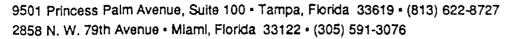
£RM-South, inc.



Reply To: Tampa Office

August 31, 1990

Project No. 13112.21, Task 1

VIA FAX (407) 433-2666

Mr. Knox McKee
Engineer III
Hazardous Waste Permitting
Florida Department of
Environmental Regulation
1900 South Congress Avenue, Suite A
West Palm Beach, FL 33406

RE: Safety-Kleen Corp.--Medley, Florida Facility

Dear Mr. McKee:

As we discussed, Environmental Resources Management-South, Inc. (ERM), is assisting Safety-Kleen Corp. with the necessary revisions to the Construction Permit Application for the above-referenced facility. We should be receiving all supportive information this week and be able to review documentation and assess the amount of work to adequately revise the Application. By September 17, we will submit a compliance schedule to you that will detail anticipated work, completion dates, and Florida Department of Environmental Regulation (FDER) submission date.

We appreciate your assistance and cooperation in this matter. If you have any questions or comments, please do not hesitate to contact me or Ellen Jurczak (1-800-669-5740).

Sincerely,

Fred W. Blickle, P.E.

Senior Engineer

pjh

cc: Ellen Jurczak - Safety-Kleen, Elgin Gary Long - Safety-Kleen, Elgin Cynthia Norton - ERM

ul walk

Rob Omiecinski - Safety-Kleen, Elgin

DECEIVED

SEP 7 1990

HAZARDOUS WASTE PERMITTING





MAY 22 1990

HAZARDOUS WASTE PERMITTING

FEDERAL EXPRESS

April 25, 1990

Mr. J. Scott Benyon Florida Department of Environmental Regulation 1900 South Congress Avenue, Suite A West Palm Beach, FL 33406

Subject: Proposed Medley Service Center

Construction Permit #HC 13-175466

Dear Mr. Benyon:

This has been prepared in response to your letter dated March 26, 1990. Please find enclosed responses to comments, revised pages for the text and revised exhibits for the subject facility.

If you have any questions or require further information, please contact me on extension 2550.

Sincerely,

Rob Omiecinski

Rob Omeanshi

Environmental Permit Writer

RO/dmg

cc: F. Stockbarger, Tampa Regional Manager Branch Manager (3-097-02)

J. Hartline

H. Farchmin

777 BIG TIMBER ROAD ELGIN. ILLINOIS 60123 PHONE 708/697-8460 FAX 708/697-4295

SAFETY-KLEEN CORP. MEDLEY SERVICE CENTER RESPONSES TO COMMENTS DATED MARCH 26, 1990

GENERAL COMMENTS

COMMENT:

17-730.900(2) Part I.A. General Information

1. 20. Please submit EPA/DER I.D. Number, upon completion of pending issuance.

RESPONSE:

Safety-Kleen has not received its EPA I.D. Number. Once received, it will be forwarded to your office.

COMMENT:

17-730.900(2) Part I.B. Site Information

2. 3. Provide photographs of the proposed facility site showing the location of future areas.

RESPONSE:

Photographs of the proposed site are enclosed. Future storage locations can be found on the Site Plan.

COMMENT:

3. 4.2 Submit a legible map indicating the facility's location within the 100-year floodplain area.

RESPONSE:

The entire industrial park has been regraded to an elevation that is above the 100-year floodplain. Further information will be included in the Water Management Plan.

COMMENT:

17-930.900(2) Part II.A. General

4. IA. The maps provided in the application do not adequately depict the area of 100-year floodplain (illegible), orientation of the topographic map, contours sufficient to show surface water flow, drainage or flood control and runoff control system. Submit a map or series of maps (legible quality) which clearly detail the inadequately depicted site characteristics.

RESPONSE:

Please see response to comment #3. In addition, a site survey drawing with spot elevations indicating the direction of surface water flow is enclosed.

COMMENT:

5. lA. Provide a site specific surface water management plan.

RESPONSE:

A water management plan has been requested of Mr. Matt Heppner, Safety-Kleen's regional engineer. It will be forwarded to your office by June 15, 1990.

COMMENT:

6. $\mbox{lB.}$ Submit a wind rose of legible quality which includes the indication of legend and date.

RESPONSE:

A wind rose map is enclosed.

COMMENT:

- 7. 3. The proposed Safety-Kleen Service Center is shown (Exhibit I.B.5-1) to be located in Zone AH (EL.6). Zone AH is a special flood hazard area (SFHA) subject to inundation by the 100-year shallow flooding (usually areas of ponding) where average depths are between (1) one and (3) three feet. Identify the 100-year flood level and any other special flooding factors (e.g. wave action) which must be considered in designing, constructing, operating or maintaining the facility to withstand washout from a 100-year flood. Additionally, provide the following information:
 - a. Engineering analysis to indicate the various hydrodynamic and hydrostatic forces expected to result at the site as a consequence of a 100-year flood.
 - b. Structural or other engineering studies showing the design of operational units (i.e., tanks, incinerators) and flood protection devices (i.e., floodwalls, dikes) at the facility and how these will prevent washout.
 - c. If applicable, and in lieu of (a) and (b) above, a detailed description of procedures to be followed to remove hazardous waste to safety before the facility is flooded, including:
 - (1) Timing of such movement relative to flood levels, including the estimated time to move the waste to show

that such movement can be completed before floodwaters reach the facility;

- (2) A description of the location(s) to which the waste will be moved and a demonstration that those facilities will be eligible to receive hazardous waste in accordance with the regulations under 40 CFR Parts 264 and 265;
- (3) The planned procedures, equipment, and personnel to be used and the means to ensure that such resources will be available in time for use; and
- (4) The potential for accidental discharges of the waste during movement.

RESPONSE:

Please see response to comment #3 and #5.

COMMENT:

8. 4.b The contingency plan which has been submitted states, "If the emergency coordinator determines that the facility has had a release...that could threaten human health or the environment outside the facility..." (I.E. 2-6), should be modified to state, "inside and outside the facility".

RESPONSE:

This information has been revised as requested. The revised page is enclosed.

COMMENT:

9. 4.b The contingency plan, "Spill Control Procedures", (I.E. 2-14) must establish the provision for submitting reports of emergency incidents within (15) fifteen days of occurrence. A statement clarifying this timeframe requirement must be incorporated in the language.

RESPONSE:

This information has been added to p.I.E.2-14.

COMMENT:

10. 4.b The contingency plan, "Procedures For Recordkeeping", (I.D. 6), must be expanded to include annual reports, land band notification/certification forms, waste minimization statement and transporter liability certification.

RESPONSE:

The above information has been revised as requested.

COMMENT:

17-730.900(2) Part II.B. Containers

11. l.b.l Provide manufacturer's specifications which support that the containment area coating (Sikagard 62 or Concresive 1305) material is compatible with all solvents with which it may contact. (Exhibit I.E. 3-10)

RESPONSE:

This information is enclosed.

COMMENT:

12. l.b.l Provide manufacturer's specifications which support that the sump liner (SK Part No. 5280) is compatible with all solvents with which it may contact. (Exhibit I.E. 3-10).

RESPONSE:

This information in enclosed.

COMMENT:

13. 6. The conceptual closure information provided appears adequate. When an actual Closure Permit Application is submitted for review the Department will require a more detailed closure plan.

RESPONSE:

Actual closure plans will be submitted by Safety-Kleen's remediation manager, Mr. Gary Long.

COMMENT:

17-730.900(2) Part II.C. Tanks

14. 2. Specify the nominal capacity (U.S. Gallons) and maximum capacity (U.S. Gallons) of the aboveground storage tanks.

RESPONSE:

The maximum capacity of the tank is 20,000 U.S. gallons. The high level alarm system will be activated when the tank is 95% full or 19,000 U.S. gallons. This information has been added to Section III.B.1.

COMMENT:

15. 2. Exhibit I.E. 3-9 provides (2) two storage tank configurations (vertical installation and horizontal installation). Specify which configuration is to be used at the facility.

RESPONSE:

A revised Exhibit I.E. 3-9 is enclosed.

COMMENT:

16. 4. Exhibit I.E. 3-7 does not detail which couplings will be used for drain line connection, vent line connection, fill line connection and high level alarm transmitter. Provide a drawing which supplies this information.

RESPONSE:

Drawing D11150 Solvent Pump Piping Installation Details is enclosed.

COMMENT:

17. 6. Specify if the proposed aboveground storage tanks are to be newly constructed or used. If used tanks are proposed, submit the ages of all the used tanks.

RESPONSE:

The aboveground tanks will be installed new. This information has been added to Section III.A.l.

COMMENT:

18. 7. Following the timely cleanup of an unsuspected release into the facility's containment area the facility must ensure that residual contaminants are not transported out of the containment system via the sump (Exhibit I.E. 3-6, section A-1) and discharged to a retention pond. It is recommended that the facility investigate installing an oil/water separator following the 6" gate valve and preceding discharge to the retention pond.

RESPONSE:

The sump within the tank farm will be sealed closed.

COMMENT:

19. 7. Supply information on the actual tank configuration (vertical

H1281-RV6

installation or horizontal installation) to be used and make all necessary adjustments in the tank displacement volume calculations. Provide the reference source and any calculations used to derive the rainfall allowance amount (Exhibit I.E. 3-6).

RESPONSE:

The tanks will be installed vertically. The tank displacement calculations on Exhibit I.E. 3-6 are accurate.

COMMENT:

20. 11. Daily inspection of the aboveground storage tank system (I.E. 4-1) must include a visual inspection of tank bottoms (40 CFR 264.193(c)(3)). Modify and submit daily inspection log (I.E. 4-1) to include a visual inspection of the aboveground storage tank bottoms.

RESPONSE:

This information has been added to Section I.E.4.g.

COMMENT:

21. 12. The conceptual closure information provided would appear adequate with the inclusion of the information requested in comments #24-32. When an actual closure permit application is submitted for review the Department will require a more detailed closure plan.

RESPONSE:

This issue was previously addressed.

COMMENT:

22. 12. In the tank closure the final rinsate must be sampled and analyzed for mineral spirits, volatile organic compounds, lead and cadmium. (Pg. I.F. 1-3, l.e. and Pg. I.F. 1-4, 2f).

RESPONSE:

This information has been added to Sections I.F.l.l.e. and I.F.l.2.f.

COMMENT:

23. 12. Surface soil samples (from beneath each dumpster) must be collected an analyzed for mineral spirits, volatile organic compounds and E.P. Toxic Metals (Pb, Cd, Cr)(Pg. I.F. 1-4, 2h).

RESPONSE:

This information has been added to Section I.F.1.2.h.

COMMENT:

24. 12. Contaminated soil must either be removed and properly disposed, the contamination eliminated using an alternate method (e.g. soil venting) or closed as a landfill (40 CFR 264.197(b)). (Pg. I.F. 1-4, 2i).

RESPONSE:

This information has been added to Section I.F.1.2.i.

COMMENT:

25. 12. Provisions must be made to prevent backfilling any excavated area with contaminated soil. It must be determined that excavated soil is clean prior to using it as backfill material. (Pg. I.F. 1-5, 3e (1)).

RESPONSE:

This information has been added to Section I.F.1.3.e.(1).

COMMENT:

26. 12. Provisions must be made to contain and properly dispose all rinsate from tank interiors. (Pg. I.F. 1-5, 3a (3)).

RESPONSE:

This information has been added to Section I.F.1.3.a.(7).

COMMENT:

27. 12. The final rinsate must be analyzed for mineral spirits, volatile organic compounds and metals associated with the waste stored in the tanks. (Pg. I.F. 1-5, 3c (8)).

RESPONSE:

This information has been added to Section I.F.1.3.c.(8).

COMMENT:

28. 12. Provisions must be made to disconnect and decontaminate all appurtenant piping and pumping equipment, analyzing the final

H1281-RV8

rinsate for mineral spirits, volatile organic compounds and metals associated with the waste stored in the tanks. (Pg. I.F. 1-5, 3d (1 & 2)).

RESPONSE:

The rinsing fluids are discharged through the appurtenant piping and pumping system into the storage tank. The final rinsate will be analyzed for mineral spirits, volatile organic compounds, lead, cadmium and chromium. This information is included in Section I.F. 1 & 2.e and f.

COMMENT:

29. 12. Testing for metals should be added to the soil sample analysis (Pg. I.F. 1-5, 3.d.(4)).

RESPONSE:

This information has been added to section I.F.1.3.d.(4).

COMMENT:

30. 12. Include language which state that if it is not possible to eliminate contamination the tank farm area must be closed as a landfill (40 CFR 264.197(b)). (Pg. I.F. 1-5, 3d (5)).

RESPONSE:

This information has been added to Section I.F.1.3.d.(5).

I.D.6 PROCEDURE FOR RECORDKEEPING

Shipments of the product and used solvents are handled by invoices. In addition, the quantities of used solvents shipped to the recycle center and those shipped from regulated generators to the service center are manifested. Manifest copies are kept at the service center and the recycle center for three years. In addition, annual reports, land ban notification/certification forms, waste minimization statement and transporter liability certification are to be kept on file at the service center.

In accordance with 40 CFR 264.76. unmanifested waste reports will be submitted to the DER's office in West Palm Beach should a shipment be received without a manifest.

ultimately be a populated area, public water supply source, a private well or an environmentally sensitive area.

f. Additional steps shall then be taken to mitigate the potential impact on the environment and human health, in accordance with recommendations given.

If the emergency coordinator determines that the facility has had a release, fire, or explosion that could threaten human health or the environment inside or outside the facility, the coordinator must report those findings as follows:

- a. If the assessment indicates that evacuation of local areas may be advisable, the coordinator must immediately notify appropriate authorities. The coordinator must be available to help appropriate officials decide whether local areas should be evacuated; and
- b. The coordinator must immediately notify the FDER--Southeast District, 1900 S. Congress Ave., Suite A, West Palm Beach, FL 33406, 407/964-9668, and the National Response Center 800/424-8802, by telephone.

The report must include:

- (1) name and telephone number of notifier;
- (2) name and address of facility;
- (3) time and type of incident (e.g., release, fire);

Every spill must be recorded on the spill report telephone log and reviewed with facility personnel to prevent similar spills in the future. A copy of this report is sent to the Environment, Health and Safety Department.

Reports of emergency incidents will be reported within 15 days of occurence to the FDER--Southeast District, 1900 S. Congress Ave., West Palm Beach, FL 33406, 407/964-9668. The report shall include:

- (a) name, address, and telephone number of the owner of operator;
- (b) name, address, and telephone number of the facility;
- (d) name and quantity of materials involved;
- (e) the extent of injuries, if any;
- (f) an assessment of actual or potential hazards to human health or the environment, where this is applicable; and
- (g) estimated quantity and disposition of recovered material that resulted from the incident.

FIRE CONTROL PROCEDURES

The building is sprinklered to extinguish fires. In case of a fire, immediately call the Fire Department. Immersion cleaner and dry cleaning wastes are not ignitable, but produce toxic gases

Daily inspections of aboveground tank system consist of the following:

- a. Check the automatic high level alarm. In addition, using the gauge, measure the liquid level of the solvent in the aboveground tanks in inches to double check the proper functioning of the automatic alarm system and to determine any unexpected deviation in data or a sudden drop in the liquid level.
- b. Inspect solvent dispensing hoses, connections and valves for any leaks, damage or wear that could cause a leak to develop.
- c. The hose and unloading pipe should be drained so that all of the solvent is returned to storage.
- d. Valves should be inspected for proper seat. Stem leaks from worn glands and warped valve bodies should be repaired. If the valve cannot be repaired, replace the unit.
- e. Pumps should be inspected for packing leaks and cool, quiet operation.
- f. The inspection of solvent return receptacle (wet dumpster) consists of the inspection for leaks and excess dumpster mud build-up.
- g. Visually inspect the bottom and outside the of tank for corrosion and wear.

The tanks will be periodically inspected and tested. This inspection and testing will involve withdrawal of contents, a squeegie cleaning, visual inspection, and performance of a leak detection test.

Frequency and method of future inspection and testing will be determined based upon results of prior evaluations.

- b. At closure all the drums will be removed and shipped to a reclaimer, implementing proper packaging, labeling and manifesting procedures. The used solvents will be reclaimed and the drums will be cleaned for reuse.
- c. The concrete floor and spill containment areas will be cleaned with detergent solution.
- d. The wash water and all other wastes generated in the closure process, after testing whether it is hazardous, will be properly disposed of.
- e. The final rinsate must be sampled and analyzed for mineral spirits, volatile organic compounds, lead and cadmium to determine the effectiveness of the cleaning.

2. Solvent Return and Fill Shelter Area

- a. This area is used to return the used mineral spirits to the storage tank.
- b. Closure of the solvent return receptacle (wet dumpster) will be made prior to the cleaning and removal of the storage tank.

- c. At closure, the sediment in the dumpster ("dumpster mud") will be cleaned out and drummed, labeled, and manifested for proper disposal at permitted facilities.
- d. The dumpster and the dock area will be thoroughly rinsed with clean mineral spirits followed by detergent solution.
- e. The rinsing fluids are discharged through the appurtenant piping system into the storage tank, which will be subjected to a separate closure procedure as described below.
- f. The final rinsate must be analyzed for mineral spirits and volatile organic compounds, lead, cadmium and chromium to determine the effectiveness of the cleaning.
- g. The cleansed dumpster and dock structure will be reused by Safety-Kleen, or scrapped.
- h. Three surface soil samples (one from beneath each dumpster) must be collected and analyzed for mineral spirits, volatile organic compounds and E.P. Toxic Metals (lead, cadmium and chromium).
- i. Any contaminated soil must either be removed and properly disposed of or the contamination eliminated using an alternate method (e.g., soil venting) or closed as an landfill.

3. Aboveground Tank and Associated Piping

- a. OUTLINE To safely clean and decommission aboveground storage tank:
 - (1) Expose doorways or cut openings to provide access to each tank.
 - (2) Remove remaining material from tanks and ship the materials to a reclaimer.
 - (3) Rinse, scrape and squeegee tank interiors.
 - (4) Disconnect and cap all appurtenant piping.
 - (5) Disconnect and cap all appurtenant pumping equipment.
 - (6) Remove tanks and appurtenant equipment for final disposition.
 - (7) Transport and dispose of all other waste material, including unsate from the tank interior generated during the project.

b. PHASE I - OPEN THE TANK

- (1) Access to aboveground tanks is obtained by opening manways.
- (2) Prior to opening the tanks the personnel should have full face respiratory protection and protective clothing. Once the tanks have been opened they will be provided with positive ventilation. The tanks will then be inspected to determine the approximate quantity and physical conditions of the remaining material.

- (c) After being instructed in his responsibilities, the standby observer will sign an instruction form indicating his understanding.
- (7) Welding and Burning Within a Tank
 - (a) All welding and burning equipment must be provided with a shutoff under control of the standby observer; and the watcher must be shown how to shut off the equipment if it becomes necessary.
 - (b) Welding and burning equipment will only be taken into a tank immediately prior to its use and must be removed from the tank immediately after the job is finished.
 - (c) For all "hot work" inside a tank, a properly executed flame permit, if needed, must be displayed at the job site.
 - (d) Standard welding and burning safety precautions will always be followed.
- (8) The final rinsate must be analyzed for mineral spirits, volatile organic compounds, lead cadmium and chromium to determine the effectiveness of the cleaning.

d. PHASE III - REMOVE TANK

- (1) Disconnect and cap all appurtenant piping.
- (2) Disconnect and decontaminate all appurtenant pumping equipment.
- (3) The vessels shall be removed and reused by Safety-Kleen or cut up and sold as scrap.
- (4) Six surface soil samples (one from beneath each tank) must be collected and analyzed for mineral spirits, volatile organic compounds, lead cadmium and chromium.
- (5) Contaminated soil surrounding the tank, when it exists, shall be removed and properly disposed of or an alternate means (e.g., soil venting) used to eliminate contamination. If it is not possible to eliminate contamination, the tank farm area will be closed as a landfill.

e. PHASE IV - BACKFILLING AND REGRADING

(1) Backfill any excavation with previously excavated material using proper compaction. The previously excavated material will be tested clean prior to using it as backfill material.

It may be necessary to add additional backfill with proper compaction if necessary. The material must be of clean materials and easily compacted in place.

III.A.1 MATERIAL COMPATIBILITY

The facility includes two tank farms each containing six new aboveground steel tanks. Used mineral spirits in drums is transferred into one designated 20,000-gallon tank via the wet dumpster. The used solvent is transported, by bulk shipment, to the recycle center. Another 20,000-gallon tank is used to store mineral spirits product and three 20,000-gallon tanks are used to store non-hazardous waste oil. One 20,000-gallon tank is used to store perchloroethylene product. The second tank farm is for future use to store mineral spirits product, non-hazardous waste oil and perchloroethylene product.

Mineral spirits solvent is compatible with the mild steel tank structure; in fact, mineral spirits is often used as a light hydrocarbon coating to prevent rusting of metal parts. Mineral spirits has a specific gravity less than water (0.8) and any water will accumulate in the bottom of the tank. There is the potential for corrosion of the tank at the mineral spirits/water interface; however, the material is pumped from the bottom of the tank so corrosion is minimized.

The tanks are vented (at the top, to the atmosphere) to prevent pressure buildup. There are no flammable vapors and this design will prevent accidental ignition of any vapors (see Exhibit I.E.3-9).

III.A.2 TREATMENT PROCESSES

There are no treatment processes at this facility.

III.B.1 TANK DESIGN AND OPERATION PROCEDURES

The tanks are designed and constructed to be compatible with the materials stored in them. Typical construction and installation standards for the aboveground tank systems are shown in Exhibits I.E.3-6 through I.E.3-10. All tanks are vented in accordance with N.F.P.A. Standards, and the tanks are equipped with high level alarms. "No Smoking" signs are posted on the entrances to the tank farm and return and fill station. The design and installation of the tank alarm system are shown in Exhibit I.E.3-8.

All tanks are aboveground and are underlain by a 54'-8" x 38'-8" x 6" concrete slab, surrounded by a 24" concrete dike. Secondary containment calculations are on Exhibit I.E.3-6. The dike has been sealed with a chemical resistant coating. Therefore, no surface runon or precipitation would be in contact with the wastes stored at the site and no runoff collection and management system is deemed necessary. The maximum capacity of the tank is 20,000 U.S. gallons. The high level alarm will be activated when the tank is 95% full (19,000 U.S. gallons). Gauges are used to measure liquid levels in tanks and a float switch-activated automatic high level alarm (which consist of a stobe light and siren) will signal the tank's being 95% full. This alarm allows an operator more than two minutes to stop operations and avoid overfilling the tank. A

N A	N A	RI
N A I	N A	N
N A I	N A	N
, lack of gro		
	ounding, v	et spo
N A 2		
.,	8 A	Ŋ
* light, mal:	functioning	8
N A ?	A P	Я
condensation.	, other:	•
		
N A S	ν	Я
open drums in	ı dike, pon	nding/
4 A S	A F	N
		•
4 A N	i A	н
sint failure	i, leaks.	
	N A S	N A N A N A N A paint failure, leaks,

^{*}A = ACCEPTABLE

N = NOT ACCEPTABLE

⁽IF AN ITEM IS NOT APPLICABLE, ENTER 'N/A' AFTER IT AND DRAW A LINE THROUGH THE 'ACCEPTABLE/NOT ACCEPTABLE, ROW)

inspector's name/title:	•				•	I.E.4-
INSPECTOR'S SIGNATURE:						
		HON	TUES	AED	THURS	FRI
RANSFER PUMPS AND BOSES		• •	, pres			
ump Seals	-	A* N	A N	A · N	A N	A N
If N', circle approp	riate probl	Lem: leaks	, other:			_
ptors		A N	A N	A N	A N	A N
If 'N', circle approp	riate probl	Lem: overh	esting, other	ır:		
ttings		A N	A N	A N	A N	А И
If 'N', circle approp	riata probl	lem: leaks	, other:			_
lyes	•		A N		A N	A N
If 'N', circle approp	riate probl	.em: leaks	, sticking,	other:		
ose Connections and Fittin	•					A N
If 'N', circle approp						
other:						
se Body		A N	A N	A N	A N	A N
If'N', circle appropri	iste proble	m: crushe	d, cracked,	thin spots.	leaks,	
other:		_				
TURN AND FILL STATION						
t Dumpscer		- A - N	A N	A N	A N	A N
If 'N', circle appropriate split seams, distortion						· · · · · · · · · · · · · · · · · · ·
condary Containment		A N	A N	A N	A N	A N
If 'N', circle appropries				iquid. leaks	•	
ading/Unloading Area		A N	A N	A N	A N	A N
If 'N', circle appropriate deterioration, other:				t spots,		
SERVATIONS, COMMENTS, DAT	E AND NATTER	E OF ANY RE	PAIRS:			
						
		•				
		<u> </u>				

[&]quot;A = ACCEPTABLE

N = NOT ACCEPTABLE

Sikagard® 62 High-Build Protective Coating Technical Data



Description:	Sikagard 62 is a 2-component, solvent-free, high-solids, moisture-insensitive, epoxy resin. It produces a high-build protective, dampproofing and waterproofing vapor-barrier system.					
Where To Use:	Use as a high-build, corrosion-resistant, protective coating, or as a seamless flooring system on dry and can't-dry substrates.					
Advantages:	 Protects dry and can't-dry substrates. Exceptional tensile strength. Good chemical resistance for long-term protection. Convenient B:A = 1:1 mixing ratio. Easy, paint-like viscosity. Durable, smooth finish permits wipe-off graffiti-removal. Available in 3 standard colors; gray, red, and tan. Special color matches available upon request. Excellent bonding to all common structural substrates. Super abrasion resistance for long-term wear. Sikagard 62, Gray, after cure, is approved for contact with potable water. All colors are USDA-approved for use in food plants. 					
Coverage:	225-400 sq ft/gal (4-7 mils)					
Packaging:	4-gal units; 1-qt units, 12/case.					

Typical Data for Sikagard 62: (Material and curing conditions @ 73F and 50% R.H.)

Shelf Life:	2 years in original, unopened containers.	
Storage Conditions:	Store dry at 40-95F. Condition material to 65-85F I	pefore using.
Color:	Gray, red, tan.	
Mixing Ratio:	Component 'A': Component 'B' = 1:1 by volume.	
Viscosity:	Approximately 2,700 cps.	
Pot Life;	Approximately 35 minutes.	
Application Life:	20-25 minutes.	
Tack-Free Time:	Approximately 4 hours.	
Open Time:	Light foot traffic - 5-7 hours. Rubber-wheel traffic - 8-10 hours.	
Immersion and chemical exposure:	3 days	
Tensile Properties (AS	ASTM D-638):	
14 day Tensile Str Elongation	trength 6,400 psi on at Break 2.7 %	
Abrasion (Taber Abras 7 day Weight los (H-22 whee	•	
Abrasion Resistance (14 day Abrasion C	(ASTM D-638): Coefficient 51 liters/mil	
Adhesion (ASTM 335 1 day Adhesion C	59): Classification 4A	
Water Absorption (AS 7 day Total Water (2-hour boil	er Absorption 0.9%	

Chemical Resistance:

Specimen: Two coats- 10 mils

Cured 10 days

Substrate: asbestos cement

CHEMICAL	TEST TEMP.	ST	STORAGE TIME AND EVALUATION					
CHEMICAL	CITEMICAL TEMP.		1 Month	2 Months	6 Months	12 Months		
Water	75F	А	A	A	A	А		
	100F	A	A	A	A	A		
	140F	A	A	Α	A.D	A.D		
Sodium Chloride Solution	75F	Α	A	А	A	A		
(Saturated)	100F	A	A	Α	Α	A		
Sodium Hydroxide 30%	75 F	A	A	A	А	А		
Cement Water (Saturated)	75F	А	А	А	А	А		
Detergent Solution	75 F	A	A	A	A	A		
(5% Ajax)	140F	A	A	A	A.D	A.D		
Hydrochloric Acid 10%	75F	А	А	А	А	А		
Sulfuric Acid 10%	75F	А	А	А	В	В		
Oxalic Acid 10%	75F	А	A,D	A,D	A.D	A,D		
Citric Acid 10%	75 F	А	A.D	A,D	A,D	A,D		
Fuel Oil (Home Heating)	75F	А	А	А	А	A.D		
Gasoline (Unleaded)	75F	А	А	А	А	A.D		
Iso-Octane	75F	Α	А	A	A	A.D		
Toluoi	75F	A	A	A	A	A.D		
Silage	75F	A	A	A.D	A.D	B.D		
Synthetic Silage	75F	A	A	B.D	B.D	B.D		
Liquid Manure	75F	A	A	A	A A	A.D		
Ethyl Alcohol	75F	A	C		 - ^ -	1 A.D		

A: Resistant in permanent contact

C: Destroyed D: Discolored

B: Temporary resistance

How To Use

Surface Preparation:

Surface must be clean and sound. It may be dry or damp, but free of standing water. Remove dust, laitance, grease, curing compounds, impregnations, waxes, foreign particles and disintegrated materials.

Preparation Work: Concrete - Sandblast or use other approved mechanical means.

Steel - Sandblast to white-metal finish.

Mixing:

Pre-mix each component. Proportion equal parts by volume of Component 'A' and Component 'B' into a clean mixing container. Mix with a low-speed (400-600-rpm) drill and Sika paddle for 3 minutes, until uniform in color.

Mix only that quantity that can be used within its application life.

Application:

Apply the coating using high-quality rollers or brushes, or spray. Two coats are recommended. The second coat can be applied as soon as the first coat is tack-free and the traffic of application will not damage the first coat. The second coat, however, **must** be applied within 48 hours, since a longer delay will require additional surface preparation.

For slip-resistance, add approximately ½ lb/gal of Sikagard 62 Granules to the mixed material and apply as the first coat. Saturate roller or brush with the material and apply first to a disposable cardboard or other surface to distribute the granules evenly on the equipment.

Do not spray with Sikagard 62 Granules in the coating. When spraying, use the following or similar equipment: Binks Model #18 Air Atomized Spray Gun (#68 fluid nozzle, #68 PB air nozzle, #68 fluid needle, #83-5661, 2-gal pressure fluid tank).

For Sikagard 62 Flooring System information, consult the Technical Data Sheet or call Technical Service.



Limitations:

- Minimum substrate temperature for application 50F.
- Do not apply over wet, glistening surface.
- Material is a vapor barrier after cure.
- Do not apply to surfaces where vapor can condense and freeze.
- Do not encapsulate saturated concrete in areas of freezing and thawing.
- Do not apply to porous surfaces exhibiting moisture-vapor transmission during application. Consult Technical Service.
- Minimum age of concrete prior to application is 21-28 days, depending on curing and drying conditions.
- Do not apply to exterior substrate on-grade. . .epoxy resin coatings will weather and chalk upon exposure to sunlight.
- For spray applications only, thin with Sika Epoxy Thinner at 5% by volume. Thin only when required.

Caution:

Component 'A'-Irritant - Prolonged contact with skin may cause irritation. Avoid eye contact. Component 'B'-Irritant - Contact with skin may cause severe burns. Avoid eye contact. Product is a strong sensitizer. Use of safety goggles and chemical-resistant gloves recommended. Remove contaminated clothing. Avoid breathing vapors. Use adequate ventilation. Use of a NIOSH/MSA organic vapor respirator recommended.

First Aid:

In case of skin contact, wash thoroughly with soap and water. For eye contact, flush immediately with plenty of water for at least 15 minutes; contact physician immediately. For respiratory problems, remove person to fresh air. Wash clothing before re-use.

Clean Up:

Collect with absorbent material, flush area with water. Dispose of in accordance with local disposal regulations. Uncured material can be removed with approved solvent. Cured material can only be removed mechanically.

KEEP CONTAINER TIGHTLY CLOSED NOT FOR INTERNAL CONSUMPTION

KEEP OUT OF REACH OF CHILDREN FOR INDUSTRIAL USE ONLY

CONSULT MATERIAL SAFETY DATA SHEET FOR MORE INFORMATION

SIKA WARRANTS ITS PRODUCTS TO BE FREE OF MANUFACTURING DEFECTS AND THAT THEY WILL MEET SIKA'S CURRENT PUBLISHED PHYSICAL PROPERTIES WHEN APPLIED IN ACCORDANCE WITH SIKA'S DIRECTIONS AND TESTED IN ACCORDANCE WITH ASTM AND SIKA STANDARDS. THERE ARE NO OTHER WARRANTIES BY SIKA OF ANY NATURE WHATSOEVER, EXPRESSED ON IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE IN CONNECTION WITH THIS PRODUCT. SIKA CORPORATION SHALL NOT BE LIABLE FOR DAMAGES OF ANY SORT, INCLUDING REMOTE OR CONSEQUENTIAL DAMAGES, RESULTING FROM ANY CLAIMED BREACH OF ANY WARRANTY, WHETHER EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR FROM ANY OTHER CAUSE WHATSOEVER. SIKA SHALL ALSO NOT BE RESPONSIBLE FOR USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT HELD BY OTHERS.

Executive Office: P.O. Box 297, Lyndhurst, NJ 07071 - Tel 201-933-8800 - TWX 710-989-0228 - FAX 201-933-9379

Regional* and District Sales Offices

*CA, Santa Fe Springs 213-941-0231	IN, Indianapolis 317-843-0274	PA, Carnegie412-279-1176
CA, Santa Barbara 805-564-3111	MA, Marblehead 617-631-9247	SC, Spartanburg803-573-8867
CA, Union City415-487-2294	MD, Annapolis 301-268-7774	TX, Dallas214-386-7452
CO, Denver 303-458-7452	MN, Bloomington 612-854-6577	TX, Greenville214-454-6030
CT, Northford203-484-2551	MO, St. Louis	TX, Houston713-461-3010
FL, N. Miami305-940-1959	MS, Brandon 601-992-0595	VA, Richmond 804-271-4029
*FL, Tampa	*NJ, Lyndhurst201-933-8800	VT, Montpelier 802-229-4905
GA, Atlanta404-761-7143	OH, Chesterland216-729-4200	WA, Renton 206-228-4632
*IL, Des Plaines312-298-2810	*OH, Columbus 614-476-3335	WA, Seattle206-762-3829
	PA Philadelphia 215-923-6575	•

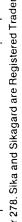
Export Office

NJ, Lyndhurst201-933-8800 TWX710-989-0108



Sika Corporation

products/systems/services...worldwide



Sikedur 5il NS/SL Flexible Epoxy John Ing Compound

Convenient i Paratio. Moisture insensitive, ilexible epoxy resin

Technical Data



Description:

Sikadur 51 is a 2-component, solvent-free moisture-insensitive epoxy resin system available in 2 consistencies — NS (non-sagging) and

SL (self-leveling).

It has been developed specifically for use as a flexible adhesive and jointing compound. Cures to form a tough, but resilient, material for

patching and sealing.

Where To Use:

To fill horizontal, vertical, and overhead cracks and non-moving

construction or control joints.

Advantages:

Two consistencies

Moisture-insensitive

Pre-batched for easy mixing

Easy to apply Excellent adhesion Permanent flexibility

No priming

Resists wheels and heavy loads

Shock-absorbent

Allows for stress relaxation Excellent wetting properties

Multi-purpose use

Reinforces concrete joints

Coverage:

One gal will yield 231 cu in. One gallon will fill 51 ft of joint ¼ in. wide ×

1½ in. deep.

Packaging:

3-gal units and 12-fl-oz units, 12/carton.

Typical Properties of Sika 51 @ 73F 50% RH:

Ratio: 1 p	o 2 parts by volume 'A'					
Color: Co	Component 'A' is white; 'B' is gray; mixed material is a concrete					
Shelf life: 2 y	years in original container					
Storage Conditions: Sto	Store in cool, dry area. For best results, precondition each component to between 65 and 85F before using.					
Application life: Ambient Temp. 40F 73F 90F	Sikadur 51 NS 2½ hr 2¼ hr 1½ hr	Sikadur 51 SL 3 hr 2 hr 1½ hr				
Consistency:	Non-Sagging	Self-Leveling				
Tensile strength ASTM D-638 Type IV I4 days	600 psi	550 psi				
Tensile stress at % elongation 10% ASTM D-638 25% Type IV, 14 days 50%	60 psi 240 psi 480 psi	100 psi 230 psi 430 psi				
Elongation at break, ASTM D-638 Type IV, 14 days	100%	100%				
Modulus of elasticity, ASTM D-638 Type IV, 14 days	1.3 × 10 ³	8.9 × 10 ²				
Tensile set at % elongation, ASTM D-638 Type IV, 14 days10% 25%	0 psi 0 psi	0 psi 0 psi				
Tensile set after break ASTM D-638 Type IV, 14 days	<1%	<1%				
Tear resistance ASTM D-624 (Die C), 14 days	110 lb/in.	110 lb/in.				
Shear strength ASTM D-732, 14 days	800 psi	700 psi				

Hardness, shore A ASTM D-2240, 28 days 75-80 75-80 **Bond strenath ASTM C-882** 2 days (dry cure) 800 psi 700 psi 400 psi 14 days (moist cure) 450 psi Tack-free time **ASTM C-679** Ambient Temp. 40F 40-48 hr 40-48 hr

HOW TO USE

7-8 hr

4½-5 hr

Surface Preparation: Concrete must be clean and sound. Cracks may be dry or saturated

surface dry. Remove laitance, grease, curing compounds,

impregnations, waxes, and foreign materials by mechanical means.

8-9 hr

5-5½ hr

Proportioning/ Mixing:

73F

90F

Stir both components prior to batching. Into a clean, dry pail add one volume of Component 'B' and two volumes of Component 'A' and mix with a low-speed drill for 3-5 minutes until a uniform gray color is achieved.

Application:

To fill vertical and overhead cracks and non-moving joints, inject Sikadur 51 NS with standard caulking gun, pressure extruder, or other suitable methods maintaining steady pressure.

To fill horizontal cracks and non-moving joints, pour or inject Sikadur 51 SL with standard caulking gun, pressure extruder, or other suitable methods maintaining steady pressure.

Strike off surface to make level. For use as flexible adhesive or patching compound, allow material to cure fully before applying loads (3-7 days depending on temperature). Consult SikaService.

Clean Up:

Clean equipment with Sika Equipment Cleaner, toluene, or other approved solvents.

Limitations:

- Do not thin Sikadur 51 NS/SL. Solvents may prevent proper cure.
- Substrate temperature should be 40F minimum and rising.
- For best results, materials should be maintained between 65F and 85F.
- Maximum relative humidity 95%.
- Do not apply through standing water.
- Minimum age of concrete 28 days.
- Materials are vapor barrier after cure.
- Concrete or masonry must be tested for water vapor transmission prior to application.
- Not designed for use under constant immersion.
- Do not use in expansion joints.



- For applications other than the sealing of control or construction joints, consult SikaService.
- For application in basically non-moving joints only.

Caution:

A COMPONENT — For Industrial Use Only! Warning! May cause skin sensitization or other allergic responses. Avoid inhalation of vapor. Use good ventilation particularly if material is heated or sprayed. Prevent all contact with skin or eyes. If contact with skin occurs, wash immediately with soap and water. In case of contact with eyes, flush immediately with water and contact a physician.

B COMPONENT — DANGER! CAUSES (SEVERE) BURNS. Contains alkaline amines: strong sensitizer. Do not get in eyes, on skin, on clothing. Avoid breathing vapor. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling.

First Aid:

In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician. Wash clothing before reuse. Discard contaminated shoes.

WEAR PROTECTIVE CLOTHING, GOGGLES, GLOVES, AND/OR BARRIER CREAMS.

THERE ARE NO WARRANTIES BY SIKA CORPORATION OF ANY NATURE WHATSOEVER, EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE IN CONNECTION WITH THIS PRODUCT. SIKA CORPORATION SHALL NOT BE LIABLE FOR DAMAGES OF ANY SORT. INCLUDING REMOTE OR CONSEQUENTIAL DAMAGES, RESULTING FROM ANY CLAIMED BREACH OF ANY WARRANTY WHETHER EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR FROM ANY OTHER CAUSE WHATSOEVER. SIKA SHALL ALSO NOT BE RESPONSIBLE FOR USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT HELD BY OTHERS.

Distribution

Office:

We put it all together for you...proven products, local Distributors, and a national network of Sika-approved Applicators to give you right-the-first-time repairs.

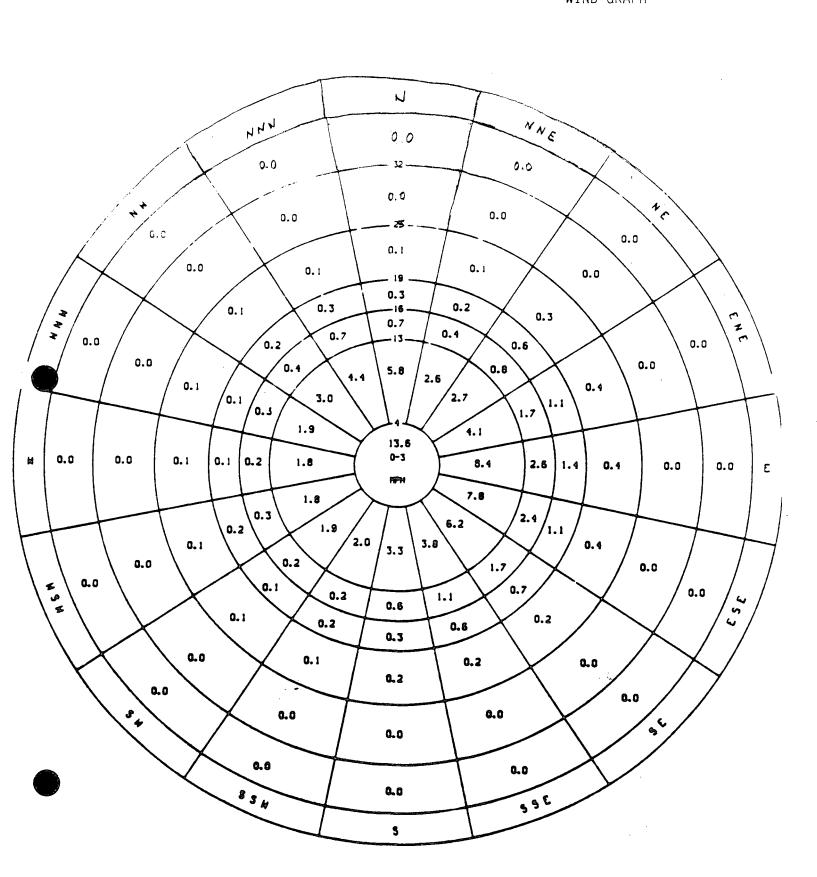
	Construction Products Division							
District	*							
Offices:	CA, Pasadena 213-792-5127	KY, Louisville 502-245-8951	NY, No. Syracuse 315-452-0998					
	CA, San Diego 619-226-7665	MA, Marblehead 617-631-9247	OH, Chesterland 216-729-4200					
	CA, San Francisco 415-775-1551	MD, Baltimore 301-268-7774	PA, Philadelphia 215-923-6575					
	CO, Denver 303-458-7452	MI. Southfield 313-552-1012	PA, Carnegie 412-279-1176					
	CT, Hartford 203-249-7066	MO, St. Louis 314-231-5499	SC, Chester 803-377-3282					
	FL, Tampa 813-879-9862	MS. Jackson 601-362-6193	TX, Dallas 214-661-3610					
	GA, Atlanta	MT, Missoula 406-543-3308	TX, Houston713-461-3010					
	IL, Des Plaines 312-298-2810	NJ, Hackensack 201-933-8800	WI. Milwaukee 414-272-3100					

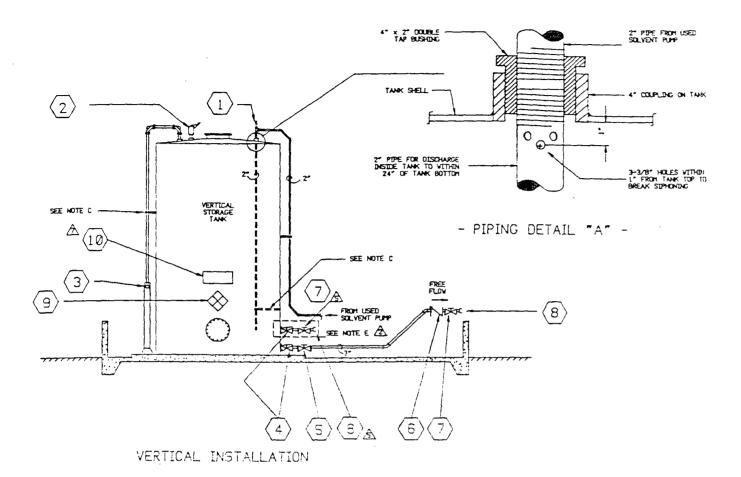


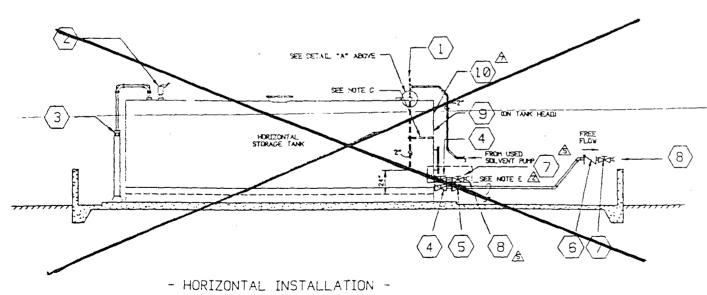
P.O. 297, Lyndhurst, NJ 07071 • Tel. 201-933-8800 • TWX 710-989-0288

MIAMI, FLORIDA

CEILING-VISIBILITY
WIND GRAPH







ANOTE: WHEN HORIZONTAL TANKS ARE USED A 3" NOPPLE IS REQUIRED BETVEEN THE INTERNAL EMERGENCY & GATE VALVE

MARK	SIZE	DESCRIPTION	SK PART *C	REHARKS
1	3/8*	3/8" AUTOMATIE VACIUM BREAKERS MORRISON BROS. FTG. 134-A	5274	
2	3-	J' SOREWED PRESSURE/VACUUM VENT MORRISON BROS. FIL. 548 (2 0 Z PRESSURE - L (IZ. YACUUM)	5339	
(3)		TANK CALICE - HOORMAN BROS. HOOEL. NO. 7-5	\$277	SEE DISTALLATION DETAILS ON SAFETY- NLEEN DWG. A18243
\bigcirc	•		t 	
4	3*	3" INTERNAL EMERGENCY VALVE HORRISON BROS. FID. 272-HO W212'F FUSTBLE LINK	5267	SEE INSTALLATION DETAILS ON SAFETY- NLEEN DWG. C11382
(5)	3-	3" DUCTILE IRON CATE VALVE W/ROUND FLANGEI BNDS - HORRISON BROS. FIG. 234-01	5276	SEE DISTALLATION DETAILS ON SAFETY- KLEEN DWG. C11382
(6)	3*	3" BRONZE CHECK VALVE - MORRISON BROS. FIG. 246-A	5266	
(7)	3"	3" BRONZE GATE VALVE - HORRISON BROS. FIG. 235-B LOCKING TYPE	5265	_
(8)	3*	3" ALIMBNIM CAMLOOK OUTDY COUPLING - MORRISON BROS. MALE ADAPTOR PART F W/DUST CAP & CHAIN	5264	COUPLING TO BE DISTALLED STX (5) INCHES ABOVE DIKE WALL
(g)		MFPA MATERIAL EXENTIFICATION PLACARD	2452	DISPLAY IN PLAIN STORT ABOVE DIRE VALL
(10)		"CONSUSTIBLE HEEP FIRE AWAY" STON	81297	DISPLAY IN PLAIN SIGHT ABOVE DIKE VAL

- GENERAL NOTES -

- (A) THIS DRAYING SUPPRIEDES SAFETY-RIEEN COSP. DAVINGS C18235 & C18236.
- B SEE NOIVEUR SERVICE CONTEX SITE ALMS FOR THE OBJECTIONS AND RELATED INFORMATION AND AUGUSTALISATION AUGUSTALISATION AND AUGUSTALISATION AUGUSTAL
- ALL PIPENG TO BE SCHEDULE 48 CALVANIZED AND ME SUPPORTED EVERY OB RUNNING FEET CONTRACTOR TO SUPPLY ALL BRACKETS, CLAPPS. (TIG. AS REQUIRED FOR SUPPORTING PIPE ALL
 EXPOSED THREADS AT JOINTS TO BE PLANTED VITH A RUIST RESISTANT EXTERIOR GRADE PAINT.
 PIPENG SUPPORT HARDWARE TO BE INISTRUT BRAND OR APPROVED EQUIVALENT.
- ALL DIRECTION CHANGES IN DIRTY SOLVENT LINES TO BE MADE USING A COMBINATION OF 45° ELBOYS OR LONG SWEEP 98° ELBOYS.
- THIS DISTALLATION TO BE HADE WHERE NEW TAMMS ARE TO BE DISTALLED AT ANY LOCATIONS PROVE TO FREEZING. SEE DISTALLATION DETAILS ON SAFETY-REED DWG. C11382.
- ALL ITEMS WITH SAFETY-RLEEN PART MA REFERENCES WILL BE SUPPLIED TO CONTRACTOR.

	· INCIDA					SERVICE COUNTY TITLE TO 1
	(HECKED)	-	D+C)	-	ox ne	FOR BRANCE
(3)	RETURN OFFILE IN HUTE & SOME ON TV.				25-50	·
(1)	MODED HOTE F	<u> </u>			1000	PERCESS APPR. OPERATORIS APPR. NO. 1
(1)	NO 1 THE FOR SUPPLY FOR	\v_ <u></u>	1 1	!	12/5/14	THE STATE OF THE PARTY OF THE P
Ó.	COLMON WAY DECOM-SEE Y DRICHES	¥i		_	V/MA/TS	SAFETY-KLEEN CORP.
â	MEN, CHIL MOTTES NO. STSTEP TO LETTERS	2.2			VMV	
á.	ADD TORREST TO	22			V:7/#	TANK INSTALLATION DETAILS
3	9172 01 E722 2H 1M1 GR3WO	بردنا		_	y vree	USED SOLVENT STOPEGE
(2)	моен мотг	೭೨			€/32m	## OF 1214 CTC2.C2
						EXHIBIT I.E. 3-9 8-24=

SKETCH OF SURVEY SCALE: / = 30 H. 39°34'05'E 411.71 - set Place 1.5 47 Vacant 4.5 Ac. t 29 5,0 5.2 under construction N 34133150 E. Elevations are referred to NGV Datum based upon Dade County Bench Mark No.

Elevations are referred to NGV Datum based upon Dade County Bench Mark No. N-519 located at N.W. 103 Street Extension and U.S. Highway No. 27, Flevation 10.07 feet.

Searings are haved in the State Plane Coordinate System Florada Fast Corn.

SAFETY-KLEEN'S PROPOSED SERVICE CENTER IN MEDLEY, FLORIDA



