERIFY AND/OR DETERMINE ANY AND ALL TOPOGRAPHIC DATA NECESSARY TO COMPLETE THE WORK. CONTRACTOR SHALL BEAR THE EXPENSE OF DATA ACQUISITION AND VERIFICATION.
7. ALL DIMENSIONS INDICATED ON THE DRAWINGS ARE APPROXIMATE AND SUBJECT TO REVISION AS PER ACTUAL FIELD CONDITIONS, THE DISCRETION OF THE OWNER, AND AS DIRECTED AND/OR APPROVED BY THE ENGINEER/ARCHITECT.
8. CONTRACTOR SHALL SECURE CONSTRUCTION SITE IN ACCORDANCE WITH ALL APPLICABLE SAFETY STANDARDS.
9. THE CONTRACTOR SHALL CONDUCT ALL WORK TO PRECLUDE THE EFFECTS OF WEATHER ON COMPLETED WORK, OR WORK IN PROGRESS. THE CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY AND EXPENSE OF TEMPORARY ENCLOSURES WHERE NECESSARY.
10. ALL EXISTING EQUIPMENT, UTILITIES, STRUCTURES, ELECTRICAL CONDUIT AND OTHER OTHER ITEMS INTERFERING WITH THE INSTALLATION OF PROPOSED EQUIPMENT AND STRUCTURES SHALL BE REMOVED AND EITHER REPLACED OR RELOCATED AND SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER. THE CONTRACTOR SHALL BEAR THE EXPENSE OF THIS WORK.
11. ITEMS SUSTAINING DAMAGE DURING CONSTRUCTION PERIOD SHALL BE REPAIRED AND/OR REPLACED TO THE SATISFACTION OF THE OWNER, AT THE CONTRACTOR'S EXPENSE.
12. THE CONTRACTOR SHALL CONDUCT ALL WORK IN SUCH A MANNER SO AS TO NOT IMPAIR THE STRUCTURAL INTEGRITY OR STABILITY OF ADJACENT STRUCTURES, EQUIPMENT, OR UTILITIES. SHOULD DAMAGE OCCUR AS RESULT OF THE WORK, THE CONTRACTOR SHALL REPAIR OR REPLACE SAID DAMAGED ITEMS. THE CONTRACTOR SHALL BEAR ANY AND ALL COSTS ASSOCIATED WITH WORK DISCONTINUATION, ENGINEERING CONSULTATION, MATERIALS TESTING, REPAIR AND ALL MISCELLANEOUS RELATED ITEMS.
13. THE ENGINEER/ARCHITECT RESERVES THE RIGHT TO REQUEST THAT MATERIALS BE TESTED BY AN APPROVED LABORATORY DURING THE COURSE OF THE PROJECT. THE CONTRACTOR SHALL BEAR THE EXPENSE OF TESTED MATERIALS NOT CONFORMING TO SPECIFICATIONS. THE CONTRACTOR SHALL COOPERATE IN EVERY WAY POSSIBLE SO AS TO INTERFERE AS LITTLE AS POSSIBLE WITH THE PROGRESS OF THE PROJECT.
14. THE CONTRACTOR SHALL COORDINATE SCHEDULING OF SUBCONTRACTORS AND OTHER CONTRACTS AND SHALL PROVIDE EVERY POSSIBLE COOPERATIVE EFFORT TO COORDINATE COMPLETION OF ALL WORK. THE CONTRACTOR SHALL COMPLETE A COMPREHENSIVE SCHEDULE OF ALL WORK PERTAINING TO ALL CONTRACTS AND SHALL SUBMIT SAME TO THE OWNER IN AN ACCEPTABLE FORMAT FOR REVIEW WELL IN ADVANCE OF WORK COMMENCEMENT.
15. CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH OWNER TO MINIMIZE INTERRUPTIONS TO NORMAL OWNER OPERATIONS.
16. THE CONTRACTOR SHALL SUBMIT FOR APPROVAL OF THE OWNER/ENGINEER ALL SHOP DRAWINGS PERTAINING TO ALL CONSTRUCTION ITEMS, EQUIPMENT, MATERIALS AND PRODUCTS FOR THE PERFORMANCE OF THE WORK, AND NO WORK SHALL BE PERFORMED BY THE CONTRACTOR, SAVE AT HIS OWN RISK, UNTIL SUCH APPROVAL HAS BEEN GIVEN. THE SHOP DRAWINGS SHALL BE SUBMITTED SUFFICIENTLY IN ADVANCE OF CONSTRUCTION TO ALLOW AMPLE TIME FOR REVIEW, REVISION AND SUBMISSION. SHOP DRAWINGS SHALL BE IN A FORMAT ACCEPTABLE TO THE OWNER OR ARCHITECT/ENGINEER.
17. THE CONTRACTOR SHALL FURNISH TO THE OWNER, IN A FORM ACCEPTABLE TO THE OWNER, BEFORE FINAL PAYMENT, THE COMPLETE REPRODUCIBLE SET OF "AS-BUILT" DRAWINGS. DRAWINGS SHALL BE CORRECTED TO SHOW WORK AS ACTUALLY BUILT, WITH PARTICULAR ATTENTION TO LOCATIONS OF PIPING, VALVES, MECHANICAL INSTALLATIONS, AND SUCH OTHER DETAILS OF WORK AS THE ENGINEER MAY DIRECT. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE NECESSITY OF KEEPING ACCURATE RECORDS OF ALL CONCEALED WORK SO THAT "AS-BUILT" DRAWINGS WILL CONTAIN THIS INFORMATION IN CORRECT DETAIL AND LOCATIONS.
18. THE CONTRACTOR SHALL HAVE A COMPETENT REPRESENTATIVE OR FOREMAN PRESENT, WHO SHALL FOLLOW WITHOUT DELAY ALL INSTRUCTIONS OF THE OWNER OR HIS/HER ASSISTANTS IN THE PROSECUTION AND COMPLETION OF THE WORK IN CONFORMITY WITH THIS CONTRACT, AND SHALL HAVE FULL AUTHORITY TO SUPPLY LABOR AND MATERIAL IMMEDIATELY. THE CONTRACTOR SHALL ALSO HAVE A COMPETENT REPRESENTATIVE AVAILABLE TO RECEIVE TELEPHONE MESSAGES AND PROVIDE A REASONABLE REPLY AS SOON AS POSSIBLE, BUT NOT LATER THAN 24 HOURS.
19. THE CONTRACTOR SHALL DETERMINE AND/OR VERIFY THE ACTUAL LOCATION OF ANY AND ALL UTILITIES, PROCESS PIPING AND RELATED ITEMS PRIOR TO COMMENCEMENT OF WORK. ALL COSTS INCURRED SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
20. THE CONTRACTOR SHALL, AT ALL TIMES, PROVIDE CONVENIENT ACCESS AND SAFE AND PROPER FACILITIES FOR THE INSPECTION OF ALL PARTS OF THE WORK. NO WORK, EXCEPT SUCH SHOP WORK AS MAY BE SO PERMITTED, SHALL BE DONE EXCEPT WITH THE CONSENT OF THE ENGINEER OR A REPRESENTATIVE THEREOF.
21. THE CONTRACTOR SHALL NOTIFY THE OWNER/ENGINEER 24 HOURS IN ADVANCE AS TO WHEN HE/SHE INTENDS TO START OR RESUME THE WORK.
22. NO MATERIAL OF ANY KIND SHALL BE USED UPON THE WORK UNTIL IT HAS BEEN INSPECTED AND ACCEPTED BY THE OWNER/ENGINEER; ALL MATERIALS REJECTED SHALL BE IMMEDIATELY REMOVED FROM THE WORK AND NOT AGAIN OFFERED FOR INSPECTION.
23. ANY MATERIALS OR WORKMANSHIP FOUND AT ANY TIME TO BE DEFECTIVE SHALL BE REMEDIED AT ONCE, REGARDLESS OF PREVIOUS INSPECTION. THE INSPECTION AND SUPERVISION OF THE WORK BY THE OWNER/ENGINEER IS INTENDED TO AID THE CONTRACTOR IN APPLYING LABOR AND MATERIALS TO AND IN ACCORDANCE WITH THE SPECIFICATIONS, BUT SUCH INSPECTION SHALL NOT OPERATE TO RELEASE THE CONTRACTOR FROM ANY OF HIS CONTRACT OBLIGATIONS.
24. THE TERM "OWNER" SHALL REFER TO LUITPOLD PHARMACEUTICALS, INC. AND ITS AGENTS OR REPRESENTATIVES.
25. THE TERM "ENGINEER/ARCHITECT" SHALL REFER TO H2M ARCHITECTS + ENGINEERS.
26. THE CONTRACTOR'S AGREEMENT TO ENTER INTO THE WORK SHALL SUFFICE THE CONTRACTOR'S ACCEPTANCE OF THE TERMS SPECIFIED HEREIN, AND SHALL BE INCORPORATED INTO ANY AND ALL AGREEMENTS BETWEEN OWNER AND CONTRACTOR.



LOCATION MAP

NOT TO SCALE

N.Y.S.D.E.C. 7.5 MINUTE QUADRANGLE IMAGE



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CONSULTANTS:

MARK	DATE	DESCRIPTION
1	2014-10-01	SSDS DESIGN

PROJECT #:

DATE: OCTOBER 2014

DESIGNED BY: PRL

DRAWN BY: JML

CHECKED BY: PRL

REVIEWED BY: PRL

SEAL

CLIENT

LUITPOLD PHARMACEUTICALS, INC.

26 PRECISION DRIVE
SHIRLEY, NEW YORK 11967

CONTRACT

STATUS

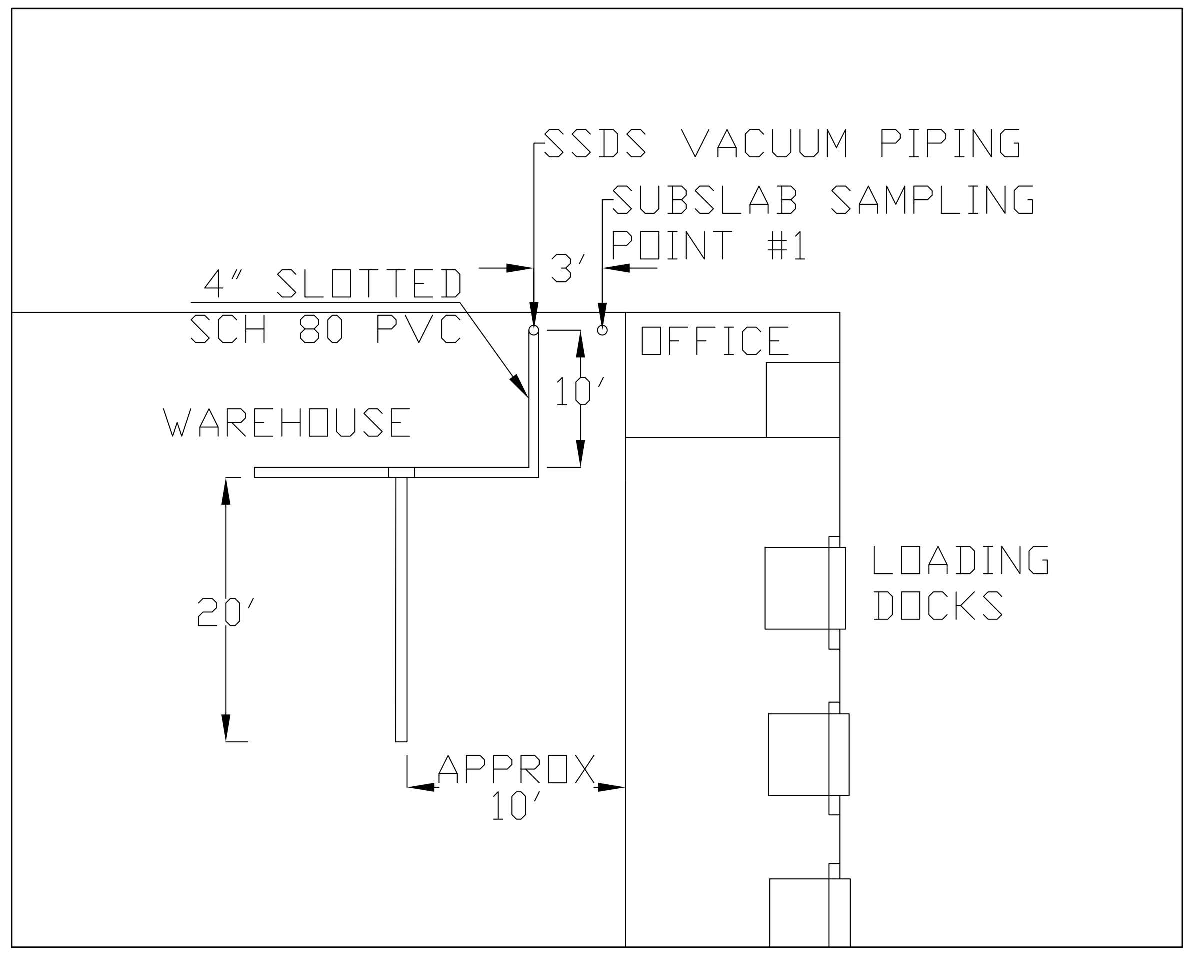
SSDS DESIGN

SHEET TITLE

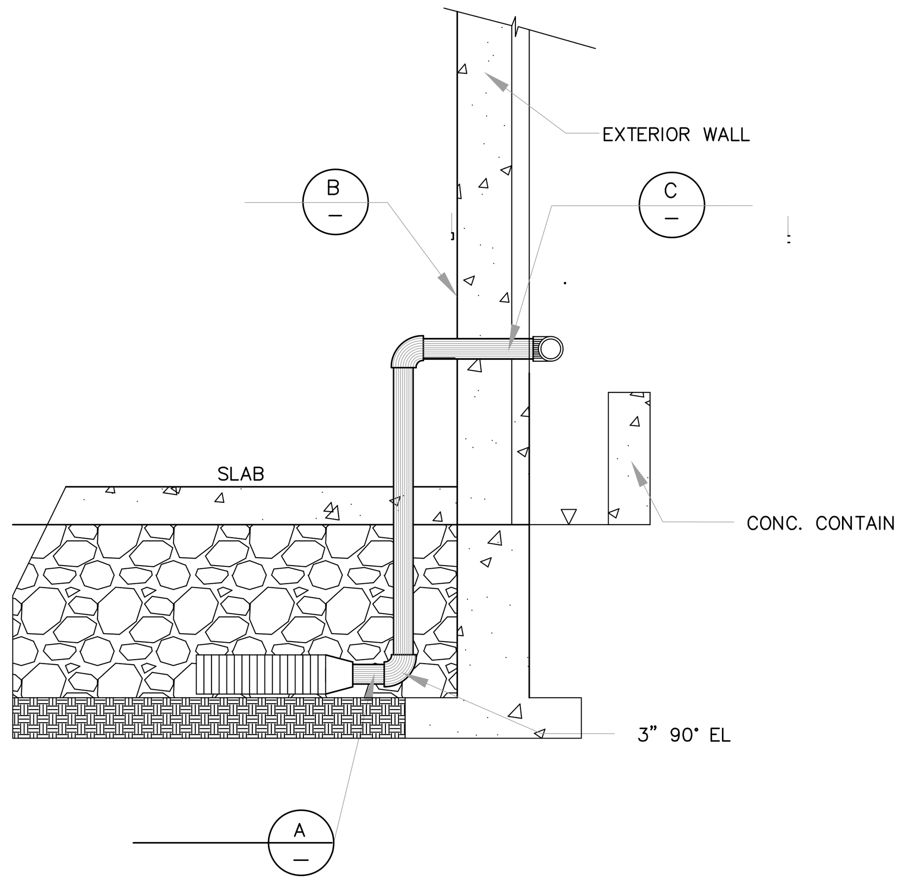
SITE PLAN

SHEET #

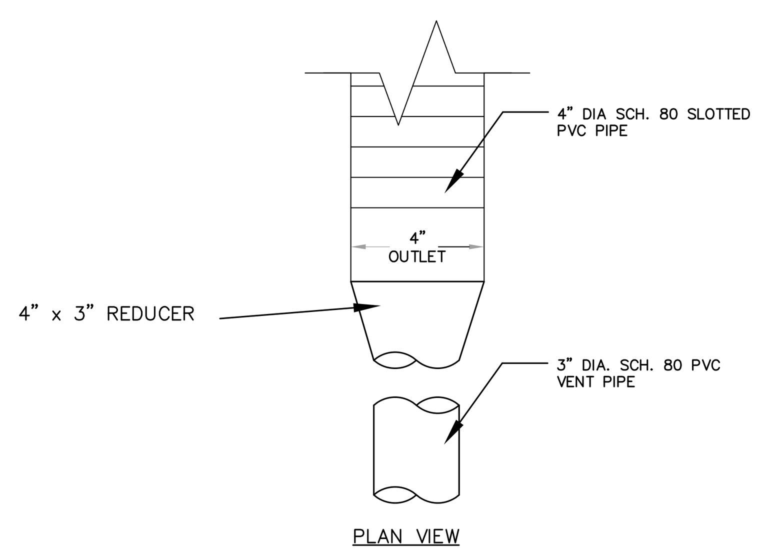
SHEET 1 OF 7



PLAN VIEW OF SUB-SLAB SAMPLING POINT #1



PROFILE VIEW SECTIONS A,B,C



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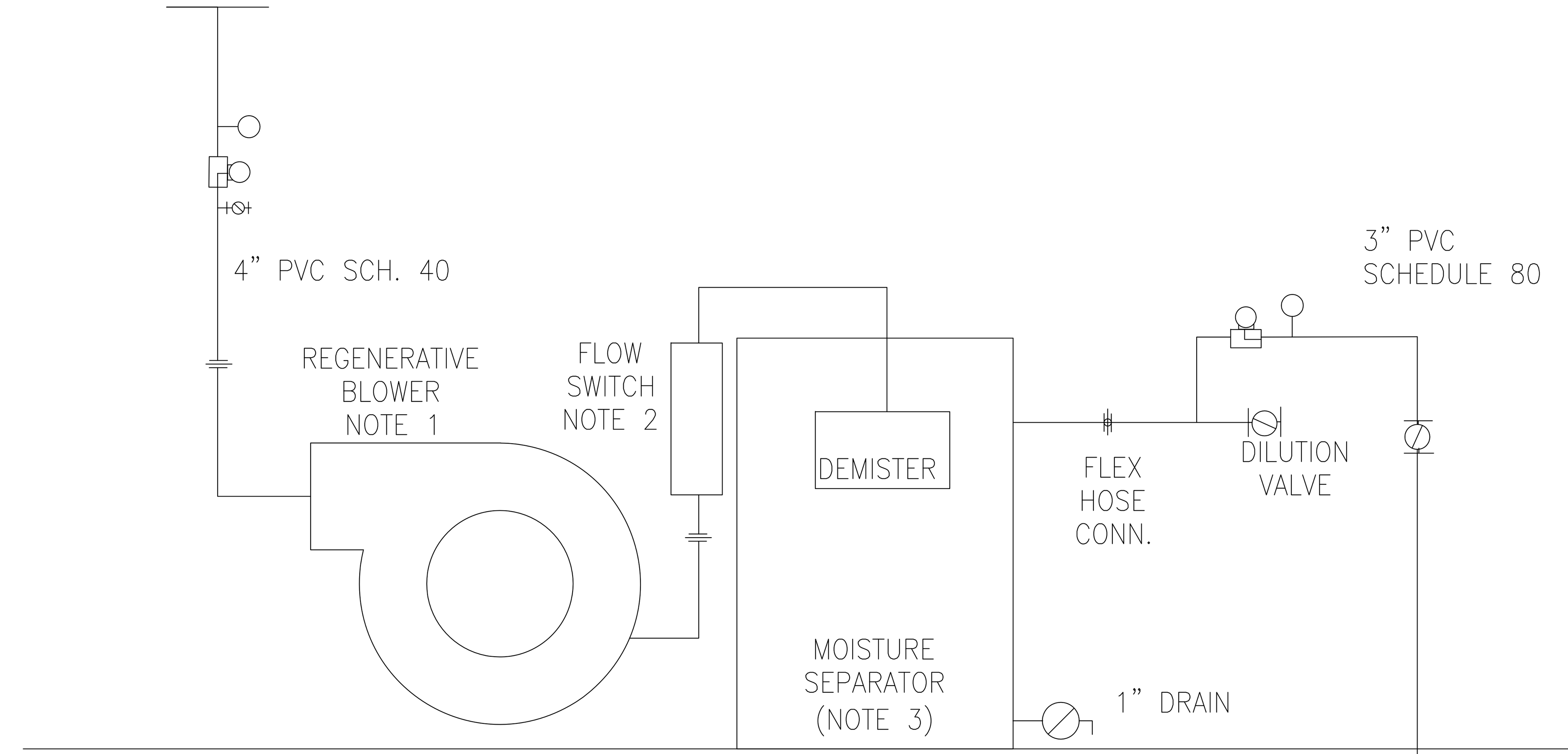
TRANSITION FITTING **A**



NOTE 1:
MANUFACTURER: GAST
MODEL #: R7100R-50
TYPE: 10 HP REGENERATIVE BLOWER
ELECTRIC: 26.5-24/12
MAX VACUUM: 110" H2O
MAX FLOW: 425 CFM
DETAILS: EXPLOSION PROOF W/ THERMAL PROTECTION

NOTE 2:
MANUFACTURER: DWYER OR EQUIVALENT
MODEL #: L6EPB-B-S-3-0
CONTACTS: 1 NORMALLY OPEN
1 NORMALLY CLOSED
1 COMMON
MATERIALS: BRASS
DETAILS: SHUT DOWN AS IN THE EVENT OF SVE FAILURE.

NOTE 3:
MANUFACTURER: GEOTECH OR EQUIVALENT
MODEL #: 2130000
CAPACITY: 38 GALLONS
DETAILS: HIGH LEVEL SWITCH REQ'D

NOTES ON SVE SYSTEM OPERATION:
SVE BLOWER WILL PROVIDE OUTDOOR VISUAL INDICATION OF SYSTEM FAILURE AND/OR OPERATION.
ALL SVE SYSTEM DESIGN AND CONSTRUCTION DETAILS ARE SUBJECT TO FIELD MODIFICATIONS/ALTERATIONS THAT WILL MEET OR EXCEED ORIGINAL DESIGN SPECIFICATIONS

SVE PIPING CONNECTING EXTRACTION PIT IS WITHIN BUILDING UNTIL FLOOR PENETRATION IN EQUIPMENT ENCLOSURE.

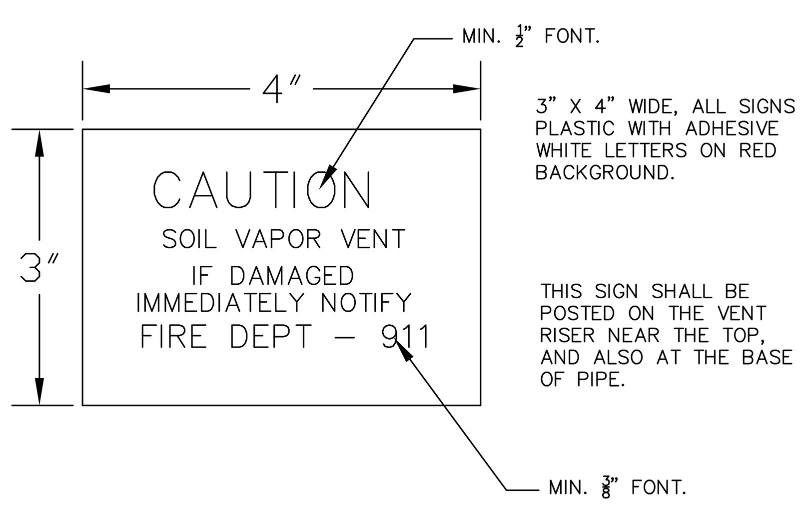
GEOTECH GECM CONTROLLER OR EQUIVALENT USED TO OPERATE SVE. CONTROL BOX IS NOT EXPLOSION PROOF AND MUST BE MOUNTED IN A NON-HAZARDOUS LOCATION.

ALL EQUIPMENT TO BE WITHIN ENCLOSURE SUBJECT TO ENGINEER APPROVAL.

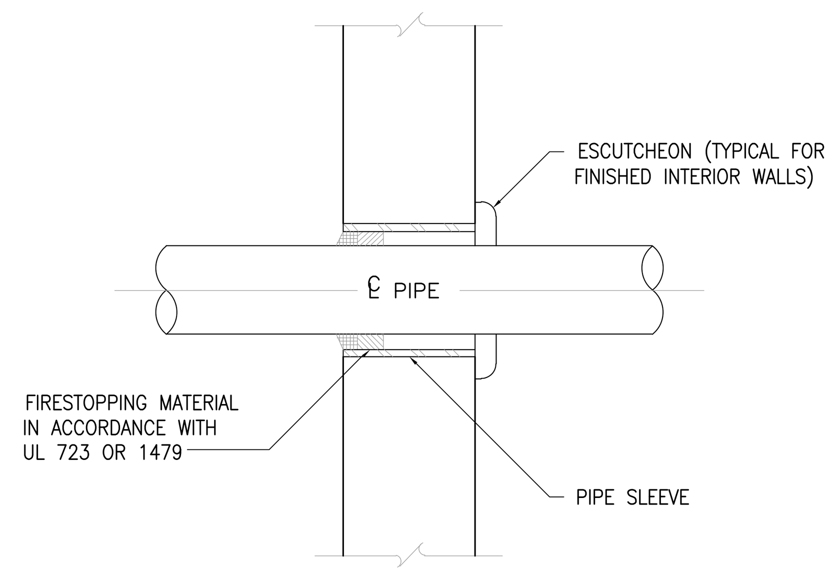
REGENERATIVE BLOW SYSTEM

SYSTEM LEGEND

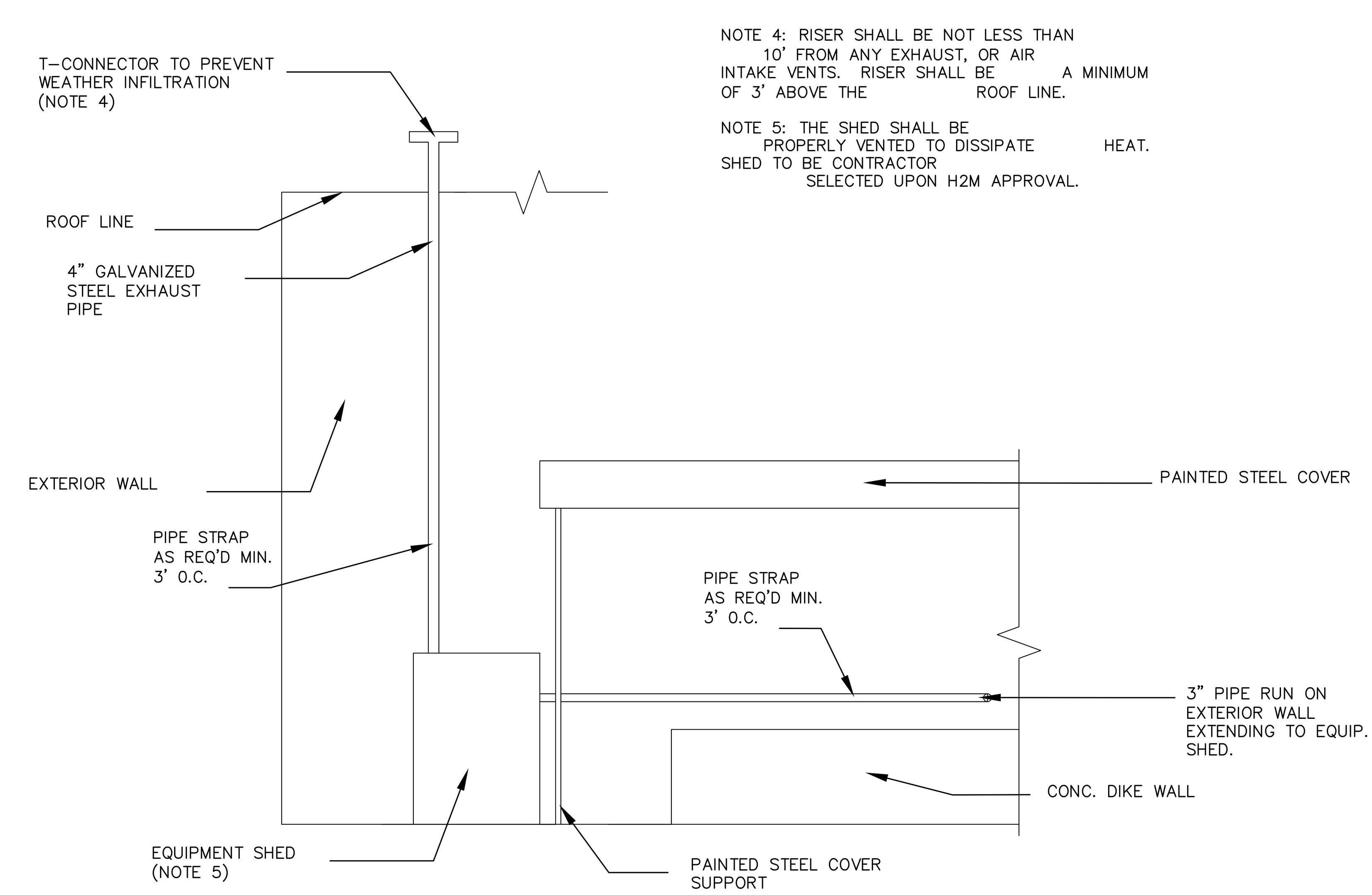
- PRESSURE OR TEMPERATURE GAUGE
- BALL VALVE
- FLOWMETER
- PITOT TUBE
- UNION



VENT RISER STICKER **B** NOT TO SCALE



WALL PENETRATION DETAIL **C** NOT TO SCALE



EXTERIOR PROFILE VIEW

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CONSULTANTS:

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1	2014-10-01	SSDS DESIGN

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26 PRECISION DRIVE
SHIRLEY, NEW YORK 11967

CONTRACT

STATUS
SSDS DESIGN

SHEET TITLE
SSDS DESIGN DETAILS

SHEET #

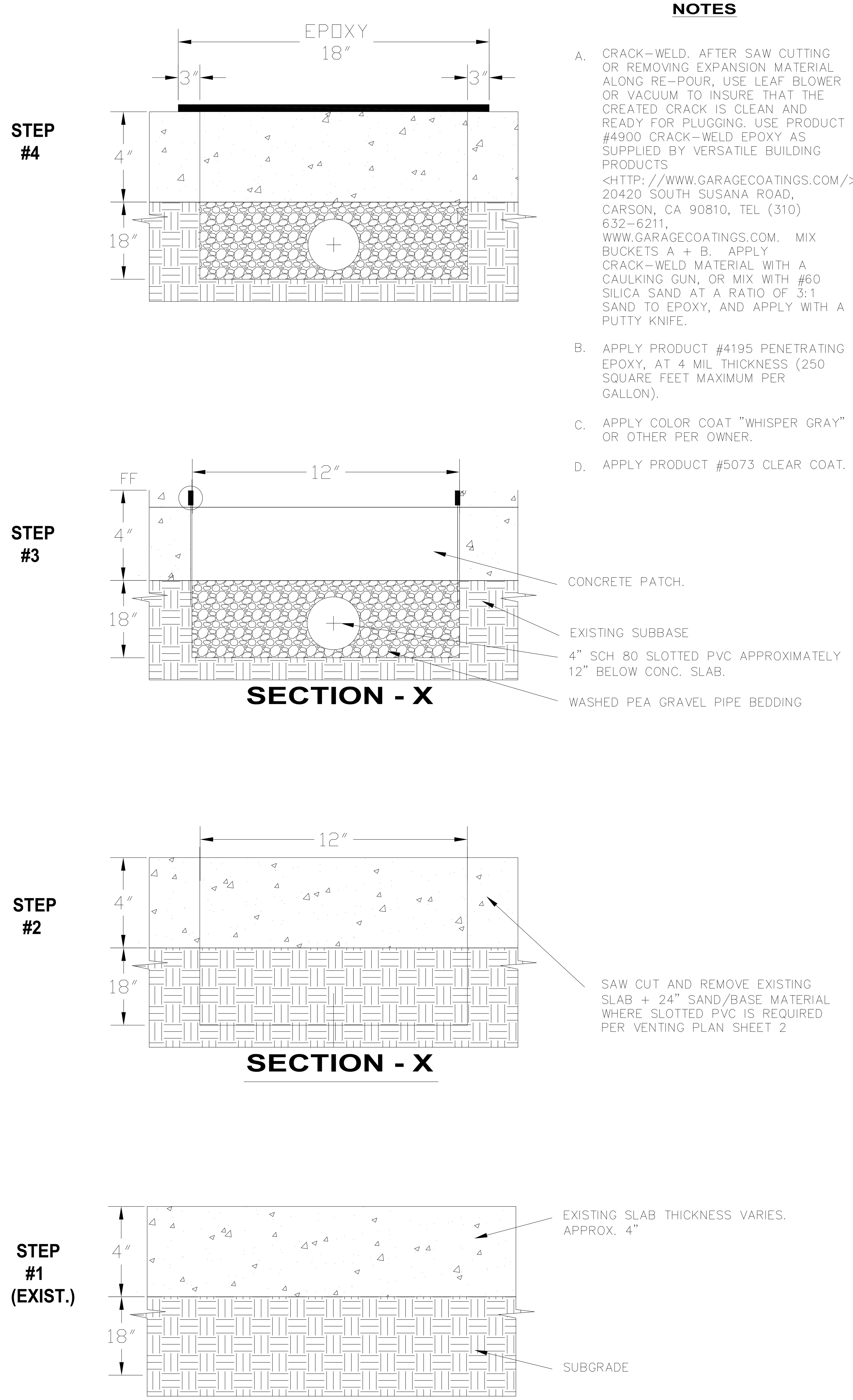
NOTES

A. CRACK-WELD. AFTER SAW CUTTING OR REMOVING EXPANSION MATERIAL ALONG RE-POUR, USE LEAF BLOWER OR VACUUM TO INSURE THAT THE CREATED CRACK IS CLEAN AND READY FOR PLUGGING. USE PRODUCT #4900 CRACK-WELD EPOXY AS SUPPLIED BY VERSATILE BUILDING PRODUCTS <HTTP://WWW.GARAGECOATINGS.COM/>, 20420 SOUTH SUSANA ROAD, CARSON, CA 90810, TEL (310) 632-6211, WWW.GARAGECOATINGS.COM. MIX BUCKETS A + B. APPLY CRACK-WELD MATERIAL WITH A CAULKING GUN, OR MIX WITH #60 SILICA SAND AT A RATIO OF 3:1 SAND TO EPOXY, AND APPLY WITH A PUTTY KNIFE.

B. APPLY PRODUCT #4195 PENETRATING EPOXY, AT 4 MIL THICKNESS (250 SQUARE FEET MAXIMUM PER GALLON).

C. APPLY COLOR COAT "WHISPER GRAY" OR OTHER PER OWNER.

D. APPLY PRODUCT #5073 CLEAR COAT.



SAWCUT REPAIR A

PRODUCT DESCRIPTION

VAPOR-STOP PRIMER is a 100% solids pigmented epoxy sealer designed for use over concrete to eliminate moisture vapor emissions and increase adhesion of subsequently applied systems.

COVERAGE RATES AND PACKAGING

VAPOR-STOP PRIMER 250-400 ft2/Kit Sold in 1.5-Gallon Unitized Kit

SUBSTRATE REQUIRMENTS

Concrete

Concrete shall be structurally sound and stable. Concrete shall be free of dust, dirt, grease, contamination, surface laitance, and other potential bond-breaking substances that could impair adhesion All cracks, gouges, and other surface defects need to be addressed prior to coating installation. Substrate and ambient temperatures must be above 50°F (10°C) during installation of coating. Relative humidity should not exceed 65% during installation of the coating. Environmental conditions must not be near the dew point during installation of the coating. Concrete must be mechanically profiled and prepared by shot-blasting, grinding, water-jetting, or other means of scarification to produce a Concrete Surface Profile (CSP) between #2 and #4, according to International Concrete Repair Institute (ICRI) Guideline No. 03732

Other Substrates

Consult with a Versatile Building Products representative for recommendations over other substrates.

STEP 1) INSTALLATION OF VAPOR-STOP PRIMER

(Note: Cure time is effected by environmental conditions. Do not force dry. High humidity and/or low temperatures can cause haziness and blushing in the coating. Material has a pot-life of 30 minutes based on an insulated 200 gram mass at a starting temperature of 77°F. Warning: Large masses of mixed and/or heated material will have a shorter pot-life.)

Mixing

Mix 2 parts by volume VAPOR-STOP PRIMER A-Component with 1 part by volume VAPOR-STOP PRIMER B-Component for 2-3 minutes using a jiffy-type mixing blade at no less than 400rpm. Transfer mixed material to a second mixing vessel and mix an additional 30 seconds to ensure that material along the sides of the first mixing vessel have been properly incorporated into the mixture.

Application

Apply mixture to the substrate using a brush, roller, or squeegee at a uniform coverage rate of 150-250 ft2 per mixed gallon. Use spiked shoes when walking into wet material.

Subsequent Coats

Additional coats and techniques may be needed to obtain the desired results for MVT. VAPOR-STOP may allow MVT bubbling during the drying process due to high MVT in substrate. Consult with a Versatile Building Products representative for recommendations to achieve specific results.

Cure Times

Coating can typically accept light foot traffic in 8-16 hours, vehicular traffic with pneumatic tires in 36-48 hours. Full cure occurs in 5-7 days.

STEP 2) CLEANUP

Immediately cleanup splatter marks and tools with lacquer thinner. Clean hands and exposed skin with mild soap and water, and/or citrus based hand-cleaner.

ADDITIONAL CAUTIONS AND RECOMENDATIONS

Do not force dry
Coverage rates may vary
Mask all areas that need protection
Always wear protective clothing and equipment as required by OSHA and as necessary
Read Material Safety Data Sheets before commencing work
Store material at 50-70°F to prevent shortened pot-life due to excessive heat
Coating may amber under exposure to ultraviolet light

REPAIR OF CRACKS FROM 1/16 " TO 1/4 "

Preparation

Locate all cracks to be treated and mark with chalk if necessary prior to proceeding. Using a 3/8" V-Shaped crack chaser, grind open the cracks. Remove all loose debri, dust, contamination, and bond-breaking material by vacuuming, pressure washing, and/or blowing with compressed air.

Crack must be free of standing water before proceeding. 4900 can be applied to visually damp concrete.

Mixing

Mix 4900 Crack Weld A-Component with 4900 CRACK-WELD B-Component at ratios listed on label for 2-3 minutes using a jiffy-type mixing blade at no less than 400rpm. Transfer mixed material to a second mixing vessel and mix an additional 30 seconds to ensure that material along the sides of the first mixing vessel has been properly incorporated into the mixture. The pot-life of the material is ~1 hour in small masses at 70°F. Do not mix more material than can be used within the pot-life.

Application

Apply mixture into the crack by pouring from a cup or bakers bag. Keep the material filled to the top as it drains into the crack. If the crack continues to take in the epoxy past a reasonable point based on the crack's volume, stop filling, and allow the material in the crack to gel for 2-4 hours, then make a second pass in the same manner to top-off the crack. Sprinkle silica sand onto the top of the epoxy while it is still tacky as necessary to produce a bonding surface for topping such as cementitious overlays.

Clean-Up

Clean up tools and splatter with lacquer thinner. Clean hands and exposed skin with a citrus-based hand cleaner.

Cure Times

4900 Crack Weld will cure to a dry to touch state in 4-8 hours, a hardened state within 8-20 hours, and full cure in 5-7 days.

ADDITIONAL CAUTIONS

Do not force dry
Coverage rates may vary
Mask all areas that need protection
Always wear protective clothing and equipment as required by OSHA and as necessary
Read Material Safety Data Sheets before commencing work
Store material at 50-70°F to prevent shortened pot-life due to excessive heat
These materials are intended for use in substrates and environments >45°F.

EPOXY REPAIR SPECIFICATIONS B

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MARK	DATE	DESCRIPTION
1	2014-10-01	SSDS DESIGN

PROJECT #:

SEAL

DATE: MAY 2014

DESIGNED BY: PRL

DRAWN BY: JML

CHECKED BY: PRL

REVIEWED BY: PRL

CLIENT

LUITPOLD PHARMACEUTICALS, INC.

26 PRECISION DRIVE
SHIRLEY, NEW YORK 11967

CONTRACT

STATUS

SSDS DESIGN

SHEET TITLE

SSDS PIPE INSTALLATION DETAILS

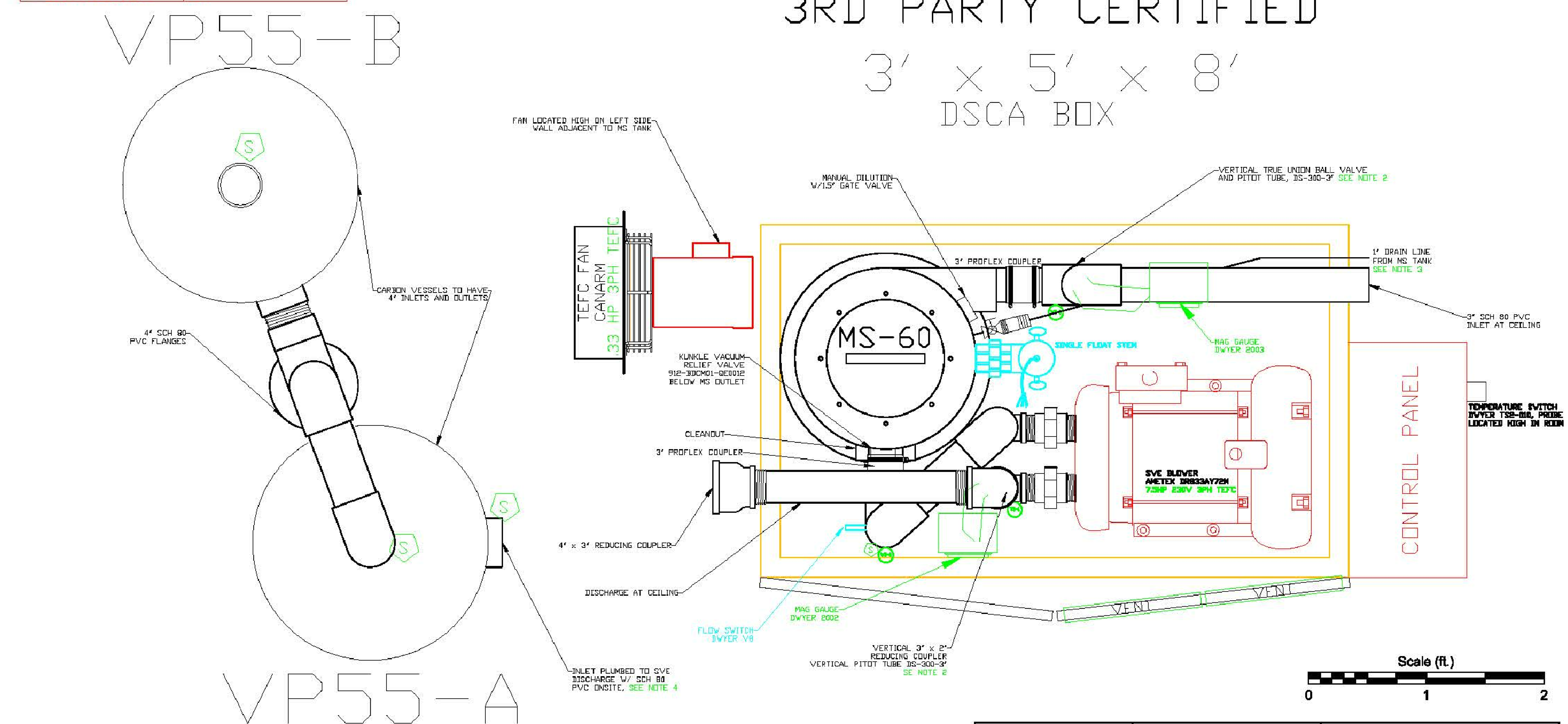
SHEET #

CONTROLS

1. PANEL LISTING	508A & 698A
2. DEADFRONT	YES
3. VOLTAGE	120/230
4. PHASE	3 PHASE
5. AUTO RESTART	YES
6. BREAKERS IN PANEL	YES
7. HOUR METERS	NO
8. AMP METERS	NO
9. HOA	SVE BLOWER
10. PLC	N/A
11. 7/24 TIMER	NO
12. SURGE PROTECTOR	NO
13. PHASE MONITOR	NO
14. PANEL TRANSFORMER	NO
15. FAN IN PANEL	NO
16. TELEMETRY	NO
17. AUTODIALER	N/A
18. BATTERY BACKUP	NO

GENERAL NOTES:

1. 1" INSULATION INSIDE DSCA BOX
2. PITOT TUBES TO HAVE AT LEAST 10 DIAMETERS OF STRAIGHT PIPE UPSTREAM AND AT LEAST 5 DIAMETERS OF STRAIGHT PIPE DOWNSTREAM
3. MS DRAIN LINE TO BE HOSE
4. CARBON VESSEL VP-55-A TO BE PLUMBED TO SVE DISCHARGE WITH SCH80 PVC ONSITE, AND SHALL BE FLANGED AT THE INLET



OPTION 4 WAS SELECTED BY THE CLIENT

PRM PARTS	DESCRIPTION	PRM CAK #
VI-1	0-160" WC VAC.	PGCNBTY630454160WCV
TI-1	3" TEMP GAUGE.	THERMOBTY760552

PRM PRODUCT RECOVERY MANAGEMENT

NO.	REVISION	DATE

CLIENT
BROOKSIDE ENVIRONMENTAL
22 OCEAN AVE.
COPIAGUE, NY 11726

P.O.C: BRIAN GAUDREAULT
PHONE #

SHEET TITLE: PLAN VIEW SYSTEM LAYOUT

PROJECT TITLE: DSCA BOX SVE SYSTEM
22 OCEAN AVE.
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PRODUCT RECOVERY MANAGEMENT INC.
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PROJECT NO.: WO-4467
DRAWN BY: PHILLIPS
CAD FILE: PRM-2423 #3
DATE: 7/20/16
DRAWING NO.: M-1

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1	2014-10-01	SSDS DESIGN

PROJECT #:
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DATE: MAY 2014
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CLIENT
LUITPOLD PHARMACEUTICALS, INC.

26 PRECISION DRIVE
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CONTRACT

STATUS
SSDS DESIGN

SHEET TITLE
M-1

SHEET #
SHEET 4 OF 7

LINE IDENTIFICATION CODES

LINE NUMBERING

W"-XXX-YY-ZZ

- PROCESS PIPE
- PIPE SCHEDULE IF APPLICABLE
- PIPING MATERIAL
- PROCESS LINE ABBREVIATION
- LINE SIZE (INCHES)

PIPING MATERIAL IDENTIFICATION

AL	ALUMINUM
CPVC	CHLORINATED POLYVINYL CHLORIDE
CS	CARBON STEEL
COP	COPPER
CPP	CORRUGATED PLASTIC PIPE
CIP	CAST IRON PIPE
DIP	DUCTILE IRON PIPE
FH	FLEXIBLE HOSE
GAL	GALVANIZED STEEL PIPE
NYL	NYLON
PE	POLYETHYLENE PIPE
PP	POLYPROPYLENE PIPE
PVC	POLYVINYL PIPE
RUB	RUBBER HOSE
SS	STAINLESS STEEL

PROCESS LINE ABBREVIATIONS

AIR	AIR, ATMOSPHERIC PRESSURE
BW	BACKWASH
CA	COMPRESSED AIR
CD	CONDENSATE
CF	CHEMICAL FEED
CGW	CONTAMINATED GROUNDWATER
D	DRAIN
EFF	EFFLUENT
EXH	EXHAUST
GW	GROUNDWATER
LFG	LANDFILL GAS
NPW	NON-POTABLE WATER
P	PRODUCT
PR	PROCESS FLOW
PW	POTABLE WATER
S	SANITARY
SL	SLUDGE
SP	SAMPLE PORT
STS	STORM SEWER
TF	TOTAL FLUIDS
V	VENT
VAP	VAPOR

LINE CODING

- PROCESS FLOW
- PNEUMATIC SIGNAL
- WIRELESS SIGNAL

ELECTRICAL SIGNALS

- 4-20mA / LOW VOLTAGE
- LINE VOLTAGE
- IS

VALVE AND PIPING SYMBOLS

- GLOBE VALVE
- GATE VALVE
- BUTTERFLY VALVE
- CHECK VALVE
- PLUG VALVE
- 3-WAY VALVE
- ANGLE VALVE
- RELIEF OR SAFETY VALVE
- BALL VALVE
- GLOBE VALVE
- SELF-CONTAINING PRESSURE REGULATING VALVE
- NEEDLE VALVE
- BFP BACKFLOW PREVENTER
- NO NORMALLY OPEN
- NC NORMALLY CLOSED
- FLEXIBLE HOSE
- FLEXIBLE COUPLING
- MOTOR DRIVEN
- BASKET TYPE STRAINER
- Y-TYPE STRAINER
- DUPLEX STRAINER
- SLEEVE COUPLING (SC)
- FLOOR DRAIN
- EQUIPMENT DRAIN
- CLEANOUT (CO)
- REMOVABLE PLUG
- REMOVABLE CAP
- EXHAUST TO ATMOSPHERE (INSIDE)
- EXHAUST TO ATMOSPHERE (OUTSIDE)
- REDUCER
- UNION
- QUICK DISCONNECT COUPLING
- BF BLIND FLANGE
- FLANGE
- DAMPER
- TEST PORT WITH STOP COCK VALVE

VALVE OPERATOR SYMBOLS

- SOLENOID
- M MOTOR, ELECTRIC
- P PNEUMATIC
- DIAPHRAGM WITH POSITIONER
- HANDWHEEL OR LEVER
- CHAINWHEEL

PRIMARY ELEMENT SYMBOLS - FLOW

- ORIFICE PLATE
- PITOT TUBE
- THERMAL MASS FLOW METER
- ROTOMETER
- FLUME
- WEIR
- TURBINE OR PROPELLOR TYPE METER
- MAGNETIC FLOW METER
- TOTALING FLOW METER

EQUIPMENT SYMBOLS

- PUMP
- PNEUMATIC DIAPHRAGM PUMP
- LIQUID RING VACUUM PUMP
- BLOWER
- AIR COMPRESSOR
- POSITIVE DISPLACEMENT PUMP
- SCREW PUMP

INSTRUMENT IDENTIFICATION

FIT 100A

FIT-100A

- SUFFIX (NOT NORMALLY USED)
- LOOP NUMBER
- SUCCEEDING LETTERS
- FIRST LETTER

FUNCTIONAL ABBREVIATIONS

DO	DISSOLVED OXYGEN	OC	OPEN-CLOSE
FC	FAIL CLOSED	OO	ON-OFF (MAINTAINED)
FI	FAIL INTERMINATE	ORP	OXIDATION REDUCTION POTENTIAL
FL	FAIL LOCKED	OSC	OPEN-STOP-CLOSE (MOMENTARY)
FO	FAIL OPEN	SS	START-STOP (MONENTARY)
HOA	HAND-OFF-AUTOMATIC	>	HIGH SELECT
I/I	CURRENT-TO-CURRENT	<	LOW SELECT
I/P	CURRENT-TO-PNEUMATIC		
LEL	LOWER EXPLOSIVE LIMIT		
LR	LOCAL-REMOTE		

- LEL LEL METER
- TT TEMPERATURE TRANSMITTER
- DPT DIF PRESSURE TRANSMITTER
- PT PRESSURE TRANSMITTER
- VT VACUUM TRANSMITTER
- PS PRESSURE SWITCH
- TS TEMP SWITCH

GENERAL INSTRUMENT SYMBOLS

- LOCALLY MOUNTED
- FRONT-OF PANEL MOUNTED
- BACK-OF-PANEL MOUNTED
- I INTERLOCK
- P PURGE
- PLC FUNCTION BLOCK

INSTRUMENT IDENTIFICATION TABLE

FIRST LETTER			SUCCEEDING LETTERS		
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM		
B	BURNER FLAME				
C	CONDUCTIVITY			CONTROL	
D	DENSITY (SP, GR)	DIFFERENTIAL		DRIVE	
E	VOLTAGE		PRIMARY ELEMENT		
F	FLOW RATE	RATIO			
G	GAUGING (DIMENSIONAL)		GLASS		
H	HAND (MANUAL)				HIGH
I	CURRENT		INDICATE		
J	POWER	SCAN			
K	TIME OR SCHEDULE			CONTROL STATION	
L	LEVEL		LIGHT (PILOT)		LOW
M	MOISTURE OR HUMIDITY				MIDDLE
N					
O			ORIFICE		
P	PRESSURE		POINT (TEST)		
Q	QUANT. OR EVENT	INTEGRATE			
R	RADIOACTIVITY		RECORD OR PRINT		
S	SPEED OR FREQ.	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	ULTRAVIOLET		MULTIFUNCTION		
V	VISCOSITY			VALVE OR DAMPER	
W	WEIGHT OR FORCE		WELL		
X	THERMOCOUPLE		UNCLASSIFIED		
Y	VIBRATION			RELAY OR COMPUTE	
Z	POSITION			DRIVE, ACTUATE	

PRODUCT RECOVERY MANAGEMENT

NO. | REVISION | DATE

CLIENT
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SHEET TITLE
P&ID LEGEND

PROJECT TITLE
DSCA BOX
SVE SYSTEM
22 OCEAN AVE.
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PRODUCT RECOVERY MANAGEMENT INC.
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PROJECT NO.
WO-4467

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CAD FILE:
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PROJECT #:

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MAY 2014

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JML

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REVIEWED BY: PRL

CLIENT
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26 PRECISION DRIVE
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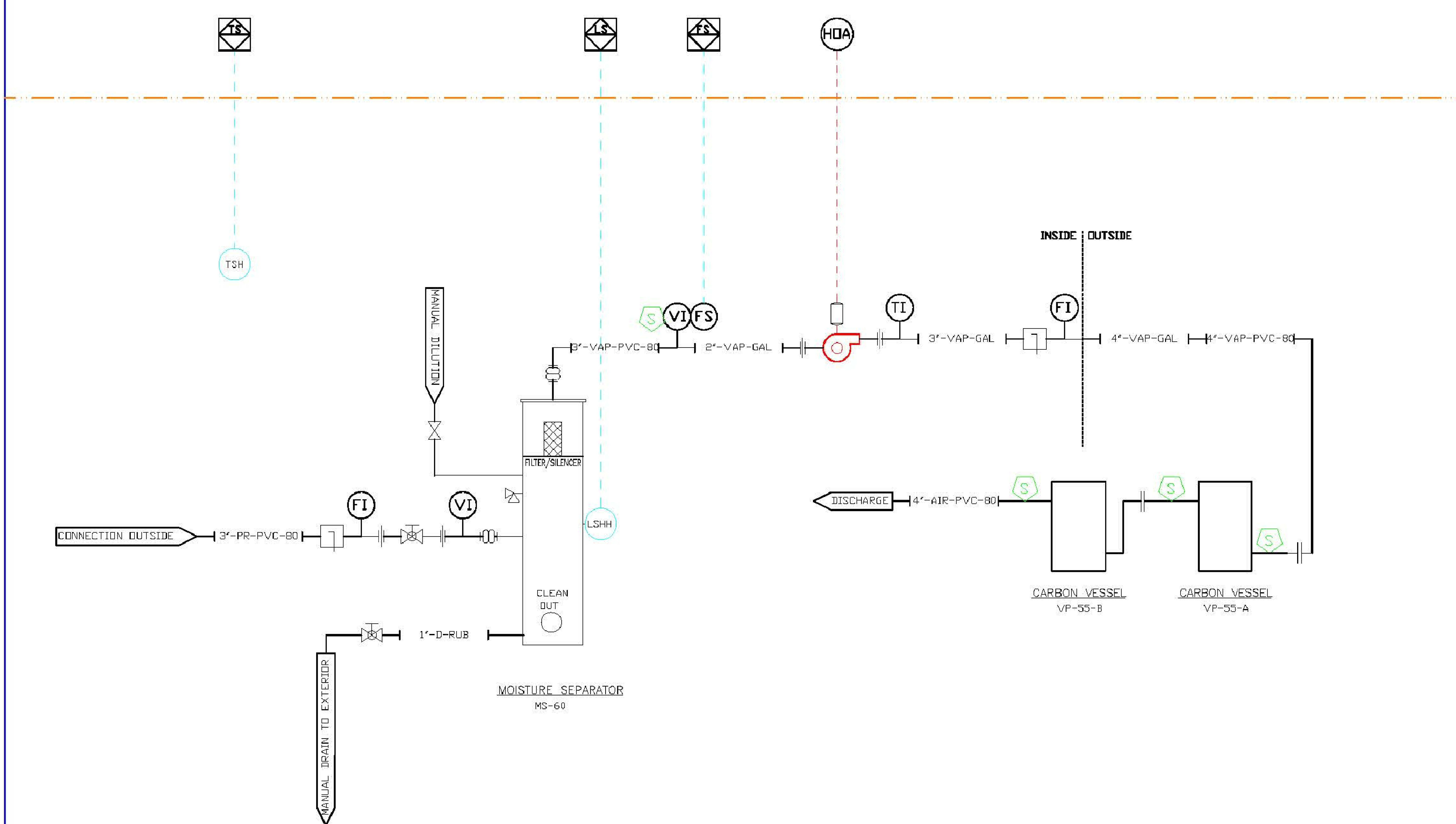
CONTRACT

STATUS
SSDS DESIGN

SHEET TITLE
P&ID-1

PLC



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P.O.C **BRIAN GAUDREAULT**
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SHEET TITLE
PROCESS AND INSTRUMENTATION DIAGRAM

PROJECT TITLE
DSCA BOX
SVE SYSTEM
22 OCEAN AVE.
COPIAGUE, NY 11726

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PROJECT NO.
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CAD FILE:
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PROJECT #:

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DATE: MAY 2014

DESIGNED BY: PRL

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LUITPOLD PHARMACEUTICALS, INC.

26 PRECISION DRIVE
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CONTRACT

STATUS
SSDS DESIGN

SHEET TITLE
P&ID-2

SHEET #
SHEET 6 OF 7

Panel Wiring Schedule (3-Phase)

Panelboard	PPWH	Voltage	120/208 VAC	Phase	3	Wire	4	AIC Rating	65,000	
Manufacturer	SQUARE-D	Mains	225A MCB	Mains Rating	225A					
Panel Type	NQ	Mounting	MOUNTING	Options	-	Note	-			
NEMA Type Enclosure	1									

LOAD DESCRIPTION	BREAKER OPTION	TRIP AMPS & POLES	CONNECTED LOAD VOLT AMPERES ØA	ØB	ØC	CIRC. NO.	CIRC. NO.	CONNECTED LOAD VOLT AMPERES ØA	ØB	ØC	TRIP AMPS & POLES	BREAKER OPTION	LOAD DESCRIPTION
SPARE/EXISTING		20/1P	-			1	2	-			20/1P		SPARE/EXISTING
SPARE/EXISTING		20/1P		-		3	4		-		20/1P		SPARE/EXISTING
SPARE/EXISTING		20/1P			-	5	6			-	20/1P		SPARE/EXISTING
SPARE/EXISTING		20/1P	-			7	8	-			20/1P		SPARE/EXISTING
SPARE/EXISTING		20/1P		-		9	10		-		20/1P		SPARE/EXISTING
SPARE/EXISTING		20/1P			-	11	12			-	20/1P		SPARE/EXISTING
SPARE/EXISTING		20/1P	-			13	14	-			20/1P		SPARE/EXISTING
SPARE/EXISTING		20/1P		-		15	16		-		20/1P		SPARE/EXISTING
SPARE/EXISTING		20/1P			-	17	18			-	20/1P		SPARE/EXISTING
SPARE/EXISTING		20/1P	-			19	20	-			20/1P		SPARE/EXISTING
SVE EQUIP. SHED		50/3P		2401		21	22		-		-/1P		SPACE
					2401	23	24			-	-/1P		SPACE
			2401			25	26	-			-/1P		SPACE
SPACE		-/1P		-		27	28		-		-/1P		SPACE
SPACE		-/1P			-	29	30			-	-/1P		SPACE
SPACE		-/1P	-			31	32	-			-/1P		SPACE
SPACE		-/1P		-		33	34		-		-/1P		SPACE
SPACE		-/1P			-	35	36			-	-/1P		SPACE
SPACE		-/1P	-			37	38	-			-/1P		SPACE
SPACE		-/1P		-		39	40		-		-/1P		SPACE
SPACE		-/1P			-	41	42			-	-/1P		SPACE

Connected Totals:
ØA EXISTING KVA
ØB EXISTING KVA
ØC EXISTING KVA
Total EXISTING KVA   EXISTING Amperes

(All Phases to be balanced to within 7% using Actual Load Totals.)

Breaker Options:
AS - Powerlink AS Breaker
LO - Handle lock-off device
ST - Shunt Trip Type
AUX - Auxiliary Contacts
PA - Handle Padlock Attachment
GFCI - Ground Fault Circuit Interrupter
HACR - Heating, A/C & Refrigeration
SF - Subfeed
TC - Time Clock Control

DISCONNECT SWITCH SCHEDULE

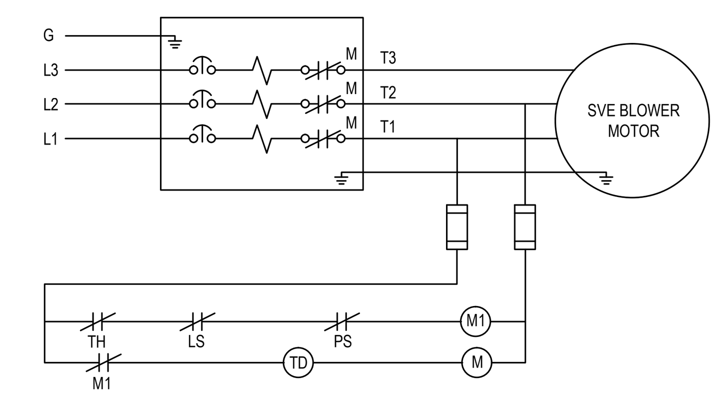
DISCONNECT SWITCH IDENTIFICATION	TYPE	ENCLOSURE	VOLTS	POLES	FRAME SIZE AMPS	FUSE RATING
DS1	UNFUSED	NEMA 3R	240	3	60	-
DS2	UNFUSED	NEMA 3R	240	1	30	-

ELECTRICAL SPECIFICATIONS:

1. FURNISH ALL LABOR AND MATERIALS, TOOLS, EQUIPMENT AND SERVICES TO PERFORM THE WORK SHOWN ON THE DRAWINGS AND SPECIFIED TO PROVIDE COMPLETE INTERGRATED SYSTEMS READY FOR OPERATION.
2. CONTRACTOR SHALL VISIT THE SITE TO FAMILIARIZE THEMSELVES WITH FIELD CONDITIONS, ASCERTAIN THAT ALL DETAILS RELATIVE TO THE LOCATION AND INSTALLATIONS OF THE WORK ARE FEASIBLE, CONFER WITH THE OWNER'S REPRESENTATIVES AND READ ALL PLANS AND SPECIFICATIONS. ANY ADDITIONAL COSTS RESULTING FROM THEIR FAILURE TO DO SO SHALL BE THEIR RESPONSIBILITY AND SHALL BE BORNE BY THEM. ANY ERRORS, OMISSIONS OR DISCREPANCIES IN THE CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE PRIOR TO BID FOR RESOLUTION.
3. MATERIALS AND WORKMANSHIP SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE, RULES AND REGULATIONS OF AUTHORITIES HAVING JURISDICTION, INDUSTRY STANDARDS AND UTILITY COMPANY REGULATIONS. IN CASE OF DIFFERENCES BETWEEN CODES, STANDARDS, RULES, REGULATIONS AND THE CONTRACT DOCUMENTS, THE MOST STRINGENT SHALL GOVERN.
4. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS.
5. CONTRACTORS SHALL COORDINATE THEIR WORK WITH ALL OTHER TRADES.
6. ALL MATERIAL SHALL BE NEW AND U.L. LISTED.
7. ALL WORK AND MATERIAL SHALL BE FULLY GUARANTEED FOR ONE (1) YEAR FROM DATE OF ACCEPTANCE.
8. ALL CONDUCTORS SHALL BE 600 VOLT INSULATED, COPPER OF THE SIZES SHOWN, #10 MINIMUM, TYPE NMC WITH GROUNDING CONDUCTOR, INSTALLED CONCEALED.
9. PROVIDE STEEL OUTLET BOXES FOR ALL INTERIOR LOCATIONS. WHERE EXPOSED TO THE ELEMENTS, BOXES SHALL BE CAST IRON, HOT-DIP GALVANIZED.
10. ALL WORK SHALL COMPLY WITH THE NATIONAL ELECTRIC CODE, LATEST EDITION, AND ALL APPLICABLE AGENCIES HAVING JURISDICTION.
11. EMT CONDUIT SHALL BE USED FOR ALL INTERIOR CONDUIT. RIGID GALVANIZED CONDUIT SHALL BE USED FOR ALL EXTERIOR CONDUIT.
12. RIGID CONDUIT SHALL BE HOT DIPPED, GALVANIZED OR ELECTRO-GALVANIZED STEEL BY WHEATLAND, TRIANGLE, REPUBLIC OR APPROVED EQUAL. CONDUIT CONNECTORS SHALL BE THREADED TYPE. SET SCREW AND COMPRESSION TYPE CONNECTIONS ARE NOT ACCEPTABLE.
13. MINIMUM SIZE OF CONDUITS SHALL BE 3/4-INCH.
14. ELECTRICAL IDENTIFICATION SHALL BE PROVIDED FOR ALL ELECTRICAL EQUIPMENT INCLUDING BUT NOT LIMITED TO CIRCUIT BREAKERS IN EXISTING DISTRIBUTIONAL PANELS, AND DISCONNECT SWITCHES. NAMEPLATES SHALL BE ENGRAVED THREE-LAYER LAMINATED PLASTIC, WHITE LETTERS ON BLACK BACKGROUND.
15. DISCONNECT SWITCH SHALL BE GENERAL ELECTRIC HEAVY-DUTY TYPE TH OR APPROVED EQUAL WITH EXTERNALLY OPERABLE LOCKABLE HANDLE.
16. ALL ELECTRICAL EQUIPMENT AND DEVICES EXTERIOR OF BUILDING SHALL BE NEMA 3R RATED.
17. LIGHT SWITCH SHALL BE CROUSE-HINDS MODEL EDS EXPLOSIONPROOF SNAP SWITCH, OR APPROVED EQUAL.
18. GENERAL POWER RECEPTACLE SHALL BE APPLETON 20 AMP U-LINE EXPLOSIONPROOF RECEPTACLE MODEL EFS175-2023, OR APPROVED EQUAL.
19. EMT CONDUIT SHALL BE BY WHEATLAND, TRIANGLE, REPUBLIC OR APPROVED EQUAL. CONDUIT CONNECTORS SHALL BE COMPRESSION TYPE BY THOMAS & BETTS, O.Z. GEDNEY, EFCOR, OR APPROVED EQUAL. SET SCREW TYPE CONNECTIONS ARE NOT ACCEPTABLE.

KEY NOTES:

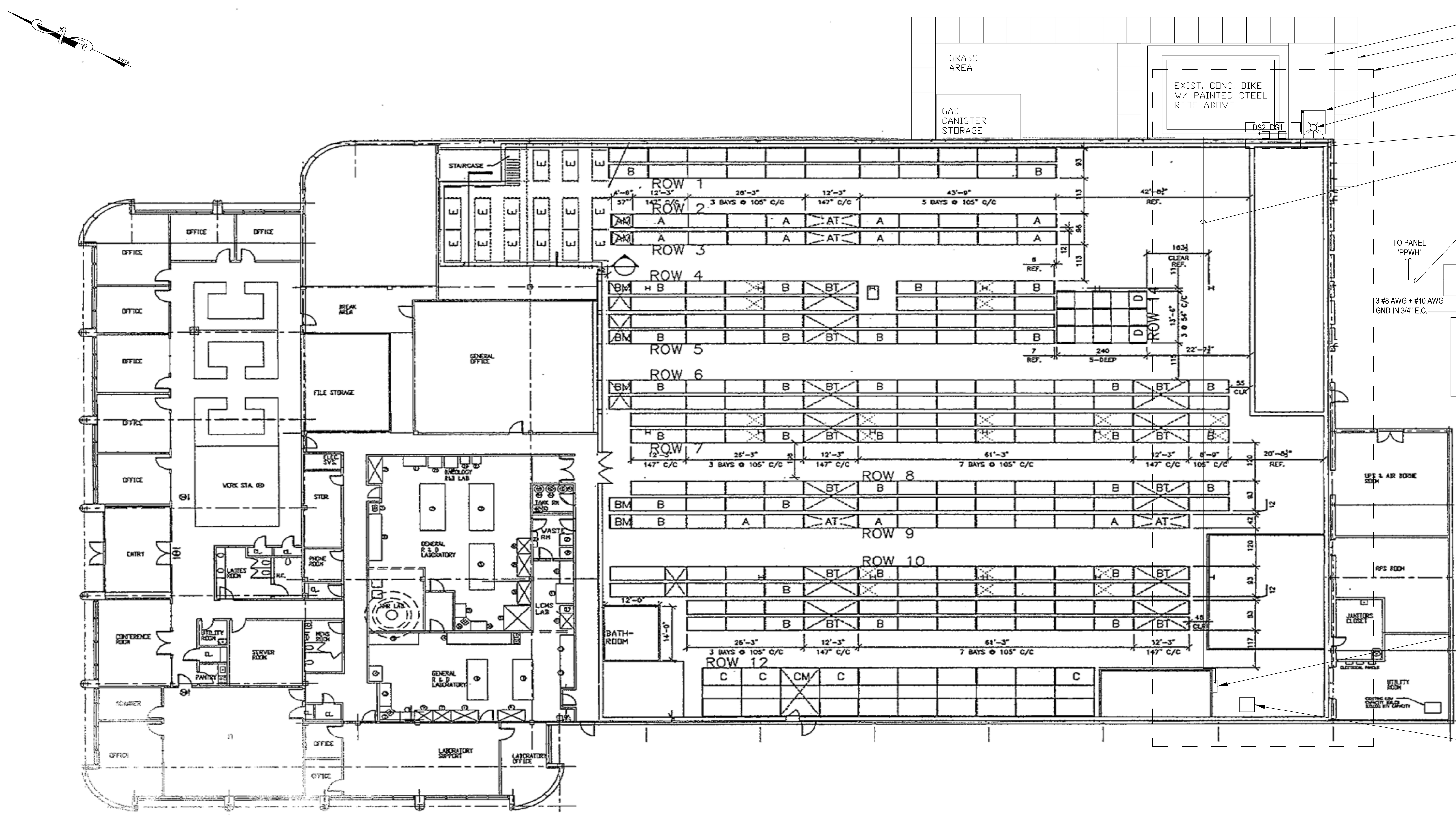
1. CONTRACTOR SHALL INSTALL NEW 50A/3P CIRCUIT BREAKER WITHIN EXISTING PANEL "PPWH" IN PLACE OF THREE (3) EXISTING 1P SPACES.
2. CONTRACTOR SHALL ROUTE CONDUIT UP FROM PANEL 'PPWH' TO EXISTING OPEN WEB JOIST AND OVER TO NORTHEAST EXTERIOR WALL OF BUILDING. CORE DRILL THROUGH WALL AND ROUTE CONDUIT OVER AND DOWN TO NEW COMBINATION MOTOR STARTER/DISCONNECT SWITCH. SEAL ALL WALL PENETRATIONS WITH NON-SHRINK GROUT PAINTED TO MATCH SURROUNDINGS.

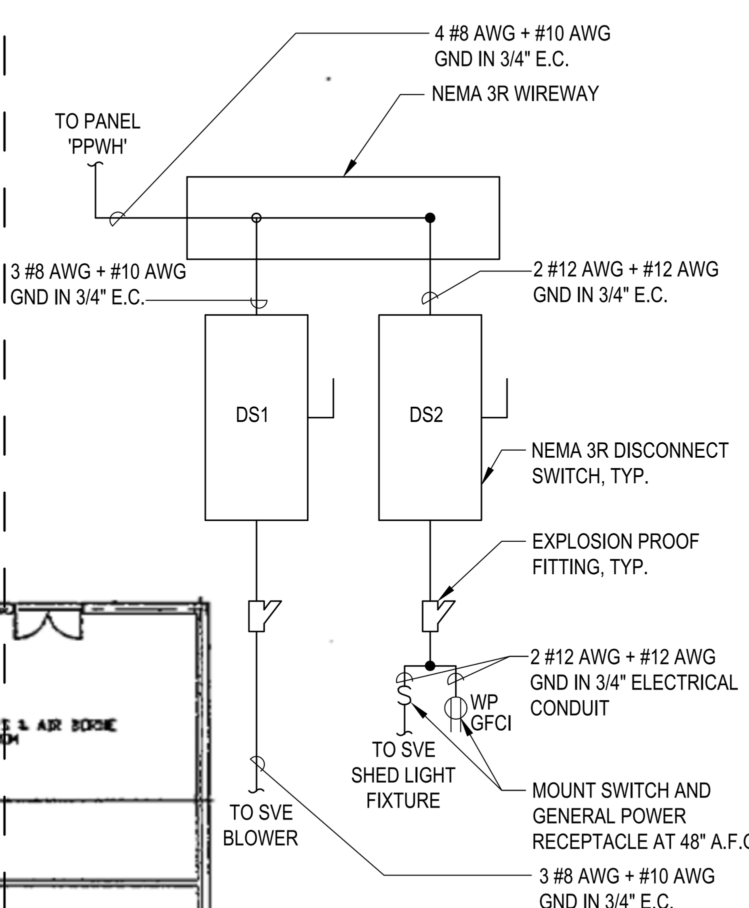


CONTROL LEGEND	
SYMBOL	DESCRIPTION
TH	MOTOR THERMAL SWITCH
LS	WATER LEVEL SWITCH
PS	VACUUM PRESSURE SWITCH

SVE Blower Control Diagram

SCALE: NTS





Exterior Electrical Equipment Elevation

SCALE: NTS

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MARK	DATE	DESCRIPTION
1	2014-10-01	SSDS DESIGN

PROJECT #:

SEAL

DATE: OCTOBER 2014

DESIGNED BY: CJS

DRAWN BY: NJT

CHECKED BY: PRL   REVIEWED BY: PRL

CLIENT

LUITPOLD PHARMACEUTICALS, INC.

26 PRECISION DRIVE
SHIRLEY, NEW YORK 11967

CONTRACT

STATUS

SSDS DESIGN

SHEET TITLE

ELECTRICAL PLAN

SHEET #

TABLES

TABLE 1
LUITPOLD PHARMACEUTICALS
20-Jan-11
SUMMARY OF ANALYTICAL RESULTS FOR VOLATILE ORGANIC COMPOUNDS (ug\m^3)

Sample ID	EPA Target Indoor Air	AQ-1	AQ-2	AQ-3	AQ-4	AQ-5	AQ-6	AQ-7	AQ-8	SS-1	SS-2	SS-3	SS-4	SS-5	SS-6	SS-7	SS-8	Ambient North	Ambient South
Date of Collection	Concentrations	1/20/2011	1/20/2011	1/20/2011	1/20/2011	1/20/2011	1/20/2011	1/20/2011	1/20/2011	1/20/2011	1/20/2011	1/20/2011	1/20/2011	1/20/2011	1/20/2011	1/20/2011	1/20/2011	1/20/2011	1/20/2011
Volatile Organic Compounds	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)
1,1,1-Trichloroethane		ND	ND	ND	ND	ND	ND	ND	ND	535	376	332	129	72.8	226	201	38	ND	ND
1,2-Dichloroethene		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

QUALIFIERS
B: Compound was found in the method blank as well as the sample
U: Compound was analyzed for but not detected at the detection limit shown.
J: Compound was found at a concentration below the detection limit, value estimated
E: Concentration exceeds instrument calibration range; value estimated.
D: Result taken from analysis at a secondary dilution.
U*: Result qualified as non-detect based on validation criteria

NOTES
GV: Guidance Value
ST: Standard
NA: Not Analyzed
: Parameter exceeds Standard/Guidance Value
NS: Not Sampled
J*: Result qualified as estimated based on validation criteria

TABLE 2
LUITPOLD PHARMACEUTICALS
9-Feb-12
SUMMARY OF ANALYTICAL RESULTS FOR VOLATILE ORGANIC COMPOUNDS (ug\m^3)

Sample ID	EPA Target Indoor Air	AQ-1	AQ-2	AQ-3	AQ-4	AQ-5	AQ-6	AQ-7	AQ-8	AQ-9	SS-1	SS-2	SS-3	SS-4	SS-5	SS-6	SS-7	SS-8	SS-9	Ambient North	Ambient South
Date of Collection	Concentrations	2/9/2012	2/9/2012	2/9/2012	2/9/2012	2/9/2012	2/9/2012	2/9/2012	2/9/2012	2/9/2012	2/9/2012	2/9/2012	2/9/2012	2/9/2012	2/9/2012	2/9/2012	2/9/2012	2/9/2012	2/9/2012	2/9/2012	2/9/2012
Volatile Organic Compounds	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)
1,1,1-Trichloroethane		< 1.09	< 1.09	< 1.09	< 1.09	< 1.09	< 1.09	< 1.09	< 1.09	< 1.09	246	219	59.9	83.3	51.5	204	121	14.2	115	< 1.09	< 1.09
1,1,2,2-Tetrachloroethane	0.42	< 1.37	< 1.37	< 1.37	< 1.37	< 1.37	< 1.37	< 1.37	< 1.37	< 1.37	< 1.37	< 1.37	< 1.37	< 1.37	< 1.37	< 1.37	< 1.37	< 1.37	< 1.37	< 1.37	< 1.37
1,1,2-Trichloro-1,1,2-trifluoroethane		< 1.53	< 1.53	< 1.53	< 1.53	< 1.53	< 1.53	< 1.53	< 1.53	< 1.53	13	< 1.53	< 1.53	< 1.53	< 1.53	< 1.53	< 1.53	< 1.53	< 1.53	< 1.53	< 1.53
1,1,2-Trichloroethane	1.5	< 1.09	< 1.09	< 1.09	< 1.09	< 1.09	< 1.09	< 1.09	< 1.09	< 1.09	< 1.09	< 1.09	< 1.09	< 1.09	< 1.09	< 1.09	< 1.09	< 1.09	< 1.09	< 1.09	< 1.09
1,1-Dichloroethane	500	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	7.77	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	<0.81	< 0.81	< 0.81
1,1-Dichloroethene	200	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	13.6	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79
1,2,4-Trichlorobenzene	200	< 1.48	< 1.48	< 1.48	< 1.48	< 1.48	< 1.48	< 1.48	< 1.48	< 1.48	< 1.48	< 1.48	< 1.48	< 1.48	< 1.48	1.48	< 1.48	< 1.48	<1.48	< 1.48	< 1.48
1,2,4-Trimethylbenzene	6	<0.983	1.13	<0.983	<0.98	< 0.983	< 0.983	< 0.983	< 0.98	1.13	< 0.98	4.38	<0.98	7.72	7.08	9.34	7.57	< 0.98	13.4	< 0.98	< 0.98
1,2-Dibromoethane	0.11	< 1.54	< 1.54	< 1.54	< 1.54	< 1.54	< 1.54	< 1.54	< 1.54	< 1.54	< 1.54	< 1.54	< 1.54	< 1.54	< 1.54	< 1.54	< 1.54	< 1.54	< 1.54	< 1.54	< 1.54
1,2-Dichlorobenzene	200	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20
1,2-Dichloroethane	0.94	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81
1,2-Dichloroethene (cis)		<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793
1,2-Dichloroethene (trans)		<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793	<0.793
1,2-Dichloropropane	4	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92
1,2-Dichlorotetrafluoroethane		< 1.40	< 1.40	< 1.40	< 1.40	< 1.40	< 1.40	< 1.40	< 1.40	< 1.40	< 1.40	<1.4	< 1.40	< 1.40	< 1.40	< 1.40	< 1.40	< 1.40	< 1.40	< 1.40	< 1.40
1,3,5-Trimethylbenzene	6	<0.983	<0.98	<0.983	<0.98	< 0.983	< 0.98	< 0.983	< 0.98	< 0.98	< 0.98	1.33	<0.98	2.26	2.36	3.15	2.51	< 0.98	4.33	< 0.98	< 0.98
1,3-Dichlorobenzene	110	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	<1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20
1,3-Dichloropropene (cis)		<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908
1,3-Dichloropropene (trans)		<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908	<0.908
1,3-Hexachlorobutadiene		< 2.13	< 2.13	< 2.13	< 2.13	< 2.13	< 2.13	< 2.13	< 2.13	< 2.13	< 2.13	< 2.13	< 2.13	< 2.13	< 2.13	< 2.13	< 2.13	< 2.13	< 2.13	< 2.13	< 2.13
1,4-Dichlorobenzene	800	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20
Acetone	350	<0.475	<0.475	<0.475	<0.475	<0.475	< 0.475	< 0.475	< 0.475	< 0.475	<0.475	<0.475	<0.475	5.61	<0.475	2.68	6.32	3.82	37.1	3.78	3.42
Benzene	3.1	< 0.64	<0.639	<0.639	< 0.64	< 0.64	< 0.64	< 0.64	< 0.64	< 0.64	<0.639	< 0.64	< 0.64	< 0.64	< 0.64	< 0.64	< 0.64	< 0.64	0.74	< 0.64	< 0.64
Bromodichloromethane	1.4	< 1.34	< 1.34	< 1.34	< 1.34	< 1.34	< 1.34	< 1.34	< 1.34	< 1.34	< 1.34	< 1.34	< 1.34	< 1.34	< 1.34	< 1.34	< 1.34	< 1.34	< 1.34	< 1.34	< 1.34
Bromoform	22	< 2.07	< 2.07	< 2.07	< 2.07	< 2.07	< 2.07	< 2.07	< 2.07	< 2.07	< 2.07	< 2.07	< 2.07	< 2.07	< 2.07	< 2.07	< 2.07	< 2.07	2.79	< 2.07	< 2.07
Bromomethane	5	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78
Carbon disulfide	700	< 0.62	< 0.62	< 0.62	< 0.62	< 0.62	< 0.62	< 0.62	< 0.62	< 0.62	<0.623	<0.623	<0.623	<0.623	< 0.62	< 0.62	<0.623	< 0.62	5.61	< 0.62	< 0.62
Carbon tetrachloride		< 1.26	< 1.26	< 1.26	< 1.26	< 1.26	< 1.26	< 1.26	< 1.26	< 1.26	< 1.26	< 1.26	< 1.26	< 1.26	< 1.26	< 1.26	< 1.26	< 1.26	< 1.26	< 1.26	< 1.26
Chlorobenzene	60	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92
Chloroethane	10,000	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	< 0.53	< 0.53
Chloroform		< 0.98	< 0.98	< 0.98	< 0.98	< 0.98	< 0.98	< 0.98	< 0.98	< 0.98	2.83	< 0.98	< 0.98	< 0.98	0.977	< 0.98	< 0.98	< 0.98	1.42	< 0.98	< 0.98
Chloromethane	24	0.702	0.764	0.785	0.764	0.76	0.744	0.785	0.76	0.76	< 0.41	< 0.41	0.475	<0.413	< 0.41	< 0.41	<0.413	<0.41	< 0.41	0.661	0.72
Dibromochloromethane	1	< 1.70	< 1.70	< 1.70	< 1.70	< 1.70	< 1.70	< 1.70	< 1.70	< 1.70	< 1.70	< 1.70	< 1.70	< 1.70	< 1.70	< 1.70	< 1.70	< 1.70	3.07	< 1.70	< 1.70
Dichlorodifluoromethane		1.63	1.73	1.83	1.78	1.83	1.93	1.93	1.93	1.68	< 0.99	< 0.99	1.68	< 0.99	< 0.99	< 0.99	< 0.99	< 0.99	1.73	0.989	1.58
Ethylbenzene	22	1.35	2.3	1.35	1.48	1.56	< 0.869	< 0.869	< 0.87	1.87	< 0.87	< 0.87	0.912	0.912	1.04	0.99	0.956	<0.87	8.21	< 0.87	< 0.87
Methyl butyl ketone		<0.819	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82
Methyl ethyl ketone		0.678	0.85	0.885	0.796	0.914	<0.59	< 0.59	< 0.59	0.767	< 0.59	< 0.59	0.944	<0.590	< 0.59	0.94	<0.59	< 0.59	2.77	< 0.59	< 0.59
Methyl isobutyl ketone		< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	0.984	< 0.82	< 0.82
Methyl tert-butyl ether	3,000	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72
Methylene Chloride	52	1.75	1.86	1.75	1.36	1.44	0.971	1.67	0.78	1.28	2.29	0.893	1.28	0.815	0.932	<0.77	<0.77	<0.77	<0.77	2.49	1.48
Styrene	1000	2	7.37	2.85	1.92	3.15	1.15	1.24	< 0.85	4.81	< 0.85	< 0.85	1.58	< 0.85	< 0.85	< 0.85	< 0.85	< 0.85	1.87	< 0.85	< 0.85
Tetrachloroethene	8.1	2.51	8.82	1.56	< 1.36	<1.36	< 1.36	<1.36	< 1.36	< 1.36	36,100	365	946	829	175	245	78.2	6.58	508	< 1.36	< 1.36
Toluene	400	2.07	2.94	2.6	2.75	3.58	1.02	1.13	< 0.75	2.94	0.75	1.66	1.92	6.48	6.67	5.95	6.29	<0.75	18.3	< 0.75	< 0.75
Trichloroethene	0.22	< 1.07	< 1.07	< 1.07	< 1.07	< 1.07	< 1.07	< 1.07	< 1.07	< 1.07	1,010	< 1.07	< 1.07	< 1.07	< 1.07	< 1.07	< 1.07	< 1.07	< 1.07	< 1.07	< 1.07
Trichlorofluoromethane		1.57	2.02	2.02	2.08	2.08	4.95	4.33	2.7	1.85	12.8	43.2	9.05	11.7	89	24.2	25	42.1	2.02	< 1.12	< 1.12
Vinyl acetate	200	< 0.70	< 0.70	< 0.70	< 0.70	< 0.70	< 0.70	< 0.70	< 0.70	< 0.70	< 0.70	< 0.70	< 0.70	< 0.70	< 0.70	< 0.70	< 0.70	< 0.70	< 0.70	< 0.70	< 0.70
Vinyl chloride	2.8	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	0.537	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51
Xylene (m&p)	7000	3.65	4.52	3.17	3.82	4.08	1.26	1.35	< 0.87	4	< 0.87	1.48	2.17	3.56	3.69	4.13	3.74	<0.87	36.8	< 0.87	< 0.87
Xylene (o)	7000	1.52	2	1.43	1.61	1.82	< 0.87	< 0.87	< 0.87	1.82	< 0.87	<0.87	0.956	1.82	1.87	2.13	1.95	<0.87	48.8	< 0.87	< 0.87

QUALIFIERS
B: Compound was found in the method blank as well as the sample
U: Compound was analyzed for but not detected at the detection limit shown.
J: Compound was found at a concentration below the detection limit, value estimated
E: Concentration exceeds instrument calibration range; value estimated.
D: Result taken from analysis at a secondary dilution.
U*: Result qualified as non-detect based on validation criteria

NOTES
GV: Guidance Value
ST: Standard
NA: Not Analyzed
[shaded cell]: Parameter exceeds Standard/Guidance Value
NS: Not Sampled
J*: Result qualified as estimated based on validation criteria

TABLE 3

LUITPOLD PHARMACEUTICALS

24-Jan-13

SUMMARY OF ANALYTICAL RESULTS FOR VOLATILE ORGANIC COMPOUNDS (ug\m^3)

Sample ID	EPA Target Indoor Air Concentrations	AQ-1	AQ-2	AQ-3	AQ-4	AQ-5	AQ-6	AQ-7	AQ-8	AQ-9	SS-1	SS-2	SS-3	SS-4	SS-5	SS-6	SS-7	SS-8	SS-9	Ambient North	Ambient South
Date of Collection		1/24/2013	1/24/2013	1/24/2013	1/24/2013	1/24/2013	1/24/2013	1/24/2013	1/24/2013	1/24/2013	1/24/2013	1/24/2013	1/24/2013	1/24/2013	1/24/2013	1/24/2013	1/24/2013	1/24/2013	1/24/2013	1/24/2013	1/24/2013
Volatile Organic Compounds	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)
1,1,1-Trichloroethane		< 1.09	< 1.09	< 1.09	< 1.09	< 1.09	< 1.09	< 1.09	< 1.09	< 1.09	589	194	86.6	53.5	66.1	159	78	7.8	107	< 10.9	< 10.9
1,1,2,2-Tetrachloroethane	0.42	< 1.37	< 1.37	< 1.37	< 1.37	< 1.37	< 1.37	< 1.37	< 1.37	< 1.37	< 1.37	< 1.37	< 1.37	< 1.37	< 1.37	< 1.37	< 1.37	< 1.37	< 1.37	< 1.37	< 1.37
1,1,2-Trichloro-1,1,2-trifluoroethane		< 1.53	< 1.53	< 1.53	< 1.53	< 1.53	< 1.53	< 1.53	< 1.53	< 1.53	17.9	< 1.53	< 1.53	< 1.53	< 1.53	< 1.53	< 1.53	< 1.53	< 1.53	< 1.53	< 1.53
1,1,2-Trichloroethane	1.5	< 1.09	< 1.09	< 1.09	< 1.09	< 1.09	< 1.09	< 1.09	< 1.09	< 1.09	< 1.09	< 1.09	< 1.09	< 1.09	< 1.09	< 1.09	< 1.09	< 1.09	< 1.09	< 1.09	< 1.09
1,1-Dichloroethane	500	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	7.37	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	1.13	< 0.81	< 0.81
1,1-Dichloroethene	200	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	20.9	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79
1,2,4-Trichlorobenzene	200	< 1.48	< 1.48	< 1.48	< 1.48	< 1.48	< 1.48	< 1.48	< 1.48	< 1.48	< 1.48	< 1.48	< 1.48	< 1.48	< 1.48	< 1.48	< 1.48	< 1.48	2.26	< 1.48	< 1.48
1,2,4-Trimethylbenzene	6	5.7	7.18	8.36	1.08	6.59	1.67	2.36	< 0.98	6.19	< 0.98	< 0.98	3.05	< 0.98	< 0.98	< 0.98	< 0.98	< 0.98	< 0.98	< 0.98	< 0.98
1,2-Dibromoethane	0.11	< 1.54	< 1.54	< 1.54	< 1.54	< 1.54	< 1.54	< 1.54	< 1.54	< 1.54	< 1.54	< 1.54	< 1.54	< 1.54	< 1.54	< 1.54	< 1.54	< 1.54	< 1.54	< 1.54	< 1.54
1,2-Dichlorobenzene	200	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20
1,2-Dichloroethane	0.94	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81	< 0.81
1,2-Dichloropropane	4	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92
1,2-Dichlorotetrafluoroethane		< 1.40	< 1.40	< 1.40	< 1.40	< 1.40	< 1.40	< 1.40	< 1.40	< 1.40	< 1.40	< 1.40	< 1.40	< 1.40	< 1.40	< 1.40	< 1.40	< 1.40	< 1.40	< 1.40	< 1.40
1,3,5-Trimethylbenzene	6	3	3.83	4.38	2.75	3.34	< 0.98	1.13	< 0.98	3.24	< 0.98	< 0.98	1.57	< 0.98	< 0.98	< 0.98	< 0.98	< 0.98	1.08	< 0.98	< 0.98
1,3-Dichlorobenzene	110	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20
1,3-Hexachlorobutadiene		< 2.13	< 2.13	< 2.13	< 2.13	< 2.13	< 2.13	< 2.13	< 2.13	< 2.13	< 2.13	< 2.13	< 2.13	< 2.13	< 2.13	< 2.13	< 2.13	< 2.13	< 2.13	< 2.13	< 2.13
1,4-Dichlorobenzene	800	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20	< 1.20
Acetone	350	264	3.9	3.7	213	194	94	119	49.7	362	7.91	23.8	127	78.9	13.4	33.8	68.8	23.1	110	2.02	3.68
Benzene	3.1	< 0.64	0.73	0.67	< 0.64	< 0.64	< 0.64	0.67	< 0.64	0.7	0.83	< 0.64	< 0.64	< 0.64	< 0.64	< 0.64	< 0.64	< 0.64	< 0.64	< 0.64	0.8
Bromodichloromethane	1.4	< 1.34	< 1.34	< 1.34	< 1.34	< 1.34	< 1.34	< 1.34	< 1.34	< 1.34	< 1.34	< 1.34	< 1.34	< 1.34	< 1.34	< 1.34	< 1.34	< 1.34	< 1.34	< 1.34	< 1.34
Bromoform	22	< 2.07	< 2.07	< 2.07	< 2.07	< 2.07	< 2.07	< 2.07	< 2.07	< 2.07	< 2.07	< 2.07	< 2.07	< 2.07	< 2.07	< 2.07	< 2.07	< 2.07	< 2.07	< 2.07	< 2.07
Bromomethane	5	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78	< 0.78
Carbon disulfide	700	< 0.62	< 0.62	< 0.62	< 0.62	< 0.62	< 0.62	< 0.62	< 0.62	< 0.62	6.04	1.79	0.69	1.49	< 0.62	< 0.62	1.31	< 0.62	0.93	< 0.62	< 0.62
Carbon tetrachloride		< 1.26	< 1.26	< 1.26	< 1.26	< 1.26	< 1.26	< 1.26	< 1.26	< 1.26	< 1.26	< 1.26	< 1.26	< 1.26	< 1.26	< 1.26	< 1.26	< 1.26	< 1.26	< 1.26	< 1.26
Chlorobenzene	60	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92	< 0.92
Chloroethane	10,000	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	< 0.53	< 0.53
Chloroform		< 0.98	< 0.98	< 0.98	< 0.98	< 0.98	< 0.98	< 0.98	< 0.98	< 0.98	4.49	< 0.98	< 0.98	< 0.98	< 0.98	< 0.98	< 0.98	< 0.98	< 0.98	< 0.98	< 0.98
Chloromethane	24	<0.89	<0.89	0.85	0.85	1.01	0.87	0.97	0.93	0.87	< 0.41	< 0.41	< 0.41	0.45	< 0.41	< 0.41	0.45	0.56	< 0.41	0.85	0.87
cis-1,2-Dichloroethene		< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	2430	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79
cis-1,3-Dichloropropene	6.1	< 0.91	< 0.91	< 0.91	< 0.91	< 0.91	< 0.91	< 0.91	< 0.91	< 0.91	< 0.91	< 0.91	< 0.91	< 0.91	< 0.91	< 0.91	< 0.91	< 0.91	< 0.91	< 0.91	< 0.91
Dibromochloromethane	1	< 1.70	< 1.70	< 1.70	< 1.70	< 1.70	< 1.70	< 1.70	< 1.70	< 1.70	< 1.70	< 1.70	< 1.70	< 1.70	< 1.70	< 1.70	< 1.70	< 1.70	< 1.70	< 1.70	< 1.70
Dichlorodifluoromethane		2.03	1.93	1.98	2.03	2.42	2.27	2.32	2.32	2.03	< 0.99	< 0.99	1.43	< 0.99	< 0.99	< 0.99	< 0.99	< 0.99	1.38	1.93	1.98
Ethylbenzene	22	29.6	29.6	35.3	19.3	18.8	6.12	8.69	2.82	30	< 0.87	1.04	13.6	4.6	< 0.87	1.3	2.48	1.04	7.04	< 0.87	< 0.87
Methyl butyl ketone		< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82
Methyl ethyl ketone		< 0.59	0.62	0.22	< 0.59	0.74	0.59	< 0.59	< 0.59	< 0.59	< 0.59	< 0.59	0.83	1.09	< 0.59	< 0.59	0.65	< 0.59	< 0.59	< 0.59	< 0.59
Methyl isobutyl ketone		< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82	< 0.82
Methyl tert-butyl ether	3,000	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72	< 0.72
Methylene Chloride	52	1.16	1.4	1.16	1.44	1.83	1.32	1.24	2.21	1.13	2.76	1.05	1.16	1.16	1.48	1.44	1.05	1.09	4.19	0.97	1.28
Styrene	1000	1.24	5.71	1.19	0.98	1.58	0.89	1.15	< 0.85	2.3	< 0.85	< 0.85	< 0.85	< 0.85	< 0.85	< 0.85	< 0.85	< 0.85	0.89	< 0.85	< 0.85
Tetrachloroethene	8.1	3.26	2.58	1.76	< 1.36	2.03	3.26	3.26	< 1.36	1.56	67,100	279	604	463	187	167	46.6	1.42	496	< 1.36	< 1.36
Toluene	400	19.27	21	24.3	12.9	13.1	5.09	7.04	2.71	21.6	0.75	1.21	9.79	4.33	0.98	1.88	3.2	1.43	5.42	< 0.75	< 0.75
trans-1,2-Dichloroethene	70	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	41.9	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79	< 0.79
trans-1,3-Dichloropropene		< 0.91	< 0.91	< 0.91	< 0.91	< 0.91	< 0.91	< 0.91	< 0.91	< 0.91	< 0.91	< 0.91	< 0.91	< 0.91	< 0.91	< 0.91	< 0.91	< 0.91	< 0.91	< 0.91	< 0.91
Trichloroethene	0.22	< 1.07	< 1.07	< 1.07	< 1.07	< 1.07	< 1.07	< 1.07	< 1.07	< 1.07	1,850	< 1.07	< 1.07	< 1.07	< 1.07	< 1.07	< 1.07	< 1.07	< 1.07	< 1.07	< 1.07
Trichlorofluoromethane		1.69	1.63	1.57	1.91	2.3	6.07	4.83	2.98	1.74	15	52.5	12.8	7.47	125	17.8	15.6	24.8	2.19	< 1.12	< 1.12
Vinyl acetate	200	< 0.70	< 0.70	< 0.70	< 0.70	< 0.70	< 0.70	< 0.70	< 0.70	< 0.70	< 0.70	< 0.70	< 0.70	< 0.70	< 0.70	< 0.70	< 0.70	< 0.70	< 0.70	< 0.70	< 0.70
Vinyl chloride	2.8	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	0.61	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51	< 0.51
Xylene (m&p)	7000	105	103	125	68.2	65.5	21	30.5	9.53	104	< 0.87	0.78	46.8	13.9	1.82	3.78	7.38	2.61	24.1	< 0.87	< 0.87
Xylene (o)	7000	36.3	35.2	42.4	23.7	22.9	7.3	10.5	3.3	35.2	< 0.87	0.28	16.2	4.6	< 0.87	1.3	2.39	0.91	12.7	< 0.87	< 0.87

QUALIFIERS

B: Compound was found in the method blank as well as the sample

U: Compound was analyzed for but not detected at the detection limit shown.

J: Compound was found at a concentration below the detection limit, value estimated

E: Concentration exceeds instrument calibration range; value estimated.

D: Result taken from analysis at a secondary dilution.

U*: Result qualified as non-detect based on validation criteria

NOTES

GV: Guidance Value

ST: Standard

NA: Not Analyzed

: Parameter exceeds Standard/Guidance Value

NS: Not Sampled

J*: Result qualified as estimated based on validation criteria

TABLE 4
LUITPOLD PHARMACEUTICALS
NYSDOH DECISION MATRIX
SUMMARY OF ANALYTICAL RESULTS FOR VOLATILE ORGANIC COMPOUNDS (ug\m^3)

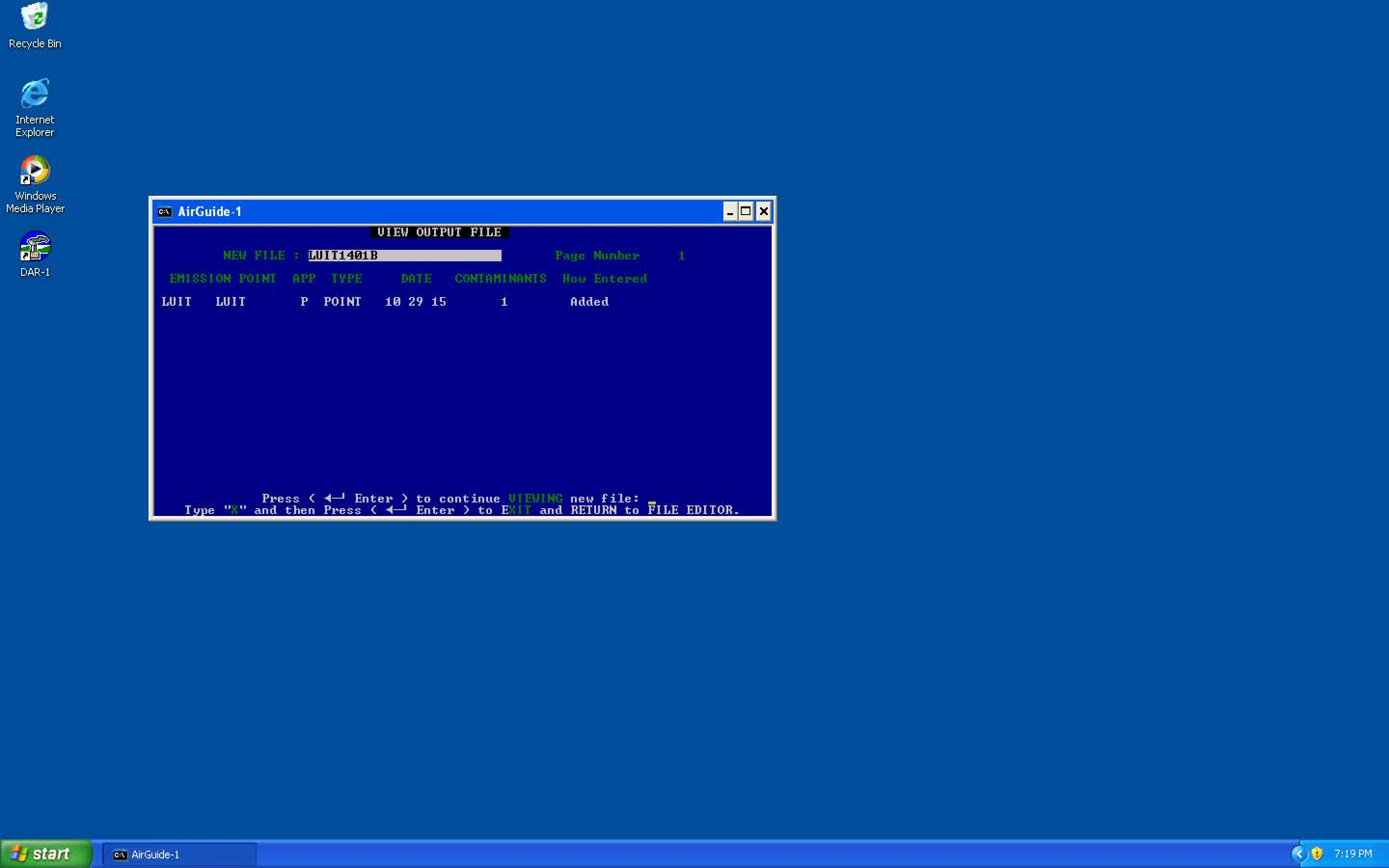
	1			2			3								
Sample ID	AQ-1	SS-1	NYSDOH	AQ-2	SS-2	NYSDOH	AQ-3	SS-3	NYSDOH	AQ-4	SS-4	NYSDOH	AQ-5	SS-5	NYSDOH
Date of Collection	1/24/2013	1/24/2013		1/24/2013	1/24/2013		1/24/2013	1/24/2013		1/24/2013	1/24/2013		1/24/2013	1/24/2013	
Volatile Organic Compounds	(ug/m^3)	(ug/m^3)		(ug/m^3)	(ug/m^3)		(ug/m^3)	(ug/m^3)		(ug/m^3)	(ug/m^3)		(ug/m^3)	(ug/m^3)	
1,1,1-Trichloroethane	< 1.09	589	MONITOR	< 1.09	194	MONITOR	< 1.09	86.6	NFA	< 1.09	53.5	NFA	< 1.09	66.1	NFA
Carbon tetrachloride	< 1.26	< 1.26	IDENTIFY	< 1.26	< 1.26	IDENTIFY	< 1.26	< 1.26	IDENTIFY	< 1.26	< 1.26	IDENTIFY	< 1.26	< 1.26	IDENTIFY
Tetrachloroethene	3.26	67,100	MITIGATE	2.58	279	MONITOR	1.76	604	MONITOR	< 1.36	463	MONITOR	2.03	187	MONITOR
Trichloroethene	< 1.07	1,850	MITIGATE	< 1.07	< 1.07	IDENTIFY	< 1.07	< 1.07	IDENTIFY	< 1.07	< 1.07	IDENTIFY	< 1.07	< 1.07	IDENTIFY

	6			7			8			9				
Sample ID	AQ-6	SS-6	NYSDOH	AQ-7	SS-7	NYSDOH	AQ-8	SS-8	NYSDOH	AQ-9	SS-9	NYSDOH	Ambient North	Ambient South
Date of Collection	1/24/2013	1/24/2013		1/24/2013	1/24/2013		1/24/2013	1/24/2013		1/24/2013	1/24/2013		1/24/2013	1/24/2013
Volatile Organic Compounds	(ug/m^3)	(ug/m^3)		(ug/m^3)	(ug/m^3)		(ug/m^3)	(ug/m^3)		(ug/m^3)	(ug/m^3)		(ug/m^3)	(ug/m^3)
1,1,1-Trichloroethane	< 1.09	159	MONITOR	< 1.09	78	NFA	< 1.09	7.8	NFA	< 1.09	107	MONITOR	< 10.9	< 10.9
Carbon tetrachloride	< 1.26	< 1.26	IDENTIFY	< 1.26	< 1.26	IDENTIFY	< 1.26	< 1.26	IDENTIFY	< 1.26	< 1.26	IDENTIFY	< 1.26	< 1.26
Tetrachloroethene	3.26	167	MONITOR/MITIGATE	3.26	46.6	IDENTIFY	< 1.36	1.42	NFA	1.56	496	MONITOR	< 1.36	< 1.36
Trichloroethene	< 1.07	< 1.07	IDENTIFY	< 1.07	< 1.07	IDENTIFY	< 1.07	< 1.07	IDENTIFY	< 1.07	< 1.07	IDENTIFY	< 1.07	< 1.07

TABLE 5
LUITPOLD PHARMACEUTICALS
20-May-14
PILOT TEST DATA SUMMARY

Time	Vac Pressure at Extraction Well SVE-1 (in-wc)	Vacuum Influence (in-wc) VW-1 (5 ft)	Vacuum Influence (in-wc) VW-2 (10 ft)	Discharge Flow SCFM
12:00	-95	-0.150	0.000	280
12:15	-95	-0.155	0.000	280
12:30	-95	-0.152	-0.004	280
12:45	-86	-0.120	0.000	305
13:00	-98	-0.190	-0.006	278
13:15	-98	-0.190	-0.006	278
13:30	-98	-0.190	-0.006	278
13:45	-97	-0.181	-0.006	279
14:00	-97	-0.170	-0.006	279
14:15	-97	-0.166	-0.005	279

APPENDIX A


Recycle Bin
Internet Explorer
Windows Media Player
DAR-1
AirGuide-1
VIEW OUTPUT FILE
NEW FILE : LUIT1401B
Page Number 1
EMISSION POINT APP TYPE DATE CONTAMINANTS How Entered
LUIT LUIT P POINT 10 29 15 1 Added
Press (Enter) to continue VIEWING new file:
Type "X" and then Press (Enter) to EXIT and RETURN to FILE EDITOR.
start
AirGuide-1
7:19 PM

AirGuide-1

```
UNCAP STACK                    LUIT                           LUIT
        EMISSION POINT : LUIT    LUIT       P     DATE : 10/29/15

  STACK PARAMETERS
      Height Above Structure :                    3.    feet
      Stack Height :                             23.    feet
      Inside Diameter :                           4.    inches
      Exit Temperature :                        125.    degrees fahrenheit
      Exit Velocity :                          3000.00 feet/second
      Exit Flow Rate :                          180.00 ACFM

  STACK LOCATION & BUILDING DIMENSIONS
      Shortest Distance
      From Building To Property Line :          275.    feet
      Building Width :                          275.    feet
      Building Length :                         160.    feet
      Direction Building Length is Facing :      90.0   degrees
      UTME :                                 678386.    meters
      UTMN :                                4523782.    meters
      UTM ZONE :                                 18


                    Press ( ←┘ Enter ) if all data is OK: _
 Type ANY CHARACTER and then Press ( ←┘ Enter ) if you want to change data.
```

AirGuide-1

CONTAMINANT ASSESSMENT SUMMARY OF DAR-1 ANALYSIS 10/29/15

Page 1

		SHORT-TERM	CAVITY	POINT or AREA SOURCE	
CAS NUMBER	AGC ug/m3	MAXIMUM (Cav,Pt,Area) % OF SGC	ACTUAL ANNUAL % OF AGC	POTENTIAL ANNUAL % OF AGC	ACTUAL ANNUAL % OF AGC
00127-18-4	1.00000000	5.3719	0.0000	110.1230	110.2654
SUMMARY TOTALS		5.3719	0.0000	110.1230	110.2654

END OF FILE: Type "X" and Press Enter to EXIT : _

Recycle Bin

Internet Explorer

Windows Media Player

DAR-1

AirGuide-1

UNCAP STACK LUIT LUIT
EMISSION POINT : LUIT LUIT P DATE : 10/29/15

CONTAMINANT EMISSIONS DATA Page Number 1

Chemical Abstract Series NUMBER	EMISSIONS LBS./HOUR	EMISSIONS LBS./YEAR	EMISSIONS TONS/YEAR
00127-18-4	0.024	212.900	0.106

Press < ↵ Enter > if all data is OK: _
Type ANY CHARACTER and then Press < ↵ Enter > if you want to change data.

start AirGuide-1 7:18 PM