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B. FACILITY INFORMATION

B.1 Facility Description

The site of the CS Clean Solutions, Inc. (CS Clean) facility is a single parcel of real property identified by the City of Phoenix as Parcel 209-03-209A, commonly known as 2453 West Parkside Lane, Suite 150 Phoenix, Arizona. Totalling 5.51 acres, the site is part of Deer Valley Commerce Center Park, an industrial complex business park. CS Clean leases 12,856 square feet of total building space from Toda America, Inc. CS Cleans leased space is in the central portion of the building known as 2453 West Parkside Lane. The approximate Latitude/Longitude coordinates of the facility itself are 33.695583°N, -112.112312°W.

CS Clean is a manufacturer of dry bed scrubbers and components for the semiconductor industry. The integral component of the dry scrubber is the Cleansorb column, a reusable SAE 316 stainless steel vessel filled with a blend of CS Clean's proprietary absorbent granulates, which utilizes Chemisorption technology. This chemisorption technology irreversibly removes hazardous gases from end users' manufacturing process exhaust.

B.1.1 Cleansorb Columns and Current Process Description

Cleansorb columns are SAE 316 grade stainless steel shelled, hermetically sealed gas scrubbers that are filled with a blend of proprietary absorbent granulates, ranging in volumetric capacity from 25 to 200 liters (L). The absorbent granulate blend for each Cleansorb column is developed specifically for its properties to abate hazardous gases in the end user's process exhaust, which are identified and specified by the end user. Cleansorb columns are exclusively used to abate hazardous exhaust gases from customers' semiconductor manufacturing processes.

Cleansorb vessels are designed to be reusable. A Cleansorb column, filled with virgin granulate, is installed in a manufacturing process exhaust scrubber, and will abate hazardous gases until such time that the granulate within is spent. At that time, the end user purges the column with inert gas to remove any hazardous vapors which may remain in the column, remove the spent column for shipping, and install a new Cleansorb column filled with virgin granulate. At present, spent columns are shipped to a third-party environmental services provider where they are emptied, decontaminated, and returned to CS Clean, who then refills them with virgin granulate and ships the regenerated columns back to the end users for reuse. The intent of the proposed process is to offer turn-key service in which CS Clean exclusively controls and manages the spent column return, transfer of waste, and decontamination operations.

B.1.2 Waste Streams and Characteristics

The specific procedure used to manage each spent column necessarily depends on the characteristics of the spent granulate, since hazardous constituents vary widely depending on the abatement application with which the column was used for.

There are six end user manufacturing processes that compose CS Clean’s used Cleansorb column waste streams. The waste streams resulting from these processes are detailed below in **Table B.1**, **Table A.1 (Section A)**, and **Section C** of this permit application.

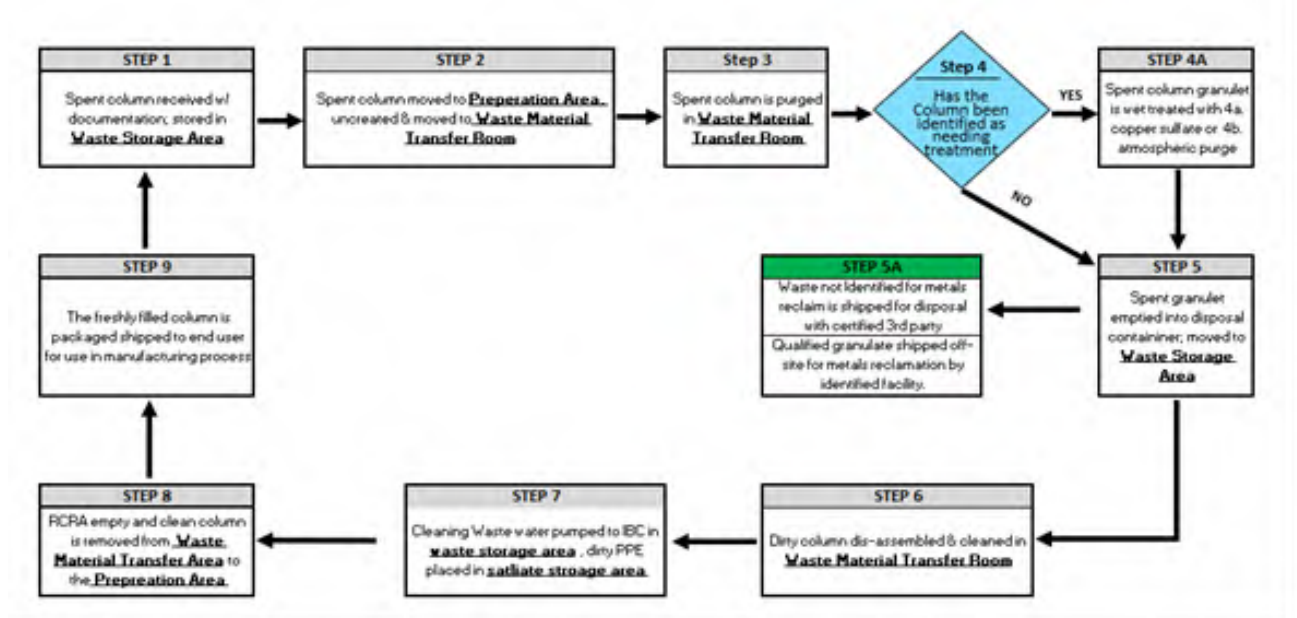
Table B.1 Spent Granulate Waste Contents from Different Processes	
Process	Waste Contents
Ion Implantation	Reduced copper, fluorides, and very small concentrations of arsenic
Chemical Vapor Deposition (CVD)	Copper salt forms of hydride gases, magnesium, aluminum salts of metal organic compounds, reduced copper, elemental white phosphorous, and/or arsenic in minor concentrations
Chemical Etching	Magnesium and aluminum salts of typical etching gases (primarily halogens and acid gases).
Nitride	Copper and zinc salts of ammonia and hydride converted wastes
Silicon Epi (Epitaxy)	Chloride salts of aluminum and magnesium and copper salts of arsenic and phosphorus.
Cobalt	Aluminum and magnesium salts, cobalt, copper oxides, and ammonia complexes with copper compounds.

B.1.3 Waste Treatment and Management

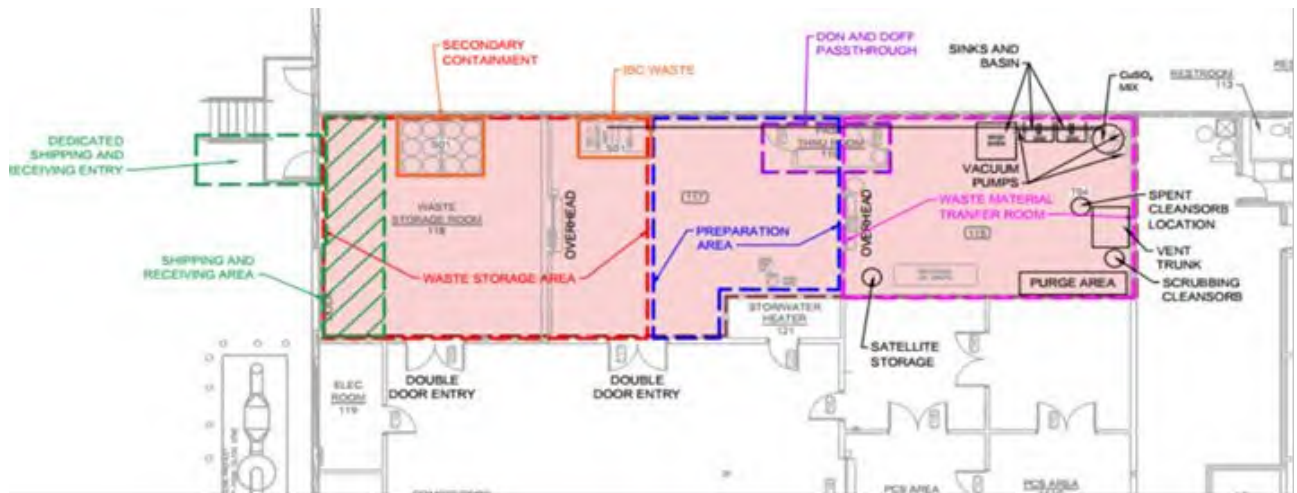
Air, Nitrogen or Argon Purging – After the CS Clean technician moves the spent column into the waste material transfer room at the designated purge area, the inlet port of the column will be connected to an atmospheric air connection or a compressed air, nitrogen, or argon cylinder. Then, the outlet port will be connected to a clean Cleansorb column. Each spent column is purged strictly as a redundant safety measure to eliminate any potential for CS Clean’s process technician to be exposed to any residual hazardous gases which may remain within the column.

Copper Sulfate (CuSO⁴) Treatment – CuSO⁴ treatment is performed only for spent column waste from CVD, ion implantation, cobalt, and epitaxy manufacturing processes (spent columns from chemical etching and nitride manufacturing process will proceed from Step 3 directly to Step 5 in the flowchart below). A ten percent (10%) CuSO⁴ and water solution is used to alter the surface layer of the spent granulate to inert any reduced copper and/or elemental phosphorus which may remain within the waste. The treatment occurs by emptying the spent columns to a 55-gallon drum filled with CuSO⁴ solution to quench the waste. This makes the waste unreactive. After the treatment, the resulting spent CuSO⁴ and water solution is pumped to an intermediate bulk container located in the waste storage area and removed by a third-party vendor in accordance with applicable hazardous waste generator regulations. The remaining spent granulate waste material is packed into a 55-gallon drum for offsite disposal.

A spent column treatment flowchart depicting the treatment process is provided below.



The location of the areas mentioned in the flowchart can be seen in the site plan map below.



B.2 Facility Location

In support of the site description and location (**Appendix B.4**), the following figures are provided depicting general features required as part of the Arizona Treatment, Storage, and Disposal Facility (TSDF) permit application package:

- **Topographic Map:** Provided as **Appendix B.1**, a U.S. Geological Survey (USGS) Topographic Map has been prepared depicting the site relative to surrounding areas. The map depicts wind rose, flood areas, and relevant site characteristics in accordance with the Code of Federal Regulations (CFR): CFR Title 40 Part 270.14.

- 100-Year Floodplain: Provided as **Appendix B.2** a site flood map has been prepared using images from the Federal Emergency Management Agency (FEMA). The CS Clean facility is not located within a 100-year floodplain.
- Traffic Pattern: Provided as **Appendix B.3** A diagram depicting traffic patterns has been prepared depicting traffic direction, traffic control signals, turns across traffic lanes, and appropriate stacking lanes. The profile surrounding CS Clean is characterized by Interstate 17 (I-17) to the west side of the building that leads to local roads surrounding the facility via exit 217 North and South bound. These roads are comprised of asphalt and Portland cement concrete, with a load-bearing capacity between 25 and 80 tons per axle. In a normal day, an estimated 200-300 standard personal cars and commercial trucks are in the vicinity at a time. CS Clean anticipates a weekly box truck shipment and delivery and a semi-trailer shipment and delivery once a month.

B.3 Seismic Activity

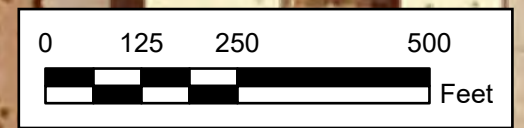
The CS Clean facility is located in the political jurisdiction of Phoenix, Arizona. Facilities in the city of Phoenix are not subject to seismic requirements under CFR Title 40 Part 270.14 Appendix V. The facility is not located in a listed location under Appendix VI of 40 CFR 264.

APPENDIX B.1

Topographic Map

APPENDIX B.2

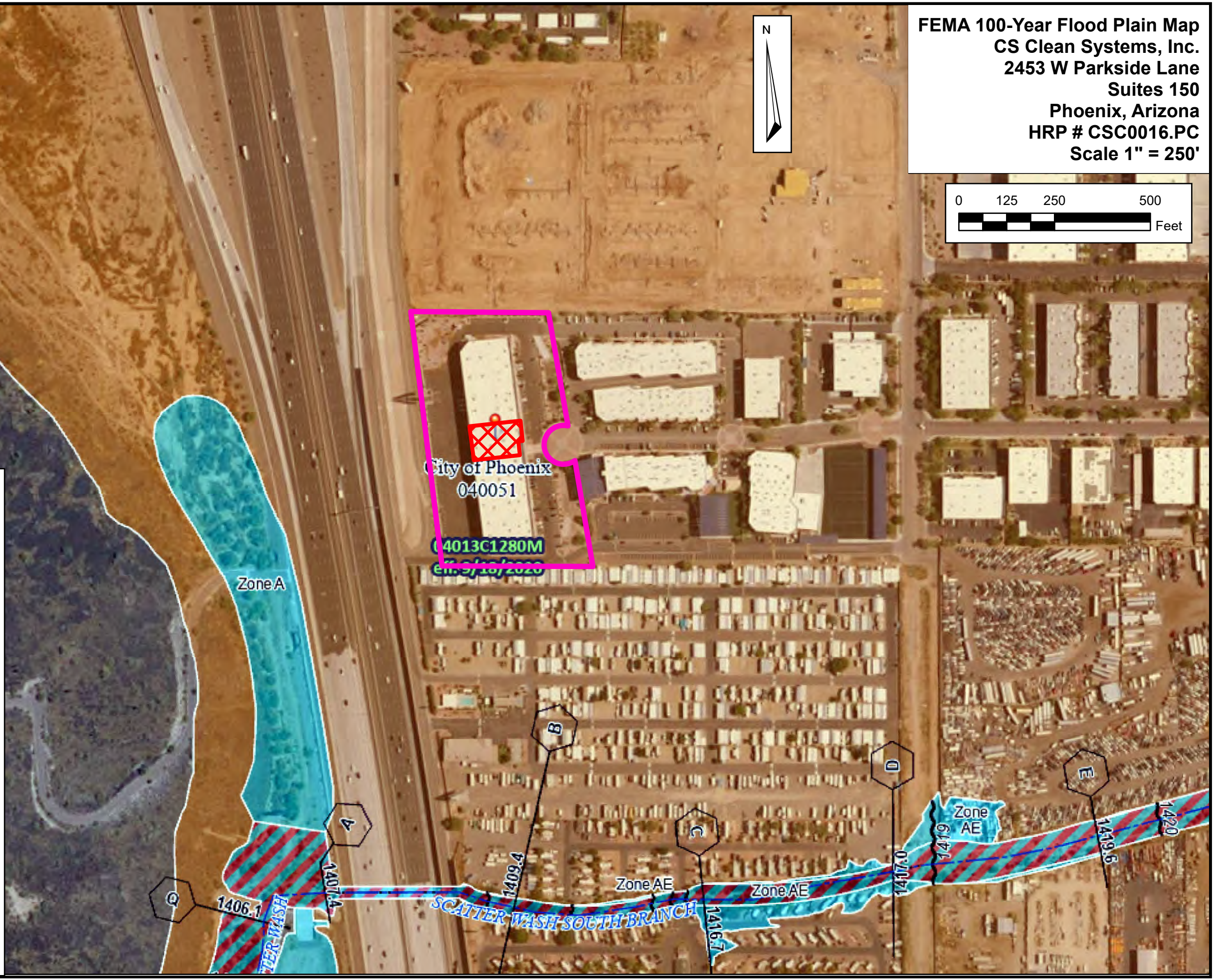
100-Year Floodplain



Legend

- Approximate building area occupied by CS Clean
- Approximate Property Line

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
OTHER AREAS OF FLOOD HAZARD		Regulatory Floodway
		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee See Notes. Zone X
OTHER AREAS		Area with Flood Risk due to Levee Zone D
		Area of Minimal Flood Hazard Zone X
GENERAL STRUCTURES		Area of Undetermined Flood Hazard Zone D
		Channel, Culvert, or Storm Sewer
OTHER FEATURES		Levee, Dike, or Floodwall
		Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary










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APPENDIX B.3

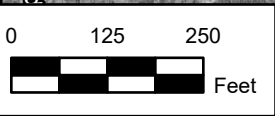
Traffic Pattern

Legend

-  Traffic Light
-  Stop Sign
-  Facility Unloading Location
-  Traffic direction
-  Traffic direction (opposing lanes)
-  Approximate Property Line
-  Approximate building area occupied by CS Clean



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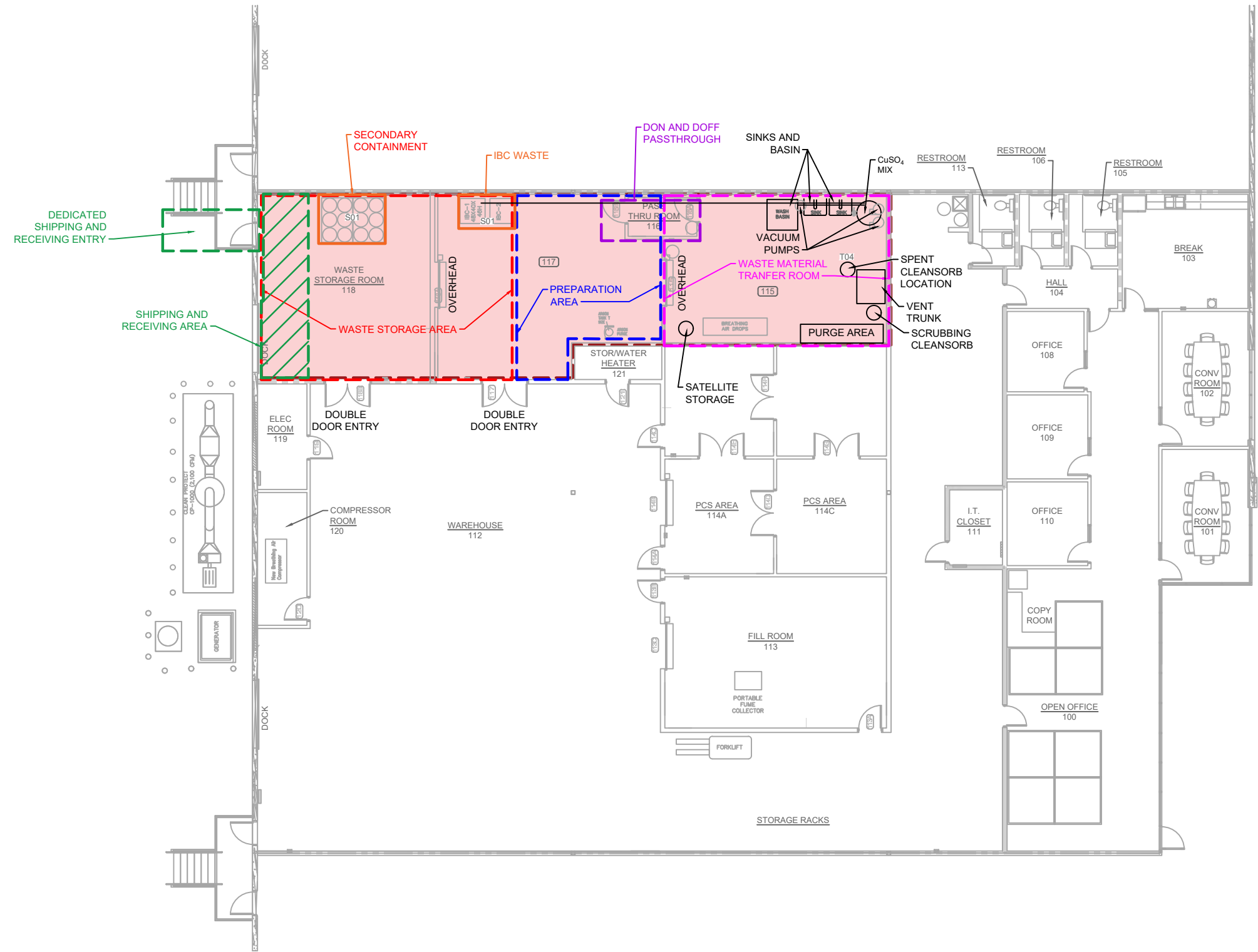



Traffic Pattern
CS Clean Systems, Inc.
 2453 W Parkside Lane
 Suites 150
 Phoenix, Arizona
 HRP # CSC0016.PC
 Scale 1" = 250'

Sources: Esri, TomTom, Garmin, FDOT, NOAA

APPENDIX B.4

Site Plan



 -INDICATES AREA IN WHICH ALL EXTERIOR WALLS AND DOORS ARE BERMED

REVISIONS	
NO.	DATE

DESIGNED BY:
DSW
 DRAWN BY:
BOB

REVIEWED BY:
DSW
 PROJECT NUMBER:
CSC0016.RC

ISSUE DATE:
06/23/2025
 SHEET SIZE:
11"x17"

BUILDING PLAN
 CS CLEAN SOLUTIONS
 26 COMMERCE DRIVE
 DANBURY, CONNECTICUT

FIGURE
2